

RHI
PROJECT ID:
WITH: N/A

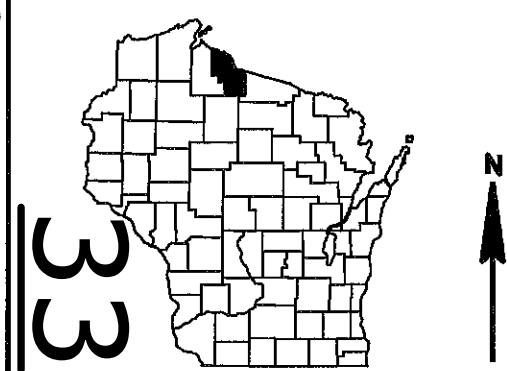
9826-00-70

COUNTY: IRON

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 = 56



DESIGN DESIGNATION 9826-00-00

A.A.D.T. (2026)	=	<100
A.A.D.T. (2046)	=	<100
D.H.V.	=	10
D.D.	=	50/50
T.	=	5%
DESIGN SPEED	=	15 MPH
ESALS	=	36,500

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 KIMBALL, TOWN PARK DRIVE

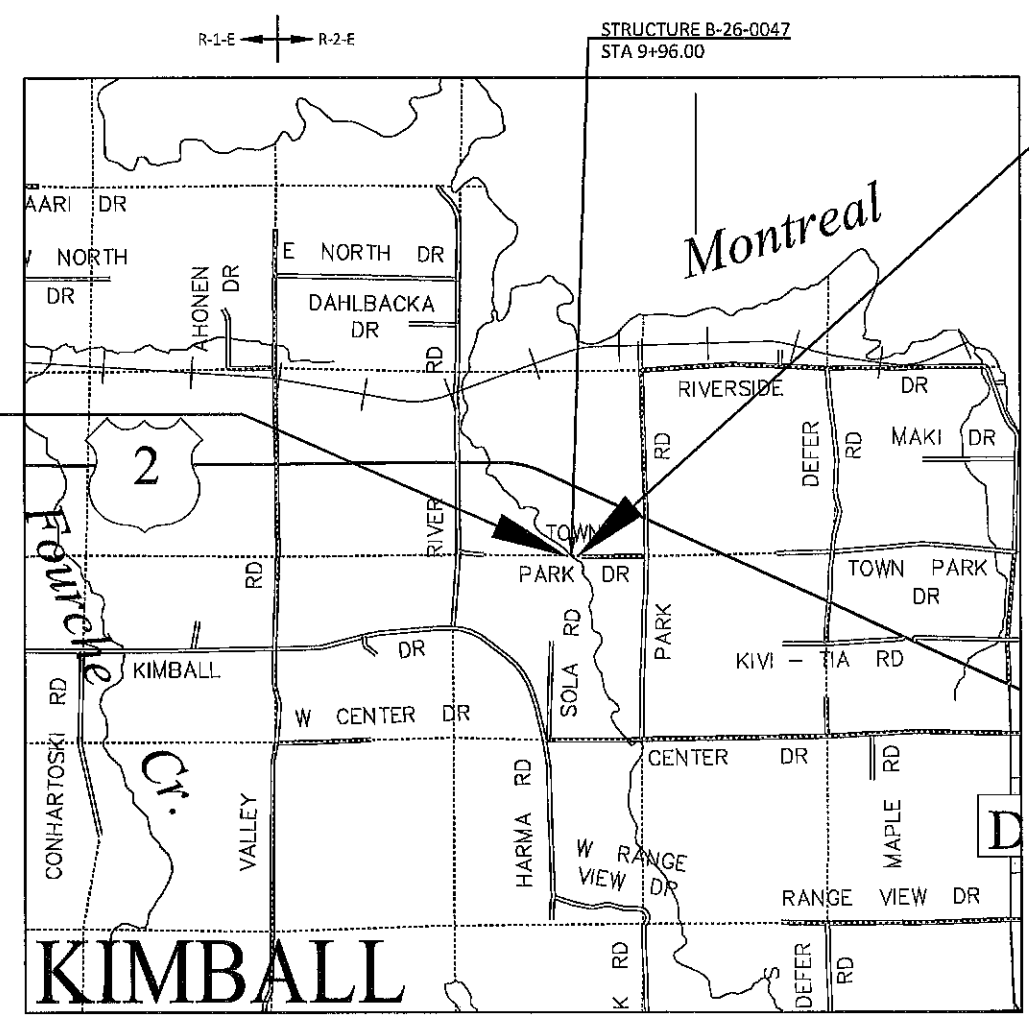
W BR MONTREAL RIVER BRIDGE B-26-0047

LOC STR
IRON COUNTY

STATE PROJECT NUMBER
9826-00-70

BEGIN PROJECT
STA 8+70.75
Y = 383743.54
X = 722902.43

END PROJECT
STA 11+21.25
Y = 383908.72
X = 723052.73



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.047 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), IRON 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
9826-00-70		

ACCEPTED FOR
Town of Kimball
10/20/2025
(Date) (Signature)
(Town Chairman)

ORIGINAL PLANS PREPARED BY
AYRES
WISCONSIN
STEFFANIE A. PEPIN
E-100708-6
MARQUETTE, MI
10/28/2025
(Date) (Signature)
PROFESSIONAL ENGINEER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor: AYRES ASSOCIATES INC
Designer: AYRES ASSOCIATES INC
Project Manager: MICHAEL GRAGE, PE
Regional Examiner: NC REGION
Regional Supervisor: DANIEL ERVA, PE

APPROVED FOR THE DEPARTMENT
DATE: 10/28/2025
(Signature)

UTILITIES CONTACTS

XCEL ENERGY
MITCHELL ANDERSON
1751 LIBERTY ST
IRONWOOD, MI 49938
PHONE: 906-767-5127
CELL: 906-364-9448
EMAIL: mitch.d.anderson@xcelenergy.com



Dial  or (800)242-8511

www.DiggersHotline.com

WISCONSIN DNR LIAISON

JON SIMONSEN
WDNR
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
PHONE: 715-367-1936
EMAIL: jonathan.simonsen@wisconsin.gov

TOWN CONTACT

RANDY STOLTENBERG, CHAIR
TOWN OF KIMBALL
5708W CENTER DRIVE
HURLEY, WI 54534
PHONE: 906-458-0292
EMAIL: chair@kimballwi.gov

COUNTY CONTACT

KASEY KRALL, HIGHWAY COMMISSIONER
IRON COUNTY HIGHWAY DEPARTMENT
607 3RD AVE N, SUITE 1
HURLEY, WI 54534
PHONE: 715-561-4965
EMAIL: commissioner@ironcountywi.org

DESIGN PROJECT MANAGER

MIKE GRAGE, PE
WISDOT NC REGION
510 N. HANSON LAKE ROAD
RHINELANDER, WI 54501
PHONE: 715-365-5705
EMAIL: michael.grage@dot.wi.gov

DESIGN PROJECT LEADER

STEFFANIE PEPIN, PE
AYRES ASSOCIATES
700 PILGRIM WAY, SUITE 180
GREEN BAY, WI 54304
PHONE: 906-421-2346
EMAIL: pepins@AyresAssociates.com

GENERAL NOTES

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

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. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR DIRECTED BY THE ENGINEER.

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.

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

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

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

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

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

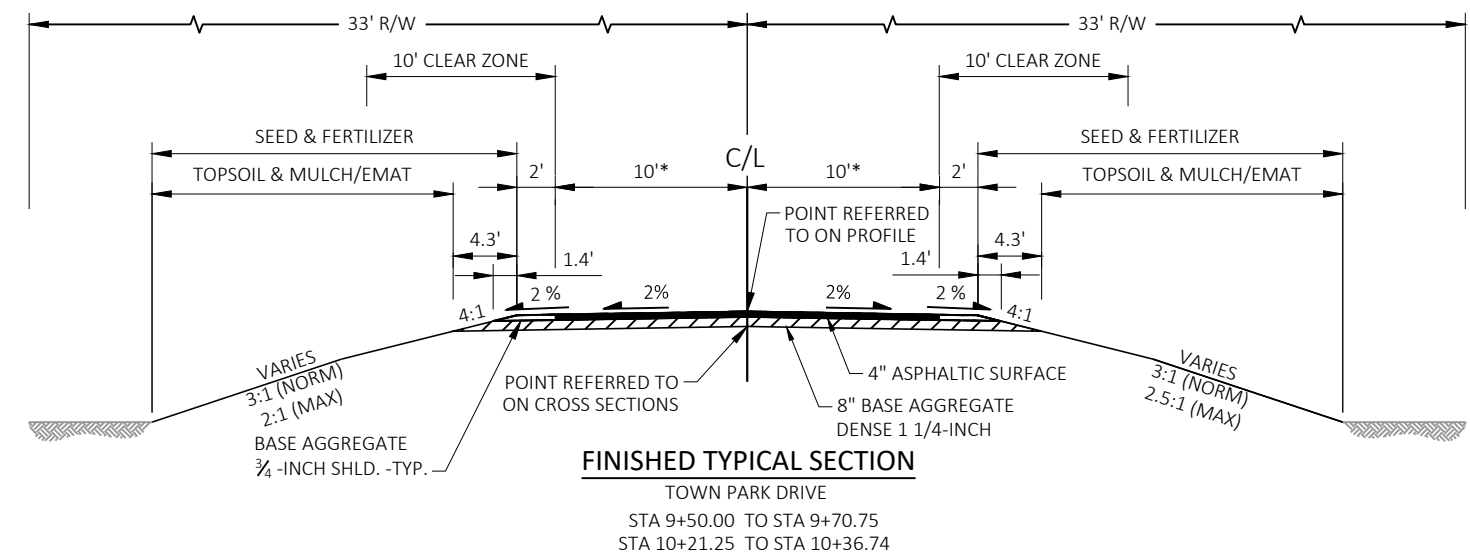
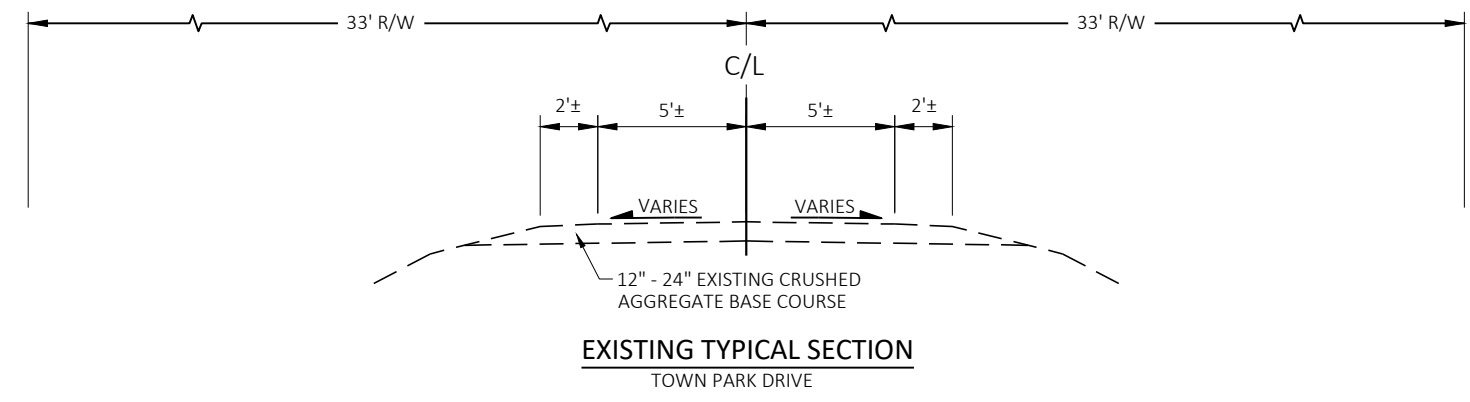
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

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

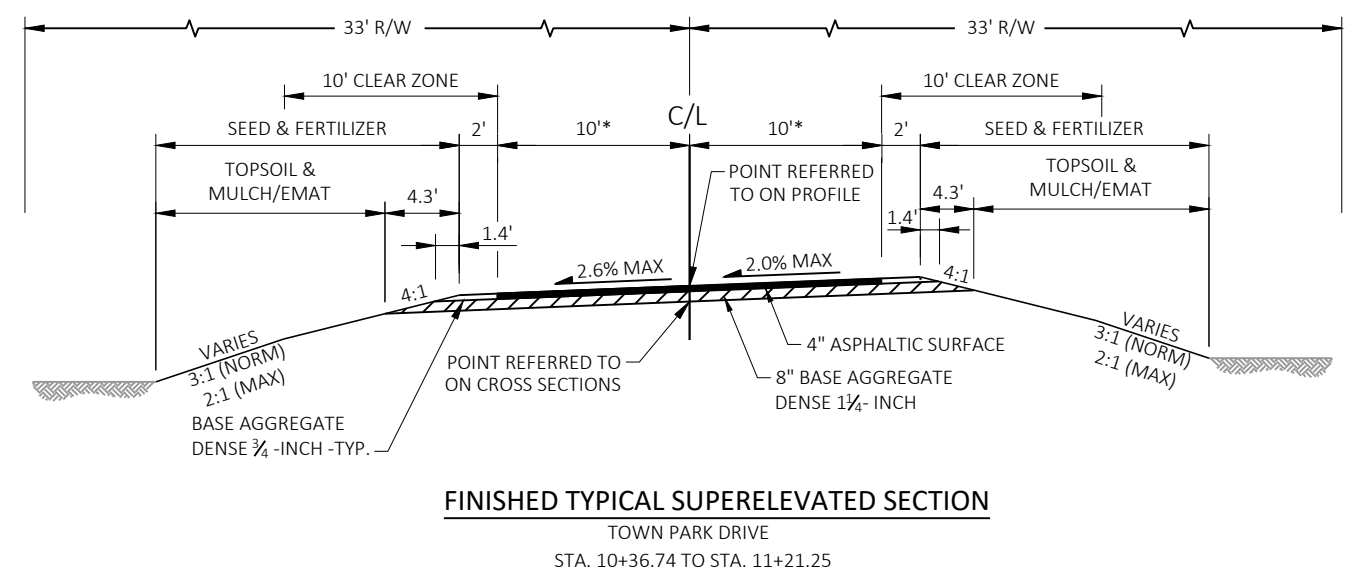
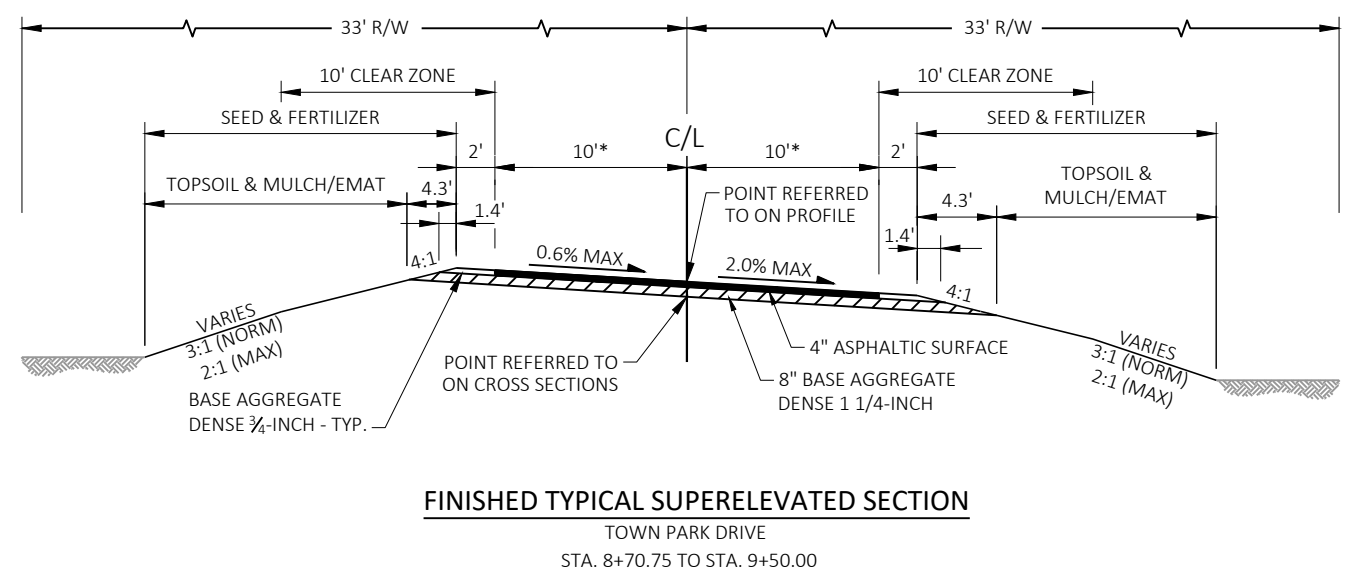
RUNOFF COEFFICIENT TABLE

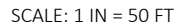
LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.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											

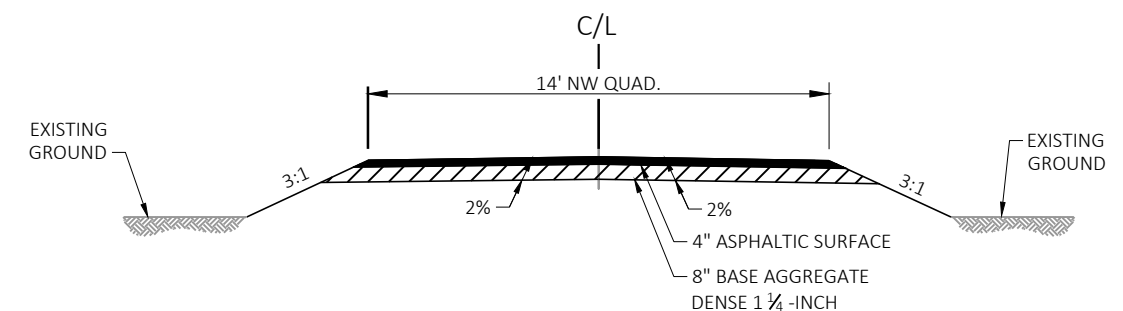
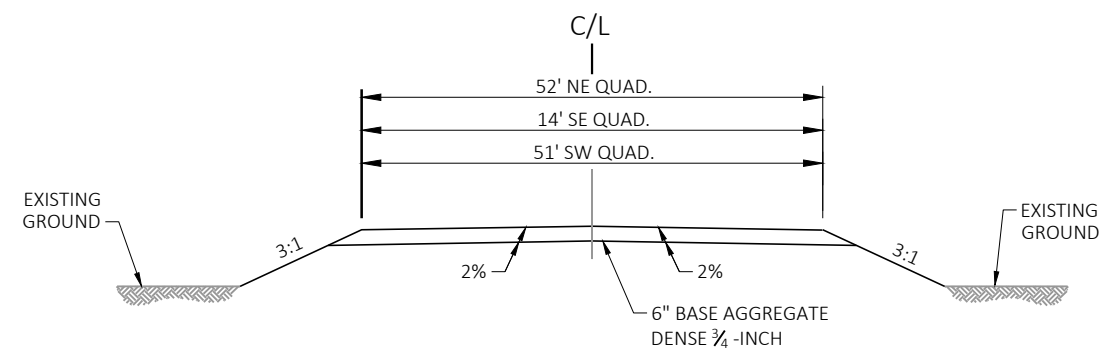
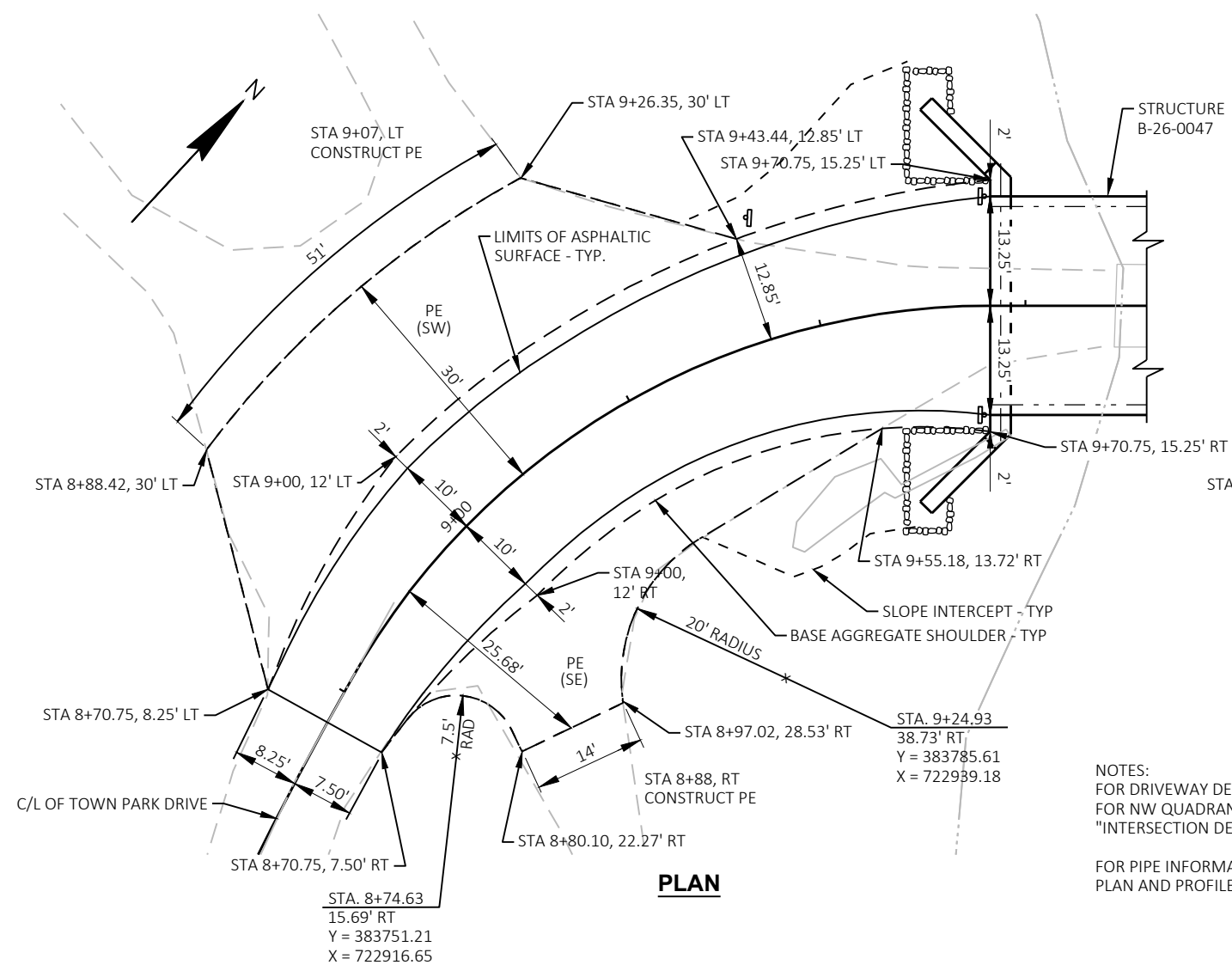
TOTAL PROJECT AREA = 0.397 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.290 ACRES

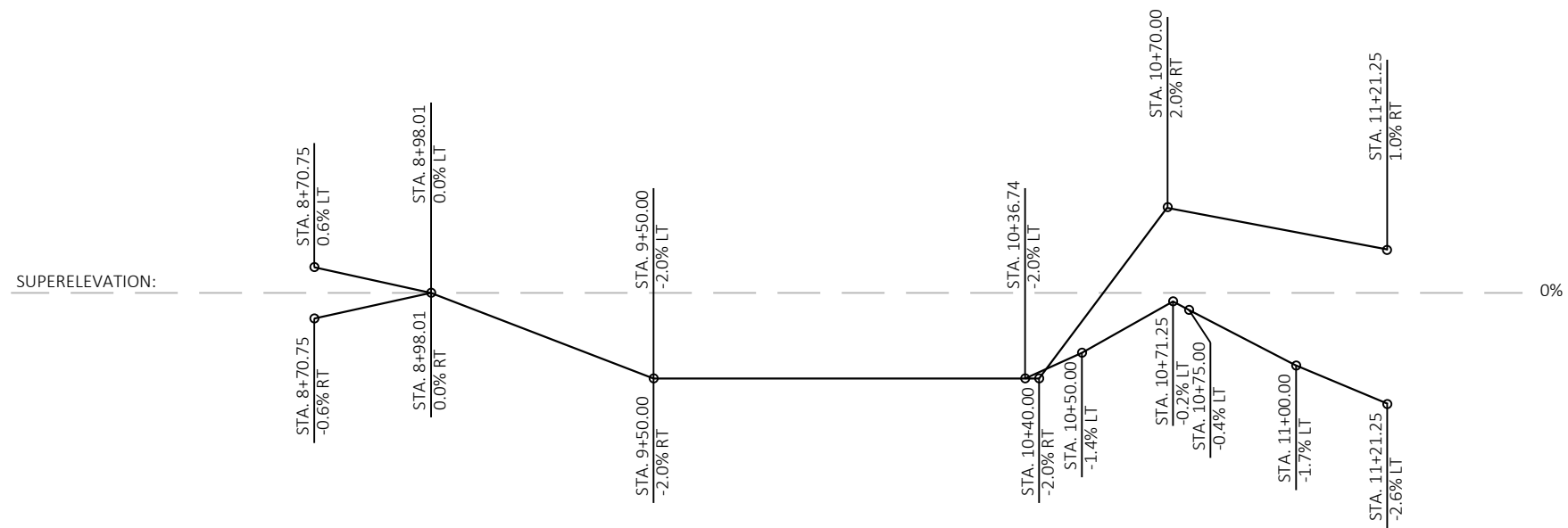


*THE ASPHALT SURFACE LANE SHALL TAPER FROM 13.25' WIDE AT THE ENDS OF THE WINGS TO 10' WIDE AT 50' FROM THE END OF THE BRIDGE AND MATCH EXISTING AT THE ENDS OF THE PROJECT.

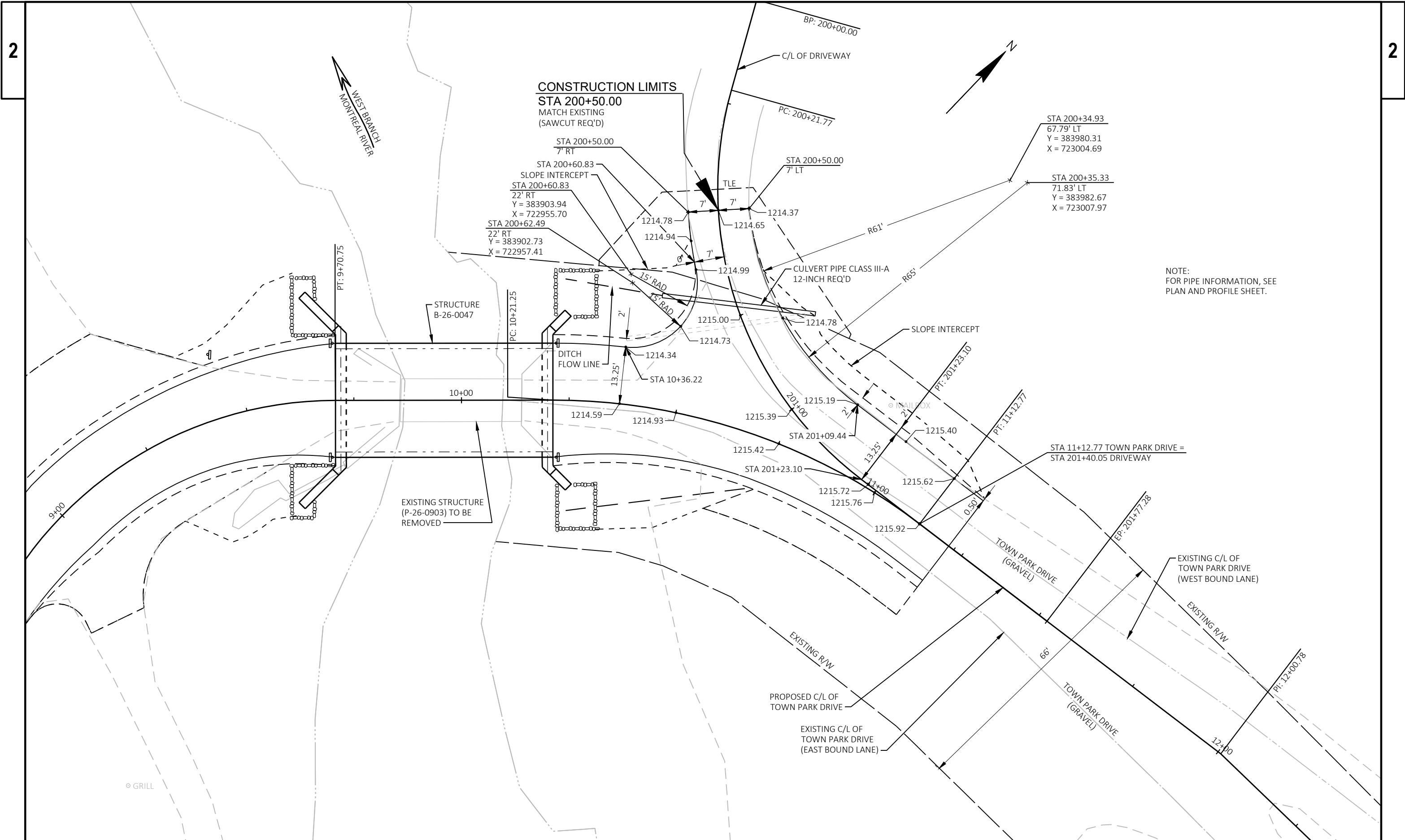


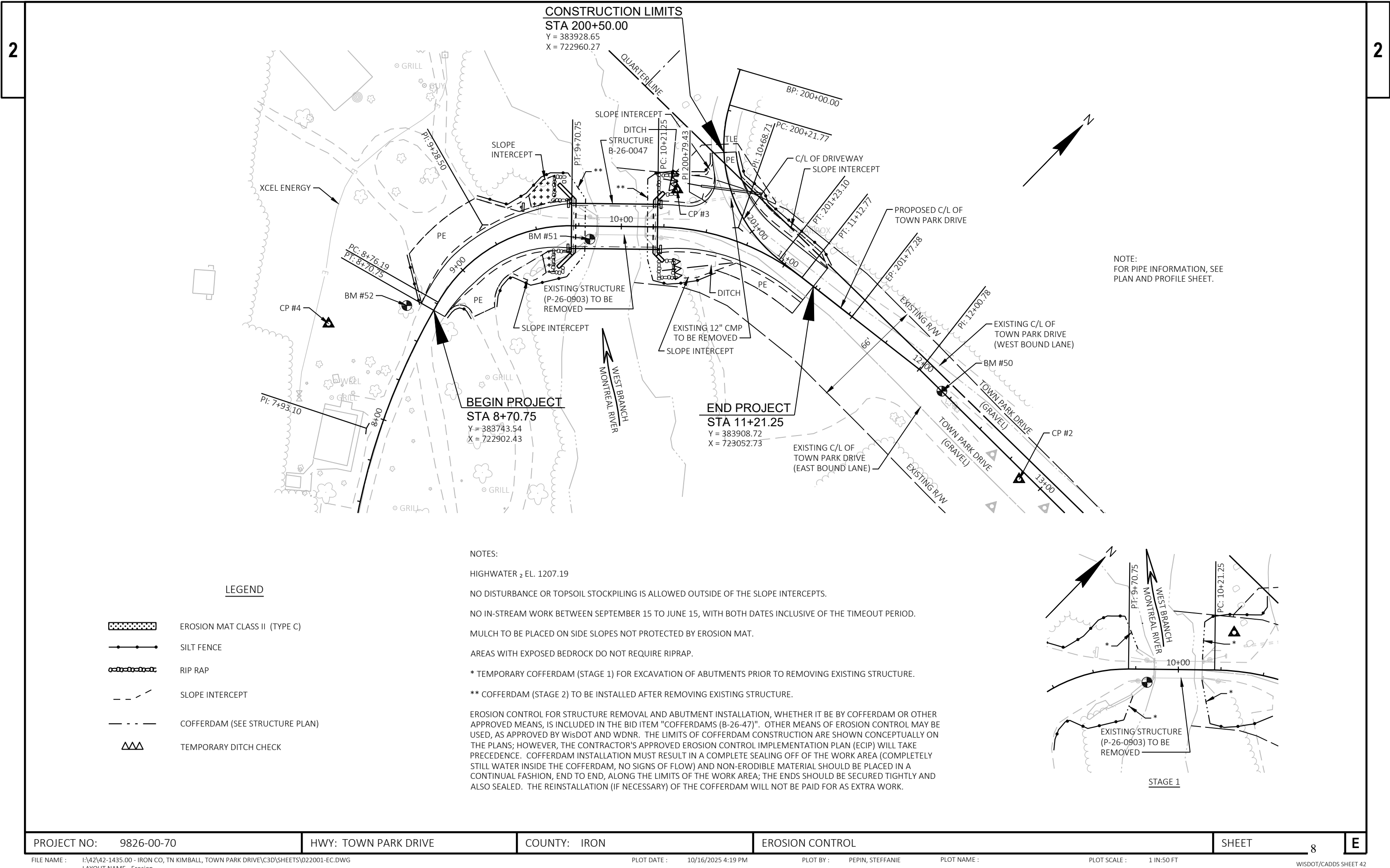


**PRIVATE ENTRANCE DETAILS**



SUPERELEVATION DIAGRAM





LEGEND

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

NOTES:

HIGHWATER ₂ EL. 1207.19

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

NO IN-STREAM WORK BETWEEN SEPTEMBER 15 TO JUNE 15, WITH BOTH DATES INCLUSIVE OF THE TIMEOUT PERIOD.

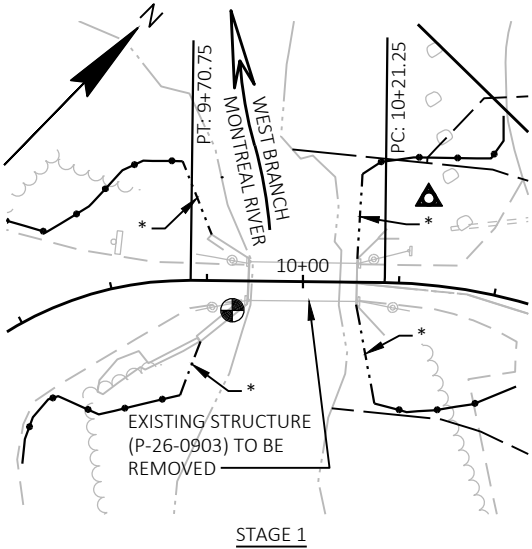
MULCH TO BE PLACED ON SIDE SLOPES NOT PROTECTED BY EROSION MAT.

AREAS WITH EXPOSED BEDROCK DO NOT REQUIRE RIPRAP.

* TEMPORARY COFFERDAM (STAGE 1) FOR EXCAVATION OF ABUTMENTS PRIOR TO REMOVING EXISTING STRUCTURE.

** COFFERDAM (STAGE 2) TO BE INSTALLED AFTER REMOVING EXISTING STRUCTURE.

EROSION CONTROL FOR STRUCTURE REMOVAL AND ABUTMENT INSTALLATION, WHETHER IT BE BY COFFERDAM OR OTHER APPROVED MEANS, IS INCLUDED IN THE BID ITEM "COFFERDAMS (B-26-47)". OTHER MEANS OF EROSION CONTROL MAY BE USED, AS APPROVED BY WISDOT AND WDNR. THE LIMITS OF COFFERDAM CONSTRUCTION ARE SHOWN CONCEPTUALLY ON THE PLANS; HOWEVER, THE CONTRACTOR'S APPROVED EROSION CONTROL IMPLEMENTATION PLAN (ECIP) WILL TAKE PRECEDENCE. COFFERDAM INSTALLATION MUST RESULT IN A COMPLETE SEALING OFF OF THE WORK AREA (COMPLETELY STILL WATER INSIDE THE COFFERDAM, NO SIGNS OF FLOW) AND NON-ERODIBLE MATERIAL SHOULD BE PLACED IN A CONTINUAL FASHION, END TO END, ALONG THE LIMITS OF THE WORK AREA; THE ENDS SHOULD BE SECURED TIGHTLY AND ALSO SEALED. THE REINSTALLATION (IF NECESSARY) OF THE COFFERDAM WILL NOT BE PAID FOR AS EXTRA WORK.



Estimate Of Quantities

9826-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	1.000	1.000
0004	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0006	203.0270	Removing Structure Over Waterway Debris Capture (structure) 01. P-26-0903	EACH	1.000	1.000
0008	205.0100	Excavation Common	CY	199.000	199.000
0010	205.0200	Excavation Rock	CY	5.000	5.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-26-0047	EACH	1.000	1.000
0014	206.5001	Cofferdams (structure) 01. B-26-0047	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	230.000	230.000
0018	213.0100	Finishing Roadway (project) 01. 9826-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	115.000	115.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	345.000	345.000
0024	455.0605	Tack Coat	GAL	43.000	43.000
0026	465.0105	Asphaltic Surface	TON	140.000	140.000
0028	502.0100	Concrete Masonry Bridges	CY	153.000	153.000
0030	502.3200	Protective Surface Treatment	SY	195.000	195.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	2,580.000	2,580.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	23,470.000	23,470.000
0036	513.4061	Railing Tubular Type M	LF	106.000	106.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0040	517.1015.S	Concrete Staining Multi-Color (structure) 01. B-26-0047	SF	345.000	345.000
0042	517.1050.S	Architectural Surface Treatment (structure) 01. B-26-0047	SF	345.000	345.000
0044	520.3312	Culvert Pipe Class III-A 12-Inch	LF	36.000	36.000
0046	606.0400	Riprap Extra-Heavy	CY	40.000	40.000
0048	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	110.000	110.000
0050	614.0920	Salvaged Rail	LF	56.000	56.000
0052	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9826-00-70	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	13.000	13.000
0058	625.0100	Topsoil	SY	160.000	160.000
0060	627.0200	Mulching	SY	200.000	200.000
0062	628.1504	Silt Fence	LF	525.000	525.000
0064	628.1520	Silt Fence Maintenance	LF	1,050.000	1,050.000
0066	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0070	628.2027	Erosion Mat Class II Type C	SY	40.000	40.000
0072	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0074	629.0210	Fertilizer Type B	CWT	0.300	0.300
0076	630.0120	Seeding Mixture No. 20	LB	11.000	11.000
0078	630.0200	Seeding Temporary	LB	6.000	6.000
0080	630.0500	Seed Water	MGAL	6.000	6.000
0082	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0084	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0086	638.2102	Moving Signs Type II	EACH	1.000	1.000
0088	638.2602	Removing Signs Type II	EACH	4.000	4.000
0090	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0092	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
0094	642.5001	Field Office Type B	EACH	1.000	1.000
0096	643.0420	Traffic Control Barricades Type III	DAY	725.000	725.000
0098	643.0705	Traffic Control Warning Lights Type A	DAY	1,125.000	1,125.000

Estimate Of Quantities

9826-00-70

Line	Item	Item Description	Unit	Total	Qty
0100	643.0900	Traffic Control Signs	DAY	485.000	485.000
0102	643.5000	Traffic Control	EACH	1.000	1.000
0104	645.0111	Geotextile Type DF Schedule A	SY	60.000	60.000
0106	645.0120	Geotextile Type HR	SY	80.000	80.000
0108	650.4500	Construction Staking Subgrade	LF	200.000	200.000
0110	650.5000	Construction Staking Base	LF	200.000	200.000
0112	650.6501	Construction Staking Structure Layout (structure) 01. B-26-0047	EACH	1.000	1.000
0114	650.9911	Construction Staking Supplemental Control (project) 01. 9826-00-70	EACH	1.000	1.000
0116	650.9920	Construction Staking Slope Stakes	LF	200.000	200.000
0118	690.0150	Sawing Asphalt	LF	14.000	14.000
0120	715.0502	Incentive Strength Concrete Structures	DOL	918.000	918.000
0122	999.2005.S	Maintaining Bird Deterrent System (station) 01. 10+00	EACH	1.000	1.000
0124	SPV.0060	Special 01. Moving Boulders	EACH	2.000	2.000
0126	SPV.0060	Special 02. Temporary Construction Access B-26-0047	EACH	1.000	1.000
0128	SPV.0180	Special 01. Infill Riprap - B-26-0047	SY	50.000	50.000

CLEARING & GRUBBING

201.0205 GRUBBING				
STATION	TO	STATION	LOCATION	STA
9+33	-	10+40	MAINLINE	1
TOTAL 0010				1

TOWN PARK DRIVE EARTHWORK SUMMARY

From/To Station	Location	Excavation Common (1) 205.0100	Excavation Rock 205.0200	Salvaged / Unuseable Pavement Material (5)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste
		Cut	Cut			Factor 1.30		
8+70.75 - 9+70.75	TOWN PARK DRIVE	50	2	0	20	25	24	24
10+21.25 - 11+21.25	TOWN PARK DRIVE	149	3	11	12	16	123	123
TOTAL		199	5	11	32	41	147	147

- 1) Excavation Common is the Cut. Item number 205.0100.
- 2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
- 3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
- 4) All quantities shown in CY.
- 5) Salvaged/unuseable pavement material

FINISHING ROADWAY

213.0100.01 FINISHING ROADWAY (PROJECT) (01. 9826-00-70)	
LOCATION	EACH
9826-00-70	1
TOTAL 0010	1

BASE AGGREGATE DENSE

				305.0110	305.0120
				BASE AGGREGATE	BASE AGGREGATE
				DENSE 3/4-INCH	DENSE 1 1/4-INCH
STATION	TO	STATION	LOCATION	TON	TON
8+70.75	-	9+70.75	TOWN PARK DRIVE	85	140
10+21.25	-	11+21.25	TOWN PARK DRIVE	30	205
TOTAL 0010				115	345

ASPHALTIC SURFACE

				455.0605	465.0105
				TACK COAT	ASPHALTIC
STATION	TO	STATION	LOCATION	GAL	TON
8+70.75	-	9+70.75	TOWN PARK DRIVE	17	55
10+21.25	-	11+21.25	TOWN PARK DRIVE	26	85
TOTAL 0010				43	140

CULVERT PIPE

		203.0100 REMOVING SMALL PIPE CULVERTS EACH	520.3312 CULVERT PIPE CLASS III-A 12- INCH LF
STATION	LOCATION		
200+72.33	DRIVEWAY	1	36
TOTAL 0010		1	36

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

SALVAGED RAIL				
				614.0920 SALVAGED RAIL
STATION	TO	STATION	LOCATION	LF
8+70.75	-	9+70.75	MAINLINE	28
10+21.25	-	11+21.25	MAINLINE	28
TOTAL 0010				56

WATER	
LOCATION	624.0100 WATER MGAL
COMPACTION	7
DUST CONTROL	6
TOTAL 0010	13

MOBILIZATIONS EROSION CONTROL		
LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
PROJECT LIMITS	4	4
TOTAL 0010	4	4

MAINTENANCE AND REPAIR OF HAUL ROADS		
CATEGORY	LOCATION	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 9826-00-70) EACH
0030	PROJECT LIMITS	1
TOTAL 0030		1

MOBILIZATION	
LOCATION	619.1000 MOBILIZATION EACH
PROJECT LIMITS	1
TOTAL 0010	1

EROSION CONTROL ITEMS							
STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2027 EROSION MAT CLASS II TYPE C SY	628.7504 TEMPORARY DITCH CHECKS LF
8+70.75	-	9+70.75	TOWN PARK DRIVE	205	410	30	--
10+21.25	-	11+21.25	TOWN PARK DRIVE	215	430	--	30
			UNDISTRIBUTED	105	210	10	20
TOTAL 0010				525	1,050	40	50

RESTORATION ITEMS									
STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
8+70.75	-	9+70.75	TOWN PARK DRIVE	55	60	0.1	4	2	2
10+21.25	-	11+21.25	TOWN PARK DRIVE	90	125	0.1	6	3	3
			UNDISTRIBUTED	15	15	0.1	1	1	1
TOTAL 0010				160	200	0.3	11	6	6

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

3

3

SIGNS TYPE II									
STATION	LOCATION	SIGN CODE	SIGN SIZE (INCHES)	634.0614	637.2230	638.2102	638.2602	638.3000	638.4000
				POSTS WOOD 4X6- INCH X 14-FT EACH	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH
9+45	LT	KIMBALL TOWN PARK SIGN		--	--	1	--	--	1
9+70	LT	W5-52L	12x36	1	3	--	--	--	--
9+70	RT	W5-52R	12x36	1	3	--	--	--	--
9+86	LT	W5-52L	12x36	--	--	--	1	1	--
9+86	RT	W5-52R	12x36	--	--	--	1	1	--
10+14	LT	W5-52L	12x36	--	--	--	1	1	--
10+14	RT	W5-52R	12x36	--	--	--	1	1	--
10+22	LT	W5-52L	12x36	1	3	--	--	--	--
10+22	RT	W5-52R	12x36	1	3	--	--	--	--
TOTAL 0010				4	12	1	4	4	1

FIELD OFFICE TYPE B	
LOCATION	642.5001 FIELD OFFICE TYPE B EACH
PROJECT LIMITS	1
TOTAL 0010	1

3

TRAFFIC CONTROL								
LOCATION	DURATION DAYS	EACH	643.0420	643.0705	643.0900	643.5000	EACH	
			TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL SIGNS DAY	TRAFFIC CONTROL EACH		
PER SDD 15C02	70	9	630	14	980	6	420	--
UNDISTRIBUTED		--	95	--	145	--	65	1
TOTAL 0010			725	1,125	485		1	

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

CONSTRUCTION STAKING

				650.4500 CONSTRUCTION STAKING SUBGRADE	650.5000 CONSTRUCTION STAKING BASE	650.9920 CONSTRUCTION STAKING SLOPE STAKES
STATION	TO	STATION	LOCATION	LF	LF	LF
8+70.75	-	9+70.75	MAINLINE	100	100	100
10+21.25	-	11+21.25	MAINLINE	100	100	100
TOTAL 0010				200	200	200

CONSTRUCTION STAKING STRUCTURE LAYOUT

				650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-26-0047)
CATEGORY	STATION	LOCATION	EACH	
0020	9+96	MAINLINE	1	
TOTAL 0020			1	

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

		650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 9826-00-70)
PROJECT	EACH	
9826-00-70	1	
TOTAL 0010	1	

SAWING ASPHALT

		690.0150 SAWING ASPHALT
STATION	LOCATION	LF
200+50	DRIVEWAY	14
TOTAL 0010		14

MAINTAINING BIRD DETERRENT SYSTEM

		999.2005.S.01 MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 10+00)
LOCATION	EACH	
P-26-0903	1	
TOTAL 0010	1	

MOVING BOULDERS

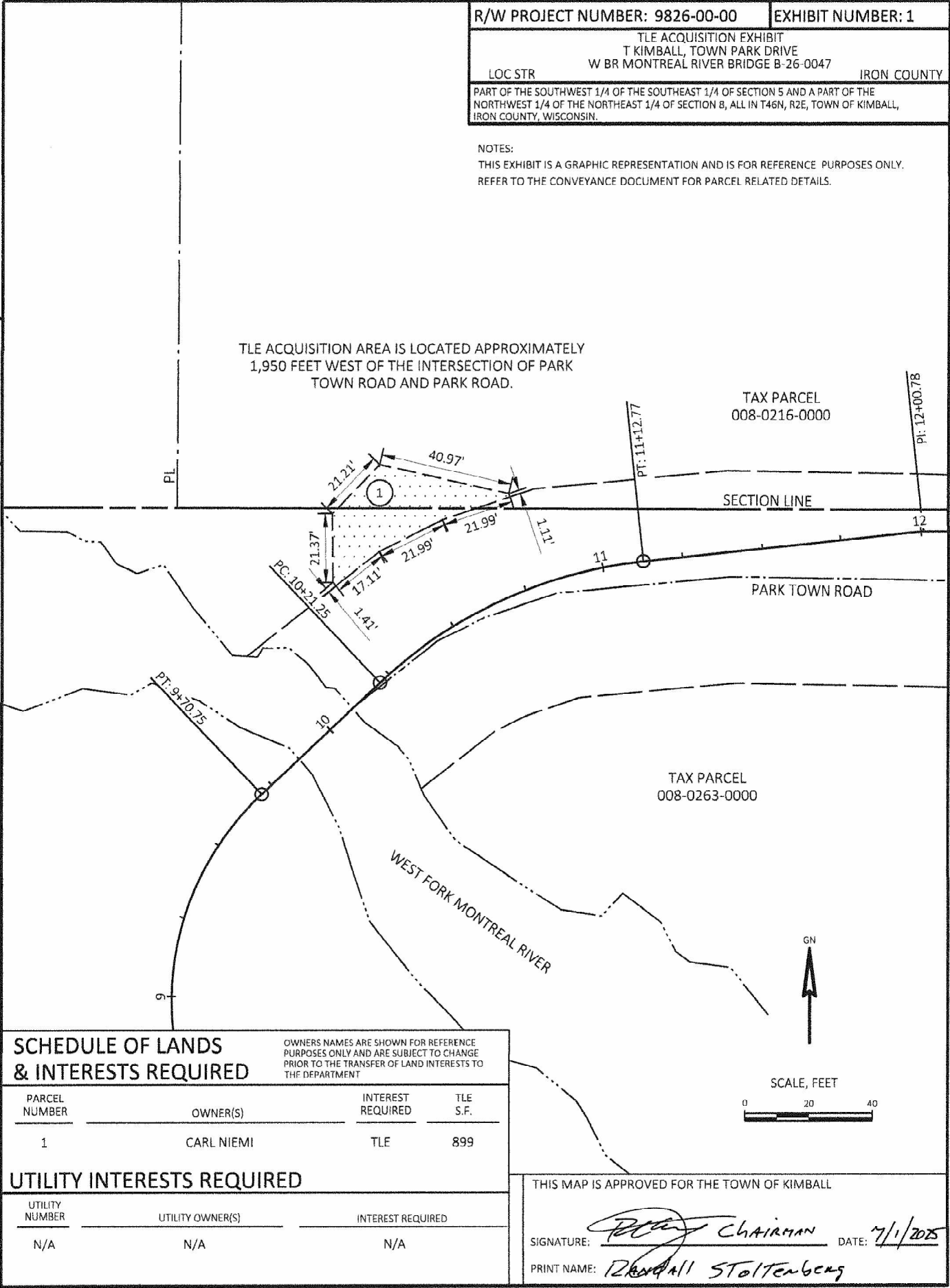
				SPV.0060.01 SPECIAL (01. MOVING BOULDERS)
STATION	TO	STATION	LOCATION	EACH
10+34	-	10+38	MAINLINE	2
TOTAL 0010				2

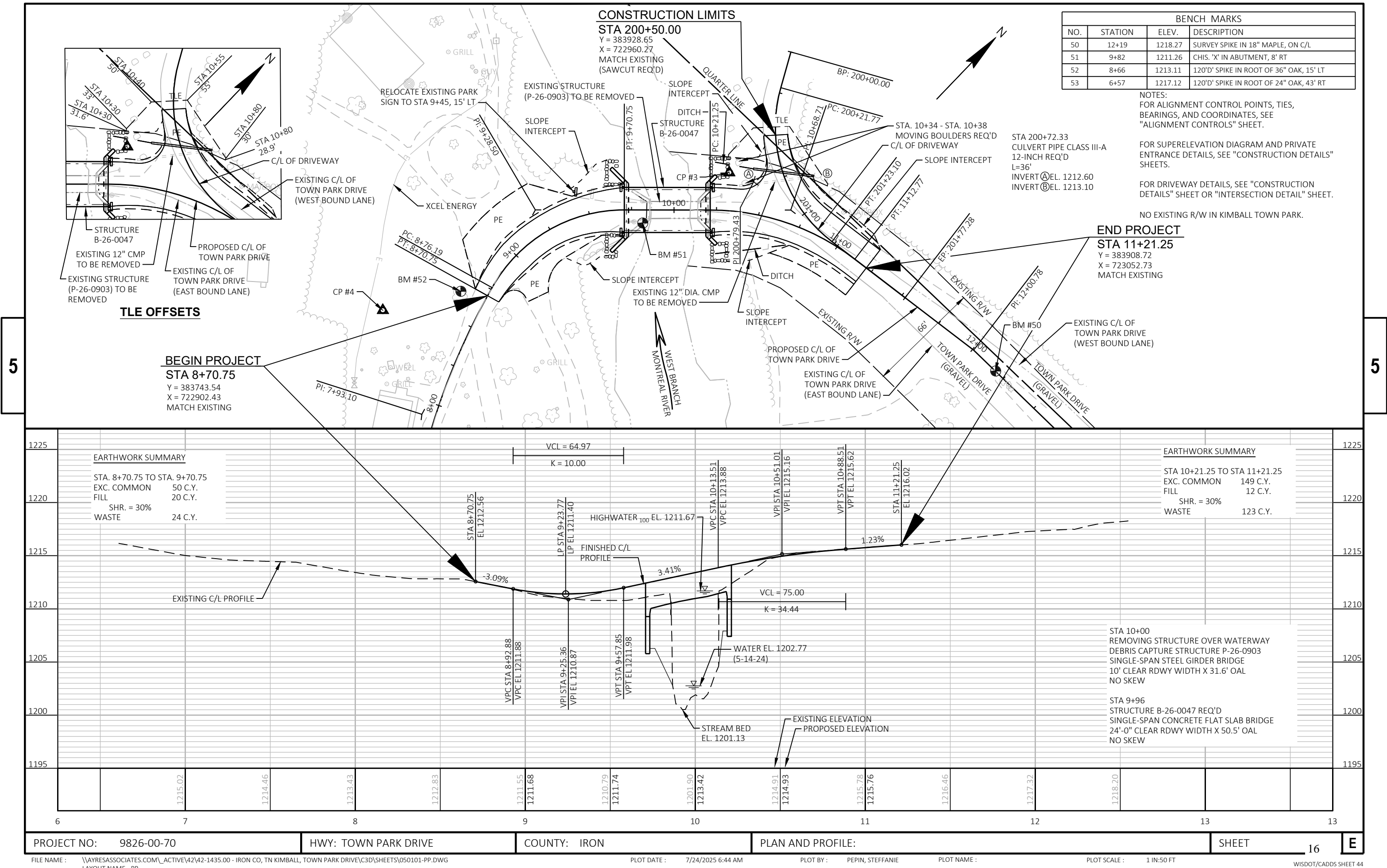
TEMPORARY CONSTRUCTION ACCESS B-26-0047

		SPV.0060.02 SPECIAL (02. TEMPORARY CONSTRUCTION ACCESS B-26-0047)
LOCATION	EACH	
PROJECT LIMITS	1	
TOTAL 0010	1	

ALL ITEMS ON THIS SHEET
ARE CATEGORY 0010
UNLESS OTHERWISE NOTED

4





PROJECT NO: 9826-00-70

HWY: TOWN PARK DRIVE

COUNTY: IRON

PLAN AND PROFILE:

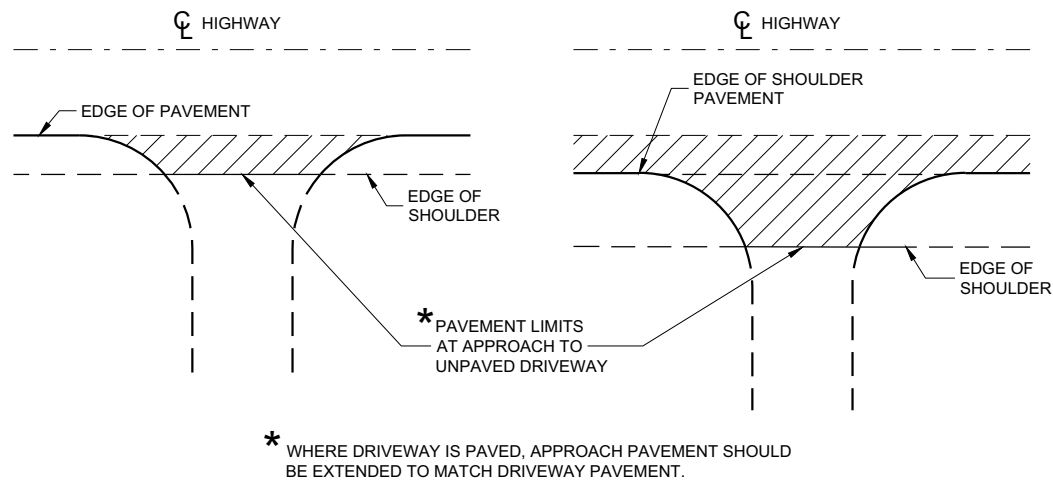
SHEET

16

E

Standard Detail Drawing List

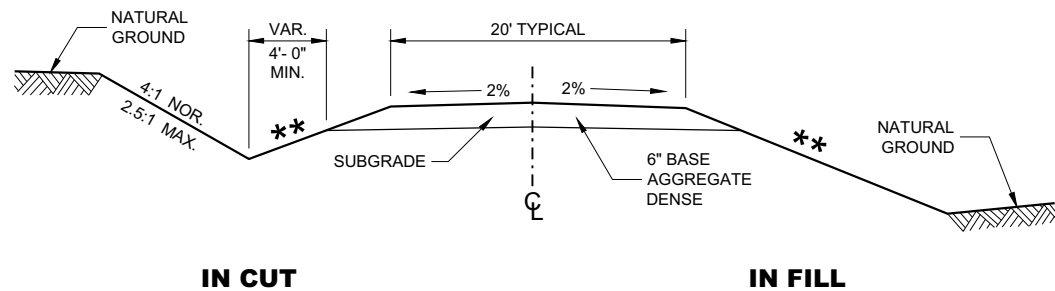
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

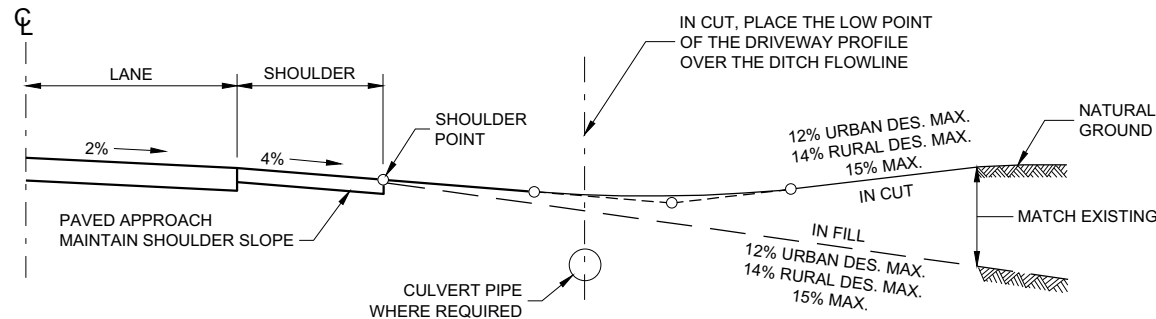
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



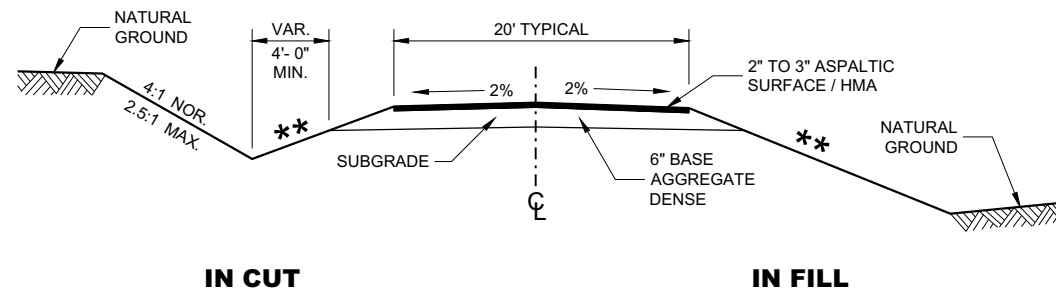
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

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

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



TYPICAL DRIVEWAY PROFILES

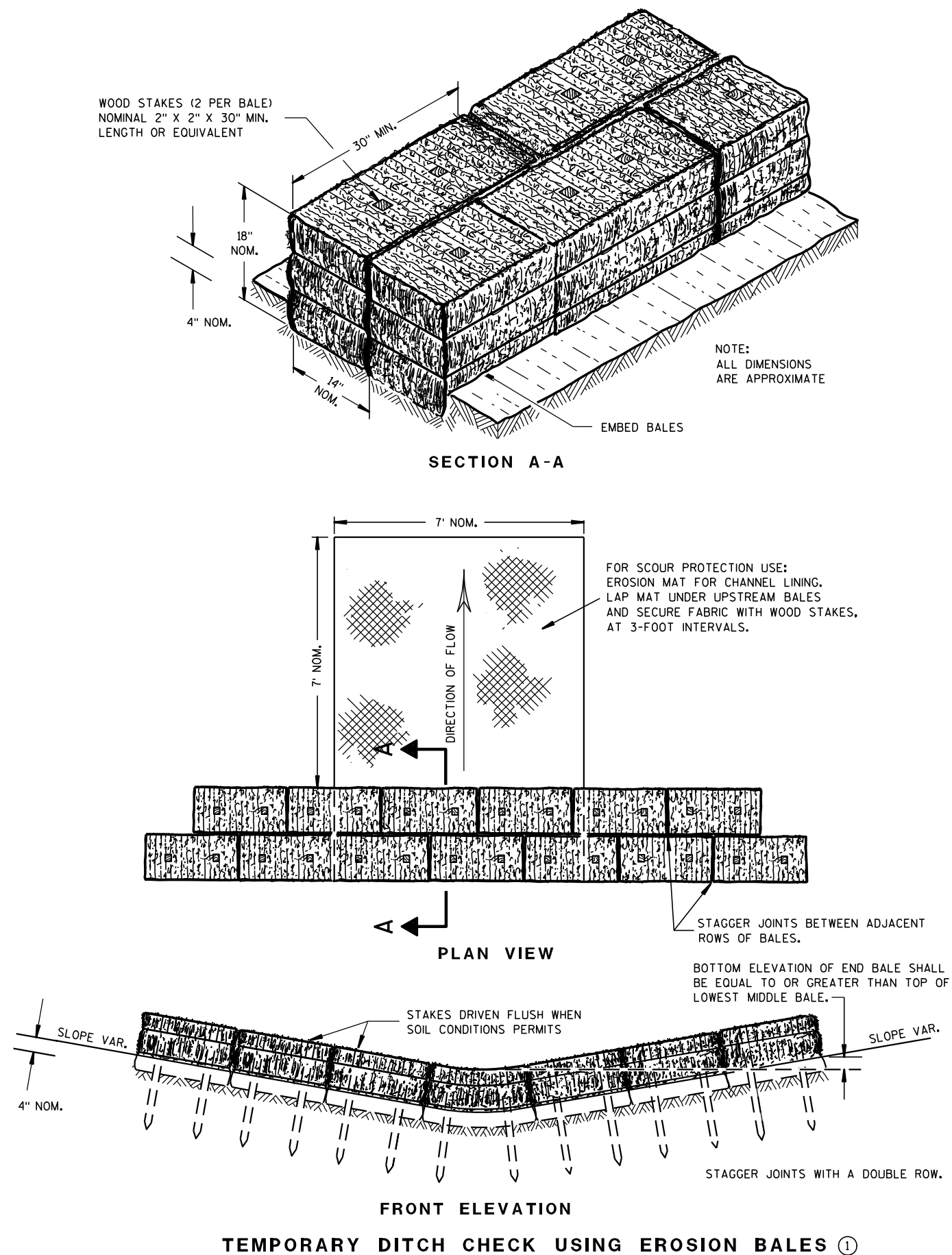


**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

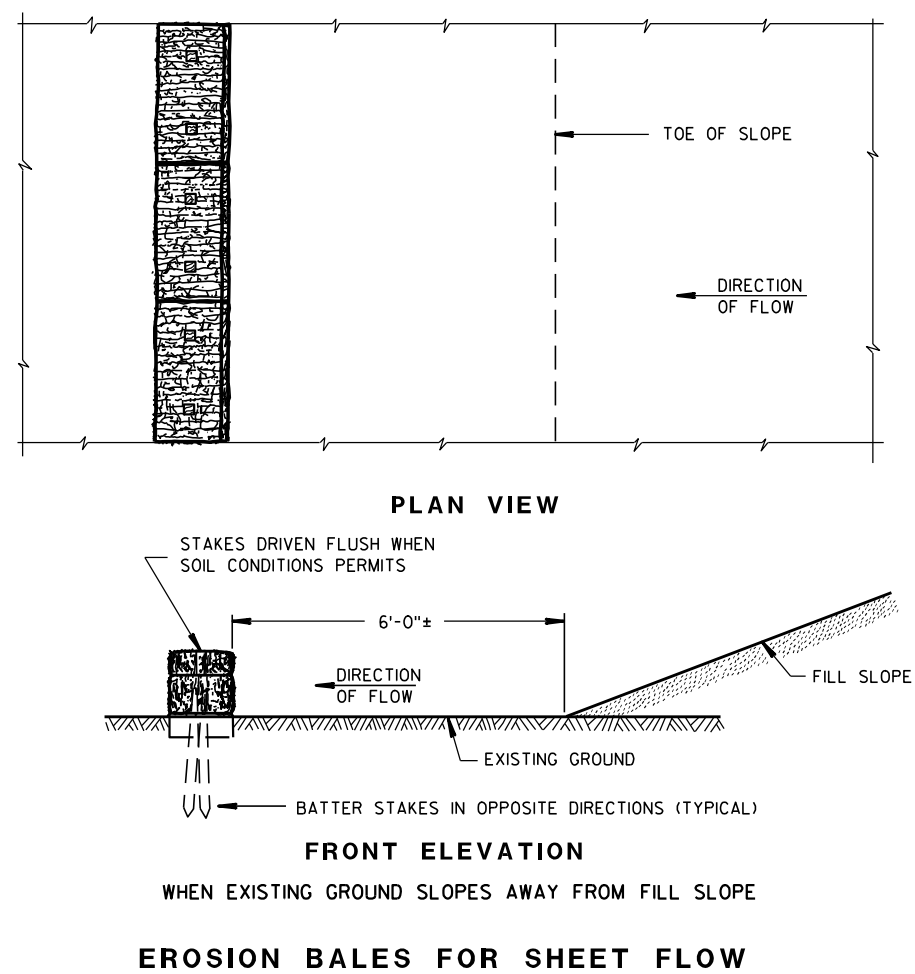
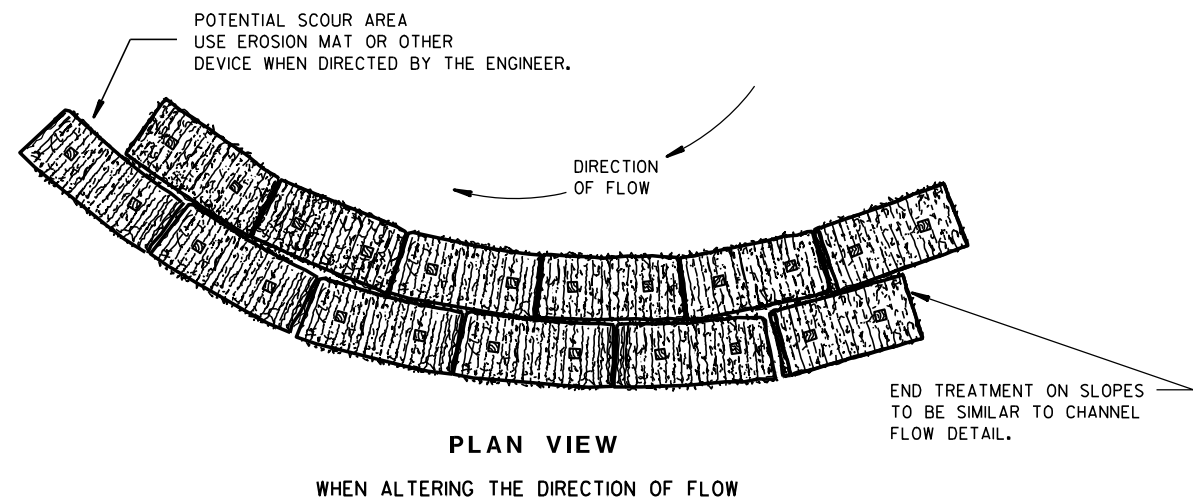
APPROVED
December 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



GENERAL NOTES

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

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



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

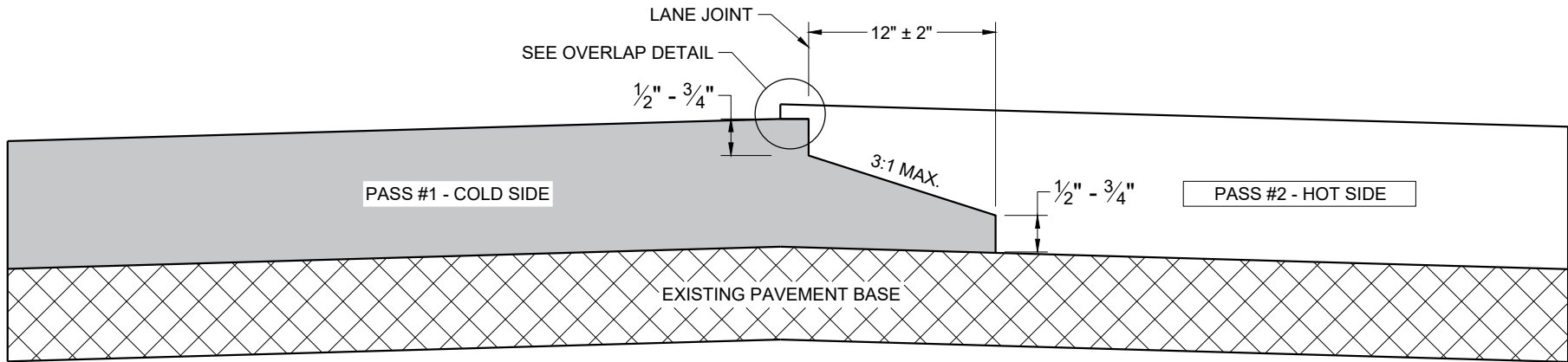
APPROVED
4-29-05
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT

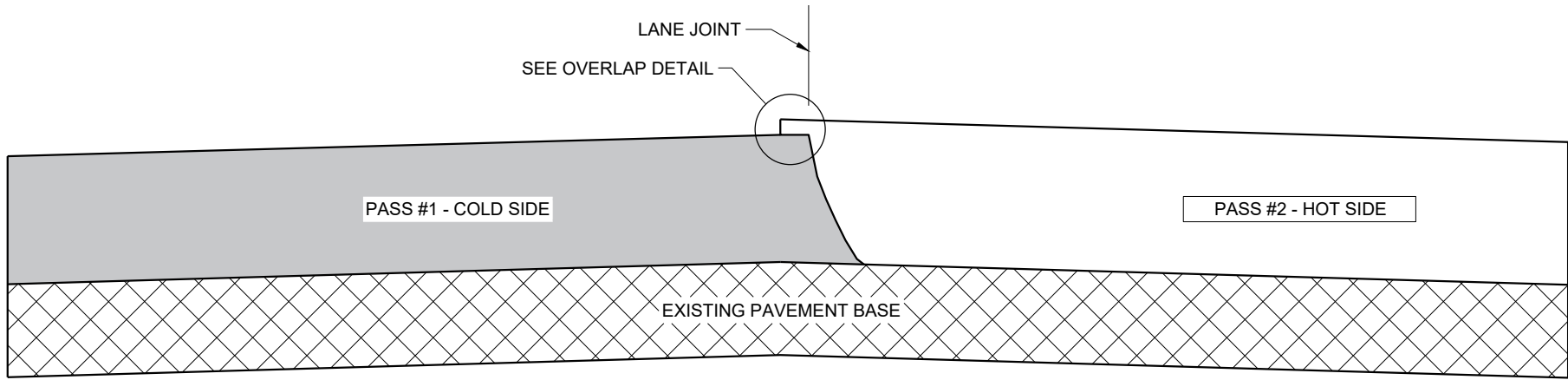
20

ENGINEER

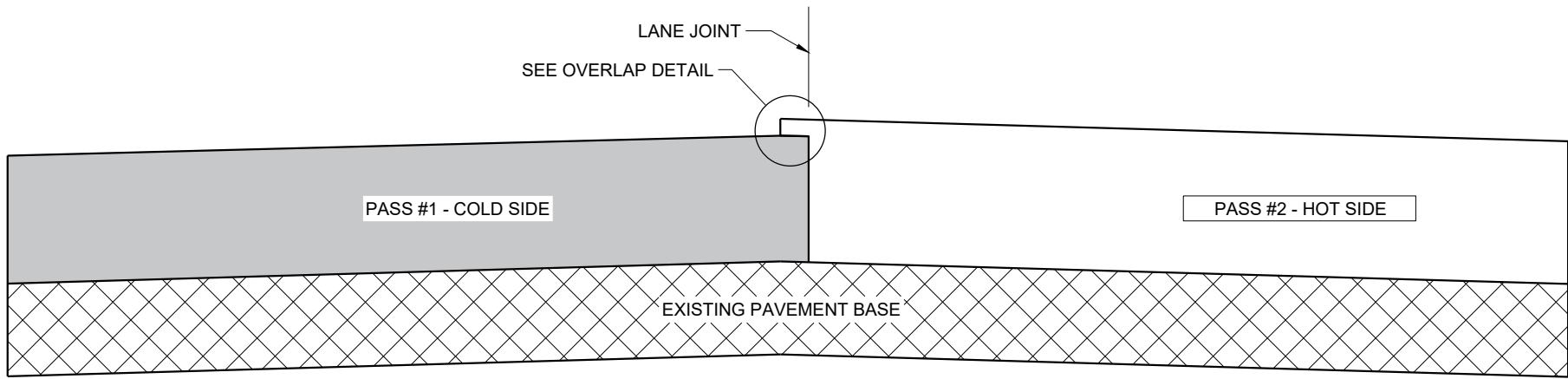
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

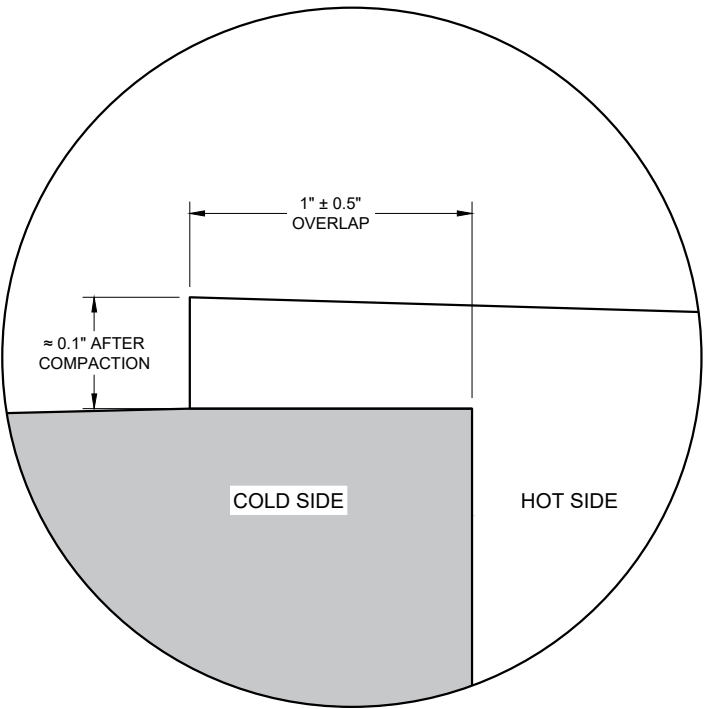
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

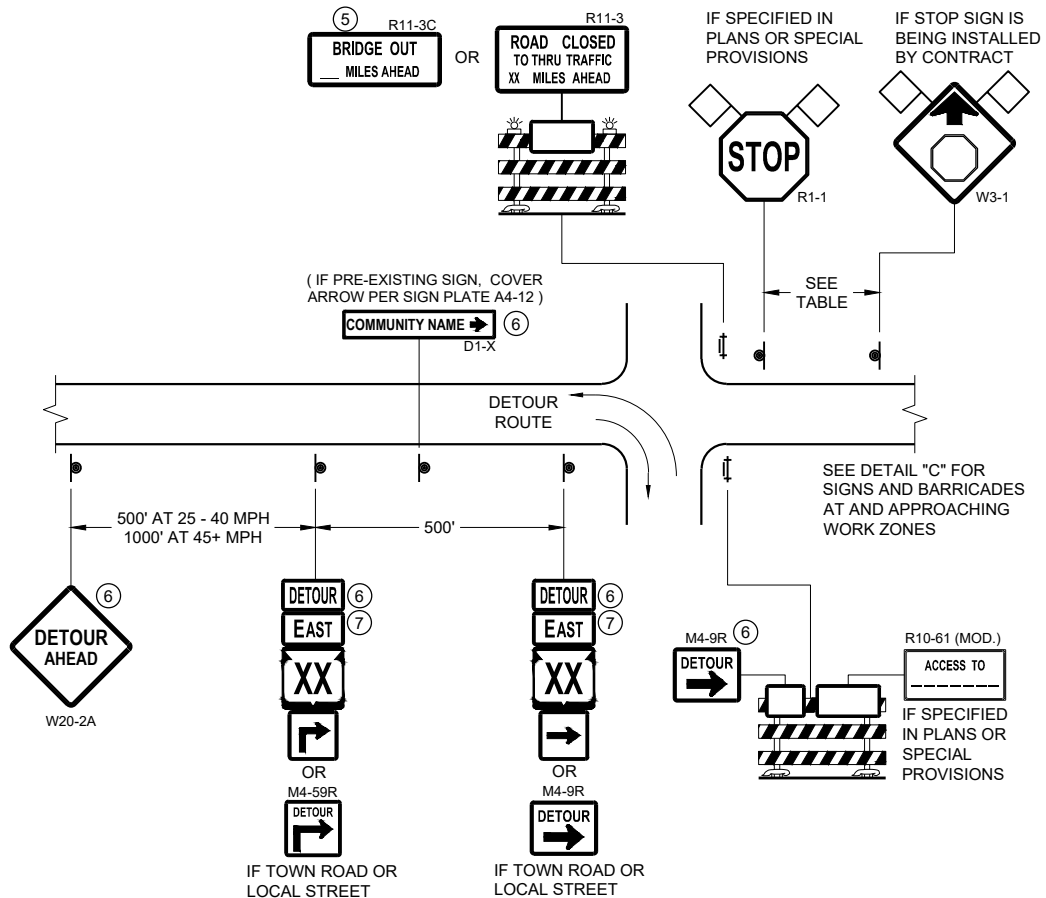


OVERLAP DETAIL (TYPICAL)

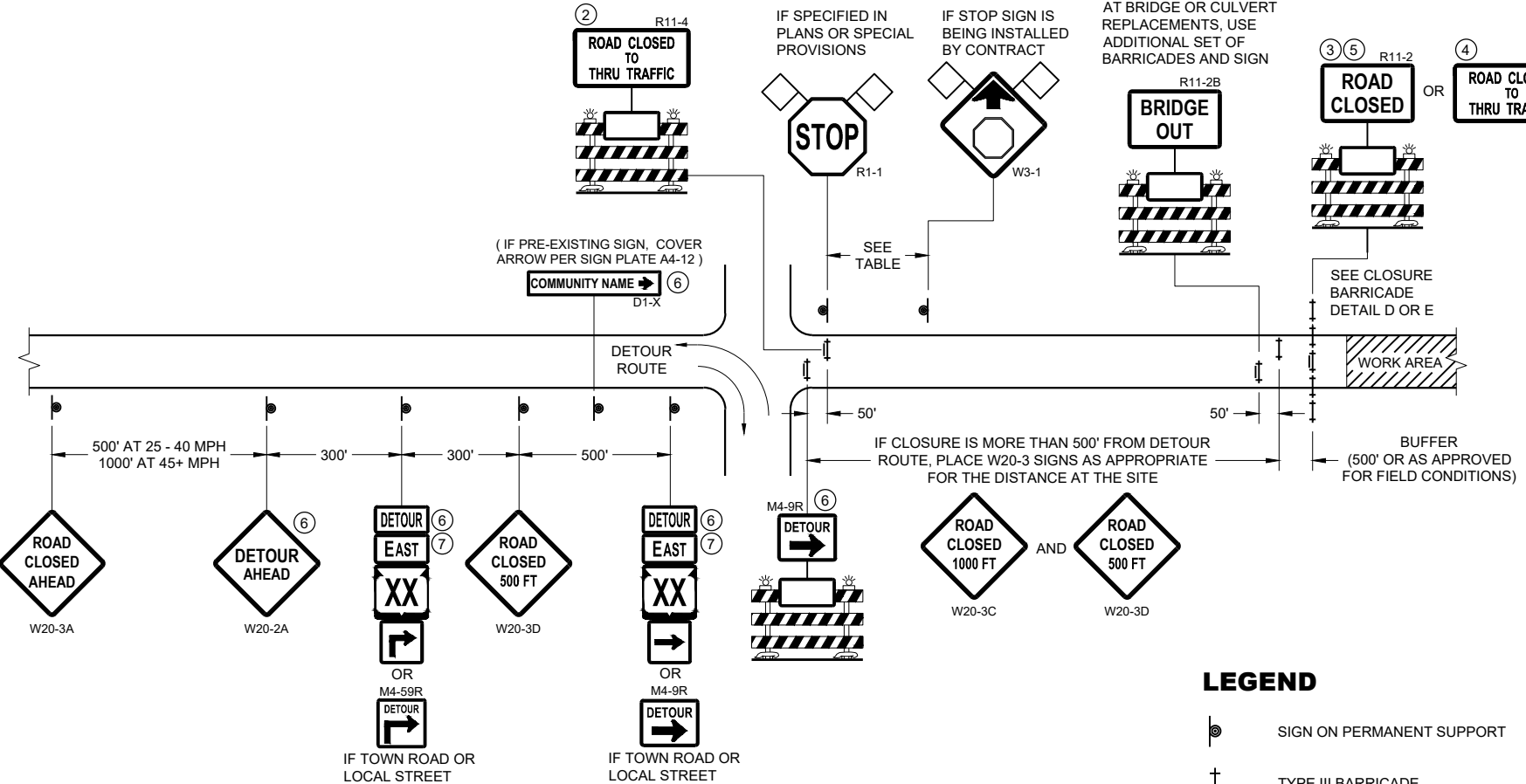
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 22
FHWA



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



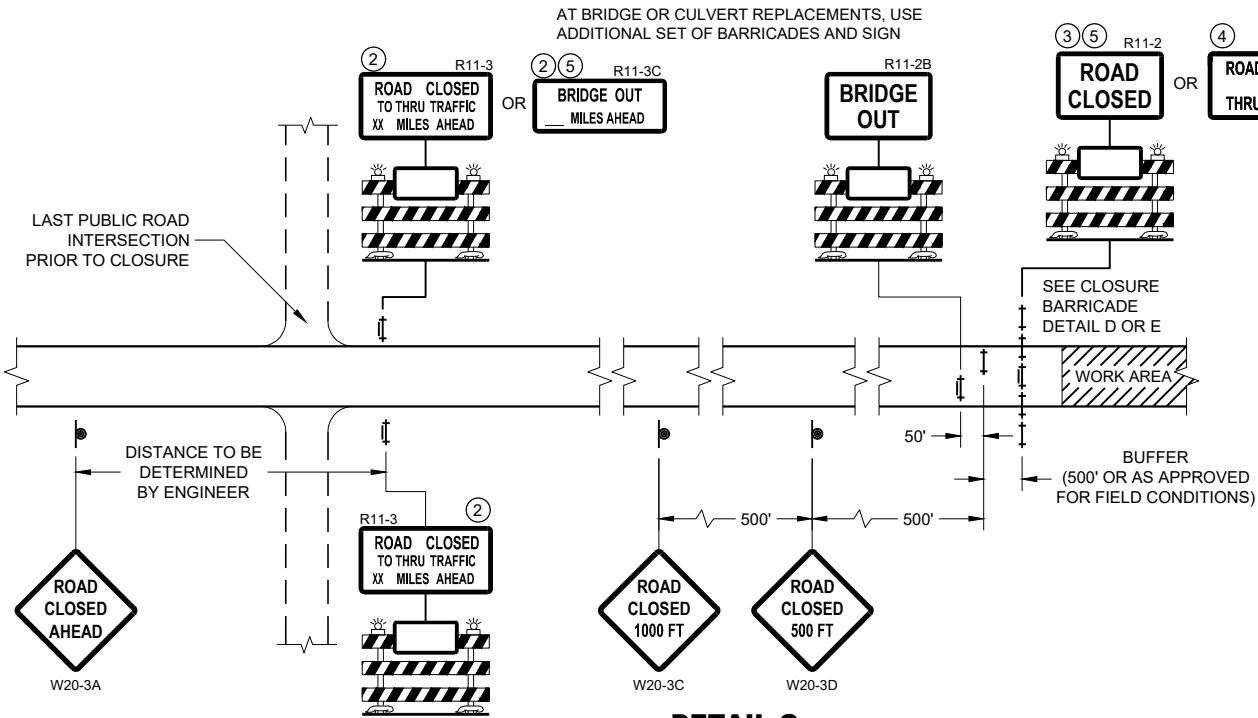
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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
- OR M05 - 1 OR M06 - 1

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

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

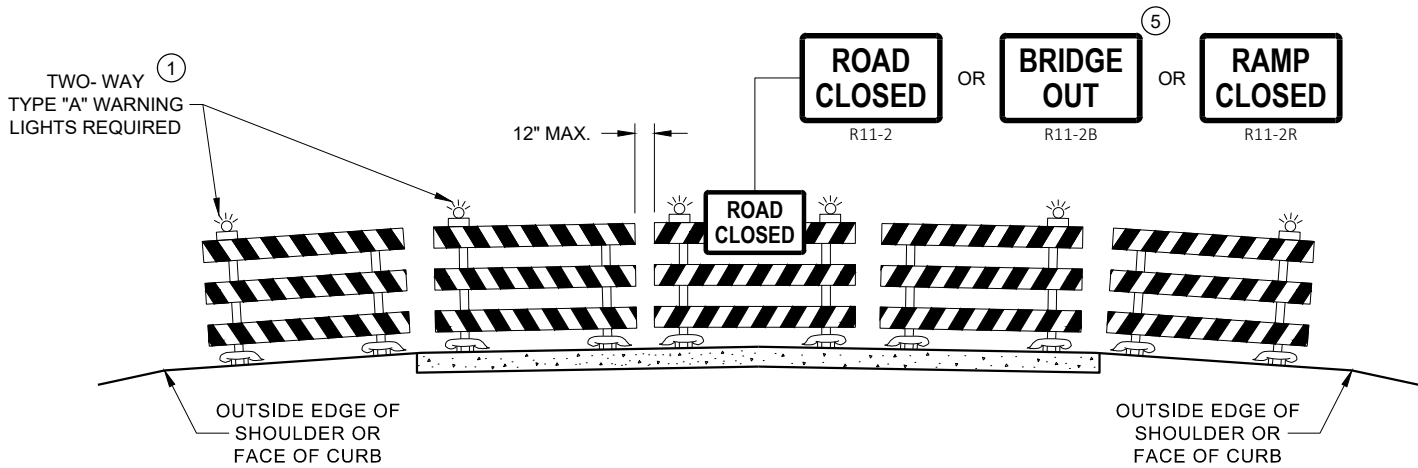


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

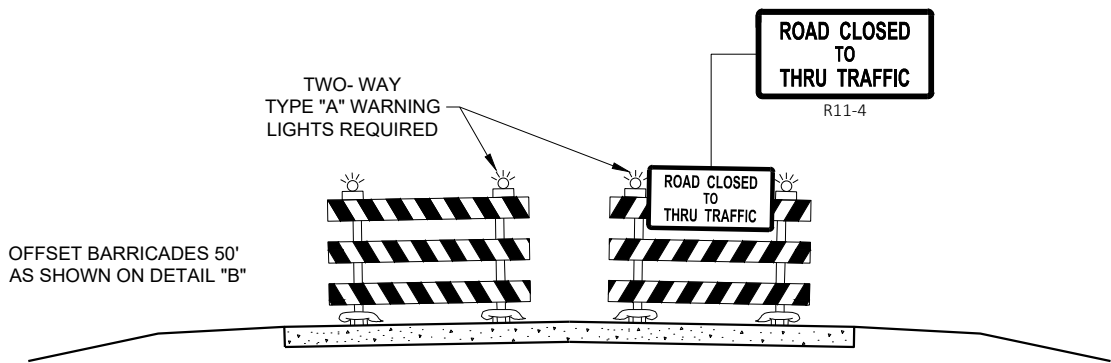
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 23
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"

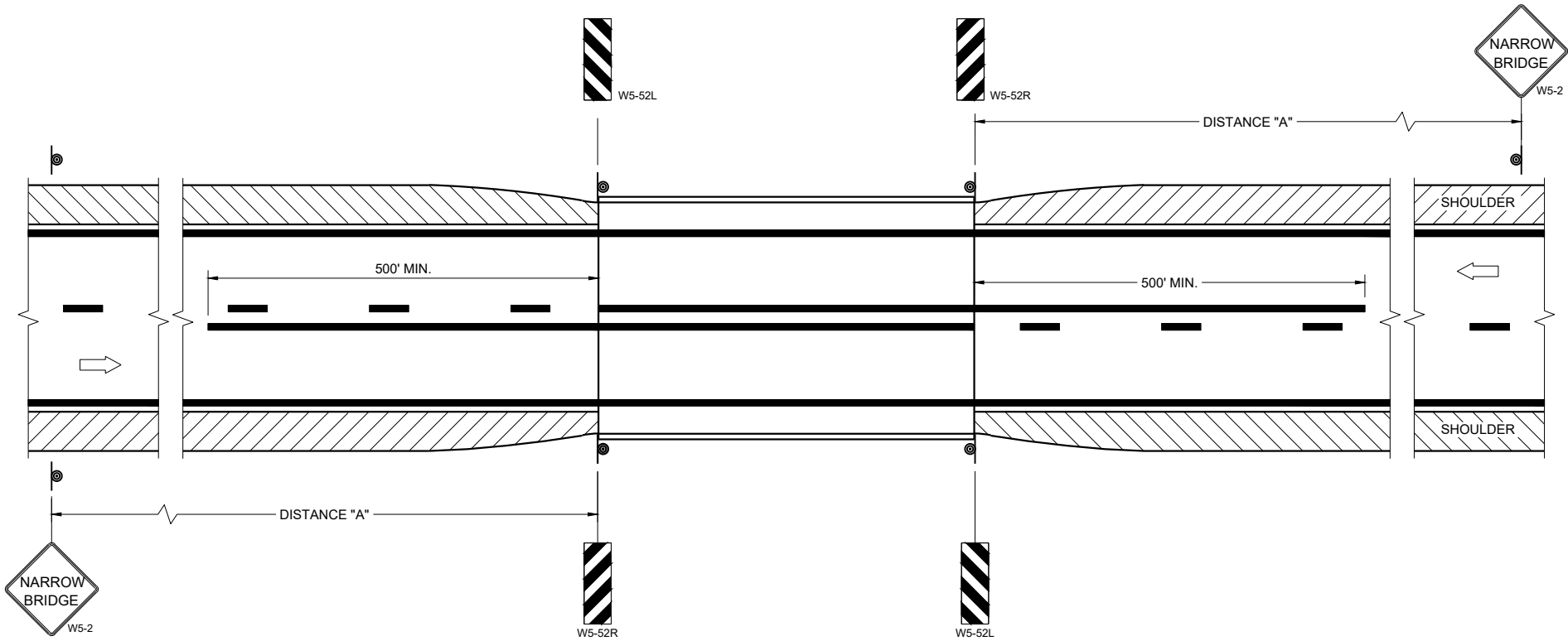
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS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

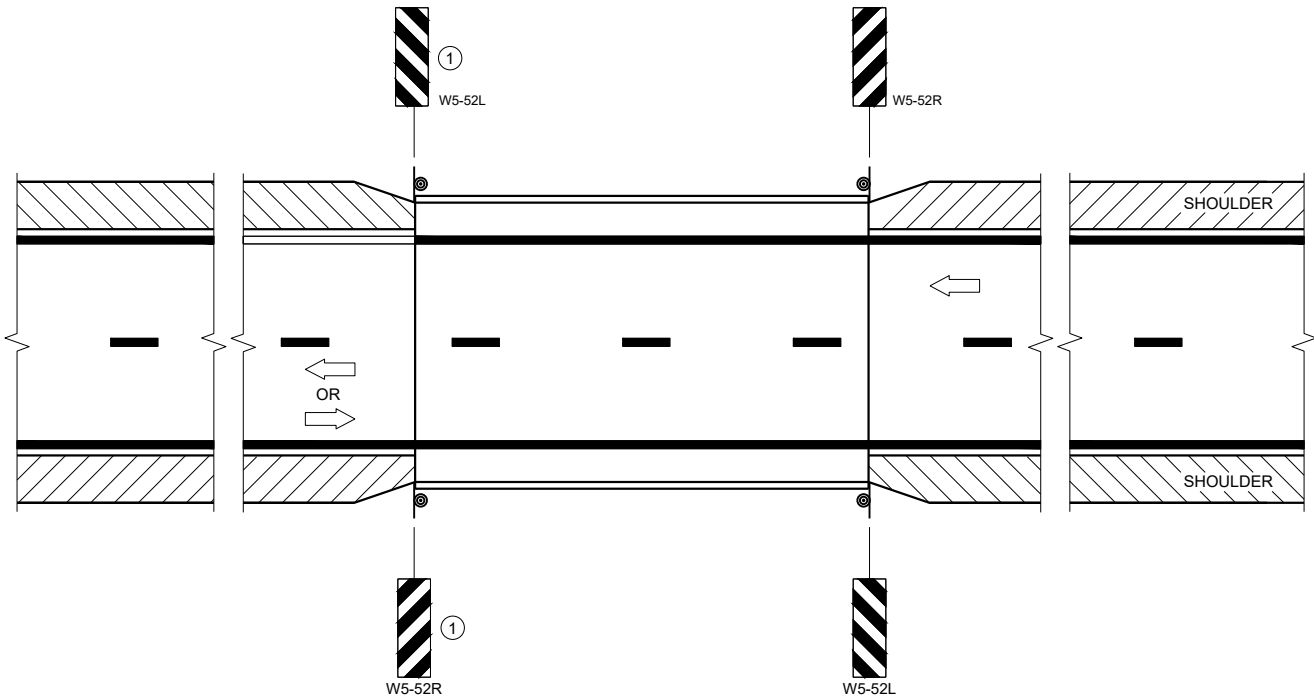
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 24

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

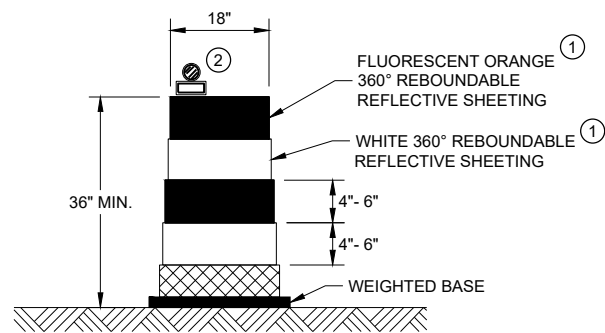
DISTANCE TABLE

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**

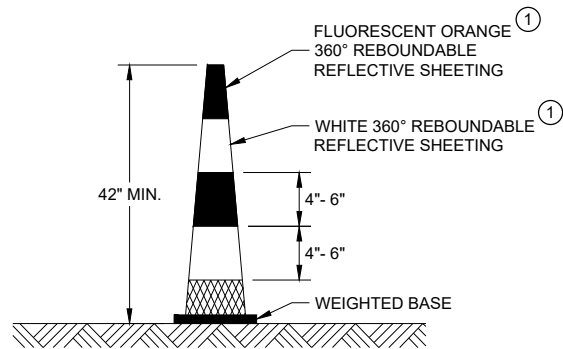
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA 25



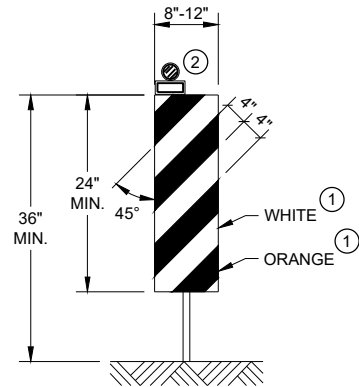
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



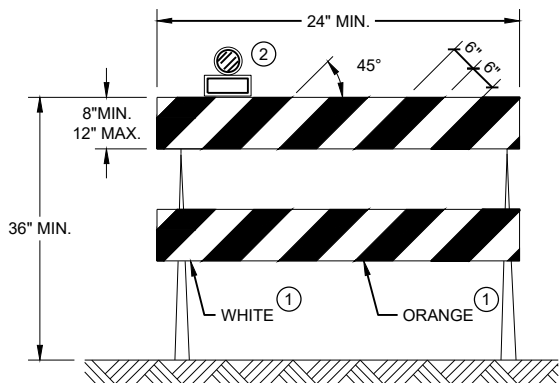
42" CONE

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



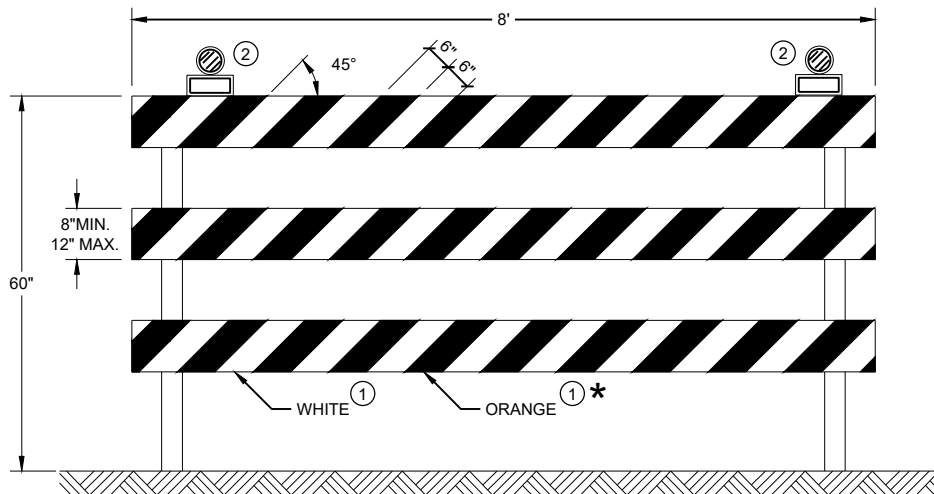
VERTICAL PANEL

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

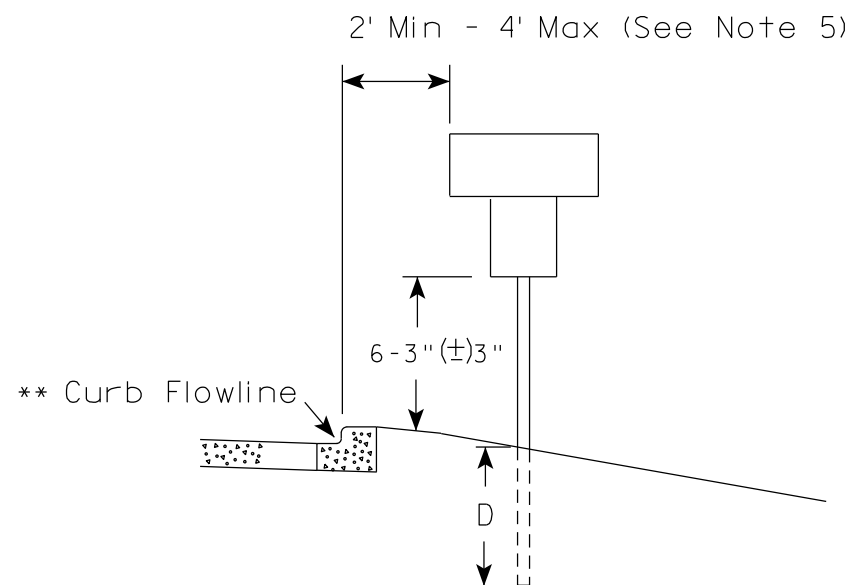
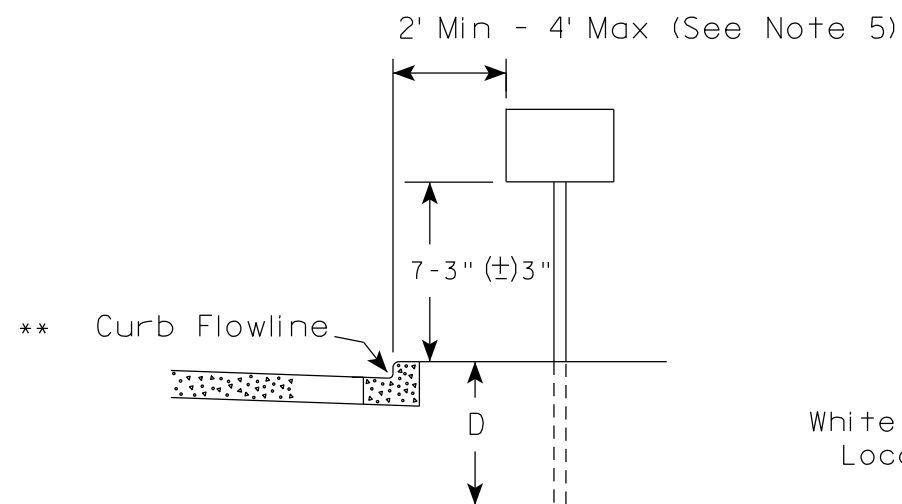
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

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

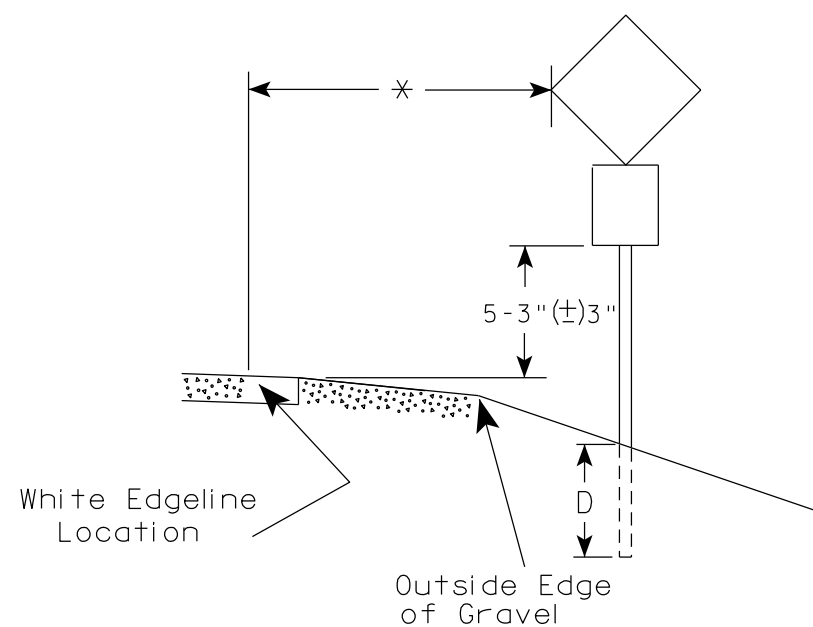
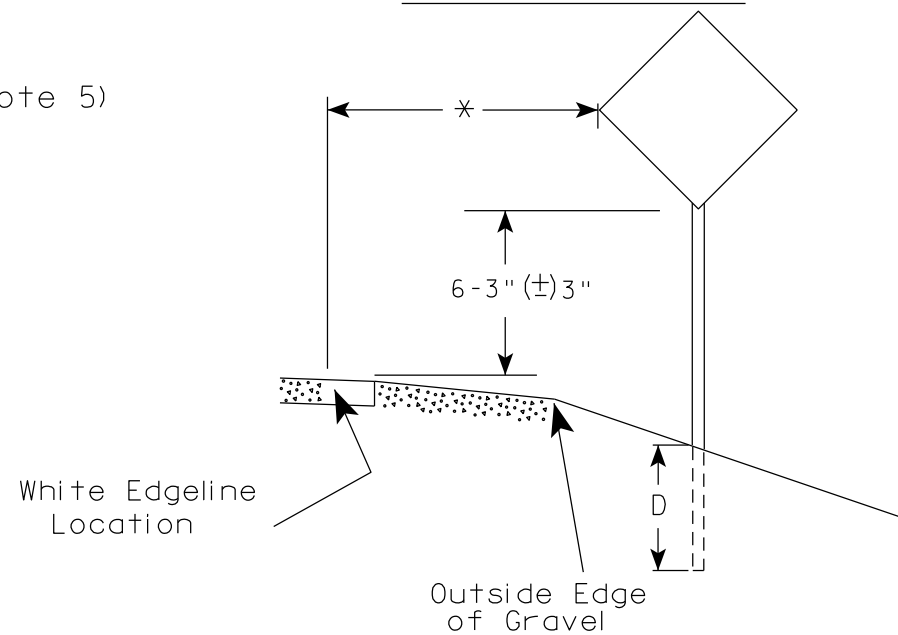
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 26
FHWA

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

- 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.

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

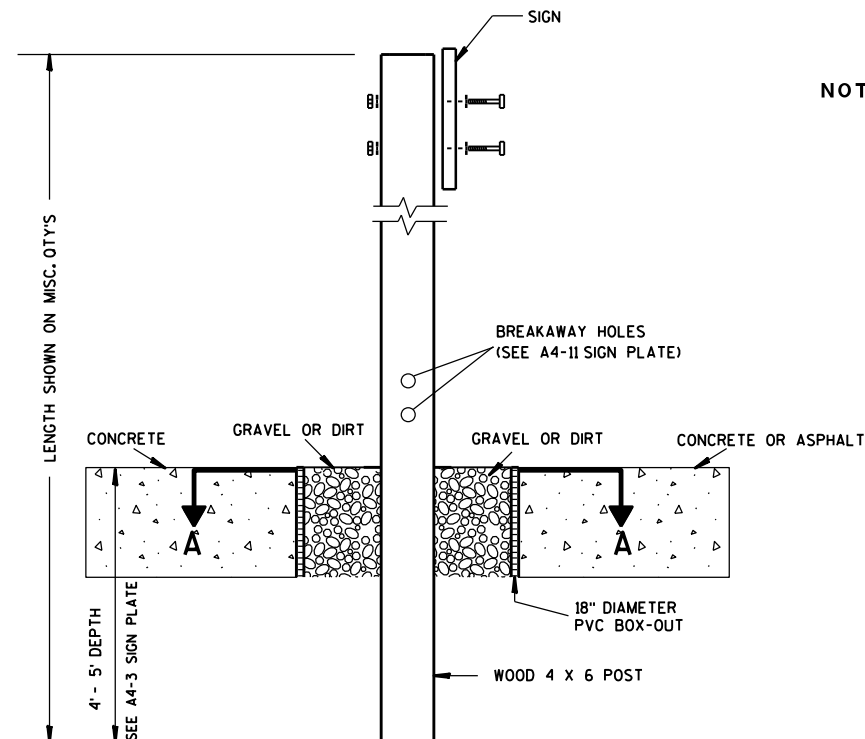
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

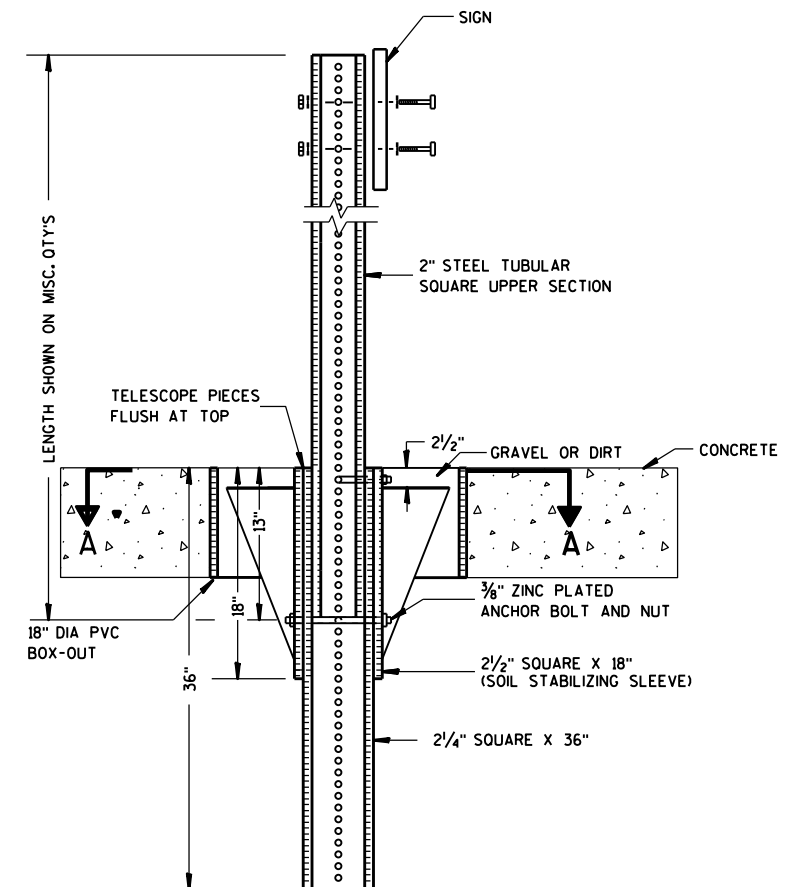
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

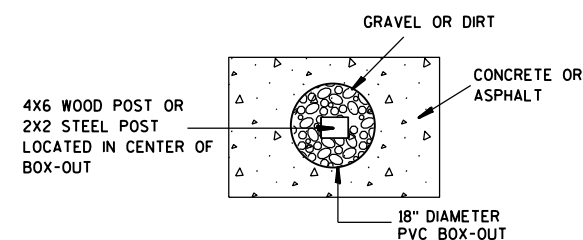
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 28 A4-3B.1

PROJECT NO:

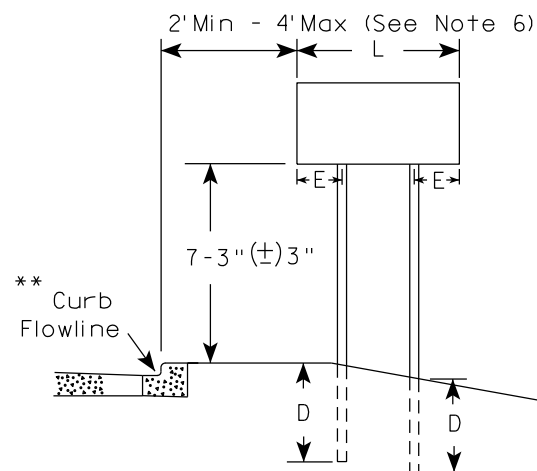
HWY:

COUNTY:

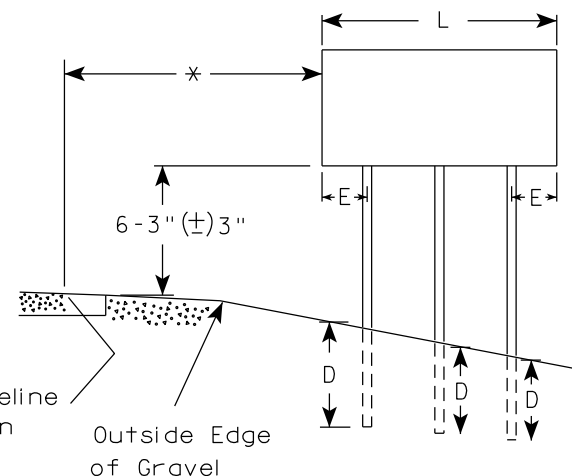
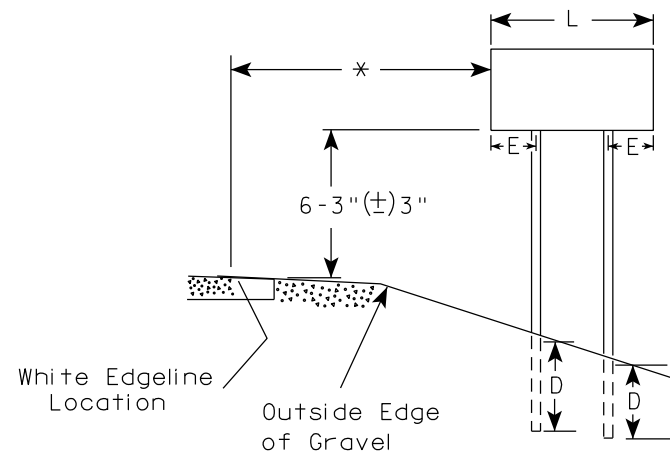
SHEET NO:

E

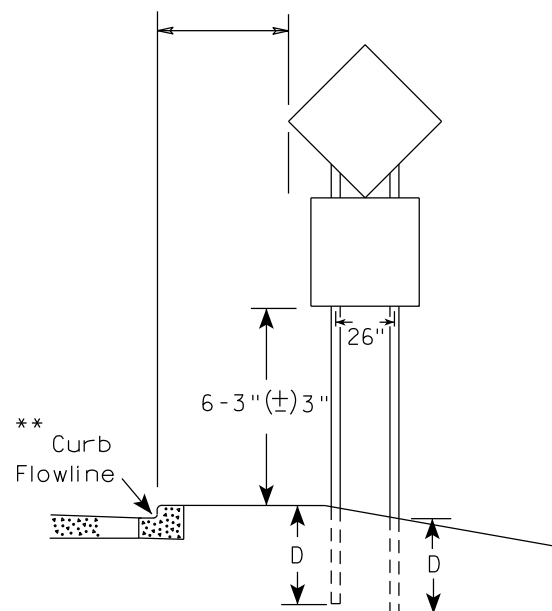
URBAN AREA



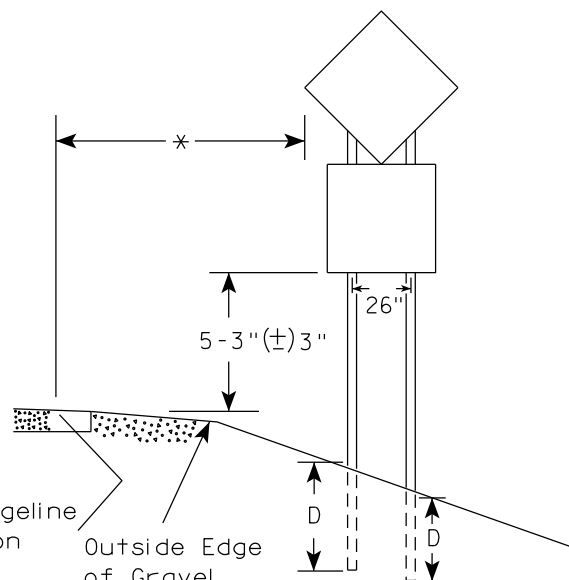
RURAL AREA (See Note 3)



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

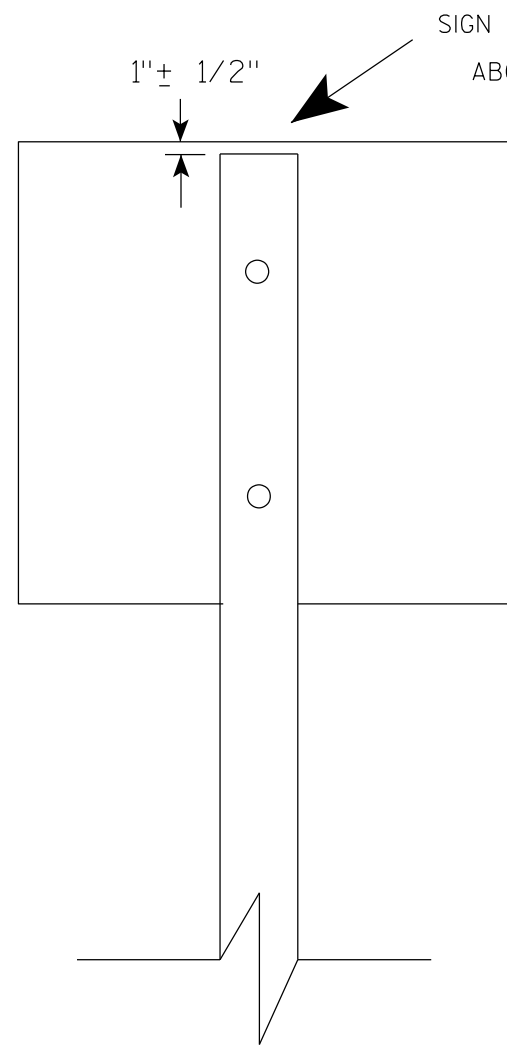
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

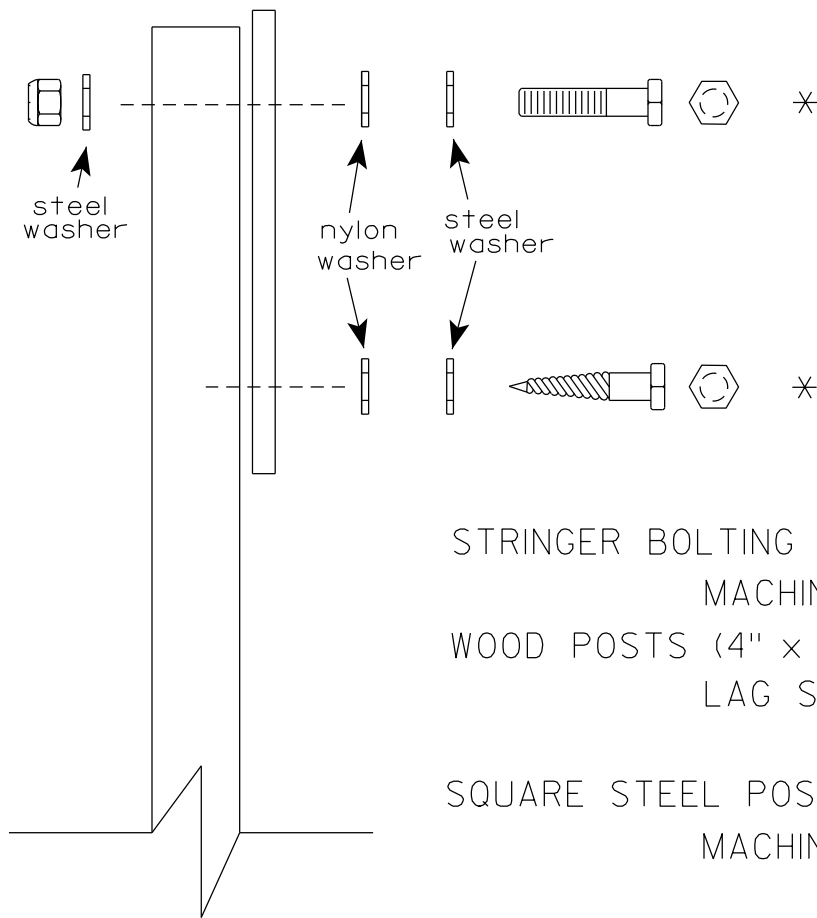
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



SIGN SHALL BE MOUNTED TO PROJECT
ABOVE THE TOP OF THE POST



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.

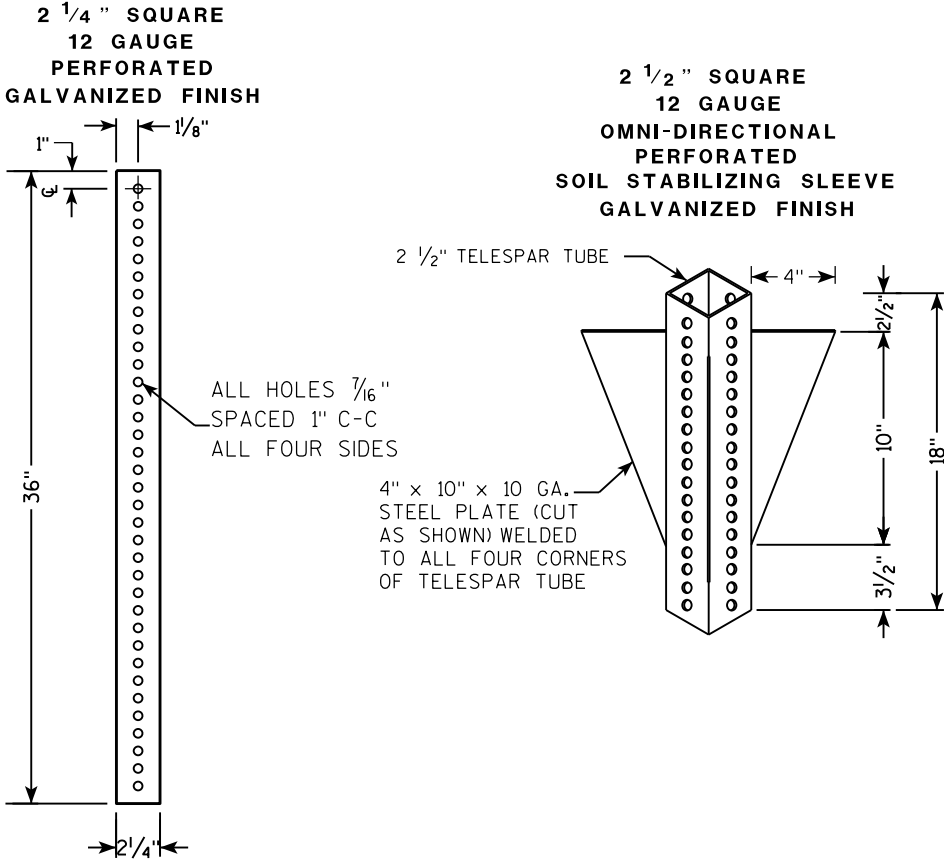
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

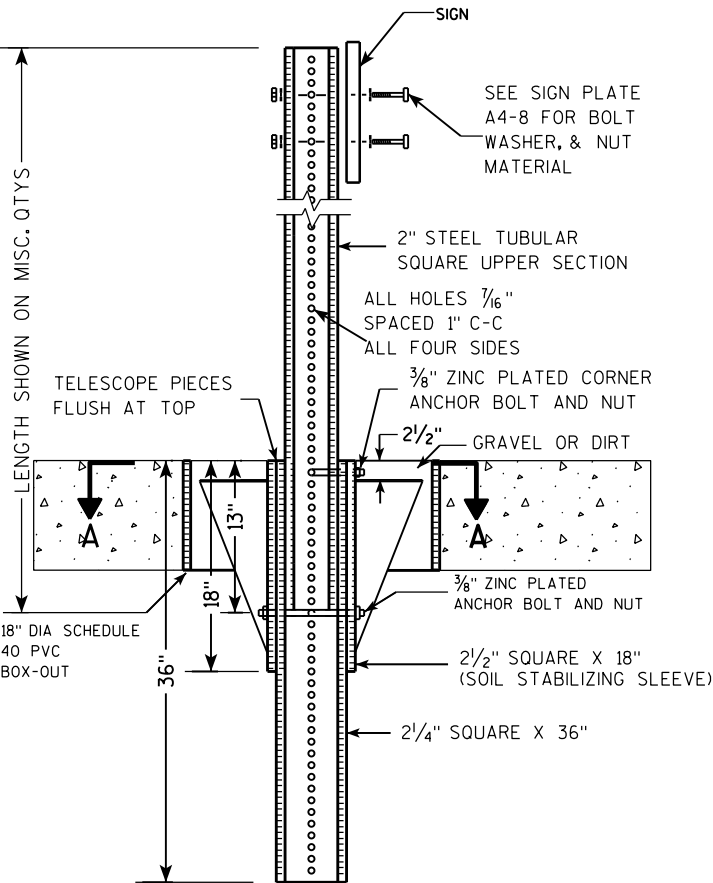
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

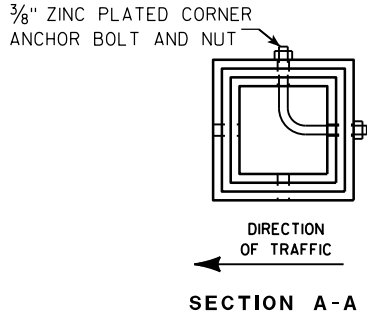
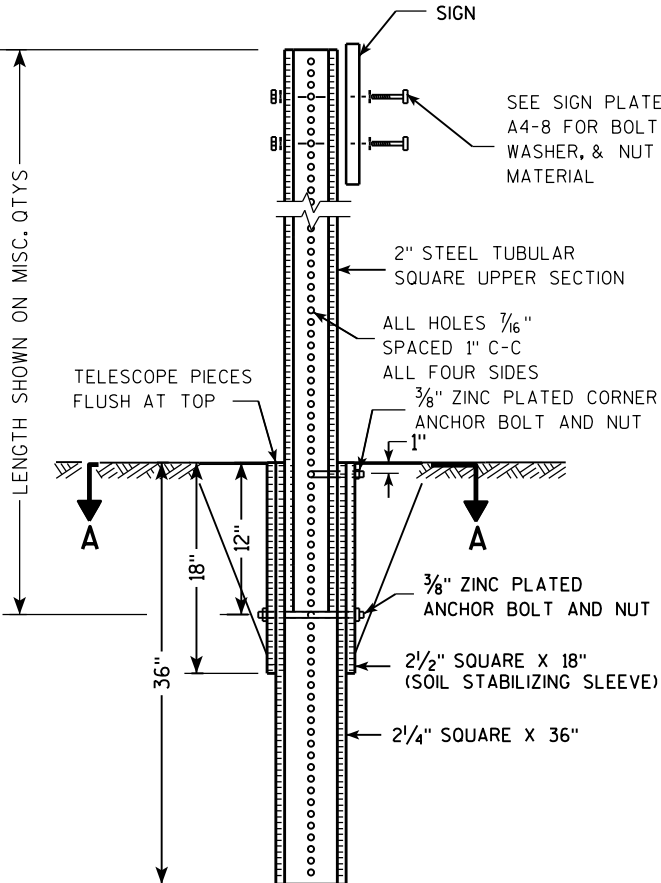
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



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



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

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

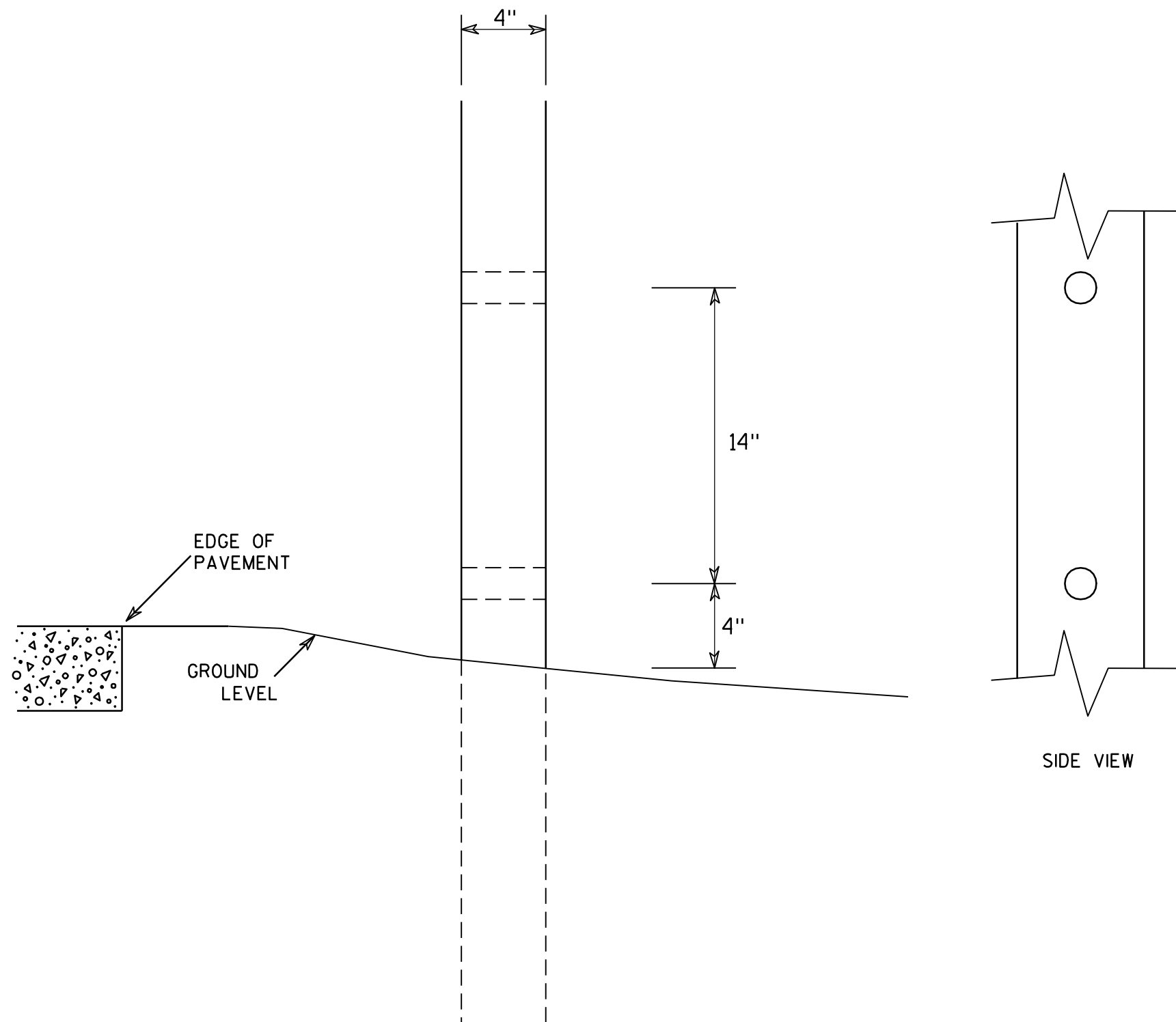
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 31 14-9.9

7

GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

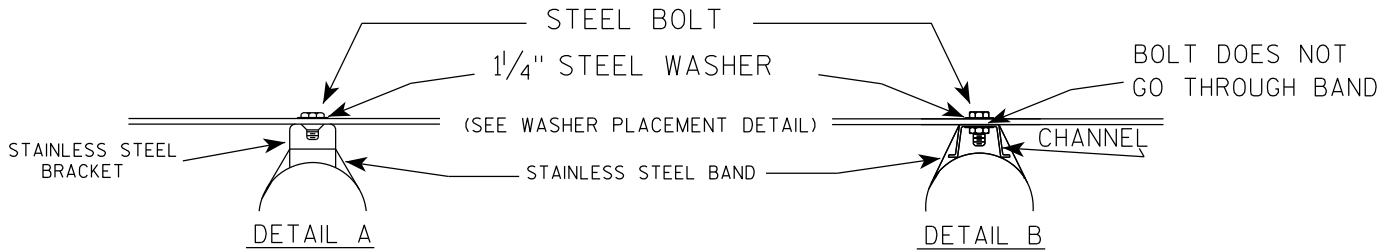
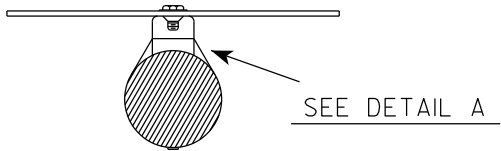
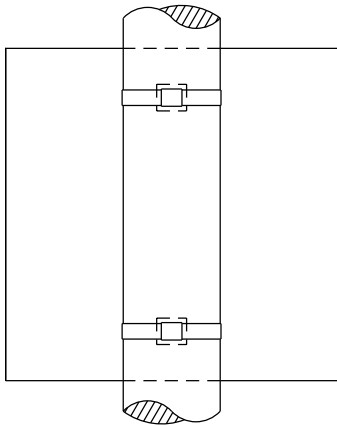
COUNTY:

SHEET NO: 32

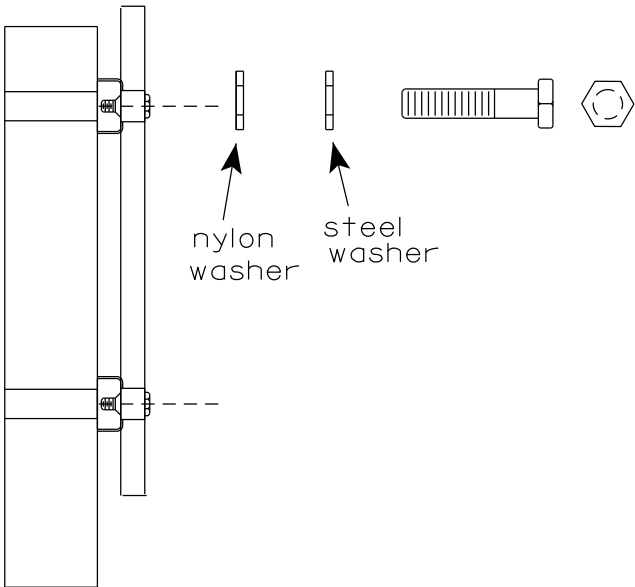
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

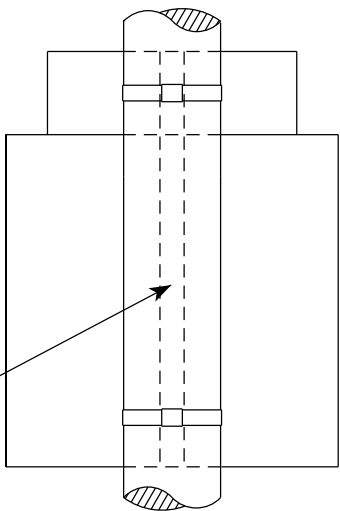


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

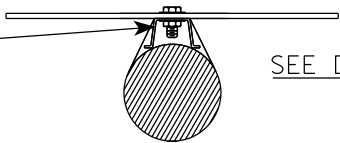
GENERAL NOTES

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

"J" ASSEMBLY



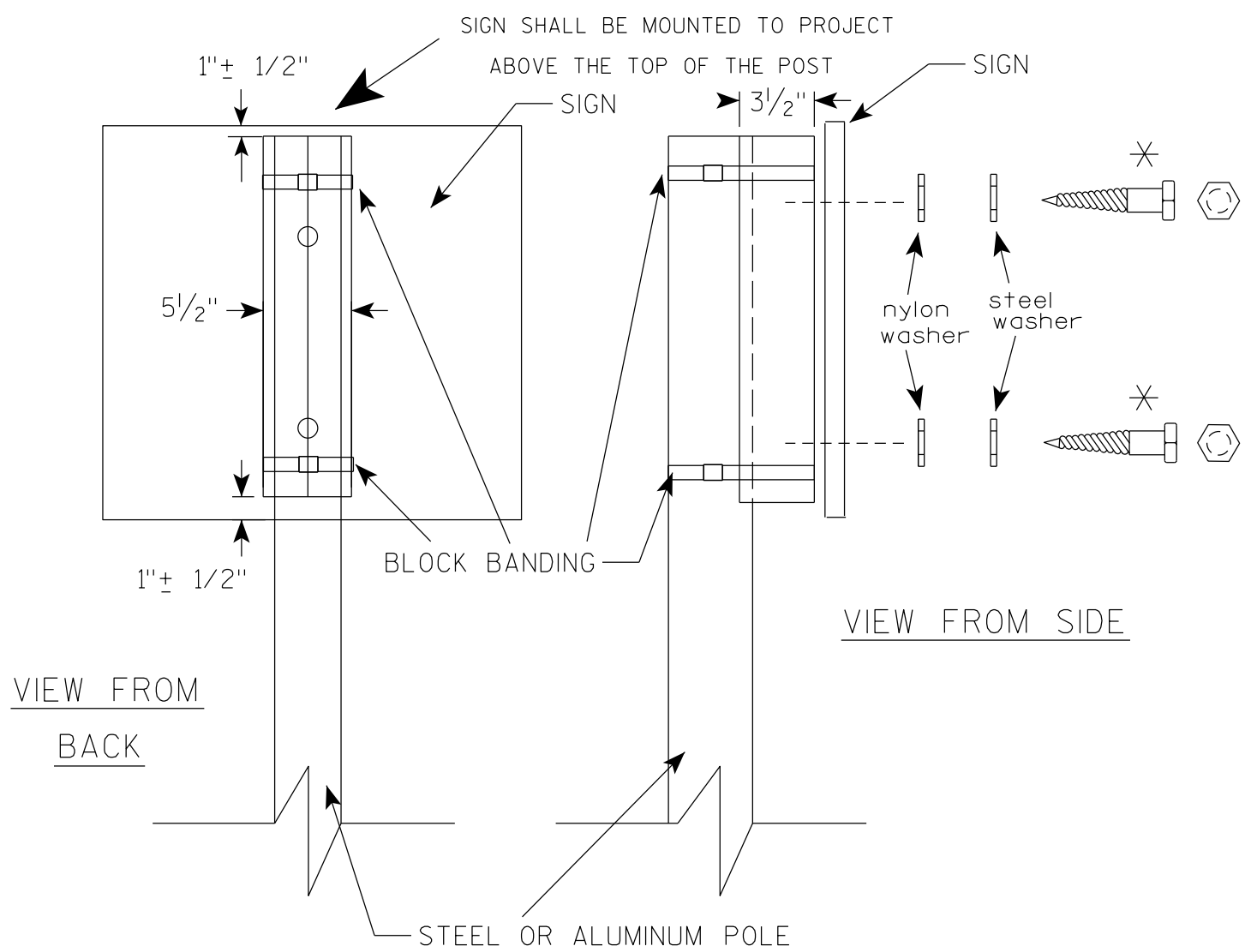
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

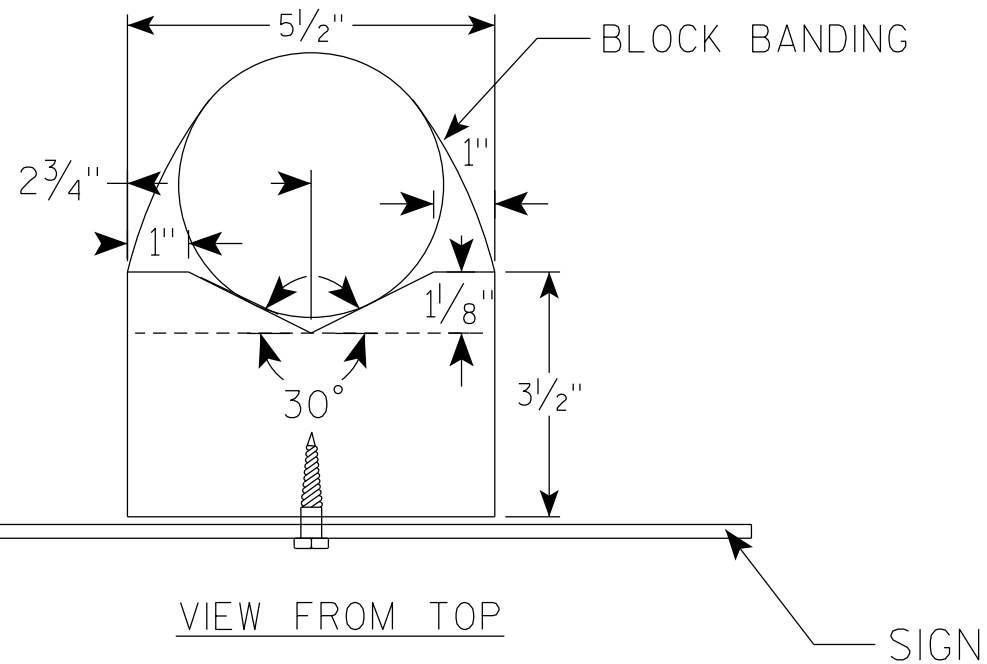
WISCONSIN DEPT OF TRANSPORTATION

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



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

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

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

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

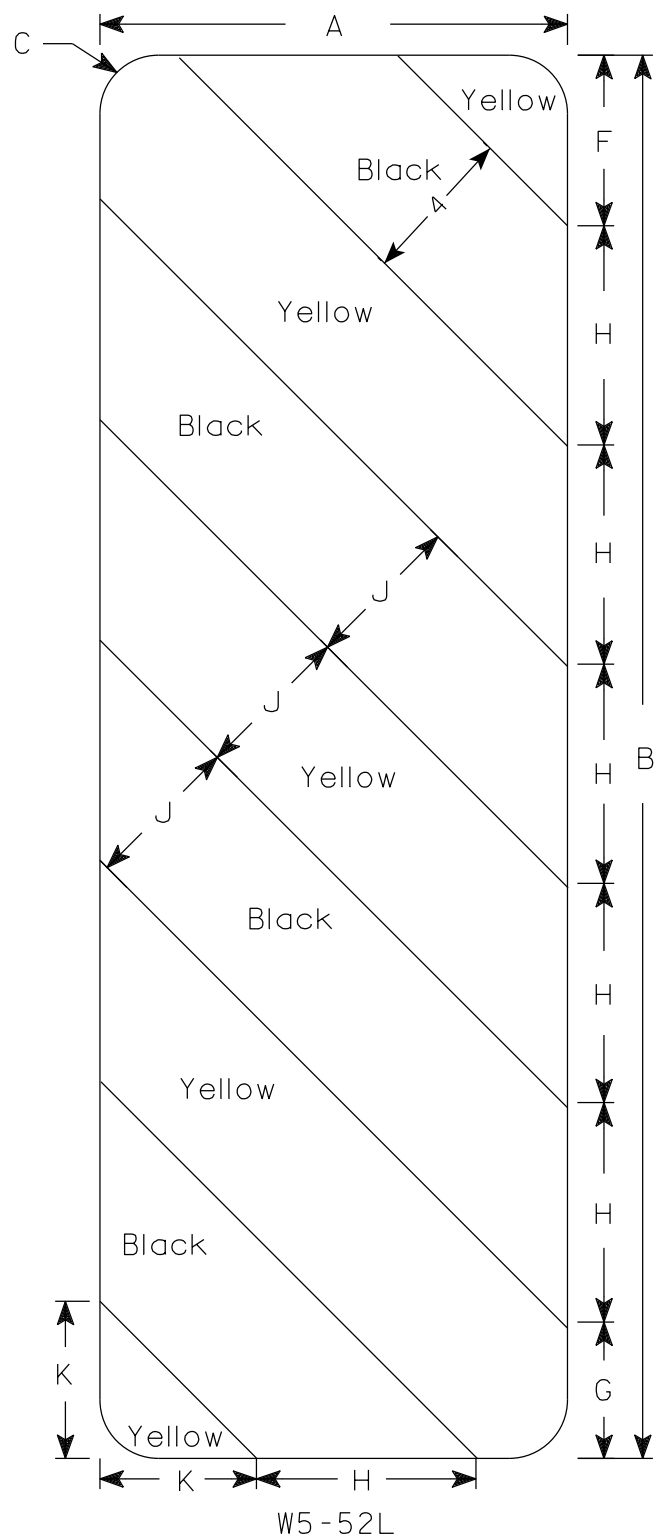
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

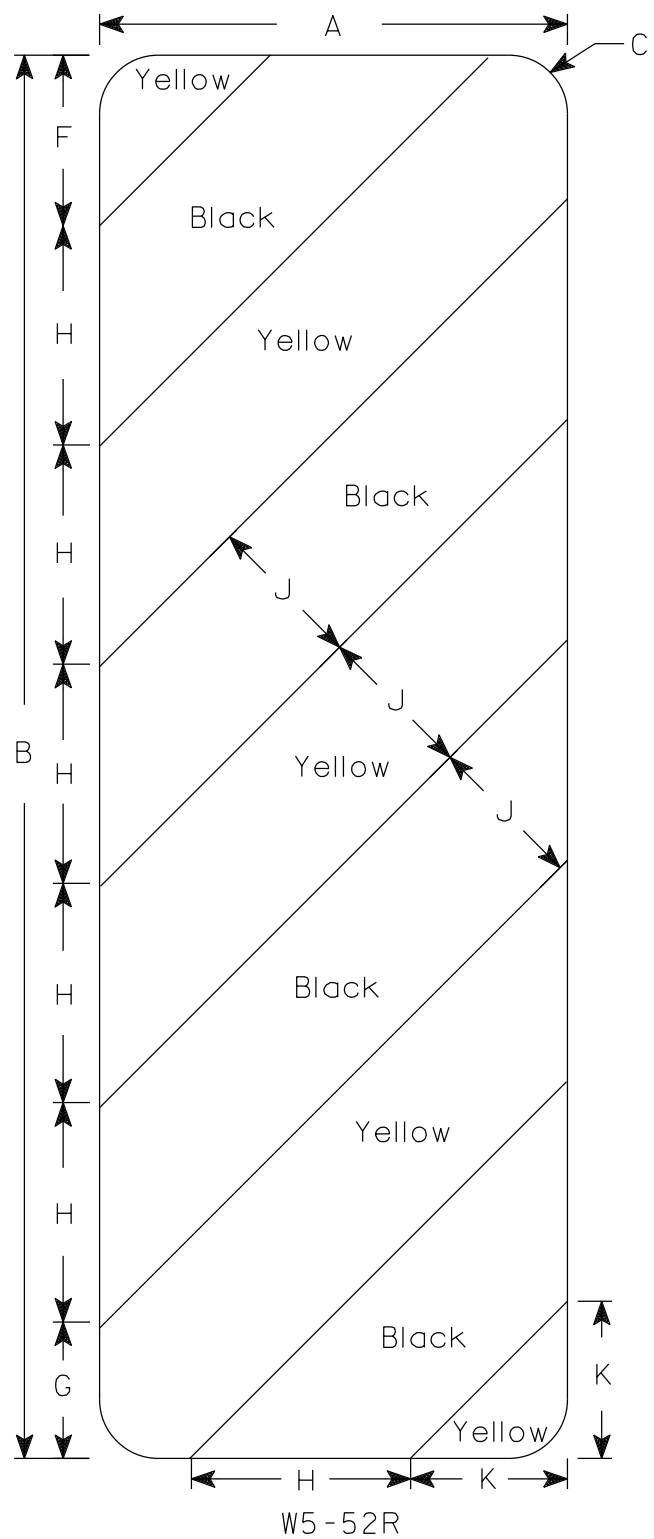
PROJECT NO:

SHEET NO: 34

E



W5-52L



W5-52R

NOTES

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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 35

E

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.24
OPERATING RATING: RF = 1.61
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 WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 20,000 PSF***. A GEOTECHNICAL ENGINEER WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE ABUTMENT FOOTING.

***THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 2,640$ C.F.S.
 $V_{100} = 12.6$ F.P.S.
 $HW_{100} = EL. 1211.67$
WATERWAY AREA = 210 SQ. FT.
DRAINAGE AREA = 85 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 8

2-YEAR FREQUENCY:

$Q_2 = 1,020$ C.F.S.
 $V_2 = 9.7$ F.P.S.
 $HW_2 = EL. 1207.19$

TRAFFIC DATA

FEATURE ON: TOWN PARK DRIVE

ADT = <100 (2026)
ADT = <100 (2046)
R.D.S. = 15 MPH

LIST OF DRAWINGS:

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

CURVE DATA

PI STA = 9+28.50
Y = 383799.47
X = 722888.03
DELTA = 60°58'28" RT
D = 64°28'50"
T = 52.31'
L = 94.56'
R = 88.86'
PC STA = 8+76.19
Y = 383748.81
X = 722901.07
PT STA = 9+70.75
Y = 383748.81
X = 722926.00
DB = N14°26'11"W
DA = N46°32'17"E

CURVE DATA

PI STA = 10+68.71
Y = 383902.84
X = 722997.10
DELTA = 37°25'28" RT
D = 40°53'35"
T = 47.46'
L = 91.52'
R = 140.11'
PC STA = 10+21.25
Y = 383870.19
X = 722962.65
PT STA = 11+12.77
Y = 383870.19
X = 723044.30
DB = N46°32'17"E
DA = N83°57'45"E

PLAN

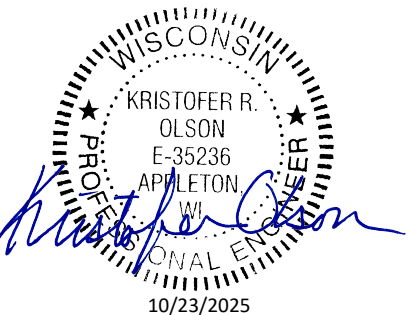
SINGLE-SPAN CONCRETE FLAT SLAB

ELEVATION

(NORMAL TO WATERWAY)

COST OF EXCAVATION, INCLUDING ROCK, IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-26-47"

REMOVE EXISTING STRUCTURE AS NEEDED. COST INCLUDED IN "REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE P-26-903" ITEM. TYPICAL AT ALL SUBSTRUCTURES.



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

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
AYRES 700 Pilgrim Way, Suite 180 Green Bay, WI 54304 www.AyresAssociates.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	11/10/25 DATE
STRUCTURE B-26-47			
TOWN PARK DRIVE OVER W BR. MONTREAL RIVER			
COUNTY	IRON	TOWN	KIMBALL
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY JMC/JLB	DESIGN CK'D NBE/JMC	DRAWN BY JMC	PLANS CK'D KRO
GENERAL PLAN			SHEET 1 OF 14 36

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-26-47" SHALL BE THE EXISTING GROUNDLINE.

EXCAVATION OF ALL MATERIAL, INCLUDING ROCK, SHALL BE PAID FOR UNDER THE "EXCAVATION FOR STRUCTURES BRIDGES B-26-47" BID ITEM. ALL EXCAVATION SHALL BE CLEANED BY HAND AND INSPECTED TO VERIFY THE SURFACE IS FREE OF LOOSE RUBBLE AND SOIL PRIOR TO CONCRETE PLACEMENT.

THE SURFACE OF BEDROCK MAY BE IRREGULAR AT THE ABUTMENT LOCATIONS. ADJUSTMENT OF THE ABUTMENT HEIGHT WILL BE ALLOWED AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. REPORT ELEVATIONS OF THE BEDROCK TO THE ENGINEER ONCE IT IS EXPOSED.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED AS SHOWN IN DETAIL ON SHEET 3 AND APPLY TO ENTIRE EXPOSED TOP OF SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND FRONT FACE OF ABUTMENT TO 1'-0" PAST THE EDGE OF SLAB.

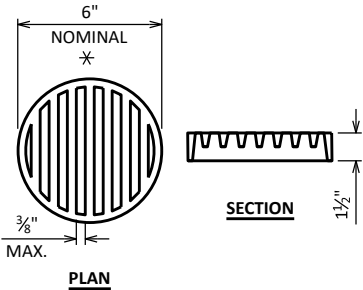
AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

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

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

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

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 DEBRIS CAPTURE" BID ITEM.

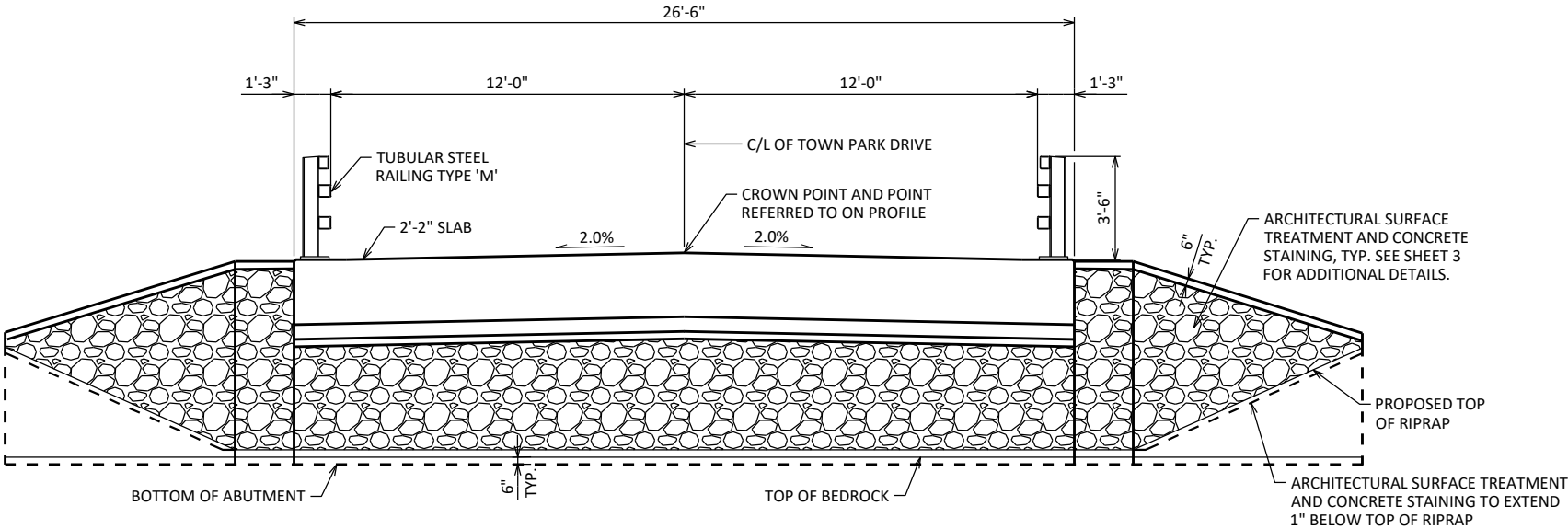


RODENT SHIELD DETAIL

✱ 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.



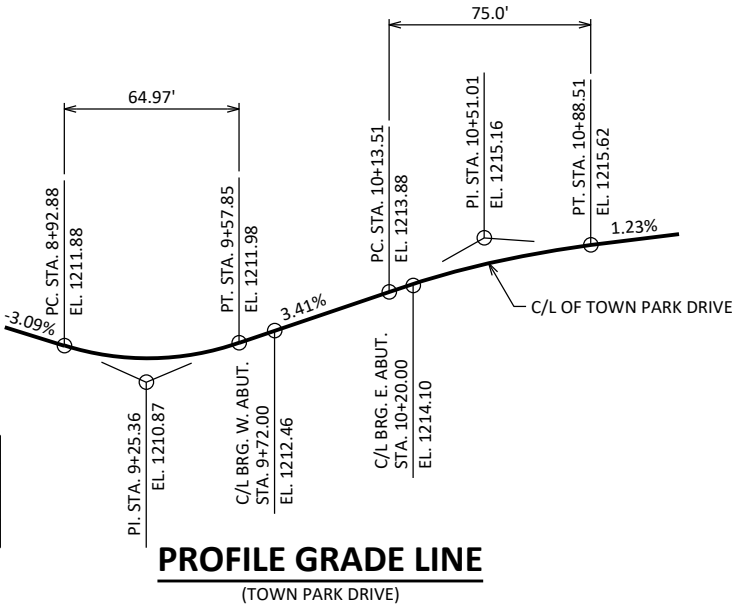
TYPICAL SECTION THRU BRIDGE

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	W ABUT.	E ABUT.	TOTALS
203.0270	REMOVING STRUCTURE OVER WATERWAY DEBRIS CAPTURE (P-26-903)	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-26-47	EACH	---	---	---	1
206.5001	COFFERDAMS (B-26-47)	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	120	110	230
502.0100	CONCRETE MASONRY BRIDGES	CY	112.3	22.1	18.3	153
502.3200	PROTECTIVE SURFACE TREATMENT	SY	180	10	5	195
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURE	LB	---	1,290	1,290	2,580
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	21,510	1,140	820	23,470
513.4061	RAILING TUBULAR TYPE M	LF	106	---	---	106
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	6	6	12
517.1015.S	CONCRETE STAINING MULTI-COLOR B-26-47	SF	--	190	155	345
517.1050.S	ARCHITECTURAL SURFACE TREATMENT B-26-47	SF	---	190	155	345
606.0400	RIPRAP EXTRA-HEAVY	CY	---	20	20	40
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	60	50	110
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	---	35	25	60
645.0120	GEOTEXTILE TYPE HR	SY	---	35	45	80
SPV.0180	INFILL RIPRAP B-26-47	SY	---	---	---	50
	NON-BID ITEMS					
	FILLER	SIZE	---	---	---	½", ¾"

BENCH MARK

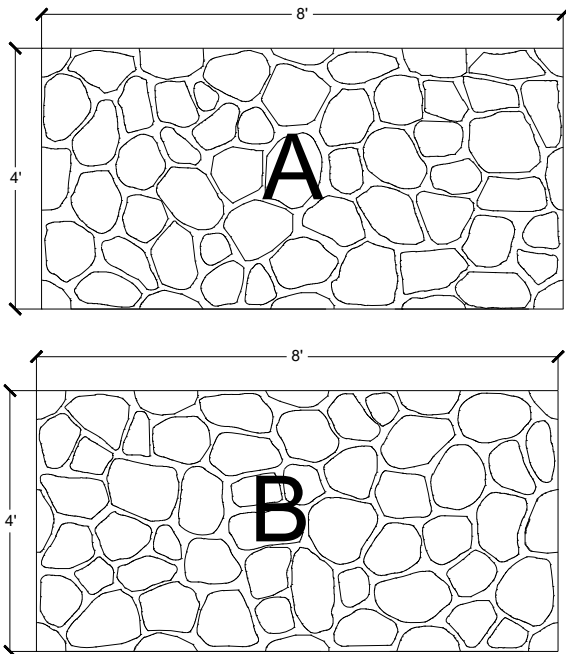
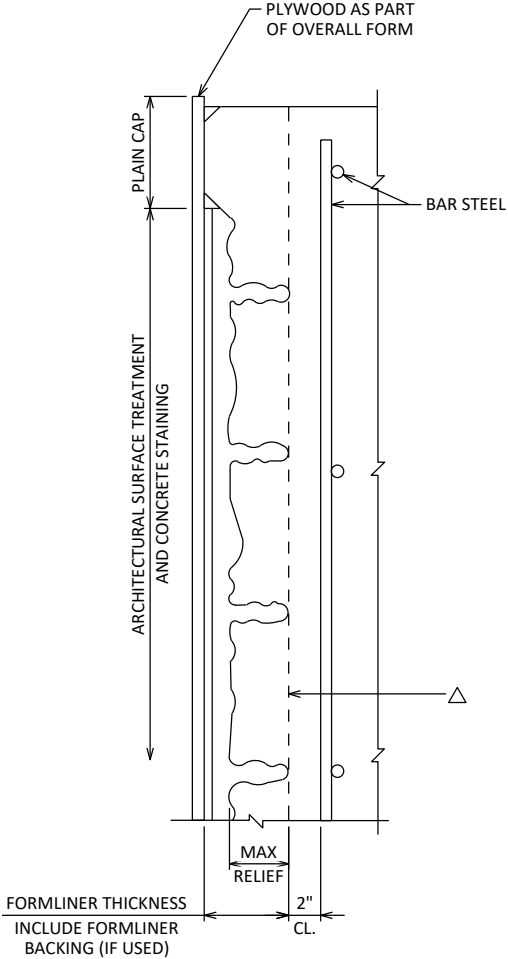
NO.	STATION	DESCRIPTION	ELEV.
50	12+19	SURVEY SPIKE IN 18" MAPLE, ON C/L	1218.27
51	9+82	CHIS. 'X' IN ABUTMENT, 8' RT	1211.26
52	8+66	120 'D' SPIKE IN ROOT OF 36" OAK, 15' LT	1213.11



PROFILE GRADE LINE

(TOWN PARK DRIVE)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-26-47			
		DRAWN BY JMC/CLP	PLANS CK'D JMC
TYPICAL SECTION, QUANTITIES AND NOTES		SHEET 2 OF 14	
		37	

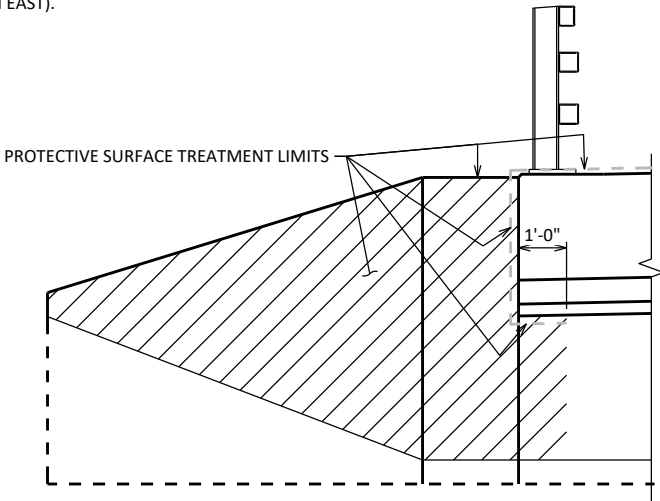


SPLIT FACE FIELDSTONE
MAX. RELIEF = 1 1/4"
FORMLINER DETAILS

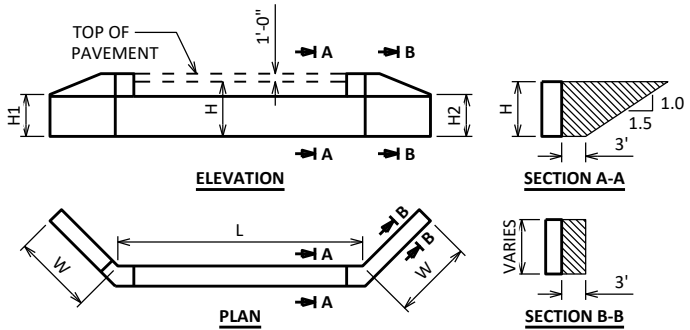
SECTION THRU FORMLINER

△ STRUCTURAL CONCRETE CAN ONLY BE ASSUMED TO THIS LINE. PROVIDE ADDITIONAL STRUCTURE SIZE AS NECESSARY TO MAINTAIN MINIMUM FULL STRUCTURAL CONCRETE DIMENSIONS AS INDICATED ON THE STANDARDS.

THE SPECIAL PROVISION FOR THE BID ITEM, ARCHITECTURAL SURFACE TREATMENT B-26-47 TO BE SIMILAR PATTERN TO B-26-32 (DUPONT ROAD OVER MONTREAL RIVER, 6.8 MILES NORTH EAST).



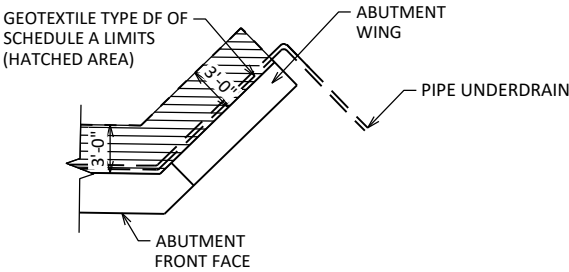
PROTECTIVE SURFACE TREATMENT DETAIL



ABUTMENT BACKFILL DIAGRAM

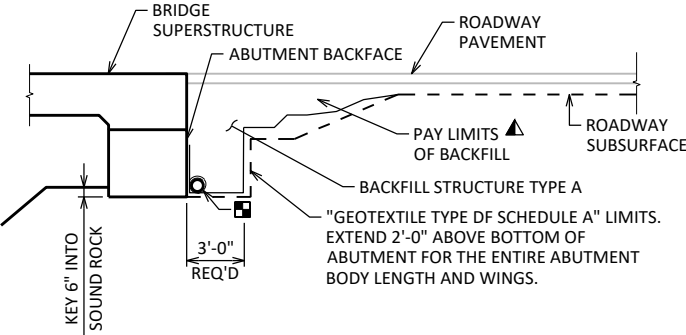
- L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- H1 = WING 1 HEIGHT AT TIP (FT)
- H2 = WING 2 HEIGHT AT TIP (FT)
- W = WING LENGTH (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$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

NOTE:
THE BACKFILL QUANTITY WAS CALCULATED BASED ON THE STANDARD FORMULA. IF BEDROCK OCCUPIES SPACE BEHIND THE ABUTMENTS THE QUANTITY WILL BE REDUCED.



BACKFILL STRUCTURE LIMITS

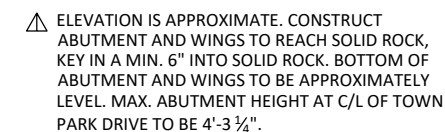
ABUTMENT PLAN WITH WING



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). SLOPED 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-26-47			
DRAWN BY JMC/CLP		PLANS CK'D JMC	
STRUCTURE DETAILS		SHEET 3 OF 14 38	






ELEVATION
LOOKING DOWNSTATION

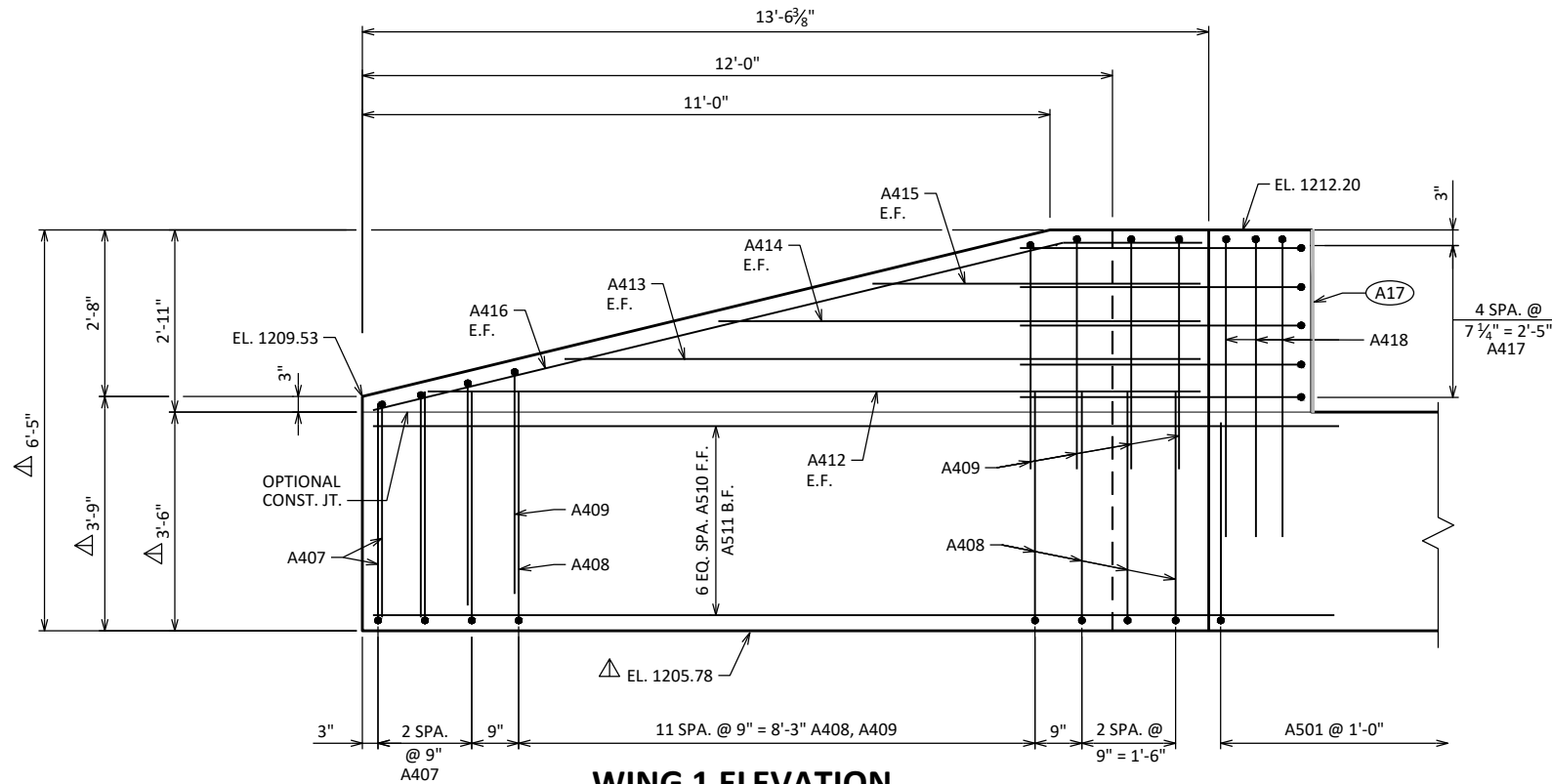


ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

- A15** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. AN 8" DIA. HOLE IN ABUTMENT IS REQ'D. LOCATE TO MISS REINF. STEEL.
- A17** ½" FILLER: 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" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

- 
 ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- 
 ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.
- 
 FORMLINER - SEE SHEET 3 FOR DETAILS.

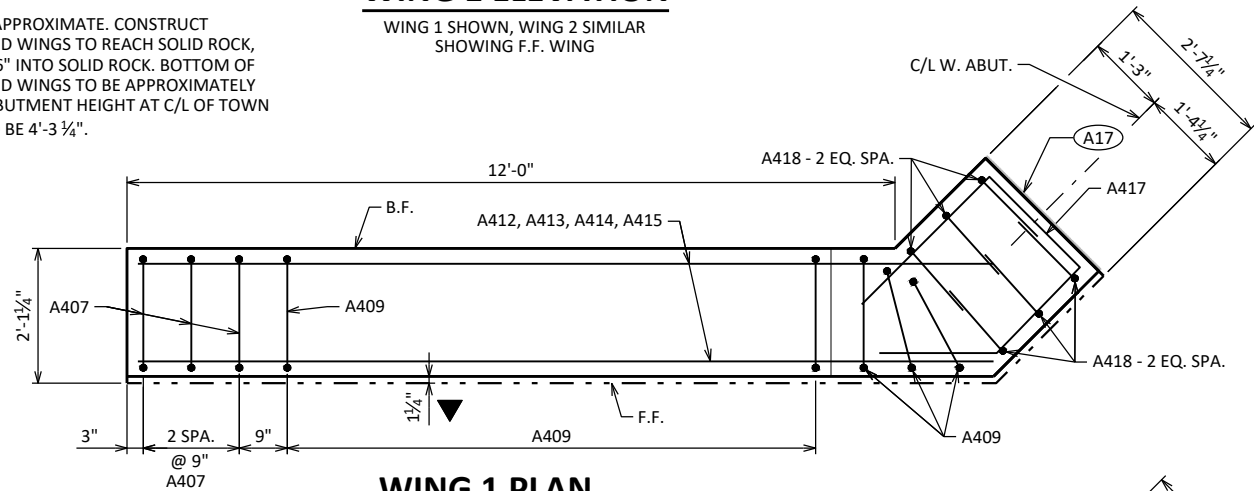
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-26-47	
		DRAWN BY	CLP
		PLANS CK'D	JMC
WEST ABUTMENT		SHEET 5 OF 14	
		40	



WING 1 ELEVATION

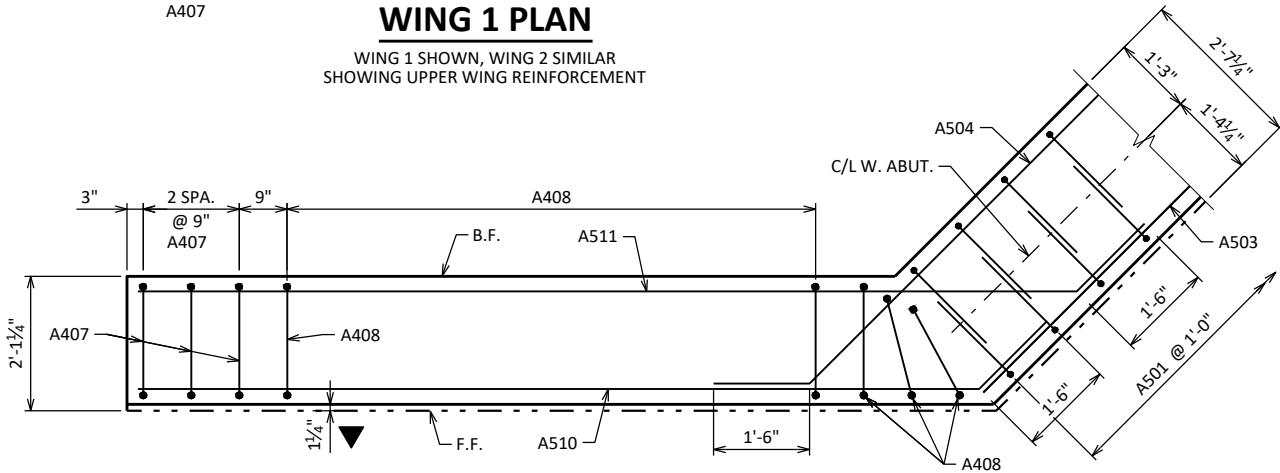
WING 1 SHOWN, WING 2 SIMILAR
SHOWING F.F. WING

ELEVATION IS APPROXIMATE. CONSTRUCT ABUTMENT AND WINGS TO REACH SOLID ROCK, KEY IN A MIN. 6" INTO SOLID ROCK. BOTTOM OF ABUTMENT AND WINGS TO BE APPROXIMATELY LEVEL. MAX. ABUTMENT HEIGHT AT C/L OF TOWN PARK DRIVE TO BE 4'-3 1/4".



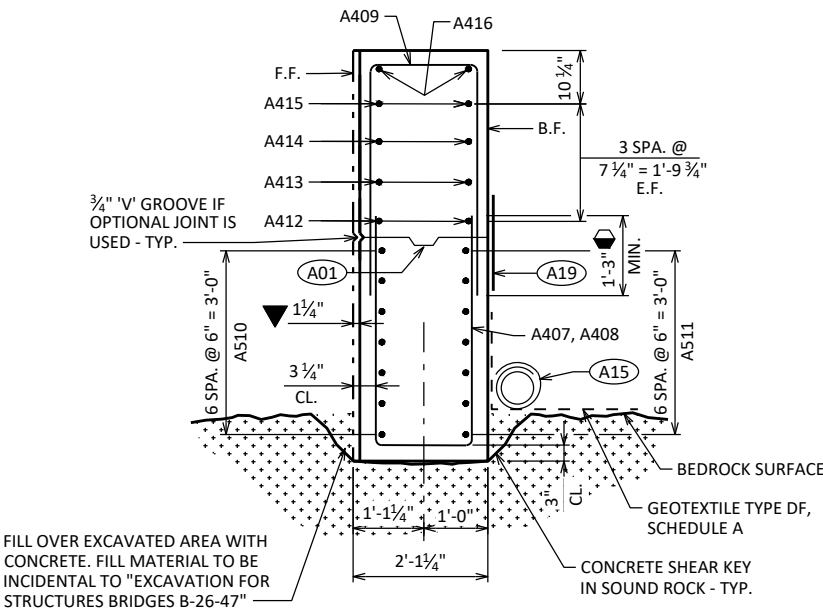
WING 1 PLAN

WING 1 SHOWN, WING 2 SIMILAR
SHOWING UPPER WING REINFORCEMENT



WING 1 PLAN

WING 1 SHOWN, WING 2 SIMILAR
SHOWING LOWER WING REINFORCEMENT



SECTION THRU WING 1

NOTE:

ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" ""V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: 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" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.

FORMLINER - SEE SHEET 3 FOR DETAILS.

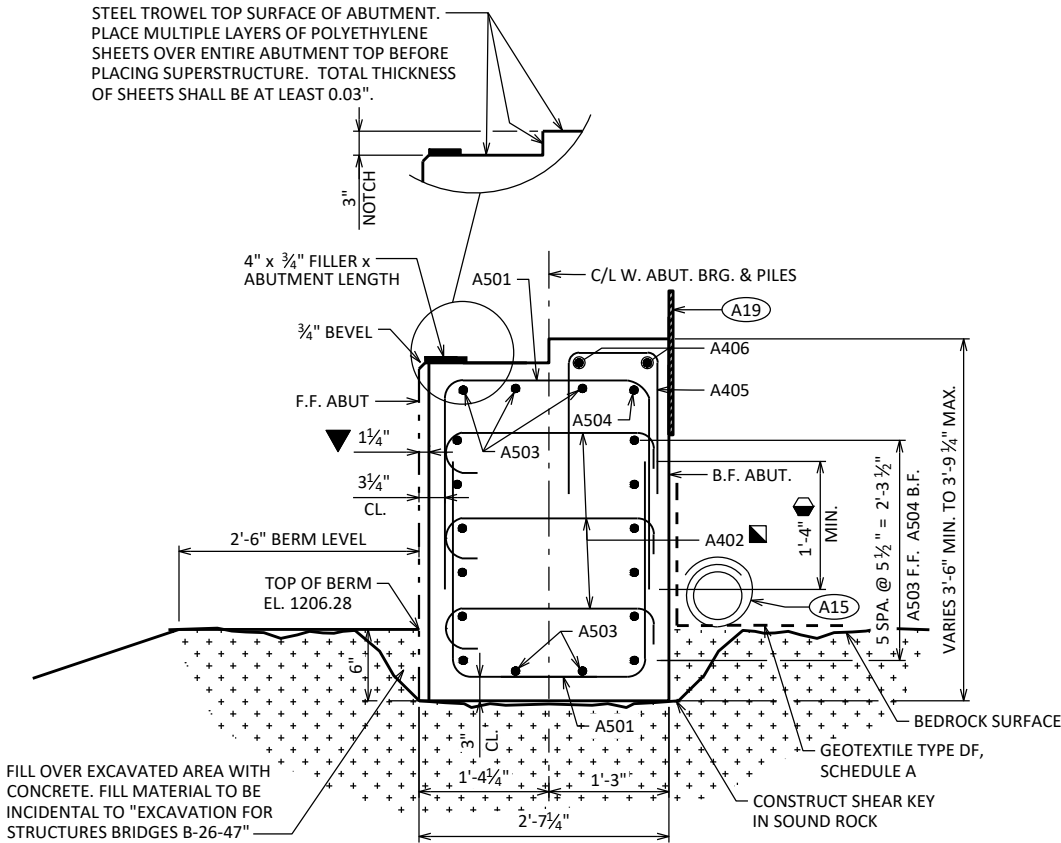
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-26-47			
DRAWN BY		CLP	PLANS CK'D JMC
WEST ABUTMENT WING DETAILS		SHEET 6 OF 14 41	

BILL OF BARS

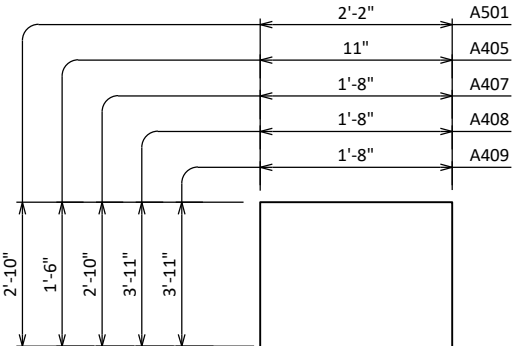
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		64	7'-7"	X		ABUT BODY STIRRUPS - U-BAR
A402		24	2'-11"	X		ABUT BODY TIE BARS
A503		11	31'-0"			ABUT BODY HORIZ. - F.F.
A504		14	20'-9"	X		ABUT BODY HORIZ. - B.F.
A405		18	3'-9"	X		ABUT. BODY TOP @ NOTCH VERT.
A406		2	26'-2"			ABUT. BODY TOP @ NOTCH HORIZ.
A407	X	12	7'-2"	X		WINGS 1 & 2 U-BAR
A408	X	30	9'-4"	X		WINGS 1 & 2 U-BAR - LOWER
A409	X	30	9'-4"	X		WINGS 1 & 2 U-BAR - UPPER
A510	X	14	14'-9"	X		WINGS 1 & 2 LOWER HORIZ - F.F.
A511	X	14	16'-5"	X		WINGS 1 & 2 LOWER HORIZ. - B.F.
A412	X	4	12'-4"			WINGS 1 & 2 UPPER HORIZ. E.F.
A413	X	4	10'-2"			WINGS 1 & 2 UPPER HORIZ. E.F.
A414	X	4	7'-8"			WINGS 1 & 2 UPPER HORIZ. E.F.
A415	X	4	5'-2"			WINGS 1 & 2 UPPER HORIZ. E.F.
A416	X	4	13'-6"	X		WINGS 1 & 2 UPPER DIAG. E.F.
A417	X	10	8'-2"	X		WINGS 1 & 2 TOP HORIZ. CORNER
A418	X	12	6'-3"	X		WINGS 1 & 2 TOP VERT. CORNER
A419	X	8	2'-6"			BODY - PIPE UNDERDRAIN OPENING

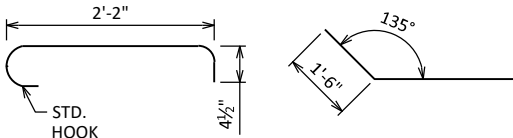
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



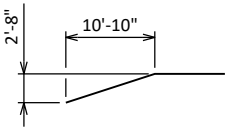
SECTION THRU BODY



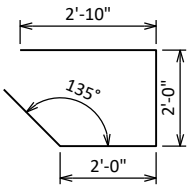
A501, A405, A407
A408, A409



A402
A504, A510, A511



A416



A417



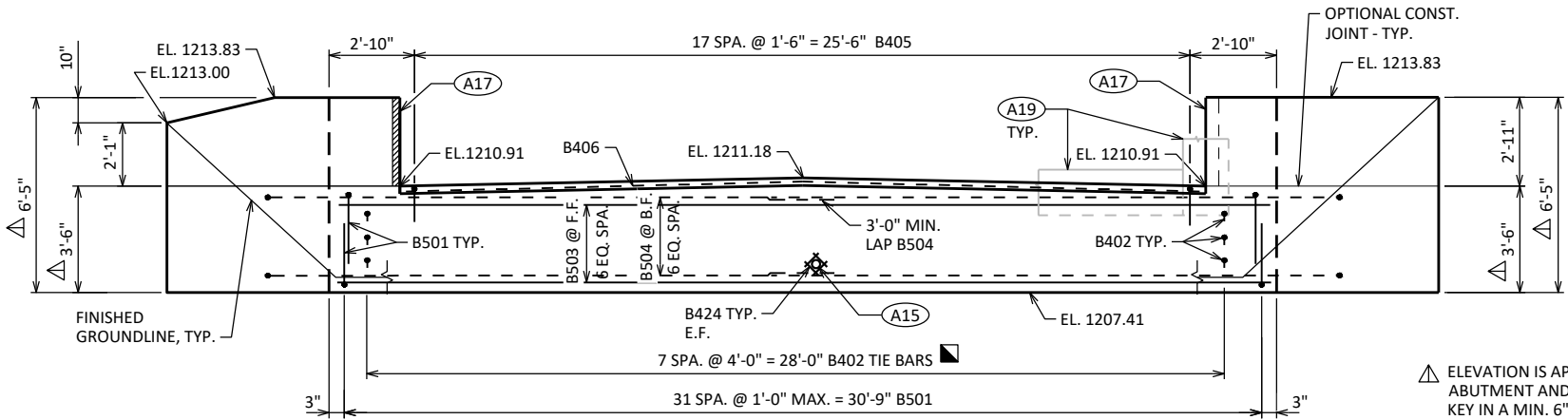
A418

NOTE:
ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

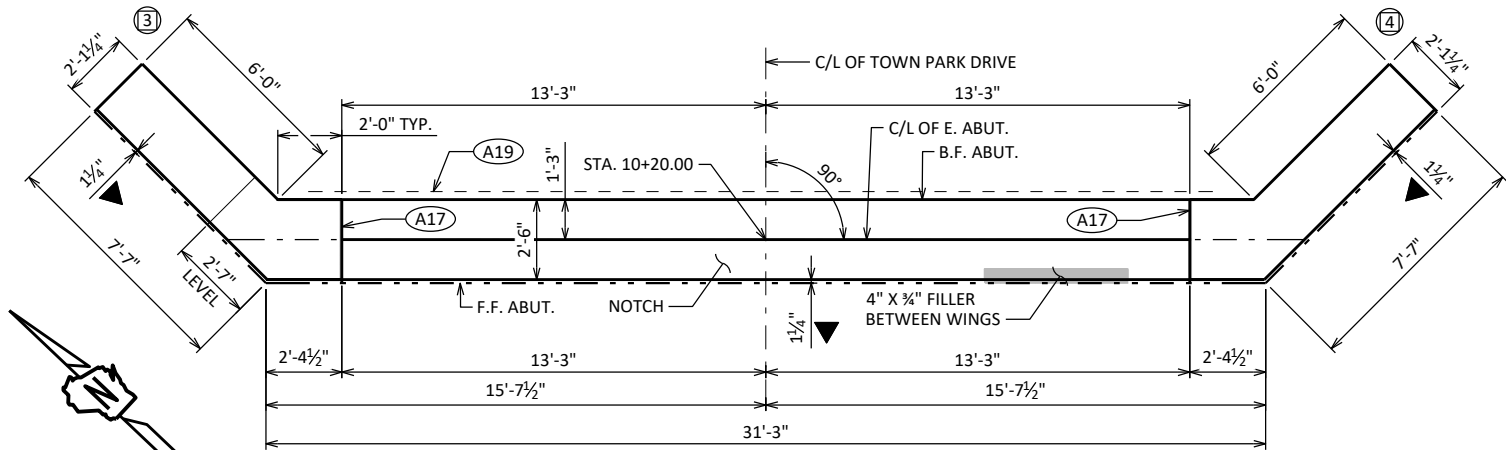
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. AN 8" DIA. HOLE IN WALL IS REQ'D. LOCATE TO MISS REINF. STEEL.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.
- ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.
- FORMLINER - SEE SHEET 3 FOR DETAILS.

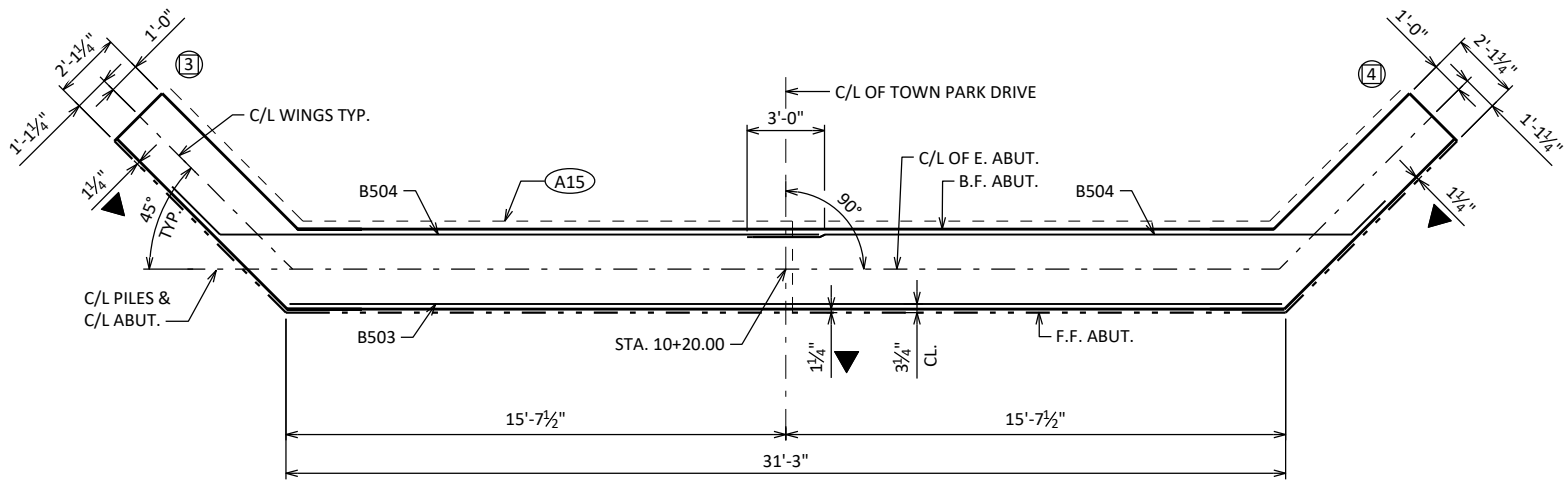
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-26-47			
DRAWN BY		CLP	PLANS CK'D JMC
WEST ABUTMENT BILL OF BARS		SHEET 7 OF 14 42	



ELEVATION
LOOKING DOWNSTATION



PLAN



BAR STEEL LAYOUT

NOTE:

ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. AN 8" DIA. HOLE IN ABUTMENT IS REQ'D. LOCATE TO MISS REINF. STEEL.

(A17) 1/2" FILLER: 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.

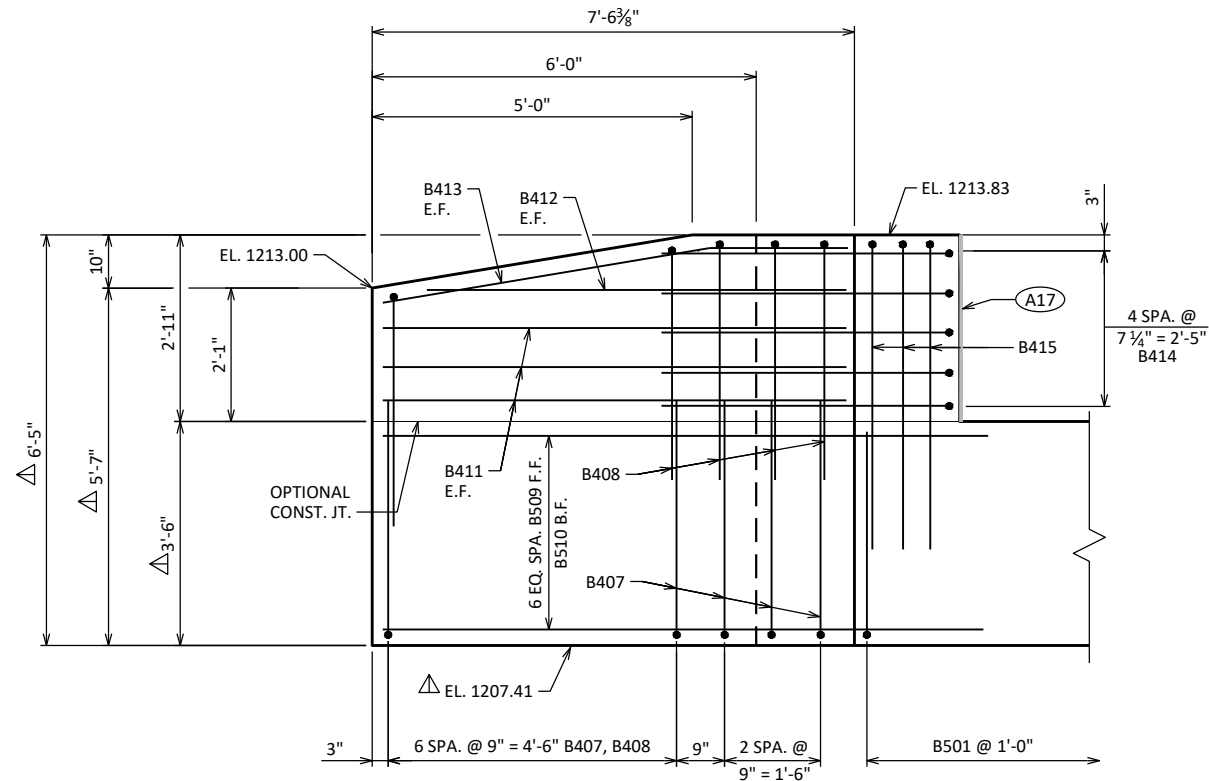
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.

FORMLINER - SEE SHEET 3 FOR DETAILS.

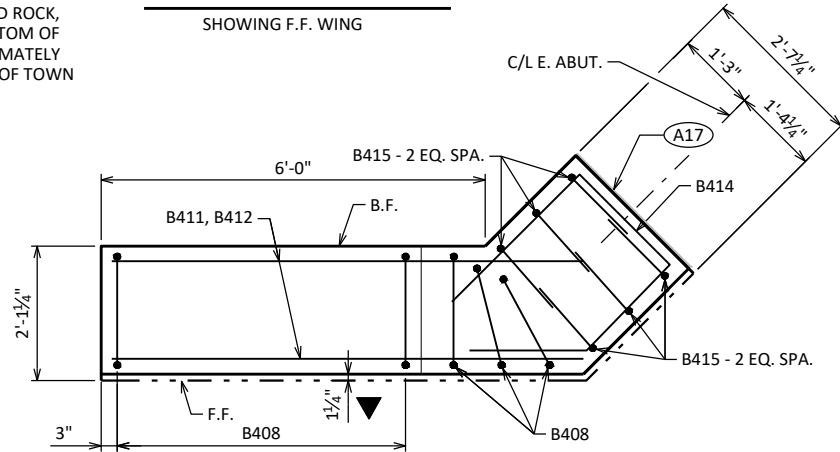
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-26-47			
DRAWN BY		CLP	PLANS CK'D JMC
EAST ABUTMENT		SHEET 8 OF 14 43	



WING 3 ELEVATION

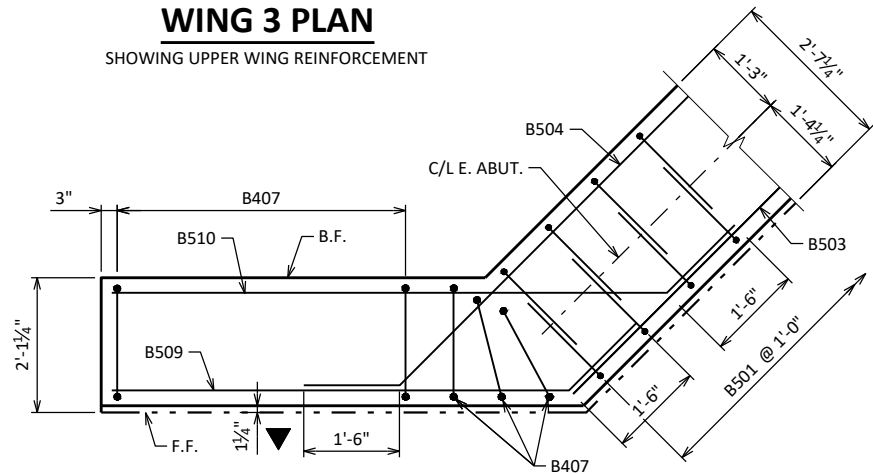
SHOWING F.F. WING

△ ELEVATION IS APPROXIMATE. CONSTRUCT ABUTMENT AND WINGS TO REACH SOLID ROCK, KEY IN A MIN. 6" INTO SOLID ROCK. BOTTOM OF ABUTMENT AND WINGS TO BE APPROXIMATELY LEVEL. MAX. ABUTMENT HEIGHT AT C/L OF TOWN PARK DRIVE TO BE 5'-9 1/4".



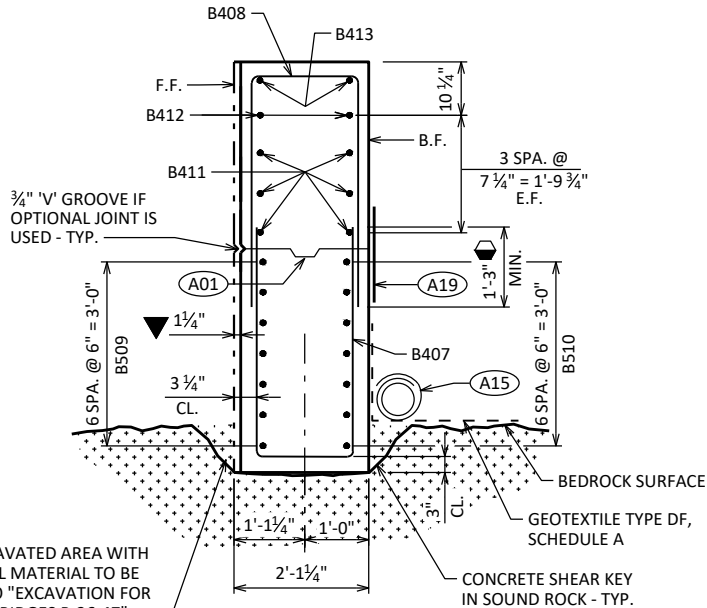
WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 3 PLAN

SHOWING LOWER WING REINFORCEMENT



SECTION THRU WING 3

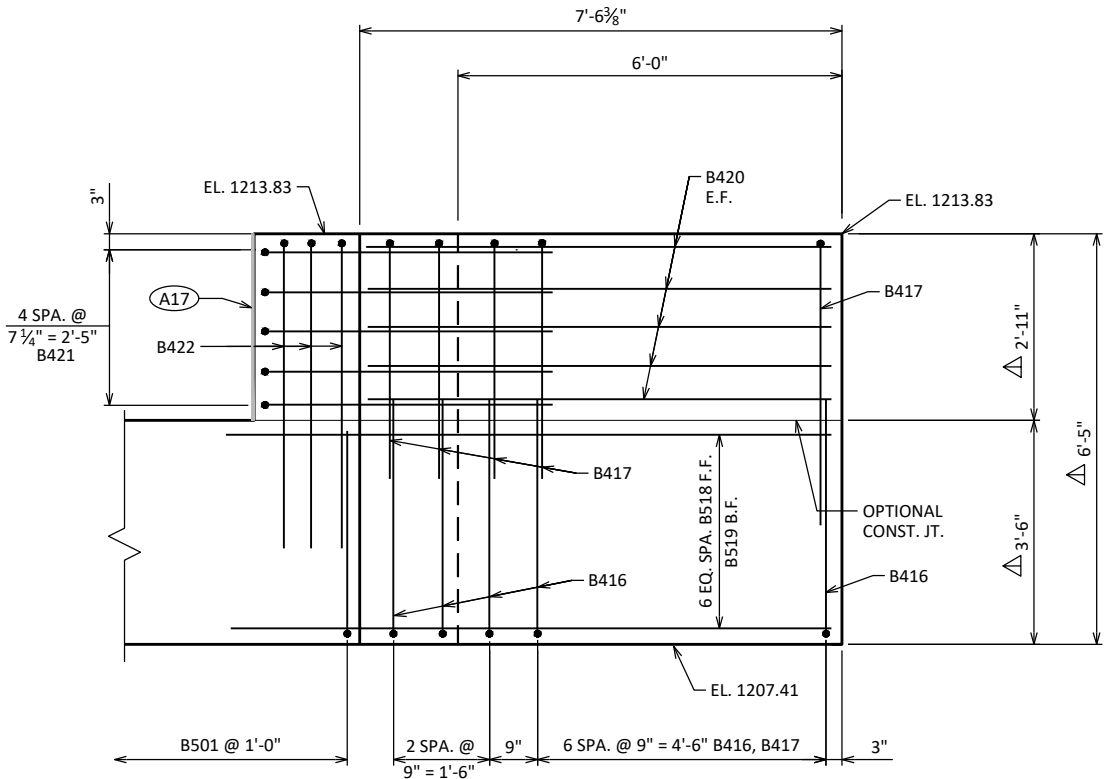
NOTE:
ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

- A01 OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A17 1/2" FILLER: 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" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

▲ ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.

▼ FORMLINER - SEE SHEET 3 FOR DETAILS.

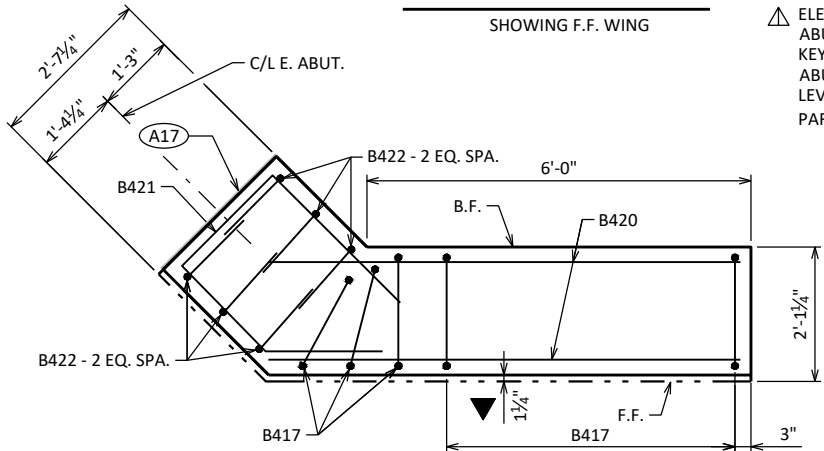
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-26-47			
DRAWN BY		CLP	PLANS CK'D JMC
EAST ABUTMENT WING 3 DETAILS		SHEET 9 OF 14 44	



WING 4 ELEVATION

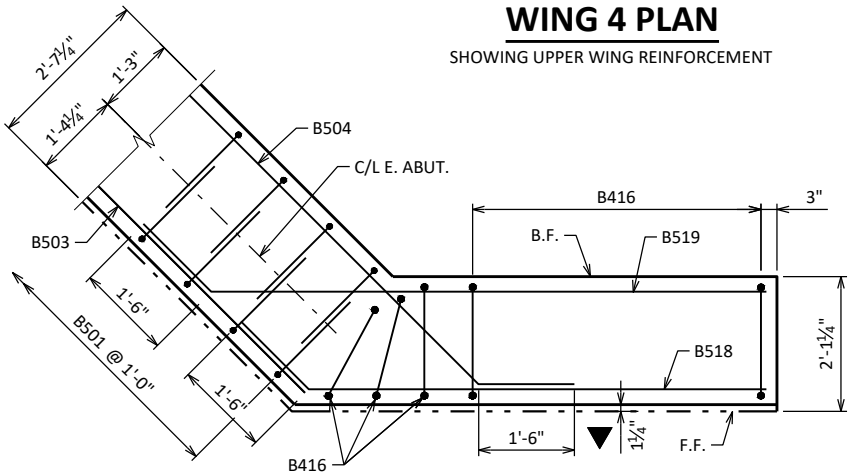
SHOWING F.F. WING

△ ELEVATION IS APPROXIMATE. CONSTRUCT ABUTMENT AND WINGS TO REACH SOLID ROCK, KEY IN A MIN. 6" INTO SOLID ROCK. BOTTOM OF ABUTMENT AND WINGS TO BE APPROXIMATELY LEVEL. MAX. ABUTMENT HEIGHT AT C/L OF TOWN PARK DRIVE TO BE 5'-9 1/4".



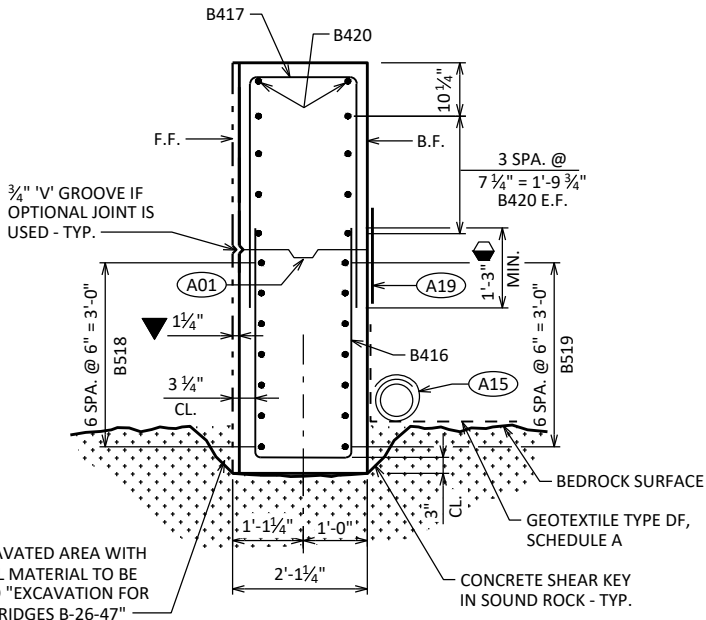
WING 4 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 4 PLAN

SHOWING LOWER WING REINFORCEMENT



SECTION THRU WING 4

NOTE:

ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER: 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" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

⬡ ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.

▼ FORMLINER - SEE SHEET 3 FOR DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-26-47			
DRAWN BY		CLP	PLANS CK'D JMC
EAST ABUTMENT WING 4 DETAILS		SHEET 10 OF 14 45	

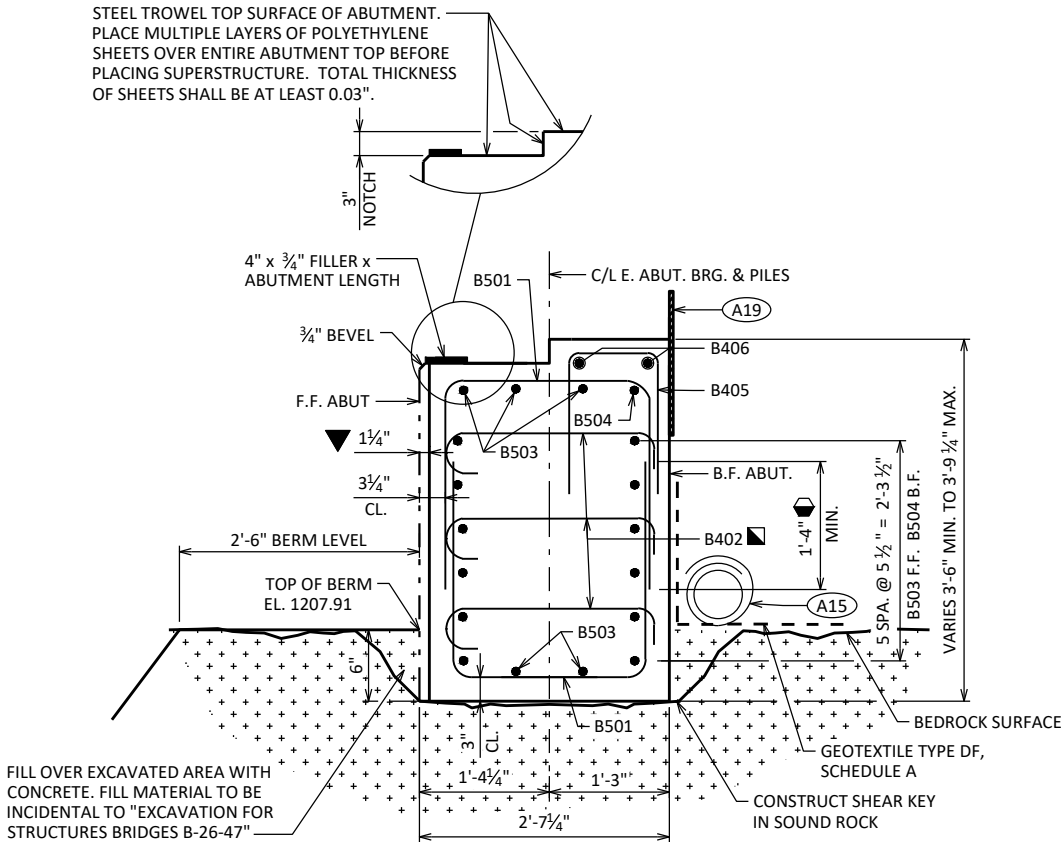
BILL OF BARS

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

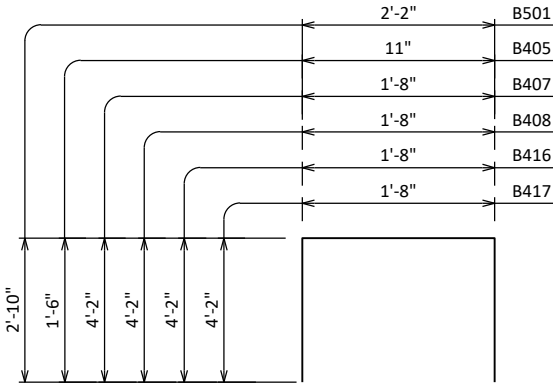
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		64	7'-7"	X		ABUT BODY STIRRUPS - U-BAR
B402		24	2'-11"	X		ABUT BODY TIE BARS
B503		11	31'-0"			ABUT BODY HORIZ. - F.F.
B504		14	20'-9"	X		ABUT BODY HORIZ. - B.F.
B405		18	3'-9"	X		ABUT. BODY TOP @ NOTCH VERT.
B406		2	26'-2"			ABUT. BODY TOP @ NOTCH HORIZ.
B407	X	10	9'-10"	X		WING 3 U-BAR - LOWER
B408	X	10	9'-10"	X		WING 3 U-BAR - UPPER
B509	X	7	8'-9"	X		WING 3 LOWER HORIZ - F.F.
B510	X	7	10'-5"	X		WING 3 LOWER HORIZ. - B.F.
B411	X	6	7'-2"			WING 3 UPPER HORIZ. E.F.
B412	X	2	6'-6"			WING 3 UPPER HORIZ. E.F.
B413	X	2	7'-3"	X		WING 3 UPPER DIAG. E.F.
B414	X	5	8'-2"	X		WING 3 HORIZ. CORNER
B415	X	6	6'-3"	X		WING 3 TOP VERT. CORNER
B416	X	10	9'-10"	X		WING 4 U-BAR - LOWER
B417	X	10	9'-10"	X		WING 4 U-BAR - UPPER
B518	X	7	8'-9"	X		WING 4 LOWER HORIZ - F.F.
B519	X	7	10'-5"	X		WING 4 LOWER HORIZ. - B.F.
B420	X	10	7'-2"			WING 4 UPPER HORIZ. E.F.
B421	X	5	8'-2"	X		WING 4 HORIZ. CORNER
B422	X	6	6'-3"	X		WING 4 TOP VERT. CORNER
B423	X	20	5'-0"			ABUTMENT VERT.
B424	X	8	2'-6"			BODY - PIPE UNDERDRAIN OPENING

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

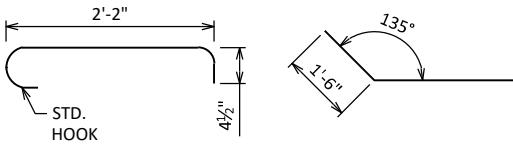
★ LAP WITH B501 IF HEIGHT OF ABUTMENT EXCEEDS 5'. MAINTAIN 1'-4" MIN. LAP, BAR CAN BE CUT AS NECESSARY.



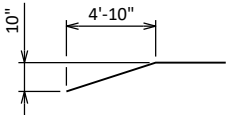
SECTION THRU BODY



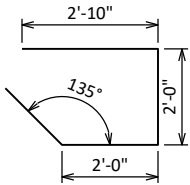
B501, B405, B407
B408, B416, B417



B402
B504, B509, B510
B518, B519



B413



B414, B421



B415, B422

NOTE:
ABUTMENTS WITH SHALLOW FOOTINGS TO BE SUPPORTED BY SOUND ROCK WITH A REQUIRED FACTOR BEARING RESISTANCE OF 20,000 PSF.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. AN 8" DIA. HOLE IN WALL IS REQ'D. LOCATE TO MISS REINF. STEEL.

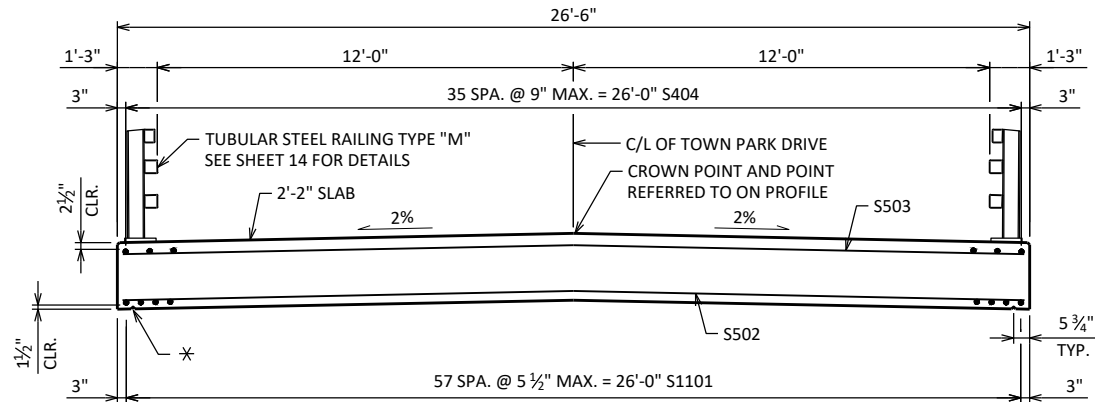
A19 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

ADDITIONAL LAP ALLOWED IF BEDROCK IS HIGHER ELEVATION.

FORMLINER - SEE SHEET 3 FOR DETAILS.

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DRAWN BY		CLP	PLANS CK'D JMC
EAST ABUTMENT BILL OF BARS		SHEET 11 OF 14 46	



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.

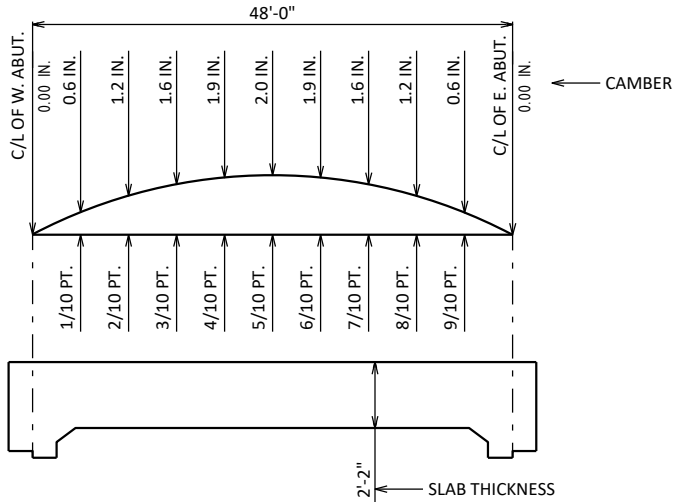
V-GROOVES ARE REQUIRED.

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
S1101	X	58	43'-5"			SLAB LONG. BOT.
S502	X	87	26'-2"			SLAB TRANS. BOT.
S503	X	87	26'-2"			SLAB TRANS. TOP
S404	X	72	26'-3"			SLAB LONG. TOP
S505	X	54	8'-1"	X		SLAB @ ABUT. DIAPHRAGM STIRRUPS
S506	X	4	26'-2"			SLAB @ ABUT. DIAPHRAGM TRANS.
S407	X	54	3'-4"	X		SLAB @ ABUT. NOTCH
S408	X	4	26'-2"			SLAB @ ABUT. NOTCH
S609	X	40	11'-3"	X		SLAB @ RAIL POSTS
S610	X	64	6'-0"			SLAB @ INT. RAIL POSTS
S611	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:

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

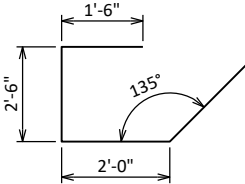
TOP OF SLAB ELEVATIONS

LOCATION	C/L W. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L E. ABUT.
N. EDGE OF SLAB	1212.20	1212.36	1212.53	1212.69	1212.85	1213.02	1213.18	1213.34	1213.51	1213.67	1213.83
C/L OF TOWN PARK DRIVE	1212.46	1212.63	1212.79	1212.95	1213.12	1213.28	1213.45	1213.61	1213.77	1213.94	1214.10
S. EDGE OF SLAB	1212.20	1212.36	1212.53	1212.69	1212.85	1213.02	1213.18	1213.34	1213.51	1213.67	1213.83

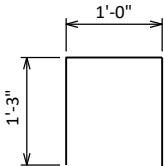
SURVEY TOP OF SLAB ELEVATIONS

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

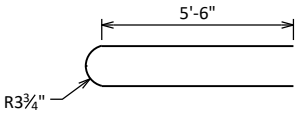
PRIOR TO RELEASING SLAB FORMWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF SUBSTRUCTURES, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND C/L. RECORD ELEVATIONS IN THE TABLE ABOVE FOR THE "AS BUILT" PLANS.



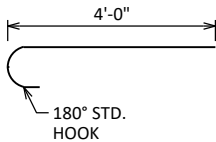
S505



S407



S609



S611

NO.	DATE	REVISION	BY
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STRUCTURE B-26-47			
	DRAWN BY	CLP	PLANS CK'D JMC
SUPERSTRUCTURE			SHEET 12 OF 14 47



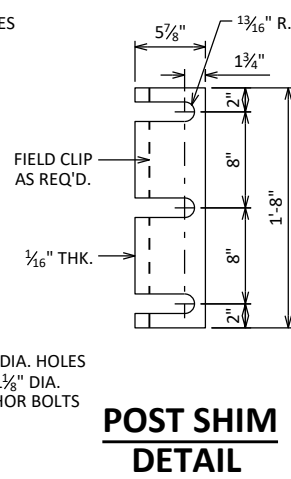
DIMENSIONS ARE GIVEN PARALLEL TO C/L
ROADWAY UNLESS OTHERWISE NOTED.

NO.	DATE	REVISION	BY
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STRUCTURE		B-26-47	
		DRAWN BY	CLP PLANS CK'D JMC
SUPERSTRUCTURE PLAN		SHEET 13 OF 14 48	

- ① W6 X 25 WITH 1 $\frac{1}{8}$ " X 1 $\frac{1}{2}$ " 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 $\frac{1}{4}$ " X 11 $\frac{3}{4}$ " X 1'-8" WITH 1 $\frac{1}{16}$ " DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- ③ ASTM A449 - 1 $\frac{1}{2}$ " 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 $\frac{1}{4}$ " 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 CONSTRUCTIBILITY.)

- (4) $\frac{3}{8}$ " X 11" X 1'-8" ANCHOR PLATE (GALVANIZED WITH $\frac{1}{16}$ " 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) $\frac{7}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, $\frac{3}{16}$ " X $\frac{1}{8}$ " X $\frac{1}{8}$ " MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- (7) $\frac{1}{2}$ " THK. BACK-UP PLATE WITH 2 - $\frac{7}{8}$ " X $\frac{1}{2}$ " 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 $\frac{7}{8}$ " DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- (9) SPLICE SLEEVE FABRICATED FROM $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT".
- (10) $\frac{3}{8}$ " X $3\frac{3}{8}$ " X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- (10A) $\frac{3}{8}$ " X $2\frac{5}{8}$ " X 2'-4" PLATE USED IN NO. 5, $\frac{3}{8}$ " X $3\frac{3}{8}$ " X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- (11) $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE $\frac{1}{16}$ " X $\frac{1}{4}$ " LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND $\frac{1}{16}$ " X $\frac{1}{4}$ " MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE $\frac{1}{16}$ " DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
- (12) $\frac{7}{8}$ " DIA. X $1\frac{1}{2}$ " LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- (13) $\frac{3}{8}$ " 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) $\frac{7}{8}$ " DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- (15) 1" DIA. HOLES IN TUBES NO. 5A FOR $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

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 F_y = 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.



LOCATION MUST BE SHOWN
ON SHOP DRAWINGS



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



THREE BEAM RAIL ATTACHMENT



THREE BEAM RAIL ATTACHMENT



AT BEAM GUARD ATTACHMENT



AT BEAM GUARD ATTACHMENT

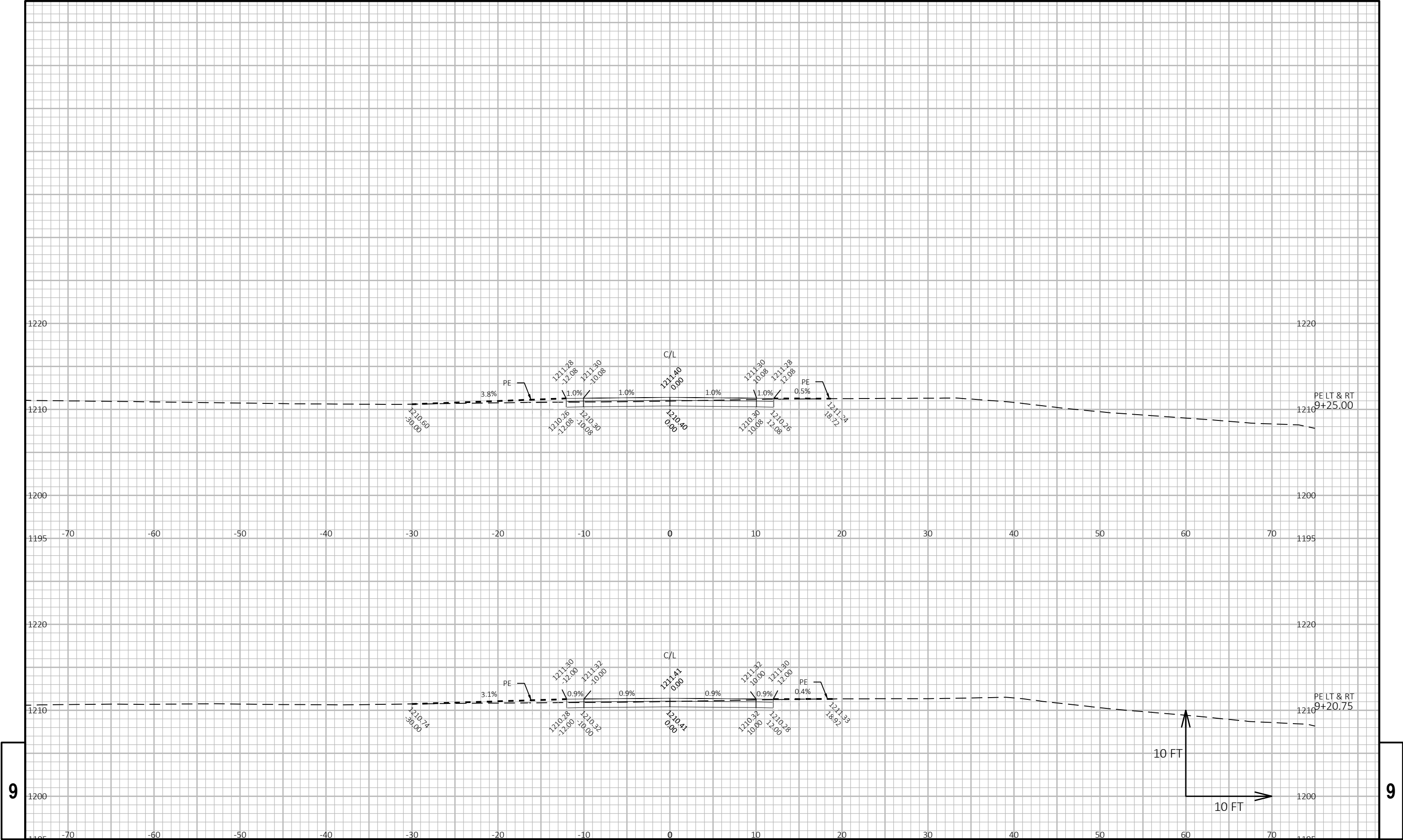


- ▲ TIE TO TOP MAT OF STEEL.
- * ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

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STRUCTURE B-26-47					
		DRAWN BY	CLP	PLANS CK'D	JMC
TUBULAR STEEL RAILING TYPE M			SHEET 14 OF 14		
			49		

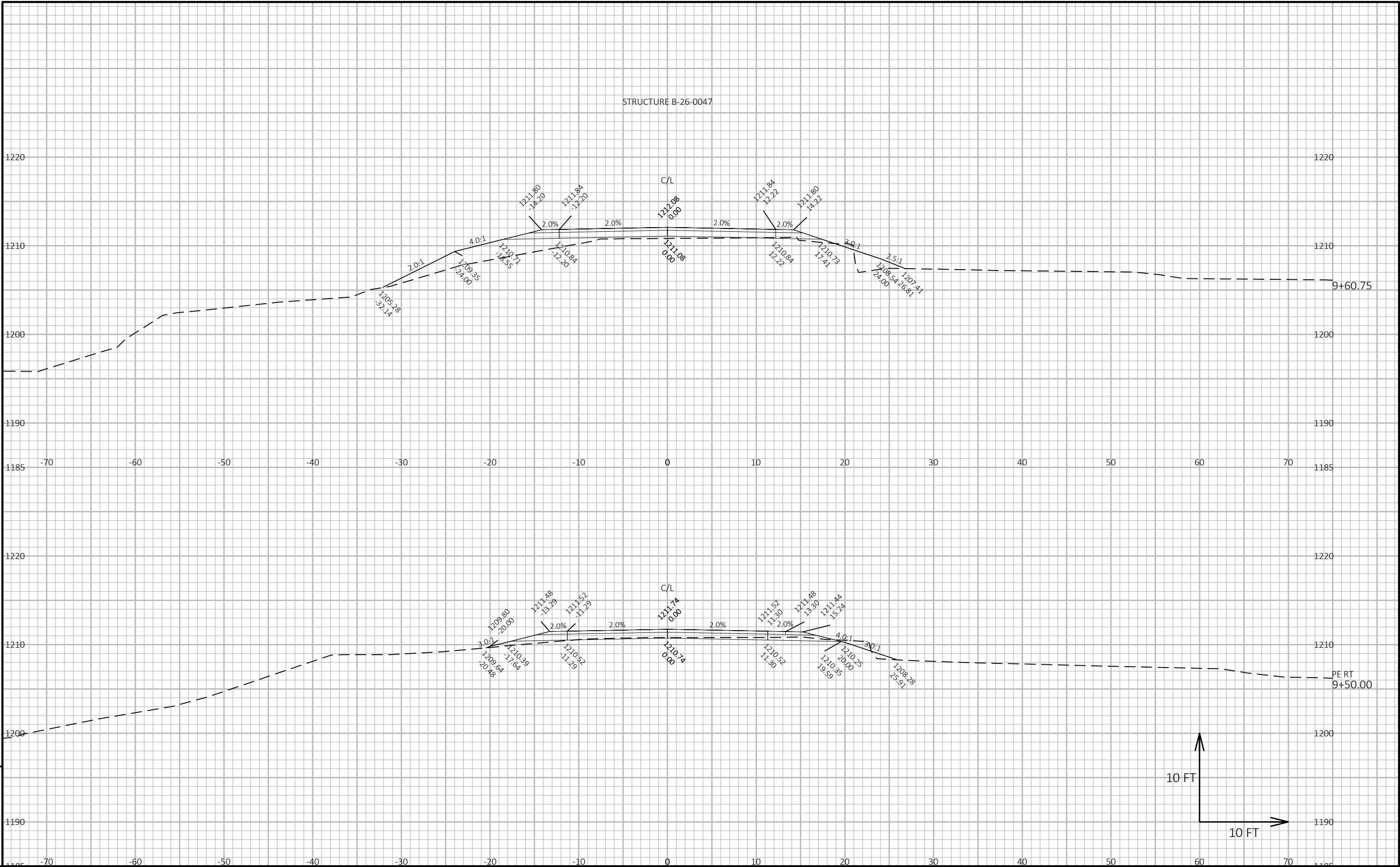
TOWN PARK DRIVE COMPUTER EARTHWORK										
Station	Distance	Area (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Unuseable Pavement Material	Fill	Salvaged /			Expanded		
					Cut	Unuseable Pavement Material	Fill	Cut 1.00	Fill 1.30	
Note 1	Note 4	Note 2	Note 5	Note 3						
8+71	--	15.9	0.0	0.0						
8+75	4.25	17.2	0.0	0.0	3	0	0	3	0	3
9+00	25.00	20.9	0.0	0.0	18	0	0	20	0	20
9+21	20.75	16.7	0.0	0.0	14	0	0	35	0	35
9+25	4.25	15.7	0.0	0.0	3	0	0	37	0	37
9+50	25.00	7.1	0.0	3.4	11	0	2	48	2	46
9+60.75	10.75	1.0	0.0	41.2	2	0	9	49	14	36
9+70.75	10.00	0.3	0.0	8.2	0	0	9	50	25	24
BRIDGE	--	--	--	--	--	--	--	--	--	--
10+21.25	--	3	0.0	8	--	--	--	--	--	--
10+31.25	10.00	40	0.0	10	8	0	3	58	30	28
10+50	18.75	45.5	0.0	0.0	30	0	4	88	35	53
10+71	21.25	25.0	3.5	0.0	65	6	5	146	41	105
10+75	3.75	24.3	3.3	0.0	3	0	0	149	41	108
11+00	25.00	24.5	3.0	0.0	23	3	0	169	41	128
11+21	21.25	26.5	0.0	0.0	20	1	0	188	41	147
					199	11	32			

1) Excavation Common is the Cut. Item number 205.0100.
2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor
3) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material on the project.
4) All quantities shown in CY.
5) Salvaged/unuseable pavement material



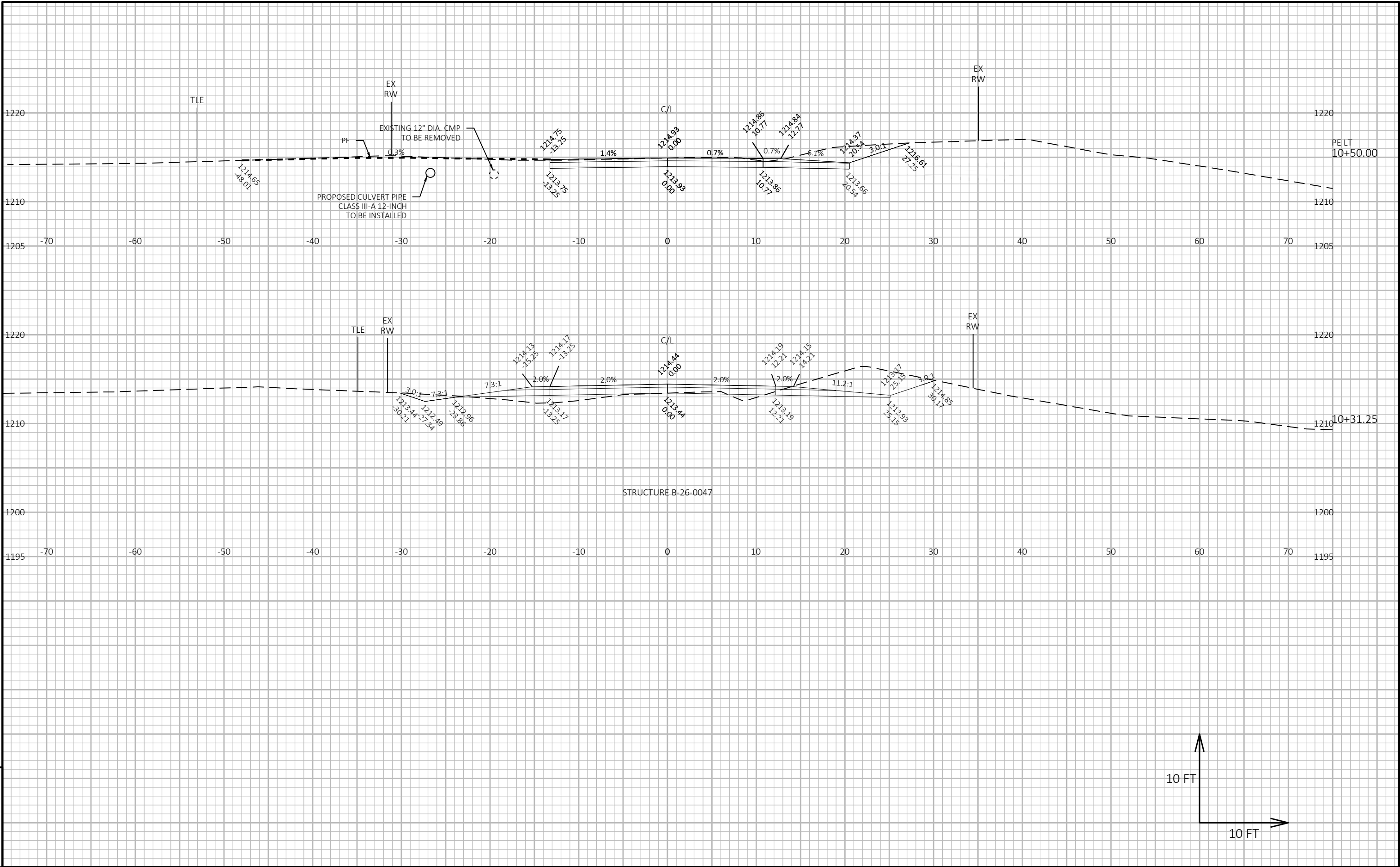
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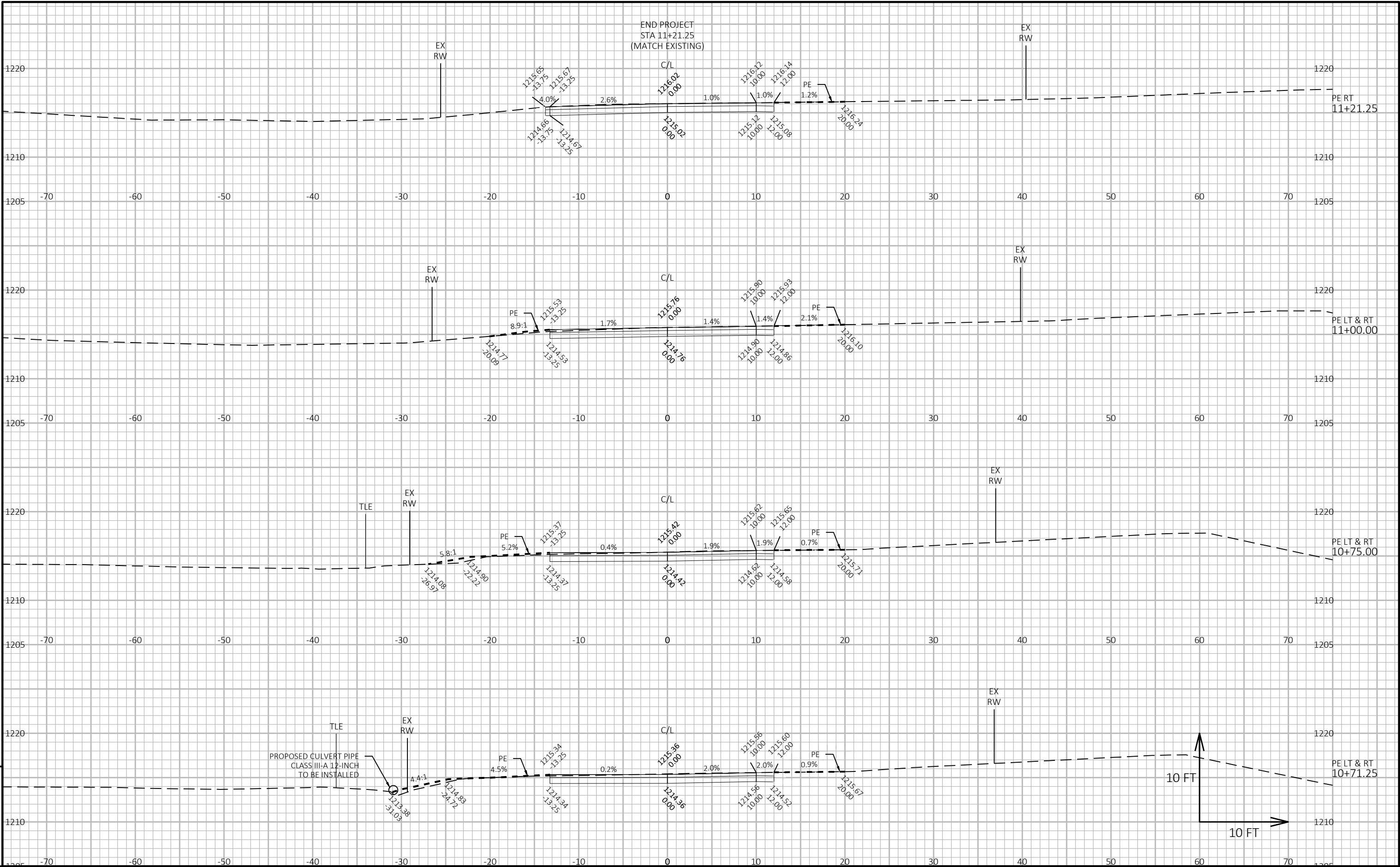
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