

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

EXELAND - STH 70

COUDERAY RIVER BRIDGE B-57-0023

CTH C

SAWYER COUNTY

STATE PROJECT NUMBER
8783-00-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8783-00-70	WISC 2024352	1

ORDER OF SHEETS

Section No		Title
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 = 72



38

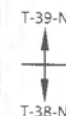
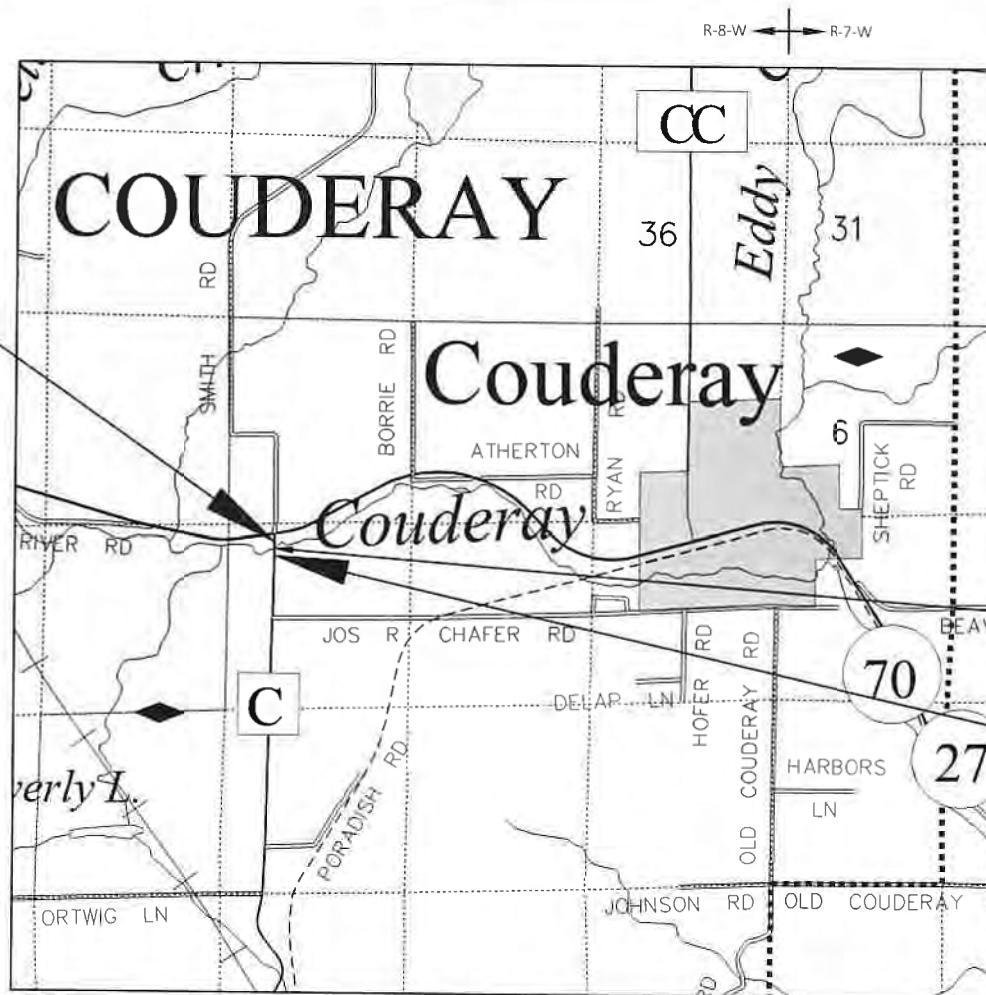
DESIGN DESIGNATION

A A D T (2024)	=	450
A A D T (2044)	=	490
D H V	=	45
D D	=	50/50
T	=	5%
DESIGN SPEED	=	50 MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

END PROJECT
STA 24+75
Y = 358123.55
X = 650823.94



LAYOUT
SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.114

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SAWYER COUNTY, NAD83 (2011), IN U S SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

ACCEPTED FOR

COUNTY of SAWYER

1/25/24
(Date) (Signature) (HIGHWAY COMMISSIONER)

ORIGINAL PLANS PREPARED BY

AYRES



01/25/2024

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	PAULA GROOM, PE
Regional Examiner	TOU YANG, PE
Regional Supervisor	JEFFREY OLSON, PE

APPROVED FOR THE DEPARTMENT

DATE: 01/31/2024 (Signature) Paula Groom

E

UTILITIES CONTACTS

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 RADISSON, WI 54867 PHONE: 715-353-2434
 PHONE: 715-945-2630 MOBILE: 715-492-5029
 MOBILE: 715-266-3411 EMAIL: rmonnier@bevcomm.com
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WISCONSIN DNR LIAISON

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DESIGN PROJECT LEADER

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COUNTY HIGHWAY COMMISSIONER

JOHN PINNOW
 SAWYER COUNTY
 14688W COUNTY ROAD B
 HAYWARD, WI 54843
 PHONE: 715-492-7180
 EMAIL: john.pinnow@sawyercountygov.org

GENERAL NOTES

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

FILL EXPANSION FACTOR IS 30%.

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

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

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR DIRECTED BY THE ENGINEER.

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

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

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

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

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

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



Dial **811** or (800)242-8511

www.DiggersHotline.com

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.782 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.690 ACRES

PROJECT NO: 8783-00-70

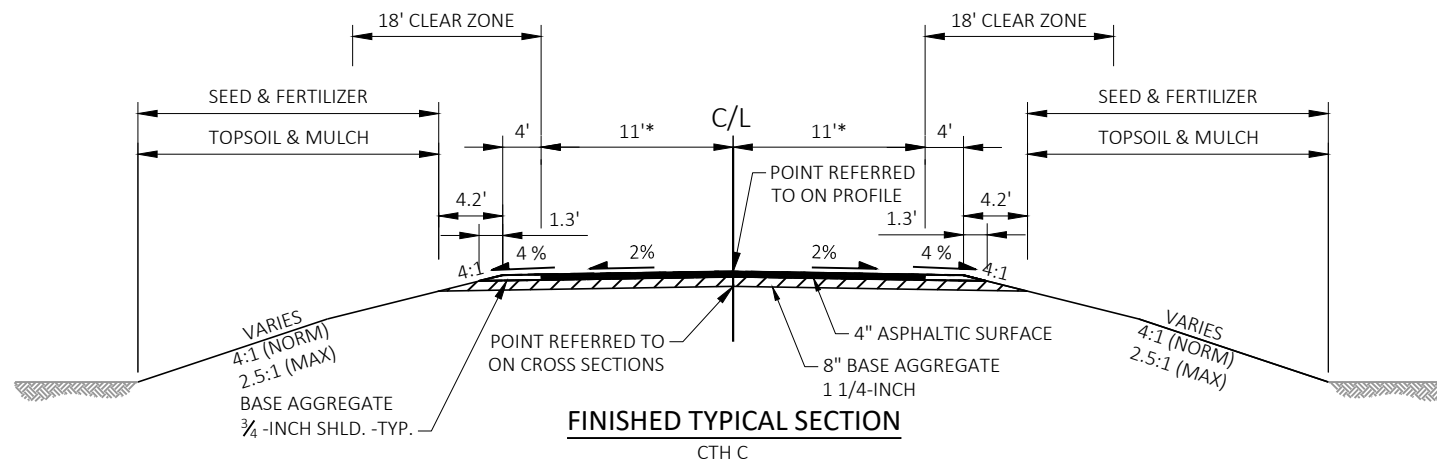
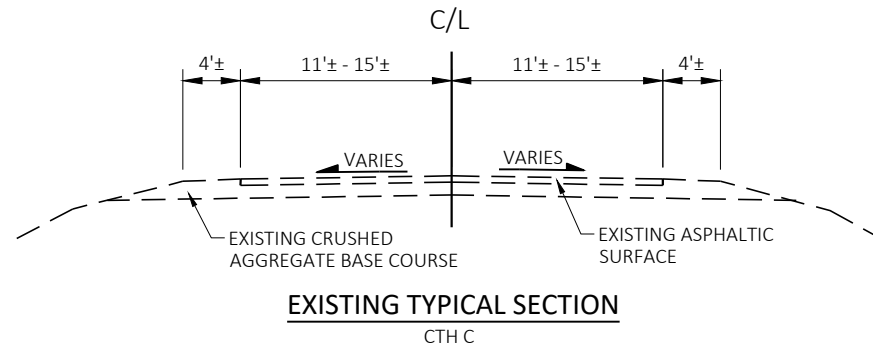
HWY: CTH C

COUNTY: SAWYER

GENERAL NOTES

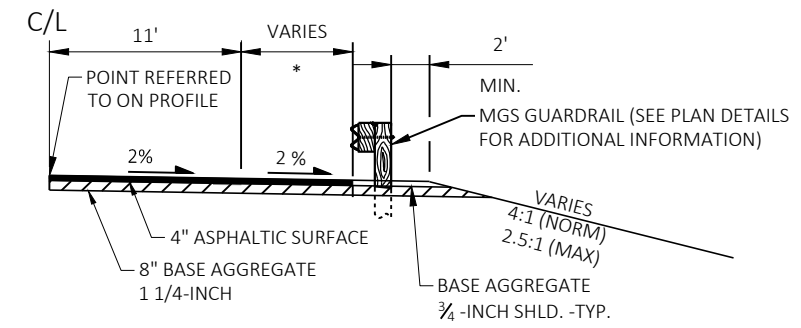
SHEET

E



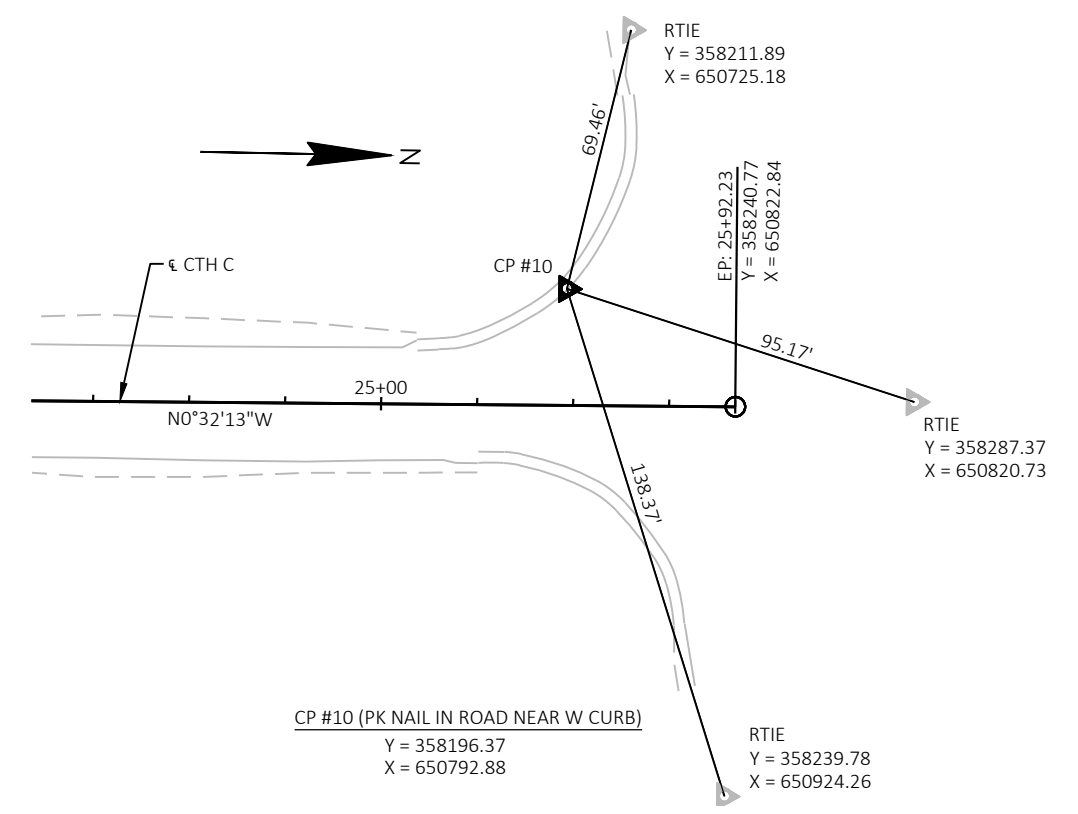
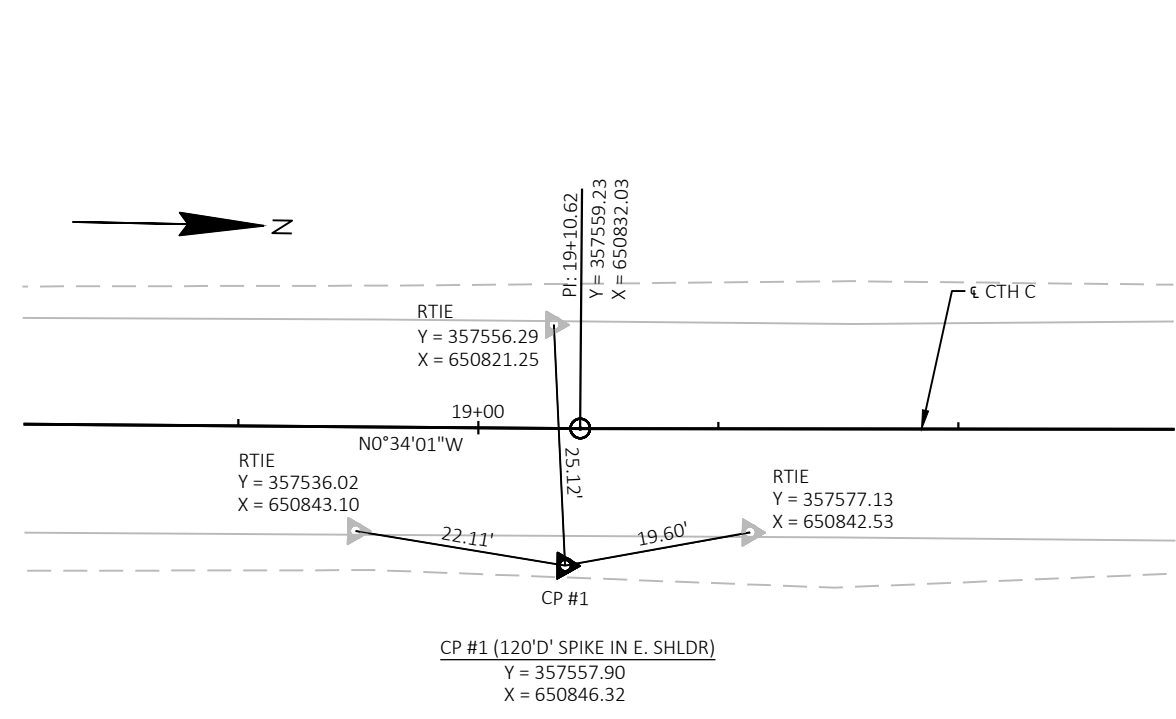
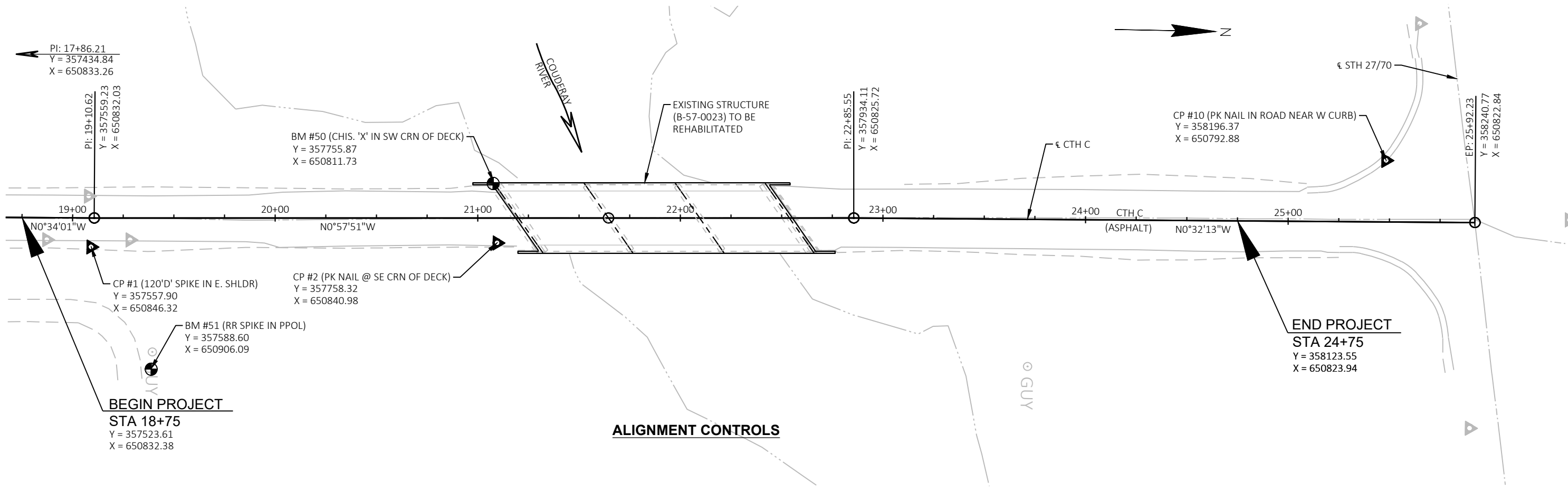
STA. 18+75 TO STA. 20+95.29
 STA. 22+80.04 TO STA. 24+75

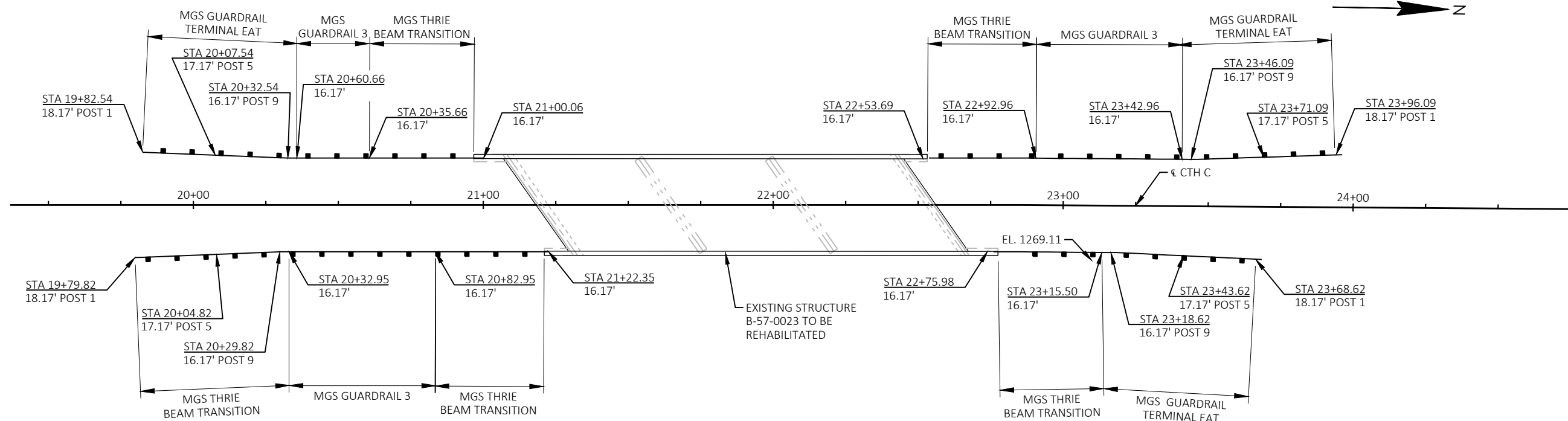
*THE ASPHALT SHALL BE PLACED 32'-4" WIDE AT THE ENDS OF THE APPROACH SLAB AND FOLLOW THE FACE OF GUARDRAIL, AND TAPER TO MATCH EXISTING AT THE ENDS OF THE PROJECT.



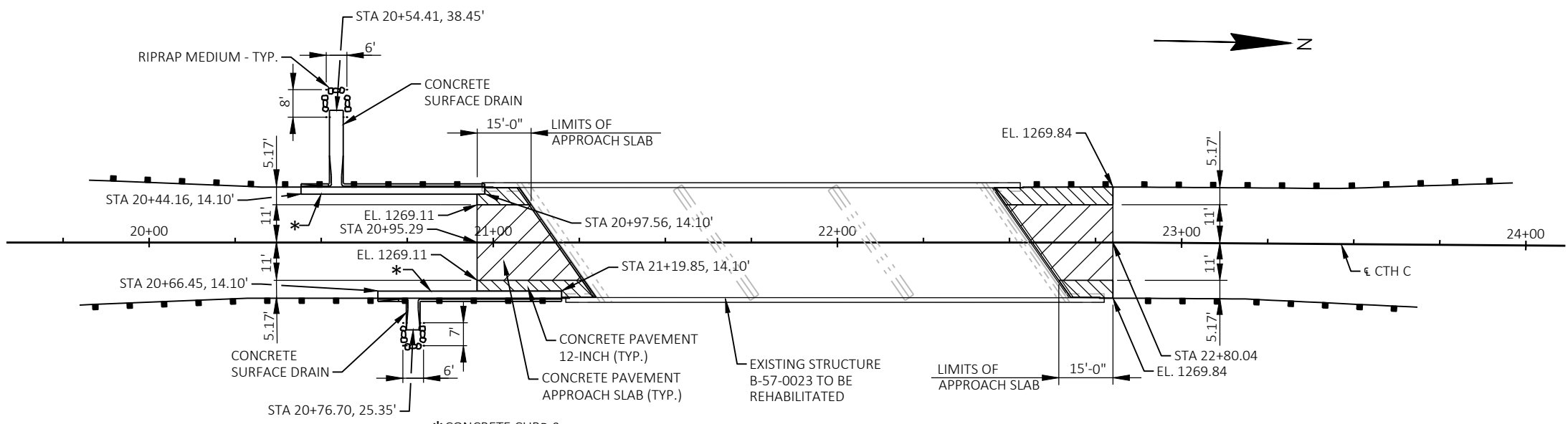
FINISHED TYPICAL HALF SECTION WITH GUARDRAIL

* 5.17' MIN. (AT BRIDGE)
 7.17' MAX. (AT END TERMINAL)





GUARDRAIL LAYOUT



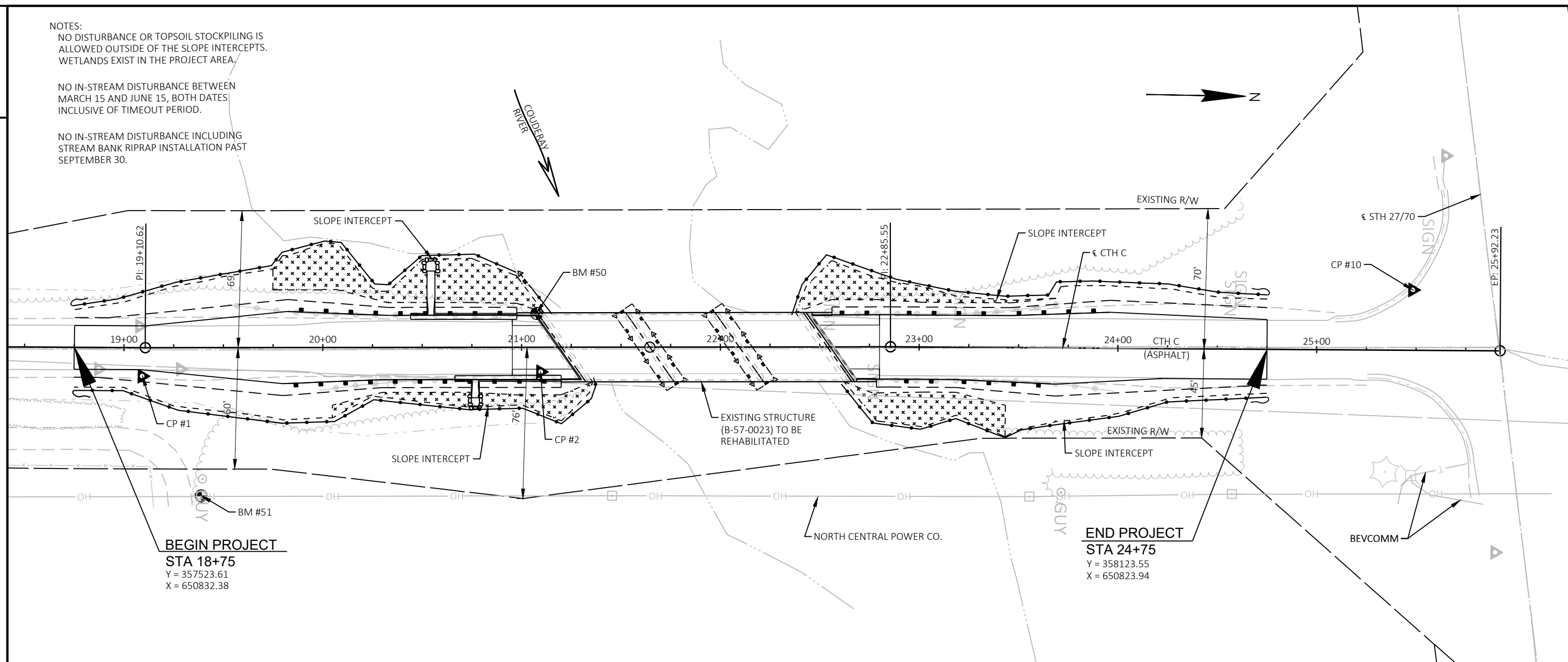
APPROACH SLAB DETAIL

NOTE: ELEVATIONS WILL BE FIELD VERIFIED BY THE ENGINEER.

NOTES:
NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS.
WETLANDS EXIST IN THE PROJECT AREA.

NO IN-STREAM DISTURBANCE BETWEEN MARCH 15 AND JUNE 15, BOTH DATES INCLUSIVE OF TIMEOUT PERIOD.


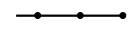
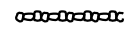



NO IN-STREAM DISTURBANCE INCLUDING STREAM BANK RIPRAP INSTALLATION PAST SEPTEMBER 30.

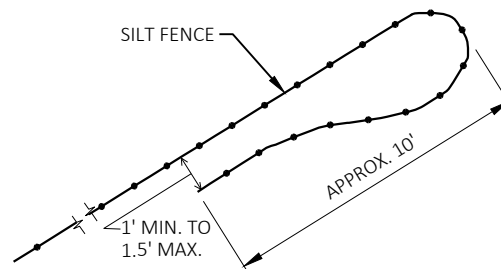


BEGIN PROJECT
STA 18+75
Y = 357523.61
X = 650832.38

END PROJECT
STA 24+75
Y = 358123.55
X = 650823.94

LEGEND

-  EROSION MAT CLASS II (TYPE C)
-  SILT FENCE (BY OTHERS)
-  RIP RAP
-  SLOPE INTERCEPT
-  TURBIDITY BARRIER
-  TEMPORARY DITCH CHECK (UNDISTRIBUTED)



SILT FENCE END DETAIL
(TURNAROUNDS - TO REDIRECT AMPHIBIANS AND REPTILES AWAY FROM CONSTRUCTION ZONE)

Estimate Of Quantities

8783-00-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	5.000	5.000
0004	201.0205	Grubbing	STA	5.000	5.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-57-0023	EACH	1.000	1.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-57-0023	EACH	1.000	1.000
0010	204.0165	Removing Guardrail	LF	513.000	513.000
0012	205.0100	Excavation Common	CY	577.000	577.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-57-0023	EACH	1.000	1.000
0016	210.1500	Backfill Structure Type A	TON	140.000	140.000
0018	213.0100	Finishing Roadway (project) 01. 8783-00-70	EACH	1.000	1.000
0020	305.0110	Base Aggregate Dense 3/4-Inch	TON	105.000	105.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	930.000	930.000
0024	415.0120	Concrete Pavement 12-Inch	SY	50.000	50.000
0026	415.0410	Concrete Pavement Approach Slab	SY	110.000	110.000
0028	455.0605	Tack Coat	GAL	201.000	201.000
0030	465.0105	Asphaltic Surface	TON	320.000	320.000
0032	502.0100	Concrete Masonry Bridges	CY	234.000	234.000
0034	502.3200	Protective Surface Treatment	SY	500.000	500.000
0036	502.3210	Pigmented Surface Sealer	SY	160.000	160.000
0038	502.4204	Adhesive Anchors No. 4 Bar	EACH	96.000	96.000
0040	502.4205	Adhesive Anchors No. 5 Bar	EACH	136.000	136.000
0042	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	45,050.000	45,050.000
0044	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	4.000	4.000
0046	506.2610	Bearing Pads Elastomeric Laminated	EACH	4.000	4.000
0048	506.4000	Steel Diaphragms (structure) 01. B-57-0023	EACH	9.000	9.000
0050	506.7050.S	Removing Bearings (structure) 01. B-57-0023	EACH	8.000	8.000
0052	509.1500	Concrete Surface Repair	SF	100.000	100.000
0054	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0056	517.4001.S	Containment and Collection of Waste Materials (structure) 01. B-57-0023	EACH	1.000	1.000
0058	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	108.000	108.000
0060	602.3010	Concrete Surface Drains	CY	3.000	3.000
0062	606.0200	Riprap Medium	CY	10.000	10.000
0064	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	150.000	150.000
0066	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0068	614.2300	MGS Guardrail 3	LF	125.000	125.000
0070	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0072	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0074	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8783-00-70	EACH	1.000	1.000
0076	619.1000	Mobilization	EACH	1.000	1.000
0078	623.0200	Dust Control Surface Treatment	SY	2,100.000	2,100.000
0080	624.0100	Water	MGAL	10.000	10.000
0082	625.0100	Topsoil	SY	1,270.000	1,270.000
0084	627.0200	Mulching	SY	1,650.000	1,650.000
0086	628.1520	Silt Fence Maintenance	LF	4,035.000	4,035.000
0088	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0090	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0092	628.2027	Erosion Mat Class II Type C	SY	725.000	725.000
0094	628.6005	Turbidity Barriers	SY	140.000	140.000
0096	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0098	629.0210	Fertilizer Type B	CWT	1.500	1.500
0100	630.0120	Seeding Mixture No. 20	LB	66.000	66.000

Estimate Of Quantities

8783-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	630.0200	Seeding Temporary	LB	66.000	66.000
0104	630.0500	Seed Water	MGAL	6.000	6.000
0106	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0108	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0110	638.2102	Moving Signs Type II	EACH	2.000	2.000
0112	638.2602	Removing Signs Type II	EACH	6.000	6.000
0114	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0116	638.4000	Moving Small Sign Supports	EACH	2.000	2.000
0118	642.5001	Field Office Type B	EACH	1.000	1.000
0120	643.0420	Traffic Control Barricades Type III	DAY	1,980.000	1,980.000
0122	643.0705	Traffic Control Warning Lights Type A	DAY	3,080.000	3,080.000
0124	643.0900	Traffic Control Signs	DAY	1,540.000	1,540.000
0126	643.5000	Traffic Control	EACH	1.000	1.000
0128	645.0111	Geotextile Type DF Schedule A	SY	100.000	100.000
0130	645.0120	Geotextile Type HR	SY	20.000	20.000
0132	646.1020	Marking Line Epoxy 4-Inch	LF	1,950.000	1,950.000
0134	650.4500	Construction Staking Subgrade	LF	462.000	462.000
0136	650.5000	Construction Staking Base	LF	462.000	462.000
0138	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	108.000	108.000
0140	650.6501	Construction Staking Structure Layout (structure) 01. B-57-0023	EACH	1.000	1.000
0142	650.7000	Construction Staking Concrete Pavement	LF	46.000	46.000
0144	650.9911	Construction Staking Supplemental Control (project) 01. 8783-00-70	EACH	1.000	1.000
0146	650.9920	Construction Staking Slope Stakes	LF	462.000	462.000
0148	690.0150	Sawing Asphalt	LF	52.000	52.000
0150	715.0502	Incentive Strength Concrete Structures	DOL	1,404.000	1,404.000
0152	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0154	999.2005.S	Maintaining Bird Deterrent System (station) 01. 21+87	EACH	1.000	1.000
0156	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0158	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
0160	SPV.0060	Special 01. Pile Rehabilitation	EACH	18.000	18.000

CLEARING & GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
0010	19+00	-	24+00	LT & RT	5	5
				TOTAL 0010	5	5

NOTE: CUTTING OF TREES TO BE DONE PRIOR TO CONSTRUCTION BY OTHERS

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	19+52	-	20+96	LT	145
0010	19+98	-	21+20	RT	122
0010	22+51	-	23+71	LT	121
0010	22+74	-	23+98	RT	125
				TOTAL 0010	513

CTH C COMPUTER EARTHWORK

From/To Station	Location	Common Excavation (1) (Item 205.0100) Cut	Unexpanded Fill	Expanded Fill (2) Factor 1.30	Mass Ordinate +/- (3)	Waste	Borrow (Item 208.0100)	Comment:
18+75 - 21+19.85	MAINLINE	362	147	191	171	171	-	
22+54.15 - 24+75	MAINLINE	215	130	169	46	46	-	
		577				217	0	

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

BASE AGGREGATE

STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL	REMARKS
21+17.99	LT/RT	55	475	5	WEST APPROACH
24+75	LT/RT	50	455	5	EAST APPROACH
	TOTAL 0010	105	930	10	

CONCRETE PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	415.0120 CONCRETE PAVEMENT 12- INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
0010	20+95.29	-	21+17.99	MAINLINE	20	55
0010	22+57.33	-	22+80.04	MAINLINE	30	55
				TOTAL 0010	50	110

ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
0010	18+75	-	20+95.29	MAINLINE	101	160
0010	22+80.04	-	24+75	MAINLINE	100	160
				TOTAL 0010	201	320

- NOTES:**
- * TACK COAT APPLICATION RATE = 0.07 GAL/SY
 - ** ASSUMED HMA AT 112 LBS/SY/IN

CONCRETE SURFACE DRAINS

CATEGORY	STATION	TO	STATION	LOCATION	601.0588	602.3010	606.0200	645.0120
					CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	CONCRETE SURFACE DRAINS CY	RIPRAP MEDIUM CY	GEOTEXTILE TYPE HR SY
0010	20+44.16	-	20+97.56	LT	54	--	--	--
0010	20+66.45	-	21+19.85	RT	54	--	--	--
0010			20+54.41	LT	--	2	5	10
0010			20+76.7	RT	--	1	5	10
TOTAL 0010					108	3	10	20

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	LOCATION	618.0100.01
		MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 8783-00-70) EACH
0030	CTH C	1
TOTAL 0030		1

GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.2300	614.2500	614.2610
					MGS GUARDRAIL 3 LF	MGS THRIE BEAM TRANSITION LF	MGS GUARDRAIL TERMINAL EAT EACH
0010	19+82.54	-	20+35.66	LT	--	--	1
0010	19+79.82	-	20+32.95	RT	--	--	1
0010	20+35.66	-	20+60.66	LT	25	--	--
0010	20+32.95	-	20+82.95	RT	50	--	--
0010	20+35.66	-	21+00.06	LT	--	40	--
0010	20+82.95	-	21+22.35	RT	--	40	--
0010	22+53.69	-	22+92.96	LT	--	40	--
0010	22+75.98	-	23+15.5	RT	--	40	--
0010	22+92.96	-	23+42.96	LT	50	--	--
0010	23+42.97	-	23+96.09	LT	--	--	1
0010	23+15.5	-	23+68.62	RT	--	--	1
TOTAL 0010					125	160	4

MISCELLANEOUS ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	623.0200	628.1905	628.1910
					DUST CONTROL SURFACE TREATMENT SY	MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	18+75	-	24+75	PROJECT-WIDE	2,100	4	4
TOTAL 0010					2,100	4	4

TEMPORARY DITCH CHECKS

CATEGORY	LOCATION	628.7504
		TEMPORARY DITCH CHECKS LF
0010	UNDISTRIBUTED	50
TOTAL 0010		50

EROSION CONTROL

STATION	TO	STATION	LOCATION	625.0100	627.0200	628.1504	628.1520	628.2027	628.6005	629.0210	630.0120	630.0200	630.0500
				TOPSOIL SY	MULCHING SY	SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT CLASS II TYPE C SY	TURBIDITY BARRIERS SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB	SEED WATER MGAL
18+75	-	21+87	LT	450	355	260	780	260		0.40	17	17	2
18+75	-	21+87	RT	285	365	295	885	90	75	0.30	13	13	1
21+87	-	24+75	LT	235	285	275	825	110		0.20	11	11	1
21+87	-	24+75	RT	300	315	245	735	120	65	0.30	12	12	1
UNDISTRIBUTED				-	330	270	810	145		0.30	13	13	1
TOTAL 0010				1,270	1,650	1,345	4,035	725	140	1.5	66	66	6

* NOTE: QUANTITY FOR INFORMATION ONLY. SILT FENCE TO BE INSTALLED BY OTHERS PRIOR TO CONSTRUCTION. SILT FENCE PLACED BY OTHERS TO BE MAINTAINED BY CONTRACTOR.

SIGNS

CATEGORY	STATION	LOCATION	634.0614	637.2230	638.2102	638.2602	638.3000	638.4000	REMARKS
			POSTS WOOD 4X6-INCH X 14- FT EACH	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	MOVING SMALL SIGN SUPPORTS EACH	
0010	20+34	RT	-	-	-	1	1	-	W5-2 (NARROW BRIDGE)
0010	20+97	LT	1	3	-	1	1	-	W5-52L
0010	21+19	RT	1	3	-	1	1	-	W5-52R
0010	22+57	LT	1	3	-	1	1	-	W5-52R
0010	22+79	RT	1	3	-	1	1	-	W5-52L
0010	23+20	LT	-	-	-	1	1	-	W5-2 (NARROW BRIDGE)
0010	24+57	LT	-	-	1	-	-	1	M1-5A (COUNTY C)
0010	24+62	LT	-	-	1	-	-	1	D11-10 (ATV ROUTE)
TOTAL 0010			4	12	2	6	6	2	

TRAFFIC CONTROL

CATEGORY	LOCATION	DURATION DAYS	NO.	643.0420	643.0705	643.0900
				TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. DAY	TRAFFIC CONTROL SIGNS NO. DAY
0010	PER SDD 15C2	110	18	1,980	28	3,080
0010	CTH C	-	-	-	-	-
TOTAL 0010				1,980	28	3,080

MARKING LINE

CATEGORY	STATION	TO	STATION	LOCATION	646.1020	646.1020	REMARKS
					MARKING LINE EPOXY 4-INCH YELLOW LF	MARKING LINE EPOXY 4-INCH WHITE LF	
0010	18+75	-	24+75	C/L	750	-	YELLOW SOLID & DASHED CENTERLINE
0010	18+75	-	24+75	LT	-	600	WHITE EDGELINE
0010	18+75	-	24+75	RT	-	600	WHITE EDGELINE
SUBTOTALS					750	1,200	
TOTAL 0010					1,950		

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.5000	650.5500	650.6501.01	650.7000	650.9911.01	650.9920
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING CURB GUTTER AND LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-57-0023) EACH	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	SUPPLEMENTAL CONTROL (PROJECT) (01. 8783-00-70) EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	18+75	-	24+75	MAINLINE	462	462	108	-	46	-	462
0010	18+75	-	24+75	PROJECT 8783-00-70	-	-	-	-	-	1	-
				TOTAL 0010	462	462	108	0	46	1	462
0020	21+17.99	-	22+57.33	B-57-0023	-	-	-	1	-	-	-
				TOTAL 0020	0	0	0	1	0	0	0
				PROJECT TOTAL	462	462	108	1	46	1	462

SAWING ASPHALT

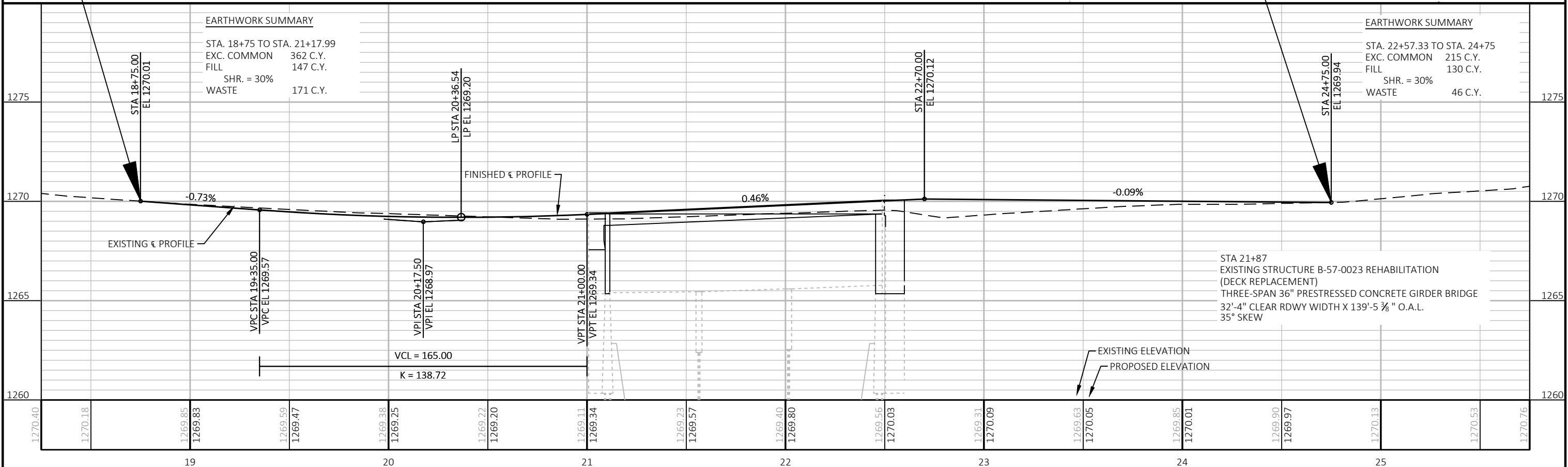
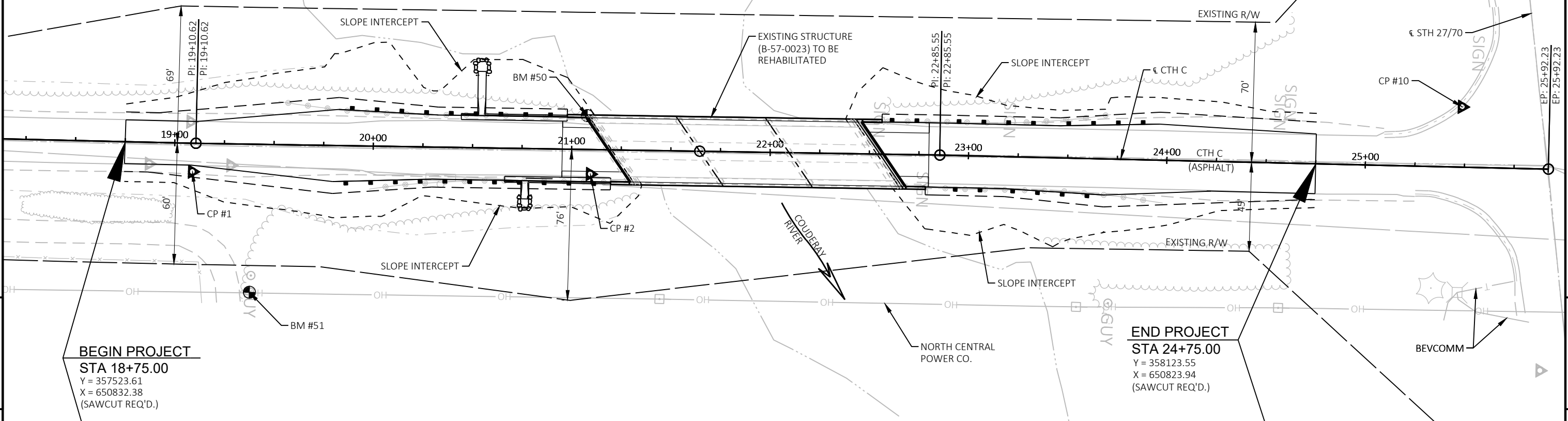
CATEGORY	STATION	LOCATION	690.0150
			SAWING ASPHALT LF
0010	18+75	MAINLINE	22
0010	24+75	MAINLINE	30
		TOTAL 0010	52

MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	STATION	LOCATION	999.2005.S.01
			MAINTAINING BIRD DETERRENT SYSTEM (STATION) (01. 21+87) EACH
0010	21+87	B-57-0023	1
		TOTAL 0010	1

BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
50	21+07	1268.88	CHIS. 'X' IN SW CRN OF DECK, 17' LT.
51	19+40	1272.23	RR SPIKE IN PPOL, 74' RT.

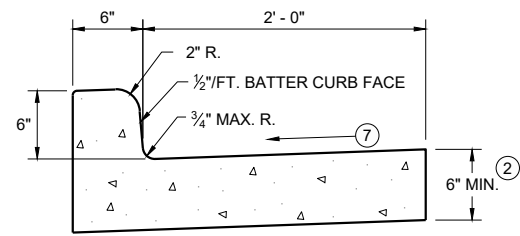
NOTES:
 FOR ALIGNMENT CONTROL POINTS, TIES, BEARINGS, AND COORDINATES, SEE "ALIGNMENT CONTROLS" SHEET.
 FOR GUARDRAIL LAYOUT AND CONCRETE PAVEMENT APPROACH SLAB DETAILS, SEE "CONSTRUCTION DETAILS" SHEET.



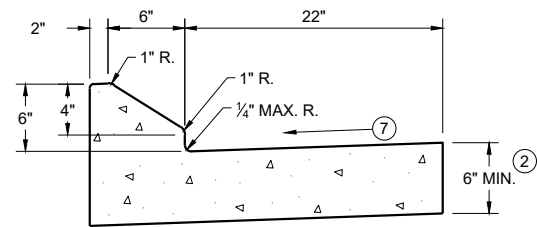
PROJECT NO: 8783-00-70	HWY: CTH C	COUNTY: SAWYER	PLAN AND PROFILE:	SHEET	E
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Standard Detail Drawing List

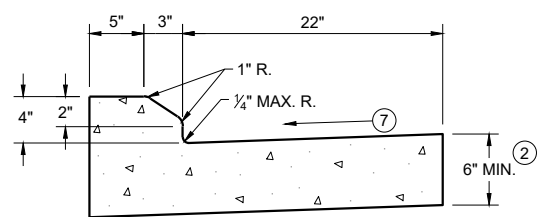
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS



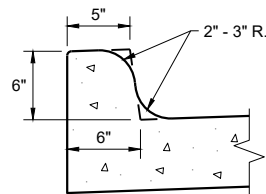
TYPES A^① & D



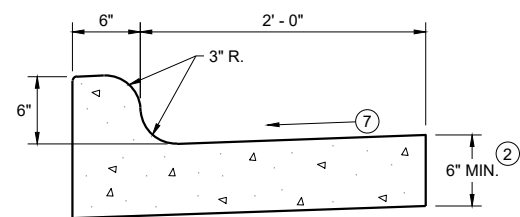
6" SLOPED CURB TYPES G^① & J



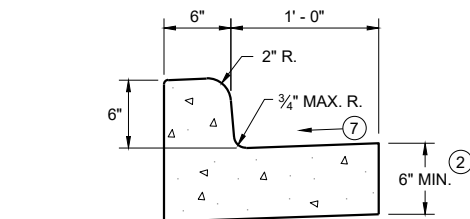
4" SLOPED CURB TYPES G^① & J



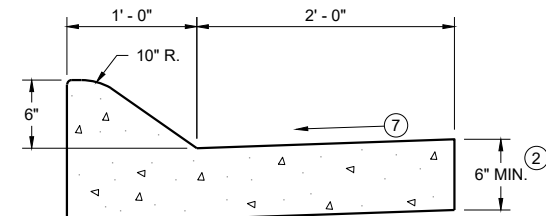
TYPES K^① & L
(OPTIONAL CURB SHAPE)



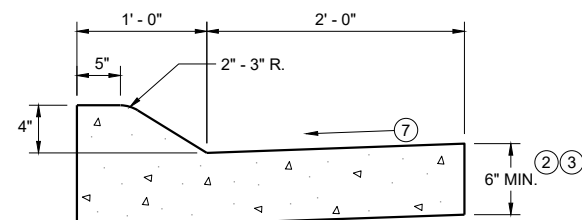
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



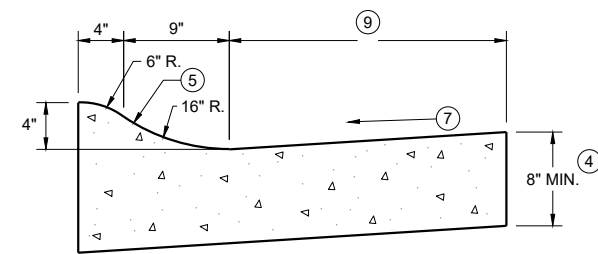
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

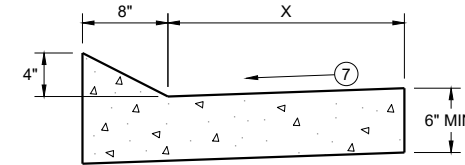


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

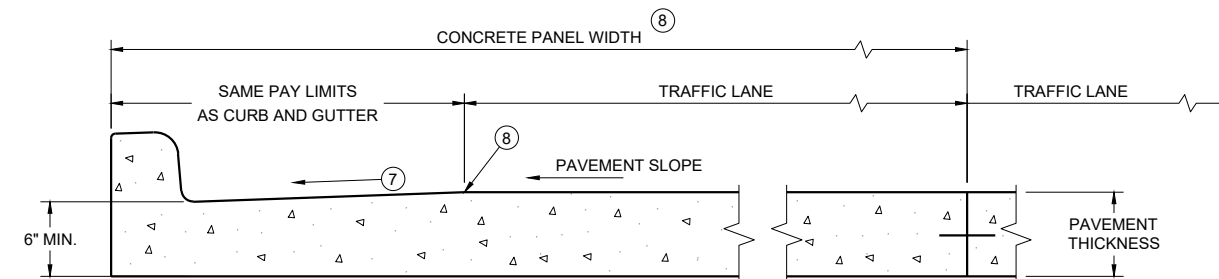
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

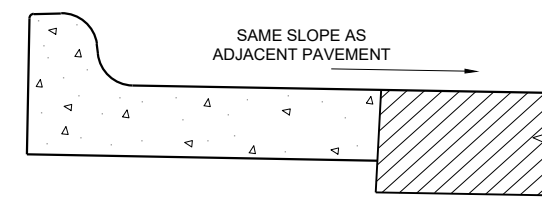
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

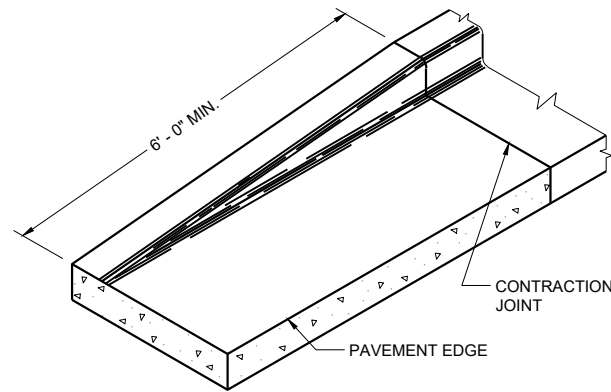
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

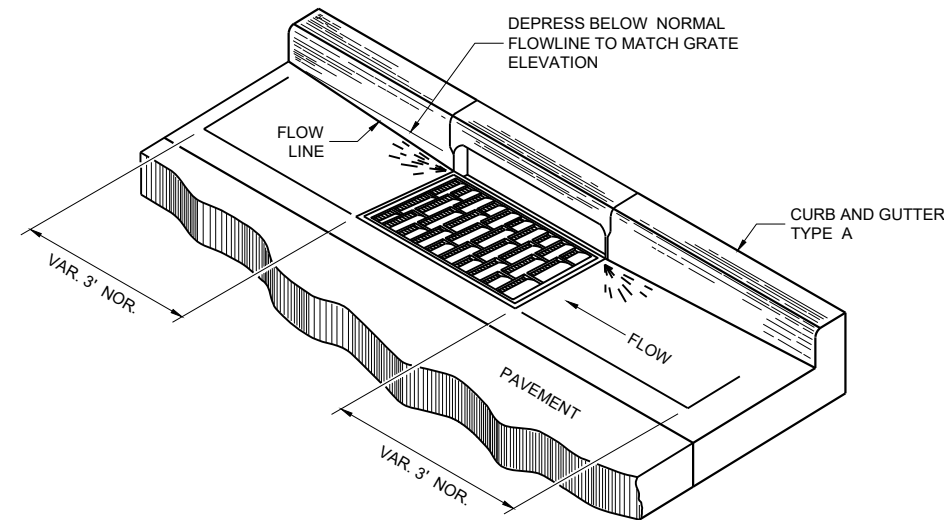
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

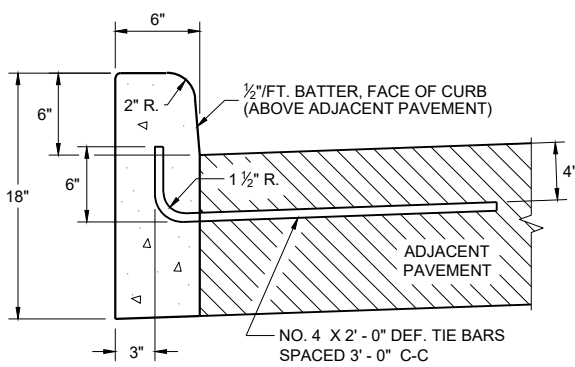


END SECTION CURB AND GUTTER

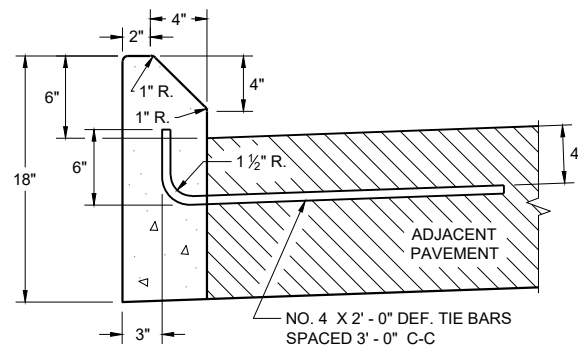


DETAIL OF CURB AND GUTTER AT INLETS

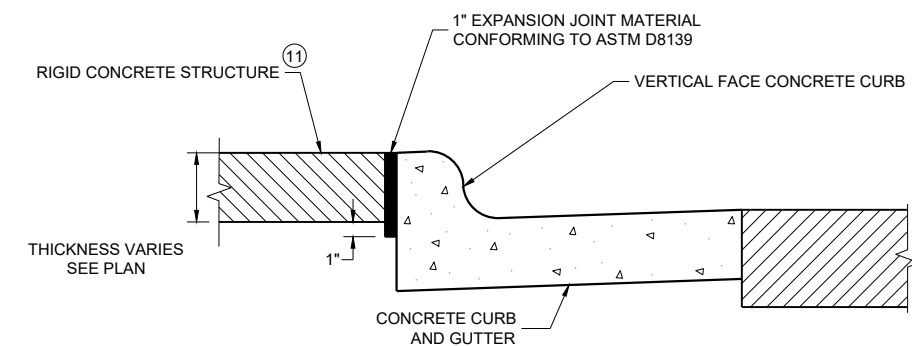
(TYPICAL H INLET COVER SHOWN)



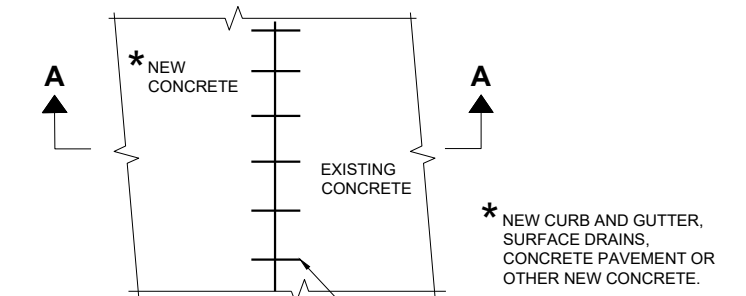
TYPES A^① & D



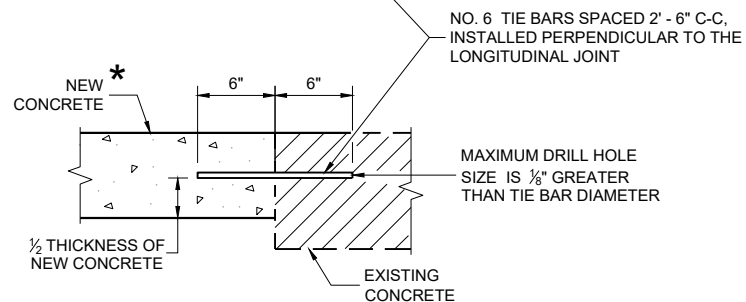
**TYPES G^① & J
CONCRETE CURB**



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

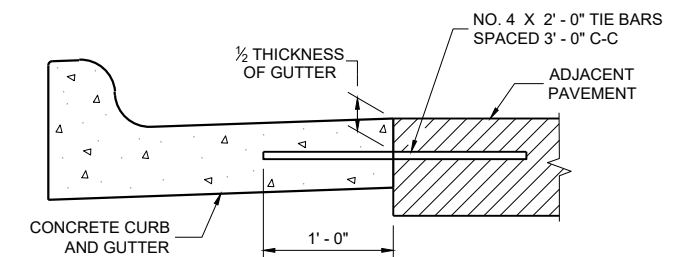
GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

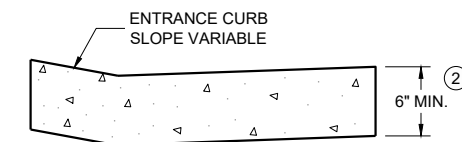
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



**DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)**

6

6

SDD 08D01-23b

SDD 08D01-23b

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

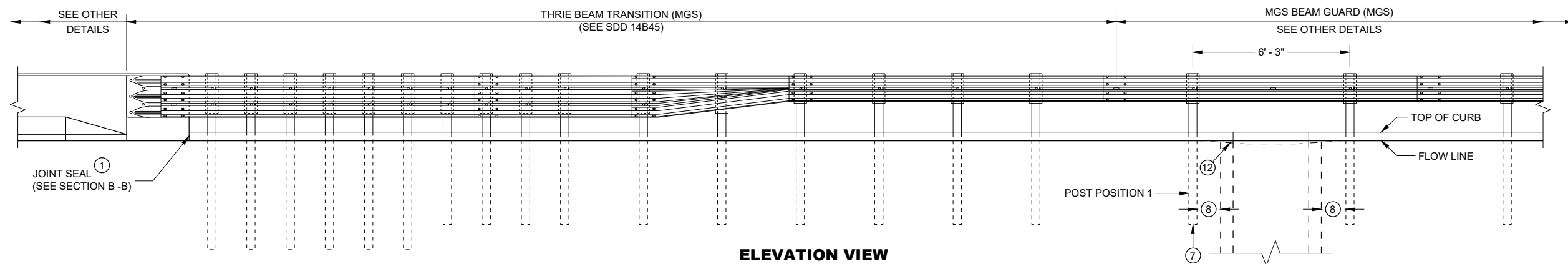
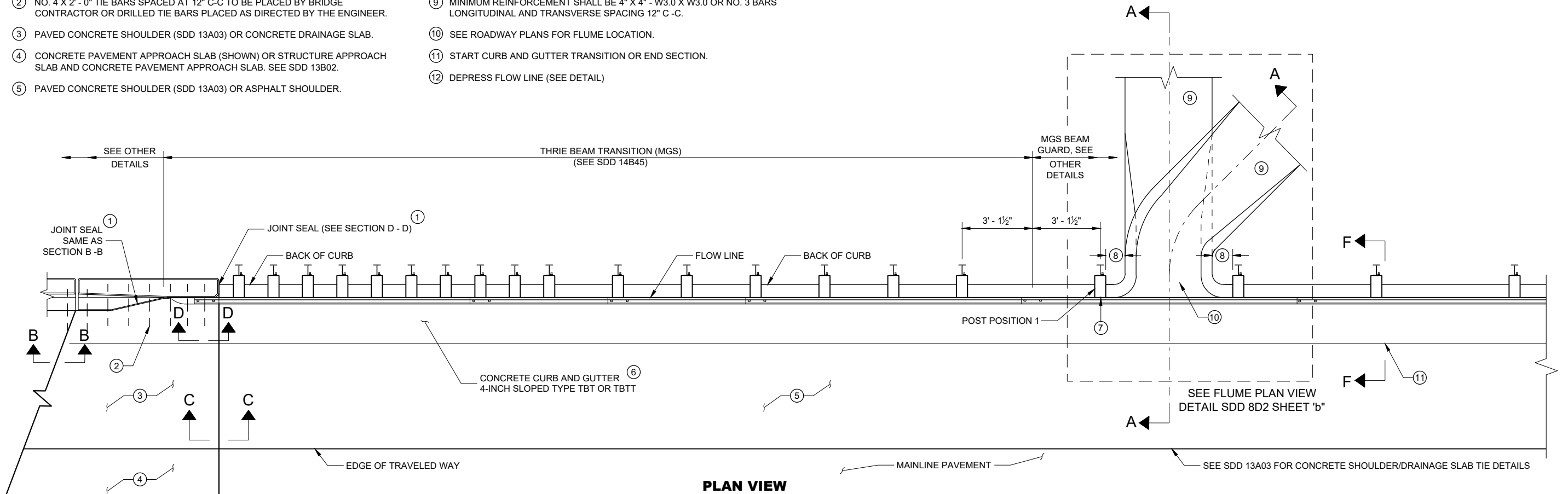
GENERAL NOTES

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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)



**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

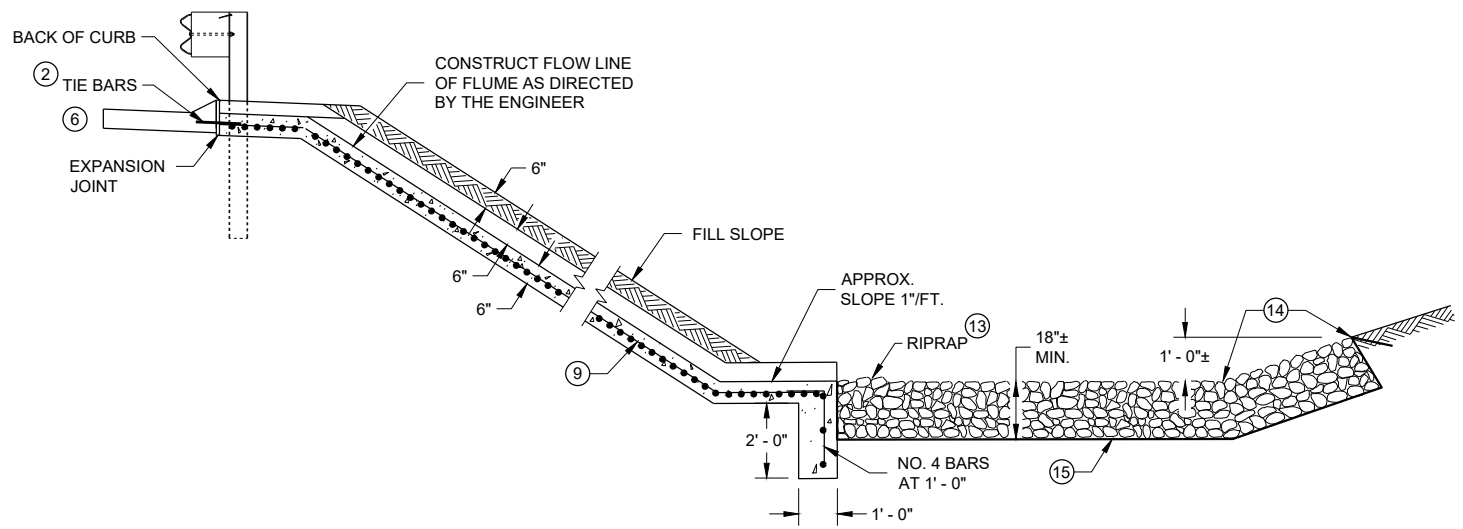
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

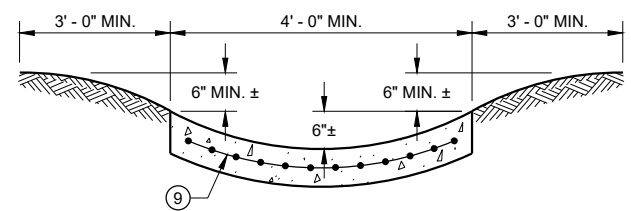
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SDD 08D02 - 08a

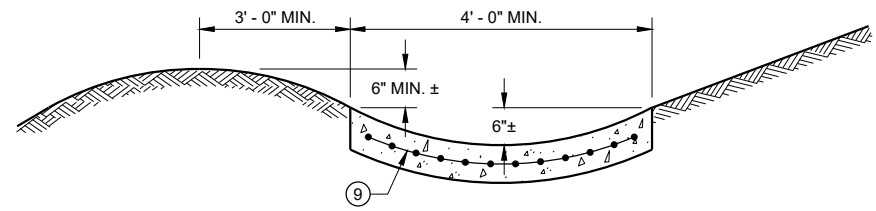
SDD 08D02 - 08a



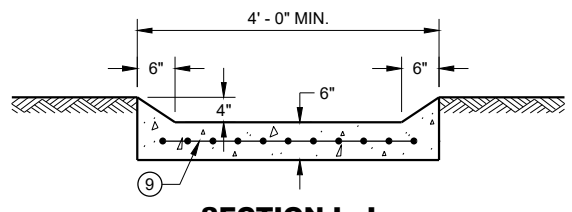
SECTION A - A



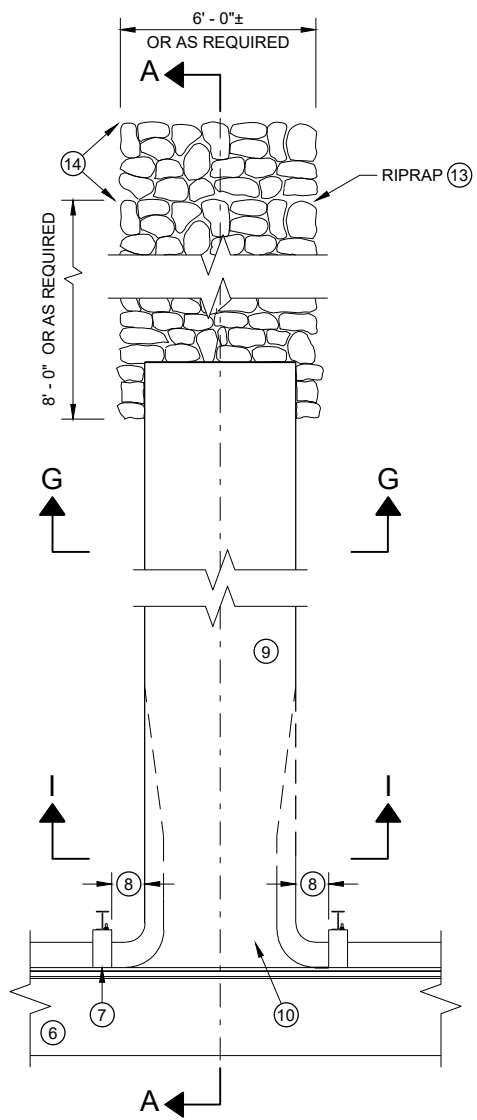
SECTION G - G



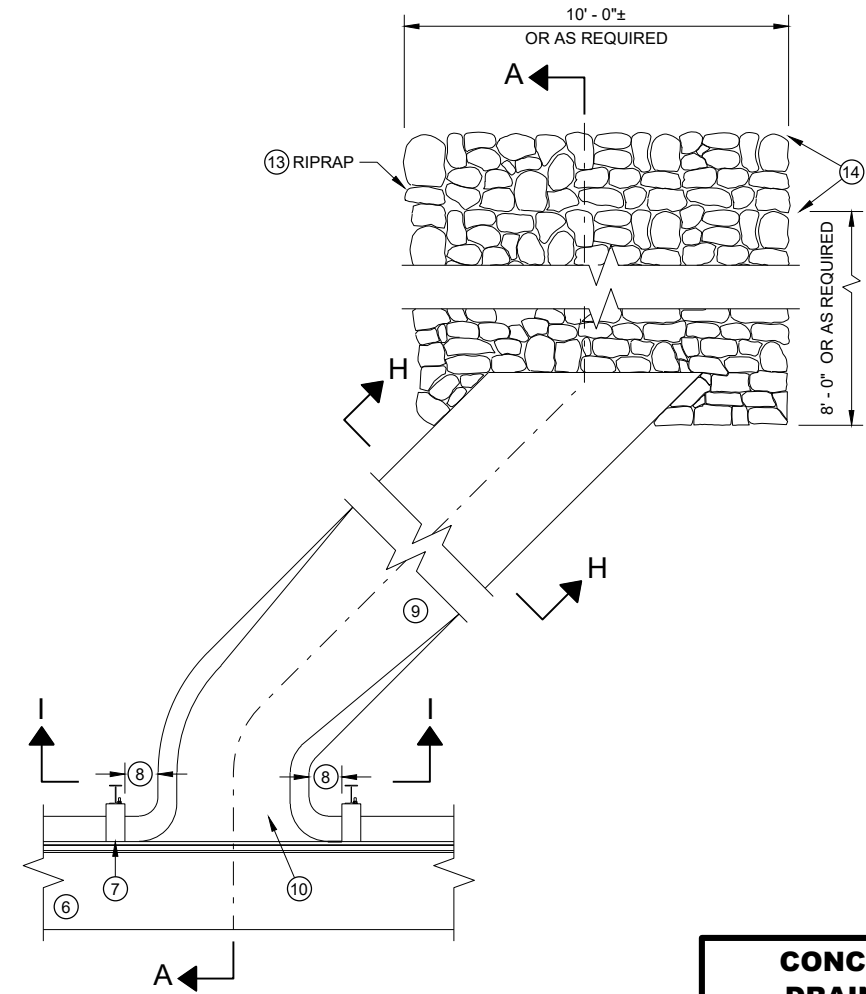
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

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.

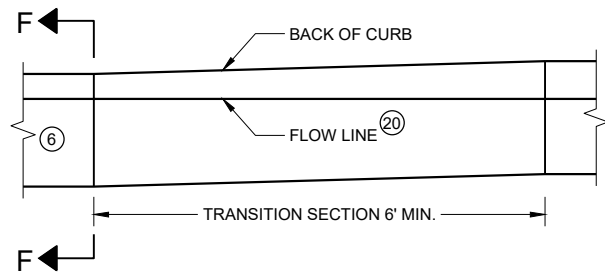
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

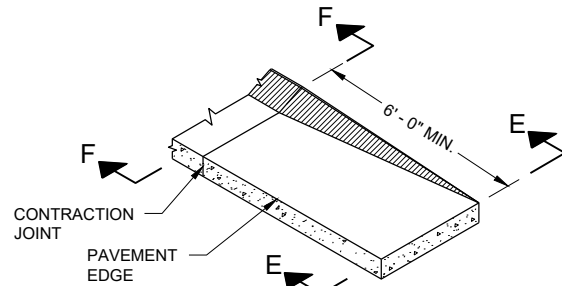
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

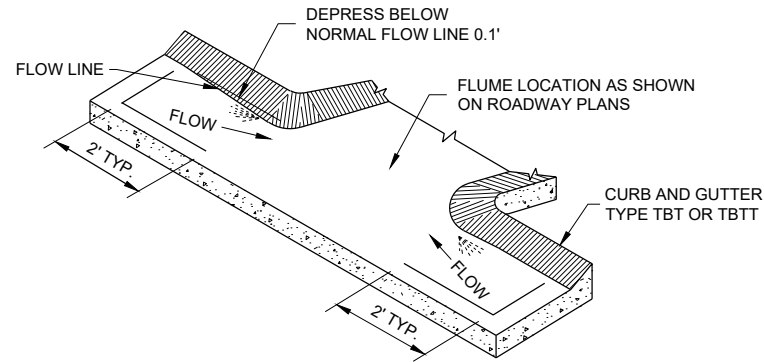
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



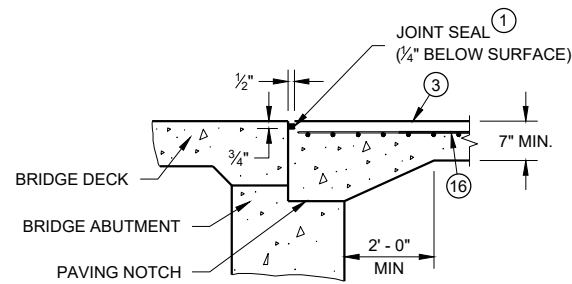
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

GENERAL NOTES

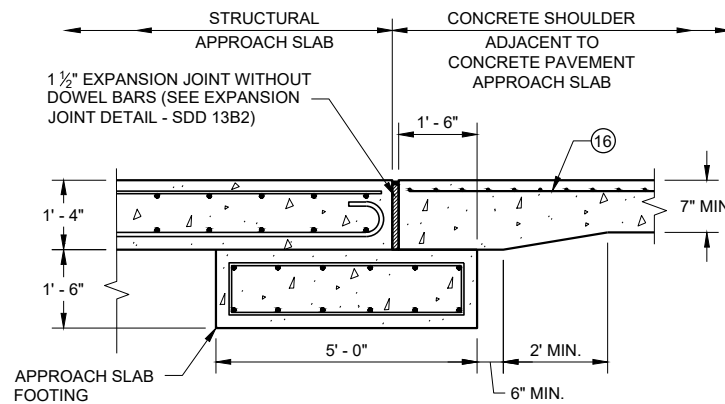
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

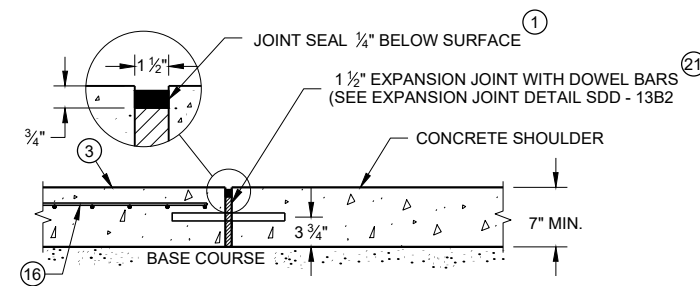
- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



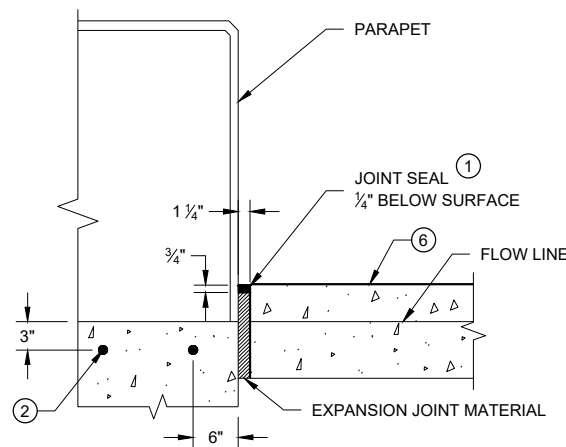
SECTION B-B



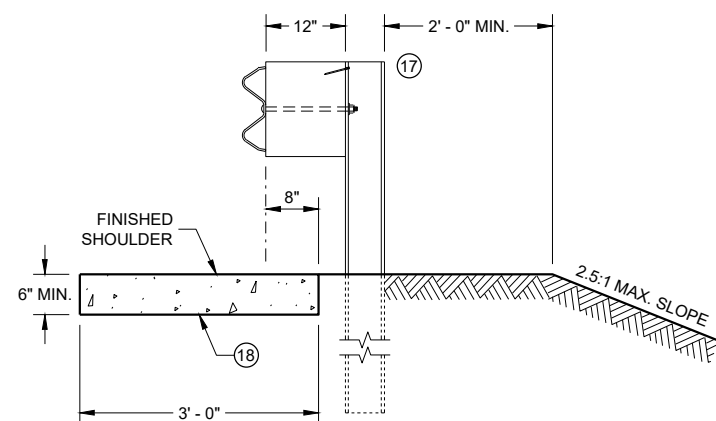
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



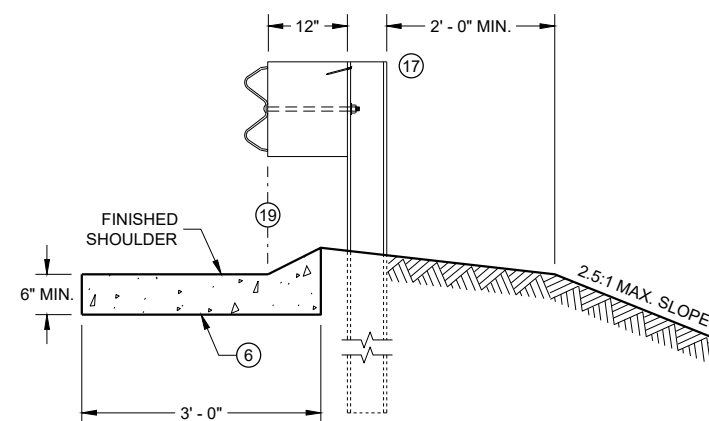
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

6

6

SDD08D02 - 08C

SDD08D02 - 08C

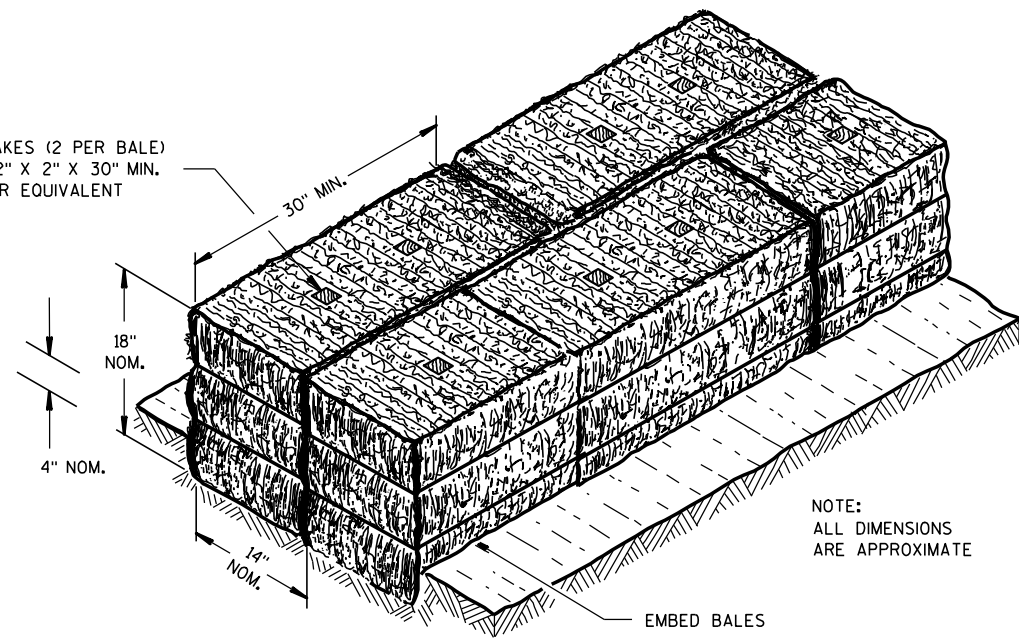
**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

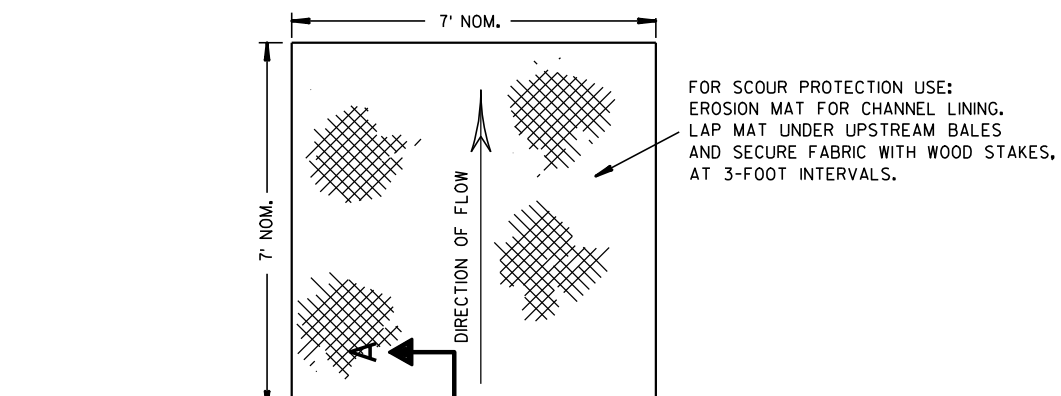
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



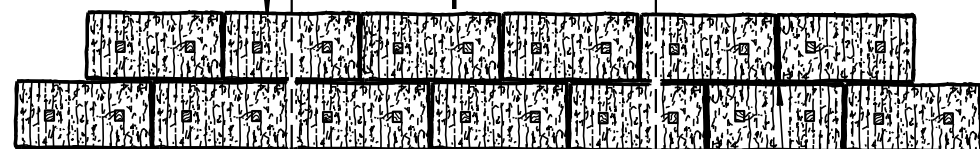
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

SECTION A-A



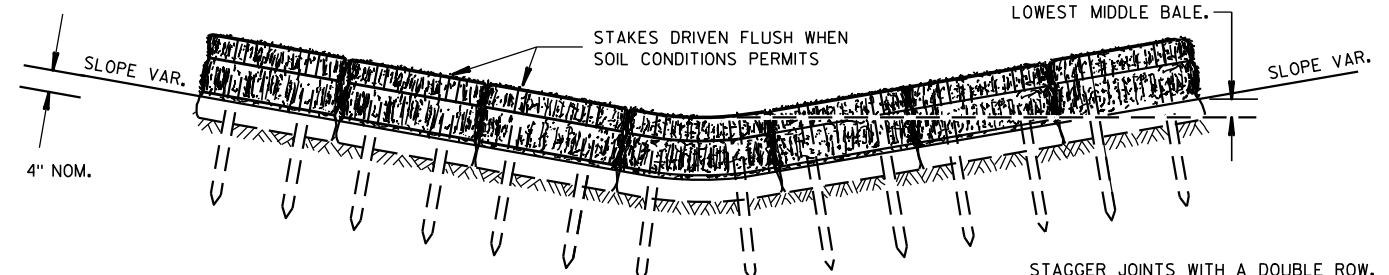
FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.



STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



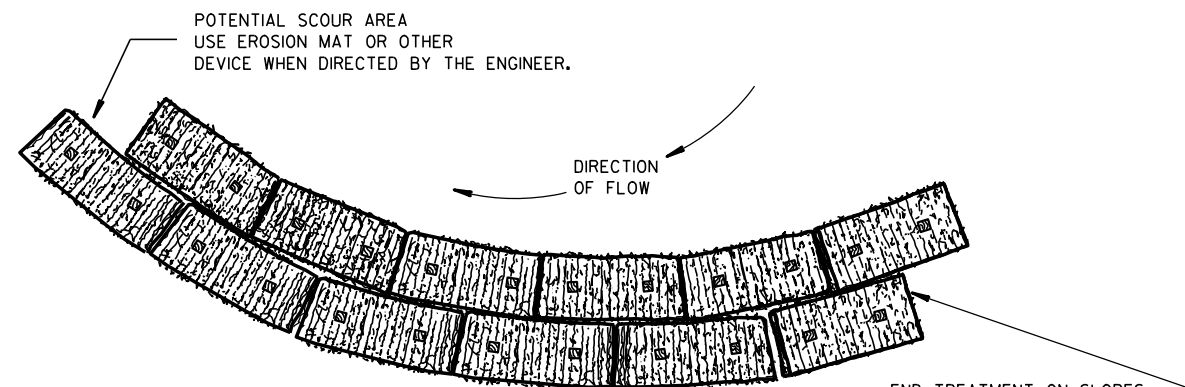
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

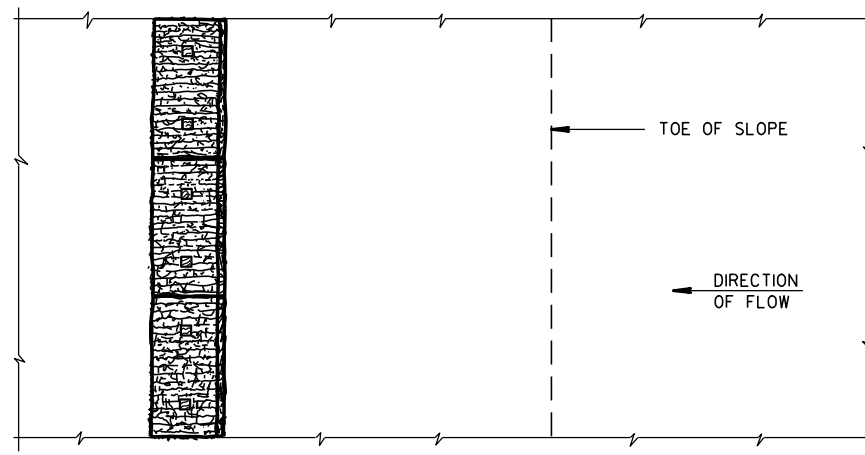
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

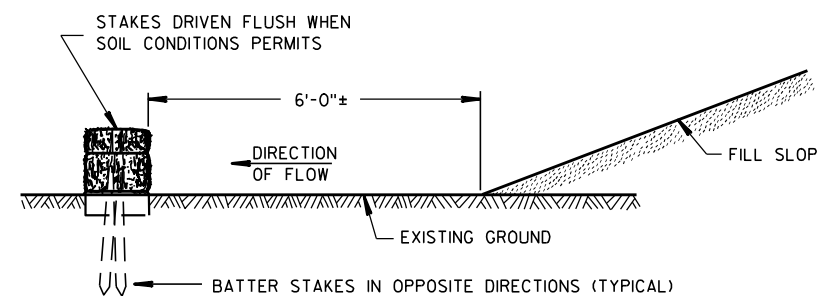


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

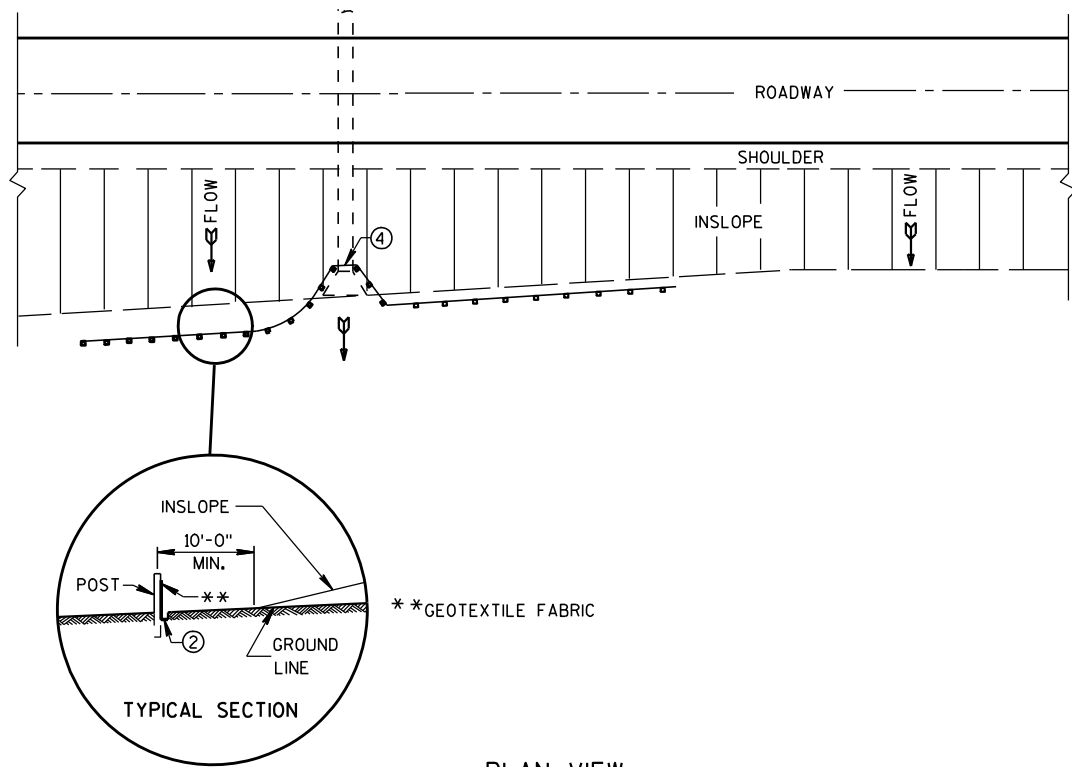
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

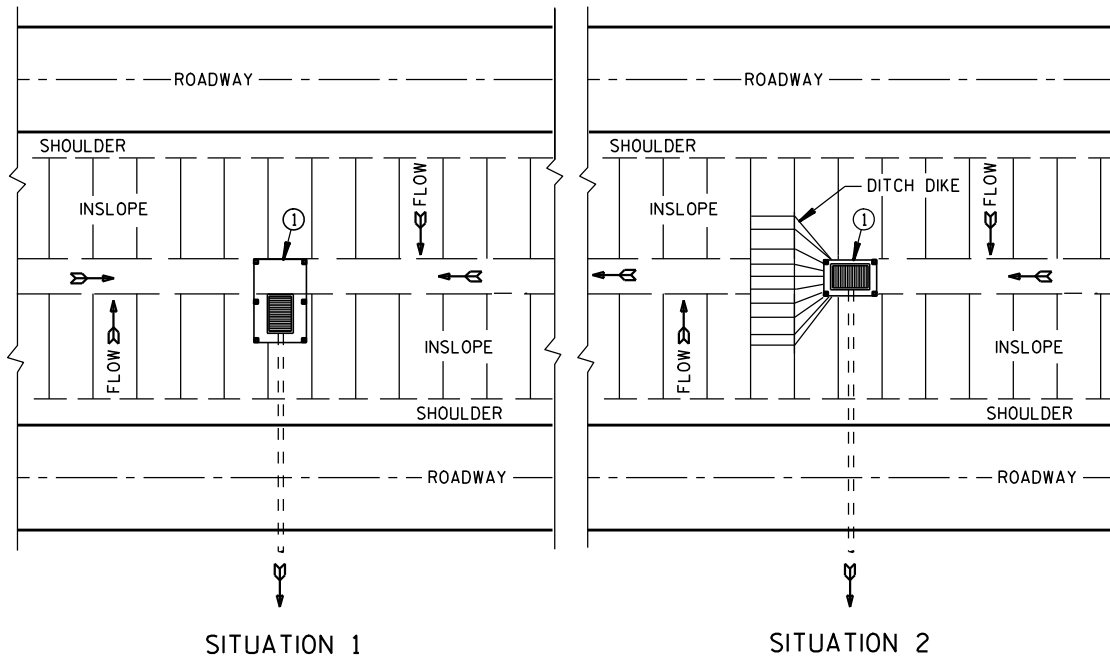
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 6/04/02 /S/ Beth Canestra
 DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
 FHWA



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

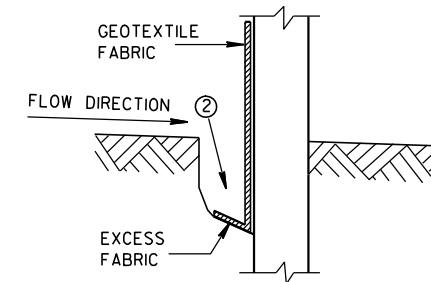


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

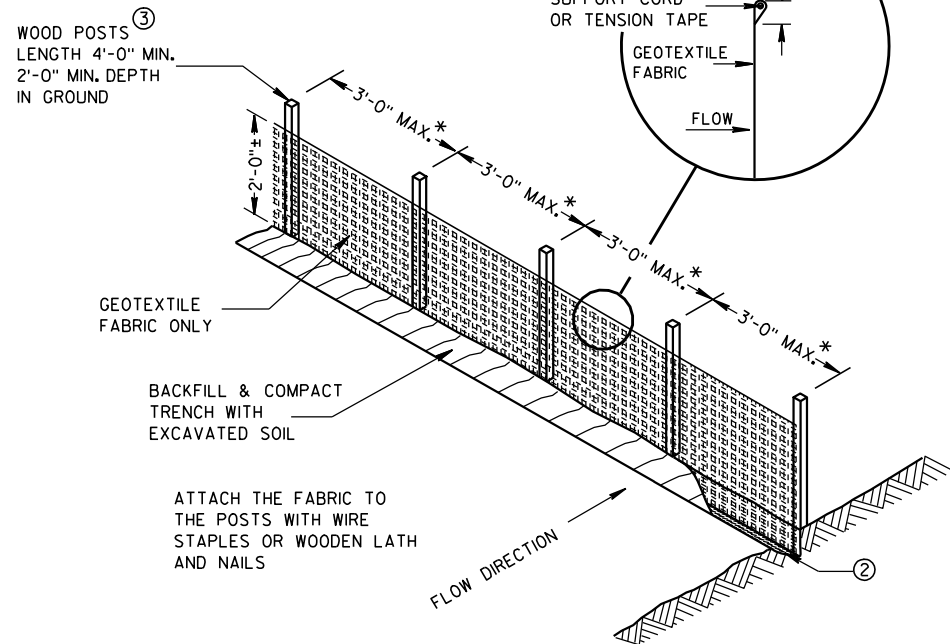
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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.



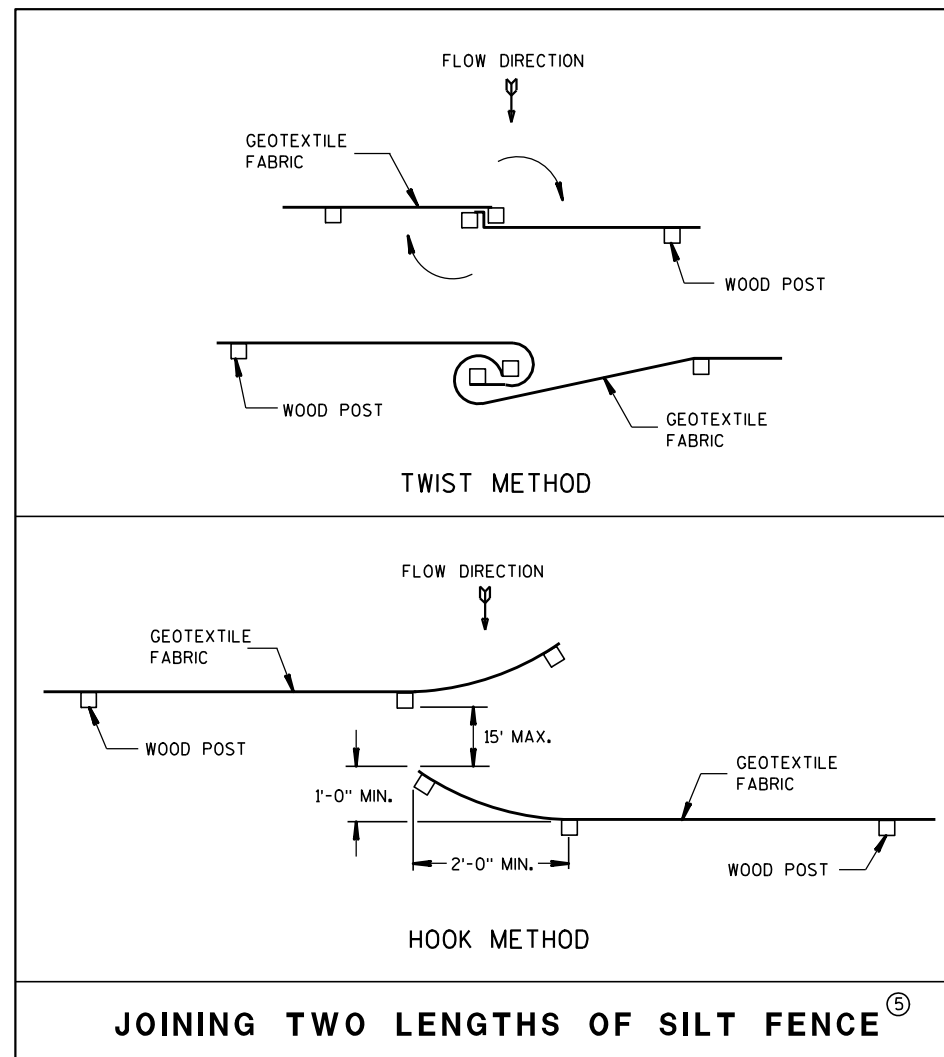
TRENCH DETAIL

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

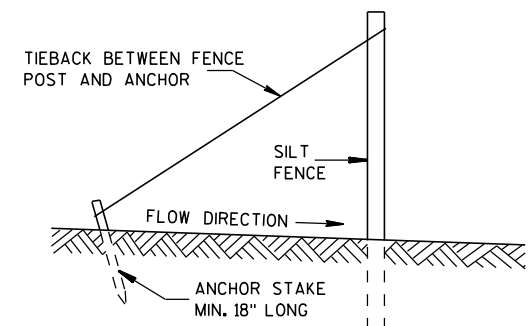


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

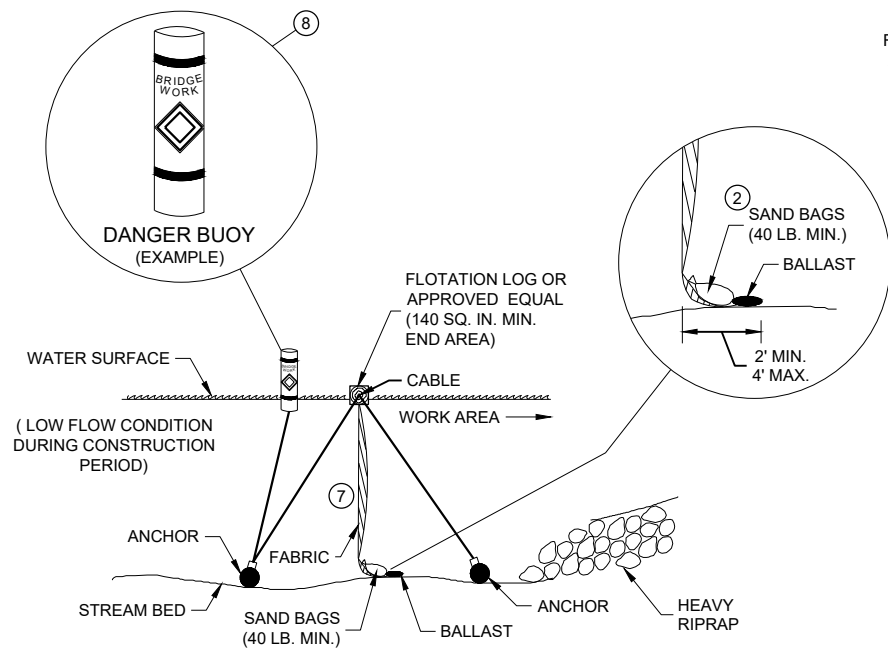


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

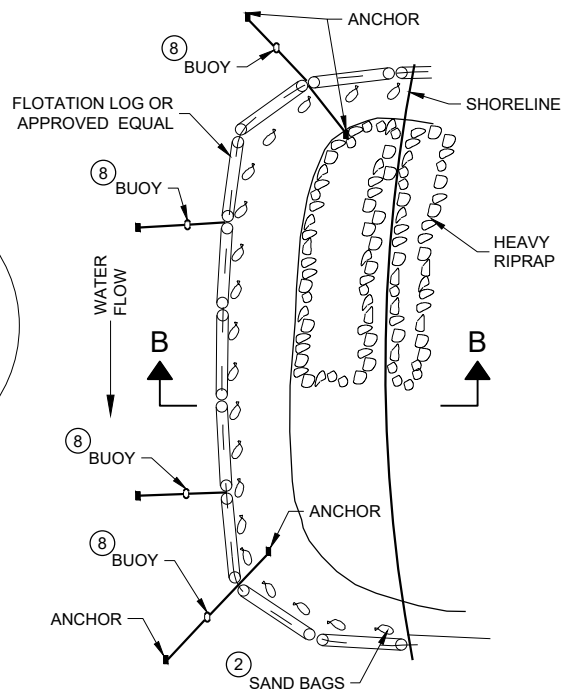
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Canestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

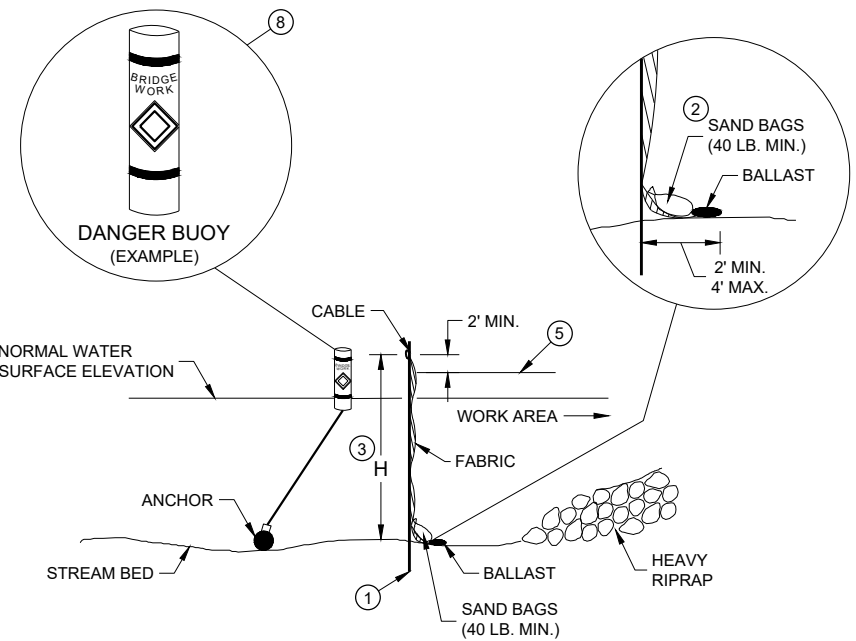


SECTION B - B

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

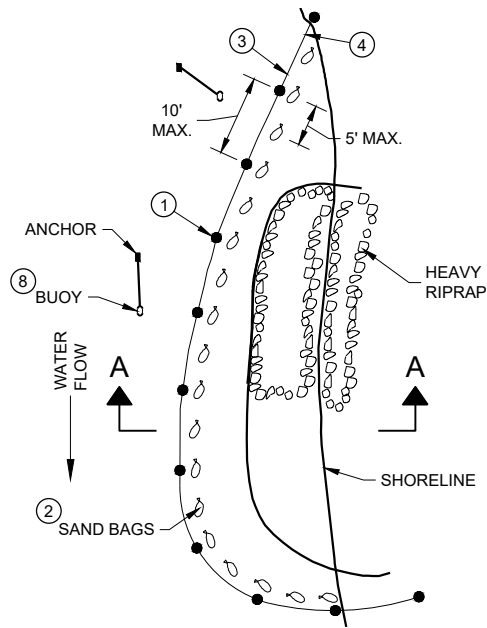


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



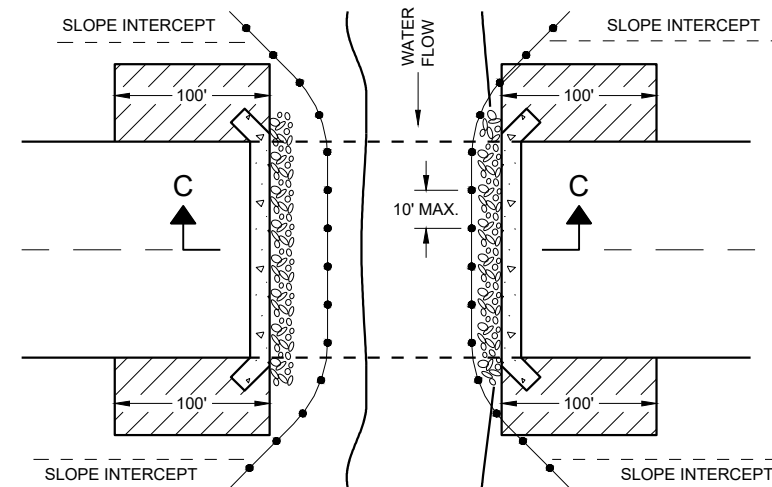
PLAN VIEW

GENERAL NOTES

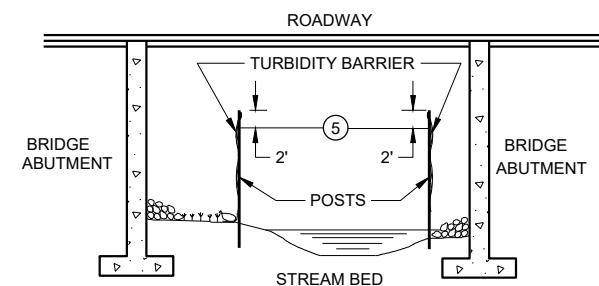
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

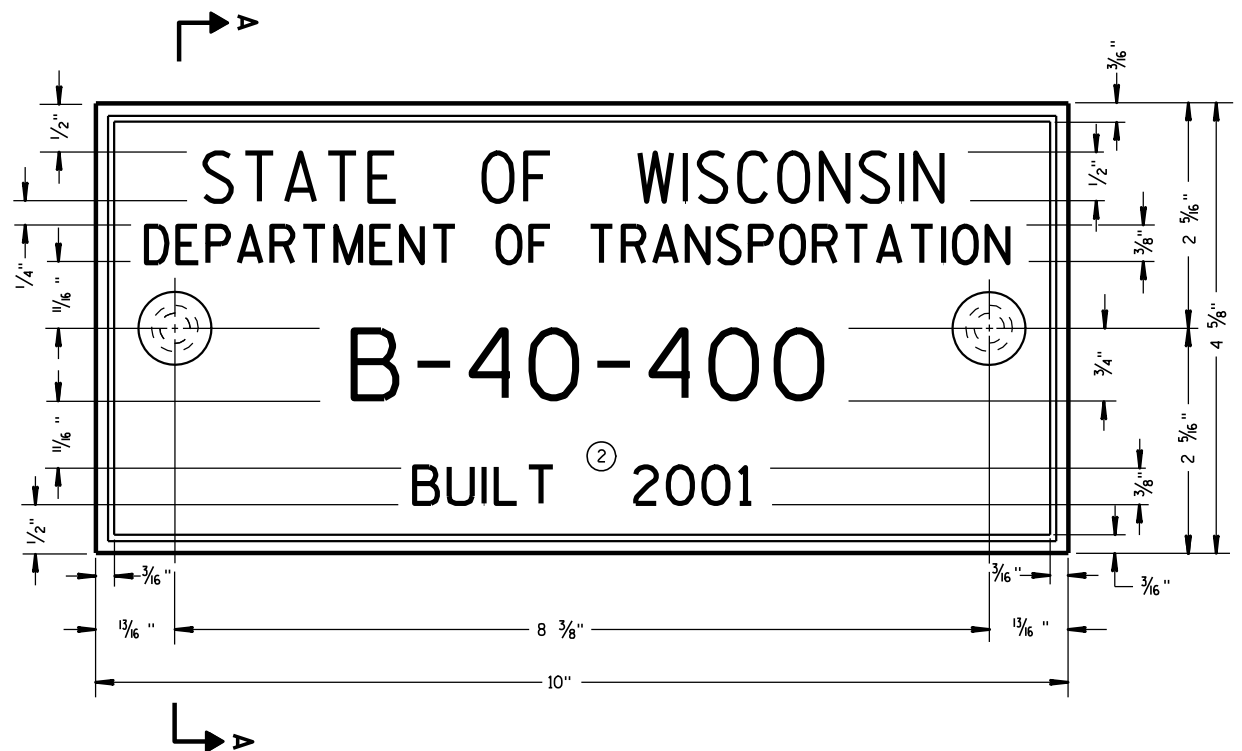
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



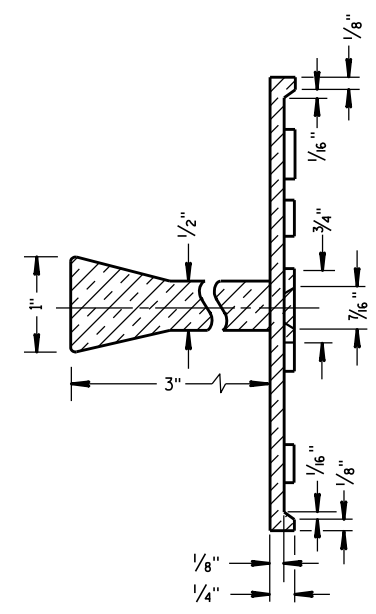
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

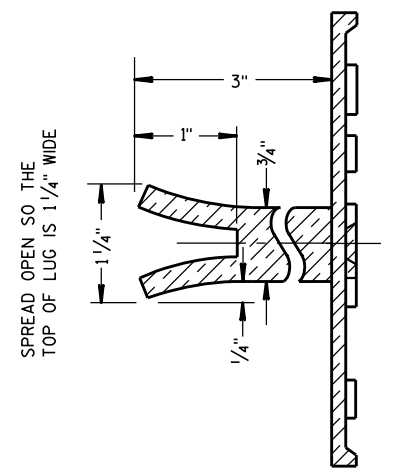
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

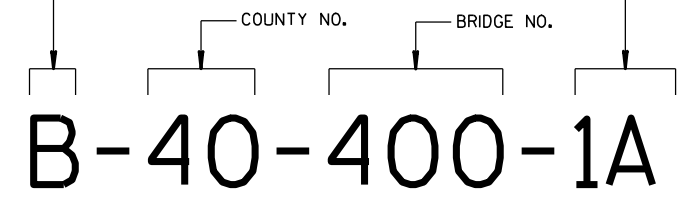
6

6

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

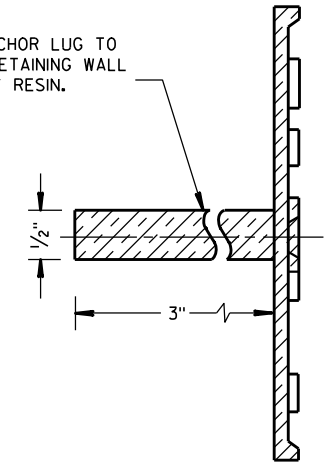
B = BRIDGE
C = CULVERT
R = RETAINING WALL

UNIT NO. FOR MULTIPLE
UNIT BRIDGE



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

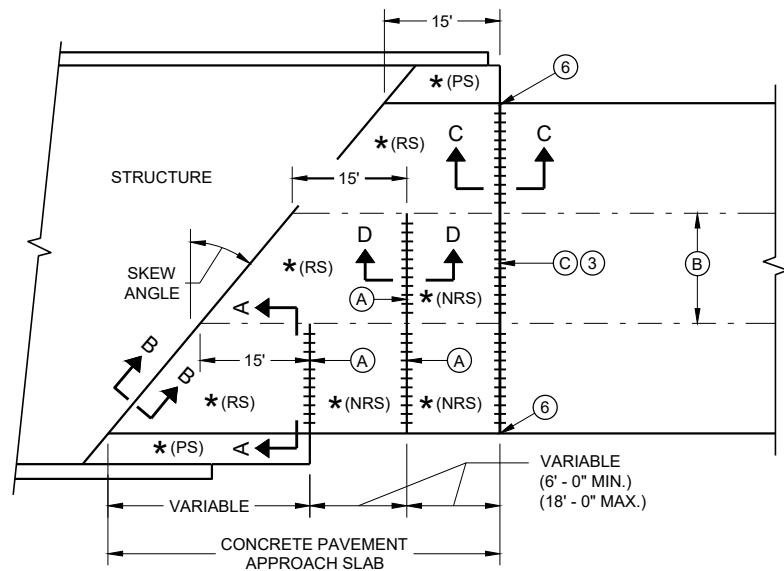


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

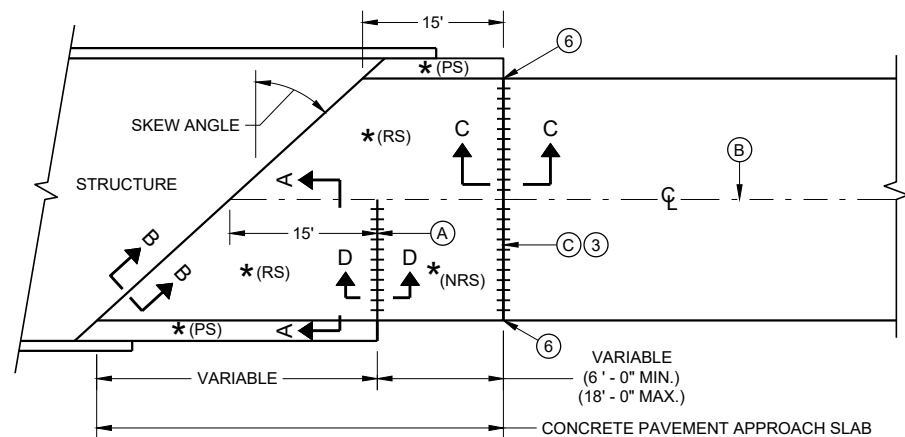
S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

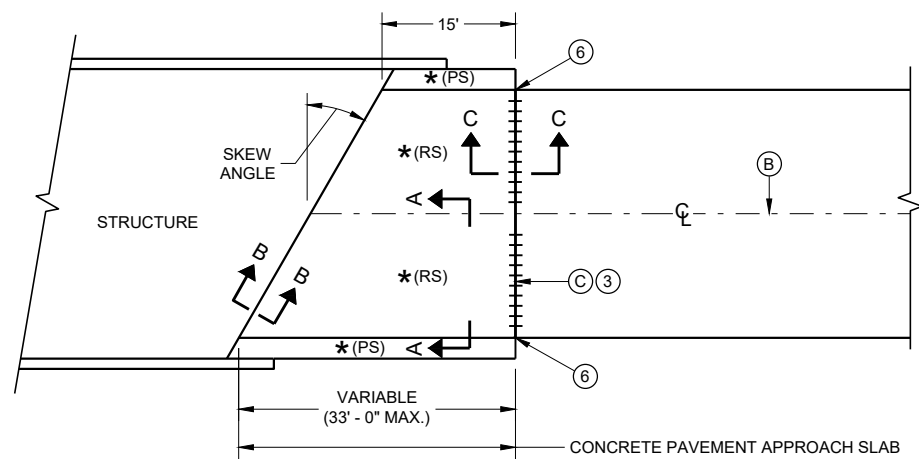
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**

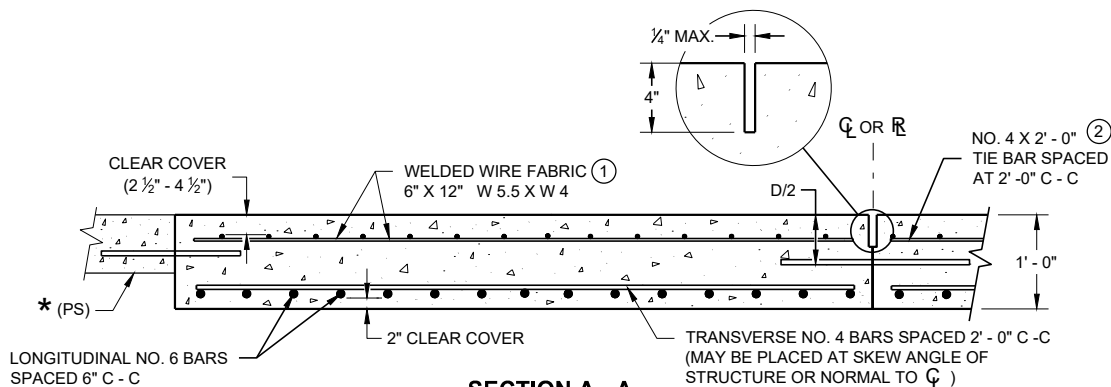


**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**

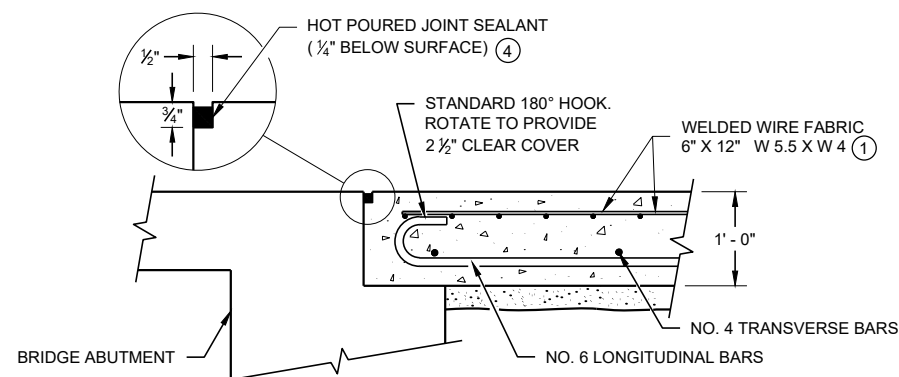


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**
APPROACH SLAB AND ADJACENT PAVEMENT

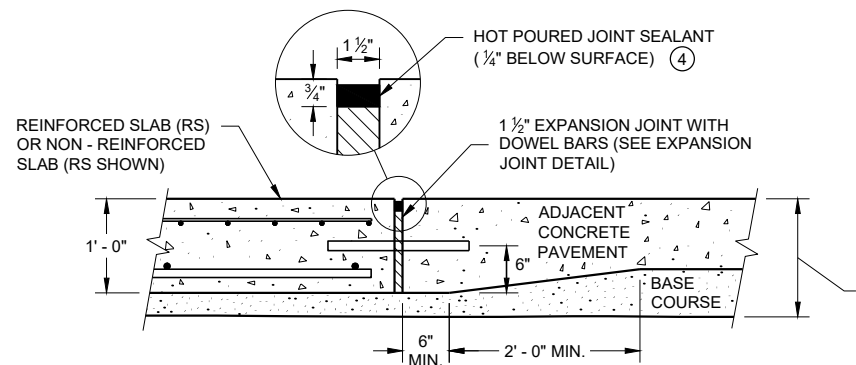
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) - NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



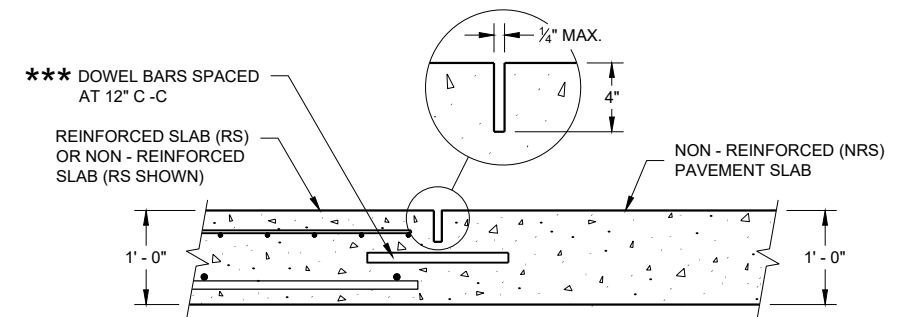
**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



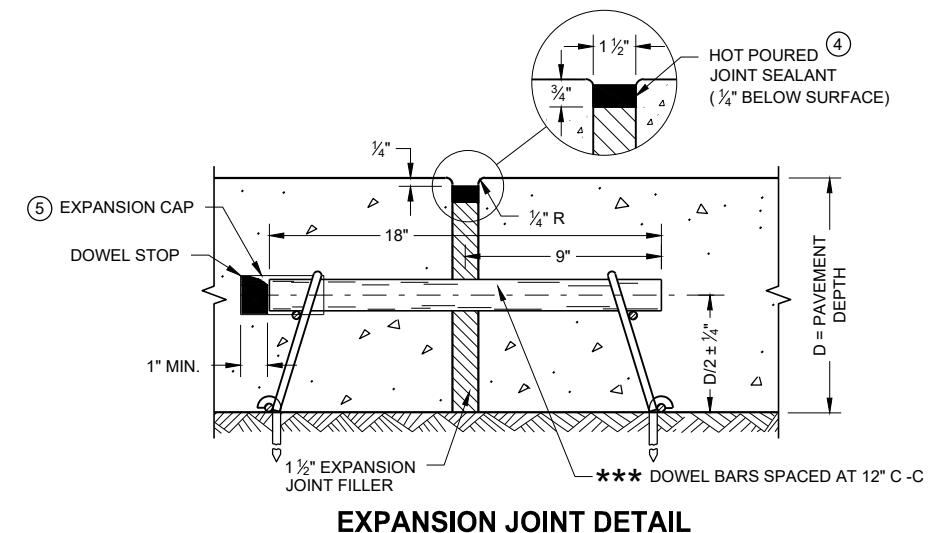
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

- THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.
- TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.
- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
 - ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
 - ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
 - ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
 - ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
 - ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
 - (A) STANDARD CONTRACTION JOINT NORMAL TO \bar{C} OR \bar{R} .
 - (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
 - (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO \bar{C} OR \bar{R} .



**SECTION D - D
CONTRACTION JOINT**



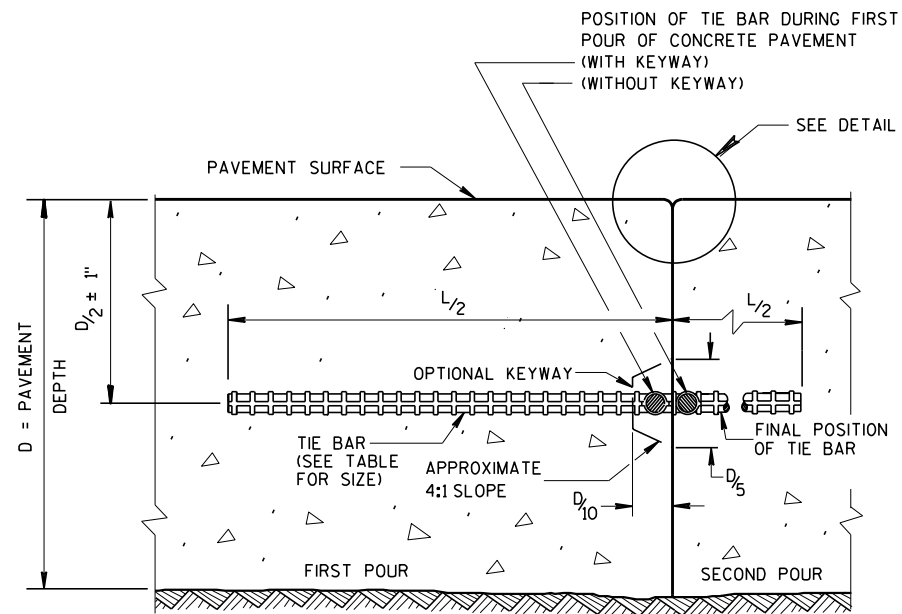
EXPANSION JOINT DETAIL

**CONCRETE PAVEMENT
APPROACH SLAB**

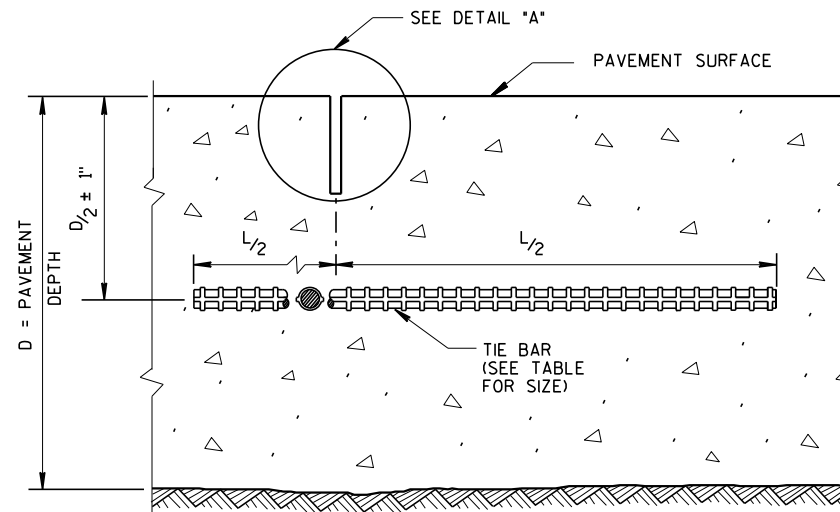
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE DATE PAVEMENT SUPERVISOR

FHWA



CONSTRUCTION JOINT



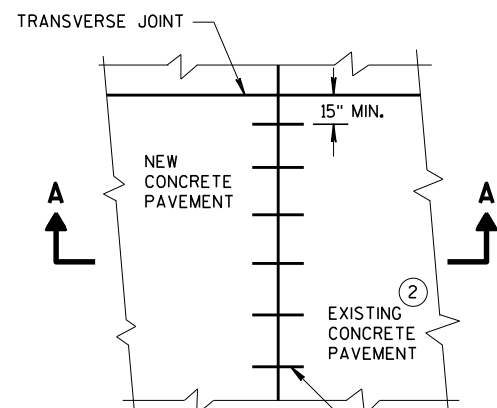
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

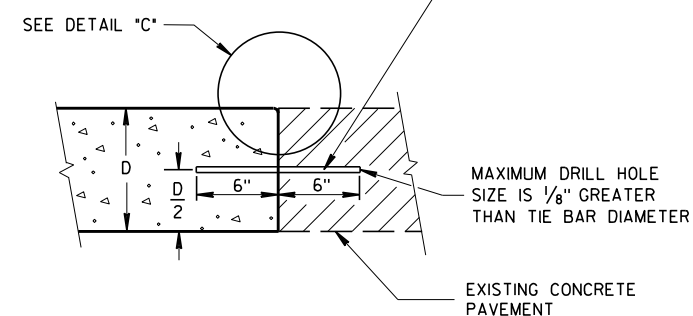
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

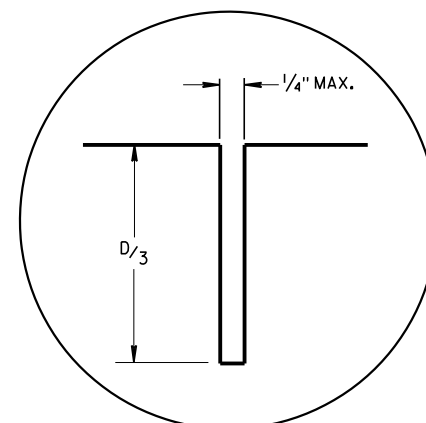


PLAN VIEW

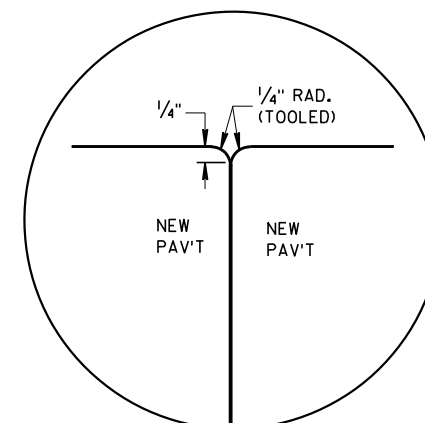
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



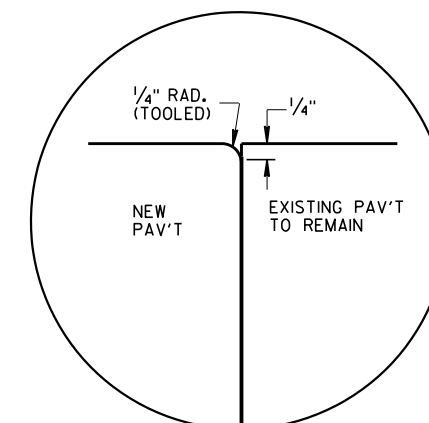
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"



DETAIL "B"



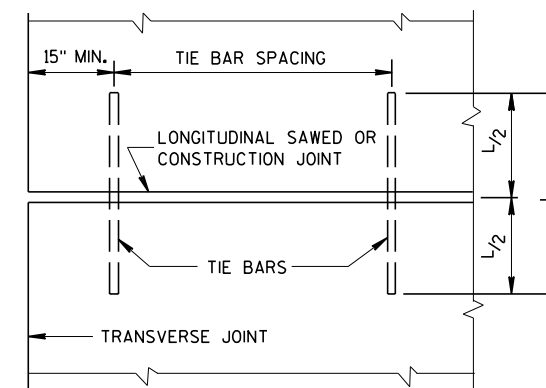
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



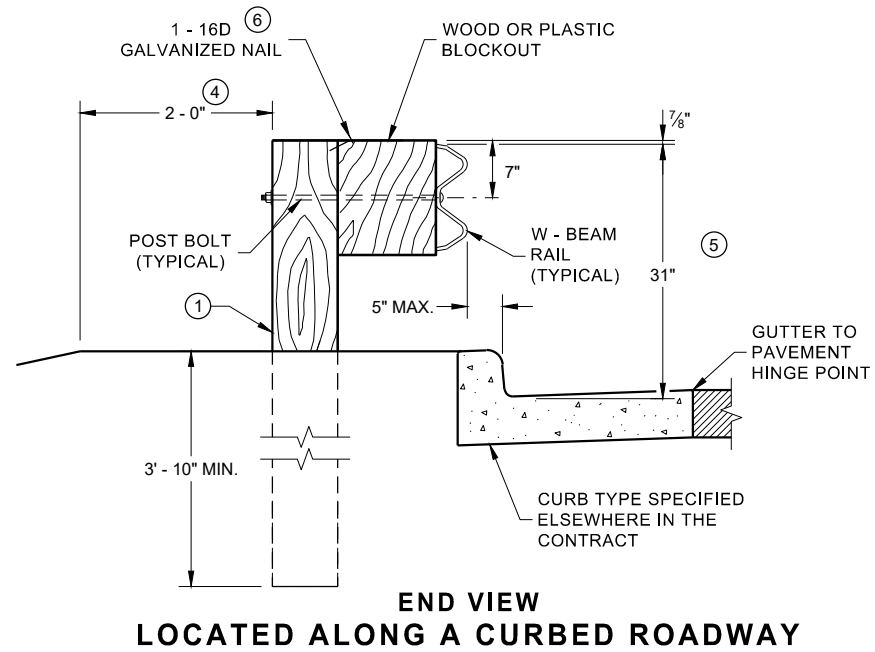
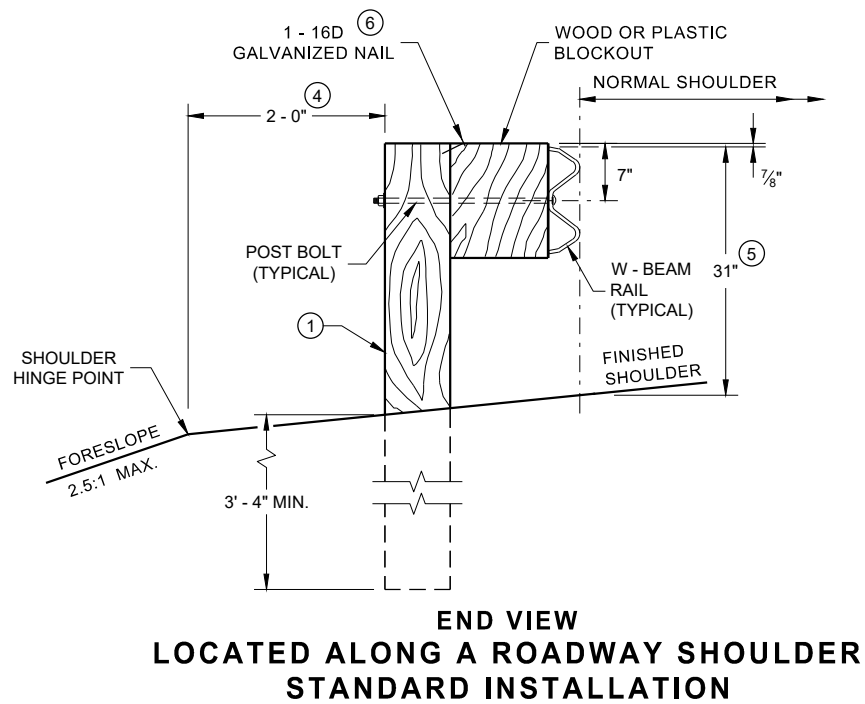
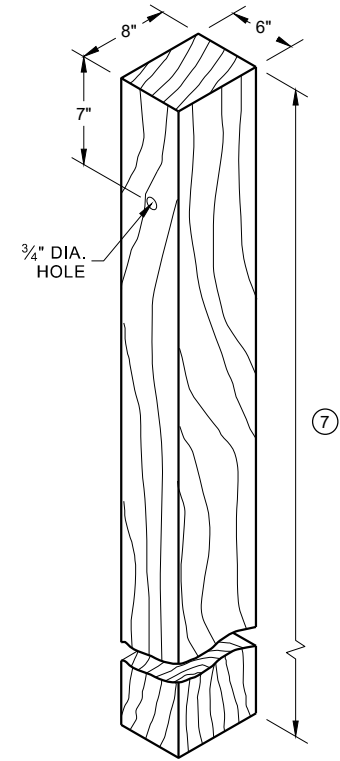
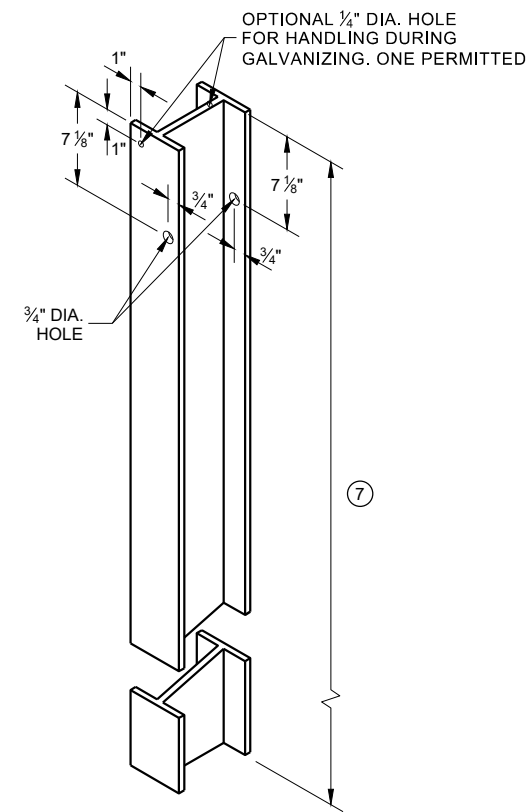
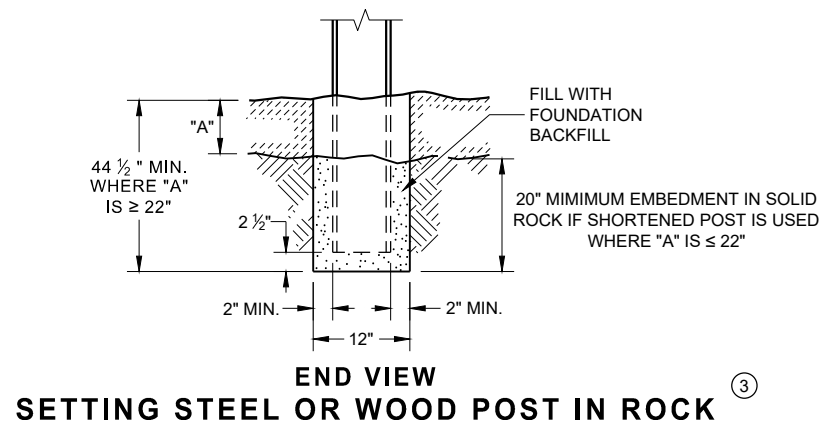
**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

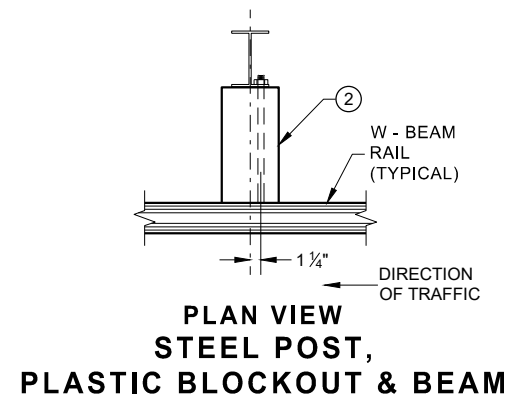
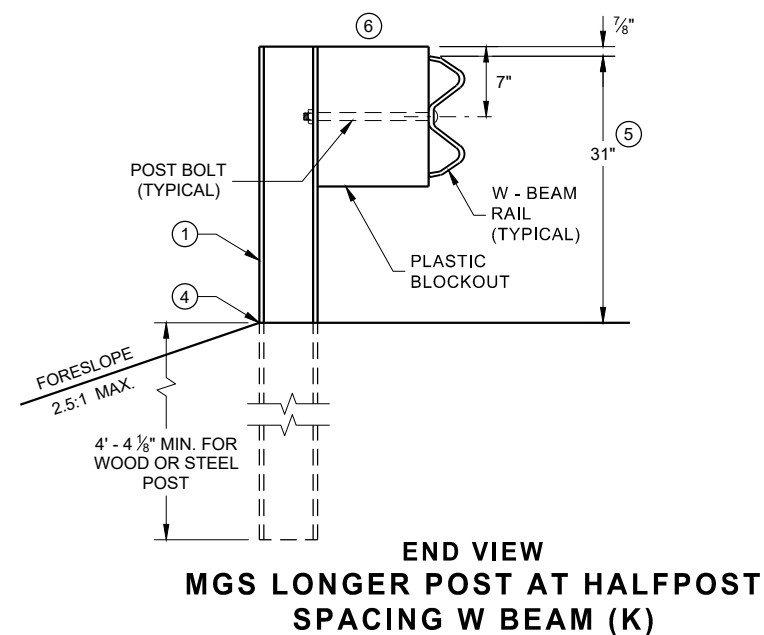
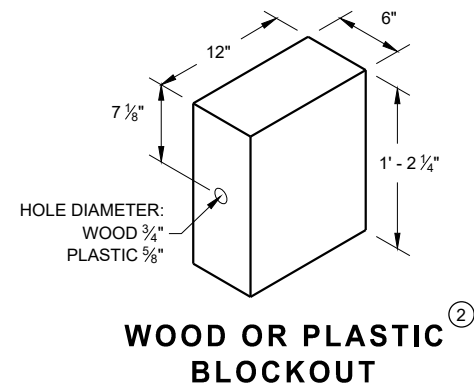
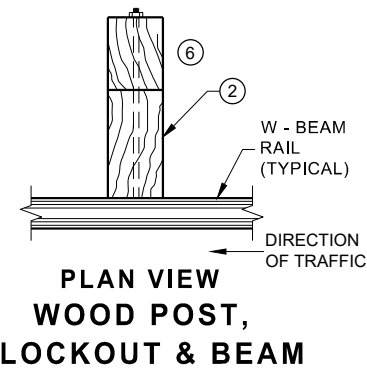
APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



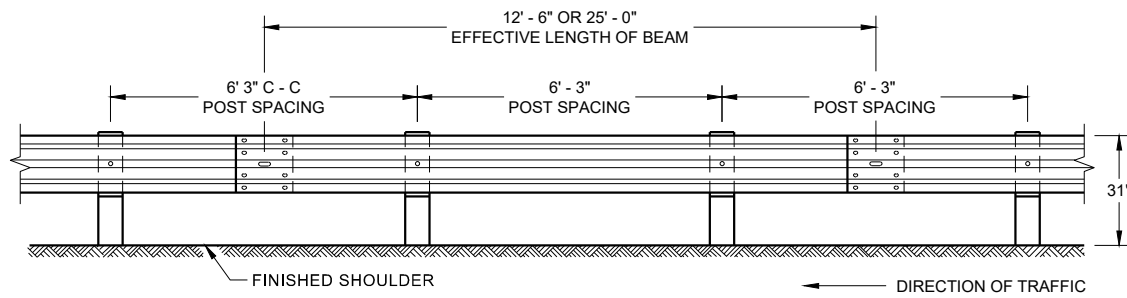
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)

WOOD POST (6" X 8") NOMINAL

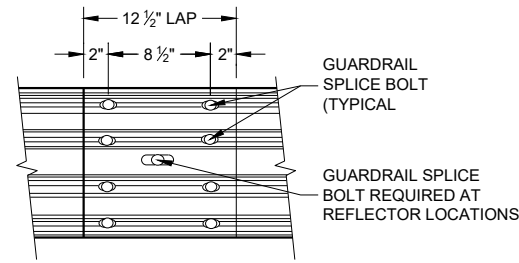


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



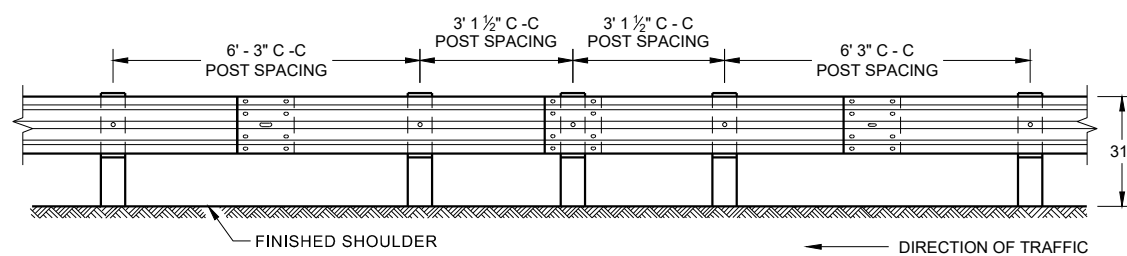
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



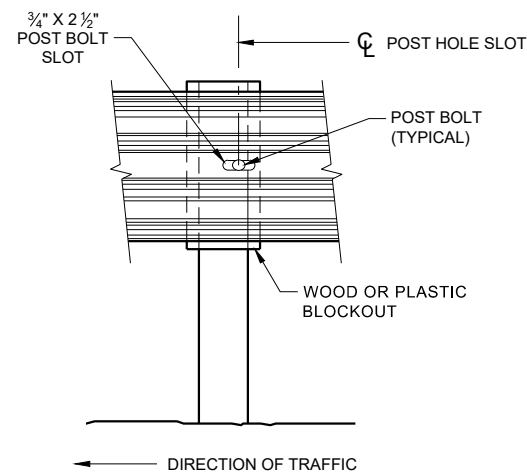
**FRONT VIEW
MID-SPAN BEAM SPLICE**

GENERAL NOTES

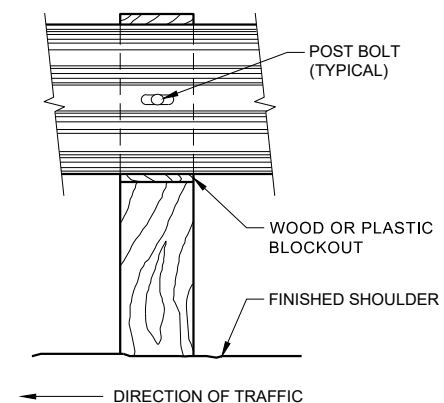
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



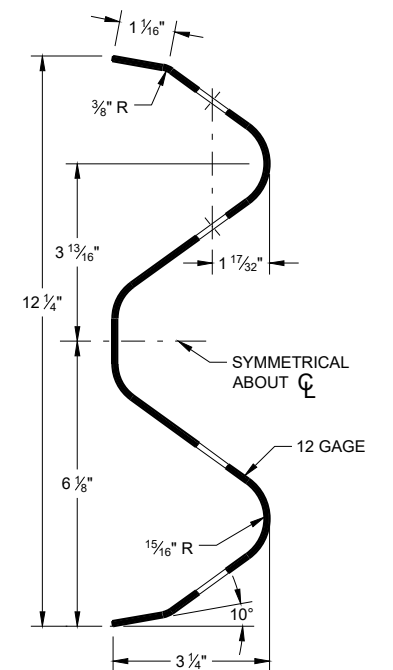
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



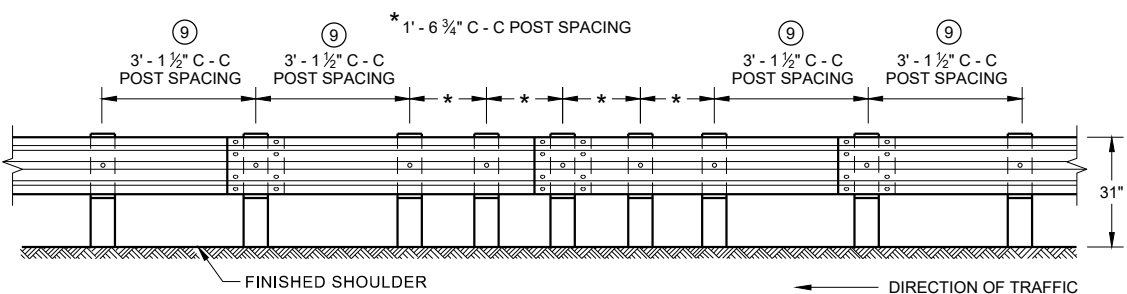
FRONT VIEW AT STEEL POST



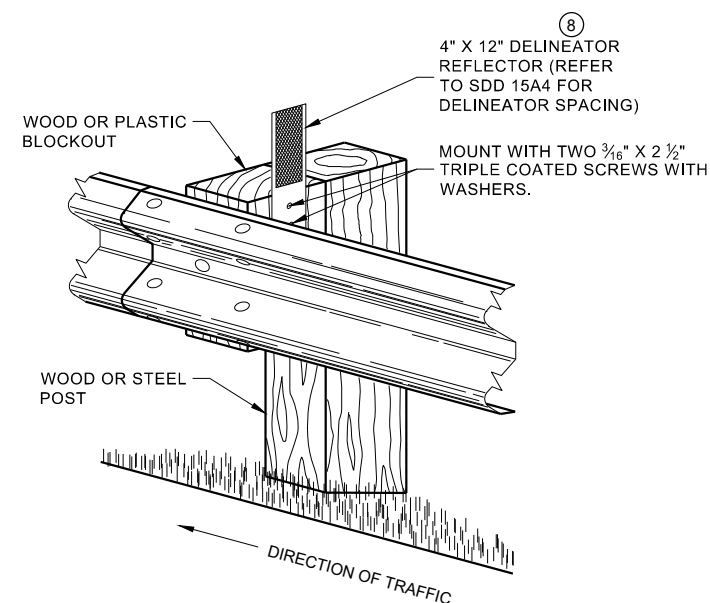
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



**FRONT VIEW
QUARTER POST SPACING (QS)**



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

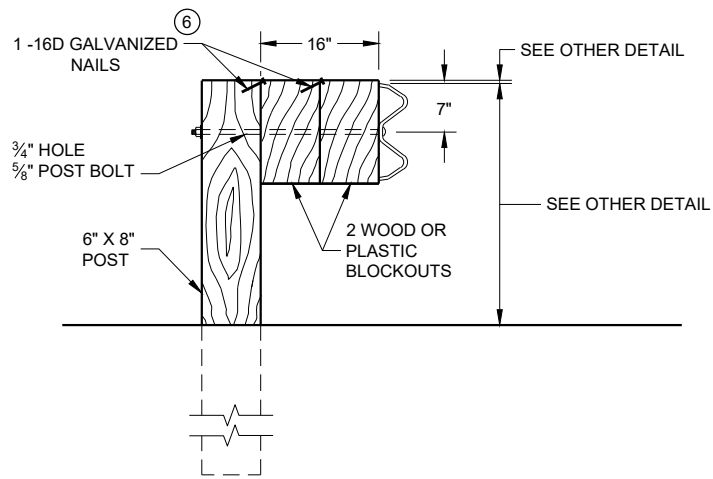
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

6

SDD 14B42 - 07b

SDD 14B42 - 07b

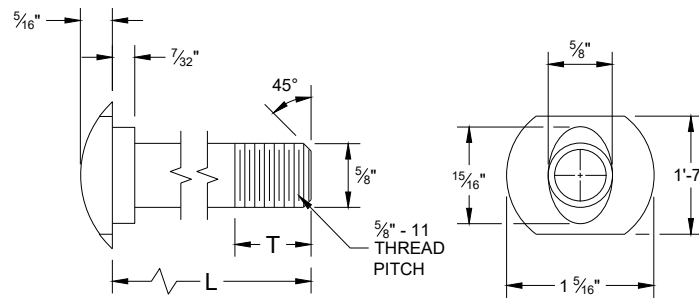


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

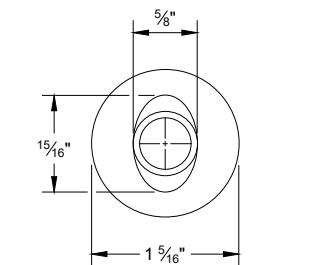
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

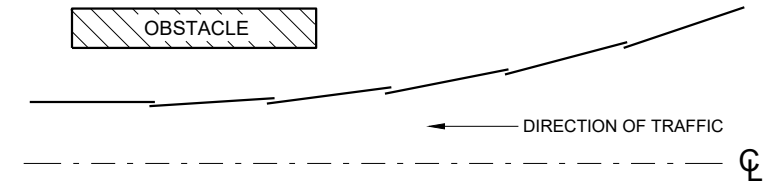


POST BOLT TABLE

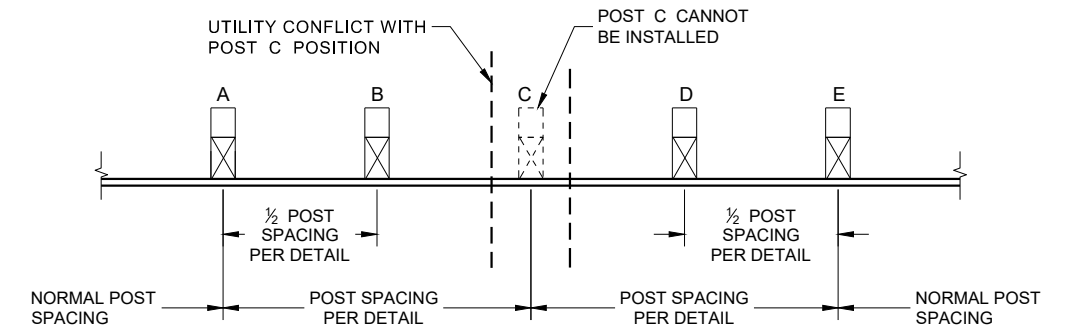
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



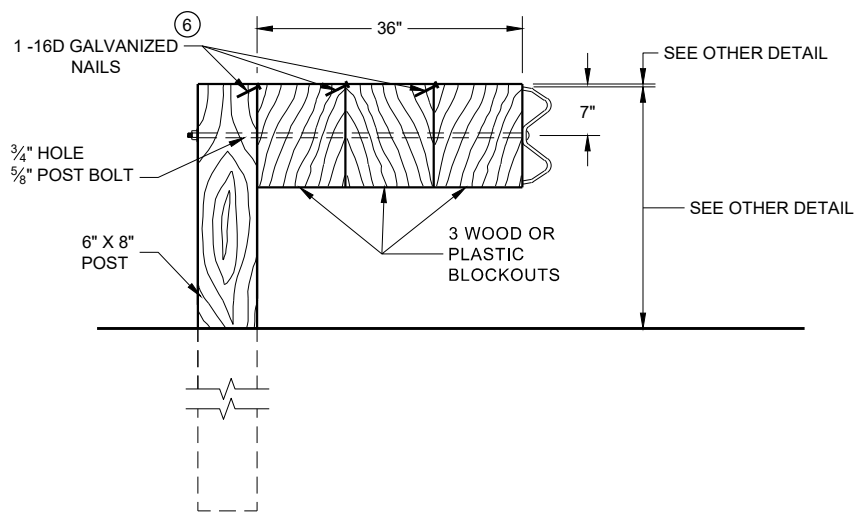
ALTERNATE BOLT HEAD



**PLAN VIEW
BEAM LAPPING DETAIL**

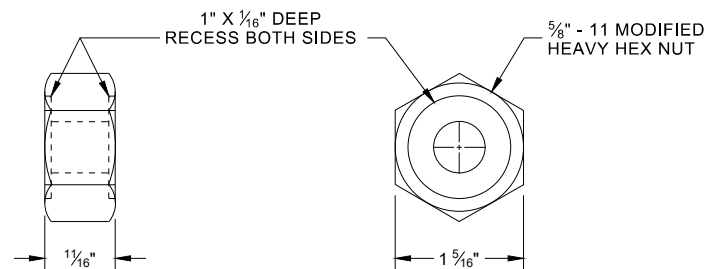


**POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION**

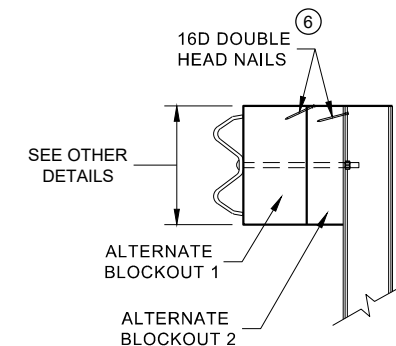


DETAIL FOR 36" BLOCKOUT DEPTH

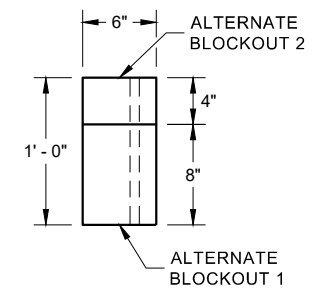
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



**POST BOLT, SPLICE BOLT
AND RECESS NUT**



SIDE VIEW



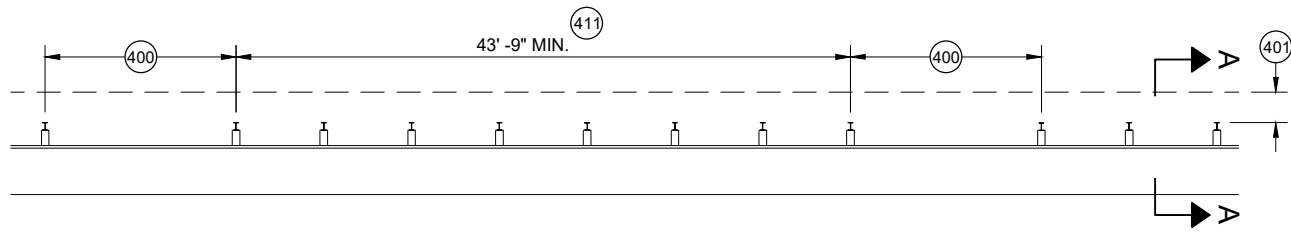
PLAN VIEW

**ALTERNATE WOOD
BLOCKOUT DETAIL**

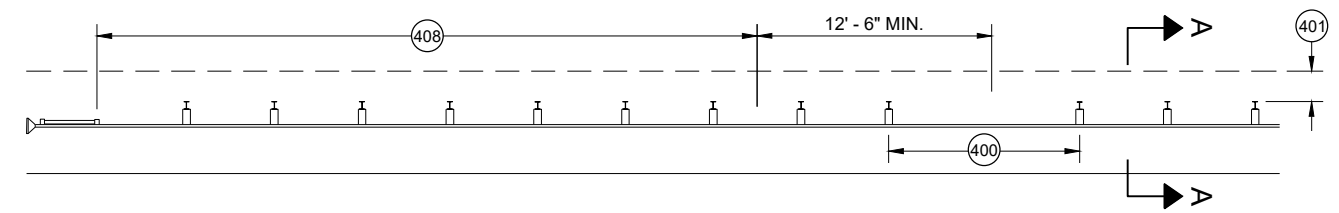
6 WHEN USING STEEL POST AND WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

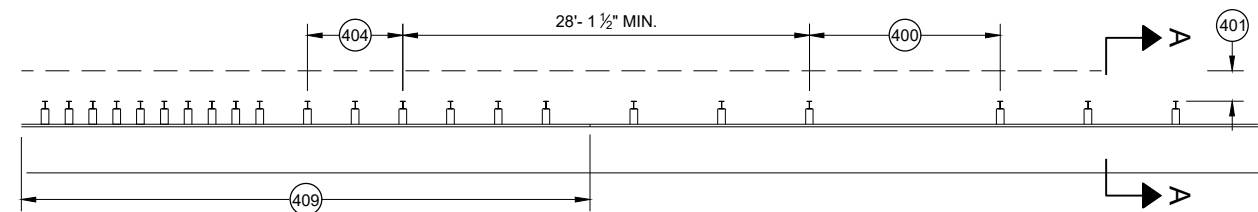
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



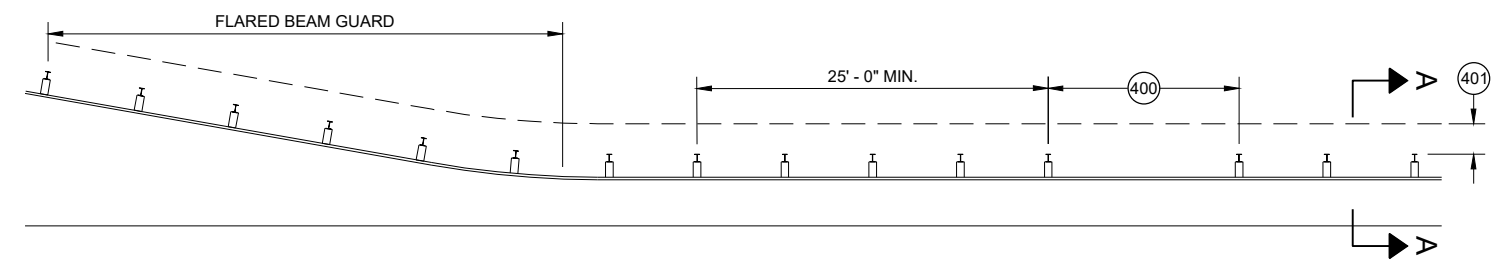
MISSING POST IN MGS GUARDRAIL



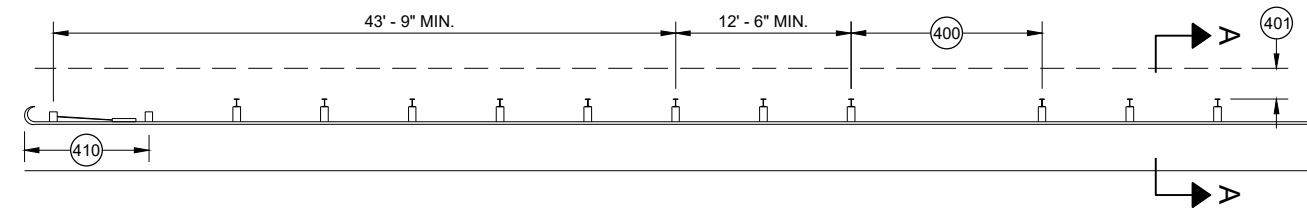
MISSING POST IN MGS GUARDRAIL NEAR EAT



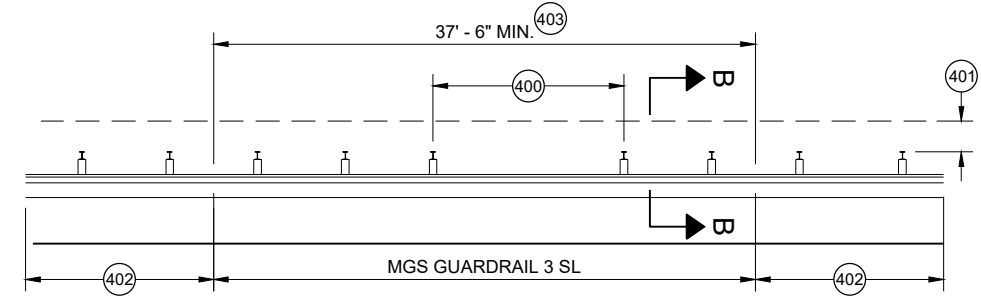
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

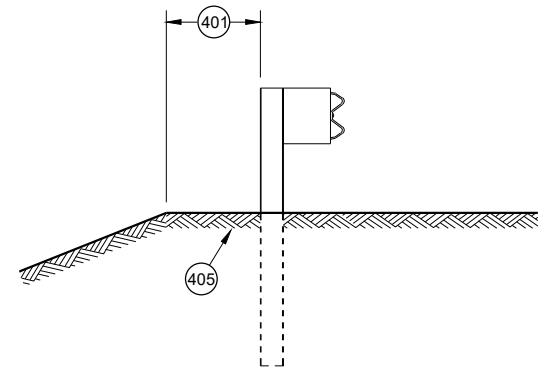


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

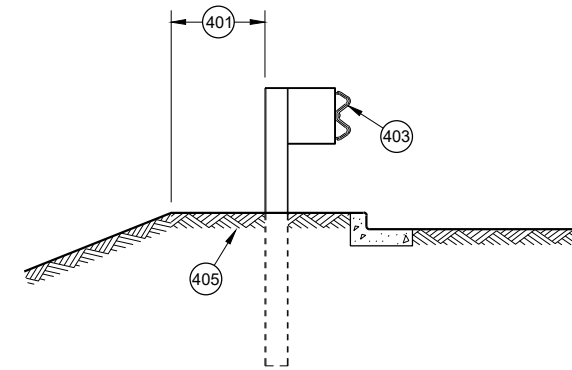


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- ④00 MAX SPAN 12' - 6"
- ④01 2' MIN.
- ④02 MGS GUARDRAIL 3
- ④03 NESTING BEAM GUARD
- ④04 ASYMMETRIC TRANSITION
- ④05 SOIL WELL DRAINED AND COMPACTED
- ④06 SEE OTHER DRAWINGS IN THIS SDD
- ④07 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- ④08 SEE SDD 14B44
- ④09 SEE SDD 14B45
- ④10 SEE SDD 14B47
- ④11 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A



SECTION B - B

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
<small>FHWA</small>	

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
 - (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
 - (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
 - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
 - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

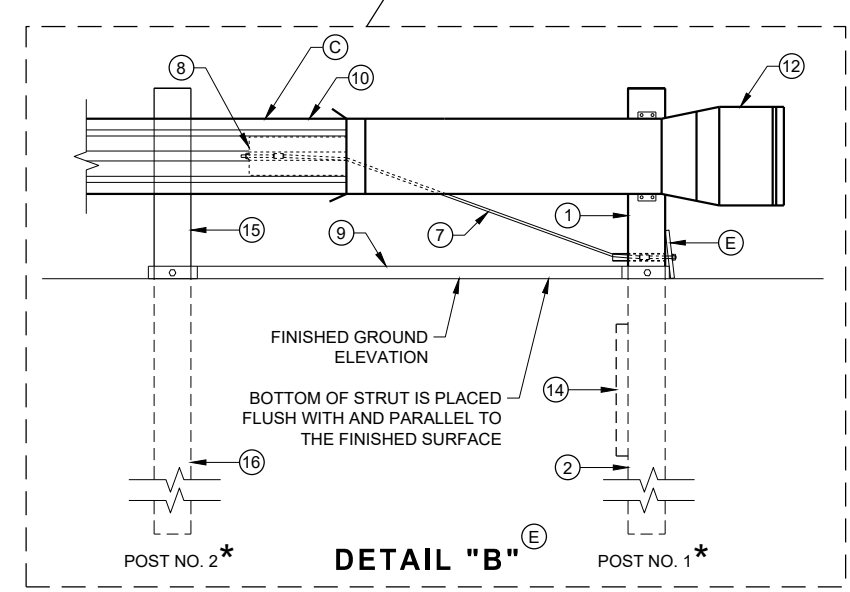
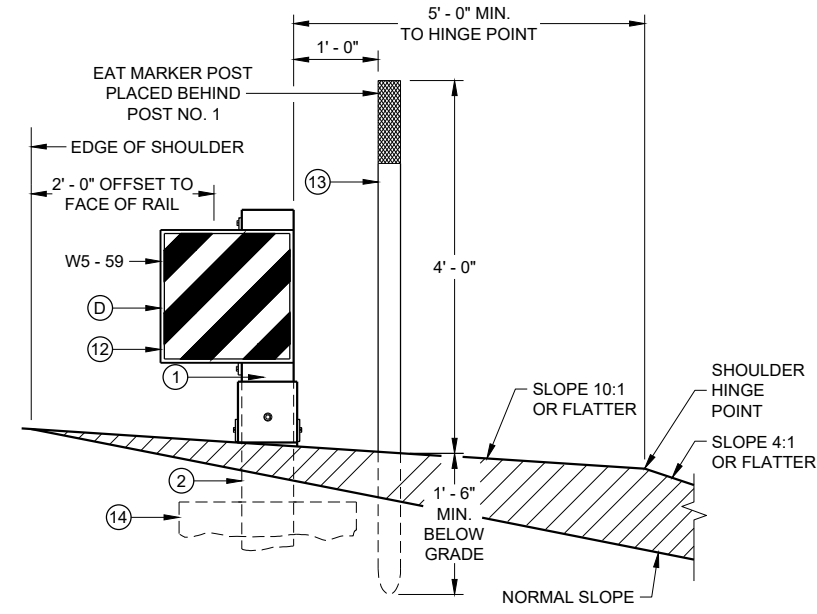
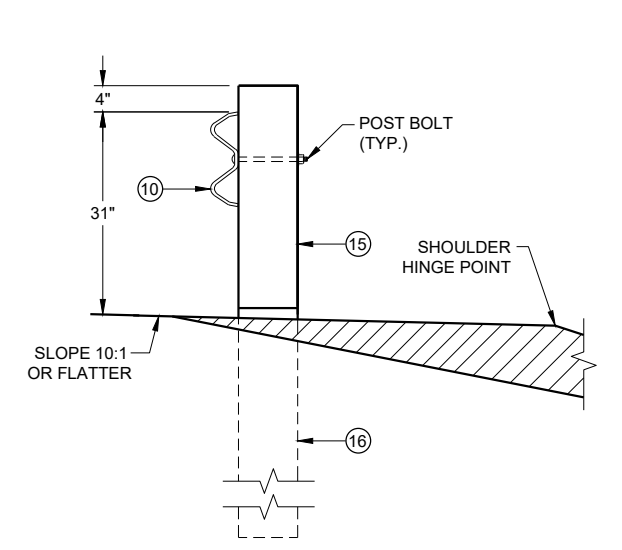
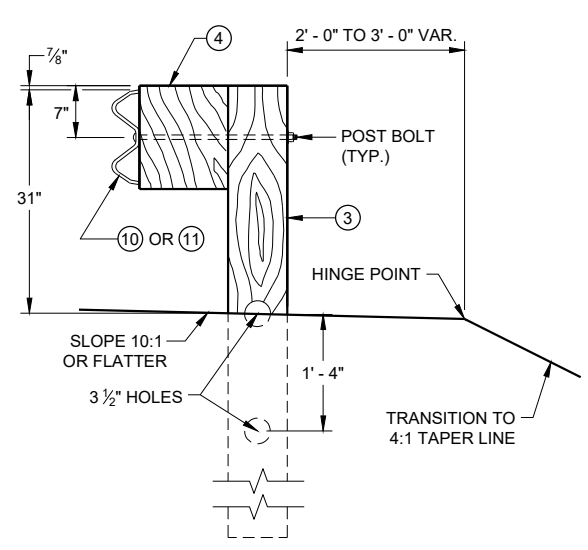
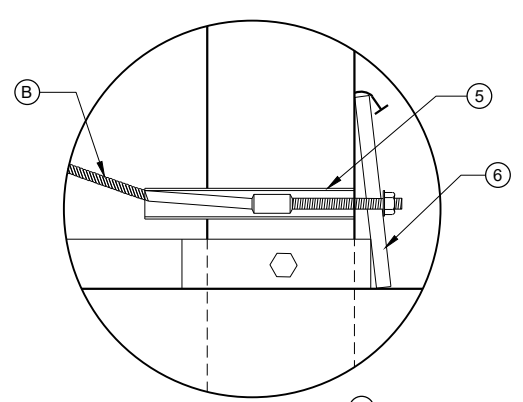
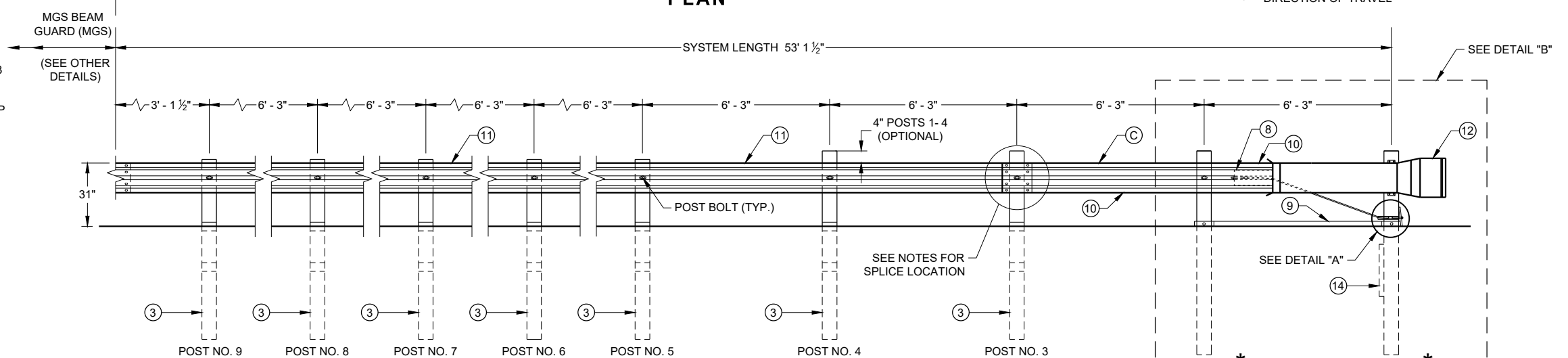
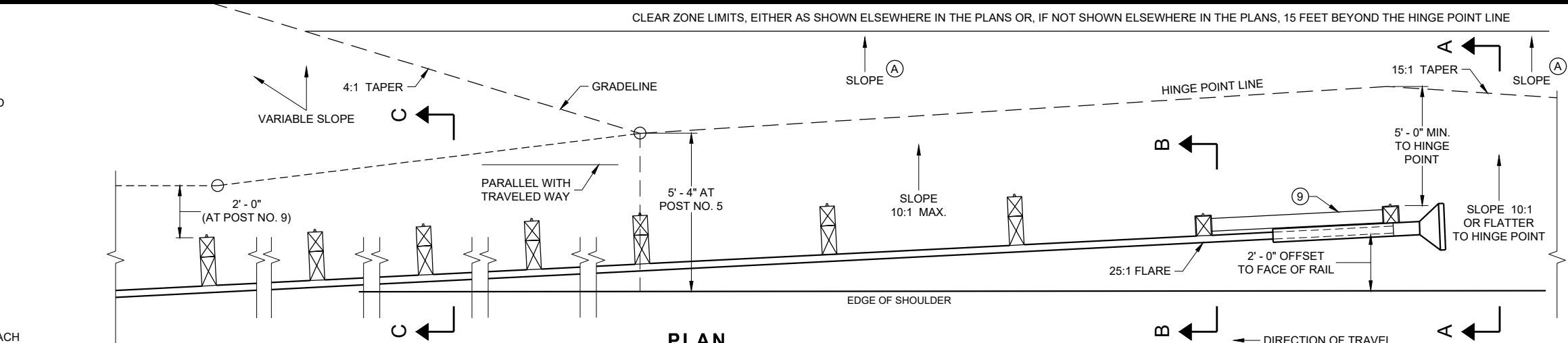
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

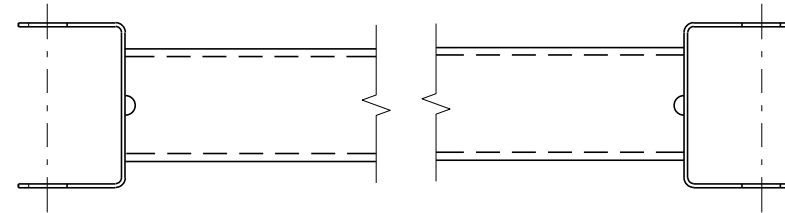
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

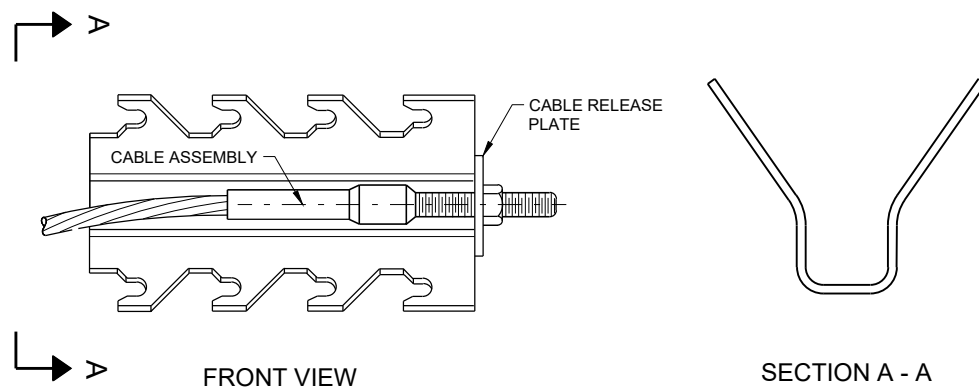
SDD 14B44 - 04a

BILL OF MATERIALS

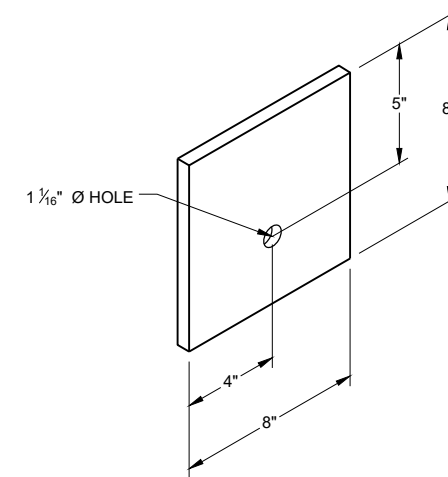
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC GROUND STRUT ⑨ ⑤



GENERIC ANCHOR CABLE BOX ⑨ ⑤



BEARING PLATE ⑥ ⑤

6

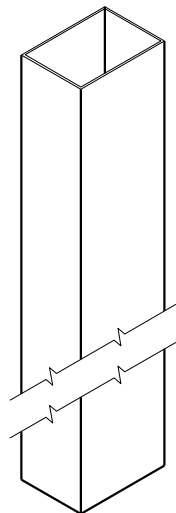
6

SDD 14B44 - 04b

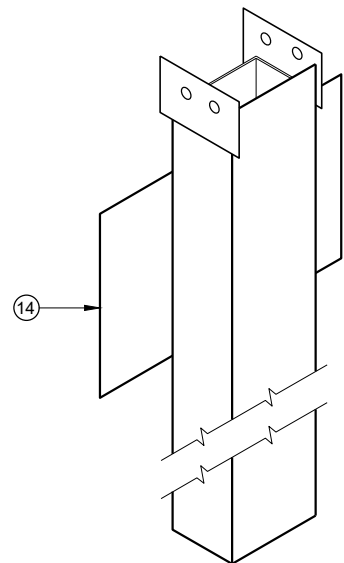
SDD 14B44 - 04b

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

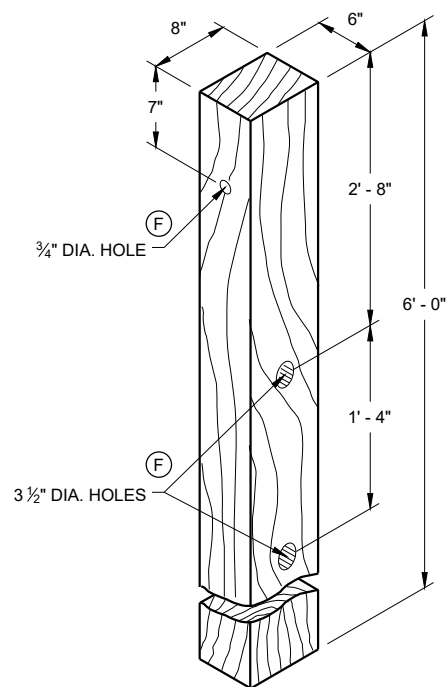
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



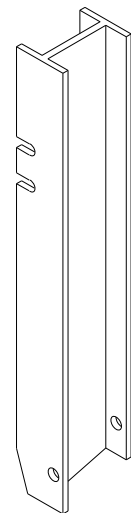
UPPER POST NO. 1 ⁽¹⁾ (E)



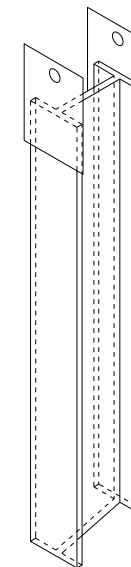
LOWER POST NO. 1 ⁽²⁾ (E)



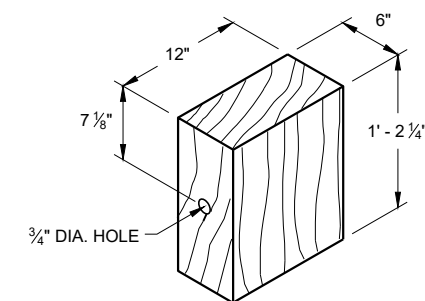
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



UPPER POST NO. 2 ⁽¹⁵⁾ (E)

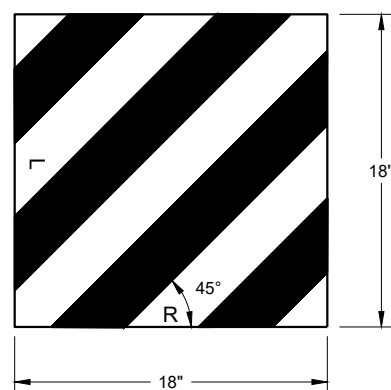


LOWER POST NO. 2 ⁽¹⁶⁾ (E)



WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

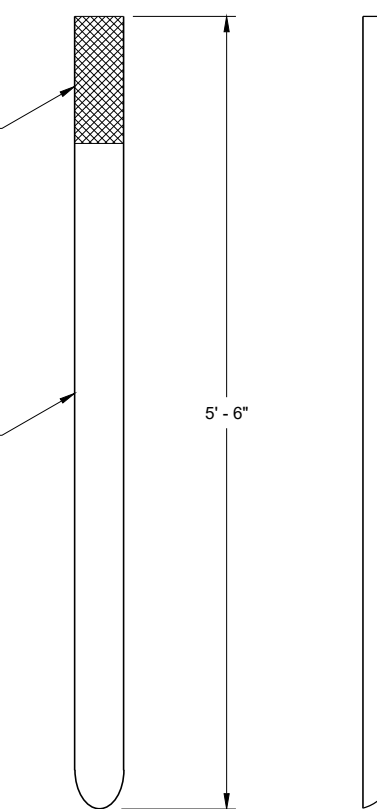
6



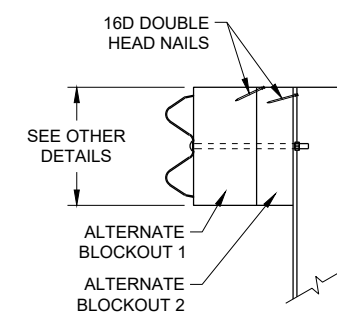
REFLECTIVE SHEETING DETAIL ^(E)

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.

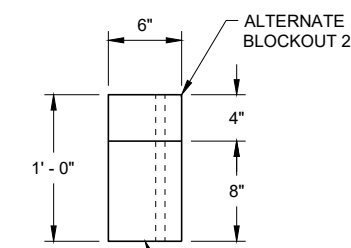
E.A.T. MARKER
POST (YELLOW)



FRONT VIEW SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



TOP VIEW

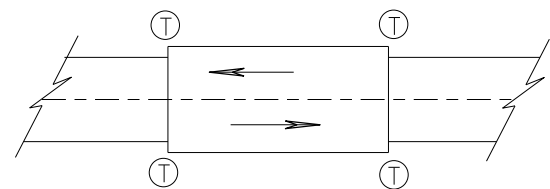
ALTERNATE WOOD
BLOCKOUT DETAIL

6

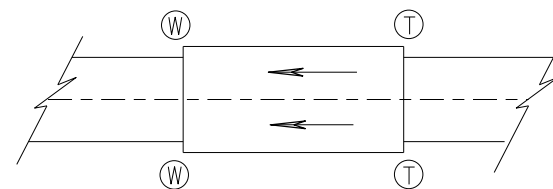
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

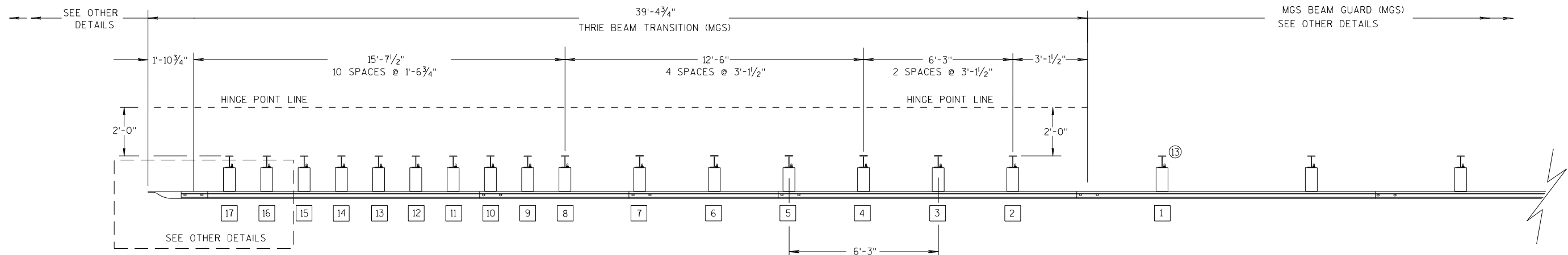
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

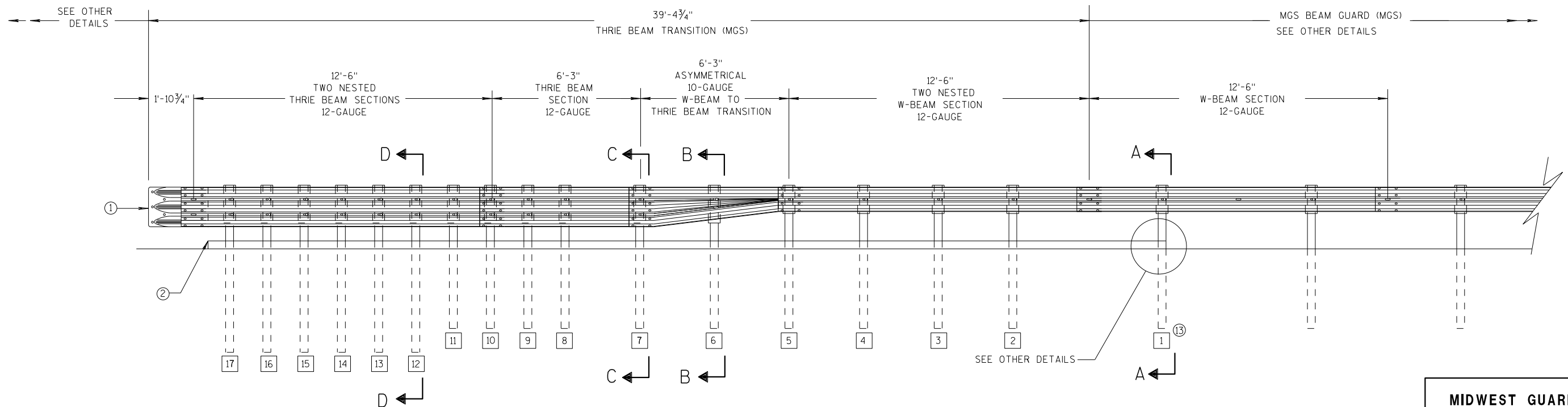
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

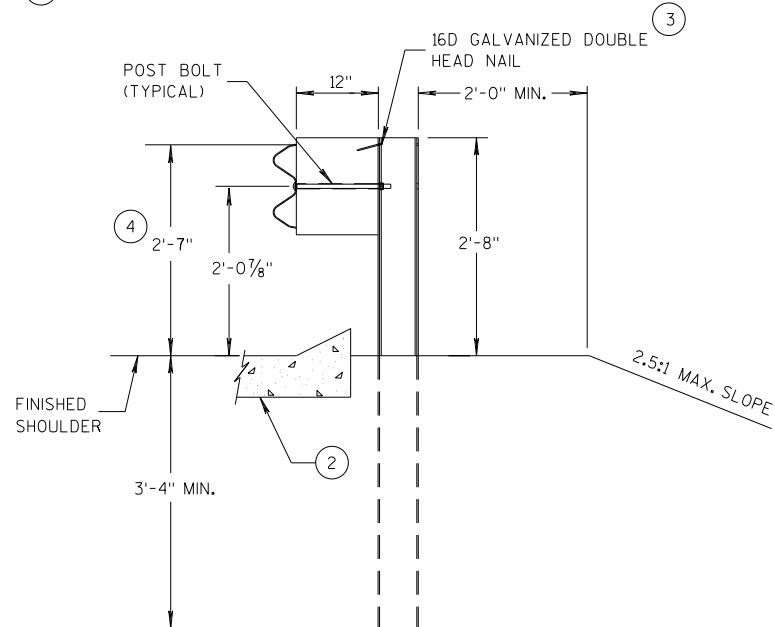
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

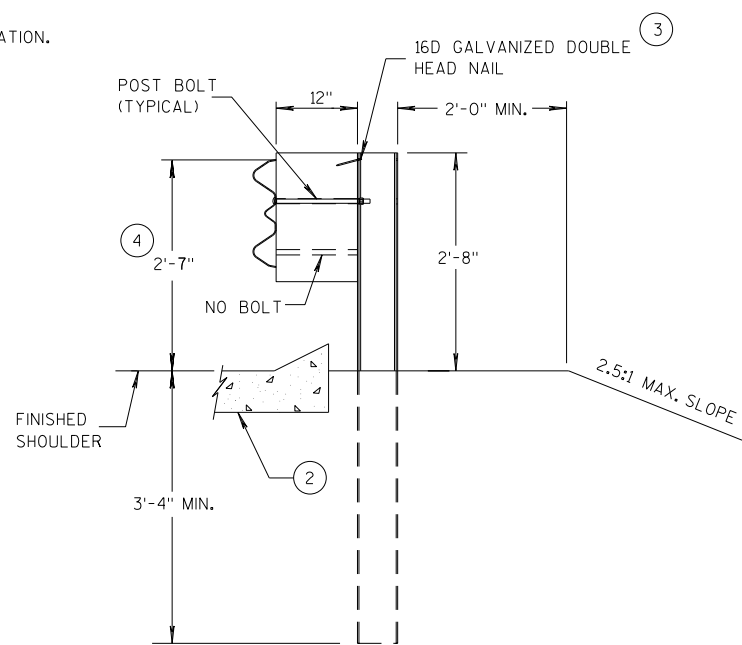
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

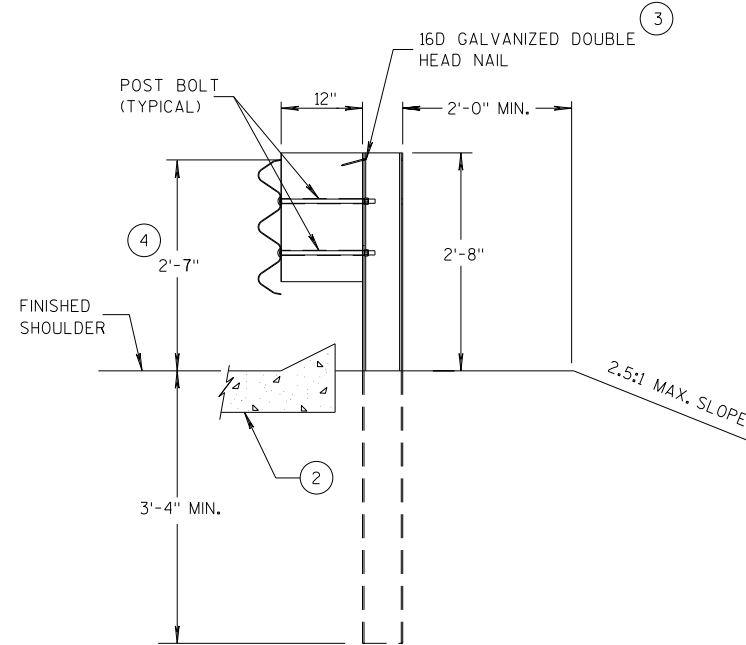
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".
- ⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



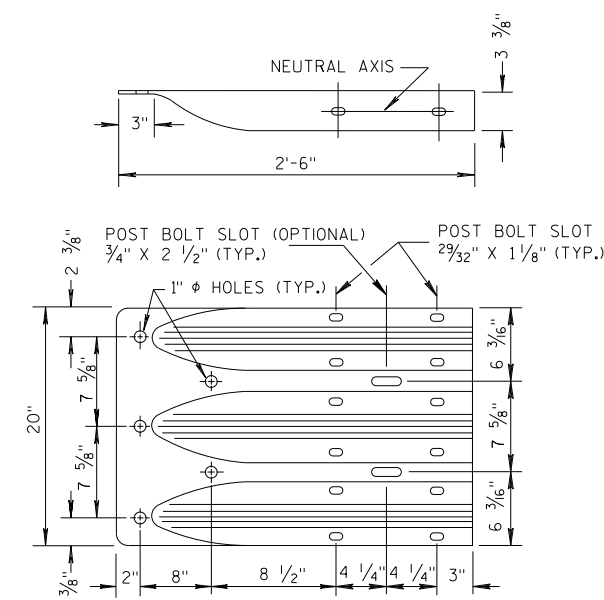
**SECTION A-A
POSTS 1-5**



**SECTION B-B
POST 6**



**SECTION C-C
POSTS 7-11**



**THRIE BEAM
TERMINAL CONNECTOR**

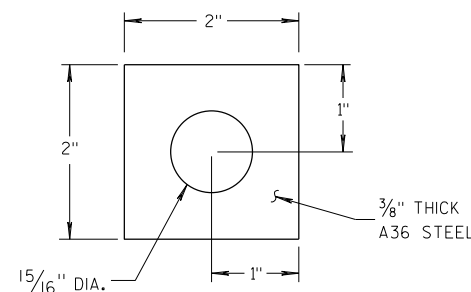
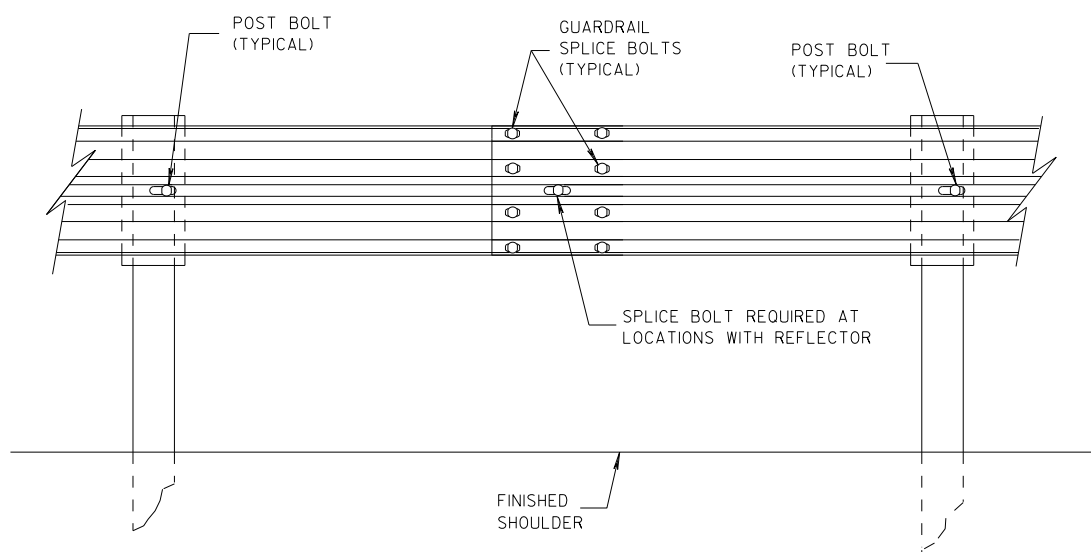
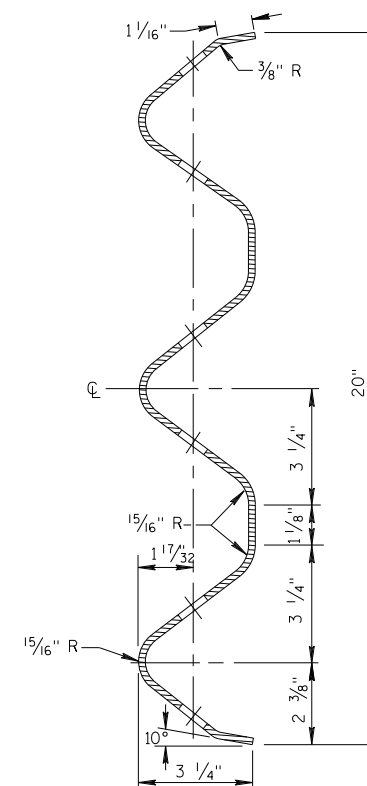


PLATE WASHER DETAIL



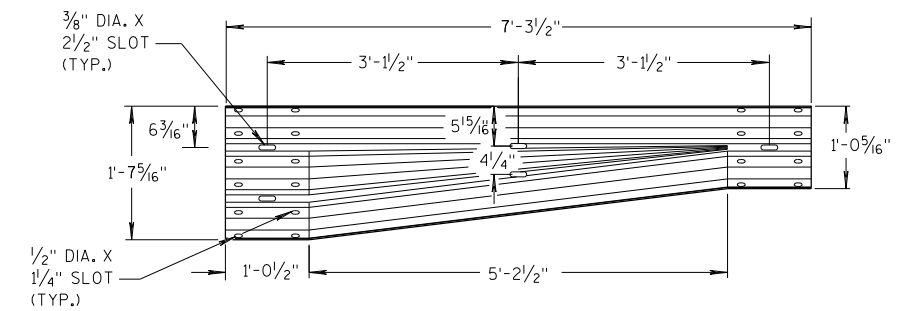
SPLICE DETAIL



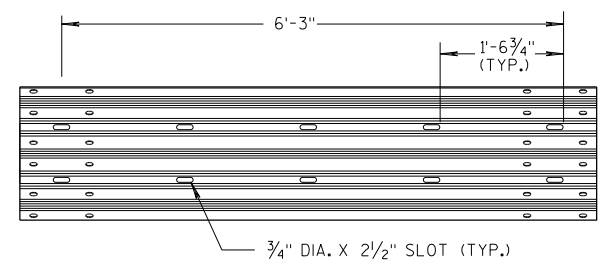
**SECTION THRU THRIE
BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

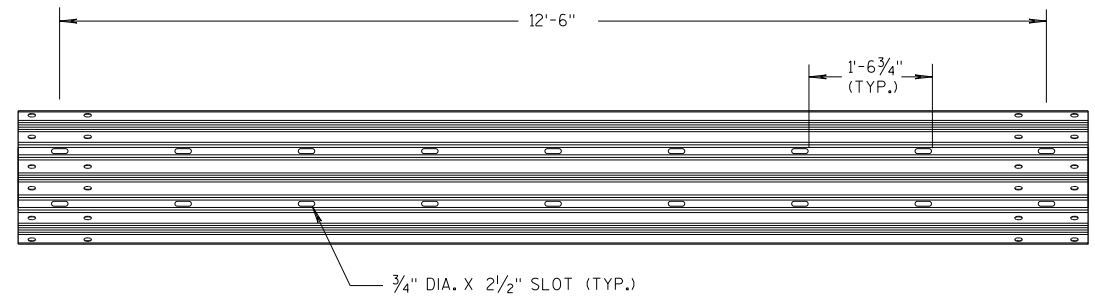
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



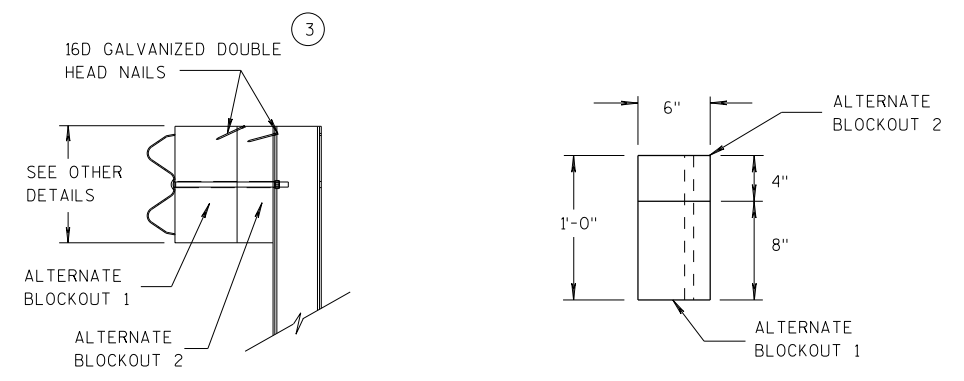
W-BEAM TO THRIE BEAM TRANSITION SECTION



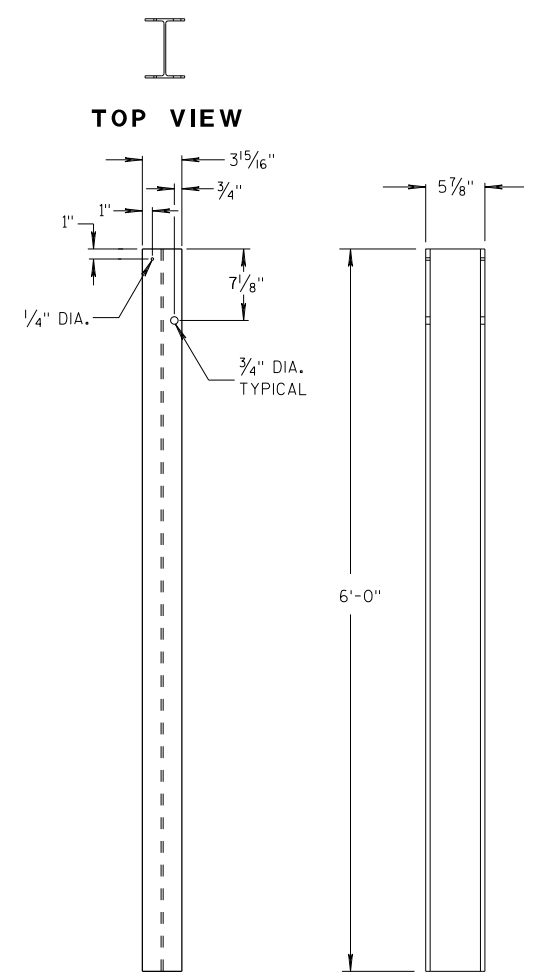
6'-3" THRIE BEAM SECTION



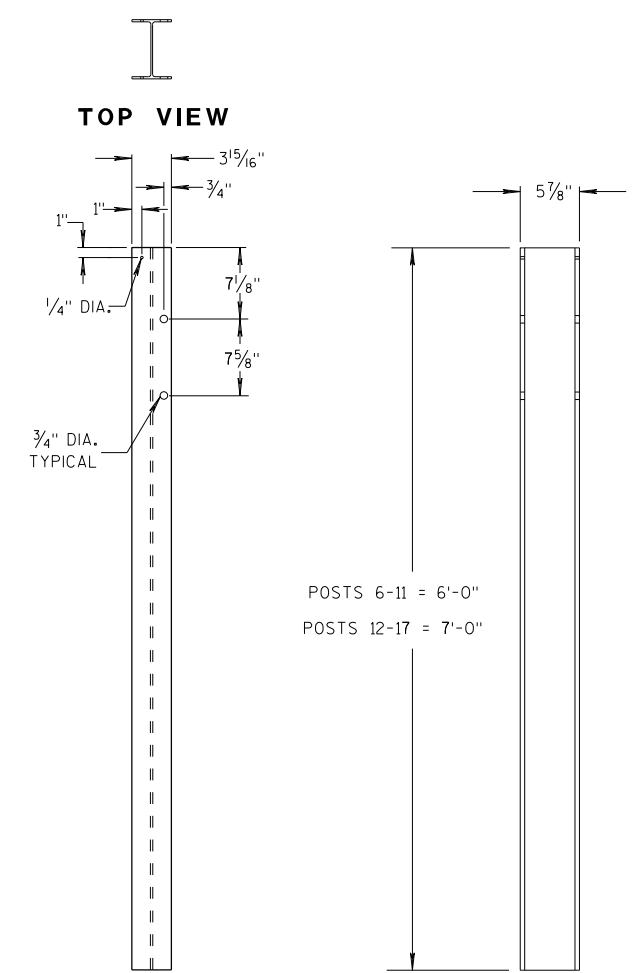
12'-6" THRIE BEAM SECTION



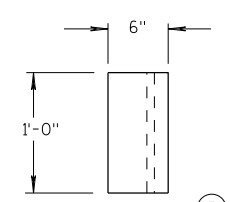
ALTERNATE WOOD BLOCKOUT DETAIL



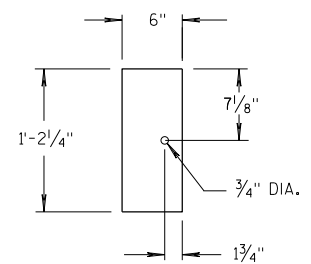
STEEL POSTS 1-5



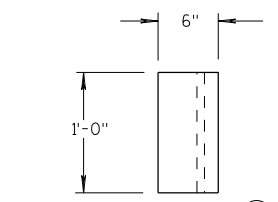
STEEL POSTS 6-17



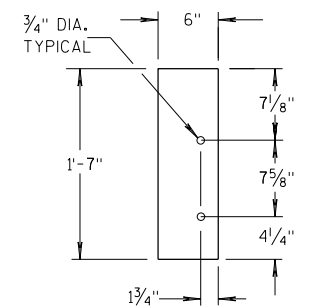
TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 1-5**



TOP VIEW



**FRONT VIEW
BLOCKOUT
POSTS 6-17**

GENERAL NOTES

- STEEL POSTS ARE W6X9 OR W6X8.5.
- BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.
- (3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- (5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

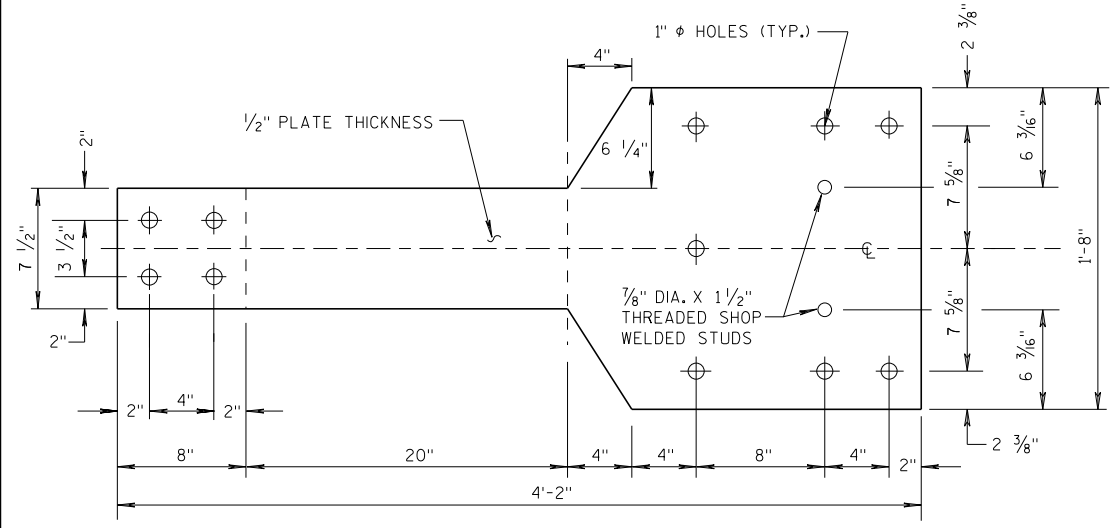
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S.D.D. 14 B 45-5c

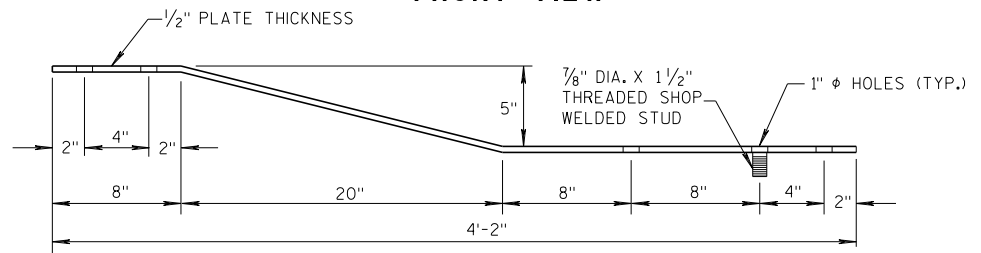
S.D.D. 14 B 45-5c

GENERAL NOTES

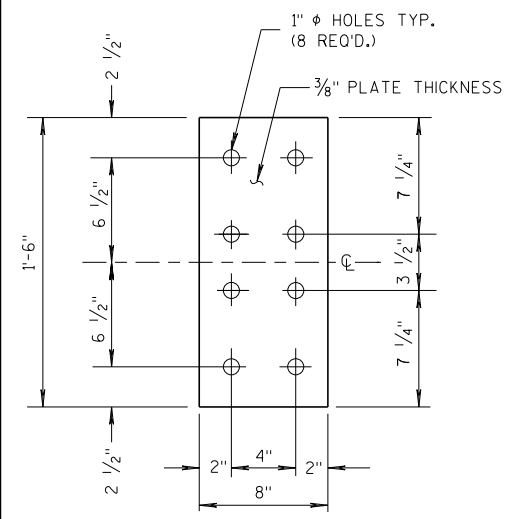
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



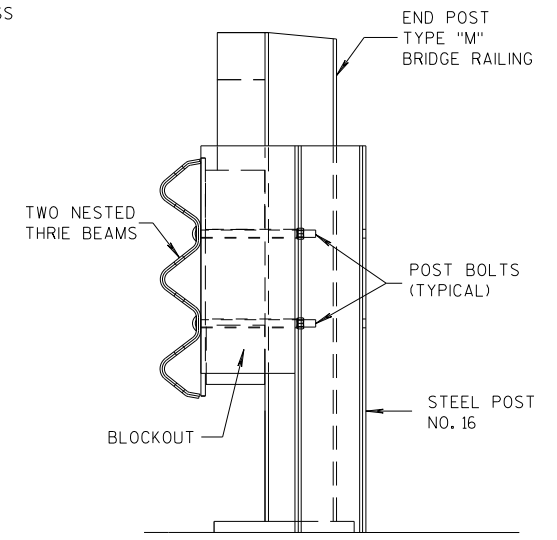
FRONT VIEW



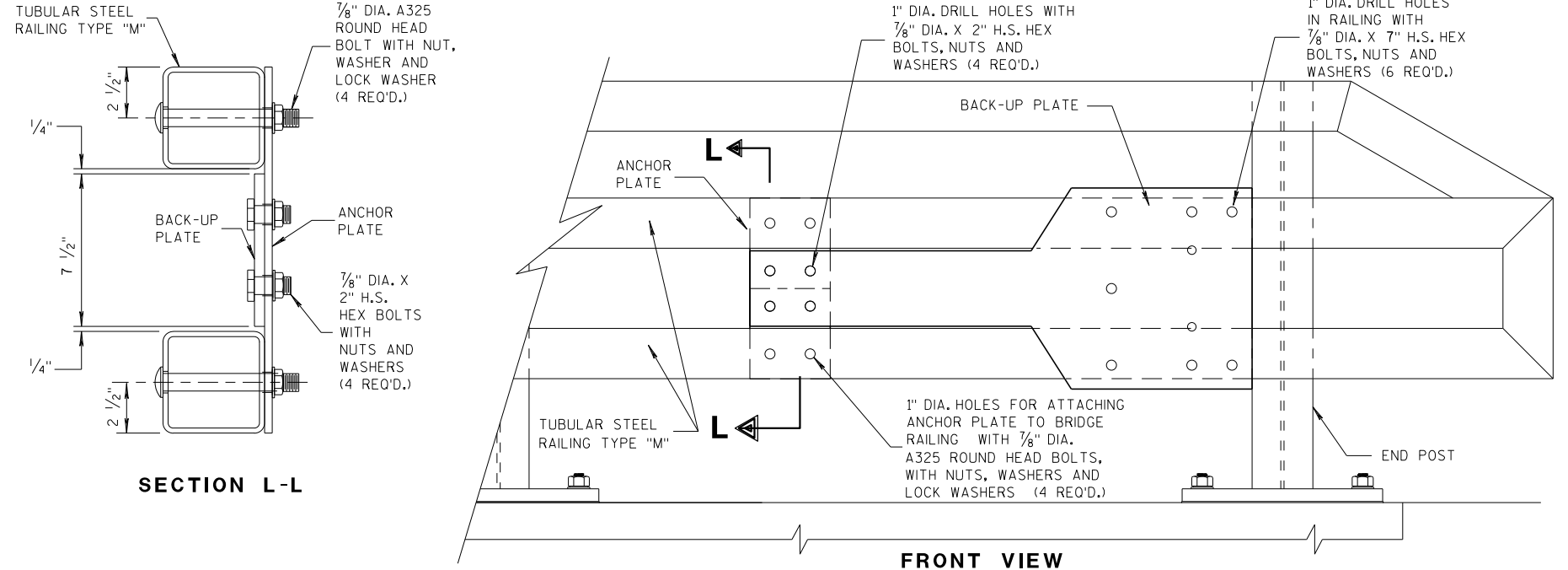
**PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"**



**FRONT VIEW
ANCHOR PLATE DETAIL, TYPE "M"**



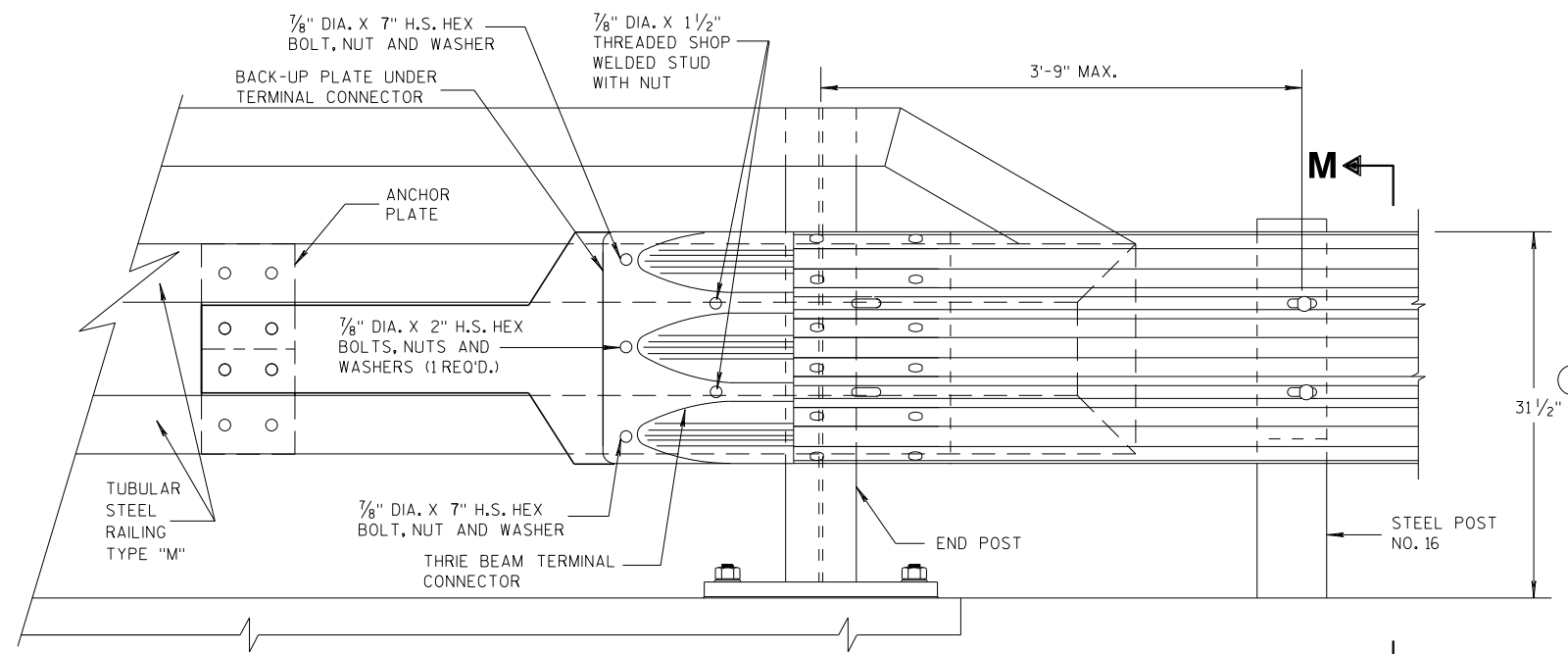
SECTION M-M



SECTION L-L

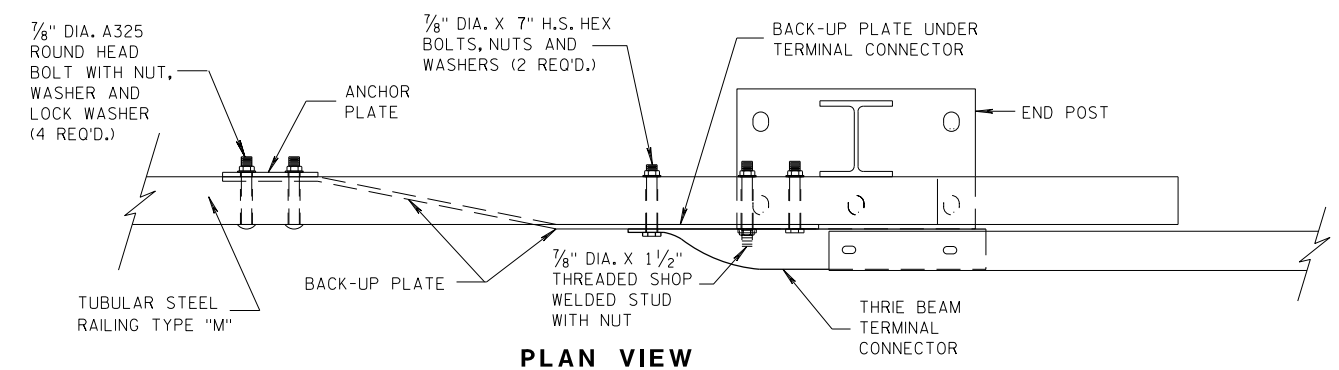
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW

M



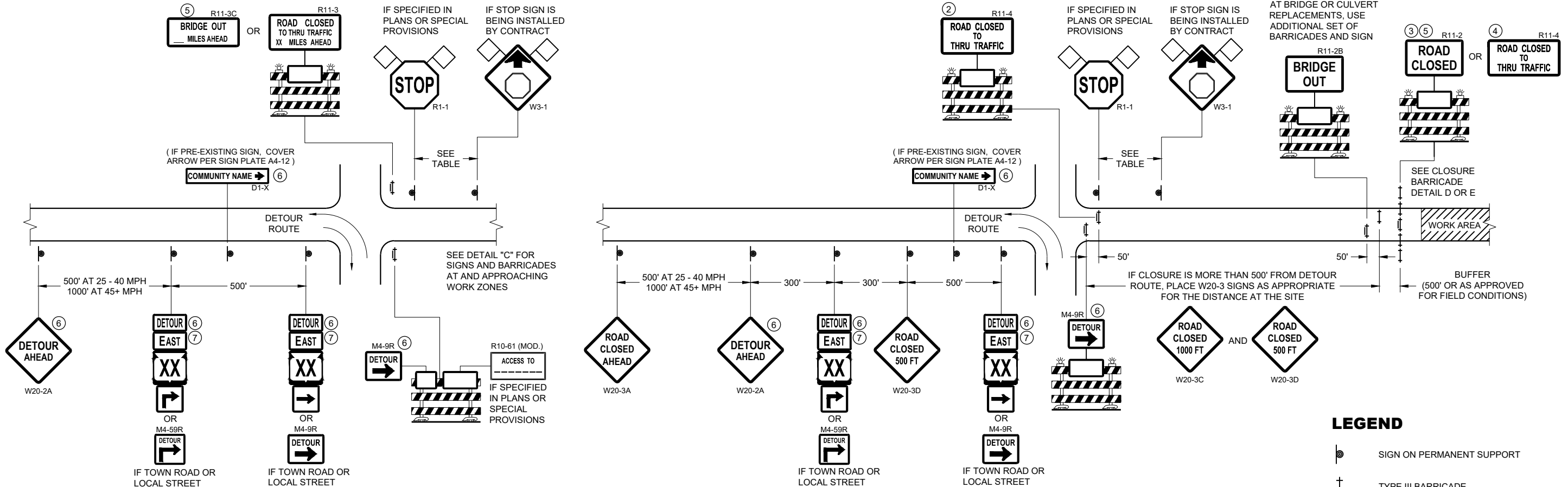
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 07/2018
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

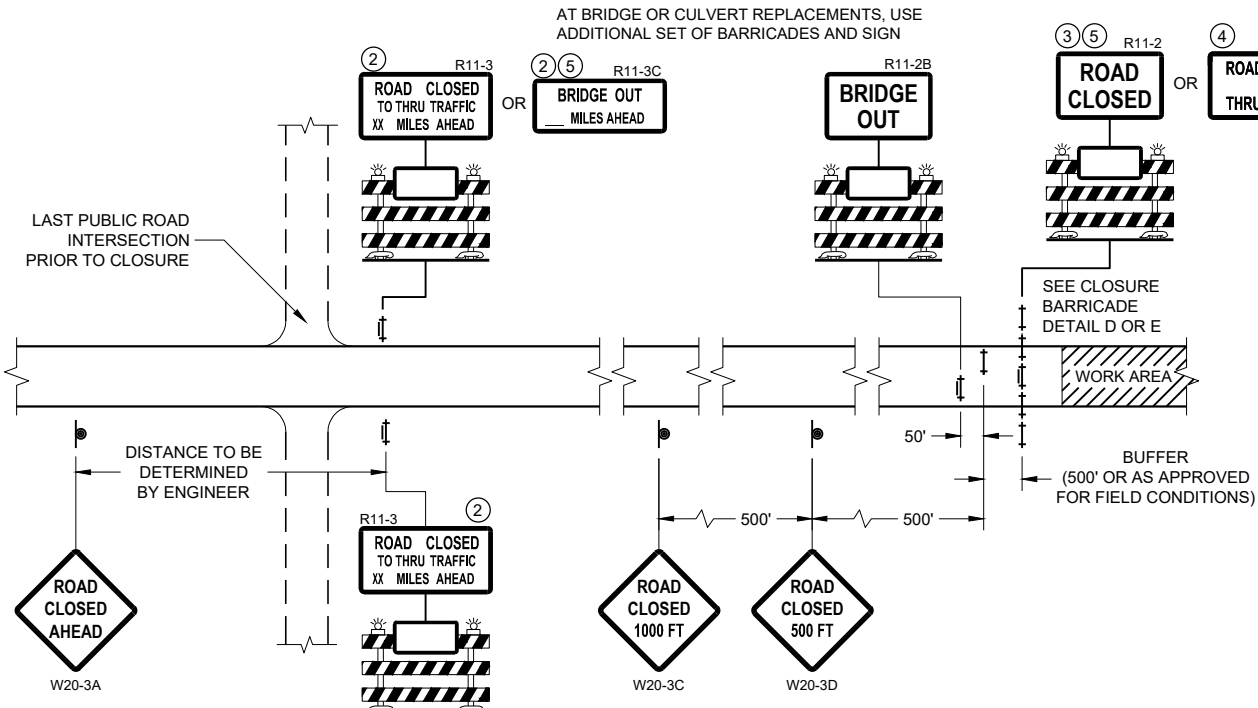
**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

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

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

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



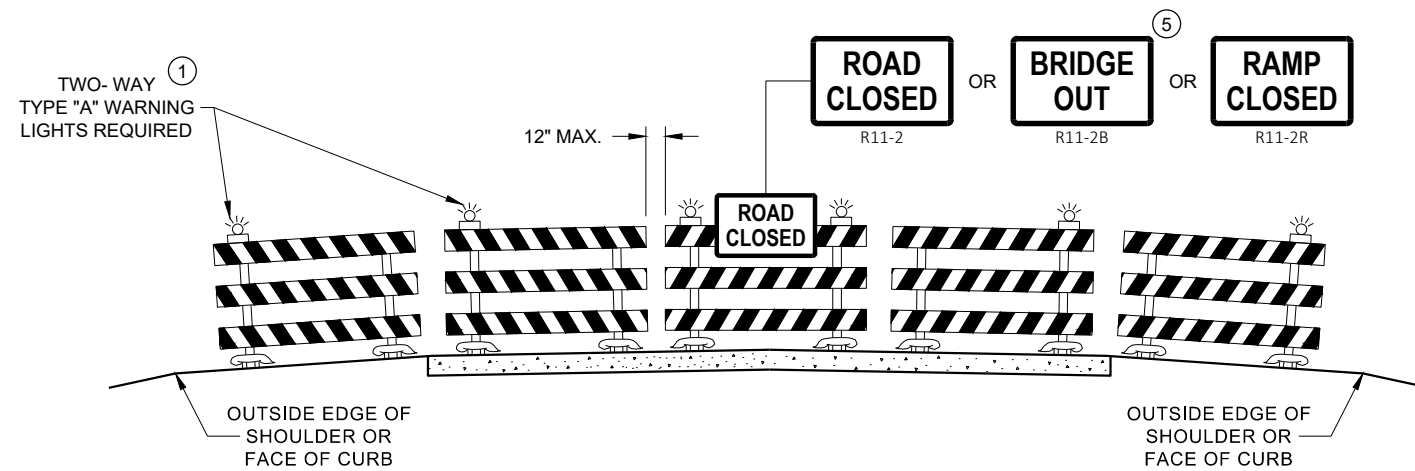
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

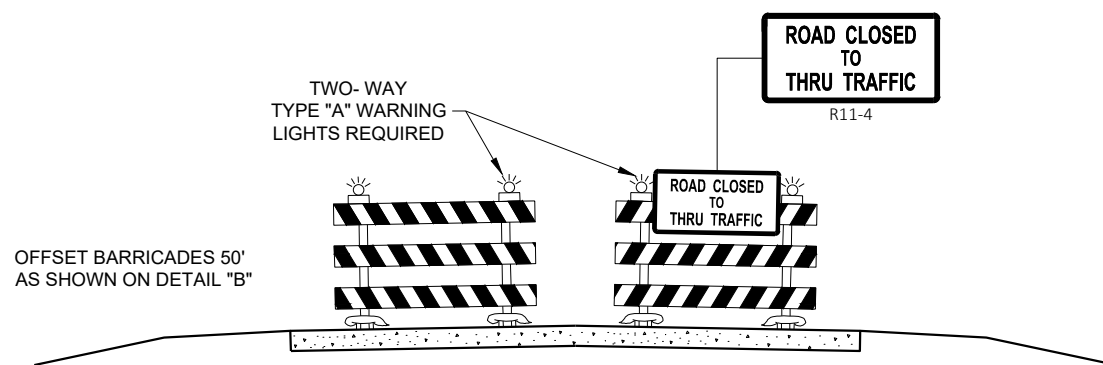
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE 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:

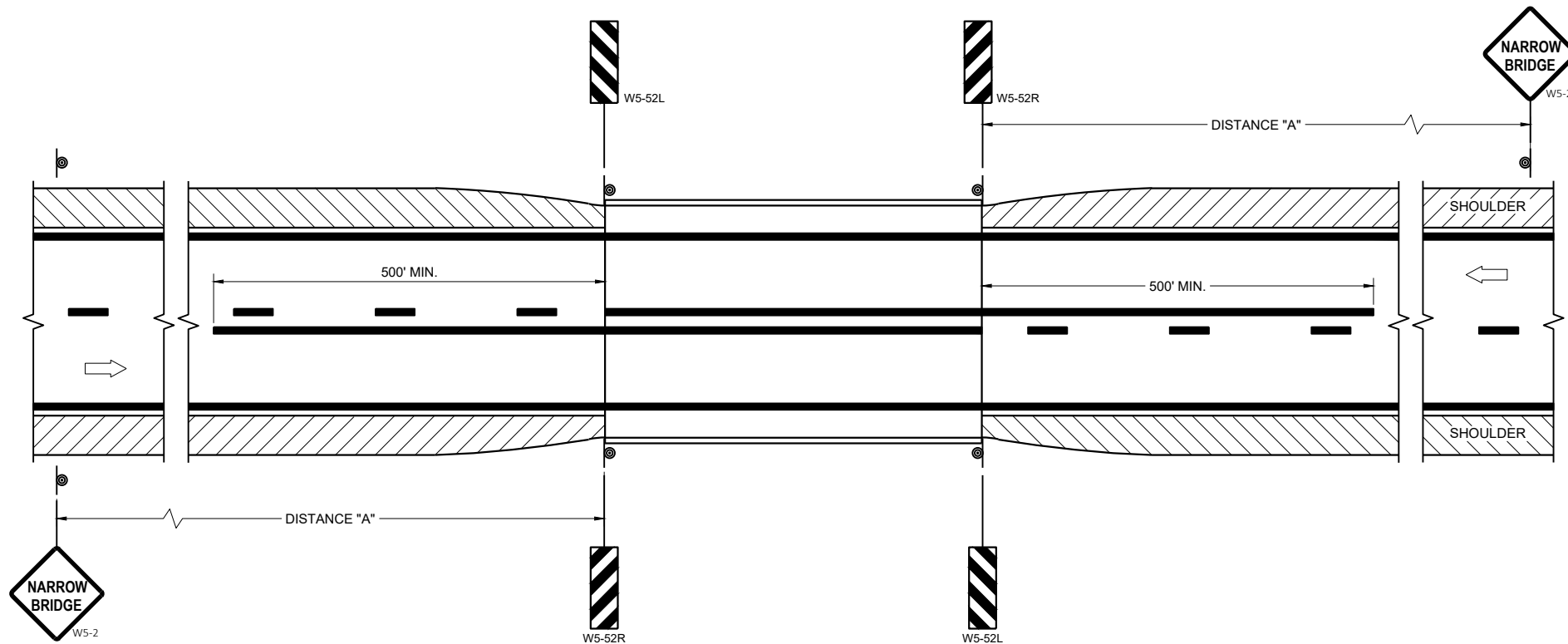
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24"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

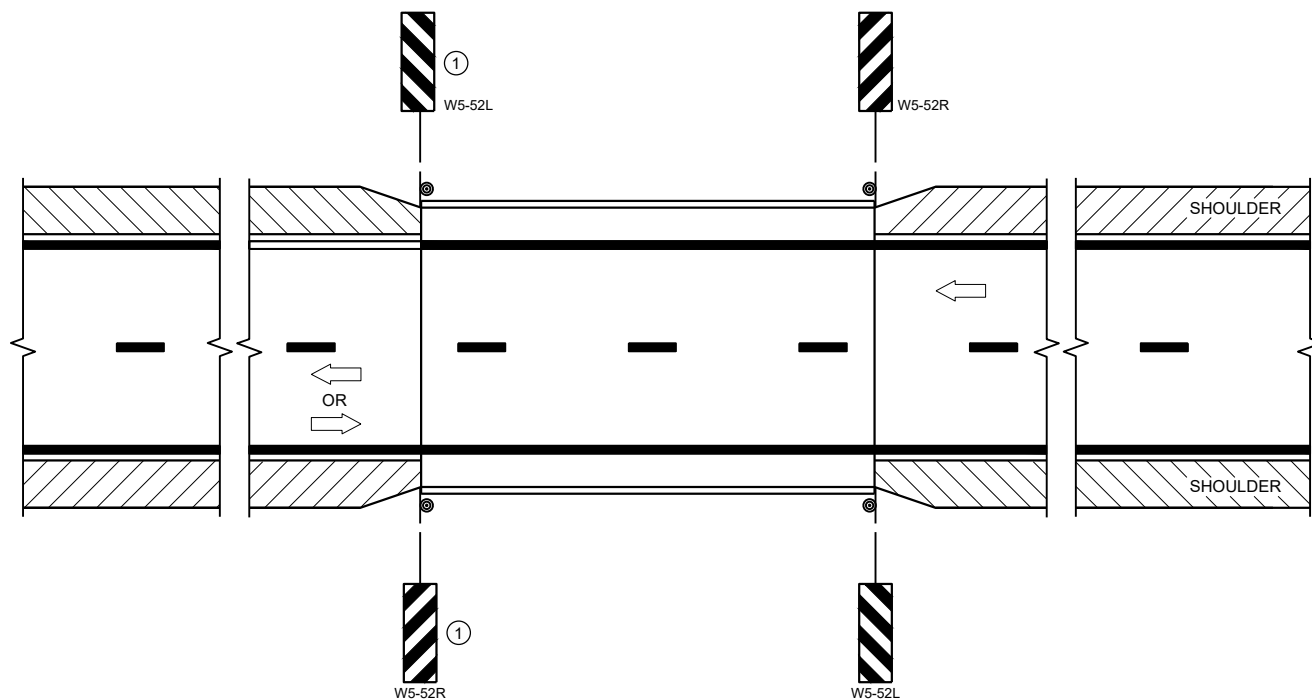
**BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SITUATION 1
 WARRANTING CRITERIA:
 BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



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

GENERAL NOTES

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

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 May 2023 /S/ Jeannie Silver
 DATE ROADWAY STANDARDS DEVELOPMENT
 UNIT SUPERVISOR




FHWA

GENERAL NOTES

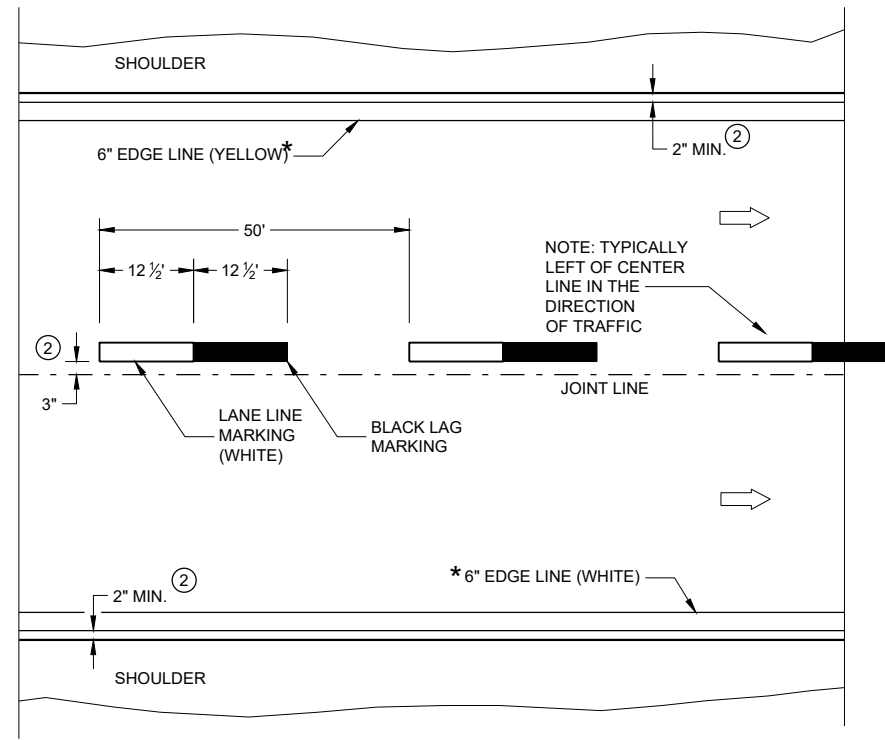
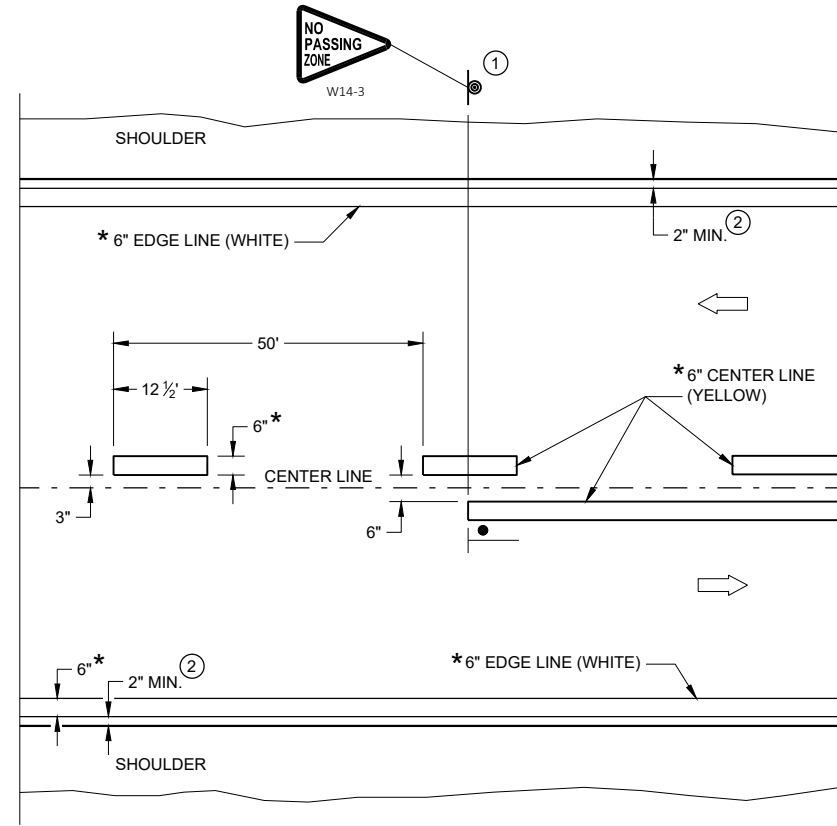
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC

ONE WAY TRAFFIC

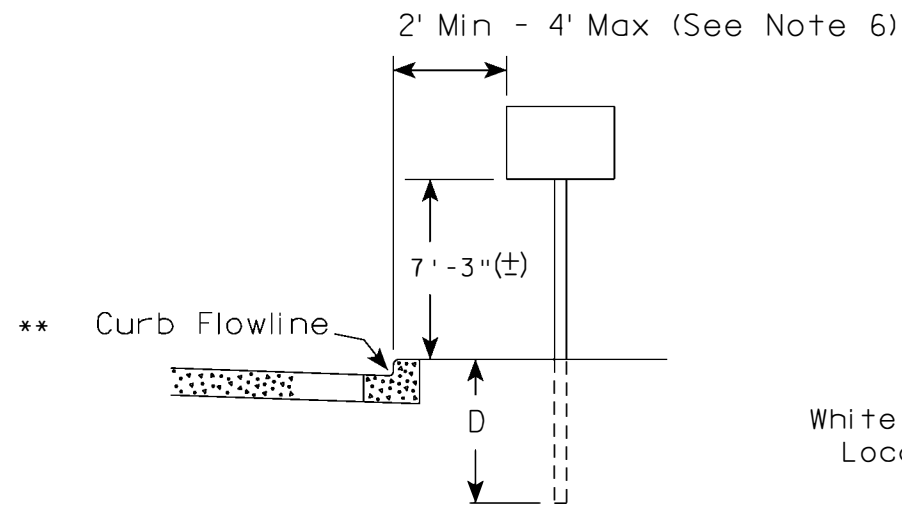
PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

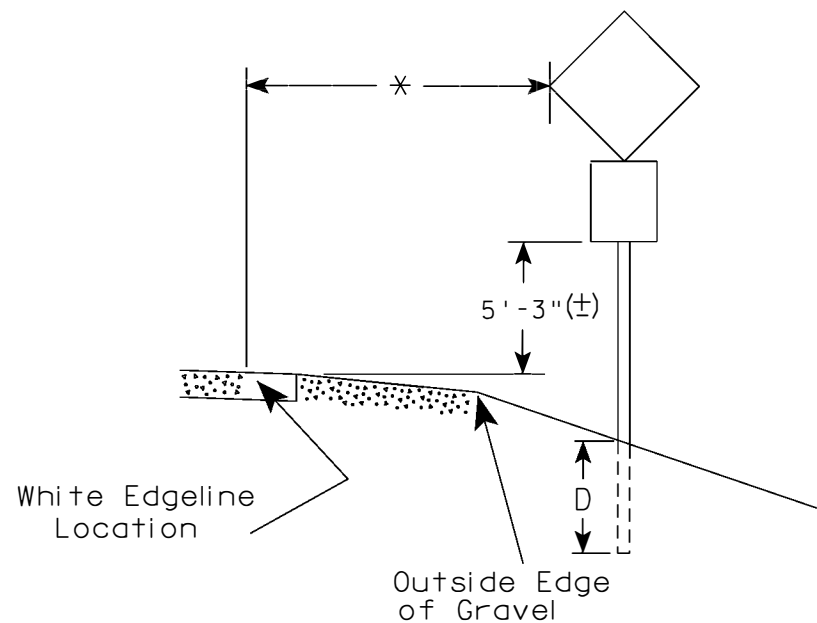
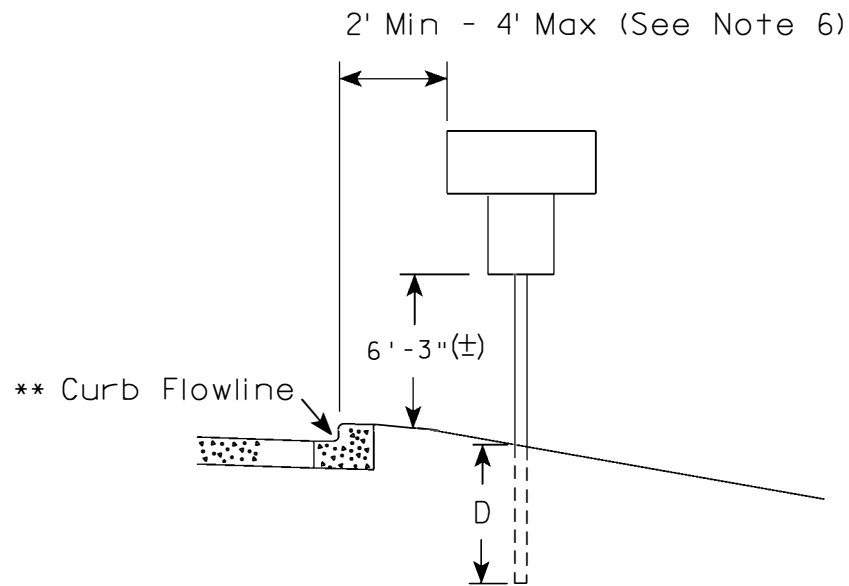
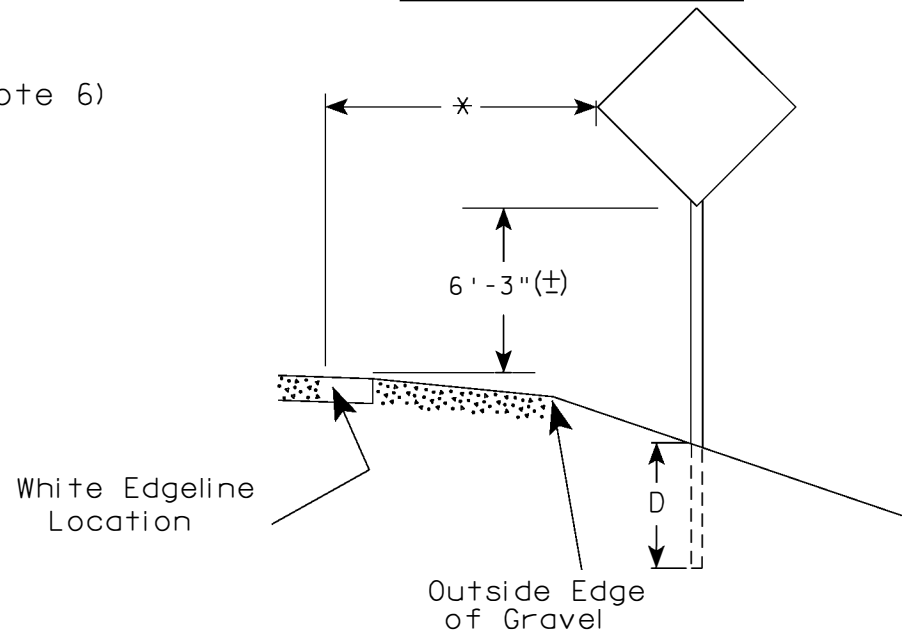
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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.

* * 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.

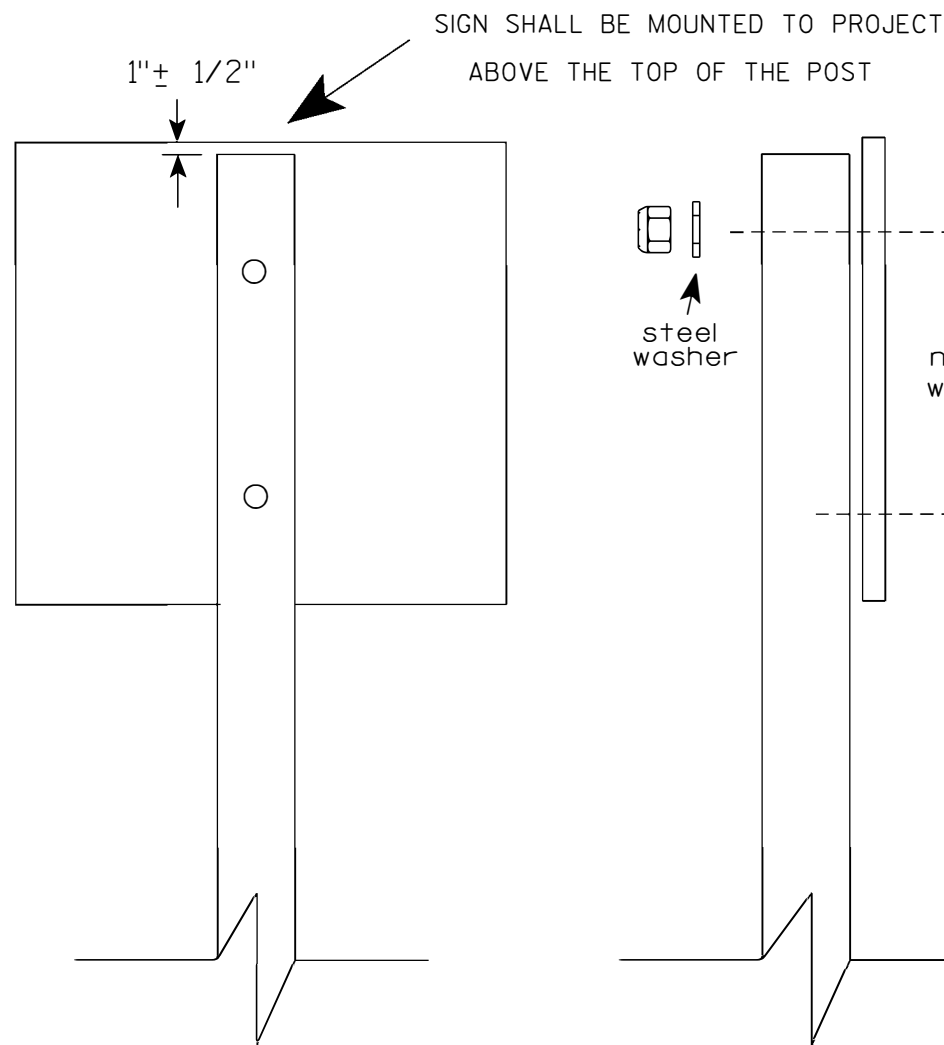
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*
for State Traffic Engineer

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



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

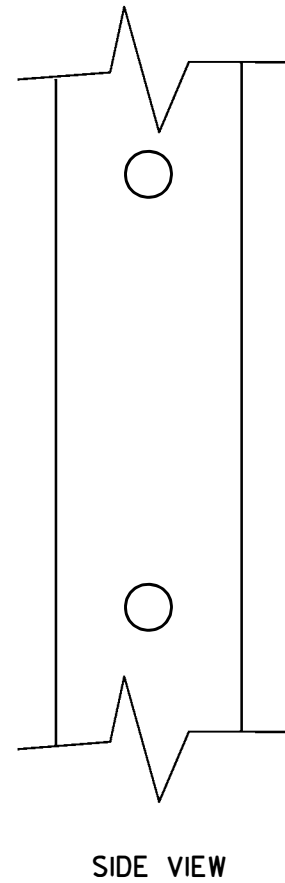
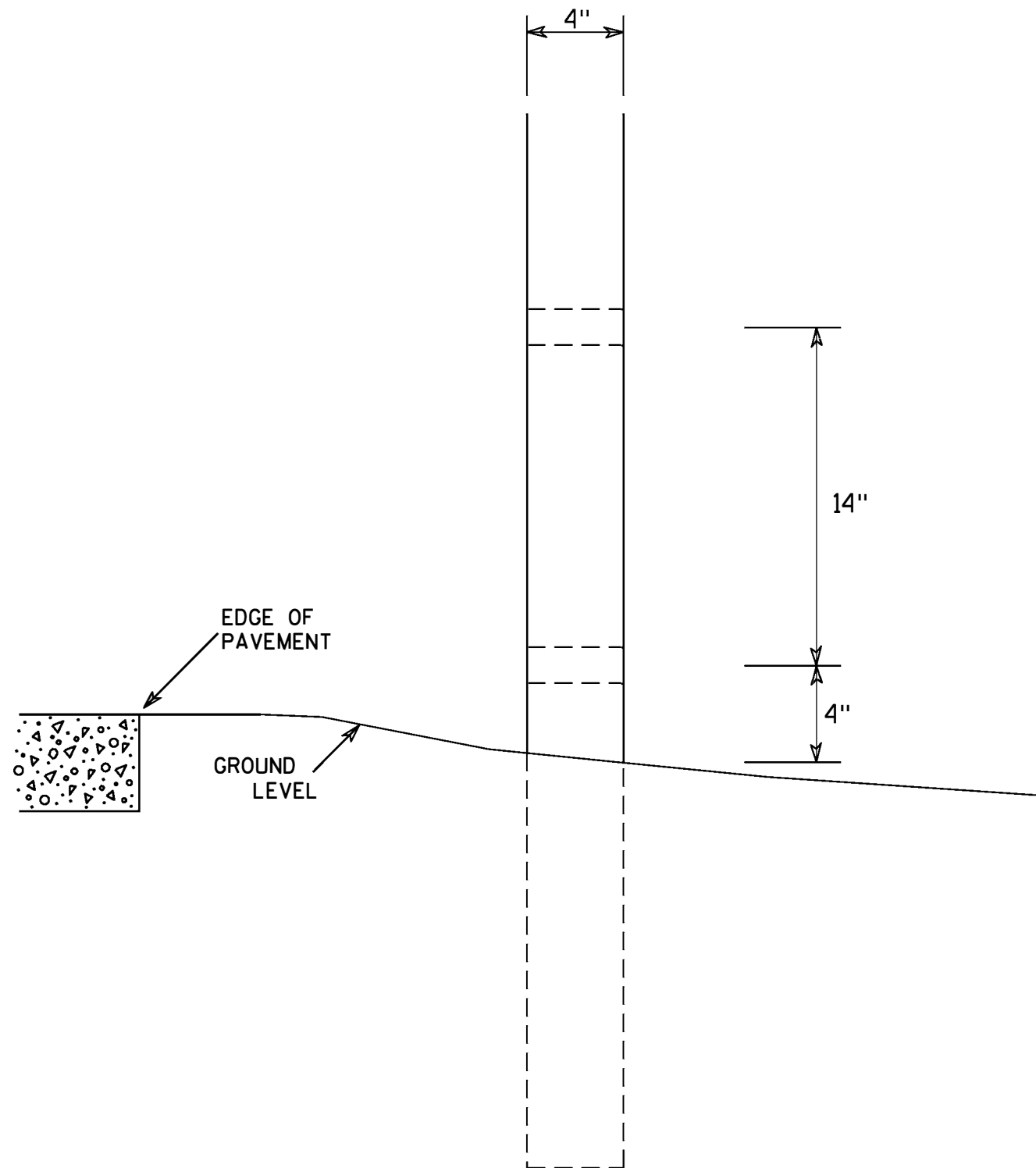
- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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 - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (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 4/1/2020	PLATE NO. A4-8.9



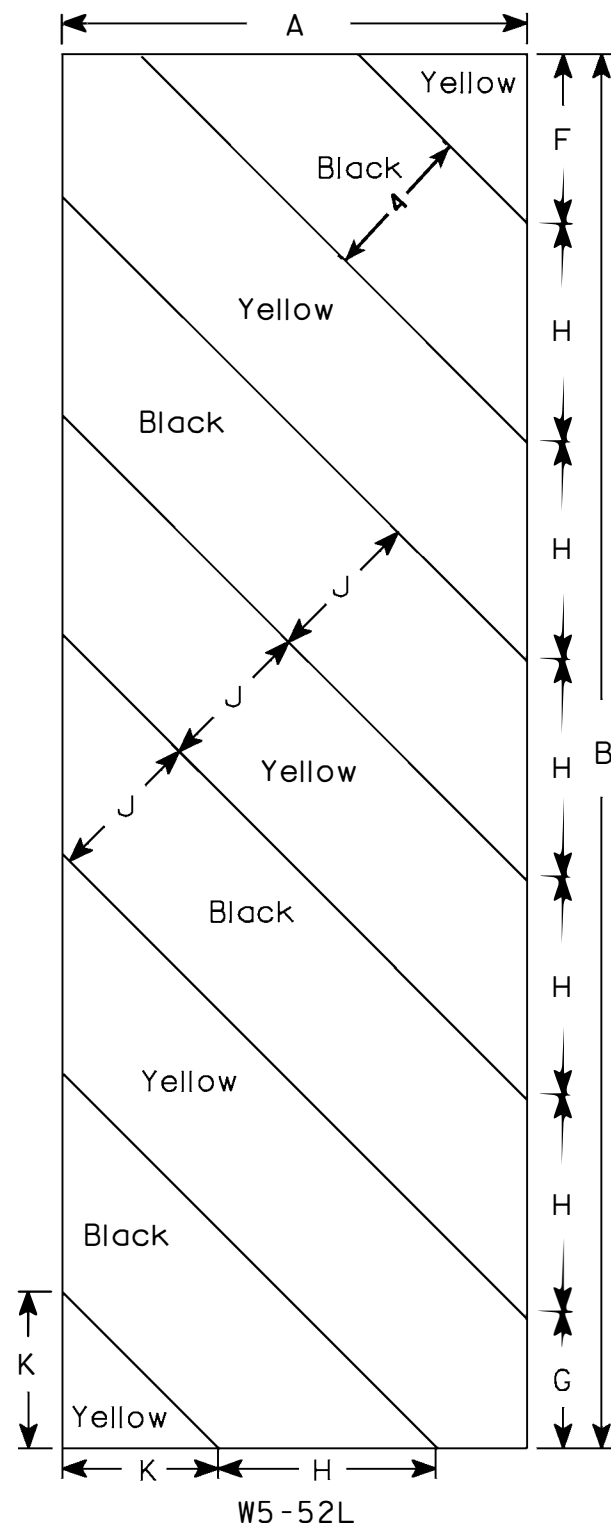
GENERAL NOTES

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

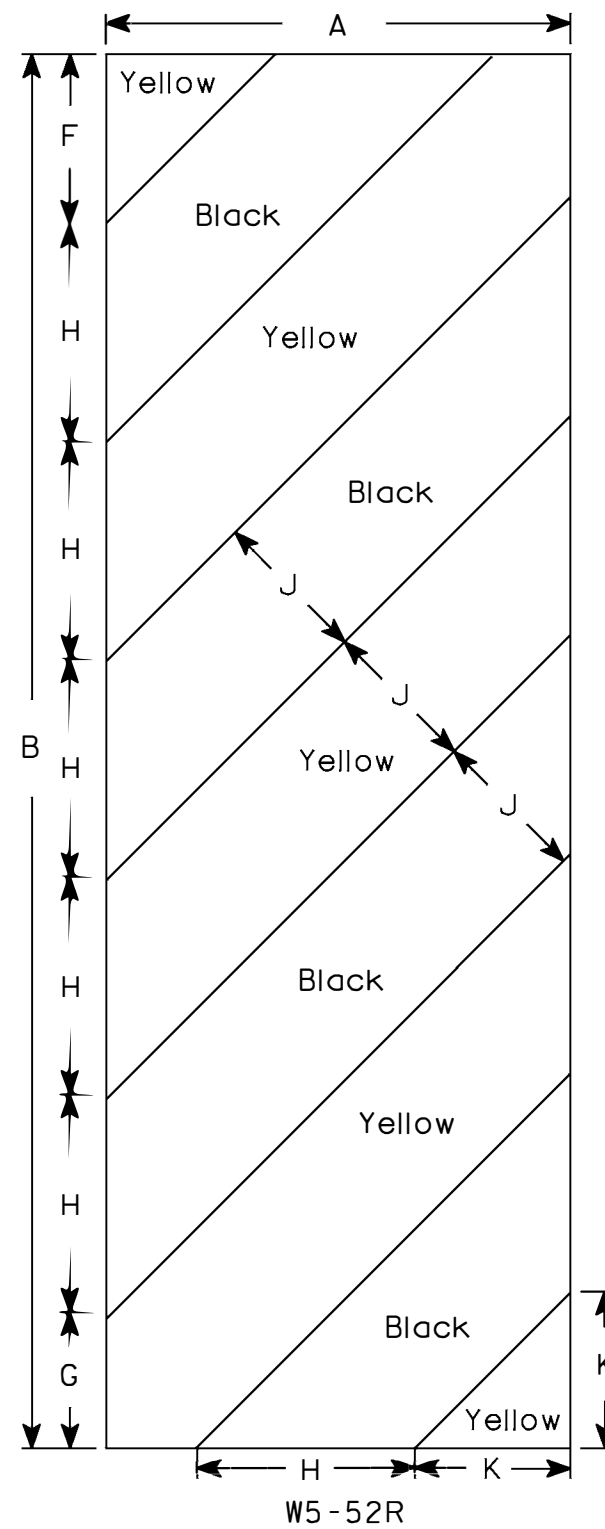
7

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>



W5-52L



W5-52R

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 5/16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

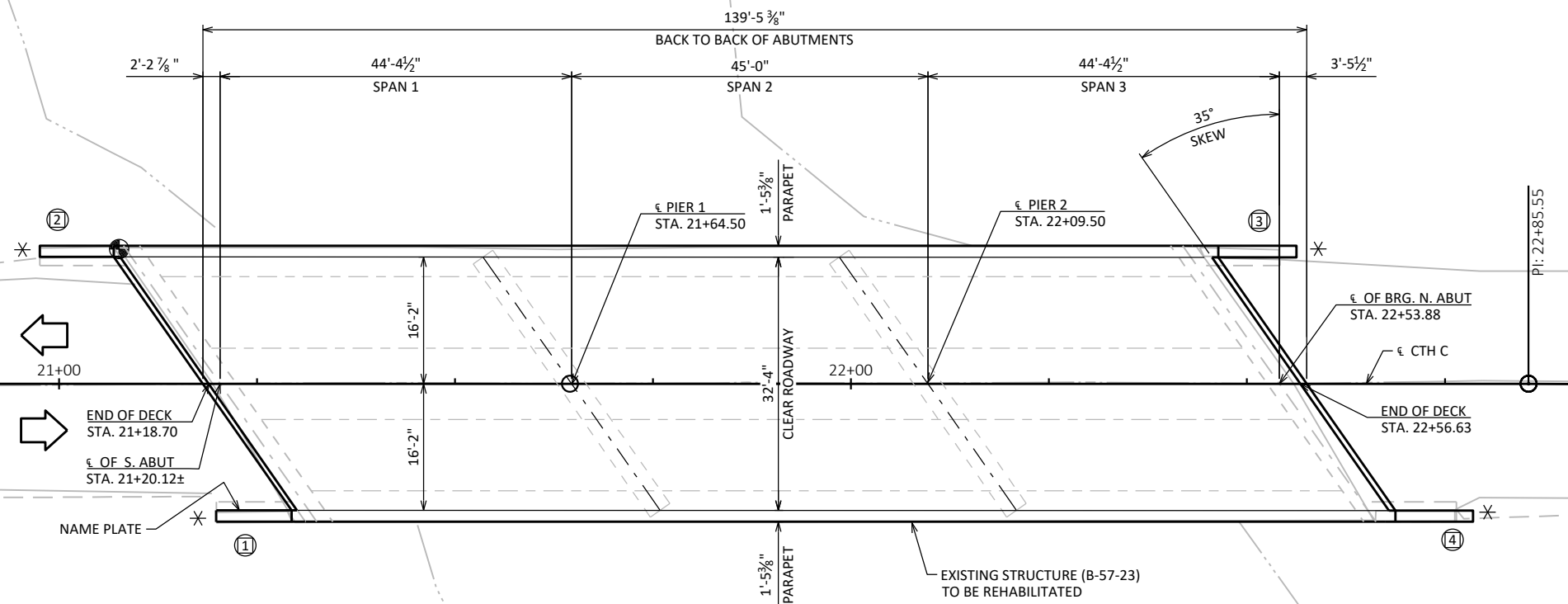
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

LIST OF DRAWINGS:

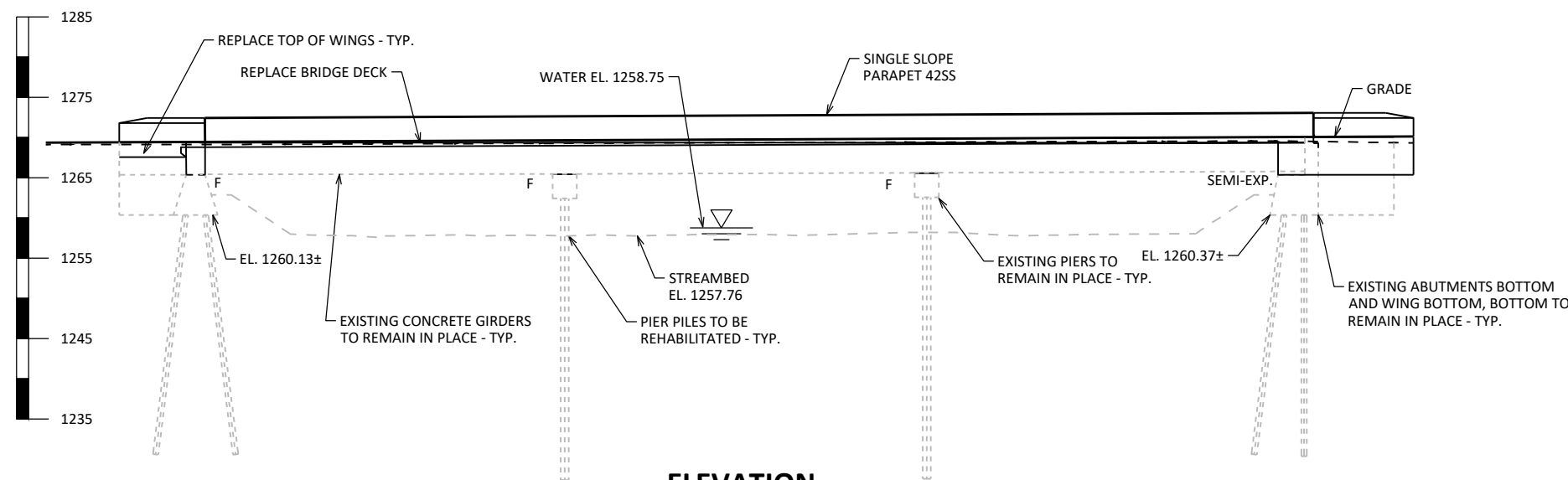
1. GENERAL PLAN
2. TYPICAL SECTION, DESIGN DATA, AND NOTES
3. QUANTITIES AND DETAILS
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PRESTRESSED GIRDER BEARINGS
9. STEEL DIAPHRAGM
10. DECK ELEVATIONS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE PLAN
13. SUPERSTRUCTURE TRANSVERSE DECK STEEL LAYOUT
14. SUPERSTRUCTURE DETAILS
15. SUPERSTRUCTURE DETAILS
16. SUPERSTRUCTURE DETAILS
17. SINGLE SLOPE PARAPET 42SS

⊙ DENOTES WING NUMBER.
 ✱ PROVIDE FOR THRIE BEAM GUARDRAIL ATTACHMENT.



PLAN

3-SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE DECK REPLACEMENT



ELEVATION

NORMAL TO ϵ OF COUDERAY RIVER



01/29/2024

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 ACCEPTED *[Signature]* SDR **02/05/24**
 CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-57-23

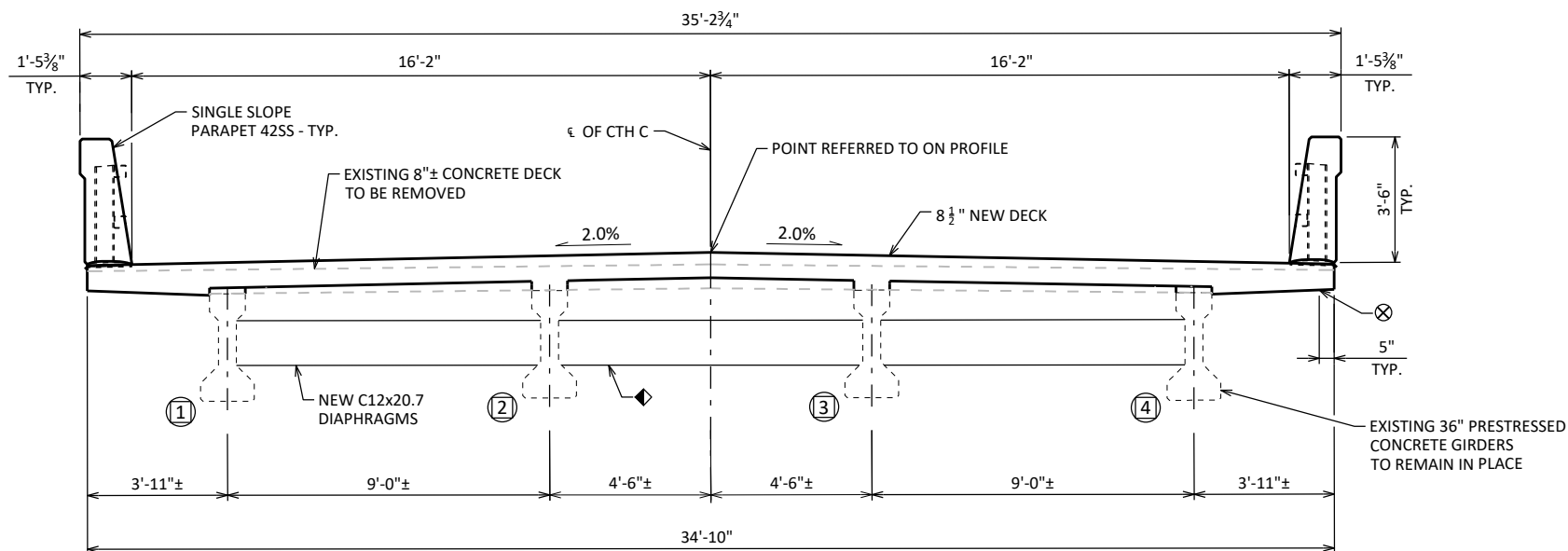
CTH C OVER COUDERAY RIVER

COUNTY SAWYER TOWN/CITY/VILLAGE COUDERAY

DESIGN SPEC. REHABILITATION N/A
 DESIGNED BY NBE CK'D ZSS DRAWN BY DRS/CLP PLANS CK'D AEB

GENERAL PLAN SHEET 1 OF 17

STRUCTURE DESIGN CONTACTS:
 AARON BONK (608)-261-0261
 ARLEN BEAUDETTE (715)-834-3161

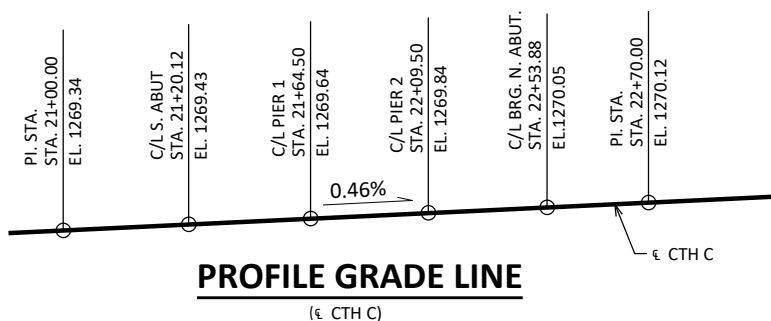


TYPICAL SECTION THRU BRIDGE

(LOOKING UPSTATION)

◆ EXISTING CONCRETE DIAPHRAGMS TO BE REMOVED, MID-SPAN ONLY.

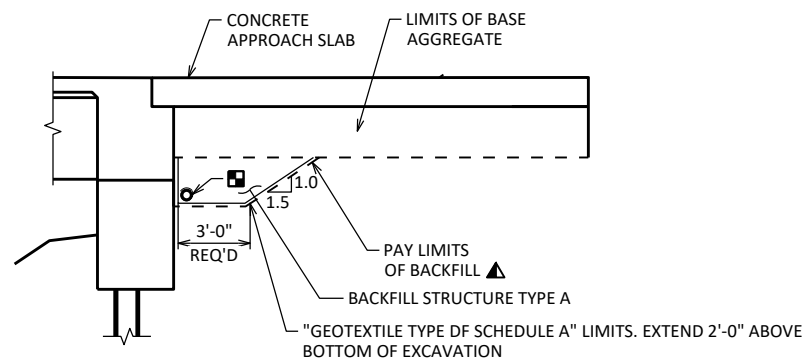
⊗ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGMS - TYP.



PROFILE GRADE LINE

(ε CTH C)

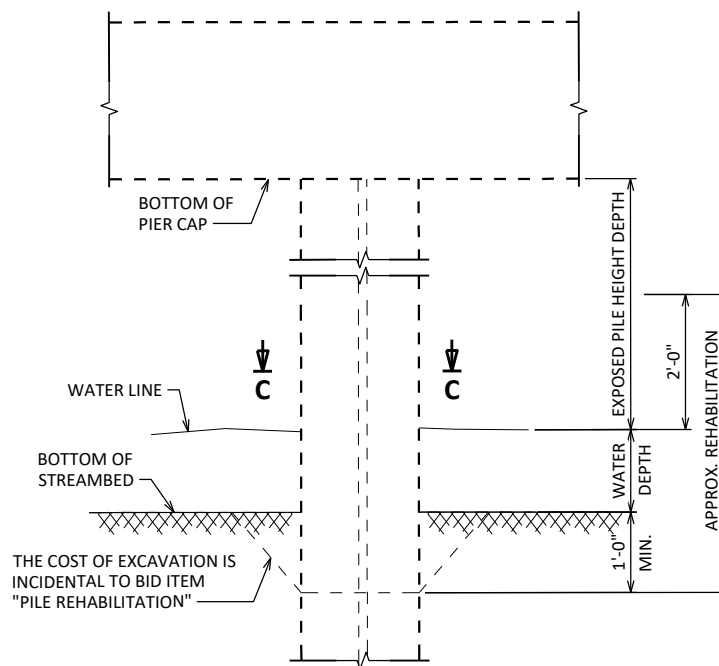
BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
50	21+07	1268.88	CHIS. 'X' IN SW CRN OF DECK, 17' LT.
51	19+40	1272.23	RR SPIKE IN PPOL, 74' RT.



TYPICAL SECTION THRU ABUTMENT

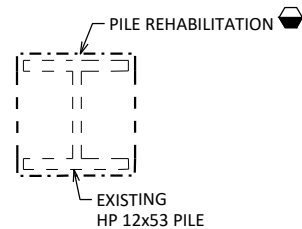
▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

■ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3.



PILE REHABILITATION DETAILS

SEE SPECIAL PROVISIONS



SECTION C-C

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF THE NEW DECK.
- PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.
- THE MINIMUM CONCRETE HAUNCH SHALL BE 2" FOR DESIGN CALCULATIONS AND THE HAUNCH CONCRETE QUANTITY IS BASED ON AN AVERAGE OF 4", WHICH IS THE MAXIMUM HAUNCH FOR WHICH THE CONTRACTOR WILL BE PAID.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-57-0023" SHALL BE THE EXISTING GROUNDLINE.
- ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT UNLESS SHOWN OR NOTED OTHERWISE.
- AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- VARIATIONS TO THE NEW GRADE LINE OF 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.
- UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.
- THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW THE ORIGINAL CONSTRUCTION YEAR OF 1976.

DESIGN DATA

LIVE LOAD:
 DESIGN LOADING: HS-20
 INVENTORY RATING: HS-17
 OPERATING RATING: HS-29
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 200 (KIPS)
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
 SUPERSTRUCTURE $f'_c = 4,000$ PSI
 ALL OTHER $f'_c = 3,500$ PSI
 BAR STEEL REINFORCEMENT
 GRADE 60 $f_y = 60,000$ PSI

TRAFFIC DATA

FEATURE ON:
 AADT = 450 (2024)
 AADT = 490 (2044)
 R.D.S. = 45 MPH

PIER DETAIL TABLE

LOCATION	APPROX. EXPOSED PILE HEIGHT (FT)	APPROX. WATER DEPTH TO STREAMBED (FT)	APPROX. TOTAL HEIGHT (FT)	EXCAVATION MIN. DEPTH (FT)	NO. OF PILES	APPROX. REHAB. HEIGHT (FT)	APPROX. REPAIR AREA (SF)
PIER 1	3.6	1	4.6	1	9	5.6	302
PIER 2	3.8	1	5.8	1	9	5.8	313

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-23

DRAWN BY: DRS/CLP
 PLANS CK'D: AEB

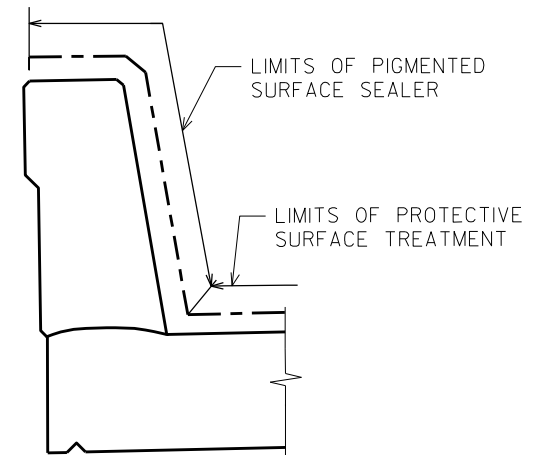
TYPICAL SECTION, DESIGN DATA, AND NOTES
 SHEET 2 OF 17

ORIGINAL PLANS PREPARED BY
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 Eau Claire, WI 54701
 www.AyresAssociates.com

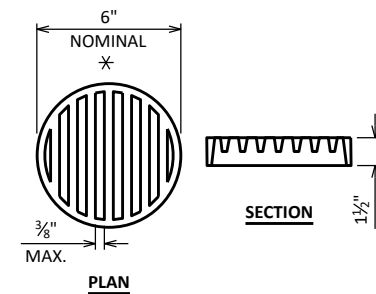
SCALE =

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	S. ABUT.	PIER 1	PIER 2	N. ABUT.	TOTALS
203.0211.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-57-23	EACH	----	----	----	----	----	1
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-57-23	EACH	----	----	----	----	----	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-57-23	EACH	----	----	----	----	----	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	----	70	----	----	70	140
502.0100	CONCRETE MASONRY BRIDGES	CY	218.5	7.1	----	----	8.4	234.0
502.3200	PROTECTIVE SURFACE TREATMENT	SY	500	----	----	----	----	500
502.3210	PIGMENTED SURFACE SEALER	SY	140	10	----	----	10	160
502.4204	ADHESIVE ANCHORS NO. 4 BARS	EACH	----	----	48	48	----	96
502.4205	ADHESIVE ANCHORS NO. 5 BARS	EACH	24	56	----	----	56	136
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	42,240	1,300	----	----	1,510	45,050
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	----	4	----	----	----	4
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	----	----	----	----	4	4
506.4000	STEEL DIAPHRAGMS B-57-23	EACH	9	----	----	----	----	9
506.7050.S	REMOVING BEARINGS B-57-23	EACH	----	4	----	----	4	8
509.1500	CONCRETE SURFACE REPAIR	SF	----	----	----	----	----	100
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	----	9	----	----	9	18
517.4000.S	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-57-23	EACH	----	----	----	----	----	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	EACH	----	75	----	----	75	150
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	----	2	----	----	2	4
645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	----	50	----	----	50	100
SPV.0060	PILE REHABILITATION	EACH	----	----	9	9	----	18
	NON-BID ITEMS							
	FILLER	SIZE	---	---	---	---	---	1/2", 3/4"



PROTECTIVE SURFACE TREATMENT AND PIGMENTED SURFACE SEALER DETAIL



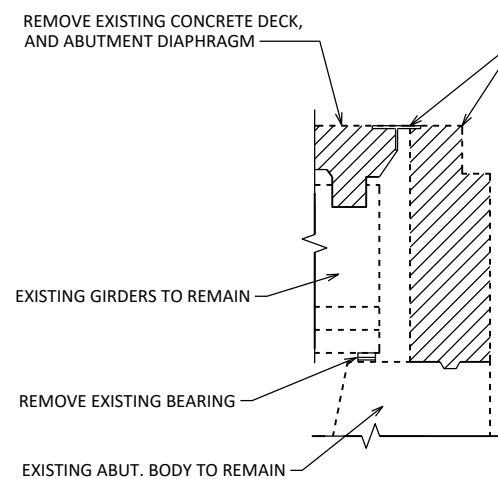
RODENT SHIELD DETAIL

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

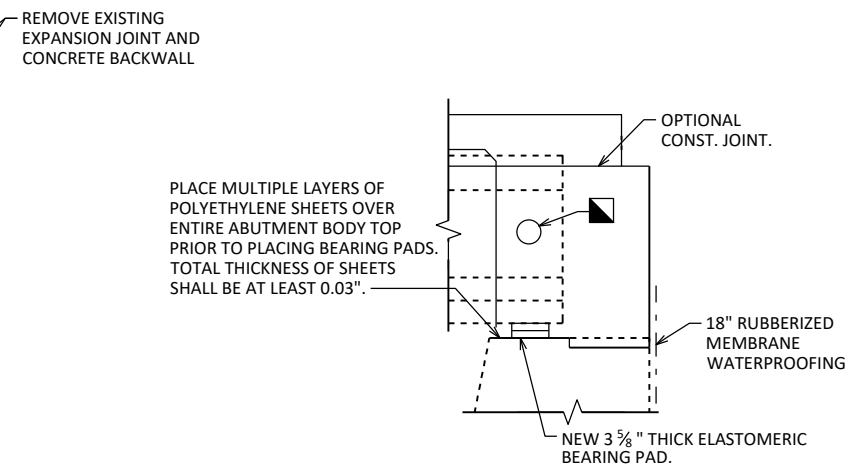
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

•• UNDISTRIBUTED FOR ABUTMENTS. PIERS ENDS OF GIRDERS, AND FACE OF GIRDERS WHERE DIAPHRAGMS ARE REMOVED, AS DIRECTED BY THE ENGINEER.

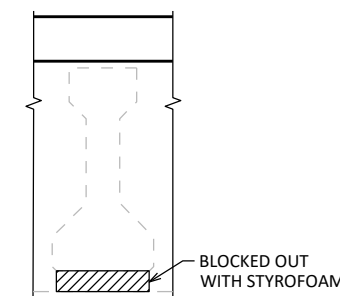


NORTH ABUTMENT REMOVAL SECTION



NORTH ABUTMENT TYPICAL SECTION

FIELD DRILL 1 1/2" DIA. HOLE IN WEB OF EXISTING GIRDERS FOR 2 #5 BARS. FIELD DRILLING INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES". LOCATE HOLE TO MISS EXISTING STRANDS.

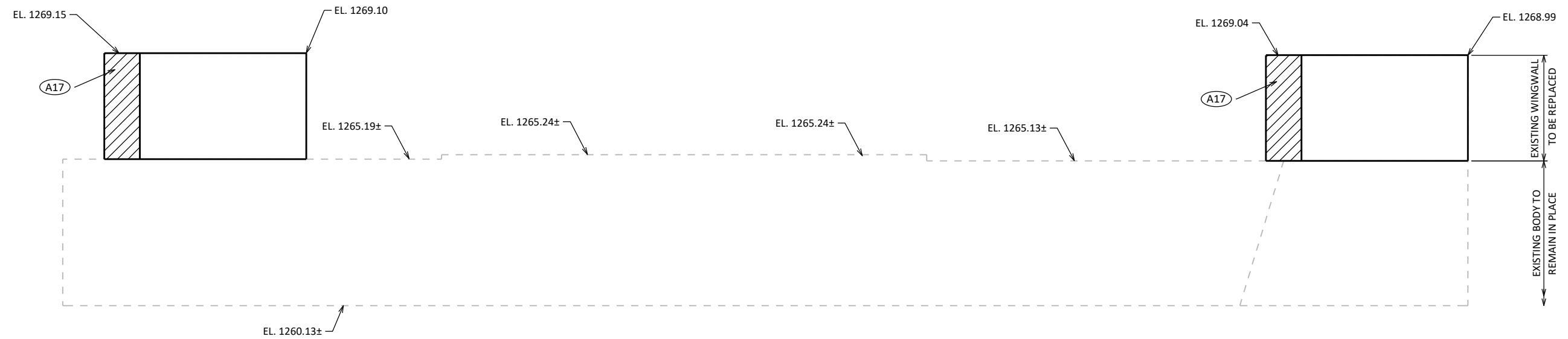


FRONT FACE OF NORTH ABUTMENT

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		DRS/CLP	PLANS CK'D AEB
QUANTITIES AND DETAILS			SHEET 3 OF 17

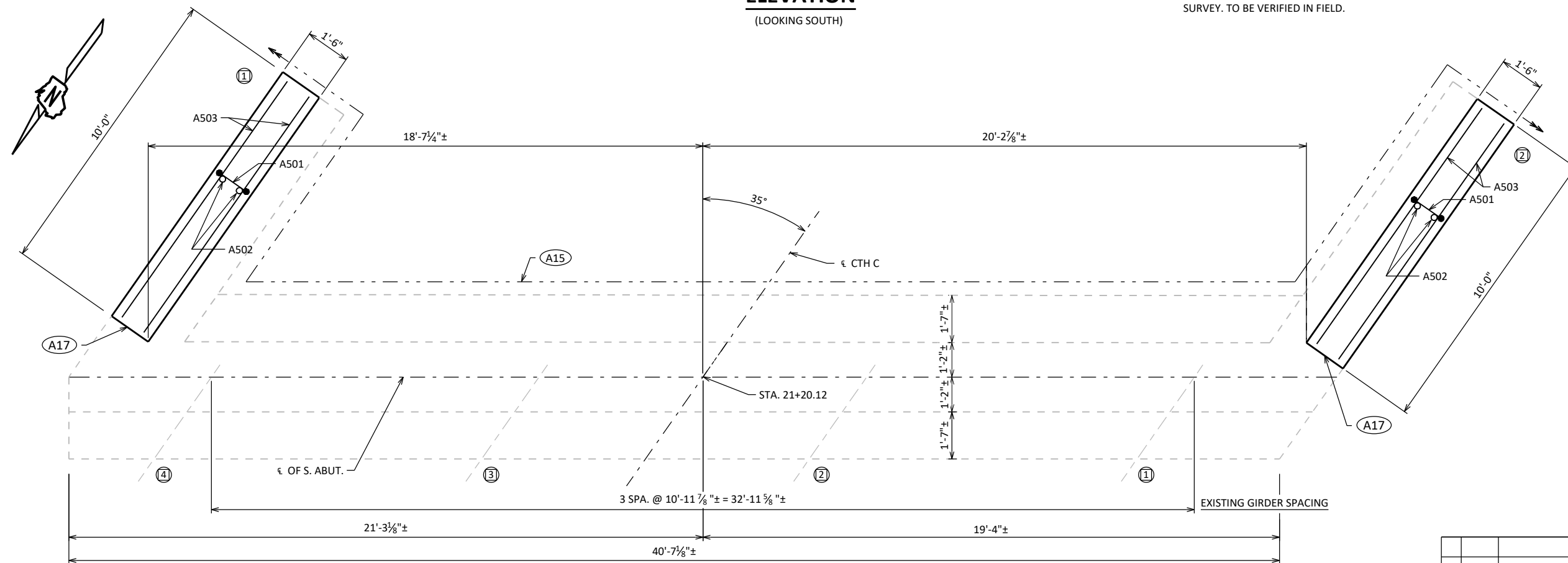
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF
½" FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER.
(1" DEEP AND HOLD ¼" SURFACE OF CONCRETE).



ELEVATION
(LOOKING SOUTH)

ABUTMENT ELEVATIONS ARE FROM SURVEY. TO BE VERIFIED IN FIELD.



PLAN

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A17) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ¼" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SOUTH ABUTMENT			SHEET 4 OF 17

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

SCALE =

8

8

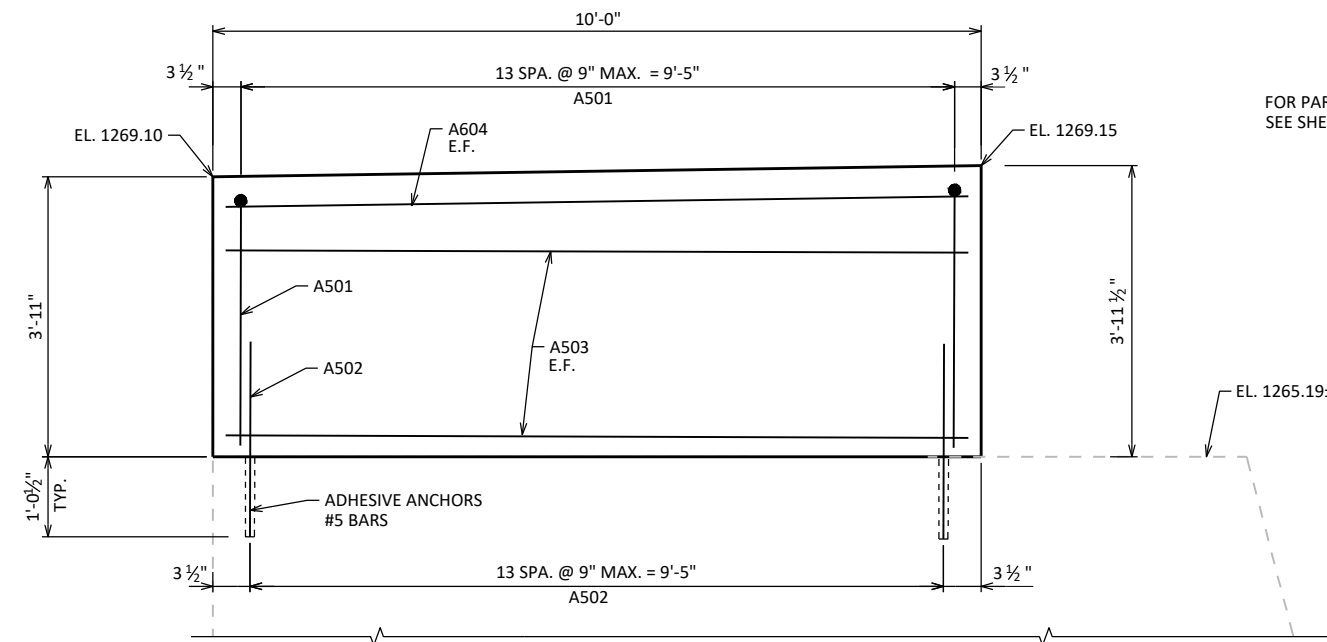
BILL OF BARS

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

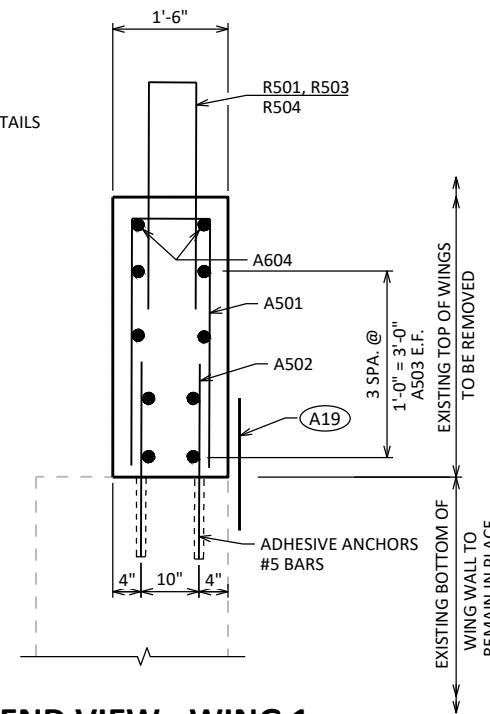
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	28	8'-0"	X		WINGS 1 & 2 VERT.
A502	X	56	2'-6"			WINGS 1 & 2 DOWELS VERT.
A503	X	16	9'-8"			WINGS 1 & 2 HORIZ.
A604	X	4	9'-8"			WINGS 1 & 2 HORIZ. TOP

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

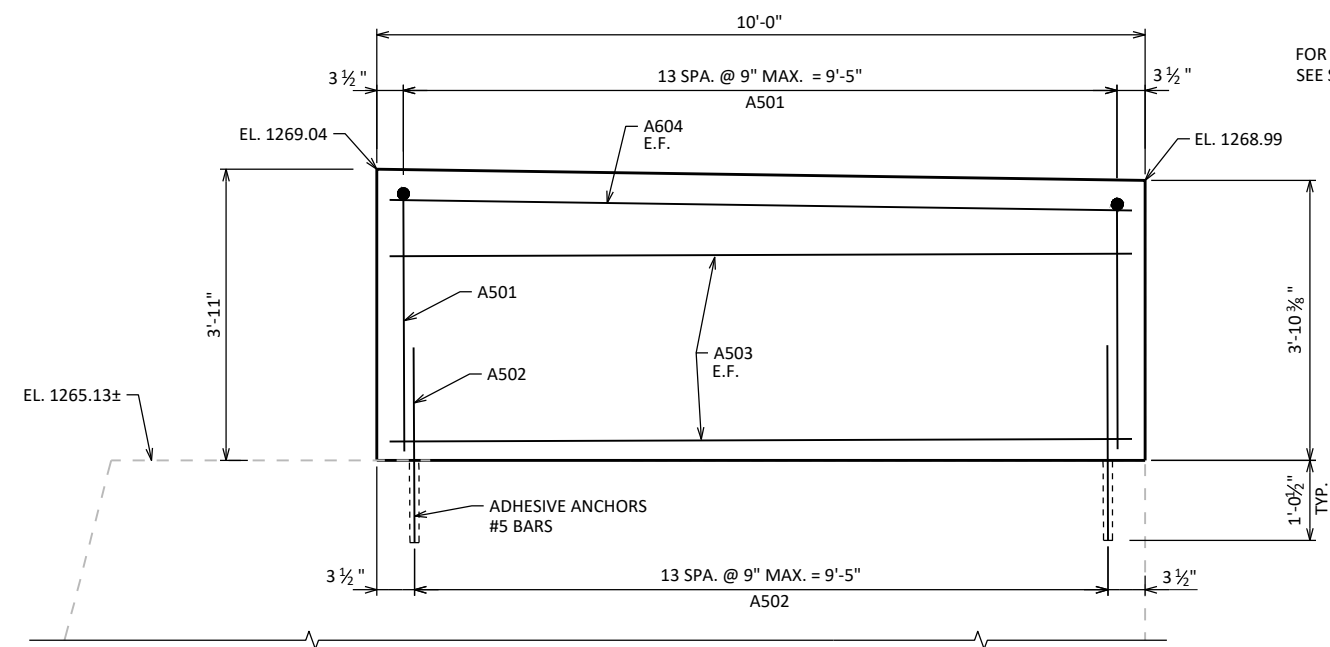
△ ADHESIVE ANCHORS NO. 5 BAR



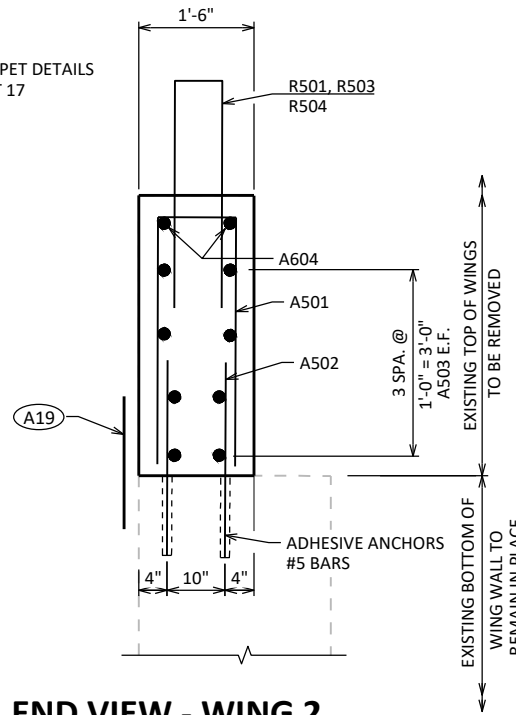
ELEVATION - WING 1



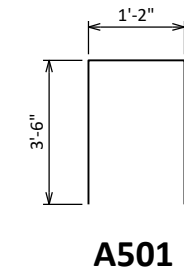
END VIEW - WING 1



ELEVATION - WING 2



END VIEW - WING 2



A501

Ⓐ19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
		DRAWN BY CLP	PLANS CK'D AEB
SOUTH ABUTMENT DETAILS		SHEET 5 OF 17	

ORIGINAL PLANS PREPARED BY

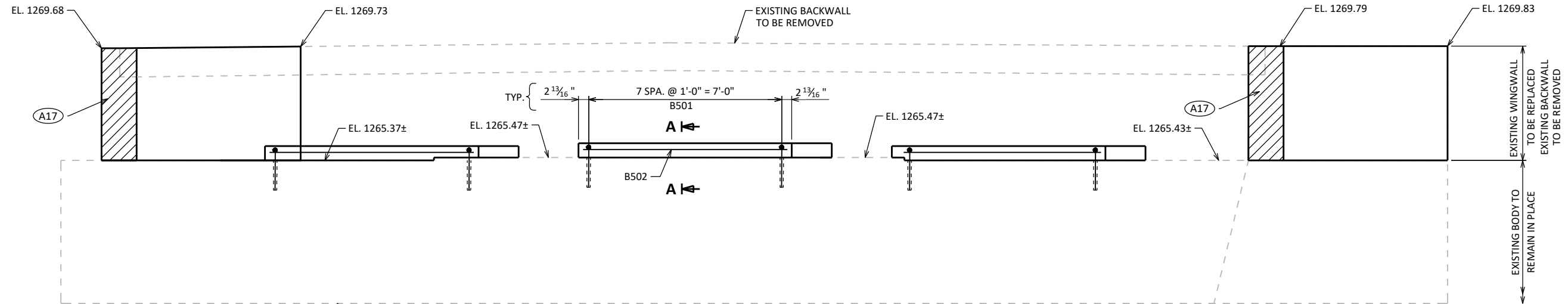
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

8

8

SCALE =

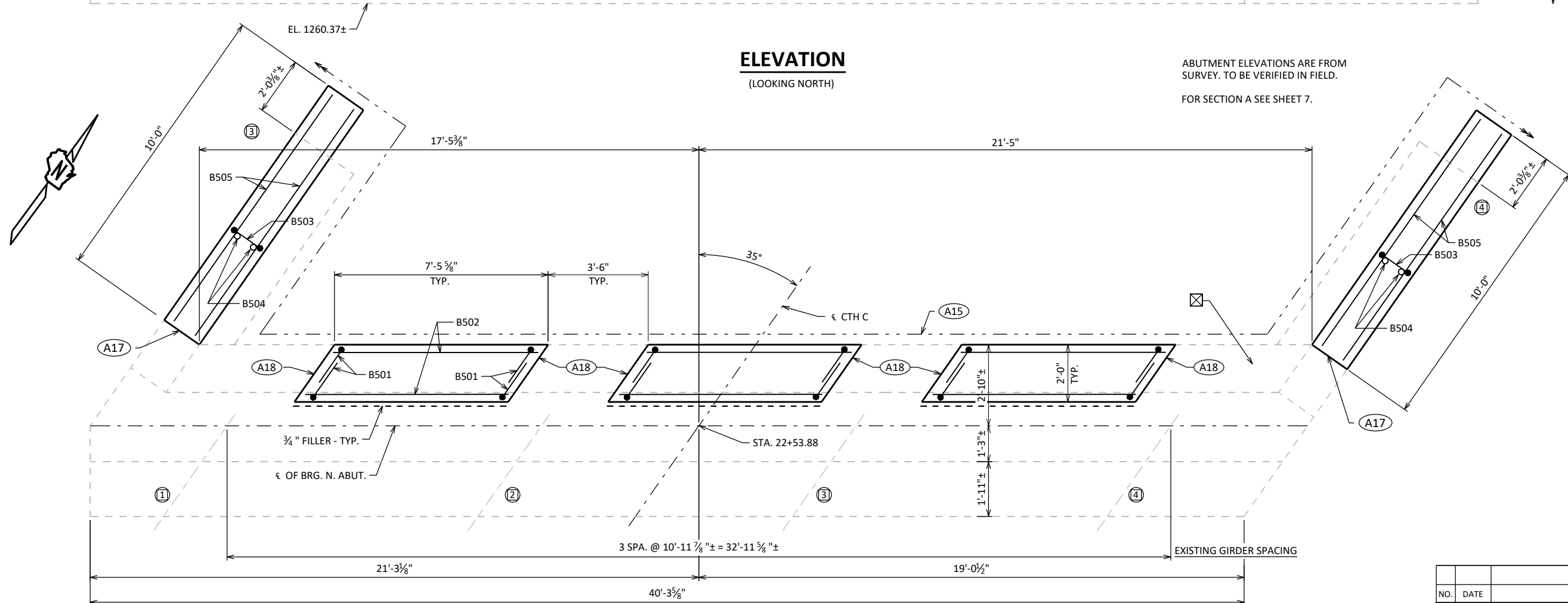
NOTE:
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF
1/2" FILLER WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER.
(1" DEEP AND HOLD 1/8" SURFACE OF CONCRETE).



ELEVATION
(LOOKING NORTH)

ABUTMENT ELEVATIONS ARE FROM SURVEY. TO BE VERIFIED IN FIELD.

FOR SECTION A SEE SHEET 7.



PLAN

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 3. RODENT SHIELD TO BE INCIDENTAL TO BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A17) 3/4" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

☒ GRIND SMOOTH TOP OF BEAM SEAT AFTER REMOVING TOP OF WINGWALL AND BACKWALL IN BEAM SEAT AREA.

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AYRES

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		PLANS CK'D	
CLP		AEB	
NORTH ABUTMENT			SHEET 6 OF 17

SCALE =

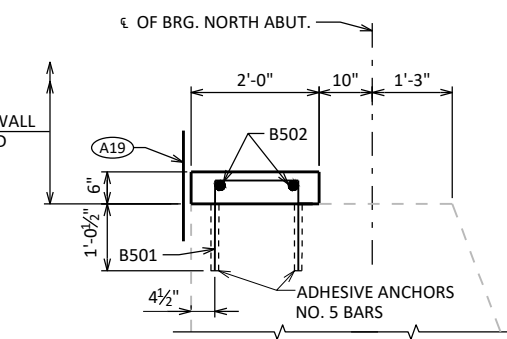
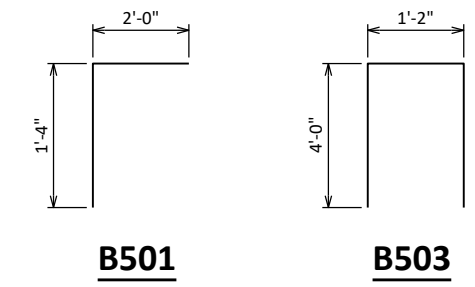
BILL OF BARS

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

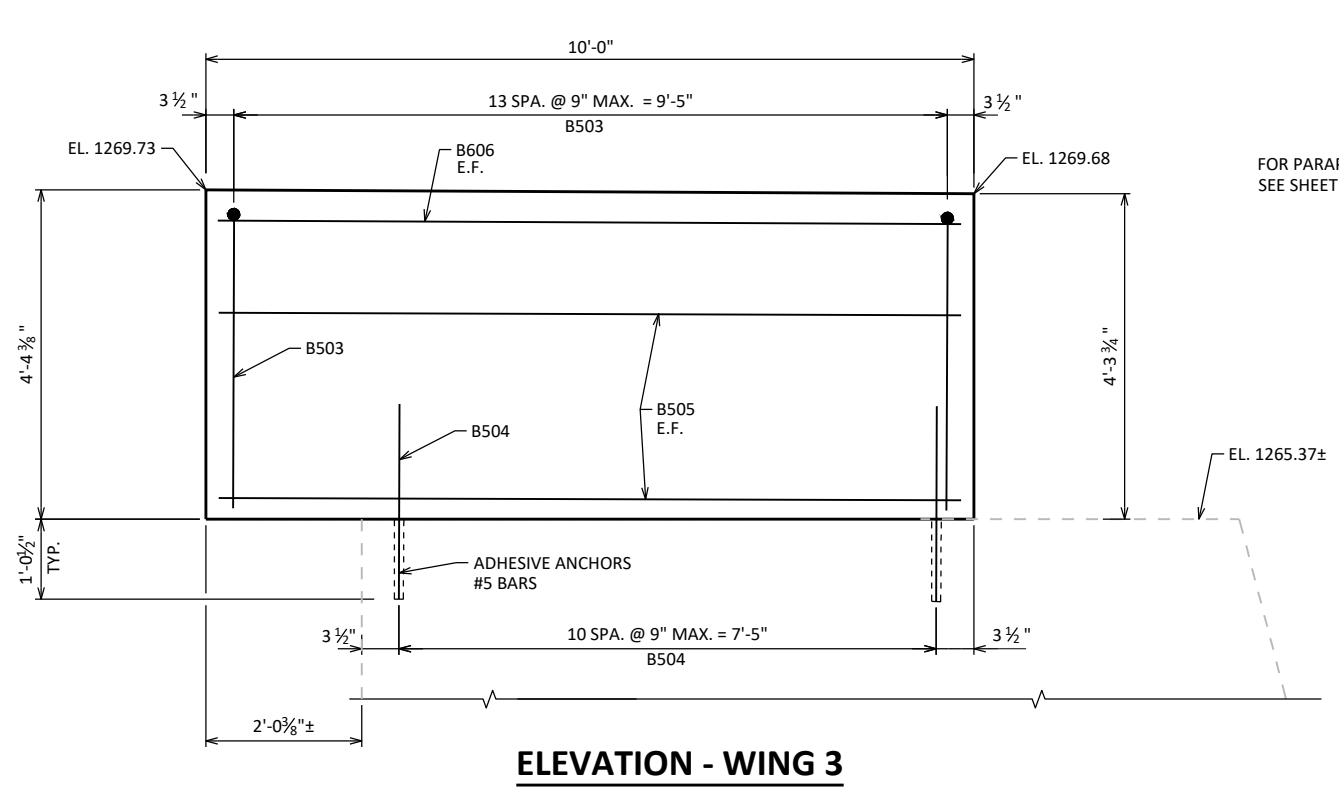
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
△ B501	X	48	3'-4"	X		BODY @ SEMI-EXP. BLOCK VERT.
B502	X	6	7'-0"			BODY @ SEMI-EXP. BLOCK HORIZ.
B503	X	28	9'-0"	X		WINGS 3 & 4 VERT.
△ B504	X	44	2'-6"			WINGS 3 & 4 DOWELS VERT.
B505	X	16	9'-8"			WINGS 3 & 4 HORIZ.
B606	X	4	9'-8"			WINGS 3 & 4 HORIZ. TOP

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

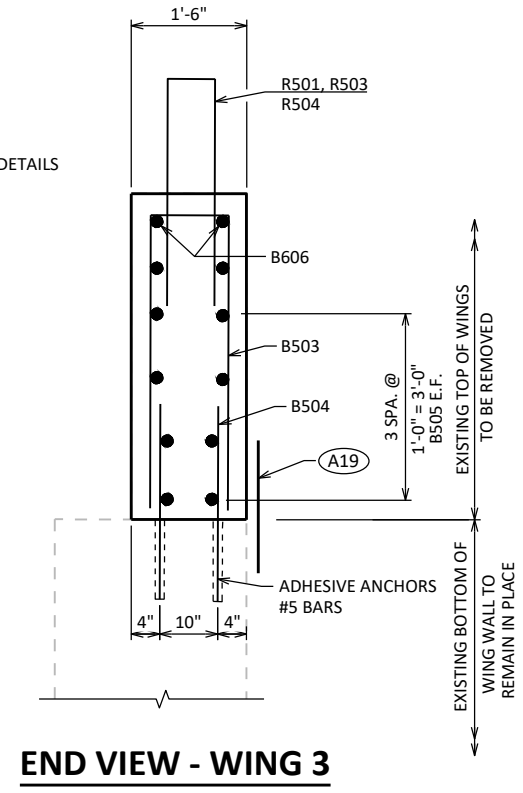
△ ADHESIVE ANCHORS NO. 5 BAR



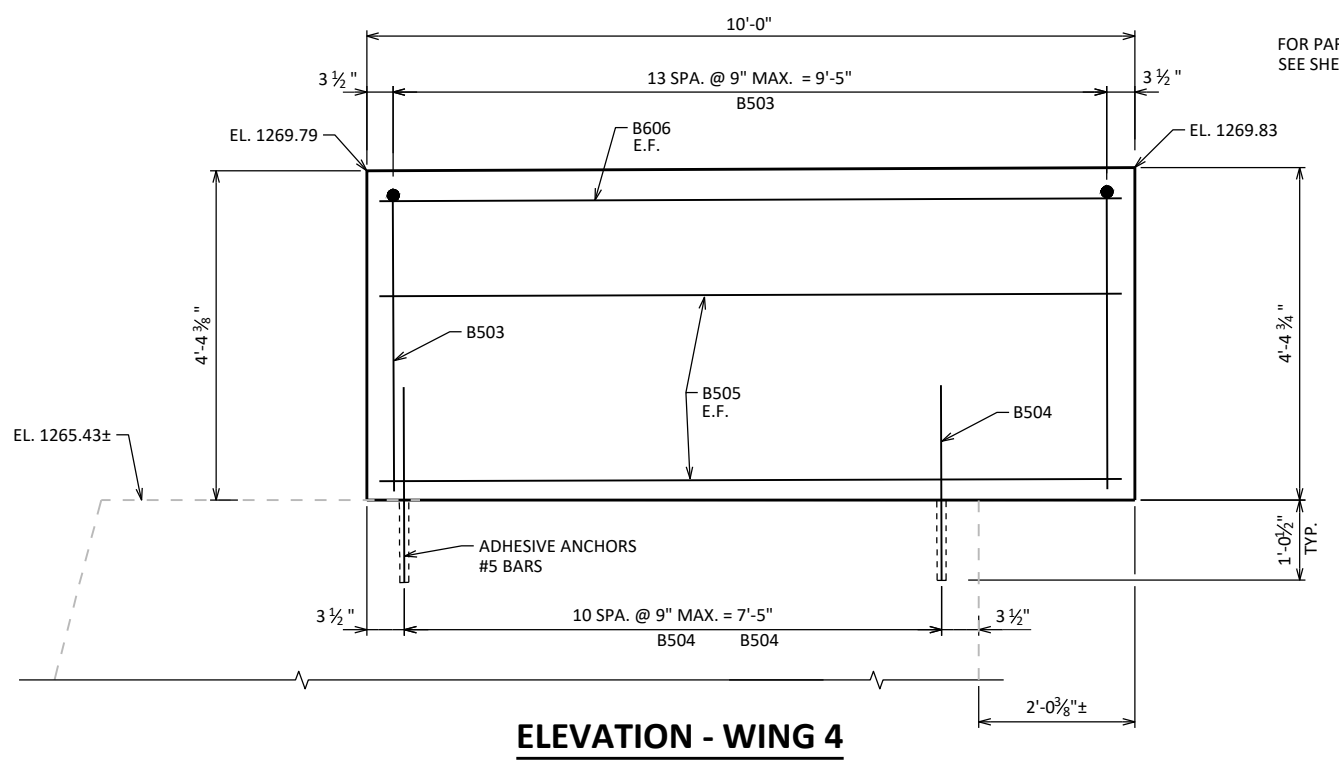
FOR LOCATION OF SECTION A SEE SHEET 6.



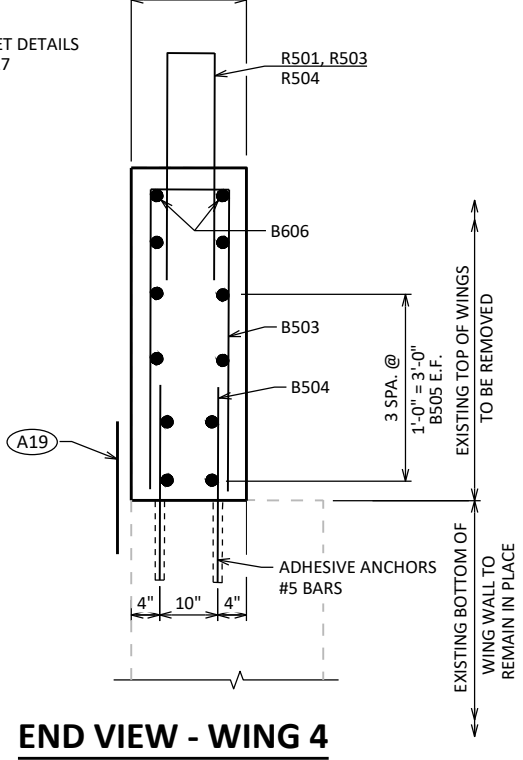
ELEVATION - WING 3



END VIEW - WING 3



ELEVATION - WING 4



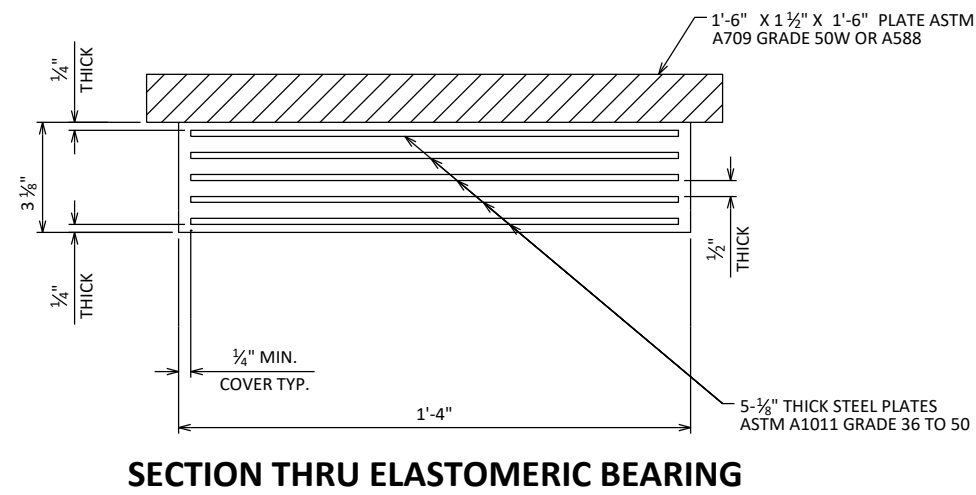
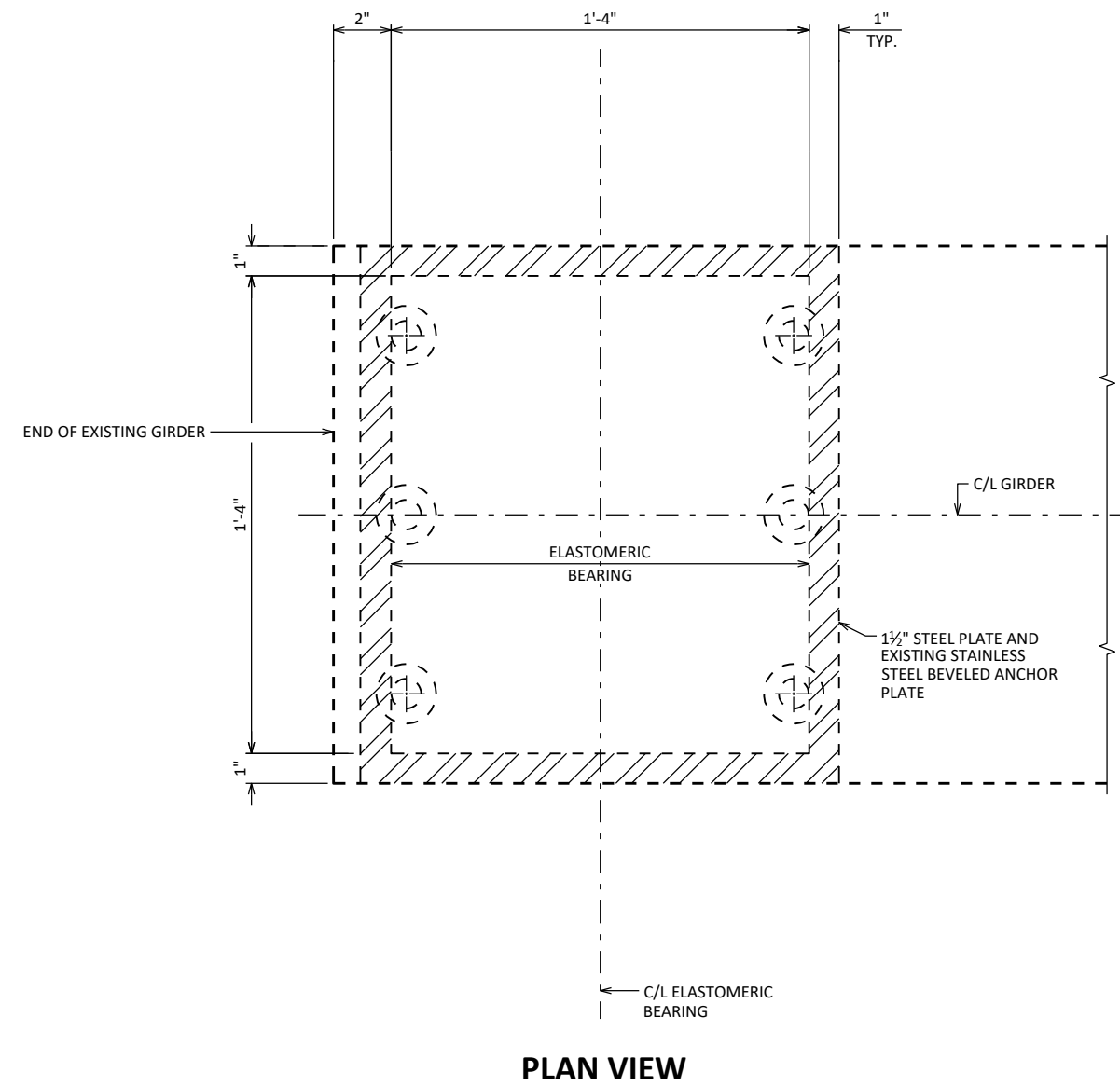
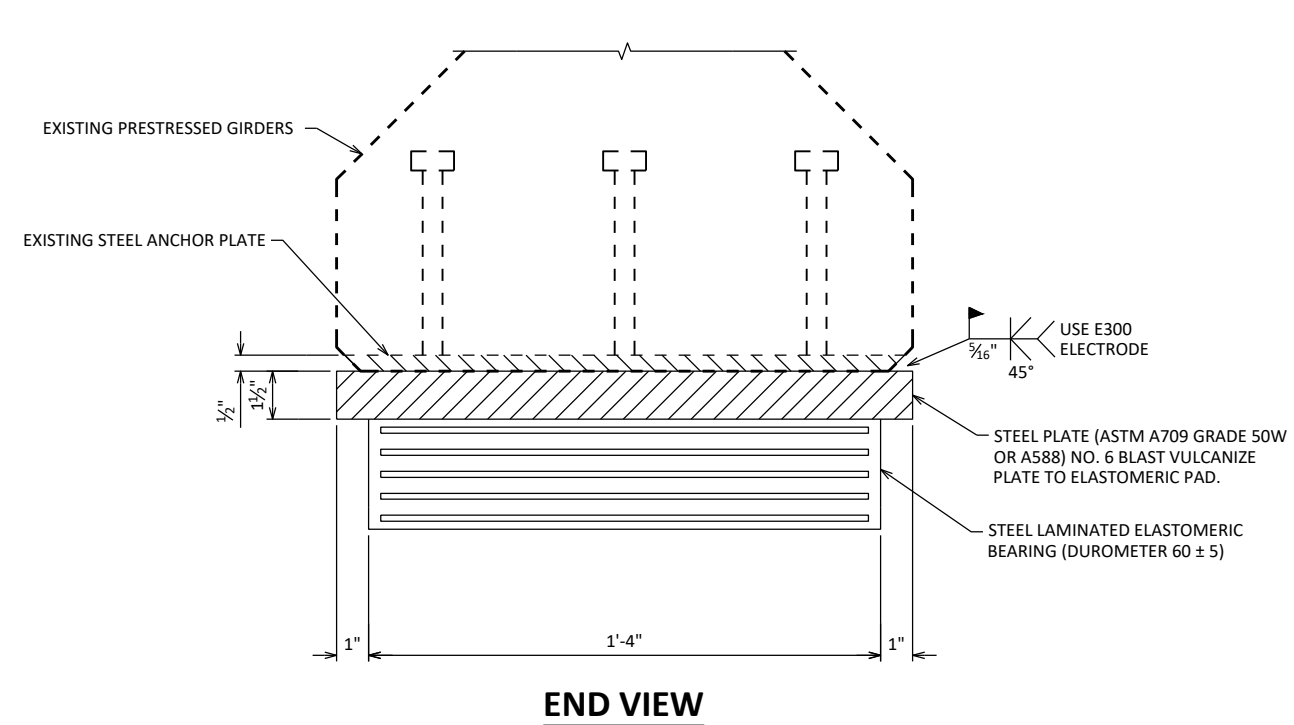
END VIEW - WING 4

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

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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY	CLP	PLANS CK'D	AEB
NORTH ABUTMENT DETAILS		SHEET 7 OF 17	

SCALE =



NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELECTROMETRIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

8

8

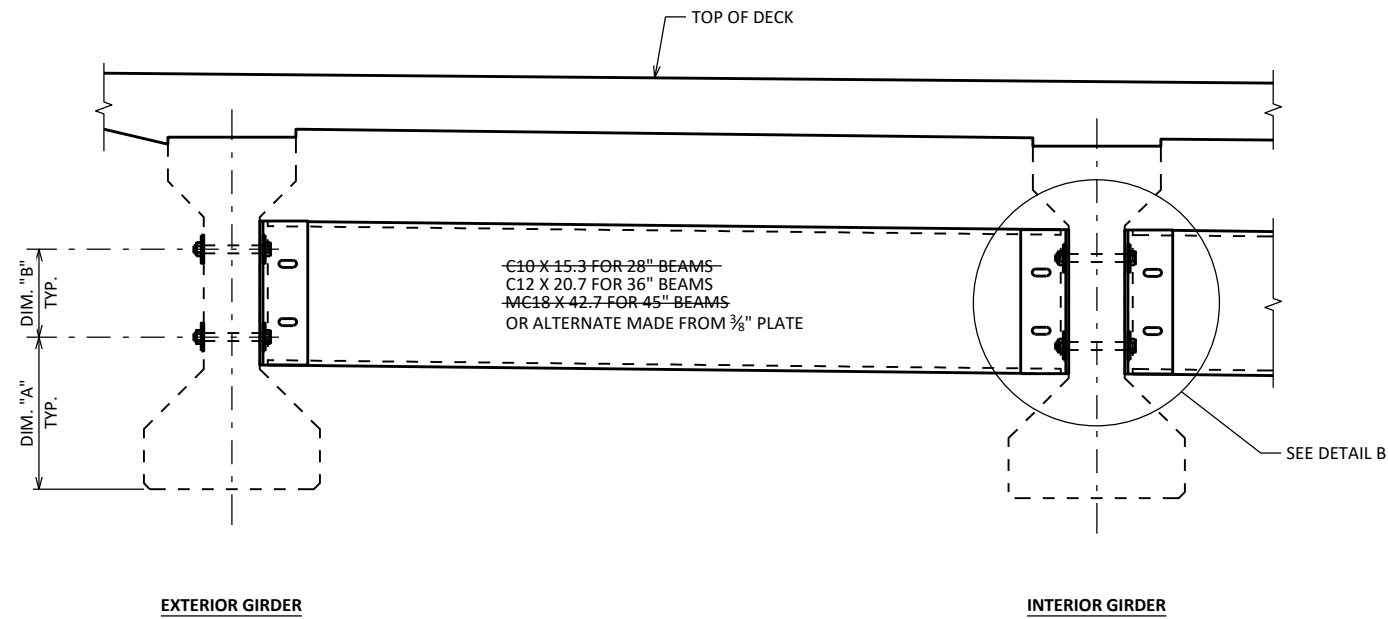
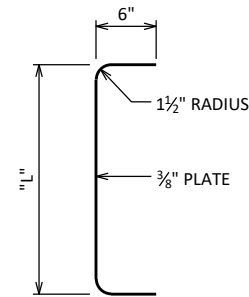
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NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
PRESTRESSED GIRDER BEARINGS			SHEET 8 OF 17

SCALE = 0.5

TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM. "X"
-28"	1'-0 ⁷ / ₈ "	5 ⁷ / ₈ "	9 ¹ / ₂ "	2 ¹ / ₄ "
36"	1'-2 ⁷ / ₈ "	9 ⁷ / ₈ "	1'-1 ¹ / ₂ "	3 ³ / ₄ "
45"	1'-5 ³ / ₈ "	1'-1 ⁷ / ₈ "	1'-5 ¹ / ₂ "	2 ³ / ₄ "
-45W"	1'-9 ¹ / ₈ "	8 ⁷ / ₈ "	1'-0 ¹ / ₂ "	2 ³ / ₄ "
-54"	1'-7 ⁷ / ₈ "	1'-5 ⁷ / ₈ "	1'-9 ¹ / ₂ "	4 ¹ / ₄ "
-54W"	1'-9 ¹ / ₈ "	1'-5 ⁷ / ₈ "	1'-9 ¹ / ₂ "	4 ¹ / ₄ "



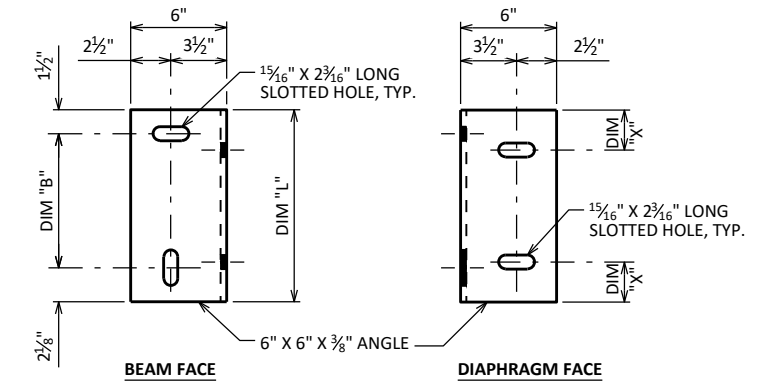
NOTES

- ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-57-23", EACH.
- EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.
- ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.
- ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.
- STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

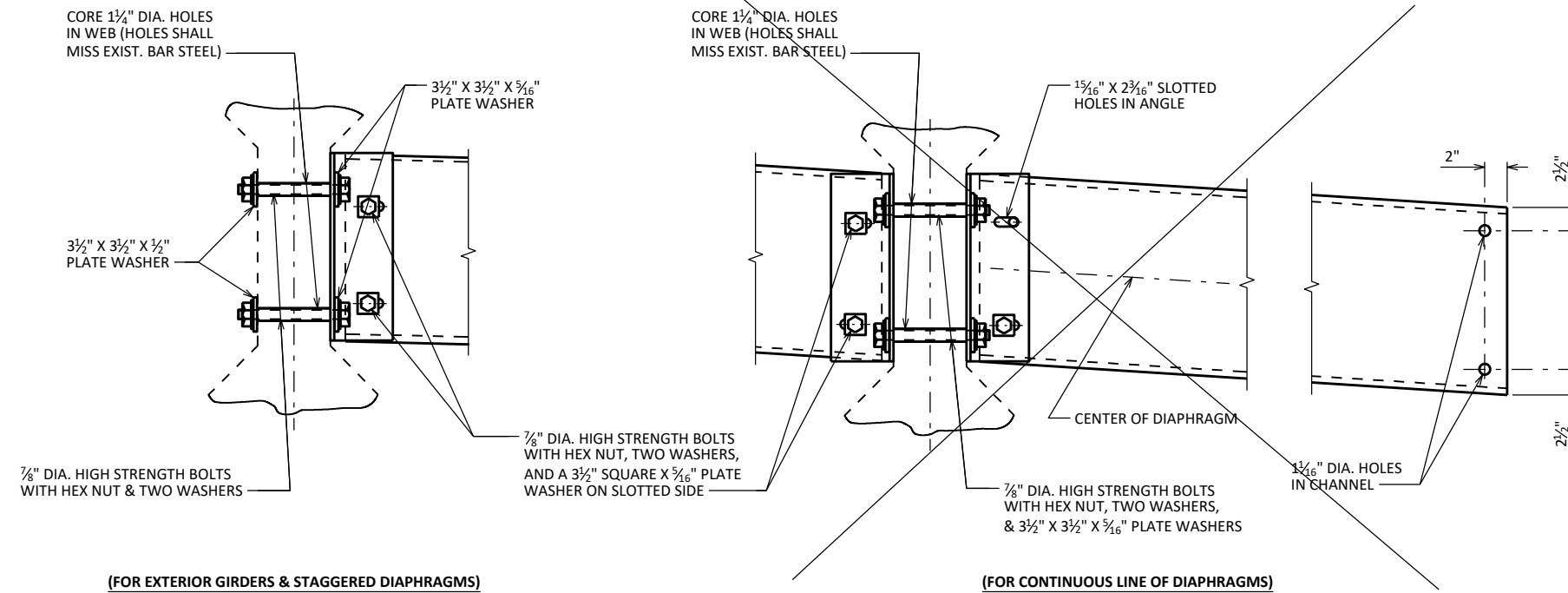
SECTION THRU ALTERNATE DIAPHRAGM

*DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

PART TRANSVERSE SECTION AT DIAPHRAGM



DIAPHRAGM SUPPORT



DETAIL B

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
STEEL DIAPHRAGM		SHEET 9 OF 17	

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TOP OF DECK ELEVATIONS - SPAN 1

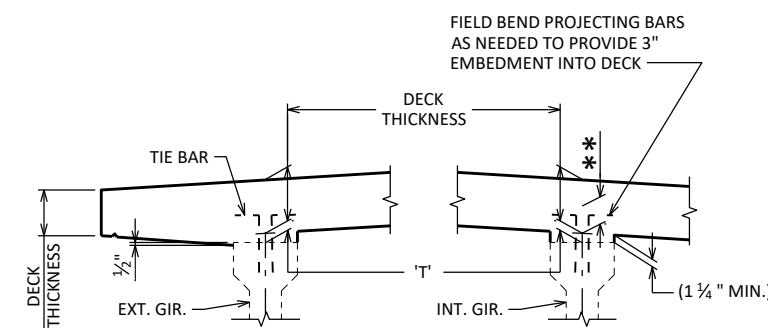
	ABUT 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	Pier 1
LT	1269.06	1269.08	1269.10	1269.12	1269.14	1269.16	1269.18	1269.20	1269.22	1269.24	1269.26
Girder 1	1269.12	1269.14	1269.16	1269.18	1269.20	1269.22	1269.24	1269.26	1269.28	1269.30	1269.32
Girder 2	1269.33	1269.35	1269.37	1269.39	1269.41	1269.43	1269.45	1269.47	1269.49	1269.51	1269.53
CL	1269.43	1269.45	1269.47	1269.49	1269.51	1269.53	1269.56	1269.58	1269.60	1269.62	1269.64
Girder 3	1269.36	1269.38	1269.40	1269.42	1269.44	1269.46	1269.48	1269.50	1269.52	1269.54	1269.56
Girder 4	1269.21	1269.23	1269.25	1269.27	1269.29	1269.31	1269.33	1269.35	1269.37	1269.39	1269.41
RT	1269.16	1269.18	1269.20	1269.22	1269.24	1269.26	1269.28	1269.30	1269.32	1269.35	1269.37

TOP OF DECK ELEVATIONS - SPAN 2

	Pier 1	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	Pier 2
LT	1269.26	1269.28	1269.30	1269.32	1269.34	1269.36	1269.39	1269.41	1269.43	1269.45	1269.47
Girder 1	1269.32	1269.34	1269.36	1269.39	1269.41	1269.43	1269.45	1269.47	1269.49	1269.51	1269.53
Girder 2	1269.53	1269.55	1269.57	1269.59	1269.61	1269.64	1269.66	1269.68	1269.70	1269.72	1269.74
CL	1269.64	1269.66	1269.68	1269.70	1269.72	1269.74	1269.76	1269.78	1269.80	1269.82	1269.84
Girder 3	1269.56	1269.58	1269.60	1269.62	1269.64	1269.66	1269.69	1269.71	1269.73	1269.75	1269.77
Girder 4	1269.41	1269.43	1269.45	1269.47	1269.49	1269.51	1269.53	1269.56	1269.58	1269.60	1269.62
RT	1269.37	1269.39	1269.41	1269.43	1269.45	1269.47	1269.49	1269.51	1269.53	1269.55	1269.57

TOP OF DECK ELEVATIONS - SPAN 3

	Pier 2	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	ABUT 2
LT	1269.47	1269.49	1269.51	1269.53	1269.55	1269.57	1269.59	1269.61	1269.63	1269.65	1269.67
Girder 1	1269.53	1269.55	1269.57	1269.59	1269.61	1269.63	1269.65	1269.67	1269.69	1269.71	1269.73
Girder 2	1269.74	1269.76	1269.78	1269.80	1269.82	1269.84	1269.86	1269.88	1269.90	1269.92	1269.94
CL	1269.84	1269.86	1269.88	1269.90	1269.93	1269.95	1269.97	1269.99	1270.01	1270.03	1270.05
Girder 3	1269.77	1269.79	1269.81	1269.83	1269.85	1269.87	1269.89	1269.91	1269.93	1269.95	1269.97
Girder 4	1269.62	1269.64	1269.66	1269.68	1269.70	1269.72	1269.74	1269.76	1269.78	1269.80	1269.82
RT	1269.57	1269.59	1269.61	1269.63	1269.65	1269.67	1269.69	1269.72	1269.74	1269.76	1269.78



SLAB HAUNCH DETAIL

IF $1\frac{1}{4}$ " MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN $\frac{1}{2}$ " OR,

*** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

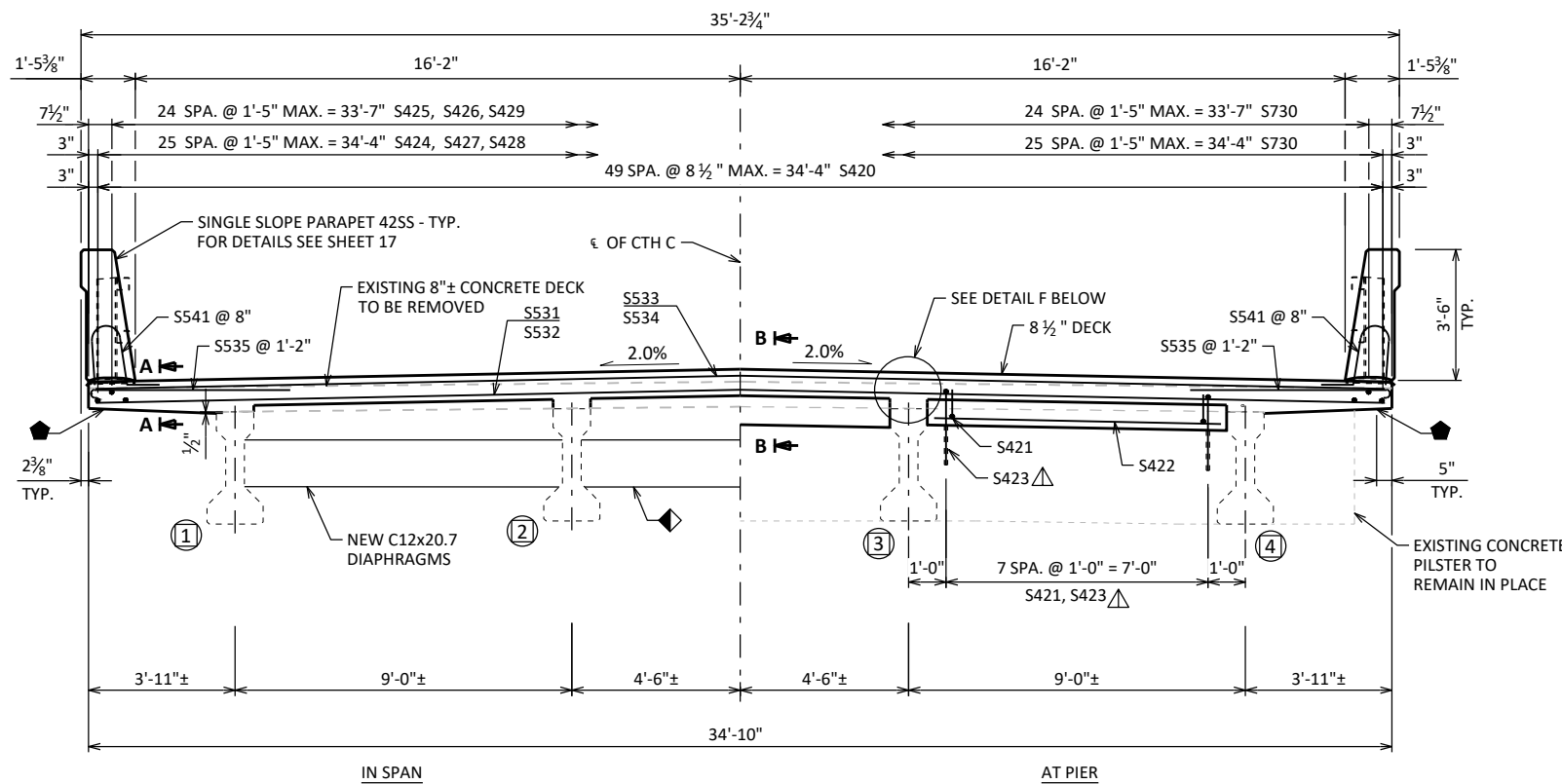
TO DETERMINE 'T' ELEV. OF TOP OF GIRDERS AT $\frac{1}{4}$ OF SUBSTRUCTURE UNITS AND AT $\frac{1}{10}$ POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- DECK THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
DECK ELEVATIONS			SHEET 10 OF 17

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NOTE:
DAMAGE TO THE EXISTING GIRDERS CAUSED DURING DECK REMOVAL OPERATIONS WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

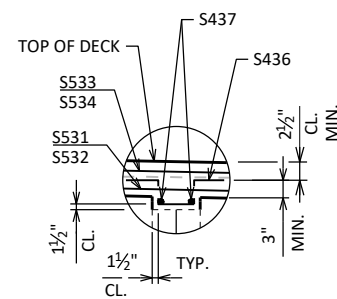
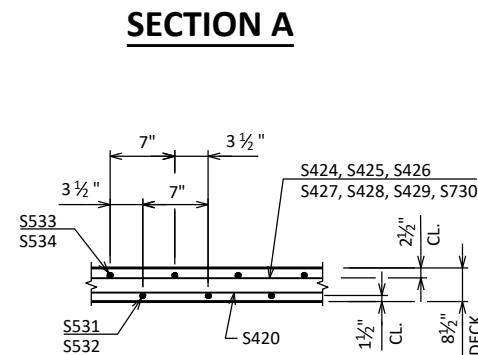
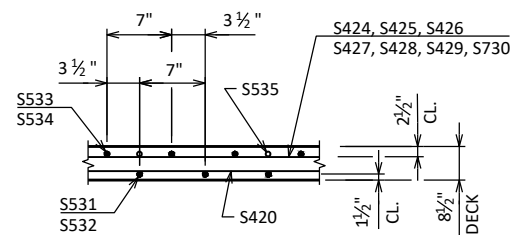
(LOOKING UPSTATION)

◆ EXISTING CONCRETE INTERMEDIATE DIAPHRAGMS TO BE REMOVED, MID-SPAN ONLY, AND TO BE REPLACED WITH C 12 X 20.7 STEEL DIAPHRAGMS. FOR DETAILS SEE SHEET 9.

◆ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGMS - TYP.

△ ADHESIVE ANCHORS NO. 4 BARS SHALL BE NOT SPACED LESS THAN 9". SPACING NORMAL TO ε OF GIRDER.

ALL EXISTING 36" PRESTRESSED CONCRETE GIRDERS TO REMAIN IN PLACE



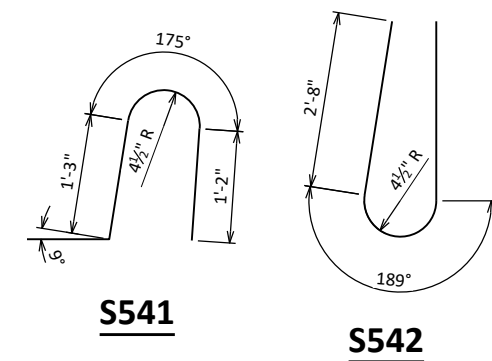
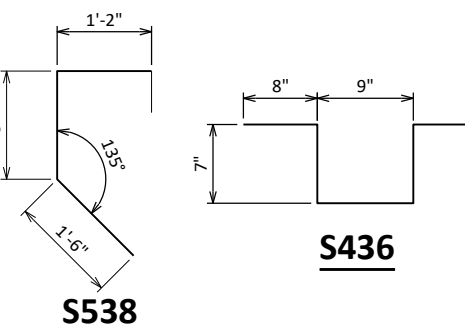
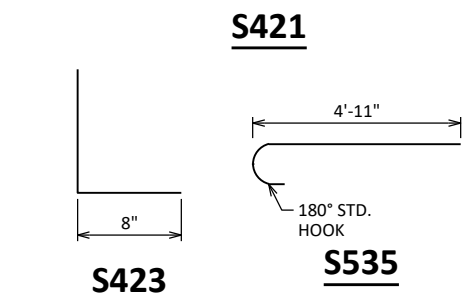
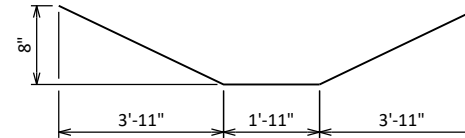
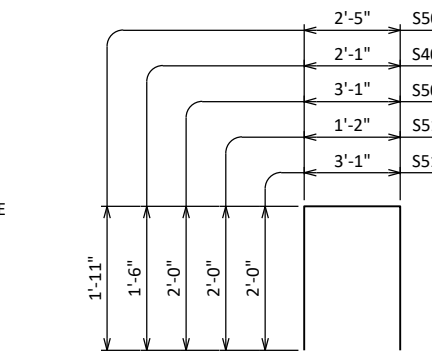
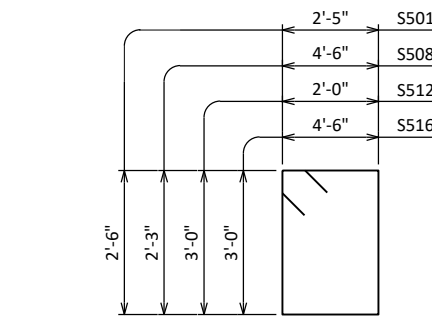
DETAIL F

S436 BARS @ 1'-0" MAX. SPA. TIP FROM VERTICAL FOR VARYING HAUNCH HEIGHTS. MAX. TILT FROM VERTICAL IS 30 DEGREES.

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
S532	2 SERIES OF 38	1'-7" TO 32'-5"
S534	2 SERIES OF 38	2'-0" TO 32'-10"

BUNDLE AND TAG EACH SERIES SEPARATELY



BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	40	10'-5"	X		DIAPH. @ S. ABUT. VERT.
S502	X	40	6'-3"	X		DIAPH. @ S. ABUT. VERT. TOP
S603	X	8	3'-5"			DIAPH. @ S. ABUT. HORIZ. F.F.
S604	X	12	42'-1"			DIAPH. @ S. & N. ABUT. HORIZ. E.F.
S605	X	12	8'-9"			DIAPH. @ S. ABUT. HORIZ. F.F.
S406	X	21	5'-0"	X		DIAPH. @ N. ABUT. NOTCH VERT.
S407	X	6	7'-4"			DIAPH. @ N. ABUT. NOTCH HORIZ.
S508	X	30	14'-1"	X		DIAPH. @ N. ABUT. VERT. BETW. GDR.
S509	X	30	7'-0"	X		DIAPH. @ N. ABUT. VERT. TOP BETW. GDR.
S610	X	12	8'-9"			DIAPH. @ N. ABUT. HORIZ. BETW. GDR.
S511	X	8	6'-0"			DIAPH. @ N. ABUT. HORIZ. THRU GDR.
S512	X	8	10'-7"	X		DIAPH. @ N. ABUT. VERT. @ GDR.
S513	X	8	5'-1"	X		DIAPH. @ N. ABUT. VERT. TOP @ GDR.
S614	X	8	3'-2"			DIAPH. @ N. ABUT. HORIZ. @ GDR.
S615	X	16	4'-0"			DIAPH. @ N. ABUT. HORIZ. @ GDR.
S516	X	10	15'-7"	X		DIAPH. @ N. ABUT. VERT. @ EXT.
S517	X	10	7'-0"	X		DIAPH. @ N. ABUT. VERT. TOP @ EXT.
S618	X	4	3'-3"			DIAPH. @ N. ABUT. HORIZ. @ EXT.
S619	X	8	3'-3"			DIAPH. @ N. ABUT. HORIZ. @ EXT.
S420	X	200	35'-11"			DECK LONG. BOT.
S421	X	48	10'-0"	X		DIAPH. @ PIERS LONG.
S422	X	36	9'-9"			DIAPH. @ PIERS HORIZ.
S423	X	96	2'-4"	X		VERT. DOWEL BAR @ PIER
S424	X	26	40'-10"			DECK LONG. TOP SPAN 1
S425	X	25	33'-10"			DECK LONG. TOP SPAN 1
S426	X	25	33'-4"			DECK LONG. TOP SPAN 2
S427	X	26	21'-4"			DECK LONG. TOP SPAN 2
S428	X	26	42'-1"			DECK LONG. TOP SPAN 3
S429	X	25	35'-1"			DECK LONG. TOP SPAN 3
S730	X	51	20'-0"			DECK LONG. TOP @ PIERS
S531	X	197	34'-6"			DECK TRANS. BOT.
S532	X	76	17'-0"		⊗	DECK TRANS. BOT.
S533	X	198	34'-6"			DECK TRANS. TOP
S534	X	76	17'-5"		⊗	DECK TRANS. TOP
S535	X	236	5'-6"	X		DECK TRANS. TOP @ ENDS
S436	X	540	3'-0"	X		DECK @ GDR. HAUNCHES
S437	X	32	34'-8"			DECK LONG. @ HAUNCHES BOT.
S538	X	35	4'-6"	X		DIAPH. @ PAVING NOTCH S. ABUT.
S439	X	2	42'-1"			HORIZ. BAR @ PAVING NOTCH S. ABUT.
S540	X	24	2'-1"		⊗	VERT. DOWEL BAR @ S. ABUT.
S541	X	420	4'-5"	X		DECK @ PARAPET VERT.
S542	X	420	6'-8"	X		PARAPET VERT.
S543	X	48	47'-8"			PARAPET HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS

⊗ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

△ ADHESIVE ANCHORS NO. 4 BAR

⊠ ADHESIVE ANCHORS NO. 5 BAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-57-23

DRAWN BY CLP PLANS CK'D AEB

SUPERSTRUCTURE SHEET 11 OF 17

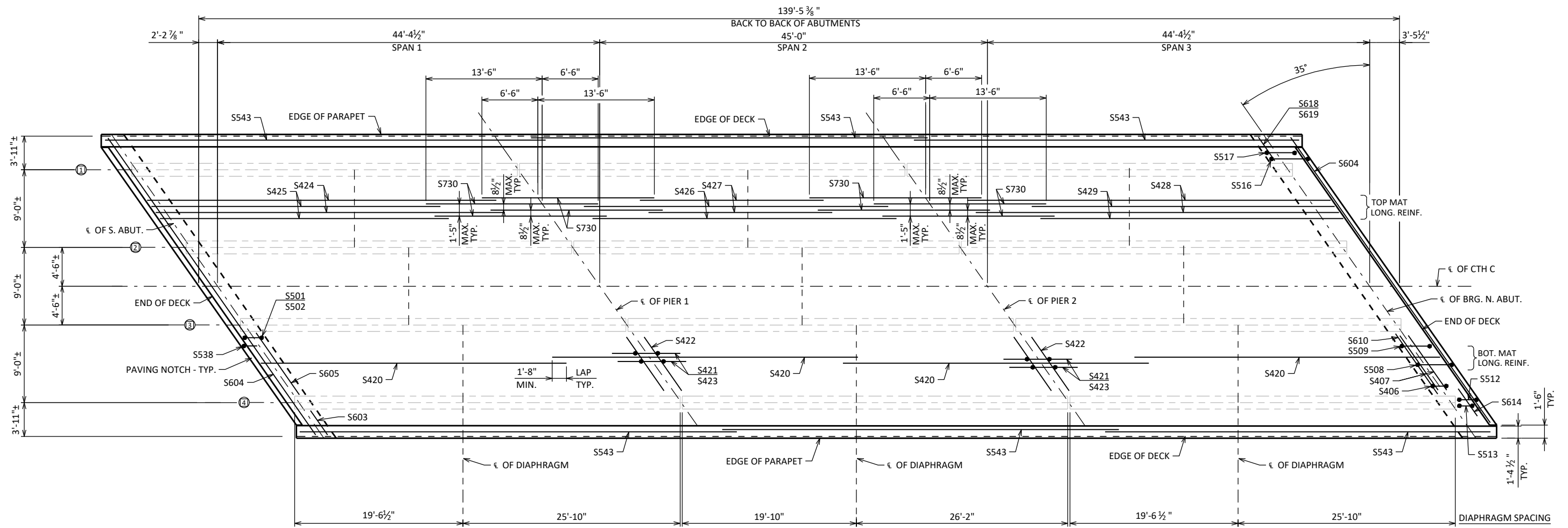
ORIGINAL PLANS PREPARED BY



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8

SCALE =



PLAN

DEAD LOAD DEFLECTIONS

SPAN 1 & 3											
	€ OF BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	€ OF BRG.
GDR 1 & 4	0.0	0.30	0.50	0.60	0.70	0.80	0.70	0.60	0.50	0.30	0.00
GDR 2 & 3	0.0	0.30	0.50	0.70	0.80	0.80	0.80	0.70	0.50	0.30	0.00

SPAN 2											
	€ OF BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	€ OF BRG.
GDR 1 & 4	0.0	0.20	0.40	0.60	0.70	0.70	0.70	0.60	0.40	0.40	0.00
GDR 2 & 3	0.0	0.30	0.50	0.60	0.70	0.80	0.70	0.60	0.50	0.30	0.00

DEFLECTIONS SHOWN ARE IN INCHES.

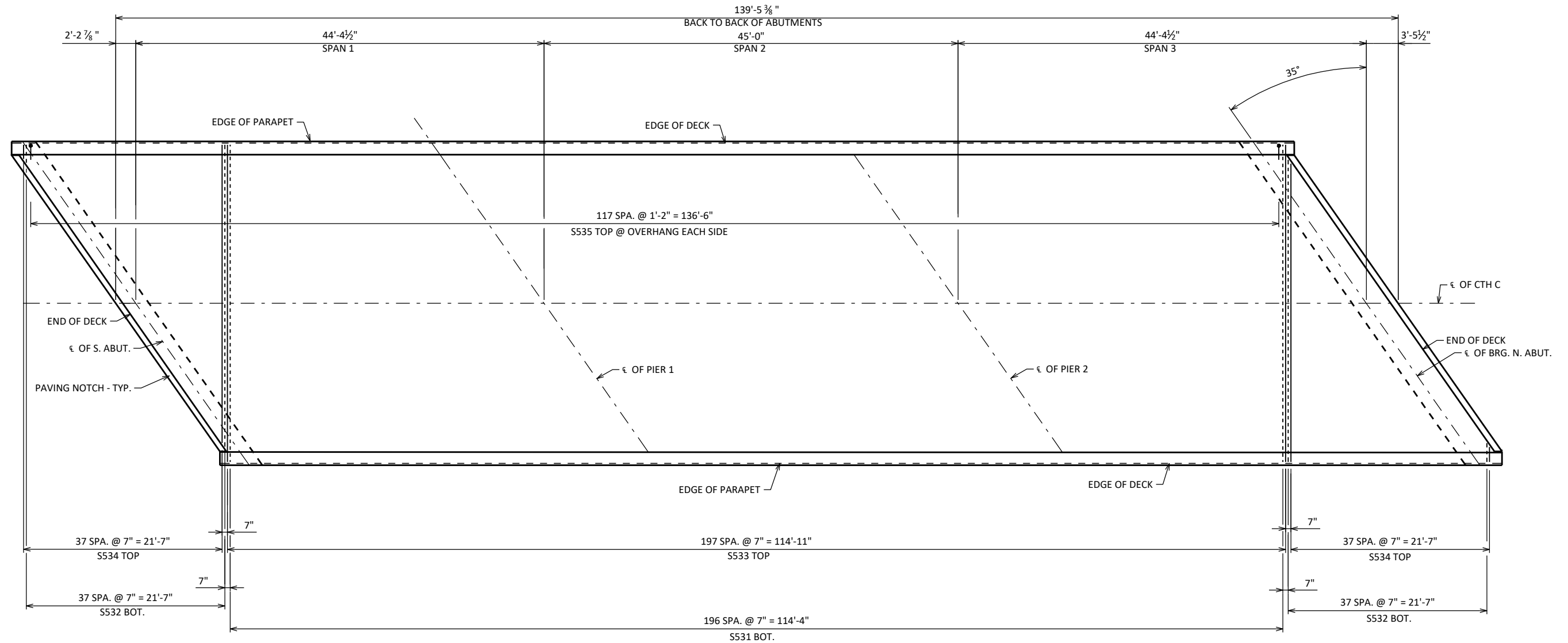
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SUPERSTRUCTURE PLAN			SHEET 12 OF 17

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

8

8

SCALE =



PLAN - TRANSVERSE DECK STEEL LAYOUT

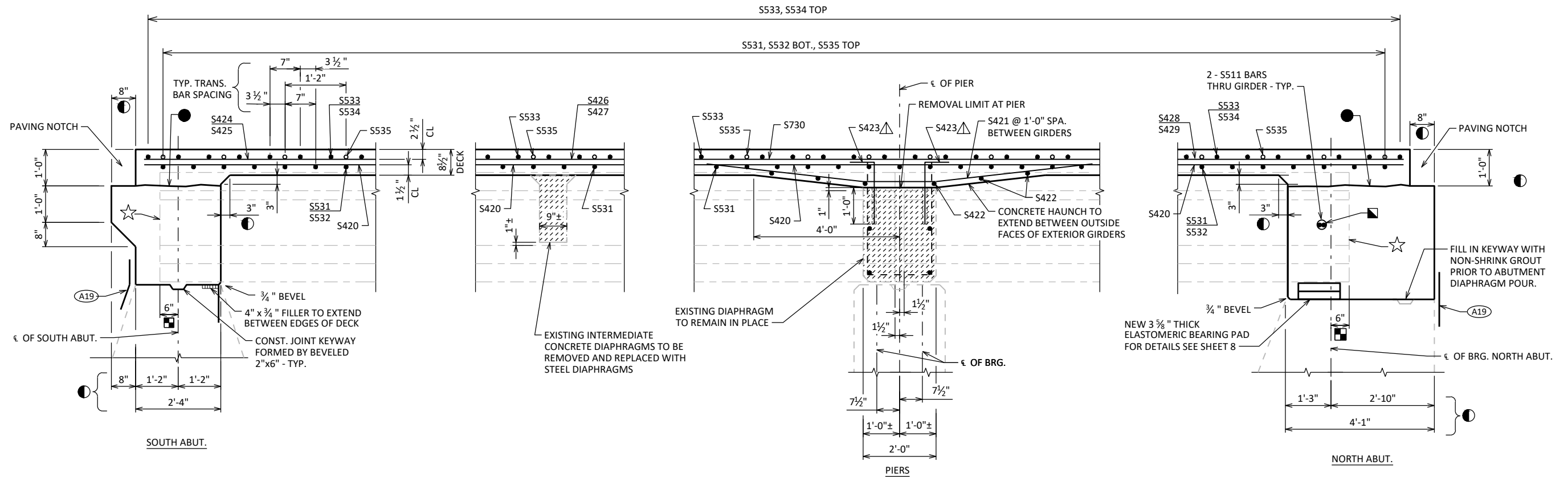
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8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SUPERSTRUCTURE TRANSVERSE DECK STEEL LAYOUT			SHEET 13 OF 17

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

SCALE =



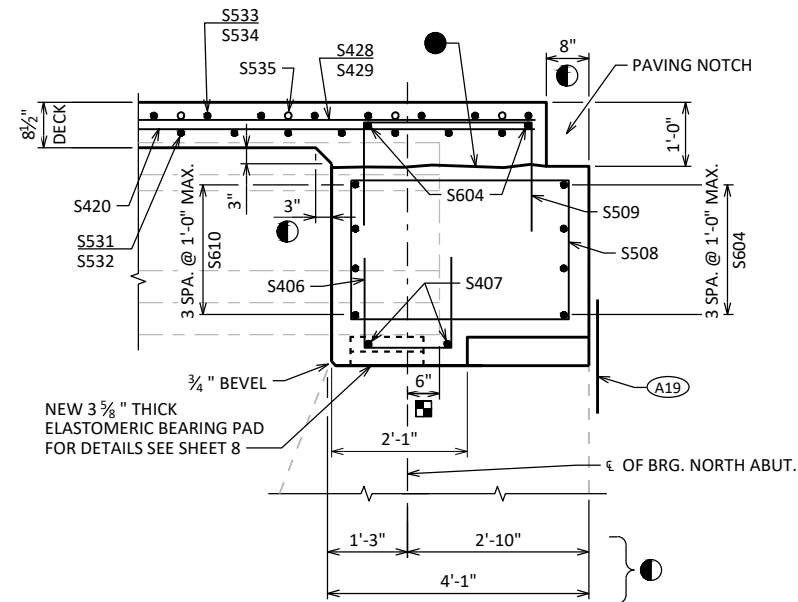
PART LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO ϵ ROADWAY UNLESS OTHERWISE NOTED

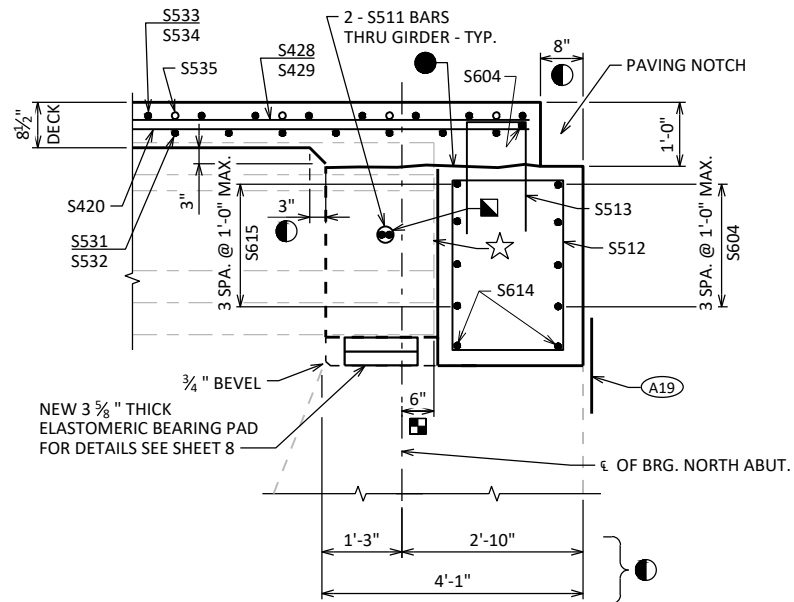
- (A19)** 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
 - MEASURED NORMAL TO THE C/L OF SUBSTRUCTURE.
 - MEASURED ALONG C/L OF GIRDER.
 - ☆** END OF EXISTING GIRDER.
 - OPT. CONST. JOINT.
 - △** ADHESIVE ANCHORS NO. 4 BARS SHALL NOT BE SPACED LESS THAN 9".
 - FIELD DRILL 1 1/2" DIA. HOLE IN WEB OF EXISTING GIRDERS FOR 2 - S511 BARS THRU GIRDER. FIELD DRILLING INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- EXISTING CONCRETE PILASTERS AT PIERS TO REMAIN IN PLACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SUPERSTRUCTURE DETAILS			SHEET 14 OF 17

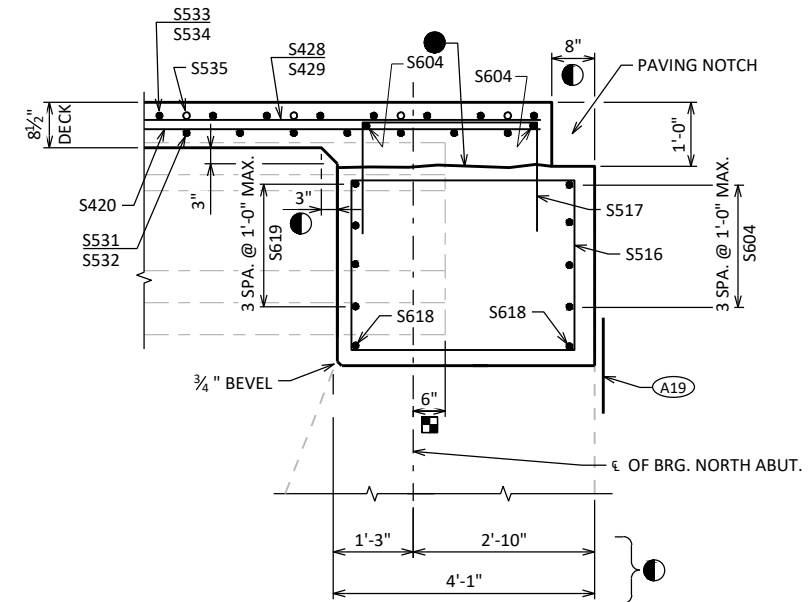
ORIGINAL PLANS PREPARED BY
AYRES 3433 Oakwood Hills Parkway
 Eau Claire, WI 54701
 www.AyresAssociates.com



NORTH ABUT.
SECTION C
TYP. BTWN. GIRDERS

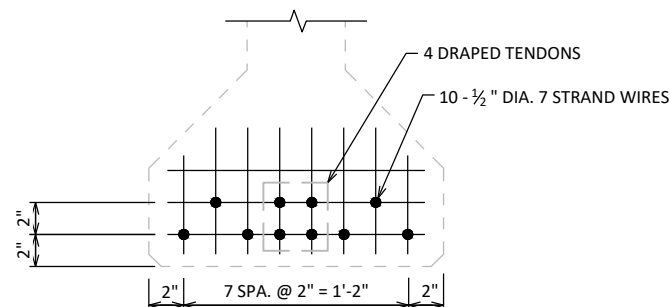


NORTH ABUT.
SECTION D
TYP. AT GIRDERS

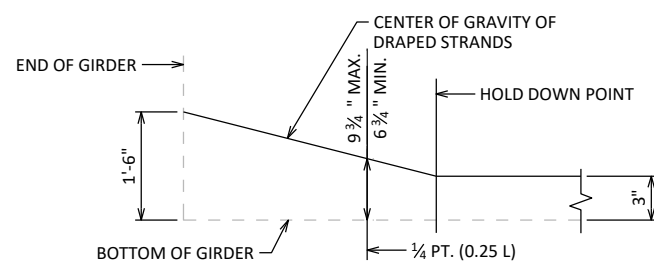


NORTH ABUT.
SECTION E
TYP. AT EXTERIOR

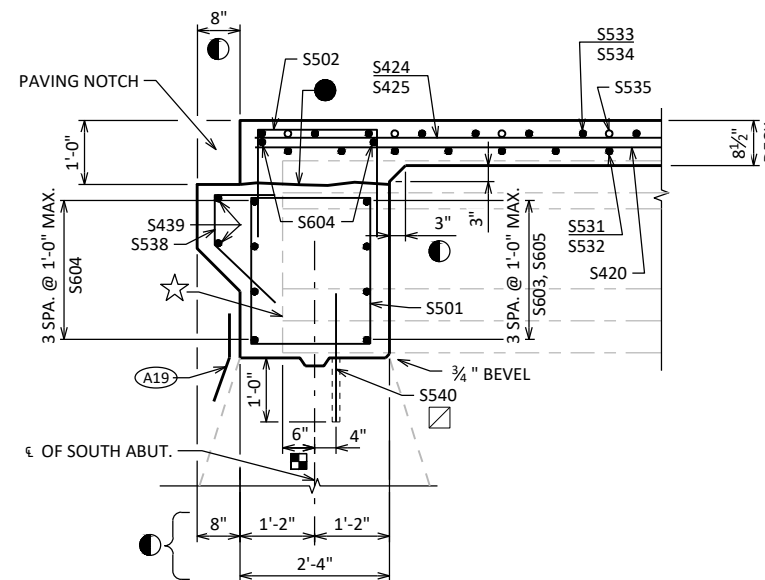
FOR LOCATIONS OF SECTIONS C, D, & E, SEE SHEET 18.



TYP. STRAND PATTERN
TAKEN AT C/L OF SPAN



EXISTING DRAPED STRAND PROFILE



SECTION THRU S. ABUT.

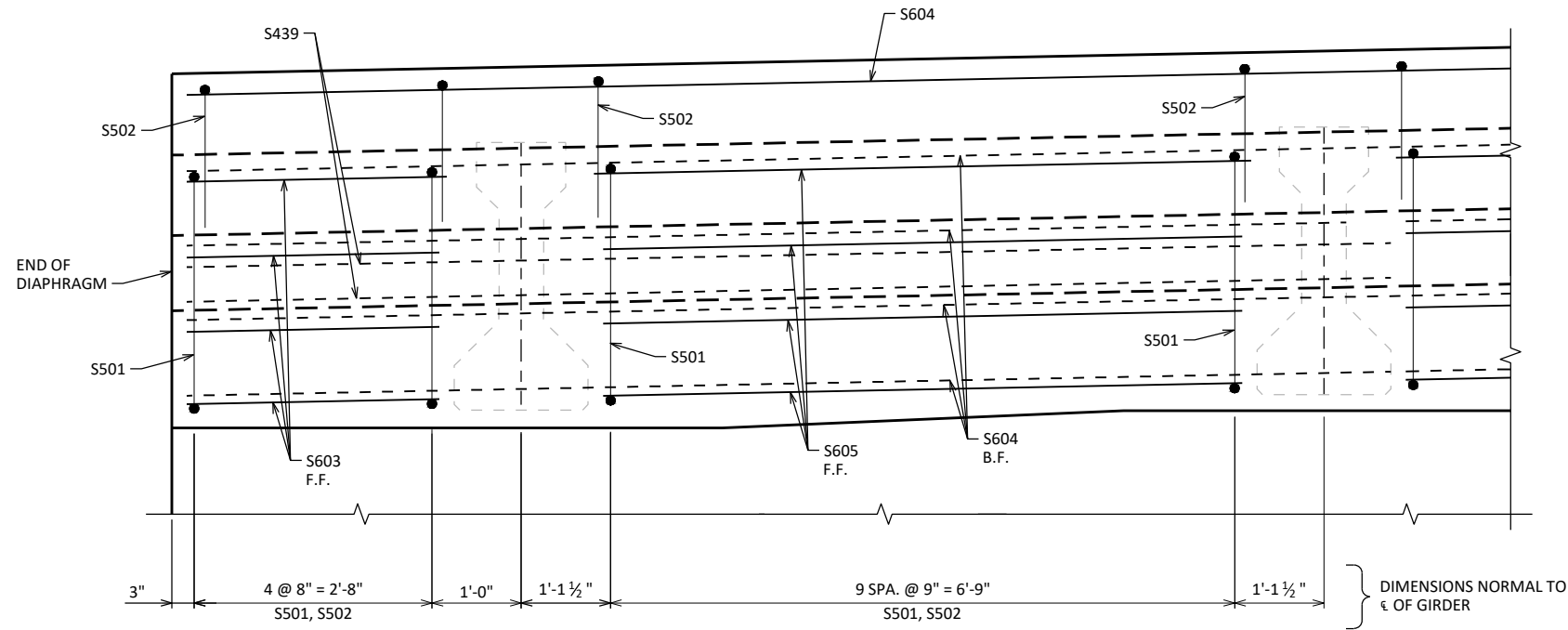
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- MEASURED NORMAL TO THE C/L OF SUBSTRUCTURE.
- MEASURED ALONG C/L OF GIRDER.
- ☆ END OF EXISTING GIRDER.
- OPT. CONST. JOINT. DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.
- FIELD DRILL 1 1/2" DIA. HOLE IN WEB OF EXISTING GIRDERS FOR 2 - S511 BARS THRU GIRDER. FIELD DRILLING INCLUDED IN BID ITEM "CONCRETE MASONRY BRIDGES".
- ADHESIVE ANCHORS NO. 5 BAR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SUPERSTRUCTURE DETAILS			SHEET 15 OF 17

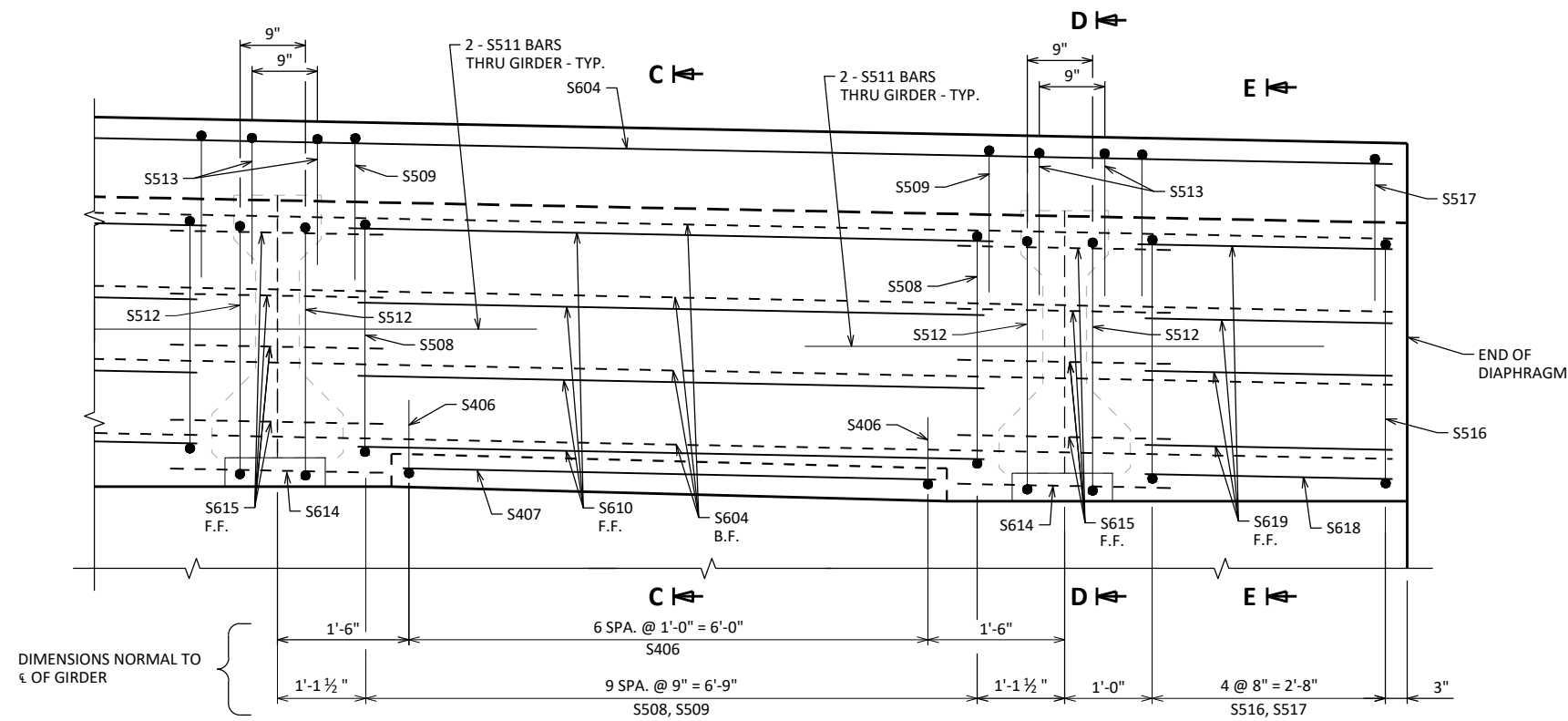
ORIGINAL PLANS PREPARED BY



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PART ELEVATION AT SOUTH ABUTMENT



PART ELEVATION AT NORTH ABUTMENT

FOR SECTIONS C, D, & E, SEE SHEET 15.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SUPERSTRUCTURE DETAILS			SHEET 16 OF 17

ORIGINAL PLANS PREPARED BY



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SCALE =

8

8

BILL OF BARS

FOR WING PARAPETS

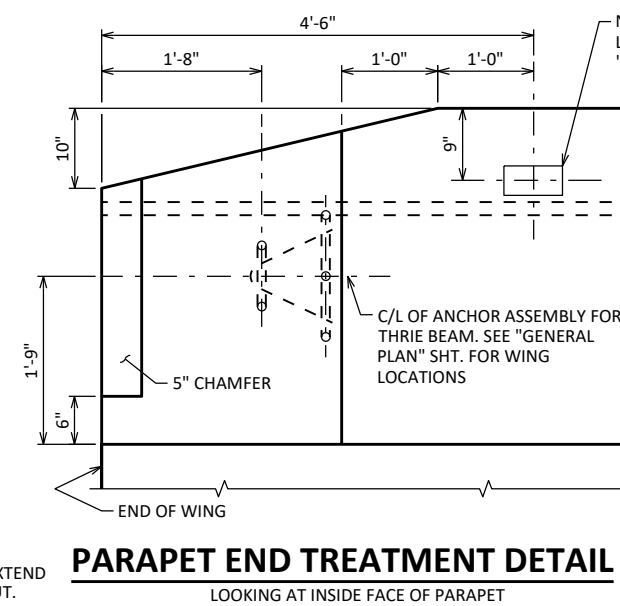
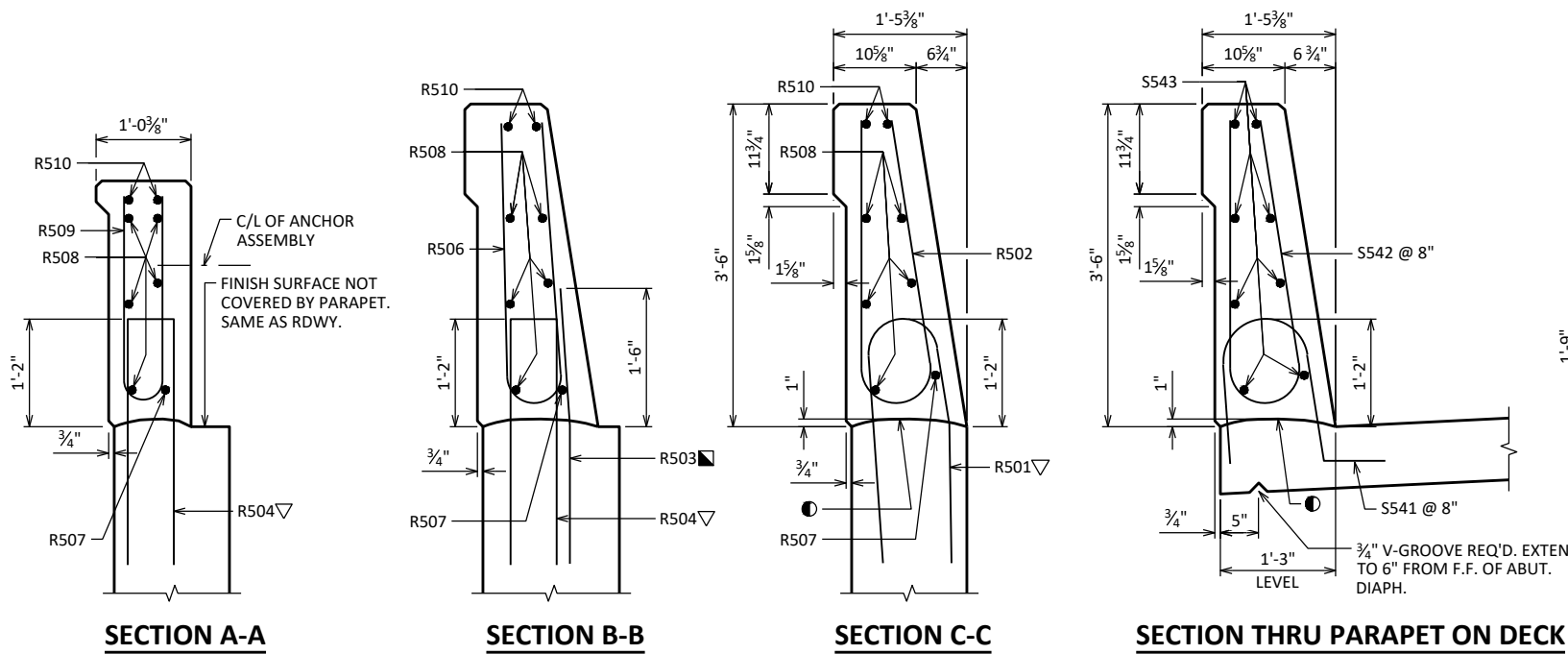
BAR MARK	COAT	SOUTH ABUT.	NORTH ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	4	4	5'-10"	X		PARAPET VERT.
R502	X	4	4	6'-8"	X		PARAPET VERT.
R503	X	22	22	3'-0"	X		PARAPET VERT.
R504	X	34	34	5'-7"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	9'-8"	X		PARAPET HORIZ.
R508	X	10	10	9'-8"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	▲	PARAPET VERT.
R510	X	4	4	9'-8"	X		PARAPET HORIZ.

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

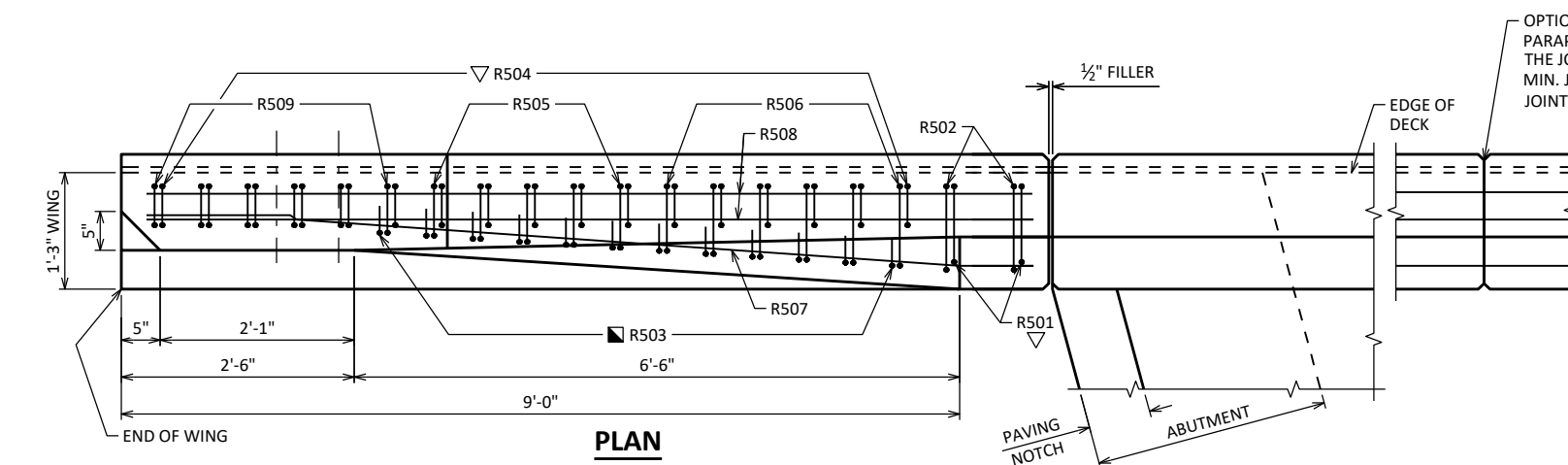
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

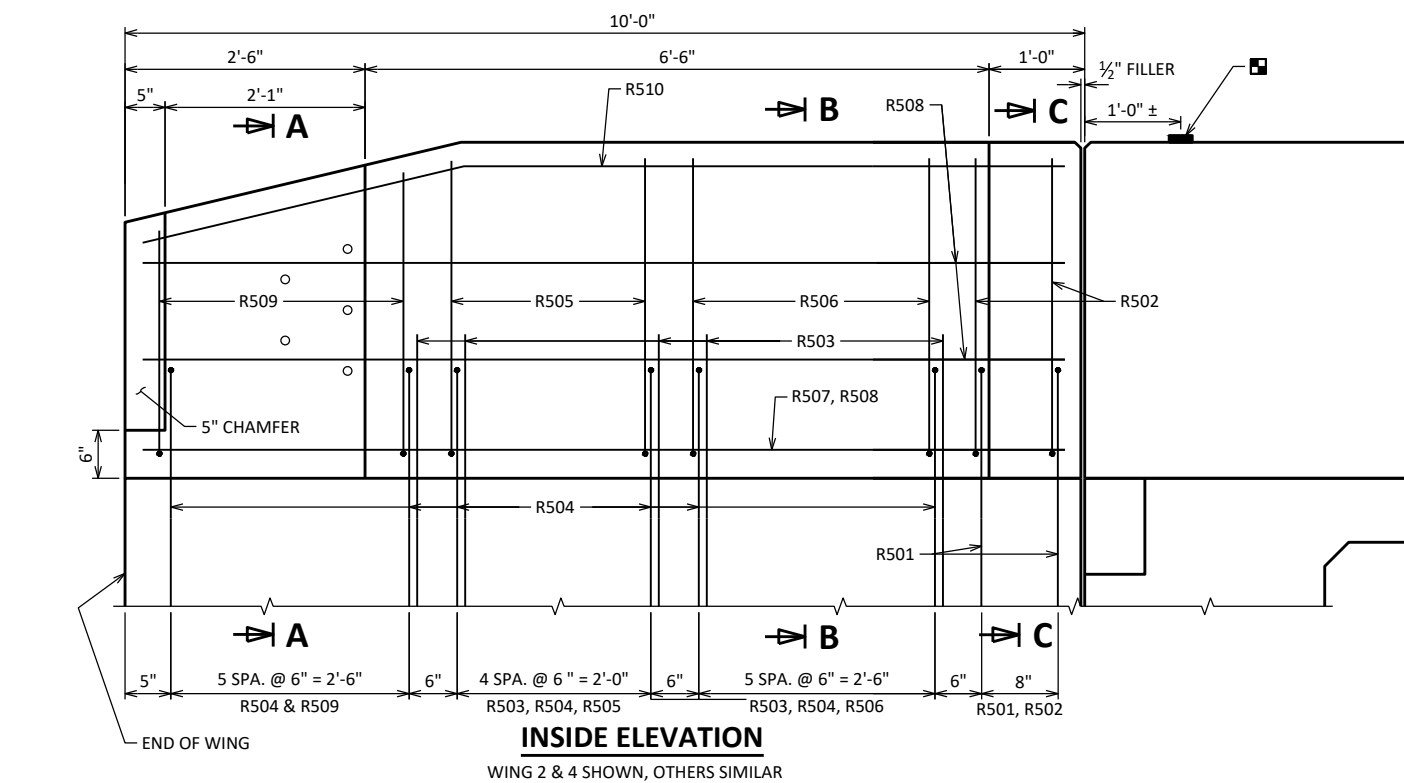
BAR MARK	NO. REQ'D.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"



PARAPET END TREATMENT DETAIL
LOOKING AT INSIDE FACE OF PARAPET

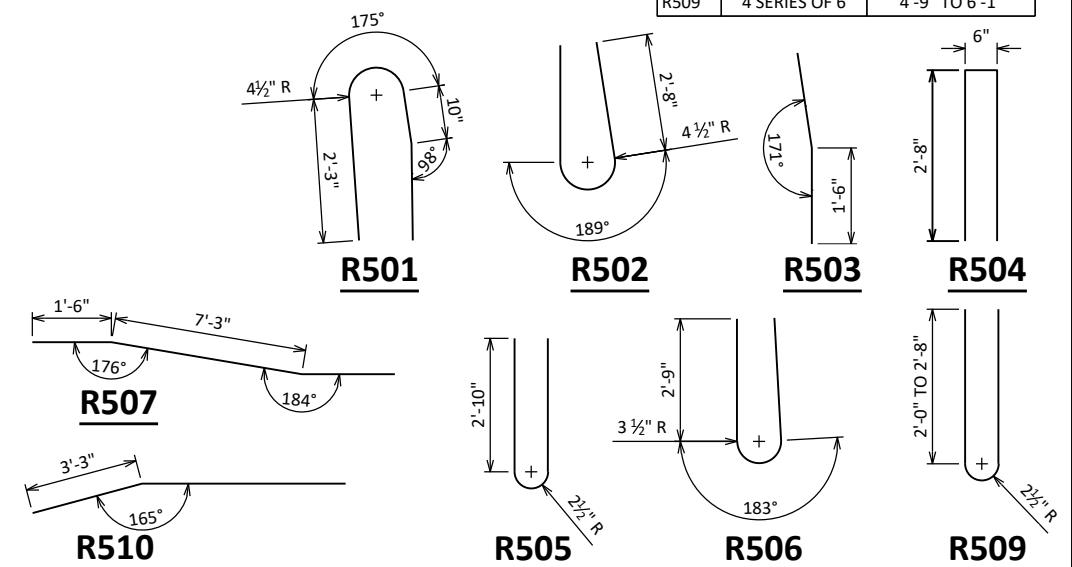


PLAN
WING 2 & 4 SHOWN, OTHERS SIMILAR



INSIDE ELEVATION
WING 2 & 4 SHOWN, OTHERS SIMILAR

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE

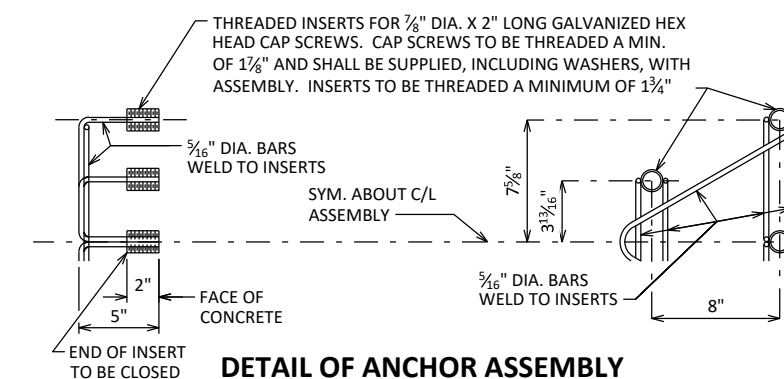


■ BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

● CONST. JOINT - STRIKE OFF AS SHOWN

■ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-57-23			
DRAWN BY		CLP	PLANS CK'D AEB
SINGLE SLOPE PARAPET 42SS			SHEET 17 OF 17

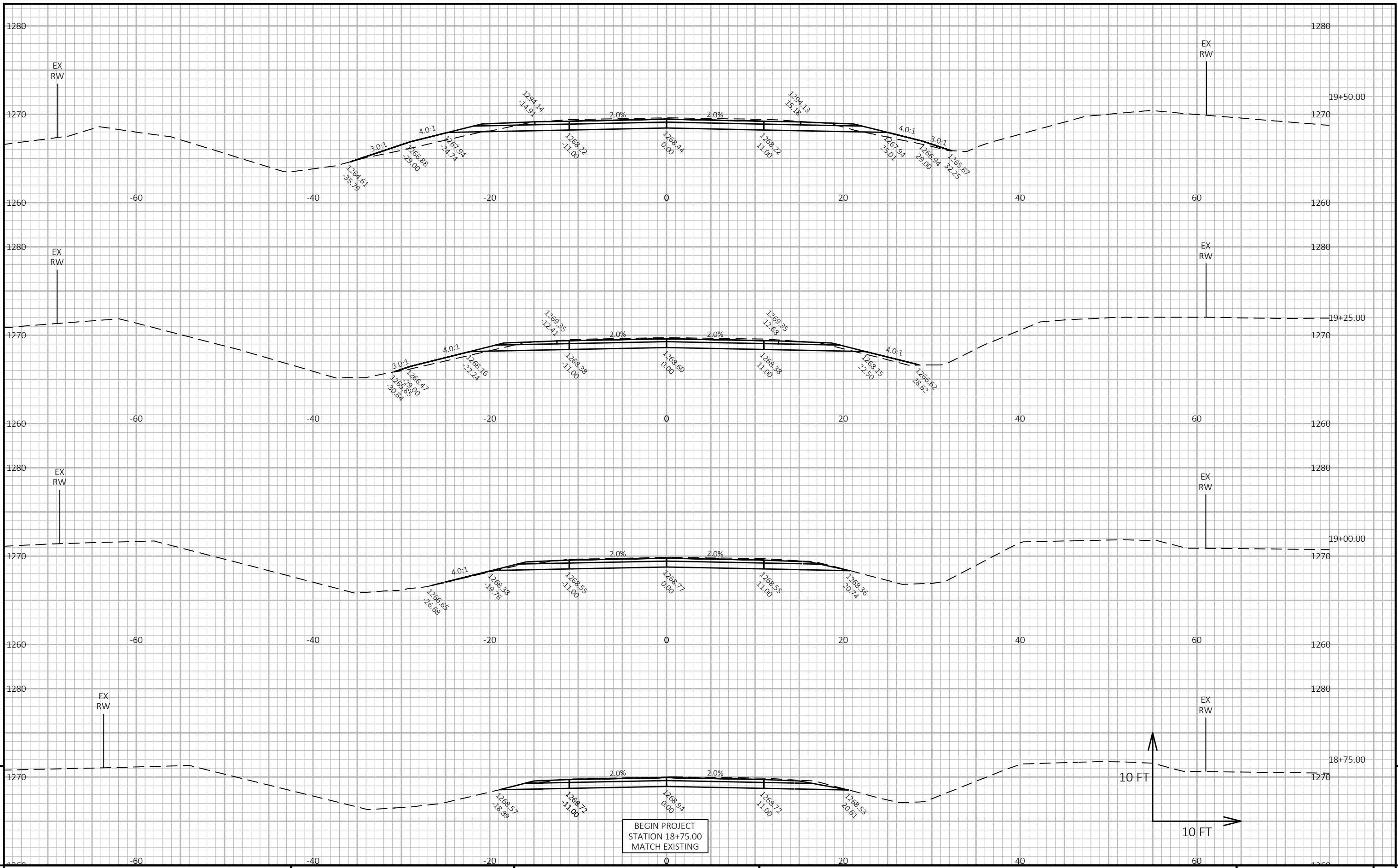
CTH C COMPUTER EARTHWORK

Station	Distance	Area (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate Note 3
		Cut	Fill	Cut Note 1	Fill Note 2	Cut 1.00 Note 1	Expanded Fill 1.30	
18+75	--	34.3	0.0					
19+00	25	35.5	0.9	32	0	32	1	32
19+25	25	38.3	5.9	34	3	67	5	62
19+50	25	41.1	11.1	37	8	103	15	88
19+75	25	43.4	26.1	39	17	142	37	105
19+79.82	5	43.5	26.4	8	5	150	43	107
19+82.54	3	43.7	26.1	4	3	155	47	108
20+00	17	44.4	30.2	28	18	183	70	113
20+04.82	5	44.5	29.6	8	5	191	77	114
20+07.54	3	44.6	27.8	4	3	195	81	114
20+25	17	44.2	2.4	29	10	224	94	130
20+29.82	5	44.3	2.1	8	0	232	94	138
20+32.54	3	44.3	2.3	4	0	236	95	142
20+50	17	39.2	14.8	27	6	263	102	162
20+75	25	33.6	43.3	34	27	297	137	161
20+97.56	23	48.8	34.0	34	32	332	179	153
21+00	2	48.4	2.6	4	2	336	181	155
21+19.85	20	22.2	17.7	26	7	362	191	171
BRIDGE	--	--	--	--	--	--	--	--
22+56.19	--	15.1	51.0	--	--	--	--	--
22+77.03	21	22.6	16.3	15	26	377	224	152
22+78.48	1	22.2	34.6	1	1	378	226	151
23+02.03	24	8.7	30.7	14	28	391	263	128
23+18.62	17	12.5	13.3	7	14	398	281	117
23+27.03	8	14.7	14.9	4	4	402	286	115
23+43.62	17	19.4	46.6	10	19	412	311	101
23+46.09	2	20.3	24.3	2	3	414	315	99
23+52.03	6	22.5	21.3	5	5	419	322	97
23+68.62	17	29.0	15.4	16	11	435	336	98
23+71.09	2	29.7	15.7	3	1	437	338	99
23+77.03	6	30.7	13.0	7	3	444	342	101
23+96.09	19	33.7	7.8	23	7	467	352	115
24+02.03	6	34.5	6.4	8	2	474	354	120
24+27.03	25	37.7	1.3	33	4	508	358	149
24+52.03	25	39.6	0.0	36	1	543	359	184
24+75	23	40.2	0.0	34	0	577	359	217
				577	277			

Note 1 - Cut	Volume need to be cut.
Note 2 - Fill	Volume needed to be filled.
Note 3 - Mass Ordinate	(Cut) - (Fill * 1.30)

9

9



PROJECT NO: 8783-00-70

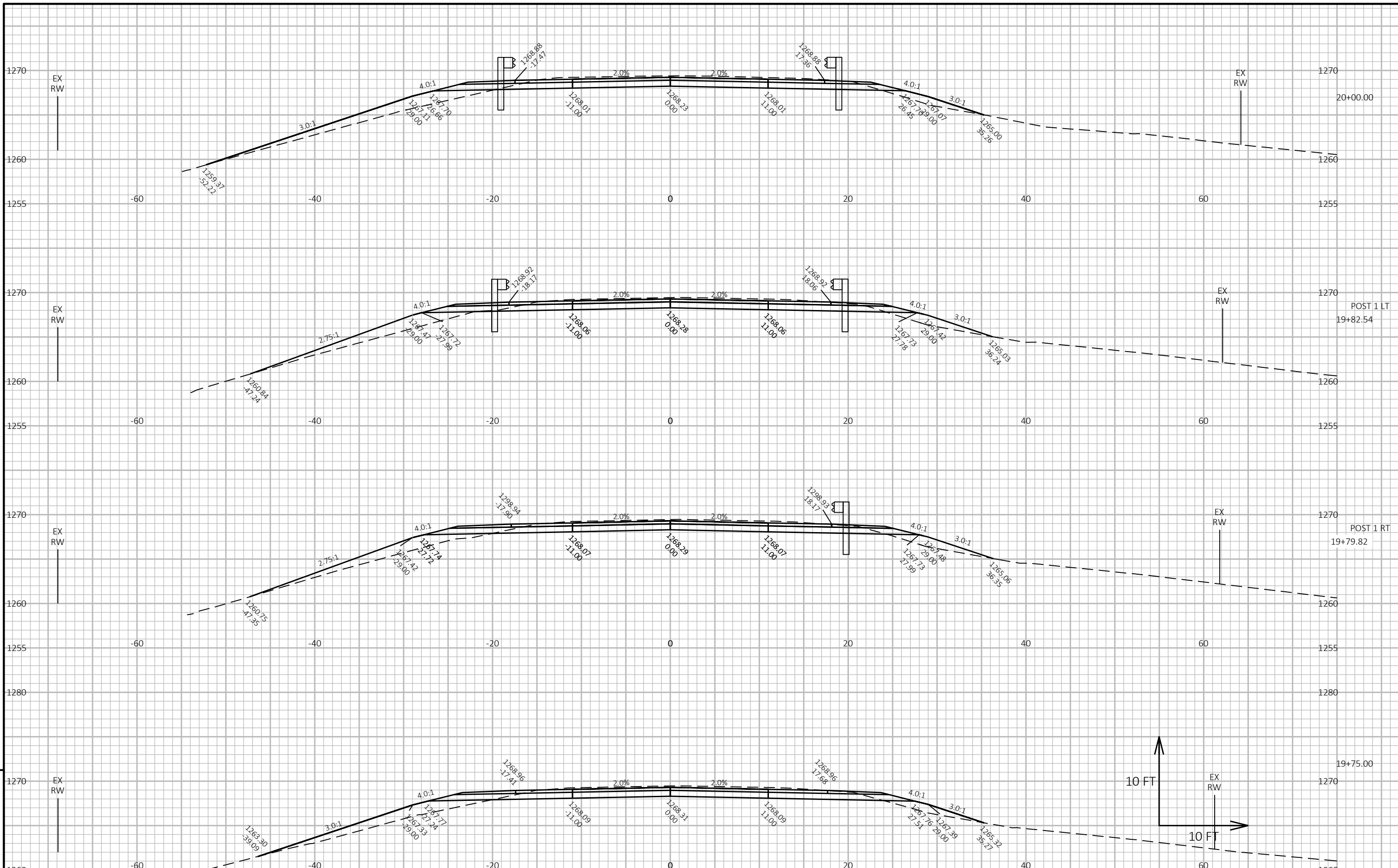
HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E



PROJECT NO: 8783-00-70

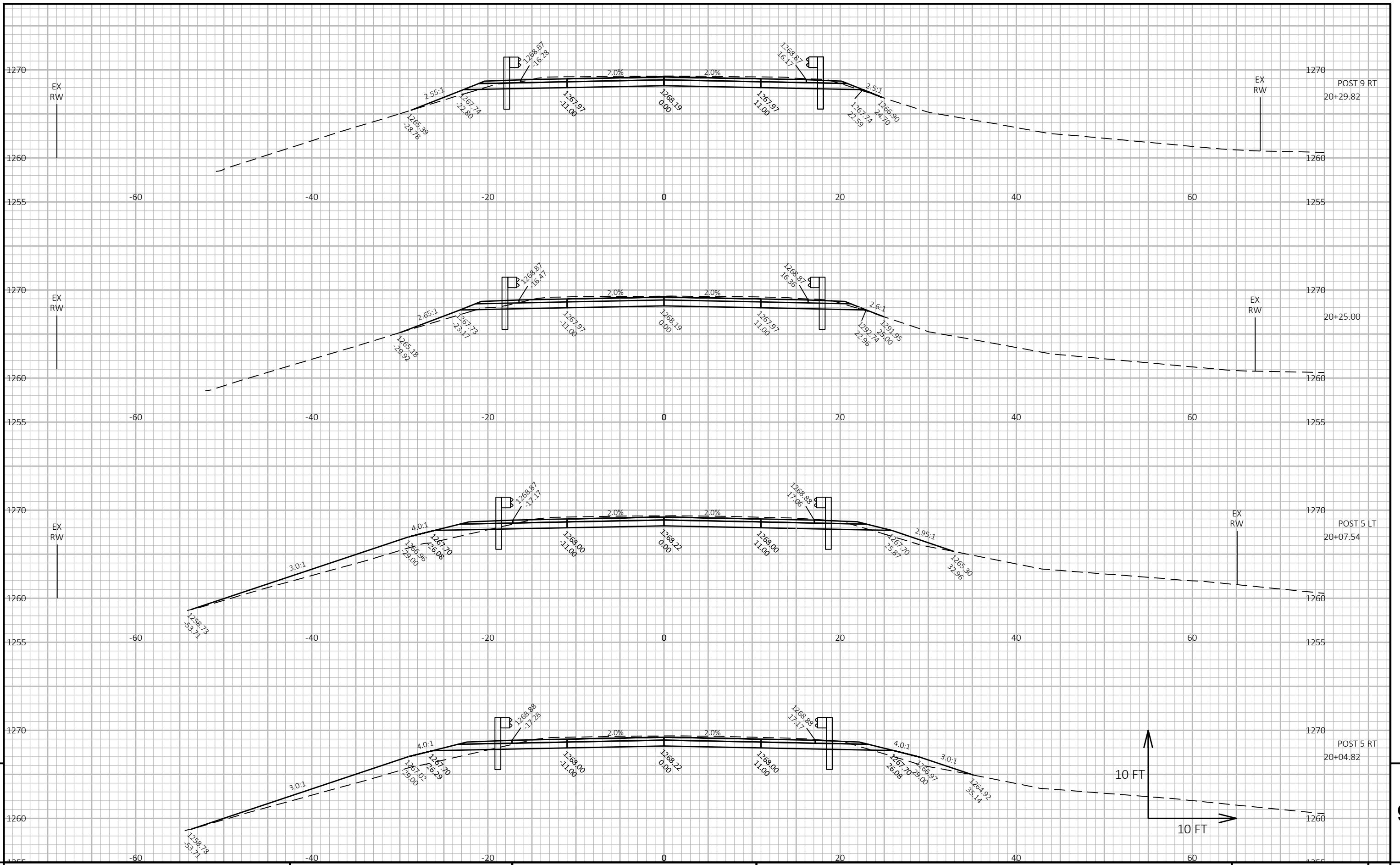
HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E



PROJECT NO: 8783-00-70

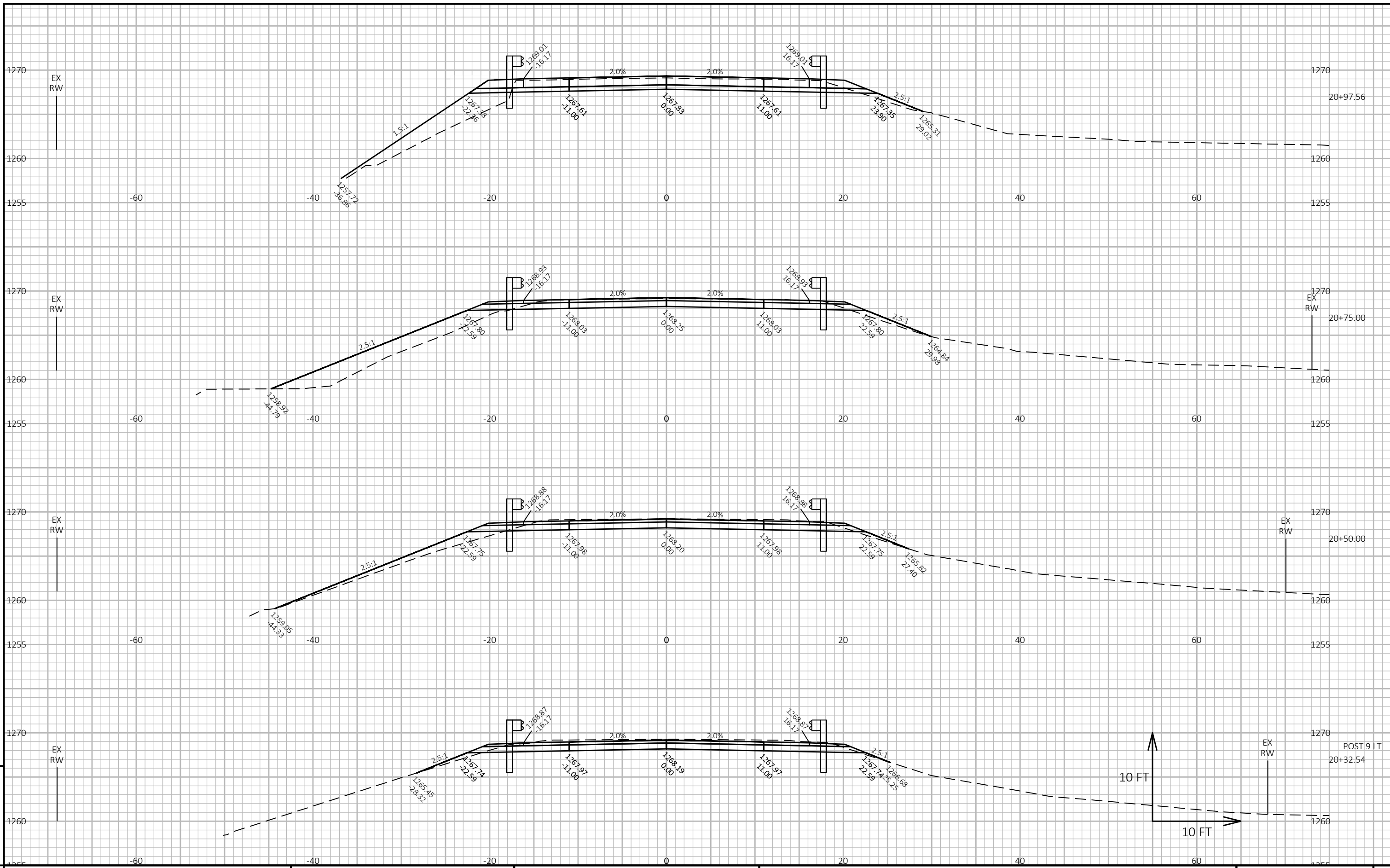
HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E



PROJECT NO: 8783-00-70

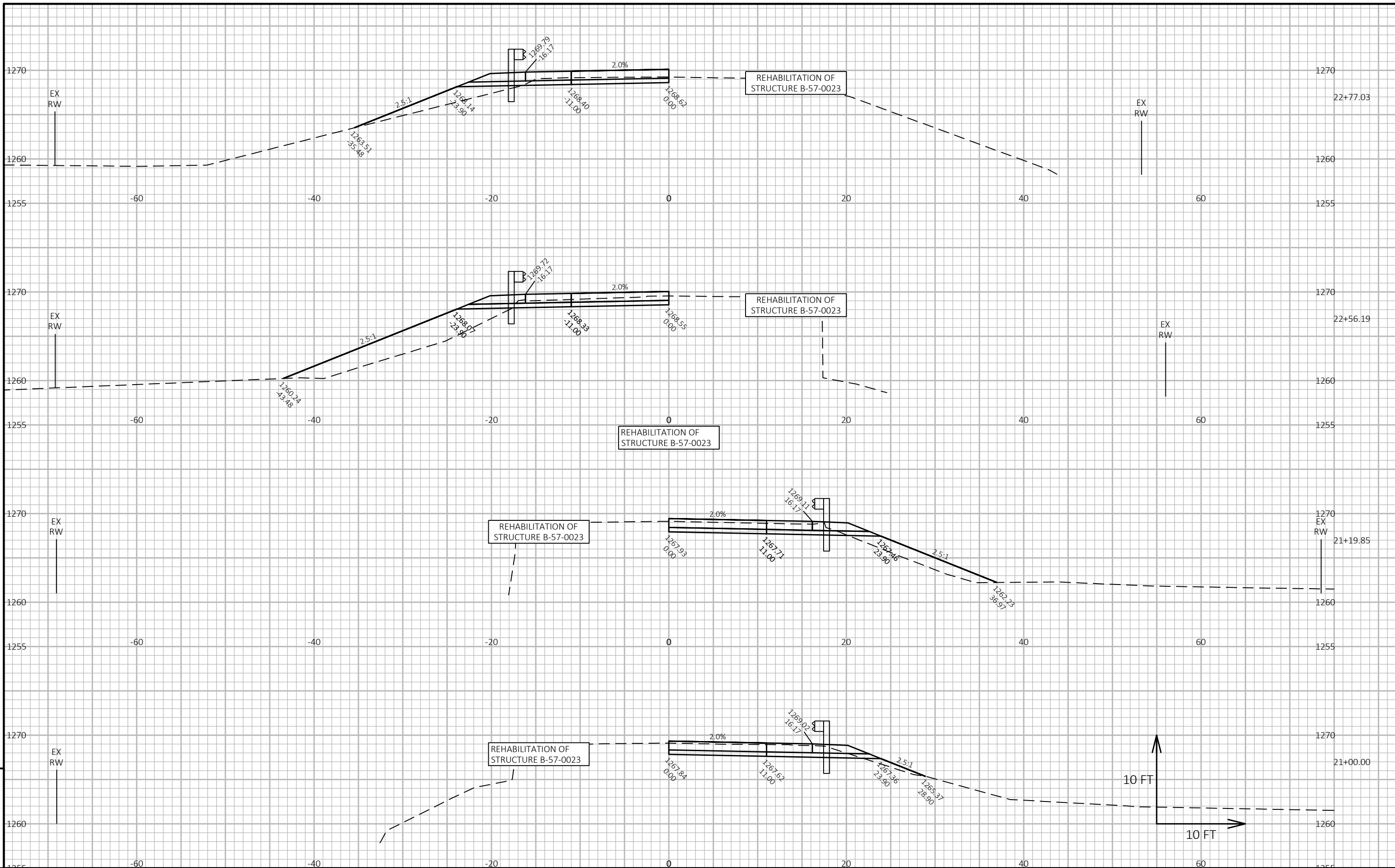
HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E



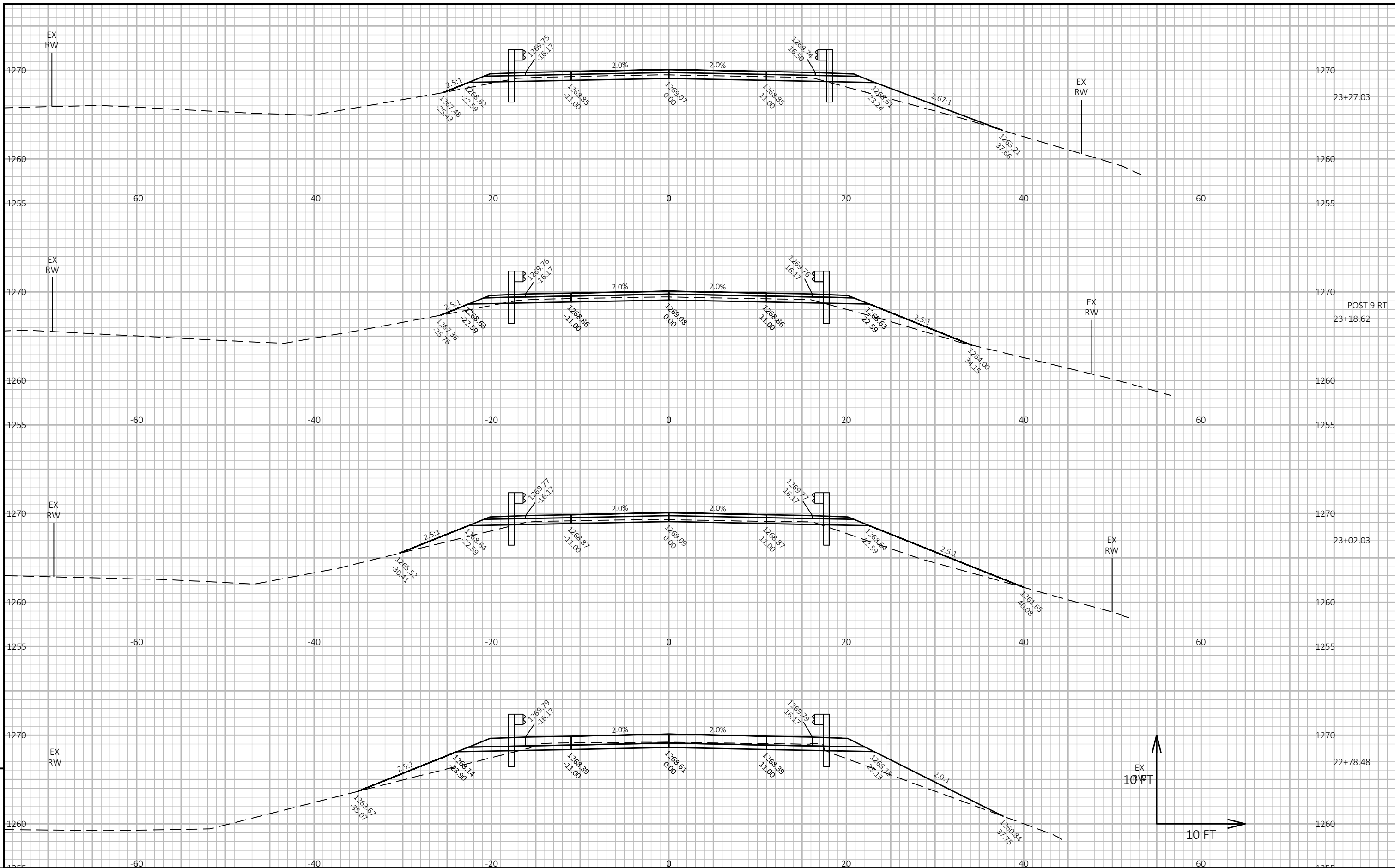
9

9

PROJECT NO: 8783-00-70 HWY: CTH C COUNTY: SAWYER CROSS SECTIONS: CTH C SHEET E

FILE NAME: I:\42\1366.00 - SAWYER CO, CTH C OVER COUDERAY RIVER\C3D\SHEETS\090201-XS (NEW).DWG PLOT DATE: 11/29/2023 8:20 AM PLOT BY: WRIGHT, JAMES PLOT NAME: PLOT SCALE: 1 IN:20 FT HORZ. / 1 IN:20 FT VERT. WISDOT/CADD SHEET 49

LAYOUT NAME - Section Sheet 5



PROJECT NO: 8783-00-70

HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E

FILE NAME : I:\42\1366.00 - SAWYER CO, CTH C OVER COUDERAY RIVER\C3D\SHEETS\090201-XS (NEW).DWG
LAYOUT NAME - Section Sheet 6

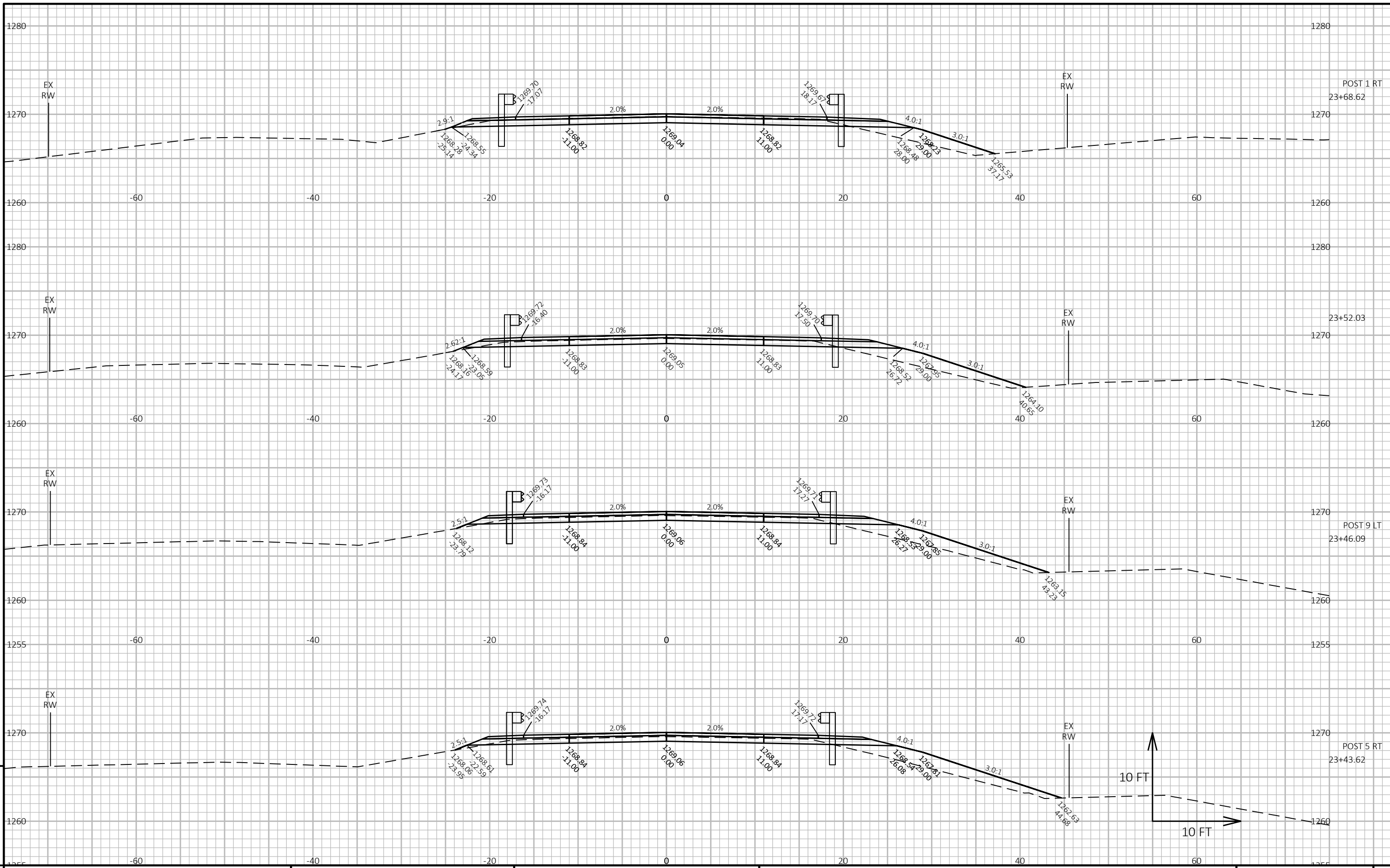
PLOT DATE : 11/29/2023 8:00 AM

PLOT BY : WRIGHT, JAMES

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADD SHEET 49



PROJECT NO: 8783-00-70

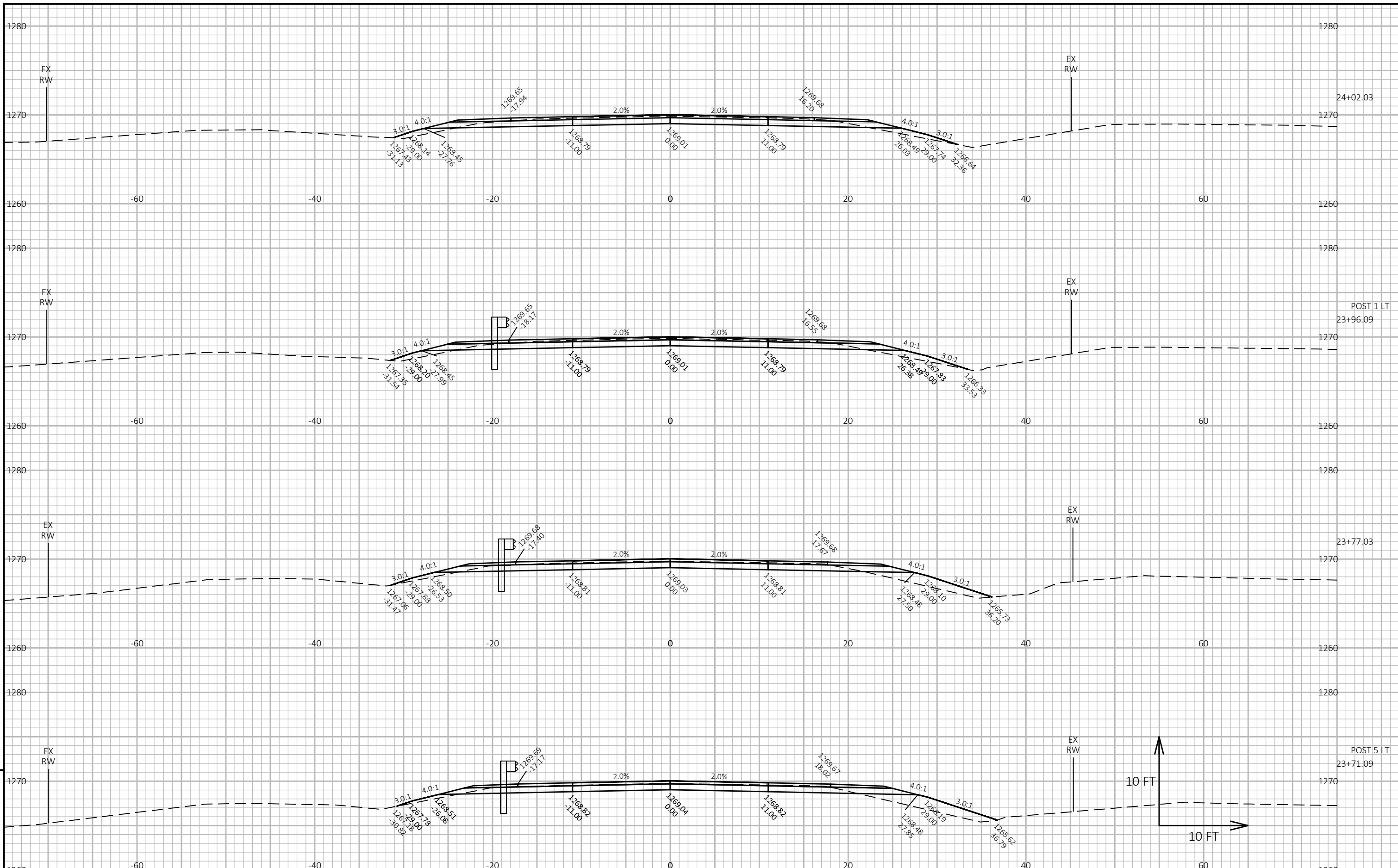
HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

9



PROJECT NO: 8783-00-70

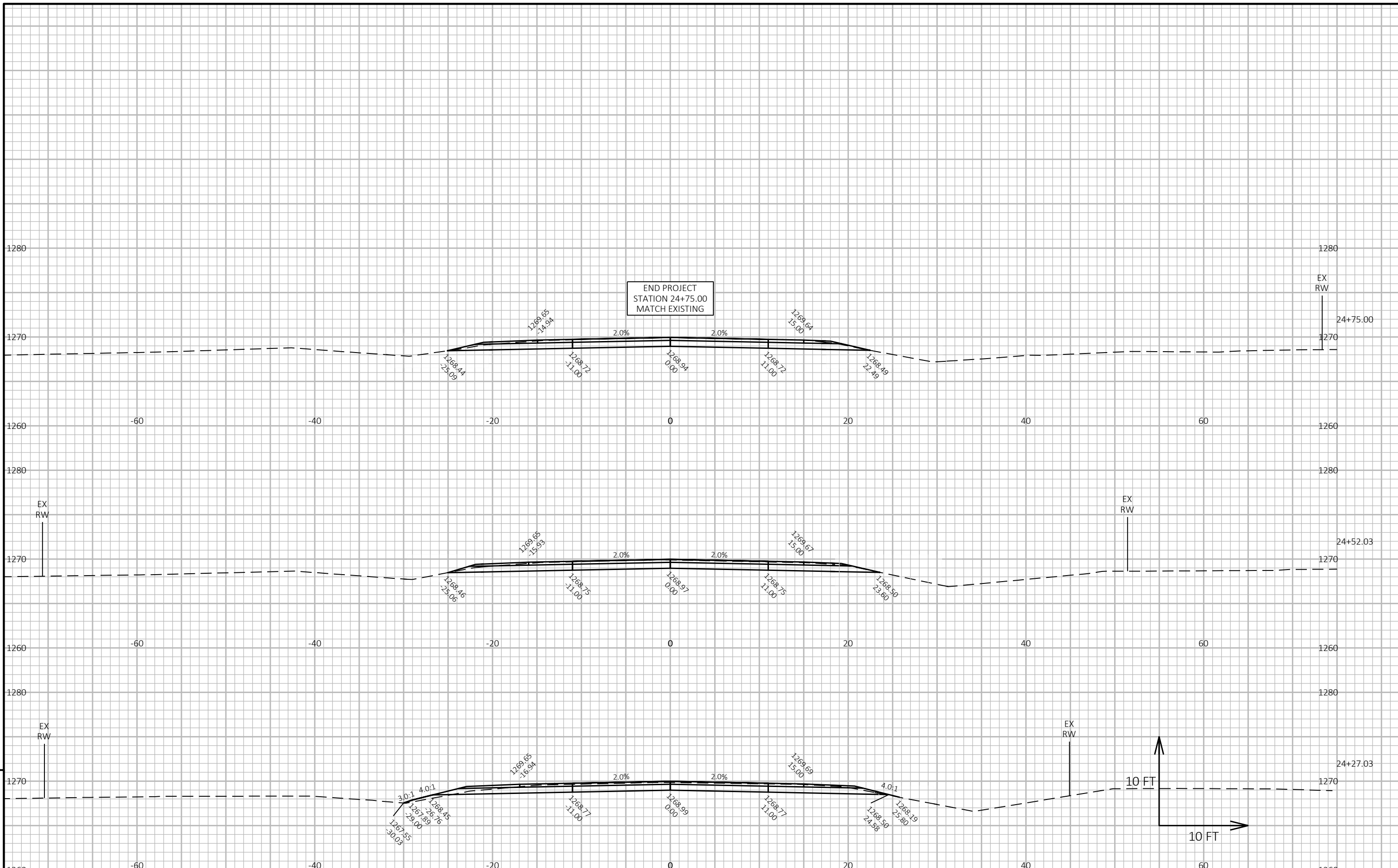
HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E



PROJECT NO: 8783-00-70

HWY: CTH C

COUNTY: SAWYER

CROSS SECTIONS: CTH C

SHEET

E



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