

MAD
PROJECT ID:
WITH: N/A

3621-00-77

COUNTY: ROCK

04

FEBRUARY 2020

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 (Incl. Erosion Control Plans)
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 = 46

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

TOWN OF TURTLE, SOUTH SMITH ROAD

(TURTLE CREEK BRIDGE B-53-0373)

TOWN ROAD

ROCK COUNTY

STATE PROJECT NUMBER

3621-00-77

STATE PROJECT

3621-00-77

FEDERAL PROJECT

PROJECT

WISC 2020035

CONTRACT

1

END PROJECT 3621-00-77
STA. 12+00.00'
X=520,555.509
Y=232,713.164

BEGIN PROJECT 3621-00-77
STA. 7+51.00'
X=520,211.602
Y=232,925.086

DESIGN
DESIGNATION

SOUTH SMITH ROAD

A.A.D.T. (2020)	=	140
A.A.D.T. (2040)	=	145
D.H.V.	=	25
D.D.	=	50/50
T.	=	3.5
DESIGN SPEED	=	<25 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	CAUTION
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

ROCK	----
LABEL	----
92.36	----
92.36	----
E	----
FO	----
G	----
SAN	----
SS	----
T	----
W	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----

REPLACE BRIDGE
STRUCTURE (P-53-053)



LAYOUT

SCALE 0 1/2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.085 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, ROCK COUNTY, NAD83 (2012), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR

COUNTY OF

ROCK

DATE: 7/19/19

Deanne M. Johnson
Director of Public Works

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES



7/31/19

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor AYRES ASSOCIATES

Designer AYRES ASSOCIATES

Regional Examiner

Regional Supervisor

APPROVED FOR THE DEPARTMENT

DATE: 7/31/2019

(Signature)

E

GENERAL NOTES

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT LOCATION THAT ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES.

MAINTAIN ACCESS TO ALL DRIVEWAYS AND ALL BUSINESSES AT ALL TIMES.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

EXACT TRAFFIC CONTROL LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

PROTECT FROM DAMAGE AND COMPLETE SHOULDER WORK AROUND ANY EXISTING SIGNS OR MAILBOXES THAT ARE TO REMAIN IN PLACE. THE EXACT LOCATION OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE WITHIN 7 CALENDAR DAYS AFTER FINISHED GRADING IS COMPLETE.

WETLANDS ARE PRESENT IN THE PROJECT AREA. DO NOT DISTURB WETLANDS OUTSIDE THE PROPOSED SLOPE INTERCEPTS.

CONTACT THE PROJECT ENGINEER AND THE SOUTHWESTERN WISCONSIN REGIONAL PLANNING COMMISSION, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.

IF AN EXISTING SIGN IS TO BE REMOVED AND REPLACED WITH A NEW SIGN, DO NOT REMOVE THE EXISTING SIGN PRIOR TO INSTALLATION OF THE NEW SIGN.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

HMA PAVEMENT LAYERS:
-UPPER: 2 1/4" (4 LT 58-28 S)
-LOWER: 3" (3 LT 58-28 S)

ABBREVIATIONS

A.D.T.	AVERAGE DAILY TRAFFIC
ATMS	ARTERIAL TRAFFIC MANAGEMENT SYSTEM
BM	BENCHMARK
BOC	BACK OF CURB
BTWN	BETWEEN
C&G	CURB AND GUTTER
C.E.	COMMERCIAL ENTRANCE
CONST	CONSTRUCTION
CP	CONTROL POINT
CTR.	CENTER
D.D.	DIRECTIONAL DISTRIBUTION
D.H.V.	DESIGN HOURLY VOLUME
DMS	DYNAMIC MESSAGE SIGN
EB	EASTBOUND
EXIST	EXISTING
GALV.	GALVANIZED
HMA	HOT MIX ASPHALT
H.S.	HIGH STRENGTH
ITS	INTELLIGENT TRAFFIC SYSTEM
MAX	MAXIMUM
MIN	MINIMUM
NB	NORTHBOUND
NOR	NORMAL
PC	POINT OF CURVATURE
PCC	POINT OF COMMON CURVATURE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVT	PAVEMENT
R/L	REFERENCE LINE
REQ'D	REQUIRED
SB	SOUTHBOUND
SYM	SYMMETRICAL
T.	PERCENT TRUCKS
TCC	TRAFFIC CONDITION CAMERA
TYP	TYPICAL
VAR	VARIABLE
WB	WESTBOUND
Wt.	WEIGHT
X-WALK	CROSS WALK

PROJECT CONTACTS

ROCK COUNTY PUBLIC WORKS
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TOWN CHAIRMAN
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ROGER ANCLAM
TOWN CHAIRMAN
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ROCK COUNTY PARKS
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3715 NEWVILLE ROAD
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WISCONSIN DEPARTMENT OF NATURAL RESOURCES
SHELLEY WARWICK
SOUTHWEST REGIONAL HEADQUARTERS
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FITCHBURG, WI 53711
P: (608) 444-2835
E: SHELLEY.WARWICK@WISCONSIN.GOV

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AMANDA INMAN, PE
AYRES ASSOCIATES
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E: INMANA@AYRESASSOCIATES.COM

UTILITIES

ROCK ENERGY COOPERATIVE
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2815 KENNEDY ROAD
JANESVILLE, WI 53547-1758
P: (608) 752-4550
C: (920) 728-2379
E: TONYH@ROCK.COOP

FRONTIER COMMUNICATIONS
JERRY MOORE
2222 WEST WI STREET
PORTAGE, WI 53901
P: (608) 742-9507
E: JERALD.MOORE@FTR.COM

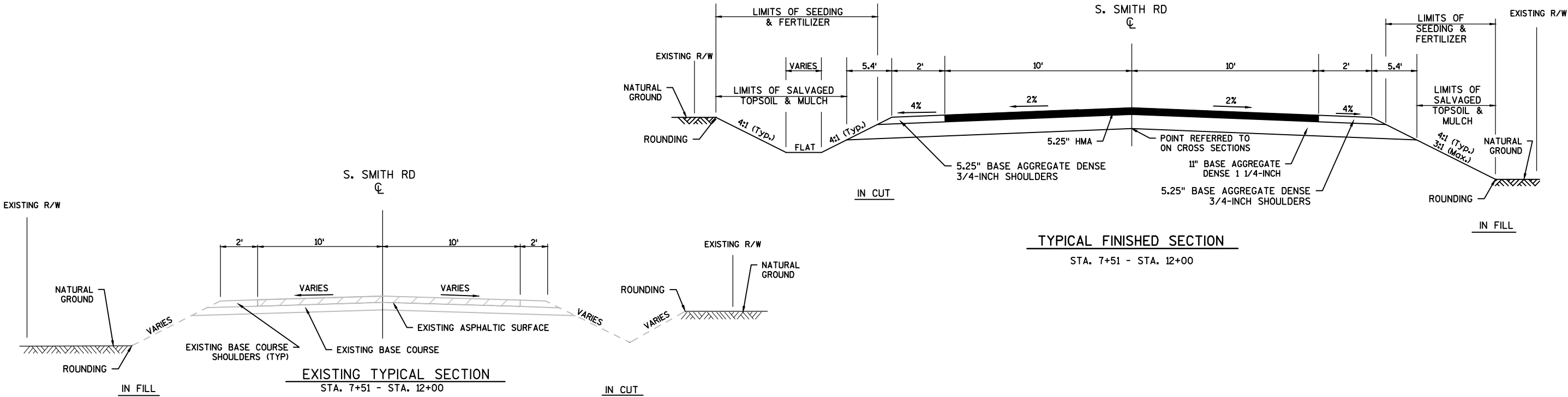
AT&T
CAROL ANASON
316 W WASHINGTON AVENUE
MADISON, WI 53701
P: (608) 252-2385
E: CA2624@ATT.COM

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

DIGGERSHOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com



Estimate Of Quantities

3621-00-77

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	205.0100	Excavation Common	CY	339.000	339.000
0008	206.1000	Excavation for Structures Bridges (structure) 01. B-53-0373	LS	1.000	1.000
0010	206.5000	Cofferdams (structure) 01. B-53-0373	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	250.000	250.000
0014	213.0100	Finishing Roadway (project) 01. 3621-00-77	EACH	1.000	1.000
0016	214.0100	Obliterating Old Road	STA	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	60.000	60.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	705.000	705.000
0022	455.0605	Tack Coat	GAL	57.000	57.000
0024	460.2000	Incentive Density HMA Pavement	DOL	160.000	160.000
0026	460.5223	HMA Pavement 3 LT 58-28 S	TON	135.000	135.000
0028	460.5224	HMA Pavement 4 LT 58-28 S	TON	106.000	106.000
0030	502.0100	Concrete Masonry Bridges	CY	415.000	415.000
0032	502.3200	Protective Surface Treatment	SY	540.000	540.000
0034	505.0400	Bar Steel Reinforcement HS Structures	LB	6,920.000	6,920.000
0036	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	65,560.000	65,560.000
0038	513.4061	Railing Tubular Type M	LF	354.000	354.000
0040	516.0500	Rubberized Membrane Waterproofing	SY	19.000	19.000
0042	550.0020	Pre-Boring Rock or Consolidated Materials	LF	40.000	40.000
0044	550.0500	Pile Points	EACH	24.000	24.000
0046	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	523.000	523.000
0048	606.0300	Riprap Heavy	CY	130.000	130.000
0050	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	155.000	155.000
0052	618.0100	Maintenance And Repair of Haul Roads (project) 01. 3621-00-77	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	20.000	20.000
0058	625.0500	Salvaged Topsoil	SY	965.000	965.000
0060	627.0200	Mulching	SY	965.000	965.000
0062	628.1504	Silt Fence	LF	770.000	770.000
0064	628.1520	Silt Fence Maintenance	LF	1,540.000	1,540.000
0066	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0068	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0070	628.6005	Turbidity Barriers	SY	385.000	385.000
0072	628.7504	Temporary Ditch Checks	LF	25.000	25.000
0074	629.0210	Fertilizer Type B	CWT	1.800	1.800
0076	630.0120	Seeding Mixture No. 20	LB	39.000	39.000

Estimate Of Quantities

3621-00-77

Line	Item	Item Description	Unit	Total	Qty
0078	630.0200	Seeding Temporary	LB	39.000	39.000
0080	630.0500	Seed Water	MGAL	25.000	25.000
0082	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0084	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0086	638.2602	Removing Signs Type II	EACH	6.000	6.000
0088	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0420	Traffic Control Barricades Type III	DAY	1,530.000	1,530.000
0094	643.0705	Traffic Control Warning Lights Type A	DAY	2,380.000	2,380.000
0096	643.0900	Traffic Control Signs	DAY	1,190.000	1,190.000
0098	643.5000	Traffic Control	EACH	1.000	1.000
0100	645.0111	Geotextile Type DF Schedule A	SY	45.000	45.000
0102	645.0120	Geotextile Type HR	SY	260.000	260.000
0104	645.0220	Geogrid Type SR	SY	100.000	100.000
0106	650.4500	Construction Staking Subgrade	LF	300.000	300.000
0108	650.5000	Construction Staking Base	LF	300.000	300.000
0110	650.6500	Construction Staking Structure Layout (structure) 01. B-53-0373	LS	1.000	1.000
0112	650.9910	Construction Staking Supplemental Control (project) 01. 3621-00-77	LS	1.000	1.000
0114	650.9920	Construction Staking Slope Stakes	LF	300.000	300.000
0116	690.0150	Sawing Asphalt	LF	67.000	67.000
0118	715.0502	Incentive Strength Concrete Structures	DOL	2,490.000	2,490.000
0120	SPV.0105	Special 01. Removing Old Structure Over Waterway STA 10+24	LS	1.000	1.000

SOUTH SMITH ROAD EARTHWORK SUMMARY								
From/To Station	Location	Common Excavation (1) (item # 205.0100)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste	Borrow (item #208.0100)	Comment:
		Cut		Factor 1.30				
7+51 - 12+00	SOUTH SMITH ROAD	339	200	259	80	80		

- 1) Common Excavation 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.

CLEARING AND GRUBBING					
STATION	TO	STATION	OFFSET	201.0105 CLEARING STA	201.0205 GRUBBING STA
				1	1
11+00	-	12+00	LT & RT		
TOTALS				1	1

OBLITERATING OLD ROAD				
STATION	TO	STATION	LOCATION	214.0100 STA
8+50	-	9+50	EX. ROADWAY	1
TOTAL				1

FINISHING ROADWAY
(ID 3621-00-77)

213.0100.01	
LOCATION	EACH
MAINLINE	1
TOTAL	1

PAVING AND BASE QUANTITIES									
STA	TO	STA	305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	455.0605 TACK COAT	460.2000 INCENTIVE DENSITY HMA PAVEMENT	460.5223 HMA PAVEMENT 3 LT 58-28 S	460.5224 HMA PAVEMENT 4 LT 58-28 S	
			TON	TON	GAL	DOL	TON	TON	
7+51	--	9+20	30	400	33	89	78	61	
10+70	--	12+00	25	270	21	56	49	38	
UNDISTRIBUTED			5	35	3	15	8	7	
TOTALS			60	705	57	160	135	106	

<u>MAINTENANCE AND REPAIR</u> <u>OF HAUL ROADS</u> <u>ID 3621-00-77</u>	
	618.0100.01
CATEGORY	EACH
0030	1
TOTAL	1

EROSION CONTROL ITEMS

MOBILIZATION		WATER				625.0500	627.0200	628.1504	628.1520	629.0210	630.0120	630.0200	630.0500		
				SALVAGED	MULCHING	SILT FENCE	SILT FENCE	FERTILIZER	SEEDING	SEEDING	SEED				
						TOPSOIL			MAINTENANCE	TYPE B	MIXTURE	TEMPORARY	WATER		
											NO. 20				
619.1000		624.0100		STA	TO	STA	LOCATION	SY	SY	LF	LF	CWT	LB	LB	MGAL
CATEGORY	EACH	PURPOSE	WATER	7+51	--	9+20	RT	485	485	210	420	0.7	16	16	13
0010	0.3		MGAL	7+51	--	9+20	LT	120	120	100	200	0.3	6	6	5
0020	0.7	COMPACTION	11.0	10+70	--	12+00	RT	115	115	150	300	0.2	5	5	4
		DUST CONTROL	9.0	10+70	--	12+00	LT	50	50	155	310	0.2	5	4	4
				UNDISTRIBUTED				195	195	155	310	0.4	8	8	0
TOTAL	1	TOTAL	20.0												
				TOTALS				965	965	770	1,540	1.8	39	39	25

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

EROSION CONTROL MOBILIZATION ITEMS

628.1905 MOBILIZATIONS EROSION CONTROL		628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	
LOCATION	EACH	LOCATION	EACH
ID 3621-00-77	4		4
TOTALS	4		4

TEMPORARY DITCH CHECKS

628.7504	
LOCATION	LF
UNDISTRIBUTED	25
TOTAL	25

TURBIDITY BARRIERS

628.6005	
LOCATION	SY
WEST ABUT	195
EAST ABUT	125
UNDISTRIBUTED	65
TOTAL	385

FIELD OFFICE TYPE B

642.5001	
CATEGORY	EACH
0010	0.3
0020	0.7
TOTAL	1

GEOGRID TYPE SR

645.0220	
LOCATION	SY
UNDISTRIBUTED	100
TOTAL	100

SIGNS

634.0612 POSTS WOOD 4X6-INCH X 12-FT		637.2230 SIGNS TYPE II REFLECTIVE F		638.2602 REMOVING SIGNS TYPE II		638.3000 REMOVING SMALL SIGN SUPPORTS		SIGNAGE TYPE
STATION	LOC	EACH	SF	EACH	EACH	EACH	EACH	
9+50	RT	--	--	1	1			WEIGHT LIMIT (R12-1)
9+00	LT	1	3	1	1			W5-52L
9+25	RT	1	3	1	1			W5-52R
10+75	LT	1	3	1	1			W5-52R
10+75	RT	1	3	1	1			W5-52L
10+75	LT	--	--	1	1			WEIGHT LIMIT (R12-1)
TOTALS		4	12	6	6			

TRAFFIC CONTROL ITEMS

643.0420 BARRICADES		643.0705 WARNING LIGHTS		643.0900 SIGNS		643.5000 TRAFFIC CONTROL	
LOCATION	DURATION DAYS	TYPE III NO.	TYPE A DAY	TYPE III NO.	TYPE A DAY	NO.	DAY
PER SDD 15C2	85	18	1,530	28	2,380	14	1,190
S. SMITH RD	--	--	--	--	--	--	--
TOTALS			1,530		2,380		1,190

TRAFFIC CONTROL PLACEMENT SUBJECT TO ENGINEER APPROVAL

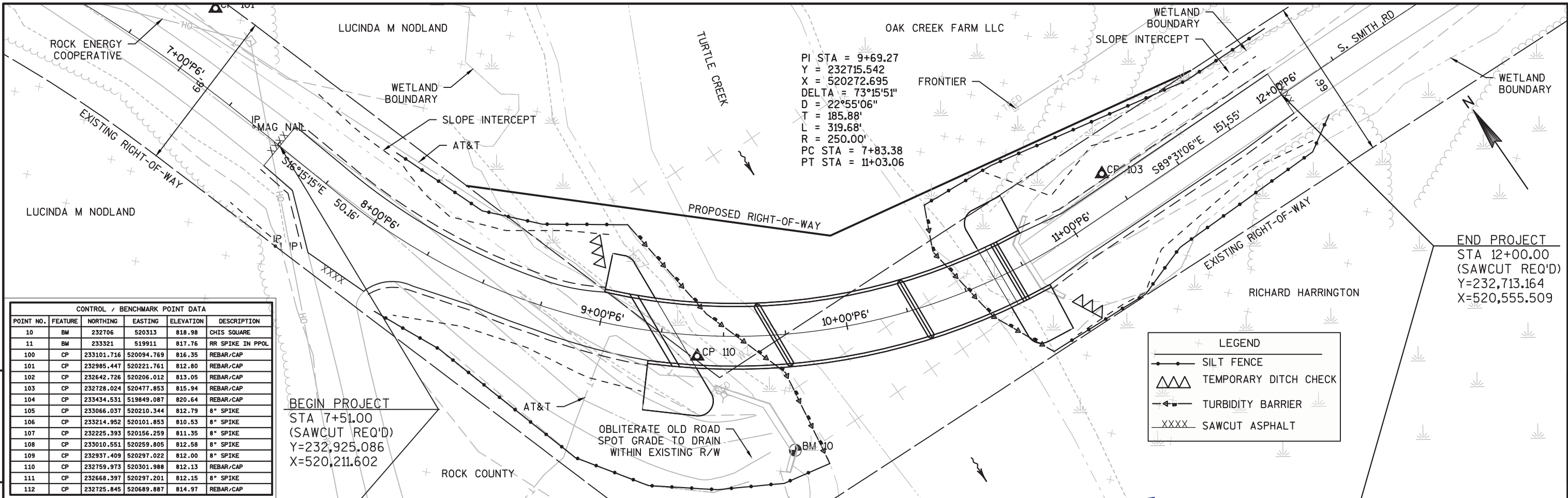
STAKING ITEMS

650.4500 CONSTRUCTION STAKING SUBGRADE		650.5000 CONSTRUCTION STAKING BASE		650.6500.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-53-0373)		650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (ID 3621-00-77)		650.9920 CONSTRUCTION STAKING SLOPE STAKES	
CATEGORY	LOCATION	LF	LF	LS	LS	LS	LS	LF	LF
0010	7+51-12+00	300	300	--	1			300	
0020	B-53-0373	--	--	1	--			--	
TOTALS		300	300	1	1			300	

SAWING ASPHALT

690.0150		
STATION	LOCATION	LF
7+51	LT & RT	20
8+00	RT	27
13+00	LT & RT	20
TOTAL		67

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

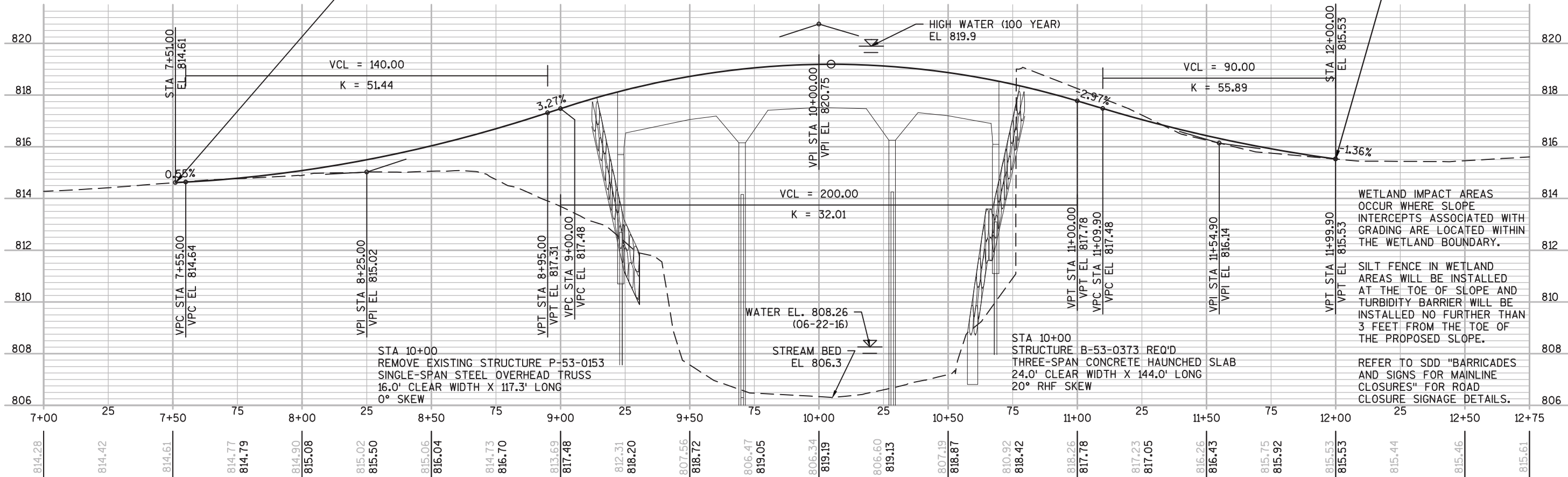


CONTROL / BENCHMARK POINT DATA				
POINT NO.	FEATURE	NORTHING	EASTING	ELEVATION
10	BM	232706	520313	818.98
11	BM	233321	519911	817.76
100	CP	233101.716	520094.769	816.35
101	CP	232985.447	520221.761	812.80
102	CP	232642.726	520206.012	813.05
103	CP	232728.024	520477.853	815.94
104	CP	233434.531	519849.087	820.64
105	CP	233066.037	520210.344	812.79
106	CP	233214.952	520101.853	810.53
107	CP	232225.393	520156.259	811.35
108	CP	233010.551	520259.805	812.58
109	CP	232937.409	520297.022	812.00
110	CP	232759.973	520301.988	812.13
111	CP	232668.397	520297.201	812.15
112	CP	232725.845	520689.887	814.97

BEGIN PROJECT
STA 7+51.00
(SAWCUT REQ'D)
Y=232,925.086
X=520,211.602

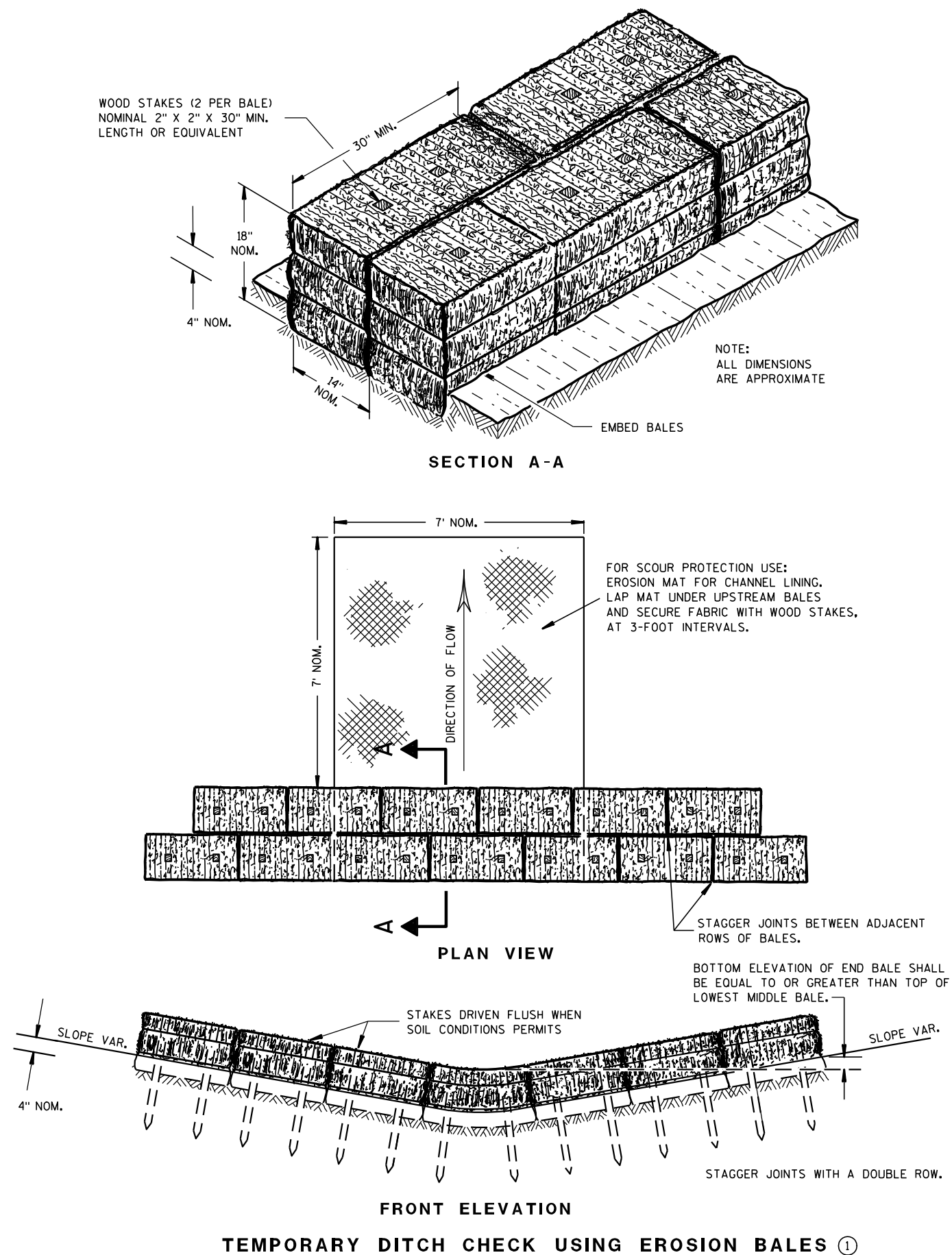
OBLITERATE OLD ROAD
SPOT GRADE TO DRAIN
WITHIN EXISTING R/W

END PROJECT
STA 12+00.00
(SAWCUT REQ'D)
Y=232,713.164
X=520,555.509



Standard Detail Drawing List

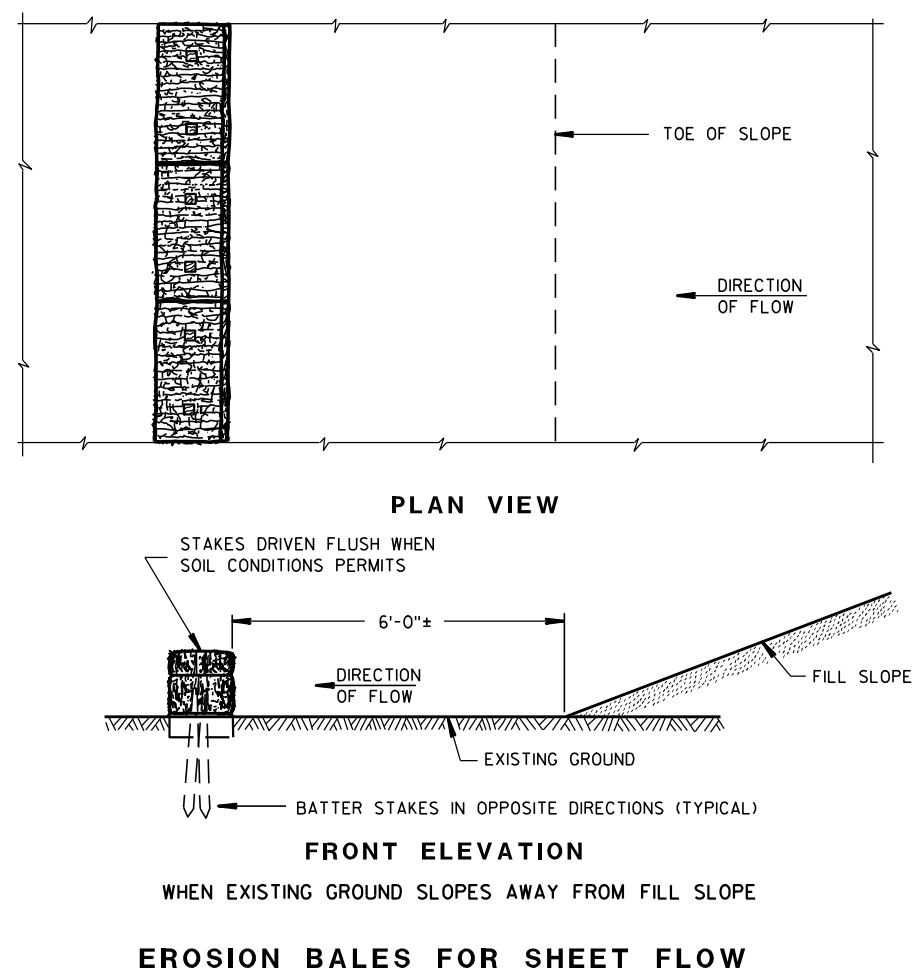
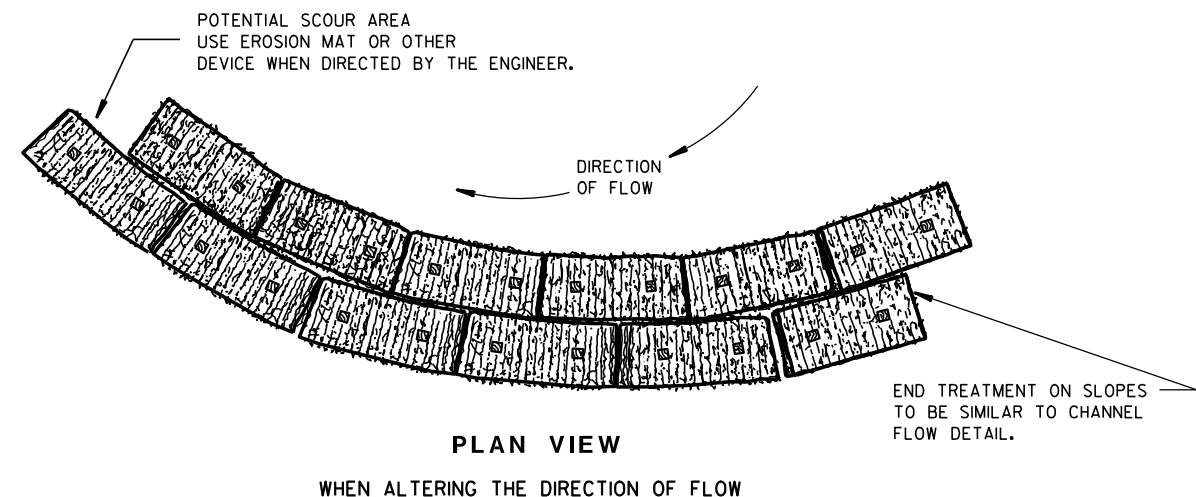
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



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

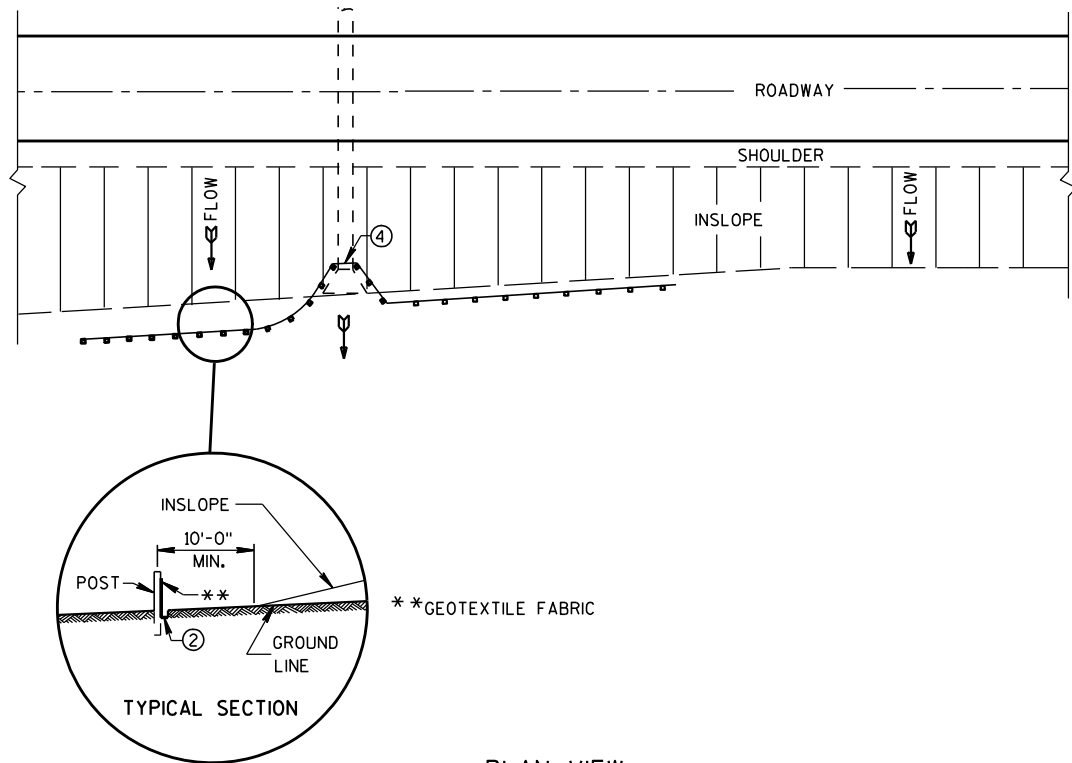
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

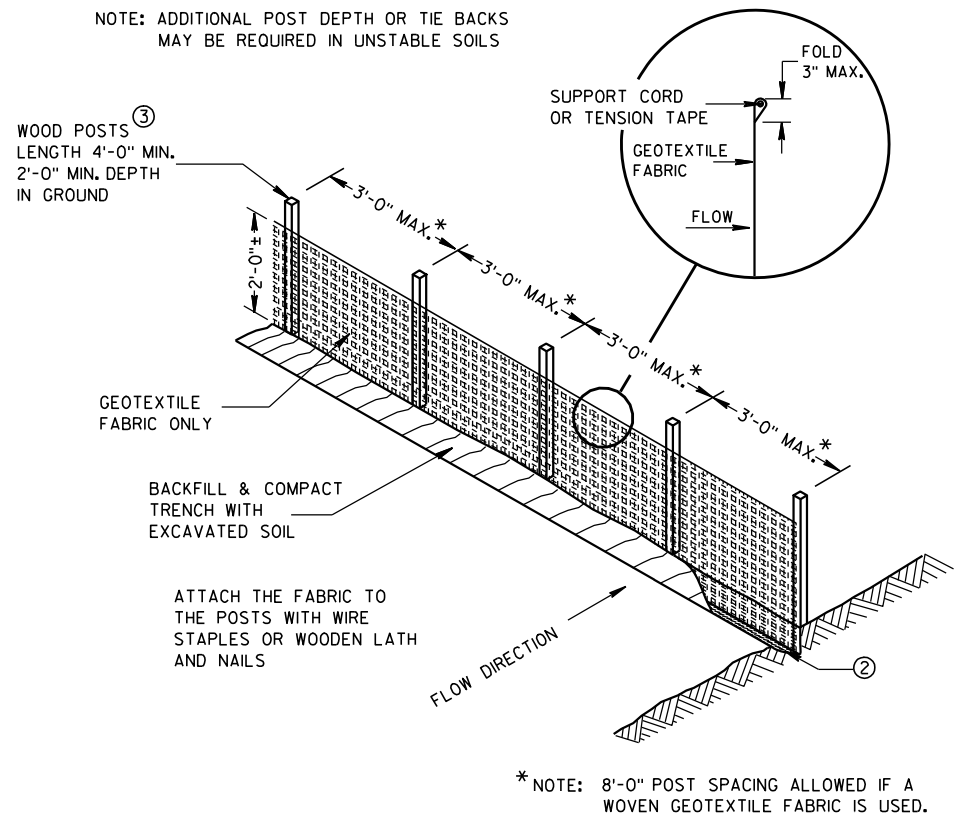
6/04/02
DATE

FHWA

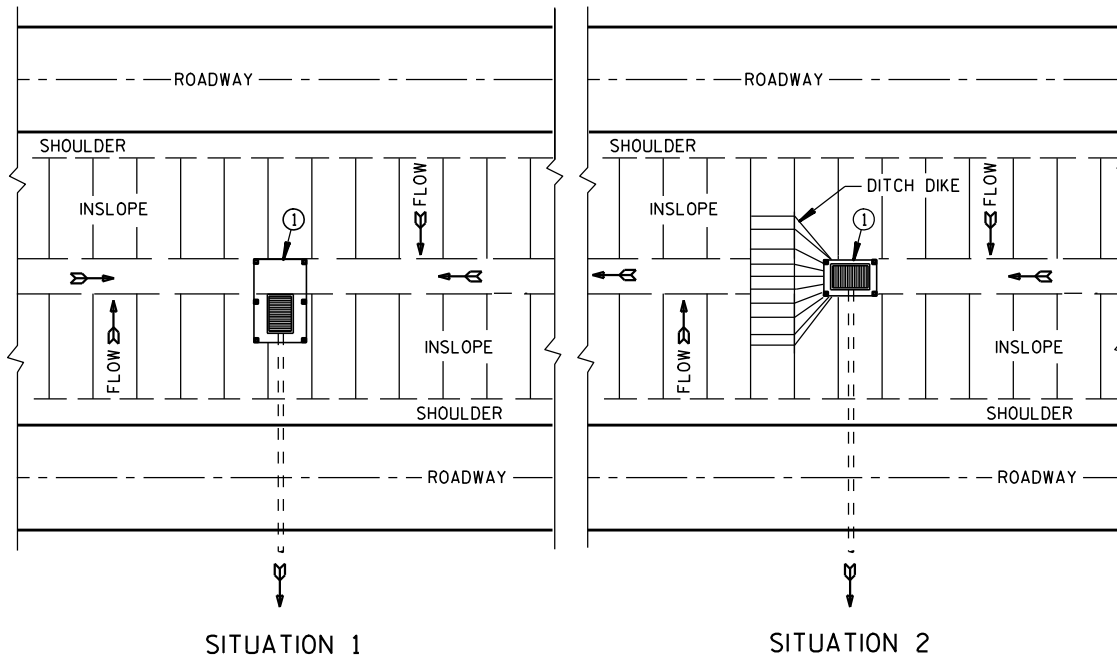
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



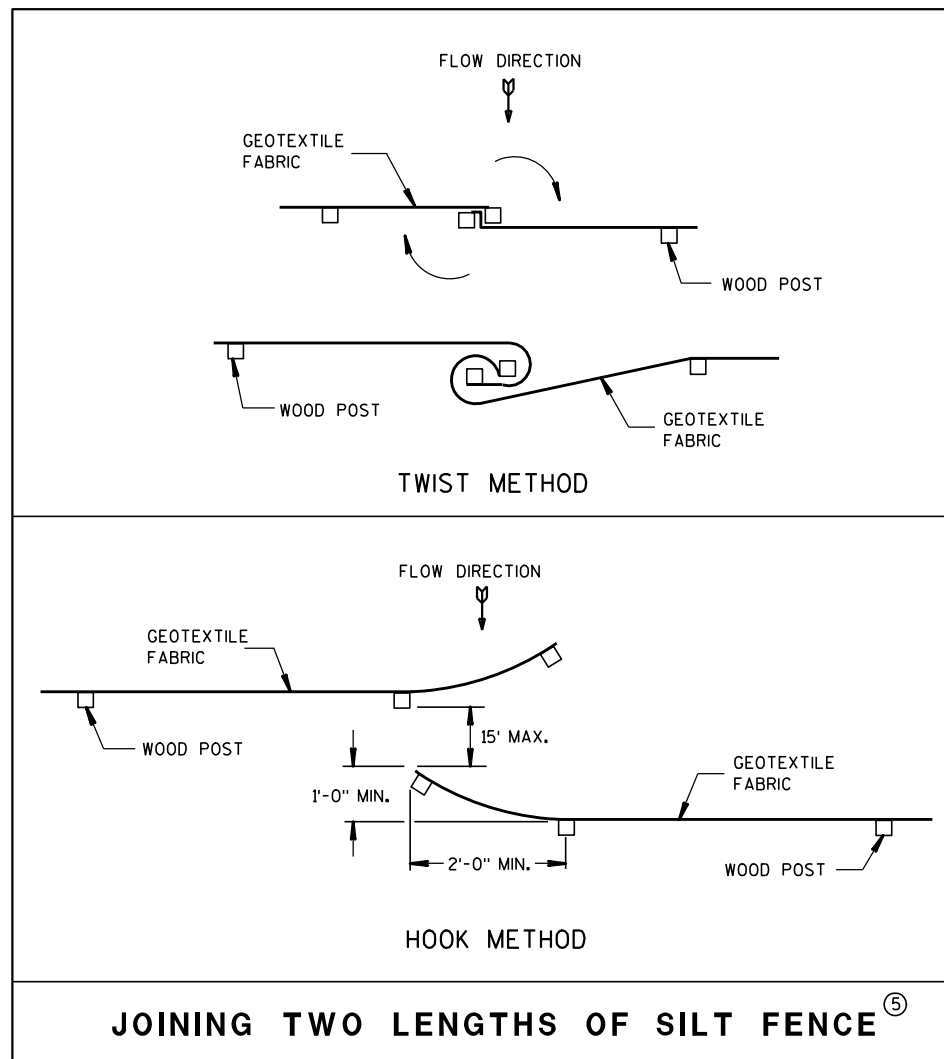
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

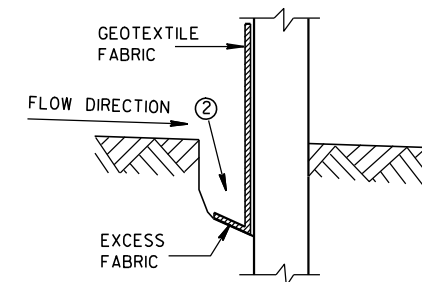


JOINING TWO LENGTHS OF SILT FENCE

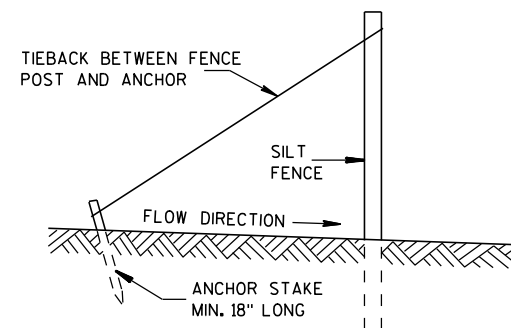
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

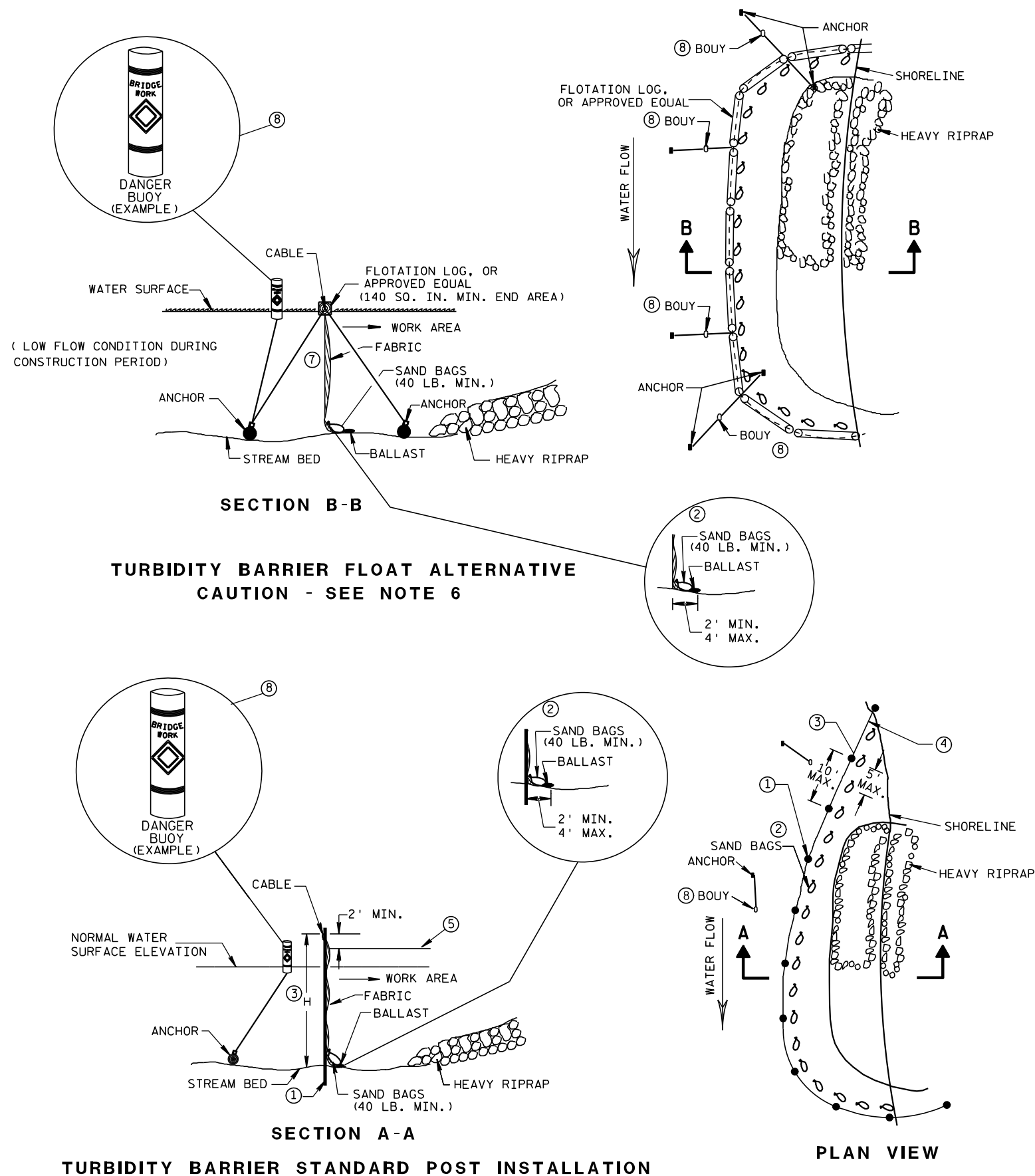


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

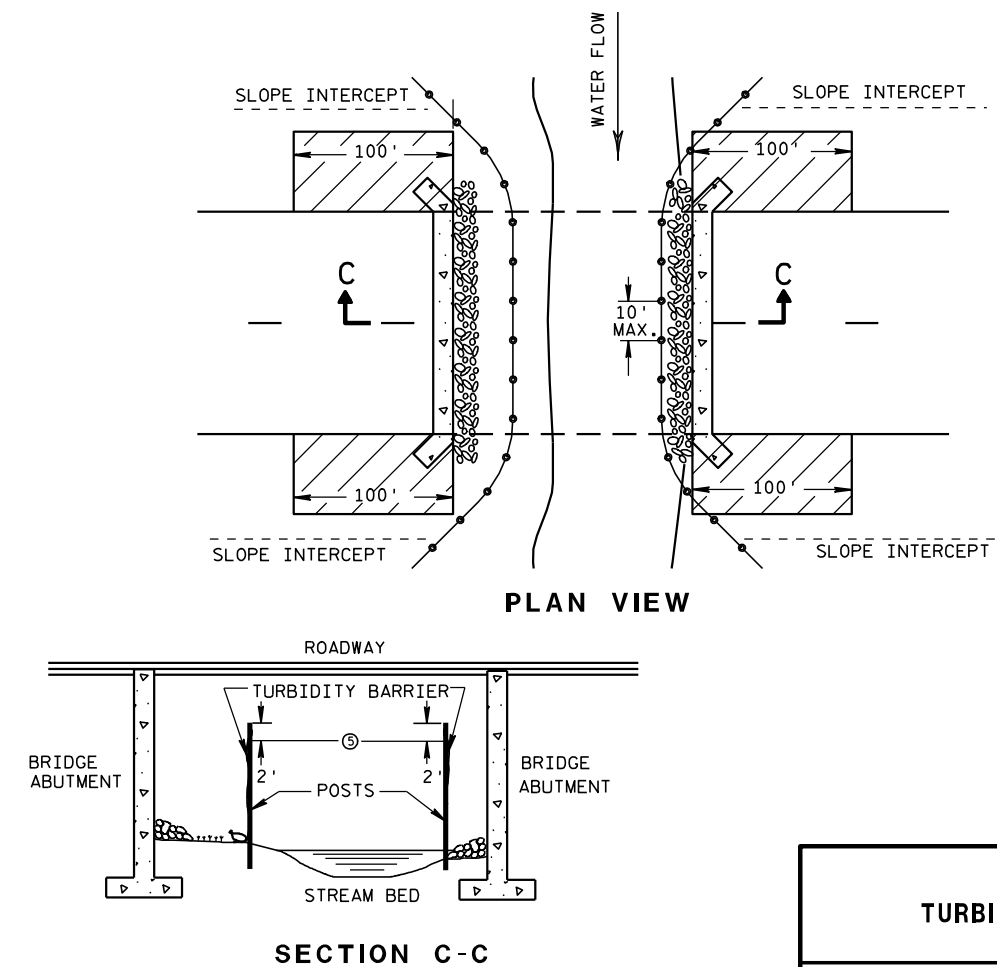


GENERAL NOTES

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.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

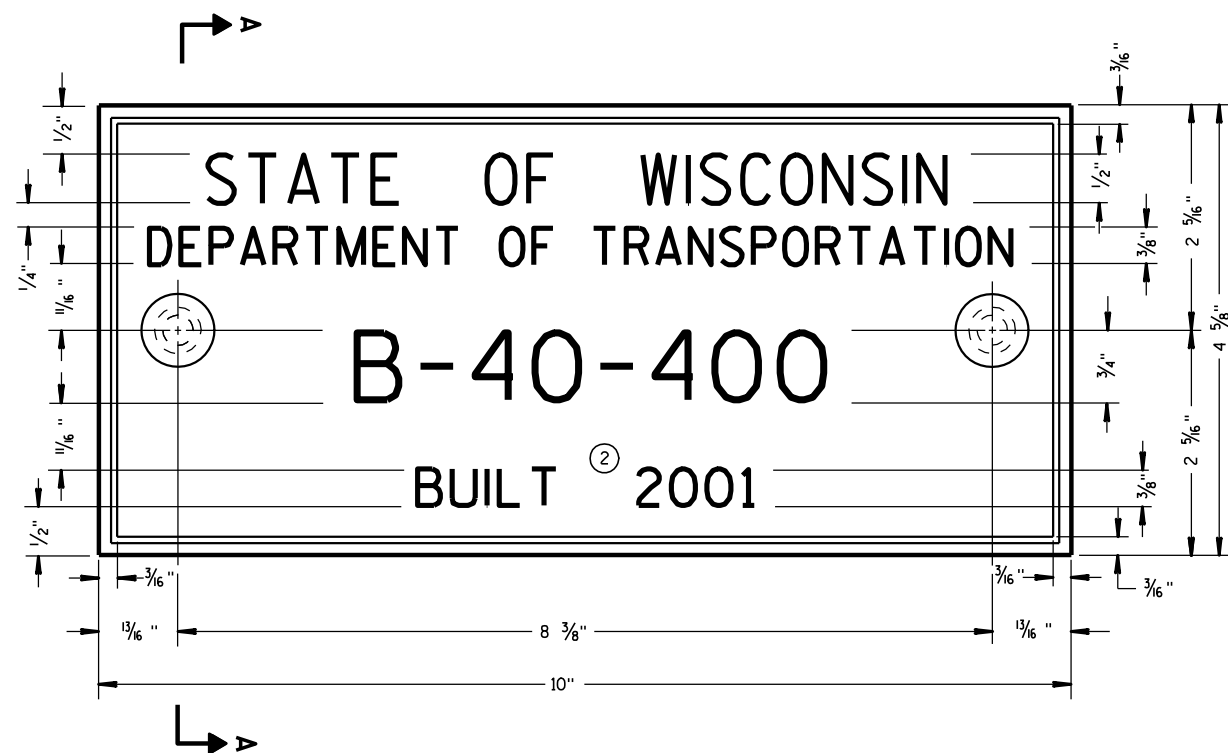
APPROVED

6/04/02
DATE

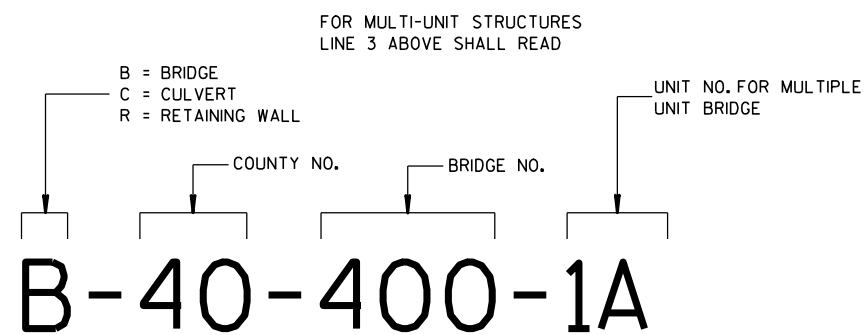
FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES



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



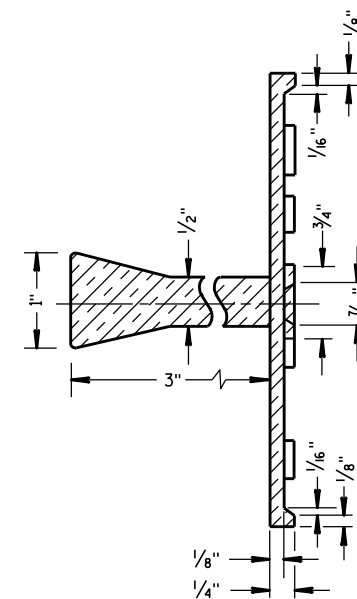
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

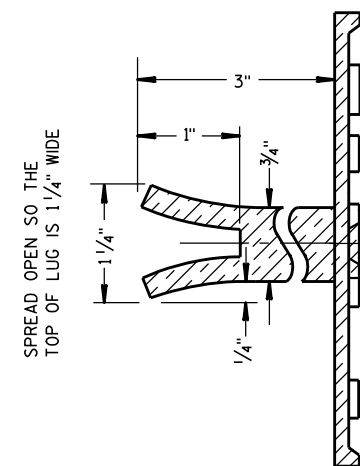
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

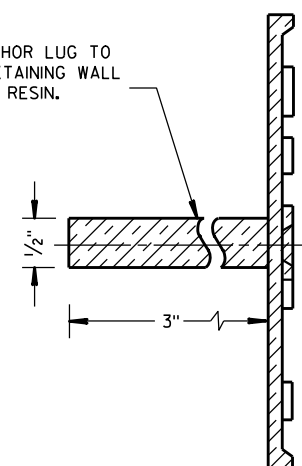


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

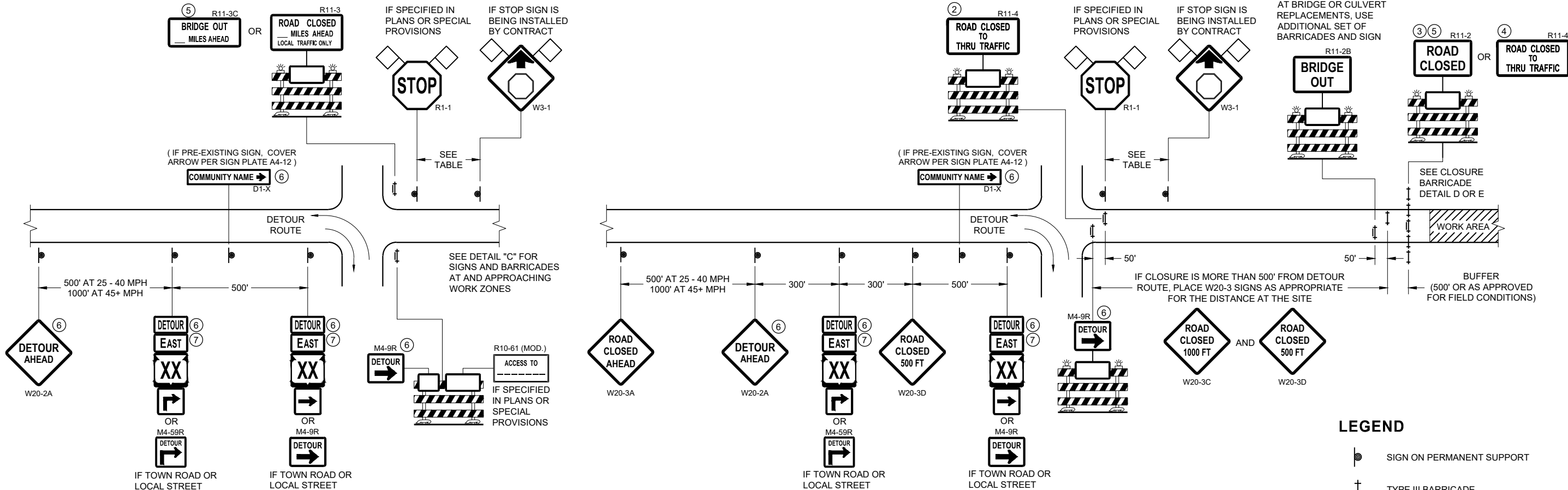
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



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)

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

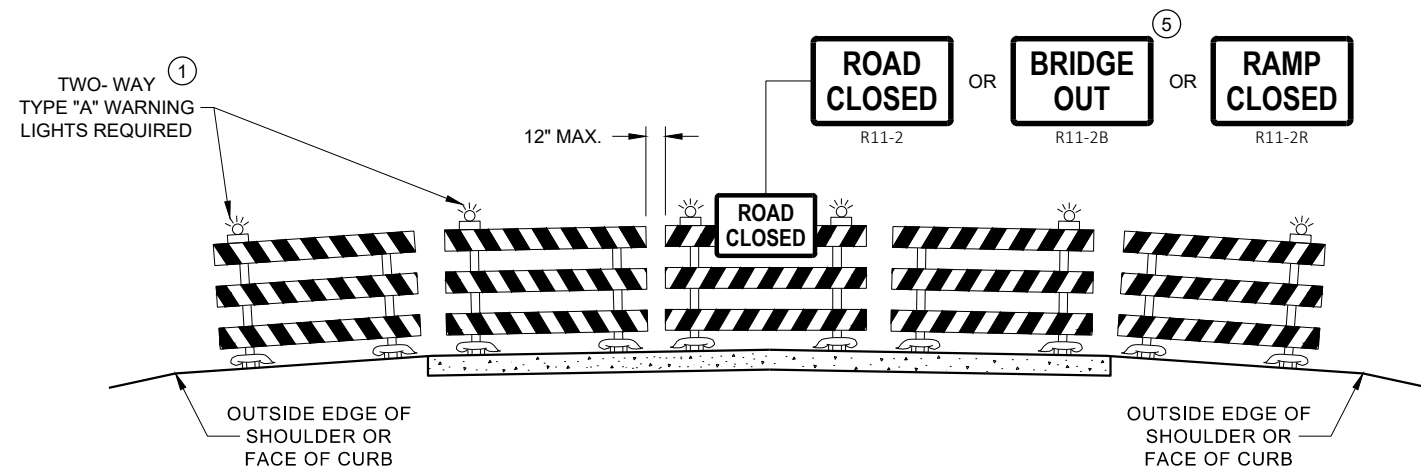
SEE SDD 15C2-SHEET "b" FOR GENERAL NOTES AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

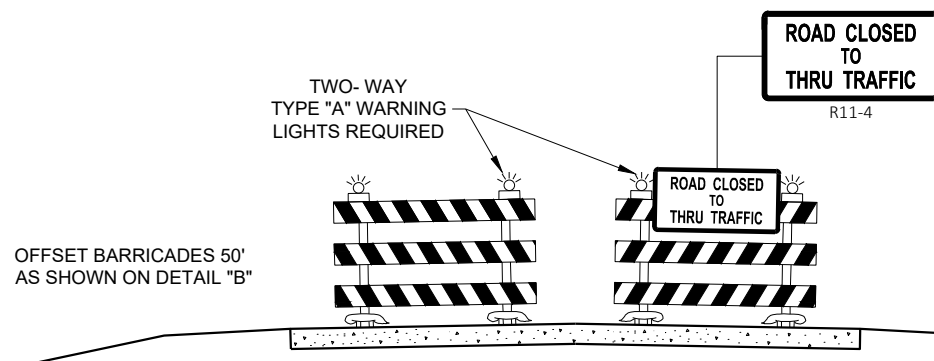
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

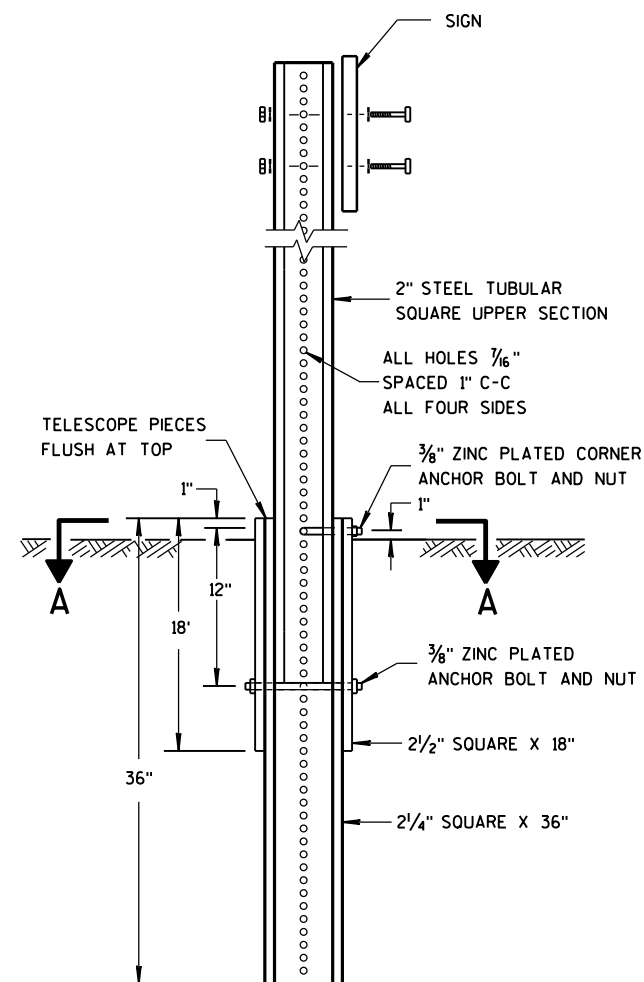
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

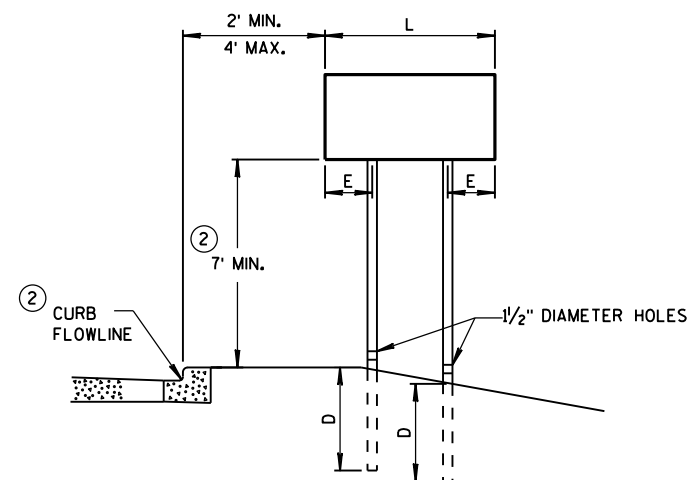
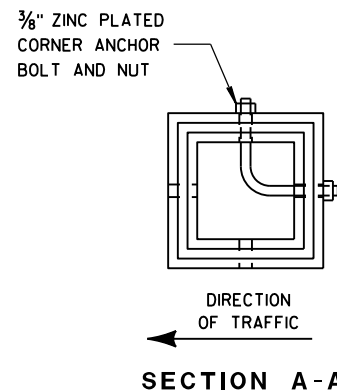


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.

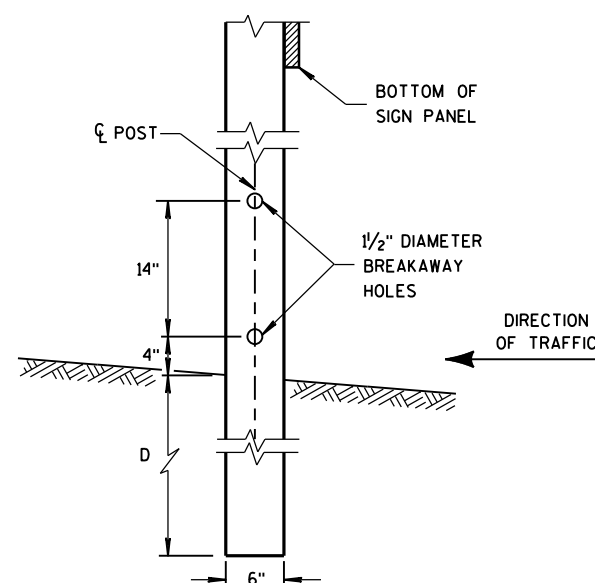


URBAN AREA

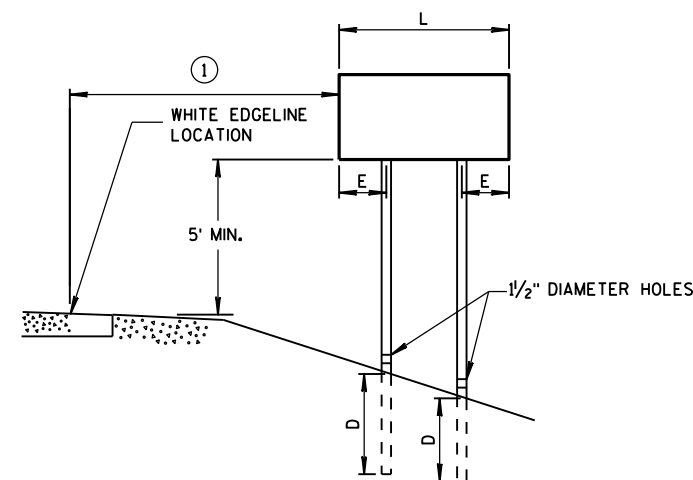
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

4 " X 6 " WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

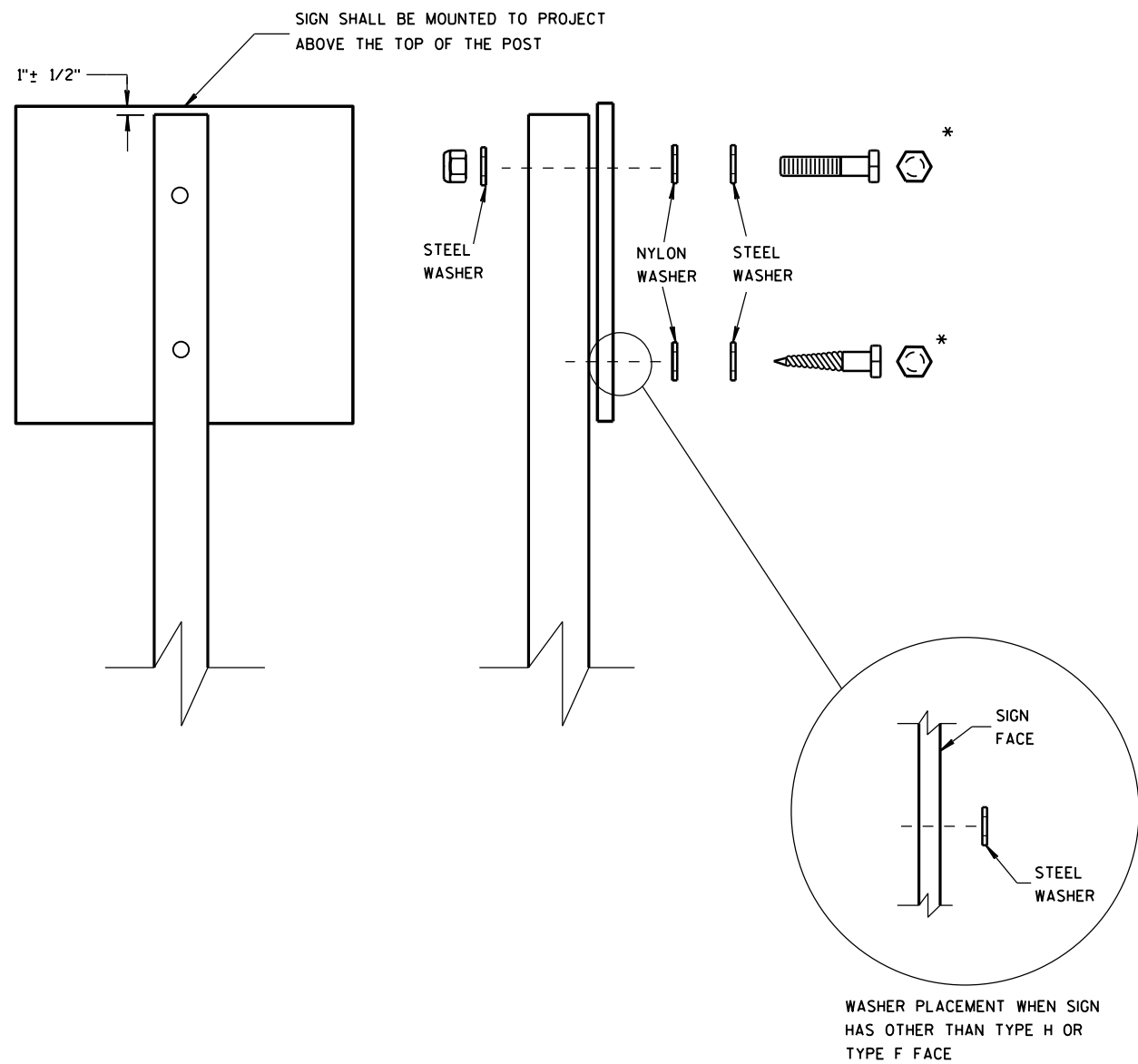
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

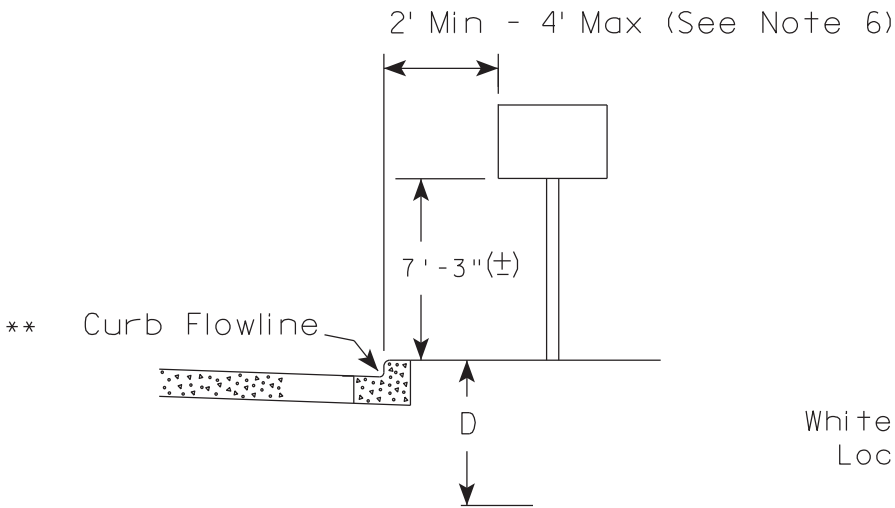
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

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

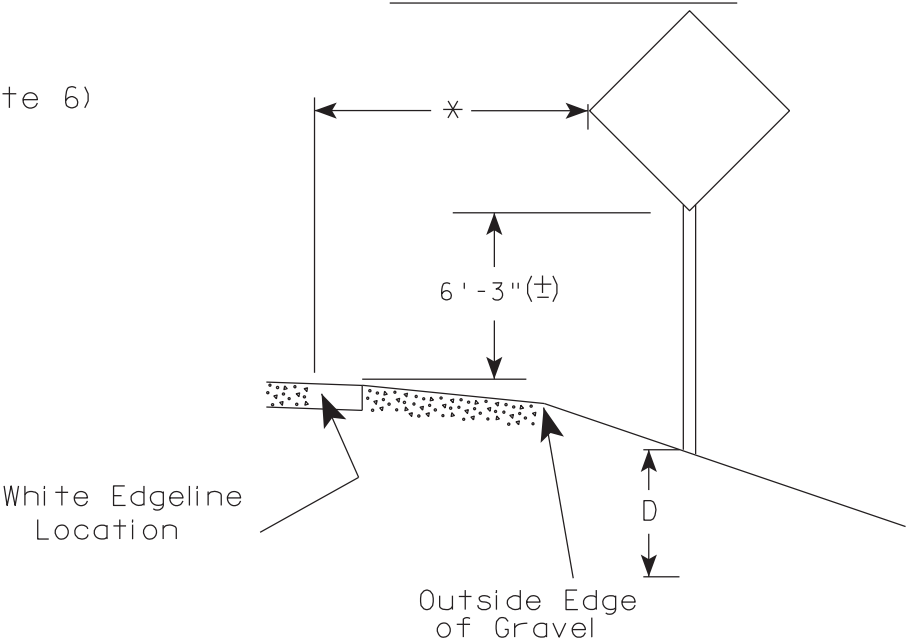
* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

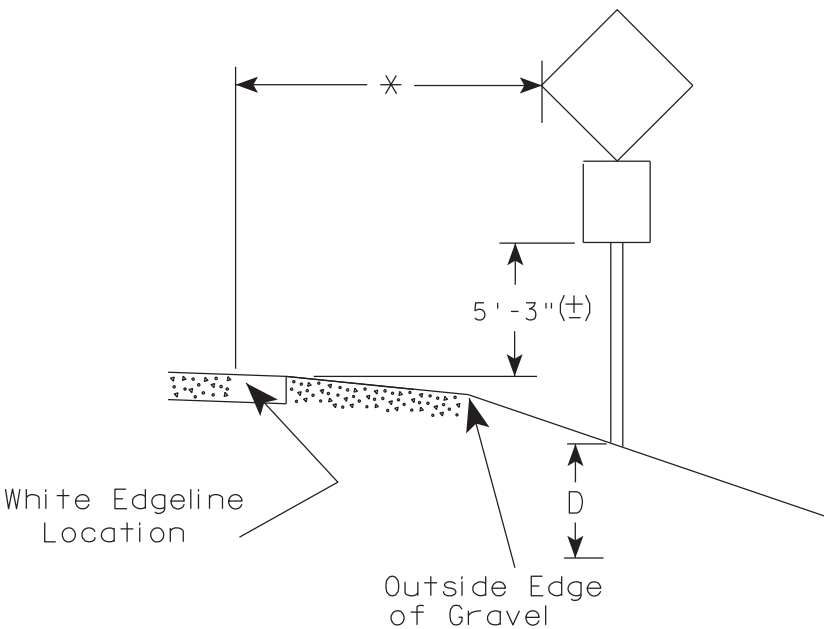
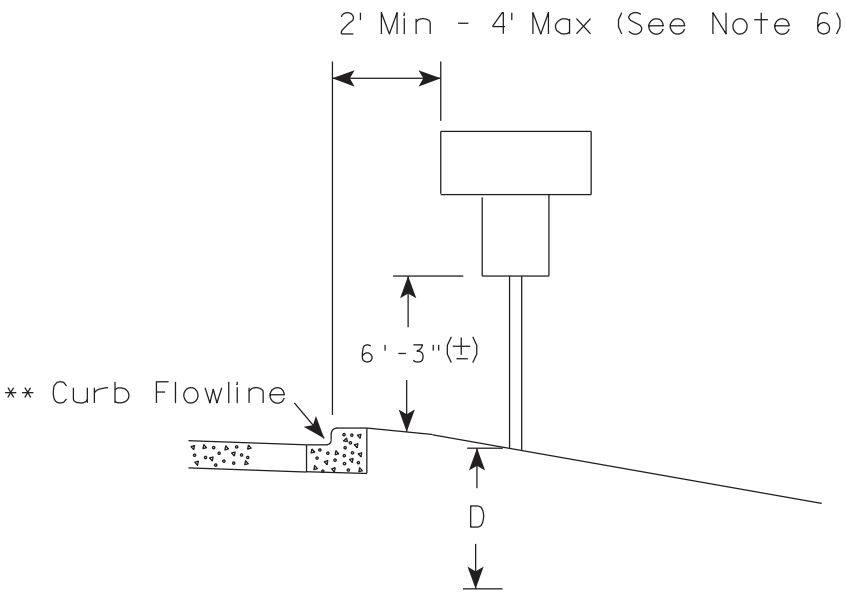
URBAN AREA



RURAL AREA (See Note 2)



- GENERAL NOTES
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
 2. If signs are mounted on barrier wall, see A4-10 sign plate.
 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
 4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. The (±) tolerance for mounting height is 3 inches.
 8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-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" (±).



POST EMBEDMENT DEPTH

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

* * 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.

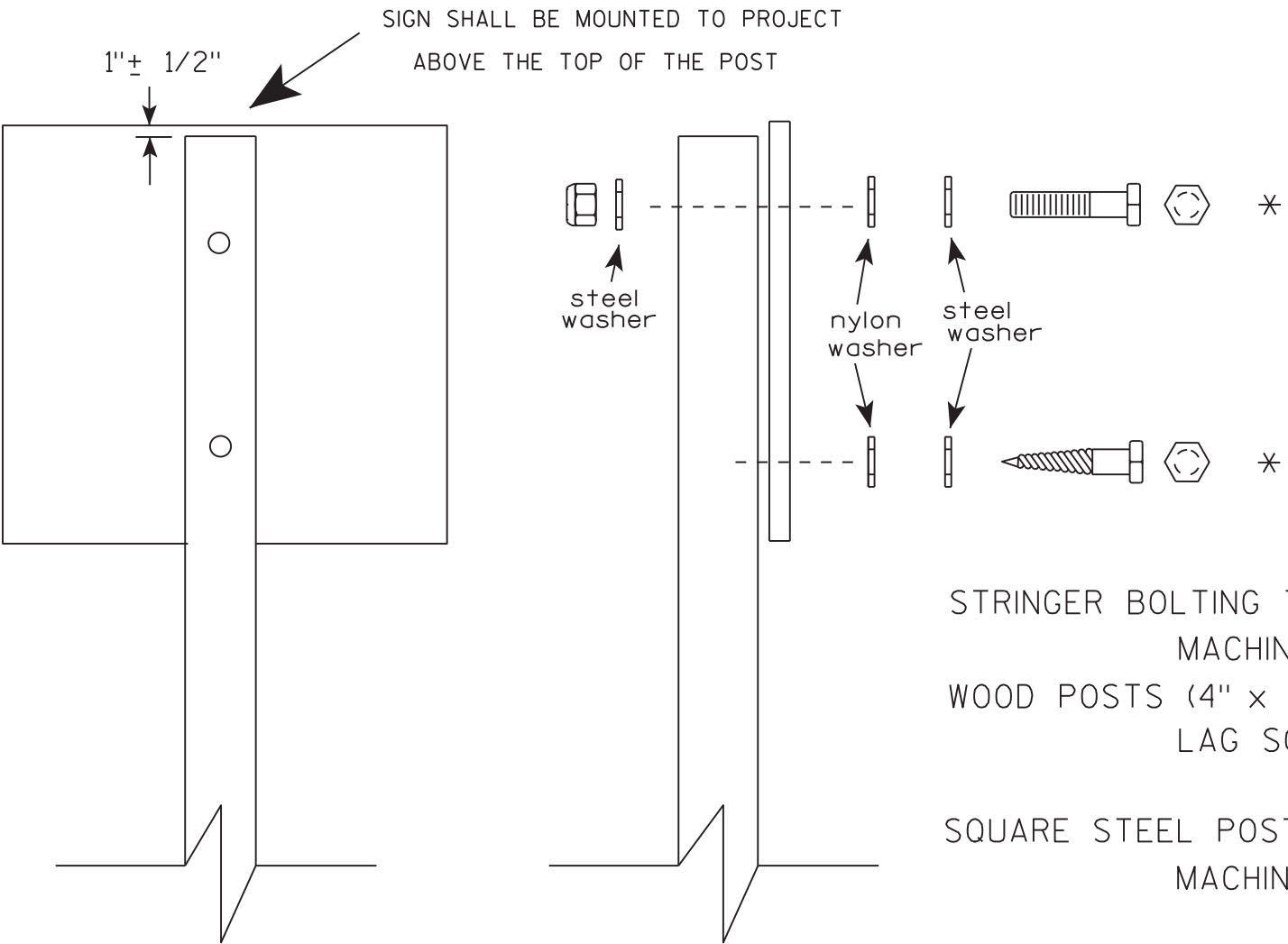
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



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 4" or 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

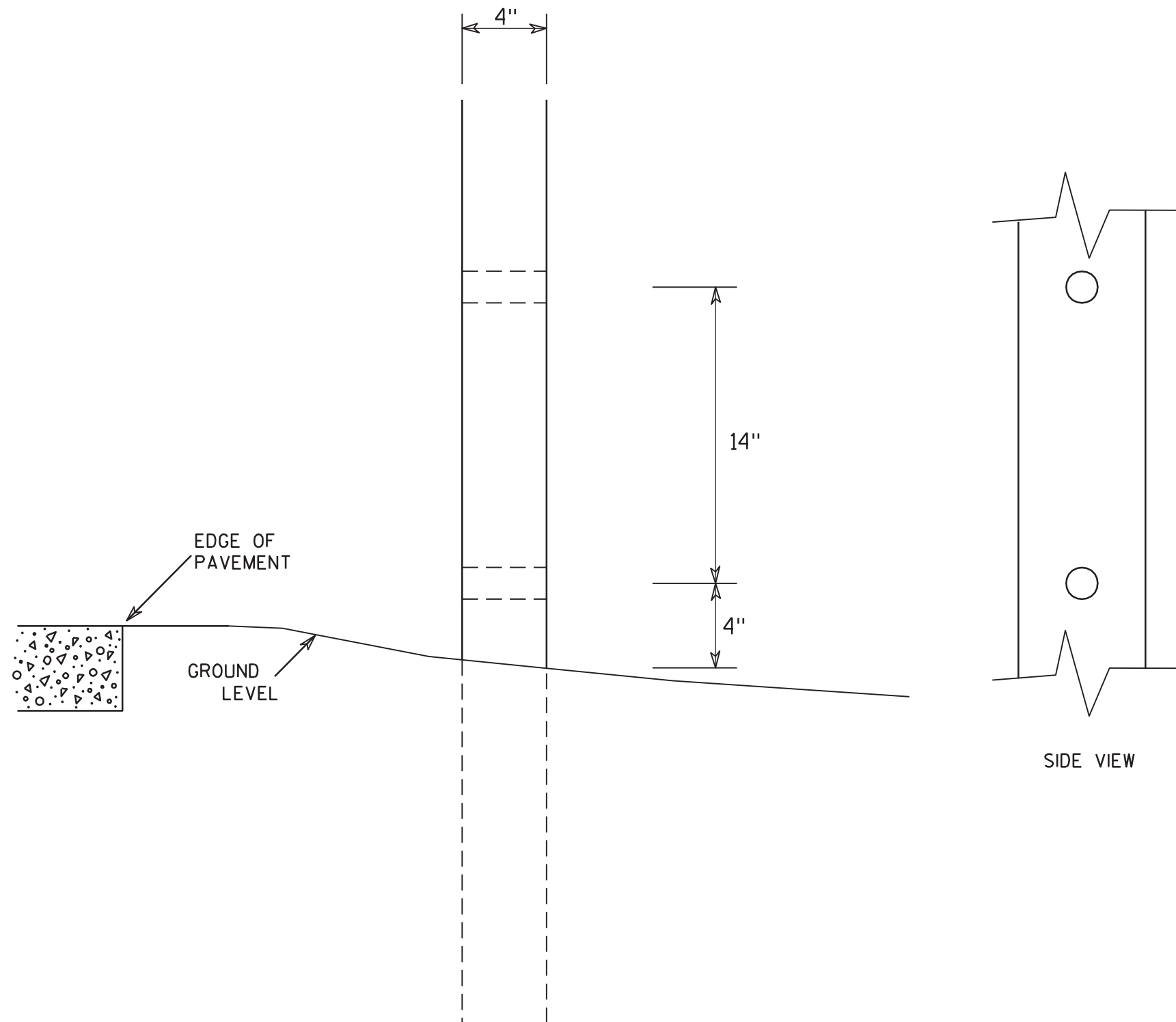
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8



GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

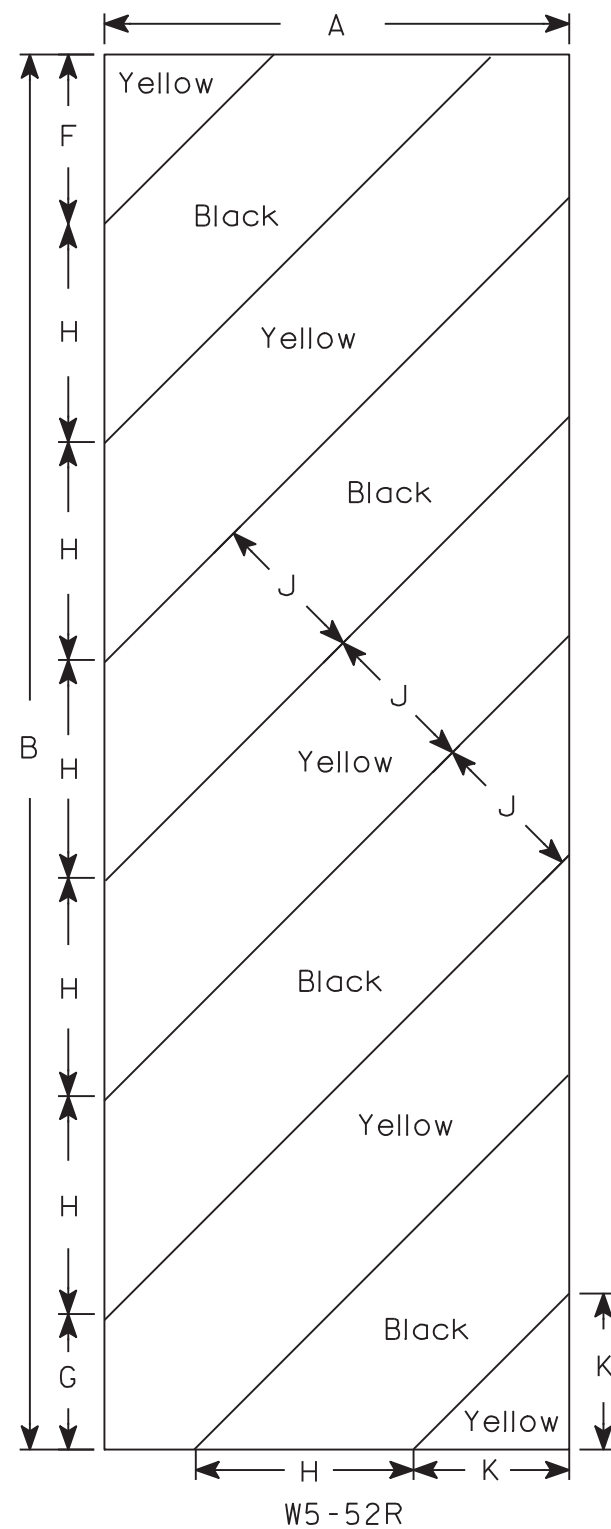
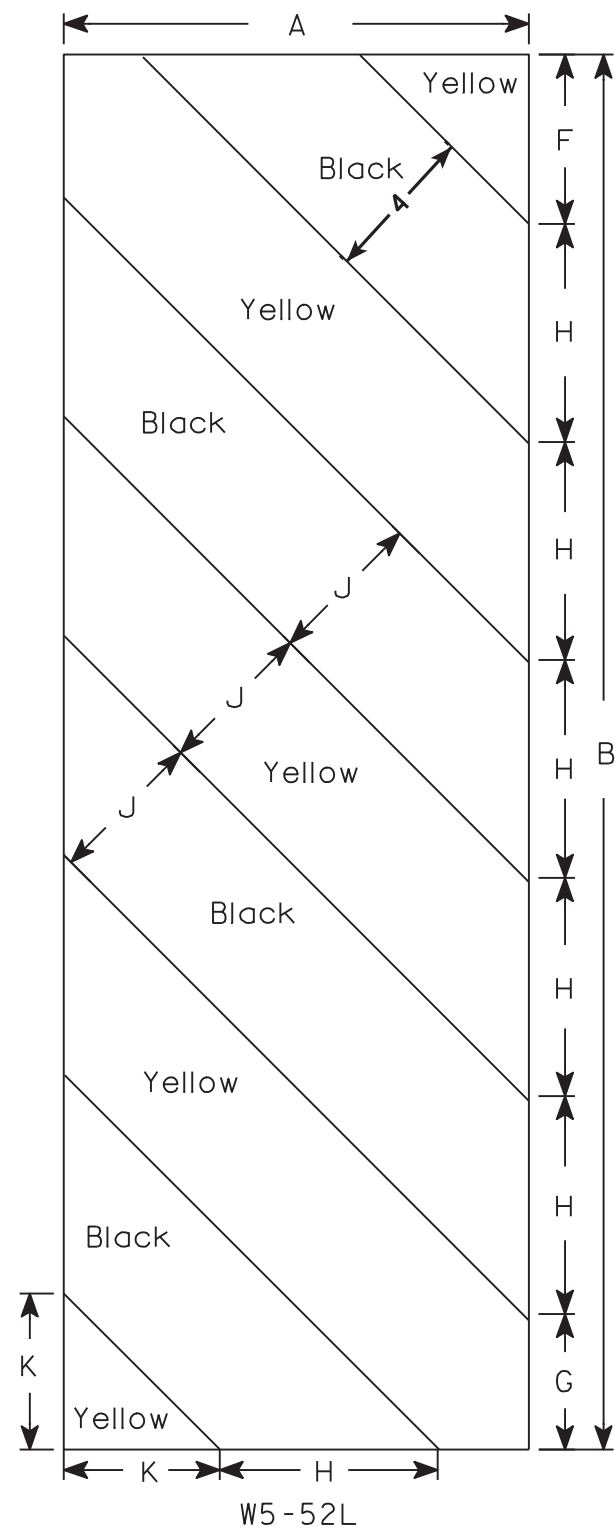
PROJECT NO: 5126-00-72

HWY: CTH M

COUNTY: MONROE

SHEET NO:

E



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. 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				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄6																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

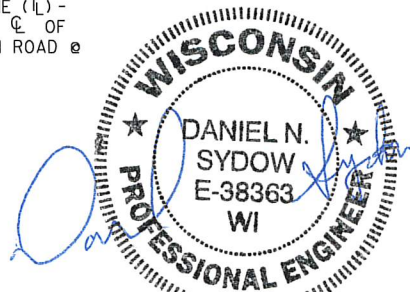
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT WING 1 DETAILS
6. WEST ABUTMENT WING 2 DETAILS
7. WEST ABUTMENT DETAILS & BILL OF BARS
8. EAST ABUTMENT
9. EAST ABUTMENT WING 3 DETAILS
10. EAST ABUTMENT WING 4 DETAILS
11. EAST ABUTMENT DETAILS & BILL OF BARS
12. PIER 1
13. PIER 2
14. SUPERSTRUCTURE
15. SUPERSTRUCTURE PLAN
16. SUPERSTRUCTURE DETAILS
17. DECK ELEVATIONS
18. RAILING TUBULAR TYPE M



CURVE DATA

P.I. STA. 9+69.27
 $\Delta = 73^{\circ}15'51''$
 $D = 22^{\circ}55'06''$
 $R = 250.00'$
 $T = 185.88'$
 $L = 319.68'$
 $S.E. = 4.0\%$

* ATTACHMENT FOR THRIE BEAM TYPE GUARDRAIL.

○ DENOTES WING NUMBER.

PLAN

THREE SPAN, CONCRETE HAUNCHED SLAB

ELEVATION

(NORMAL TO $\bar{C}$ OF RIVER)

FOR TYPICAL SECTION, DESIGN DATA AND GENERAL NOTES SEE SHEET 2

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

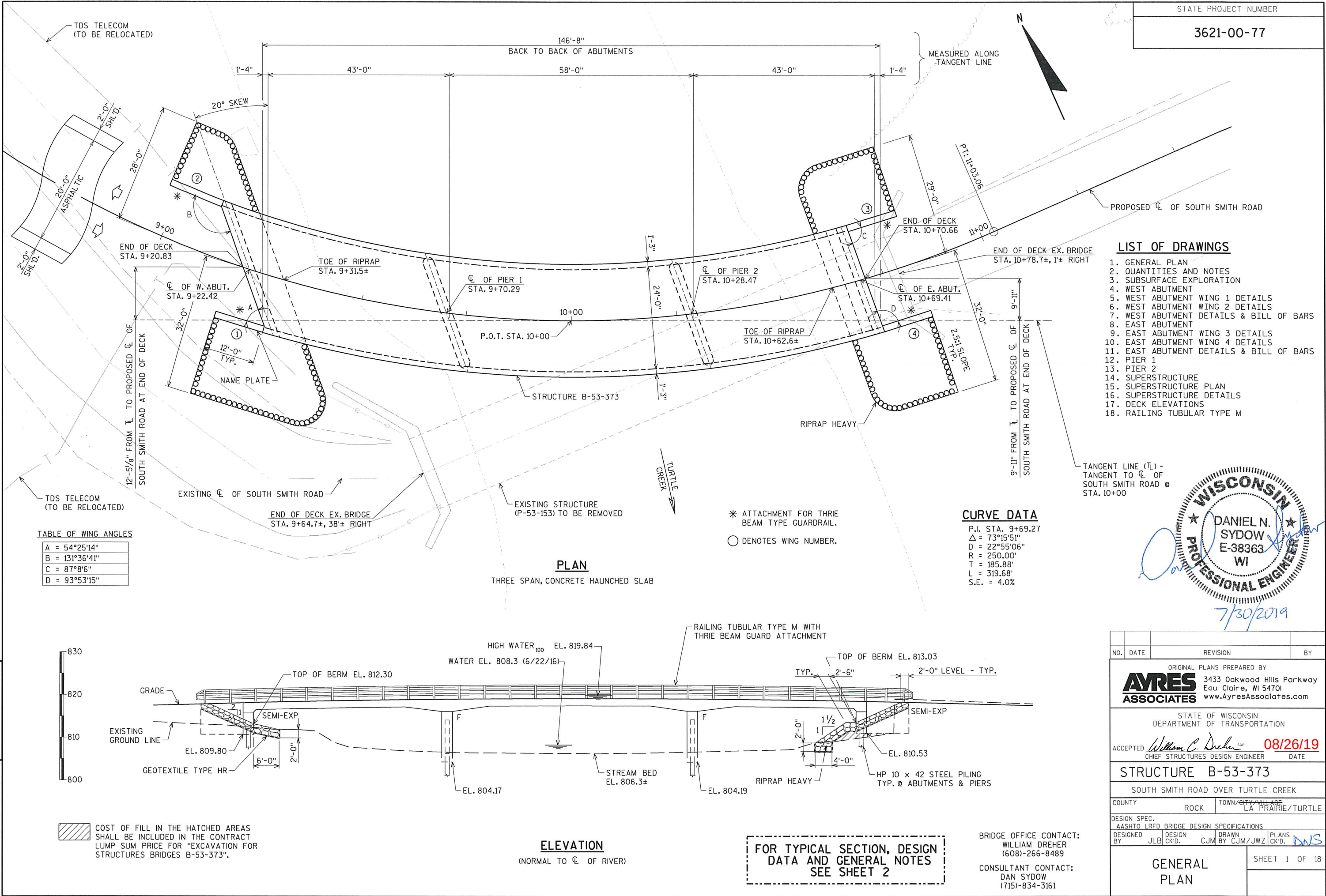
NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
AYRES ASSOCIATES		3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> SICR		08/26/19
CHIEF STRUCTURES DESIGN ENGINEER			DATE
STRUCTURE B-53-373			
SOUTH SMITH ROAD OVER TURTLE CREEK			
COUNTY	ROCK	TOWN/CITY/VILLAGE LA PRAIRIE/TURTLE	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JLB	DESIGN CK'D.	CJM
DRAWN BY		CJM/JWZ	PLANS CK'D. <i>DNS</i>
GENERAL PLAN			SHEET 1 OF 18

7/30/2019
PENTABLE:Wisdot-shd.tbl

CHECKED BY:
BACK CHECKED BY:
CORRECTED BY:

8

8



7/30/2019
PENTABLEWisdot_shd.tbl

8

8

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	PIER 1	PIER 2	E. ABUT.	SUPER.	TOTAL
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-53-373	LS	-----	-----	-----	-----	-----	1
206.5000	COFFERDAMS B-53-373	LS	-----	-----	-----	-----	-----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	145	-----	-----	105	-----	250
502.0100	CONCRETE MASONRY BRIDGES	CY	38	30	28	33	291	415
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	-----	-----	540	540
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,240	1,430	1,330	1,920	-----	6,920
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,610	50	50	1,850	62,000	65,560
513.4061	RAILING TUBULAR TYPE M	LF	27	-----	-----	27	300	354
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	-----	-----	9	-----	19
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	-----	-----	-----	40	-----	40
550.0500	PILE POINTS	EACH	5	8	7	4	-----	24
550.1100	PILING STEEL HP 10-INCH x 42 LB	LF	100	200	175	48	-----	523
606.0300	RIPRAP HEAVY	CY	65	-----	-----	65	-----	130
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	-----	-----	75	-----	155
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	25	-----	-----	20	-----	45
645.0120	GEOTEXTILE TYPE HR	SY	130	-----	-----	130	-----	260
SPV.0105.01	REMOVING OLD STRUCTURE OVER WATERWAY STATION 10+24	LS	-----	-----	-----	-----	-----	1
	NON-BID ITEMS							
	FILLER	SIZE	-----	-----	-----	-----	-----	1/2" & 3/4"
	NAME PLATE							

EXISTING STEEL TRUSS SUPERSTRUCTURE BEING REMOVED BY OTHERS.REMOVE EXISTING ABUTMENTS.SEE SPECIAL PROVISIONS FOR DETAILS.

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.14
OPERATING RATING FACTOR: 1.48
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

CONCRETE MASONRY { SUPERSTRUCTURE f'c = 4,000 p.s.i.
ALL OTHER f'c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) fy = 60,000 p.s.i.

HYDRAULIC DATA:

100 YEAR FREQUENCY 2 YEAR FREQUENCY
Q100 = 13,769 c.f.s. { BRIDGE = 4,672 c.f.s. Q2 = 5,000 c.f.s.
VEL.= 4.32 f.p.s. { OVERFLOW = 9,097 c.f.s. VEL.= 4.48 f.p.s.
HW100 = EL. 819.84 HW2 = EL. 816.1
WATERWAY AREA = 1,081 sq. ft. ROAD OVERTOPPING FREQUENCY
DRAINAGE AREA = 216 sq. mi. FREQUENCY = 2 YEARS
SCOUR CRITICAL CODE = 5 Q2 = 3,500 c.f.s.
DATUM = NAVD88 (2012) HW2 = EL. 814.3

FOUNDATION DATA:

WEST ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS # PER PILE. ESTIMATED LENGTH OF 20'-0".

EAST ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 160 TONS # PER PILE. ESTIMATED LENGTH OF 12'-0". PRE-BORE EAST ABUTMENT PILING A MINIMUM OF 10'-0"

PIERS TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS # PER PILE. ESTIMATED LENGTH OF 25'-0".

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

TRAFFIC DATA:

A.D.T. = 140 (2019)
A.D.T. = 145 (2039)
R.D.S. = <25 M.P.H.

GENERAL NOTES

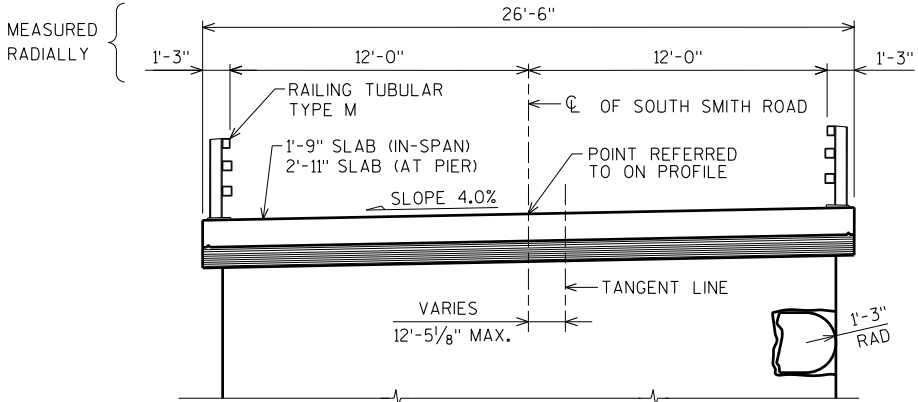
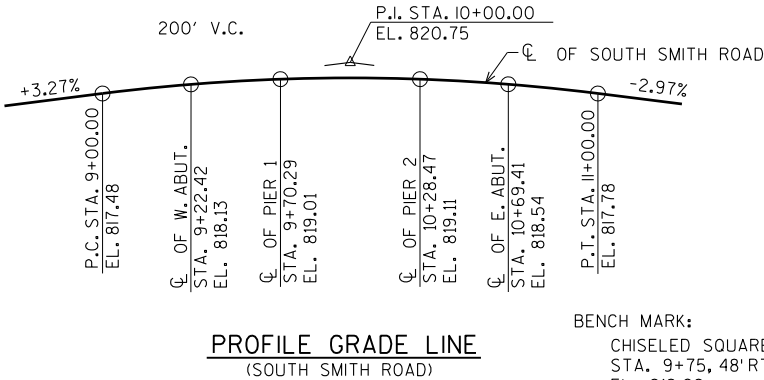
DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY, AND GEOTEXTILE TYPE TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATIVE METHOD IS APPROVED BY THE ENGINEER.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-53-373" SHALL BE THE EXISTING GROUNDLINE.
THE EXISTING STRUCTURE, P-53-153, TO BE REMOVED, IS A SINGLE SPAN STEEL OVERHEAD TRUSS BRIDGE ON CONCRETE ABUTMENTS, 122 FEET LONG WITH A 12.4 FOOT CLEAR ROADWAY WIDTH.

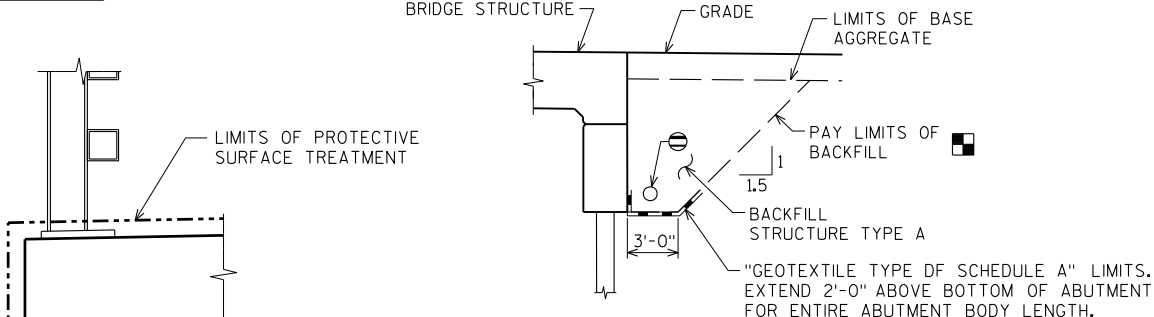
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.
BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.

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



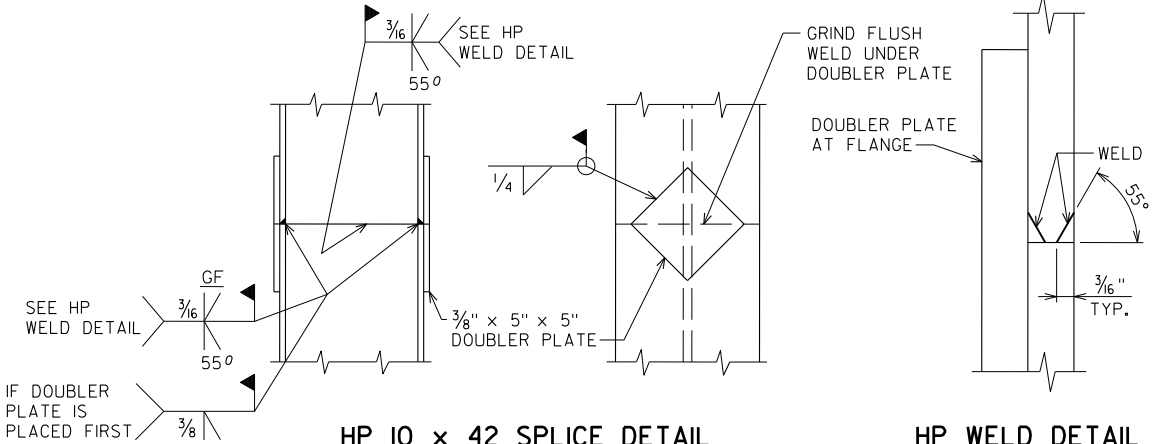
TYPICAL SECTION THRU BRIDGE



BACKFILL STRUCTURE LIMITS

- BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7.

PROTECTIVE SURFACE TREATMENT DETAIL



HP 10 x 42 SPLICE DETAIL

HP WELD DETAIL

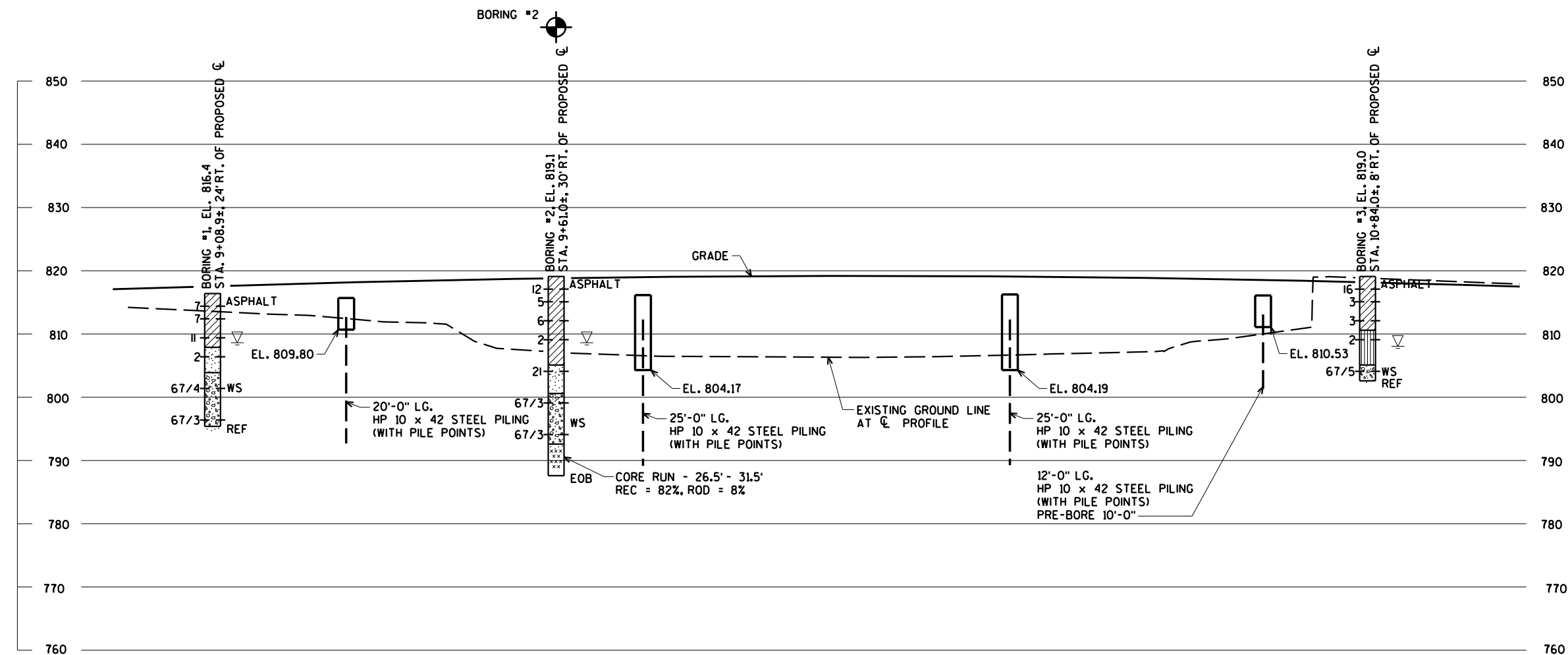
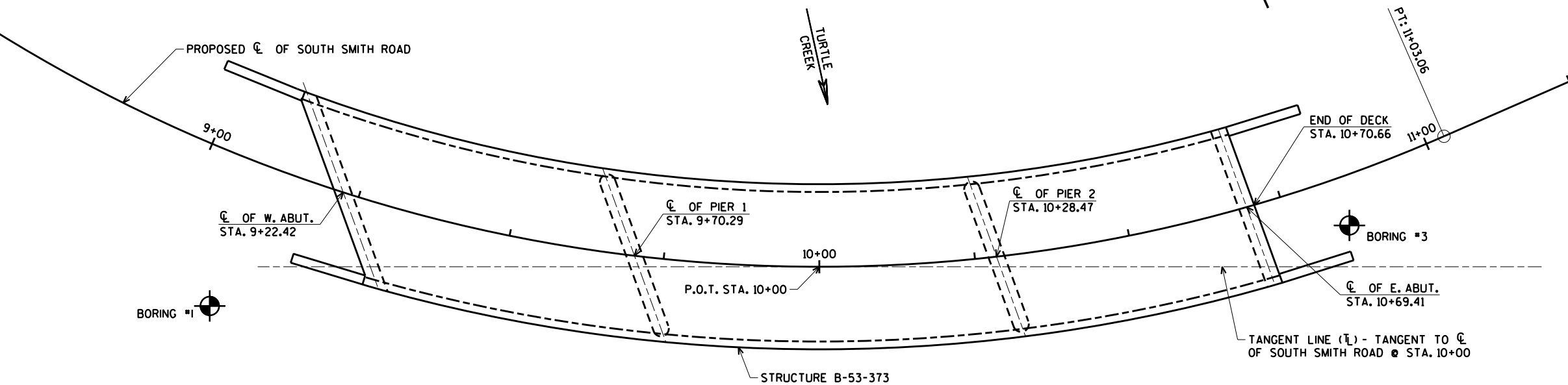
FLANGE SHOWN, WEB SIMILAR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
	DRAWN BY	JWZ/CJM	PLANS CK'D. JLB
QUANTITIES AND NOTES		SHEET 2 OF 18	

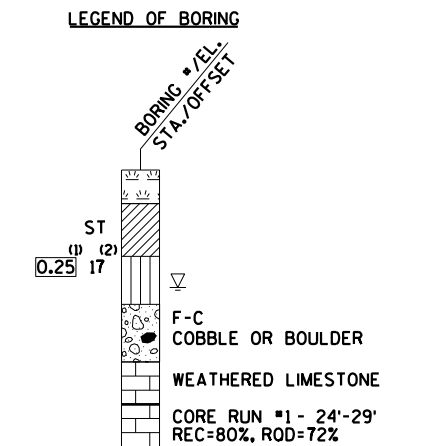
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	2/14/2017	232770.40	520267.83
2	2/13/2017	232727.40	520308.15
3	2/14/2017	232707.58	520439.93

BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC.
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) ROCK COUNTY



STATE PROJECT NUMBER			
3621-00-77			
<u>MATERIAL SYMBOLS</u>			
	ASPHALT		TOPSOIL
	CONCRETE		FILL
	SAND		CLAY
	BOULDERS OR COBBLES		LIMESTONE
	SHALE		SANDSTONE
			PEAT
			GRAVEL
			SILT
			BEDROCK (UNKNOWN)
			IGNEOUS/ META



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

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

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

 AFTER DRILLING

ABBREVIATIONS

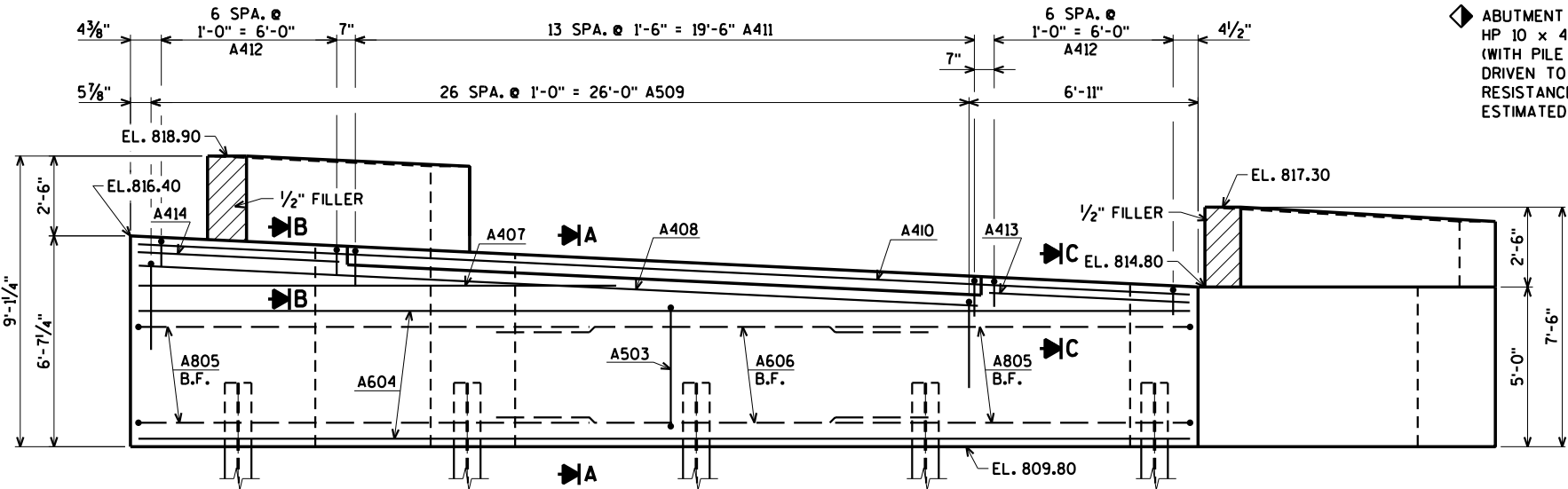
F-FINE	M-MEDIUM	C-COARSE	ST-SHELBY TUBE
--------	----------	----------	----------------

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

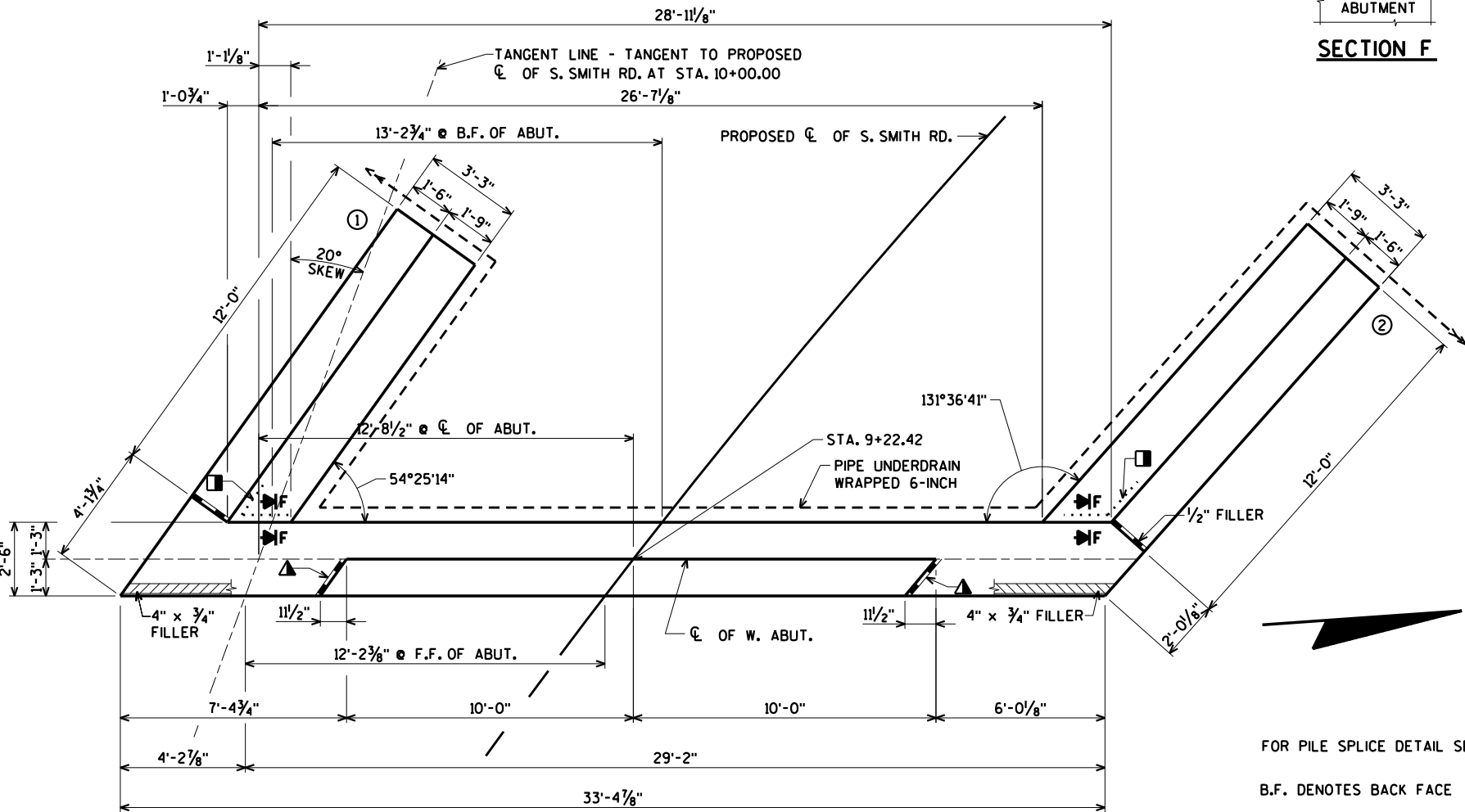
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY		JWZ	PLANS CK'D. JLB
SUBSURFACE EXPLORATION		SHEET 3 OF 18	

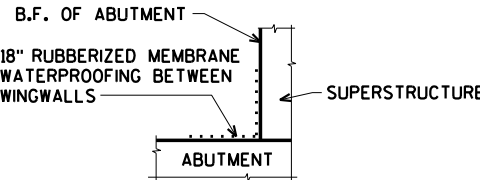
- NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- ⊗ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".



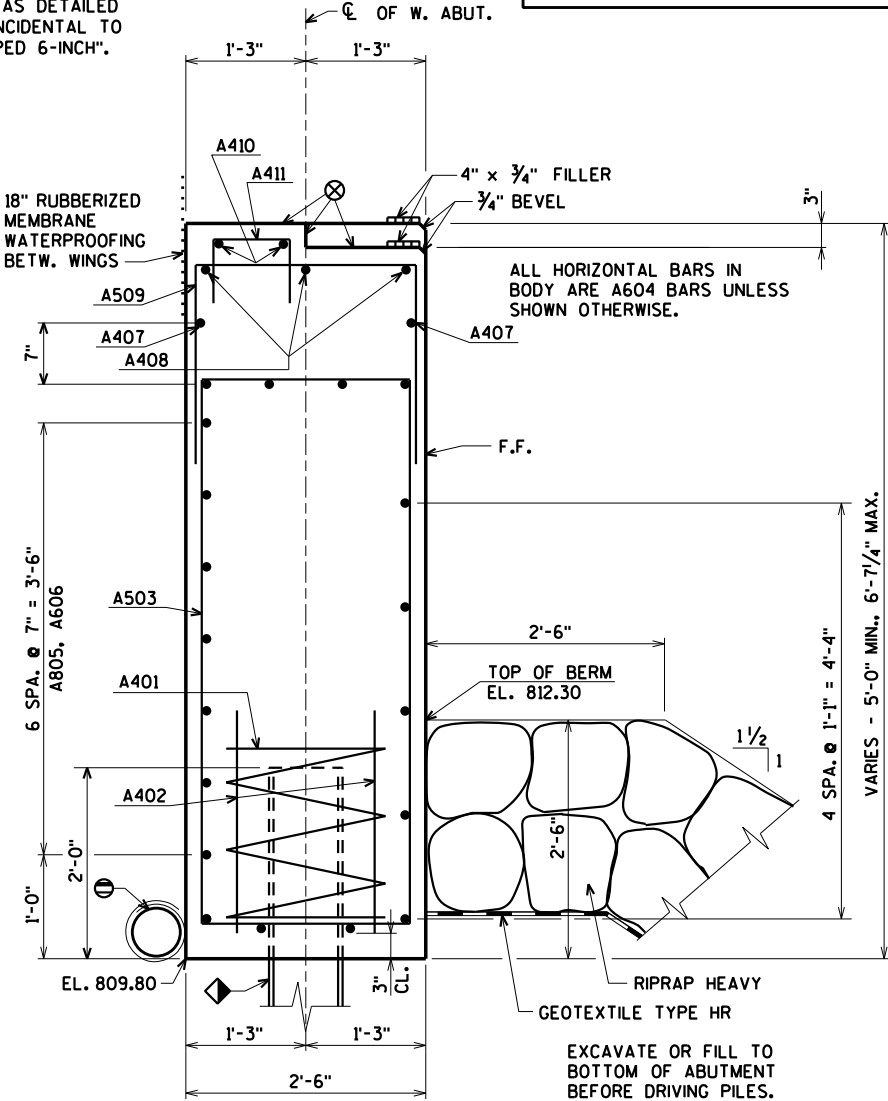
ELEVATION
(LOOKING WEST)



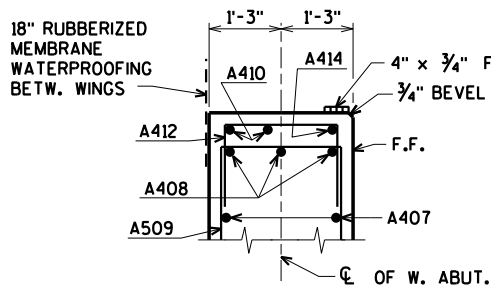
PLAN



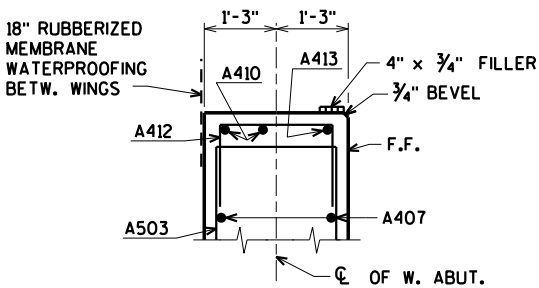
SECTION F



SECTION A



SECTION B



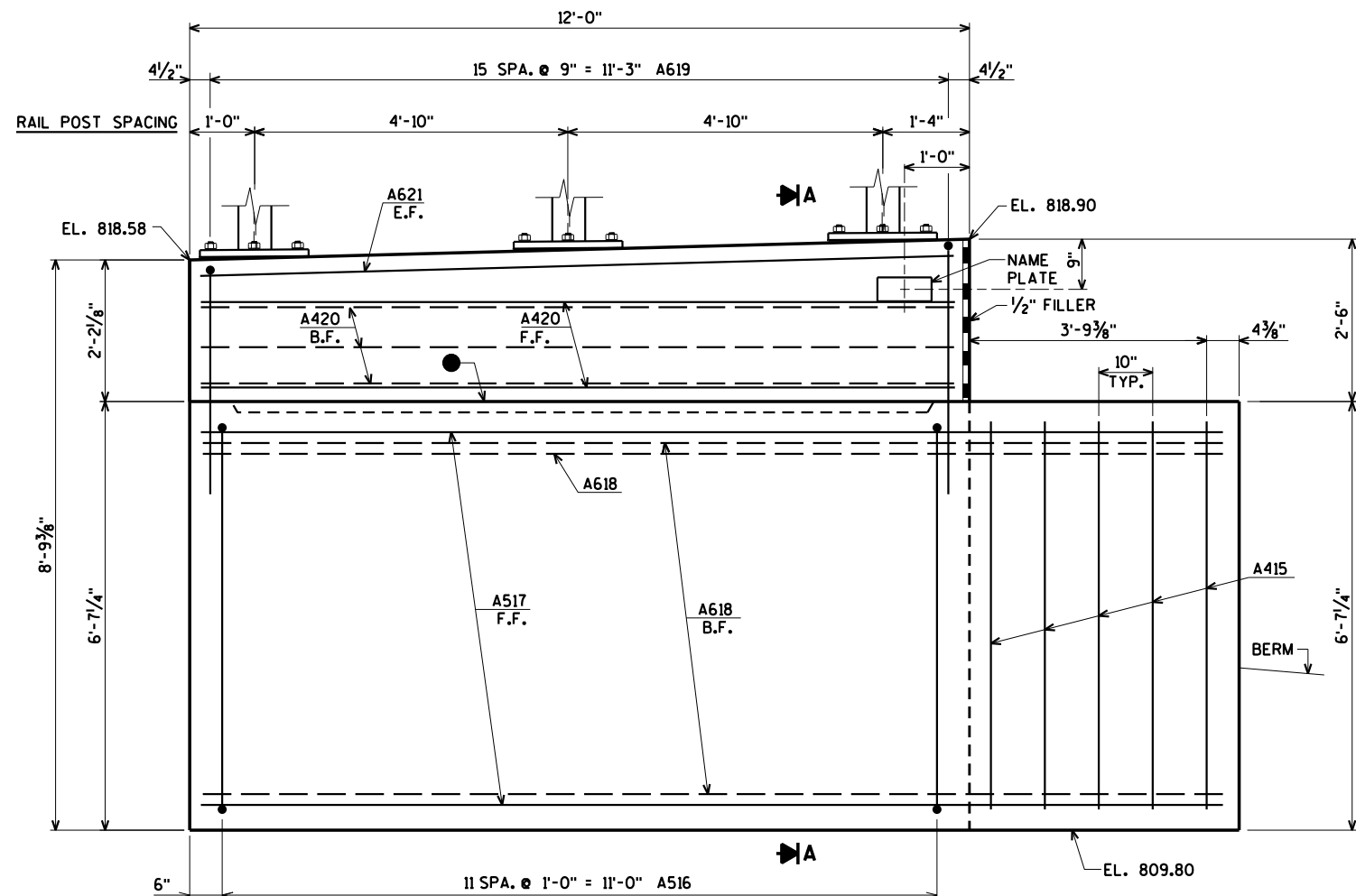
SECTION C

FOR PILE SPLICE DETAIL SEE SHEET 2.

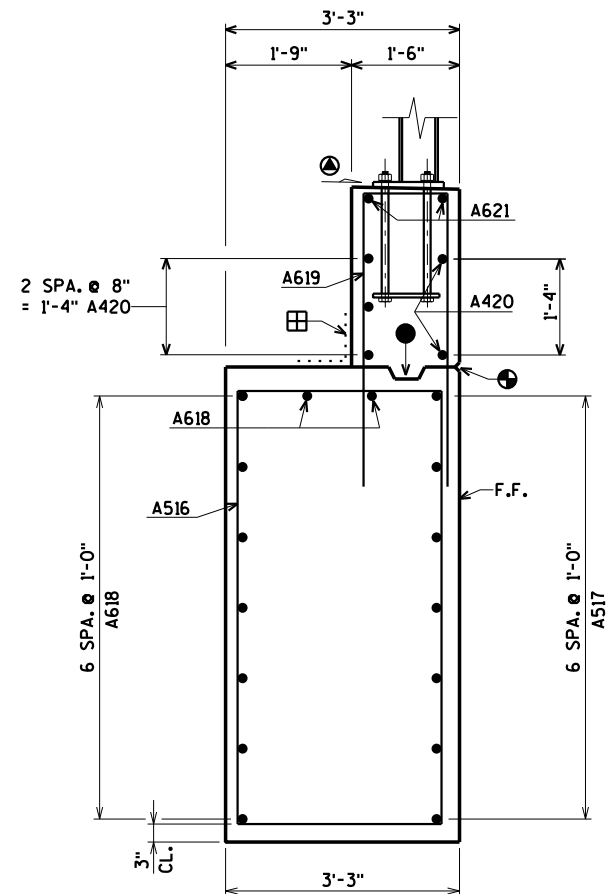
B.F. DENOTES BACK FACE
F.F. DENOTES FRONT FACE

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY CJM		PLANS CK'D. JLB	
WEST ABUTMENT		SHEET 4 OF 18	



ELEVATION - WING 1



SECTION A

⊙ SLOPE SAME AS SUPERSTRUCTURE.

⊕ 3/4" V GROOVE ON FRONT FACE OF WINGWALL.

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

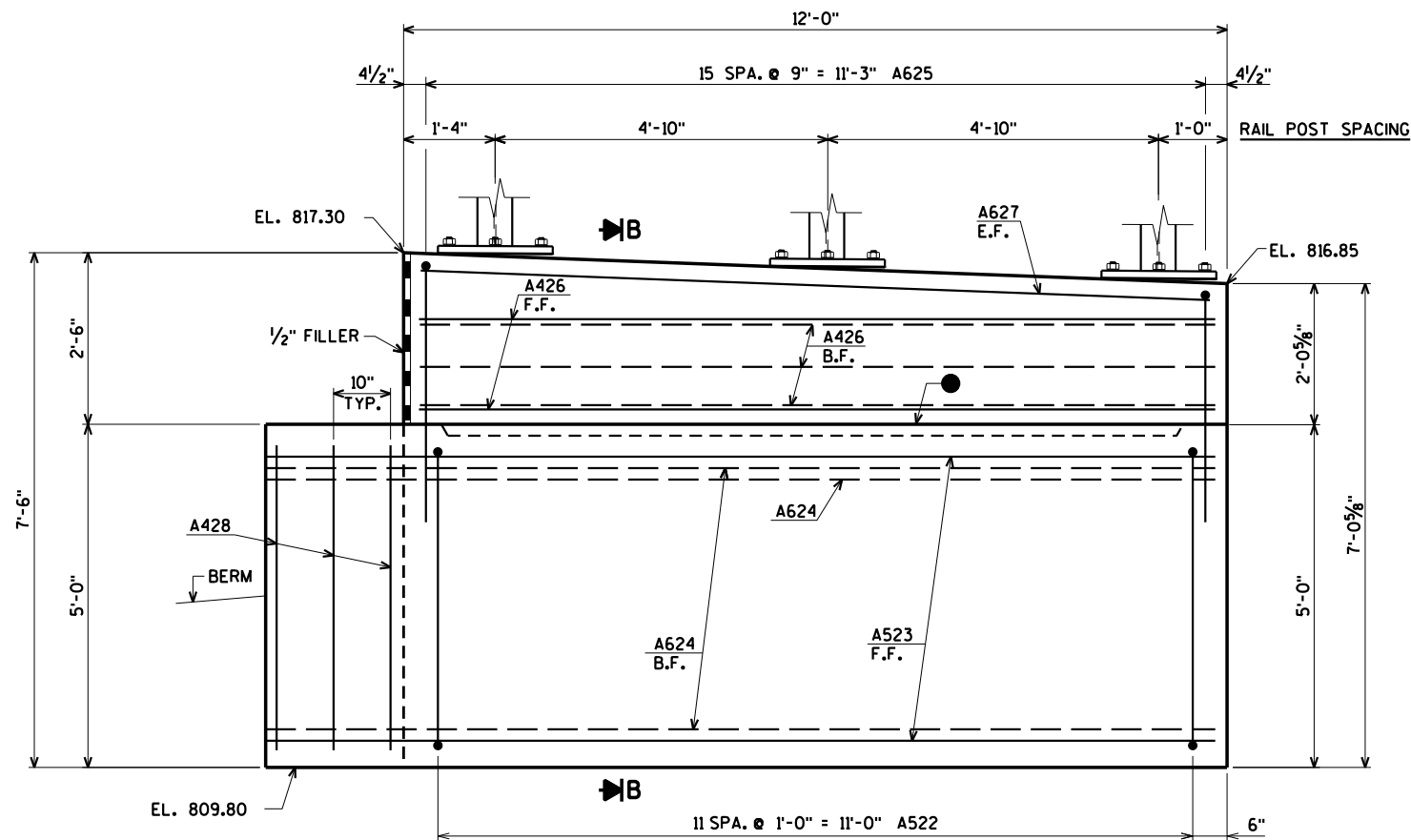
B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

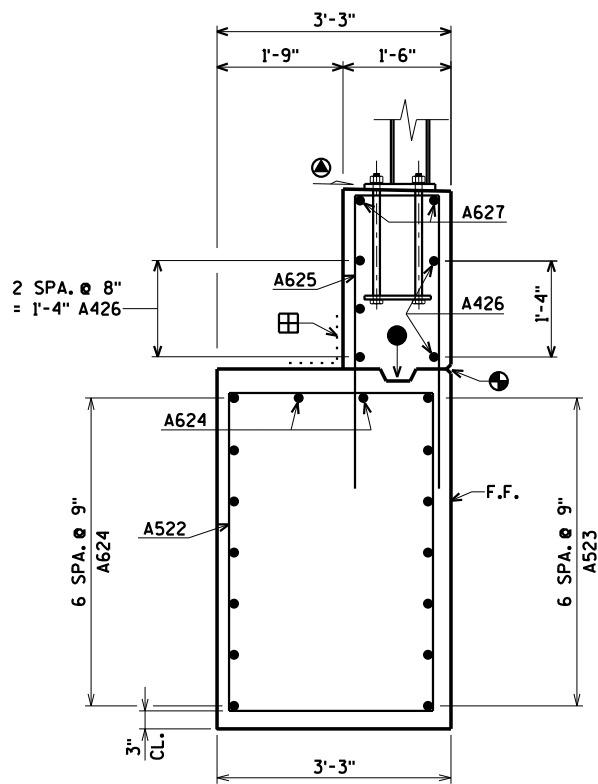
E.F. DENOTES EACH FACE.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY		CJM	PLANS CK'D. JLB
WEST ABUTMENT WING 1 DETAILS			SHEET 5 OF 18



ELEVATION - WING 2



SECTION B

⊙ SLOPE SAME AS SUPERSTRUCTURE.

⊕ 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL.

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

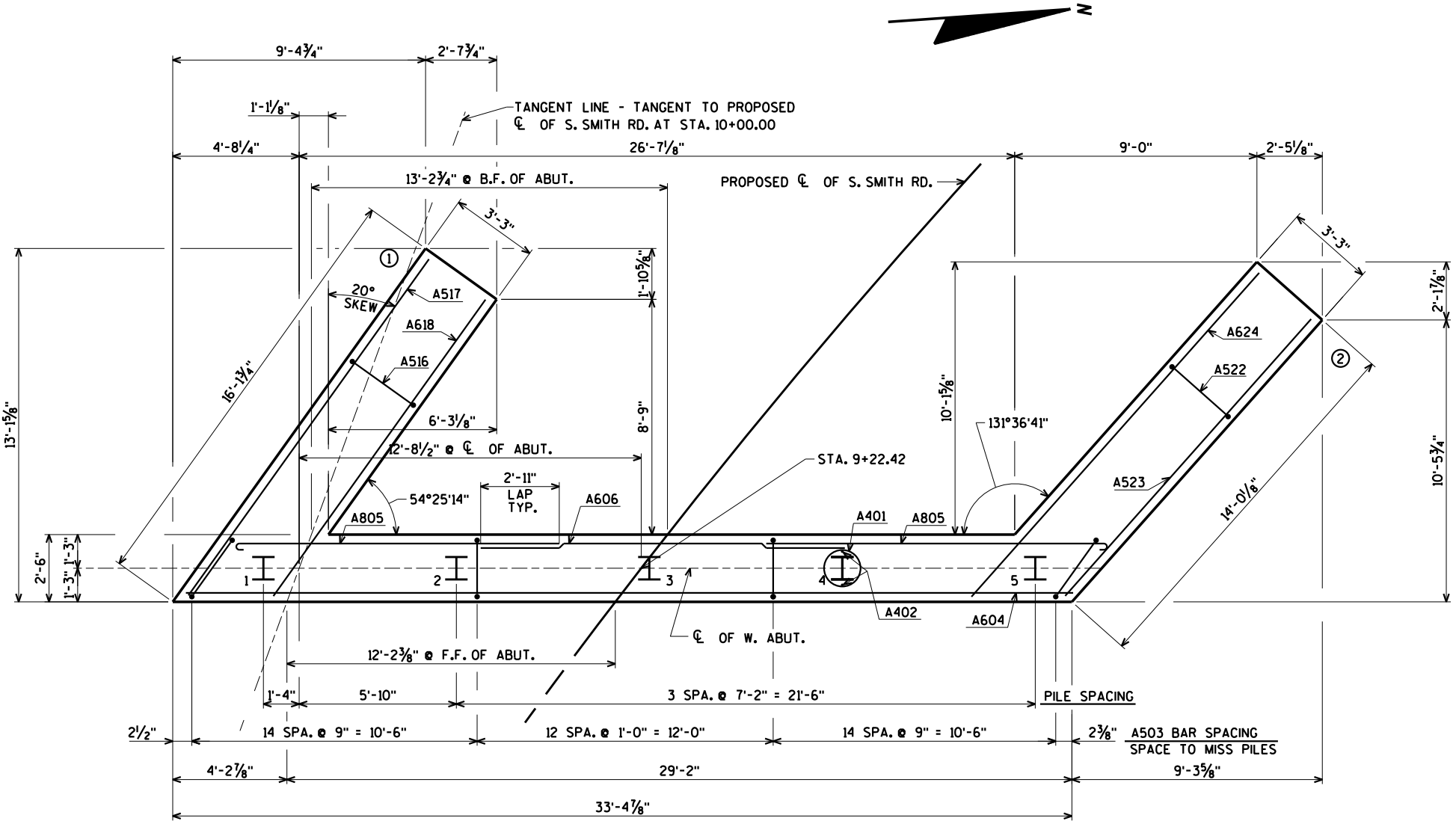
ORIGINAL PLANS PREPARED BY
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY		CJM	PLANS CK'D. JLB
WEST ABUTMENT WING 2 DETAILS			SHEET 6 OF 18

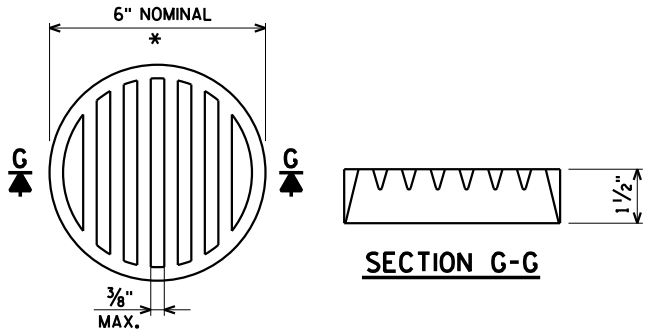
BILL OF BARS

BAR NO.	COATED BAR	NO. REO'D.	LENGTH	BENT BAR	BUNDLE	BAR SERIES	1,600# COATED 2,230# UNCOATED
							LOCATION
A401		5	28-0	X			BODY @ PILES
A402		10	2-3				BODY @ PILES
A503		41	13-7	X			BODY VERT.
A604		12	33-0				BODY HORIZ.
A805		14	12-11	X			BODY HORIZ. B.F. @ WINGS
A606		7	14-10				BODY HORIZ. B.F.
A407		2	14-3				BODY HORIZ. E.F.
A408		3	26-0				BODY HORIZ.
A509		27	6-11	X			BODY VERT.
A410		2	33-0				BODY HORIZ. TOP
A411		14	3-3	X			BODY VERT. TOP
A412		14	4-6	X			BODY VERT. TOP @ WINGS
A413		1	5-8				BODY HORIZ. TOP F.F. @ WINGS
A414		1	6-1				BODY HORIZ. TOP F.F. @ WINGS
A415		5	6-2				BODY VERT. @ WING 1
A516	X	12	18-10	X			WING 1 VERT.
A517	X	7	15-9				WING 1 HORIZ. F.F.
A618	X	9	13-11				WING 1 HORIZ.
A619	X	16	9-6	X			WING 1 VERT.
A420	X	5	11-8				WING 1 HORIZ. E.F.
A621	X	2	11-8				WING 1 TOP HORIZ. E.F.
A522	X	12	15-8	X			WING 2 VERT.
A523	X	7	13-8				WING 2 HORIZ. F.F.
A624	X	7	15-5				WING 2 HORIZ.
A625	X	16	9-6	X			WING 2 VERT.
A426	X	5	11-8				WING 2 HORIZ. E.F.
A627	X	2	11-8				WING 2 TOP HORIZ. E.F.
A428		3	4-7				BODY VERT. @ WING 2

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



PILE LAYOUT

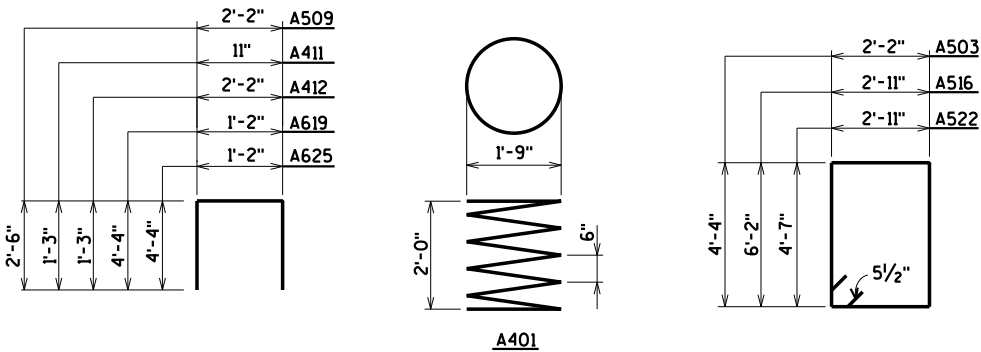


* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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 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 SHEET METAL SCREWS.

RODENT SHIELD DETAIL



FOR PILE SPLICE DETAIL SEE SHEET 2.

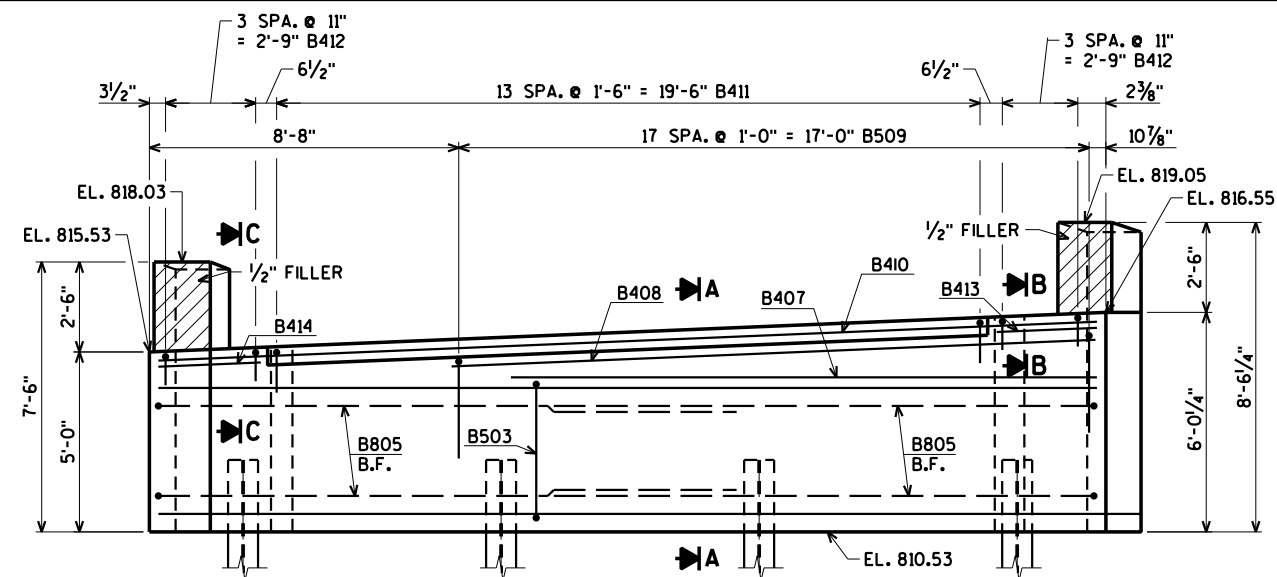
B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

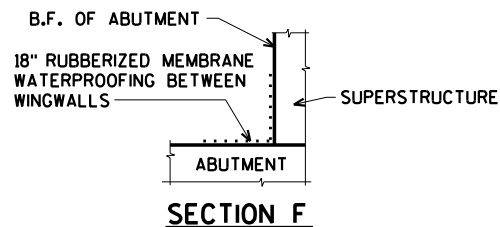
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY CJM		PLANS CK'D. JLB	
WEST ABUTMENT DETAILS & BILL OF BARS		SHEET 7 OF 18	

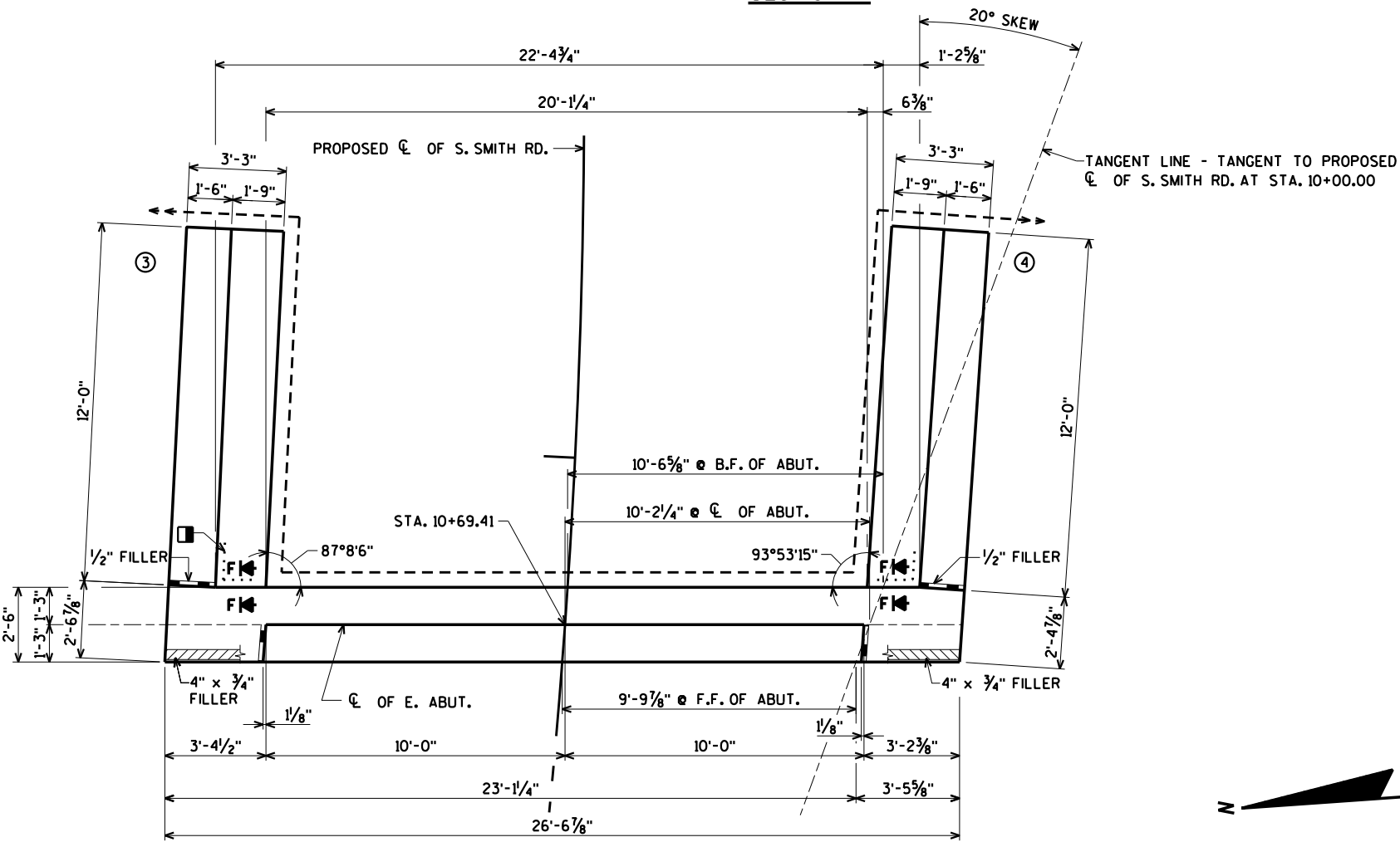


ELEVATION
(LOOKING EAST)

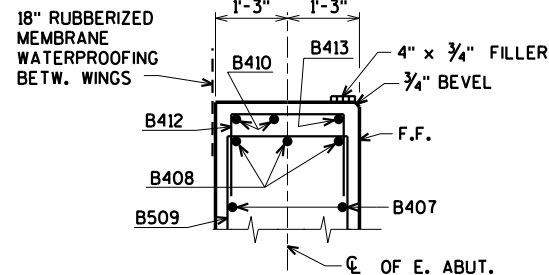
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



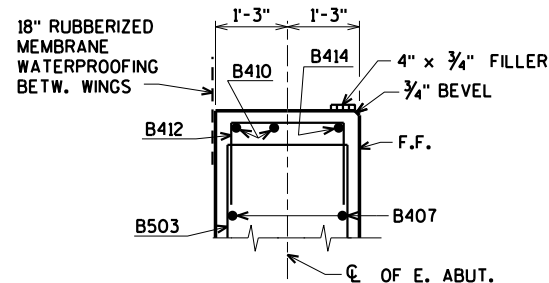
SECTION F



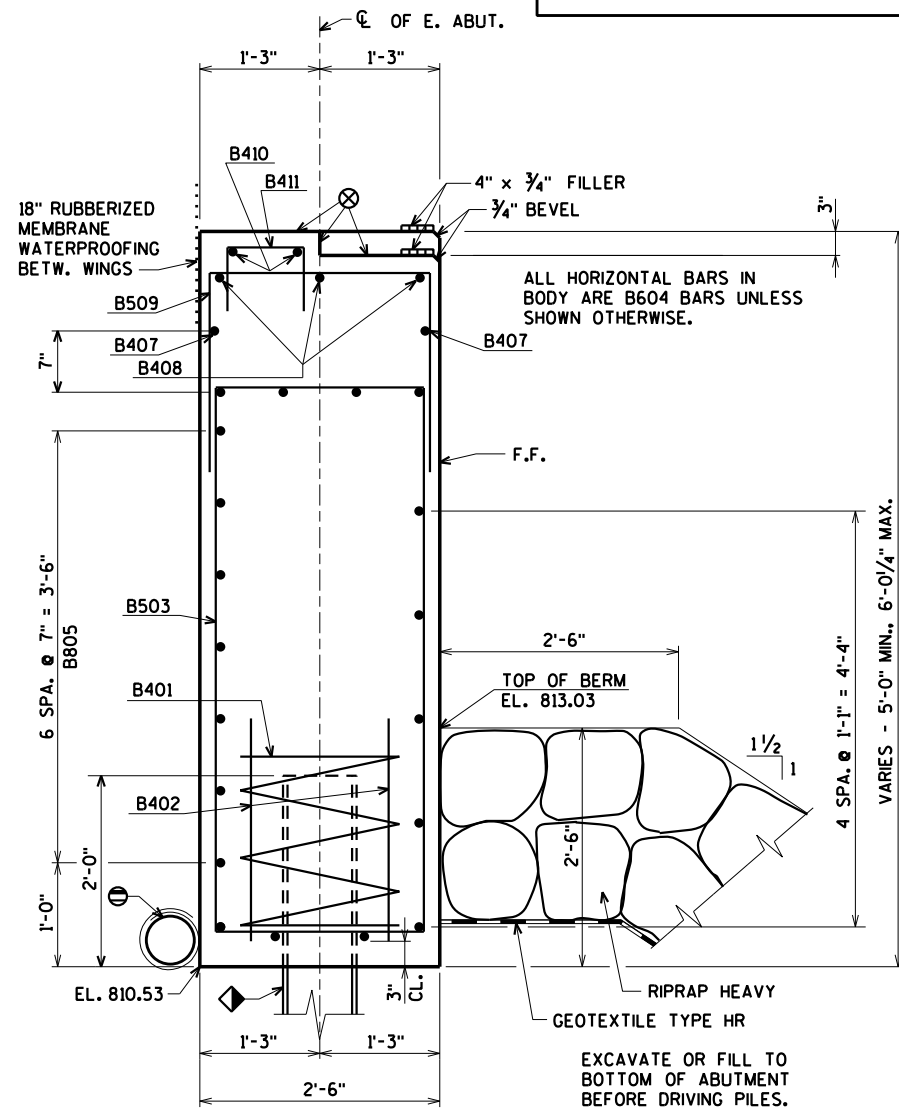
PLAN



SECTION B



SECTION C



SECTION A

ABUTMENT TO BE SUPPORTED ON HP 10 x 42 STEEL PILING (WITH PILE POINTS) DRIVEN TO A REQ'D. DRIVING RESISTANCE OF 160 TONS PER PILE ESTIMATED LENGTH 12'-0". PREBORE PILES 10'-0"

VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

3/4" CORK FILLER ON VERTICAL FACE ONLY.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 7. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

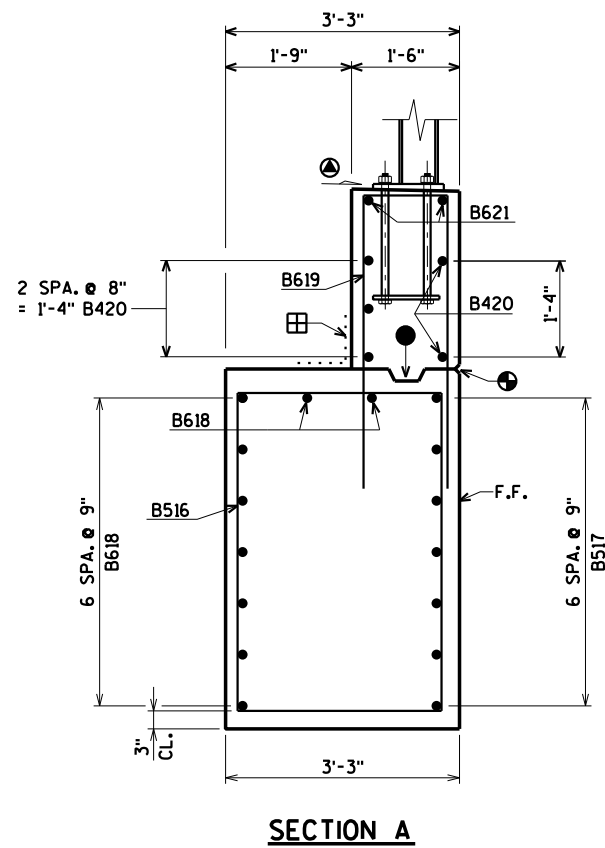
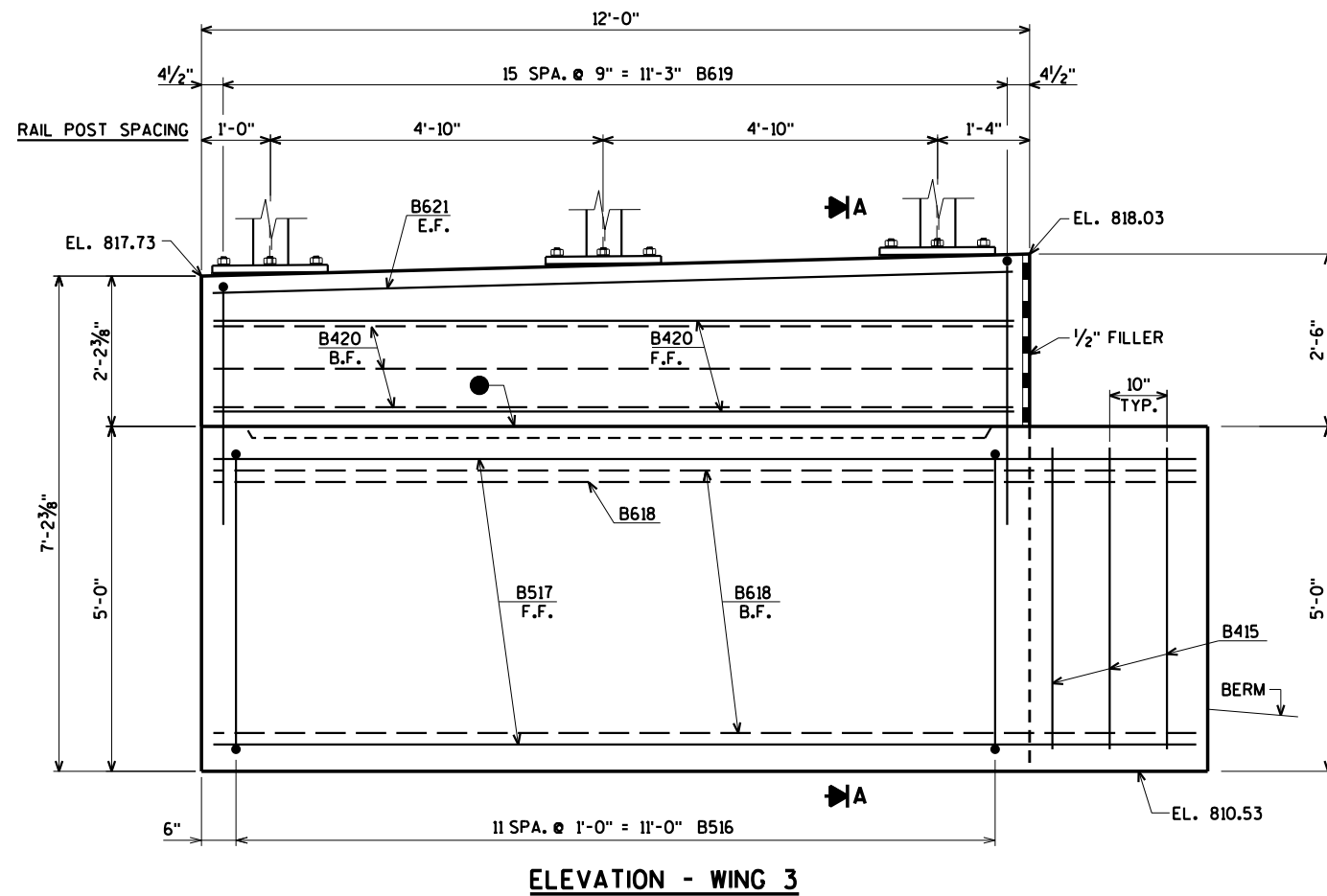
FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

F.F. DENOTES FRONT FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY CJM		PLANS CK'D. JLB	
EAST ABUTMENT		SHEET 8 OF 18	

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⊗ SLOPE SAME AS SUPERSTRUCTURE.

⊕ $\frac{3}{4}$ " "V" GROOVE ON FRONT FACE OF WINGWALL.

● OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

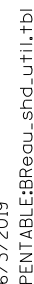
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STRUCTURE B-53-373			
DRAWN BY		CJM	PLANS CK'D. JLB
EAST ABUTMENT WING 3 DETAILS			SHEET 9 OF 18



- SLOPE SAME AS SUPERSTRUCTURE.
 - $\frac{3}{4}$ " "V" GROOVE ON FRONT FACE OF WINGWALL.
 - OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" x 6".
 - 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.
- B.F. DENOTES BACK FACE.
- F.F. DENOTES FRONT FACE.
- E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
		DRAWN BY	CJM
		PLANS CK'D.	JLB
EAST ABUTMENT WING 4 DETAILS		SHEET 10 OF 18	



BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



6/3/2019
PENTABLE:BRequ.shd_util.tbl

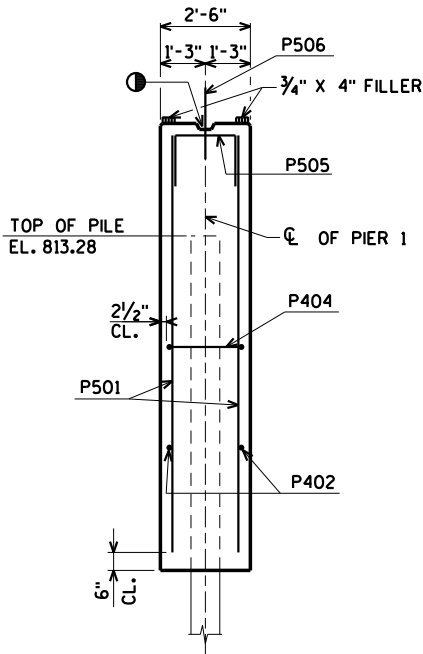
STATE PROJECT NUMBER

3621-00-77

BILL OF BARS

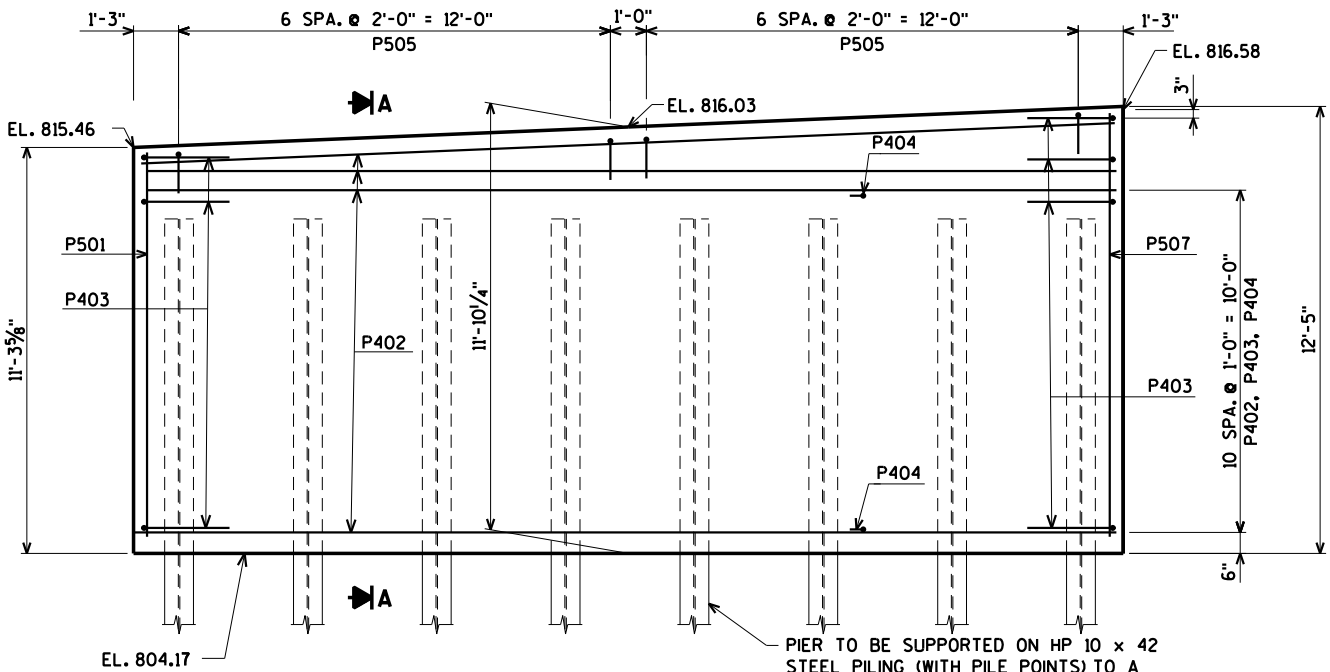
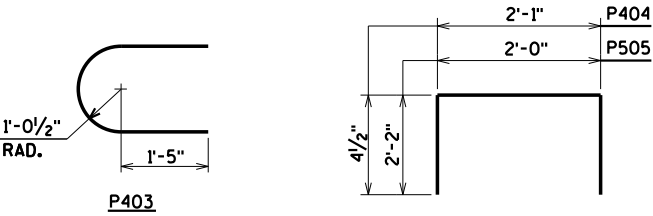
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	50# COATED 1,430# UNCOATED
							LOCATION
P501		55	10-7				COLUMN VERT.
P402		26	25-0				COLUMN HORIZ.
P403		25	6-3	X			COLUMN HORIZ. @ ENDS
P404		88	2-9	X			COLUMN TIES
P505		14	6-1	X			COLUMN TOP
P506	X	26	2-0				COLUMN DOWELS
P507		3	11-9				COLUMN VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

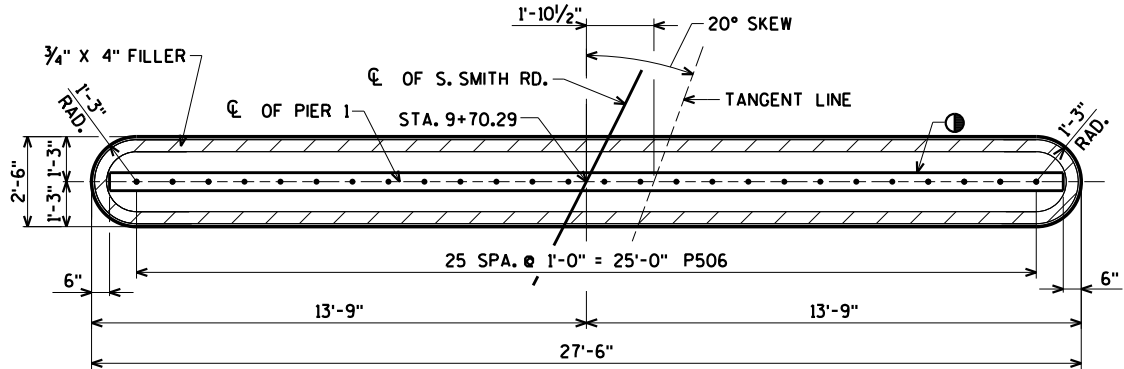


SECTION A

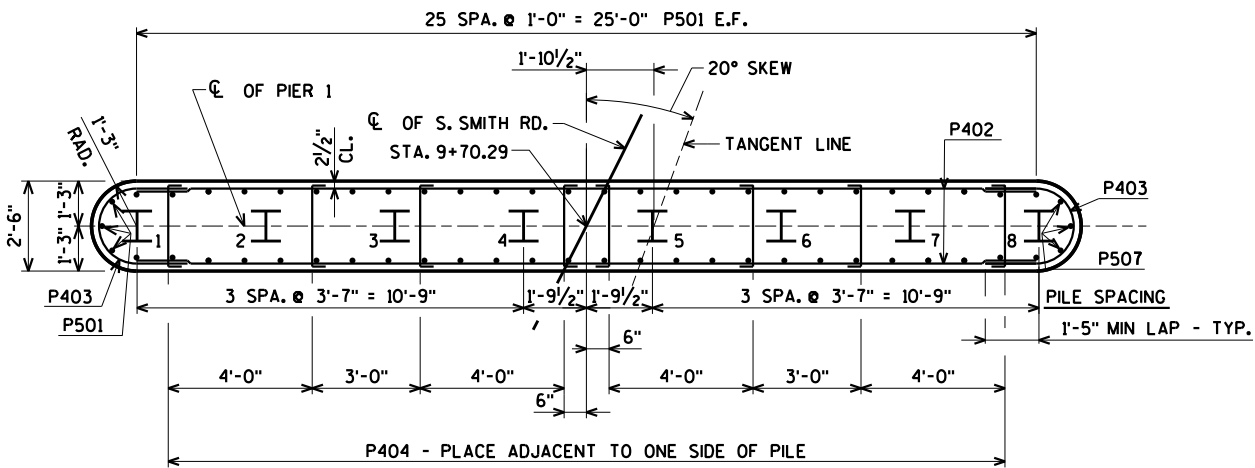
P506 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".



ELEVATION
(LOOKING EAST)



PLAN



PILE LAYOUT

KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 2.

E.F. DENOTES EACH FACE

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY CJM		PLANS CK'D. JLB	
PIER 1		SHEET 12 OF 18	

6/3/2019
PENTABLE:Requ.shd_util.tbl

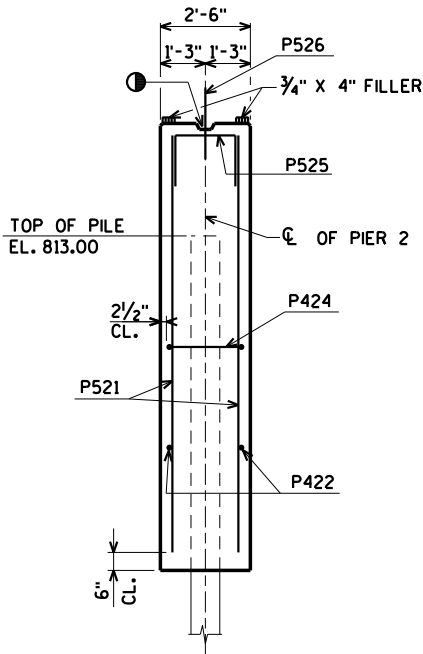
STATE PROJECT NUMBER

3621-00-77

BILL OF BARS

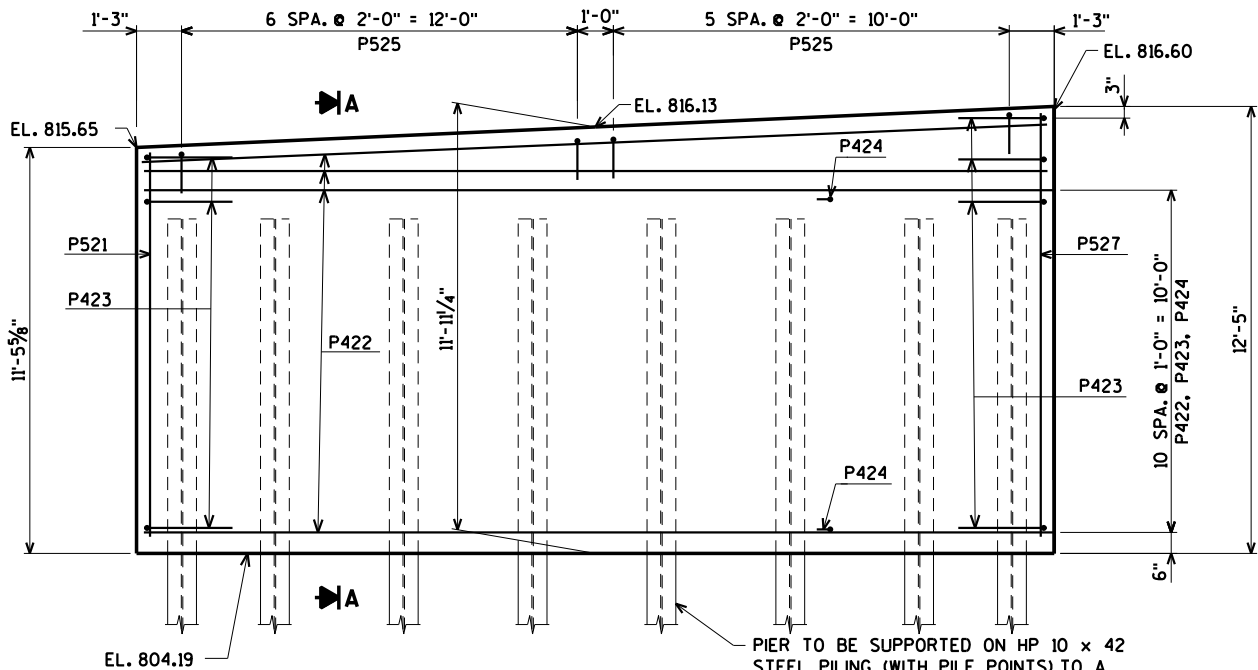
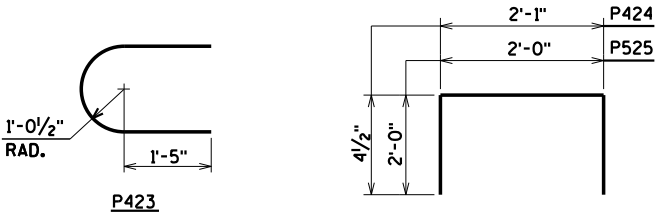
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	50# COATED 1,330# UNCOATED
						LOCATION
P521		51	10-8			COLUMN VERT.
P422		26	23-0			COLUMN HORIZ.
P423		25	6-3	X		COLUMN HORIZ. @ ENDS
P424		77	2-9	X		COLUMN TIES
P525		13	5-9	X		COLUMN TOP
P526	X	24	2-0			COLUMN DOWELS
P527		3	11-9			COLUMN VERT.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

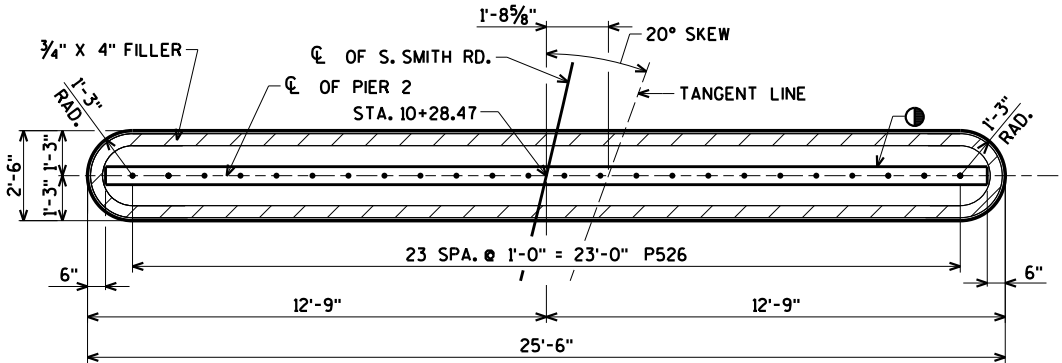


SECTION A

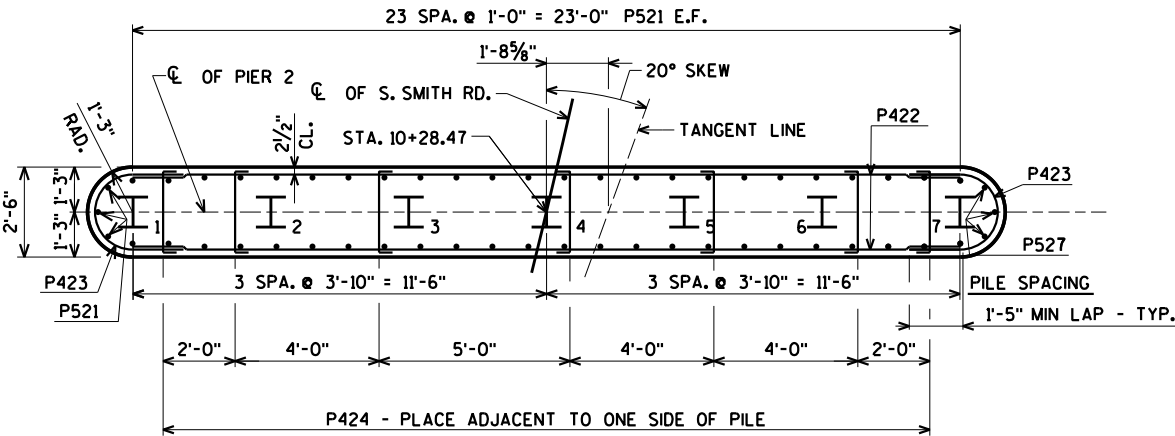
P526 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".



ELEVATION
(LOOKING EAST)



PLAN



PILE LAYOUT

KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

FOR PILE SPLICE DETAIL SEE SHEET 2.

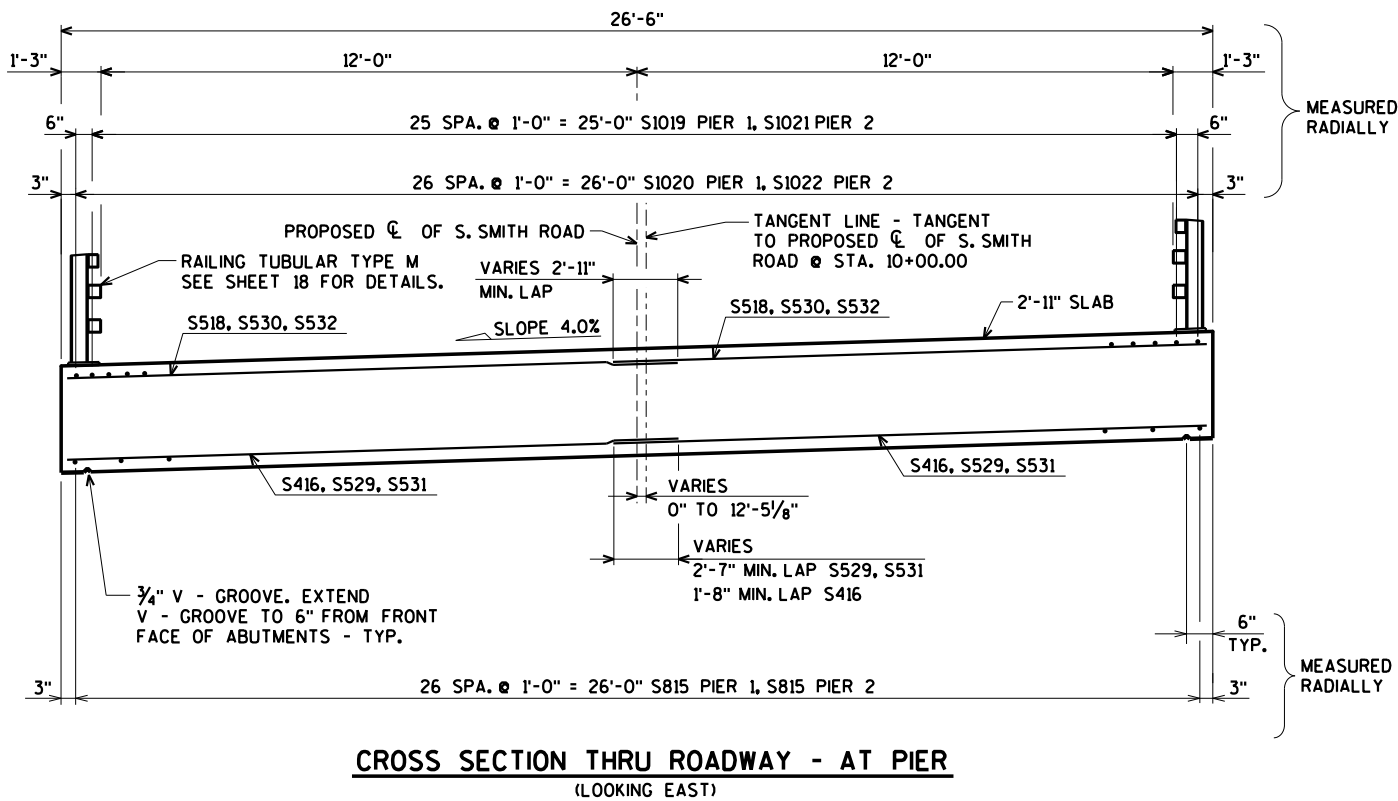
E.F. DENOTES EACH FACE

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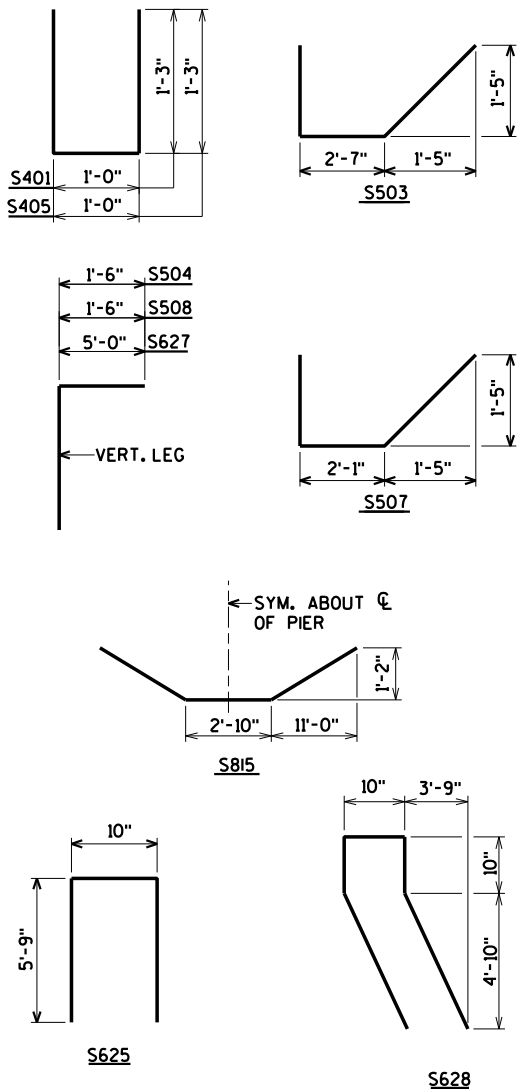
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY CJM		PLANS CK'D. JLB	
PIER 2			SHEET 13 OF 18

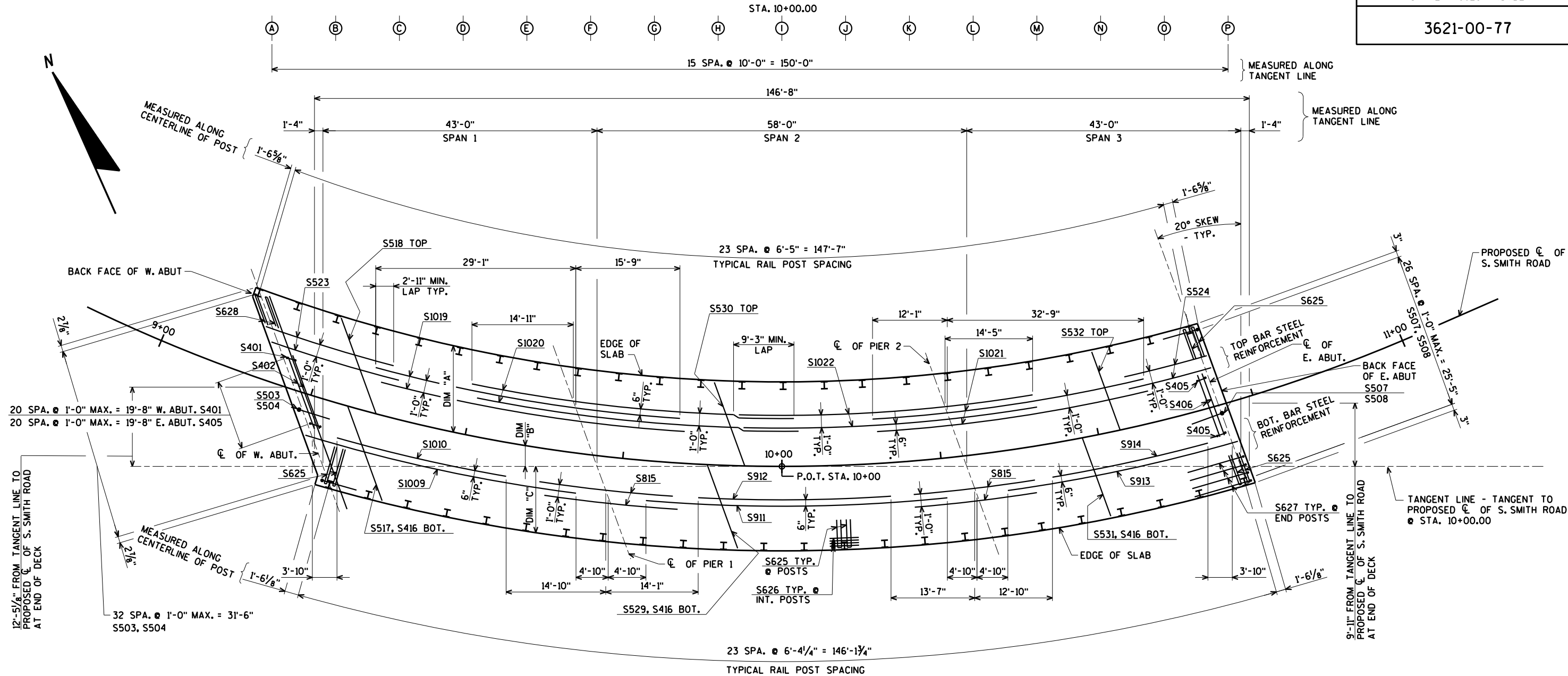
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED	BAR SERIES	62,000 ^u COATED
							LOCATION
S401	X	21	3-2	X			SLAB @ W. ABUT. NOTCH
S402	X	2	19-8				SLAB @ W. ABUT. NOTCH
S503	X	32	5-10	X			SLAB @ W. ABUT.
S504	X	32	3-6	X			SLAB @ W. ABUT.
S405	X	21	3-2	X			SLAB @ E. ABUT. NOTCH
S406	X	2	19-8				SLAB @ E. ABUT. NOTCH
S507	X	27	5-4	X			SLAB @ E. ABUT.
S508	X	27	3-6	X			SLAB @ E. ABUT.
S1009	X	27	45-8				SLAB BOT. LONG. SPAN 1
S1010	X	26	30-6				SLAB BOT. LONG. SPAN 1
S911	X	27	49-0				SLAB BOT. LONG. SPAN 2
S912	X	26	31-0				SLAB BOT. LONG. SPAN 2
S913	X	27	37-3				SLAB BOT. LONG. SPAN 3
S914	X	26	24-4				SLAB BOT. LONG. SPAN 3
S815	X	54	24-7	X			SLAB BOT. LONG. @ PIERS
S416	X	64	15-6				SLAB BOT. TRANS.
S517	X	88	17-10				SLAB BOT. TRANS. SPAN 1
S518	X	90	18-0				SLAB TOP TRANS. SPAN 1
S1019	X	26	44-10				SLAB TOP LONG. @ PIER 1
S1020	X	27	48-11				SLAB TOP LONG. @ PIER 1
S1021	X	26	44-10				SLAB TOP LONG. @ PIER 2
S1022	X	27	48-5				SLAB TOP LONG. @ PIER 2
S523	X	27	24-5				SLAB TOP LONG. @ SPAN 1
S524	X	27	12-3				SLAB TOP LONG @ SPAN 3
S625	X	94	12-0	X			SLAB @ RAIL POSTS
S626	X	176	6-0				SLAB @ INT. RAIL POSTS
S627	X	16	6-0	X			SLAB @ END RAIL POSTS
S628	X	2	14-0	X			SLAB @ END RAIL POST (WING 2)
S529	X	90	16-1				SLAB BOT. TRANS. SPAN 2
S530	X	116	16-3				SLAB TOP TRANS. SPAN 2
S531	X	100	14-10				SLAB BOT. TRANS. SPAN 3
S532	X	88	15-0				SLAB TOP TRANS. SPAN 3

● BEND IN FIELD TO FOLLOW CURVE IN ROAD CENTERLINE.



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





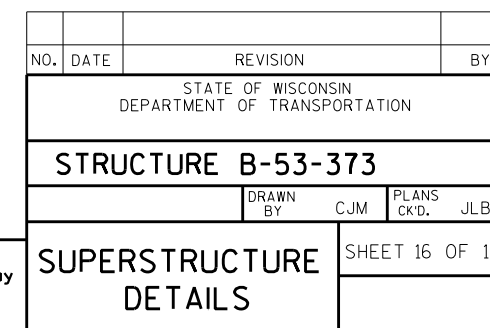
PLAN

TABLE OF DIMENSIONS

	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'I'	'J'	'K'	'L'	'M'	'N'	'O'	'P'
DIM. "A"	14'-0 ³ / ₈ "	13'-10"	13'-8 ¹ / ₈ "	13'-6 ¹ / ₂ "	13'-5 ¹ / ₄ "	13'-4 ¹ / ₄ "	13'-3 ¹ / ₂ "	13'-3 ¹ / ₈ "	13'-3"	13'-3 ¹ / ₈ "	13'-3 ¹ / ₂ "	13'-4 ¹ / ₄ "	13'-5 ¹ / ₄ "	13'-6 ¹ / ₂ "	13'-8 ¹ / ₈ "	----
DIM. "B"	13'-1 ³ / ₄ "	10'-0"	7'-3 ³ / ₈ "	5'-0 ⁵ / ₈ "	3'-2 ⁵ / ₈ "	1'-9 ⁵ / ₈ "	9 ⁵ / ₈ "	2 ³ / ₈ "	0"	2 ³ / ₈ "	9 ⁵ / ₈ "	1'-9 ⁵ / ₈ "	3'-2 ⁵ / ₈ "	5'-0 ⁵ / ₈ "	7'-3 ⁵ / ₈ "	10'-0"
DIM. "C"	----	3'-9 ¹ / ₄ "	6'-3 ¹ / ₈ "	8'-5 ¹ / ₂ "	10'-2 ³ / ₈ "	11'-6 ³ / ₈ "	12'-5 ¹ / ₈ "	13'-0 ³ / ₄ "	13'-3"	13'-0 ³ / ₄ "	12'-5 ¹ / ₈ "	11'-6 ³ / ₈ "	10'-2 ³ / ₈ "	8'-5 ¹ / ₂ "	6'-3 ¹ / ₈ "	3'-9 ¹ / ₄ "

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY CJM		PLANS CK'D. JLB	
SUPERSTRUCTURE PLAN			SHEET 15 OF 18

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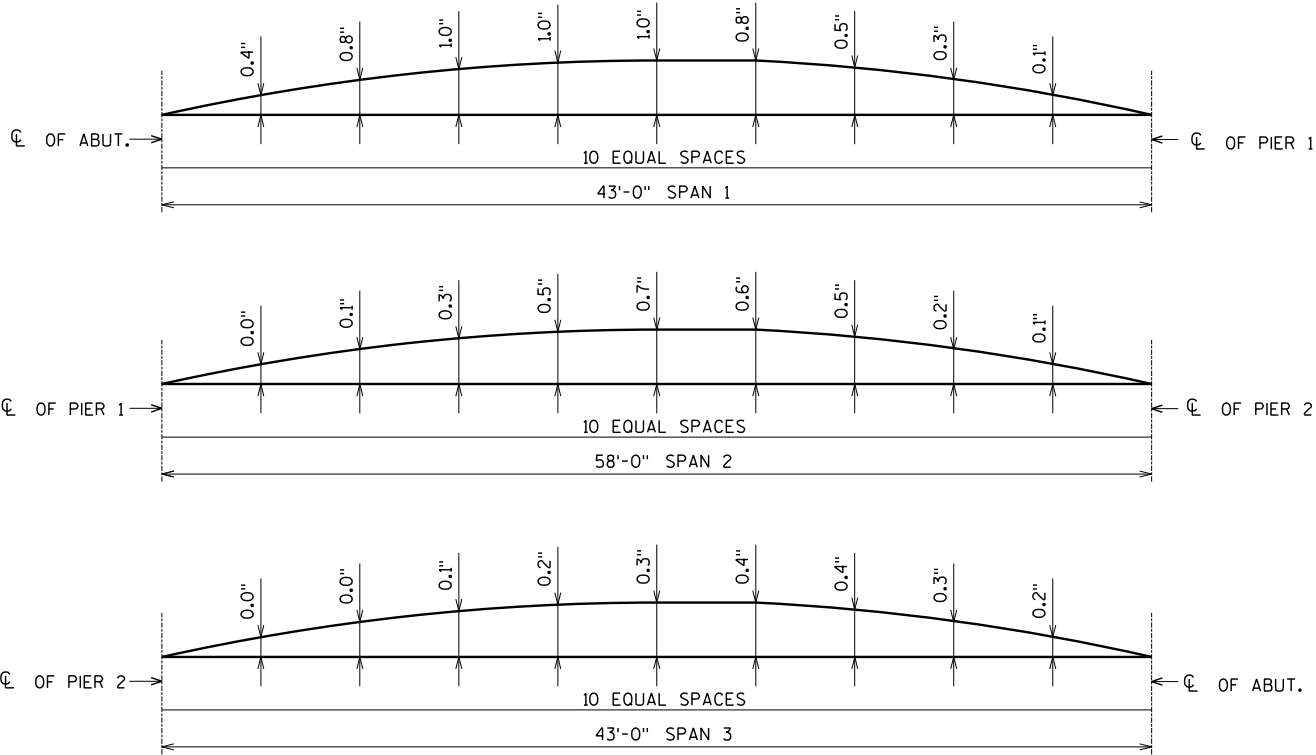
6/3/2019
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8

TOP OF DECK ELEVATIONS

SPAN 1											
	℄ OF BRG. WEST ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 1
NORTH EDGE OF SLAB	817.30	817.45	817.59	817.72	817.84	817.96	818.06	818.16	818.24	818.32	818.39
℄ OF S. SMITH RD.	818.13	818.25	818.37	818.47	818.57	818.66	818.74	818.82	818.89	818.95	819.01
SOUTH EDGE OF SLAB	818.90	818.99	819.09	819.17	819.25	819.32	819.39	819.45	819.51	819.56	819.60
SPAN 2											
	℄ OF PIER 1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF PIER 2
NORTH EDGE OF SLAB	818.39	818.47	818.53	818.58	818.62	818.65	818.66	818.66	818.65	818.63	818.60
℄ OF S. SMITH RD.	819.01	819.07	819.11	819.15	819.17	819.19	819.19	819.19	819.17	819.14	819.11
SOUTH EDGE OF SLAB	819.60	819.64	819.68	819.70	819.72	819.72	819.72	819.71	819.69	819.65	819.61
SPAN 3											
	℄ OF PIER 2	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	℄ OF BRG. EAST ABUT.
NORTH EDGE OF SLAB	818.60	818.57	818.53	818.49	818.44	818.39	818.33	818.26	818.19	818.12	818.03
℄ OF S. SMITH RD.	819.11	819.07	819.03	818.99	818.94	818.89	818.83	818.77	818.70	818.62	818.54
SOUTH EDGE OF SLAB	819.61	819.58	819.54	819.49	819.45	819.39	819.33	819.27	819.20	819.13	819.05

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.



CAMBER DIAGRAM

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF DECK AND CROWN OR ℄.

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NO.	DATE	REVISION	BY
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STRUCTURE B-53-373			
DRAWN BY		CJM	PLANS CK'D. JLB
DECK ELEVATIONS		SHEET 17 OF 18	

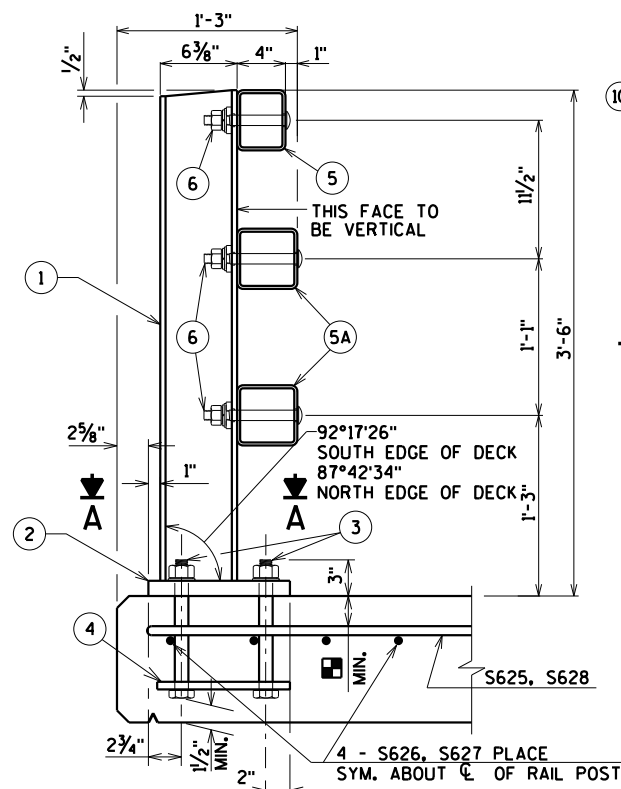
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STATE PROJECT NUMBER

3621-00-77

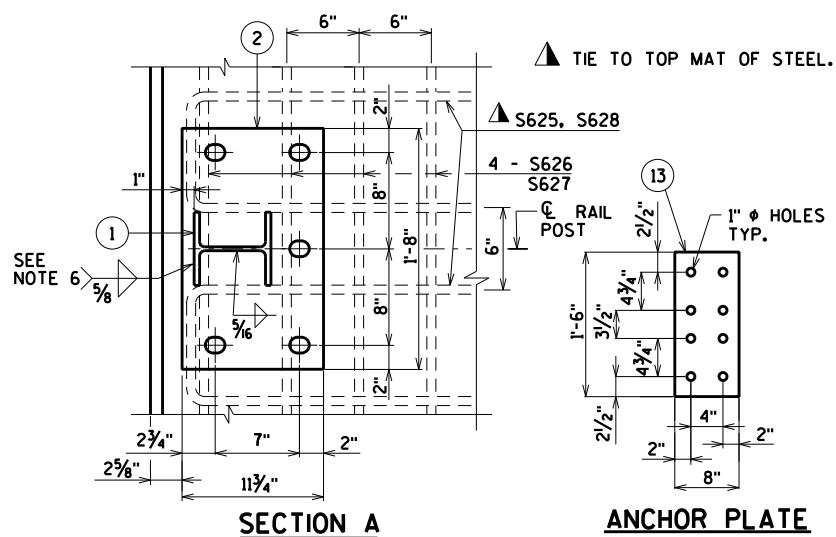
LEGEND

- W6 x 25 WITH 1/8" x 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.
- PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/8" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ASTM A449 - 1/6" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. ~~USE 10 3/4" LONG AT ALL OTHER LOCATIONS.~~ (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 5/8" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6. CURVE TO FOLLOW EDGE OF DECK.
- TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6. CURVE TO FOLLOW EDGE OF DECK.
- 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/8" x 1 5/8" x 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 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.
- 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5. 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- 7/8" A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/8" x 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS ~~AND 1 5/8" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.).
- 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.
- 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

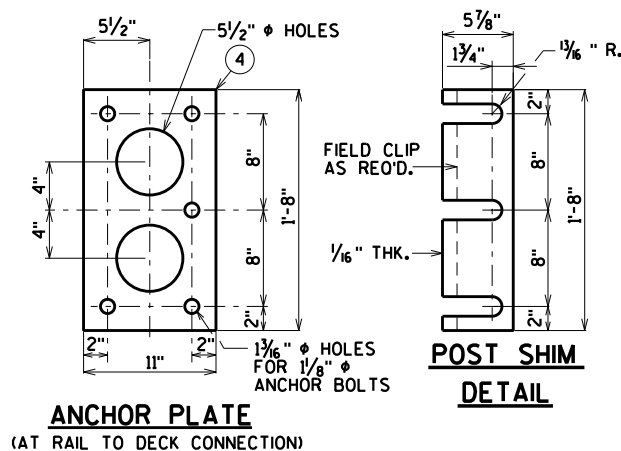


SECTION THRU RAILING ON DECK

PLACE BELOW TOP MAT SLAB REINFORCEMENT.

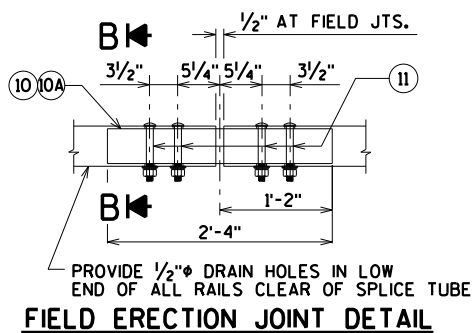


SECTION A

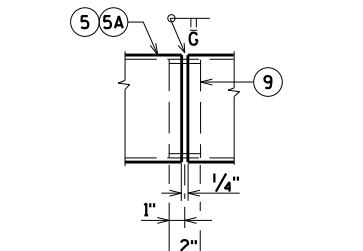


ANCHOR PLATE

(AT RAIL TO DECK CONNECTION)

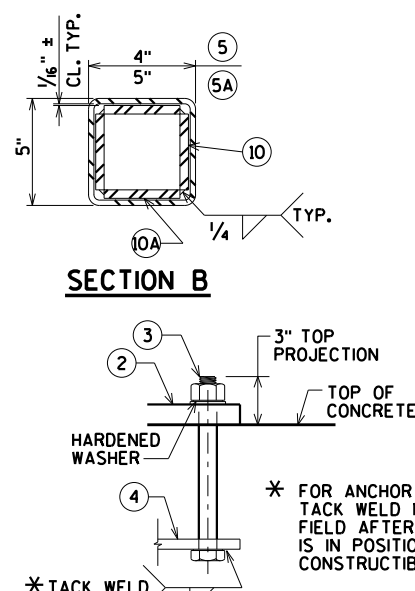


FIELD ERECTION JOINT DETAIL

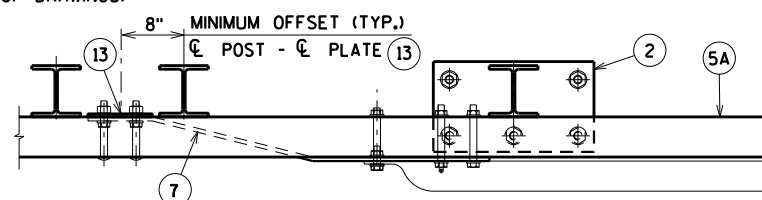


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)

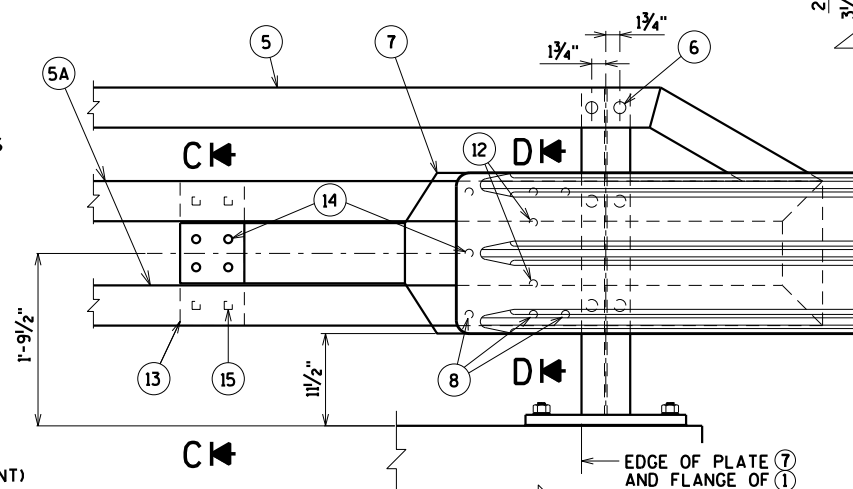


ANCHOR BOLTS



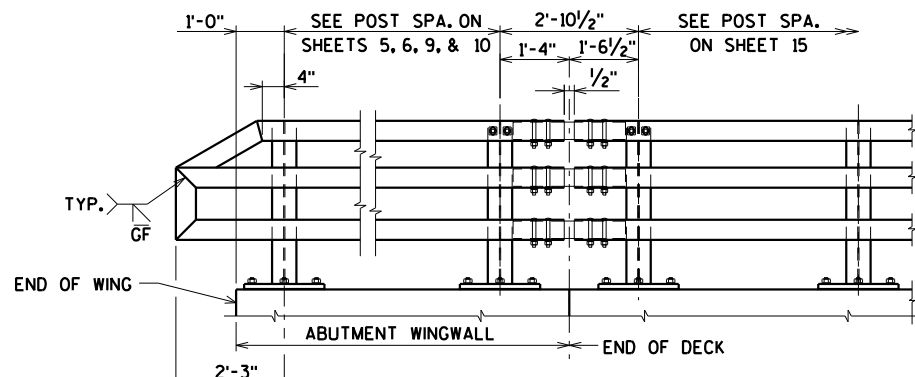
TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

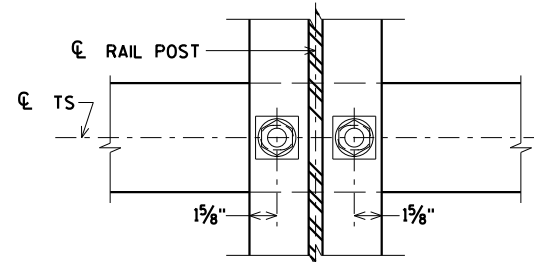


DETAIL AT END POST

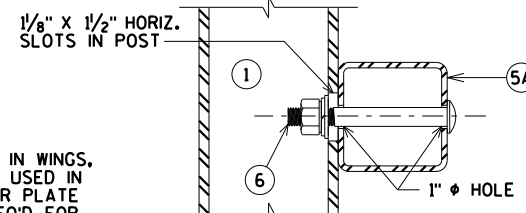
(THRIE BEAM RAIL ATTACHMENT)



PART ELEVATION OF RAILING



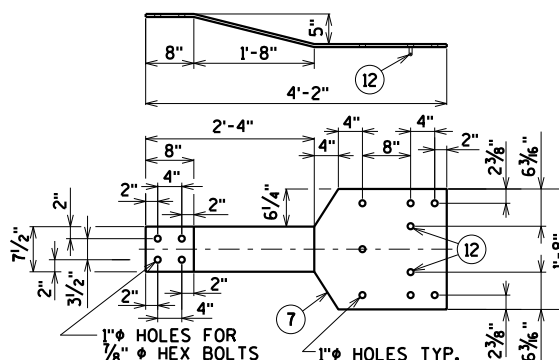
SECTION THRU POST WEB



SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS

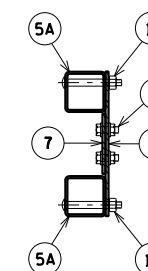


BACK-UP PLATE DETAIL

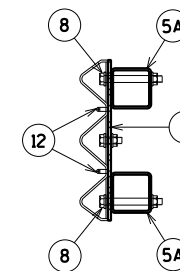
(AT BEAM GUARD ATTACHMENT)

GENERAL NOTES

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- 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.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- 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.
- 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.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.



SECTION C



SECTION D

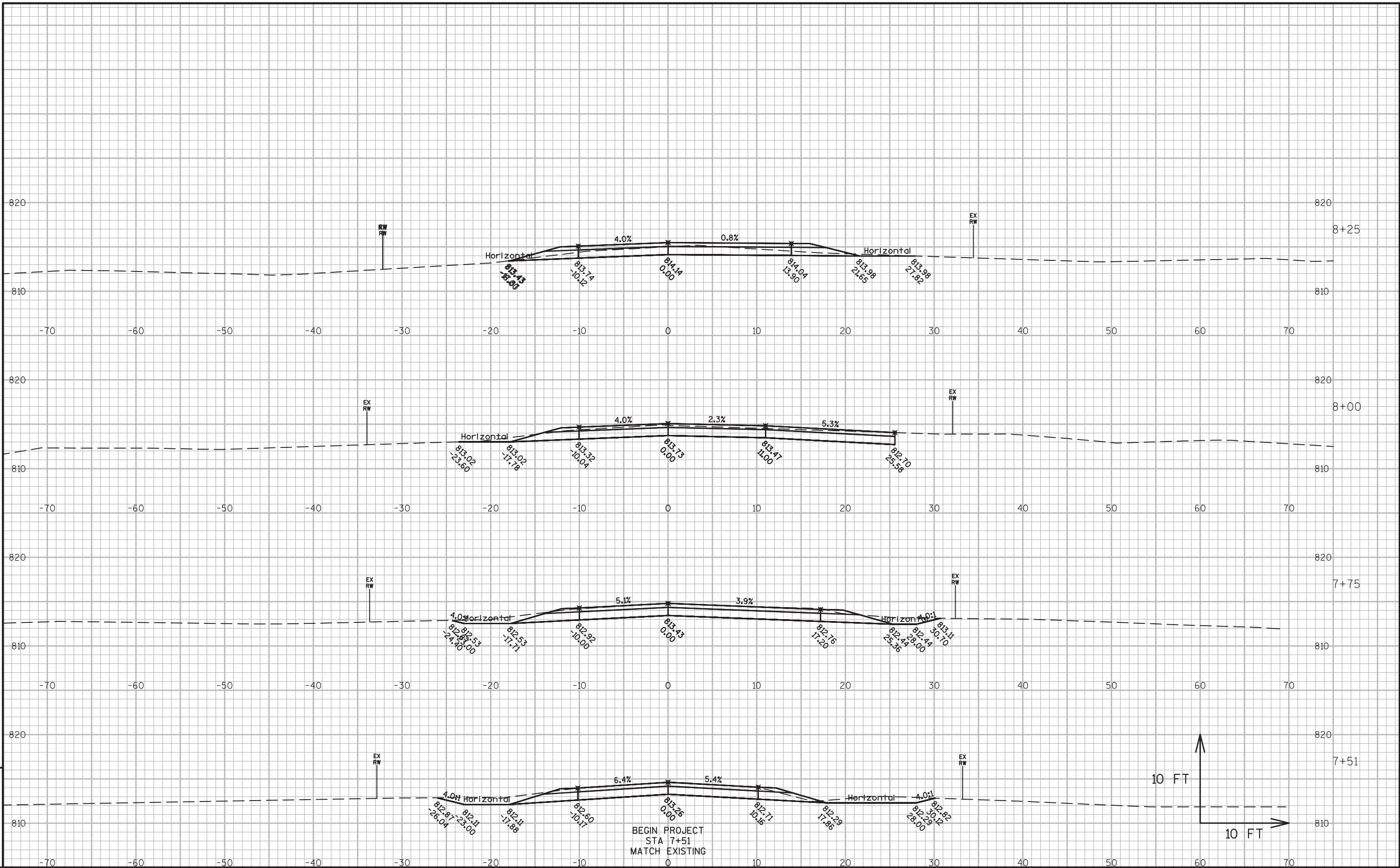
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-373			
DRAWN BY C/JM		PLANS CK'D. JLB	
RAILING TUBULAR TYPE M			SHEET 18 OF 18

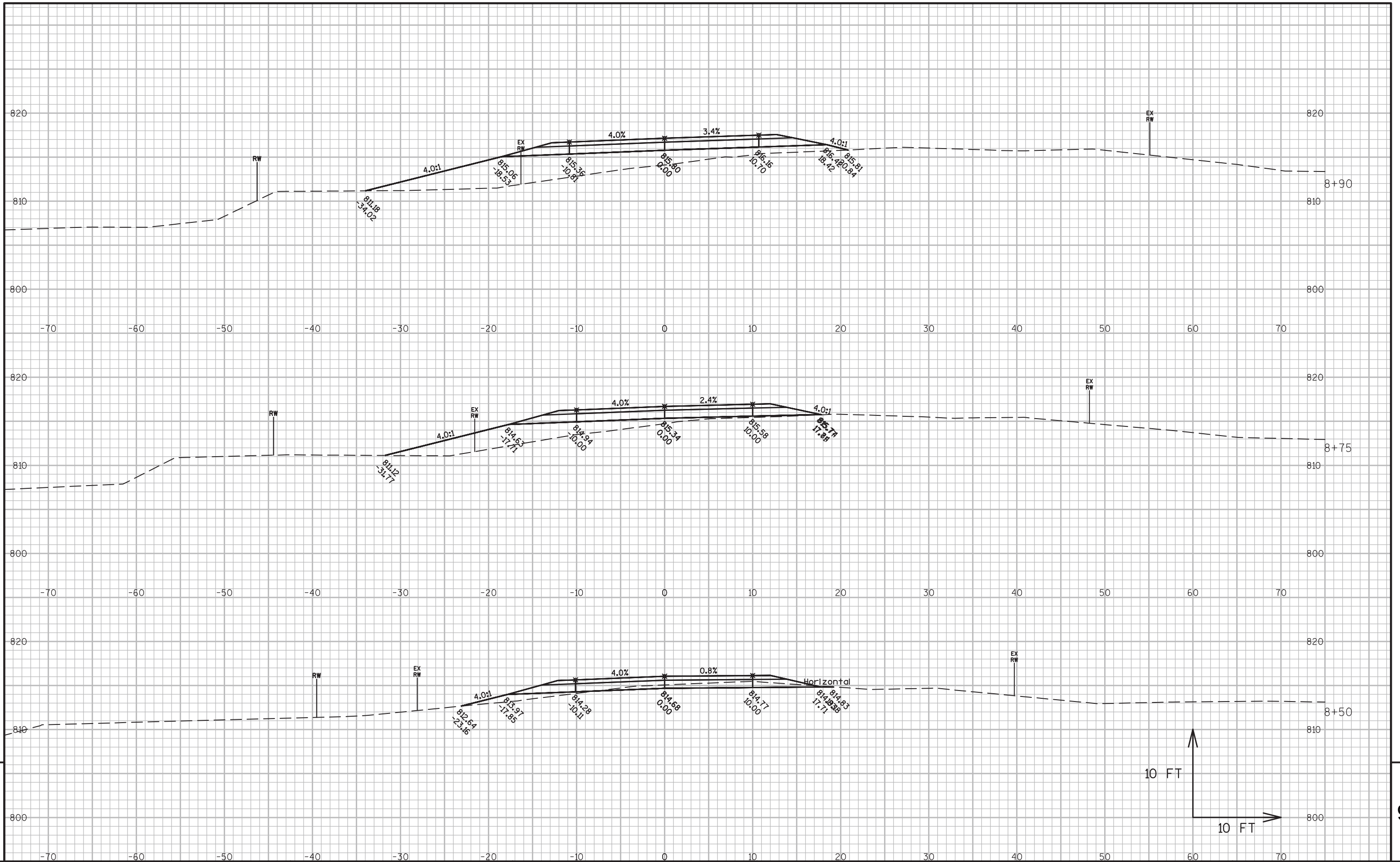
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

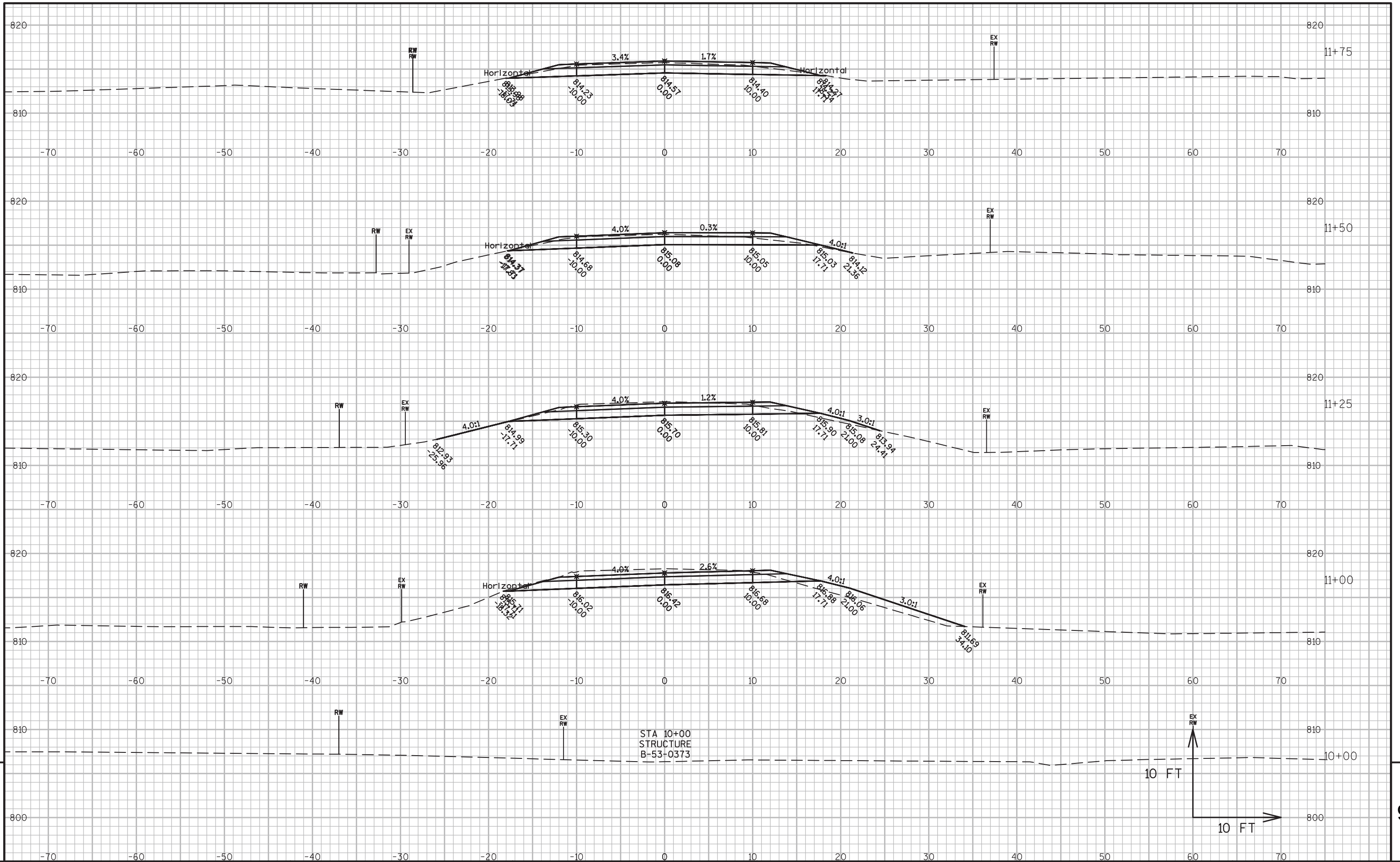
SOUTH SMITH ROAD COMPUTER EARTHWORK

Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.30	
7+51	--	52.7	0.0					
7+75	24	58.8	0.0	50	0	50	0	50
8+00	25	48.2	0.0	50	0	99	0	99
8+25	25	25.2	0.0	34	0	133	0	133
8+50	25	10.5	6.5	17	3	150	4	146
8+75	25	0.0	50.2	5	26	154	38	116
8+90	15	0.0	93.6	0	40	154	90	64
9+20	30	0.0	93.6	0	104	154	225	-71
NEW BRIDGE	--	--	--	--	--	--	--	--
10+70	--	45.7	14.8	--	--	--	--	--
11+00	30	45.7	14.8	51	16	205	247	-41
11+25	25	37.7	2.8	39	8	244	257	-13
11+50	25	30.4	0.5	31	2	275	259	16
11+75	25	32.2	0.0	29	0	304	259	45
12+00	25	43.1	0.0	35	0	339	259	80
				339	200			

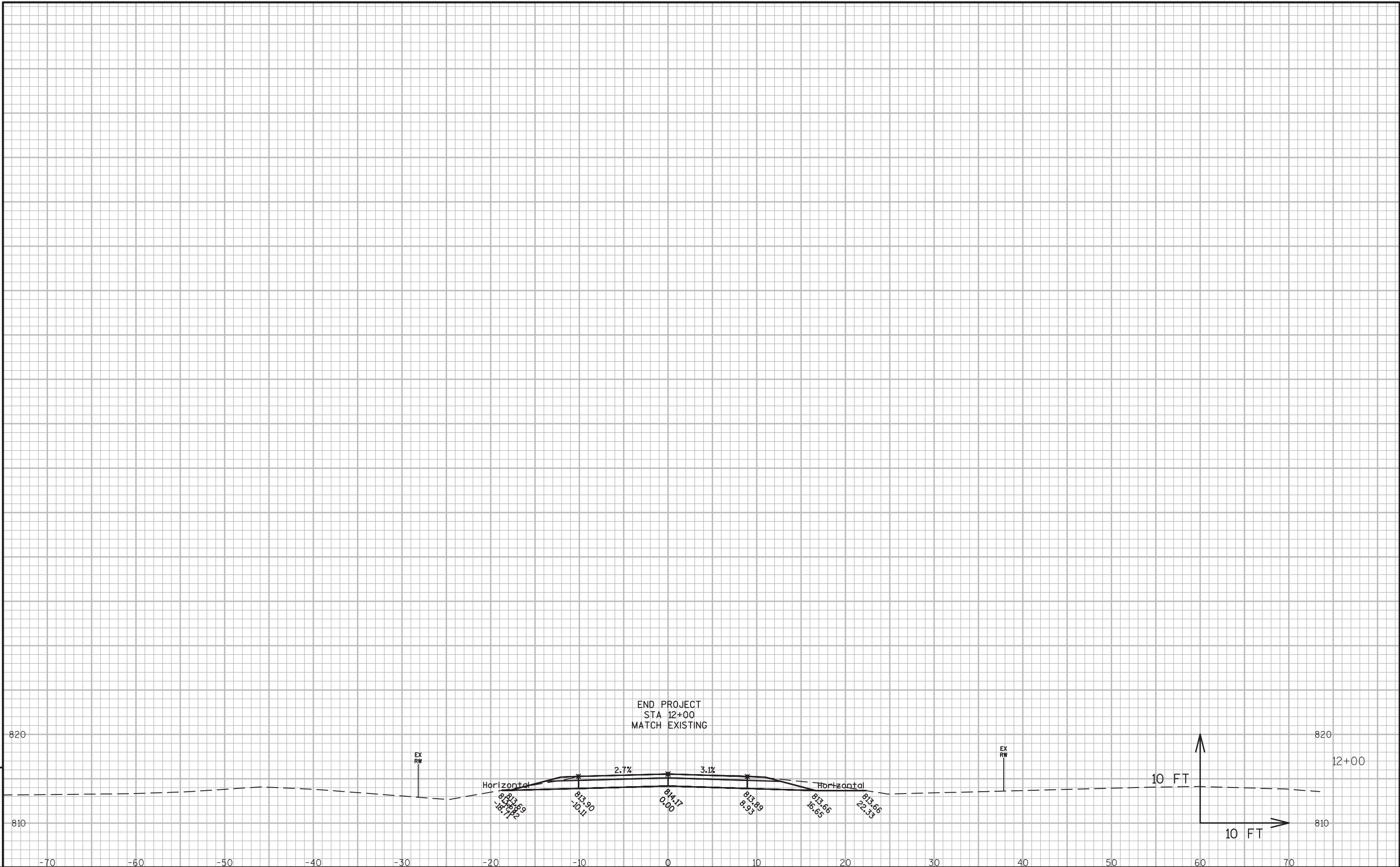
Note 1 - Cut	Cut includes existing asphalt pavement. Assumed to be reused as fill outside the 1:1 road core.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)





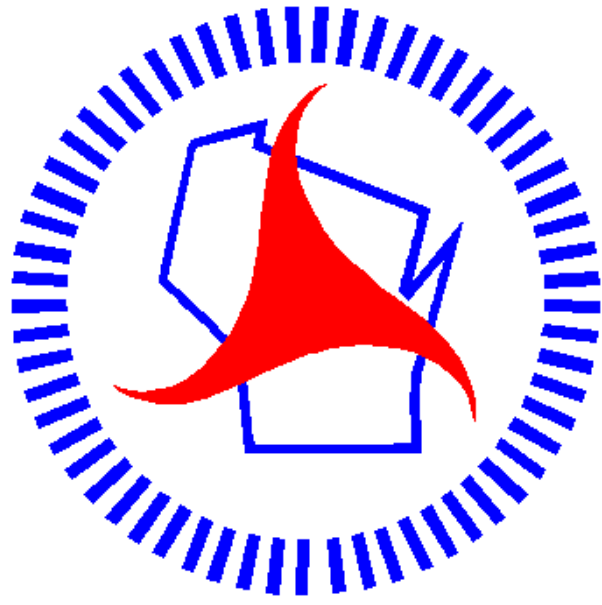


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Notes



Wisconsin Department of Transportation

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