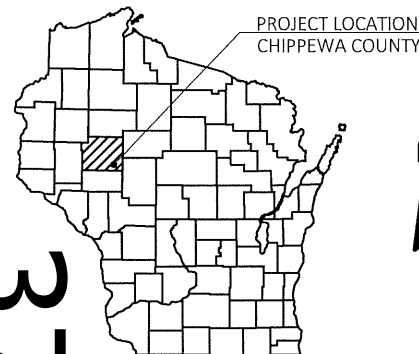


ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control 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 = 40

37



PROJECT LOCATION
CHIPPEWA COUNTY



DESIGN DESIGNATION

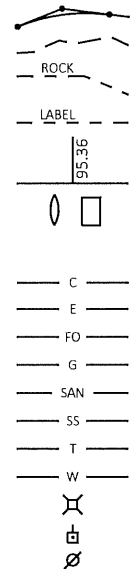
A.A.D.T. (2024)	=	205
A.A.D.T. (2044)	=	250
D.H.V.	=	95
D.D.	=	50/50
T.	=	10.0%
DESIGN SPEED	=	45 MPH
ESALS	=	45,122

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	
COMMUNICATION LINE	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

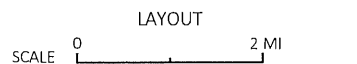
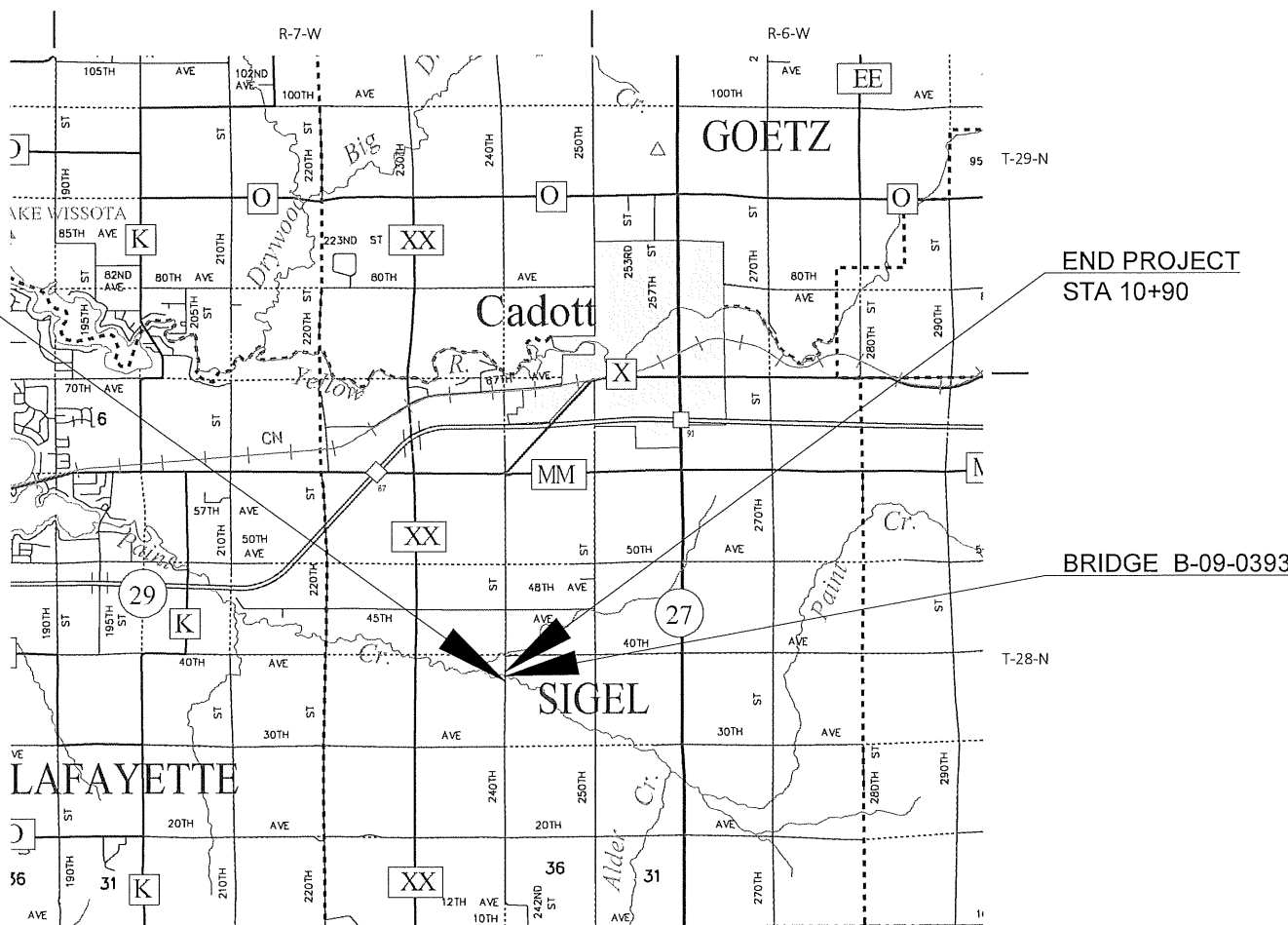
PLAN OF PROPOSED IMPROVEMENT

T SIGEL, 240TH STREET

PAINT CREEK BRIDGE B-09-0393

LOC STR
CHIPPEWA COUNTY

STATE PROJECT NUMBER
7862-00-70



TOTAL NET LENGTH OF CENTERLINE = 0.034 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CHIPPEWA 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 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7862-00-70	WISC 2024250	1

ACCEPTED FOR
COUNTY of CHIPPEWA

10/16/23
(Date) *Boh*

ORIGINAL PLANS PREPARED BY
MSA
146 North Central Ave, Marshfield WI 54449
(715) 384-2133 www.msa-ps.com
© MSA Professional Services, Inc.



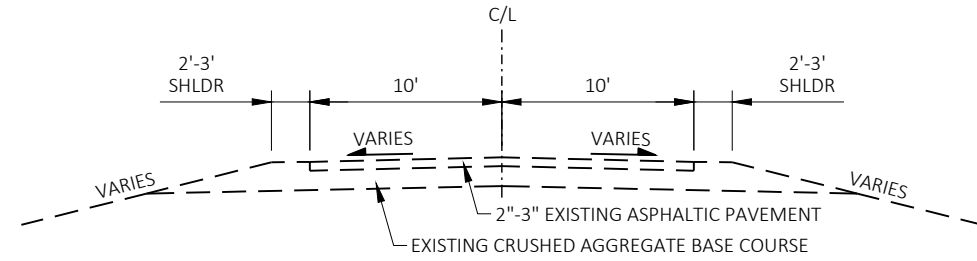
DATE: 10/10/2023
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor: MSA PROFESSIONAL SERVICES, INC.
Designer: MSA PROFESSIONAL SERVICES, INC.
Project Manager: MATTHEW BERG, PE
Regional Examiner: TONY YANG, PE
Regional Supervisor: TYLER RONGSTAD, PE

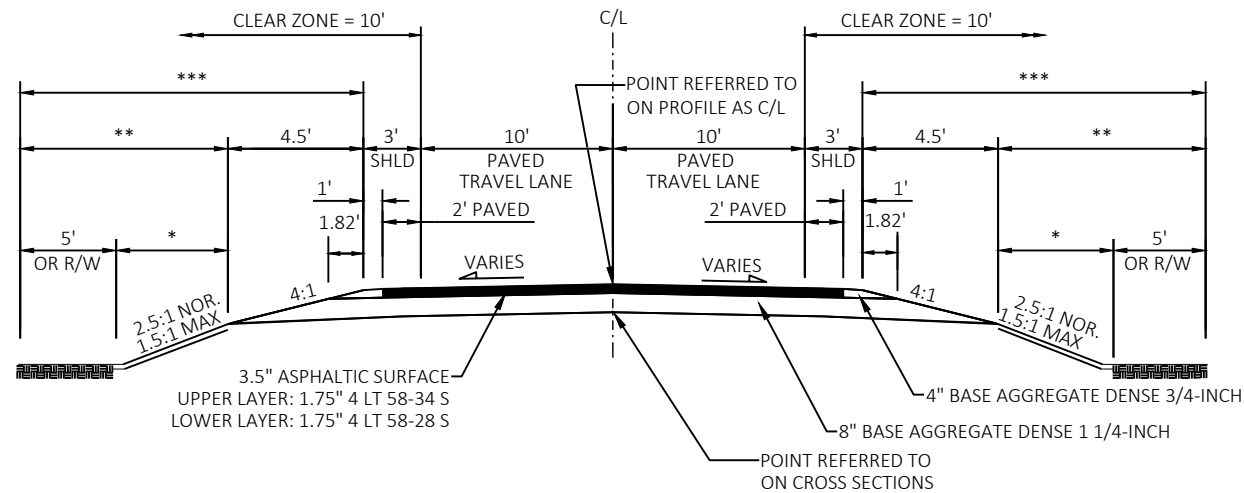
APPROVED FOR THE DEPARTMENT
DATE: 10/25/2023 *Matthew Berg*
(Signature)

E



EXISTING TYPICAL SECTION

STA 9+10 - STA 10+90



FINISHED TYPICAL SECTION

STA 9+10 - STA 10+90

- * LIMITS OF TOPSOIL
- ** LIMITS OF EROSION MAT URBAN CLASS I TYPE B
- *** LIMITS OF SEEDING MIXTURE NO. 20, SEEDING TEMPORARY & FERTILIZER TYPE B

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
MEDIAN STRIP TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
SIDE SLOPE TURF			0.25			0.27			0.28			0.30
PAVEMENT:	0.40 - 0.60											
ASPHALT:	0.70 - 0.95											
CONCRETE:	0.80 - 0.95											
BRICK:	0.70 - 0.80											
DRIVES, WALKS:	0.75 - 0.85											
ROOFS:	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

TOTAL PROJECT AREA = 0.27 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.16 ACRES

EROSION CONTROL NOTES

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING SIDE SLOPES 0.30, PROPOSED SIDE SLOPES 0.30, EXISTING PAVEMENT 0.95, PROPOSED PAVEMENT 0.95.

UTILITY CONTACTS

MSA DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
 MARISSA WACKER
 332 W SUPERIOR ST, SUITE 600
 DULUTH, MN 55812
 218-499-3185
 MWACKER@MSA-PS.COM

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
 LEAH NICOL
 DNR WEST CENTRAL REGION HEADQUARTERS
 1300 WEST CLAIREMONT AVENUE
 EAU CLAIRE, WI 54701
 715-934-9014
 LEAH.NICOL@WISCONSIN.GOV

COUNTY CONTACT

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 801 EAST GRAND AVENUE
 CHIPPEWA FALLS, WI 54729
 715-738-2610
 FANDERSON@CO.CHIPPEWA.WI.US

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 920-492-4147
 MATTHEW.BERG@DOT.WI.GOV

ELECTRIC

EAU CLAIRE ENERGY COOPERATIVE
 ARIK ARNEVIK
 P.O. BOX 368
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 715-836-6485
 AARNEVIK@ECEC.COM

COMMUNICATIONS

BRIGHTSPEED
 BRIAN HUHN
 P.O. BOX 78
 HAWKINS, WI 54530
 608-615-7347
 BRIAN.HUHN@BRIGHTSPEED.COM

* NOT A DIGGERS HOTLINE MEMBER

Dial 811 or (800)242-8511

www.DiggersHotline.com

GENERAL NOTES

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

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

RIGHT OF WAY LOCATIONS ARE BASED ON AVAILABLE ASBUILTS AND GIS.

Estimate Of Quantities

7862-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-09-176	EACH	1.000	1.000
0004	205.0100	Excavation Common	CY	84.000	84.000
0006	206.1001	Excavation for Structures Bridges (structure) 01. B-09-393	EACH	1.000	1.000
0008	206.5001	Cofferdams (structure) 01. B-09-393	EACH	1.000	1.000
0010	208.0100	Borrow	CY	6.000	6.000
0012	210.1500	Backfill Structure Type A	TON	292.000	292.000
0014	213.0100	Finishing Roadway (project) 01. 7862-00-70	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	22.000	22.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	212.000	212.000
0020	455.0605	Tack Coat	GAL	20.000	20.000
0022	465.0105	Asphaltic Surface	TON	54.000	54.000
0024	465.0315	Asphaltic Flumes	SY	7.000	7.000
0026	502.0100	Concrete Masonry Bridges	CY	236.000	236.000
0028	502.3200	Protective Surface Treatment	SY	296.000	296.000
0030	502.9000.S	Underwater Substructure Inspection (structure) 01. B-09-393	EACH	1.000	1.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	5,145.000	5,145.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	28,555.000	28,555.000
0036	513.4061	Railing Tubular Type M	LF	206.000	206.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	840.000	840.000
0042	606.0300	Riprap Heavy	CY	55.000	55.000
0044	606.0400	Riprap Extra-Heavy	CY	260.000	260.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0048	618.0100	Maintenance and Repair of Haul Roads (project) 01. 7862-00-70	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	6.000	6.000
0054	625.0100	Topsoil	SY	85.000	85.000
0056	628.1504	Silt Fence	LF	280.000	280.000
0058	628.1520	Silt Fence Maintenance	LF	280.000	280.000
0060	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B	SY	122.000	122.000
0066	628.6005	Turbidity Barriers	SY	200.000	200.000
0068	629.0210	Fertilizer Type B	CWT	0.400	0.400
0070	630.0120	Seeding Mixture No. 20	LB	10.000	10.000
0072	630.0200	Seeding Temporary	LB	10.000	10.000
0074	630.0500	Seed Water	MGAL	12.000	12.000
0076	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0078	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0080	638.2602	Removing Signs Type II	EACH	2.000	2.000
0082	638.3000	Removing Small Sign Supports	EACH	2.000	2.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0420	Traffic Control Barricades Type III	DAY	810.000	810.000
0088	643.0705	Traffic Control Warning Lights Type A	DAY	1,260.000	1,260.000
0090	643.0900	Traffic Control Signs	DAY	630.000	630.000
0092	643.5000	Traffic Control	EACH	1.000	1.000
0094	645.0111	Geotextile Type DF Schedule A	SY	40.000	40.000
0096	645.0120	Geotextile Type HR	SY	495.000	495.000
0098	650.4500	Construction Staking Subgrade	LF	160.000	160.000
0100	650.5000	Construction Staking Base	LF	160.000	160.000

Estimate Of Quantities

7862-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	650.6501	Construction Staking Structure Layout (structure) 01. B-09-393	EACH	1.000	1.000
0104	650.9911	Construction Staking Supplemental Control (project) 01. 7862-00-70	EACH	1.000	1.000
0106	650.9920	Construction Staking Slope Stakes	LF	160.000	160.000
0108	690.0150	Sawing Asphalt	LF	40.000	40.000
0110	715.0502	Incentive Strength Concrete Structures	DOL	1,500.000	1,500.000
0112	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0114	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
0116	SPV.0090	Special 01. Flashing Stainless Steel	LF	153.000	153.000

3

STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	UNEXPANDED FILL CY	EXPANDED FILL (1) CY	MASS ORDINATE +/- (2) CY	208.0100 BORROW CY
9+10	-	9+50	LT & RT	40	9	12	28	-28
10+50	-	10+90	LT & RT	44	42	54	-10	10
			UNUSABLE PAVEMENT (3)	--	--	--	--	24
TOTAL				84			18	6

STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON	465.0315 ASPHALTIC FLUMES SY	624.0100 WATER MGAL
9+10	-	9+60	LT & RT	11	106	10	27	--	3
10+40	-	10+90	LT & RT	11	106	10	27	--	3
		10+55	LT	--	--	--	--	7	--
TOTAL				22	212	20	54	7	6

3

STATION	TO	STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE TYPE HR SY
10+50	-	10+90	LT	30	65
10+50	-	10+90	RT	25	60
TOTAL 0010				55	125

STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.6005 TURBIDITY BARRIERS SY
9+10	-	9+50	LT	31	65	65	--	--	53	--
9+10	-	9+50	RT	34	70	70	--	--	56	--
9+71	-	9+77	LT & RT	--	--	--	--	--	--	100
9+96	-	10+04	LT & RT	--	--	--	--	--	--	--
10+23	-	10+33	LT & RT	--	--	--	--	--	--	100
10+50	-	10+90	LT	10	75	75	--	--	6	--
10+50	-	10+90	RT	10	70	70	--	--	7	--
PROJECT 7862-00-70				--	--	--	4	2	--	--
TOTAL				85	280	280	4	2	122	200

PROJECT NO: 7862-00-70

HWY: 240TH STREET

COUNTY: CHIPPEWA

MISCELLANEOUS QUANTITIES

SHEET

E

3

STATION	TO	STATION	LOCATION	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
9+10	-	9+50	LT	0.1	3	3	4
9+10	-	9+50	RT	0.1	3	3	4
10+50	-	10+90	LT	0.1	2	2	2
10+50	-	10+90	RT	0.1	2	2	2
TOTAL				0.4	10	10	12

LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12- FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
PROJECT ID 7862-00-70	4	12	2	2
TOTAL	4	12	2	2

3

LOCATION	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.5000 TRAFFIC CONTROL EACH
PROJECT ID 7862-00-70	810	1,260	630	1
TOTAL	810	1,260	630	1

STATION	LOCATION	690.0150 SAWING ASPHALT LF
9+10	BEGIN PROJECT 7862-00-70	20
10+90	END PROJECT 7862-00-70	20
TOTAL 0010		40

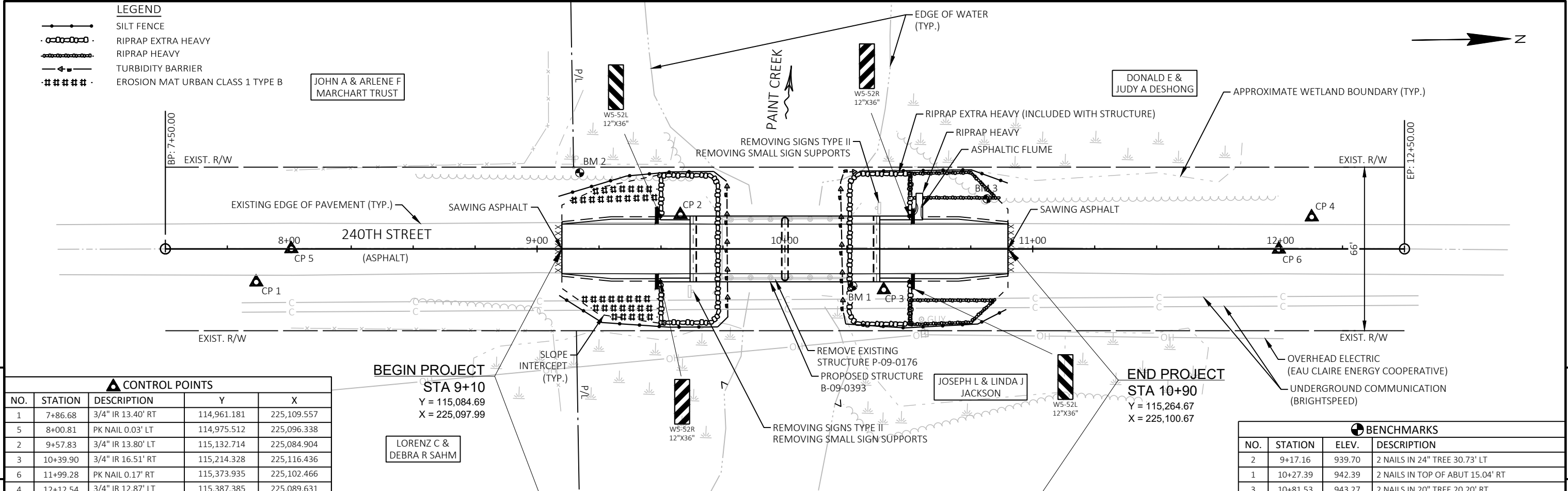
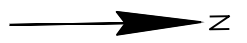
- LEGEND**
- SILT FENCE
 - RIPRAP EXTRA HEAVY
 - RIPRAP HEAVY
 - TURBIDITY BARRIER
 - EROSION MAT URBAN CLASS 1 TYPE B

JOHN A & ARLENE F MARCHART TRUST

DONALD E & JUDY A DESHONG

JOSEPH L & LINDA J JACKSON

LORENZ C & DEBRA R SAHM

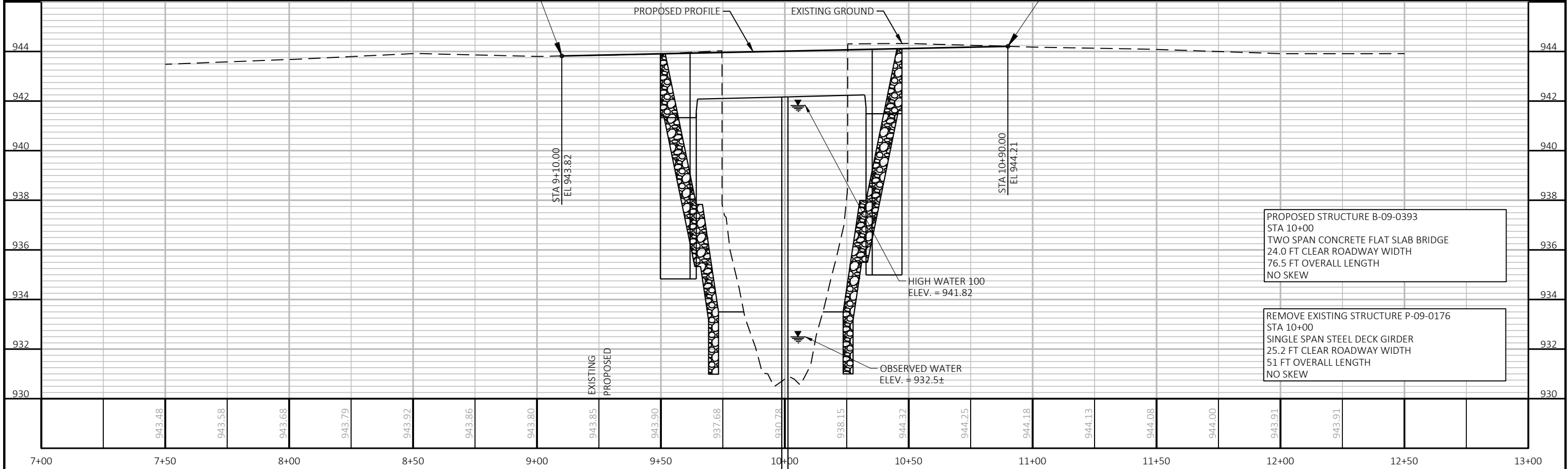


CONTROL POINTS

NO.	STATION	DESCRIPTION	Y	X
1	7+86.68	3/4" IR 13.40' RT	114,961.181	225,109.557
5	8+00.81	PK NAIL 0.03' LT	114,975.512	225,096.338
2	9+57.83	3/4" IR 13.80' LT	115,132.714	225,084.904
3	10+39.90	3/4" IR 16.51' RT	115,214.328	225,116.436
6	11+99.28	PK NAIL 0.17' RT	115,373.935	225,102.466
4	12+12.54	3/4" IR 12.87' LT	115,387.385	225,089.631

BENCHMARKS

NO.	STATION	ELEV.	DESCRIPTION
2	9+17.16	939.70	2 NAILS IN 24" TREE 30.73' LT
1	10+27.39	942.39	2 NAILS IN TOP OF ABUT 15.04' RT
3	10+81.53	943.27	2 NAILS IN 20" TREE 20.20' RT



7+00	7+50	8+00	8+50	9+00	9+50	10+00	10+50	11+00	11+50	12+00	12+50	13+00
------	------	------	------	------	------	-------	-------	-------	-------	-------	-------	-------

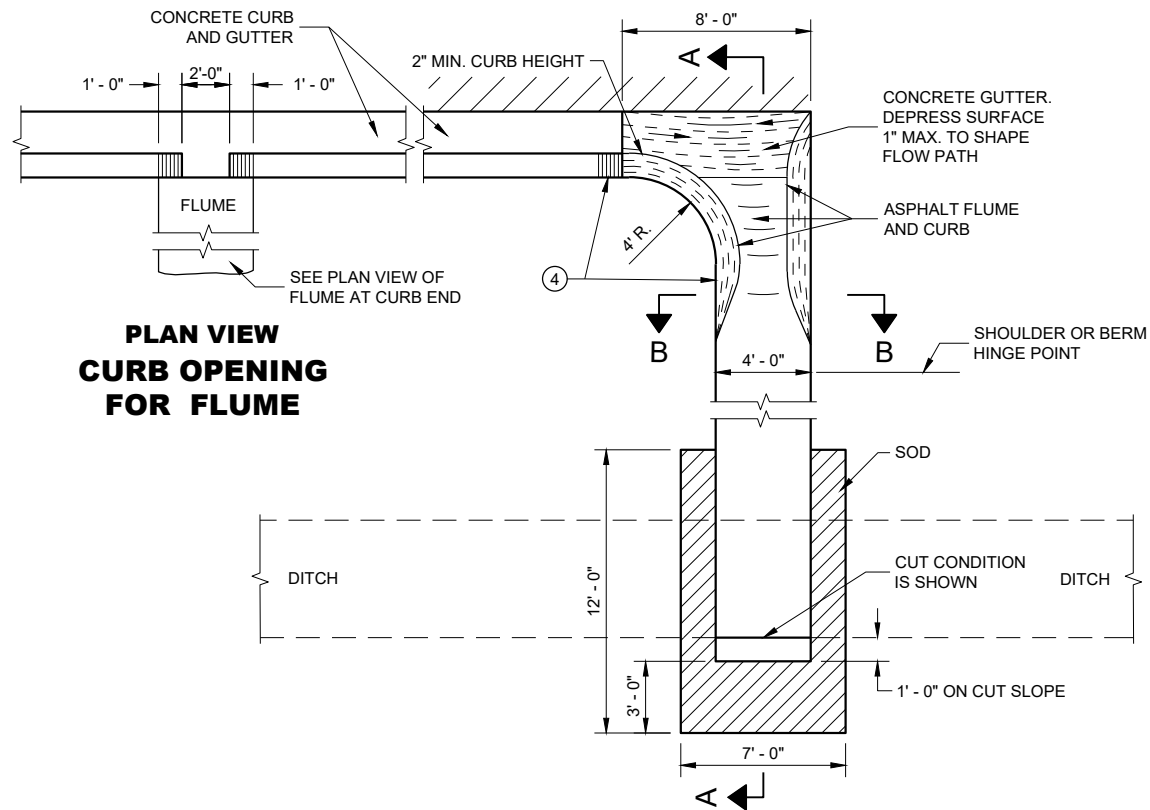
PROJECT NO: 7862-00-70 HWY: 240TH STREET COUNTY: CHIPPEWA PLAN AND PROFILE: 240TH STREET SHEET: E

Standard Detail Drawing List

08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

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

ASPHALTIC FLUME



**PLAN VIEW
CURB OPENING
FOR FLUME**

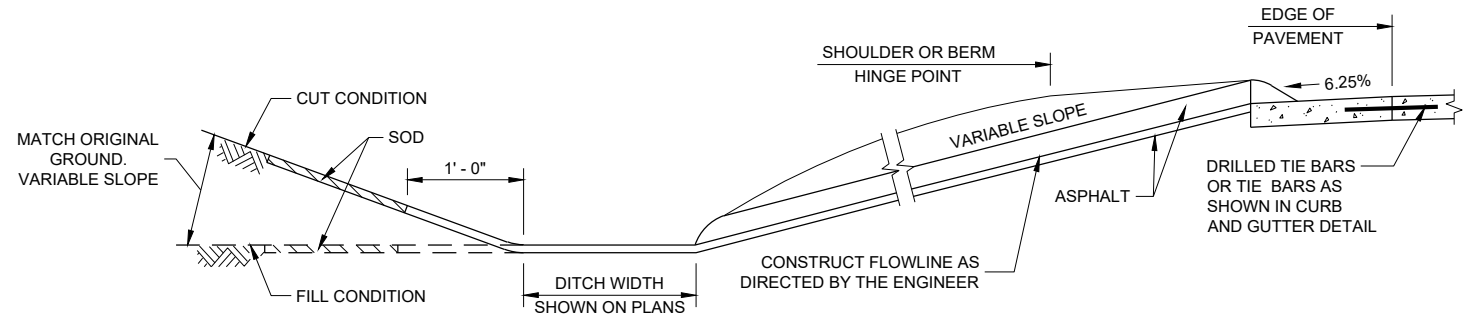
**PLAN VIEW
FLUME AT CURB END**

GENERAL NOTES

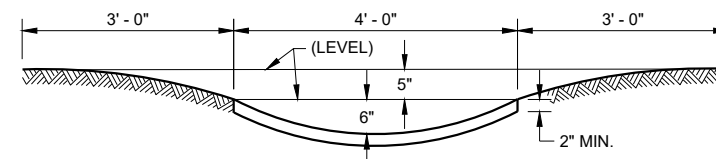
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

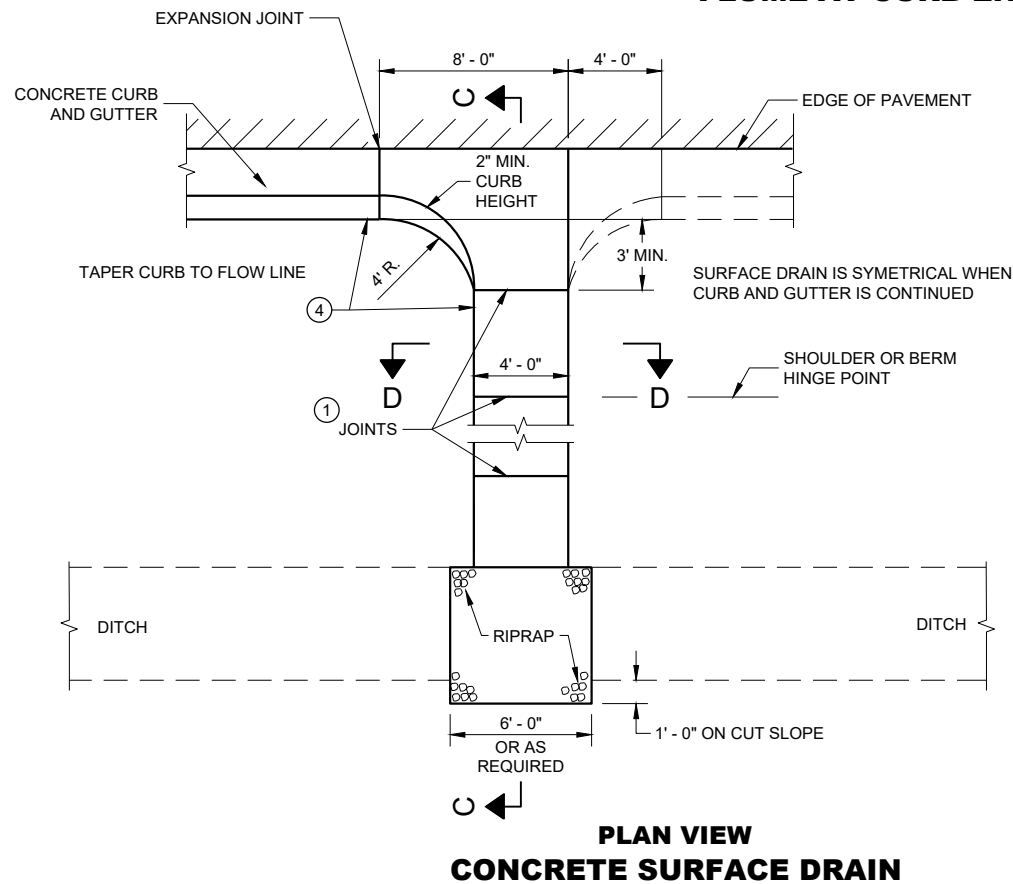
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.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



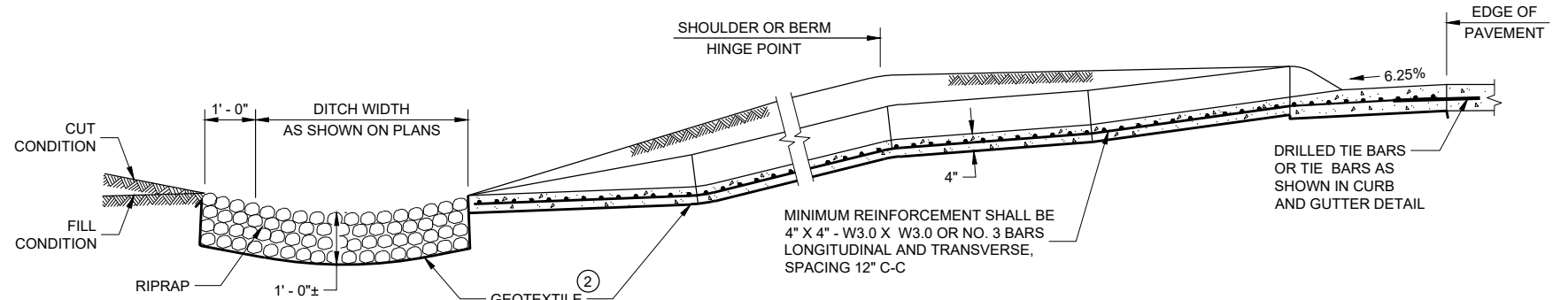
SECTION A - A



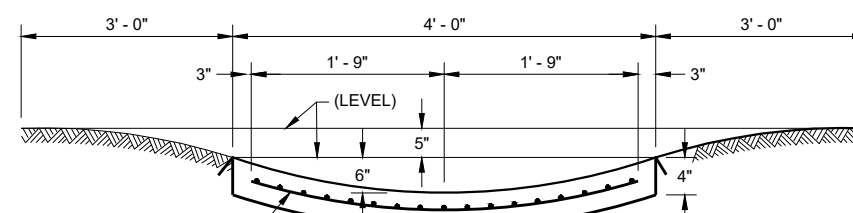
SECTION B - B



**PLAN VIEW
CONCRETE SURFACE DRAIN**



SECTION C - C



SECTION D - D

MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE, SPACING 12" C-C

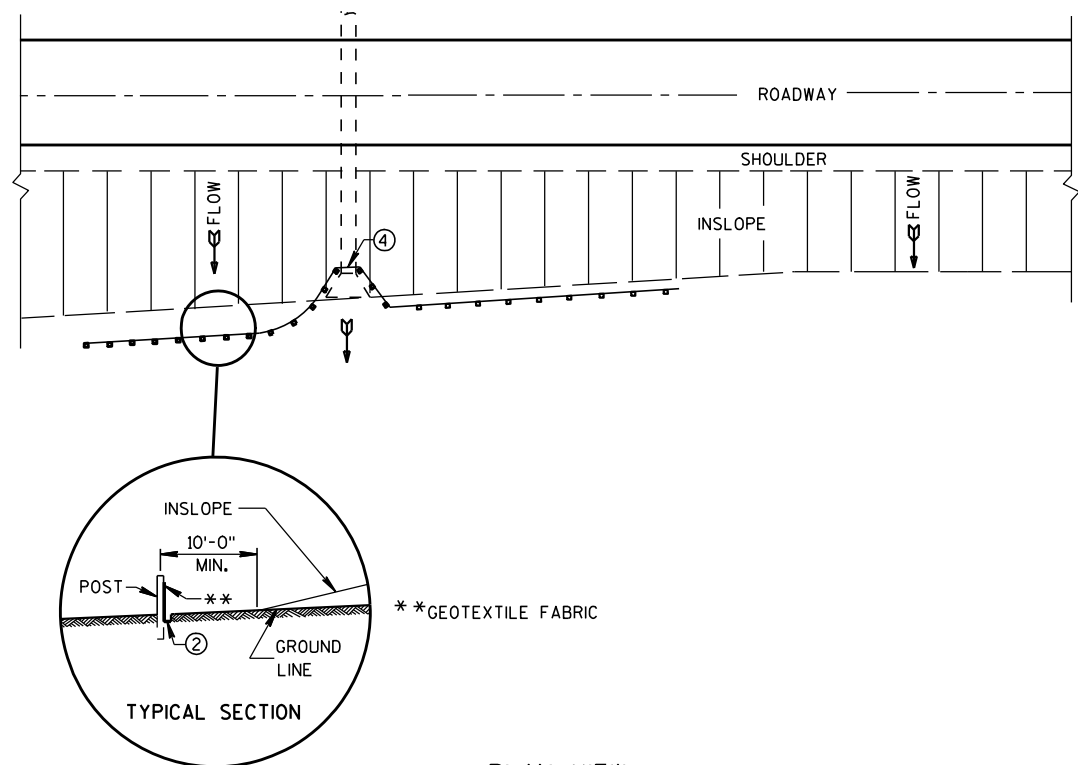
MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE, SPACING 12" C-C

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

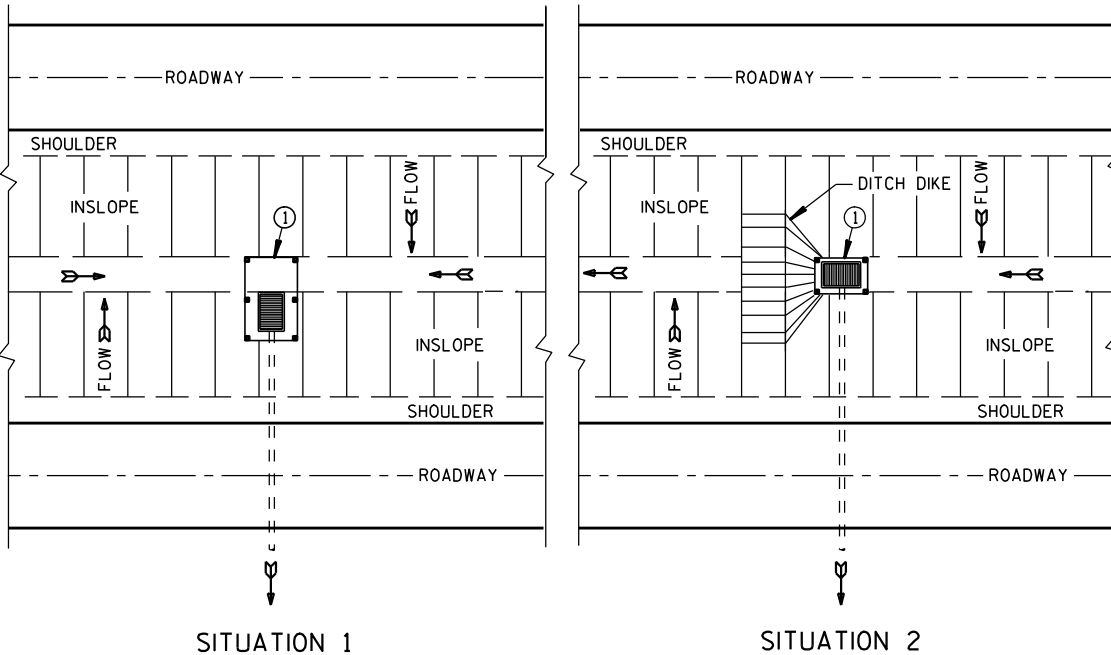
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

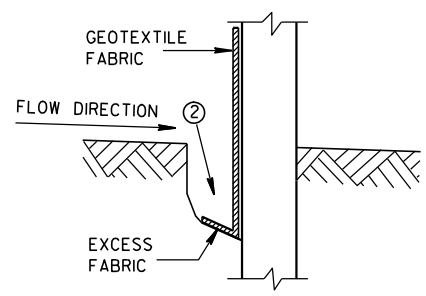


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

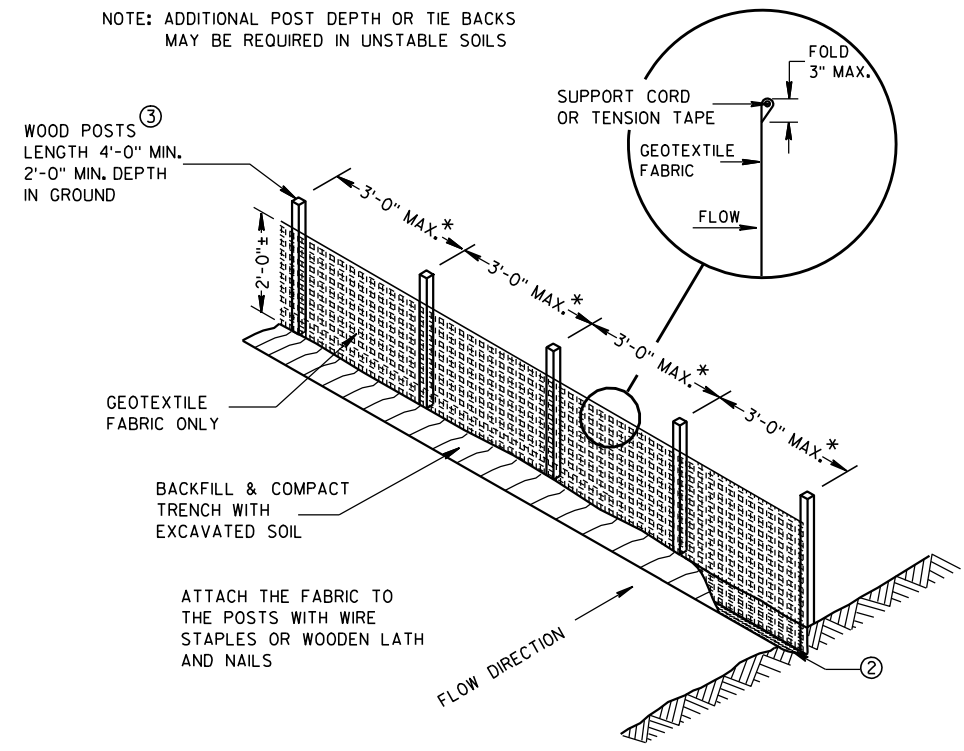
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



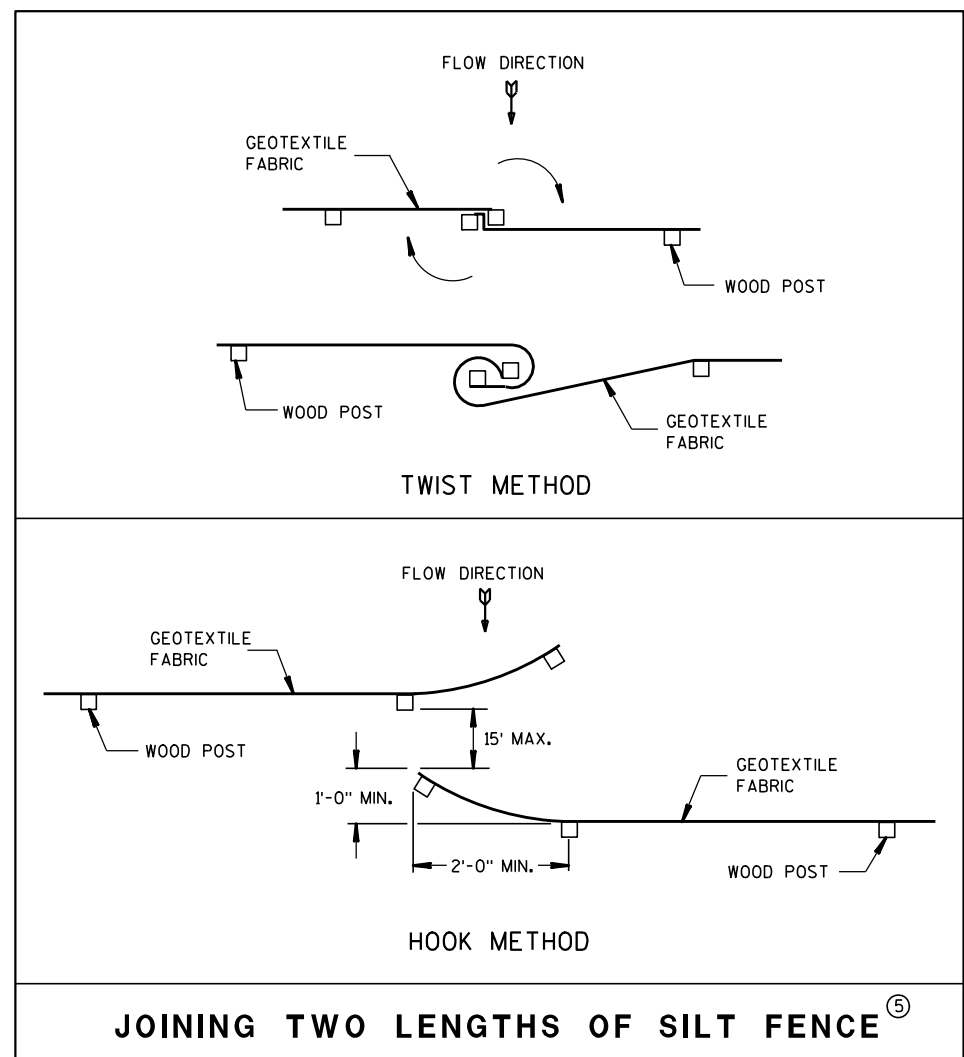
TRENCH DETAIL

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

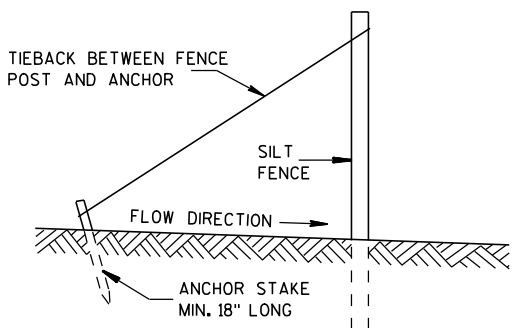


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

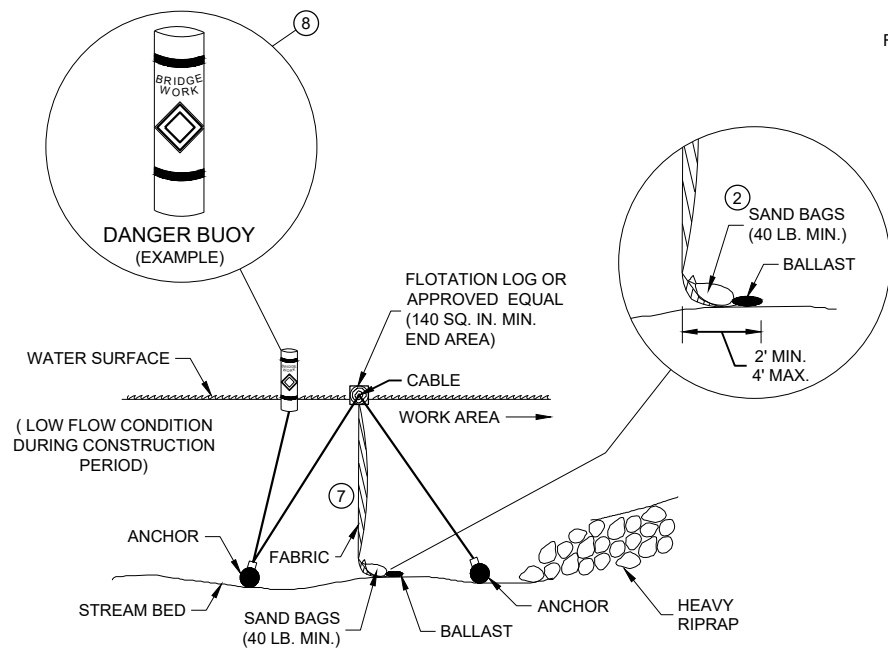


JOINING TWO LENGTHS OF SILT FENCE



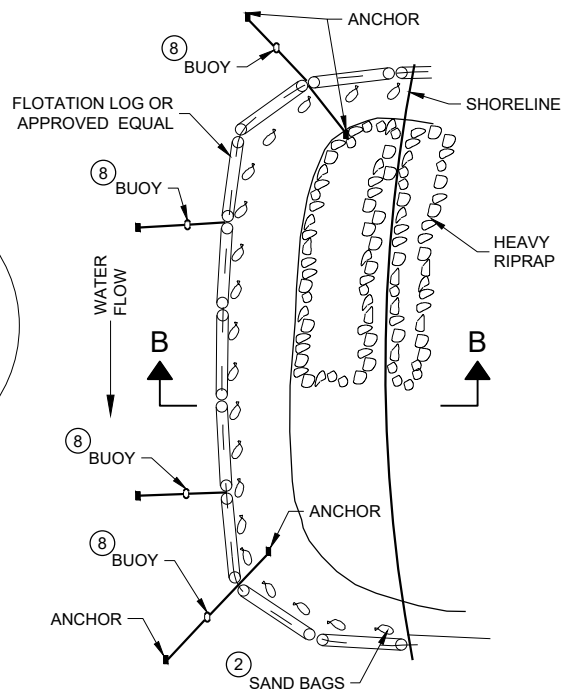
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

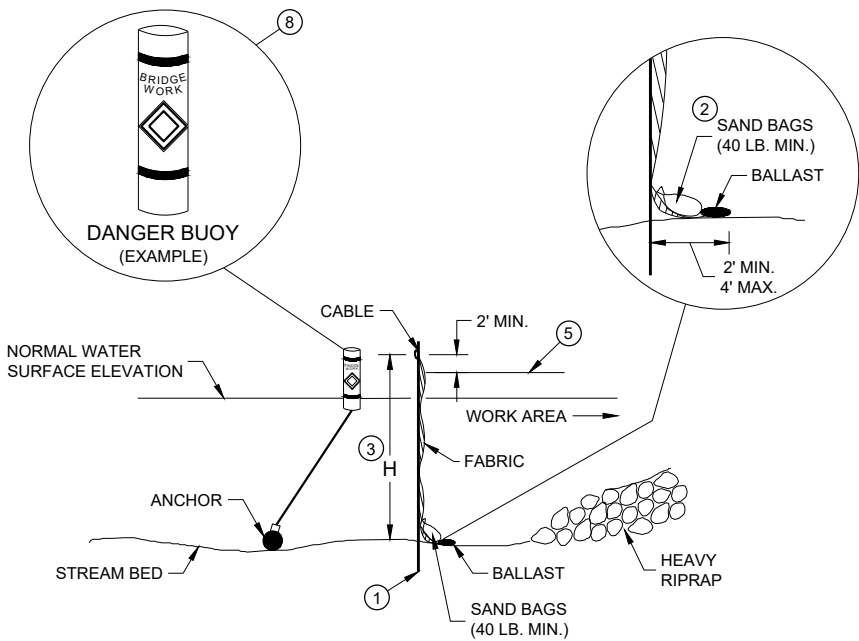


SECTION B - B

**TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6**

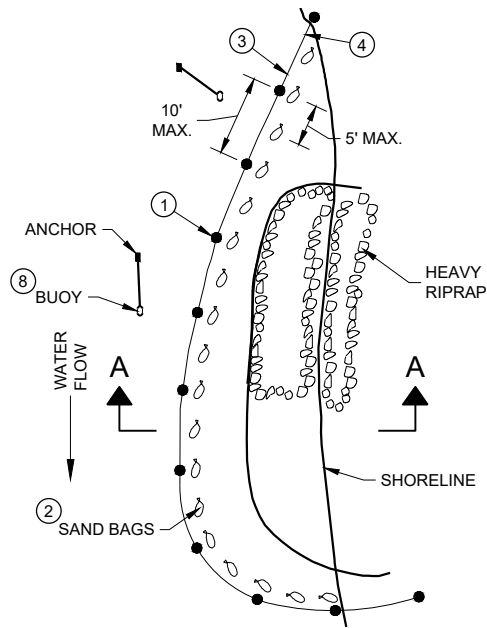


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

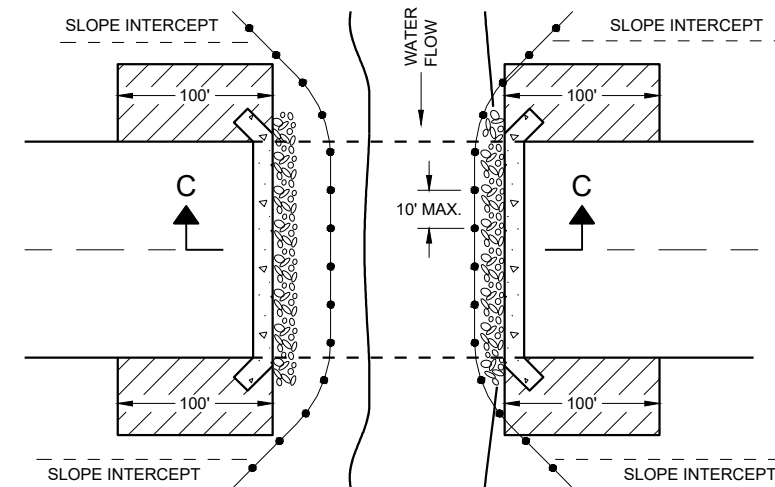
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

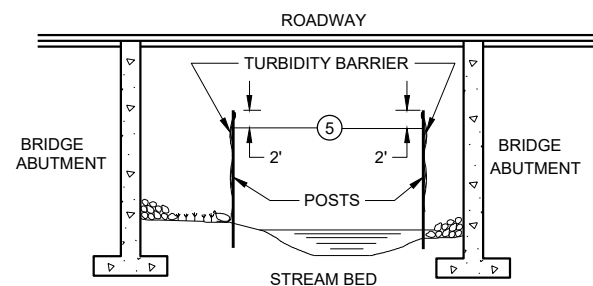
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

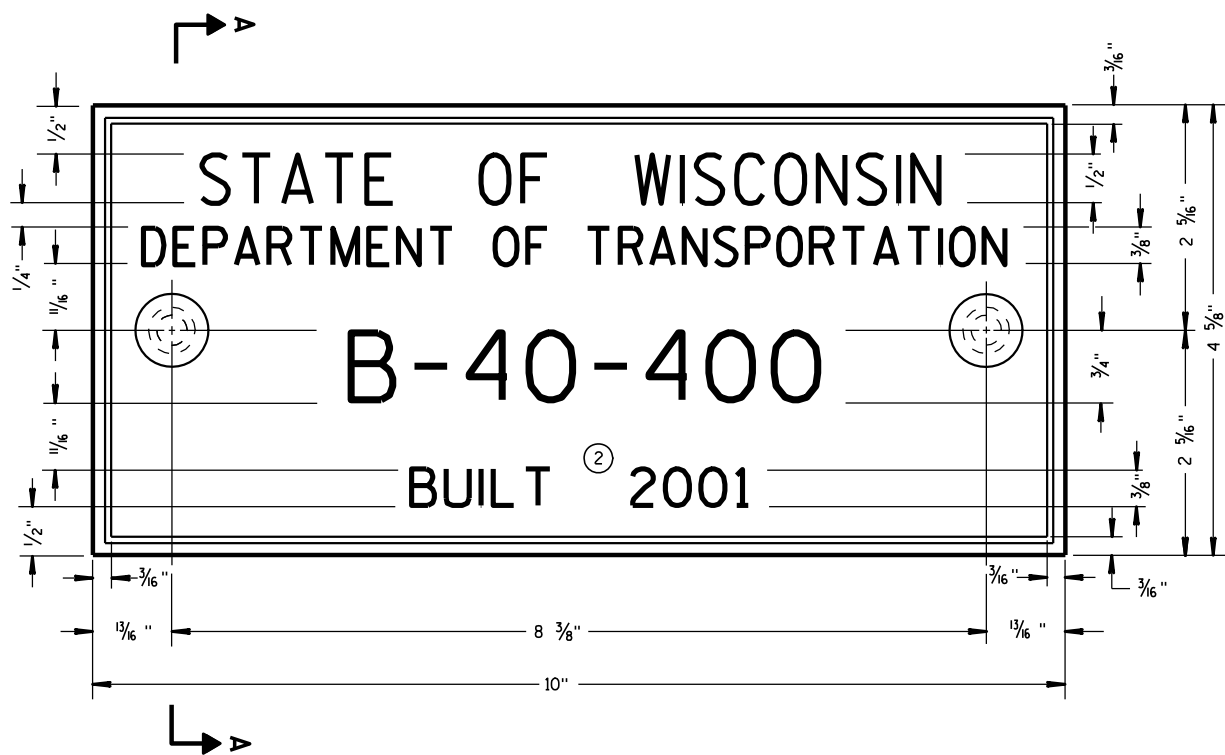
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



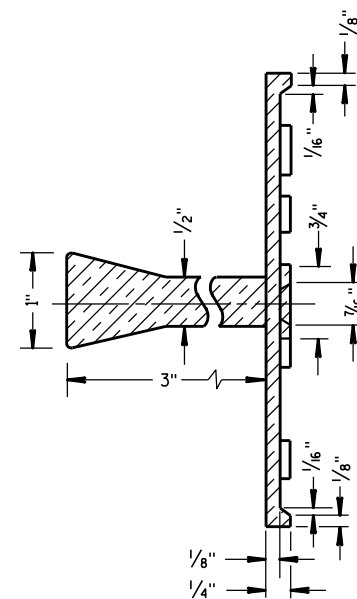
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

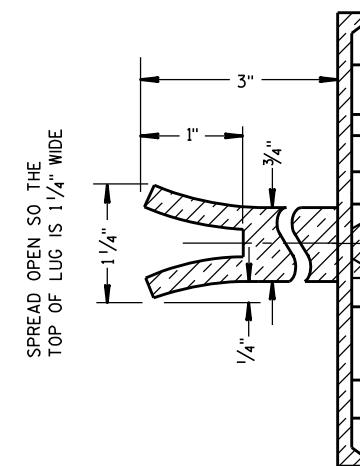
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

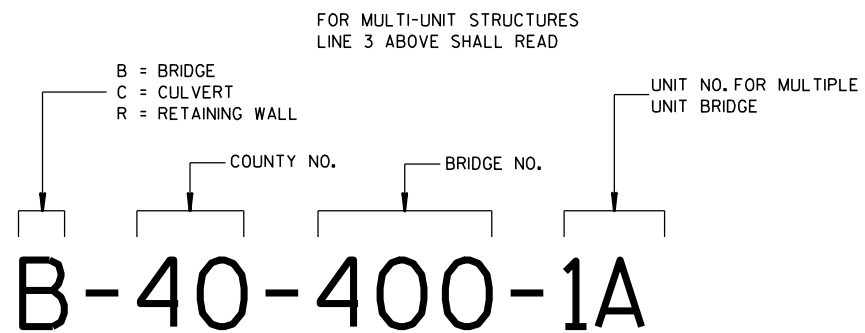
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A

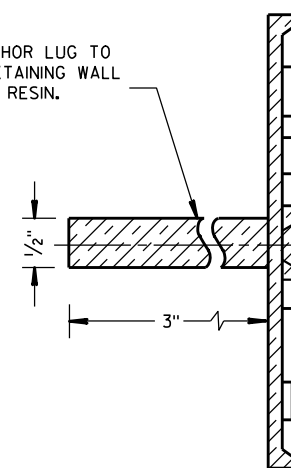


ALTERNATE LUG



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

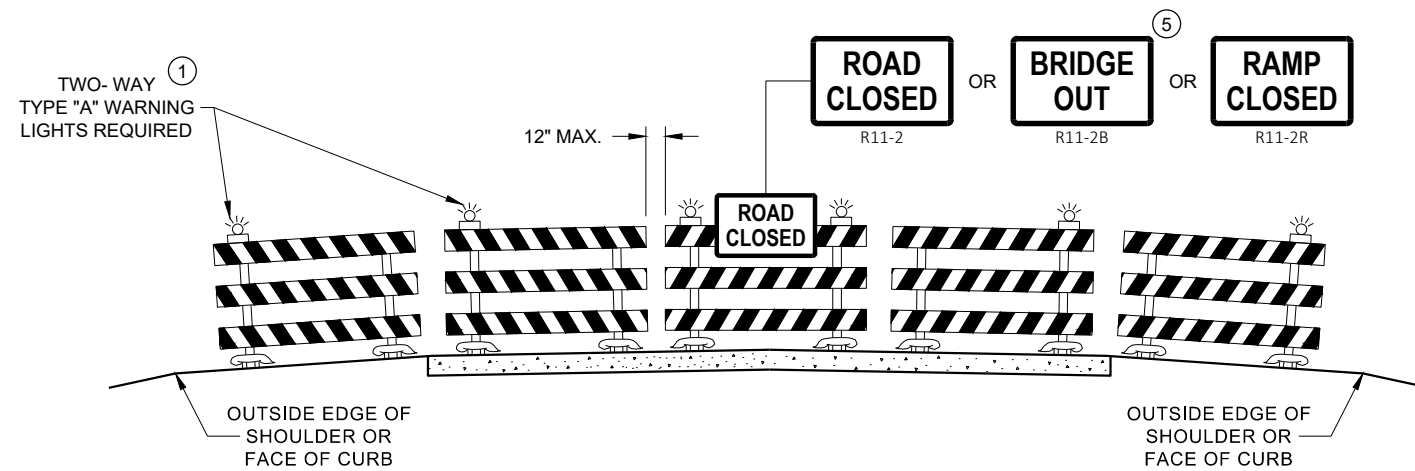


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

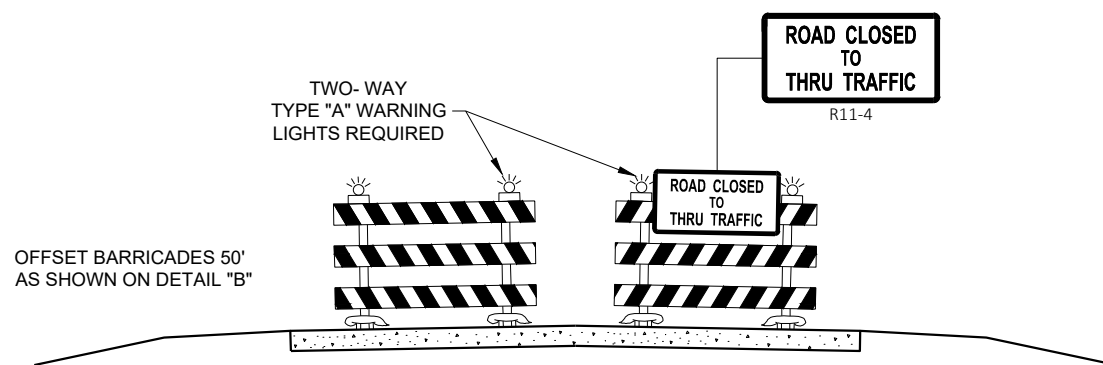
**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 3/26/10 /S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA



**DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW**



**DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

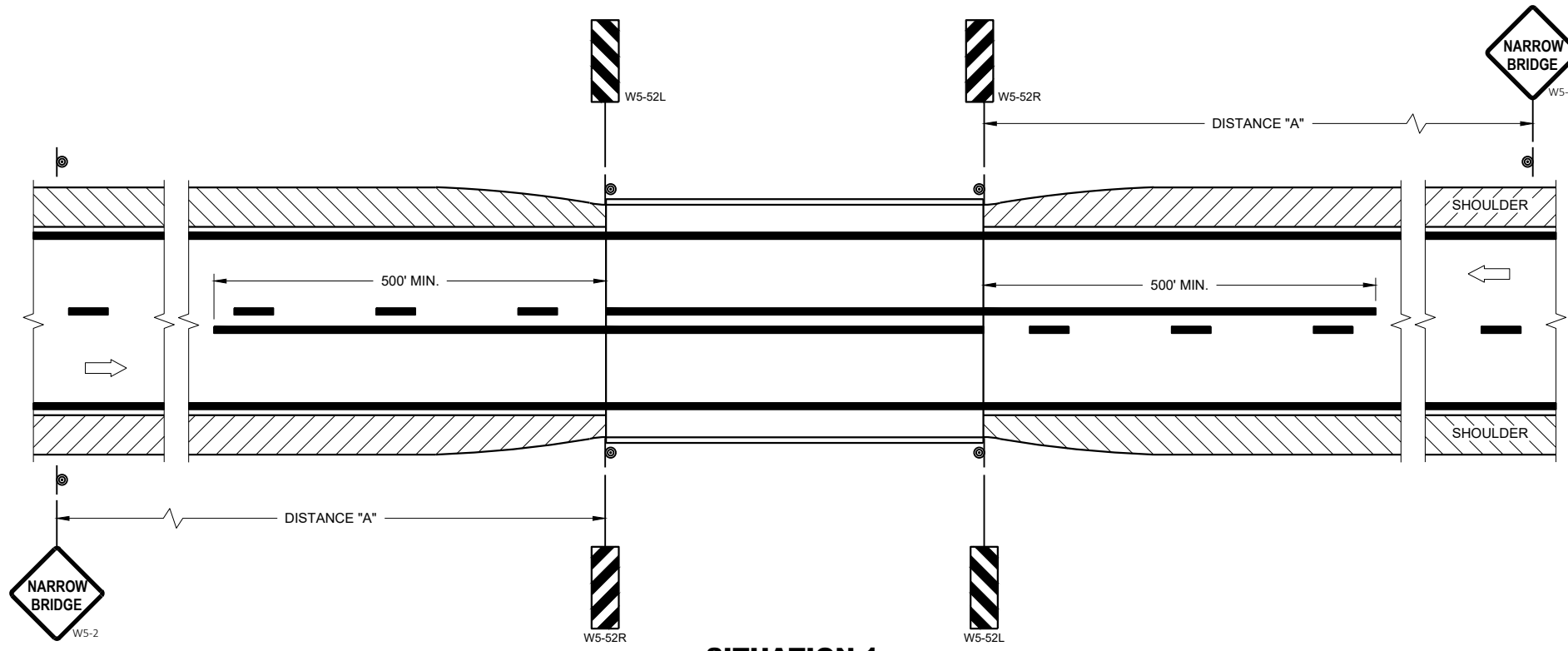
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24"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

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

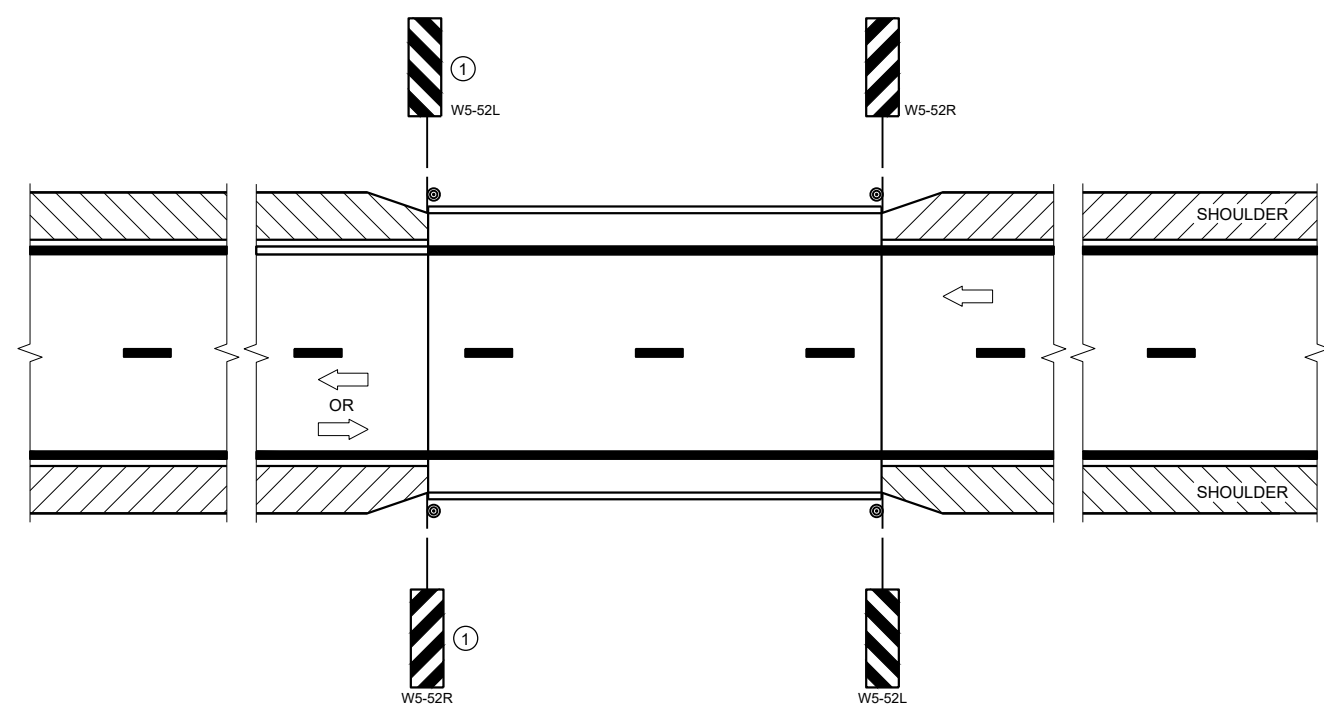
**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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'

6

6

SDD 15C06-12

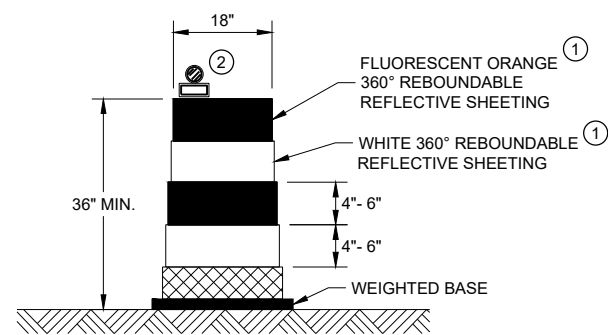
SDD 15C06-12

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

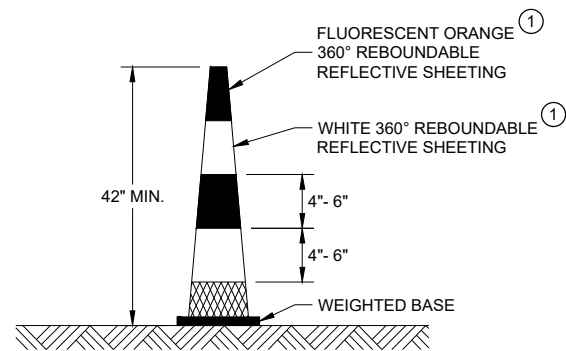
APPROVED
 May 2023 /S/ Jeannie Silver
 DATE STATE SIGNING AND MARKING ENGINEER

FHWA



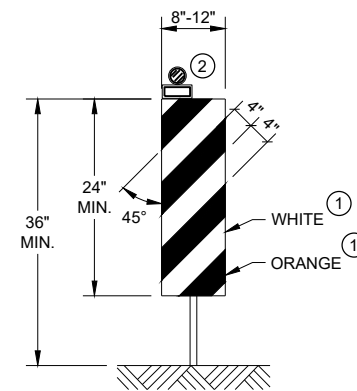
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

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

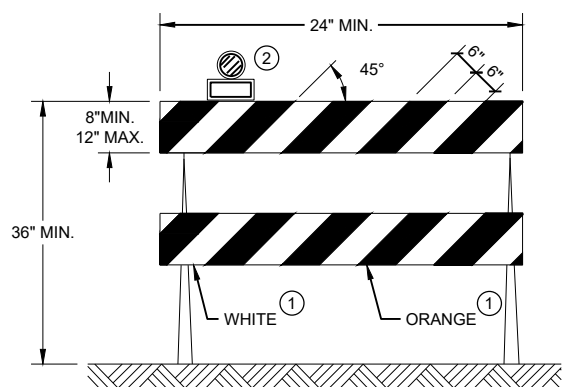


VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.

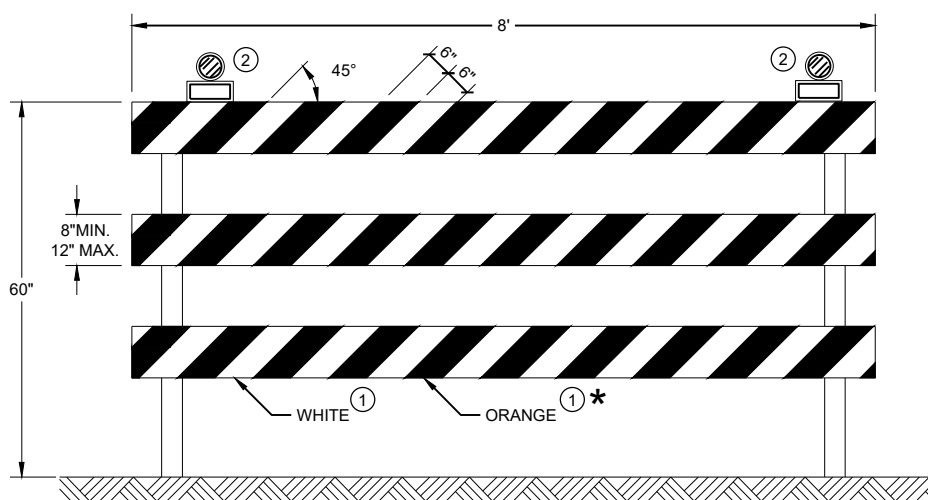
GENERAL NOTES

- 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.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

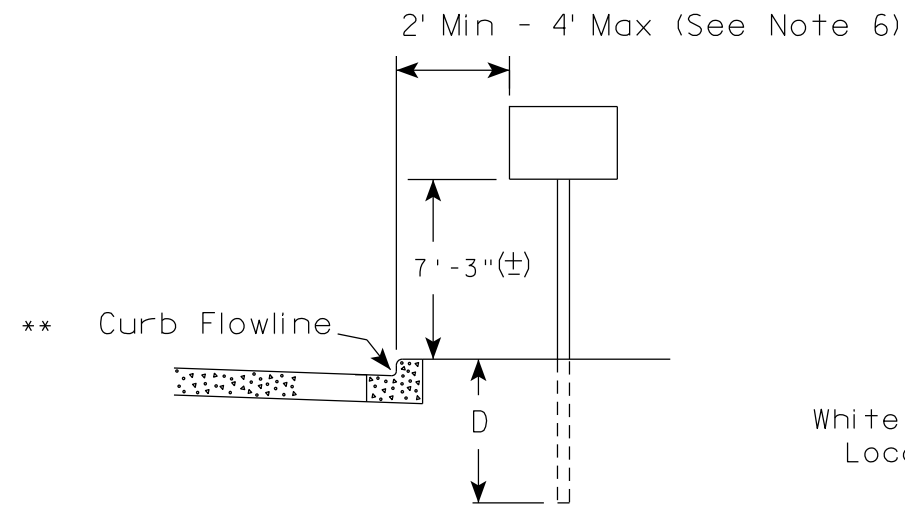
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

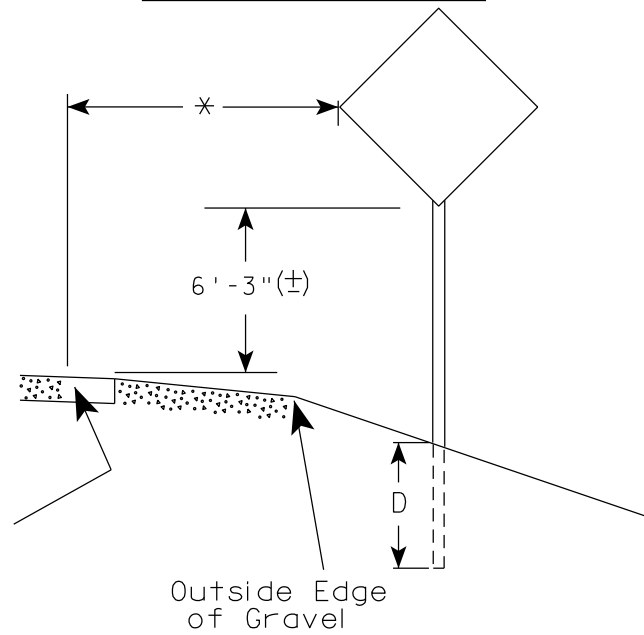
APPROVED
 November 2022 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER
 FHWA

URBAN AREA

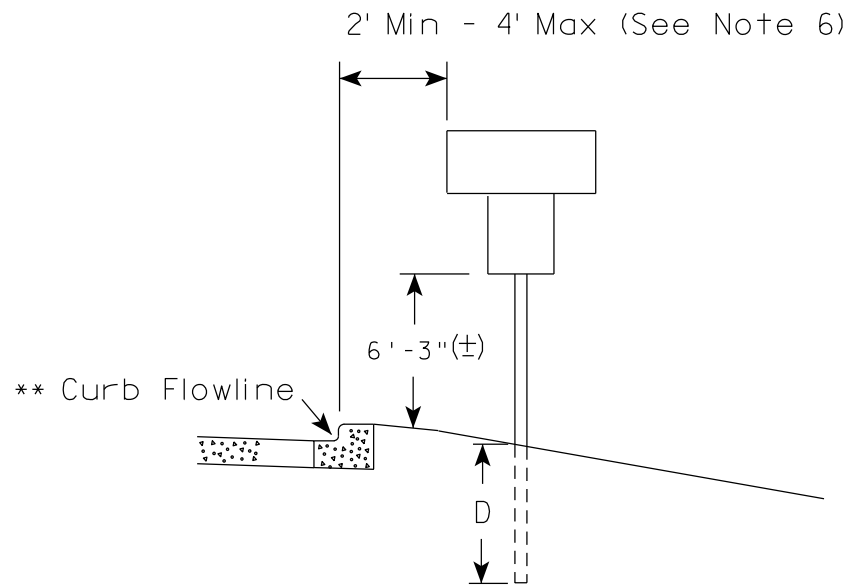
RURAL AREA (See Note 2)



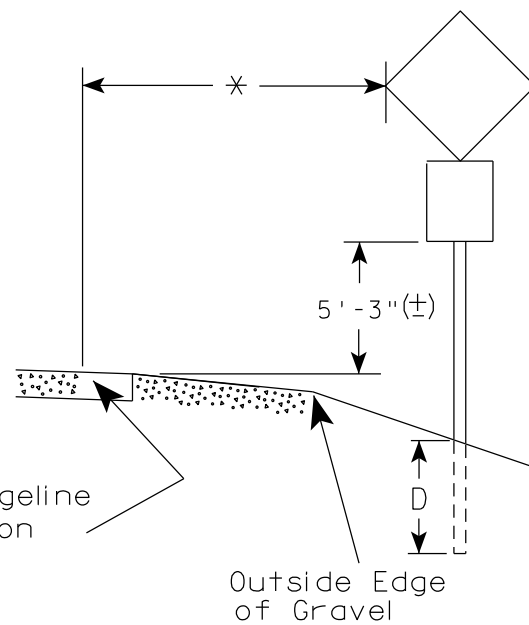
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

7

7

* * 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

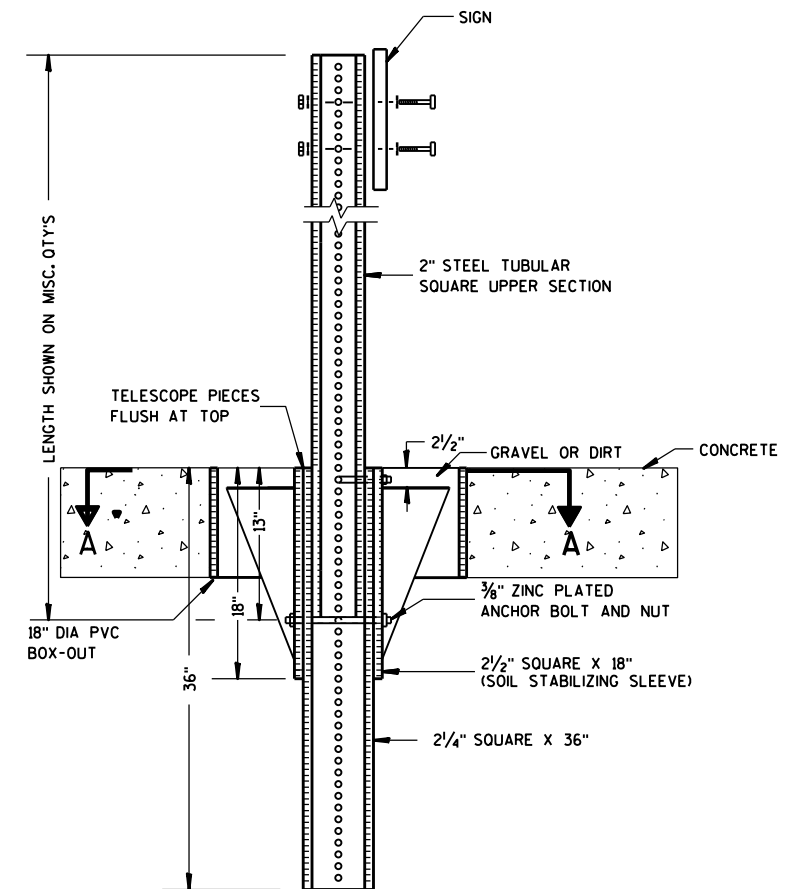
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

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

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

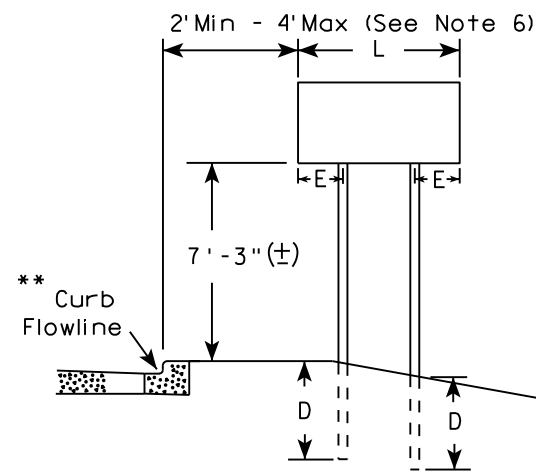
7

7

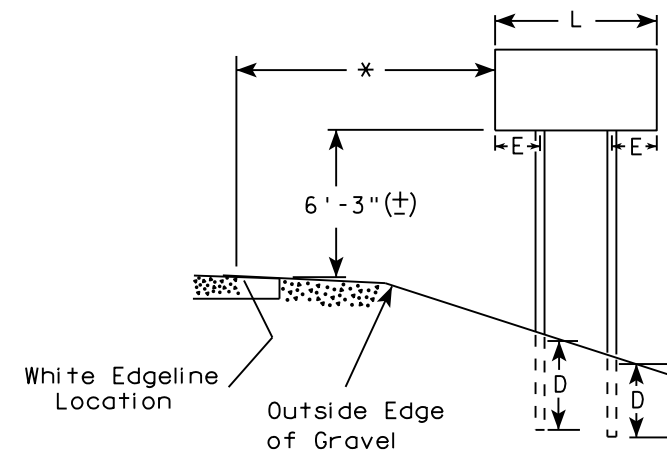
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. 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), 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" (±).

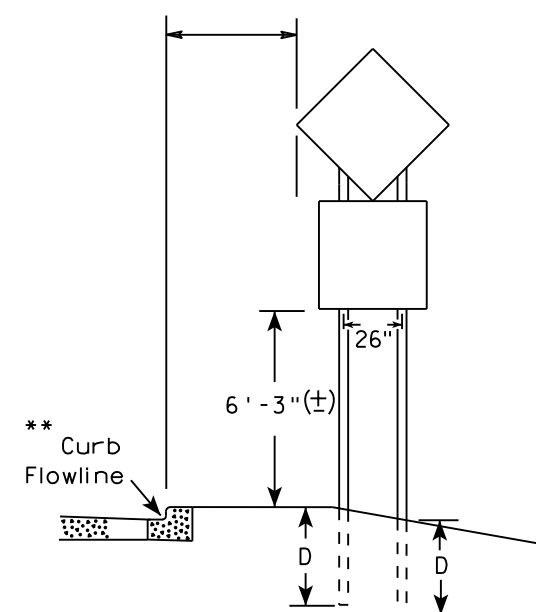
URBAN AREA



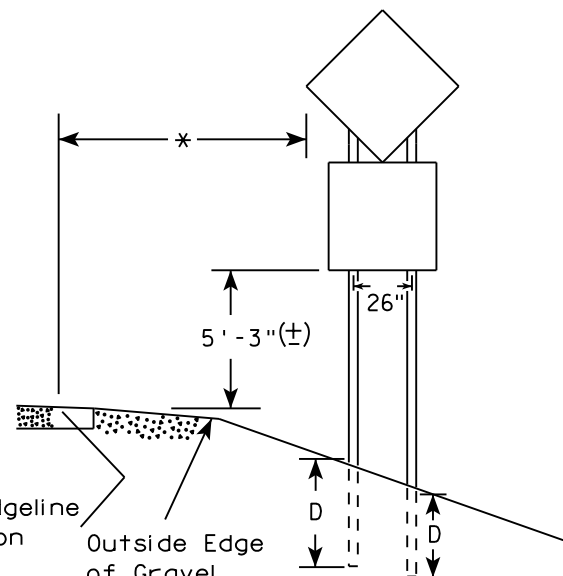
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

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

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

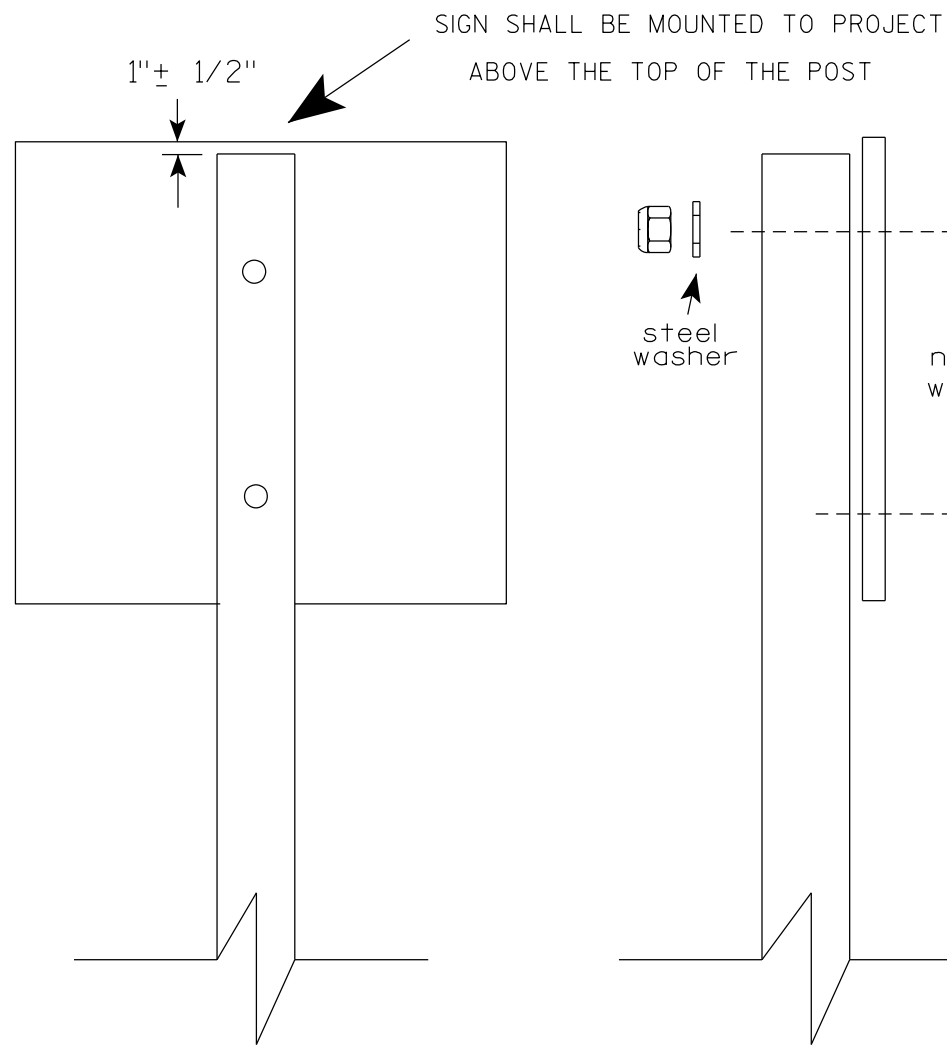
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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 8/21/17 PLATE NO. A4-4.15



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

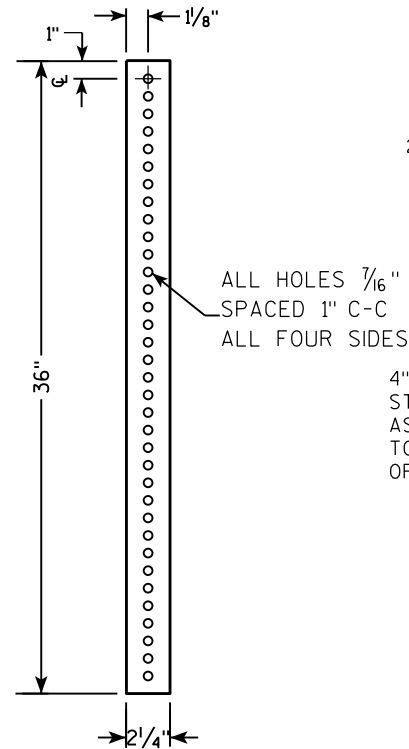
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

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

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

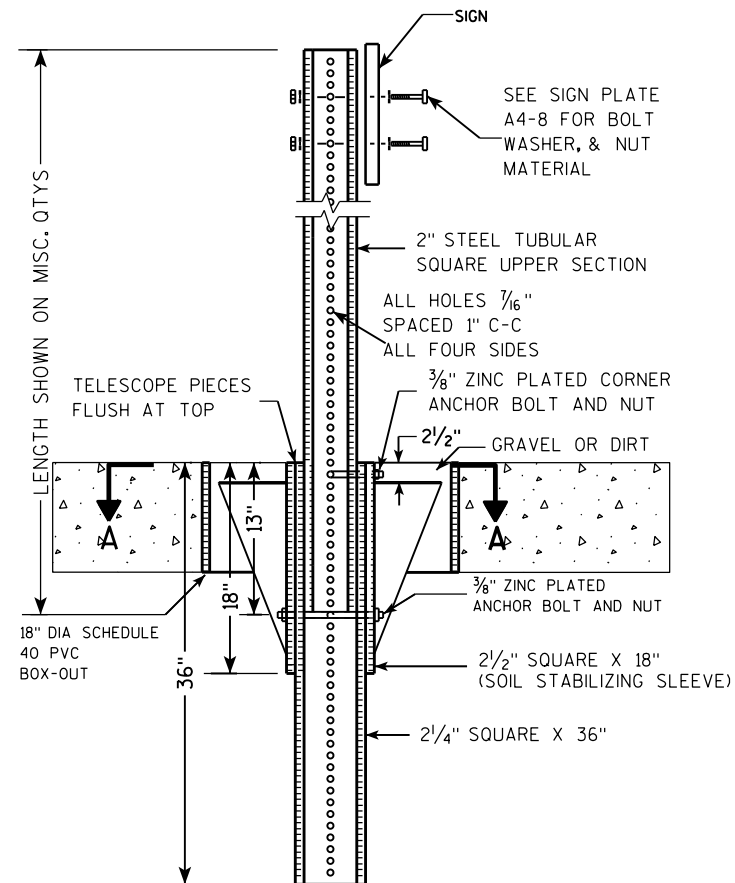
**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



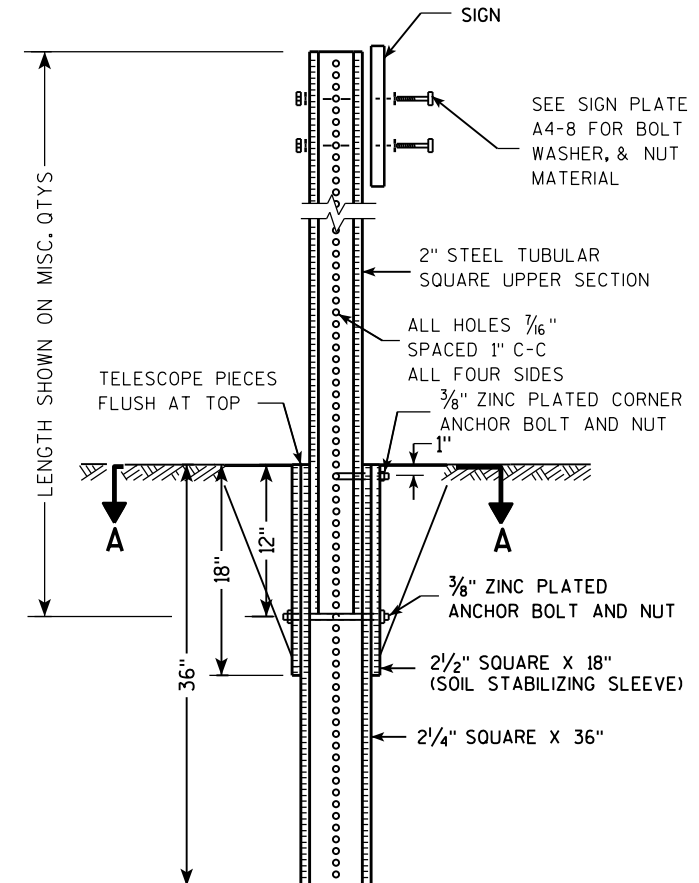
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



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



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



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

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

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

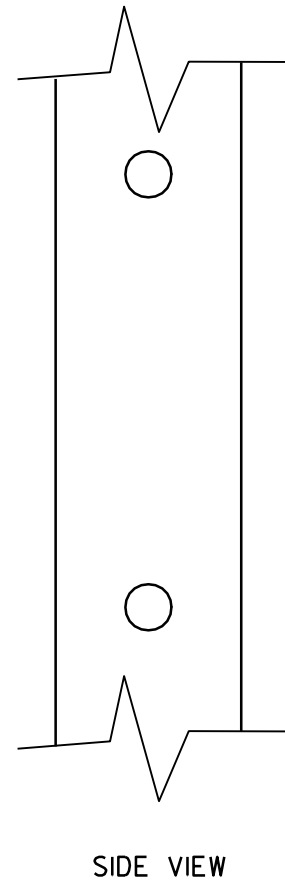
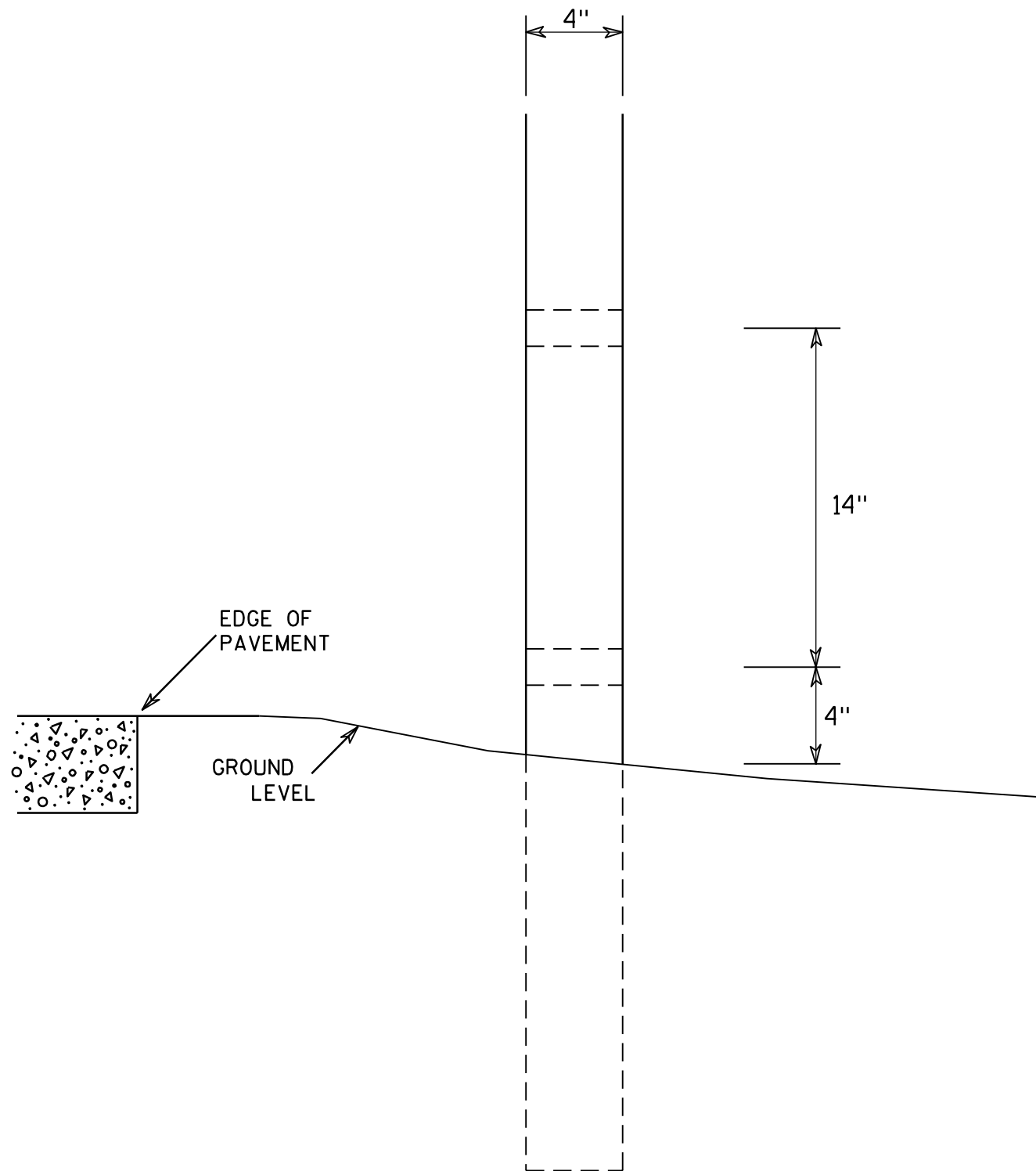
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



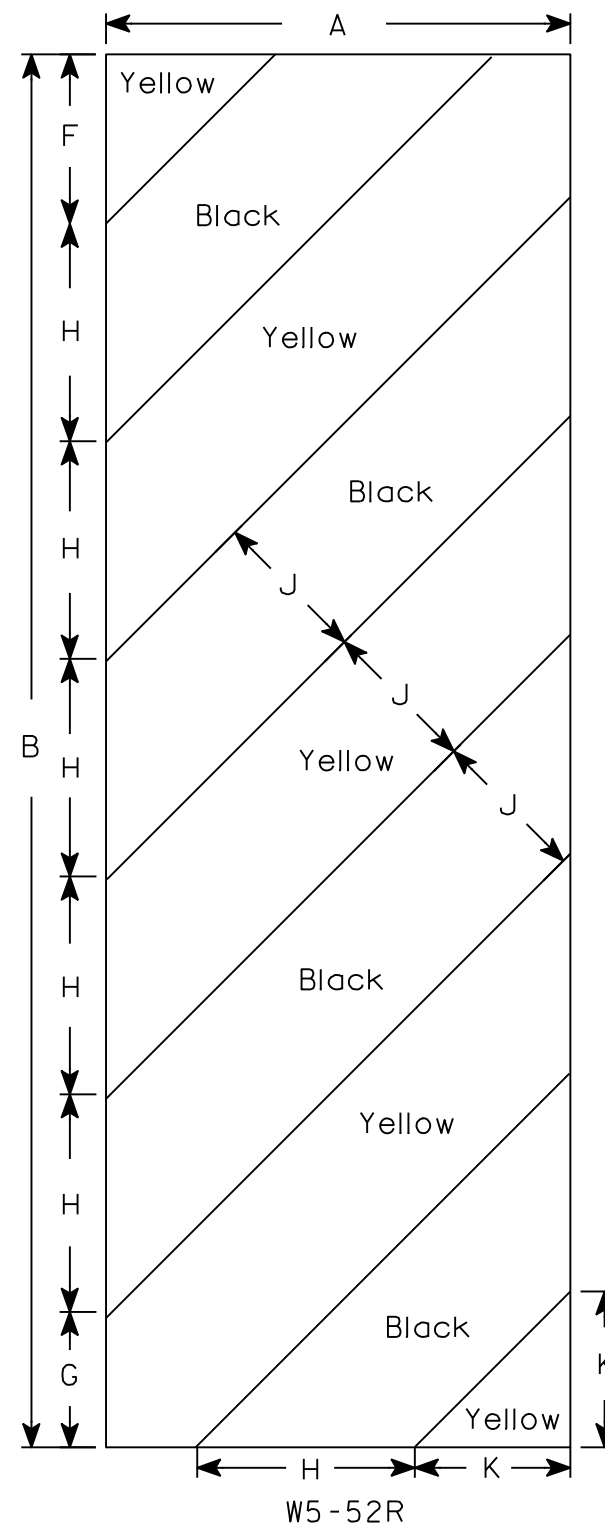
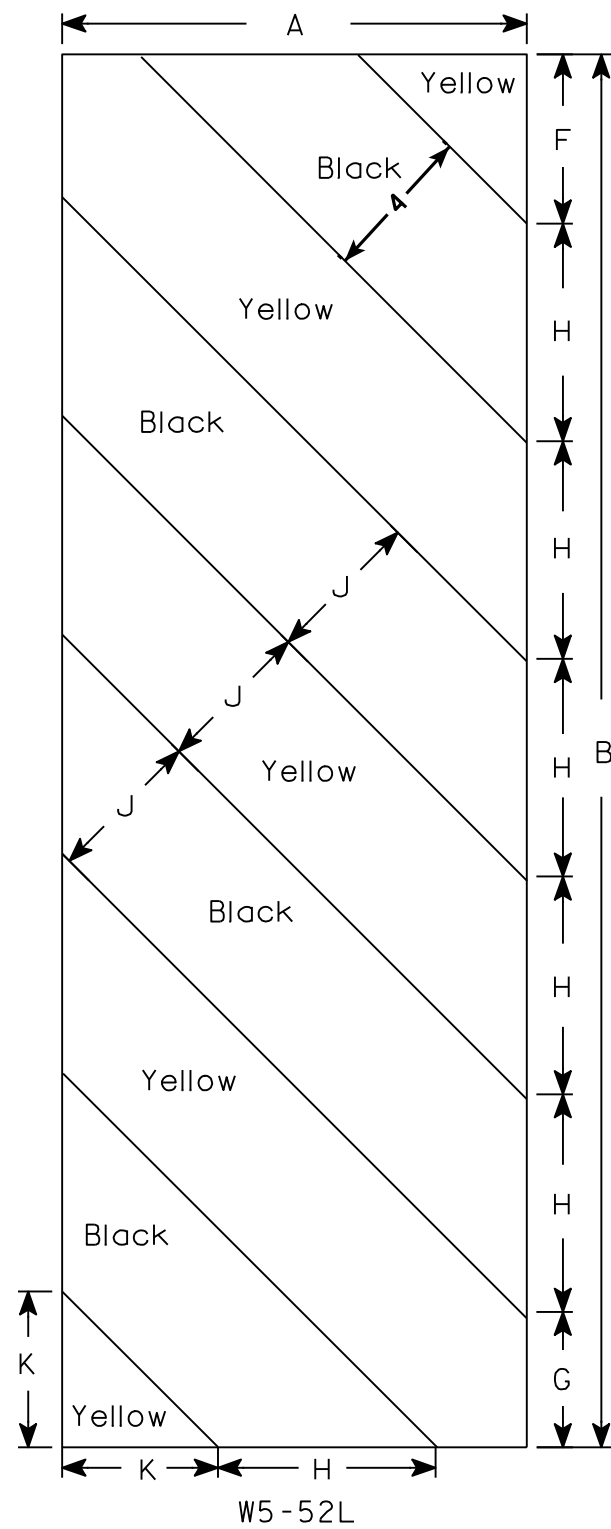
GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>



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.

7

7

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 9/16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E

DESIGN DATA

LIVE LOAD: DESIGN LOADING : HL-93
 INVENTORY RATING FACTOR : 1.07
 OPERATIONAL RATING FACTOR : 1.39
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

TRAFFIC DATA: A.A.D.T. (2024) = 205
 A.A.D.T. (2044) = 250
 R.D.S. = 45 MPH

MATERIAL PROPERTIES:
 CONCRETE MASONRY, SLAB $f'_c = 4,000$ P.S.I.
 ALL OTHER $f'_c = 3,500$ P.S.I.
 HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.
 PILING STEEL HP 10-INCH x 42 LB. $f_y = 50,000$ P.S.I.

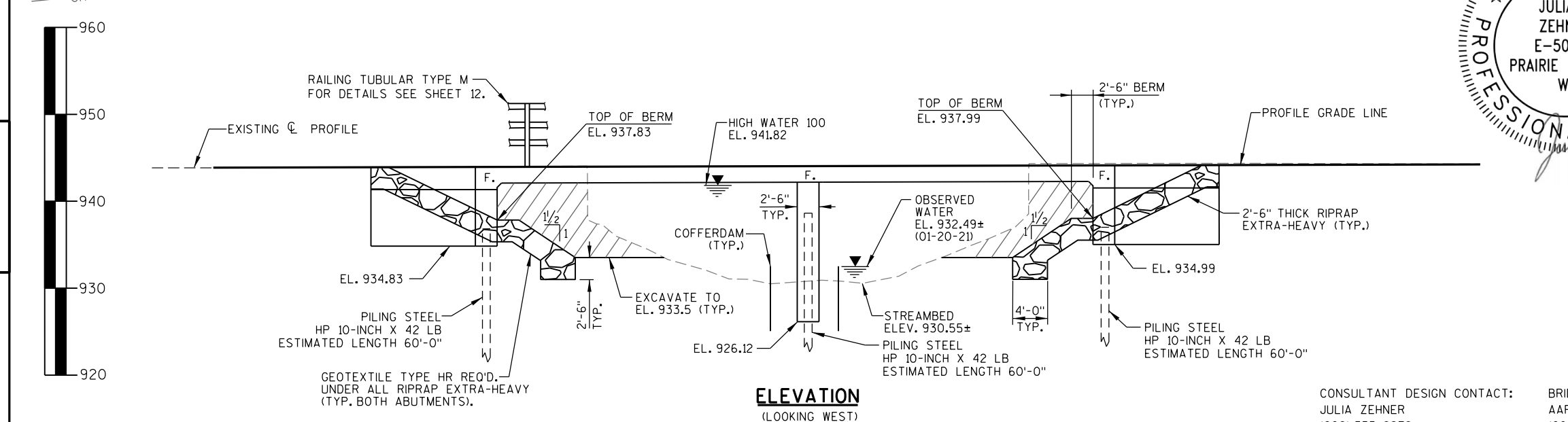
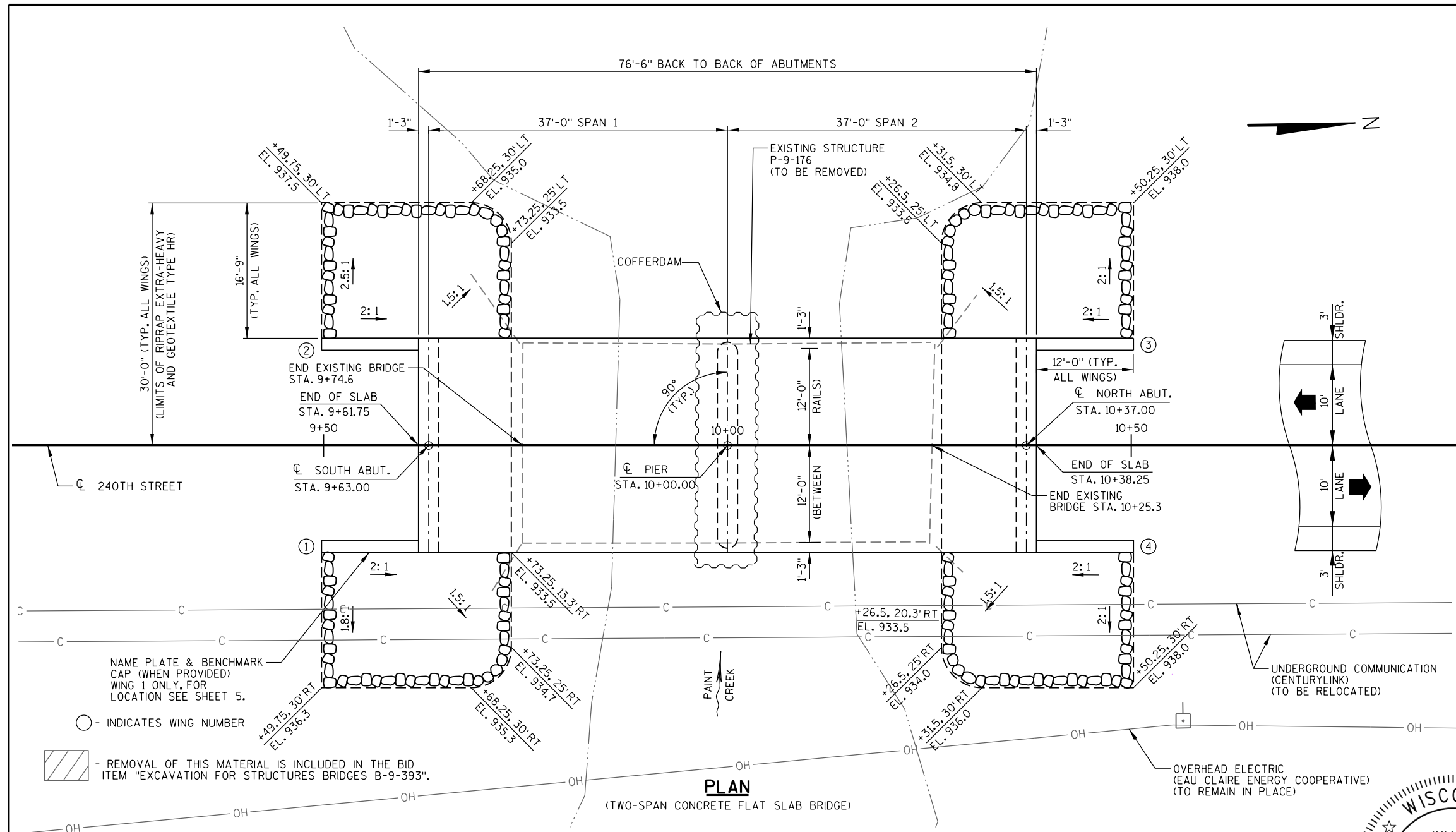
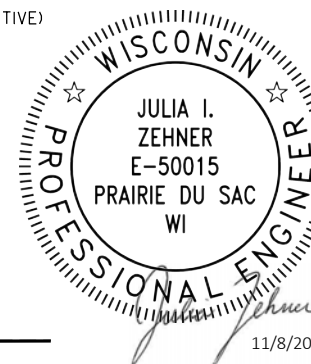
FOUNDATION DATA:
 ABUTMENTS AND PIER TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. PILING TO BE DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 155 TONS * PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 60'-0" AT THE SOUTH ABUTMENT, 60'-0" AT THE PIER AND 60'-0" AT THE NORTH ABUTMENT.

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

HYDRAULIC DATA:
100 YEAR FREQUENCY
 DRAINAGE AREA 30 SQ. MI.
 Q_{100} 3,700 C.F.S.
 VELOCITY 7.68 FT./SEC.
 WATERWAY AREA 481.7 SQ. FT.
 SCOUR CRITICAL CODE 5
 HIGH WATER 100 ELEVATION 941.82
 Q_2 ELEVATION (1000 C.F.S.) 937.80
 Q_2 VELOCITY 3.69 FT./SEC.
ROADWAY OVERFLOW DESIGN FREQUENCY
 OVERTOPPING FREQUENCY > 100 YEARS

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PIER
9. SUPERSTRUCTURE
10. SUPERSTRUCTURE SECTION & DETAILS
11. SLAB CAMBER
12. RAILING TUBULAR TYPE M



CONSULTANT DESIGN CONTACT: JULIA ZEHNER (608) 355-8878
 BRIDGE OFFICE CONTACT: AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

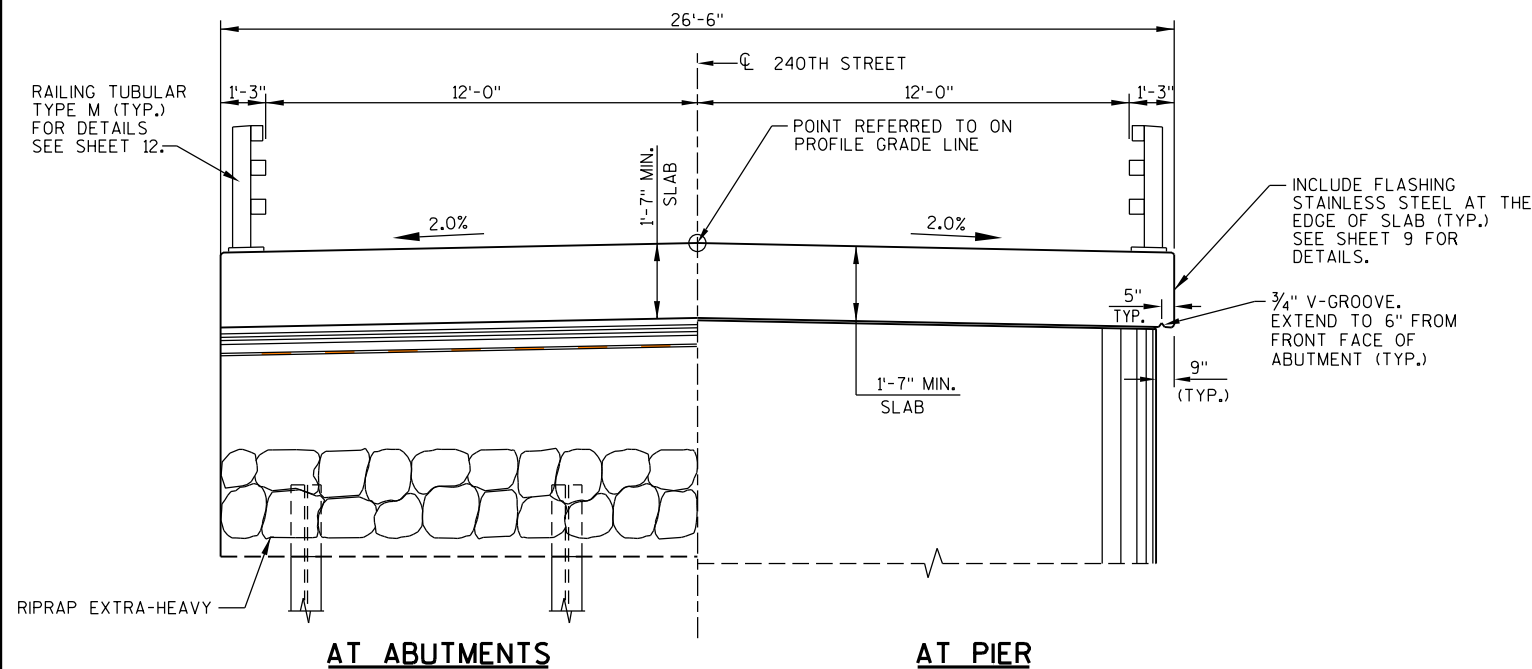
ENGINEERING | ARCHITECTURE | SURVEYING
 FUNDING | PLANNING | ENVIRONMENTAL
 1230 SOUTH BLVD., BARABOO WI 53913
 (608) 356-2771 www.msa-ps.com

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 ACCEPTED SDR 11/09/23
 CHIEF STRUCTURES DESIGN ENGINEER DATE

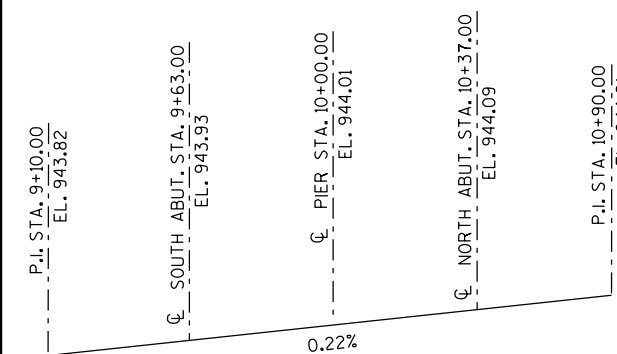
STRUCTURE B-9-393
 240TH STREET OVER PAINT CREEK
 COUNTY CHIPPEWA TOWN/CITY/VILLAGE SIGEL

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
 DESIGNED BY DS DESIGN CK'D. JZ DRAWN BY EKK PLANS CK'D. JZ

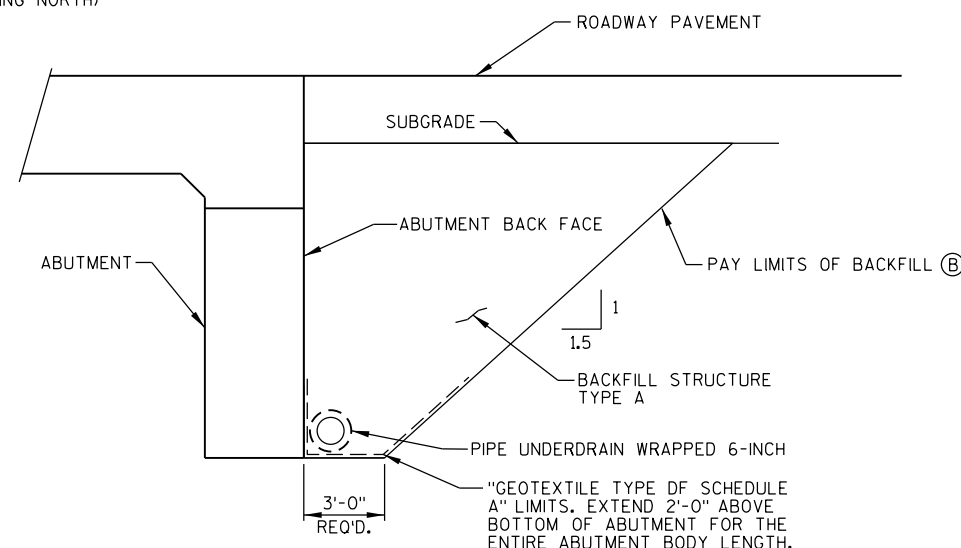
GENERAL PLAN SHEET 1 OF 12



CROSS SECTION THRU BRIDGE
(LOOKING NORTH)



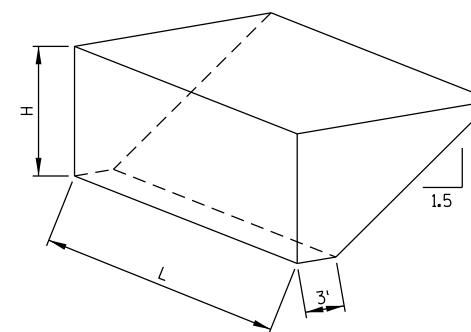
PROFILE GRADE LINE - 240TH STREET



STRUCTURE BACKFILL DETAIL

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 MARK AND FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP EXTRA-HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.
- THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS AND PIER.
- SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.
- THIS STRUCTURE WILL REPLACE THE EXISTING STRUCTURE, P-9-176, A 51.0 FT. LONG, SINGLE SPAN STEEL DECK GIRDER BRIDGE ON FULL RETAINING TIMBER BACKED ABUTMENTS WITH TIMBER PILING.
- BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- 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.
- PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, TO THE EXPOSED FRONT FACES OF WINGS, AND TO THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.
- ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.
- 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.

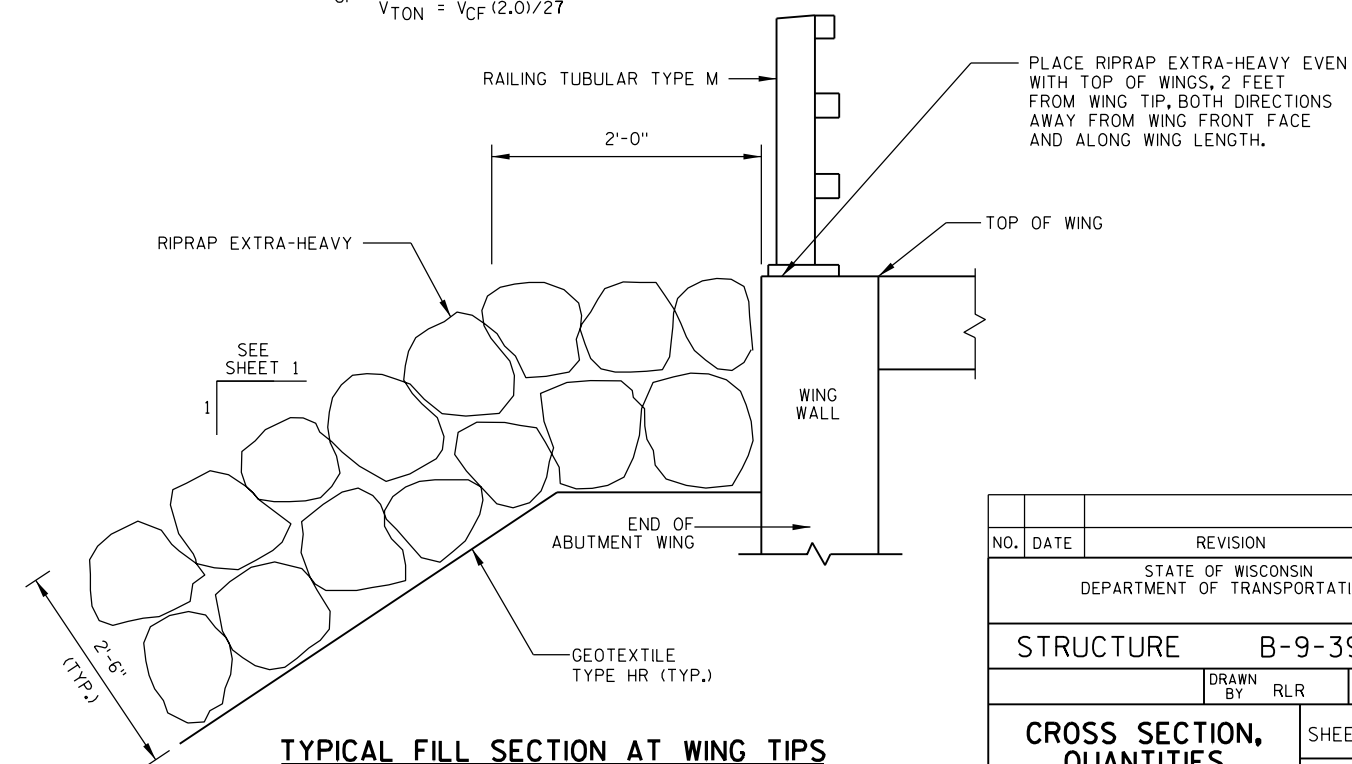


ABUTMENT BACKFILL DIAGRAM

L = OUT-TO-OUT OF ABUTMENT (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
 $V_{CF} = (L)(3.0)(H) + (L)(0.5)(1.5)(H)$
 $V_{TON} = V_{CF} (2.0) / 27$

TOTAL ESTIMATED QUANTITIES

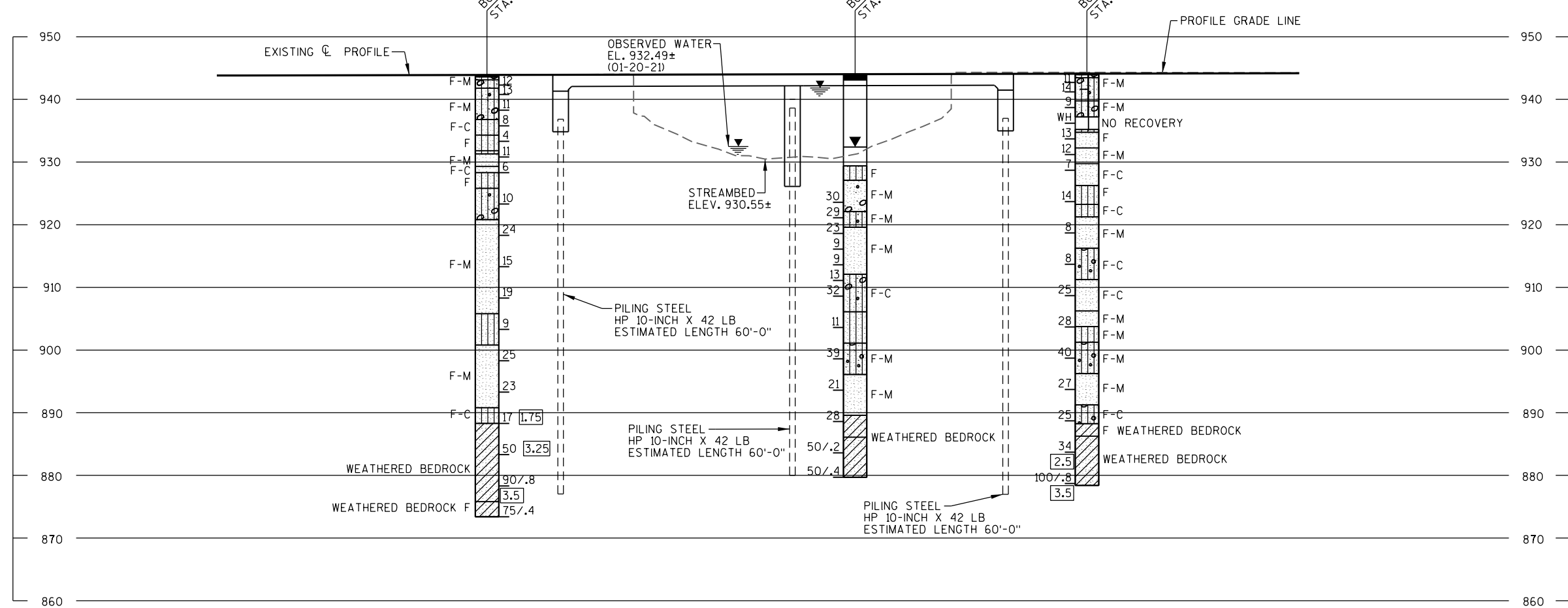
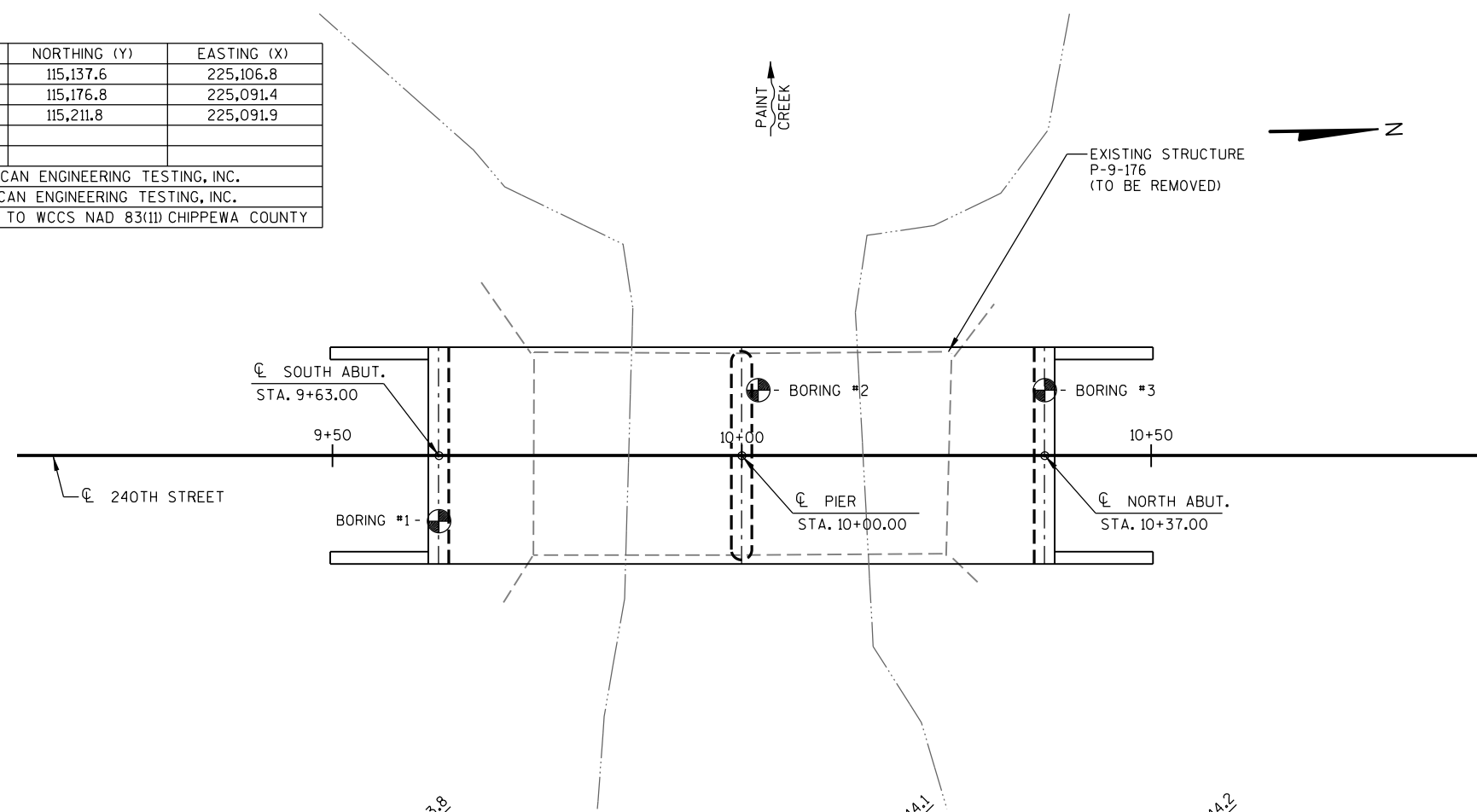
ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUT.	PIER	NORTH ABUT.	SUPER	TOTAL
203.0260.01	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-9-176	EACH	-	-	-	-	1
206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-9-393	EACH	-	-	-	-	1
206.5001.01	COFFERDAMS B-9-393	EACH	-	1	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	146	-	146	-	292
502.0100	CONCRETE MASONRY BRIDGES	CY	38.2	36.5	38.2	122.8	236
502.3200	PROTECTIVE SURFACE TREATMENT	SY	13	-	13	270	296
502.9000.S.01	UNDERWATER SUBSTRUCTURE INSPECTION B-9-393	EACH	-	1	-	-	1
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,700	1,745	1,700	-	5,145
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,775	50	1,775	24,955	28,555
513.4061	RAILING TUBULAR TYPE M	LF	-	-	-	206	206
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	-	9	-	18
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	240	360	240	-	840
606.0400	RIPRAP EXTRA-HEAVY	CY	130	-	130	-	260
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	-	110	-	220
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	20	-	20	-	40
645.0120	GEOTEXTILE TYPE HR	SY	185	-	185	-	370
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-	-	-	153	153
NON-BID ITEMS							
	PREFORMED FILLER	SIZE					1/2" & 3/4"



TYPICAL FILL SECTION AT WING TIPS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-9-393	
DRAWN BY		PLANS CK'D.	
RLR		JZ	
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 12

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	4-22-2021	115,137.6	225,106.8
2	4-22-2021	115,176.8	225,091.4
3	4-23-2021	115,211.8	225,091.9
BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
REPORT COMPLETED BY: AMERICAN ENGINEERING TESTING, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11) CHIPPEWA COUNTY			



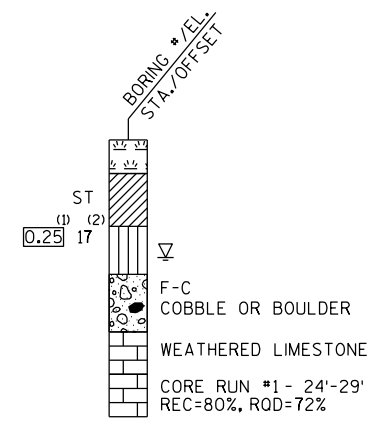
STATE PROJECT NUMBER

7862-00-70

MATERIAL SYMBOLS

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

LEGEND OF BORING



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

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

GROUND WATER ELEVATION

-
-
-

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-9-393	
DRAWN BY	RLR	PLANS CK'D.	JZ
SUBSURFACE EXPLORATION		SHEET 3 OF 12	

8

8

✱ - FOR RAIL POST ANCHOR DETAILS SEE SHEET 12.

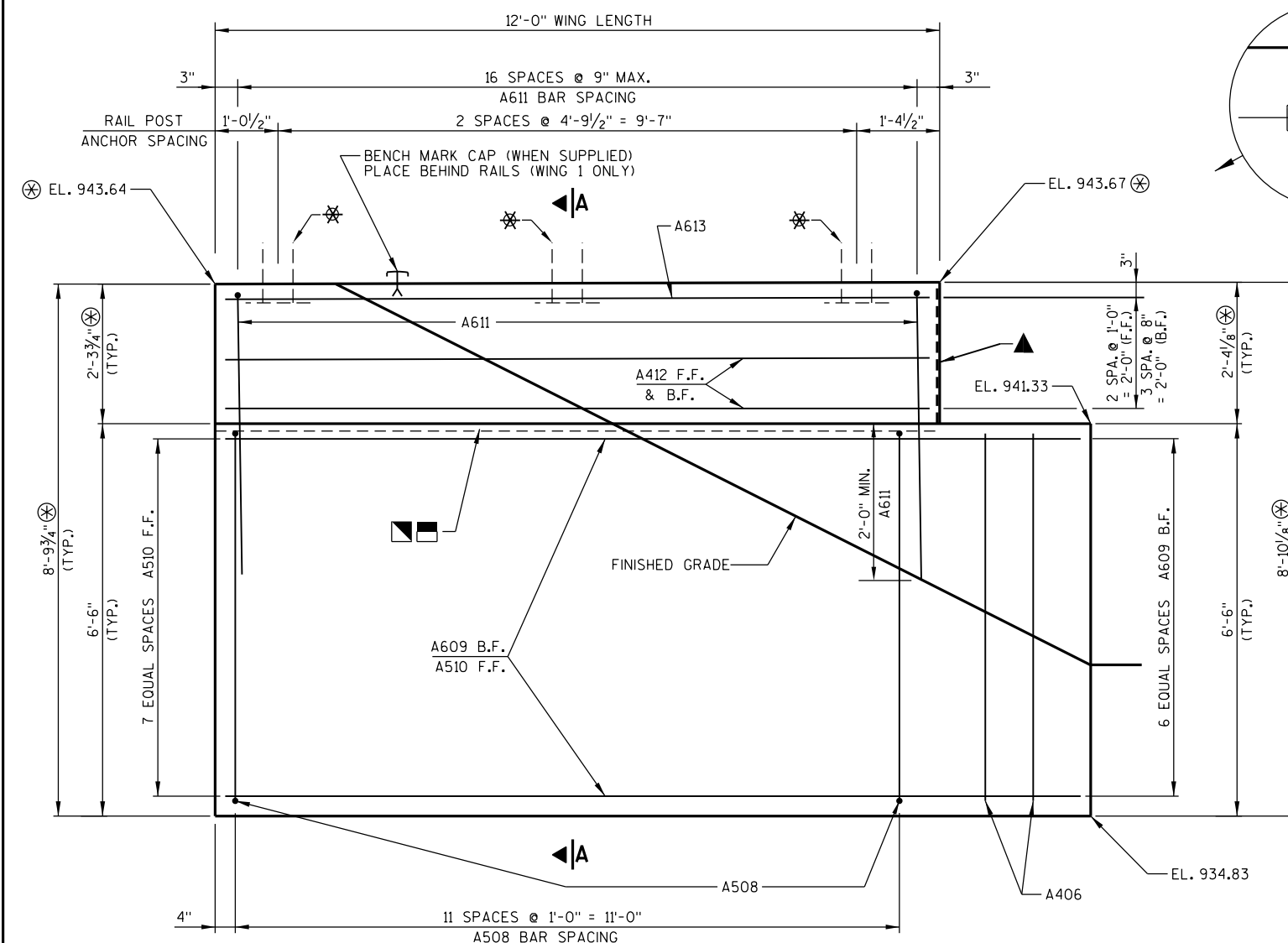
⊗ - ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE F.F. OF WING.

(COATED) 1775 LBS.
(UNCOATED) 1700 LBS.

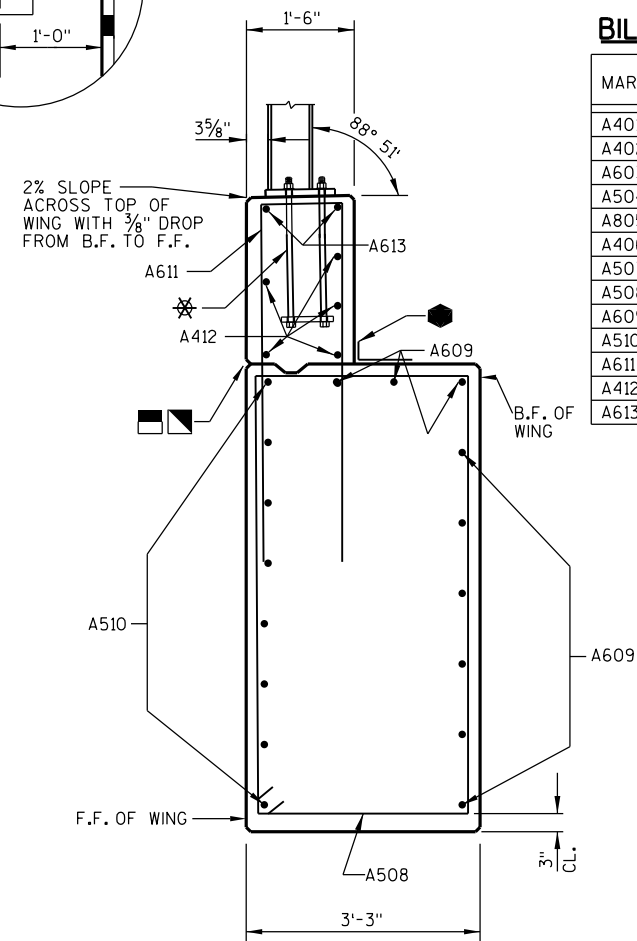
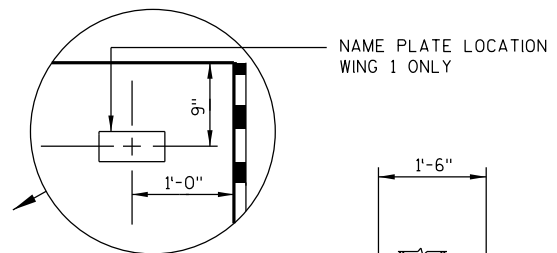
BILL OF BARS (SOUTH ABUT.)

MARK	NUMBER REQUIRED	LENGTH	BENT	LOCATION	
COATED	UNCOATED				
A401	-	4	28'-0"	X	ABUTMENT BODY - 1 SPIRAL WRAP @ EACH PILING
A402	-	8	2'-3"		ABUTMENT BODY - 2 @ EACH PILING - VERT.
A603	-	12	26'-2"		ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
A504	-	33	17'-2"	X	ABUTMENT BODY - STIRRUP - VERT.
A805	-	7	28'-5"	X	ABUTMENT BODY - B.F. - HORIZ.
A406	-	4	6'-1"		ABUTMENT BODY - ENDS - VERT.
A507	25	-	2'-0"		ABUTMENT BODY - TOP - DOWELS - VERT.
A508	24	-	18'-8"	X	WINGS 1 & 2 - BASE - STIRRUP - VERT.
A609	18	-	13'-11"		WINGS 1 & 2 - BASE - B.F. & CENTER - HORIZ.
A510	16	-	14'-2"		WINGS 1 & 2 - BASE - F.F. - HORIZ.
A611	34	-	9'-8"	X	WINGS 1 & 2 - TOP - STIRRUP - VERT.
A412	10	-	11'-8"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A613	4	-	11'-8"		WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.

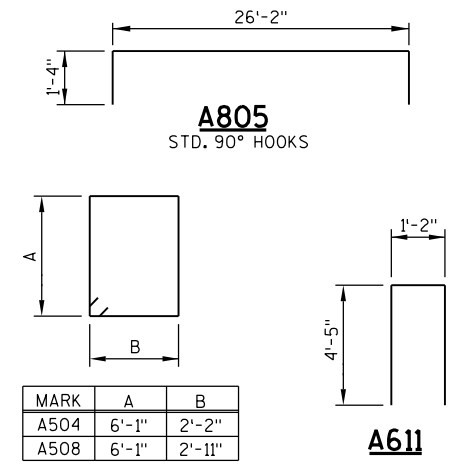
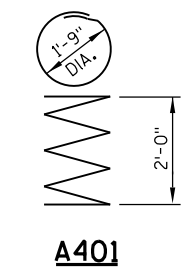
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



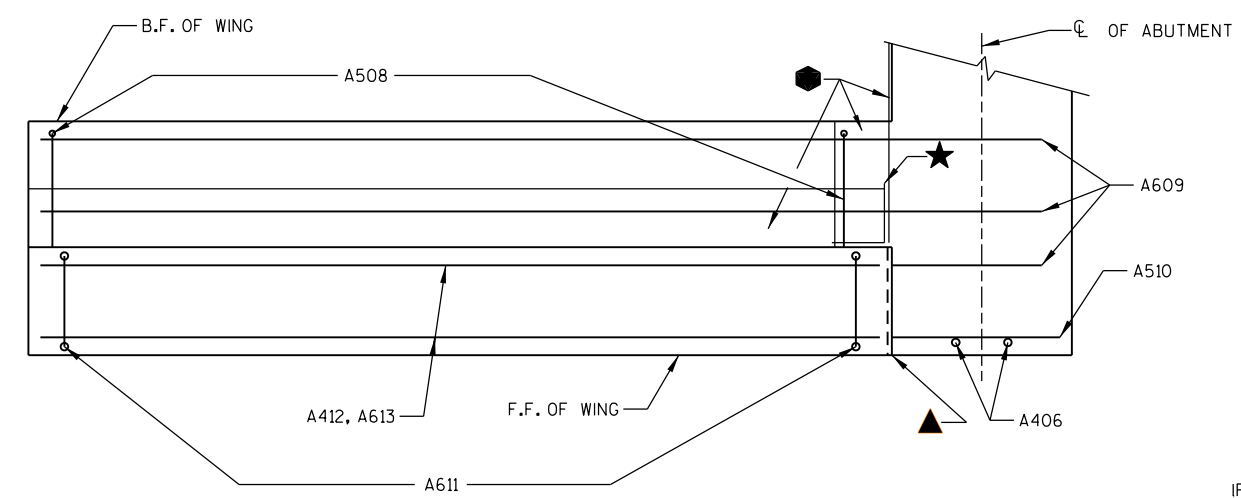
ELEVATION - WING



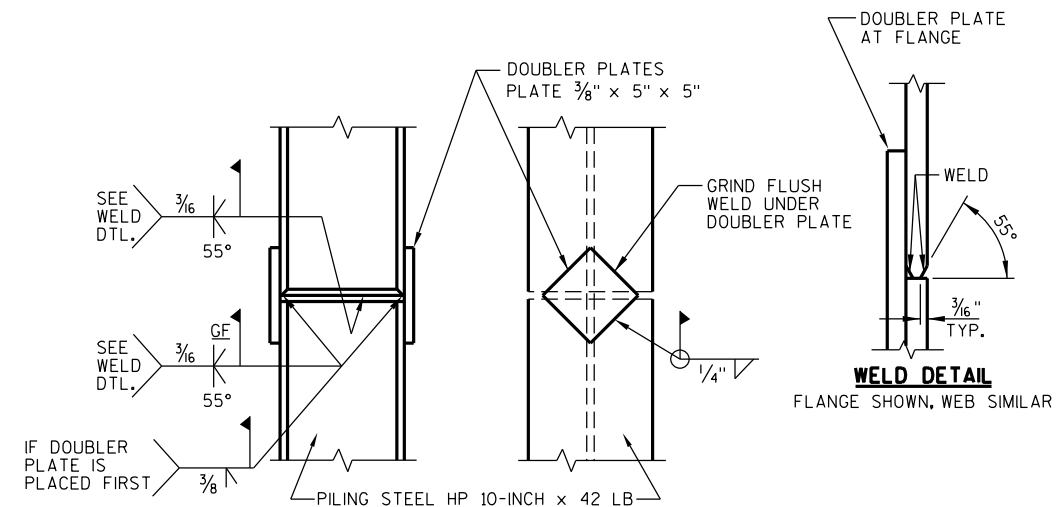
SECTION A-A THRU WING



MARK	A	B
A504	6'-1"	2'-2"
A508	6'-1"	2'-11"



PLAN - WING



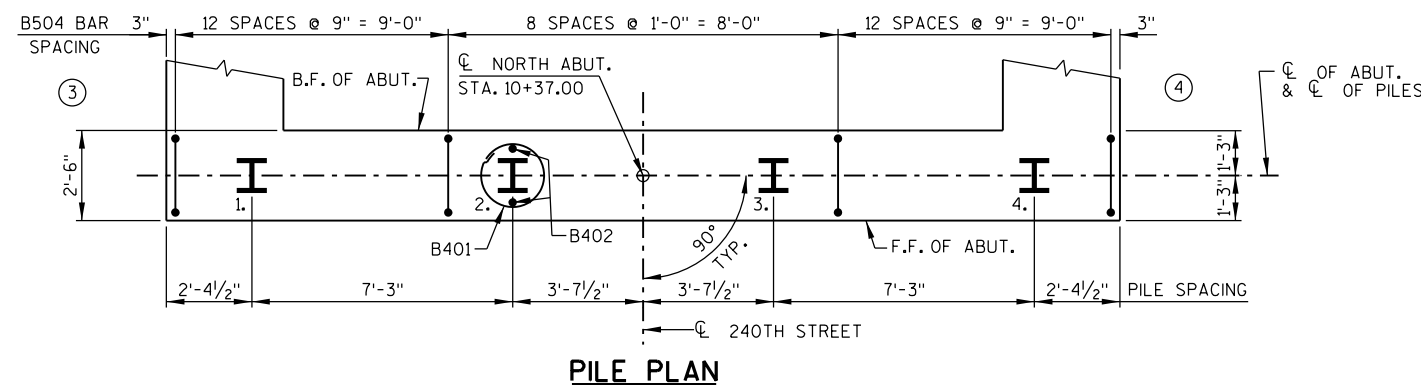
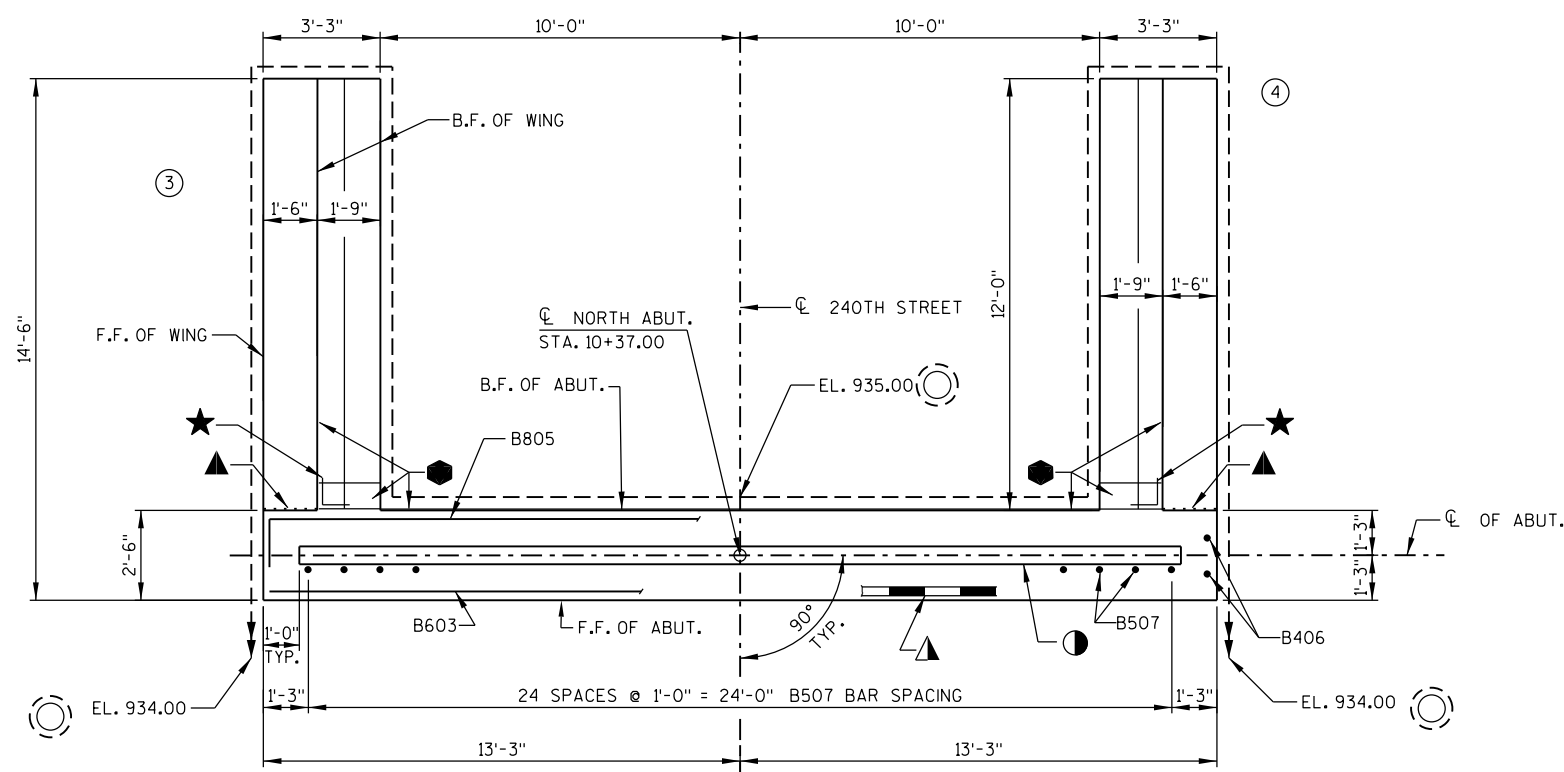
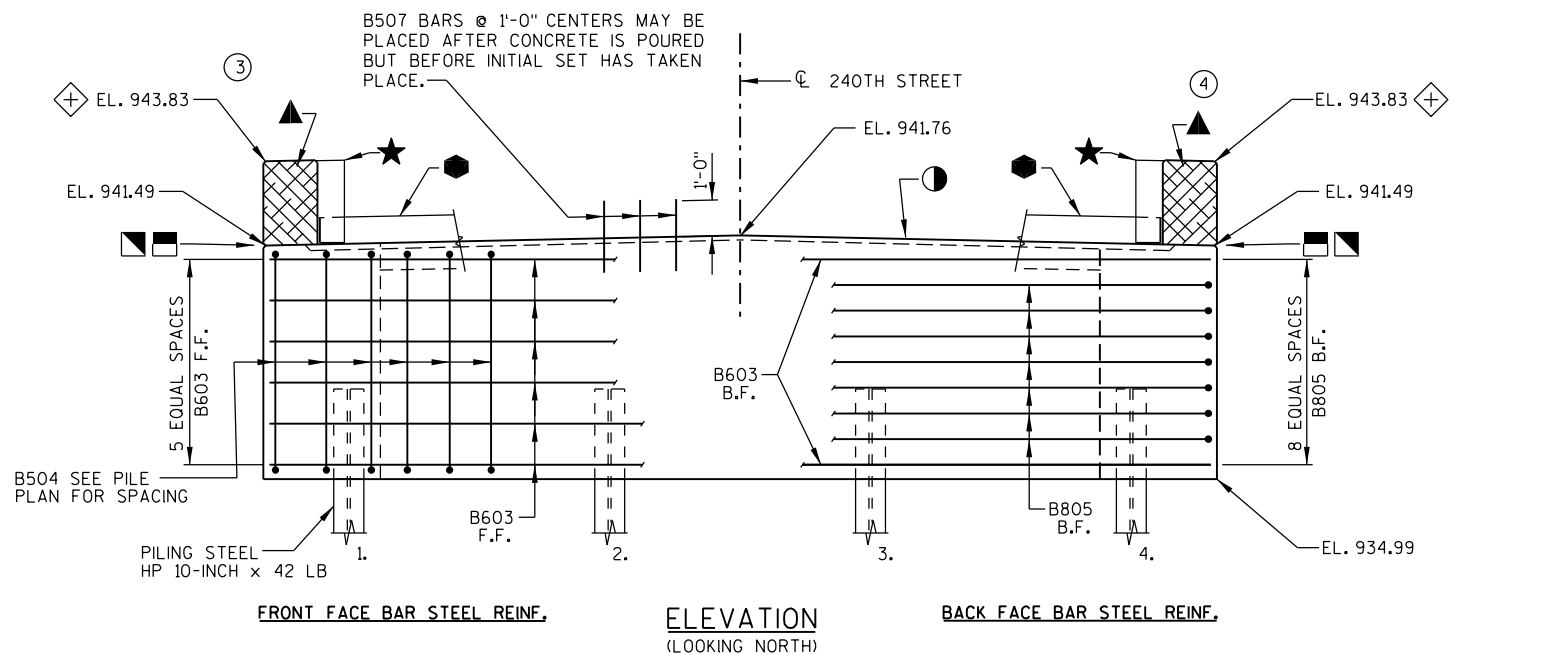
PILE SPLICE DETAILS

SEE SHEET 4 LEGEND FOR DESCRIPTION OF

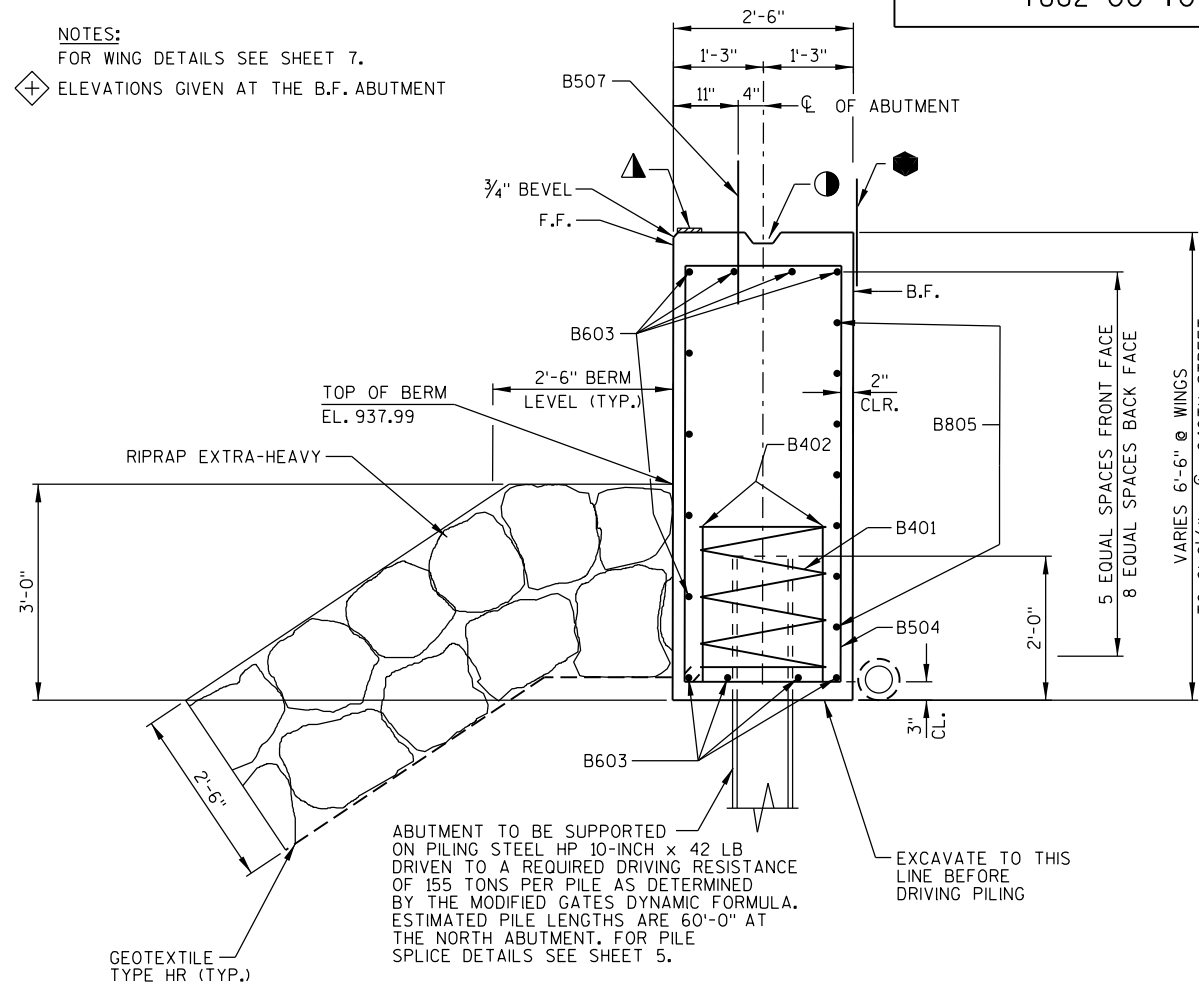
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-9-393	
DRAWN BY EKK		PLANS CK'D. JZ	
SOUTH ABUTMENT DETAILS		SHEET 5 OF 12	

8

8



NOTES:
FOR WING DETAILS SEE SHEET 7.
ELEVATIONS GIVEN AT THE B.F. ABUTMENT



LEGEND

- - OPTIONAL KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2x6. IF JOINT IS USED PLACE ON B.F. OF WING.
 - ▤ - 3/4" "V" GROOVE ON FRONT FACE OF WING WALL, REQ'D. ONLY WHERE CONST. JOINT IS USED.
 - ⊙ - KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
 - ▲ - 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).
 - ▲ - 4" x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
 - ★ - VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOP OF WINGS.
 - - HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS AT CONSTRUCTION JOINT.
 - ⊙ - PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE TYPE HR AT FACE OF RIPRAP EXTRA HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. FOR RODENT SHIELD DETAILS SEE SHEET 7.
 - - INDICATES WING NUMBER
- F.F. - FRONT FACE
B.F. - BACK FACE
CL. - CLEAR

NO.	DATE	REVISION	BY
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STRUCTURE B-9-393			
DRAWN BY EKK		PLANS CK'D. JZ	
NORTH ABUTMENT			SHEET 6 OF 12

✱ - FOR RAIL POST ANCHOR DETAILS SEE SHEET 12.

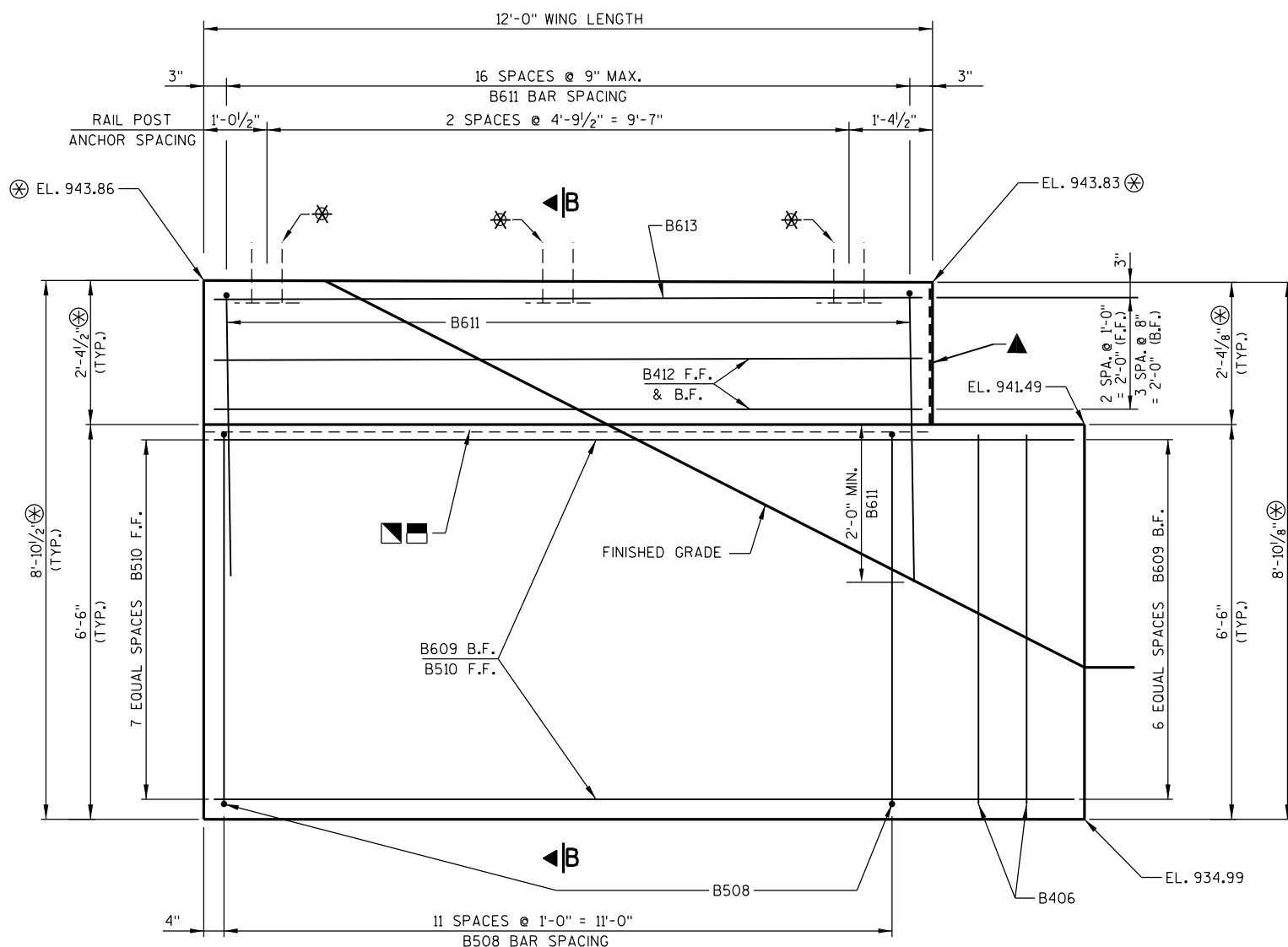
⊗ - ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE F.F. OF WING.

(COATED) 1775 LBS.
(UNCOATED) 1700 LBS.

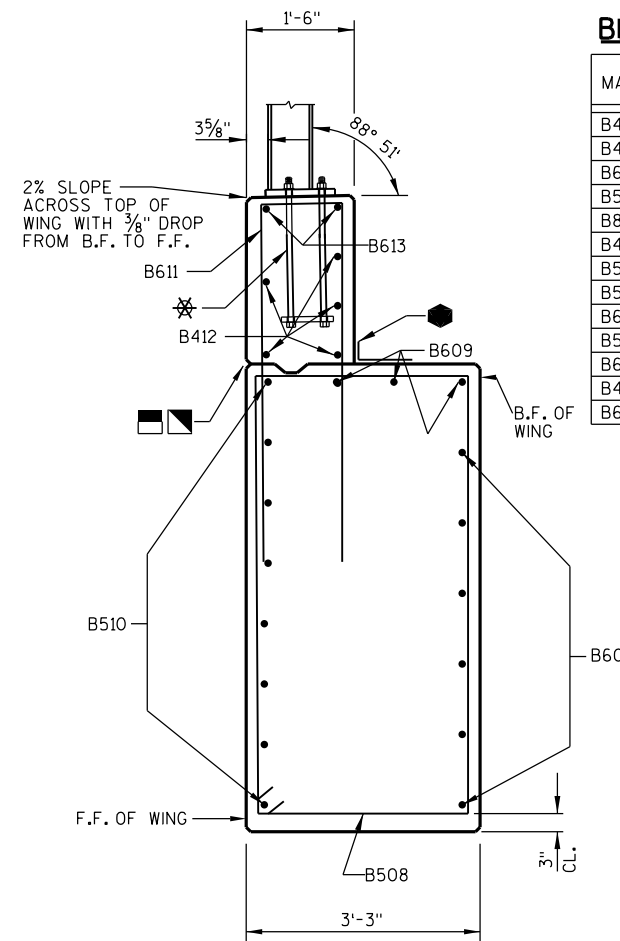
BILL OF BARS (NORTH ABUT.)

MARK	NUMBER REQUIRED		LENGTH	BENT	LOCATION
	COATED	UNCOATED			
B401	-	4	28'-0"	X	ABUTMENT BODY - 1 SPIRAL WRAP @ EACH PILING
B402	-	8	2'-3"		ABUTMENT BODY - 2 @ EACH PILING - VERT.
B603	-	12	26'-2"		ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
B504	-	33	17'-2"	X	ABUTMENT BODY - STIRRUP - VERT.
B805	-	7	28'-5"	X	ABUTMENT BODY - B.F. - HORIZ.
B406	-	4	6'-1"		ABUTMENT BODY - ENDS - VERT.
B507	25	-	2'-0"		ABUTMENT BODY - TOP - DOWELS - VERT.
B508	24	-	18'-8"	X	WINGS 3 & 4 - BASE - STIRRUP - VERT.
B609	18	-	13'-11"		WINGS 3 & 4 - BASE - B.F. & CENTER - HORIZ.
B510	16	-	14'-2"		WINGS 3 & 4 - BASE - F.F. - HORIZ.
B611	34	-	9'-8"	X	WINGS 3 & 4 - TOP - STIRRUP - VERT.
B412	10	-	11'-8"		WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.
B613	4	-	11'-8"		WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.

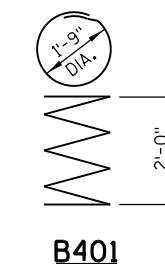
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



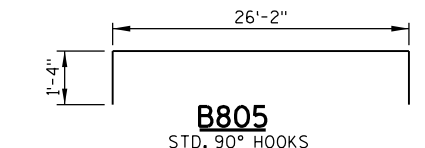
ELEVATION - WING



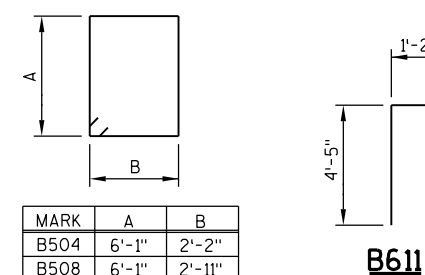
SECTION B-B THRU WING



B401



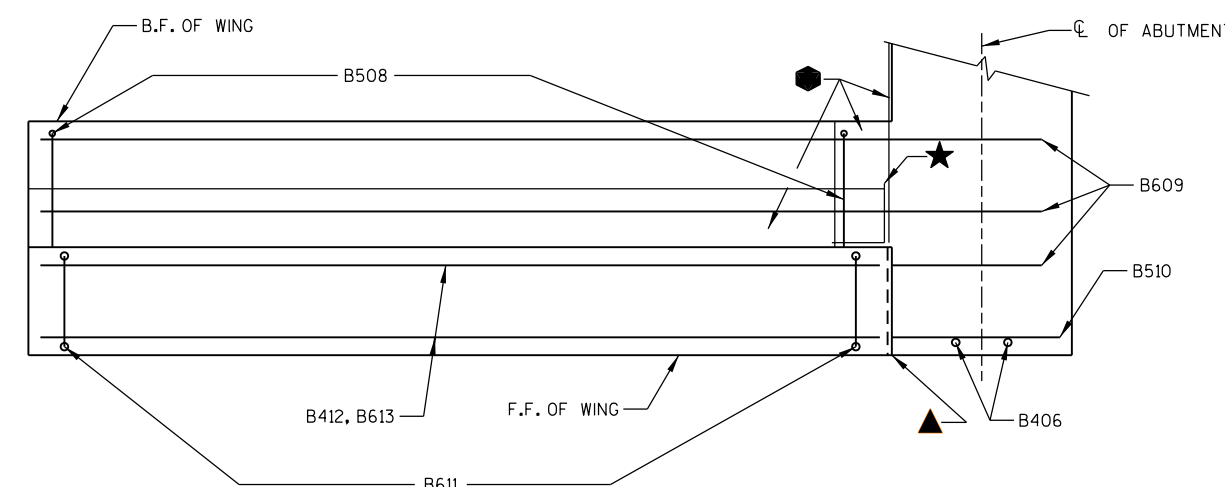
B805
STD. 90° HOOKS



B611

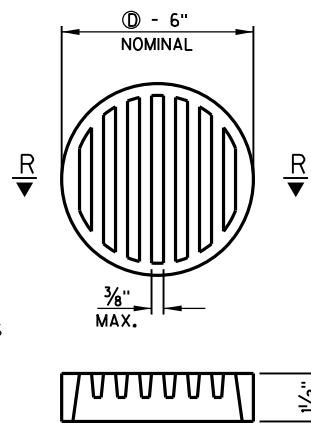
MARK	A	B
B504	6'-1"	2'-2"
B508	6'-1"	2'-11"

WING 3 SHOWN
WING 4 SIMILAR



PLAN - WING

RODENT SHIELD NOTES:
ORIENT SHIELD SO SLOTS ARE VERTICAL.
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 PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".



SECTION R-R

RODENT SHIELD

Ⓢ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

SEE SHEET 6 LEGEND FOR DESCRIPTION OF

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NORTH ABUTMENT DETAILS			SHEET 7 OF 12

UNCOATED 1745 LBS.
COATED 50 LBS.

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
P501	52	15'-4"		PIER - VERT.
P502	12	4'-5"	X	PIER - STIRRUPS - TOP - VERT.
P403	34	22'-0"		PIER - TOP & SIDES - HORIZ.
P404	34	6'-1"	X	PIER - AT ENDS - HORIZ.
P405	96	2'-11"	X	PIER - TIES - HORIZ.
P506	24	2'-0"		PIER - DOWELS @ TOP - VERT.
P407	2	24'-4"		PIER - TOP - HORIZ.

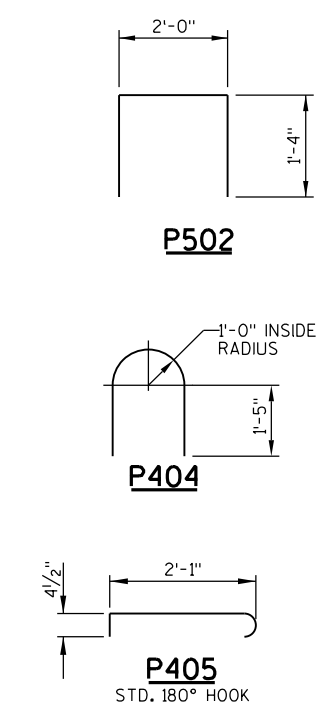
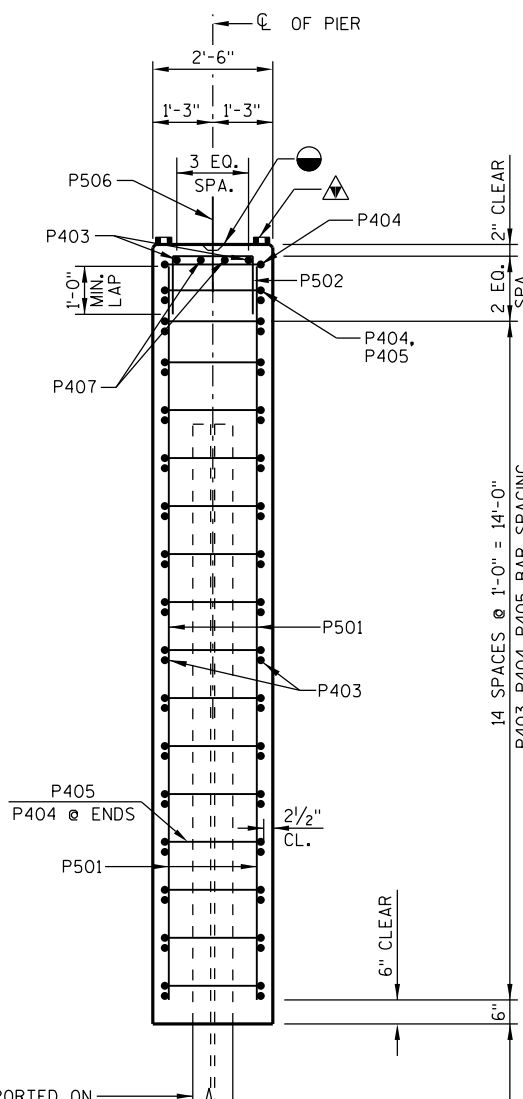
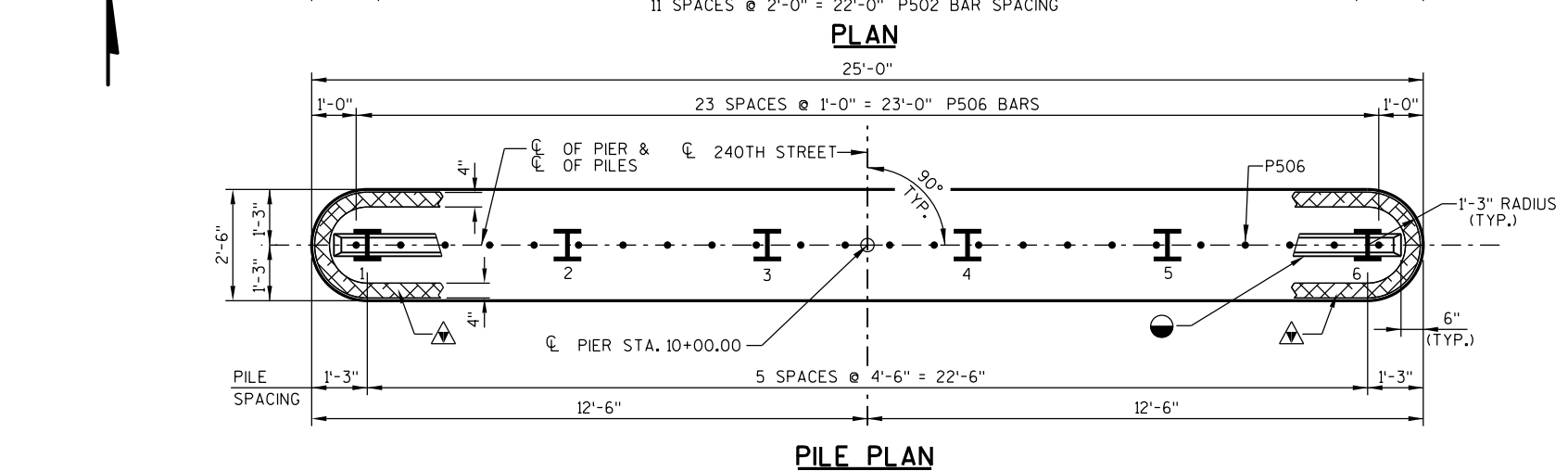
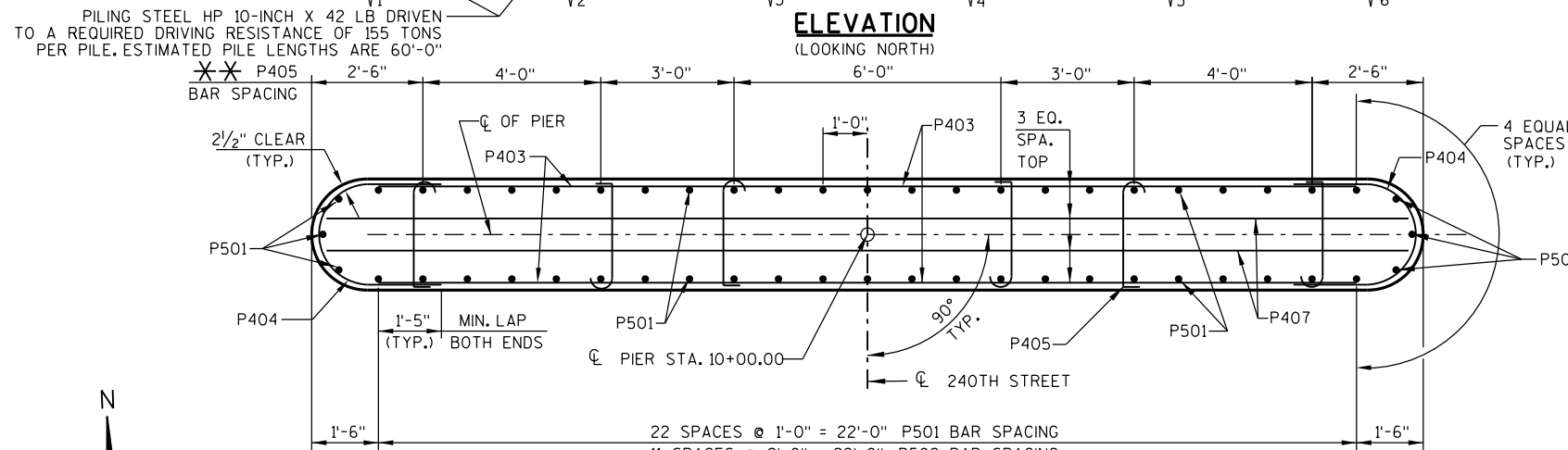
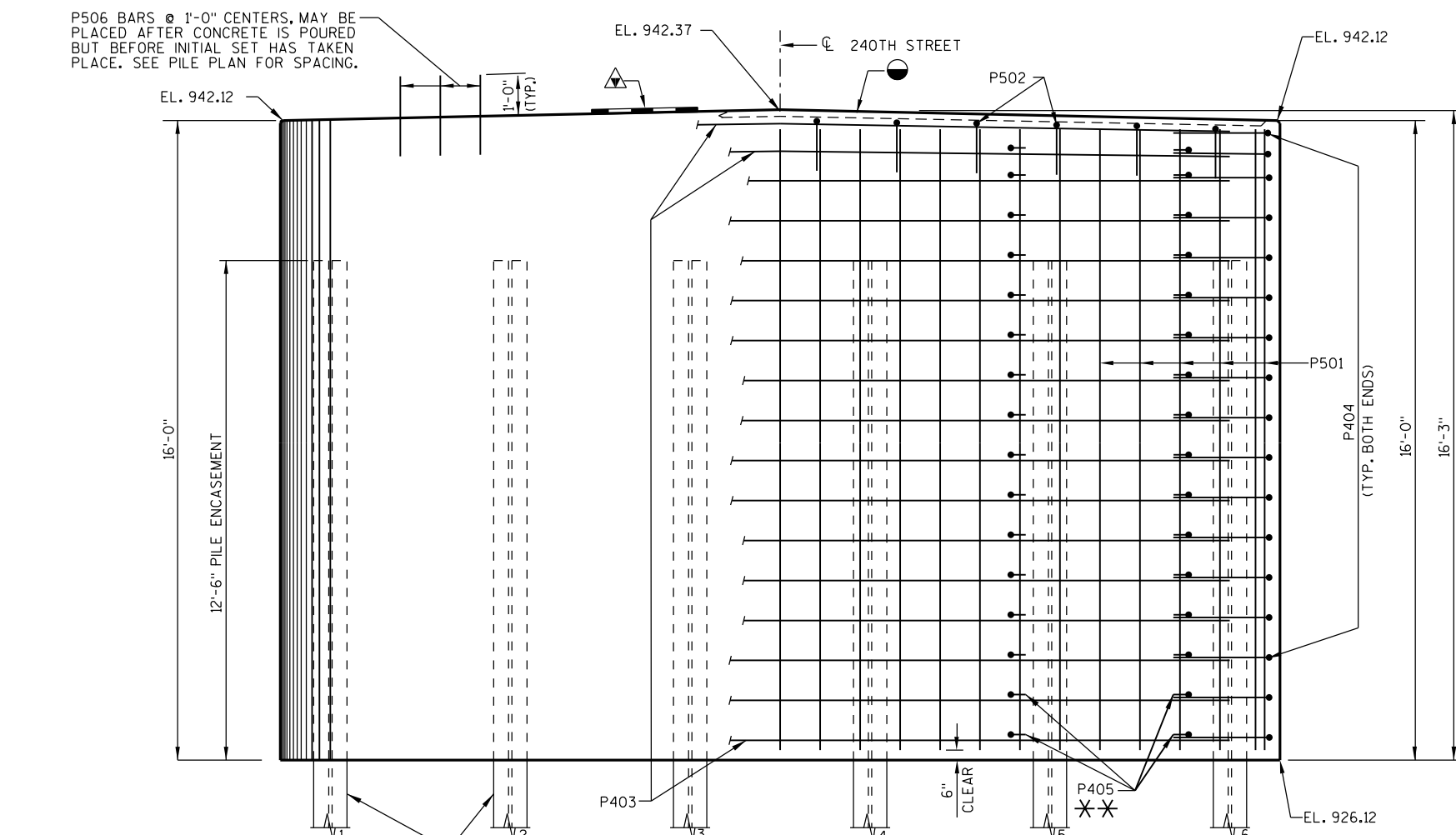
NOTES:

TOP OF PIER ELEVATION ARE GIVE AT THE CL OF PIER. SLOPE TOP OF PIER FROM SOUTH TO NORTH PARALLEL TO ROAD GRADE.

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR EXCEPT AS NOTED.

Ⓢ - THESE BARS SHALL BE EPOXY COATED.



LEGEND

- ▲ - 4" x 3/4" FILLER, TYPICAL ALL AROUND TOP EDGES OF PIER.
- - 2" x 6" BEVELED KEYWAY.
- * - ADJACENT TO EACH PILE ONE SIDE ONLY. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

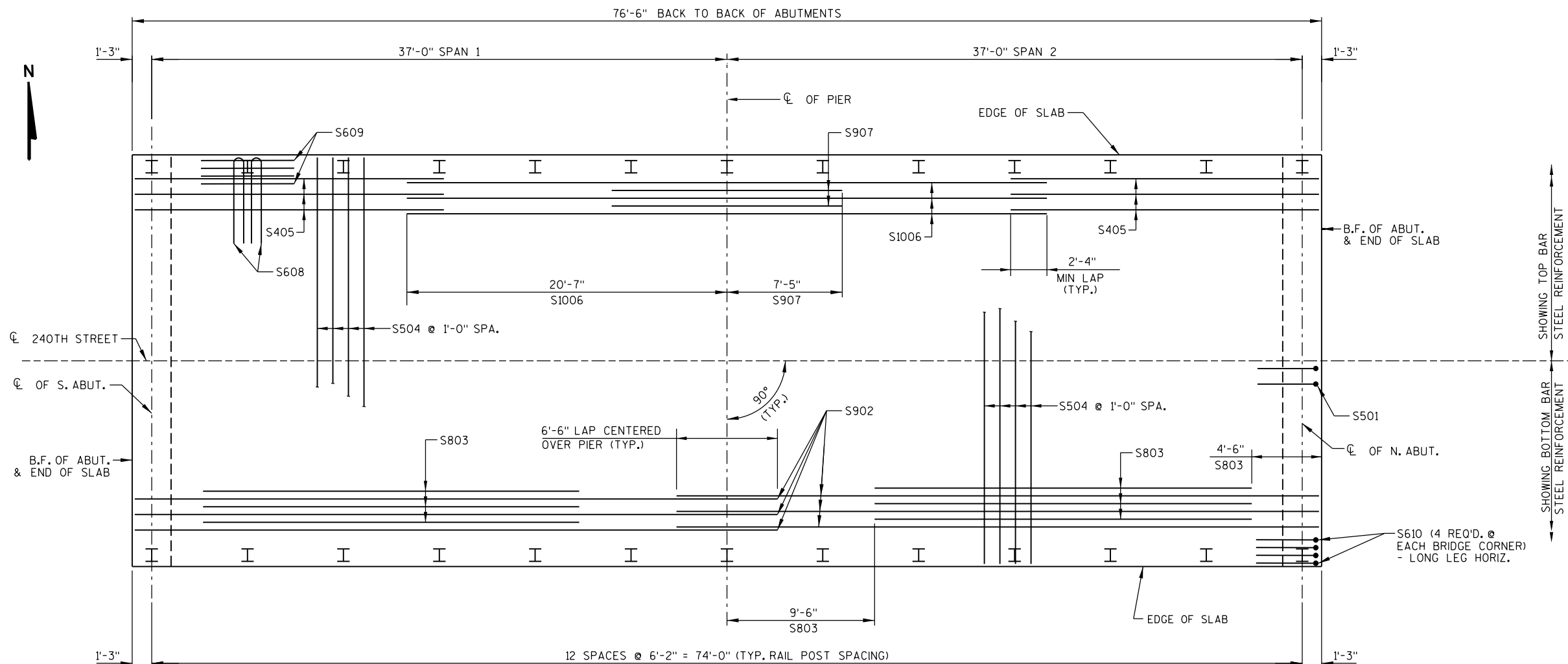
PIER TO BE SUPPORTED ON PILING HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 155 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 60'-0". SEE SHEET 5 FOR PILE SPLICE DETAILS.

TYPICAL SECTION THRU PIER

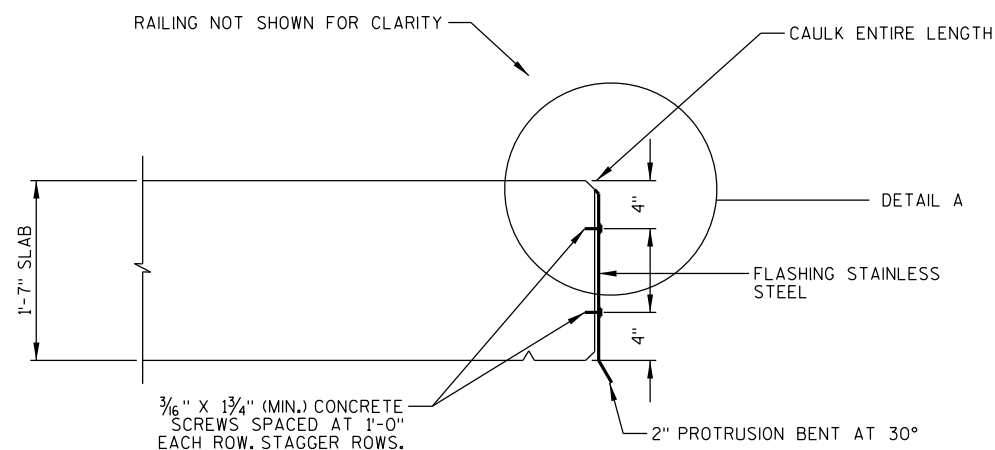
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-9-393	
DRAWN BY		PLANS CK'D.	
EKK		JZ	
PIER			SHEET 8 OF 12

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PLAN



FLASHING DETAIL

GENERAL NOTES

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK AND 3/16" CONCRETE SCREWS.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO B.F. OF ABUTMENT DIAPHRAGM.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF SLAB SURFACE.

THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.

PROVIDE 2" MINIMUM FLASHING OVERLAP, FASTEN WITH 3/16" X 2" (MIN.) CONCRETE SCREWS.

CAULK SHALL BE NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER.

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LEGEND

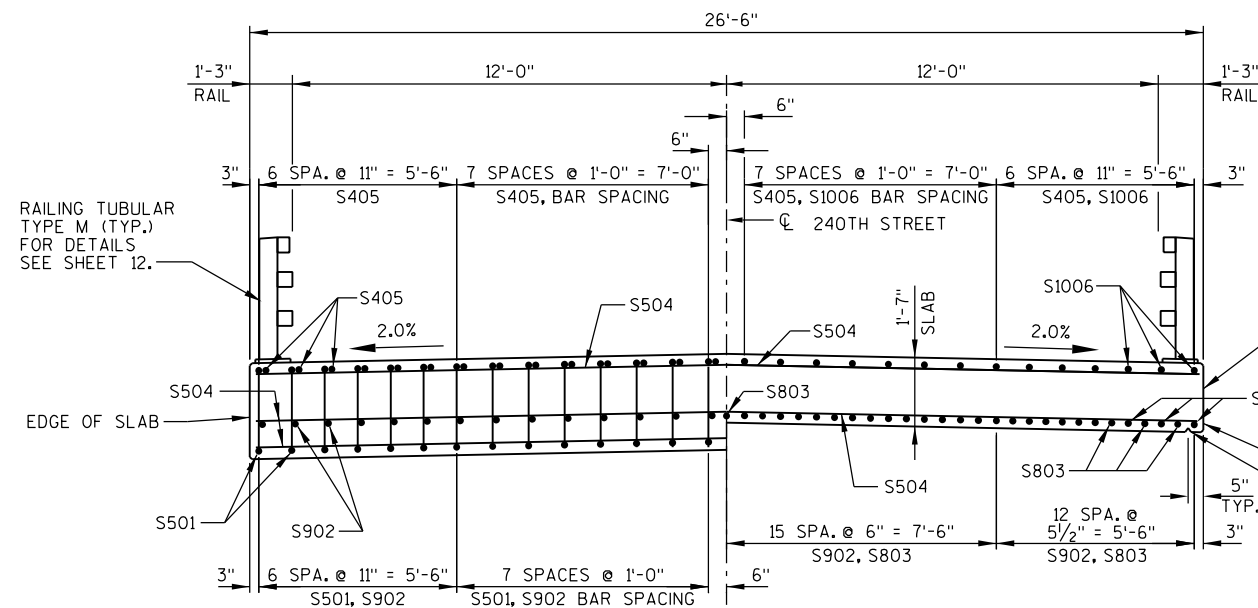
- - 4" x 3/4" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ▲ - HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS. PLACE BOTTOM HALF HORIZONTAL AT HAUNCHED AREA OF WINGS AT CONSTRUCTION JOINT.

BILL OF BARS (COATED) 24,955 LBS.

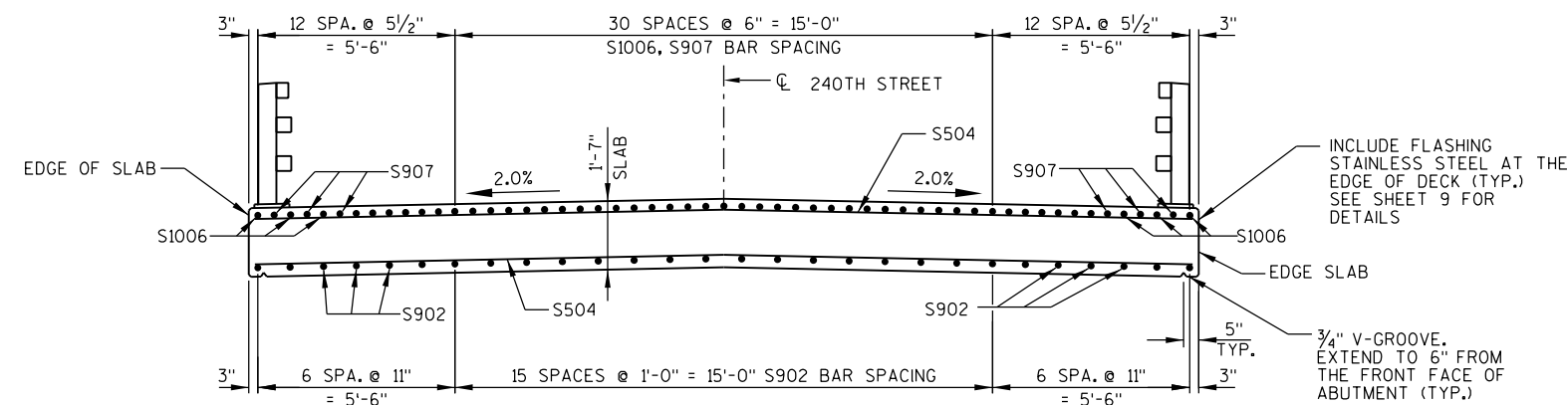
MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	56	7'-3"	X	DIAPHRAGM @ ABUTS. - VERT.
S902	56	41'-4"		SLAB - BOTTOM - @ ABUTS. & IN SPAN - LONGIT.
S803	54	24'-3"		SLAB - BOTTOM - IN SPAN - LONGIT.
S504	158	26'-2"		SLAB - TOP & BOTTOM - TRANS.
S405	56	19'-10"		SLAB - TOP - @ ABUTS. - LONGIT.
S1006	28	41'-2"		SLAB - TOP - IN SPAN & OVER PIER - LONGIT.
S907	27	14'-10"		SLAB - TOP - OVER PIER - LONGIT.
S608	52	11'-4"	X	SLAB @ RAIL POST, 2 PER POST
S609	88	6'-0"		SLAB @ RAIL POST, 4 PER POST
S610	16	4'-8"	X	SLAB @ RAIL POST, 4 PER CORNER POST

EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL.

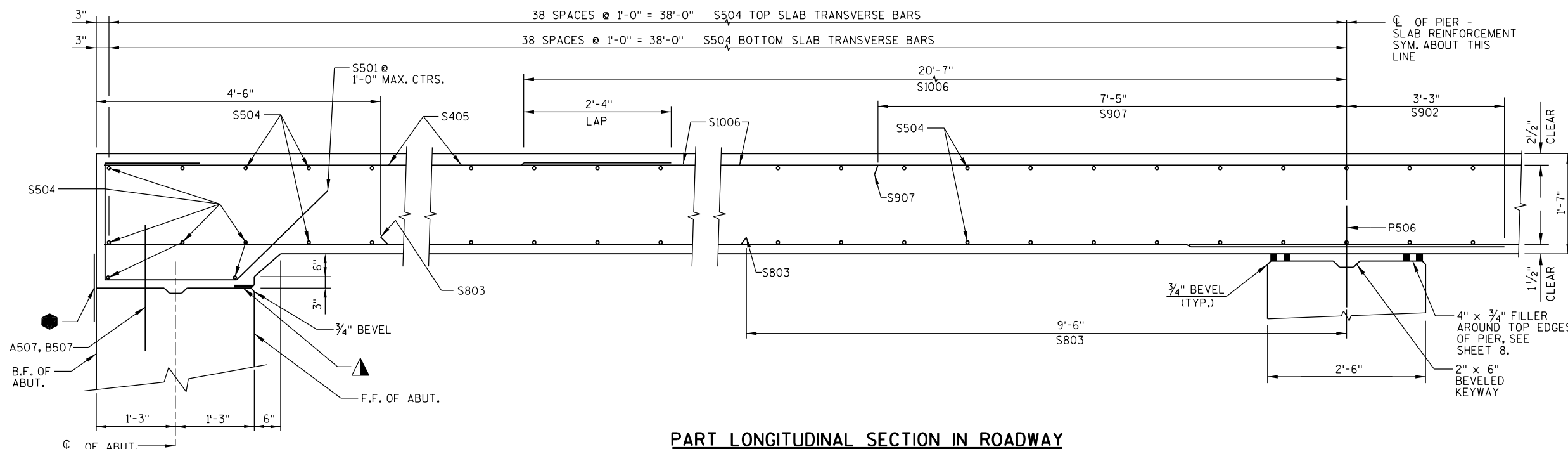
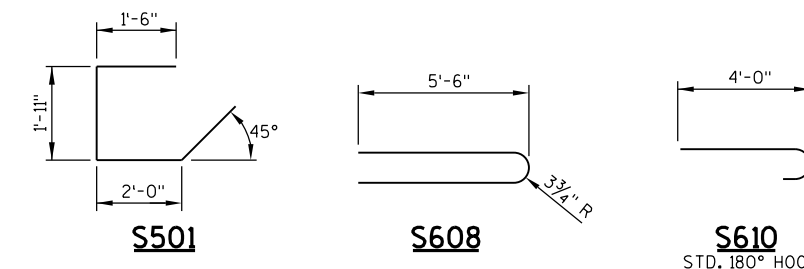
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



AT ABUTMENTS **CROSS SECTION THRU BRIDGE** **IN SPAN**
(LOOKING NORTH)



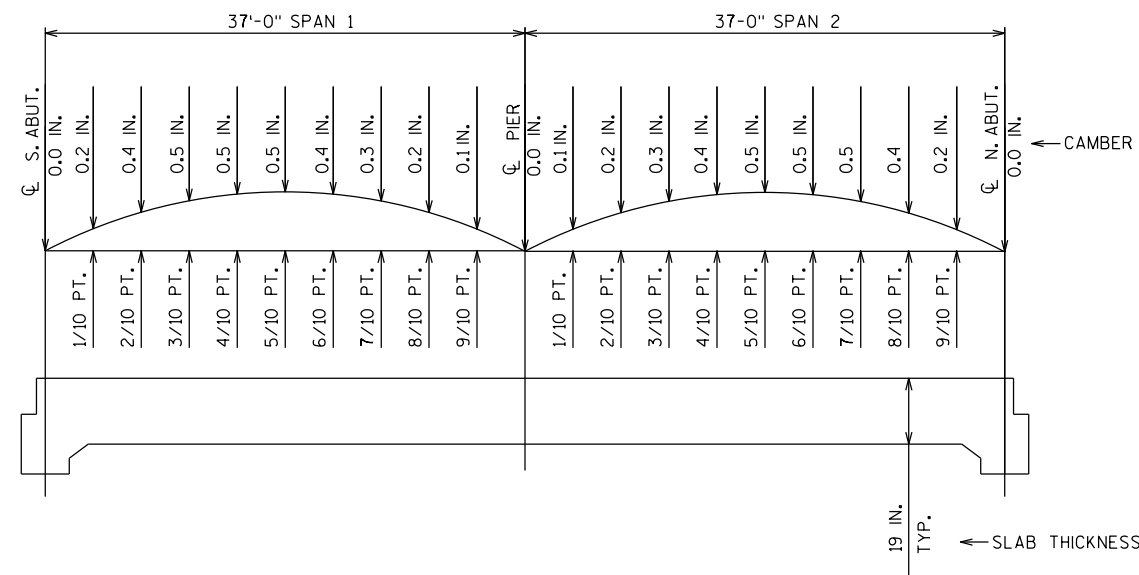
CROSS SECTION THRU BRIDGE AT PIER
(LOOKING NORTH)



PART LONGITUDINAL SECTION IN ROADWAY

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SUPERSTRUCTURE SECTIONS & DETAILS			SHEET 10 OF 12

FILE= 5653026-10.DGN



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. PARAPETS, SIDEWALKS AND MEDIANS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR CENTER 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.

SURVEY TOP OF SLAB ELEVATIONS

	S. ABUTMENT	5/10 PT.	PIER	5/10 PT.	N. ABUTMENT
E. EDGE OF SLAB					
CROWN OR \mathcal{C}					
W. EDGE OF SLAB					

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE \mathcal{C} OF ABUTMENTS, THE \mathcal{C} OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR \mathcal{C} . RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF SLAB ELEVATIONS

	SOUTH ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	NORTH ABUT.
E. EDGE OF SLAB	943.67	943.68	943.68	943.69	943.70	943.71	943.72	943.72	943.73	943.74	943.75	943.76	943.76	943.77	943.78	943.79	943.80	943.80	943.81	943.82	943.83
C/L 240TH STREET	943.93	943.94	943.95	943.96	943.97	943.97	943.98	943.99	944.00	944.01	944.01	944.02	944.03	944.04	944.05	944.05	944.06	944.07	944.08	944.09	944.09
W. EDGE OF SLAB	943.67	943.68	943.68	943.69	943.70	943.71	943.72	943.72	943.73	943.74	943.75	943.76	943.76	943.77	943.78	943.79	943.80	943.80	943.81	943.82	943.83

NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON ASBUILTS PLANS.

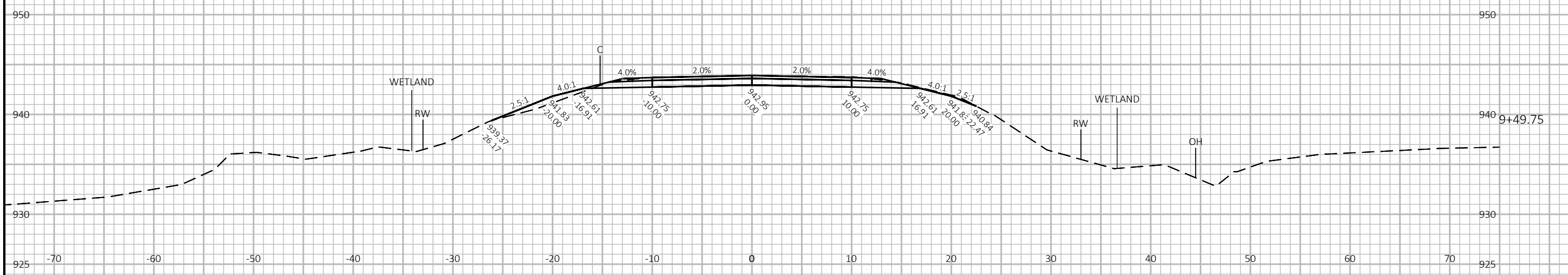
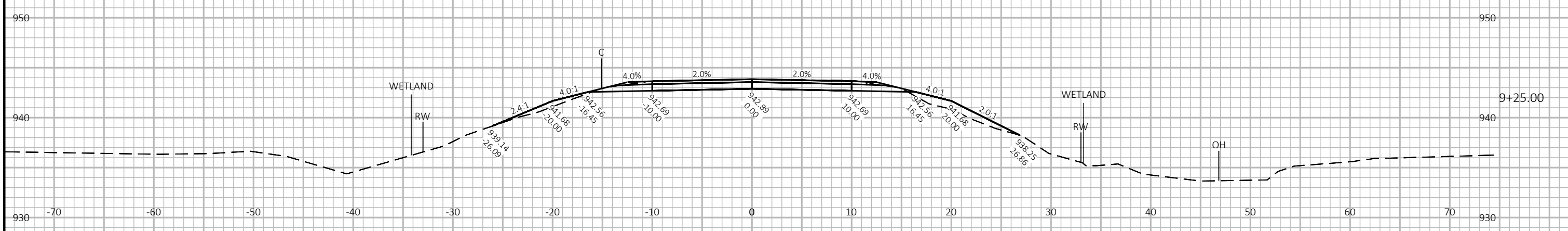
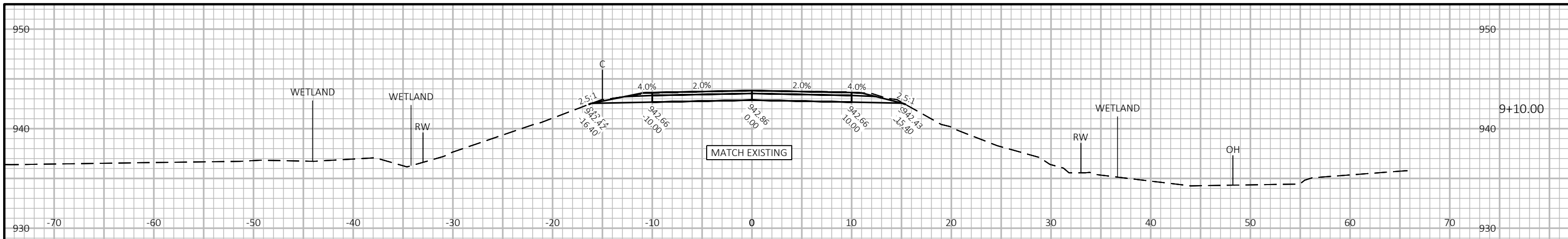
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

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

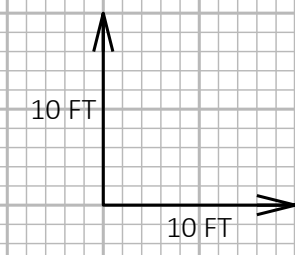
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-9-393			
		DRAWN BY	EKK
		PLANS CK'D.	JZ
SLAB CAMBER		SHEET 11 OF 12	

PROJECT I.D. 7862-00-70 EARTHWORK SUMMARY

STA	EXCAVATION COMMON CY	EXCAVATION ROCK CY	FILL (1) CY	EXPANDED FILL (2) CY	WASTE CY	BORROW CY
9+10.00	15	0	3	4	11	-11
9+25.00	25	0	6	8	17	-17
9+49.75						
STRUCTURE B-09-0393						
10+50.25	29	0	31	40	-11	11
10+75.00	15	0	11	14	1	-1
10+90.00						
SUBTOTALS	84	0	51	66	18	-18
UNUSABLE PAVEMENT (3)						24
TOTALS	84	0	51	66	18	6
(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY. (2) - FILL EXPANSION 30% (3) - EXISTING PAVEMENT BASED ON AVE THK OF 3" OF ASPHALT						



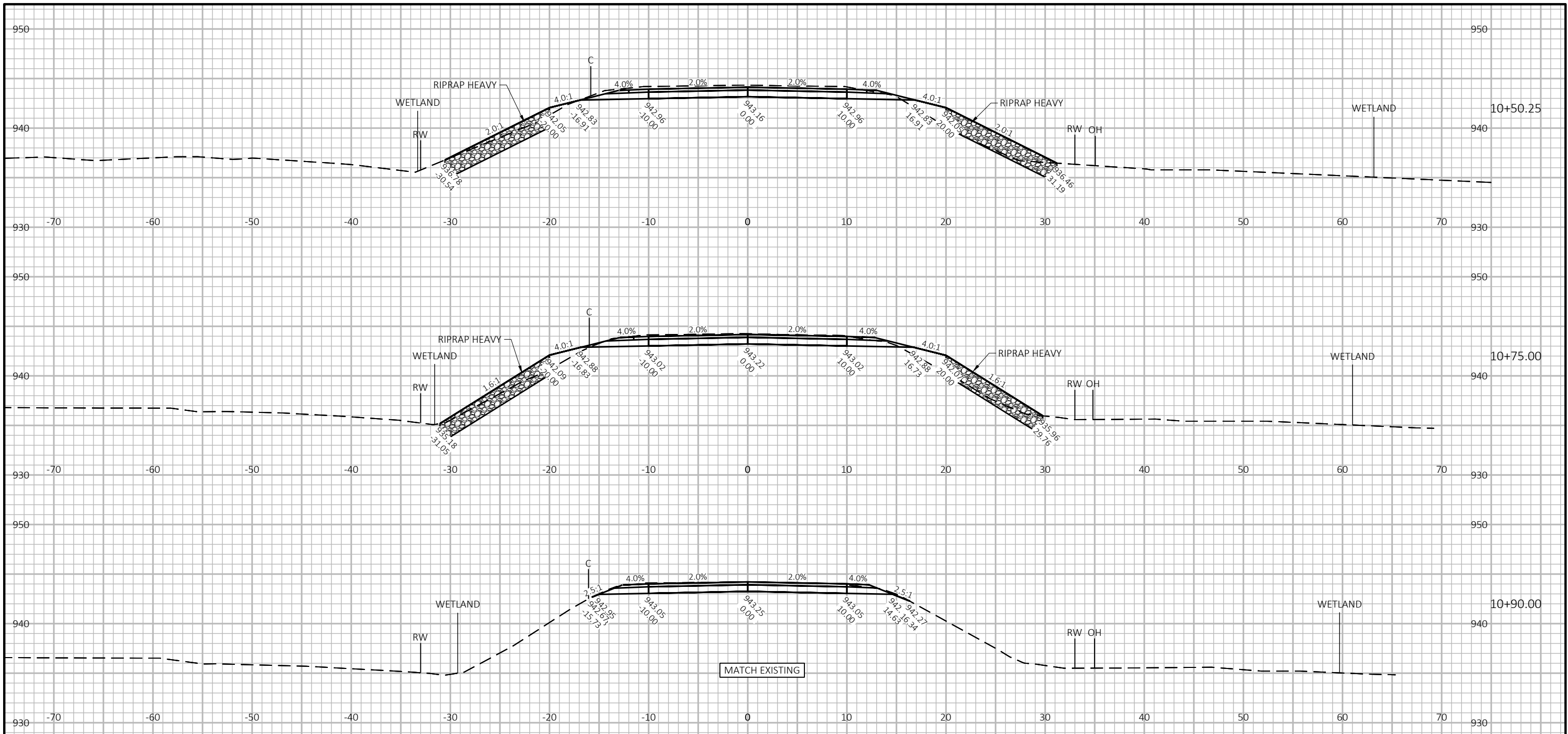
STRUCTURE B-09-0393



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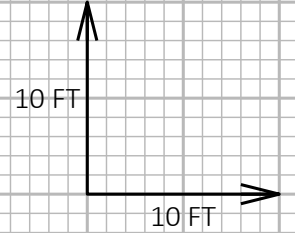
9

PROJECT NO: 7862-00-70	HWY: 240TH STREET	COUNTY: CHIPPEWA	CROSS SECTIONS: 240TH STREET	SHEET	E
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PROJECT NO: 7862-00-70	HWY: 240TH STREET	COUNTY: CHIPPEWA	CROSS SECTIONS: 240TH STREET	SHEET	E
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Notes



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