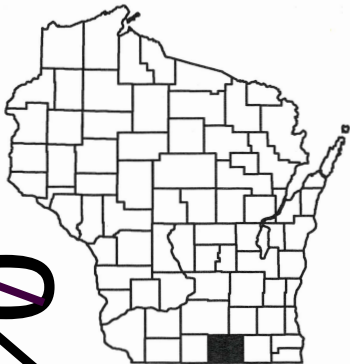


ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 36



04

DESIGN DESIGNATION

A.A.D.T.	2020	=	75
A.A.D.T.	2040	=	100
D.H.V.		=	15
D.D.		=	50/50
T.		=	10%
DESIGN SPEED		=	40 MPH
ESALS		=	22,000

CONVENTIONAL SYMBOLS

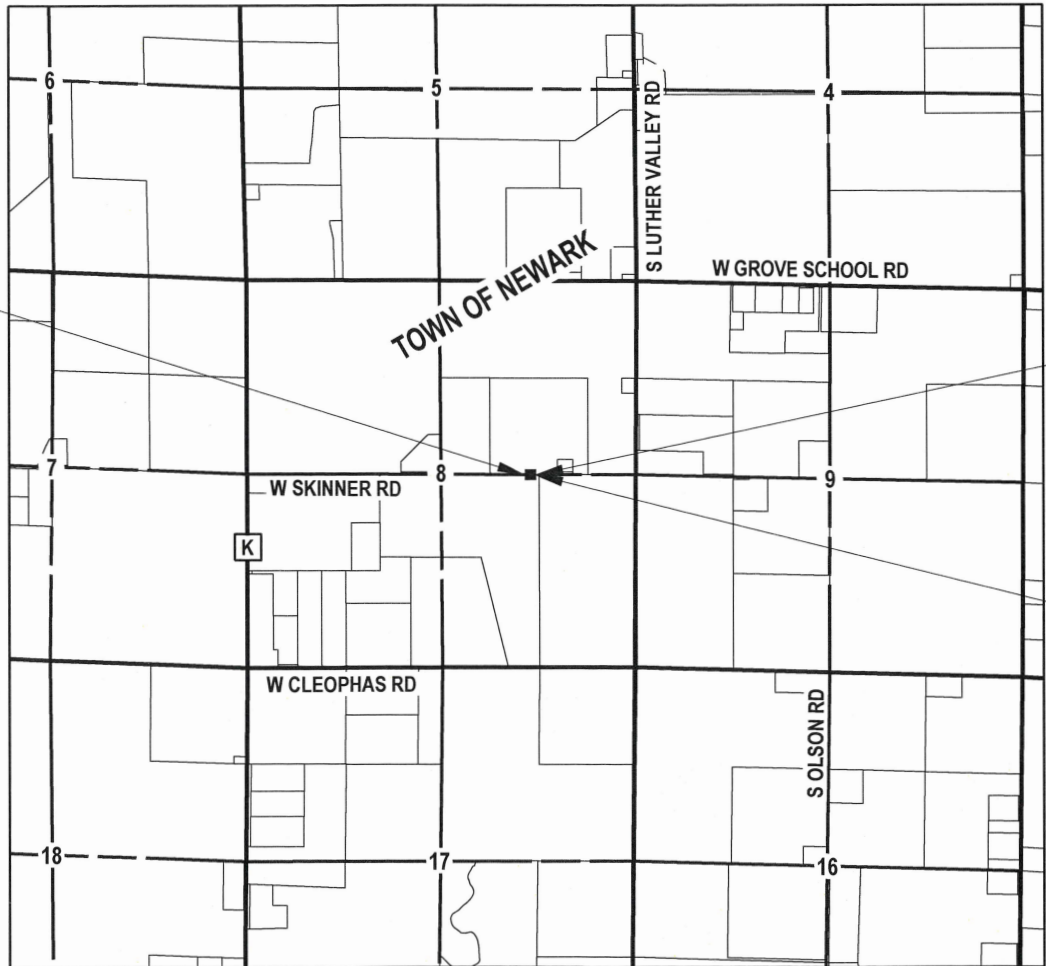
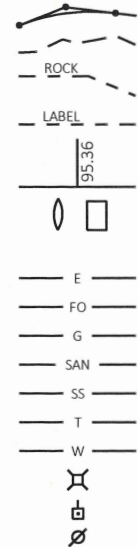
PLAN

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

PROFILE

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

BEGIN PROJECT
STA 10+00.00
Y = 225676.36
X = 441903.95



LAYOUT
SCALE 0 0.5 MI
TOTAL NET LENGTH OF CENTERLINE = 0.025 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, ROCK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T NEWARK, SKINNER ROAD

RACCOON CREEK BRIDGE B-53-0378

LOC STR
ROCK COUNTY

STATE PROJECT NUMBER
5788-00-75

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5788-00-75		

ACCEPTED FOR
TOWN OF NEWARK
7/26/19 (Date) [Signature]
(TOWN CHAIRMAN)

ACCEPTED FOR
ROCK COUNTY
7/30/19 (Date) [Signature]
(PUBLIC WORKS DIRECTOR)

ORIGINAL PLANS PREPARED BY
Batterman
engineers surveyors planners
R.H. BATTERMAN & CO., INC. P 608.365.4464
2857 BARTELLS DRIVE TF 877.457.2235
BELOIT, WI 53511 F 608.365.1850



7-26-19 (Date) [Signature]
(SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	BATTERMAN
Designer	BATTERMAN
Project Manager	NA
Regional Examiner	ZACHARY PEARSON, PE
Regional Supervisor	OSCAR I. WINGER, PE

APPROVED FOR THE DEPARTMENT
DATE: 7/31/2019 [Signature]
(Signature)

E

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NAVD 83. (2011)

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

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS, BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON. THE LOCATION OF EBS SHALL BE DETERMINED BY THE ENGINEER.

SELECT CRUSHED MATERIAL SHALL BE USED IN ALL EBS AREAS.

THE EROSION CONTROL FEATURES ARE SHOWN ON THE PLAN AND ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.

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

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

RESTORATION OF EXPOSED SLOPE AND DITCHES SHALL TAKE PLACE NOT MORE THAN 7 DAYS AFTER FINISHED GRADING IS COMPLETE.

THE CONTRACTORS PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINT FROM BEING LOCATED WITHIN A DRIVING OR TURNING LANE.

PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/INCH.

THE CONTRACTOR SHALL COORDINATE ALL UTILITY ADJUSTMENTS WITH THE APPROPRIATE UTILITY.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTY OWNERS ALONG THE PROJECT AT ALL TIMES.

UTILITIES

FRONTIER COMMUNICATIONS
ATTN: JEREMIAH LUBEN (MI-TECH SERVICES)
1700 INDUSTRIAL DRIVE
GREEN BAY, WI 54302
TELEPHONE: (920) 655-8748
JLUBEN@MI-TECH.US

FRONTIER COMMUNICATIONS
ATTN:RUSS RYAN
118 DIVISION STREET
PLYMOUTH, WI 53073
TELEPHONE: (920) 583-3275
RUSSELL.W.RYAN@FTR.COM

ROCK ENERGY COOPERATIVE
ATTN: TONY HAFFELDER
2815 KENNEDY ROAD
JANESVILLE, WI 53547
TELEPHONE: (608) 752-4550
CELL: (920) 728-2379

**DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMEBERS.

ABBREVIATIONS

AC	ACRES	IP	IRON PIPE
AEW	APRON ENDWALL	JCT	JUNCTION
ASPH	ASPHALT	LHF	LEFT HAND FORWARD
AVG	AVERAGE	L	LENGTH
ADT	AVERAGE DAILY TRAFFIC	LS	LUMP SUM
BAD	BASE AGGREGATE DENSE	LT	LEFT
BM	BENCHMARK	MH	MANHOLE
CL	CENTERLINE OR CLASS	NC	NORMAL CROWN
CC	CENTER TO CENTER	N	NORTH
CE	COMMERCIAL ENTRANCE	PT	POINT
CONC	CONCRETE	PC	POINT OF CURVATURE
CMP	CORRUGATED METAL PIPE	PI	POINT OF INTERSECTION
CPRC	CULVERT PIPE CORRUGATED STEEL	PT	POINT OF TANGENCY
CSCP	CORRUGATED STEEL CULVERT PIPE	PL	PROPERTY LINE
CSM	CERTIFIED SURVEY MAP	PE	PRIVATE ENTRANCE
CTH	COUNTY TRUNK HIGHWAYS	R/RAD	RADIUS
CULV	CULVERT	RCP	REINFORCED CONCRETE PIPE
CP	CULVERT PIPE	REQ'D	REQUIRED
C&G	CURB & GUTTER	RT	RIGHT
D	DEGREE OF CURVATURE	R/W	RIGHT-OF-WAY
DHV	DESIGN HOURLY VOLUME	RHF	RIGHT HAND FORWARD
DIA	DIAMETER	SALV	SALVAGED
DWY	DRIVEWAY	SAN	SANITARY SEWER
E	EAST	SHLDR	SHOULDER
ELEV	ELEVATION	SDD	STANDARD DETAIL DRAWINGS
EW	ENDWALL	STA	STATION
ENT	ENTRANCE	STM	STORM SEWER
ESALS	EQUIVALENT SINGLE AXLE LOADS	SE	SUPERELEVATION
EX	EXISTING	SS	STORM SEWER
EXC	EXCAVATION	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EBS	EXCAVATION BELOW SUBGRADE	TAN	TANGENT
EXIST	EXISTING	TLE	TEMPORARY LIMITED EASEMENT
FF	FACE TO FACE	T	TRUCKS
FERT	FERTILIZER	TYP	TYPICAL
FE	FEILD ENTRANCE	VERT	VERTICAL
FG	FINISHED GRADE	VC	VERTICAL CURVE
FT	FOOT	VOL	VOLUME
GV	GAS VALVE	VV	WATER VALVE
IE	INVERT ELEVATION	W	WELL
INL	INLET	X	EAST GRID COORDINATE
INV	INVERT	Y	NORTH GRID COORDINATE

PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

TYPE	THICKNESS	LAYERS	MAX. NO. SIZE GRADATION
ASPHALTIC SURFACE	2.0"	LOWER LAYER	12.5 MM
ASPHALTIC SURFACE	2.0"	UPPER LAYER	12.5 MM

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: SHELLEY WARWICK
3911 FISH HATCHERY ROAD
MADISON, WI 53707
608-444-2835
SHELLEY.WARWICK@WISCONSIN.GOV

DESIGN CONTACT

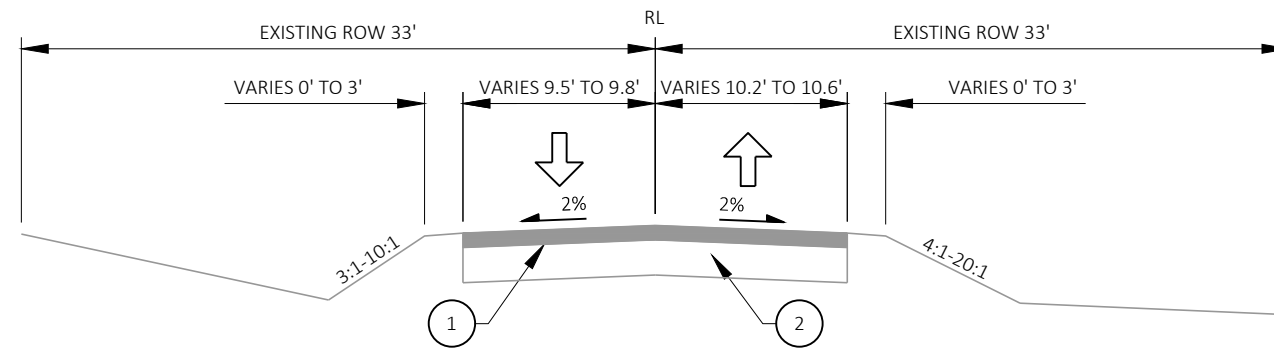
R.H. BATTERMAN
ATTN: RYAN RUDZINSKI, P.E.
2857 BARTELLS DRIVE
BELOIT, WI 53511
TELEPHONE: (608) 365-4464
EMAIL: RRUDZINSKI@RHBATTERMAN.COM

ROCK COUNTY

DIRECTOR OF PUBLIC WORKS
DUANE M. JOREGENSON, P.E.
3715 N. NEWVILLE ROAD
JANESVILLE, WI 53545
TELEPHONE: (608) 757-5450
EMAIL: JORGEND@CO.ROCK.WI.US

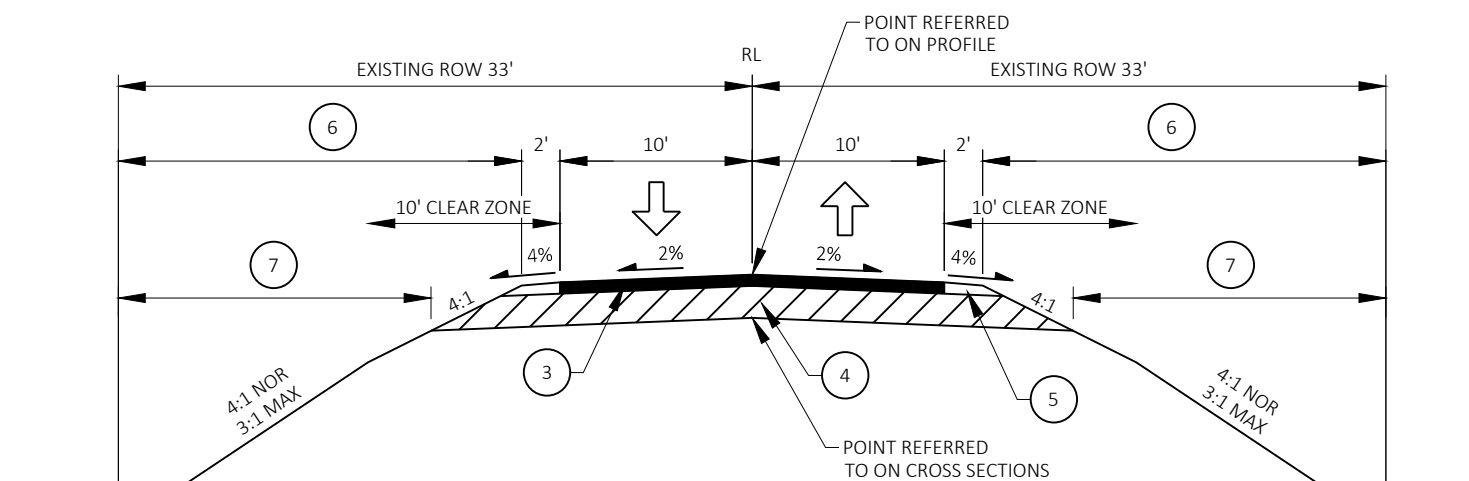
TOWN OF NEWARK

CHAIRMAN
BOB CARLSON
9528 BELOIT-NEWARK ROAD
BELOIT, WI 53511
TELEPHONE: 608-362-6210



TYPICAL EXISTING SECTION

STA 10+00 - 10+65
STA 10+85 - 11+30



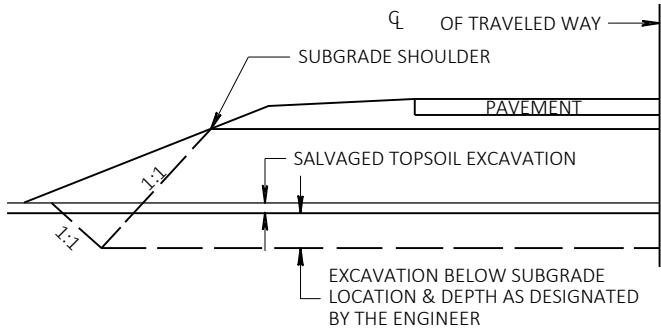
TYPICAL FINISHED SECTION

STA 10+00 - 10+44
STA 10+84 - 11+30

LEGEND

- 1 4.0 - 4.5 INCH ASPHALT PAVEMENT
- 2 9.5 - 11.0 INCH BASE AGGREGATE
- 3 4 INCH ASPHALTIC SURFACE (TWO LAYERS)
- 4 10-INCH BASE AGGREGATE DENSE 1 1/4-INCH
- 5 4-INCH BASE AGGREGATE DENSE 3/4-INCH
- 6 LIMITS OF SEEDING MIXTURE NO. 20, EROSION MAT CLASS I TYPE A (URBAN), SEEDING TEMPORARY, AND FERTILIZER TYPE B (AS DIRECTED BY ENGINEER)
- 7 SALVAGED TOPSOIL

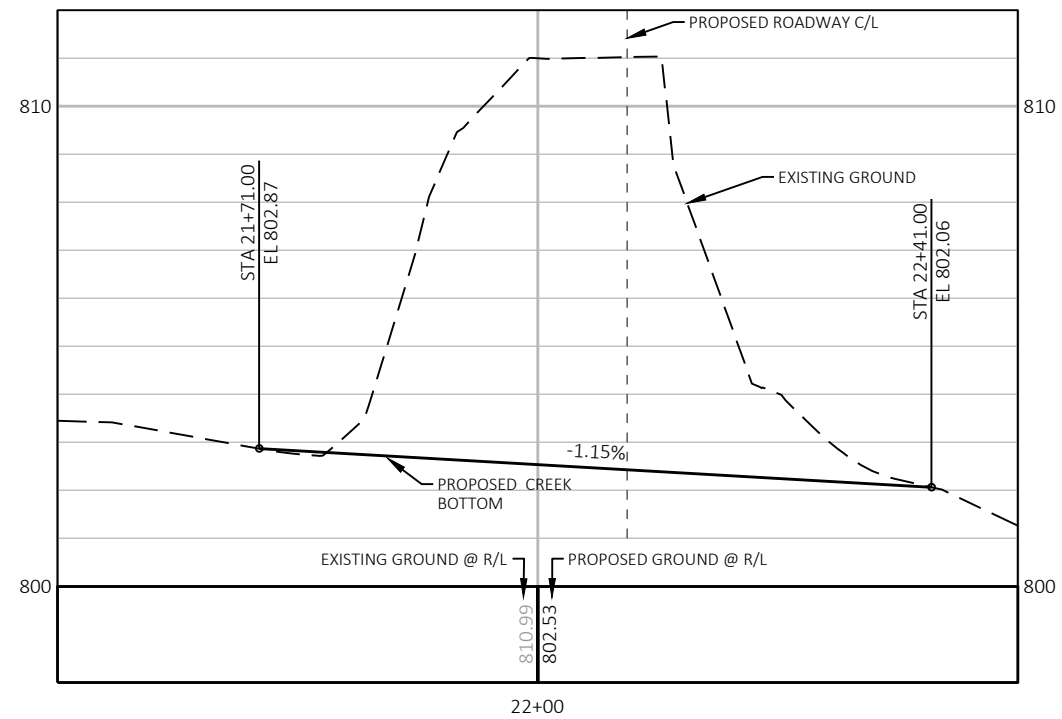
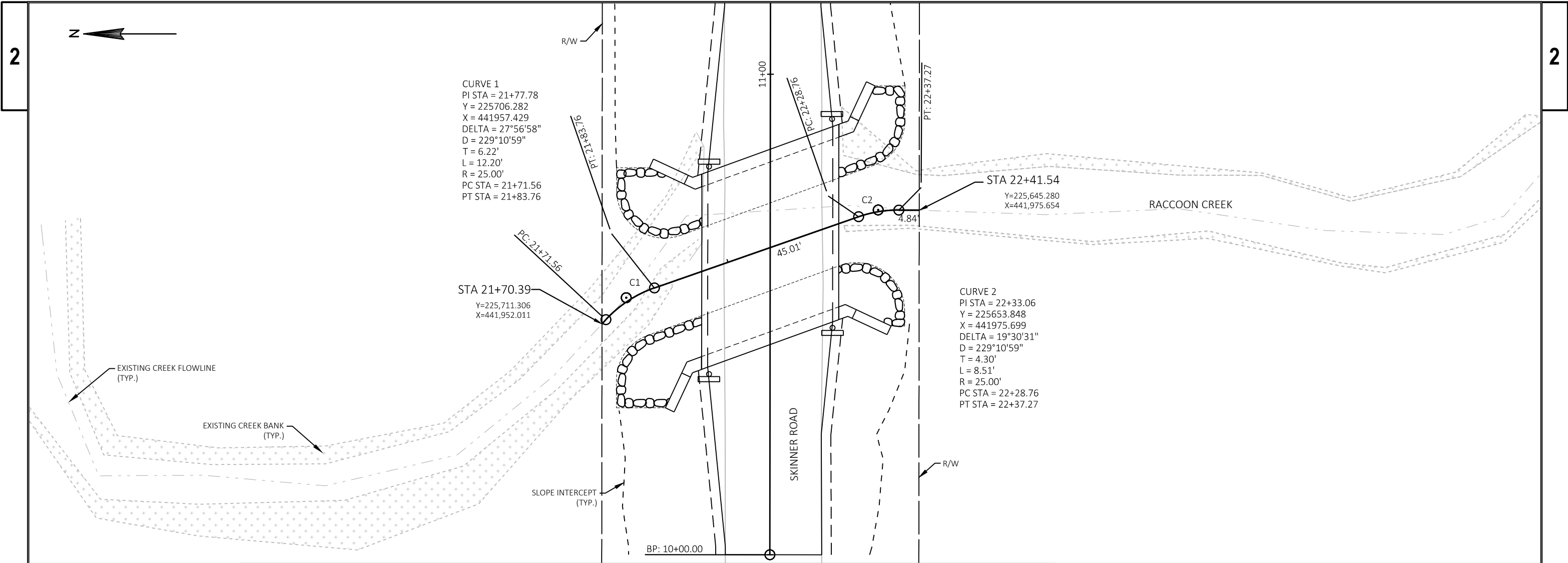
RUNOFF COEFFICIENT TABLE



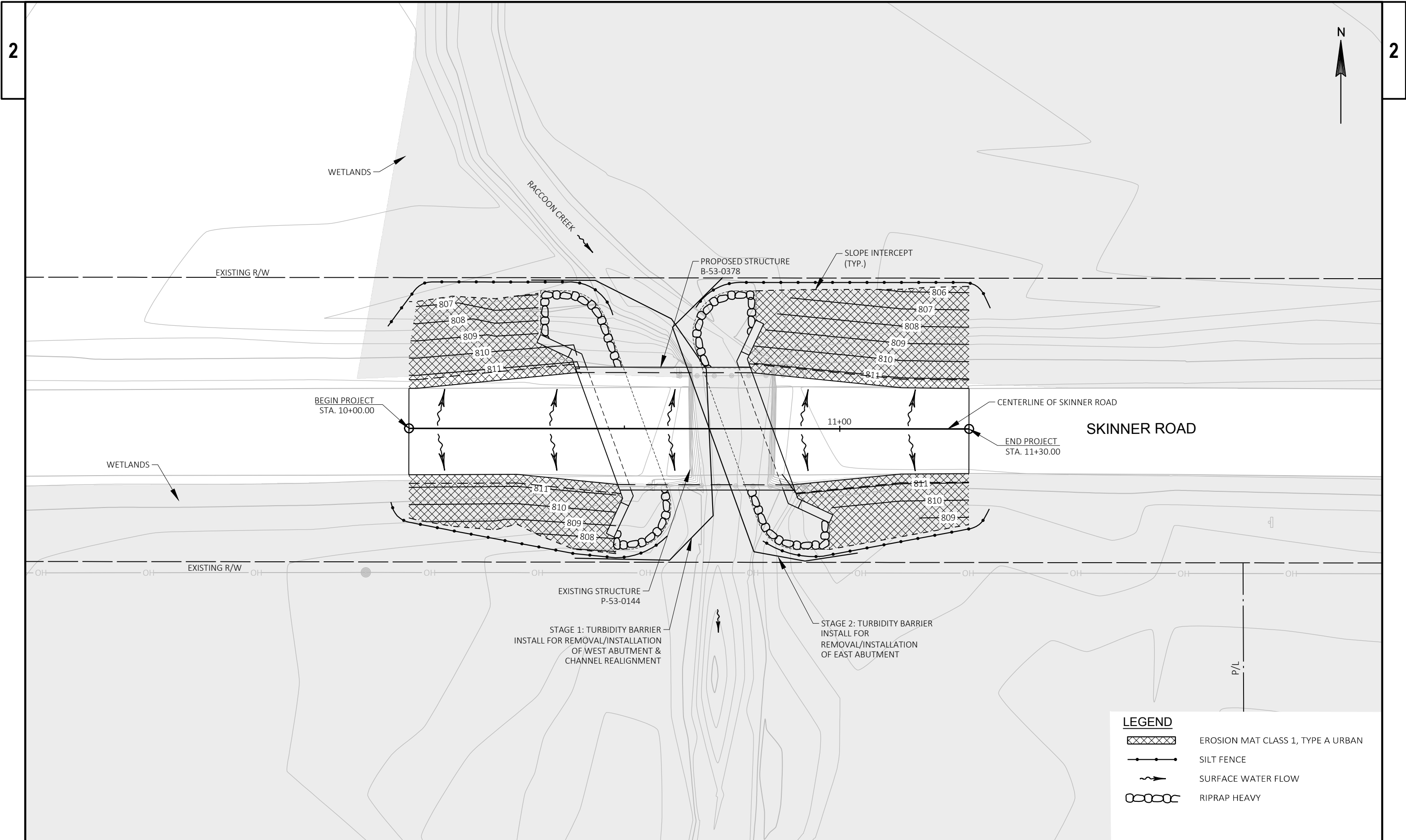
DETAIL FOR EXCAVATION BELOW SUBGRADE

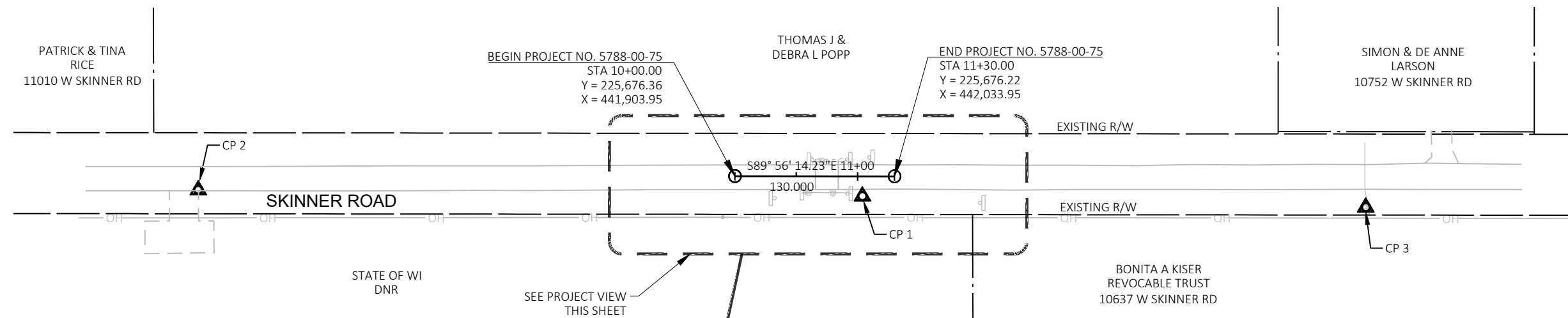
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE- TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 0.20 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.15 ACRES

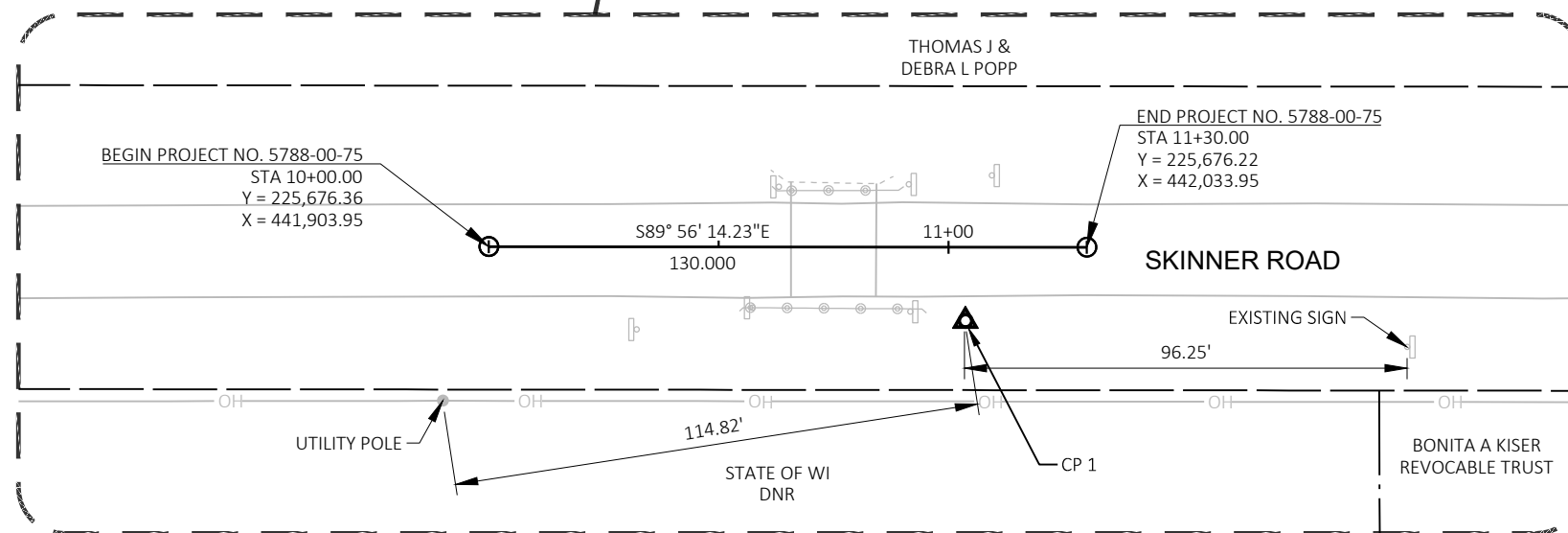


- NOTES
- THE NEW STREAM BED SHALL CONSIST OF NATIVE SOILS AND FREE OF MATERIAL SUCH AS RIPRAP OR BREAK ROCK.
 - SEE STRUCTURE PLAN FOR RIPRAP DETAILS ALONG CHANNEL REALIGNMENT
 - APPLICATION RATE OF SEEDING ALONG THE STREAM BANKS SHALL BE DOUBLE OF THAT SHOWN IN STANDARD SPEC. 630.3.3.5.1.





OVERALL VIEW
SCALE: 1"=100'



PROJECT VIEW
SCALE: 1"=40'

POINT TABLE

POINT #	LOCATION	DESCRIPTION	ELEVATION	NORTHING	EASTING
1	11+03.47, 15.89' RT	CP REBSET 3/4	810.090	225660.3550	442007.4100
2	5+62.31, 11.44' RT	CP MAG	815.312	225665.4010	441466.2500
3	15+13.64, 24.52' RT	CP REBSET 3/4	814.380	225651.2740	442417.5710

Estimate Of Quantities

5788-00-75					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+75	LS	1.000	1.000
0008	204.0165	Removing Guardrail	LF	66.000	66.000
0010	205.0100	Excavation Common	CY	105.000	105.000
0012	206.1000	Excavation for Structures Bridges (structure) 01. B-53-0378	LS	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	310.000	310.000
0016	213.0100	Finishing Roadway (project) 01. 5788-00-75	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	10.000	10.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	165.000	165.000
0022	312.0110	Select Crushed Material	TON	40.000	40.000
0024	455.0605	Tack Coat	GAL	15.000	15.000
0026	465.0105	Asphaltic Surface	TON	45.000	45.000
0028	502.0100	Concrete Masonry Bridges	CY	139.000	139.000
0030	502.3200	Protective Surface Treatment	SY	160.000	160.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	4,470.000	4,470.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	16,510.000	16,510.000
0036	513.4061	Railing Tubular Type M	LF	85.000	85.000
0038	516.0500	Rubberized Membrane Waterproofing	SY	12.000	12.000
0040	550.0500	Pile Points	EACH	14.000	14.000
0042	550.2106	Piling CIP Concrete 10 3/4 X 0.365-Inch	LF	700.000	700.000
0044	606.0300	Riprap Heavy	CY	120.000	120.000
0046	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0048	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5788-00-75	EACH	1.000	1.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	5.000	5.000
0054	625.0500	Salvaged Topsoil	SY	350.000	350.000
0056	628.1504	Silt Fence	LF	300.000	300.000
0058	628.1520	Silt Fence Maintenance	LF	300.000	300.000
0060	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0064	628.2006	Erosion Mat Urban Class I Type A	SY	325.000	325.000
0066	628.6005	Turbidity Barriers	SY	100.000	100.000
0068	628.7560	Tracking Pads	EACH	1.000	1.000
0070	629.0210	Fertilizer Type B	CWT	0.300	0.300
0072	630.0120	Seeding Mixture No. 20	LB	10.000	10.000
0074	630.0200	Seeding Temporary	LB	10.000	10.000

Estimate Of Quantities

5788-00-75

Line	Item	Item Description	Unit	Total	Qty
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	6.000	6.000
0082	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0420	Traffic Control Barricades Type III	DAY	1,400.000	1,400.000
0088	643.0705	Traffic Control Warning Lights Type A	DAY	2,000.000	2,000.000
0090	643.0900	Traffic Control Signs	DAY	1,200.000	1,200.000
0092	643.5000	Traffic Control	EACH	1.000	1.000
0094	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0096	645.0120	Geotextile Type HR	SY	205.000	205.000
0098	650.4500	Construction Staking Subgrade	LF	130.000	130.000
0100	650.5000	Construction Staking Base	LF	130.000	130.000
0102	650.6500	Construction Staking Structure Layout (structure) 01. B-53-0378	LS	1.000	1.000
0104	650.9910	Construction Staking Supplemental Control (project) 01. 5788-00-75	LS	1.000	1.000
0106	650.9920	Construction Staking Slope Stakes	LF	130.000	130.000
0108	690.0150	Sawing Asphalt	LF	50.000	50.000
0110	715.0502	Incentive Strength Concrete Structures	DOL	834.000	834.000

3

CLEARING AND GRUBBING												
				201.0105	201.0205							
				CLEARING	GRUBBING							
STATION				LOCATION	STA	STA						
CATEGORY 0010				10+00 - 11+30	LT/RT	2	2					
TOTAL CATEGORY 0010						2	2					
BASE AGGREGATE ITEMS												
				305.0110	305.0120		312.0110	624.0100				
				BASE AGGREGATE DENSE 3/4-INCH	BASE AGGREGATE DENSE 1 1/4-INCH		SELECT CRUSH MATERIAL	WATER				
STATION				TON	TON		TON	MGAL				
CATEGORY 0010				10+00 - 12+48	8	144		-	3			
								-				
SUBTOTAL					8	144		0	3			
UNDISTRIBUTED					2	21		40	2			
TOTAL CATEGORY 0010					10	165		40	5			
ASPHALT PAVEMENT ITEMS												
				455.0605	465.0105							
				THICKNESS	TACK COAT	ASPHALTIC SURFACE						
STATION				LOCATION	INCHES	GAL	TON					
CATEGORY 0010				10+00 - 11+30	2	5	21					
				10+00 - 11+30	2	6	21					
SUBTOTAL					11	42						
UNDISTRIBUTED					4	3						
TOTAL CATEGORY 0010					15	45						
LANDSCAPING ITEMS												
				625.0500	629.0210	630.0120	630.0200		CATEGORY 0010			
				SALVAGED TOPSOIL	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SEEDING TEMPORARY		CATEGORY 0020			
LOCATION				SY	CWT	LB	LB					
CATEGORY 0010				10+00 - 11+30	317	0.2	9					
SUBTOTAL				317	0.2	9		9				
UNDISTRIBUTED				33	0.1	1		1				
TOTAL CATEGORY 0010				350	0.3	10		10				
EROSION CONTROL ITEMS												
				628.1504	628.1520	628.1905	628.1910	628.2006	628.6005	628.7560		
				SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL	EROSION MAT URBAN CLASS I TYPE A	TURBIDITY BARRIERS	TRACKING PADS		
STATION				LOCATION	LF	LF	EA	EA	SY	SY	EA	
CATEGORY 0010				10+00 - 11+30	LT/RT	260	260	4	4	317	90	1
SUBTOTAL					260	260	4	4	317	90	1	
UNDISTRIBUTED					40	40	-	-	8	10	-	
TOTAL CATEGORY 0010					300	300	4	4	325	100	1	

SIGNAGE									
		634.0612			637.2230				
		POSTS WOOD 4x6-INCH X 12-FT			SIGNS TYPE II REFLECTIVE F				
STATION				LOCATION		EA		SF	
CATEGORY 0010									
10+00		-	11+30	LT/RT		4		12	
TOTAL CATEGORY 0010						4		12	
REMOVING ITEMS									
		204.0165		638.2602		638.3000			
		REMOVING GUARDRAIL		REMOVING SIGNS TYPE II		REMOVING SMALL SIGN SUPPORTS			
LOCATION		LF		EA		EA		MESSAGE	
10+00		-	11+30	66		6		6	
			BRIDGE HASH MARKS WEIGHT LIMIT						
TOTAL CATEGORY 0010			66		6		6		
TRAFFIC CONTROL ITEMS									
643.0420			643.0705			643.0900			
CONTROL BARRICADES TYPE III			TRAFFIC CONTROL WARNING LIGHTS TYPE A			TRAFFIC CONTROL SIGNS			
STATION	NO. OF DAYS	TOTAL DAYS	NO. OF SIGNS	NO. OF DAYS	TOTAL DAYS	NO. OF SIGNS	NO. OF DAYS	TOTAL DAYS	
72		1296	26		72	1872	14		72
		1296				1872			1008
		104				128			192
1400						2000			1200
CONSTRUCTION STAKING									
500		650.5000		650.6500		650.9910		650.9920	
CONSTRUCTION SUBGRADE		CONSTRUCTION STAKING BASE		CONSTRUCTION STAKING STRUCTURE LAYOUT		CONSTRUCTION STAKING SUPPLEMENTAL CONTROL		CONSTRUCTION STAKING SLOPE STAKES	
		LF		LS		LS		LF	
0		130		-		1		130	
		-		1		-		-	
0		130		-		1		130	
		-		1		-		-	
SAWING PAVEMENT									
						690.0150			
						SAWING ASPHALT			
STATION				LOCATION		LF			
CATEGORY 0010				10+00		20			
				11+30		20			
SUBTOTAL						40			
UNDISTRIBUTED						10			
TOTAL CATEGORY 0010						50			

Division	From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (9)	Expanded EBS Backfill (11)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Comment:
			Cut (2)	EBS Excavation (3)			Factor 0.80	Factor 1.30		Factor 1.25			
Division 1													
QR-Skinner Road	10+00/11+30		85	20	31	55	16	26	14	-2	57	57	
Division 1 Subtotal			85	20	31	55	16	26	14	-2	57	57	SEE NOTE 10
Grand Total			85	20	31	55	16	26	14	-2	57	57	
Total Common Exc			105										

Notes:

(1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

(2) Salvaged/Unsuable Pavement Material is included in Cut.

(3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.

(4) Salvaged/Unusable Pavement Material

5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(6) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8

(7) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100

(8) Expanded Fill Factor = 1.25

Depending on selections: **Expanded Fill = (Unexpanded Fill) * Fill Factor**

(9) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

(10) Use 57 CY of material from Division 1. Borrow Excavation item number 208.0100

Standard Detail Drawing List

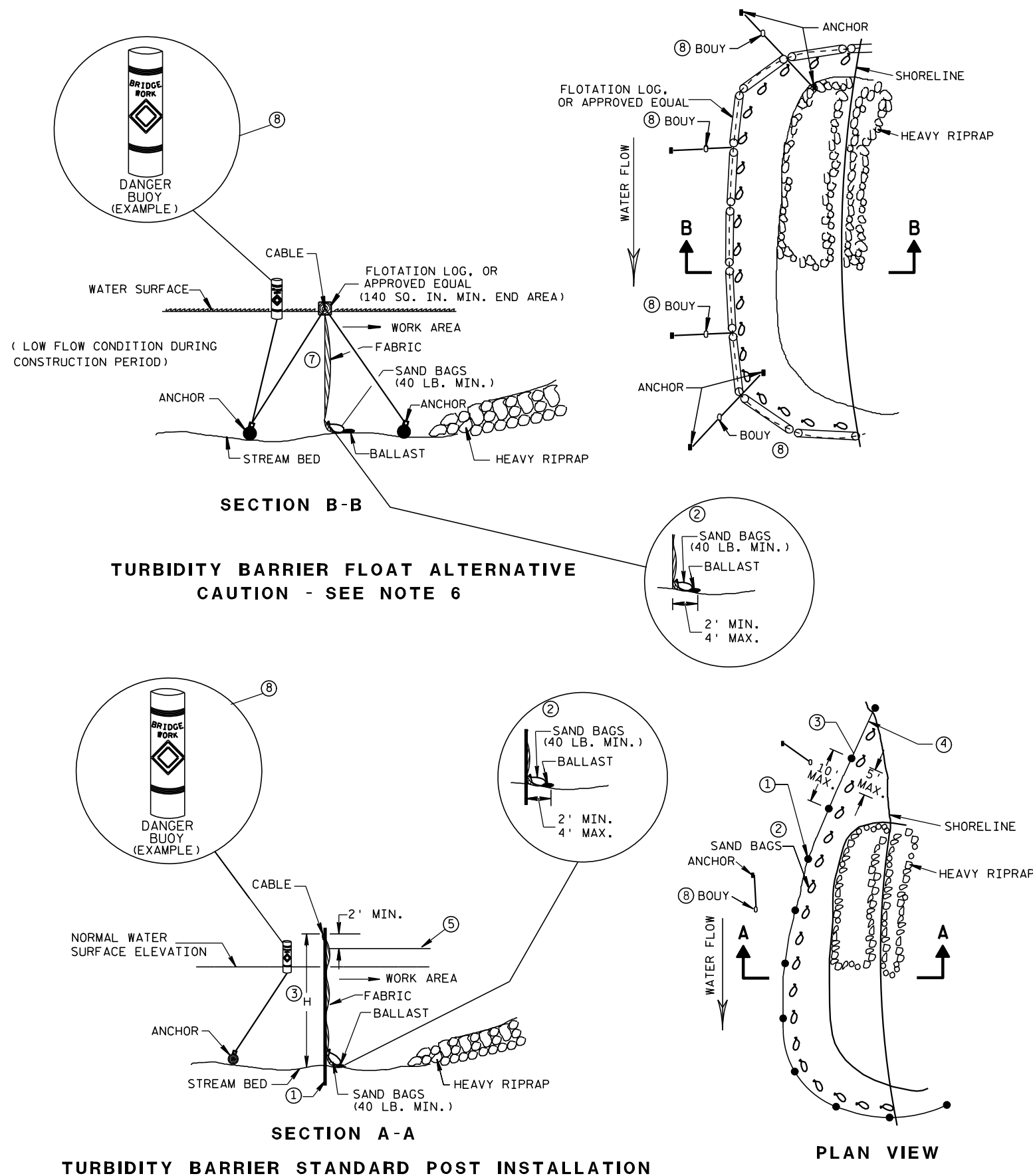
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS



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



<p style="text-align: center;">SILT FENCE</p>	
<p style="text-align: center;">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED</p> <p><u>4-29-05</u></p> <p><u>DATE</u></p>	<p><u>/S/ Beth Canestra</u></p> <p>CHIEF ROADWAY DEVELOPMENT ENGINEER</p>

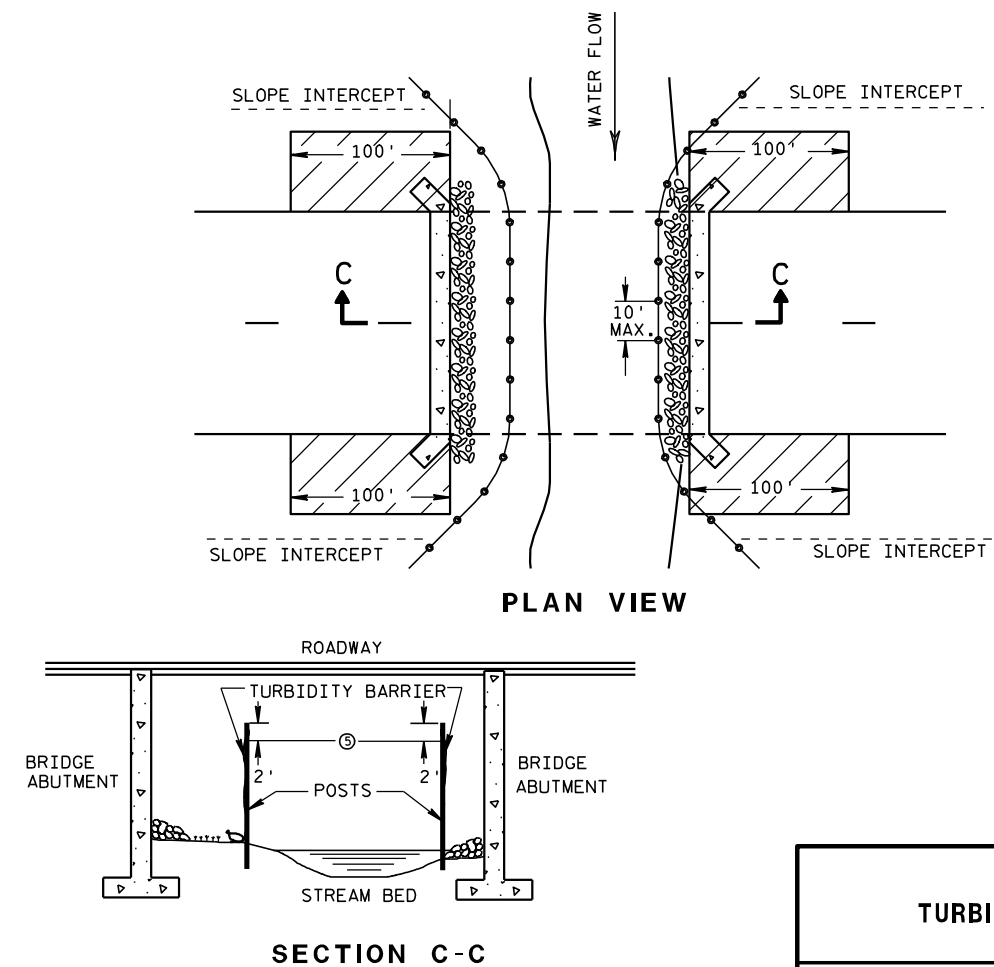


GENERAL NOTES

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 DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

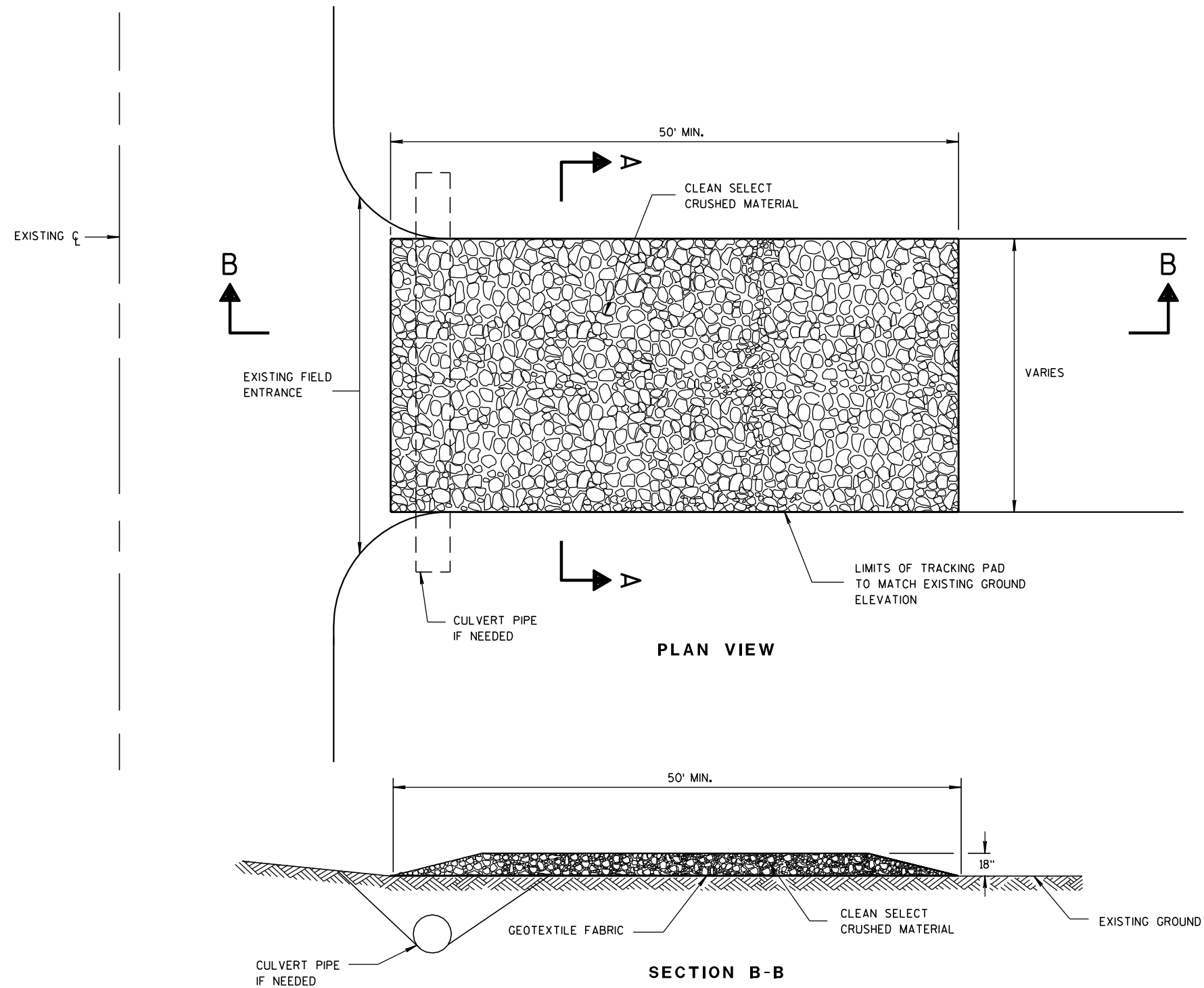
APPROVED

6/04/02

DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

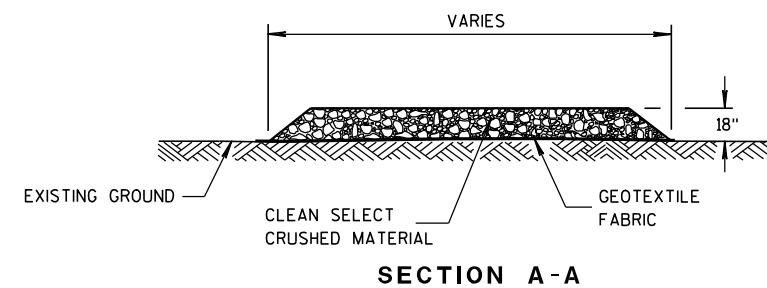
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011

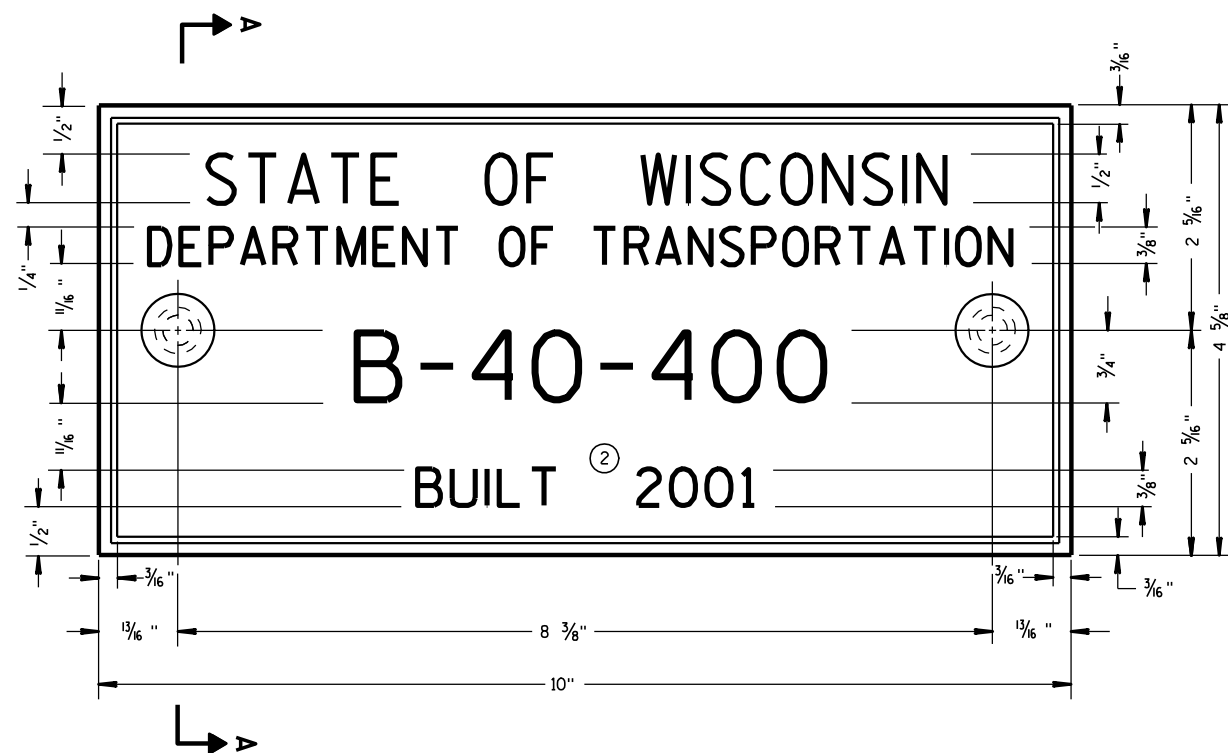
DATE

FHWA

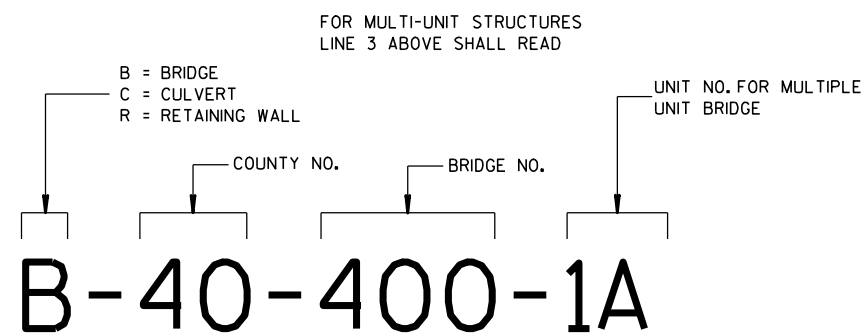
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



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



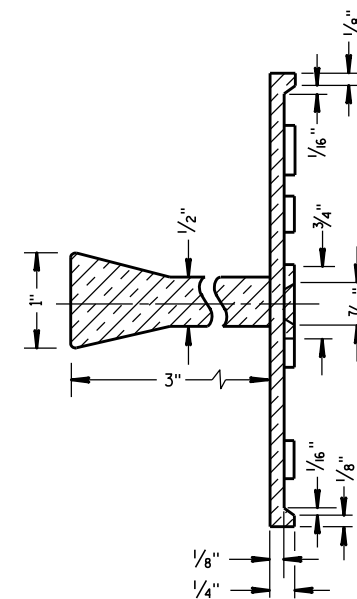
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

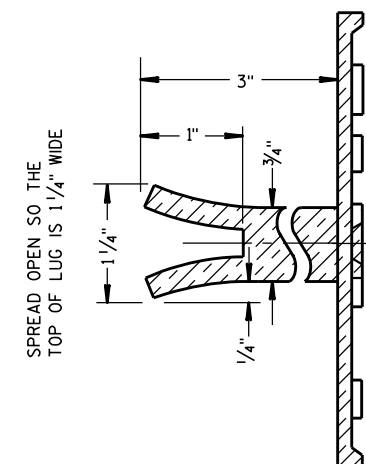
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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



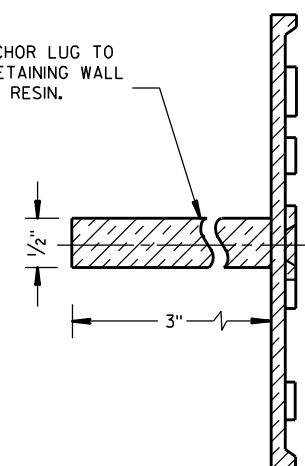
SECTION A-A



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

ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

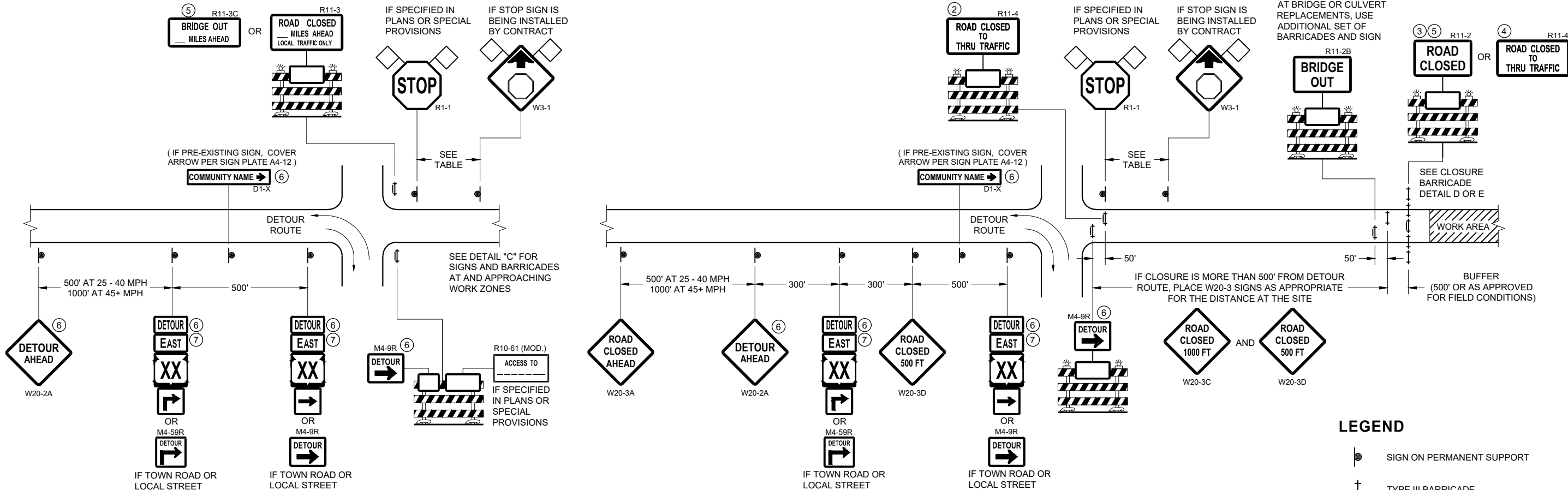
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



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

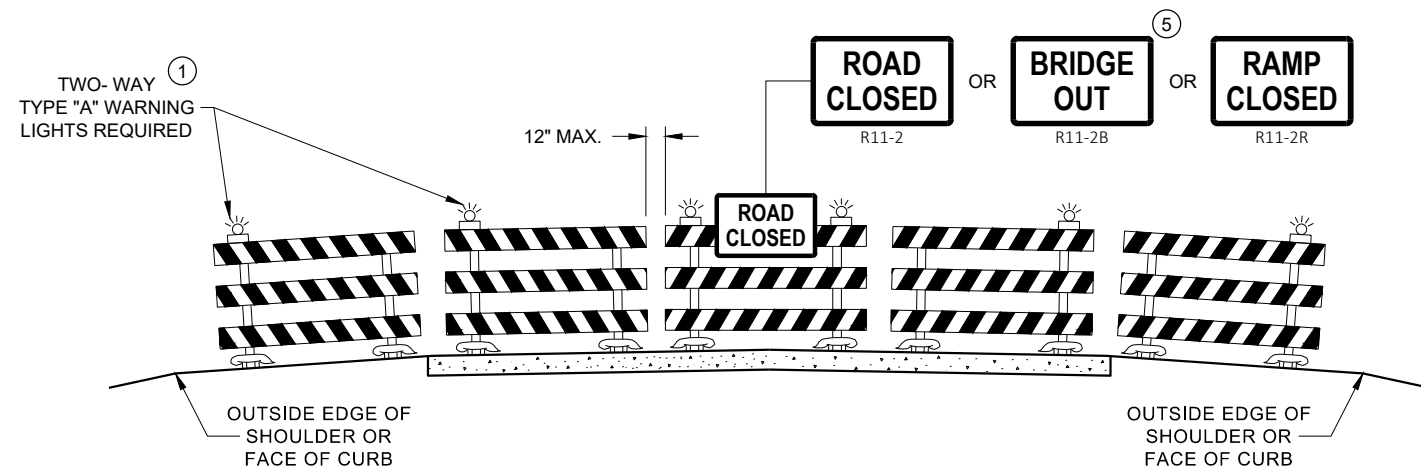
SEE SDD 15C2-SHEET "b" FOR GENERAL NOTES AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

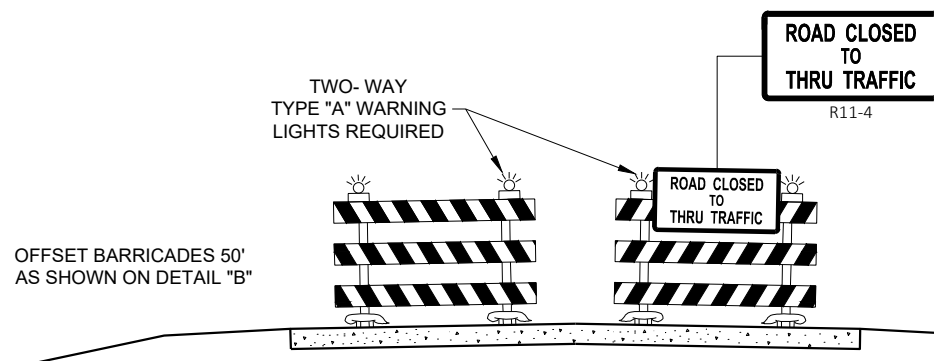
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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:

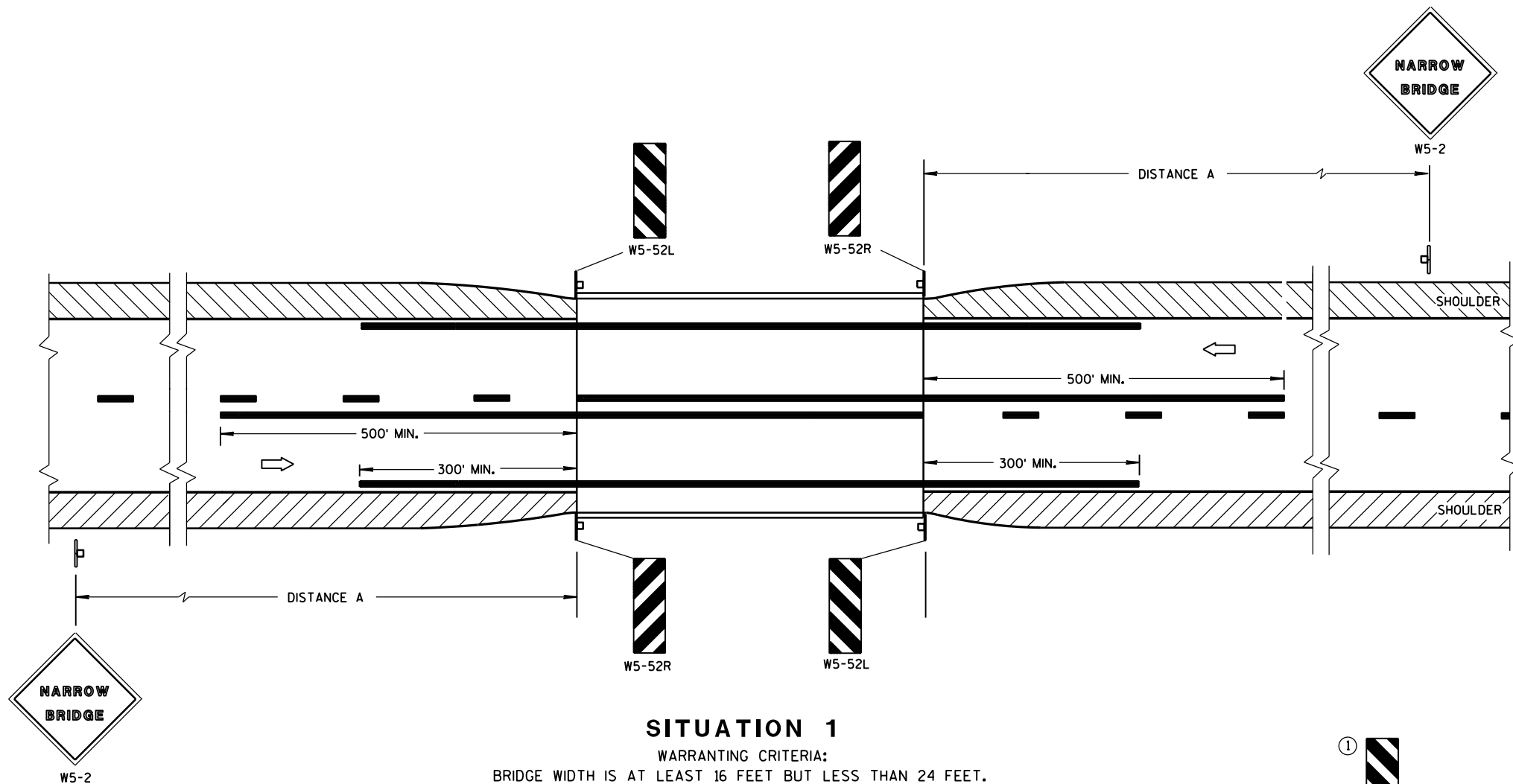
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE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



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A "
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

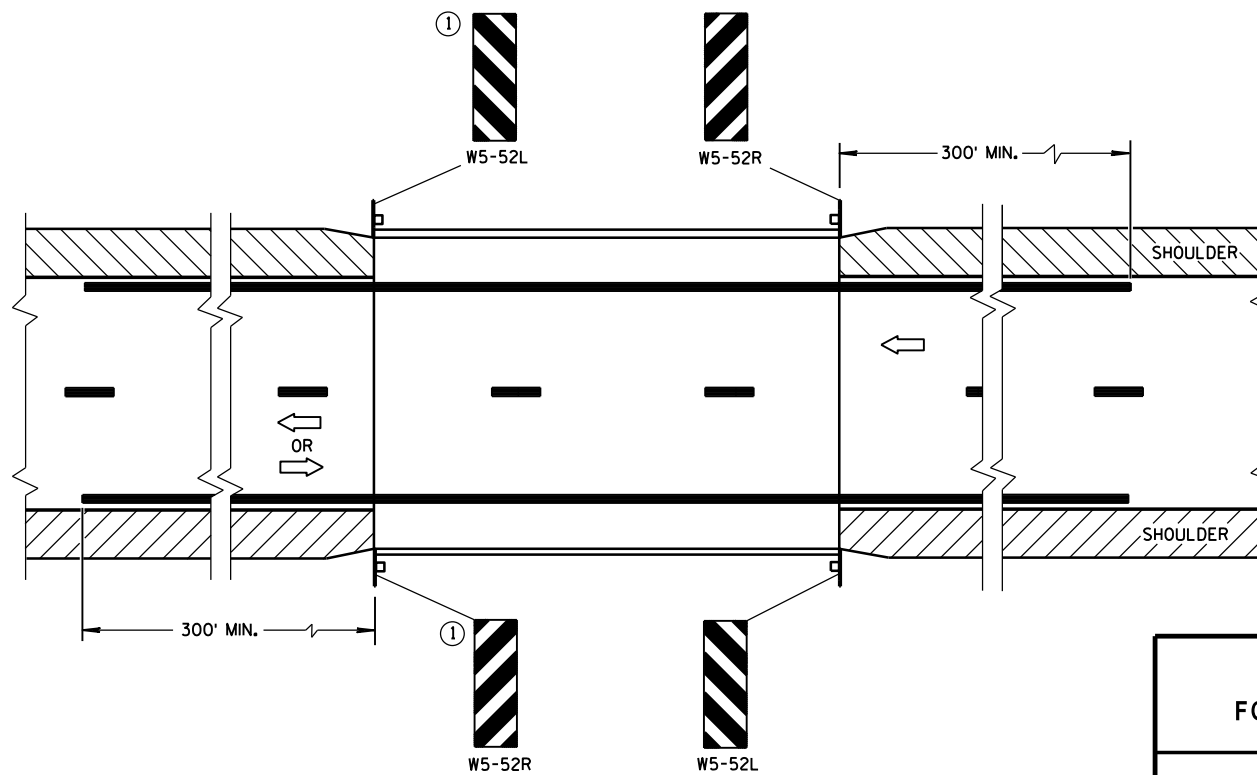
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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.

① OMIT ON ONE-WAY TRAVELLED WAYS.

➡ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

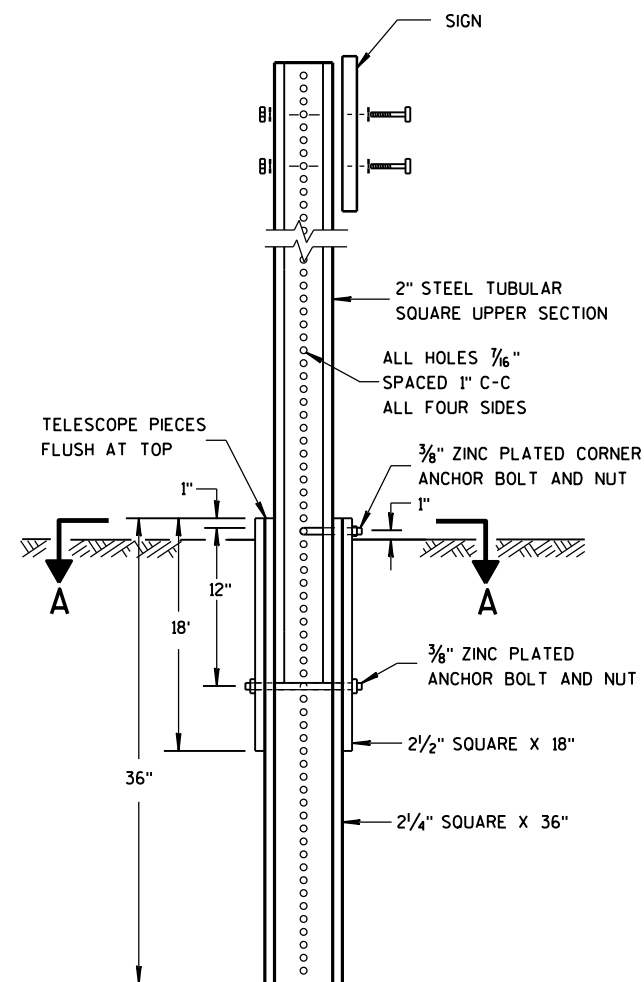
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

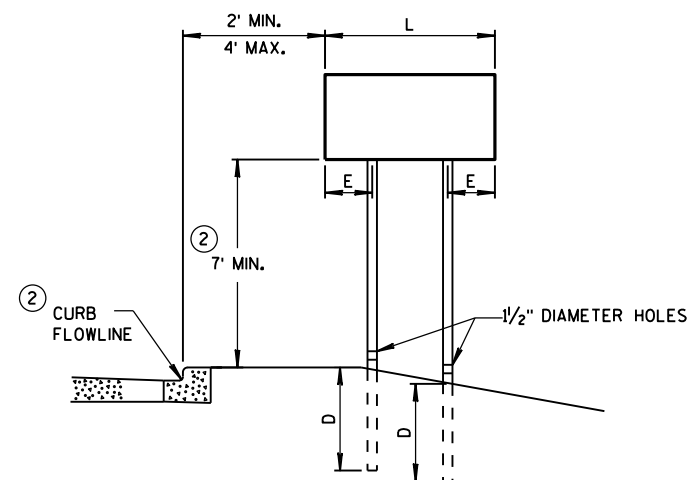
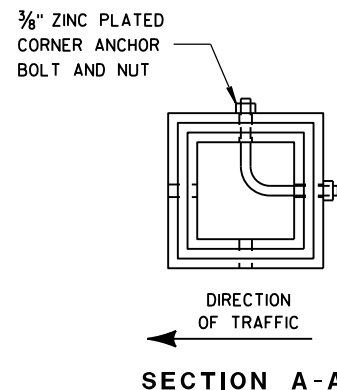


DETAIL OF TUBULAR STEEL SIGN POST

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.

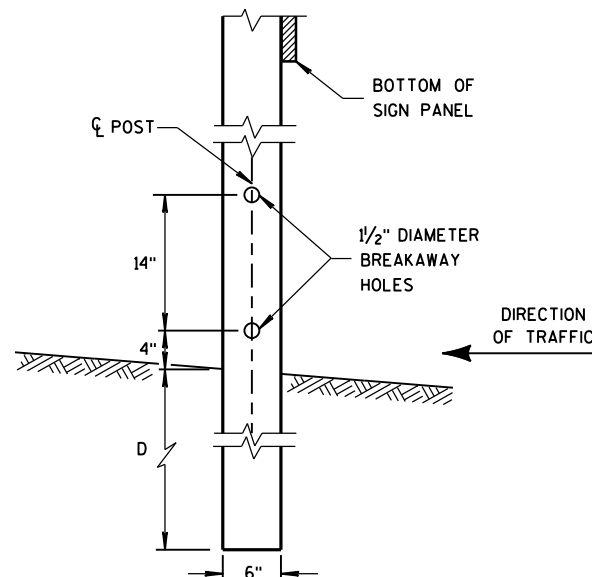


URBAN AREA

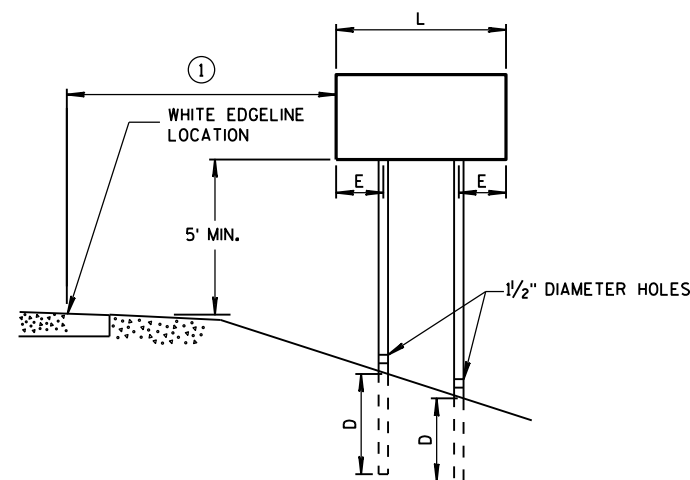
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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

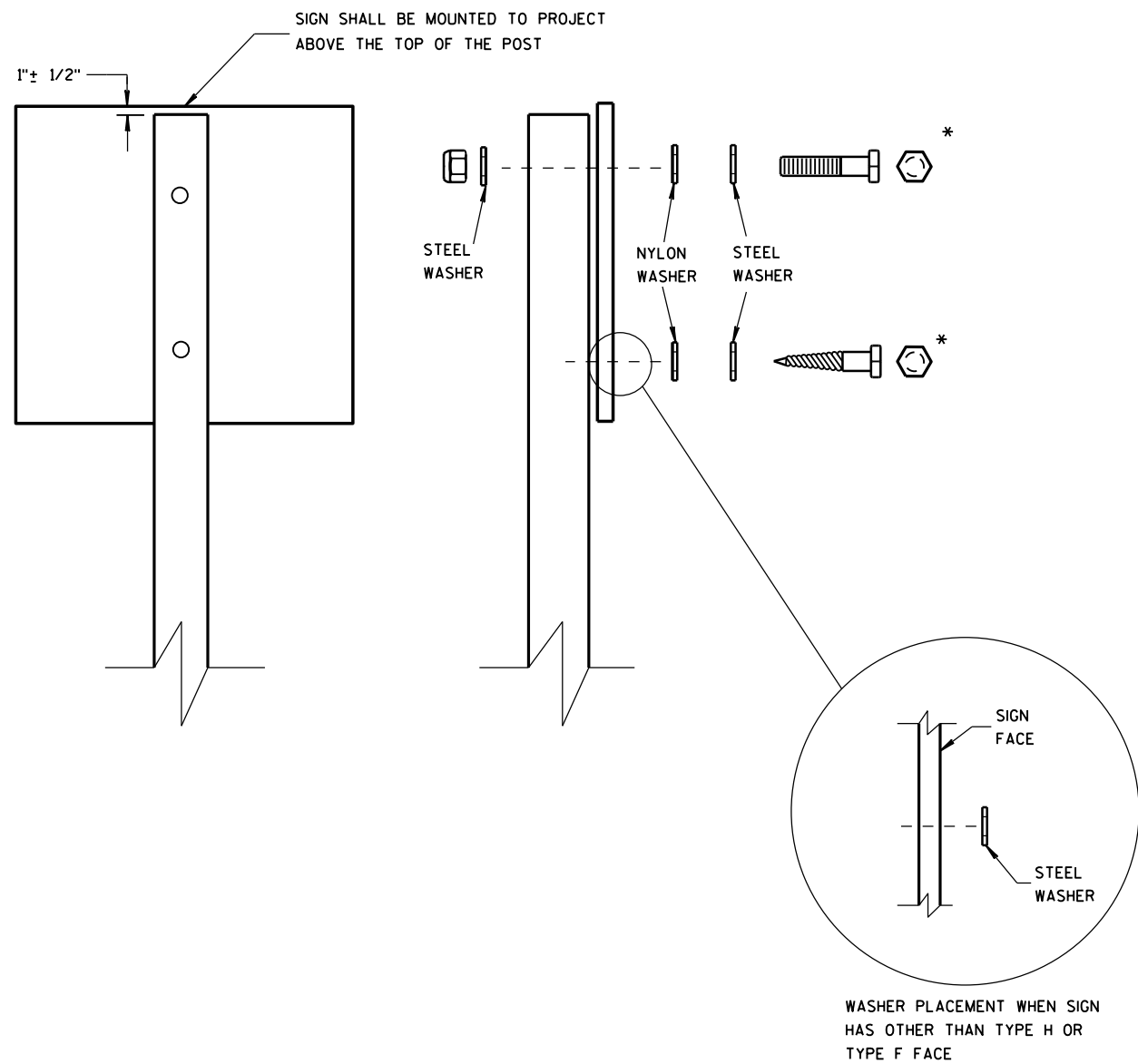
SEE NOTE ③

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

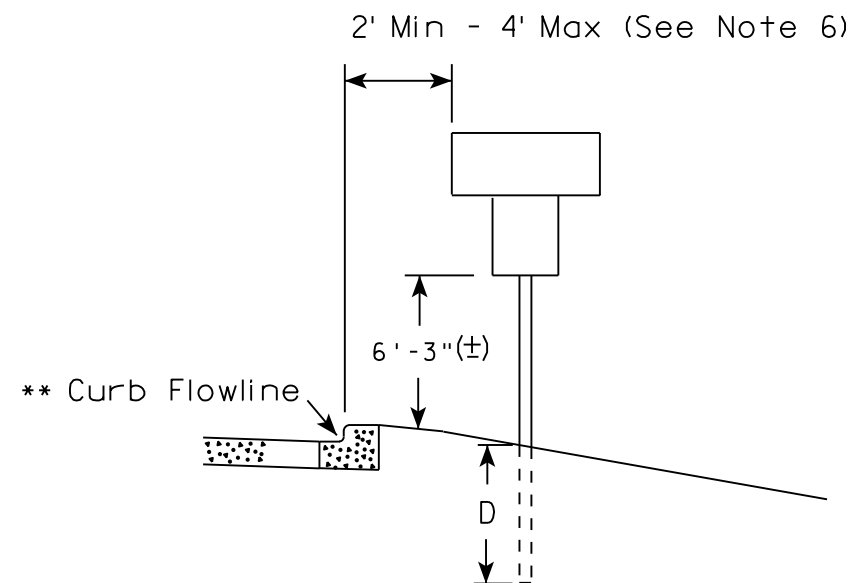
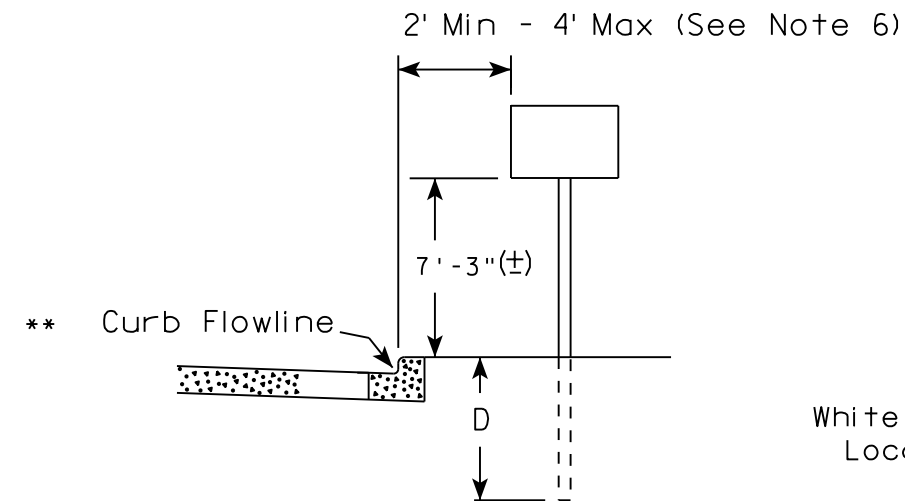
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- 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.

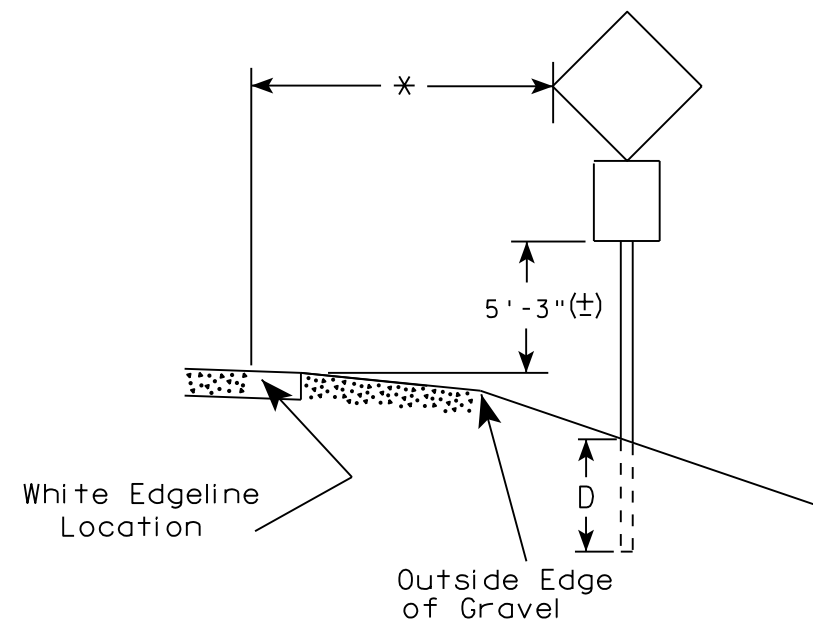
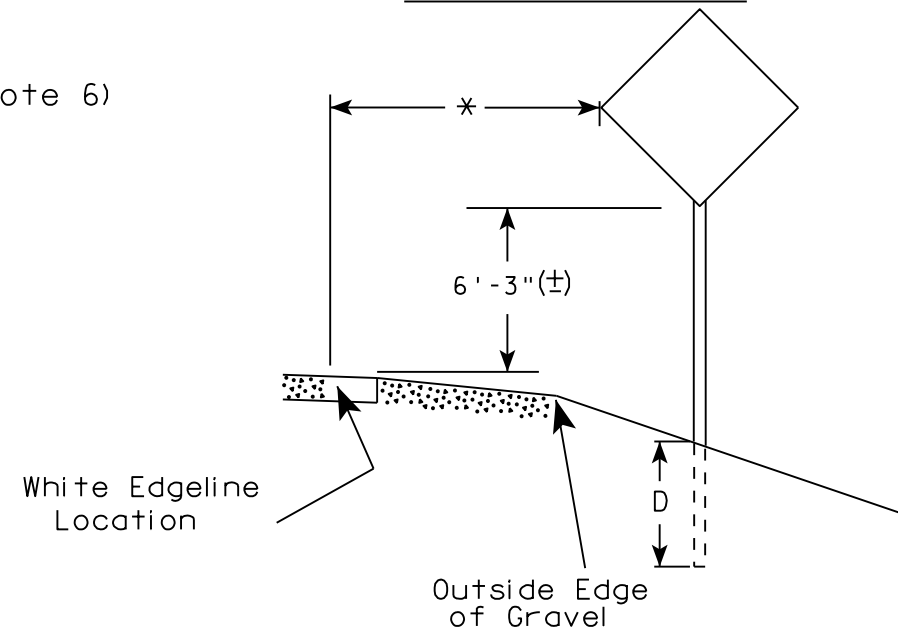
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

URBAN AREA



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

RURAL AREA (See Note 2)



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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

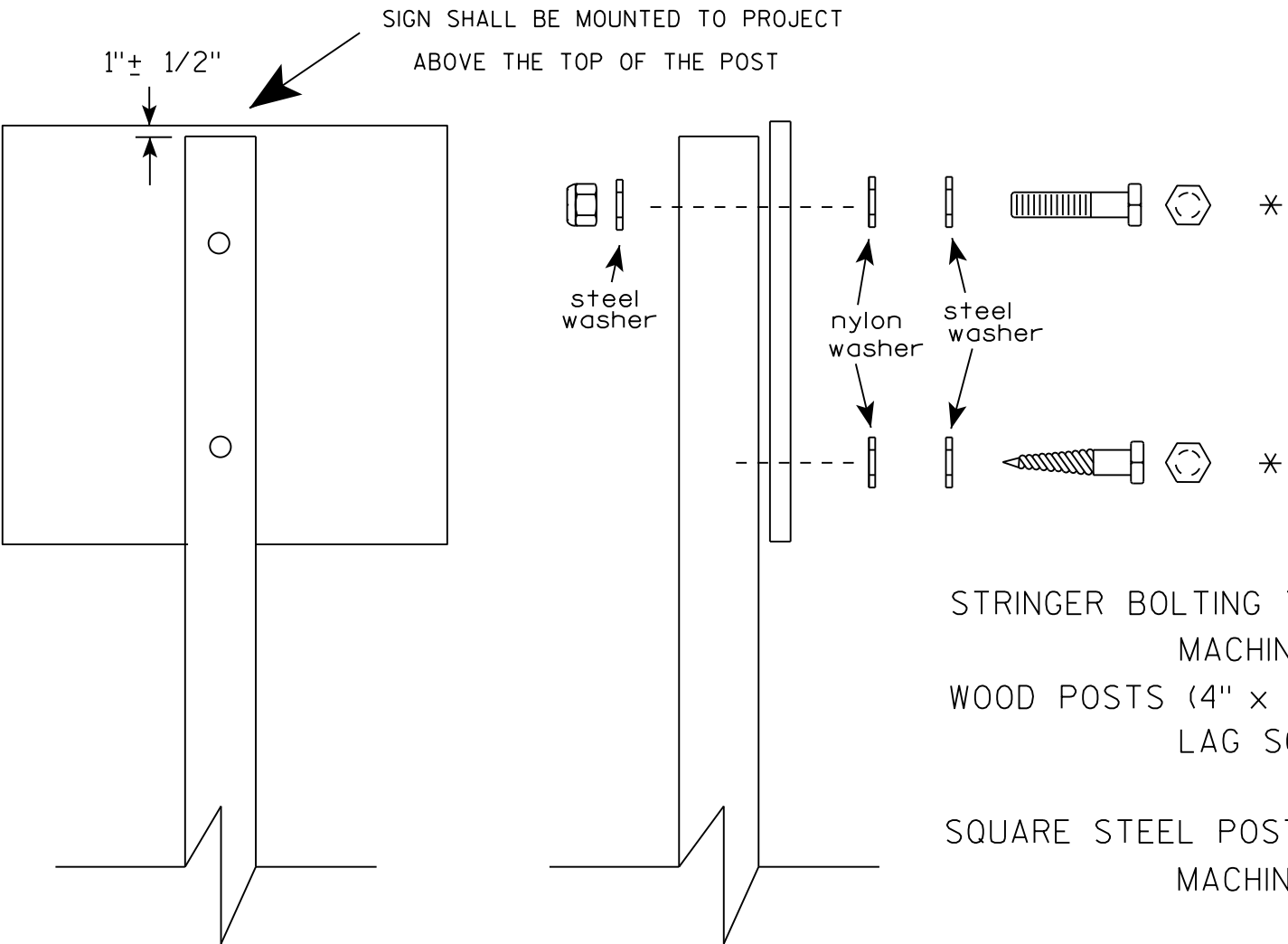
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
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" (±).

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21



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

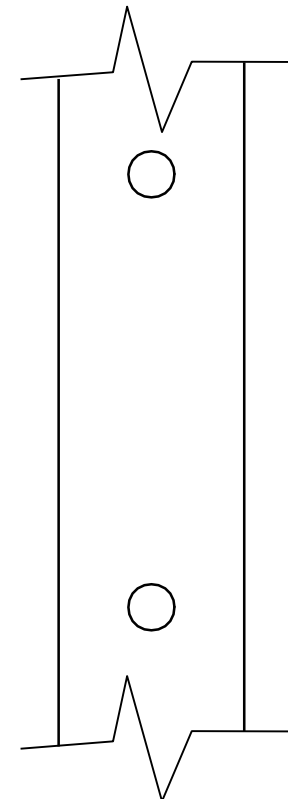
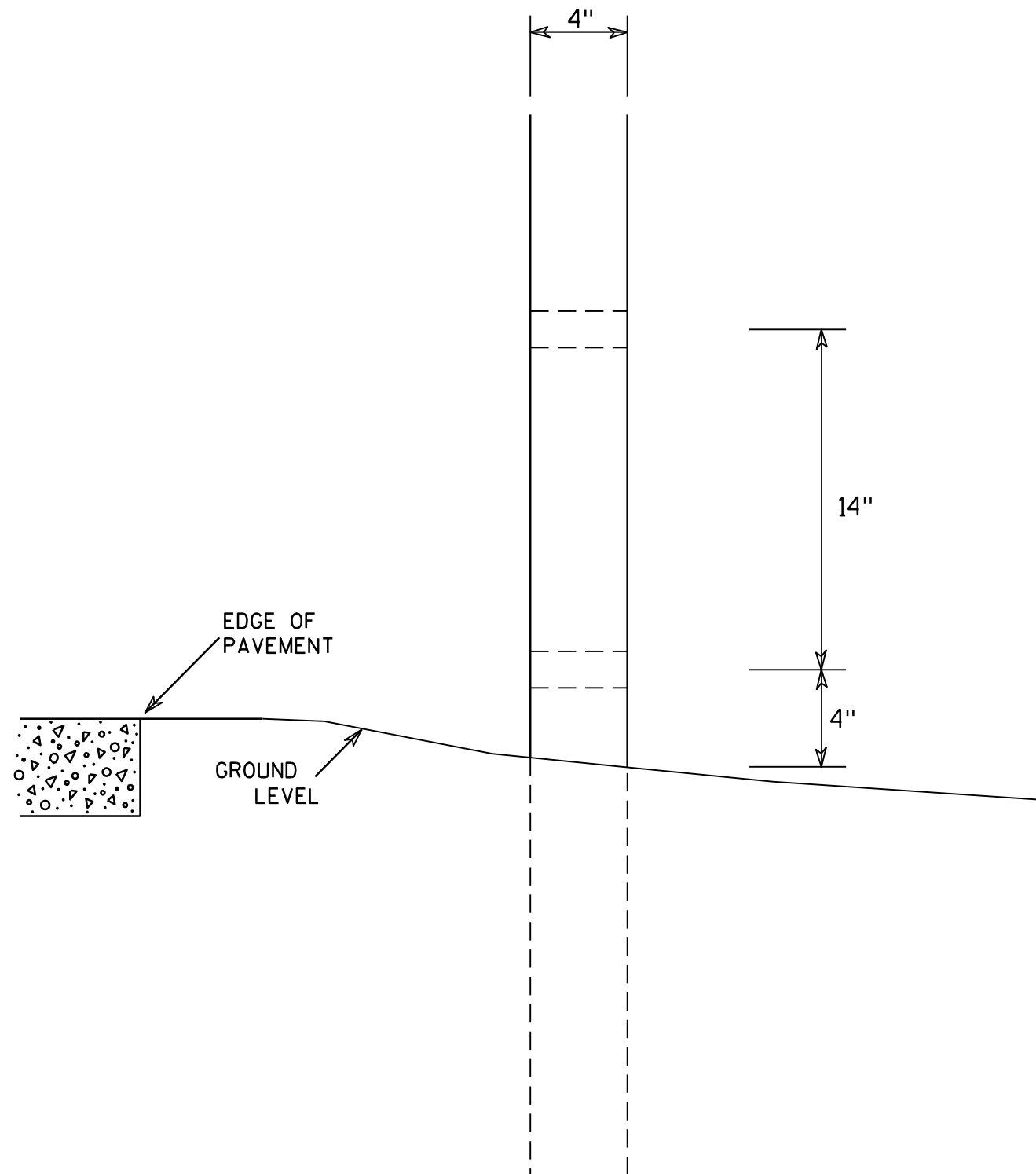
- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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 - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- 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

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

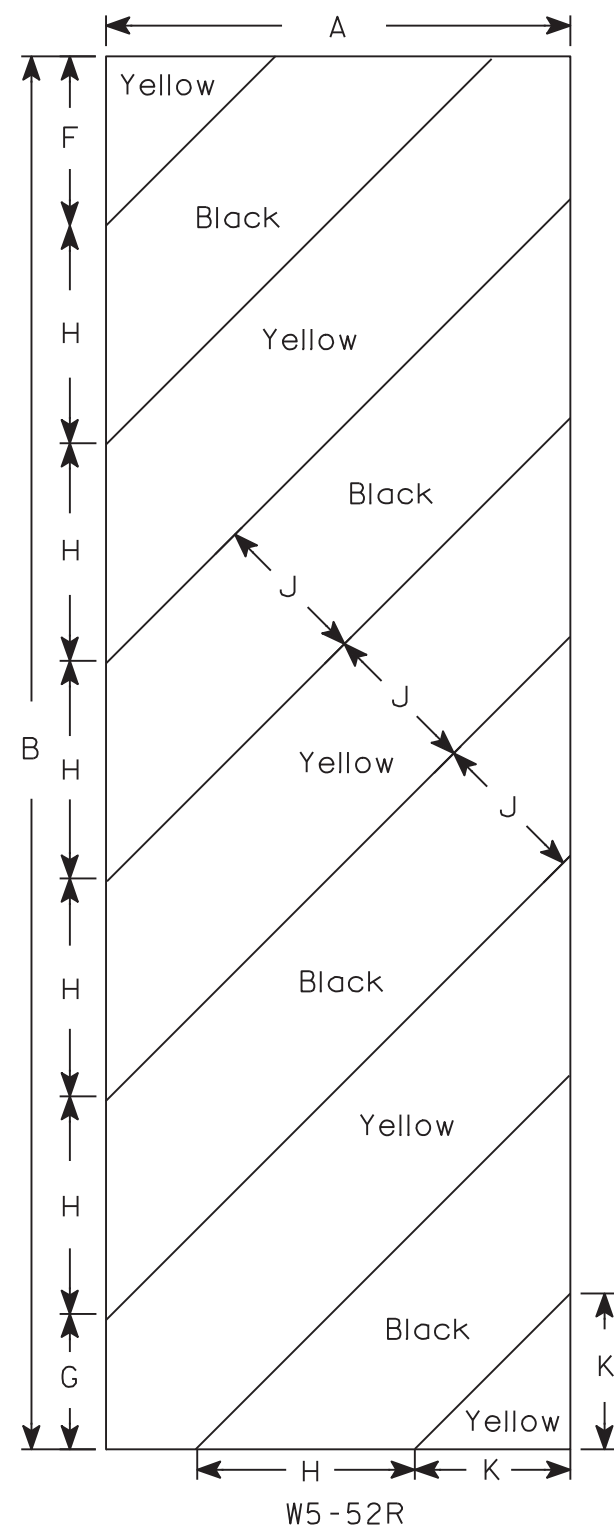
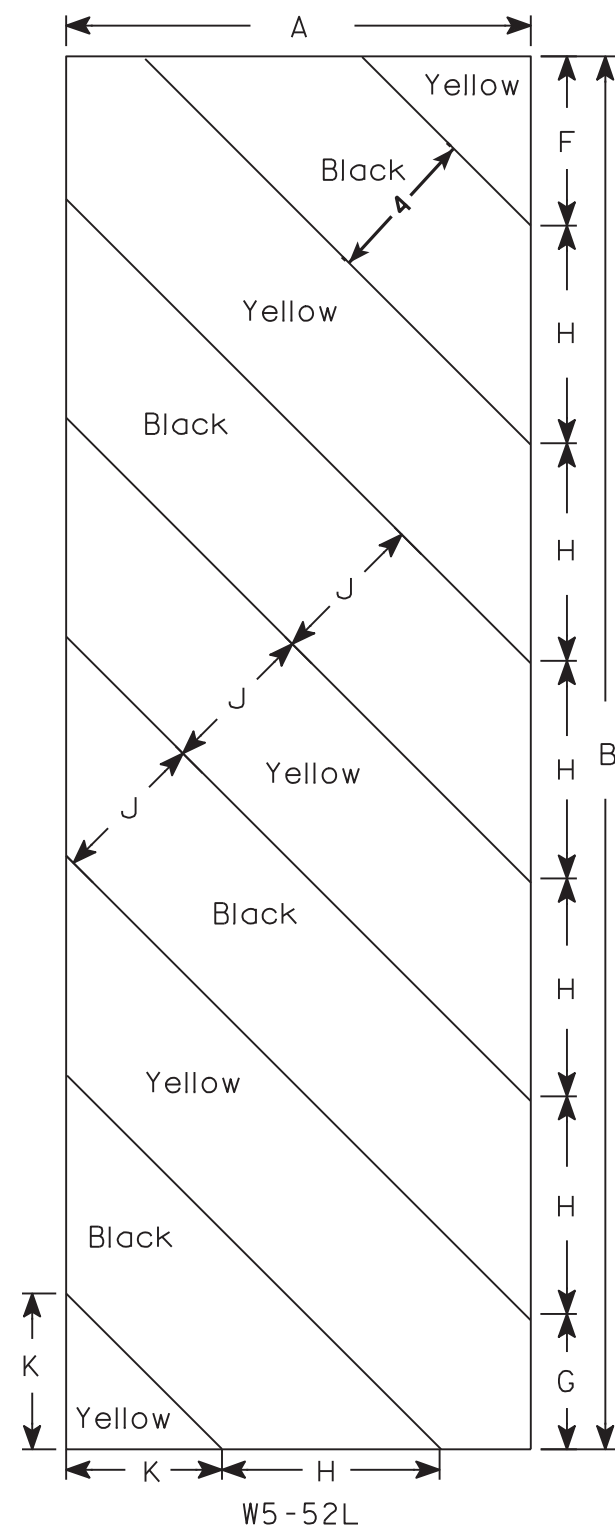
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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 5⁄16																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

DESIGN DATA

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF=1.26
OPERATING RATING FACTOR _____ RF=1.64
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250 KIPS

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

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 _____ $f_y = 60,000$ P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING CONCRETE C.I.P. $10\frac{3}{4} \times 0.365$ -INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS** PER PILE AS AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 40 FT PILE LENGTHS AT THE WEST ABUTMENT AND 60 FT PILE LENGTHS AT THE EAST ABUTMENT. PILE POINTS ARE REQUIRED AT BOTH ABUTMENTS.

**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. (2020) _____ 75
A.D.T. (2040) _____ 100
DESIGN SPEED _____ 40 M.P.H.

HYDRAULIC DATA

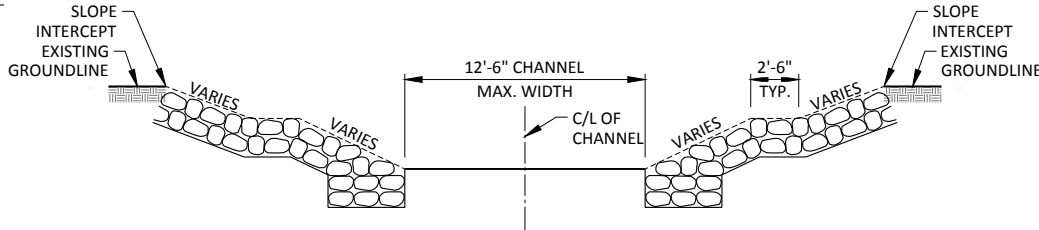
100 YEAR FREQUENCY _____
DRAINAGE AREA _____ 7.4 SQ. MI.
 Q_{100} TOTAL _____ 740 C.F.S.
THROUGH STRUCTURE _____ 740 C.F.S.
OVERTOPPING ROADWAY _____ 0 C.F.S.
VELOCITY - THROUGH STRUCTURE _____ 5.81 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE _____ 127.0 SQ. FT.
HIGH WATER₁₀₀ ELEVATION _____ 809.38
SCOUR CRITICAL CODE _____ 5

EROSION CONTROL

Q_2 _____ 250 C.F.S.
VELOCITY₂ _____ 2.3 F.P.S.
HIGH WATER₂ ELEVATION _____ 807.54

LIST OF DRAWINGS

GENERAL PLAN _____ 1.
CROSS SECTION AND QUANTITIES _____ 2.
SUBSURFACE EXPLORATION _____ 3.
ABUTMENTS _____ 4.
ABUTMENT DETAILS _____ 5.
SUPERSTRUCTURE _____ 6.
TUBULAR RAILING TYPE M _____ 7.



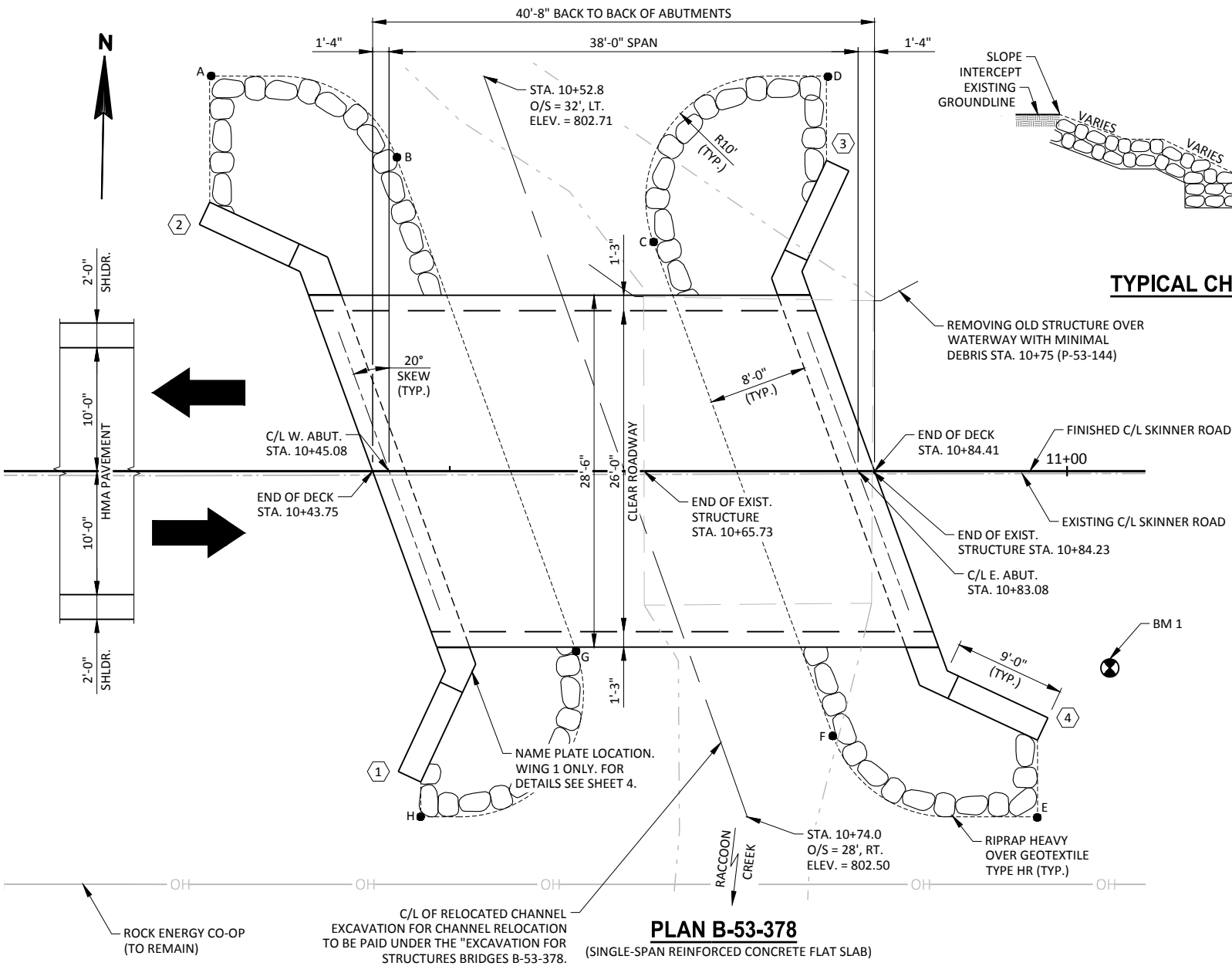
TYPICAL CHANNEL RELOCATION SECTION

INDICATES WING NUMBER

POINT	STATION	OFFSET
A	10+31	32' LT.
B	10+46	25' LT.
C	10+66	18' LT.
D	10+81	32' LT.
E	10+98	28' RT.
F	10+81	21' RT.
G	10+60	15' RT.
H	10+48	28' RT.

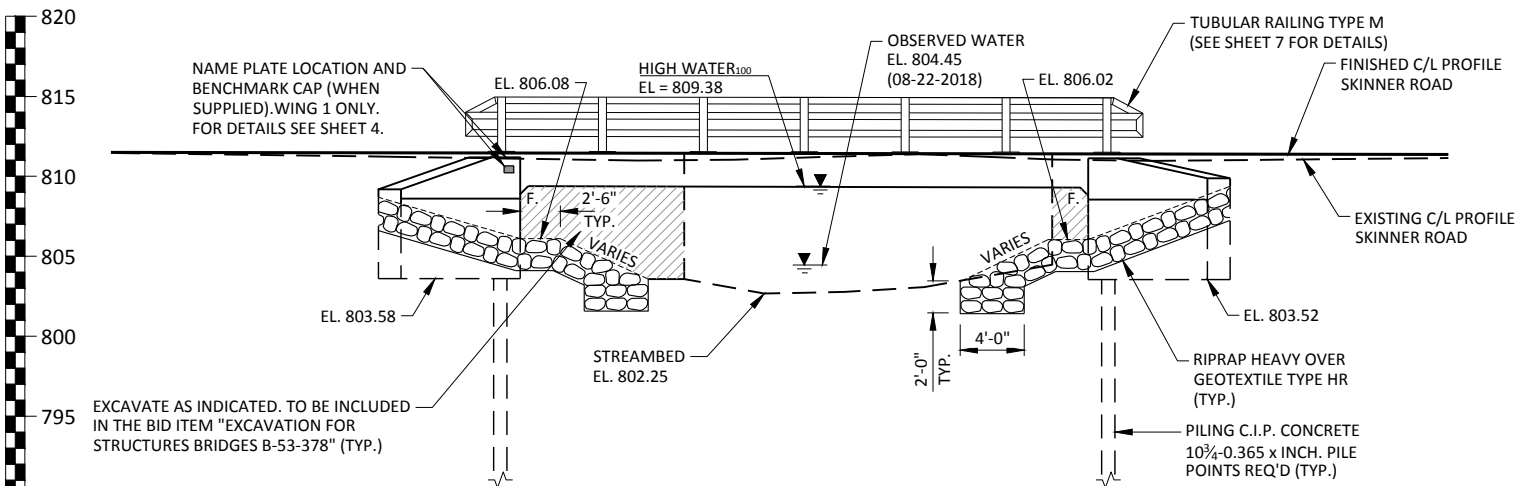
BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	11+03	3/4" IRON REBAR SET, 15.9' RT.	810.09
2	5+62	MAG NAIL SET, 11.4' RT.	815.31
3	15+18	3/4" IRON REBAR SET, 24.5' RT.	814.38



PLAN B-53-378

(SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB)



ELEVATION

(NORMAL TO RACCOON CREEK)



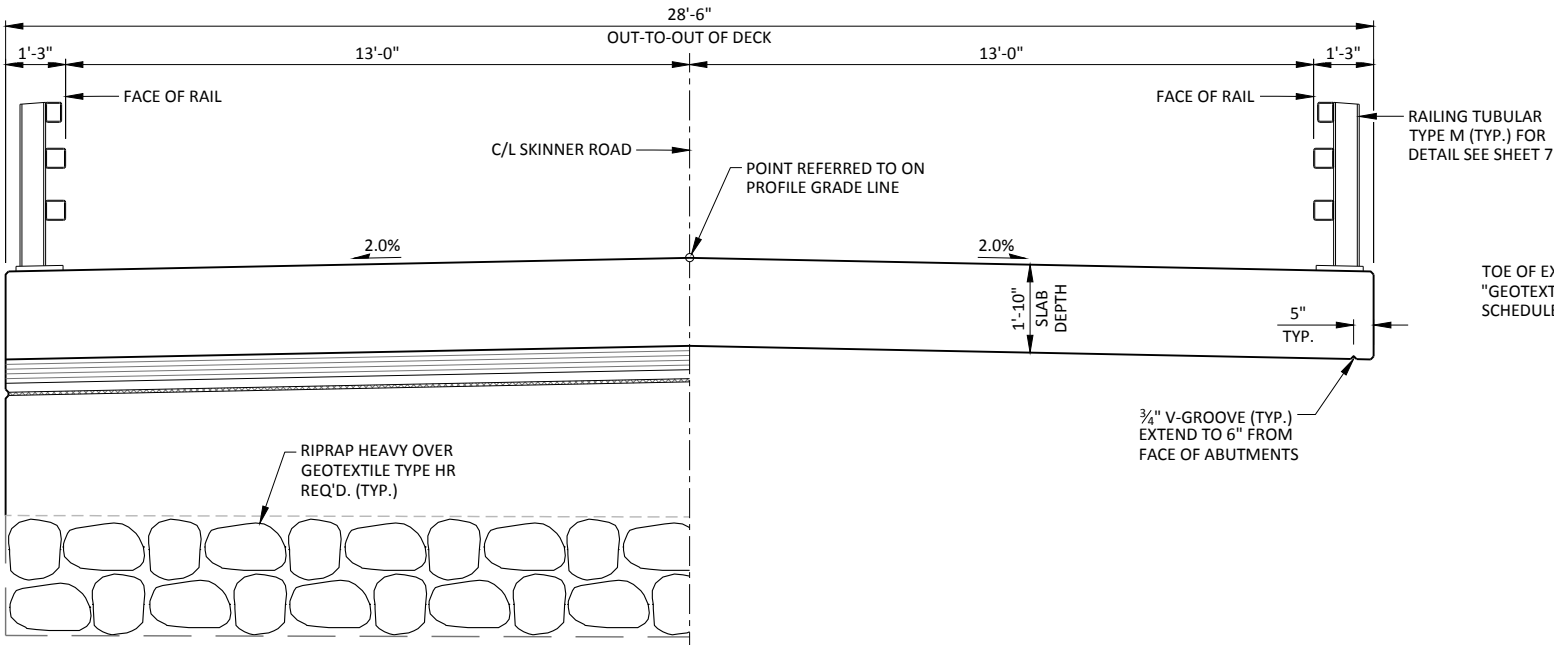
DESIGN CONSULTANT

ROBERT HANOLD, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

WILLIAM DREHER, PE
(608) 266-8489

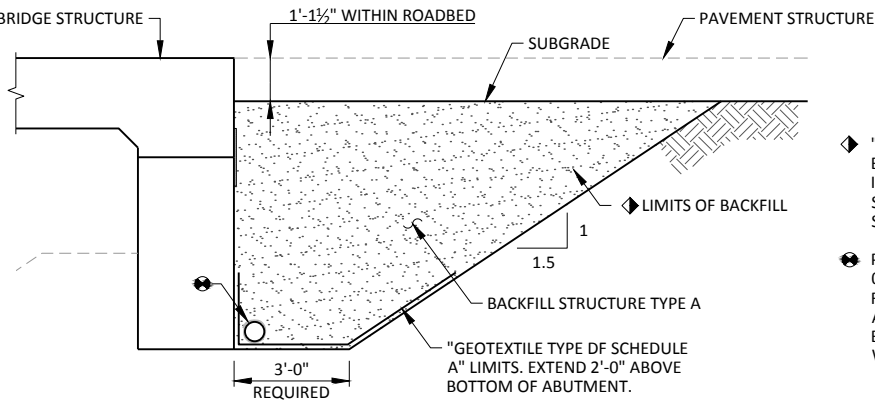
NO.	DATE	REVISION	BY
JEWELL associates engineers, inc. Engineers - Architects - Surveyors			
560 SUNRISE DRIVE SPRING GREEN, WI 53588 OFFICE: (608) 588-7484 www.JewellAssoc.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher CHIEF STRUCTURES DESIGN ENGINEER		08/20/19 DATE
STRUCTURE B-53-378			
SKINNER ROAD OVER RACCOON CREEK			
COUNTY	ROCK	TOWN/CITY/VILLAGE	NEWARK
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS		
DESIGNED BY	RBH	DESIGN CK'D.	PTB
DRAWN BY	RBH	PLANS CK'D.	PTB
GENERAL PLAN			SHEET 1 OF 7



AT ABUTMENT

IN SPAN

PROPOSED CROSS-SECTION THROUGH ROADWAY
(LOOKING EAST)



BACKFILL STRUCTURE DETAIL

ABUTMENT BODY SHOWN - WINGWALLS SIMILAR
(TYPICAL AT BOTH ABUTMENTS)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	UNIT	W. ABUT.	SUPER.	E. ABUT.	TOTALS
203.0600.5	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 10+75	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-53-378	LS	--	--	--	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	155	--	155	310
502.0100	CONCRETE MASONRY BRIDGES	CY	28	83	28	139
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	160	--	160
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2235	--	2235	4470
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1370	1370	1370	16510
513.4061	RAILING TUBULAR TYPE M	LF	--	85	--	85
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	6	--	6	12
550.0500	PILE POINTS	EA	7	--	7	14
550.2106	PILING CIP CONCRETE 10 3/4 x 0.365-INCH	LF	280	--	420	700
606.0300	RIPRAP HEAVY	CY	60	--	60	120
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	--	80	160
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	50	--	50	100
645.0120	GEOTEXTILE TYPE HR	SY	100	--	105	205
NON-BID ITEMS						
	FILLER	SIZE	--	--	--	1/2" & 3/4"
	NAME PLATE					

RAILING TUBULAR
TYPE M (TYP.) FOR
DETAIL SEE SHEET 7

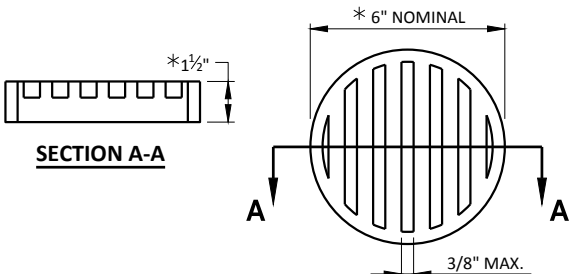
TOE OF EXCAVATION AND
"GEOTEXTILE TYPE DF
SCHEDULE A" LIMITS

PIPE UNDERDRAIN
WRAPPED 6-INCH

PROPOSED
ABUTMENT

TO SUITABLE DRAINAGE.
ATTACH RODENT SCREEN AT
ENDS OF PIPE UNDERDRAIN.
SEE DETAIL THIS SHEET.

PIPE UNDERDRAIN DETAIL



RODENT SCREEN

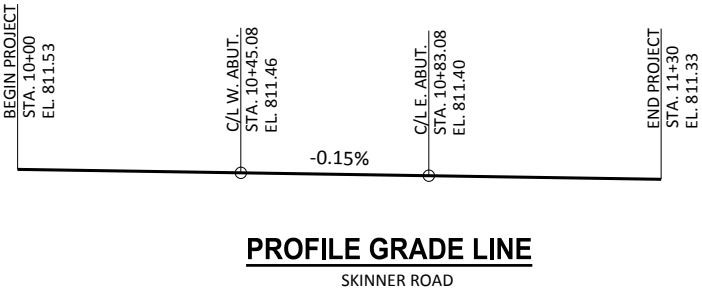
NOTES:

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

ORIENT SCREEN SO SLOTS ARE VERTICAL.

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

THE RODENT SCREEN 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 SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



PROFILE GRADE LINE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF NAVD 83 (2011).

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

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

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION MI53, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

ANY EXCAVATION BELOW THE ABUTMENT AND ASSOCIATED ABUTMENT BEDDING MATERIALS REQUIRE THE APPROVAL OF THE ENGINEER IN THE FIELD.

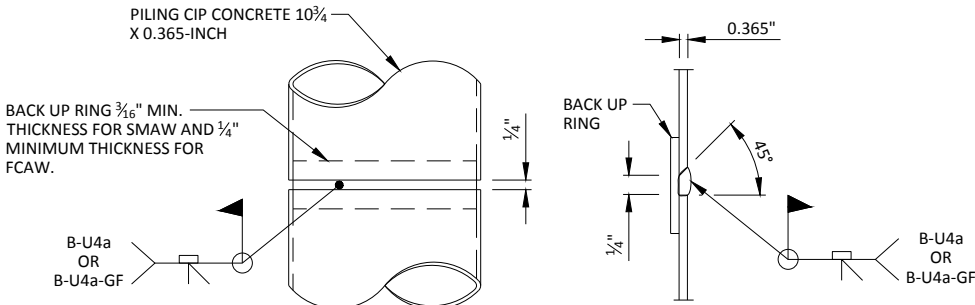
APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE DECK, AND THE EXTERIOR 12" OF THE UNDERSIDE OF THE DECK (CONCRETE MATERIAL ONLY).

THE EXISTING STRUCTURE (P-53-144) IS A SINGLE-SPAN STEEL DECK GIRDER STRUCTURE WITH A CONCRETE DECK SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS. THE STRUCTURE IS 26.8' WIDE BY 22.5' LONG AND SHALL BE REMOVED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-53-378" SHALL BE THE EXISTING GROUNDLINE.

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

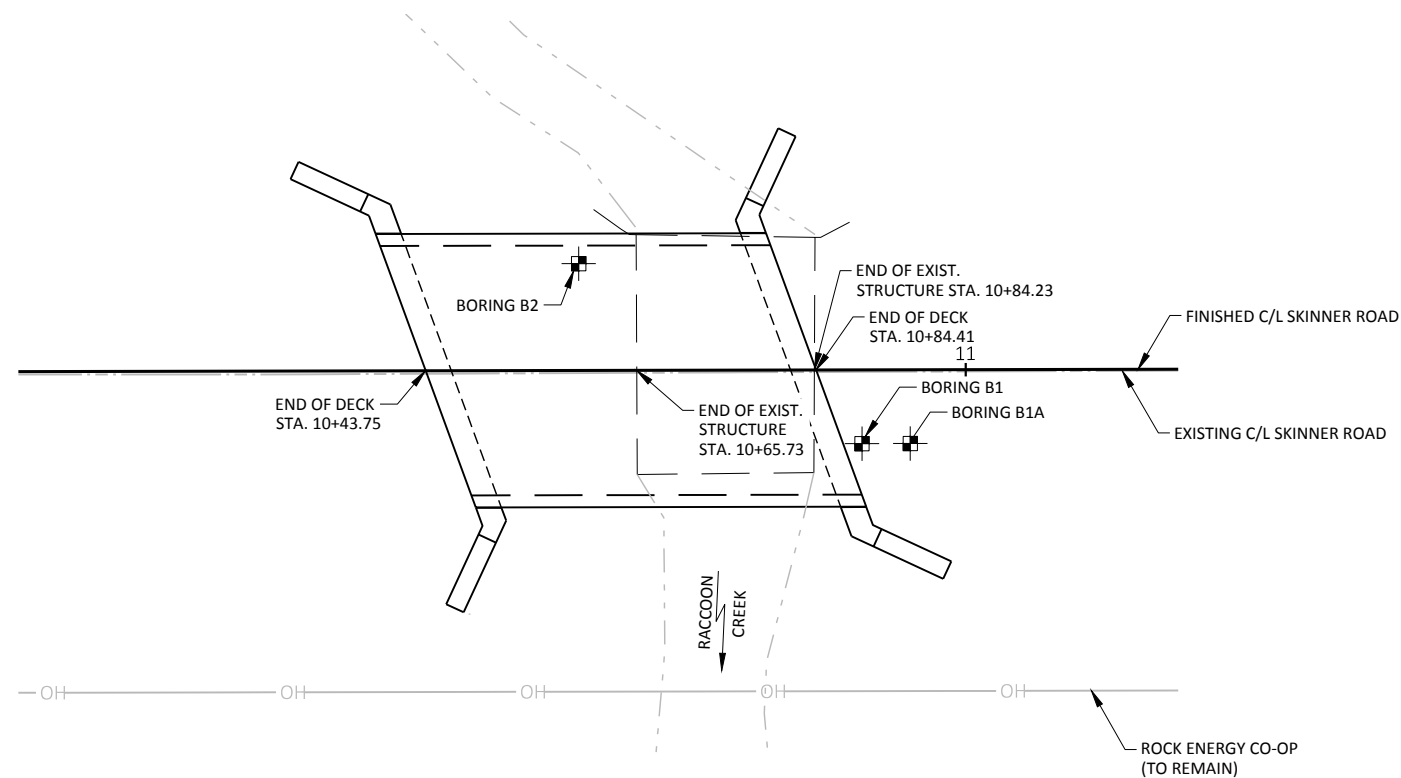


CAST-IN-PLACE 'PIPE PILE' C.I.P. PILE WELD DETAIL

NOTES:

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

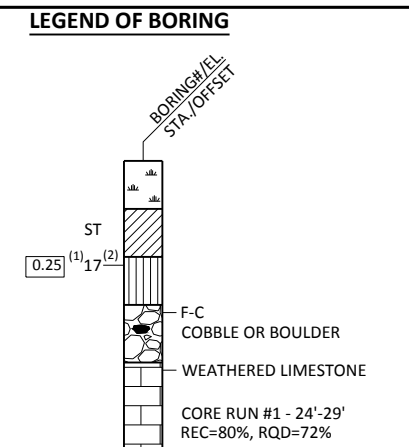
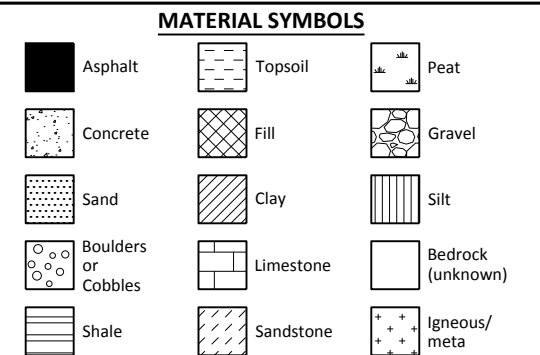
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-378			
DRAWN BY RBH		PLANS CK'D. RBH	
CROSS SECTION AND QUANTITIES		SHEET 2 OF 7	



BORING NUMBER	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B1	08/01/18	225,668.57	441,993.13
B1A	08/02/18	225,668.57	441,998.15
B2	08/02/18	225,687.42	441,963.07

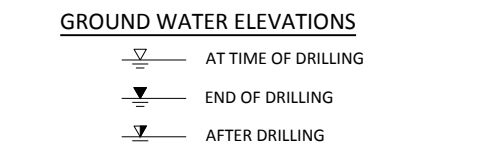
BORINGS & REPORT
COMPLETED BY:

NUMMELIN TESTING SERVICES, INC.
5620 WOODLAND DRIVE
WAUNAKEE, WI 53597



(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.



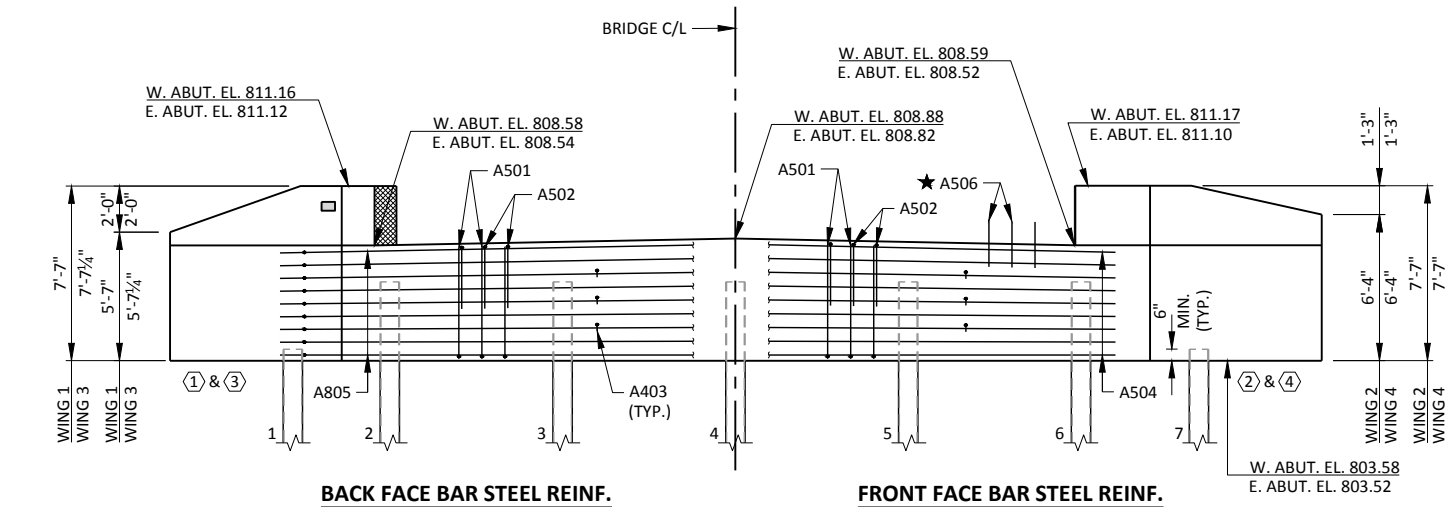
ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

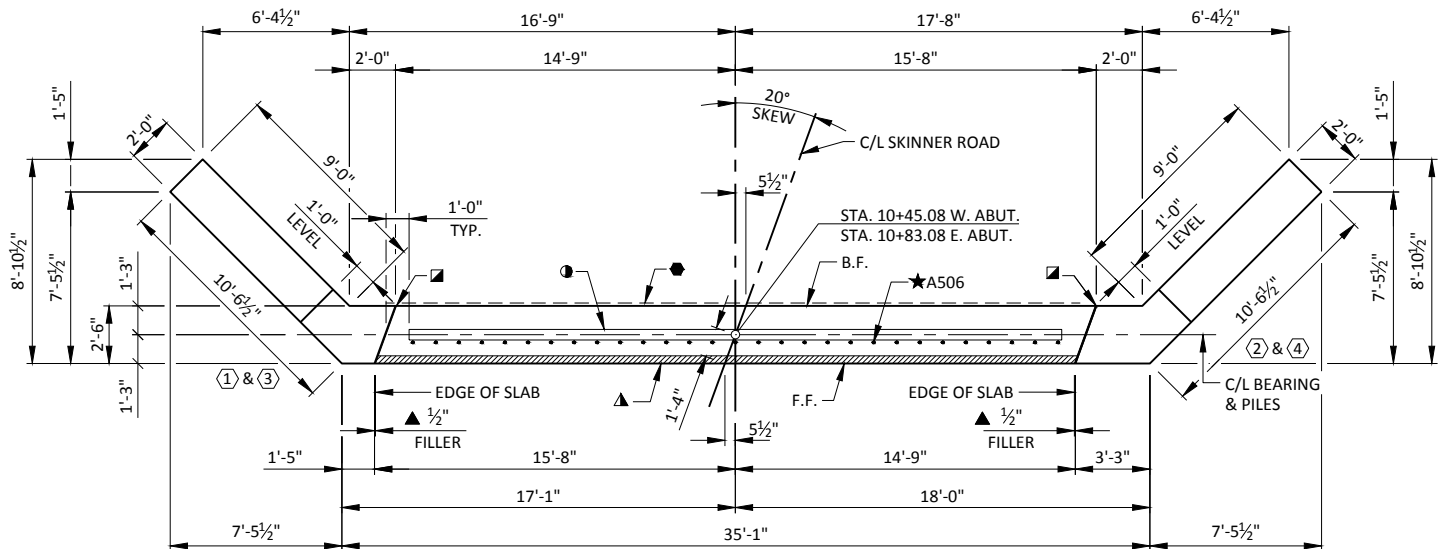
BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS ARE NOT WARRANTED. 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-53-378			
		DRAWN BY	PLANS CK'D. RBH
SUBSURFACE EXPLORATION		SHEET 3 OF 7	

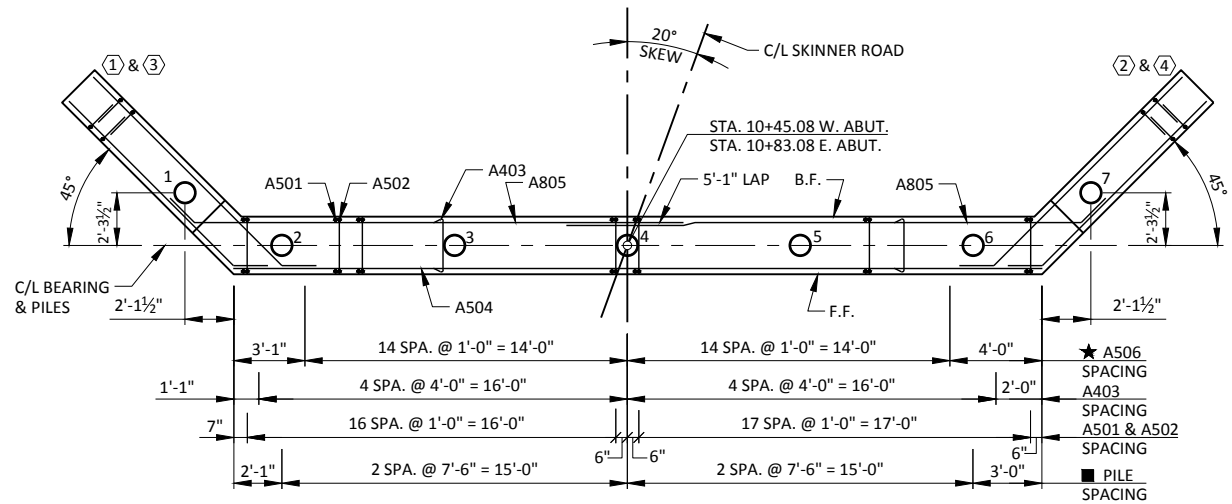


ELEVATION

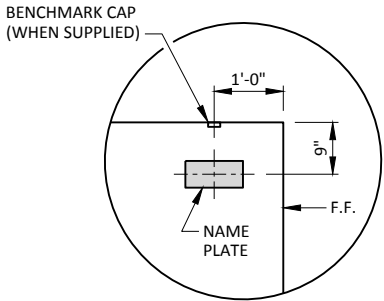
(WEST ABUTMENT LOOKING WEST)
(EAST ABUTMENT LOOKING EAST)



PLAN

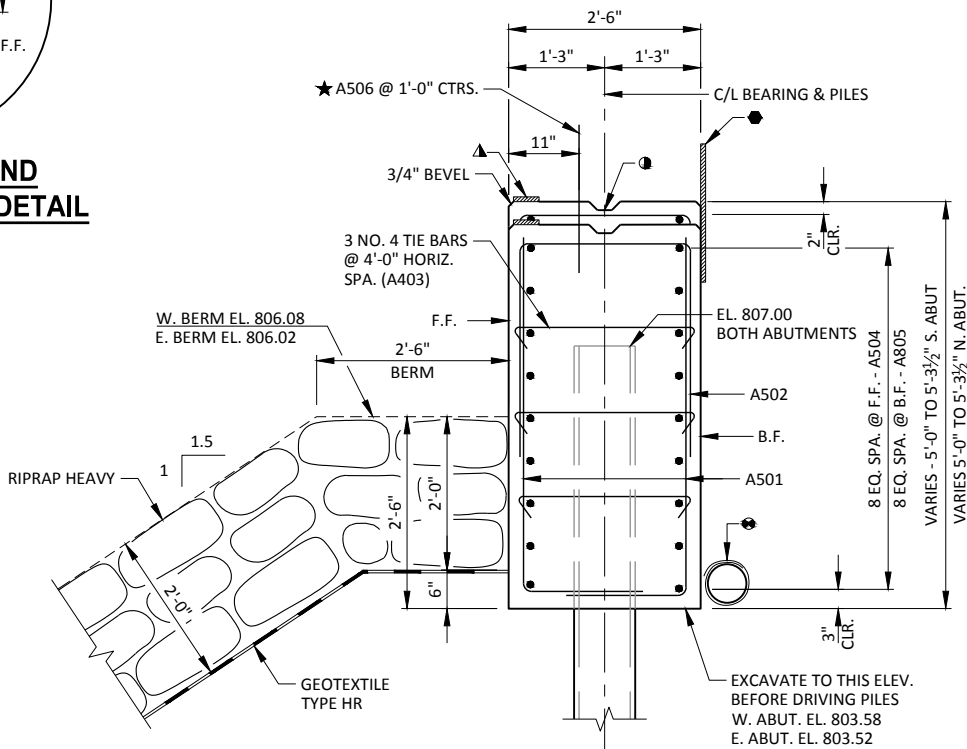


LAYOUT



NAME PLATE AND
BENCHMARK CAP DETAIL

(WING 1 ONLY)



TYPICAL SECTION THROUGH ABUTMENT BODY

ABUTMENT TO BE SUPPORTED ON PILING CIP CONCRETE 10 $\frac{3}{4}$ X 0.365-INCH DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 40 FT PILE LENGTHS AT THE WEST ABUTMENT AND 60 FT AT THE EAST ABUTMENT. PILE POINTS ARE REQUIRED AT BOTH ABUTMENTS.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

SEAT ELEVATIONS SHOWN IN THE ELEVATION VIEW ARE TAKEN AT THE C/L OF BEARING NEGLECTING THE KEYED CONSTRUCTION JOINT.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING

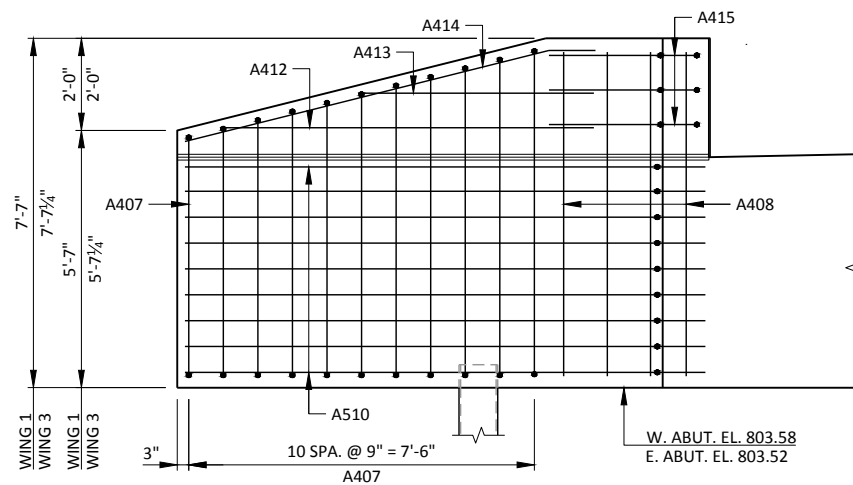
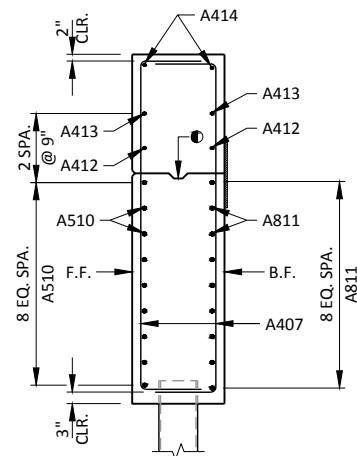
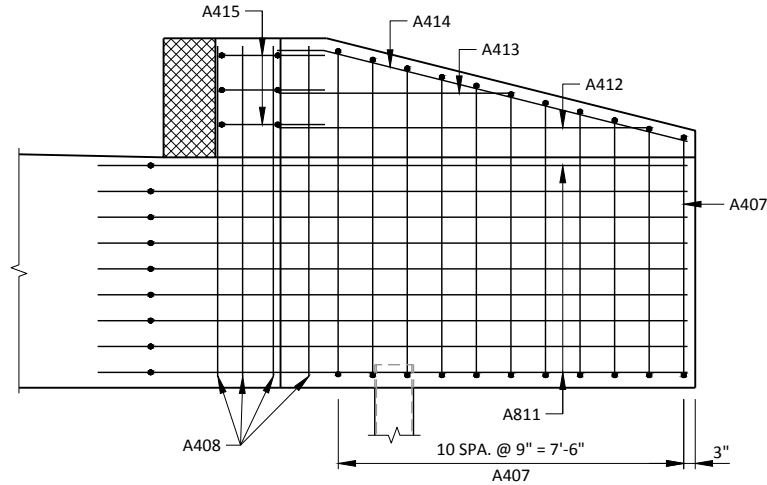
F.F. - FRONT FACE

B.F. - BACK FACE

LEGEND

- KEYED CONSTRUCTION JOINT FORMED BY SURFACED & BEVELED 2x6.
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- $\frac{1}{2}$ " FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINUOUS JOINT SEALER. (1" DEEP & HOLD $\frac{3}{8}$ " BELOW SURFACE OF CONCRETE)
- $\frac{3}{4}$ " x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- A506 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE IT HAS TAKEN ITS INITIAL SET. EMBED BAR 1'-0".
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-53-378			
DRAWN BY		RBH	PLANS CK'D. PTB
ABUTMENTS			SHEET 4 OF 7

**F.F. ELEVATION - WINGS 1 & 3****SECTION A-A****B.F. ELEVATION - WINGS 1 & 3****BILL OF BARS
TWO ABUTMENTS SHOWN****2,740 LB (COATED)
4,470 LB (UNCOATED)**

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	BAR SERIES	LOCATION
A501	140	6-1	X			BODY - VERT. - F.F. & B.F.
A502	70	7-5	X			BODY - VERT. - TOP
A403	54	2-10	X			TIE BARS
A504	18	35-1				BODY - HORIZ. - F.F.
A805	36	23-8	X			BODY - HORIZ. - B.F.
A506	58	2-0		X		BODY - VERT. - DOWELS
A407	44	8-8	X	X	*	WING 1 & 3 - VERT. - F.F. & B.F.
A408	34	7-2		X		WINGS - VERT.
A409	4	3-3		X		WINGS - VERT. - TOP
A510	36	11-9	X	X		WINGS - HORIZ. - F.F.
A811	36	13-4	X	X		WINGS - HORIZ. - B.F.
A412	4	8-2		X		WING 1 & 3 - HORIZ. - F.F. & B.F. - TOP
A413	4	5-2		X		WING 1 & 3 - HORIZ. - F.F. & B.F. - TOP
A414	4	9-1	X	X		WING 1 & 3 - HORIZ. - F.F. & B.F. - TOP
A415	6	8-6	X	X		WING 1 & 3 - HORIZ. - TOP
A416	44	9-0	X	X	*	WING 2 & 4 - VERT. - F.F. & B.F.
A417	4	8-11		X		WING 2 & 4 - HORIZ. - F.F. & B.F. - TOP
A418	4	8-4		X		WING 2 & 4 - HORIZ. - F.F. & B.F. - TOP
A419	4	8-11	X	X		WING 2 & 4 - HORIZ. - F.F. & B.F. - TOP
A420	6	10-4	X	X		WING 2 & 4 - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

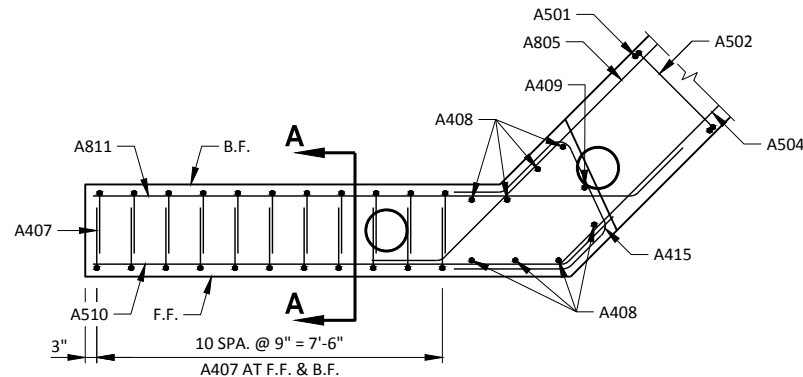
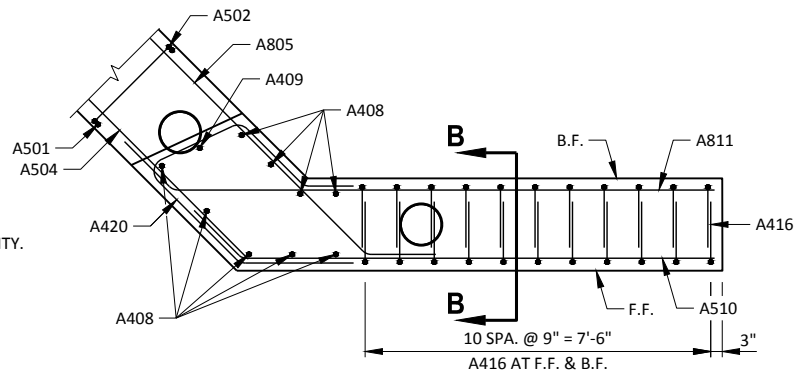
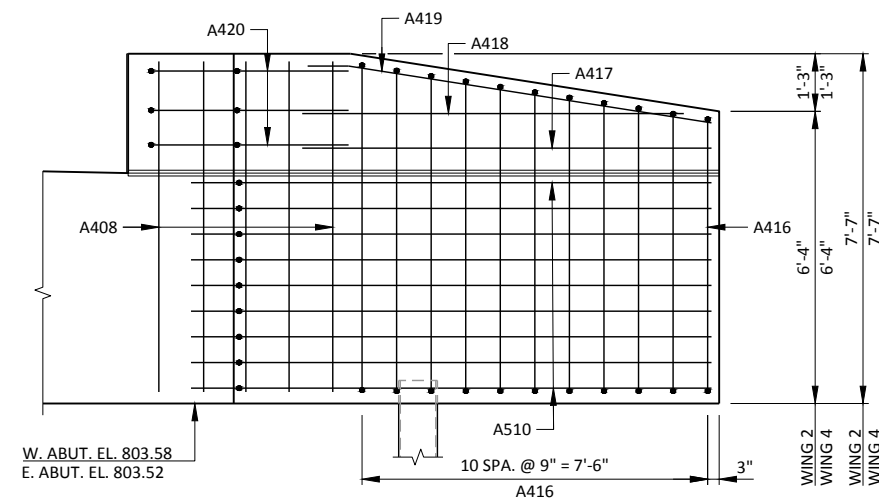
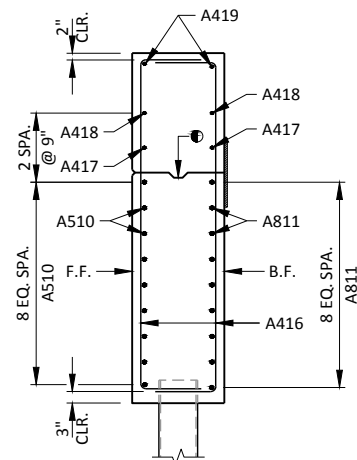
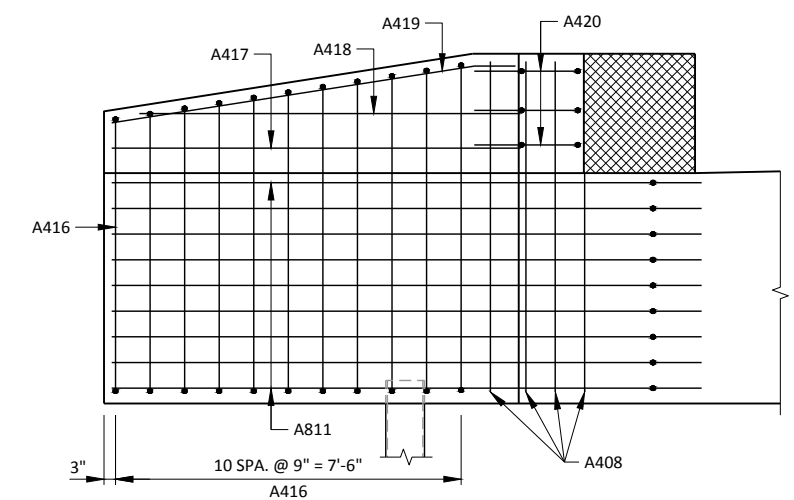
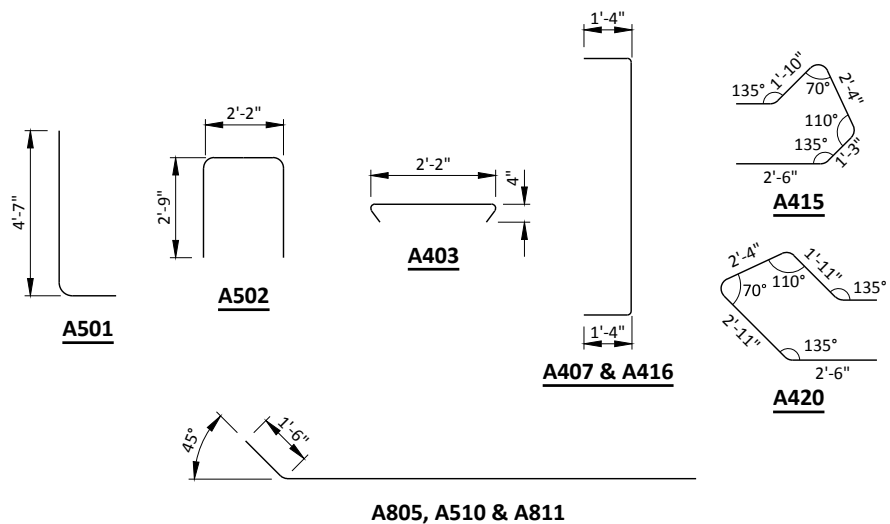
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

* LENGTH SHOWN IS AN AVERAGE LENGTH ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A407	4 SERIES OF 11	9-7 to 7-9
A416	4 SERIES OF 11	9-7 to 8-5

BUNDLE AND TAG EACH SERIES SEPARATELY.

**PLAN VIEW - WINGS 1 & 3****PLAN VIEW - WINGS 2 & 4****F.F. ELEVATION - WINGS 2 & 4****SECTION B-B****B.F. ELEVATION - WINGS 2 & 4****A414 & A419**

MARK	'A'
A414	165°58'
A419	171°07'

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ABUTMENT DETAILS			SHEET 5 OF 7

BILL OF BARS
SUPERSTRUCTURE

13,770 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	58	7-8	X	X	ENDS OF DECK
S502	20	40-4		X	SLAB - TOP - LONGIT.
S503	47	29-11		X	SLAB - TOP - TRANS.
S504	46	29-11		X	SLAB - BOTTOM - TRANS.
S1005	55	34-8		X	SLAB - BOTTOM - LONGIT.
S1006	2	40-4		X	SLAB - BOTTOM - LONGIT. - EDGES
S607	40	6-0		X	RAIL POSTS - INTERIOR
S608	16	6-0	X	X	RAIL POSTS - CORNERS
S609	24	12-0	X	X	RAIL POSTS
S610	4	12-0	X	X	RAIL POSTS - CORNERS 2 & 4

NOTES: THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

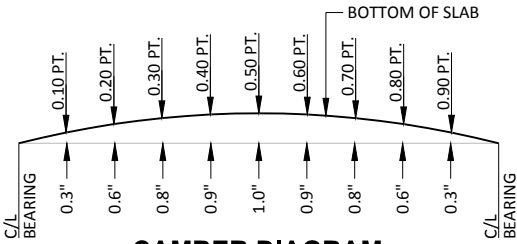
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

SOME BARS HAVE BEEN OMITTED FOR CLARITY.

SURVEY TOP OF DECK ELEVATIONS

	W. ABUT.	0.50 PT.	E. ABUT.
NORTH EDGE OF DECK			
CENTER LINE			
SOUTH EDGE OF DECK			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF DECK ELEVATIONS AT THE C/L OF THE ABUTMENTS AND AT 0.50 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG THE EDGE OF DECK AND CENTER LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



CAMBER DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPAN AS SHOWN TO PROVIDE FOR THEORETICAL DEADLOAD DEFLECTION AND FUTURE PLASTIC FLOW. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

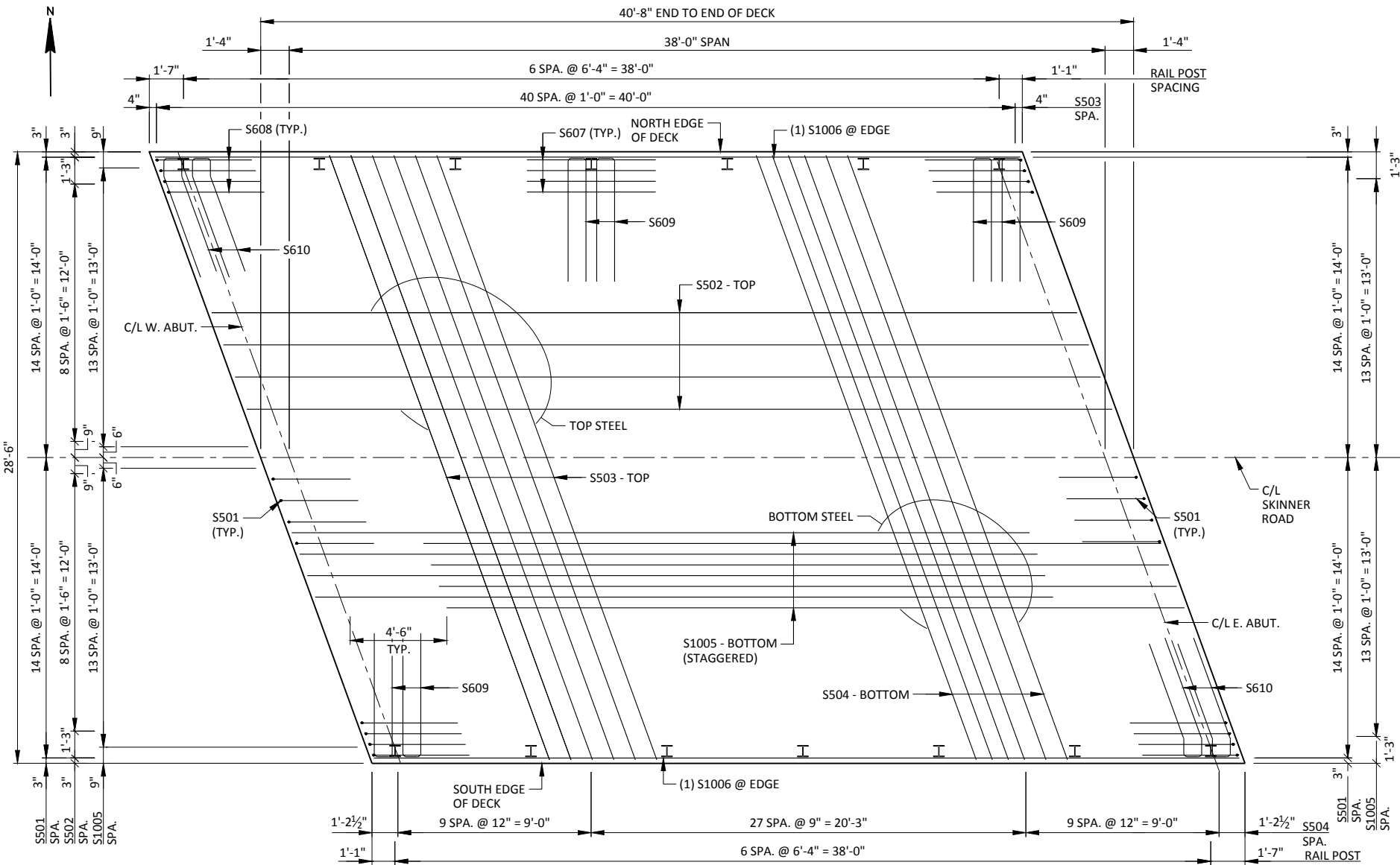
TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB OR CENTER LINE FOLLOW THIS PROCEDURE:

- TOP OF SLAB ELEVATION AT FINAL GRADE
- SLAB THICKNESS
- +CAMBER
- +FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (COMPUTED BY CONTRACTOR)
- =TOP OF SLAB FALSEWORK ELEVATION.

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. (HORIZONTAL)
- ▲ ¾" x 4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- * DIMENSION IS NORMAL TO THE C/L OF SUBSTRUCTURE UNITS.
- ** SEE SHEET 4 FOR PLACEMENT OF A506 BARS.

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PLAN

TOP OF DECK ELEVATIONS

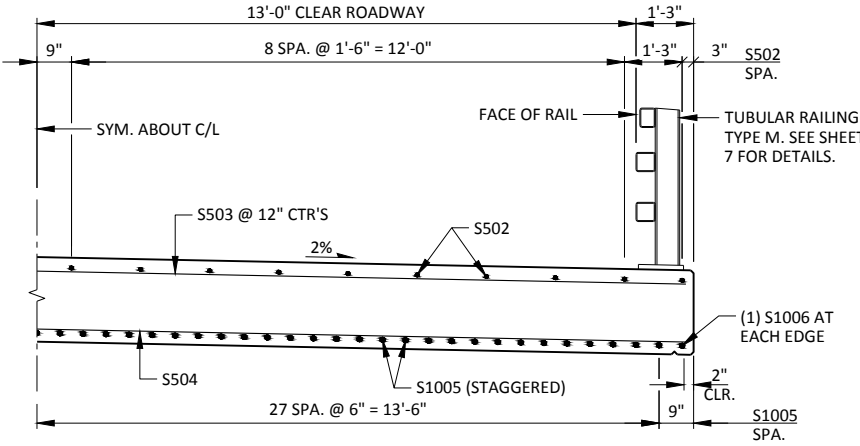
	C/L W. ABUT.	0.10 PNT.	0.20 PNT.	0.30 PNT.	0.40 PNT.	0.50 PNT.	0.60 PNT.	0.70 PNT.	0.80 PNT.	0.90 PNT.	C/L E. ABUT.
N. EDGE	811.17	811.17	811.16	811.16	811.15	811.14	811.14	811.13	811.13	811.12	811.12
C/L	811.46	811.45	811.44	811.44	811.43	811.43	811.42	811.42	811.41	811.40	811.40
S. EDGE	811.16	811.15	811.15	811.14	811.13	811.13	811.12	811.12	811.11	811.11	811.10

NOTES

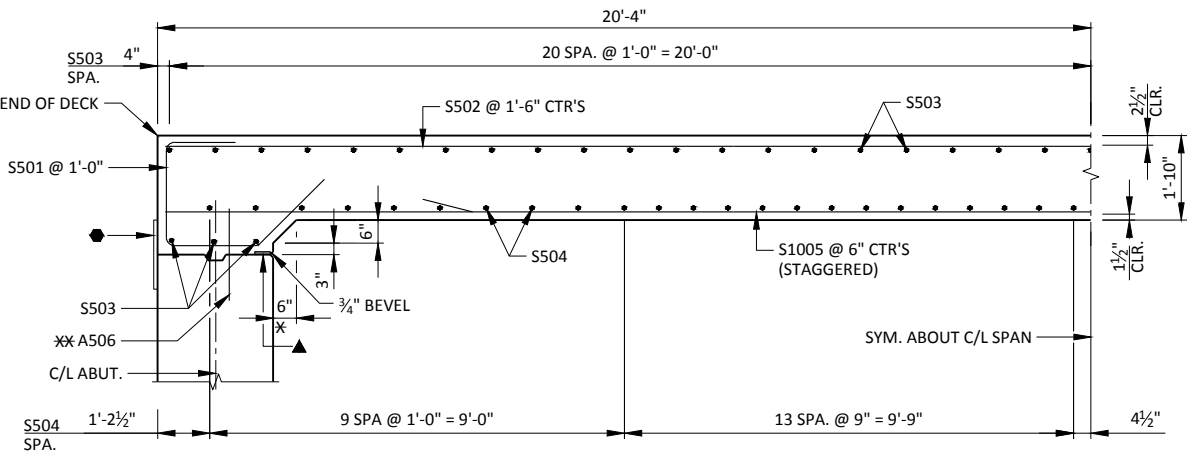
SUPPORT ALTERNATE TOP TRANSVERSE BARS IN SLAB BY INDIVIDUAL BAR CHAIRS AT APPROX. 3'-0" CENTERS. SUPPORT BOTTOM LONGITUDINAL BARS BY CONTINUOUS BAR CHAIRS AT APPROX. 4'-0" CENTERS.

PLACE TRANSVERSE BARS PARALLEL TO THE CENTERLINE OF SUBSTRUCTURE UNITS.

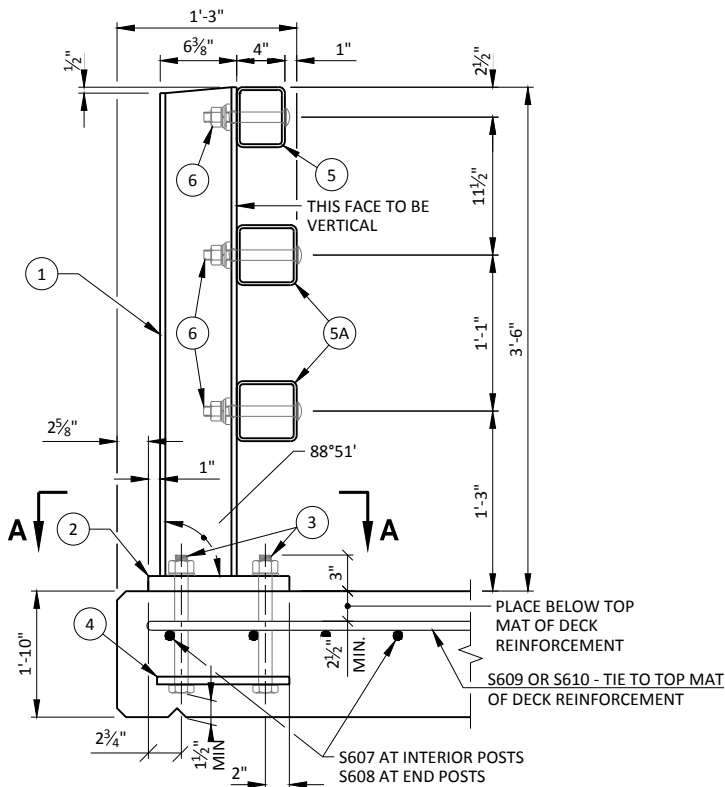
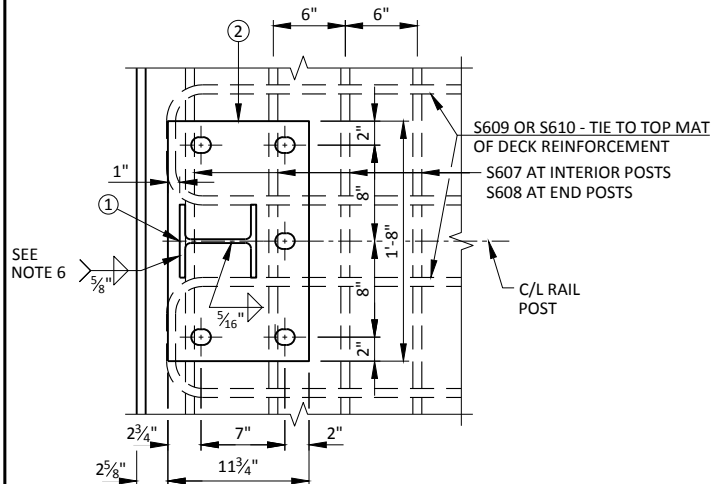
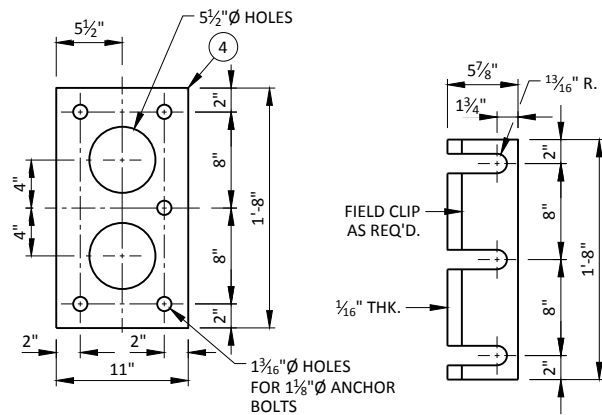
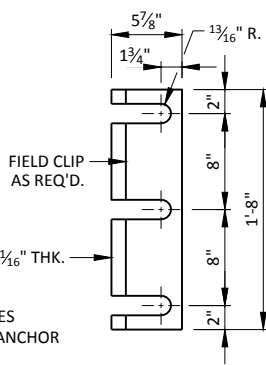
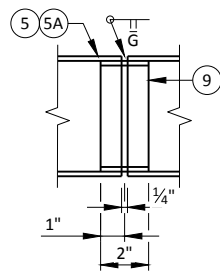
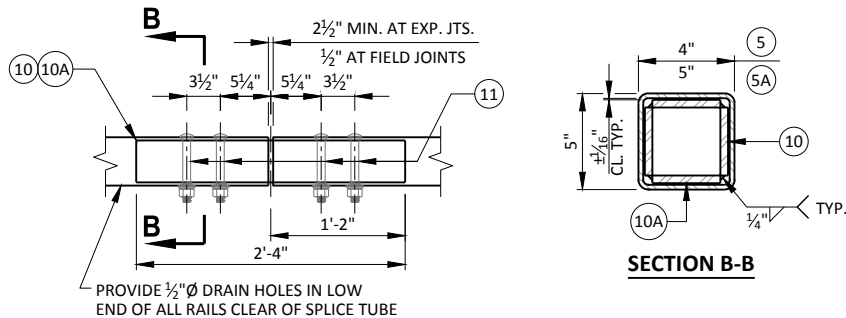
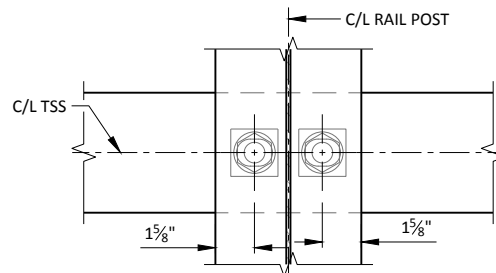
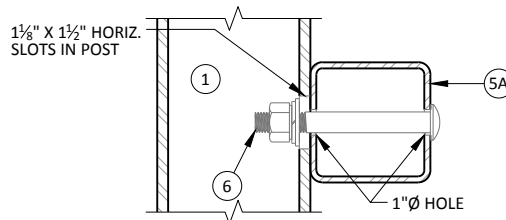
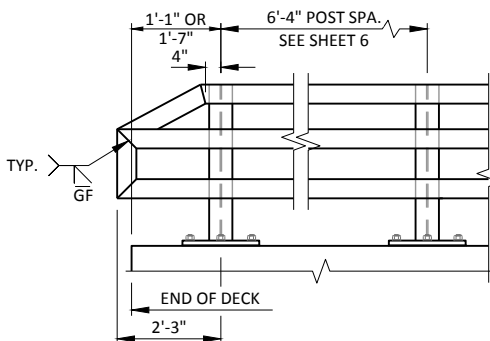
THE SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).



PARTIAL CROSS SECTION THROUGH ROADWAY



PARTIAL LONGITUDINAL SECTION THROUGH ROADWAY

**SECTION THROUGH RAILING ON DECK****SECTION A-A****ANCHOR PLATE**
AT RAIL TO DECK CONNECTION**POST SHIM DETAIL****SHOP RAIL SPLICE DETAIL**
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)**FIELD ERECTION JOINT DETAIL****SECTION THROUGH POST WEB****SECTION THROUGH RAIL**NOTE: CONNECTIONS AT LOWER RAILS SHOWN.
CONNECTIONS AT TOP RAIL SIMILAR.**TYPICAL RAIL TO POST CONNECTIONS****PART ELEVATION OF RAILING****LEGEND**

- W6x25 WITH 1 1/8" x 1 1/2" HORIZONTAL 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 1/4"x1 1/4"x1'-8" WITH 1 1/8"x1 1/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ASTM A449 - 1 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG.
- 5/8"x11"x1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
- TSS 5x4x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- 5A TSS 5x5x0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16"x1 1/8"x1 1/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8"x3 5/8"x2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 3/8"x2 5/8"x2'-4" PLATE USED IN NO. 5, 3/8"x3 5/8"x2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16"x1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/16"x2 3/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.

GENERAL NOTES

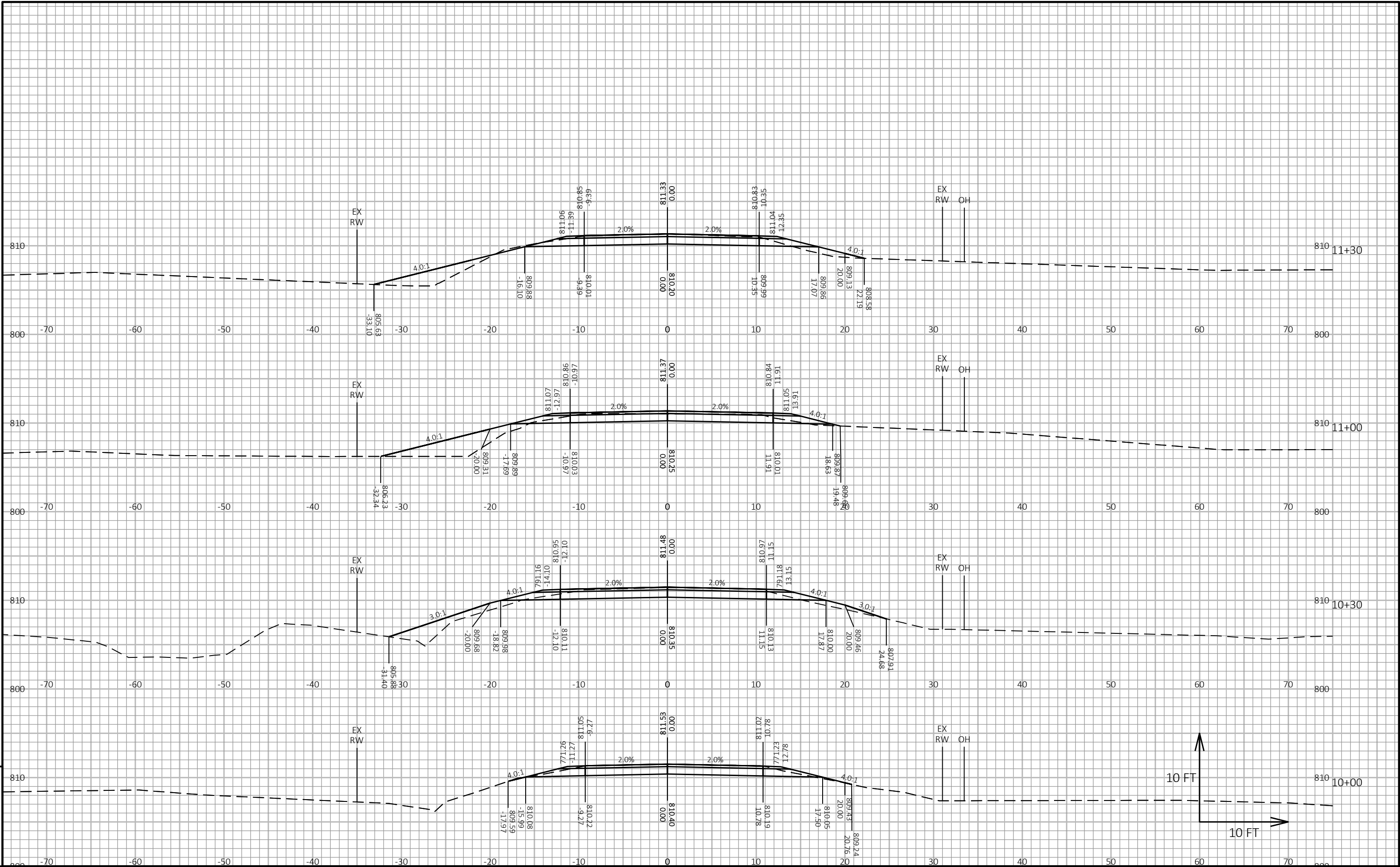
- BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND 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.
- 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.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

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STRUCTURE B-53-378			
DRAWN BY		RBH	PLANS CK'D. PTB
TUBULAR RAILING TYPE M		SHEET 7 OF 7	

Skinner Road																
STATION	Real Station	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)					
			Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut 1.00 Note 1	Expanded Fill 1.25 Note 2	Expanded EBS Backfill 1.30 Note 3	Reduced EBS in Fill 0.80	Mass Ordinate Note 4	
10+00	1000.00	0.00	29.33	9.00	0.07	6.00	0	0	0	0	0	0	0	0	0	
10+20	1020.00	20.00	28.91	9.00	0.44	6.00	22	7	0	4	22	-4	6	4	19	
10+39.02	1039.02	19.02	24.34	9.00	5.27	6.00	19	6	2	4	40	-6	11	7	33	
10+48.48	1048.48	9.46	0.00	0.00	0.00	0.00	4	2	1	1	45	-6	13	8	36	
10+79.68	1079.68	31.20	0.00	0.00	0.00	0.00	0	0	0	0	45	-6	13	8	36	
10+89.14	1089.14	9.46	21.16	9.00	18.49	6.00	4	2	3	1	48	-3	14	9	35	
11+10	1110.00	20.86	24.67	10.00	0.70	6.00	18	7	7	5	66	2	20	12	41	
11+30	1130.00	20.00	27.31	9.00	1.10	6.00	19	7	1	4	85	-2	26	16	57	
							85	31	14	20						

- Notes:
- (1) Common Excavation is Item Number 205.0100
 - (2) Expanded Fill Factor = 1.25

Expanded Fill = (Unexpanded Fill) * Fill Factor
 - (3) Will be Backfilled with Select Crush Material
 - (4) The Mass Ordinate + or - Qty Calculated for the Division. Plus Quantity Indicates an Excess of Material Within the Division.
Minus Indicates an Insufficiency of Material Within the Division.





Wisconsin Department of Transportation

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