

WKE
PROJECT ID:
4823-07-70

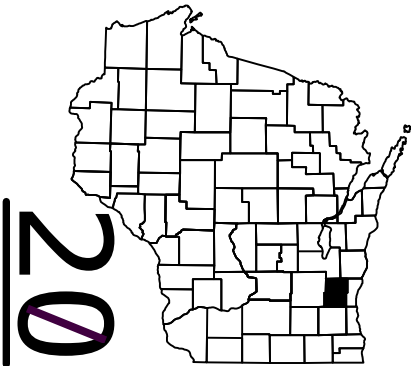
4823-07-70

COUNTY:
WASHINGTON

FEBRUARY 2026
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 = 48



DESIGN DESIGNATION (4823-07-70)

A.A.D.T.	(2026)	=	120
A.A.D.T.	(2046)	=	140
D.H.V.		=	10
D.D.		=	50/50
T.		=	5%
DESIGN SPEED		=	65 MPH
ESALS		=	7,300

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T WAYNE, BEECHNUT DRIVE

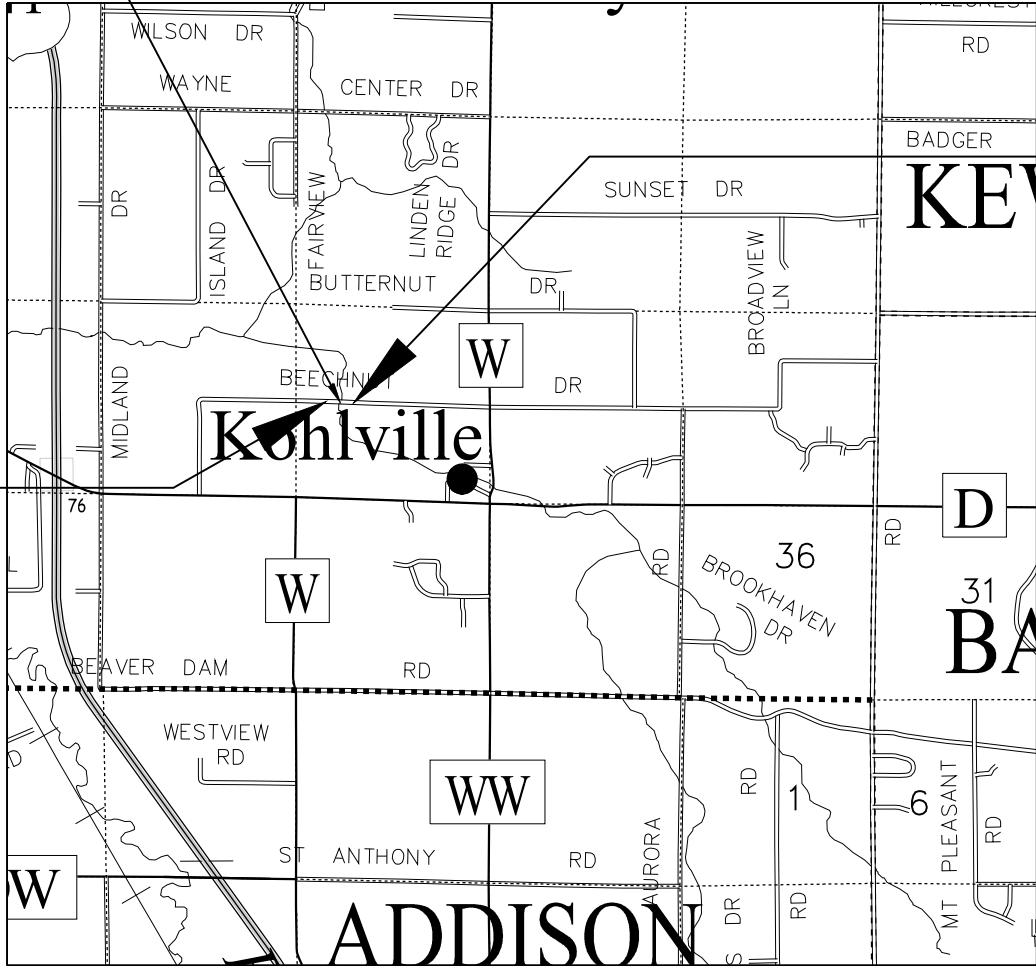
BRIDGE OVER KOHLVILLE RIVER P6647

LOC STR

WASHINGTON COUNTY

STATE PROJECT NUMBER
4823-07-70

STRUCTURE B-66-0154
STA 9+96



END PROJECT 4823-07-70
STA 10+78.54
Y = 204343.34
X = 321589.87

LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.028 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WASHINGTON 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 PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4823-07-70		

ACCEPTED FOR
Town of Wayne
10/27/25 City P.B. St.
(Date) (Town Chairman)

ORIGINAL PLANS PREPARED BY
AYRES
WISCONSIN PROFESSIONAL ENGINEER
JOSEPH L. BLUMA
E48464-6
EAU CLAIRE, WI
11/04/2025
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor AYRES ASSOCIATES INC
Designer AYRES ASSOCIATES INC
Project Manager JOSEPH JELACIC, PE
Regional Examiner SE REGION
Regional Supervisor AMY TAETSCH, PE

APPROVED FOR THE DEPARTMENT
DATE: 11/4/25 Joseph C. Jelacic
(Signature)

E

UTILITIES CONTACTS

SPECTRUM CHARTER
COMMUNICATIONS
NICK FRASE
1515 W WASHINGTON STREET
WEST BEND, WI 53095
PHONE: 920-304-6797
EMAIL: NICK.FRASE@CHARTER.COM

WE ENERGIES
ELECTRIC
JOE FELLEENZ
W140 N91000 LILLY ROAD
MENOMONEE, WI 53051
PHONE: 262-483-2101 CELL: 414-322-8928
EMAIL: JOESPH.FELLEENZ@WE-ENERGIES.COM



Dial  or (800)242-8511

www.DiggersHotline.com

WISCONSIN DNR LIAISON

RYAN PAPPAS
WDNR
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
PHONE: 262-623-0194
EMAIL: RYAN.PAPPASI@WISCONSIN.GOV

TOWN OF CONTACT

TONY BALISTRERI
TOWN CHAIRMAN
W6030 MOHAWK ROAD
CAMPBELLSPORT, WI 53010
PHONE: 262-339-1148
EMAIL: CLERK@TOWNOFWAYNE.WASHCO.WI.GOV

DESIGN PROJECT MANAGER

JOE JELACIC
WISDOT SE REGION
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
PHONE: 262.548.6762
EMAIL: JOESPH.JELACIC@DOT.WI.GOV

DESIGN PROJECT LEADER

JOESPH BLUMA, PE, CBI
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
PHONE: 715-834-3161
EMAIL: BLUMAJ@AYRESASSOCIATES.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.

FILL EXPANSION FACTOR IS 30%

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

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.

SEED MIXTURE NO. 30 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR DIRECTED BY THE ENGINEER.

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.

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.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE SEEDED AND EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

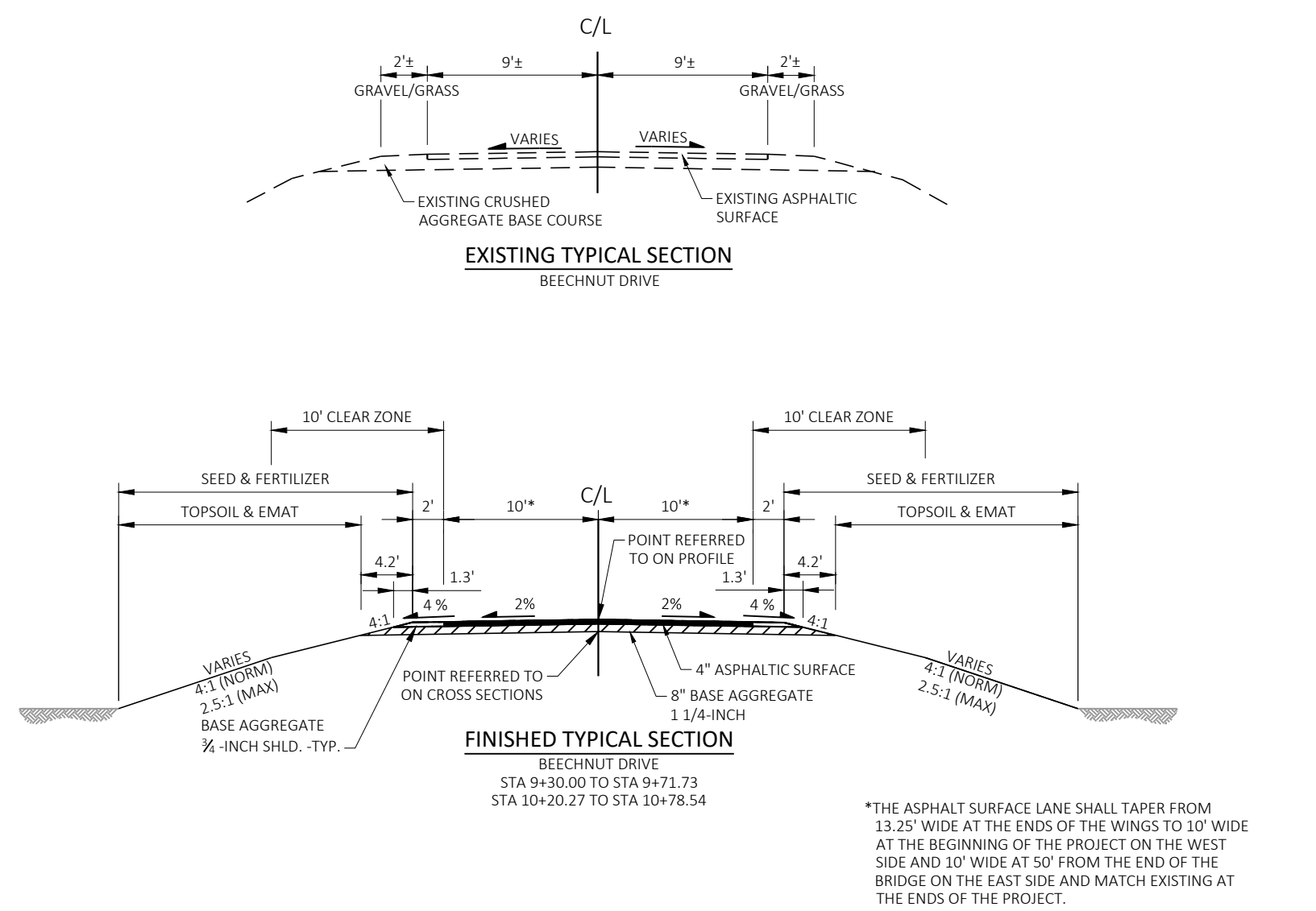
ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 2" LOWER LAYER. ASPHALTIC SURFACE SHALL USE 12.5 mm NOMINAL AGGREGATE SIZE.

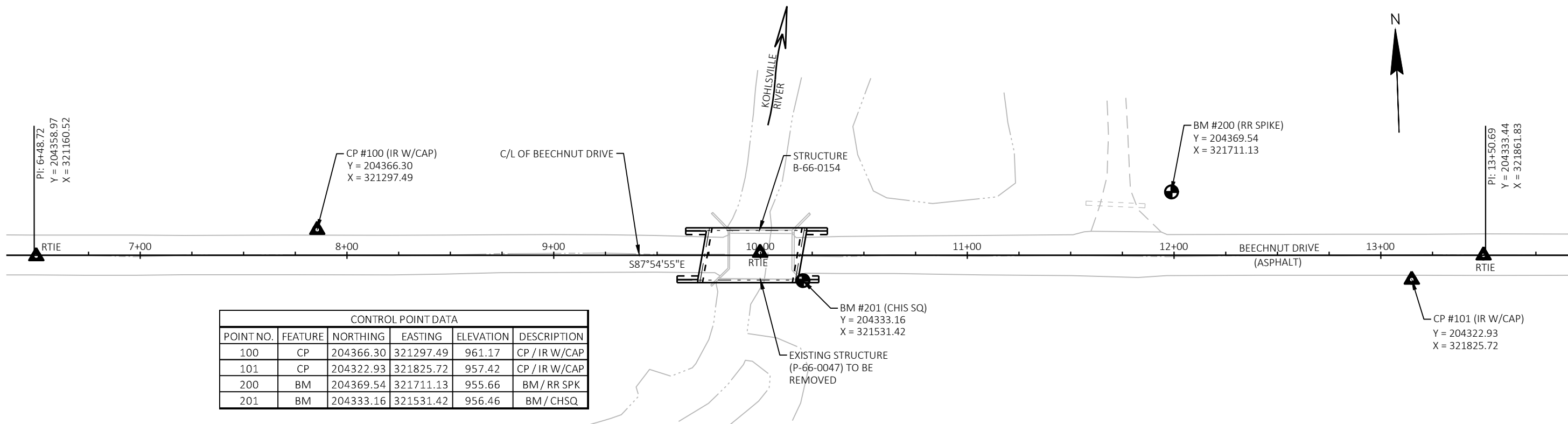
SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

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											

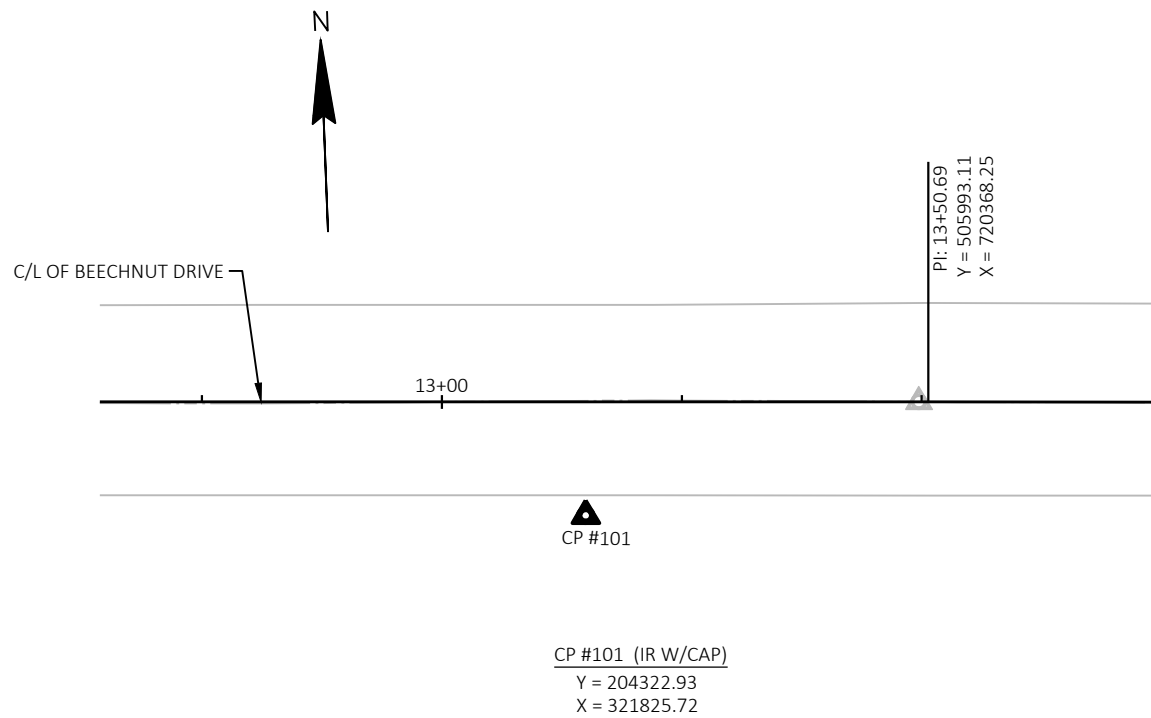
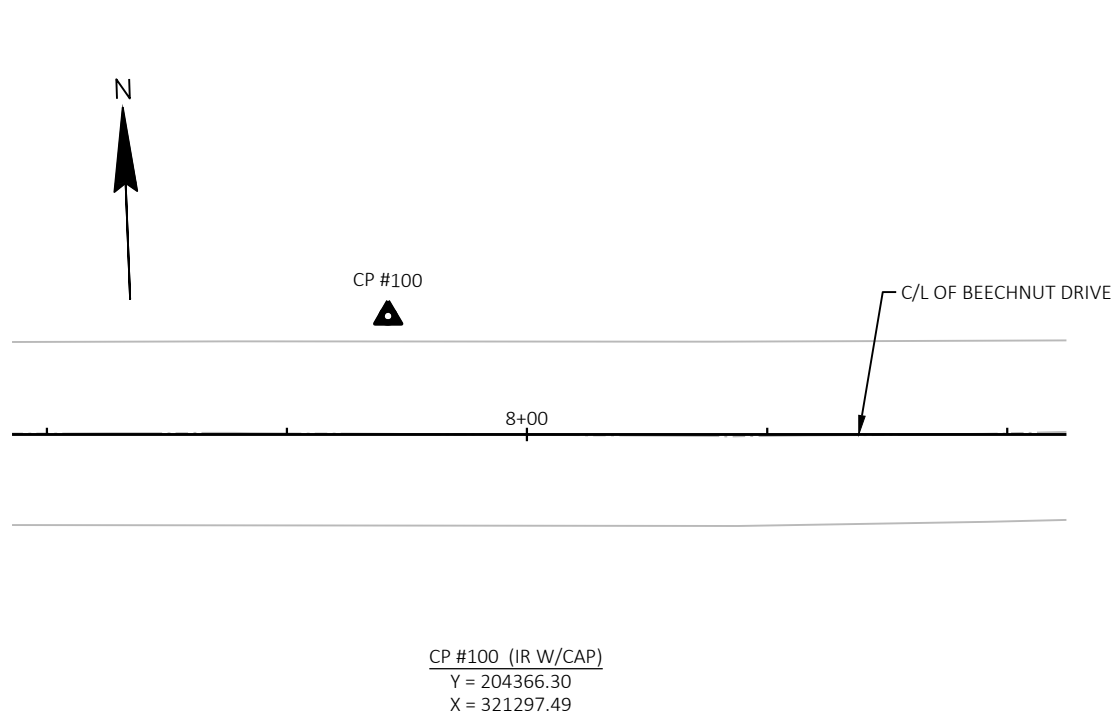
TOTAL PROJECT AREA = 0.225 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.184 ACRES



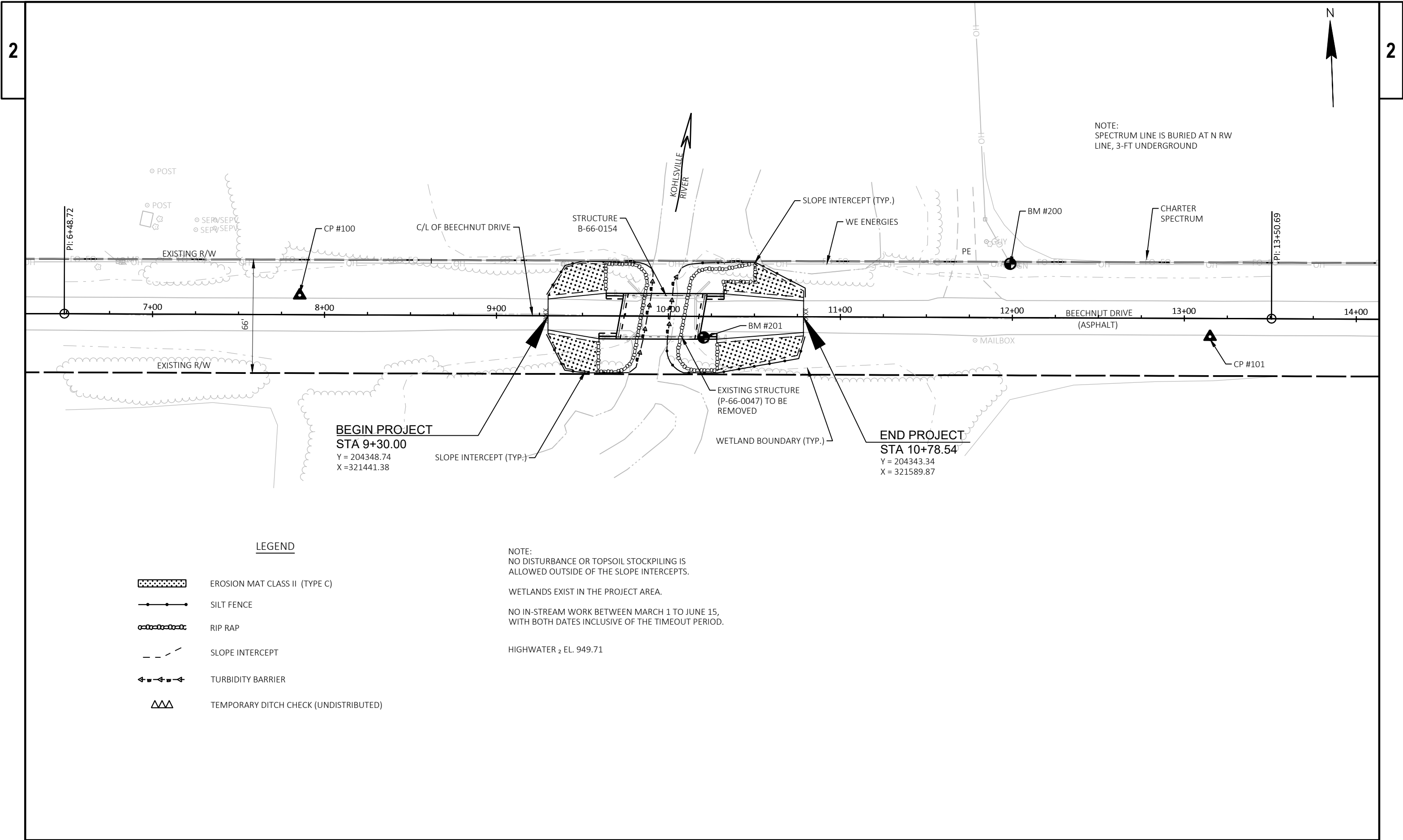


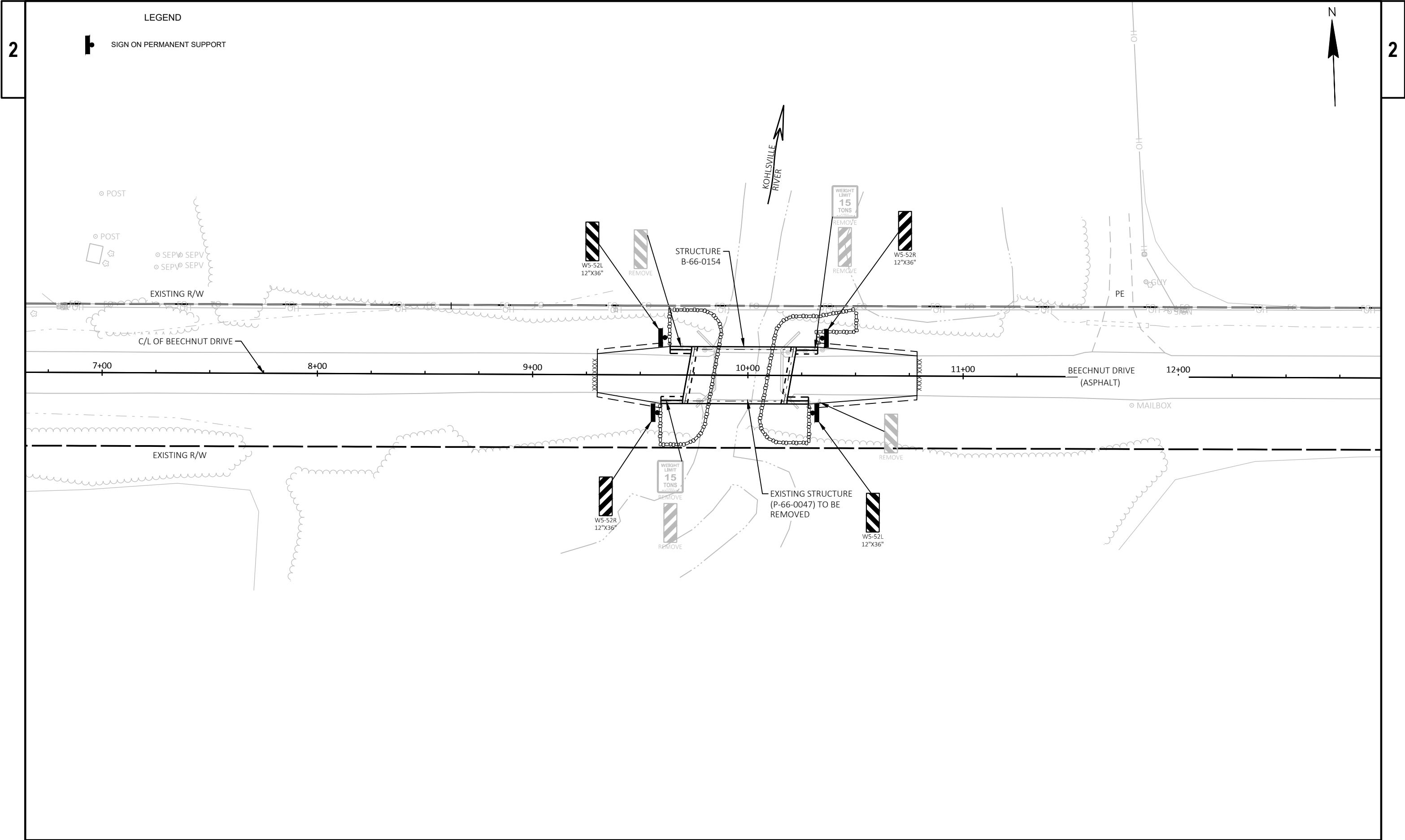
CONTROL POINT DATA					
POINT NO.	FEATURE	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	CP	204366.30	321297.49	961.17	CP / IR W/CAP
101	CP	204322.93	321825.72	957.42	CP / IR W/CAP
200	BM	204369.54	321711.13	955.66	BM/ RR SPK
201	BM	204333.16	321531.42	956.46	BM/ CHSQ

ALIGNMENT CONTROLS



ALIGNMENT TIES





Estimate Of Quantities By Plan Sets

4823-07-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-66-0047	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	82.000	82.000
0012	205.0100	Excavation Common	CY	159.000	159.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-66-0154	EACH	1.000	1.000
0020	208.0100	Borrow	CY	117.000	117.000
0022	210.1500	Backfill Structure Type A	TON	230.000	230.000
0024	213.0100	Finishing Roadway (project) 01. 4823-07-70	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	15.000	15.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	145.000	145.000
0034	455.0605	Tack Coat	GAL	19.000	19.000
0036	465.0105	Asphaltic Surface	TON	60.000	60.000
0038	502.0100	Concrete Masonry Bridges	CY	163.000	163.000
0040	502.3200	Protective Surface Treatment	SY	194.000	194.000
0042	505.0400	Bar Steel Reinforcement HS Structures	LB	3,300.000	3,300.000
0044	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	21,010.000	21,010.000
0046	513.4061	Railing Tubular Type M	LF	146.100	146.100
0048	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	400.000	400.000
0052	606.0300	Riprap Heavy	CY	190.000	190.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0056	618.0100	Maintenance and Repair of Haul Roads (project) 01. 4823-07-70	EACH	1.000	1.000
0060	619.1000	Mobilization	EACH	0.500	0.500
0062	624.0100	Water	MGAL	2.000	2.000
0064	625.0100	Topsoil	SY	275.000	275.000
0066	628.1504	Silt Fence	LF	415.000	415.000
0068	628.1520	Silt Fence Maintenance	LF	830.000	830.000
0070	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0072	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0074	628.2027	Erosion Mat Class II Type C	SY	275.000	275.000
0076	628.6005	Turbidity Barriers	SY	120.000	120.000
0078	628.7504	Temporary Ditch Checks	LF	60.000	60.000
0080	629.0210	Fertilizer Type B	CWT	0.300	0.300
0082	630.0130	Seeding Mixture No. 30	LB	15.000	15.000
0084	630.0200	Seeding Temporary	LB	9.000	9.000
0086	630.0500	Seed Water	MGAL	6.000	6.000
0088	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0090	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0092	638.2602	Removing Signs Type II	EACH	6.000	6.000
0094	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0096	642.5001	Field Office Type B	EACH	0.500	0.500
0098	643.0420	Traffic Control Barricades Type III	DAY	1,350.000	1,350.000
0100	643.0705	Traffic Control Warning Lights Type A	DAY	1,800.000	1,800.000
0102	643.0900	Traffic Control Signs	DAY	1,050.000	1,050.000
0104	643.5000	Traffic Control	EACH	0.500	0.500
0106	645.0111	Geotextile Type DF Schedule A	SY	82.000	82.000
0108	645.0120	Geotextile Type HR	SY	400.000	400.000
0110	650.4500	Construction Staking Subgrade	LF	100.000	100.000

Estimate Of Quantities By Plan Sets

4823-07-70					
Line	Item	Item Description	Unit	Total	Qty
0112	650.5000	Construction Staking Base	LF	100.000	100.000
0114	650.6501	Construction Staking Structure Layout (structure) 01. B-66-0154	EACH	1.000	1.000
0118	650.9911	Construction Staking Supplemental Control (project) 01. 4823-07-70	EACH	1.000	1.000
0122	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
0124	690.0150	Sawing Asphalt	LF	40.000	40.000
0126	715.0502	Incentive Strength Concrete Structures	DOL	978.000	978.000
0128	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000
0132	SPV.0195	Special 01. Select Crushed Material For Travel Corridor	TON	11.000	11.000

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
9+30	-	10+78.54	BEECHNUT DRIVE	2	2
TOTAL 0010				2	2

NOTE: TREES HAVE BEEN CUT BY OTHERS PRIOR TO CONSTRUCTION. CLEAR DOWN TREES.

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
9+54	-	9+81	RT	27
9+71	-	9+85	LT	14
10+15	-	10+42	LT	27
10+19	-	10+33	RT	14
TOTAL 0010				82

PROJECT WIDE

LOCATION	213.0100.01 FINISHING ROADWAY (PROJECT) (01. 4823-07-70) EACH	619.1000 MOBILIZATION EACH	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	642.5001 FIELD OFFICE TYPE B EACH
BEECHNUT DRIVE	1	0.5	4	4	0.5
TOTAL 0010	1	0.5	4	4	0.5

FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
		CUT (2)	EBS EXCAVATION				FACTOR 1.30				
9+30 / 10+78.54	BEECHNUT DRIVE	159	0	55	104	170	221	-117			
		159	0	55	104	170	221	-117	0	117	
		159	0	55	104	170	221	-117	0	117	
TOTAL COMMON EXC		159									

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
- (13) EXPANDED FILL FACTOR = 1.30
- (14) 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.

BASE AGGREGATE ITEMS

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
9+30	-	9+71.73	BEECHNUT DRIVE	5	60	1
10+20.27	-	10+78.54	BEECHNUT DRIVE	10	85	1
TOTAL 0010				15	145	2

ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
9+30	-	9+71.73	BEECHNUT DRIVE	8	25
10+20.27	-	10+78.54	BEECHNUT DRIVE	11	35
TOTAL 0010				19	60

HAUL ROADS

CATEGORY	LOCATION	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 4823-07-70) EACH
0030	PROJECT WIDE	1
TOTAL 0030		1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

EROSION CONTROL

				628.1504	628.1520	628.2027	628.6005	628.7504
				SILT FENCE	SILT FENCE	EROSION MAT	TURBIDITY	TEMPORARY
				MAINTENANCE	MAINTENANCE	CLASS II TYPE C	BARRIERS	DITCH
				LF	LF	SY	SY	CHECKS
STATION	TO	STATION	LOCATION	LF	LF	SY	SY	LF
9+30	-	9+71.73	LT/RT	140	280	95	55	-
10+20.27	-	10+78.54	LT/RT	190	380	125	40	-
UNDISTRIBUTED				85	170	55	25	60
TOTAL 0010				415	830	275	120	60

PERMANENT SIGNING

						634.0614	637.2230	638.2602	638.3000
						POSTS	SIGNS TYPE II	REMOVING	REMOVING
						WOOD 4X6-	SIGNS TYPE II	REMOVING	SMALL SIGN
						INCH X 14-FT	REFLECTIVE F	SIGNS TYPE II	SUPPORTS
STATION	LOCATION	SIGN	WIDTH	HEIGHT	MESSAGE	EACH	SF	EACH	EACH
		CODE	(IN)	(IN)					
9+62	RT	R12-1	-	-	WEIGHT LIMIT 15 TONS	-	-	1	-
9+62	RT	W5-52R	-	-	BRIDGE HASH MARKS RT	-	-	1	1
9+58	RT	W5-52R	12	36	BRIDGE HASH MARKS RT	1	3	-	-
9+70	LT	W5-52L	-	-	BRIDGE HASH MARKS LT	-	-	1	1
9+61	LT	W5-52L	12	36	BRIDGE HASH MARKS LT	1	3	-	-
10+30	RT	W5-52L	12	36	BRIDGE HASH MARKS RT	1	3	-	-
10+34	LT	W5-52R	12	36	BRIDGE HASH MARKS LT	1	3	-	-
10+30	LT	W5-52R	-	-	BRIDGE HASH MARKS LT	-	-	1	-
10+30	LT	R12-1	-	-	WEIGHT LIMIT 15 TONS	-	-	1	1
10+33	RT	W5-52L	-	-	BRIDGE HASH MARKS RT	-	-	1	1
TOTAL 0010						4	12	6	4

FINISHING ITEMS

				625.0100	629.0210	630.0130	630.0200	630.0500
				TOPSOIL	FERTILIZER	SEEDING	SEEDING	SEED WATER
				SY	TYPE B	MIXTURE	TEMPORARY	MGAL
				CWT	NO. 30	NO. 30	LB	
STATION	TO	STATION	LOCATION	SY	CWT	LB	LB	
9+30	-	9+71.73	LT/RT	95	0.1	5	3	2
10+20.27	-	10+78.54	LT/RT	125	0.1	7	4	3
UNDISTRIBUTED				55	0.1	3	2	1
TOTAL 0010				275	0.3	15	9	6

TRAFFIC CONTROL

LOCATION	DURATION	DAYS	NO.	DAY	NO.	DAY	NO.	DAY	EACH
BEECHNUT DRIVE	-	-	-	-	-	-	-	-	0.5
SDD 15C2	75	18	1,350	24	1,800	14	1,050	-	-
TOTAL 0010			1,350	1,800	1,050	0.5			

STAKING STRUCTURE

		650.6501.01
		CONSTRUCTION STAKING
		STRUCTURE LAYOUT
		(STRUCTURE) (01. B-66-0154)
CATEGORY	LOCATION	EACH
0020	STRUCTURE	1
TOTAL 0020		1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

STAKING							
				650.4500	650.5000	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 4823-07-70) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
STATION	TO	STATION	LOCATION	CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF		
9+30	-	10+78.54	ROADWAY	100	100	1	100
TOTAL 0010				100	100	1	100

SAWCUT		
		690.0150 SAWING ASPHALT LF
STATION	LOCATION	
9+30	BEECHNUT DRIVE	20
10+78.54	BEECHNUT DRIVE	20
		40

BIRD DETERRENT		
999.2000.S.01 INSTALLING AND MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 10+00) EACH		
CATEGORY	LOCATION	
0020	STRUCTURE	1
TOTAL 0020		1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

Standard Detail Drawing List

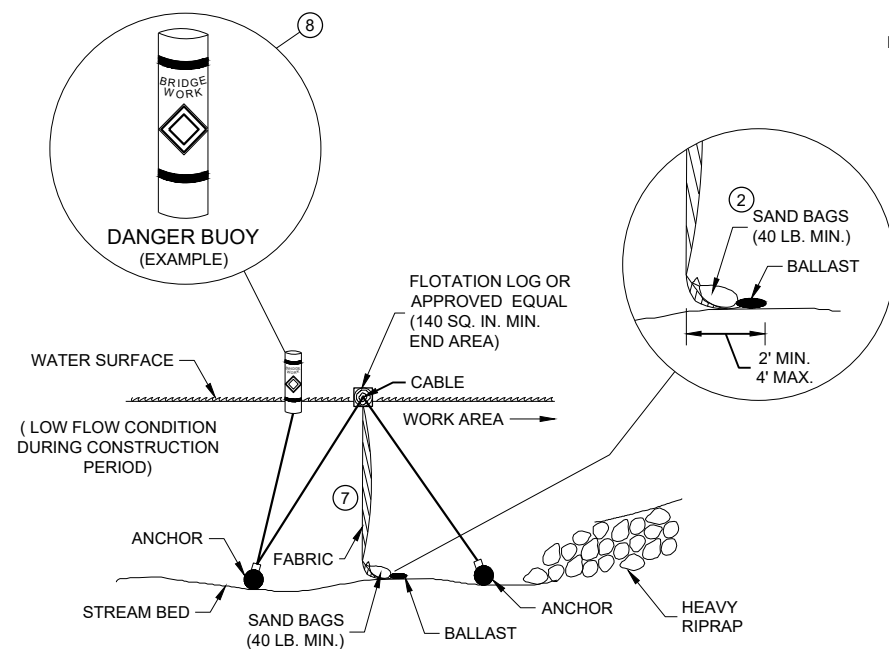
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS,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



- 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 1 1/8" X 1 1/8" 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.

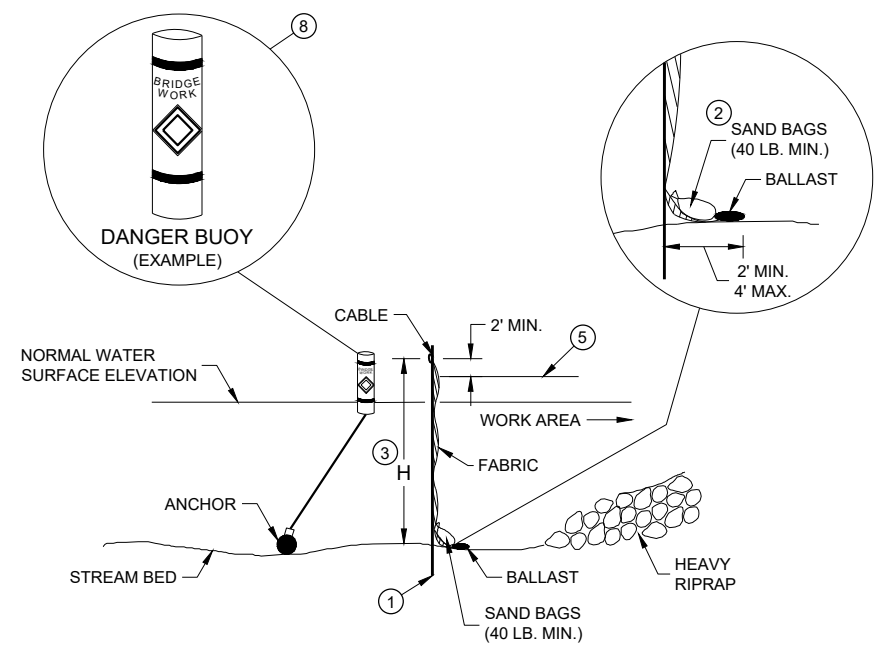


<h1 style="margin: 0;">SILT FENCE</h1>
<h2 style="margin: 0;">STATE OF WISCONSIN</h2> <h3 style="margin: 0;">DEPARTMENT OF TRANSPORTATION</h3>
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>APPROVED</p> <p><u>4-29-05</u></p> <p><u>DATE</u></p> </div> <div style="width: 40%; text-align: center;"> <p><u>/S/ Beth Connolly</u></p> <p>CHIEF ROADWAY DEVELOPER</p> </div> <div style="width: 30%; text-align: right;"> <p><u>14</u></p> <p>ENGINEER</p> </div> </div> <p style="margin-top: 10px;">FHWA</p>



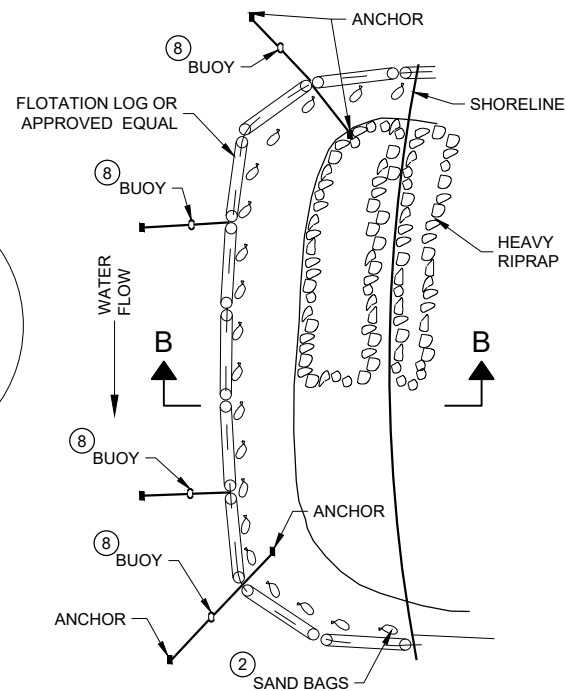
SECTION B - B

TURBIDITY BARRIER - FLOAT ALTERNATIVE CAUTION - SEE NOTE 6

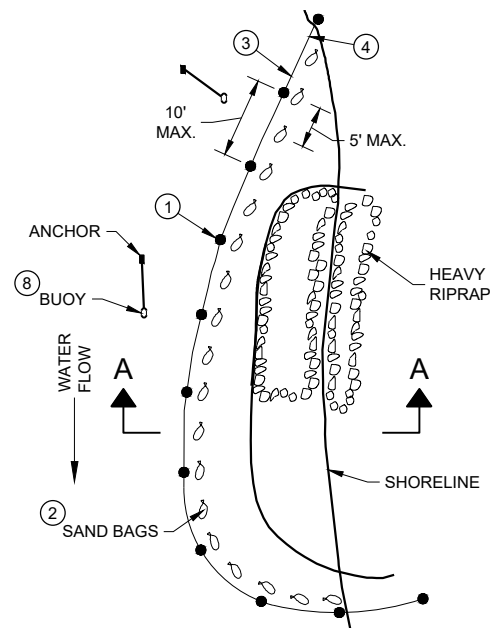


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW



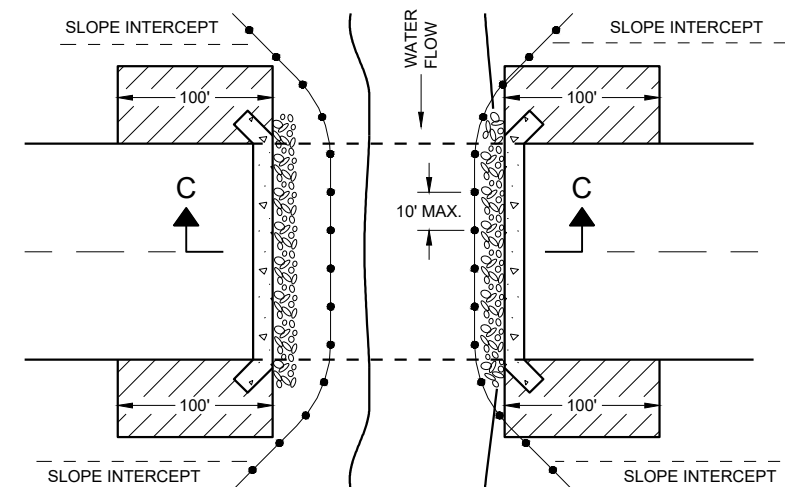
PLAN VIEW

GENERAL NOTES

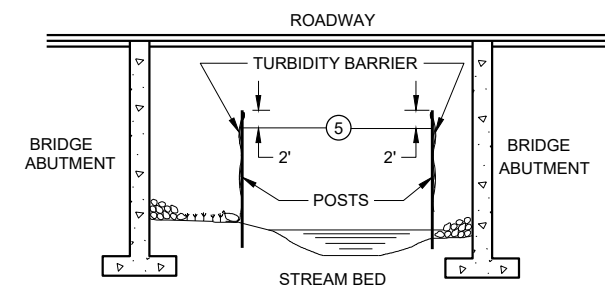
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

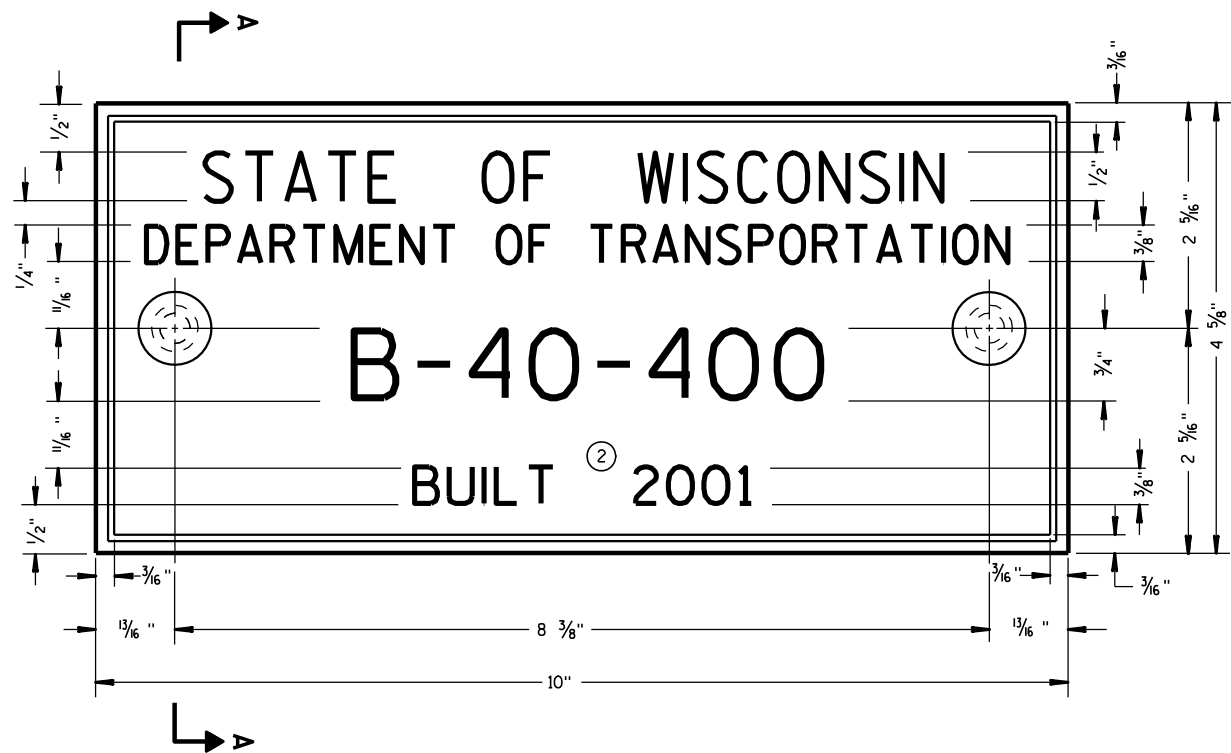
TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

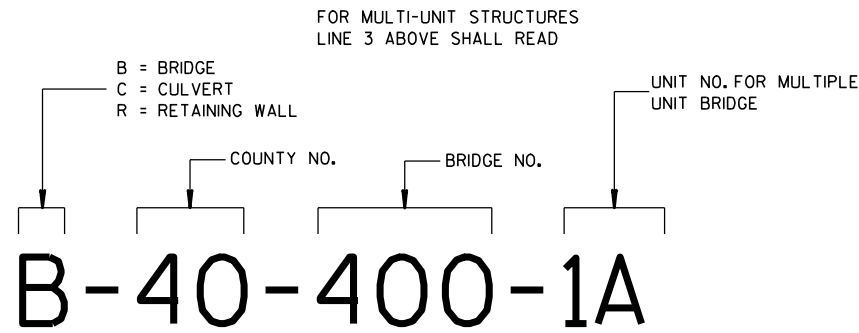
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPER
ENGINEER 15

FHWA



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



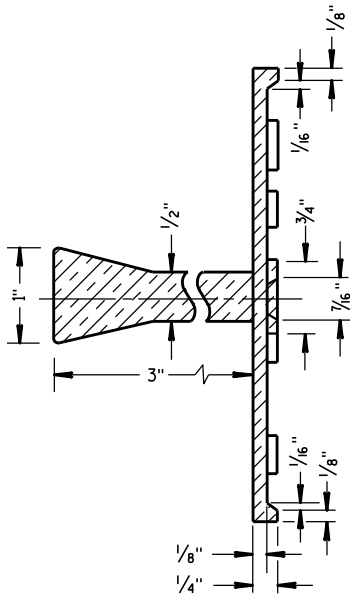
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

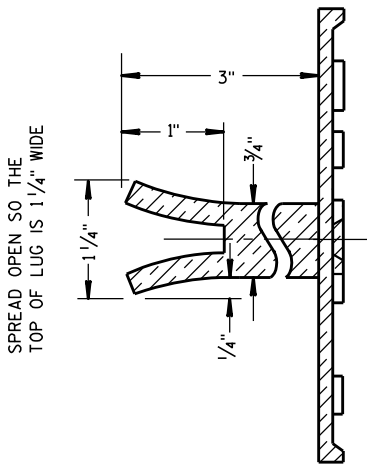
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

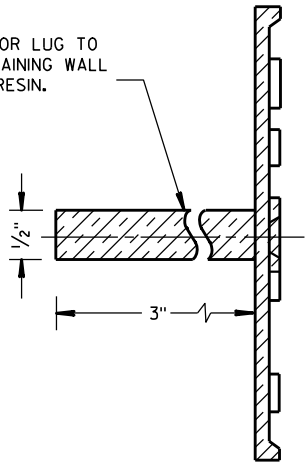


SECTION A-A



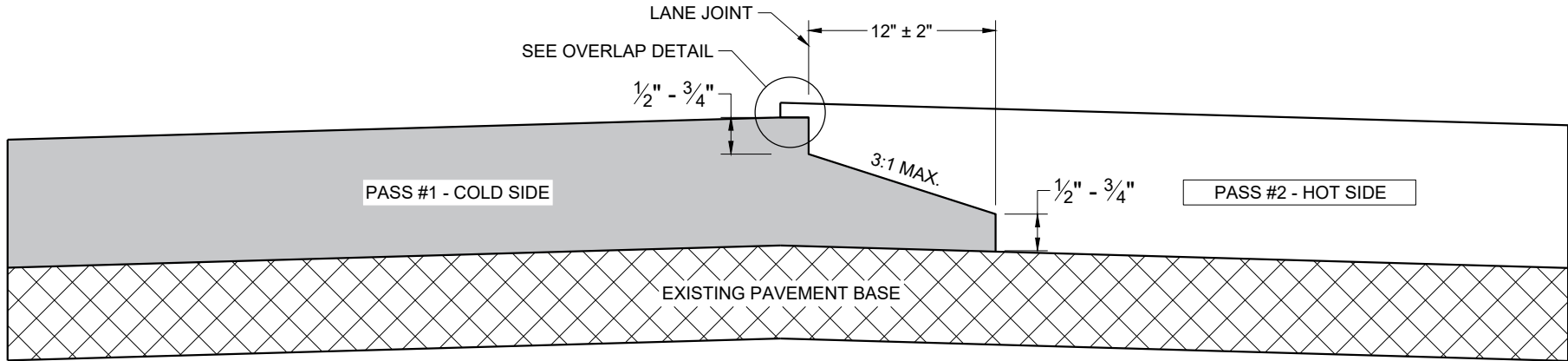
ALTERNATE LUG

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

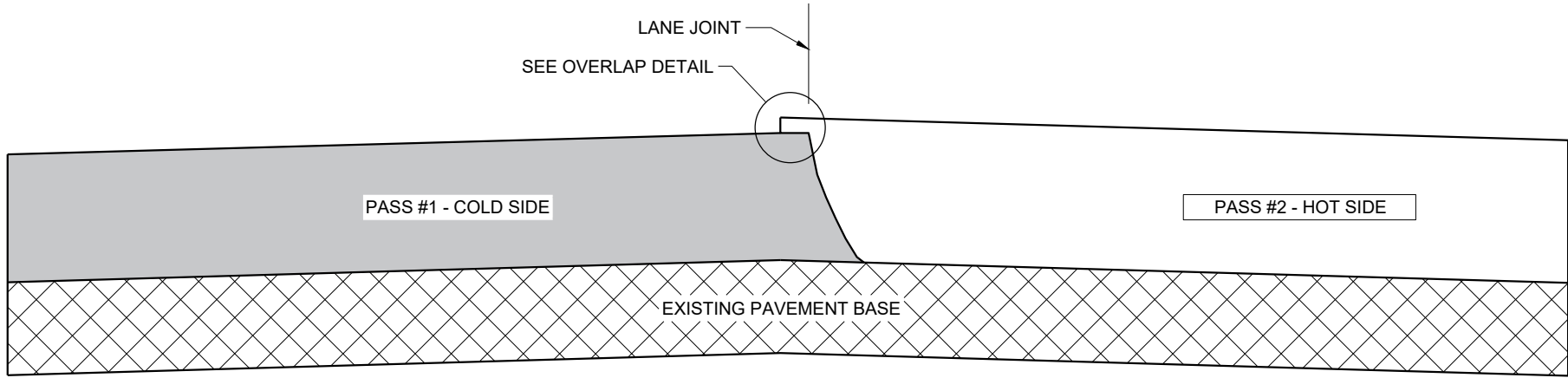


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

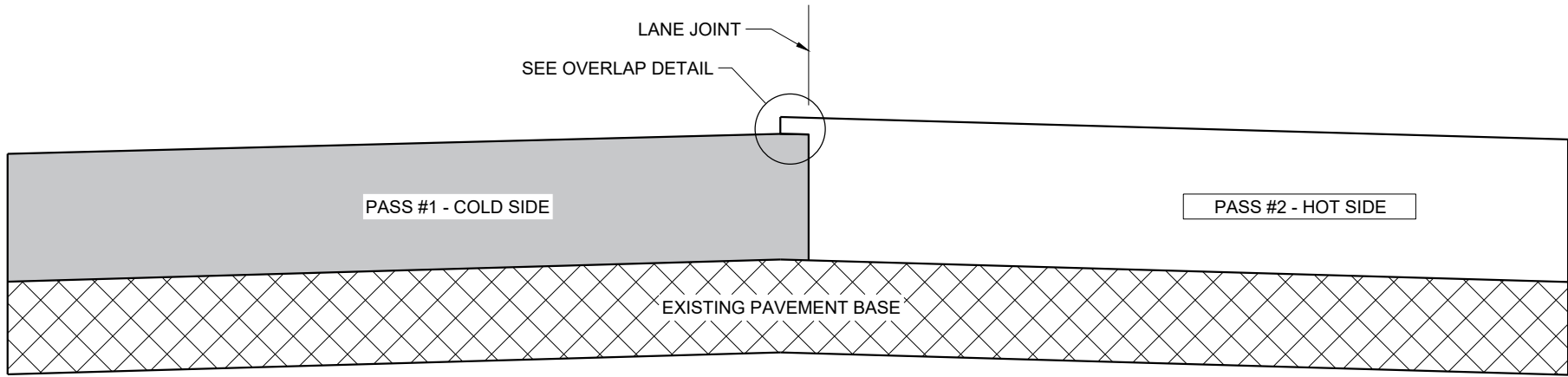
NAME PLATE (STRUCTURES)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED DATE 3/26/10 FWHA	/S/ Scot Beck CHIEF STRUCTURAL DEVELOPER 16	JEER



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

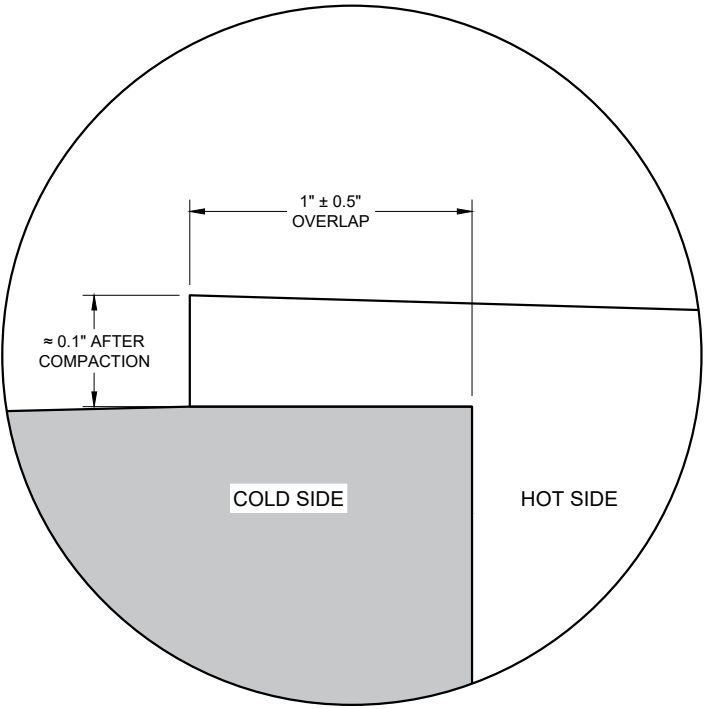
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



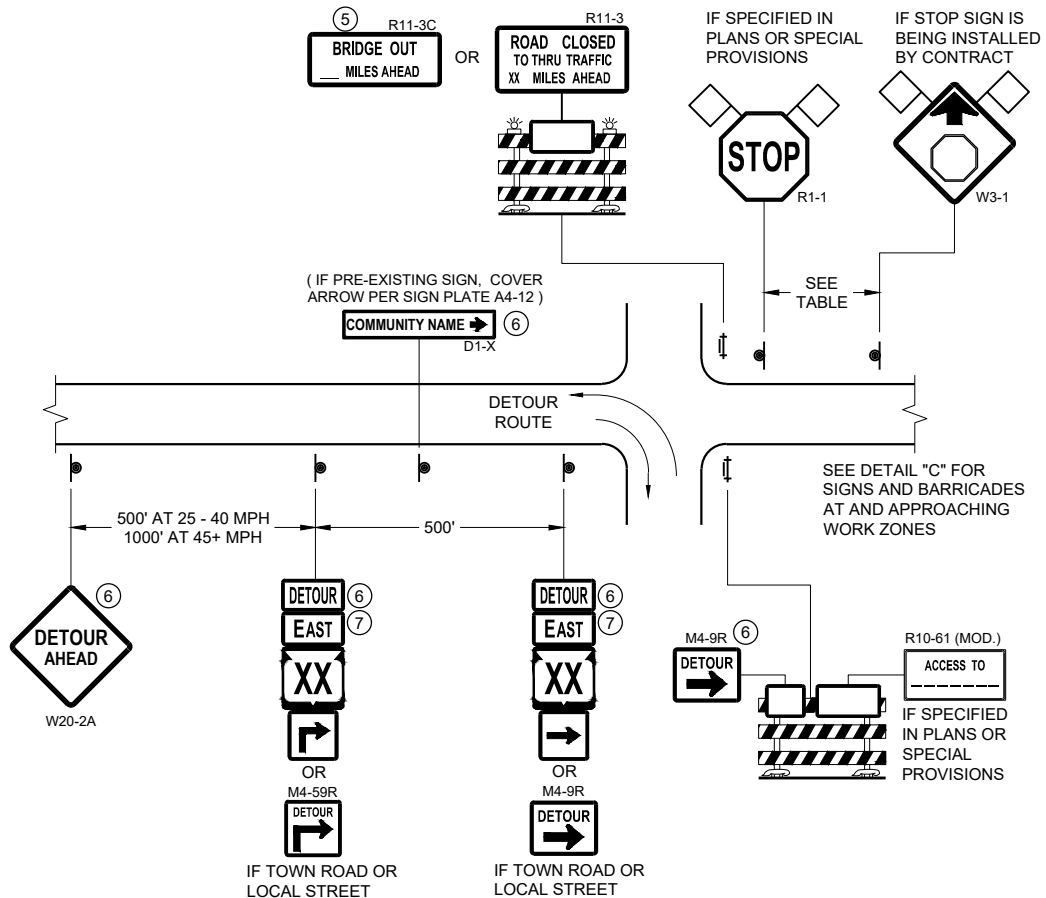
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

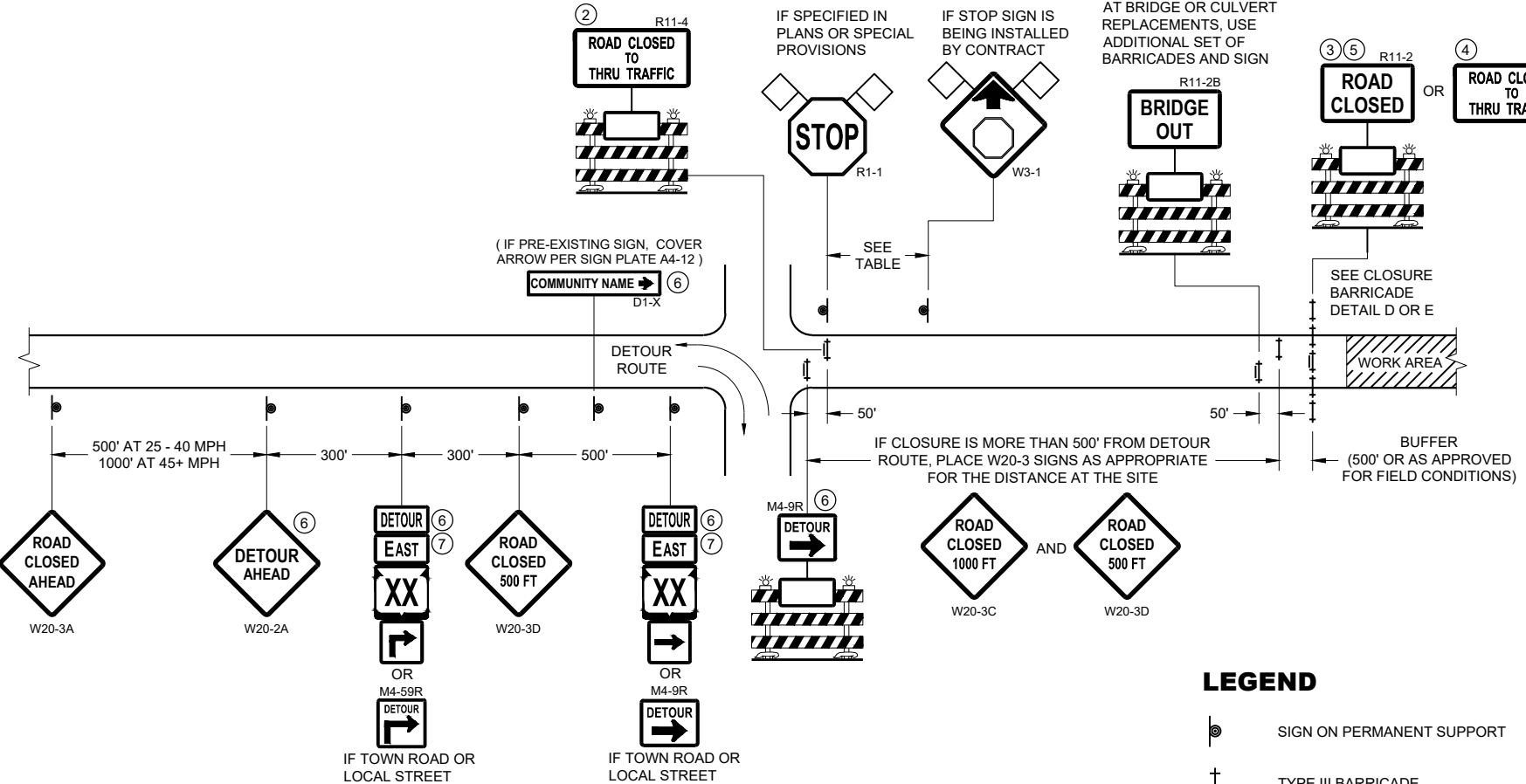
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 17

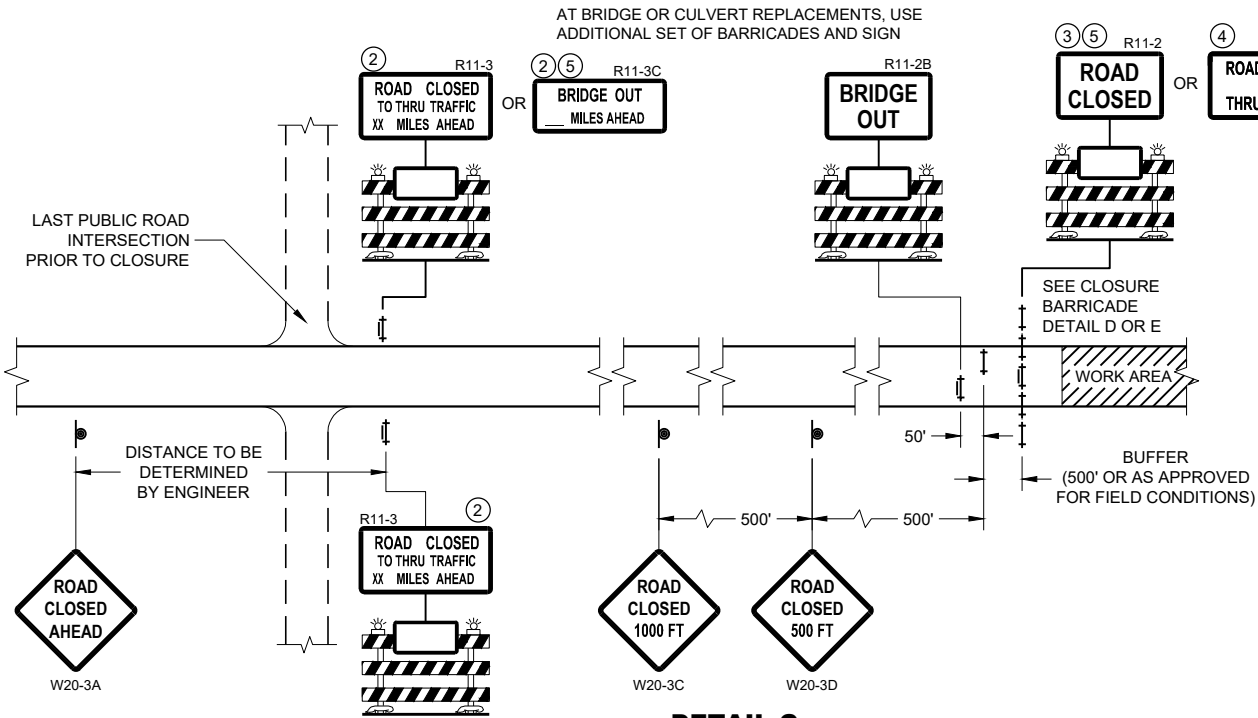
FHWA



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



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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

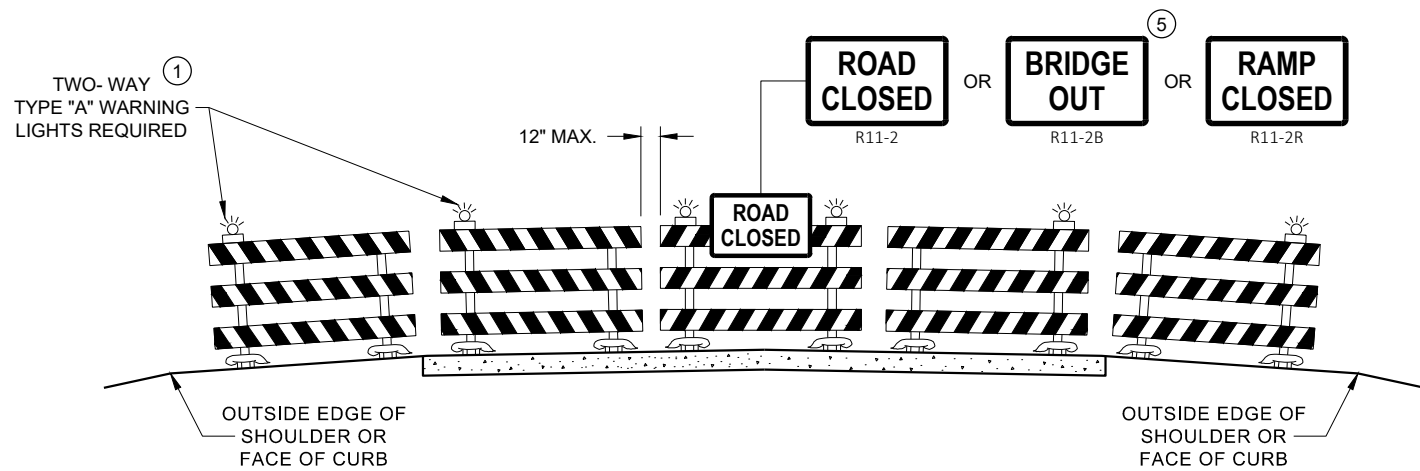
LEGEND

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

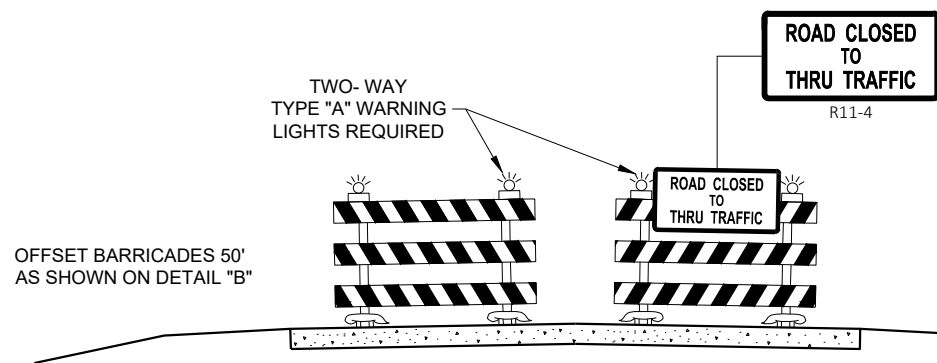
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 18
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"

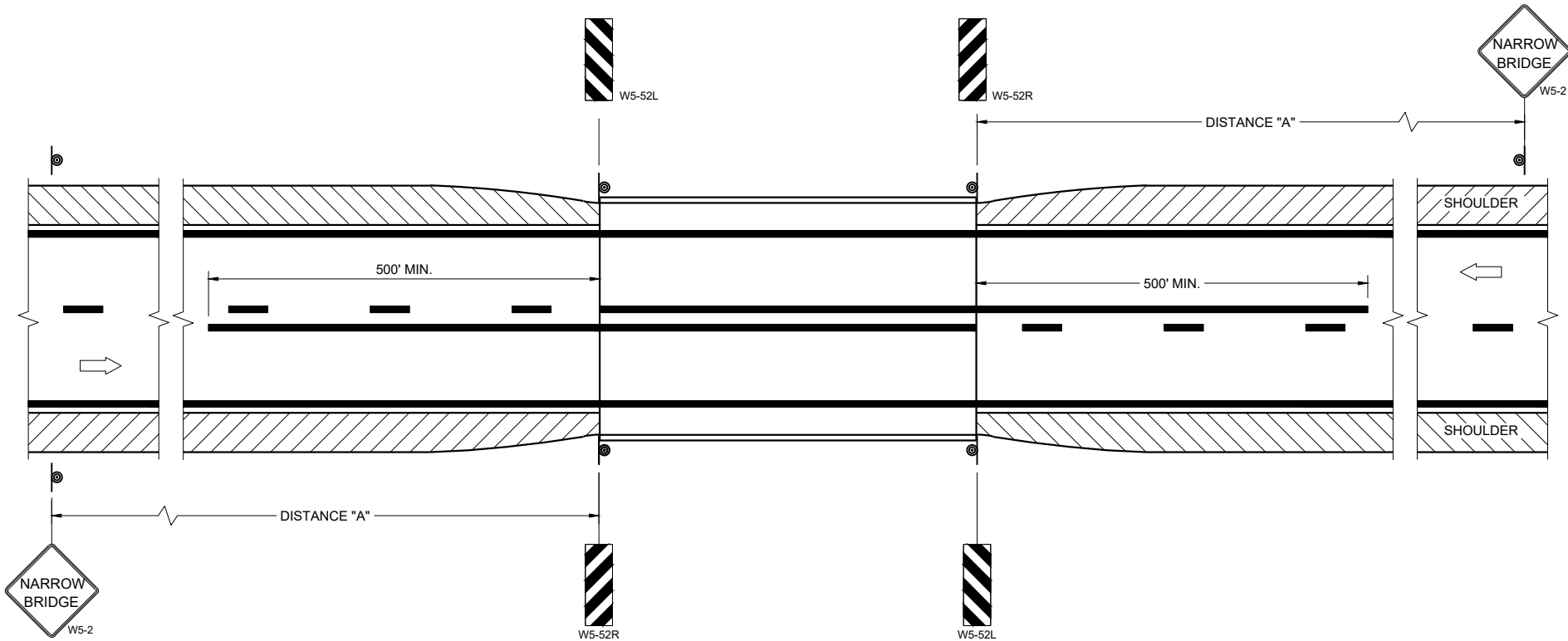
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS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

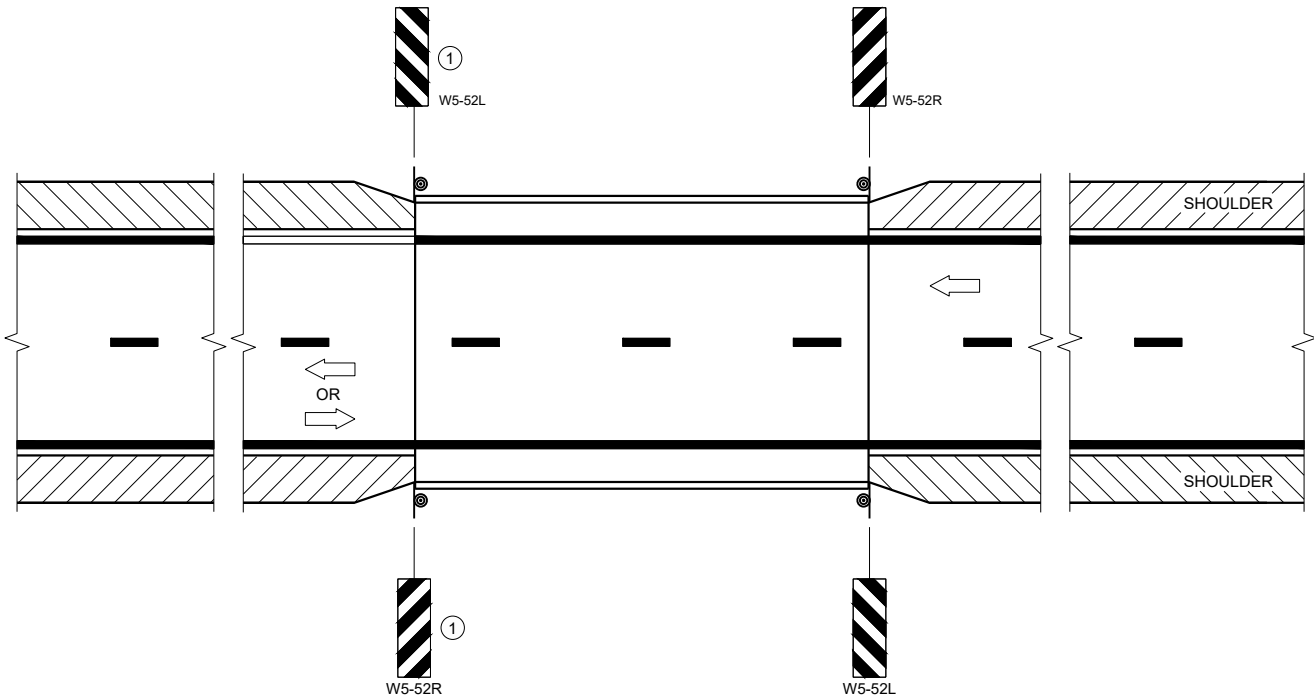
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 19

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'

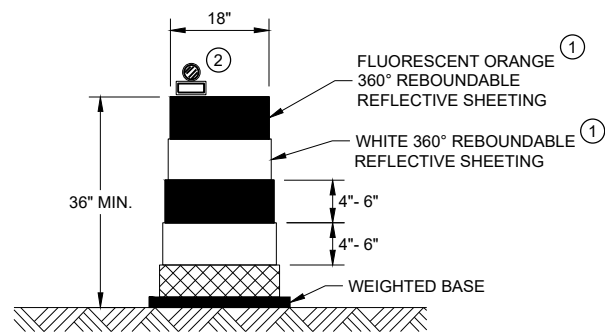
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

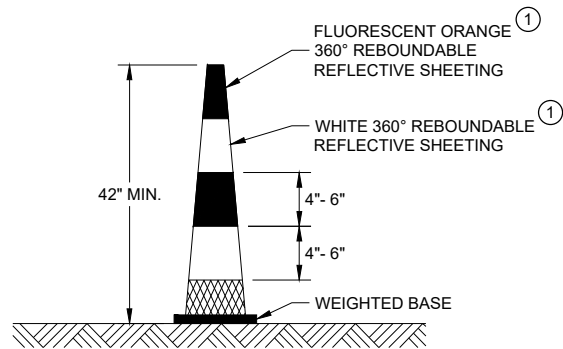
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA 20



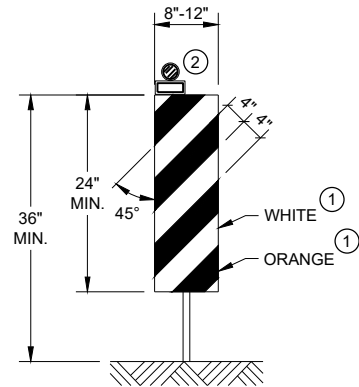
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



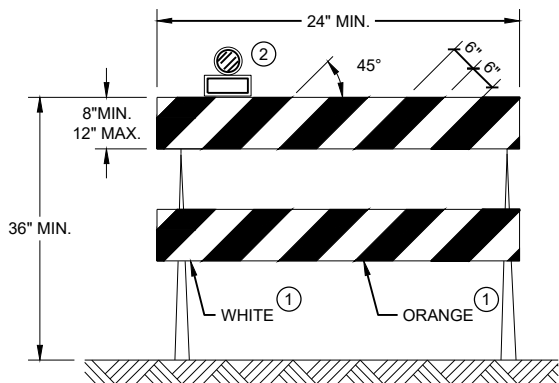
42" CONE

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



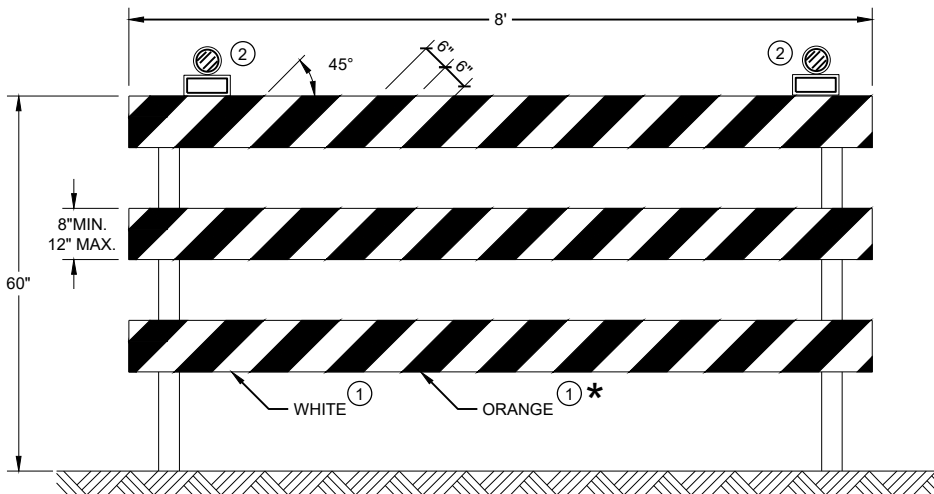
VERTICAL PANEL

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

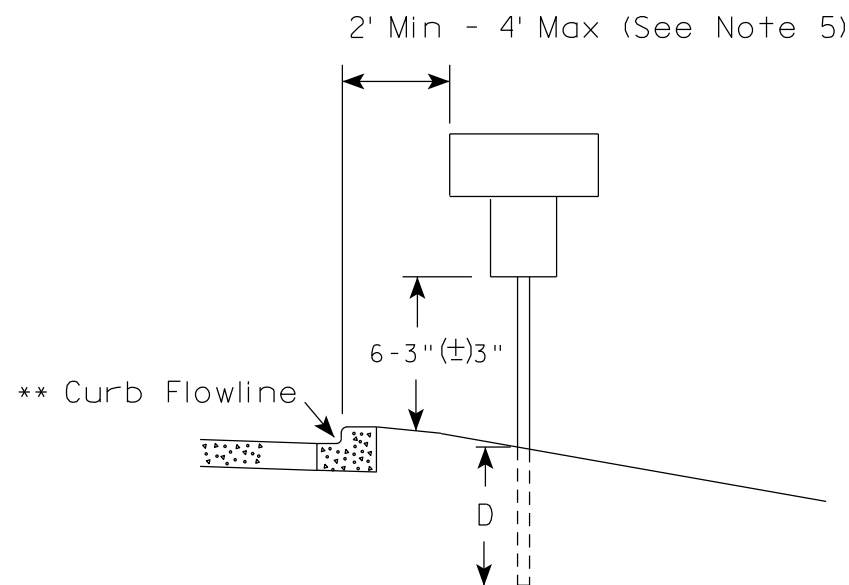
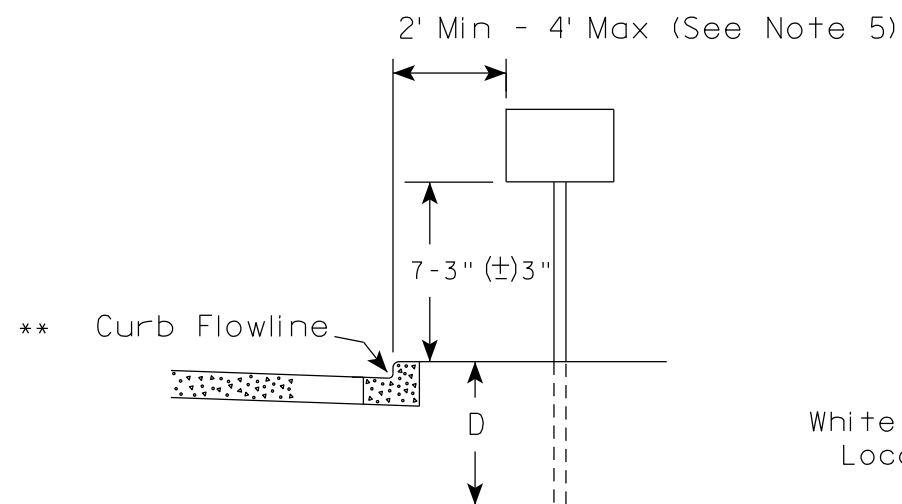
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

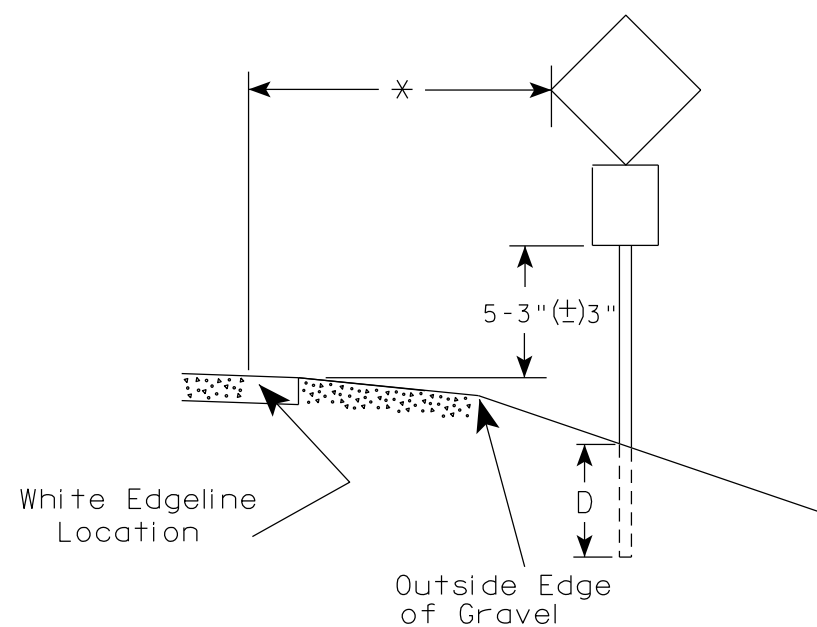
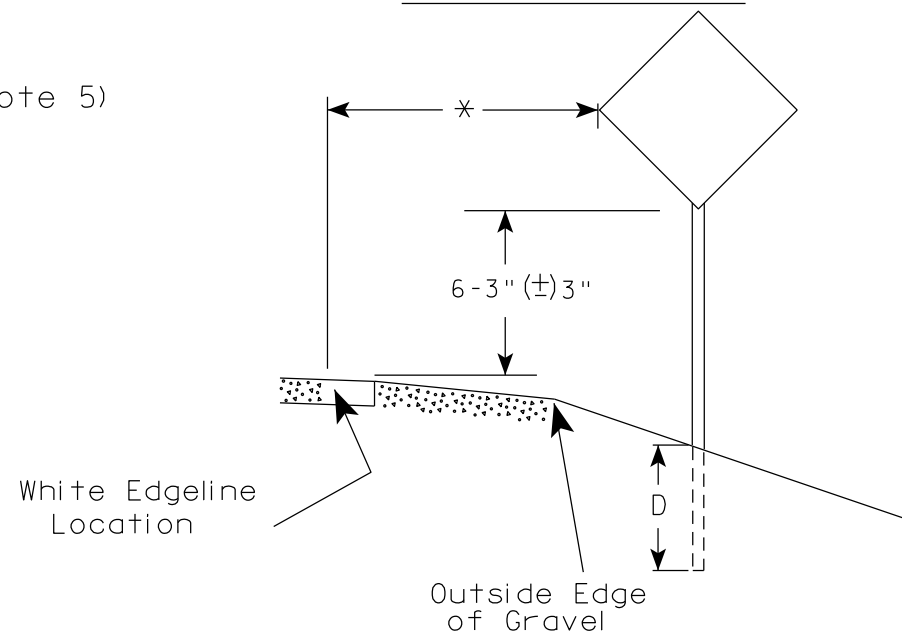
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 21
FHWA

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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

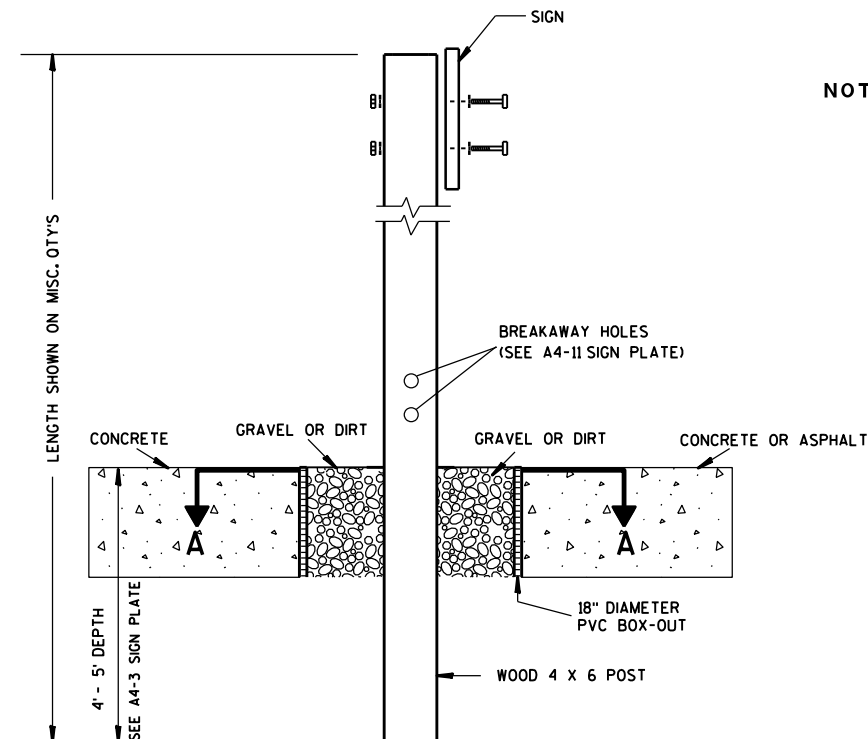
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed 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

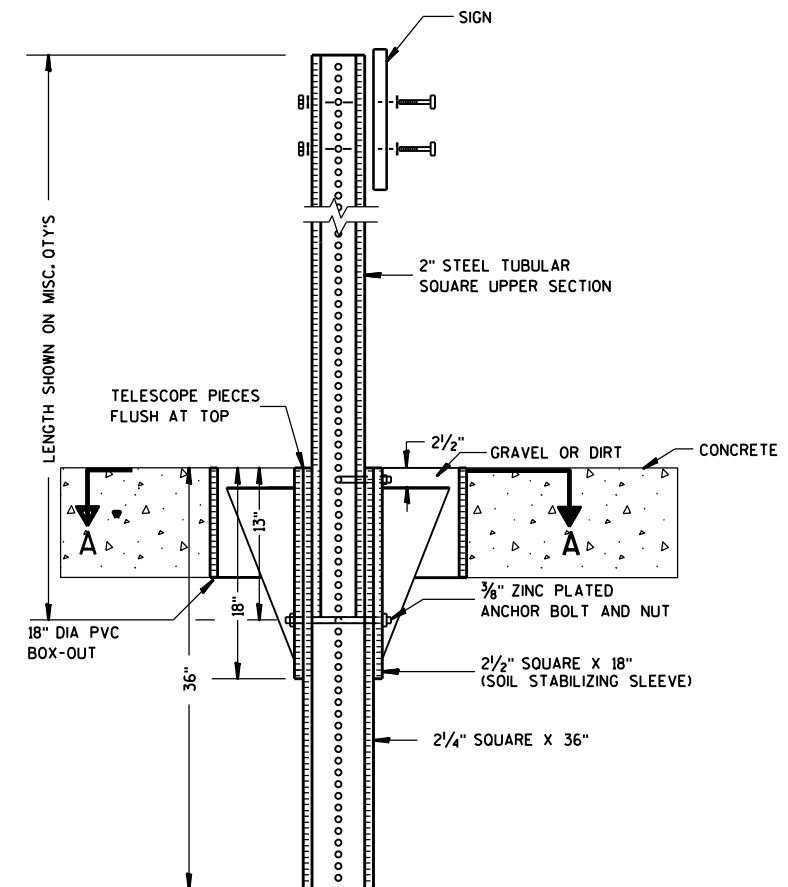
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

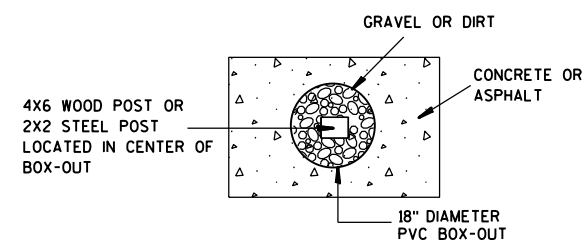
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 23 A4-3B.1

PROJECT NO:

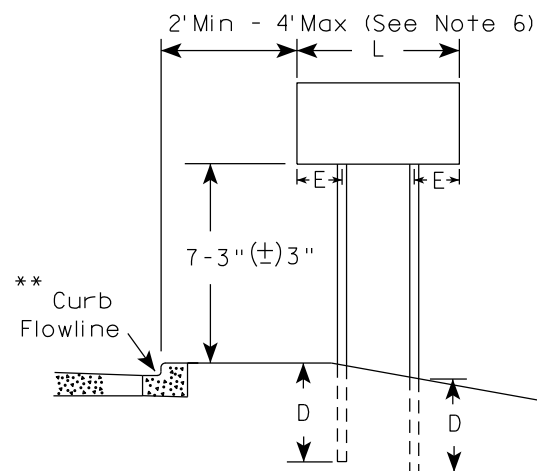
HWY:

COUNTY:

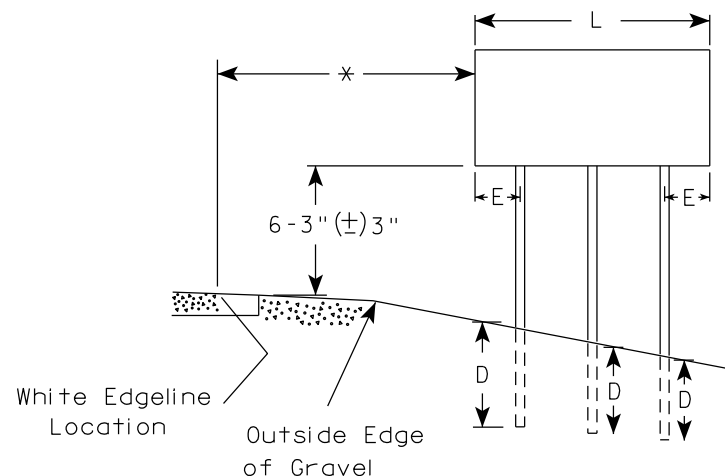
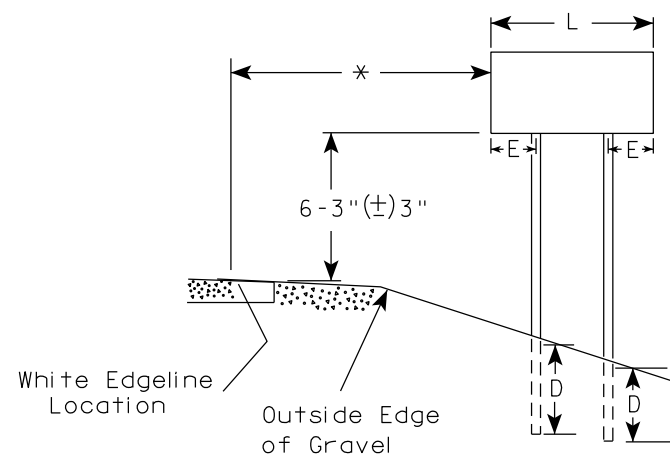
SHEET NO:

E

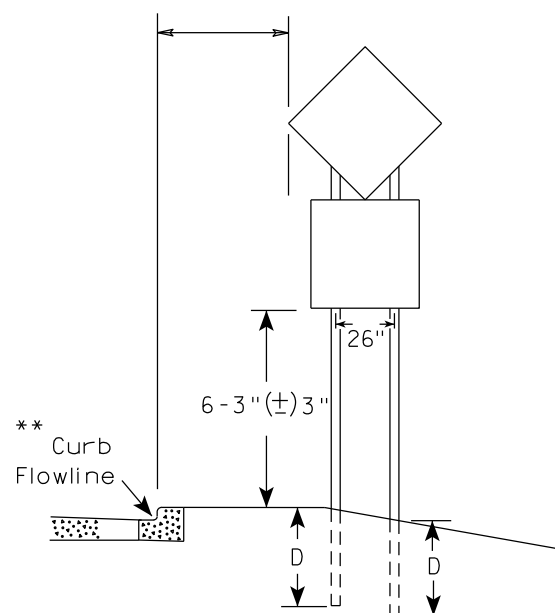
URBAN AREA



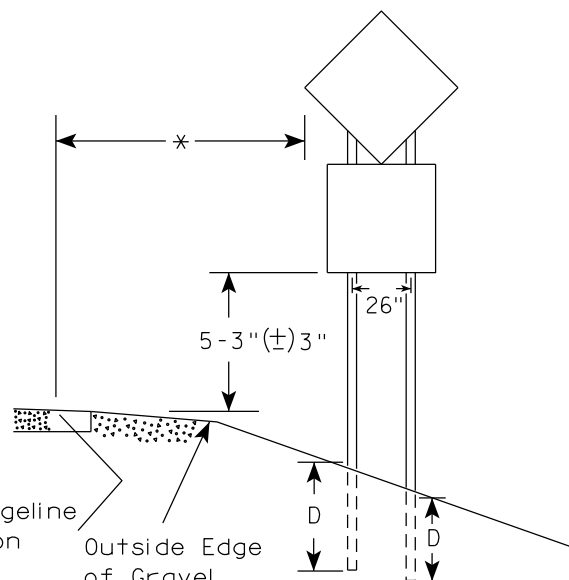
RURAL AREA (See Note 3)



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

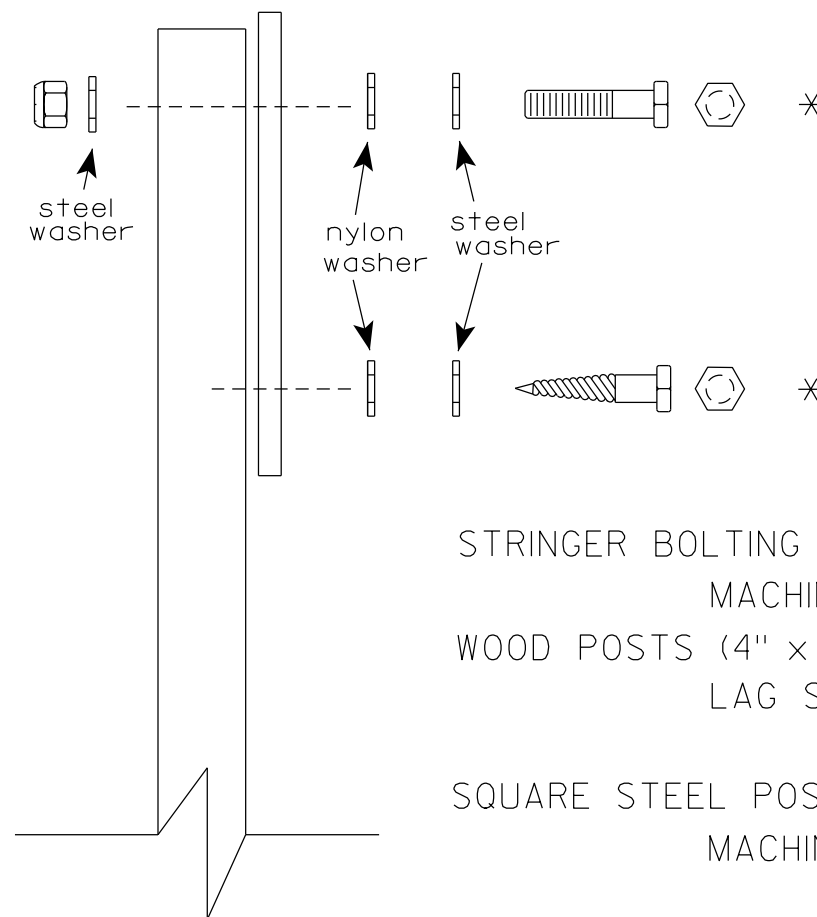
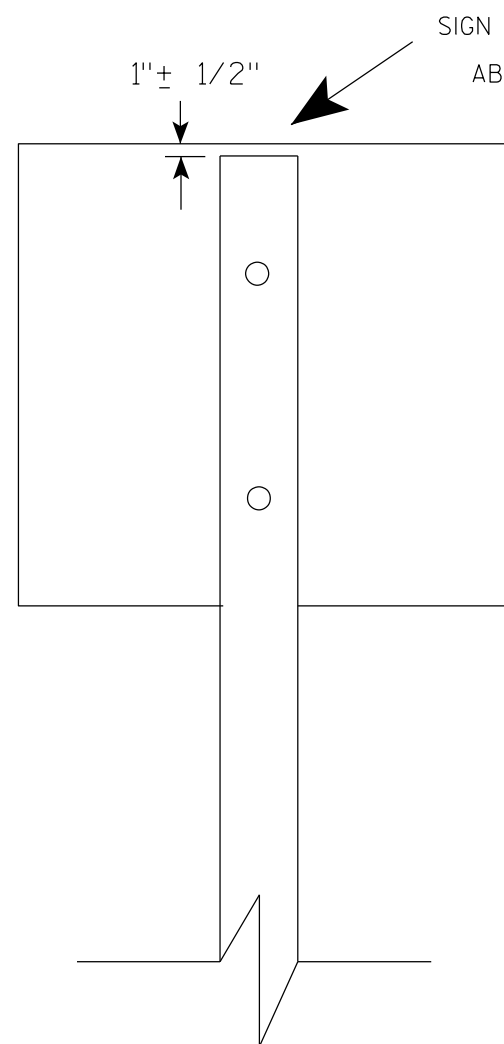
GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- 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.

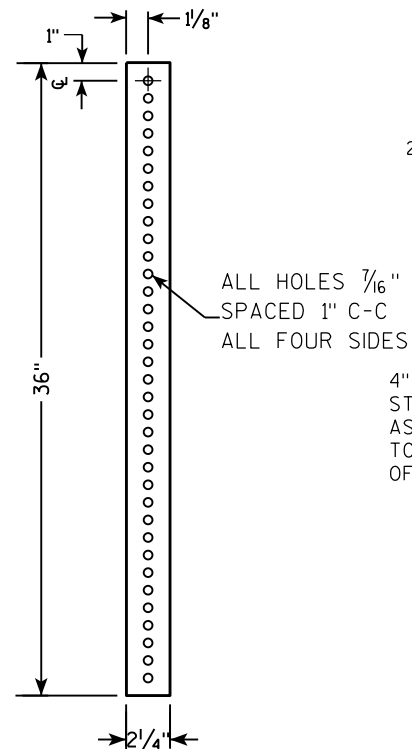
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

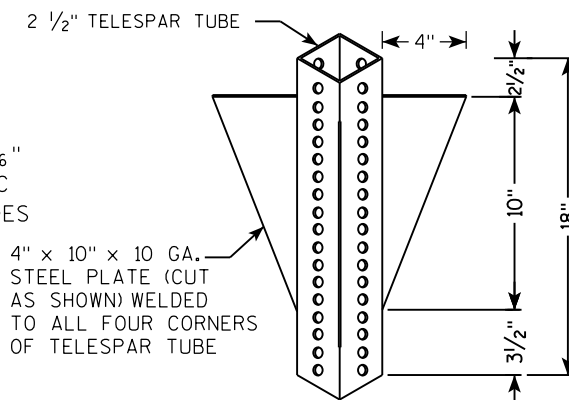
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require 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 1/2" GRAVEL OR DIRT

13"

18"

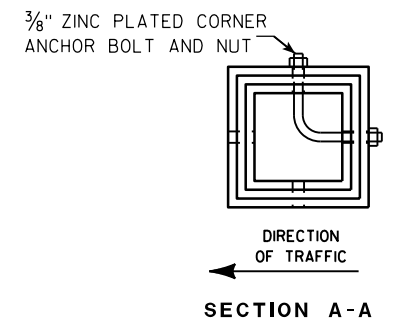
36"

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

2 1/4" SQUARE X 36"

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

SIGN

[illegible]

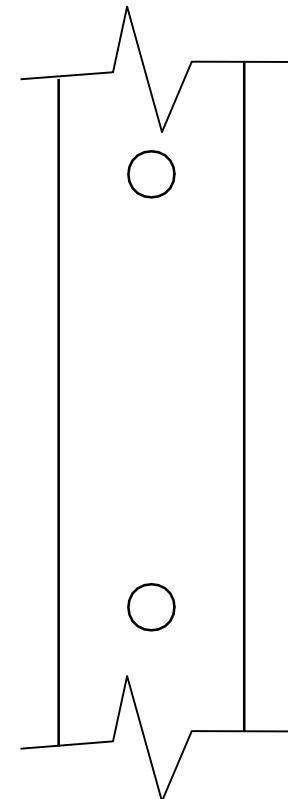
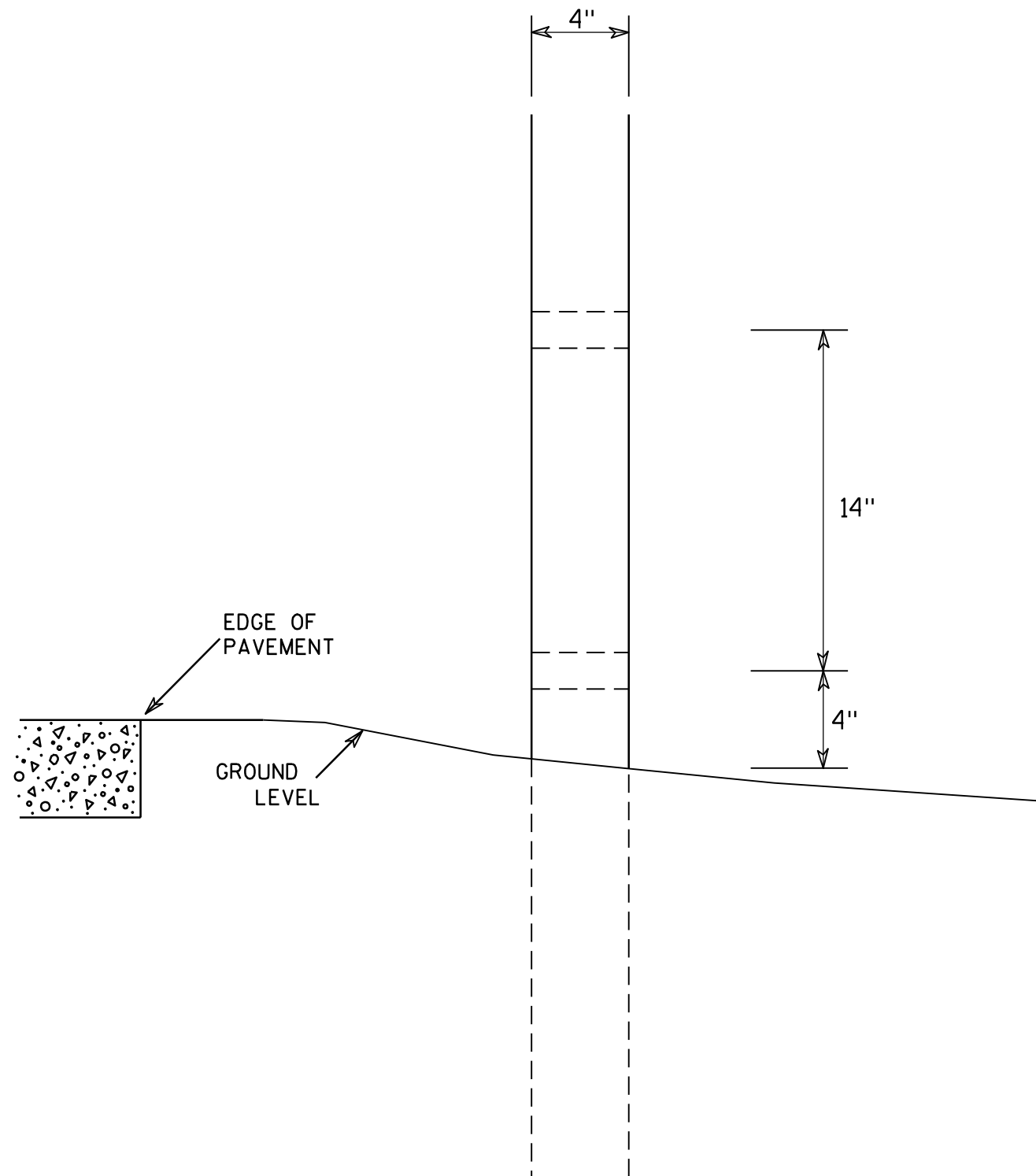
Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
For State Traffic Engineer

DATE 2/05/15 PLAT 26 14-9.9



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

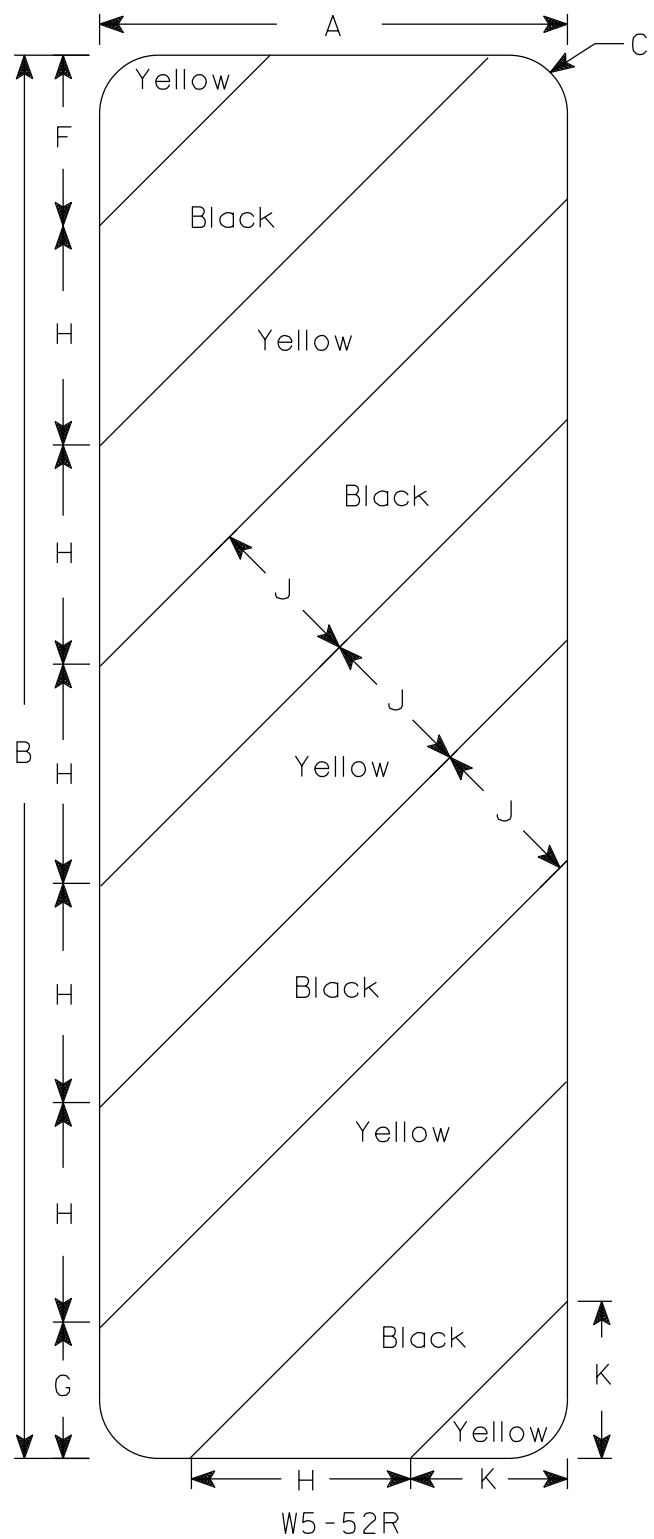
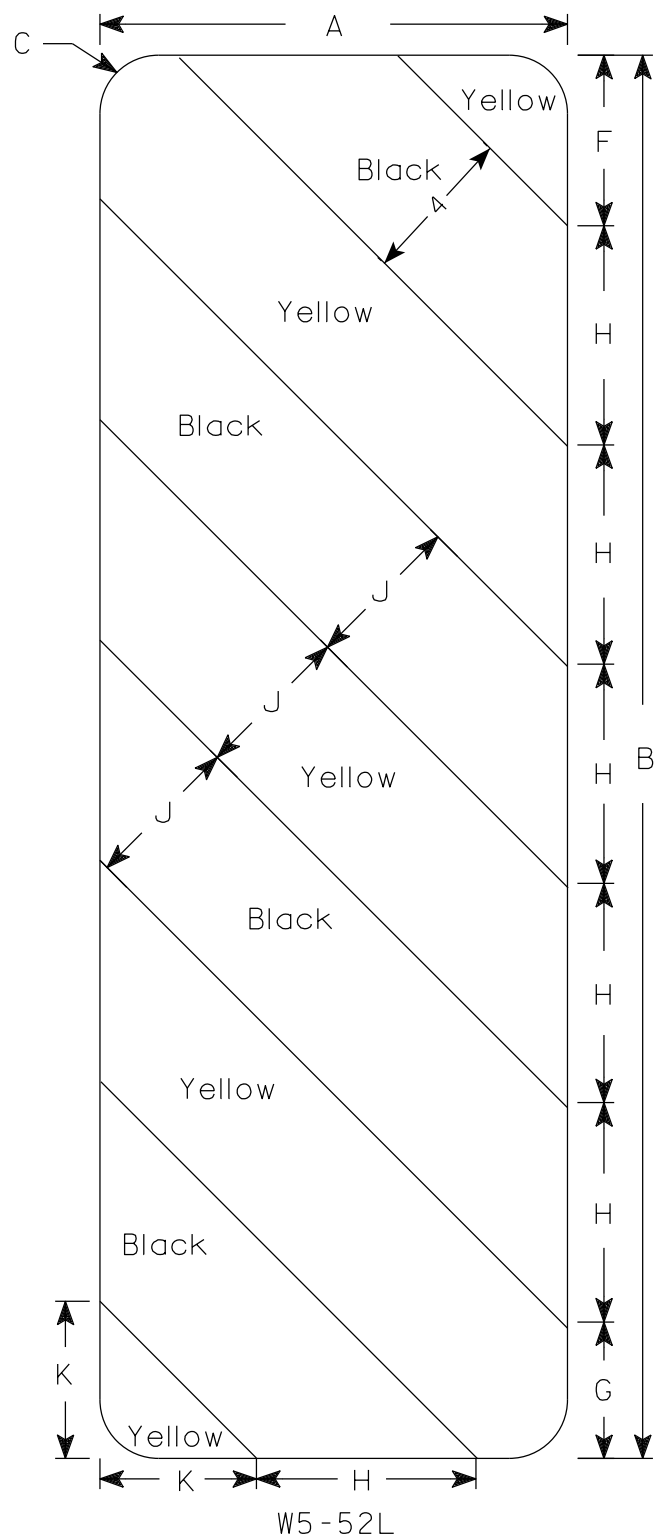
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 27

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

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.13
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 HP 10x42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 55'-0" LONG AT WEST ABUTMENT.
ESTIMATED 45'-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:

$Q_{100} = 810$ C.F.S.
 $V_{100} = 6.4$ F.P.S.
 $HW_{100} = \text{EL. } 952.54$
WATERWAY AREA = 127 SQ. FT.
DRAINAGE AREA = 9.3 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

$Q_2 = 143$ C.F.S.
 $V_2 = 3.4$ F.P.S.
 $HW_2 = \text{EL. } 949.21$

TRAFFIC DATA

FEATURE ON: BEECHNUT DRIVE

ADT = 120 (2026)
ADT = 140 (2046)
R.D.S. = 65 MPH

LIST OF DRAWINGS:

- GENERAL PLAN
- TYPICAL SECTION, QUANTITIES & NOTES
- STRUCTURE DETAILS
- SUBSURFACE EXPLORATION
- WEST ABUTMENT
- WEST ABUTMENT WING 1 DETAILS
- WEST ABUTMENT WING 2 DETAILS
- WEST ABUTMENT PILE LAYOUT AND BILL OF BARS
- EAST ABUTMENT
- EAST ABUTMENT WING 3 DETAILS
- EAST ABUTMENT WING 4 DETAILS
- EAST ABUTMENT PILE LAYOUT AND BILL OF BARS
- SUPERSTRUCTURE
- SUPERSTRUCTURE PLAN
- TUBULAR STEEL RAILING TYPE "M"

PLAN

SINGLE-SPAN CONCRETE FLAT SLAB BRIDGE

ELEVATION

NORMAL TO C/L OF ROADWAY

COST OF EXCAVATION OR FILL IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-66-154".

REMOVE EXISTING STRUCTURE AS NEEDED. COST INCLUDED IN "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS" ITEM. TYPICAL AT ALL SUBSTRUCTURES.

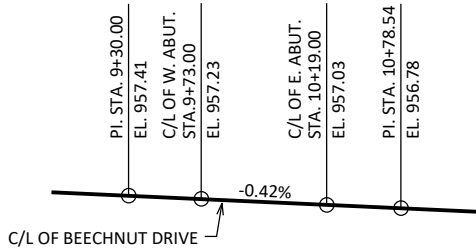
NORMAL TO C/L SUBSTRUCTURE

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
200	11+99	RR SPIKE, 31' LT.	955.66
201	10+21	CHIS. SQ, 12' RT.	956.46

PROFILE GRADE LINE

(BEECHNUT DRIVE)

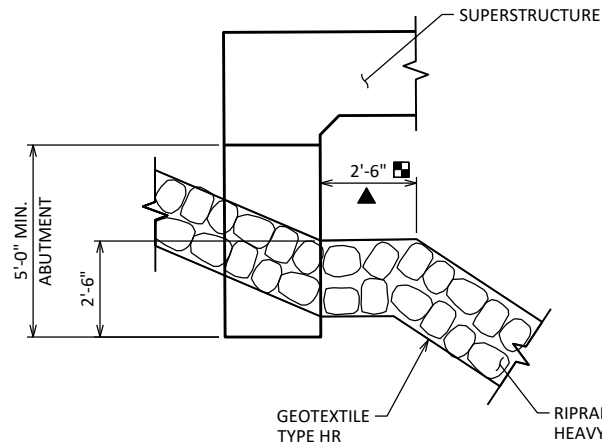


08/30/2025

STRUCTURE DESIGN CONTACTS:
JOSEPH BLUMA 715-834-3161
AARON BONK 608-261-0261

GENERAL PLAN

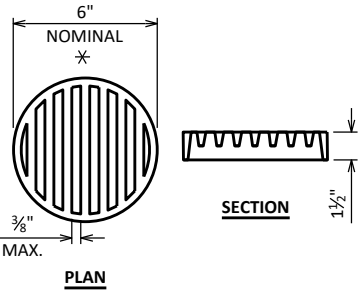
SHEET 1 OF 15
29



TRAVEL CORRIDOR DETAIL

▲ FILL VOIDS IN RIPRAP HEAVY WITH TRAFFIC BOND LIMESTONE SCREENINGS 3/8-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER. PROVIDE LEVEL SURFACE OF THE ECO-PASSAGE TO THE EDGES OF THE RIPRAP HEAVY SHALL BE GRADUAL WITH NO MORE THAN 2:1 SLOPE. TRAFFIC BOND LIMESTONE SHALL BE COMPACTED ONCE IN PLACE. "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR"

■ NORMAL TO C/L SUBSTRUCTURE

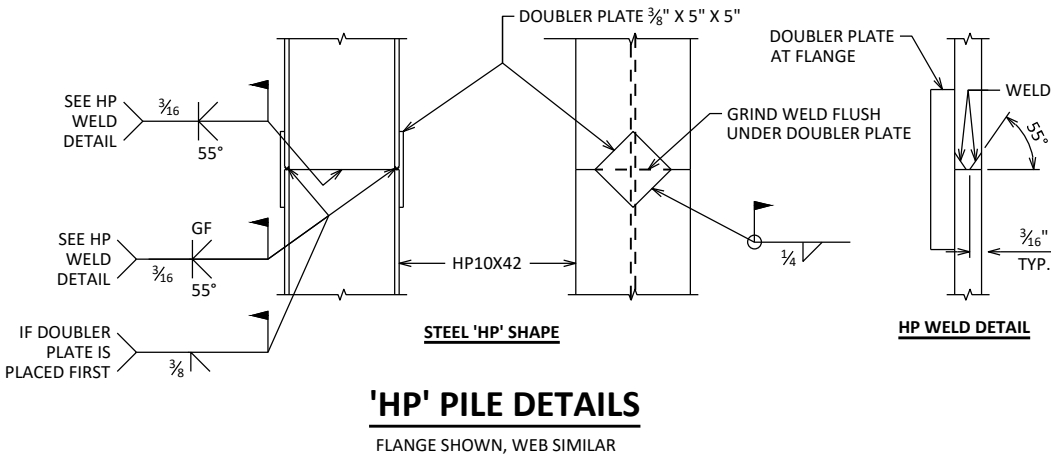


RODENT SHIELD DETAIL

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

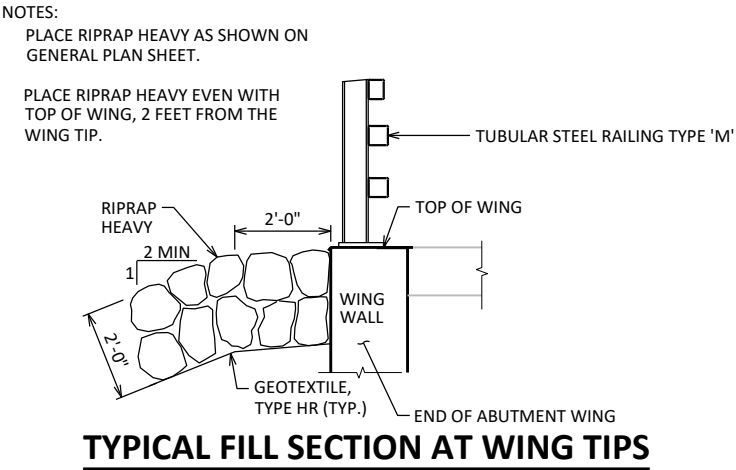
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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.



'HP' PILE DETAILS

FLANGE SHOWN, WEB SIMILAR



TYPICAL FILL SECTION AT WING TIPS

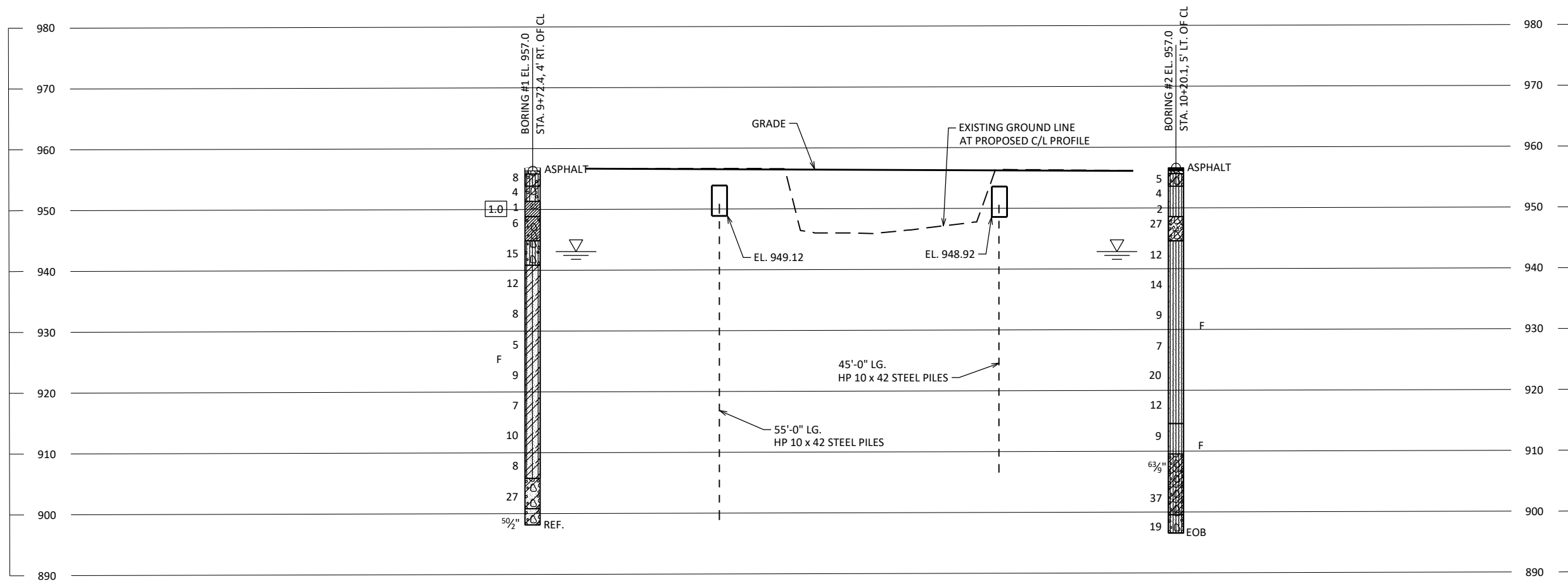
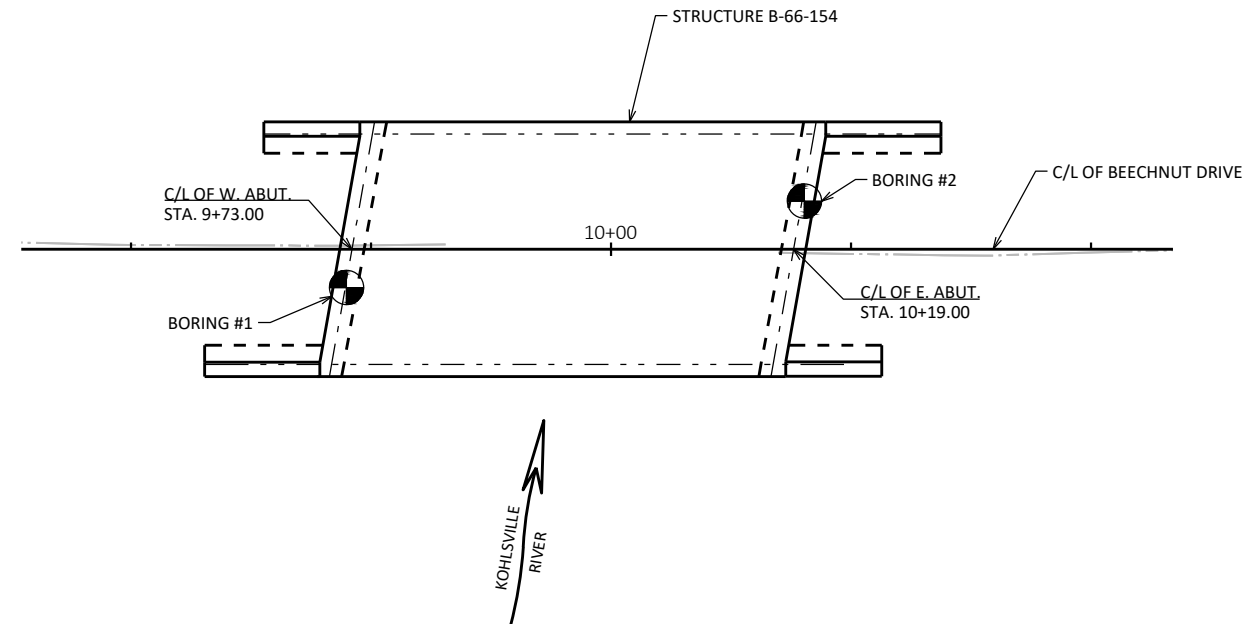
NOTES:
PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET.

PLACE RIPRAP HEAVY EVEN WITH TOP OF WING, 2 FEET FROM THE WING TIP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		DRS	PLANS CK'D ERS
STRUCTURE DETAILS		SHEET 3 OF 15 31	
















SCALE =

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	JANUARY 8, 2025	204343.21	321483.69
2	JANUARY 9, 2025	204350.52	321531.45
BORINGS COMPLETED BY: DRILL POINT, INC.			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO NAVD 88(2012) WASHINGTON COUNTY			

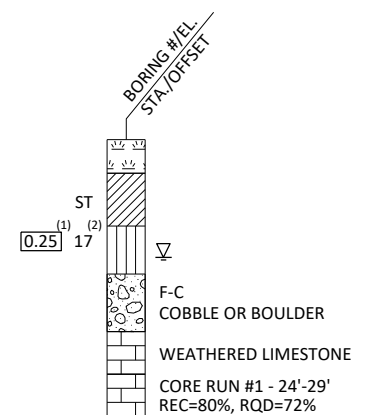


STATE PROJECT NUMBER
4823-07-70

MATERIAL SYMBOLS

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




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

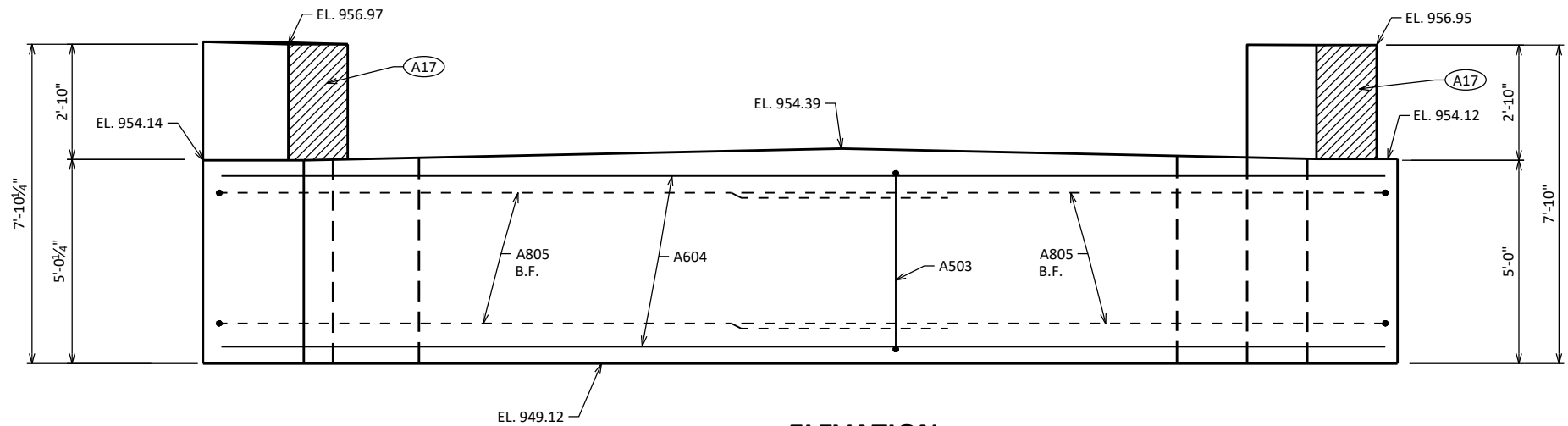
STRUCTURE	B-66-154
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	DRAWN BY	DRS	PLANS CK'D	ERS
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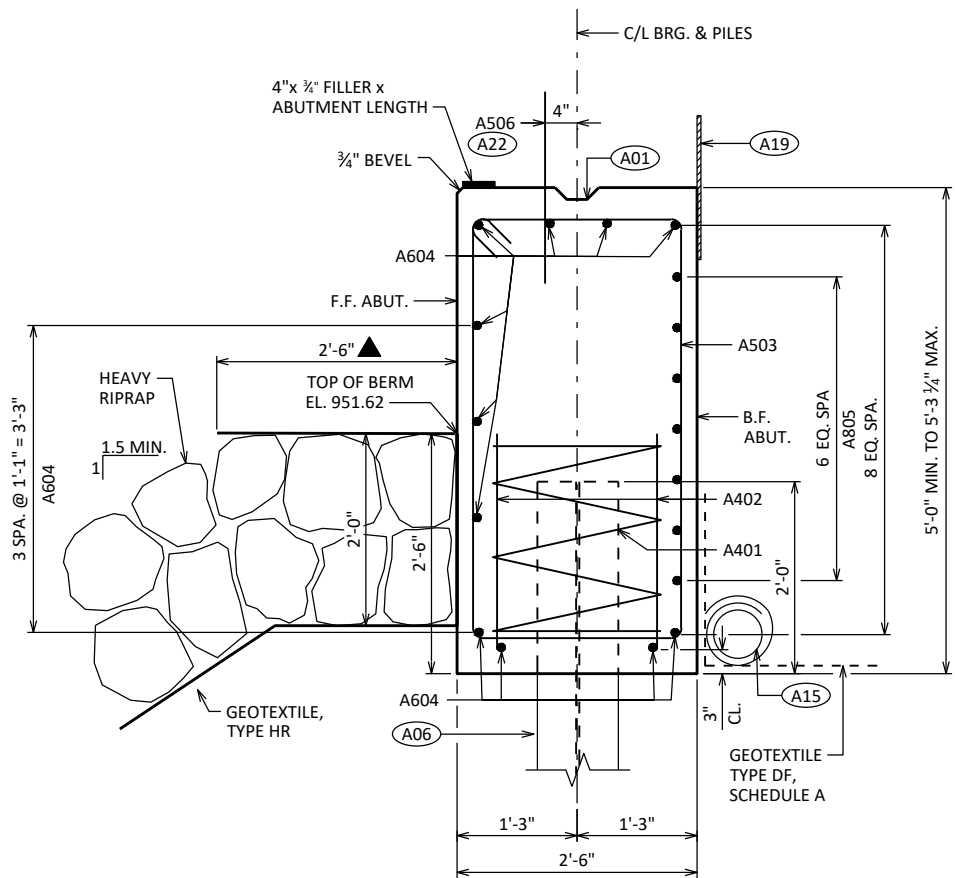
SUBSURFACE EXPLORATION

SHEET 4 OF 15

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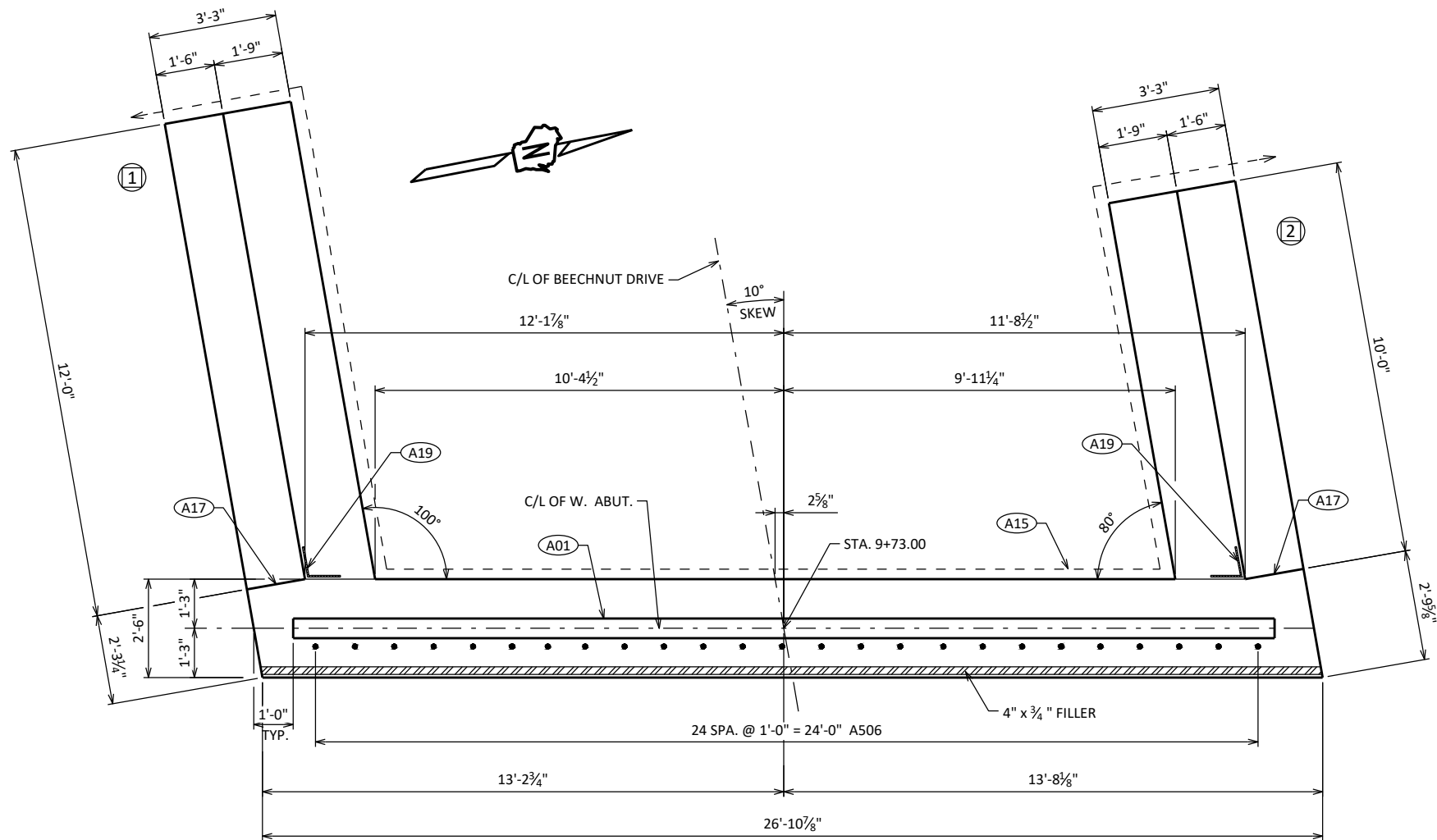
ELEVATION
(LOOKING WEST)



SECTION THRU BODY

▲ TRAVEL CORRIDOR

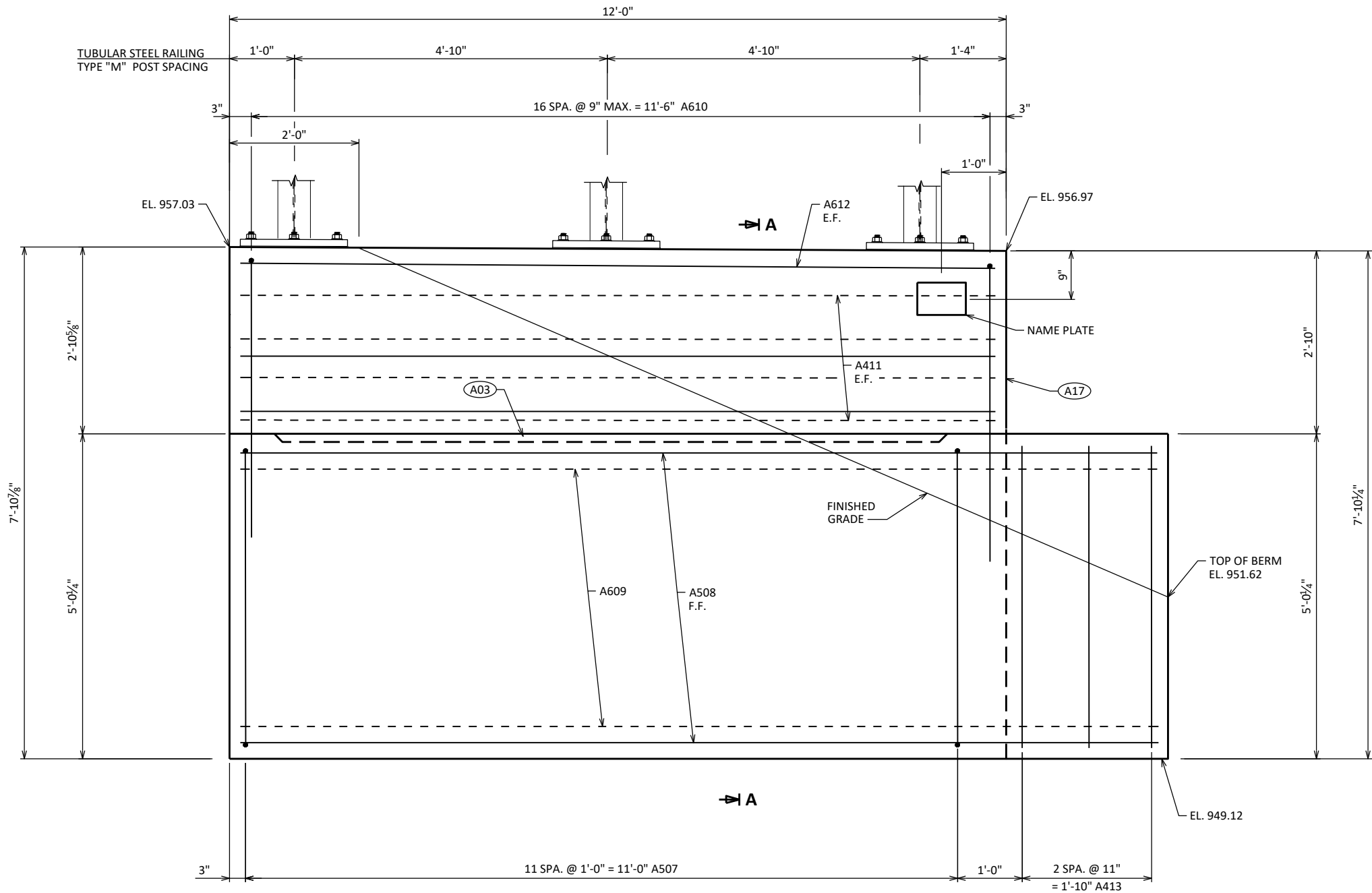
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 55'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" 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 1/8" 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.
- (A22) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)



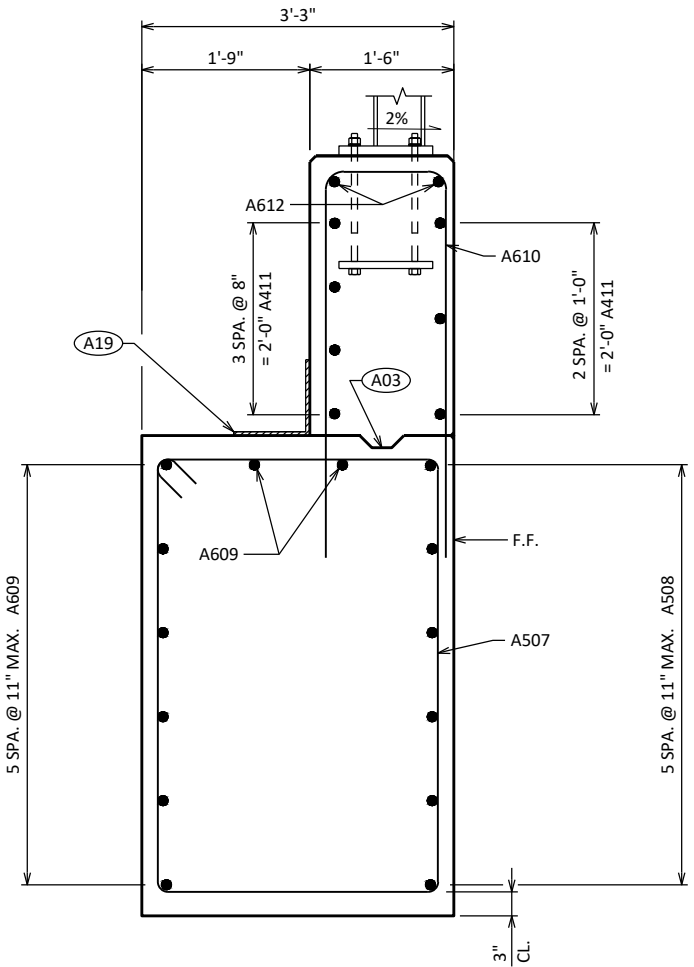
PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
WEST ABUTMENT		SHEET 5 OF 15 33	

SCALE =



ELEVATION - WING 1

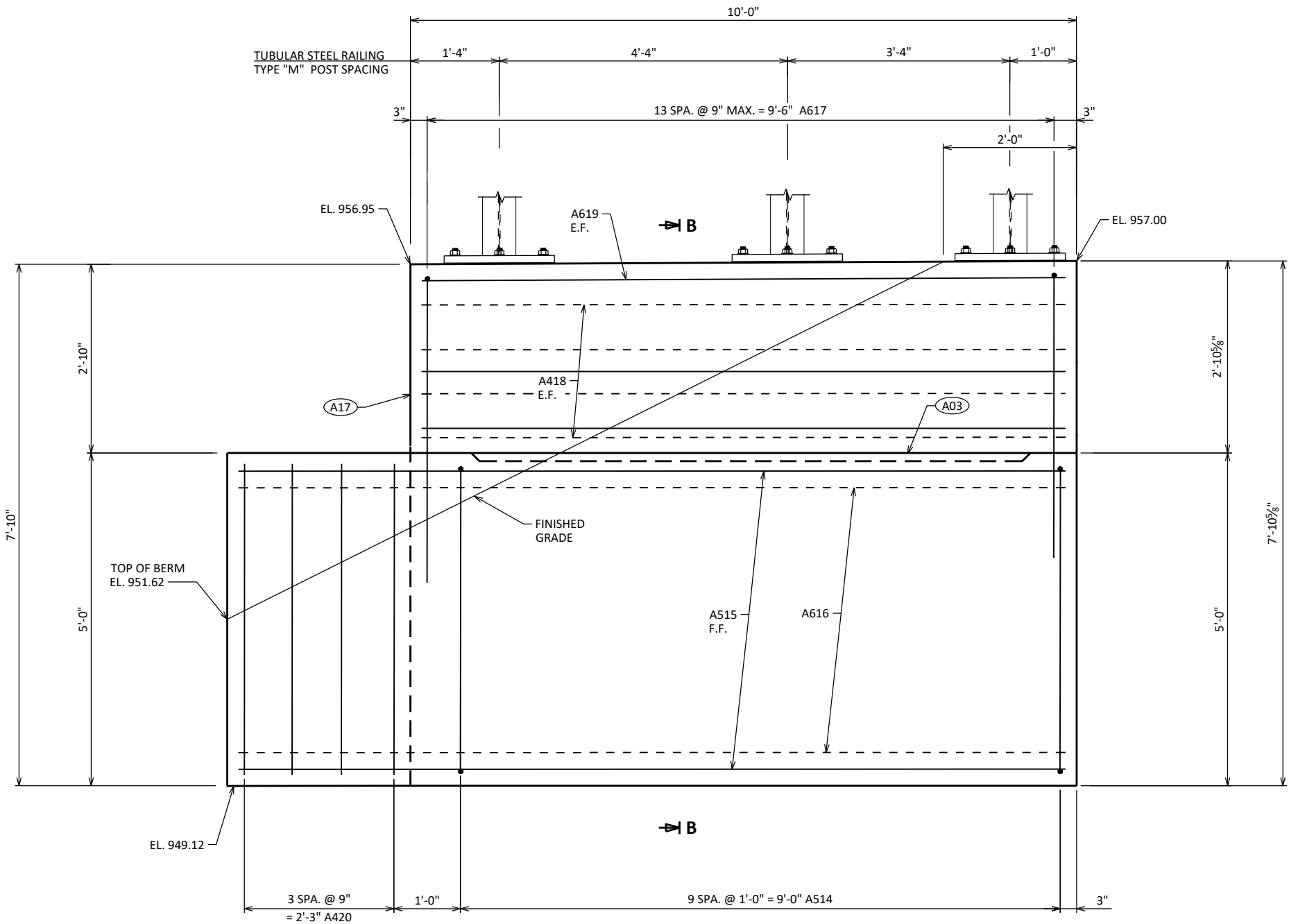


SECTION A

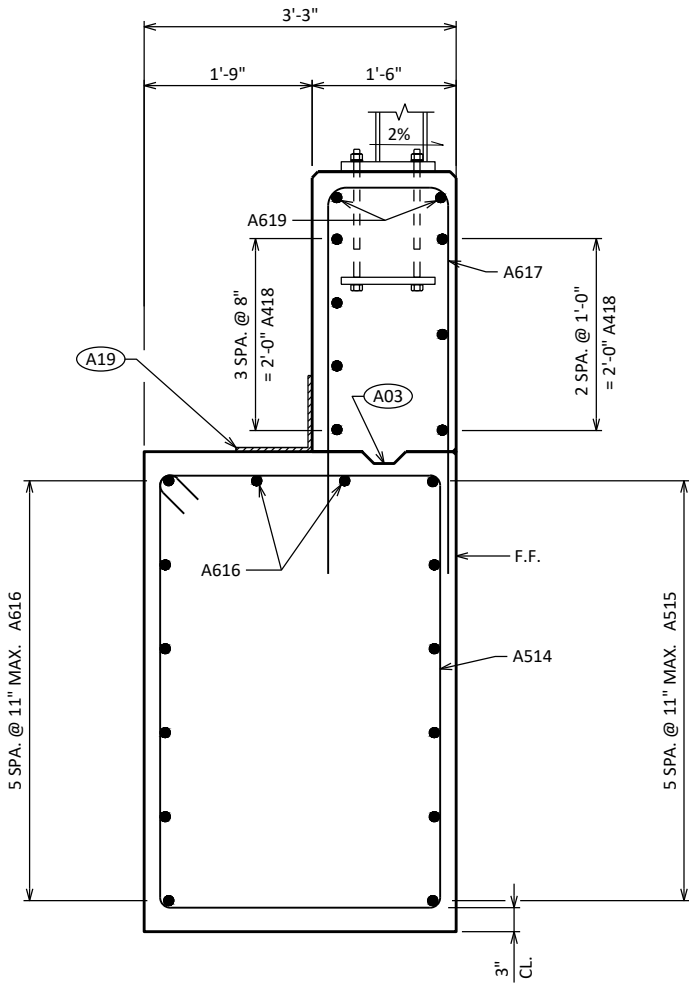
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 3/8" 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
WEST ABUTMENT WING 1 DETAILS		SHEET 6 OF 15 34	

SCALE =



ELEVATION - WING 2



SECTION B

- 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).
- 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.

NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE B-66-154				
		DRAWN BY	CLP	PLANS CK'D ERS
WEST ABUTMENT WING 2 DETAILS			SHEET 7 OF 15	
			35	

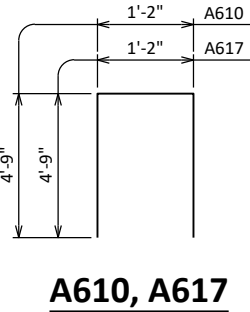
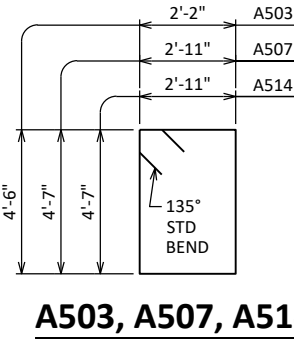
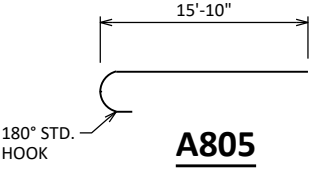
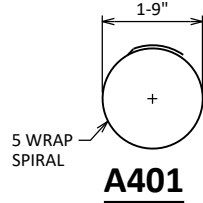
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BILL OF BARS

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

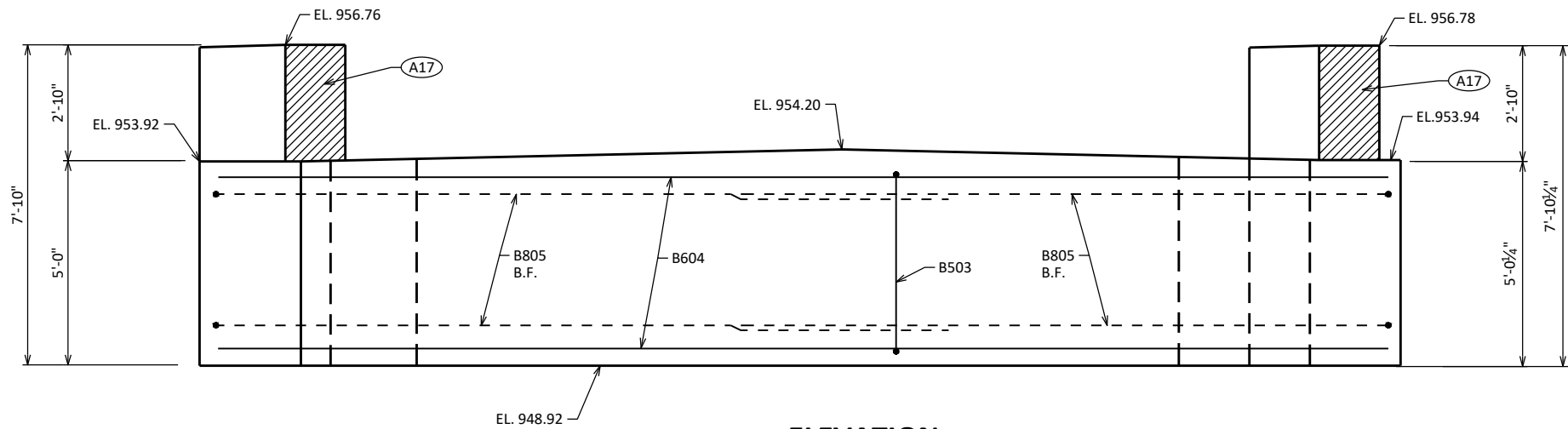
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		4	28'-0"	X		BODY @ PILES
A402		8	2'-3"			BODY @ PILES
A503		34	14'-0"	X		BODY VERT.
A604		11	26'-6"			BODY HORIZ.
A805		14	16'-9"	X		BODY HORIZ. @ WINGS 1 & 2 B.F.
A506	X	25	2'-0"			BODY DOWELS
A507	X	12	15'-8"	X		WING 1 VERT.
A508	X	6	13'-11"			WING 1 HORIZ. F.F.
A609	X	8	14'-2"			WING 1 HORIZ. B.F. & TOP
A610	X	17	10'-4"	X		WING 1 VERT.
A411	X	7	11'-7"			WING 1 HORIZ. E.F.
A612	X	2	11'-7"			WING 1 HORIZ. E.F. TOP
A413	X	3	4'-7"			BODY VERT. END @ WING 1
A514	X	10	15'-8"	X		WING 2 VERT.
A515	X	6	12'-5"			WING 2 HORIZ. F.F.
A616	X	8	11'-7"			WING 2 HORIZ. B.F. & TOP
A617	X	14	10'-4"	X		WING 2 VERT.
A418	X	7	9'-7"			WING 2 HORIZ. E.F.
A619	X	2	9'-7"			WING 2 HORIZ. E.F. TOP
A420	X	4	4'-7"			BODY VERT. END @ WING 2

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

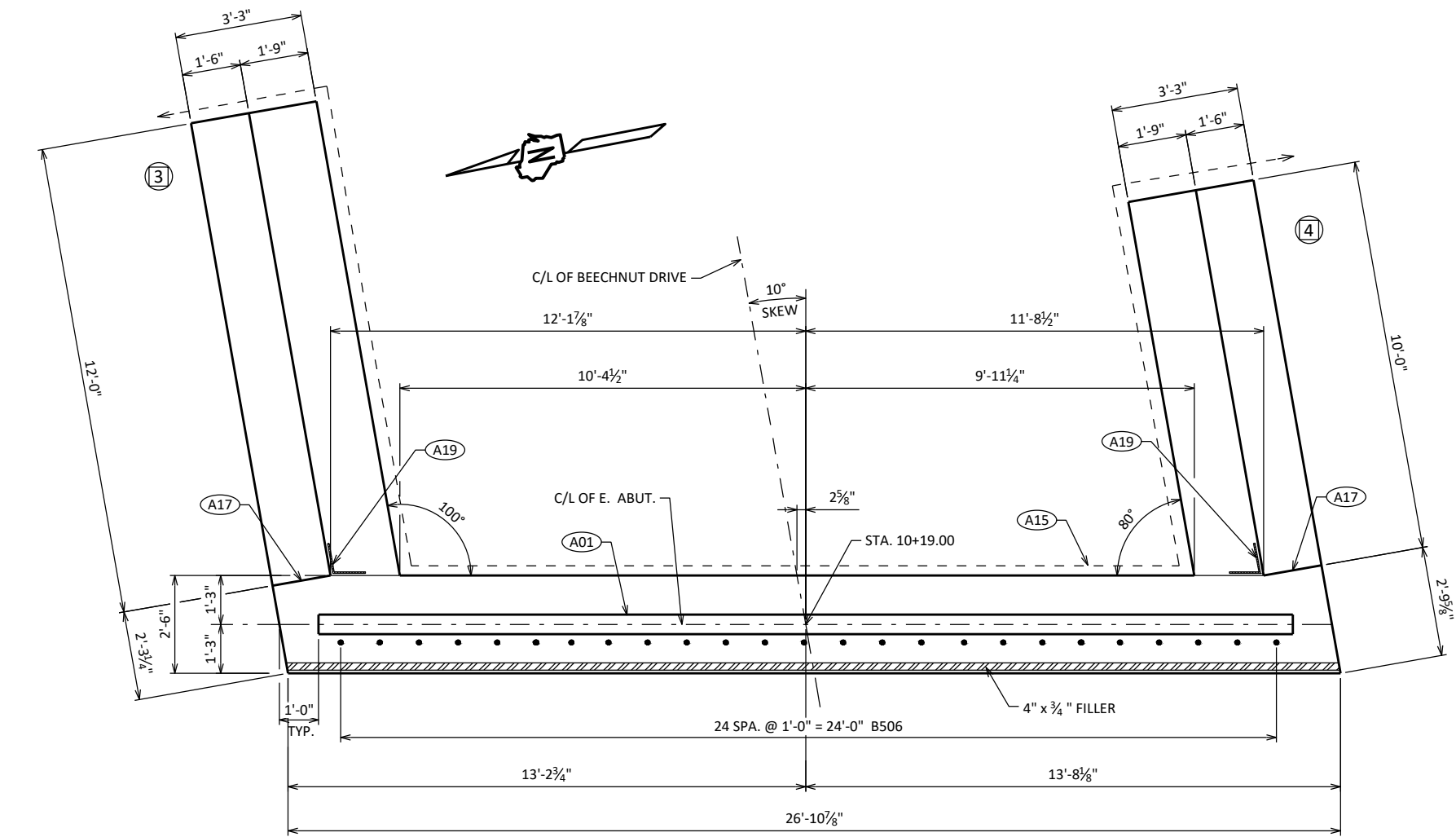


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
WEST ABUTMENT PILE LAYOUT AND BILL OF BARS		SHEET 8 OF 15 36	

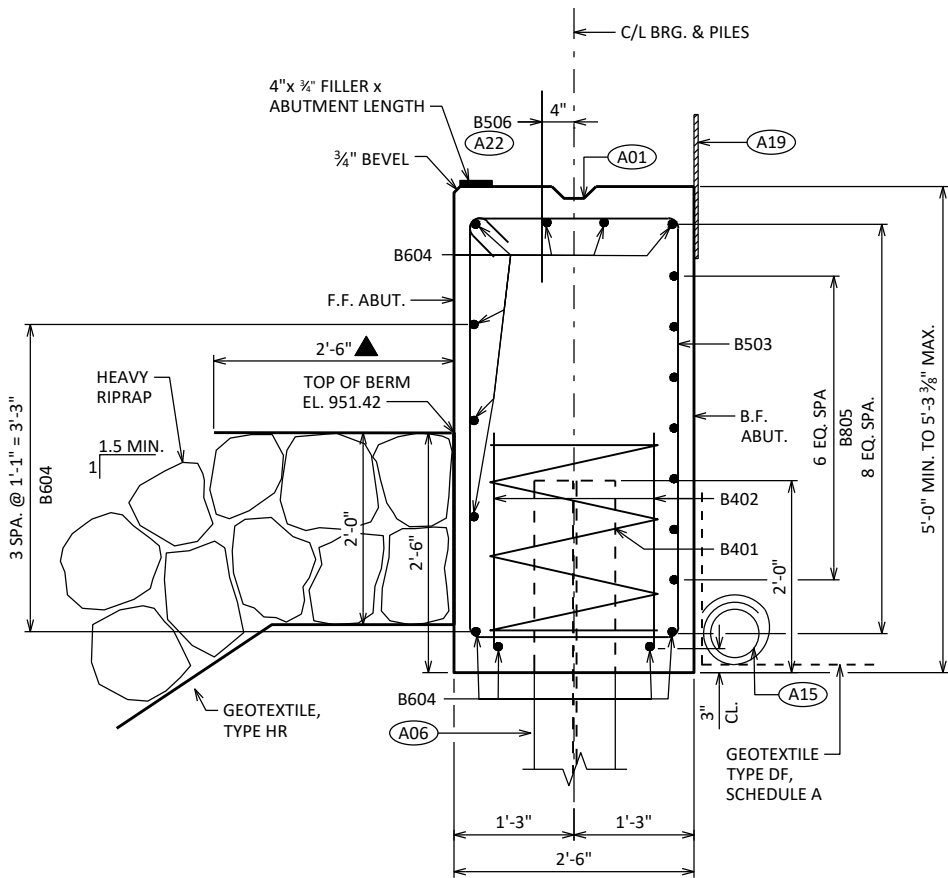
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ELEVATION
(LOOKING EAST)



PLAN



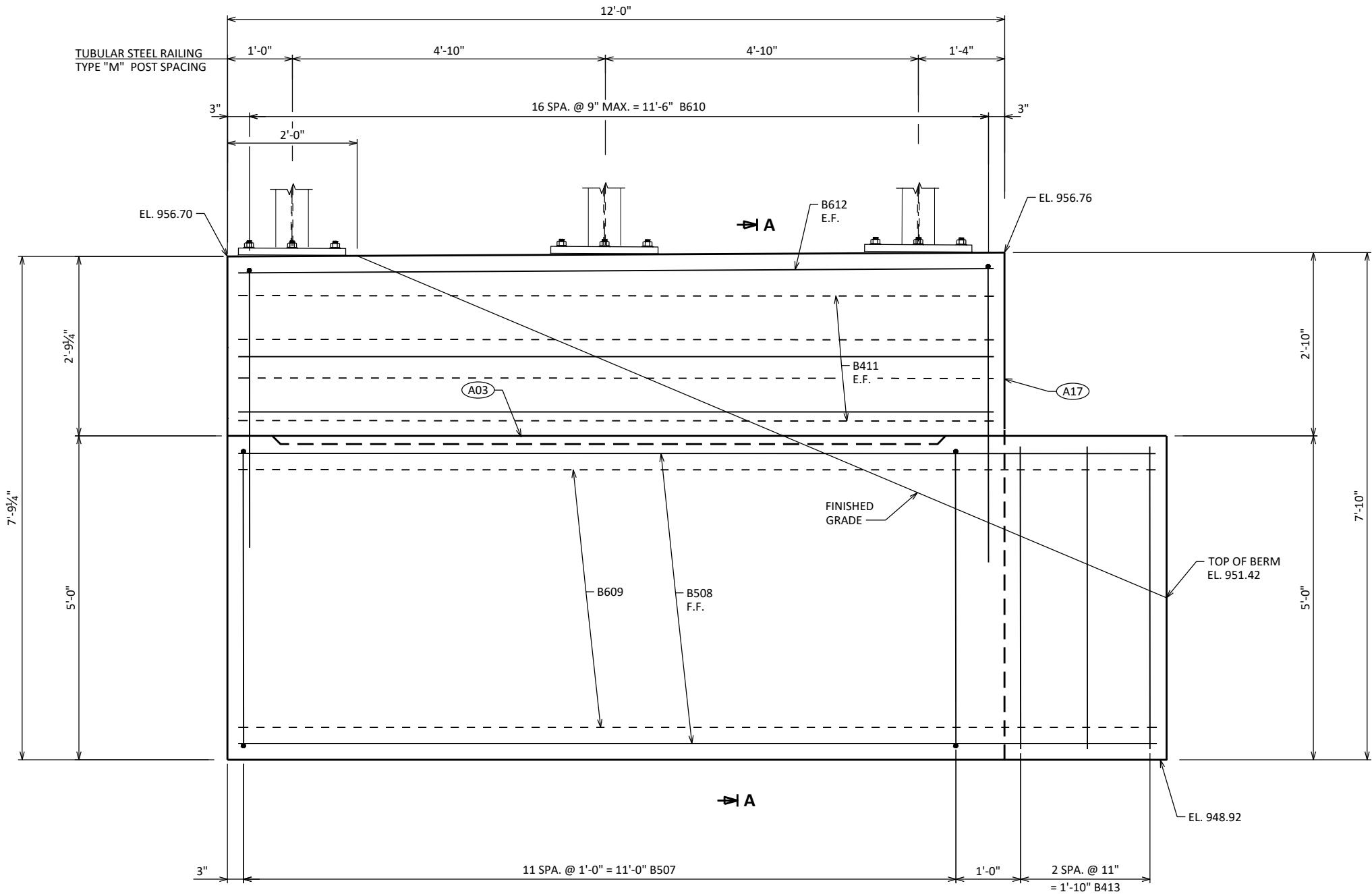
SECTION THRU BODY

▲ TRAVEL CORRIDOR

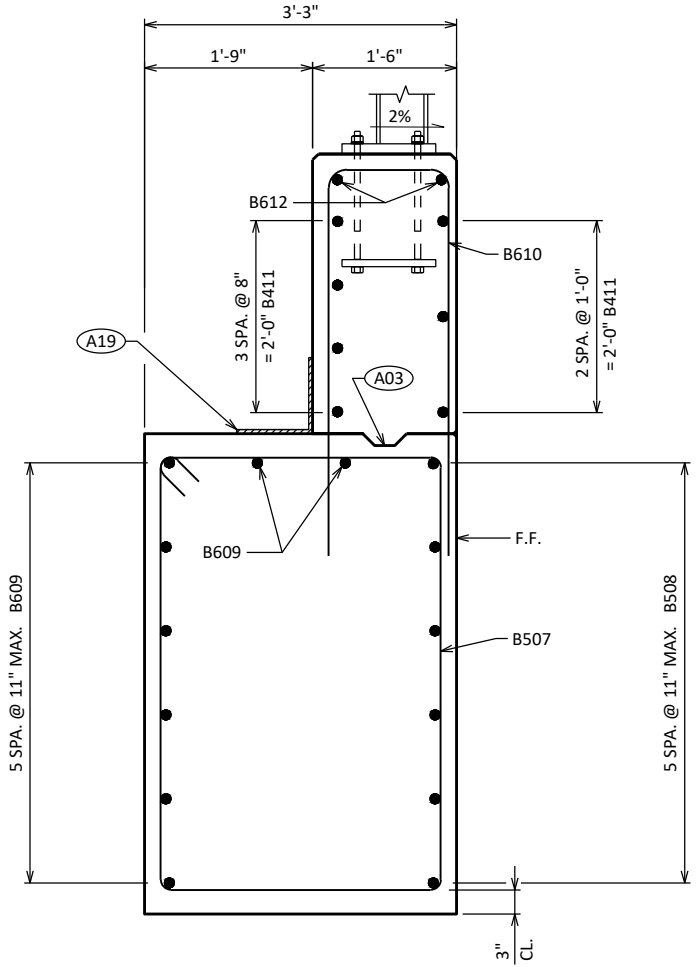
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 45'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" 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.
- (A22) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
EAST ABUTMENT		SHEET 9 OF 15 37	

SCALE =



ELEVATION - WING 3

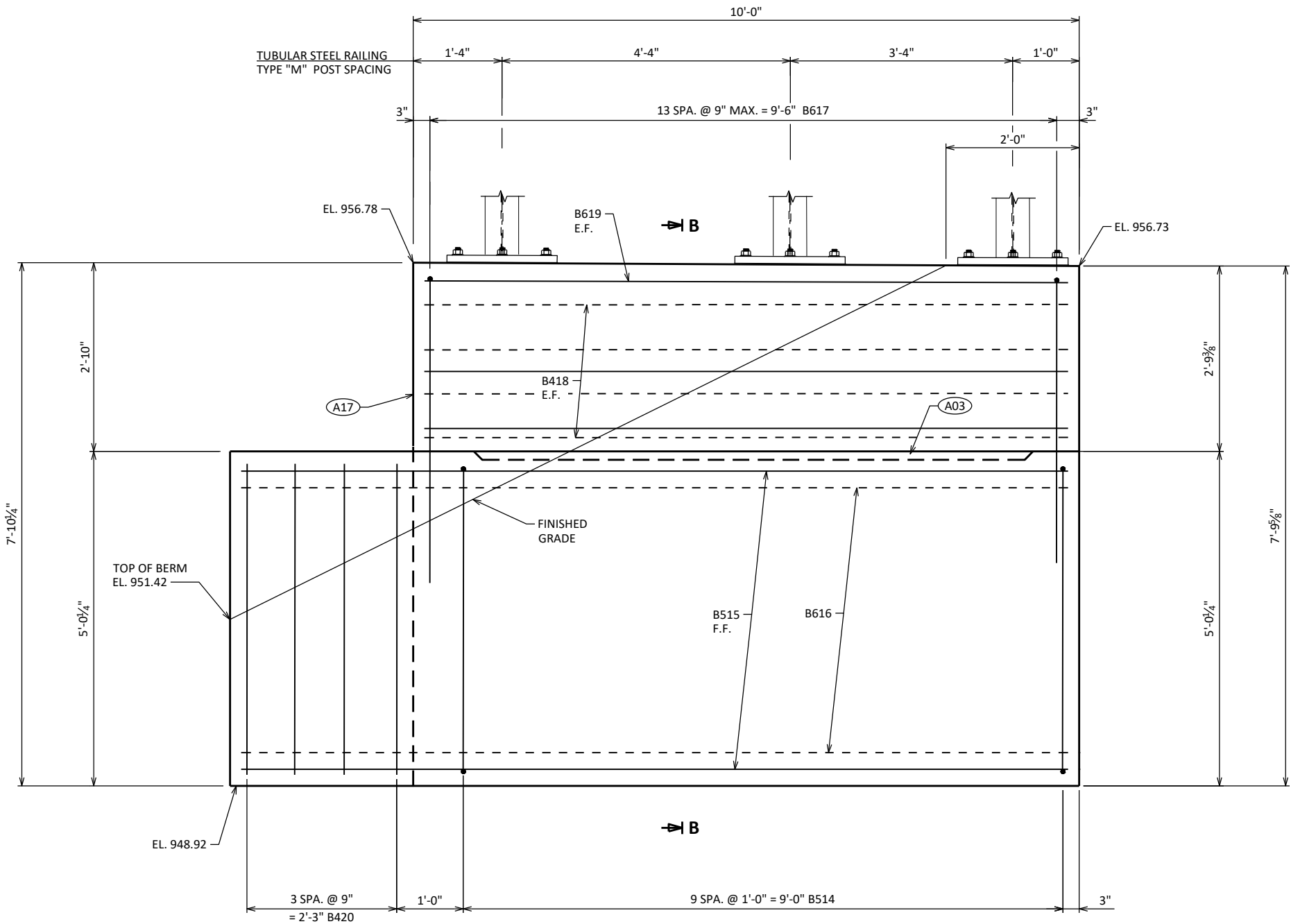


SECTION A

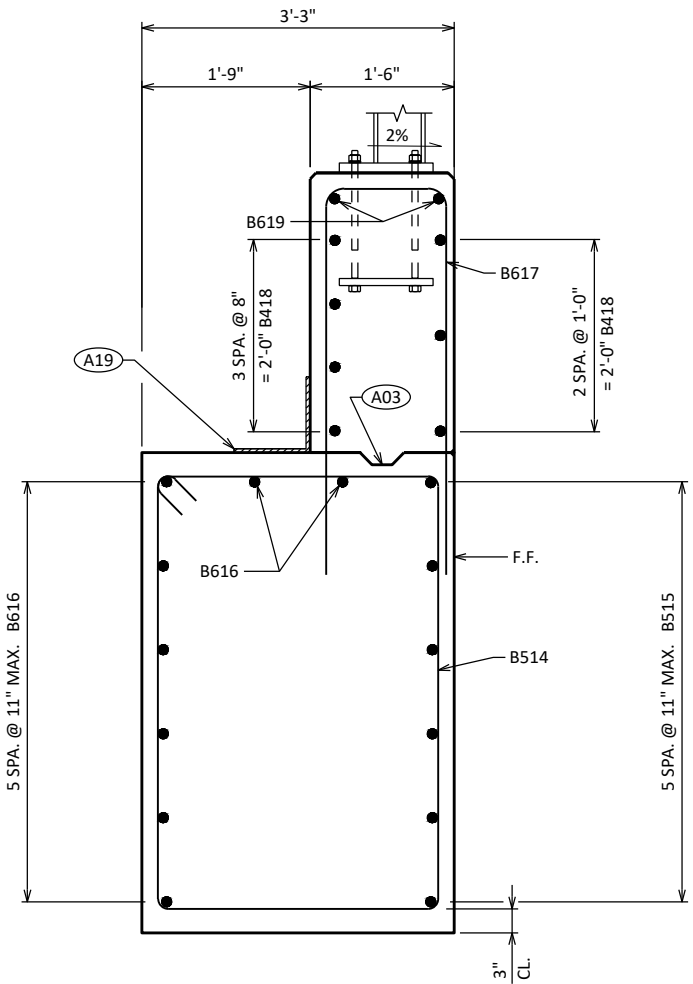
- A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/2" BELOW 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
EAST ABUTMENT WING 3 DETAILS		SHEET 10 OF 15 38	

SCALE =



ELEVATION - WING 4



SECTION B

- 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).
- 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 1/8" 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.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-66-154					
			DRAWN BY	CLP	PLANS CK'D ERS
EAST ABUTMENT WING 4 DETAILS				SHEET 11 OF 15	
				39	

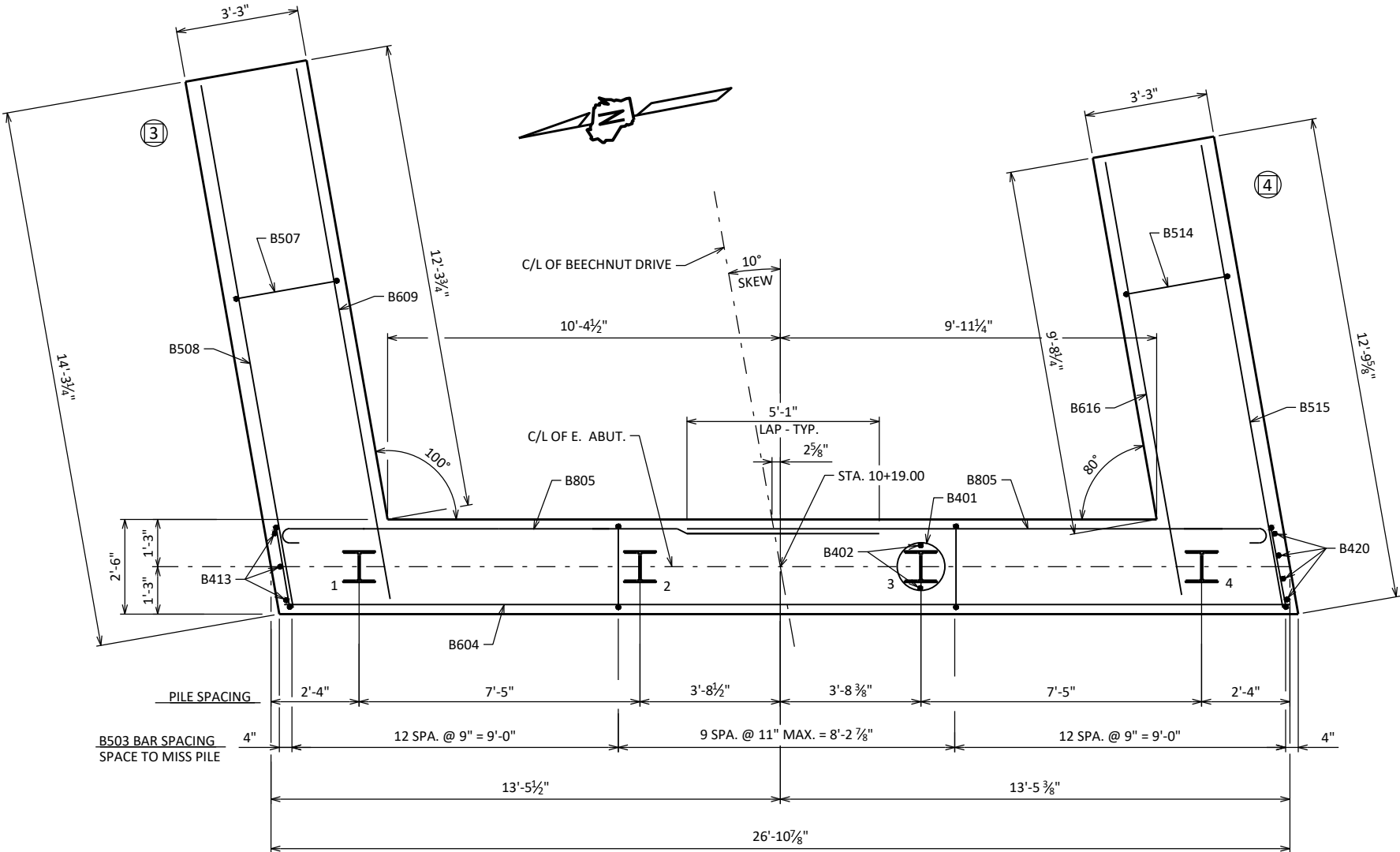
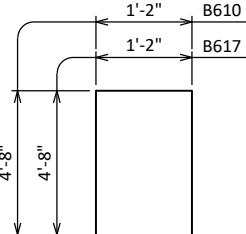
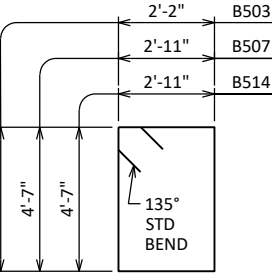
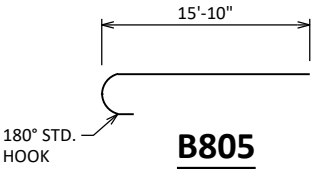
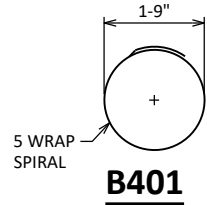
SCALE =

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		4	28'-0"	X		BODY @ PILES
B402		8	2'-3"			BODY @ PILES
B503		34	14'-0"	X		BODY VERT.
B604		11	26'-6"			BODY HORIZ.
B805		14	16'-9"	X		BODY HORIZ. @ WINGS 3 & 4 B.F.
B506	X	25	2'-0"			BODY DOWELS
B507	X	12	15'-8"	X		WING 3 VERT.
B508	X	6	13'-11"			WING 3 HORIZ. F.F.
B609	X	8	14'-2"			WING 3 HORIZ. B.F. & TOP
B610	X	17	10'-2"	X		WING 3 VERT.
B411	X	7	11'-7"			WING 3 HORIZ. E.F.
B612	X	2	11'-7"			WING 3 HORIZ. E.F. TOP
B413	X	3	4'-7"			BODY VERT. END @ WING 3
B514	X	10	15'-8"	X		WING 4 VERT.
B515	X	6	12'-5"			WING 4 HORIZ. F.F.
B616	X	8	11'-7"			WING 4 HORIZ. B.F. & TOP
B617	X	14	10'-2"	X		WING 4 VERT.
B418	X	7	9'-7"			WING 4 HORIZ. E.F.
B619	X	2	9'-7"			WING 4 HORIZ. E.F. TOP
B420	X	4	4'-7"			BODY VERT. END @ WING 4

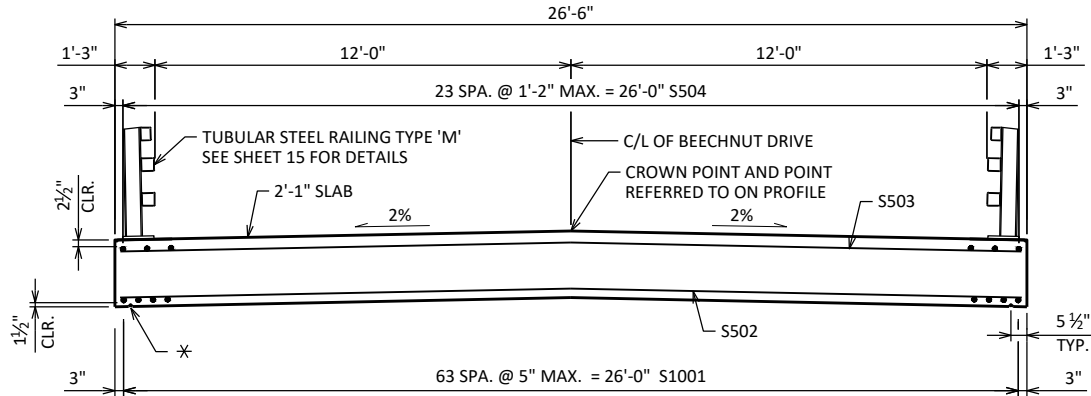
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
EAST ABUTMENT PILE LAYOUT AND BILL OF BARS		SHEET 12 OF 15 40	

SCALE =



TYPICAL SECTION THRU BRIDGE

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 (+).

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

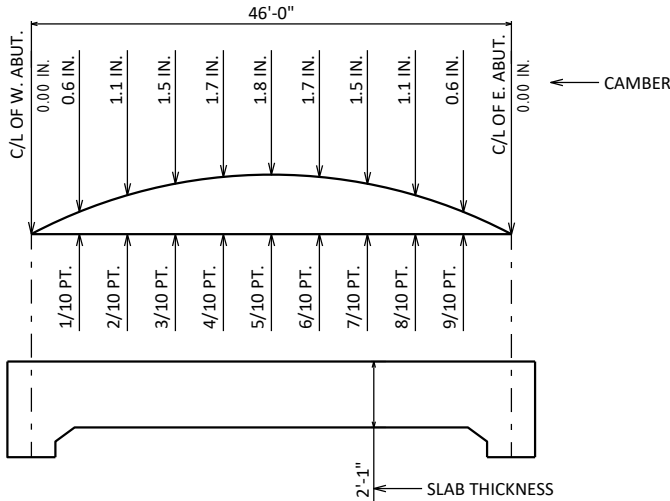
V-GROOVES ARE REQUIRED.

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1001	x	64	42'-4"			SLAB LONG. BOT.
S502	x	73	26'-6"			SLAB TRANS. BOT.
S503	x	49	26'-6"			SLAB TRANS. TOP
S504	x	24	48'-2"			SLAB LONG. TOP
S505	x	54	8'-1"	X		SLAB @ ABUT. DIAPHRAGM STIRRUPS
S506	x	4	26'-6"			SLAB @ ABUT. DIAPHRAGM TRANS.
S607	x	32	12'-0"	X		SLAB @ RAIL POSTS
S608	x	48	6'-0"			SLAB @ INT. RAIL POSTS
S609	x	16	4'-8"	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



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:

LESS	TOP OF SLAB ELEVATION AT FINAL GRADE
PLUS	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

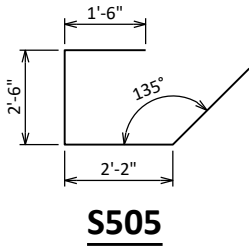
TOP OF SLAB ELEVATIONS

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	956.95	956.93	956.91	956.89	956.87	956.86	956.84	956.82	956.80	956.78	956.76
C/L OF BEECHNUT DRIVE	957.23	957.21	957.19	957.17	957.15	957.13	957.11	957.09	957.07	957.05	957.03
S. EDGE OF SLAB	956.97	956.95	956.93	956.91	956.89	956.87	956.86	956.84	956.82	956.80	956.78

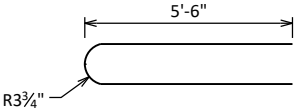
SURVEY TOP OF SLAB ELEVATIONS

	ABUTMENT	5/10 PT.	ABUTMENT
N. EDGE OF SLAB			
C/L OF BEECHNUT DRIVE			
S. EDGE OF SLAB			

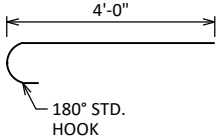
PRIOR TO RELEASING SLAB FORMWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND C/L. RECORD ELEVATIONS IN THE TABLE ABOVE FOR THE "AS BUILT" PLANS.



S505



S607



S609

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
	DRAWN BY	CLP	PLANS CK'D ERS
SUPERSTRUCTURE		SHEET 13 OF 15 41	



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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
		DRAWN BY	PLANS CK'D
		CLP	ERS
SUPERSTRUCTURE PLAN		SHEET 14 OF 15 42	

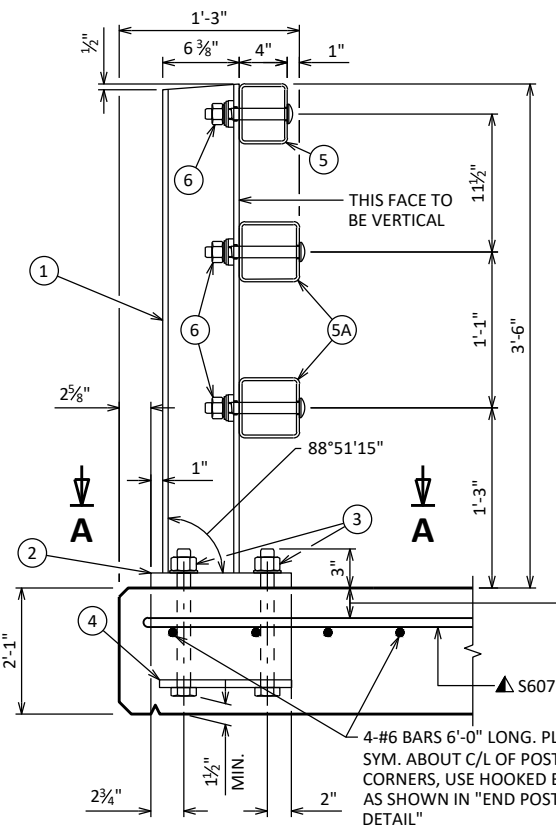
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LEGEND

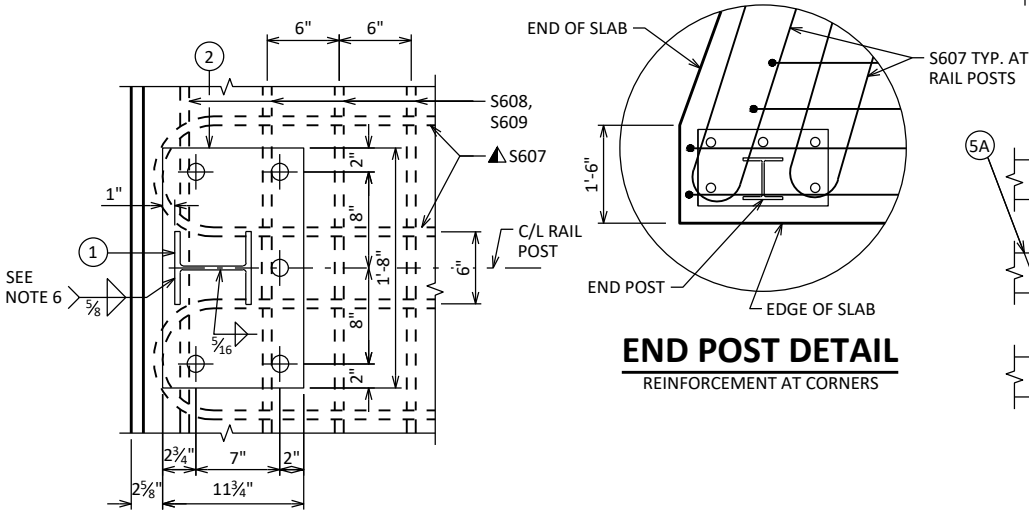
- 1 W6 X 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- 2 PLATE 1 1/4" X 11 3/4" X 1'-8" WITH 1 1/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.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

GENERAL NOTES

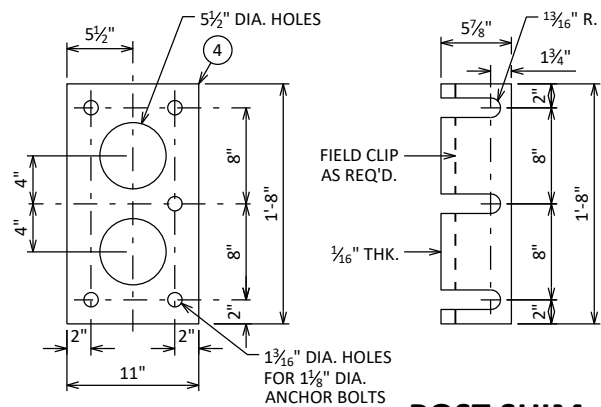
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES,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



SECTION THRU RAILING ON DECK



SECTION A-A

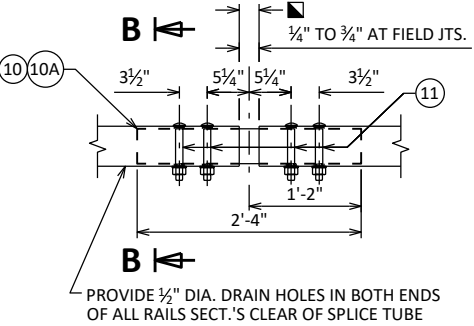


ANCHOR PLATE

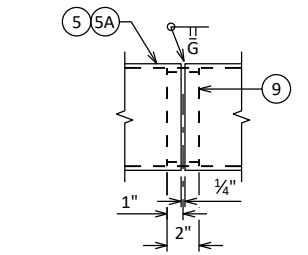
AT RAIL TO DECK CONNECTION

POST SHIM

DETAIL

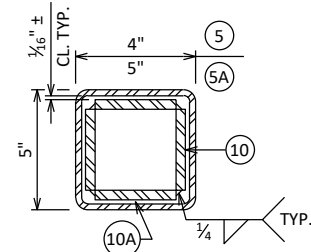


FIELD ERECTION JOINT DETAIL

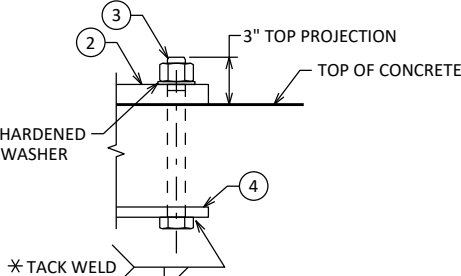


SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

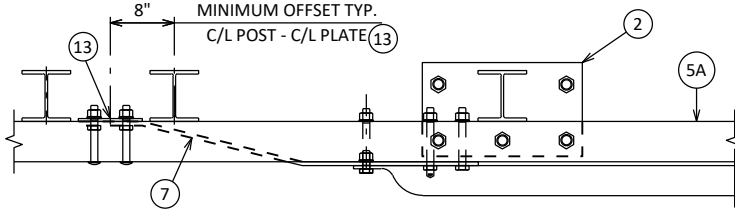


SECTION B-B



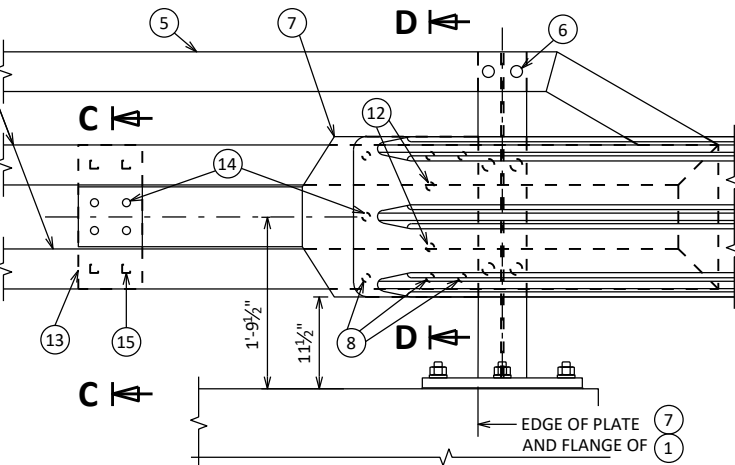
ANCHOR BOLTS

TYPICAL RAIL TO POST CONNECTIONS



TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

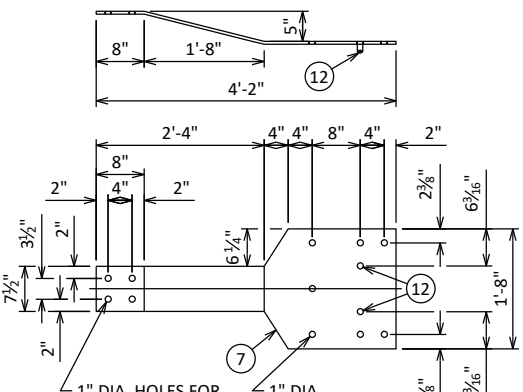


ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

DETAIL AT END POST

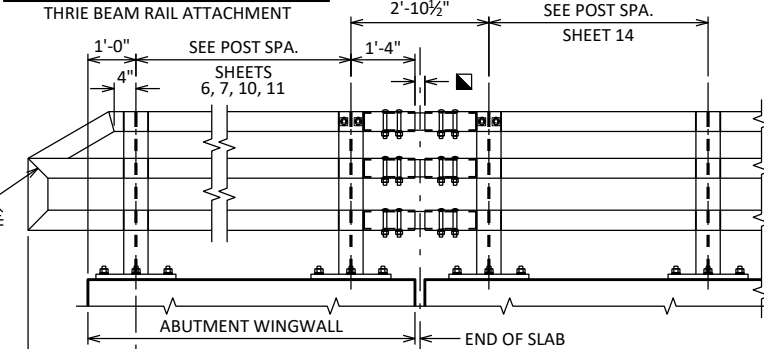
THRIE BEAM RAIL ATTACHMENT



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT

PART ELEVATION OF RAILING



- ▲ TIE TO TOP MAT OF STEEL.
- * ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.
- 1/4" TO 3/4" OPENING FOR A1 ABUTMENT.

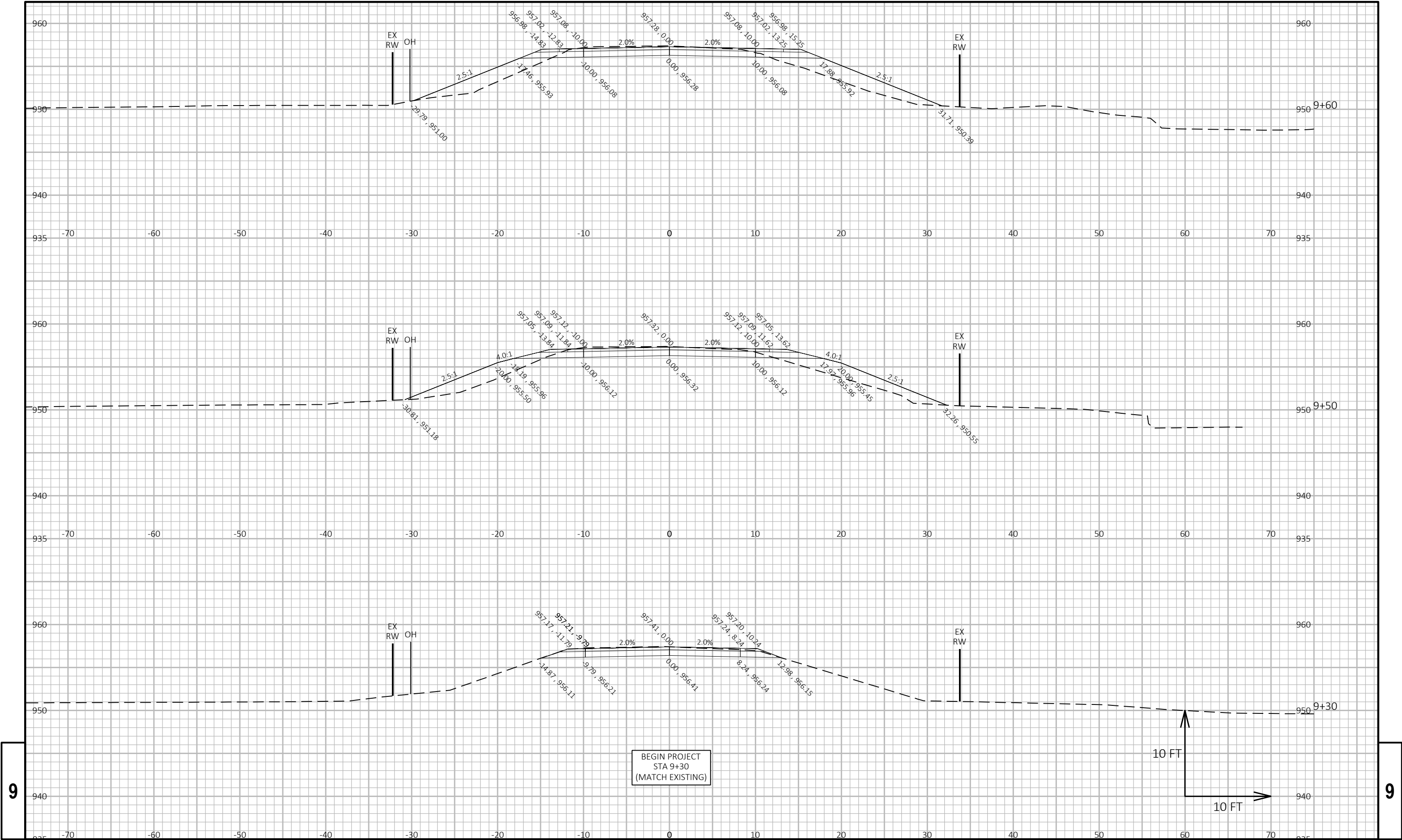
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-154			
DRAWN BY		CLP	PLANS CK'D ERS
TUBULAR STEEL RAILING TYPE "M"		SHEET 15 OF 15 43	

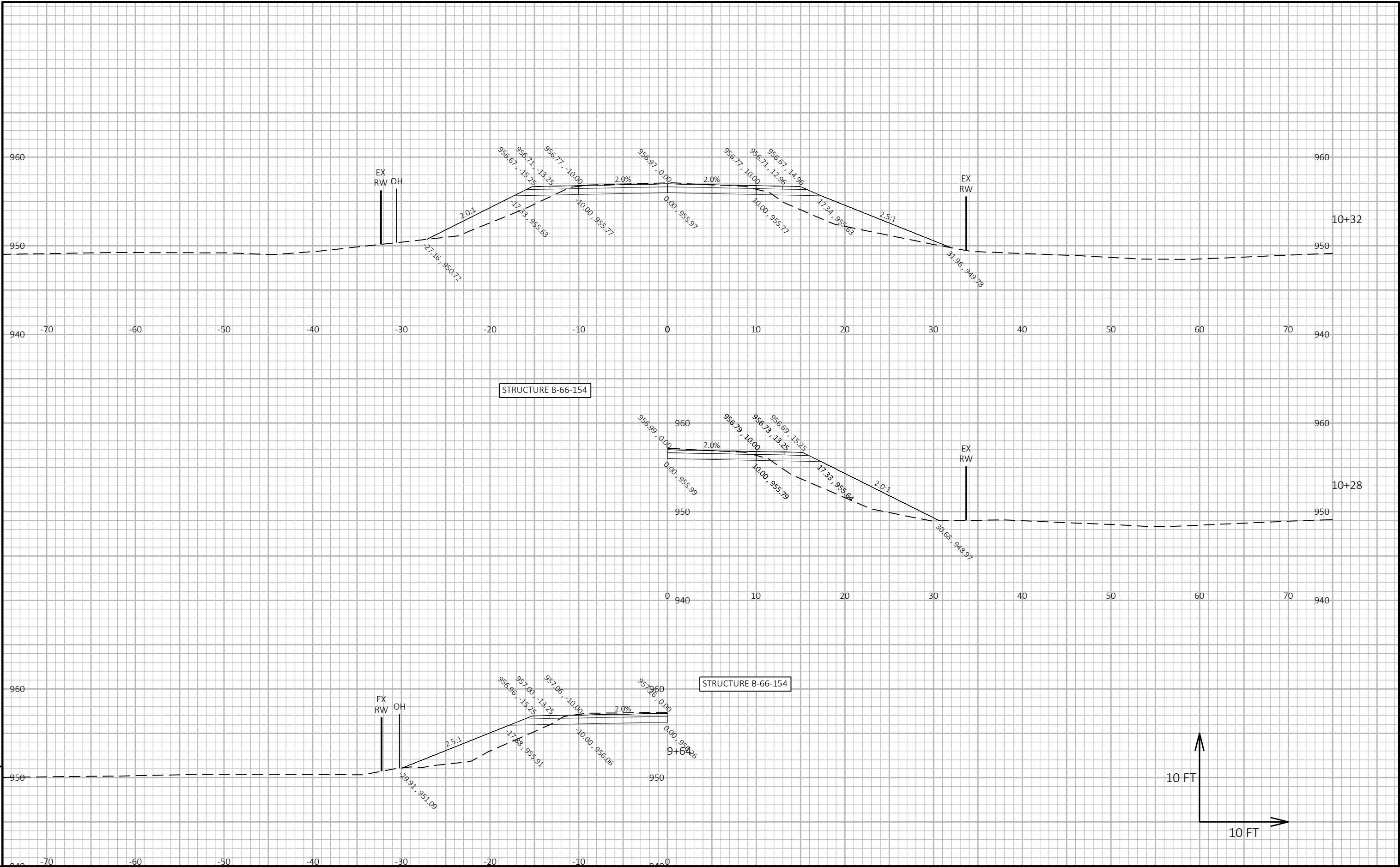
SCALE = 2:00

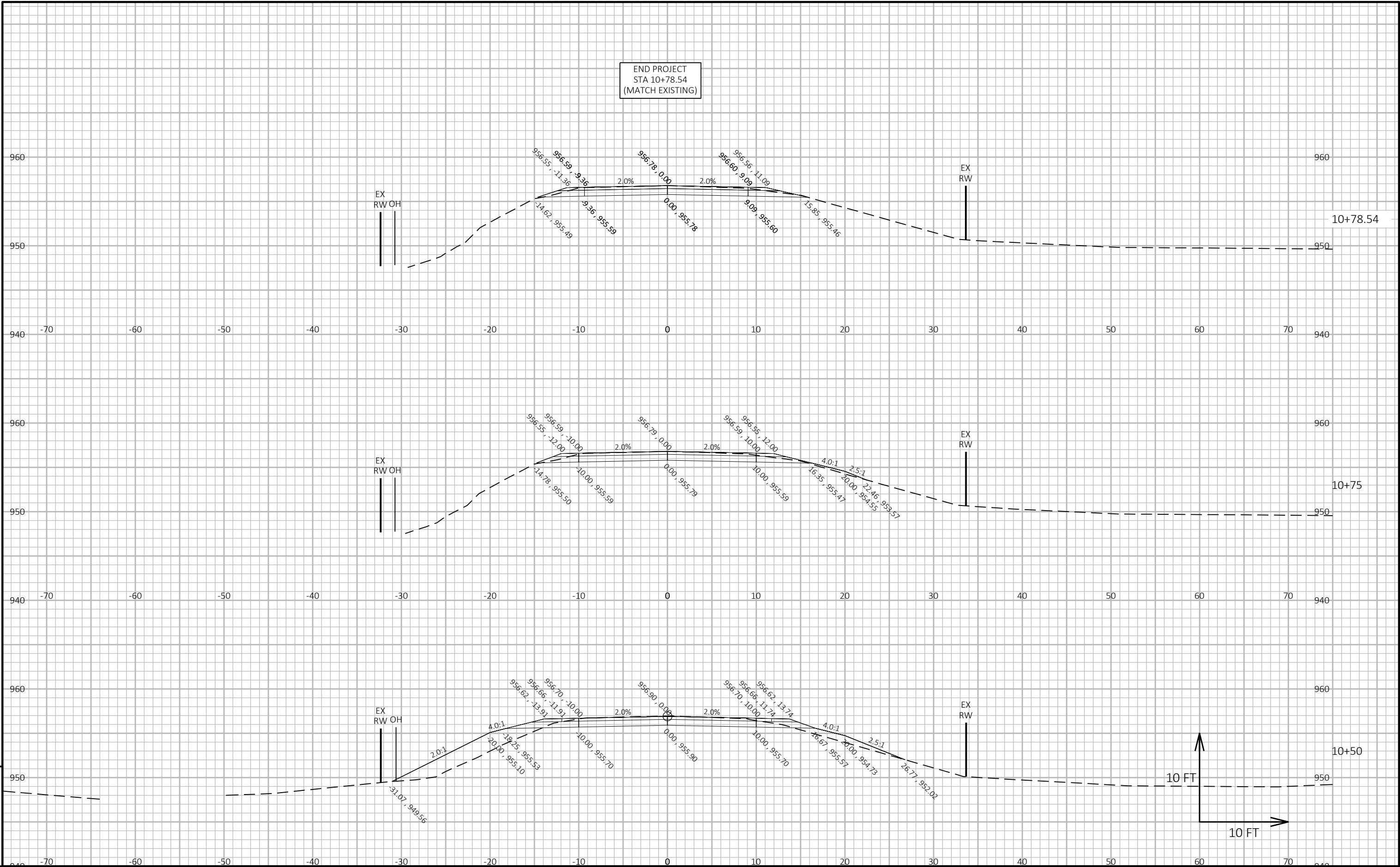
BEECHNUT DRIVE COMPUTER EARTHWORK

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)			
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	SALVAGED / UNUSABLE	MASS ORDINATE
					NOTE 1	NOTE 2		1.00 NOTE 1	1.30 NOTE 3	NOTE 2	NOTE 8
9+30	--	24.14	8.25	0.00	0	0	0	0	0	0	0
9+50	20.00	24.08	8.25	41.00	18	6	15	18	20	6	-8
9+59.66	29.66	23.59	8.25	43.18	26	9	46	44	79	15	-50
9+63.80	33.80	23.48	8.25	23.17	29	10	42	73	134	25	-86
9+71.73	41.73	23.48	8.25	0.00	36	13	18	109	157	38	-86
NEW BRIDGE	--	--	--	--	--	--	--	--	--	--	--
10+20.27	--	22.63	8.25	0.00	--	--	--	--	--	--	--
10+28.20	7.93	22.63	8.25	34.95	7	2	5	116	164	40	-88
10+32.34	4.14	22.85	8.25	42.75	3	1	6	119	172	41	-94
10+50	17.66	24.24	8.25	29.98	15	5	24	134	203	46	-115
10+75	25.00	23.68	8.25	1.19	22	8	14	156	221	54	-119
10+78.54	3.54	23.48	8.25	0.04	3	1	0	159	221	55	-117
					159	55	170				

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	EXISTING CONCRETE AND ASPHALT PAVEMENT. NOT TO BE USED OUTSIDE THE 1:1 ROAD CORE.
3 - EXPANDED FILL	VOLUME NEEDED TO BE FILLED = FILL *1.30
8 - MASS ORDINATE	(CUT) - (EXPANDED FILL)









Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

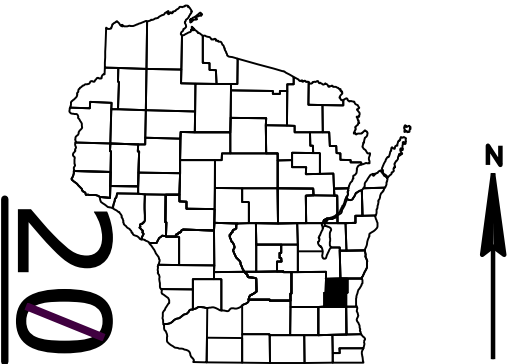
<http://www.dot.wisconsin.gov>

WKE
PROJECT ID: 4823-07-71
WITH: 4823-07-70
COUNTY: WASHINGTON

FEBRUARY 2026
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-Plan
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 = 48



DESIGN DESIGNATION (4823-07-71)

A.A.D.T.	(2026)	=	<100
A.A.D.T.	(2046)	=	<100
D.H.V.		=	10
D.D.		=	50/50
T.		=	5%
DESIGN SPEED		=	40 MPH
ESALS		=	7,300

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	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

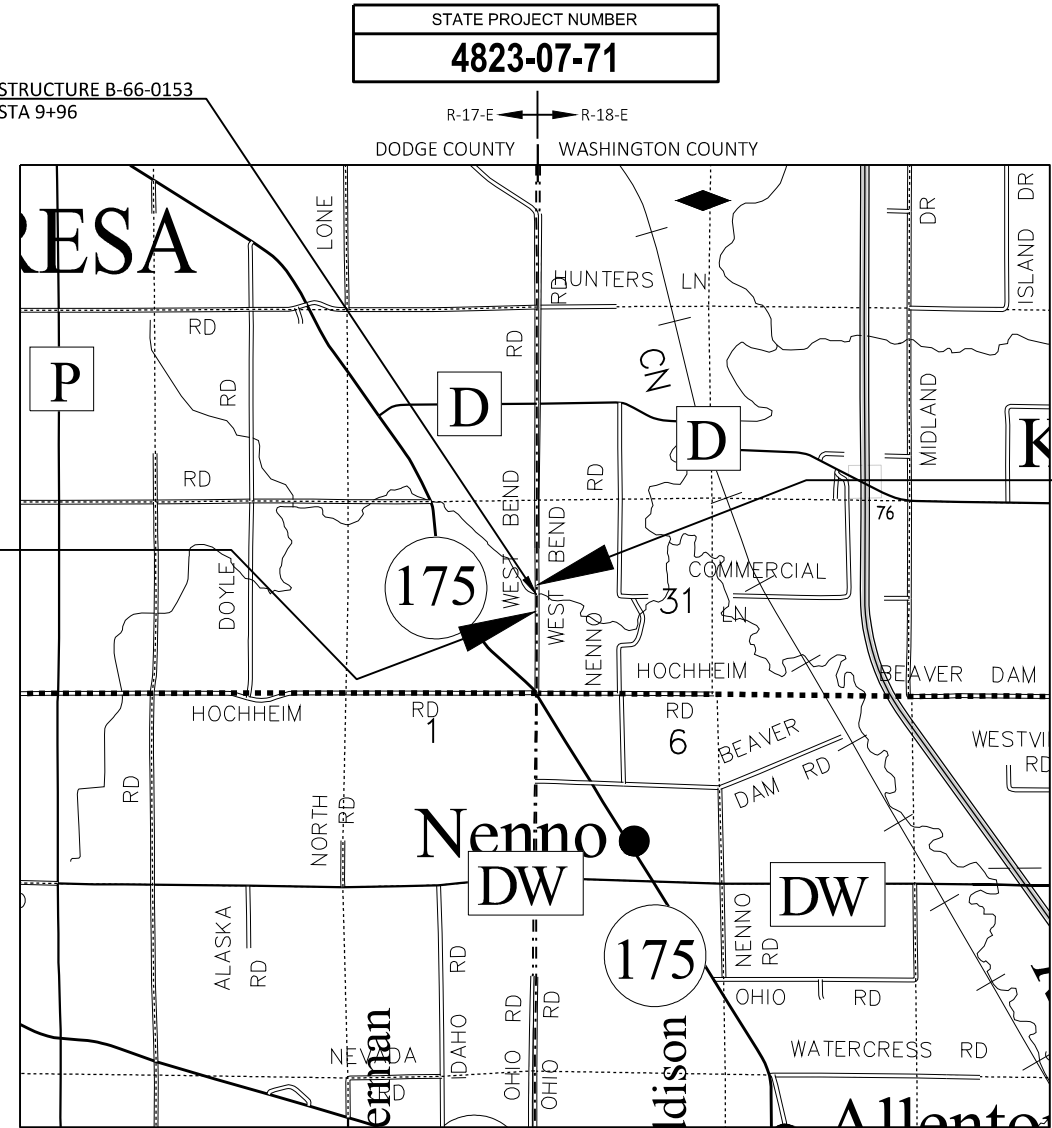
PLAN OF PROPOSED IMPROVEMENT

T WAYNE, W BEND ROAD

OVR BR OF E BR OF ROCK RIVER P66-0052

LOCAL STREET
WASHINGTON COUNTY

BEGIN PROJECT 4823-07-71
STA 9+26.73
Y = 199201.53
X = 304589.80



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.027 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), WASHINGTON 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 PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4823-07-71		

ACCEPTED FOR
Town of Wayne
10/27/25
(Date)
City P. B. St.
(Town Chairman)

ORIGINAL PLANS PREPARED BY
AYRES
WISCONSIN
JOSEPH L. BLUMA
E48464-6
EAU CLAIRE, WI
PROFESSIONAL ENGINEER
11/04/2025
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor AYRES ASSOCIATES INC
Designer AYRES ASSOCIATES INC
Project Manager JOSEPH JELACIC, PE
Regional Examiner SE REGION
Regional Supervisor AMY TAETSCH, PE

APPROVED FOR THE DEPARTMENT
Joseph C Jelacic
DATE: 11/4/25
(Signature)

E

UTILITIES CONTACTS

FRONTIER COMMUNICATIONS
COMMUNICATIONS
CHRIS POLLACK
521 4TH STREET
WAUSAU, WI 54403
PHONE: 715-847-1240 CELL: 715-297-4773
EMAIL: CHRISTOPHER.POLLACK@FTR.COM

SPECTRUM CHARTER
COMMUNICATIONS
NICK FRASE
1515 W WASHINGTON STREET
WEST BEND, WI 53095
PHONE: 920-304-6797
EMAIL: NICK.FRASE@CHARTER.COM

WE ENERGIES
ELECTRIC
JOE FELLEENZ
W140 N91000 LILLY ROAD
MENOMONEE, WI 53051
PHONE: 262-483-2101 CELL: 414-322-8928
EMAIL: JOESPH.FELLEENZ@WE-ENERGIES.COM



Dial  or (800)242-8511

www.DiggersHotline.com

WISCONSIN DNR LIAISON

RYAN PAPPAS
WDNR
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
PHONE: 262-623-0194
EMAIL: RYAN.PAPPASI@WISCONSIN.GOV

DESIGN PROJECT MANAGER

JOE JELACIC
WISDOT SE REGION
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
PHONE: 262.548.6762
EMAIL: JOESPH.JELACIC@DOT.WI.GOV

TOWN OF CONTACT

TONY BALISTRERI
TOWN CHAIRMAN
W6030 MOHAWK ROAD
CAMPBELLSPORT, WI 53010
PHONE: 262-339-1148
EMAIL: CLERK@TOWNOFWAYNE.WASHCO.WI.GOV

DESIGN PROJECT LEADER

JOESPH BLUMA, PE, CBI
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
PHONE: 715-834-3161
EMAIL: BLUMAJ@AYRESASSOCIATES.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.

FILL EXPANSION FACTOR IS 30%

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

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.

SEED MIXTURE NO. 30 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR DIRECTED BY THE ENGINEER.

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.

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.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SUBGRADE SHOULDER POINTS ARE TO BE SEEDED AND EROSION MAT AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

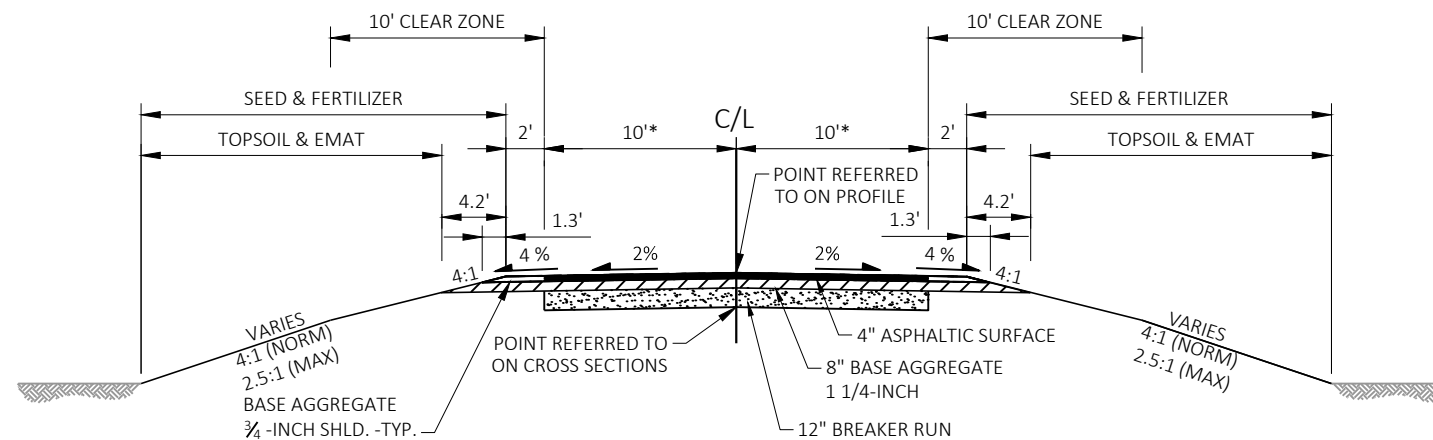
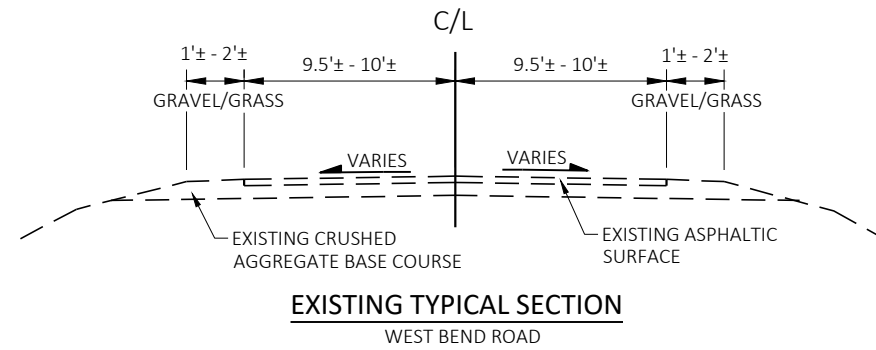
ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 2" LOWER LAYER. ASPHALTIC SURFACE SHALL USE 12.5 mm NOMINAL AGGREGATE SIZE.

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

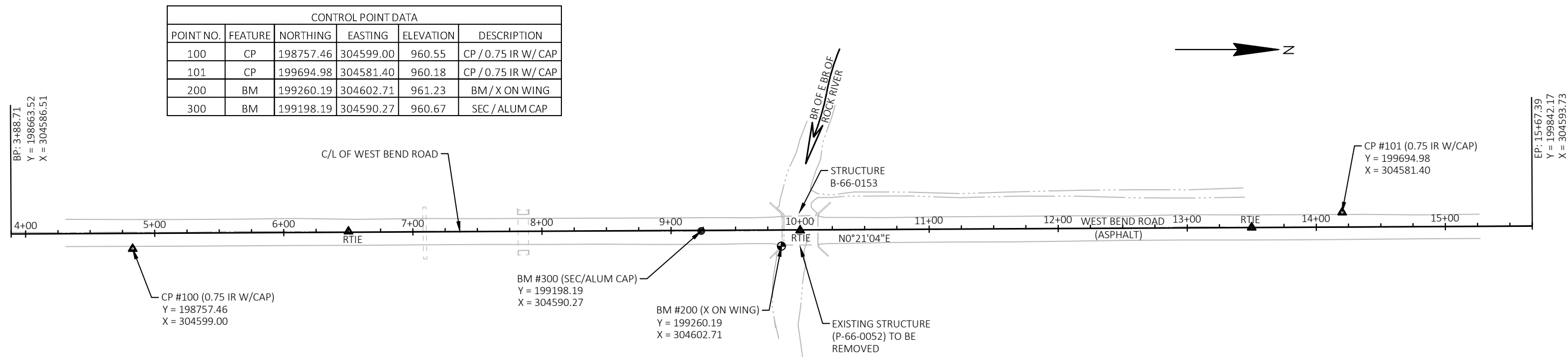
RUNOFF COEFFICIENT TABLE

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											

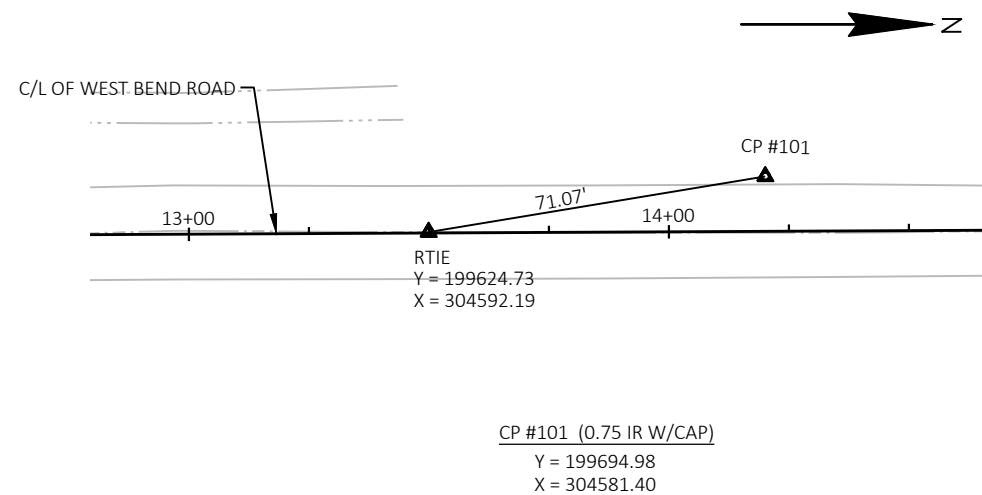
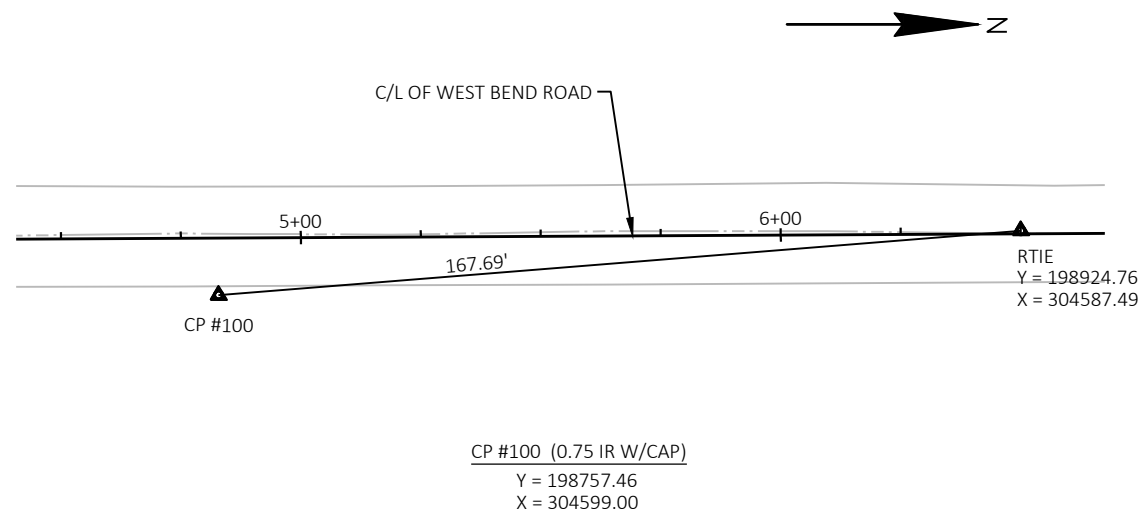
TOTAL PROJECT AREA = 0.216 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.148 ACRES



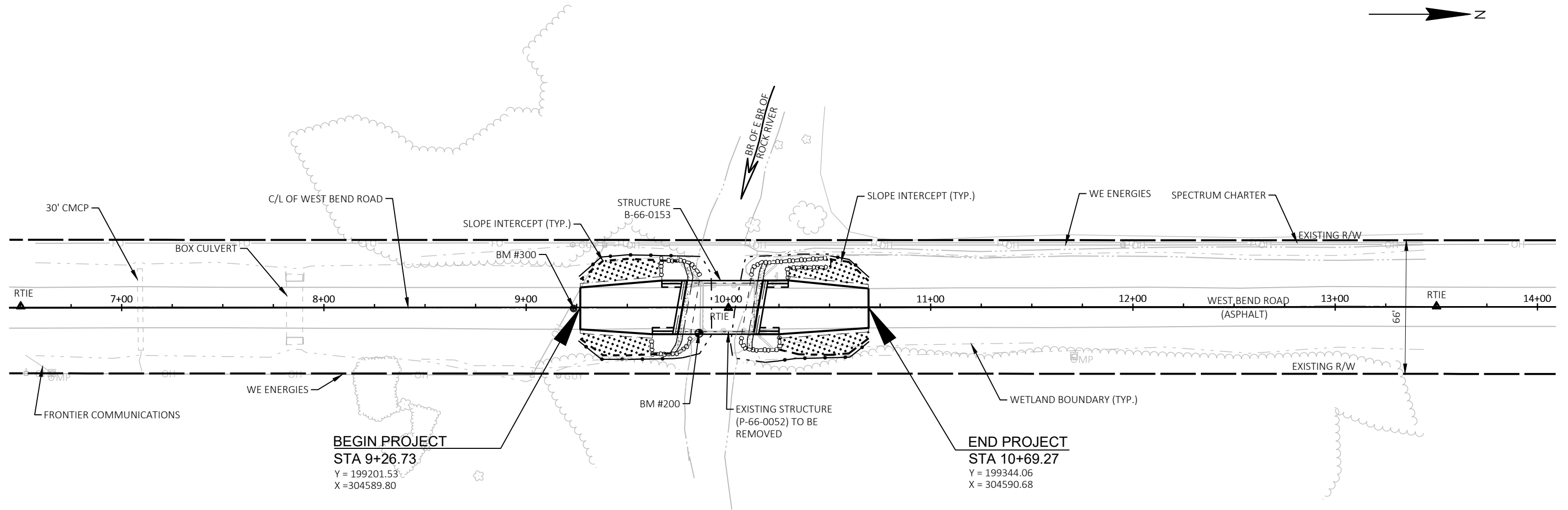
*THE ASPHALT SURFACE LANE SHALL TAPER FROM 13.25' WIDE AT THE ENDS OF THE WINGS TO 10' WIDE AT 50' FROM THE END OF THE BRIDGE AND MATCH EXISTING AT THE ENDS OF THE PROJECT.







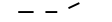

ALIGNMENT CONTROLS



ALIGNMENT TIES



LEGEND

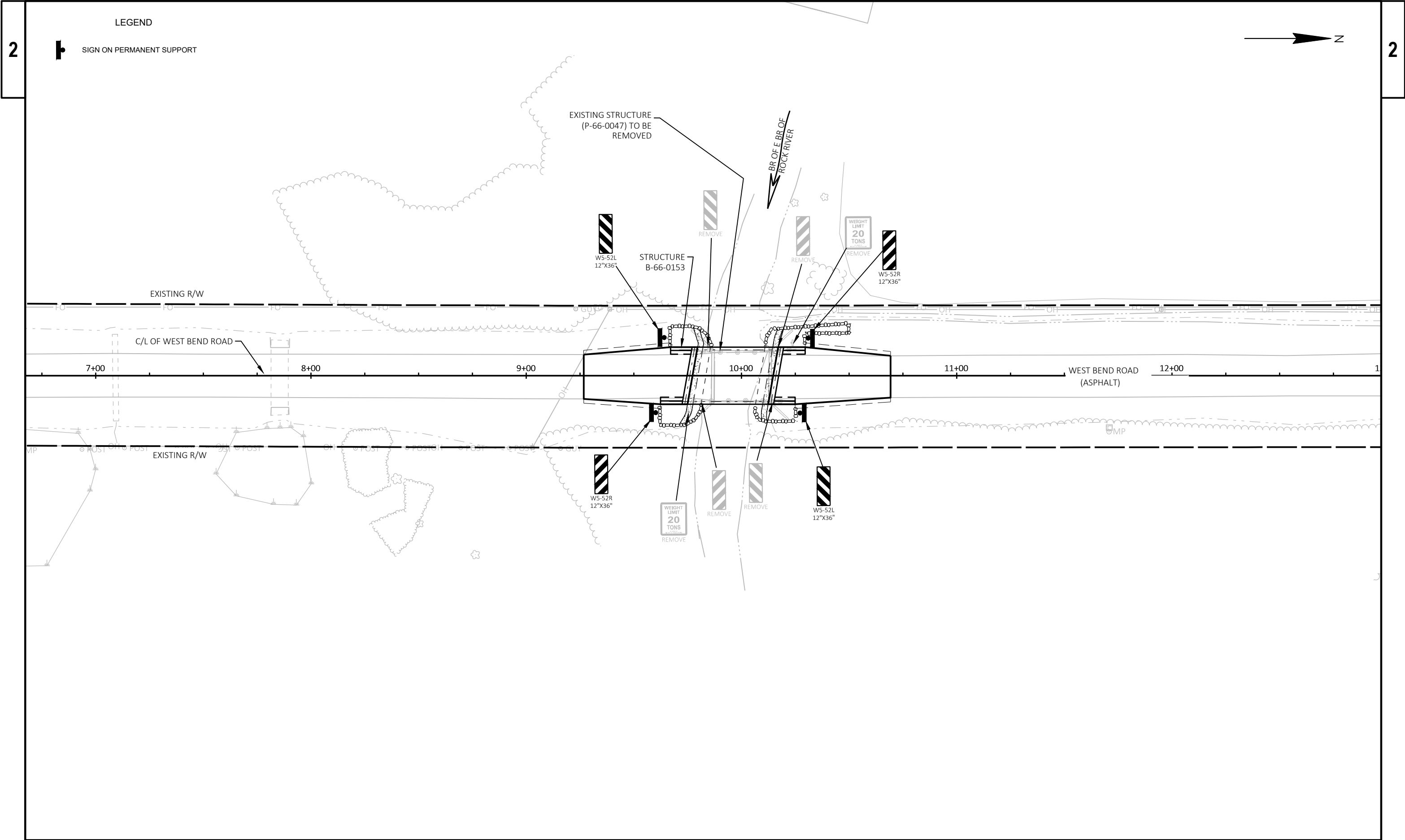
-  EROSION MAT CLASS II (TYPE C)
-  SILT FENCE
-  RIP RAP
-  COFFERDAM (SEE STRUCTURE PLANS)
-  SLOPE INTERCEPT
-  TEMPORARY DITCH CHECK (UNDISTRIBUTED)

NOTE:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS
ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS.

WETLANDS EXIST IN THE PROJECT AREA.

NO IN-STREAM WORK BETWEEN MARCH 1 TO AUGUST 15,
WITH BOTH DATES INCLUSIVE OF THE TIMEOUT PERIOD.

HIGHWATER ₂ EL. 960.19



Estimate Of Quantities By Plan Sets

4823-07-71					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 02. P-66-0052	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	52.000	52.000
0012	205.0100	Excavation Common	CY	376.000	376.000
0016	206.1001	Excavation for Structures Bridges (structure) 02. B-66-0153	EACH	1.000	1.000
0018	206.5001	Cofferdams (structure) 01. B-66-0153	EACH	1.000	1.000
0022	210.1500	Backfill Structure Type A	TON	170.000	170.000
0026	213.0100	Finishing Roadway (project) 02. 4823-07-71	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	20.000	20.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	155.000	155.000
0032	311.0110	Breaker Run	TON	175.000	175.000
0034	455.0605	Tack Coat	GAL	19.000	19.000
0036	465.0105	Asphaltic Surface	TON	60.000	60.000
0038	502.0100	Concrete Masonry Bridges	CY	133.000	133.000
0040	502.3200	Protective Surface Treatment	SY	169.000	169.000
0042	505.0400	Bar Steel Reinforcement HS Structures	LB	3,300.000	3,300.000
0044	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	17,510.000	17,510.000
0046	513.4061	Railing Tubular Type M	LF	130.100	130.100
0048	516.0500	Rubberized Membrane Waterproofing	SY	16.000	16.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	520.000	520.000
0052	606.0300	Riprap Heavy	CY	95.000	95.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0058	618.0100	Maintenance and Repair of Haul Roads (project) 02. 4823-07-71	EACH	1.000	1.000
0060	619.1000	Mobilization	EACH	0.500	0.500
0062	624.0100	Water	MGAL	3.000	3.000
0064	625.0100	Topsoil	SY	185.000	185.000
0066	628.1504	Silt Fence	LF	240.000	240.000
0068	628.1520	Silt Fence Maintenance	LF	480.000	480.000
0070	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0072	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0074	628.2027	Erosion Mat Class II Type C	SY	180.000	180.000
0078	628.7504	Temporary Ditch Checks	LF	60.000	60.000
0080	629.0210	Fertilizer Type B	CWT	0.300	0.300
0082	630.0130	Seeding Mixture No. 30	LB	10.000	10.000
0084	630.0200	Seeding Temporary	LB	5.000	5.000
0086	630.0500	Seed Water	MGAL	5.000	5.000
0088	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0090	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0092	638.2602	Removing Signs Type II	EACH	6.000	6.000
0094	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0096	642.5001	Field Office Type B	EACH	0.500	0.500
0098	643.0420	Traffic Control Barricades Type III	DAY	1,440.000	1,440.000
0100	643.0705	Traffic Control Warning Lights Type A	DAY	1,920.000	1,920.000
0102	643.0900	Traffic Control Signs	DAY	1,120.000	1,120.000
0104	643.5000	Traffic Control	EACH	0.500	0.500
0106	645.0111	Geotextile Type DF Schedule A	SY	80.000	80.000
0108	645.0120	Geotextile Type HR	SY	195.000	195.000
0110	650.4500	Construction Staking Subgrade	LF	100.000	100.000

Estimate Of Quantities By Plan Sets

4823-07-71					
Line	Item	Item Description	Unit	Total	Qty
0112	650.5000	Construction Staking Base	LF	100.000	100.000
0116	650.6501	Construction Staking Structure Layout (structure) 02. B-66-0153	EACH	1.000	1.000
0120	650.9911	Construction Staking Supplemental Control (project) 02. 4823-07-71	EACH	1.000	1.000
0122	650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
0124	690.0150	Sawing Asphalt	LF	41.000	41.000
0126	715.0502	Incentive Strength Concrete Structures	DOL	798.000	798.000
0130	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 02. 10+00	EACH	1.000	1.000
0132	SPV.0195	Special 01. Select Crushed Material For Travel Corridor	TON	10.000	10.000
0134	SPV.0195	Special 02. Coarse Aggregate Mix For Streambed	TON	10.000	10.000

3

CLEARING AND GRUBBING

STATION	TO	STATION	LOCATION	201.0105	201.0205
				CLEARING STA	GRUBBING STA
9+26.73	-	10+69.27	WEST BEND ROAD	2	2
TOTAL 0010				2	2

NOTE: TREES HAVE BEEN CUT BY OTHERS PRIOR TO CONSTRUCTION. CLEAR DOWN TREES.

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165
				REMOVING GUARDRAIL LF
9+75	-	9+88	RT	13
9+75	-	9+88	LT	13
10+13	-	10+25	LT	13
10+13	-	10+25	RT	13
TOTAL 0010				52

PROJECT WIDE

LOCATION	213.0100.01	619.1000	628.1905	628.1910	642.5001
	FINISHING ROADWAY (PROJECT) (02. 4823-07-71) EACH	MOBILIZATION EACH	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	FIELD OFFICE TYPE B EACH
WEST BEND ROAD	1	0.5	4	4	0.5
TOTAL 0010	1	0.5	4	4	0.5

FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW	COMMENT
		CUT (2)	EBS EXCAVATION (3)				FACTOR 1.30				
9+26.73 / 10+69.27	WESTR BEND ROAD	376	0	72	304	49	64	240			
		376	0	72	304	49	64	240	240	0	
		376	0	72	304	49	64	240	240	0	
TOTAL COMMON EXC		376									

NOTES:

- (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
- (2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- (4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
- (13) EXPANDED FILL FACTOR = 1.30
- (14) 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.

BASE AGGREGATE ITEMS

STATION	TO	STATION	LOCATION	305.0110	305.0120	624.0100
				BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	WATER MGAL
9+26.73	-	9+74.73	WEST BEND ROAD	10	75	2
10+17.27	-	10+69.27	WEST BEND ROAD	10	80	1
TOTAL 0010				20	155	3

BREAKER RUN

STATION	TO	STATION	LOCATION	311.0110
				BREAKER RUN TON
9+26.73	-	9+74.73	WEST BEND ROAD	85
10+17.27	-	10+69.27	WEST BEND ROAD	90
TOTAL 0010				175

ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	455.0605	465.0105
				TACK COAT GAL	ASPHALTIC SURFACE TON
9+26.73	-	9+74.73	WEST BEND ROAD	9	30
10+17.27	-	10+69.27	WEST BEND ROAD	10	30
TOTAL 0010				19	60

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

3

HAUL ROADS

618.0100.02 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (02. 4823-07-71) EACH		
CATEGORY	LOCATION	EACH
0030	PROJECT WIDE	1
TOTAL 0030		1

EROSION CONTROL

				628.1504	628.1520	628.2027	628.7504
				SILT FENCE		EROSION MAT	TEMPORARY
				MAINTENANCE		CLASS II TYPE	DITCH
				LF	LF	C	CHECKS
				LF	LF	SY	LF
STATION	TO	STATION	LOCATION				
9+26.73	-	9+74.73	LT/RT	110	220	70	-
10+17.27	-	10+69.27	LT/RT	80	160	75	-
UNDISTRIBUTED				50	100	35	60
TOTAL 0010				240	480	180	60

FINISHING ITEMS

				625.0100	629.0210	630.0130	630.0200	630.0500
				TOPSOIL	FERTILIZER	SEEDING	SEEDING	SEED WATER
				SY	TYPE B	MIXTURE	TEMPORARY	MGAL
					CWT	NO. 30	LB	
							LB	
STATION	TO	STATION	LOCATION					
9+26.73	-	9+74.73	LT/RT	70	0.1	4	2	2
10+17.27	-	10+69.27	LT/RT	75	0.1	4	2	2
UNDISTRIBUTED				40	0.1	2	1	1
TOTAL 0010				185	0.3	10	5	5

PERMANENT SIGNING

		634.0614			637.2230	638.2602	638.3000
		POSTS WOOD			SIGNS TYPE II	REMOVING	REMOVING
		4X6-INCH X			REFLECTIVE F	SIGNS TYPE II	SMALL SIGN
		14-FT					SUPPORTS
		EACH			SF	EACH	EACH
STATION	LOCATION	SIGN	WIDTH	HEIGHT	MESSAGE		
		CODE	(IN)	(IN)			
9+60	RT	W5-52R	12	36	BRIDGE HASH MARKS RT	1	-
9+75	RT	R12-1	-	-	WEIGHT LIMIT 20 TONS	-	1
9+64	LT	W5-52L	12	36	BRIDGE HASH MARKS LT	1	-
9+81	RT	W5-52R	-	-	BRIDGE HASH MARKS RT	-	1
9+85	LT	W5-52L	-	-	BRIDGE HASH MARKS LT	-	1
10+15	RT	W5-52L	-	-	BRIDGE HASH MARKS LT	-	1
10+17	LT	W5-52R	-	-	BRIDGE HASH MARKS RT	-	1
10+27	RT	W5-52L	12	36	BRIDGE HASH MARKS LT	1	-
10+31	LT	W5-52R	12	36	BRIDGE HASH MARKS RT	1	-
10+24	LT	R12-1	-	-	WEIGHT LIMIT 15 TONS	-	1
TOTAL 0010			4	12		6	6

TRAFFIC CONTROL

		643.0420		643.0705	643.0900		643.5000
		TRAFFIC		TRAFFIC			
		CONTROL		CONTROL			
		BARRICADES		WARNING	TRAFFIC		TRAFFIC
		TYPE III		LIGHTS TYPE A	CONTROL SIGNS		CONTROL
		NO.	DAY	NO.	DAY	NO.	DAY
LOCATION	DURATION DAYS						EACH
WEST BEND ROAD	-	-	-	-	-	-	0.5
SDD 15C2	80	18	1,440	24	1,920	14	1,120
TOTAL 0010		1,440	1,920	1,120	0.5		

STAKING STRUCTURE

650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (02. B-66- 0153) EACH		
CATEGORY	LOCATION	EACH
0020	STRUCTURE	1
TOTAL 0020		1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

STAKING							
		650.4500	650.5000	650.9911.01	650.9920		
				CONSTRUCTION			
				STAKING			
				SUPPLEMENTAL			
		CONSTRUCTION	CONSTRUCTION	CONTROL	CONSTRUCTION		
		STAKING	STAKING	(PROJECT) (02.	STAKING		
		SUBGRADE	BASE	4823-07-71)	SLOPE		
		LF	LF	EACH	STAKES		
STATION	TO	STATION	LOCATION				
9+26.73	-	10+69.27	ROADWAY	100	100	1	100
TOTAL 0010				100	100	1	100

SAWCUT		
		690.0150
		SAWING
		ASPHALT
		LF
STATION	LOCATION	
9+26.73	WEST BEND ROAD	21
10+69.27	WEST BEND ROAD	20
		41

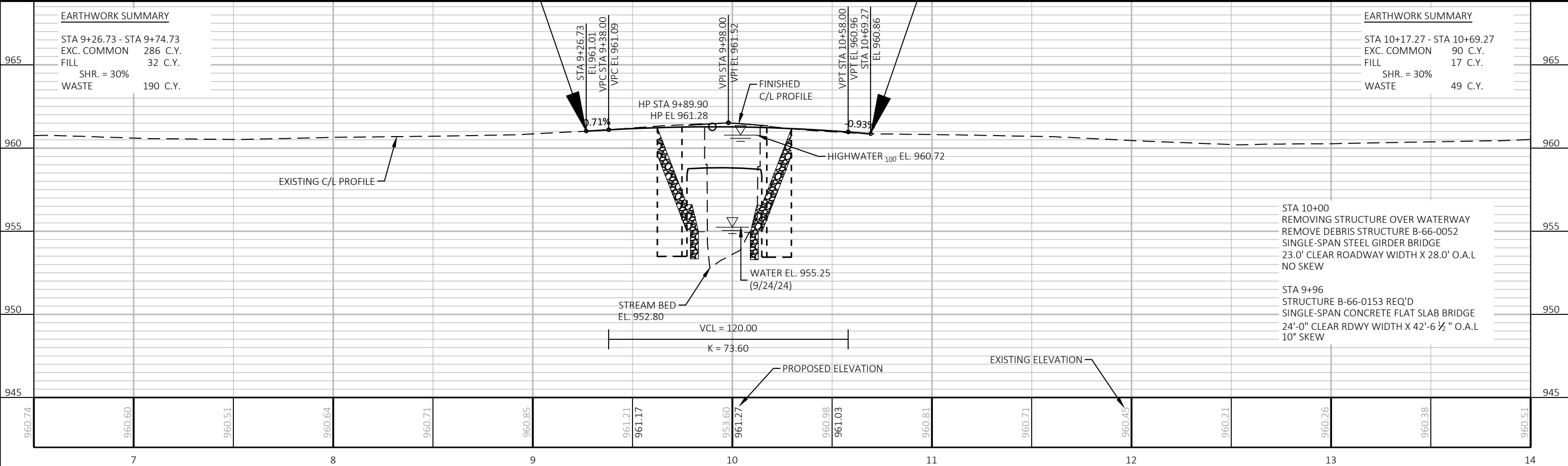
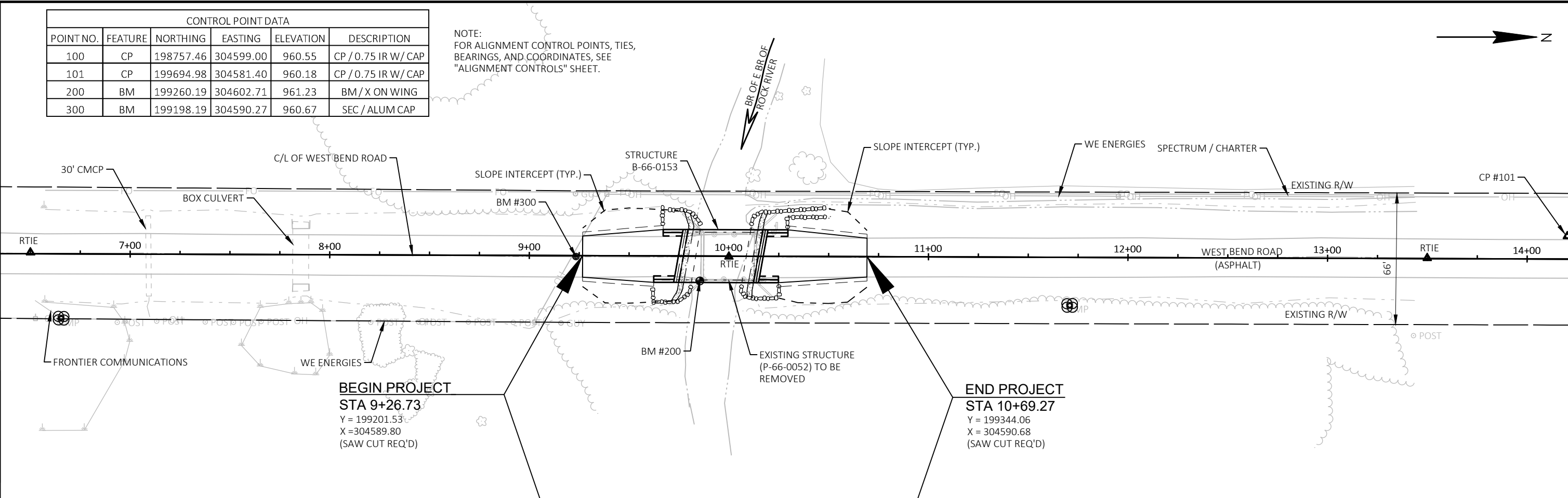
BIRD DETERRENT

			999.2000.S.02
			INSTALLING AND
			MAINTAINING BIRD
			DETERRENT SYSTEM (STATION)
			(02. 10+00)
CATEGORY	LOCATION		EACH
0020	STRUCTURE		1
TOTAL 0020			1

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

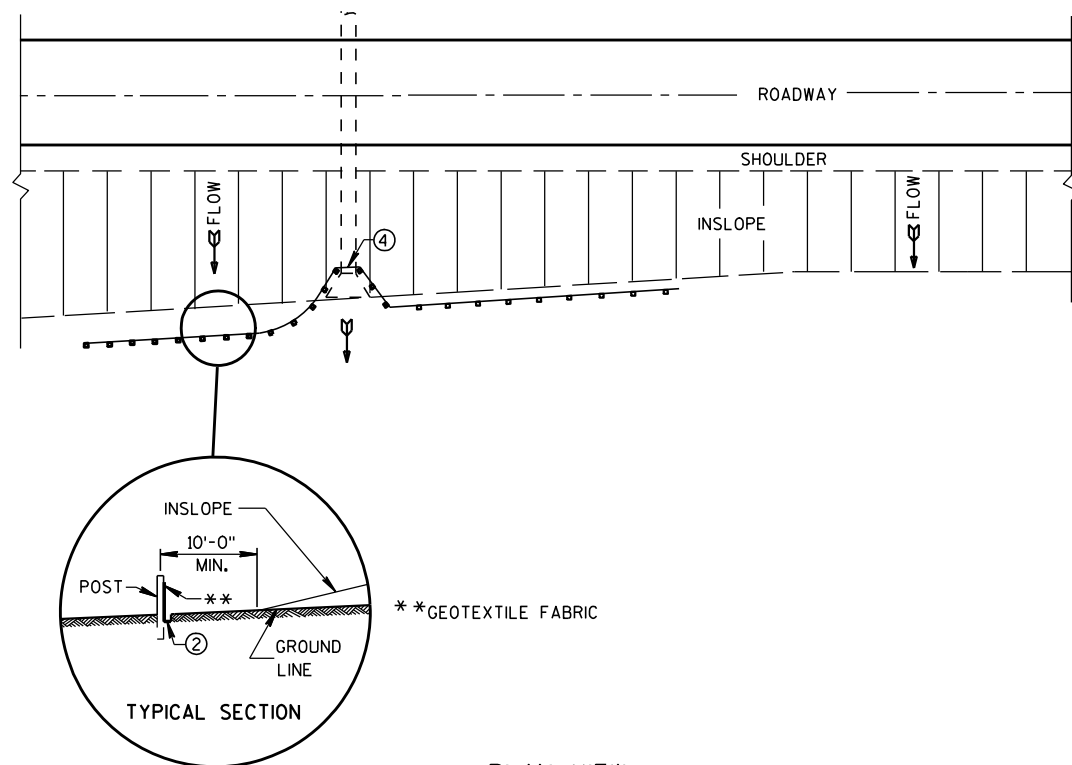
CONTROL POINT DATA					
POINT NO.	FEATURE	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	CP	198757.46	304599.00	960.55	CP / 0.75 IR W/ CAP
101	CP	199694.98	304581.40	960.18	CP / 0.75 IR W/ CAP
200	BM	199260.19	304602.71	961.23	BM / X ON WING
300	BM	199198.19	304590.27	960.67	SEC / ALUM CAP

NOTE:
FOR ALIGNMENT CONTROL POINTS, TIES,
BEARINGS, AND COORDINATES, SEE
"ALIGNMENT CONTROLS" SHEET.



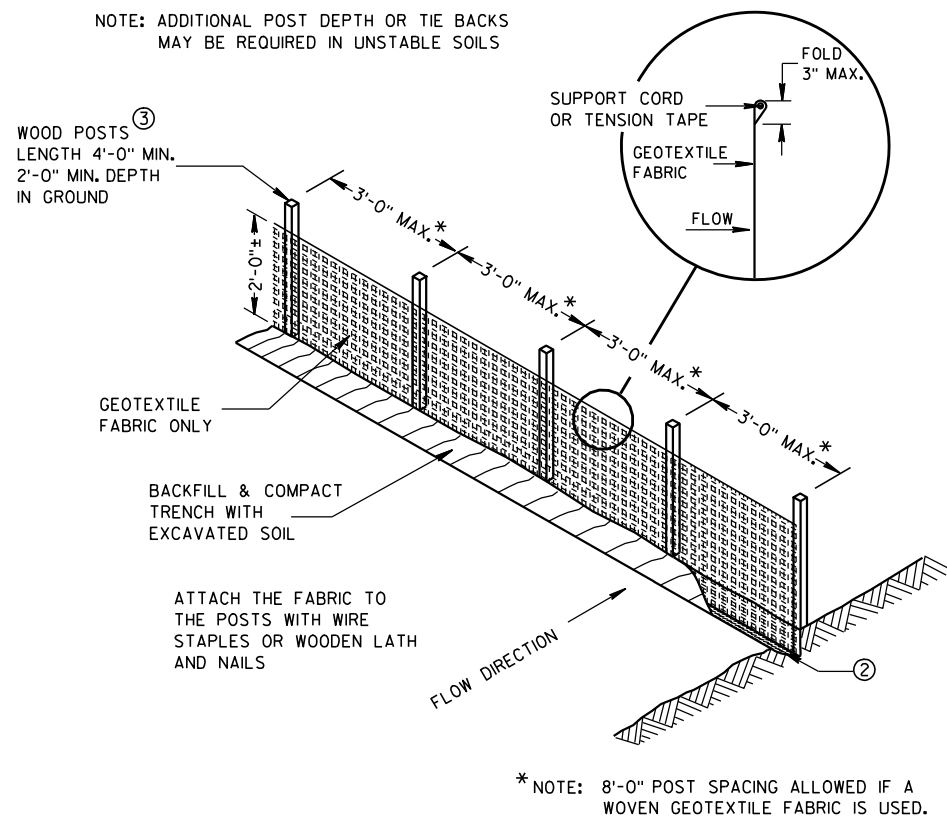
Standard Detail Drawing List

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

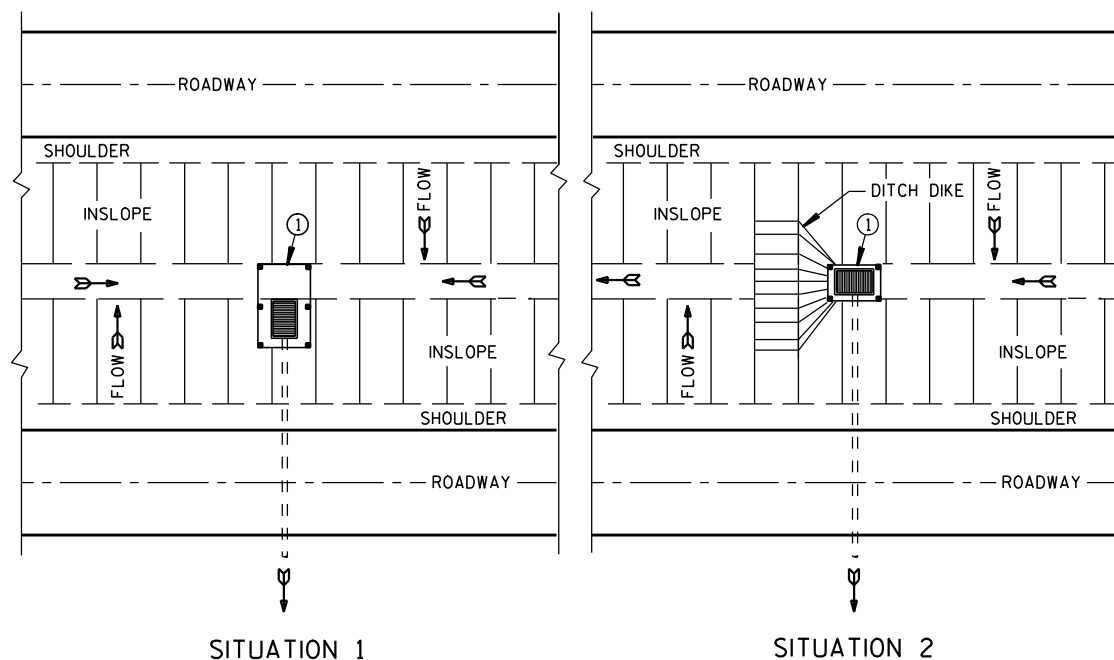


TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

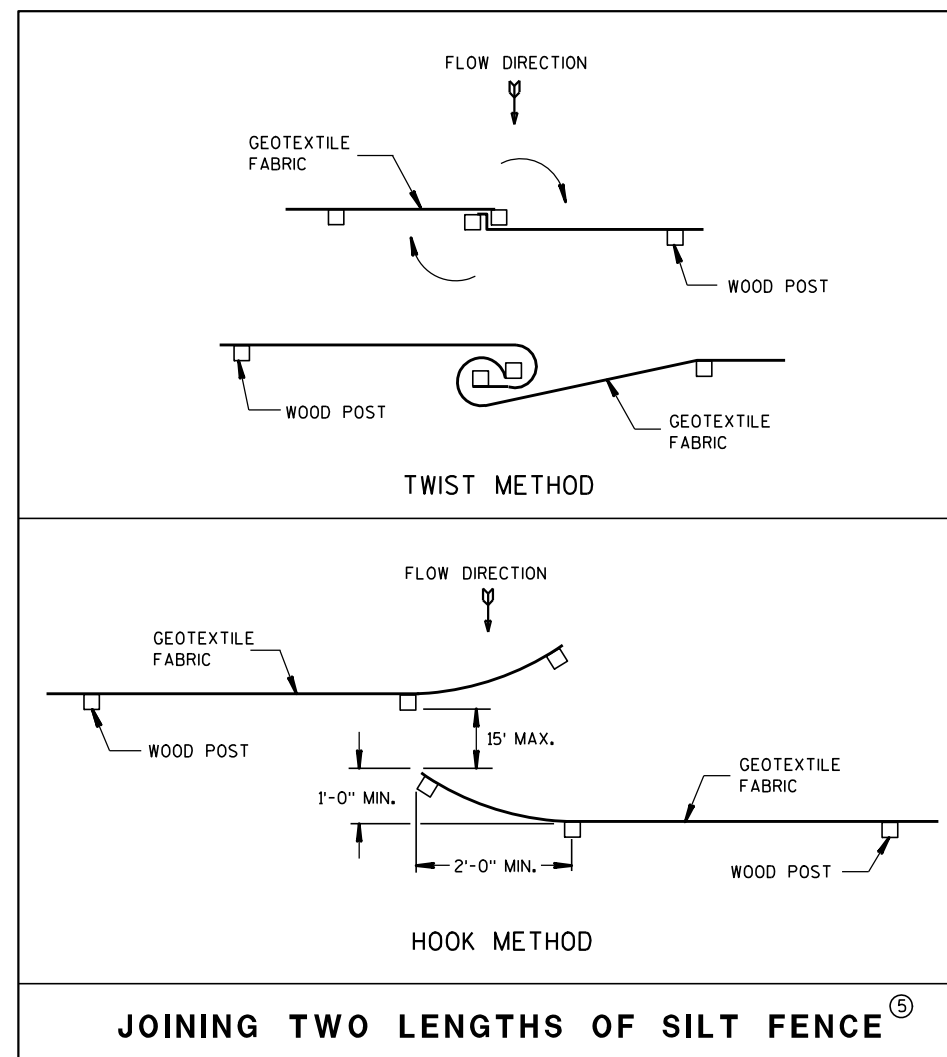


SILT FENCE



PLAN VIEW

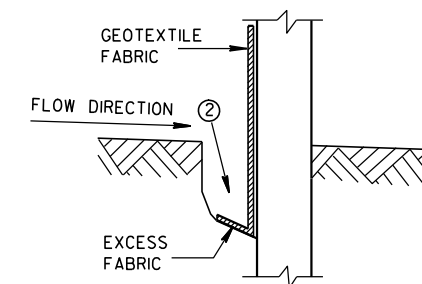
SILT FENCE AT MEDIAN SURFACE DRAINS



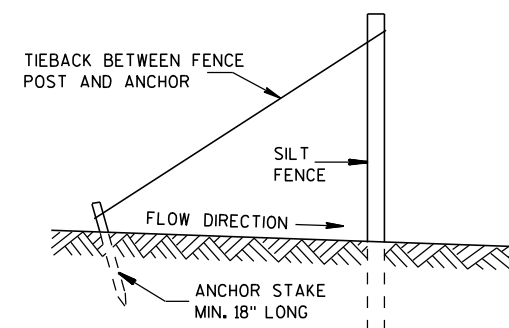
GENERAL NOTES

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 1 1/8" X 1 1/8" 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 TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05

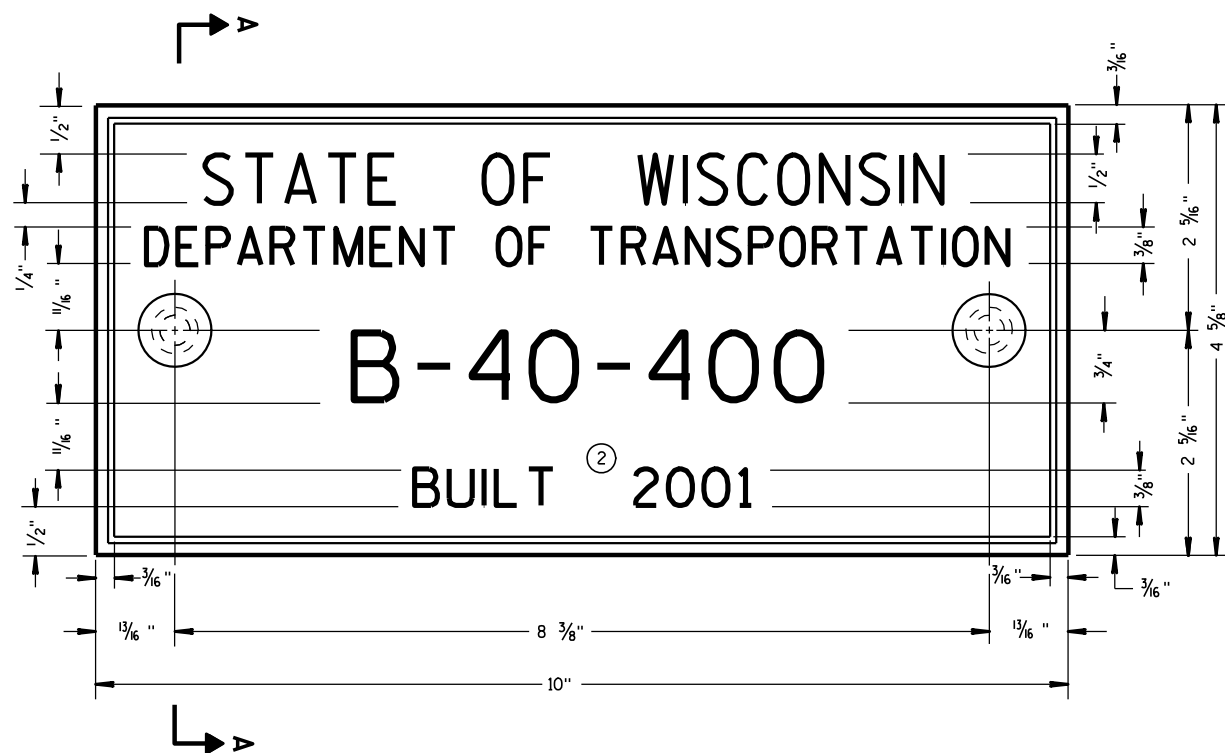
DATE

/S/ Beth Conn

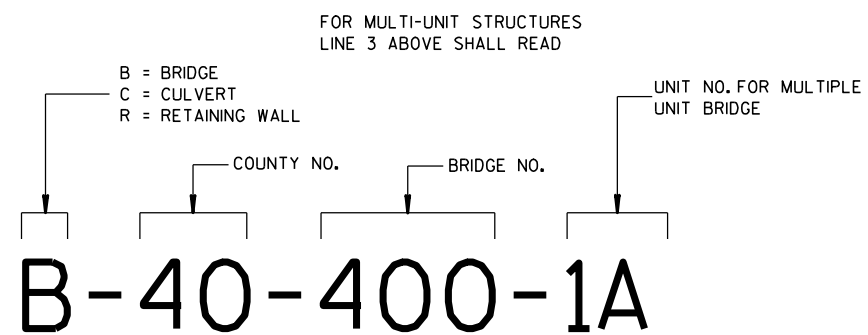
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



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



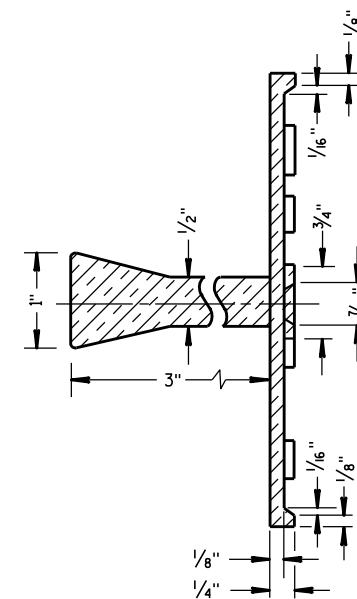
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

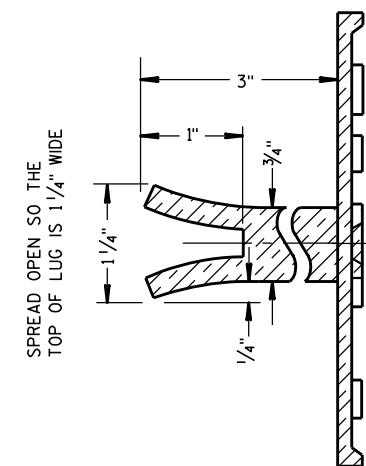
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.



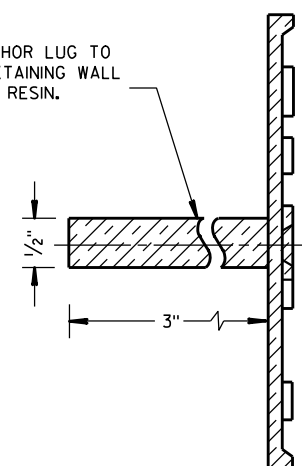
SECTION A-A



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

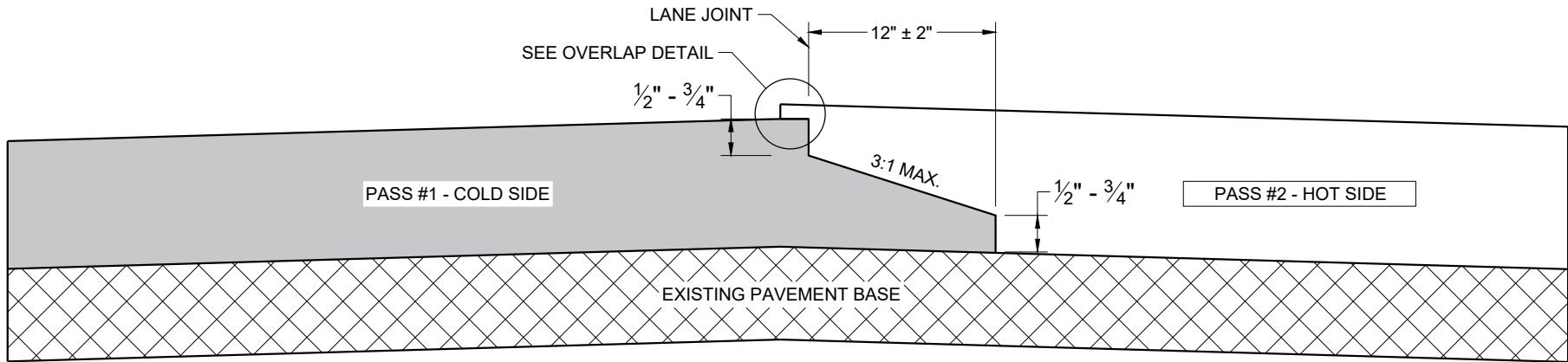
APPROVED

3/26/10
DATE

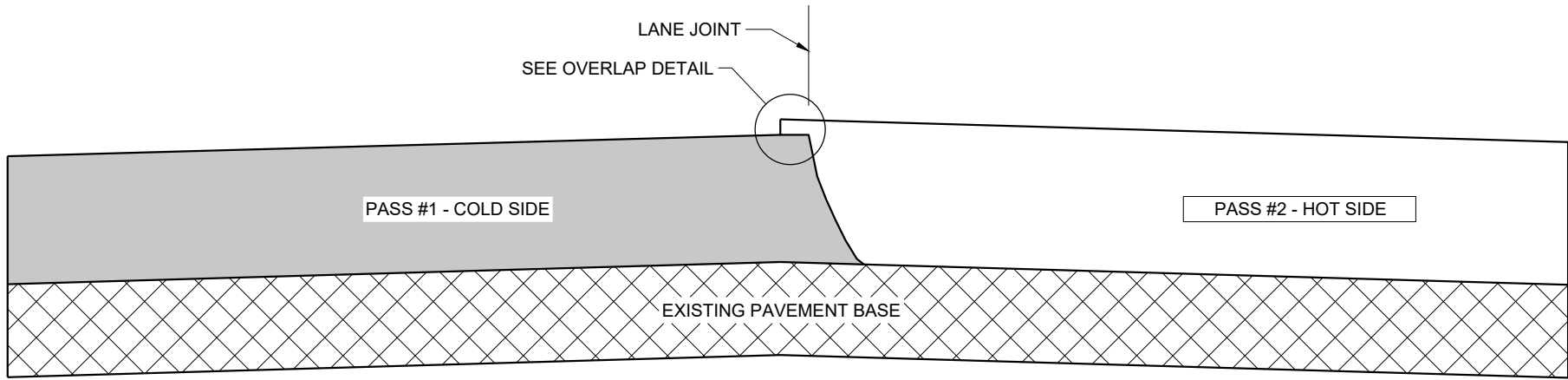
FHWA

/S/ Scot Beck
CHIEF STRUCTURAL DEVELOPER

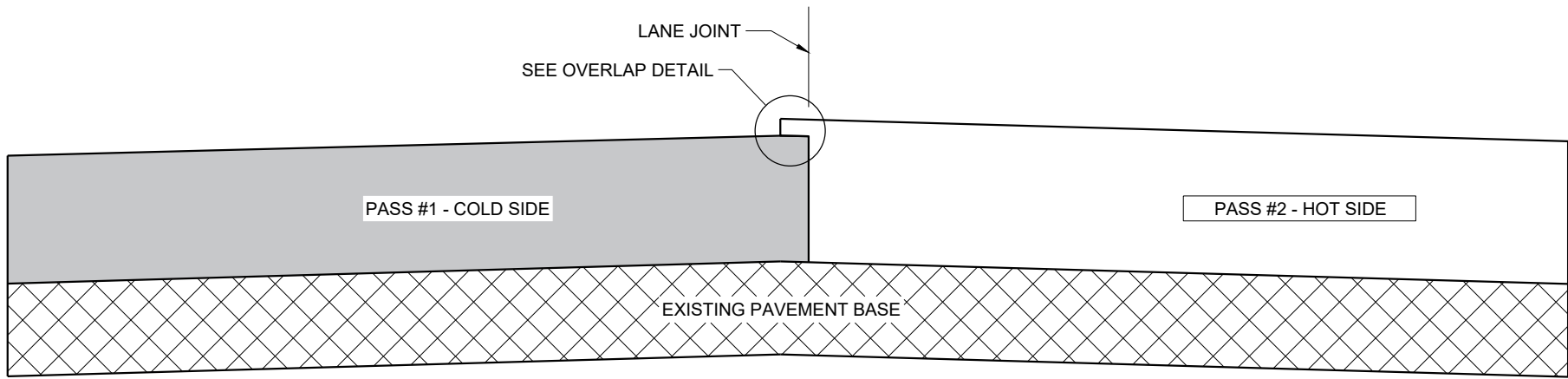
15
JEER



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

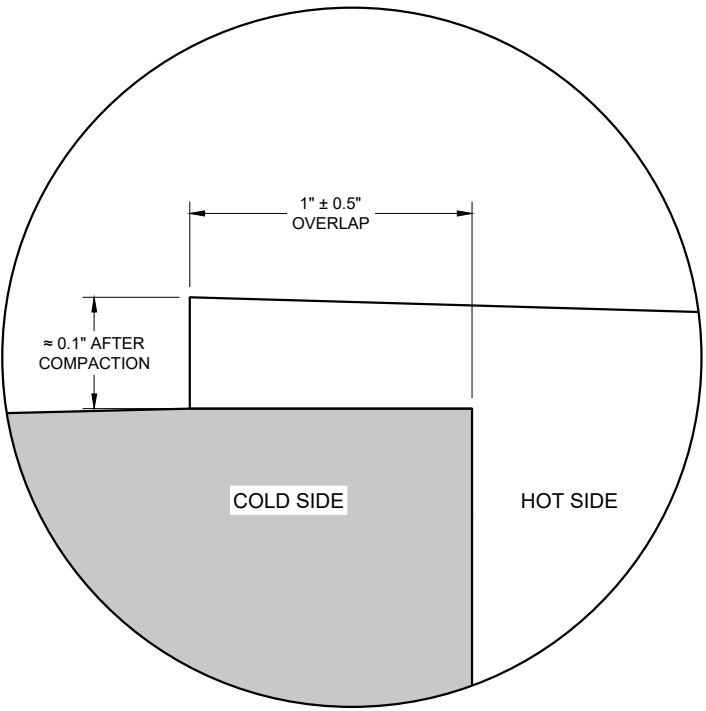
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.



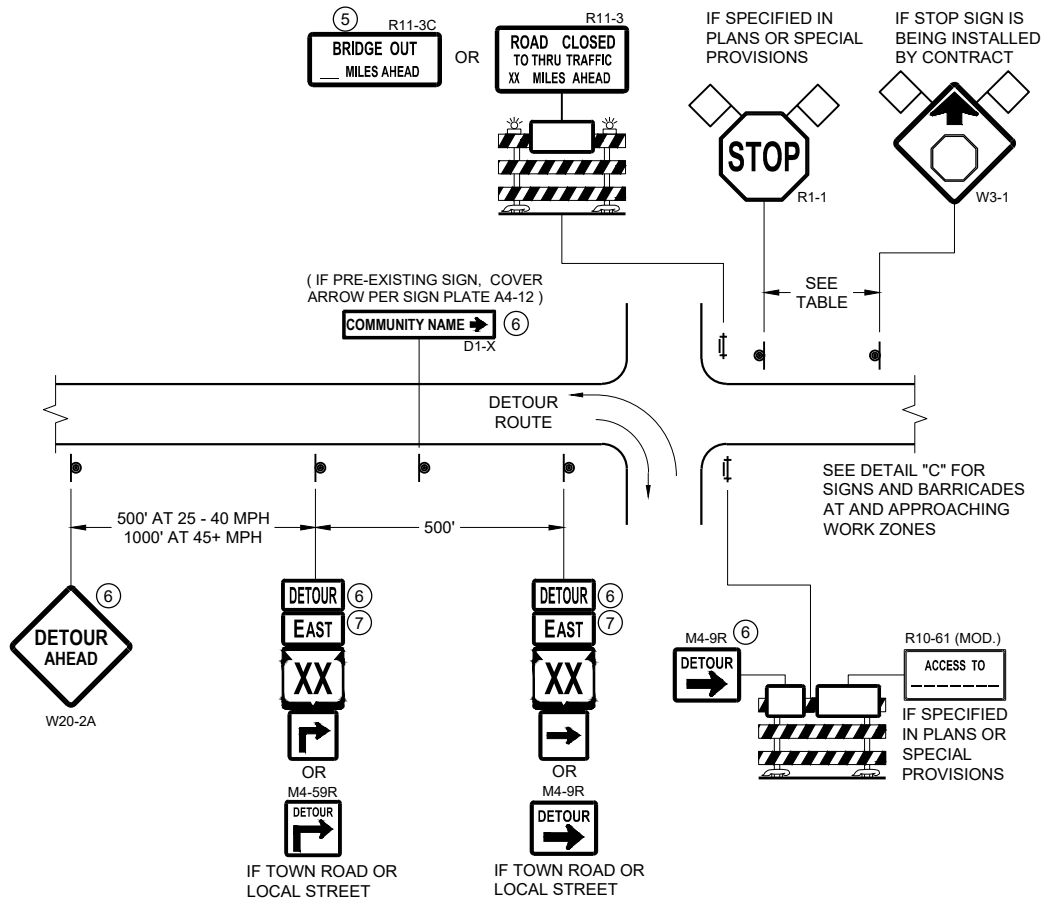
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

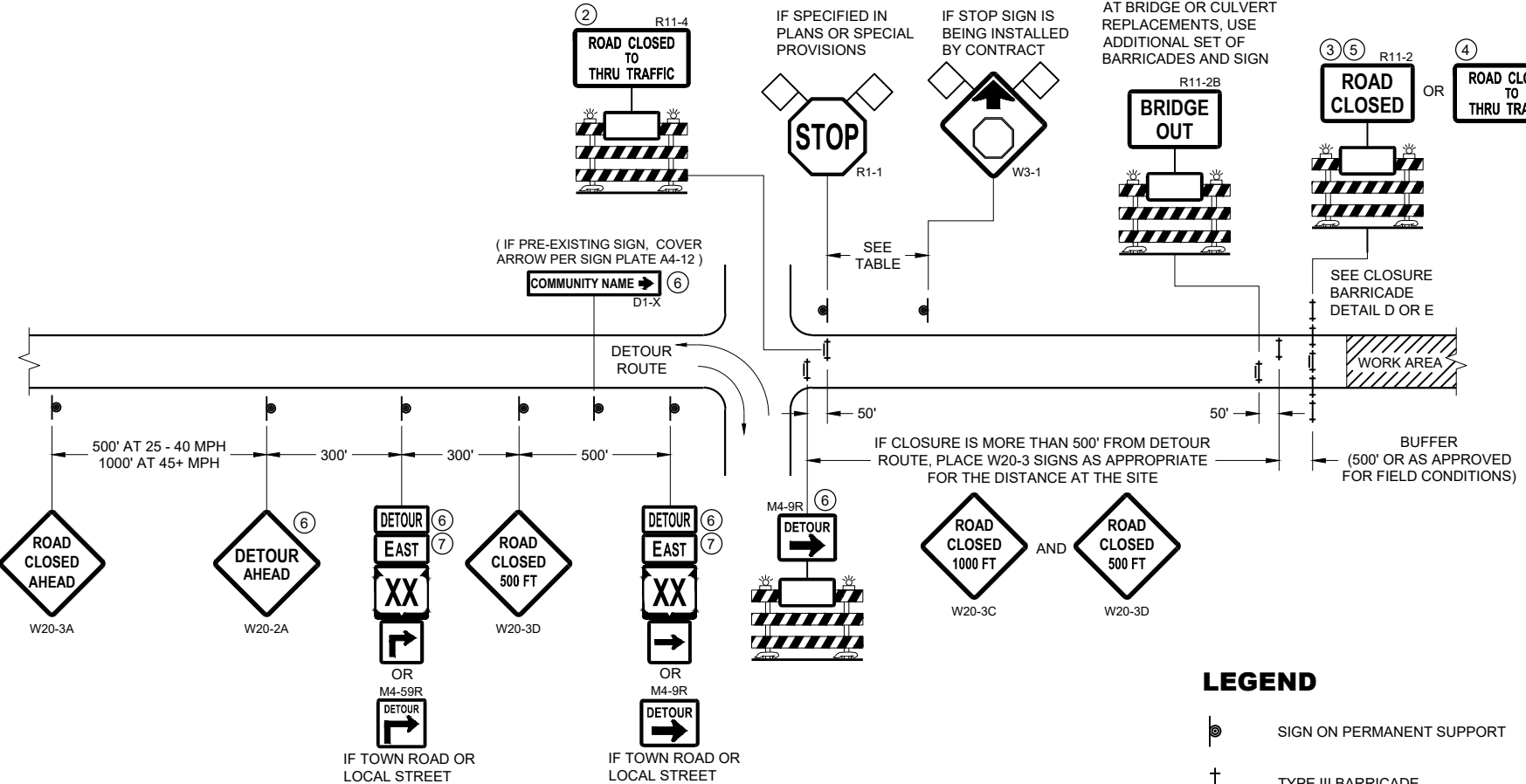
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 16

FHWA



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



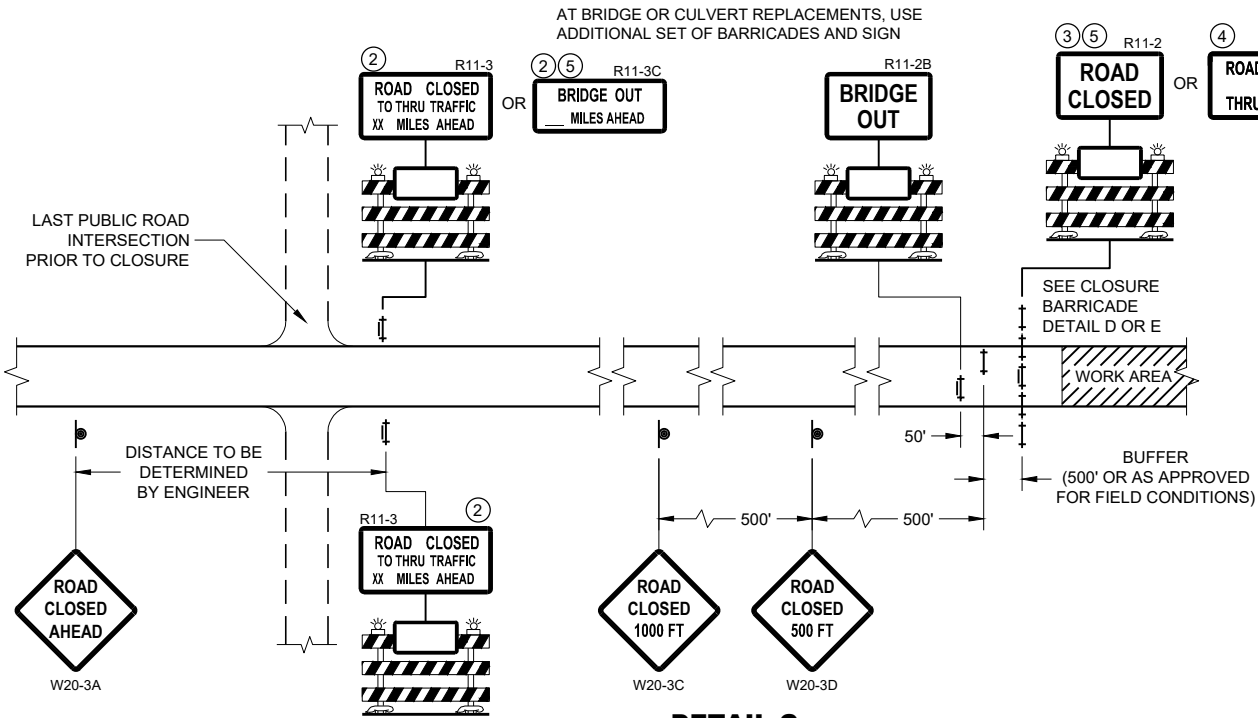
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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 M1 - 5A
- 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

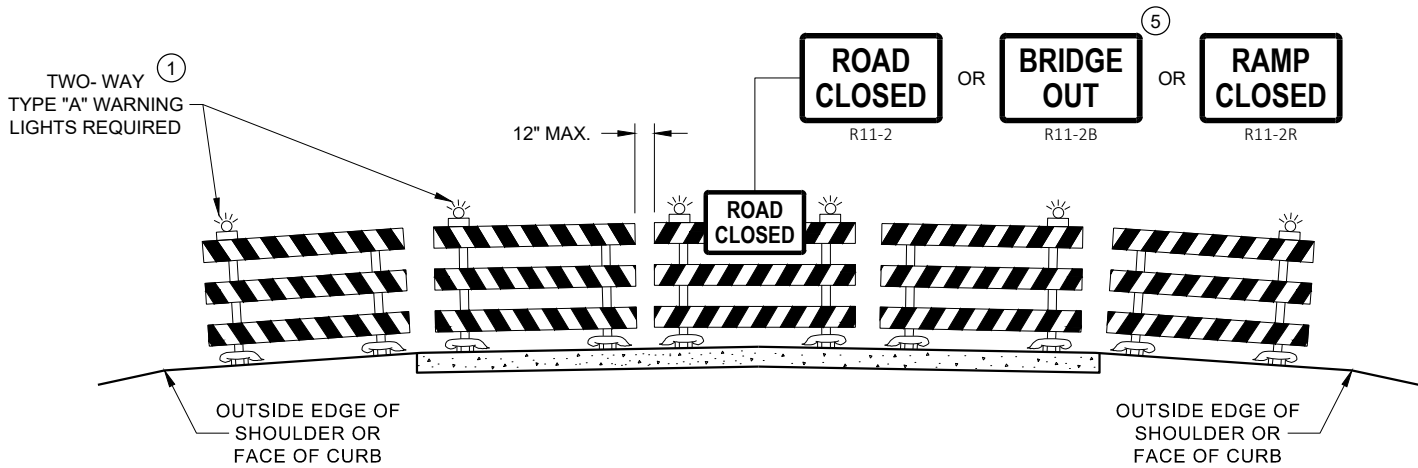


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

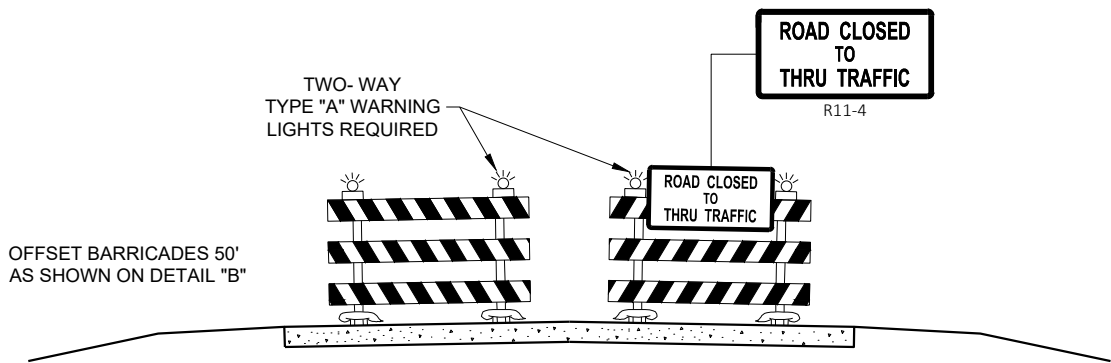
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 17
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"

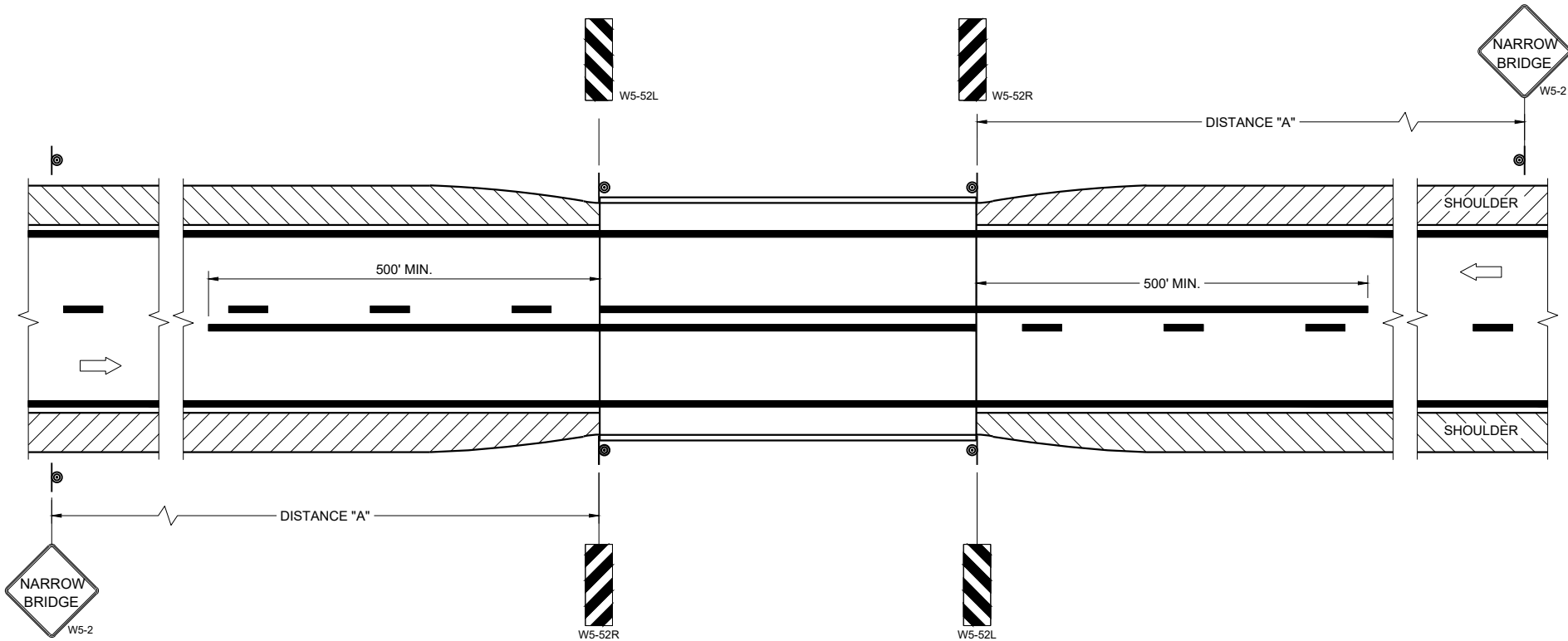
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS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

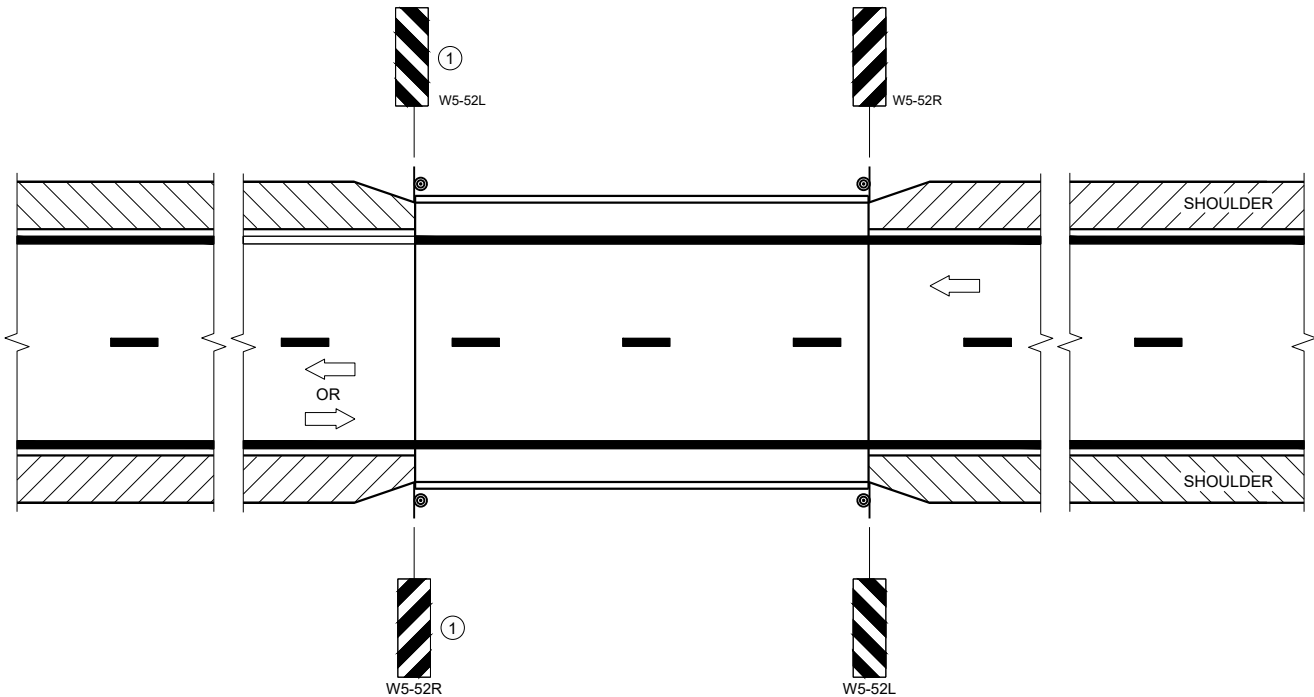
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 18

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'

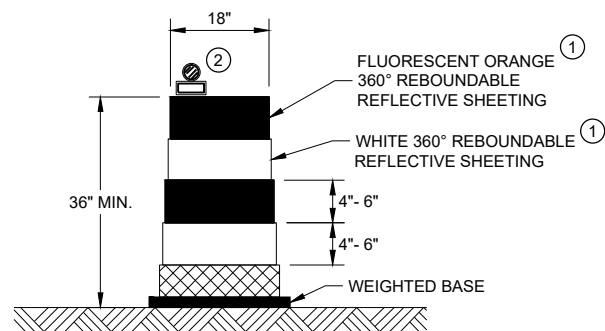
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

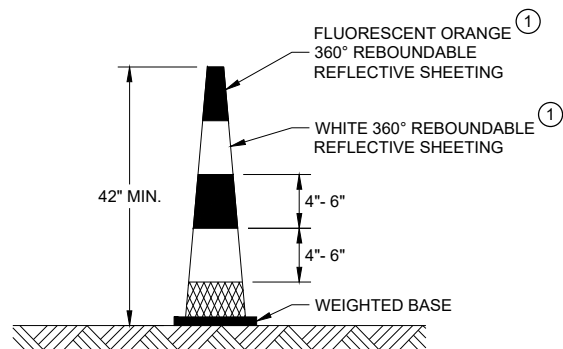
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA 19



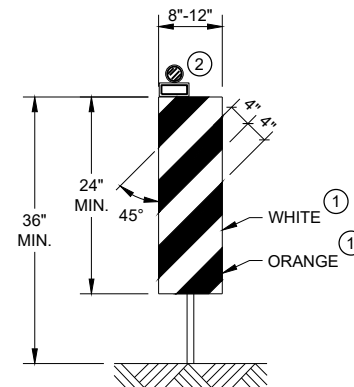
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



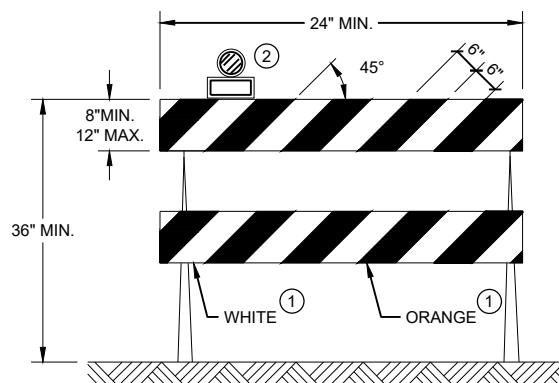
42" CONE

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



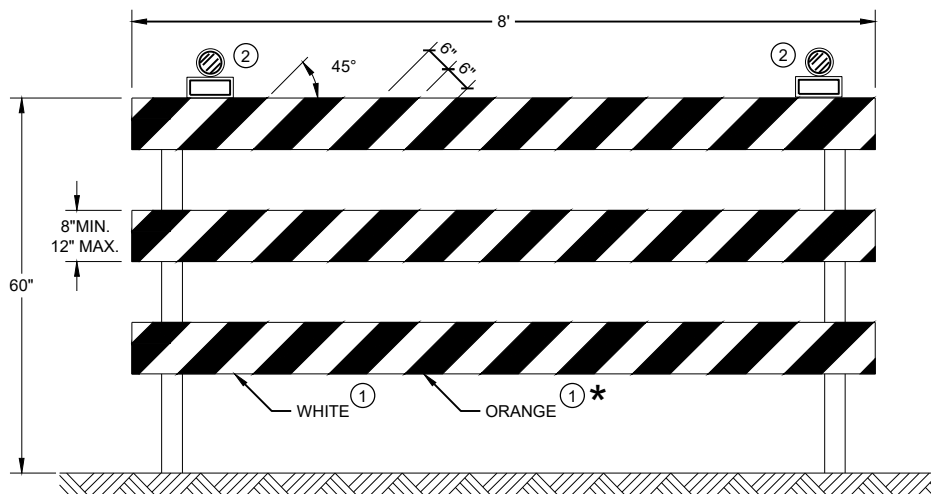
VERTICAL PANEL

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.

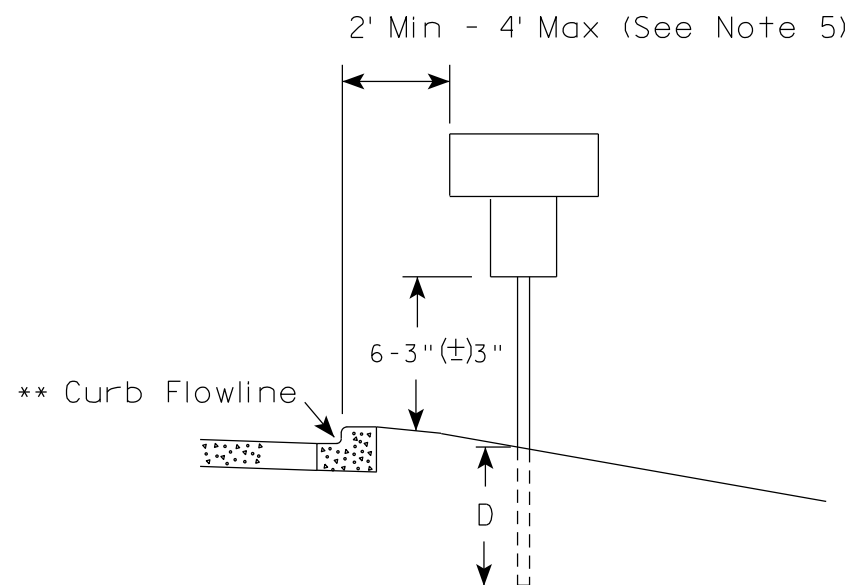
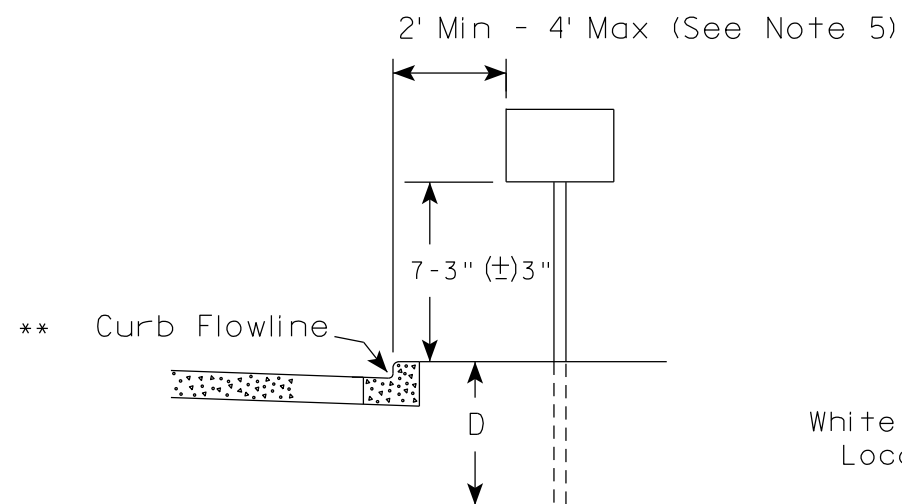
* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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.

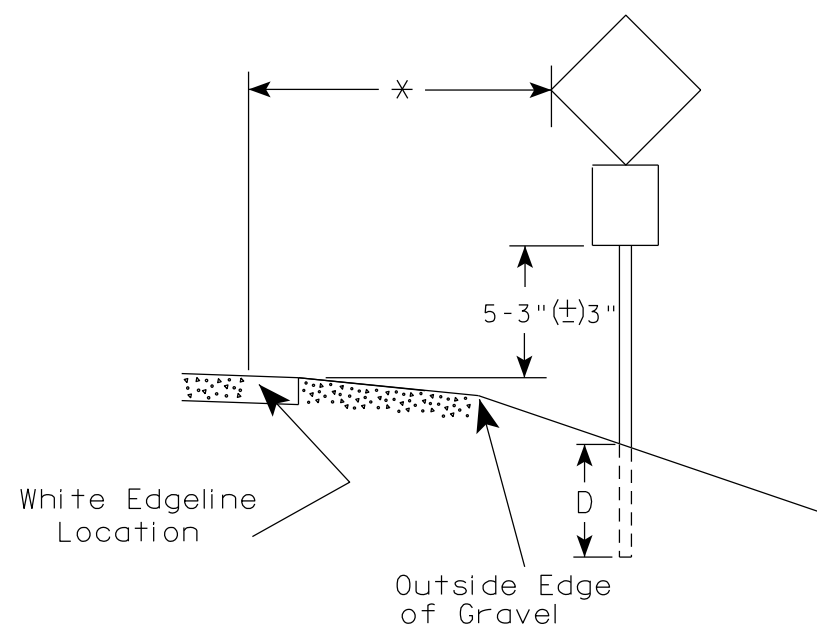
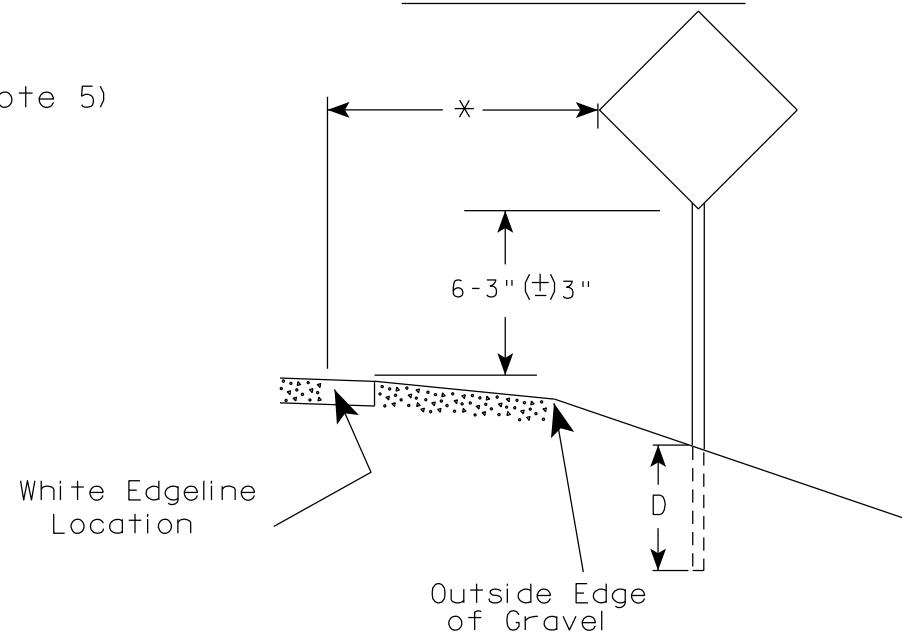
CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 20
FHWA	

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed 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

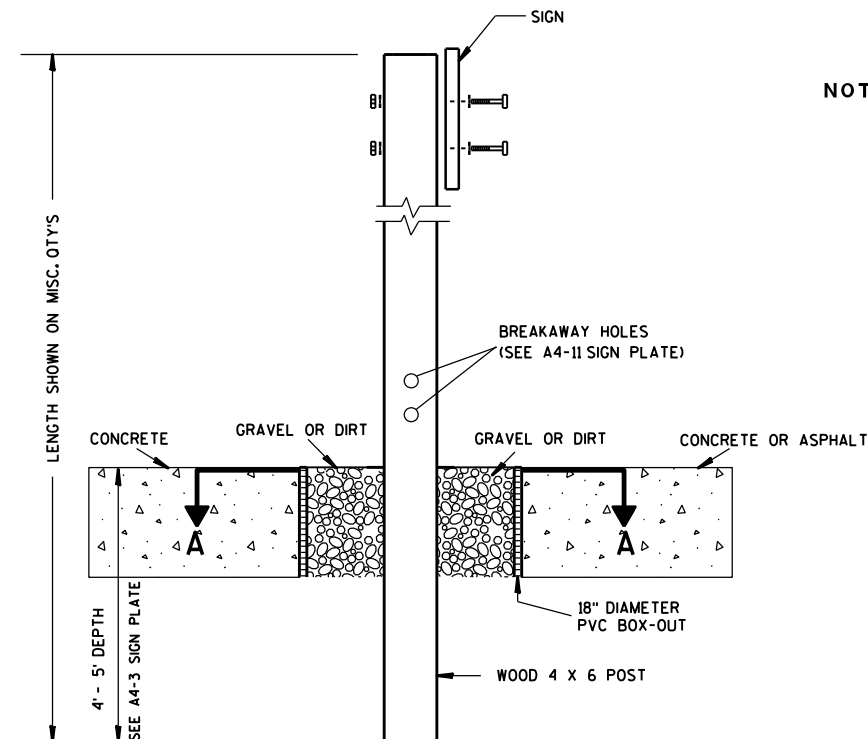
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 21

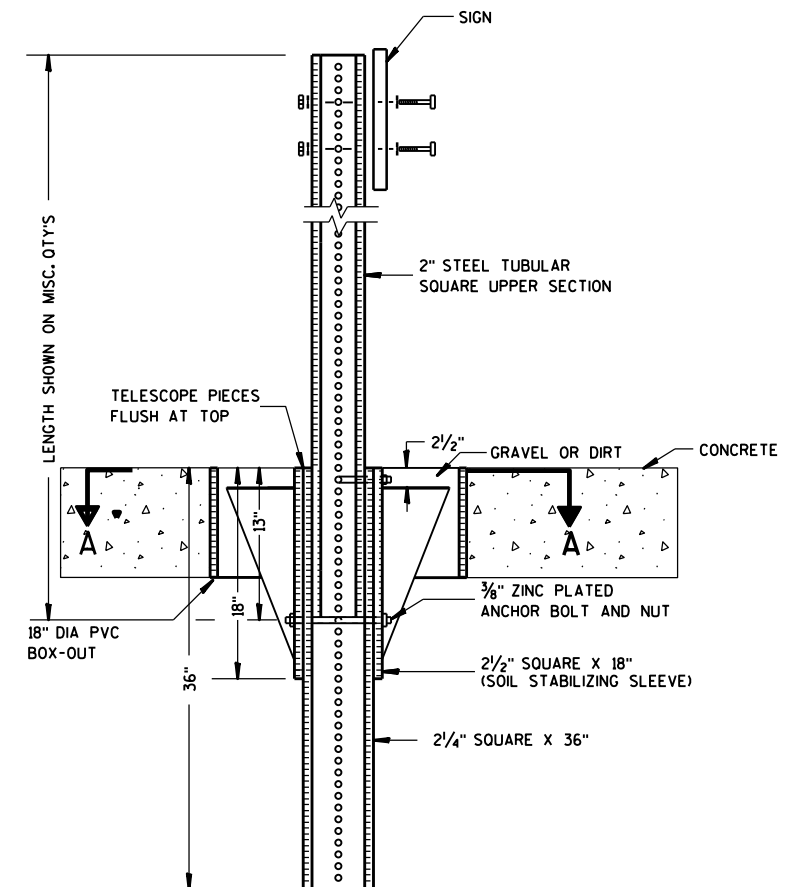
E



ELEVATION VIEW

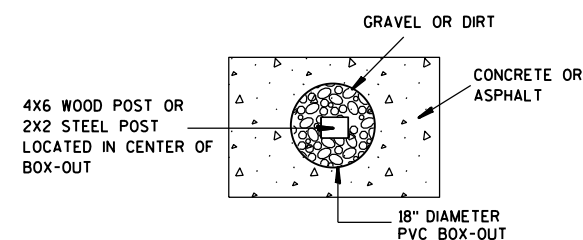
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 22 A4-3B.1

PROJECT NO:

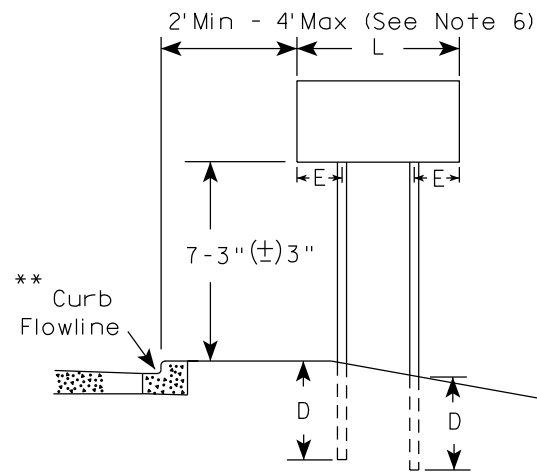
HWY:

COUNTY:

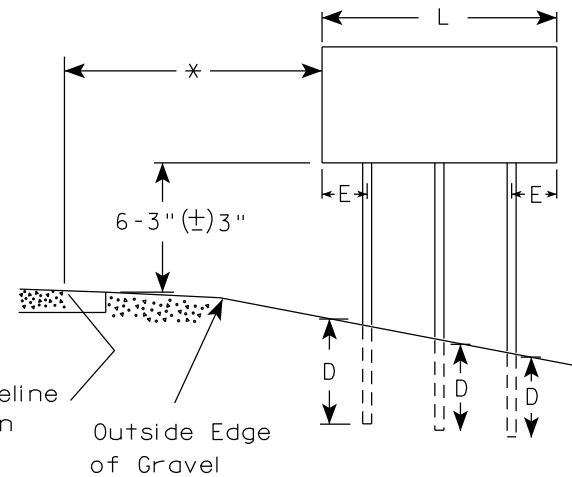
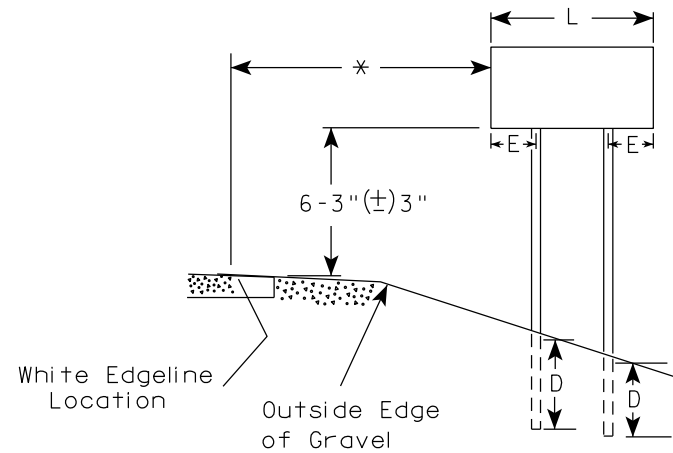
SHEET NO:

E

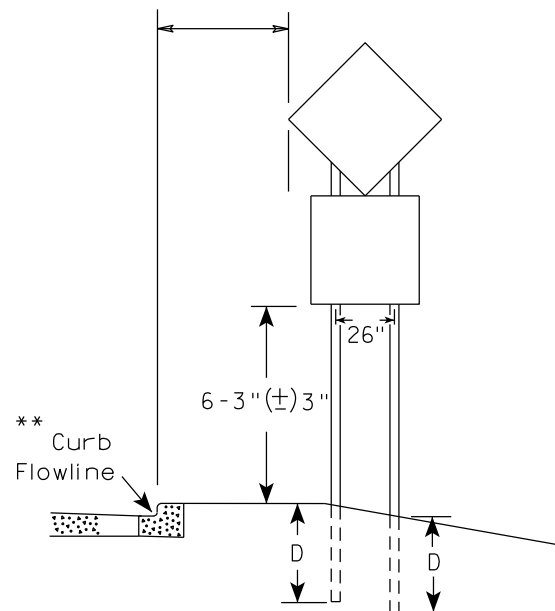
URBAN AREA



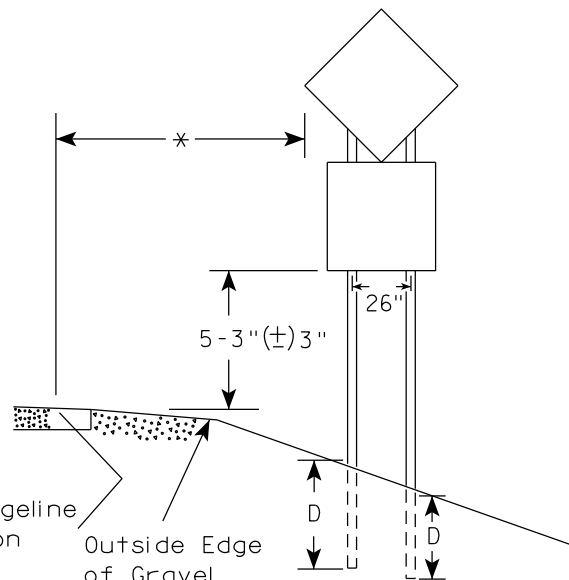
RURAL AREA (See Note 3)



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

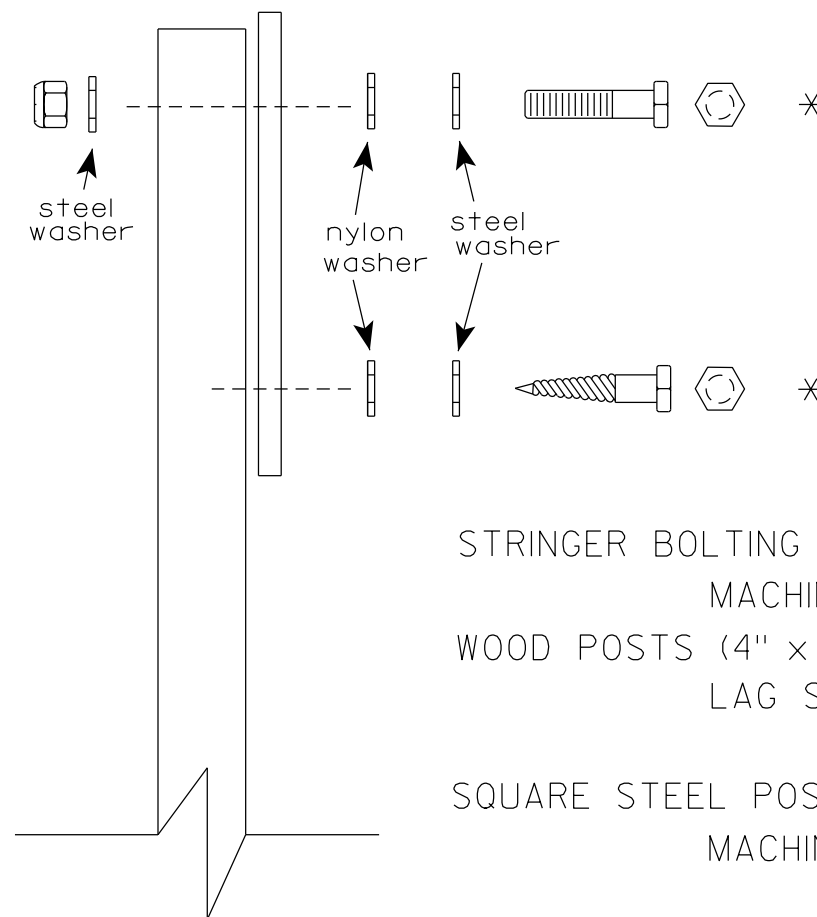
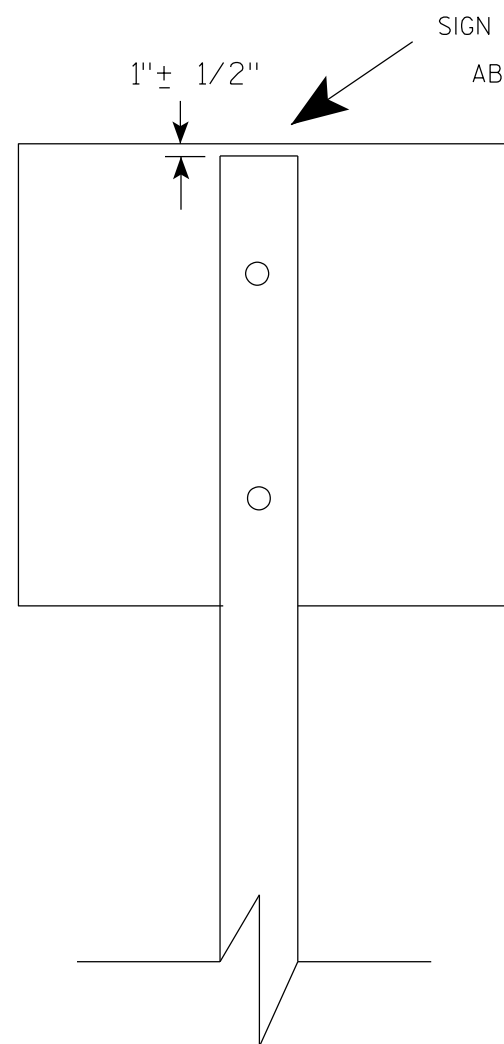
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 23

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.

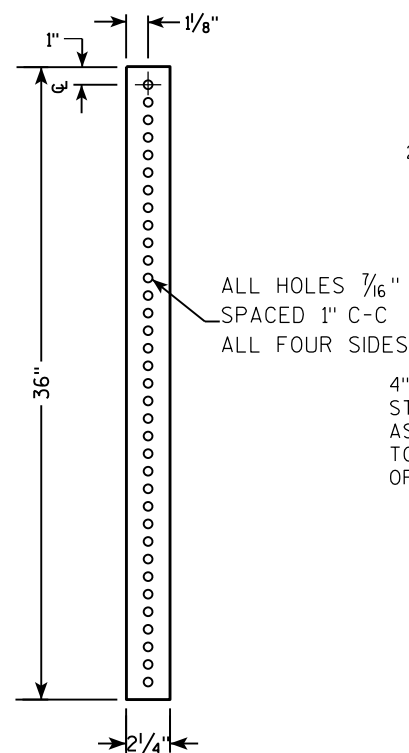
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " 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

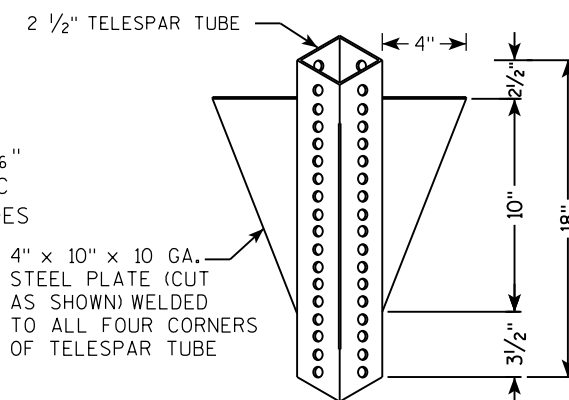
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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



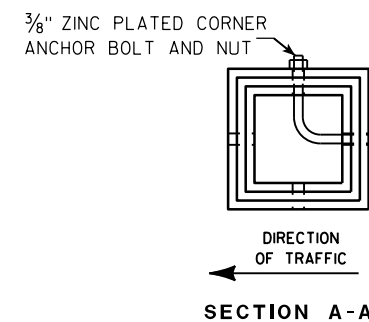
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Labels and Dimensions:

- TELESCOPE PIECES FLUSH AT TOP** (indicated by a bracket on the left side view)
- 2" STEEL TUBULAR SQUARE UPPER SECTION** (indicated by a bracket on the right side view)
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES** (indicated by a bracket on the right side view)
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT** (indicated by a bracket on the right side view)
- $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT** (indicated by a bracket on the right side view)
- $2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)** (indicated by a bracket on the right side view)
- $2\frac{1}{4}$ " SQUARE X 36"** (indicated by a bracket on the right side view)
- SIGN** (indicated by a bracket on the right side view)
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL** (indicated by a bracket on the right side view)
- LENGTH SHOWN ON MISC. QTY'S** (indicated by a bracket on the left side view)
- 36"** (dimension for the main post length)
- 18"** (dimension for the upper section length)
- 12"** (dimension for the lower section length)
- 1"** (dimension for the anchor bolt offset)



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 Matthieu R. Rausch

for State Traffic Engineer

DATE 2/05/15 PLAT 25 14-9.9

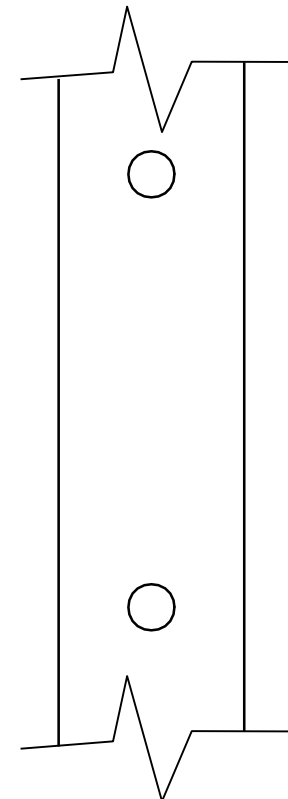
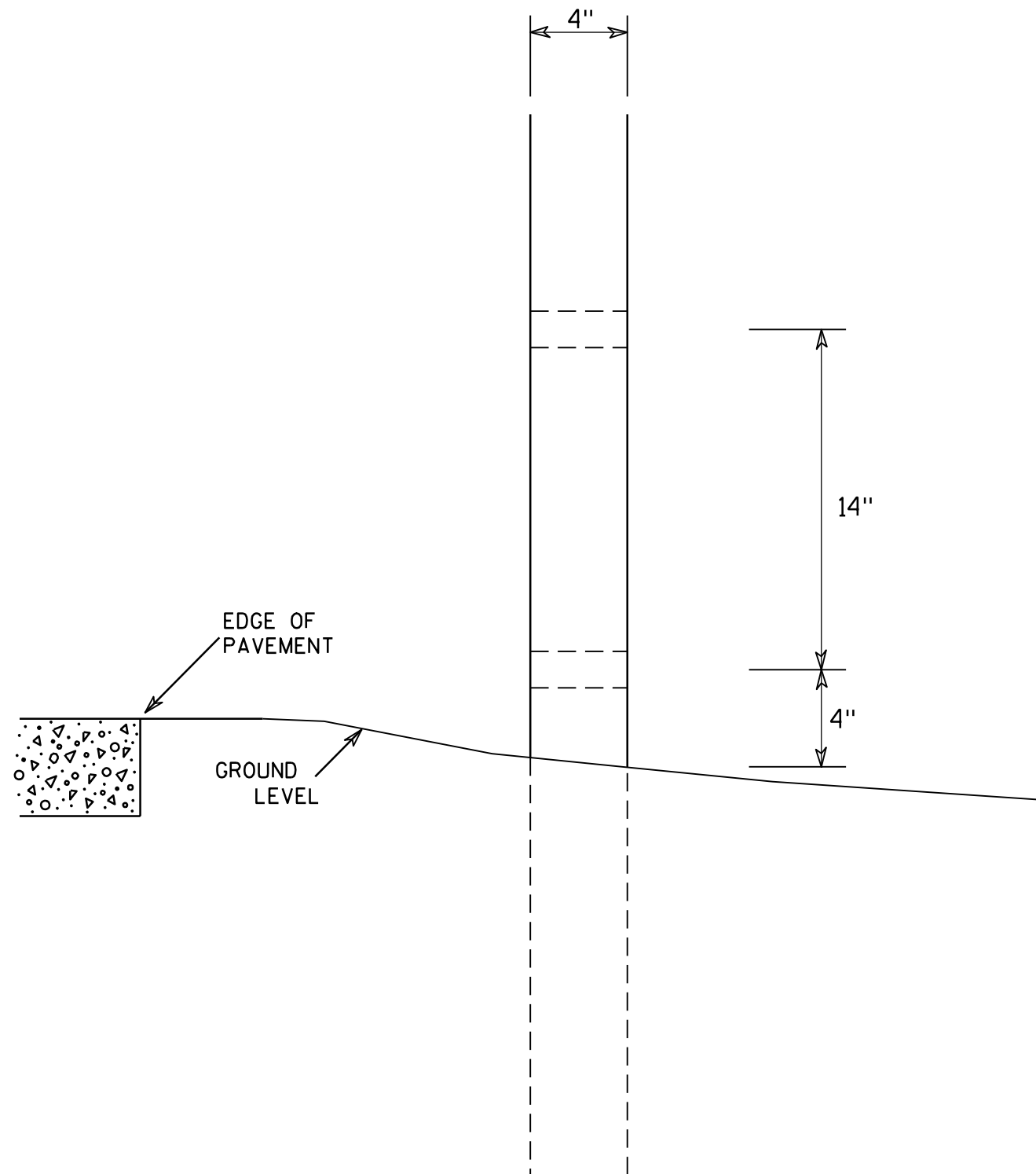
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

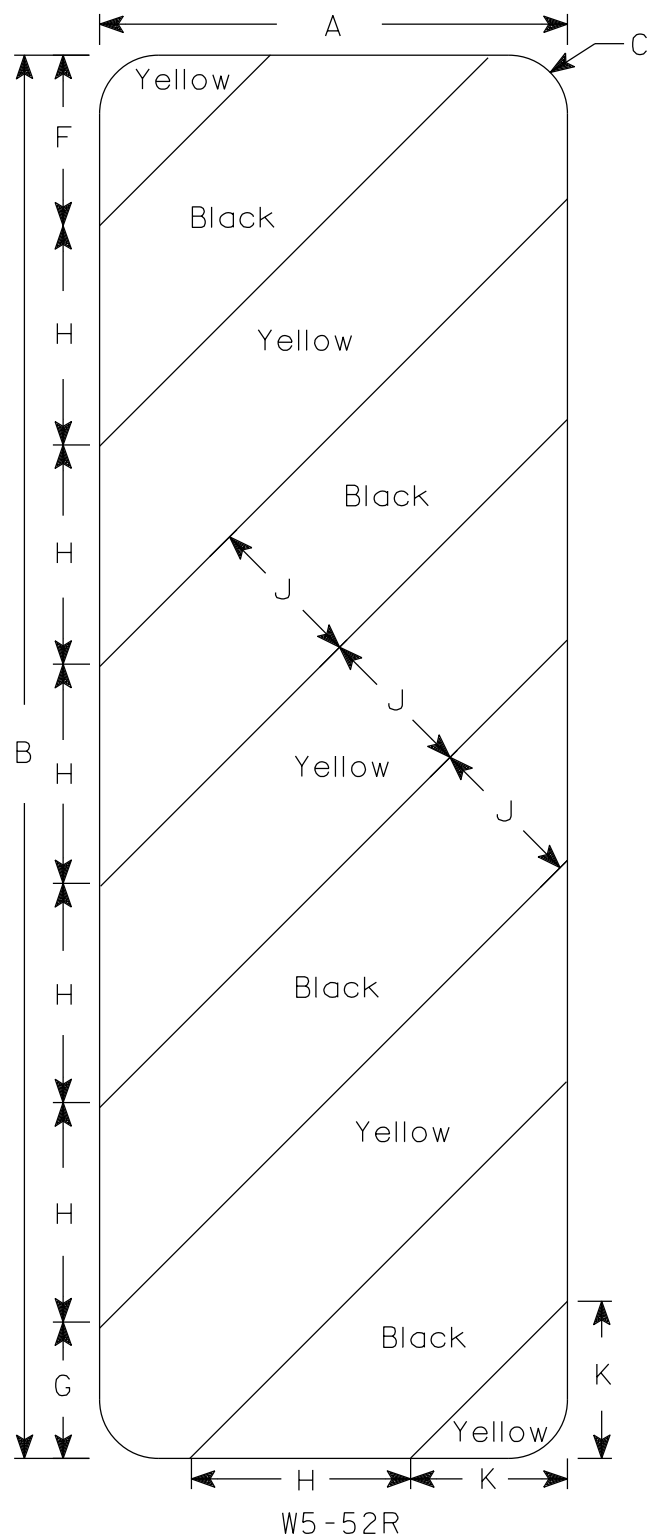
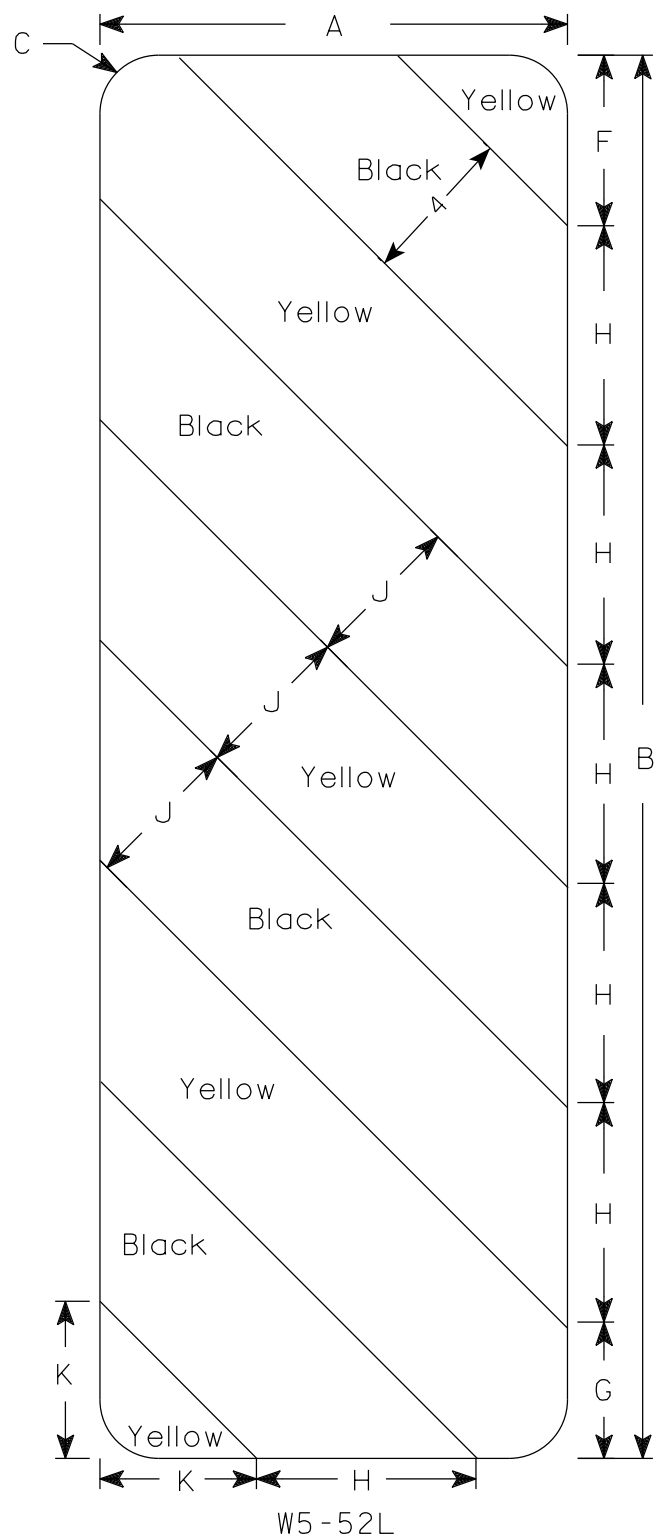
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 26

E



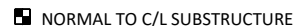
NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black
3. Alternate colors of stripes as shown.

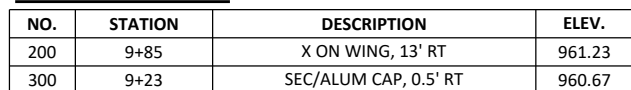
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

PROJECT NO:		HWY:		COUNTY:		SHEET NO: 27		E
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ADT = <100 (2026)
ADT = <100 (2046)
R.D.S. = 40 MPH



1. GENERAL PLAN
2. TYPICAL SECTION, QUANTITIES & NOTES
3. STRUCTURE DETAILS
4. SUBSURFACE EXPLORATION
5. SOUTH ABUTMENT
6. SOUTH ABUTMENT WING 1 DETAILS
7. SOUTH ABUTMENT WING 2 DETAILS
8. SOUTH ABUTMENT PILE LAYOUT AND BILL OF BARS
9. NORTH ABUTMENT
10. NORTH ABUTMENT WING 3 DETAILS
11. NORTH ABUTMENT WING 4 DETAILS
12. NORTH ABUTMENT PILE LAYOUT AND BILL OF BARS
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE PLAN
15. TUBULAR STEEL RAILING TYPE "M"



STRUCTURE DESIGN CONTACTS:

JOE BLUMA	715-834-3161
AARON BONK	608-261-0261

SHEET 1 OF 15
— 28

GENERAL NOTES

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

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

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 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.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-66-153 SHALL BE THE EXISTING GROUNDLINE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET
AND APPLY TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF
THE FRONT FACE OF ABUTMENTS.

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.

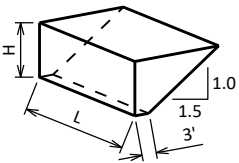
AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

EXISTING SUBSTRUCTURE LOCATIONS ARE BASED ON SURVEY. EXTENT OF BELOW GRADE SUBSTRUCTURES ARE NOT KNOWN. REMOVE EXISTING SUBSTRUCTURE AS NEEDED TO BUILD NEW SUBSTRUCTURE. COST OF SUBSTRUCTURE REMOVAL IS CONSIDERED INCIDENTAL TO "REMOVING STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS" BID ITEM.

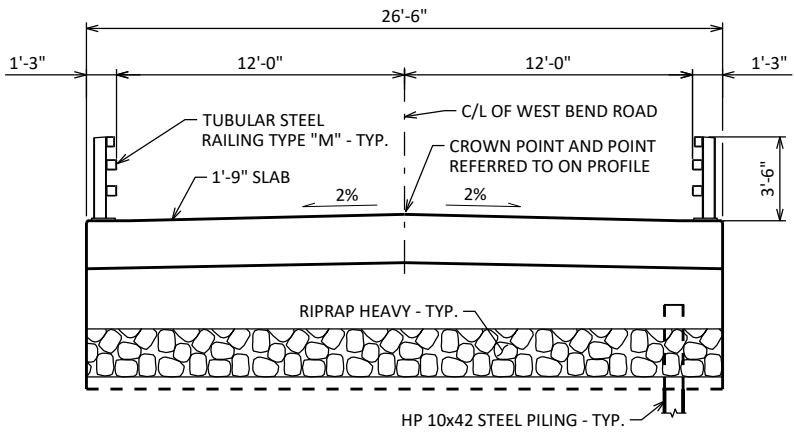
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLAN AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

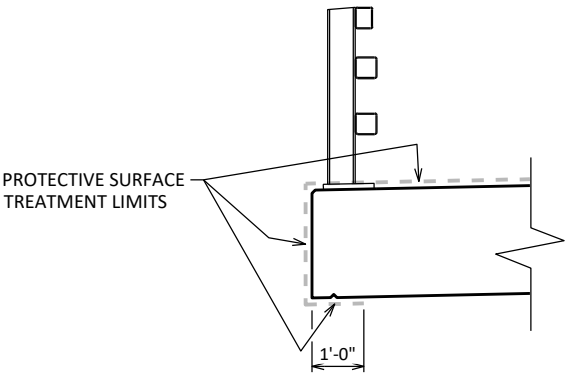
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



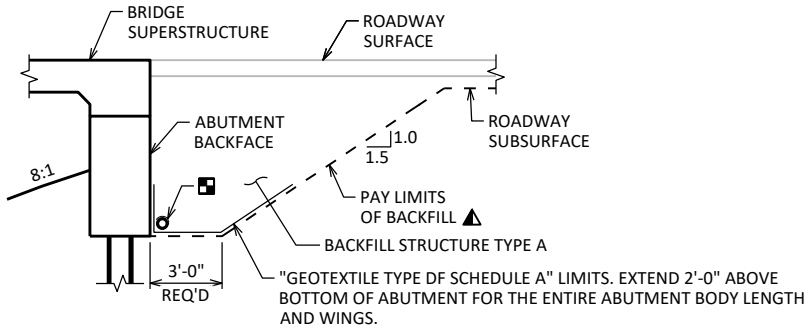
L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)
 EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND
 1.00 FOR TON BID ITEMS)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$



TYPICAL SECTION THRU BRIDGE



PROTECTIVE SURFACE TREATMENT DETAIL

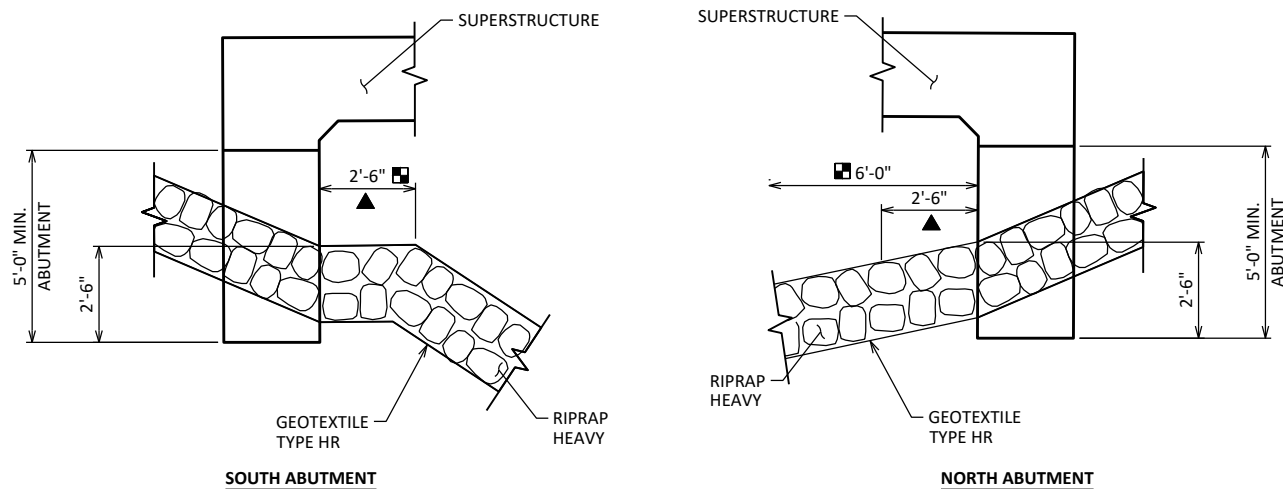


TYPICAL SECTION THRU ABUTMENT

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		DRS	PLANS CK'D ERS
TYPICAL SECTION, QUANTITIES & NOTES		SHEET 2 OF 15	
		29	

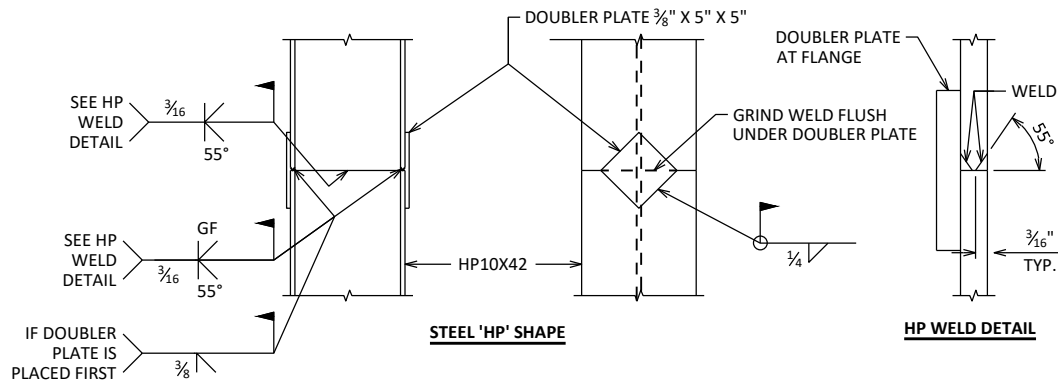
SCALE =



TRAVEL CORRIDOR DETAIL

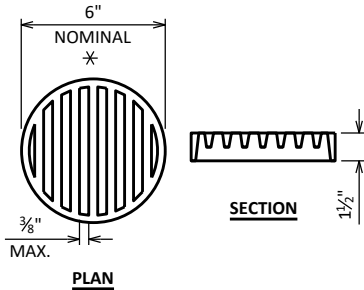
▲ FILL VOIDS IN RIPRAP HEAVY WITH TRAFFIC BOND LIMESTONE SCREENINGS 3/8-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER. PROVIDE LEVEL SURFACE OF THE ECO-PASSAGE TO THE EDGES OF THE RIPRAP HEAVY SHALL BE GRADUAL WITH NO MORE THAN 2:1 SLOPE. TRAFFIC BOND LIMESTONE SHALL BE COMPACTED ONCE IN PLACE. "SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR"

■ NORMAL TO C/L SUBSTRUCTURE



'HP' PILE DETAILS

FLANGE SHOWN, WEB SIMILAR



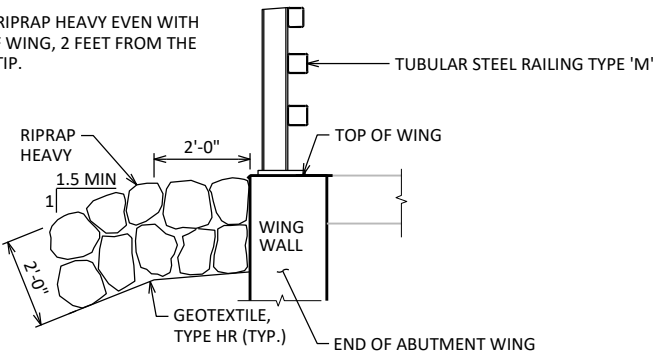
RODENT SHIELD DETAIL

✱ 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.

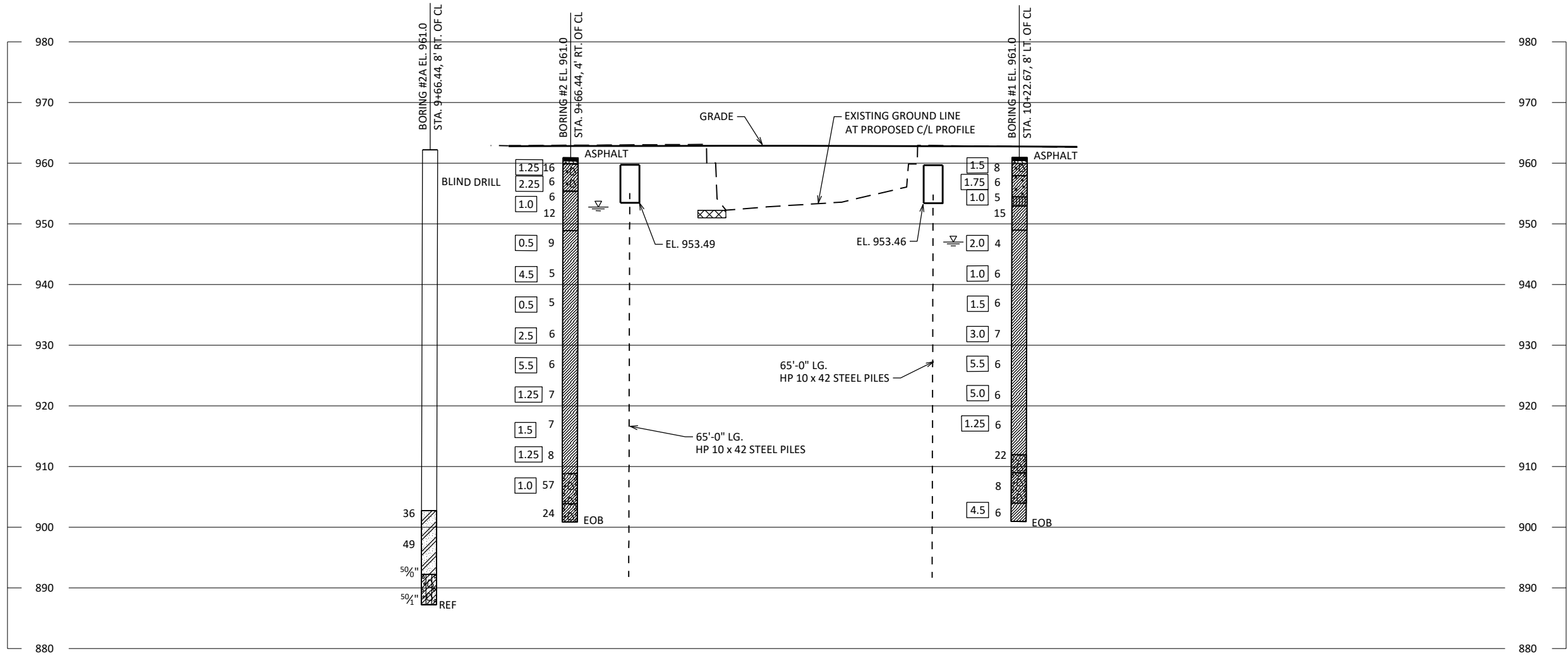
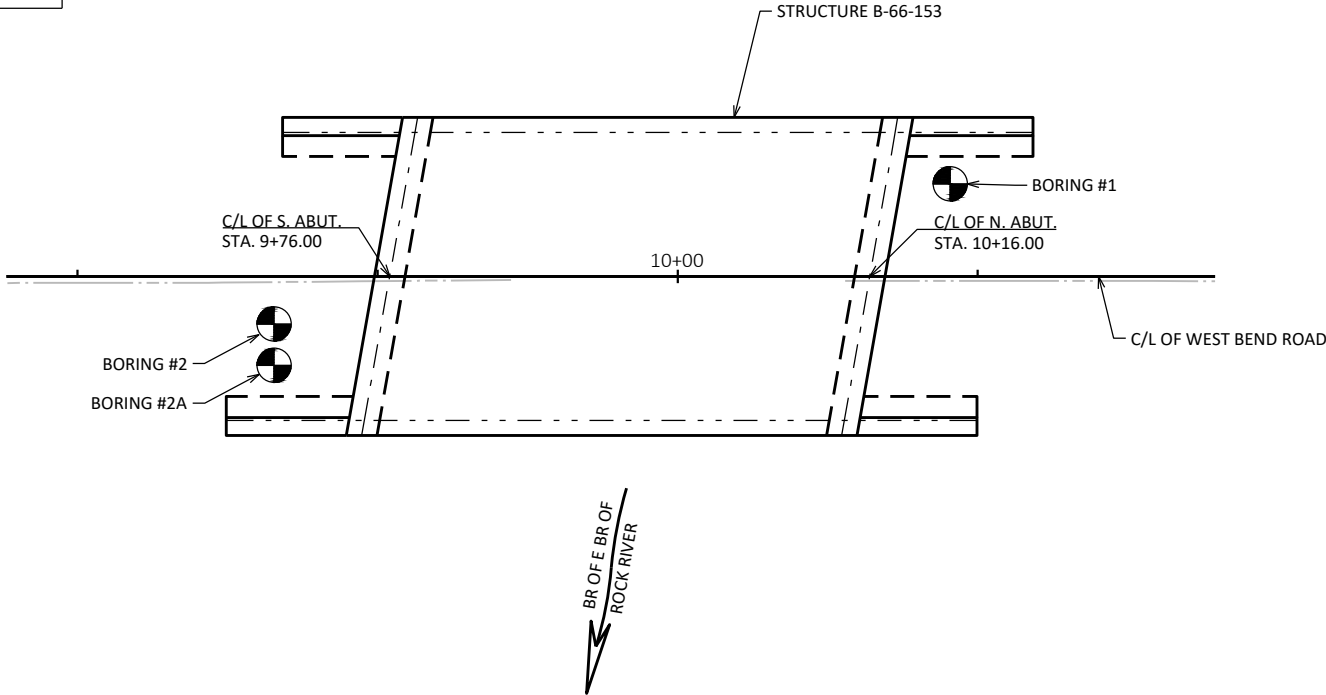
NOTES:
PLACE RIPRAP HEAVY AS SHOWN ON GENERAL PLAN SHEET.
PLACE RIPRAP HEAVY EVEN WITH TOP OF WING, 2 FEET FROM THE WING TIP.



TYPICAL FILL SECTION AT WING TIPS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		DRS	PLANS CK'D ERS
STRUCTURE DETAILS		SHEET 3 OF 15 30	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	JANUARY 6, 2025	199297.510	304582.643
2	JANUARY 8, 2025	199241.110	304586.721
2A	FEBRUARY 3, 2025	199241.031	304597.439
BORINGS COMPLETED BY: DRILL POINT, INC.			
REPORT COMPLETED BY: ECS MIDWEST, LLC			
ALL COORDINATES REFERENCED TO NAVD 88(2012) WASHINGTON COUNTY			



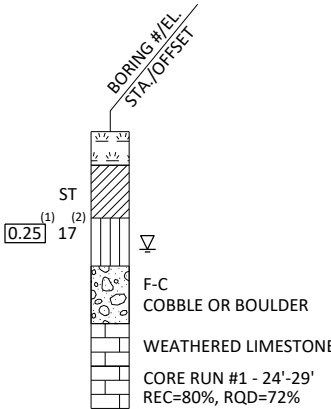
STATE PROJECT NUMBER

4823-07-71

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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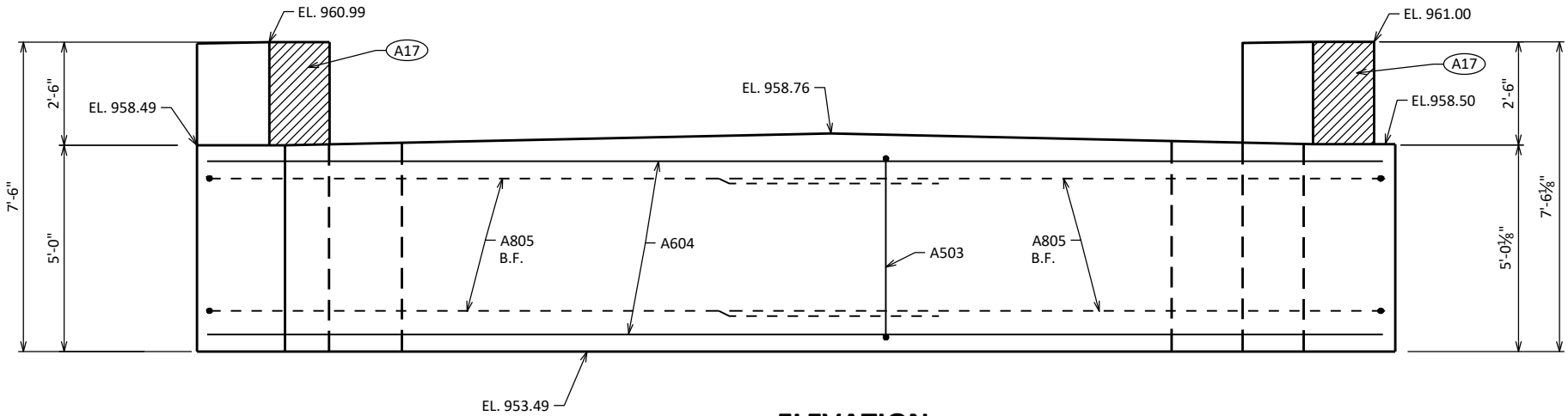
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-66-153

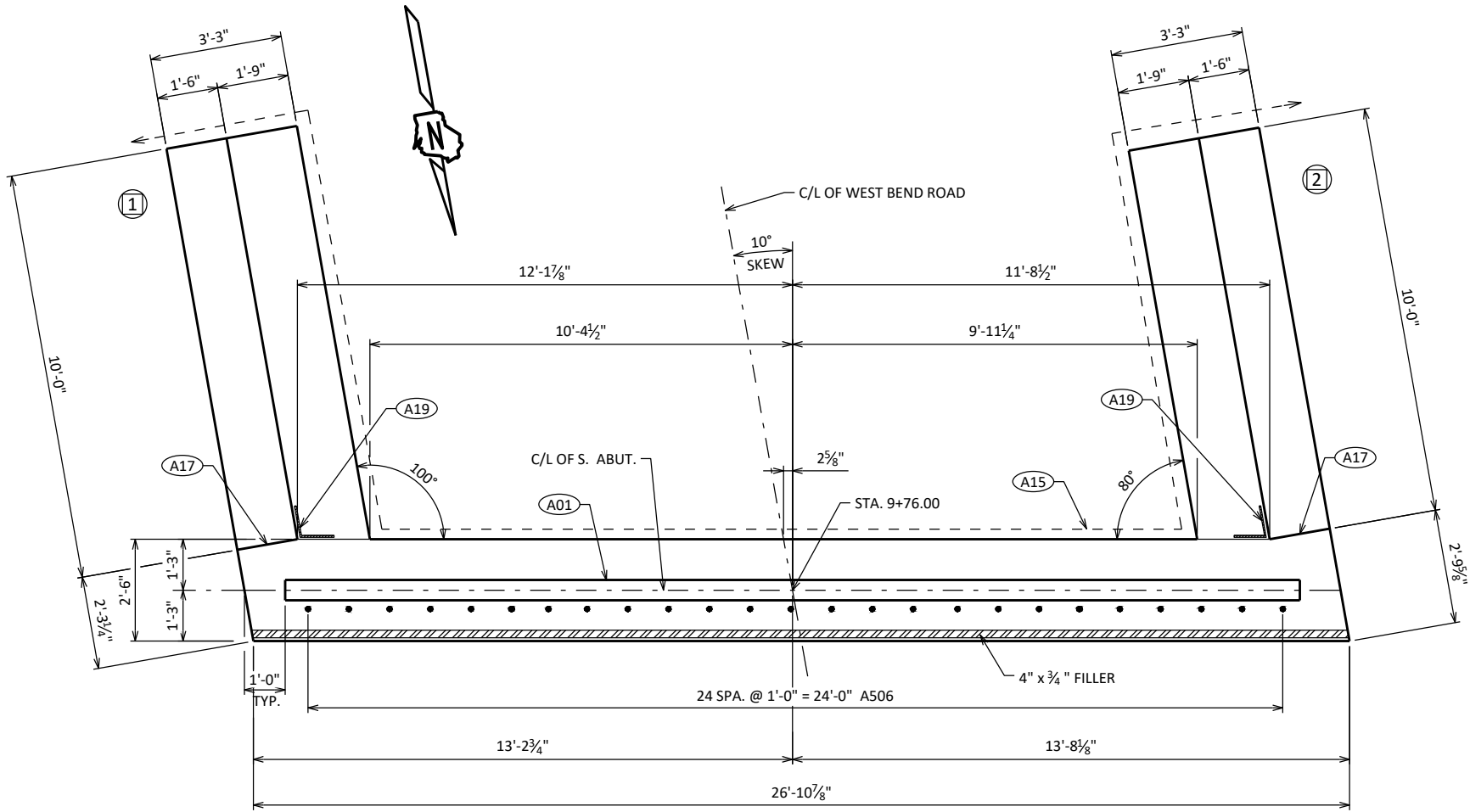
DRAWN BY	DRS	PLANS CK'D	ERS
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SUBSURFACE
EXPLORATION

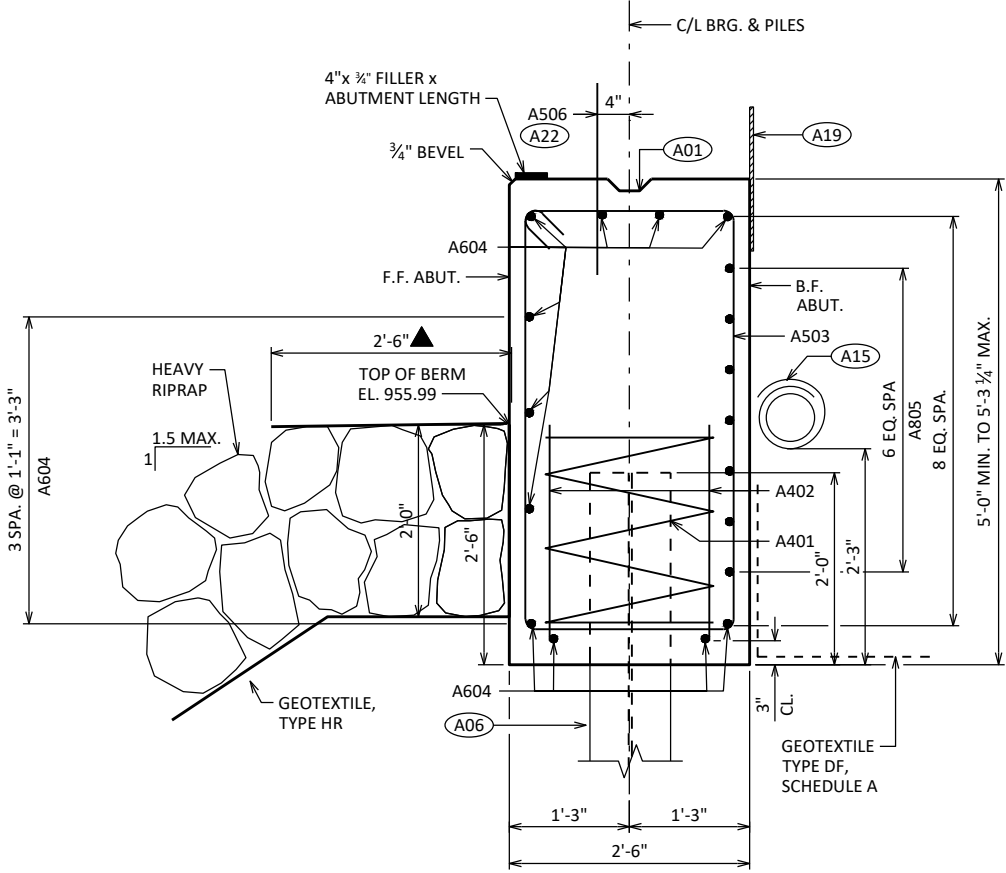
SHEET 4 OF 15
31



ELEVATION
(LOOKING SOUTH)



PLAN



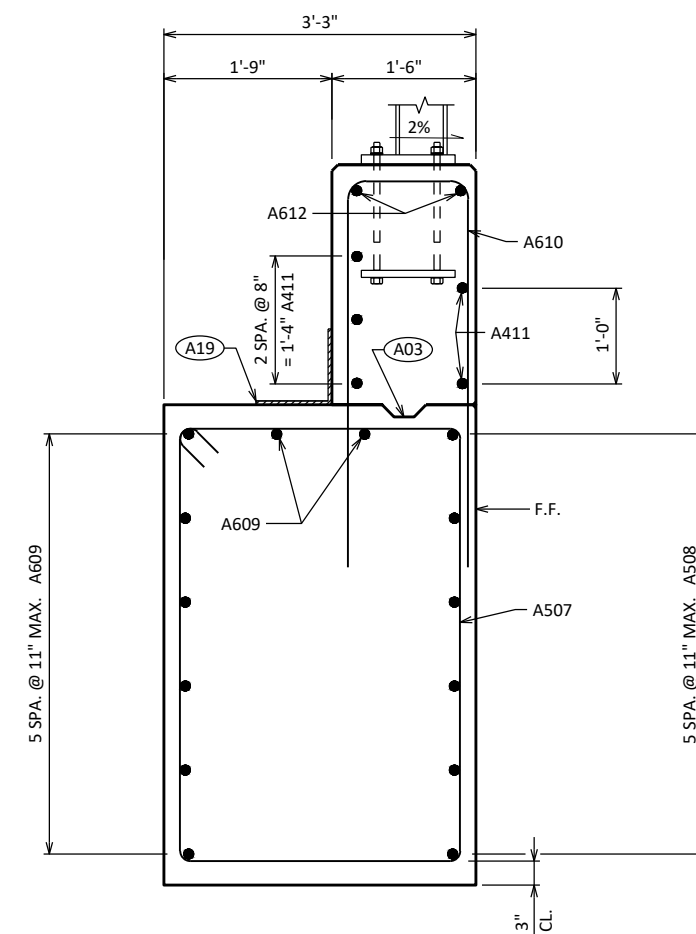
SECTION THRU BODY

▲ TRAVEL CORRIDOR

- A01** CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- A06** SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 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 1/8" 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.
- A22** BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
SOUTH ABUTMENT		SHEET 5 OF 15 32	

SCALE =

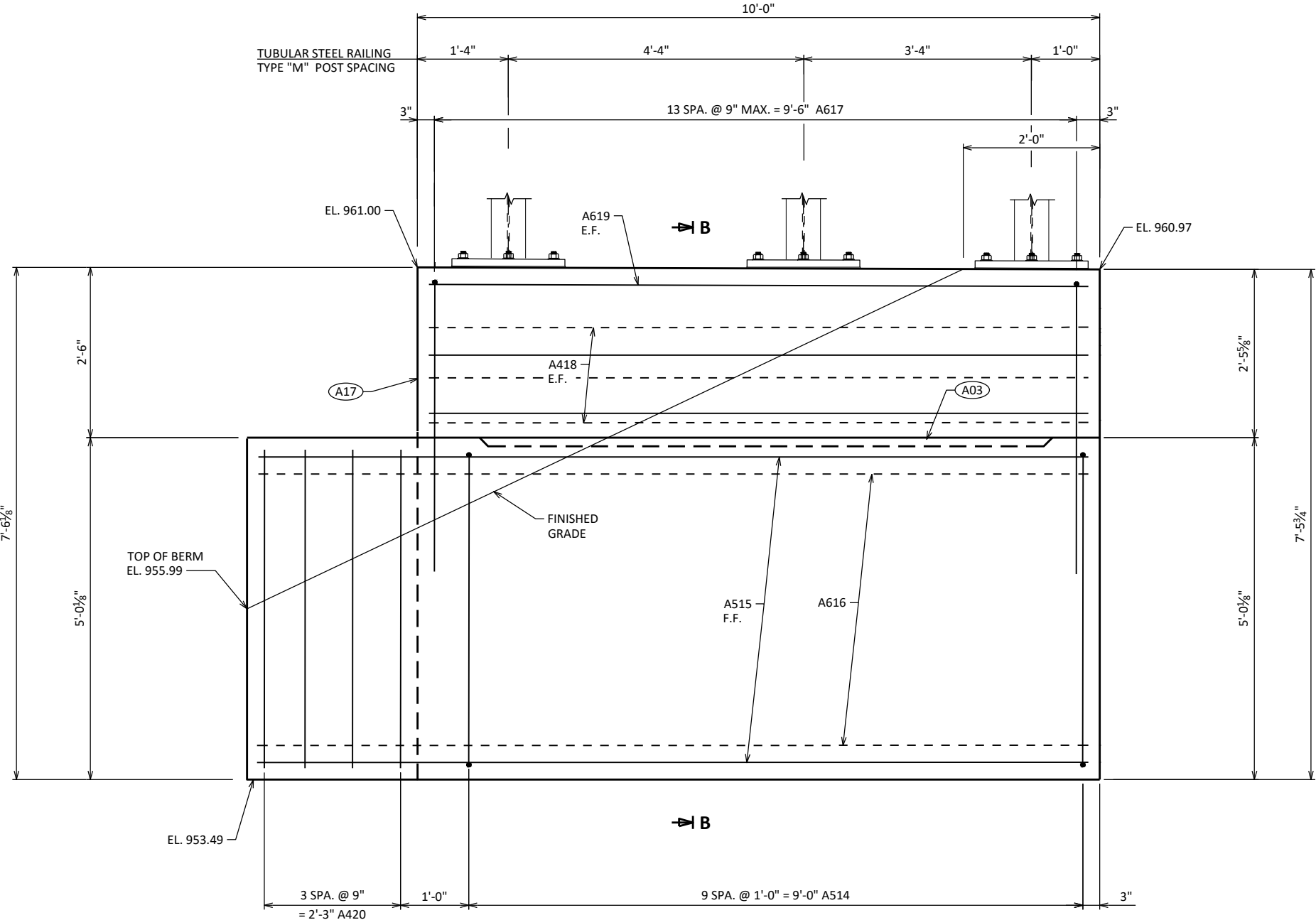


SECTION A

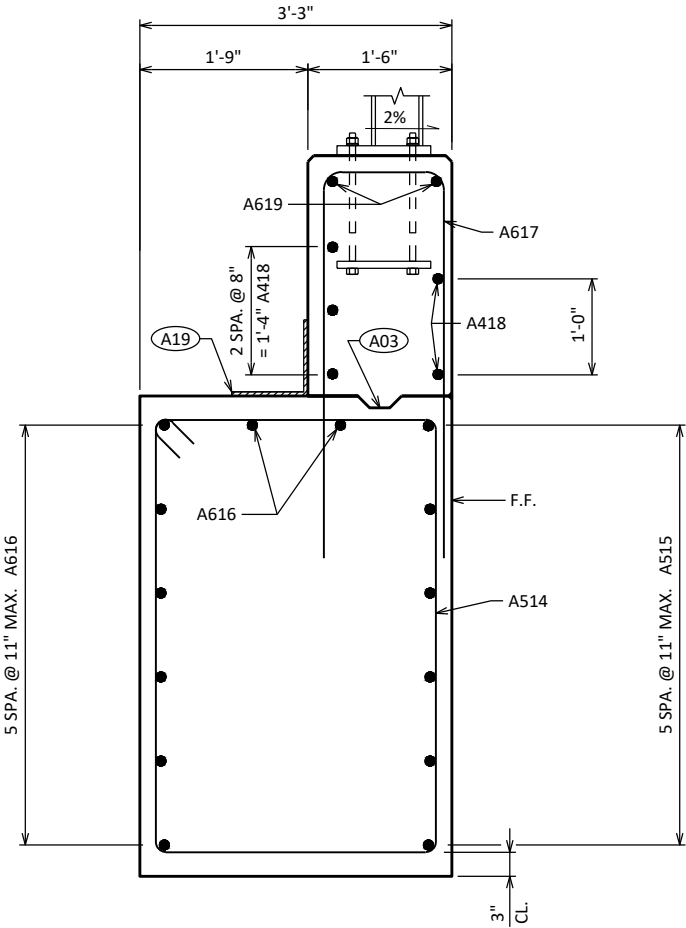
- A03** OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).
- A17** ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ½" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- A19** 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-66-153	
	DRAWN BY	CLP	PLANS CK'D ERS
SOUTH ABUTMENT WING 1 DETAILS		SHEET 6 OF 15 33	

SCALE -



ELEVATION - WING 2



SECTION B

- 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).
- 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 1/8" 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
SOUTH ABUTMENT WING 2 DETAILS		SHEET 7 OF 15 34	

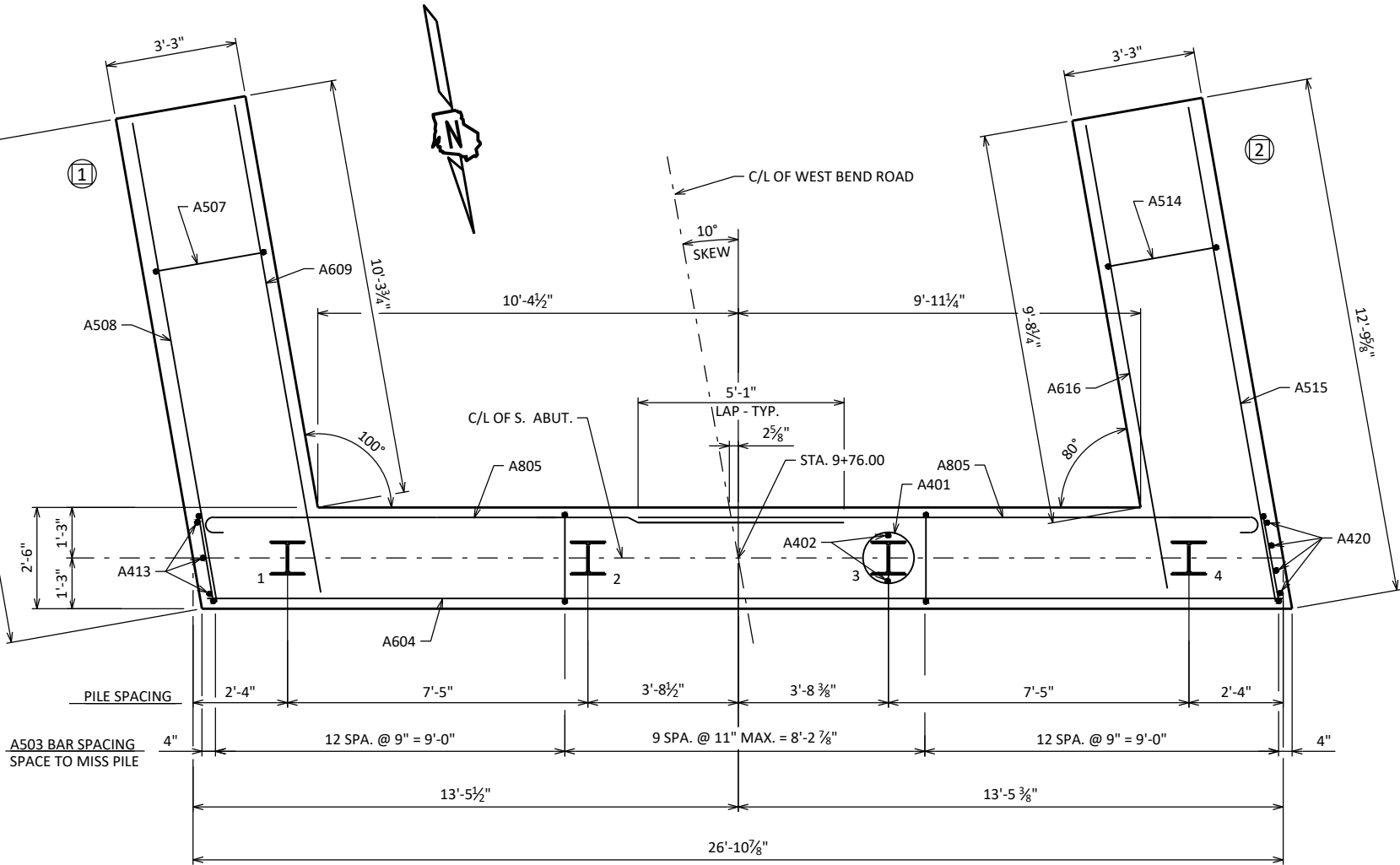
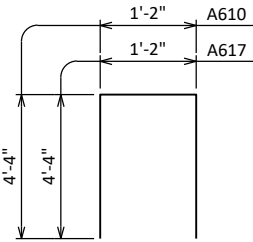
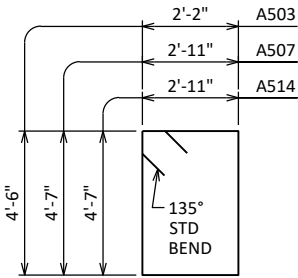
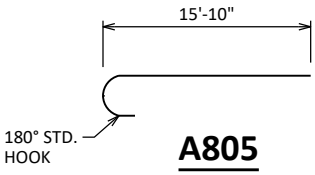
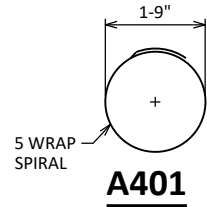
SCALE =

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		4	28'-0"	X		BODY @ PILES
A402		8	2'-3"			BODY @ PILES
A503		34	14'-0"	X		BODY VERT.
A604		11	26'-6"			BODY HORIZ.
A805		14	16'-9"	X		BODY HORIZ. @ WINGS 1 & 2 B.F.
A506	X	25	2'-0"			BODY DOWELS
A507	X	10	15'-8"	X		WING 1 VERT.
A508	X	6	11'-11"			WING 1 HORIZ. F.F.
A609	X	8	12'-2"			WING 1 HORIZ. B.F. & TOP
A610	X	14	9'-6"	X		WING 1 VERT.
A411	X	5	9'-7"			WING 1 HORIZ. E.F.
A612	X	2	9'-7"			WING 1 HORIZ. E.F. TOP
A413	X	3	4'-7"			BODY VERT. END @ WING 1
A514	X	10	15'-8"	X		WING 2 VERT.
A515	X	6	12'-5"			WING 2 HORIZ. F.F.
A616	X	8	11'-7"			WING 2 HORIZ. B.F. & TOP
A617	X	14	9'-6"	X		WING 2 VERT.
A418	X	5	9'-7"			WING 2 HORIZ. E.F.
A619	X	2	9'-7"			WING 2 HORIZ. E.F. TOP
A420	X	4	4'-7"			BODY VERT. END @ WING 2

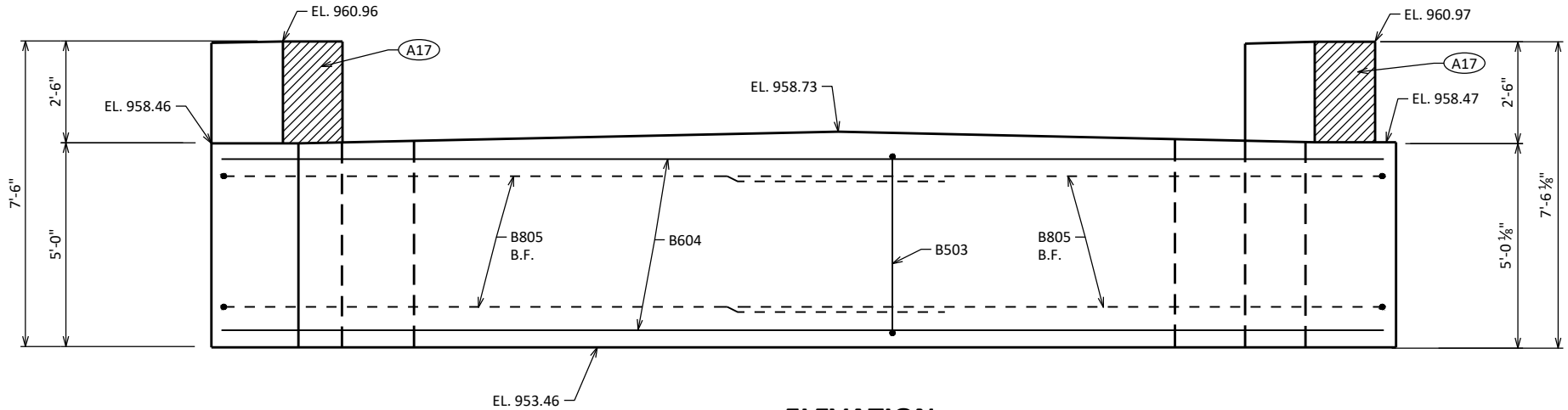
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



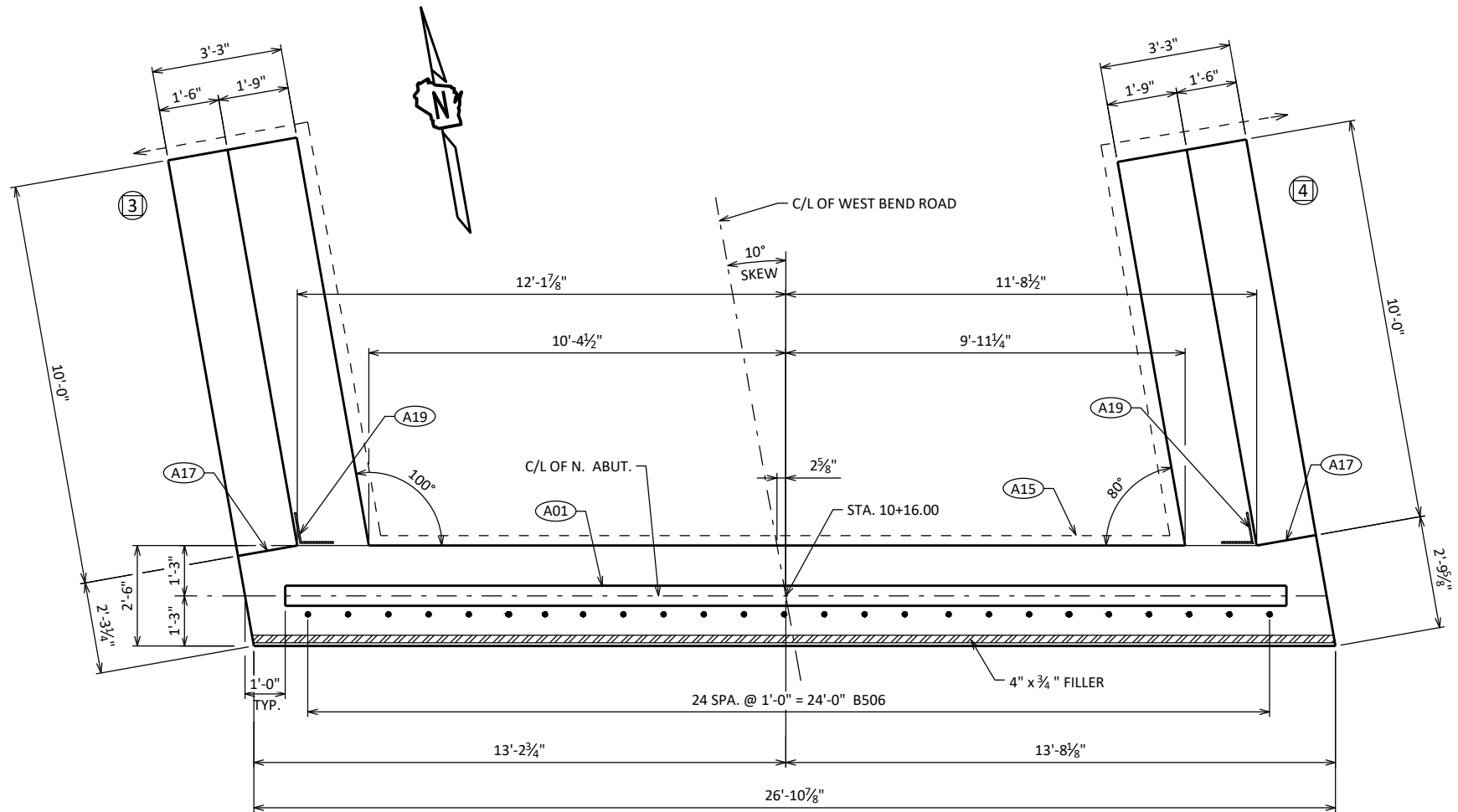
PILE LAYOUT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
SOUTH ABUTMENT PILE LAYOUT AND BILL OF BARS		SHEET 8 OF 15 35	

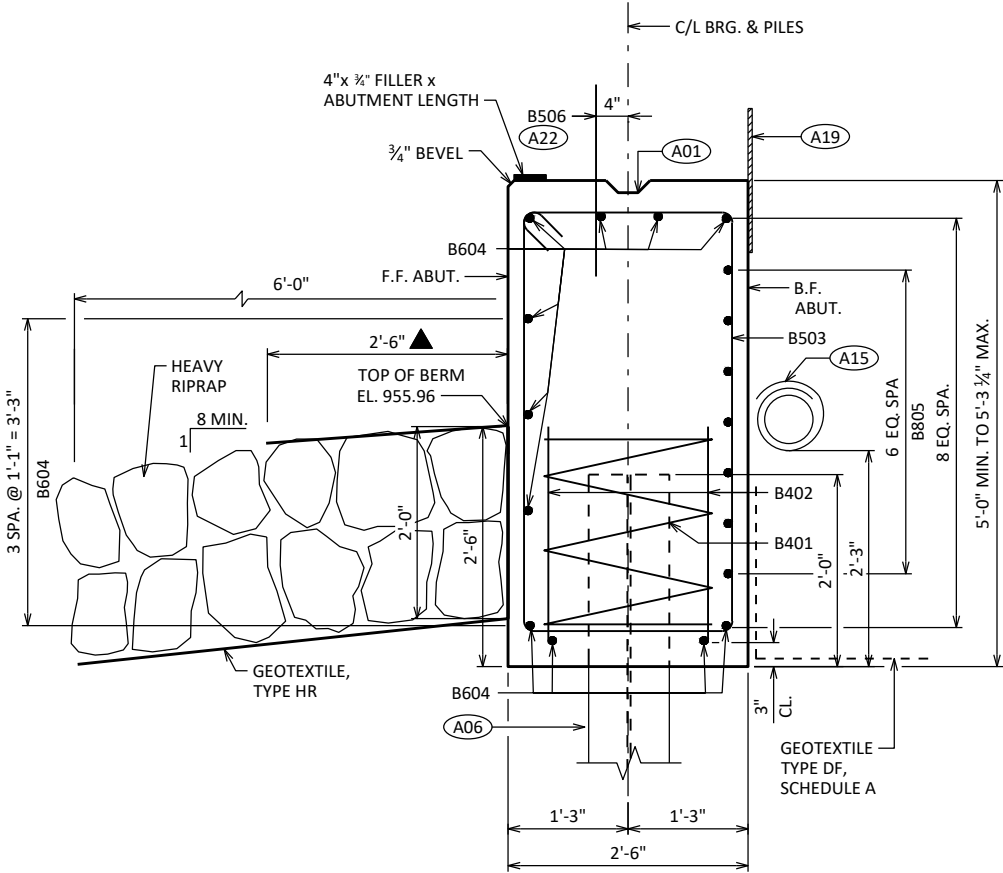
SCALE =



ELEVATION
(LOOKING NORTH)



PLAN



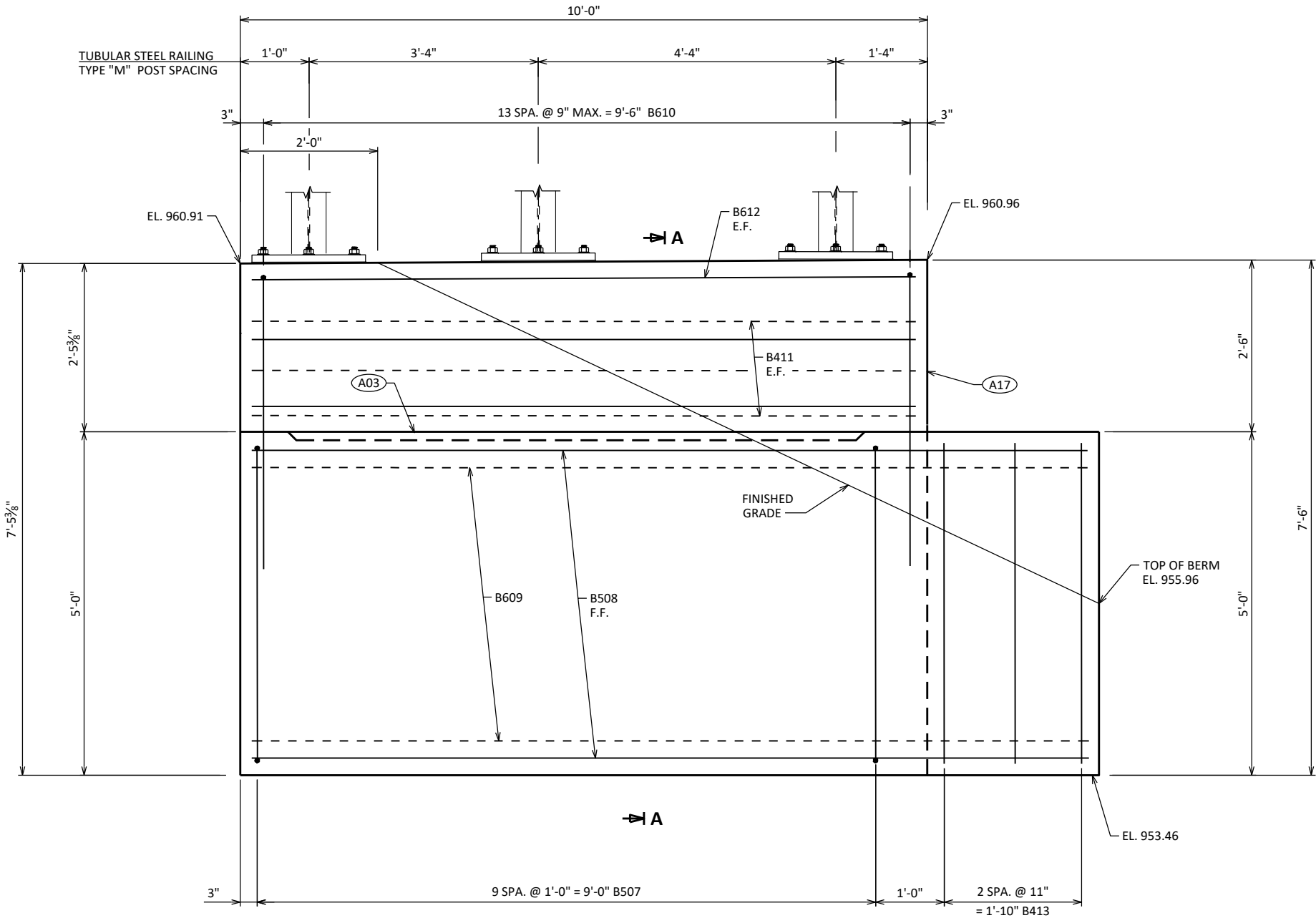
SECTION THRU BODY

▲ TRAVEL CORRIDOR

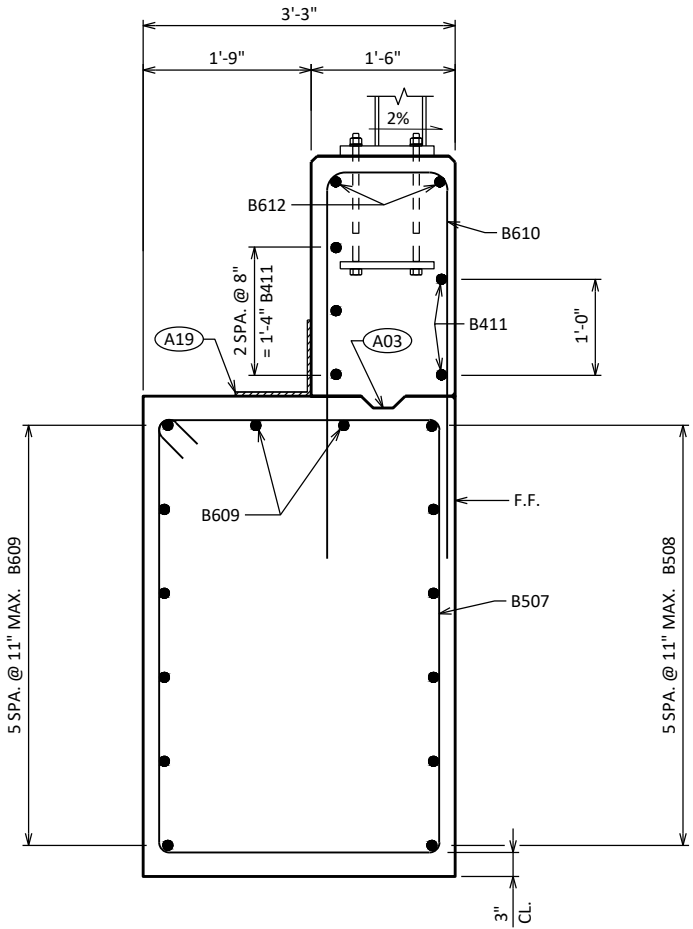
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 65'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 150 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" 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.
- (A22) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
NORTH ABUTMENT		SHEET 9 OF 15 36	

SCALE =



ELEVATION - WING 3

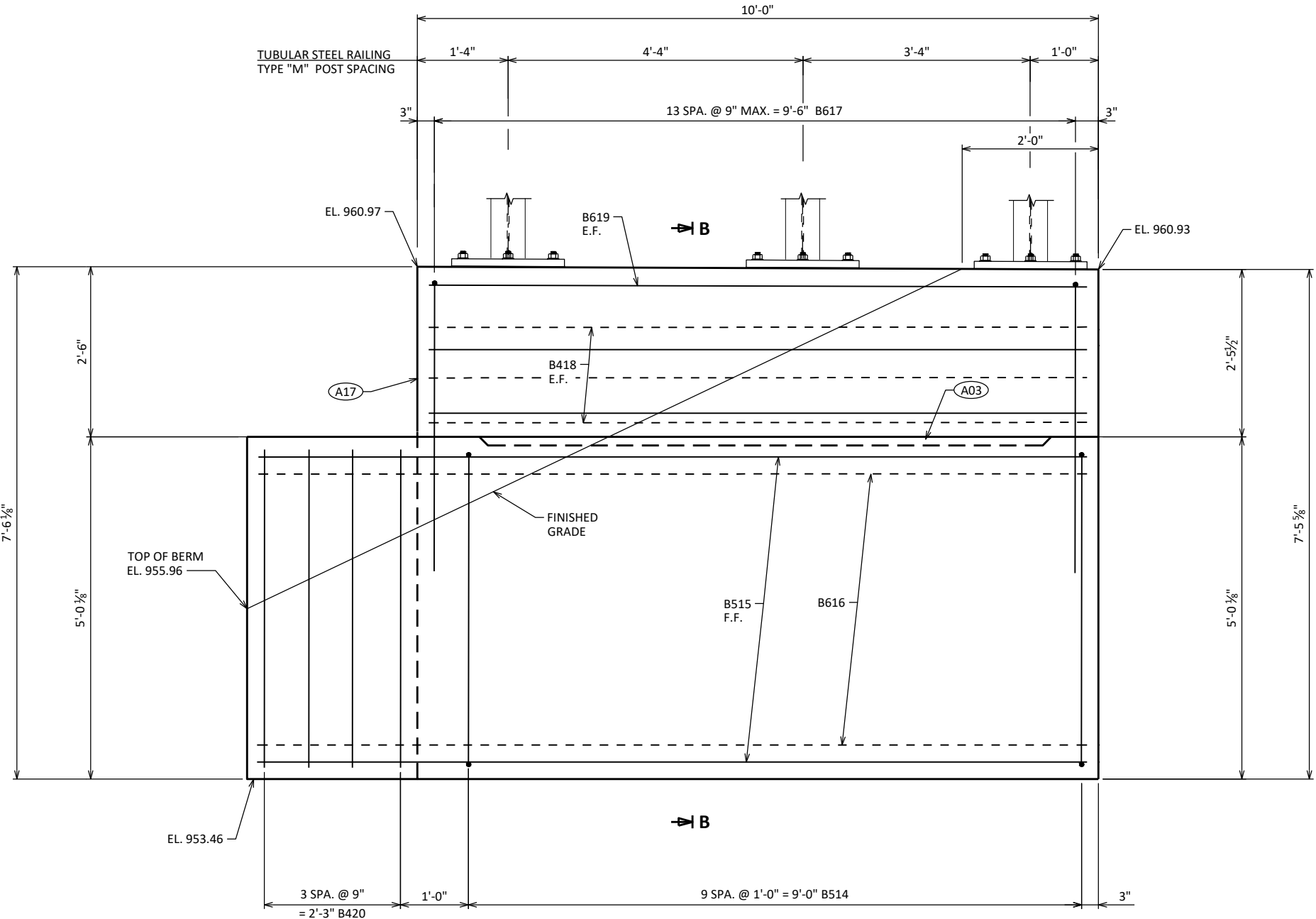


SECTION A

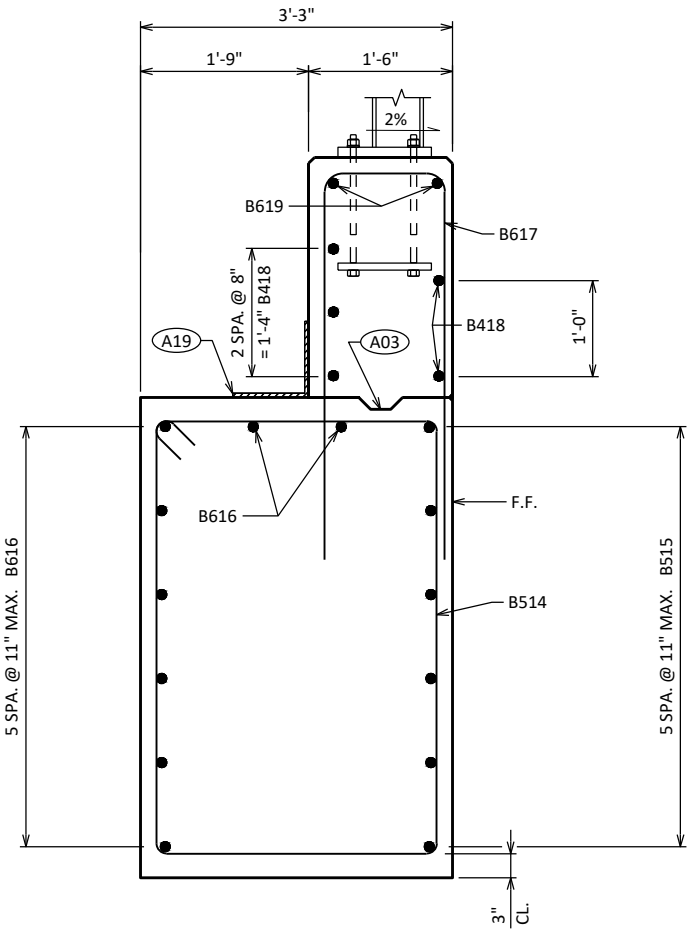
- (A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
NORTH ABUTMENT WING 3 DETAILS		SHEET 10 OF 15 37	

SCALE =



ELEVATION - WING 4



SECTION B

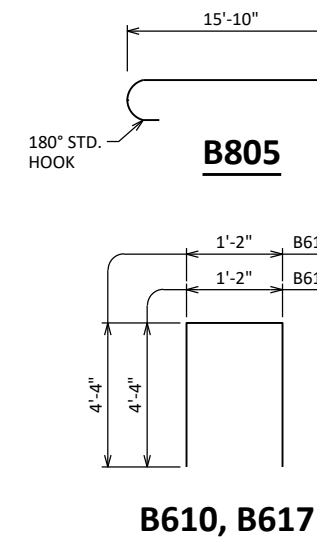
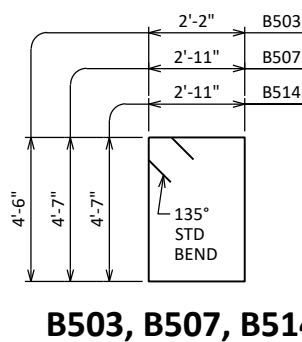
- A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).
- A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW 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.

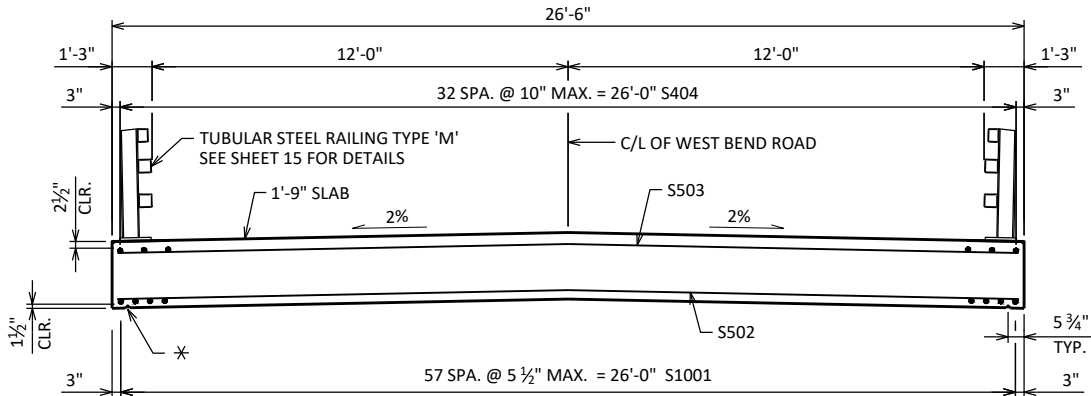
NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE B-66-153				
		DRAWN BY	CLP	PLANS CK'D ERS
NORTH ABUTMENT WING 4 DETAILS			SHEET 11 OF 15	
			38	

SCALE =

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

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

SCALE =



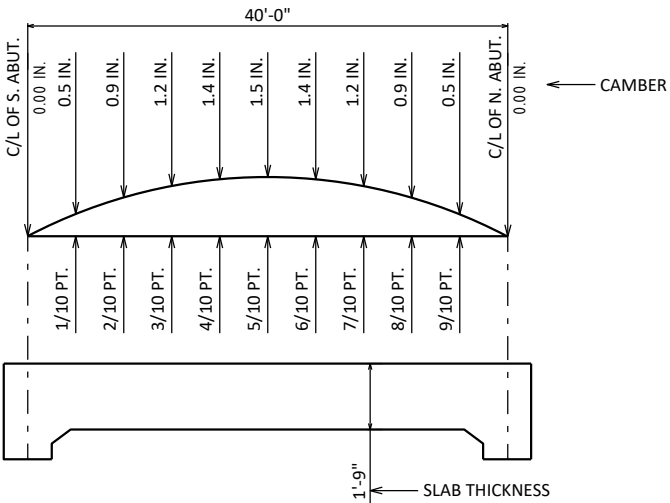
TYPICAL SECTION THRU BRIDGE

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 (+).

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

V-GROOVES ARE REQUIRED.



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

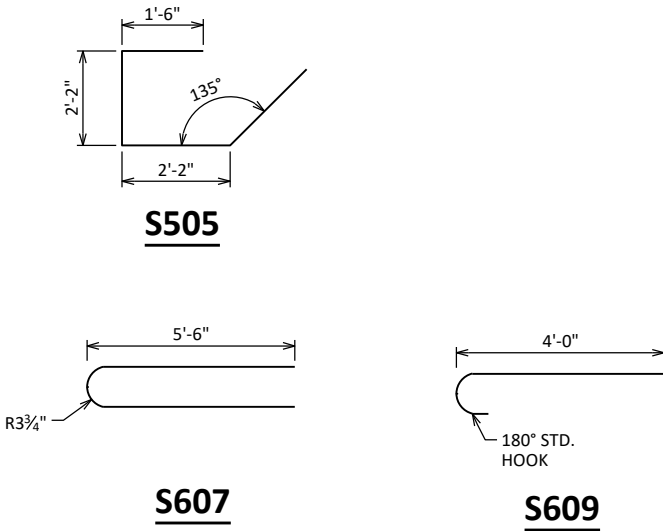
LOCATION	C/L S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L N. ABUT.
W. EDGE OF SLAB	961.00	961.01	961.01	961.01	961.01	961.01	961.00	960.99	960.98	960.97	960.96
C/L OF WEST BEND ROAD	961.26	961.27	961.27	961.28	961.28	961.27	961.27	961.26	961.25	961.24	961.23
E. EDGE OF SLAB	960.99	961.00	961.01	961.01	961.01	961.01	961.01	961.00	961.00	960.99	960.97

BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1001	x	58	37'-0"			SLAB LONG. BOT.
S502	x	64	26'-6"			SLAB TRANS. BOT.
S503	x	43	26'-6"			SLAB TRANS. TOP
S404	x	33	42'-2"			SLAB LONG. TOP
S505	x	54	7'-9"	X		SLAB @ ABUT. DIAPHRAGM STIRRUPS
S506	x	4	26'-6"			SLAB @ ABUT. DIAPHRAGM TRANS.
S607	x	32	12'-0"	X		SLAB @ RAIL POSTS
S608	x	48	6'-0"			SLAB @ INT. RAIL POSTS
S609	x	16	4'-8"	X		SLAB @ END RAIL POSTS

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



SURVEY TOP OF SLAB ELEVATIONS

	ABUTMENT	5/10 PT.	ABUTMENT
W. EDGE OF SLAB			
C/L OF WEST BEND ROAD			
E. 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
SUPERSTRUCTURE		SHEET 13 OF 15 40	

SCALE =



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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
	DRAWN BY	CLP	PLANS CK'D ERS
SUPERSTRUCTURE PLAN		SHEET 14 OF 15 41	

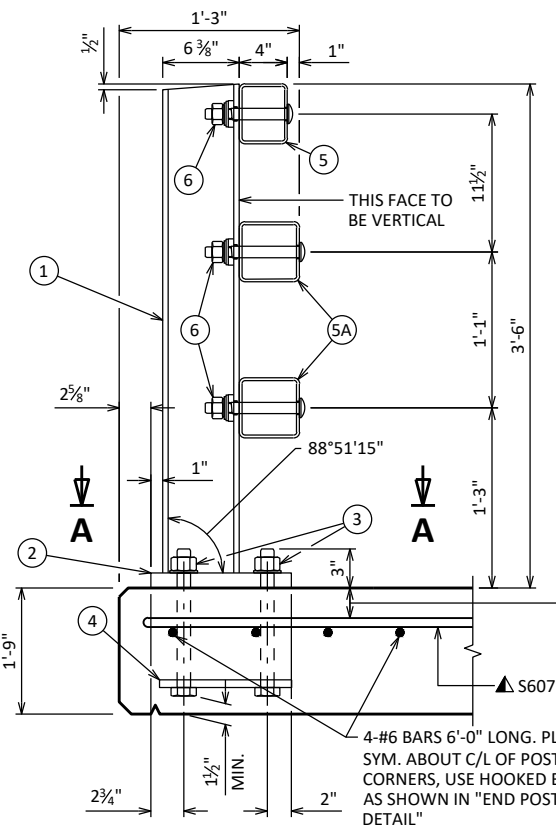
SCALE =

LEGEND

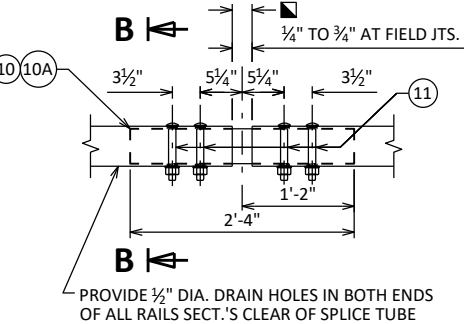
- ① W6 X 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE 1 1/4" X 11 3/4" X 1'-8" WITH 1 1/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.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

GENERAL NOTES

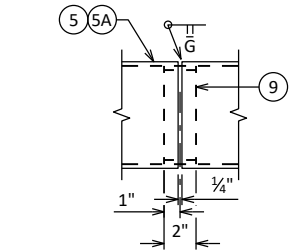
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES,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



SECTION THRU RAILING ON DECK



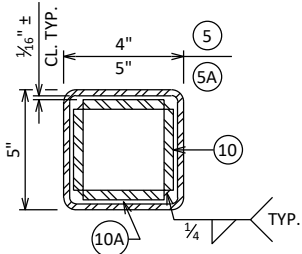
FIELD ERECTION JOINT DETAIL



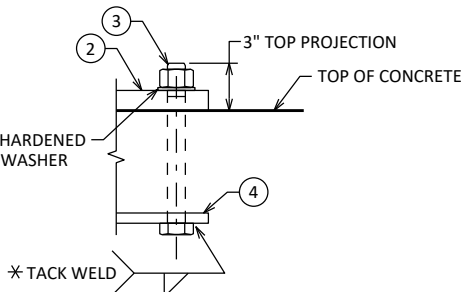
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

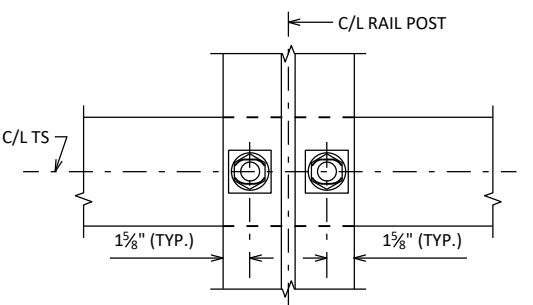
PLACE BELOW TOP MAT SLAB REINFORCEMENT



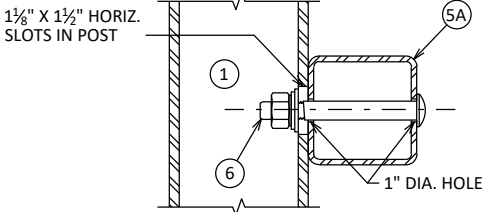
SECTION B-B



ANCHOR BOLTS

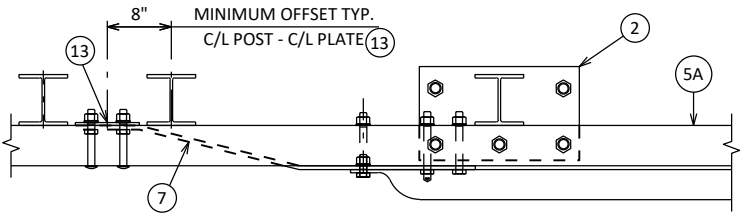


SECTION THRU POST WEB



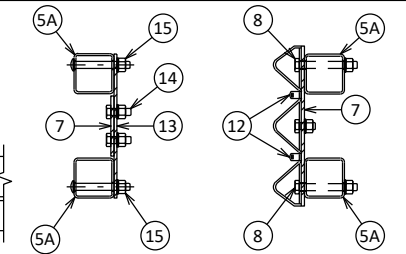
SECTION THRU RAIL
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

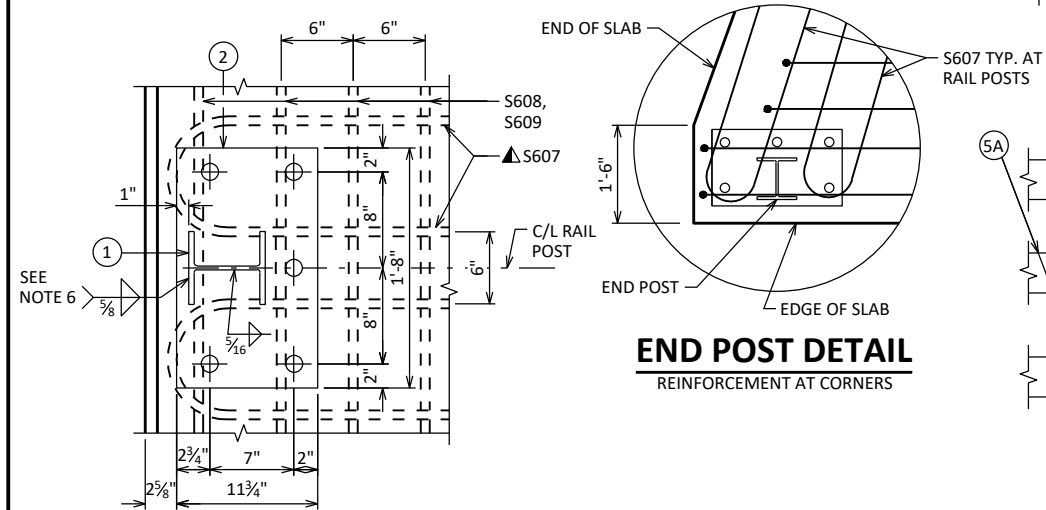


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

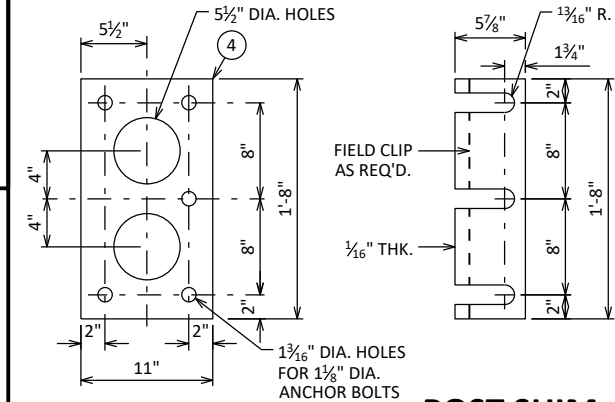


SECTION C-C SECTION D-D



END POST DETAIL

REINFORCEMENT AT CORNERS

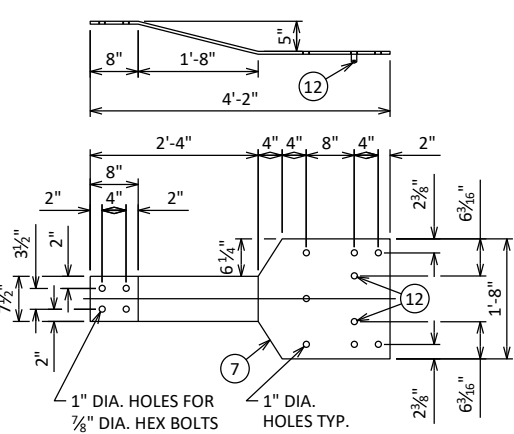


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

POST SHIM

DETAIL

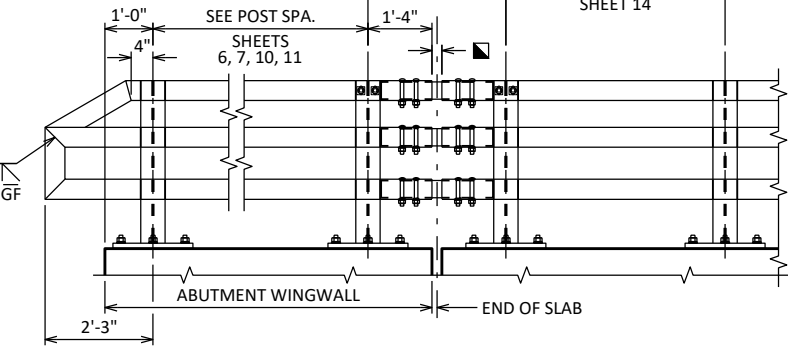


BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT

DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



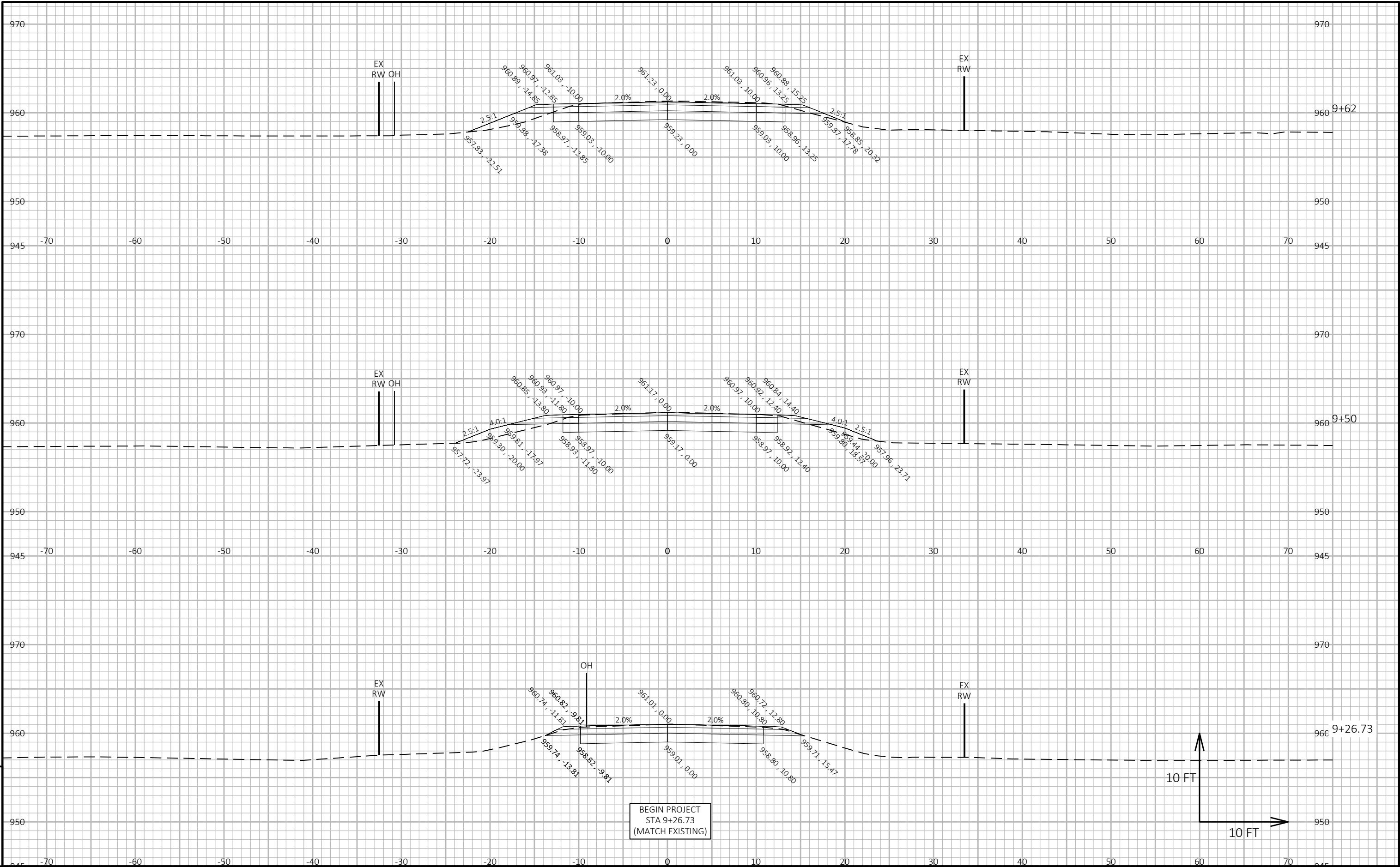
PART ELEVATION OF RAILING

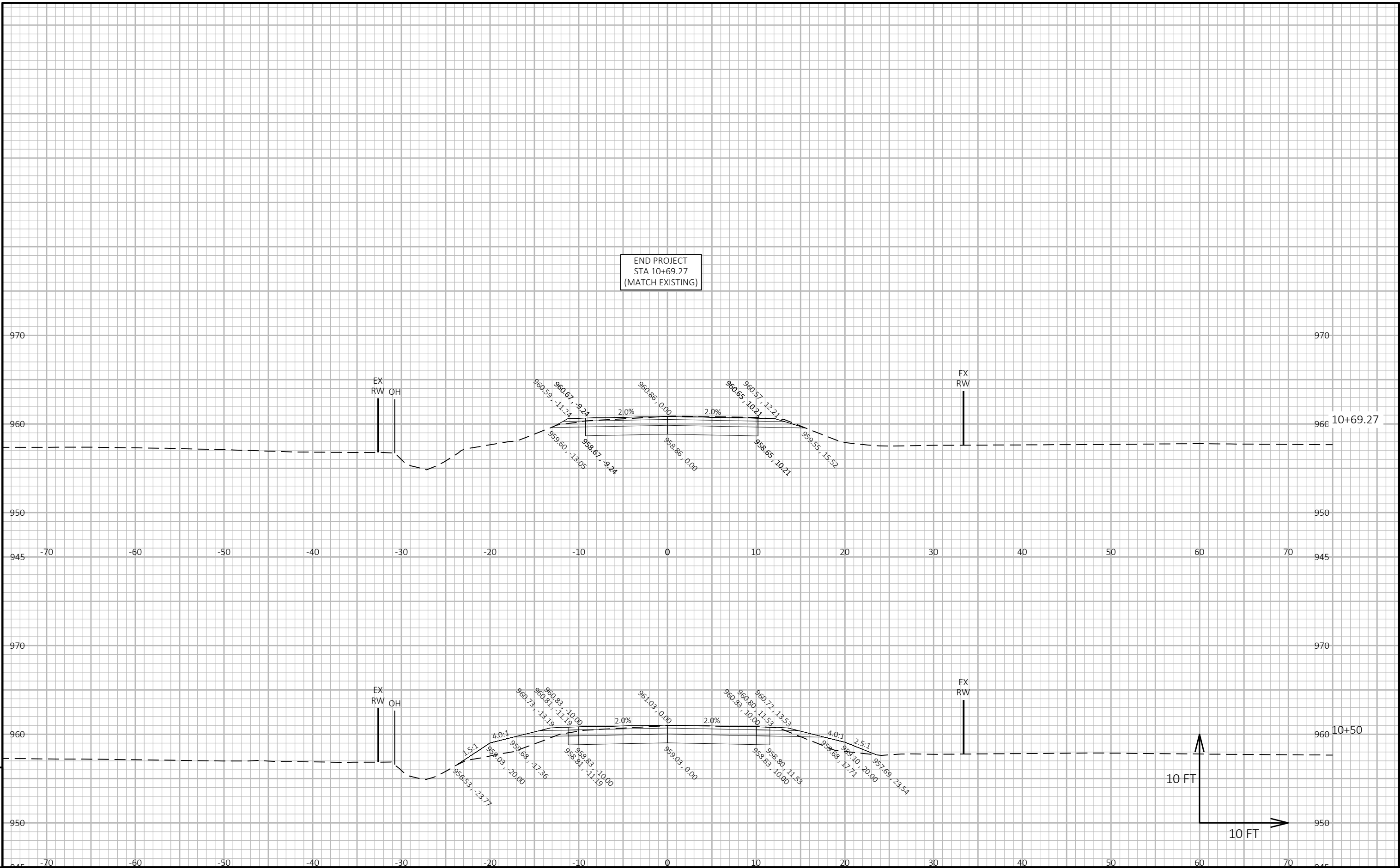
- ▲ TIE TO TOP MAT OF STEEL.
- * ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.
- 1/4" TO 3/4" OPENING FOR A1 ABUTMENT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-66-153			
DRAWN BY		CLP	PLANS CK'D ERS
TUBULAR STEEL RAILING TYPE "M"		SHEET 15 OF 15 42	

WEST BEND ROAD COMPUTER EARTHWORK											
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)			
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	SALVAGED / UNUSABLE	MASS ORDINATE
NOTE 1	NOTE 2	NOTE 3	NOTE 1	NOTE 3	NOTE 2	NOTE 8					
9+26.74	-	44.88	9.75	0.00	0	0	0	0	0	0	0
9+50	23.26	49.91	9.75	10.46	41	8	5	41	7	8	27
9+62.39	35.65	53.72	9.75	6.95	68	13	11	109	21	21	67
9+67.07	40.33	54.22	9.75	6.74	81	15	10	190	34	36	120
9+74.73	47.99	54.22	9.75	0.00	96	17	6	286	42	53	191
NEW BRIDGE	-	-	-	-	-	-	-	-	-	-	-
10+17.27	-	49.97	9.75	0.00	-	-	-	-	-	-	-
10+24.93	7.66	49.97	9.75	1.95	14	3	0	300	42	56	202
10+30.29	5.36	49.35	9.75	10.17	10	2	1	310	43	58	209
10+50	19.71	44.94	9.75	16.03	34	7	10	344	56	65	223
10+69.27	19.27	43.60	9.75	0.00	32	7	6	376	64	72	240
					376	72	49				

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	EXISTING CONCRETE AND ASPHALT PAVEMENT. NOT TO BE USED OUTSIDE THE 1:1 ROAD CORE.
3 - EXPANDED FILL	VOLUME NEEDED TO BE FILLED = FILL *1.30
8 - MASS ORDINATE	(CUT) - (EXPANDED FILL)





Notes



Wisconsin Department of Transportation

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<http://www.dot.wisconsin.gov>