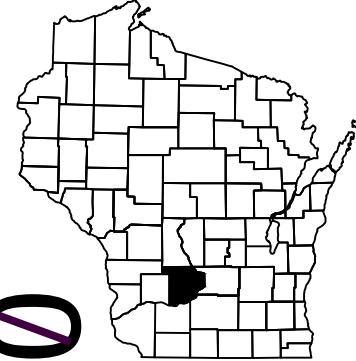


FEBRUARY 2026

ORDER OF SHEETS

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

TOTAL SHEETS = 78



N

DESIGN DESIGNATION 5678-00-04

A.A.D.T. 2026 = 1236
 A.A.D.T. 2046 = 1368
 D.H.V. = 177
 D.D. = 62/38
 T. = 7.7%
 DESIGN SPEED = 60 MPH
 ESALS = 180,000

CONVENTIONAL SYMBOLS

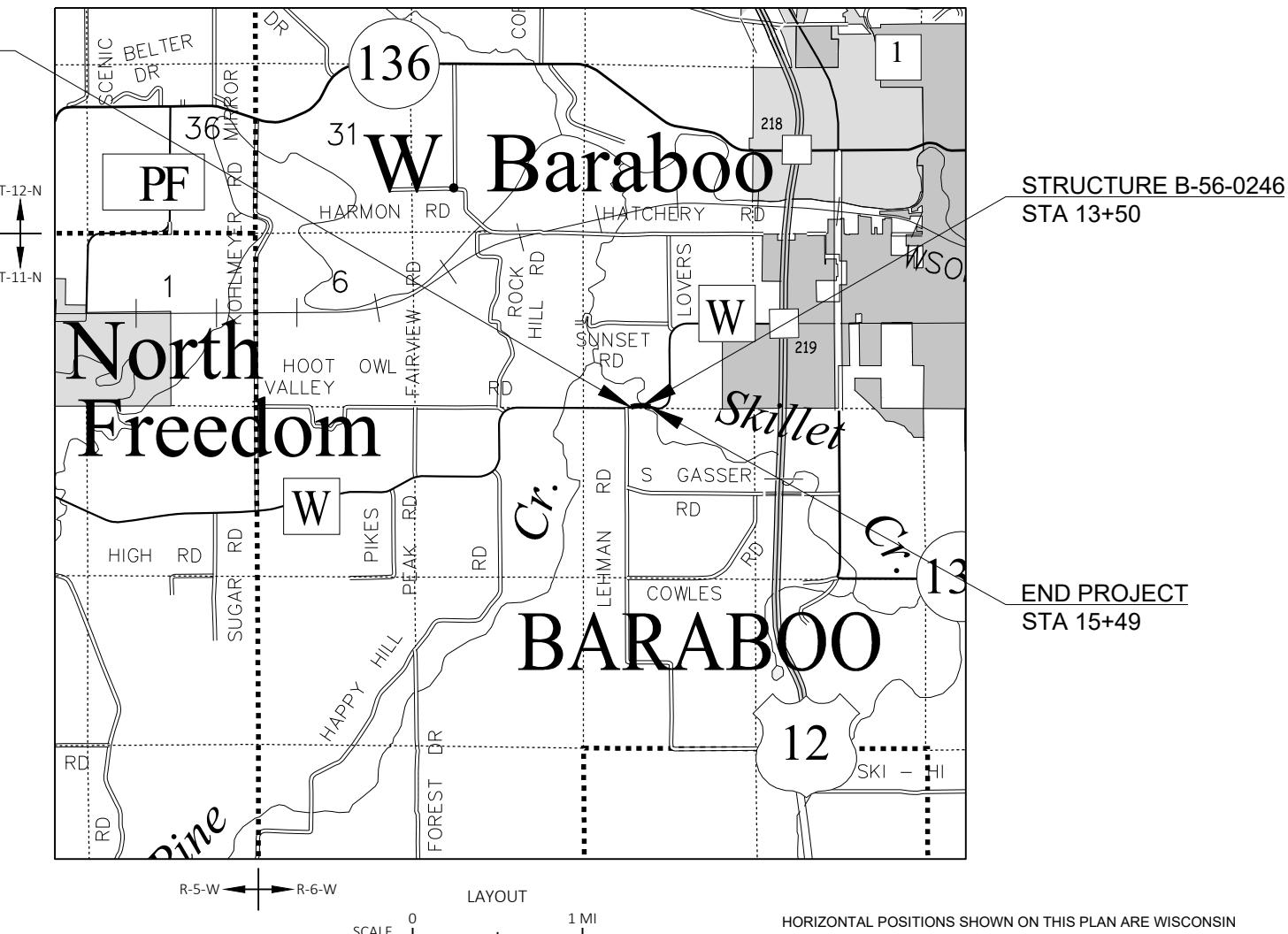
PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH I - USH 12 (CTH W)

SKILLET CREEK BRIDGE B-56-0246

CTH W
SAUK COUNTYSTATE PROJECT NUMBER
5678-00-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5678-00-74	WISC 2026200	1

ACCEPTED FOR
SAUK COUNTY
10/29/25
[Signature and Title of Official]

ORIGINAL PLANS PREPARED BY

WESTBROOK
Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WISCONSIN 53588
PHONE (608) 588-7866
FAX (608) 588-7954

WISCONSIN
AARON B.
PALMER
E-35695
RICHLAND CENTER,
WI
DATE: 10/22/25
[Signature]

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
 Surveyor WESTBROOK ASSOCIATED ENGINEERS, INC.
 Designer WESTBROOK ASSOCIATED ENGINEERS, INC.
 Project Manager LORRAINE BETZEL, P.E.
 Regional Examiner SW REGION
 Regional Supervisor KYLE HEMP, P.E.

APPROVED FOR THE DEPARTMENT
 DATE: 10/30/25
 [Signature]

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	L	LENGTH OF CURVE
AC	ACRE	LF	LINEAR FOOT
AGG	AGGREGATE	LC	LONG CHORD OF CURVE
∠	ANGLE	LS	LUMP SUM
AADT	ANNUAL AVERAGE DAILY TRAFFIC	MGAL	ONE THOUSAND GALLONS
ASPH	ASPHALTIC	ML OR M/L	MATCH LINE
BK	BACK	NOM	NOMINAL
BAD	BASE AGGREGATE DENSE	NC	NORMAL CROWN
BL OR B/L	BASE LINE	NO	NUMBER
BM	BENCH MARK	PAVT	PAVEMENT
CL OR C/L	CENTER LINE	PLE	PERMANENT LIMITED EASEMENT
Δ	CENTRAL ANGLE OR DELTA	PC	POINT OF CURVATURE
CE	COMMERCIAL ENTRANCE	PI	POINT OF INTERSECTION
CONC	CONCRETE	PT	POINT OF TANGENCY
CONST	CONSTRUCTION	PCC	PORTLAND CEMENT CONCRETE
CP	CONTROL POINT	LB	POUND
CO	COUNTY	PSI	POUNDS PER SQUARE INCH
CTH	COUNTY TRUCK HIGHWAY	PE	PRIVATE ENTRANCE
CY	CUBIC YARD	PROJ	PROJECT
D	DEGREE OF CURVE	PL	PROPERTY LINE
DHV	DESIGN HOUR VOLUME	PRW	PROPOSED RIGHT OF WAY
DIA	DIAMETER	R	RADIUS
DD	DIRECTIONAL DISTRIBUTION	RL OR R/L	REFERENCE LINE
DE	DRAINAGE EASEMENT	REQD	REQUIRED
DWY	DRIVEWAY	RT	RIGHT
EA	EACH	R/W	RIGHT OF WAY
EB	EASTBOUND	RD	ROAD
EL OR ELEV	ELEVATION	RDWY	ROADWAY
EMB	EMBANKMENT	SHLDR	SHOULDER
EW	ENDWALL	SPECS	SPECIFICATIONS
EAT	ENERGY ABSORBING TERMINAL	SF	SQUARE FEET
ESALS	EQUIVALENT SINGLE AXLE LOADS	SY	SQUARE YARD
EXC	EXCAVATION	SDD	STANDARD DETAIL DRAWINGS
EBS	EXCAVATION BELOW SUBGRADE	STA	STATION
EXIST	EXISTING	SE	SUPERELEVATION
FERT	FERTILIZER	SL OR S/L	SURVEY LINE
FE	FIELD ENTRANCE	TEMP	TEMPORARY
FL OR F/L	FLOW LINE	TI	TEMPORARY INTEREST
FT	FOOT	TLE	TEMPORARY LIMITED EASEMENT
HES	HIGH EARLY STRENGTH	T	TRUCKS (PERCENT OF)
HE	HIGHWAY EASEMENT	TYP	TYPICAL
CWT	HUNDRED WEIGHT	VAR	VARIABLE
IN DIA	INCH DIAMETER	VC	VERTICAL CURVE
ID	INSIDE DIAMETER	VPC	VERTICAL POINT OF CURVATURE
INTERS	INTERSECTION	VPI	VERTICAL POINT OF INTERSECTION
INV	INVERT	VPT	VERTICAL POINT OF TANGENCY
JT	JOINT	W	WEST
LT	LEFT		

RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)		SLOPE RANGE (PERCENT)	SLOPE RANGE (PERCENT)		SLOPE RANGE (PERCENT)	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 = 1.15 ACRESTOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.52 ACRES

WISCONSIN DNR LIAISON

ANDY BARTA
DNR SOUTH CENTRAL REGION
3911 FISH HATCHERY RD
FITCHBURG, WI 53711
PHONE: (608) 235-2955
EMAIL: Andrew.Barta@wisconsin.gov

CONSULTANT LIAISON

AARON PALMER, P.E.
WESTBROOK ASSOCIATED ENGINEERS, INC.
619 EAST HOXIE ST
SPRING GREEN, WI 53588
PHONE: (608) 588-7866
EMAIL: apalmer@westbrookeng.com

COUNTY HIGHWAY COMMISSIONER

PATRICK GAVINSKI, P.E.
SAUK COUNTY
620 LINN ST
WEST BARABOO, WI 53913
PHONE: (608) 355-4855
EMAIL: Patrick.Gavinski@saukcountywi.gov

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.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

APPLY TACK COAT BETWEEN LAYERS OF HMA PAVEMENT AT A RATE OF 0.05 GAL/SY.

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

RIGHT OF WAY INFORMATION, AS SHOWN ON THE PLANS, IS APPROXIMATE.

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

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLAN IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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.

APPLY SEED, MULCH OR EROSION MAT, AND FERTILIZER TO ALL DISTURBED AREAS WITHIN 7 WORKING DAYS AFTER GRADING WORK IS COMPLETE.

SLOPES 2.5:1 OR STEEPER REQUIRE EROSION MAT.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAW CUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

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

PRIOR TO PLACEMENT OF BEAM GUARD, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

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

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

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
TYPICAL SECTIONS
BEAM GUARD DETAILS
PAVEMENT MARKING AND SIGNING
ALIGNMENT DETAILS AND CONTROL POINT TIES

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

PROJECT NO: 5678-00-74

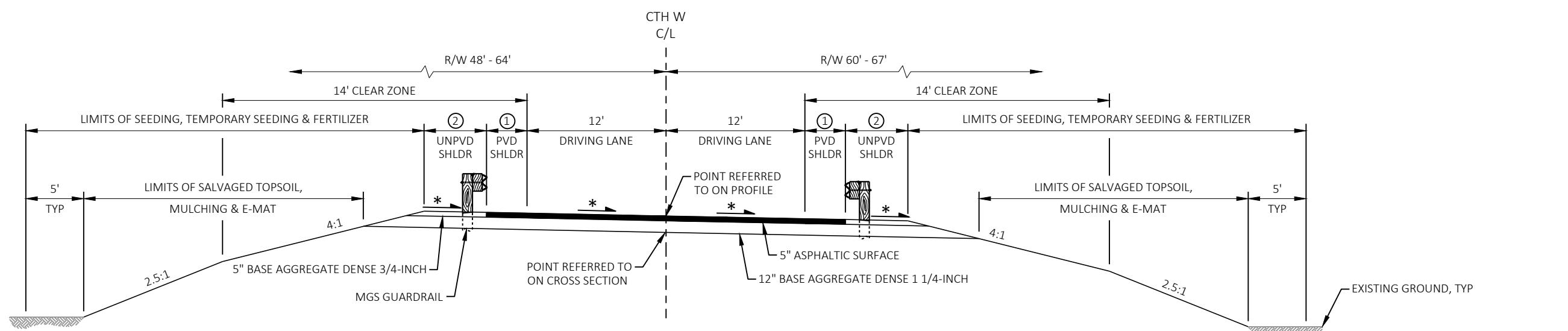
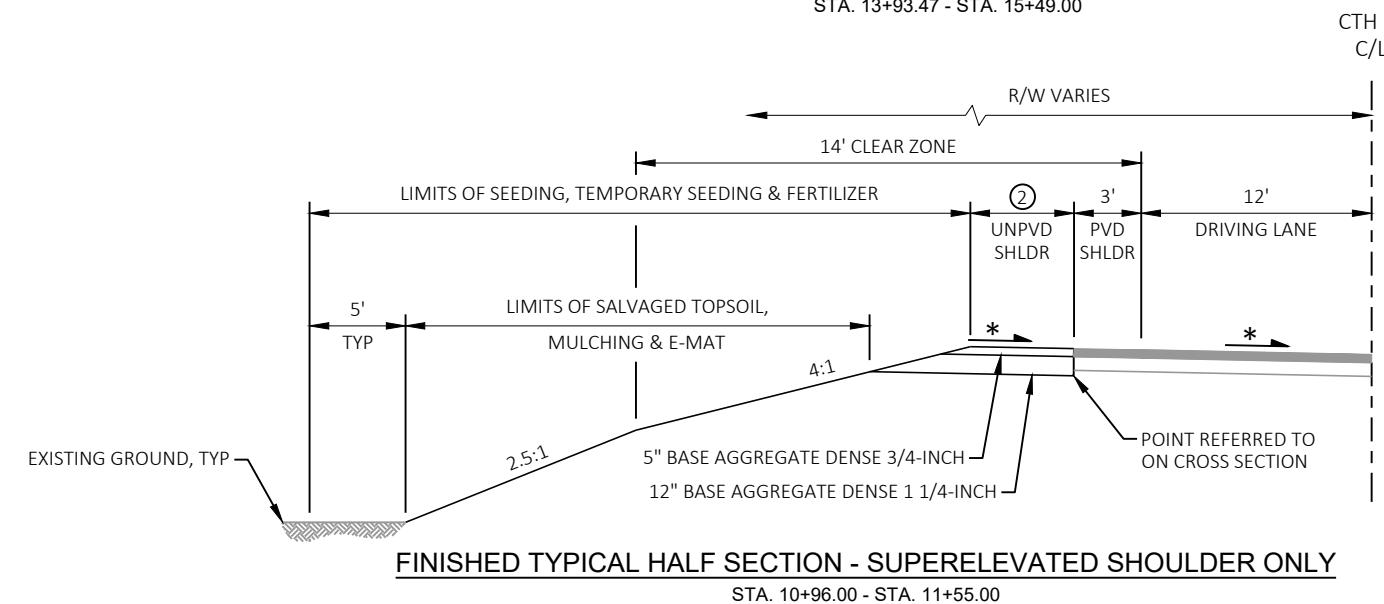
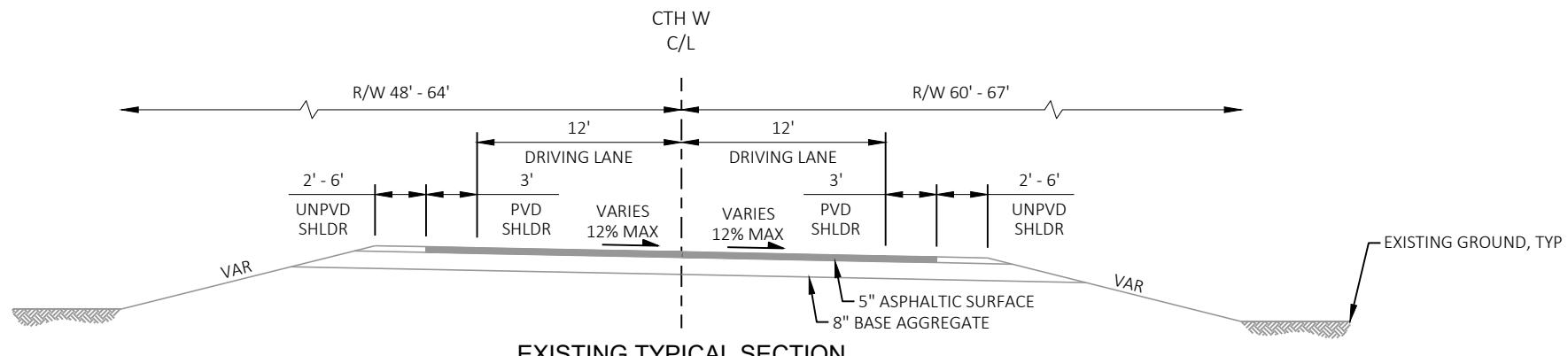
HWY: CTH W

COUNTY: SAUK

GENERAL NOTES

SHEET

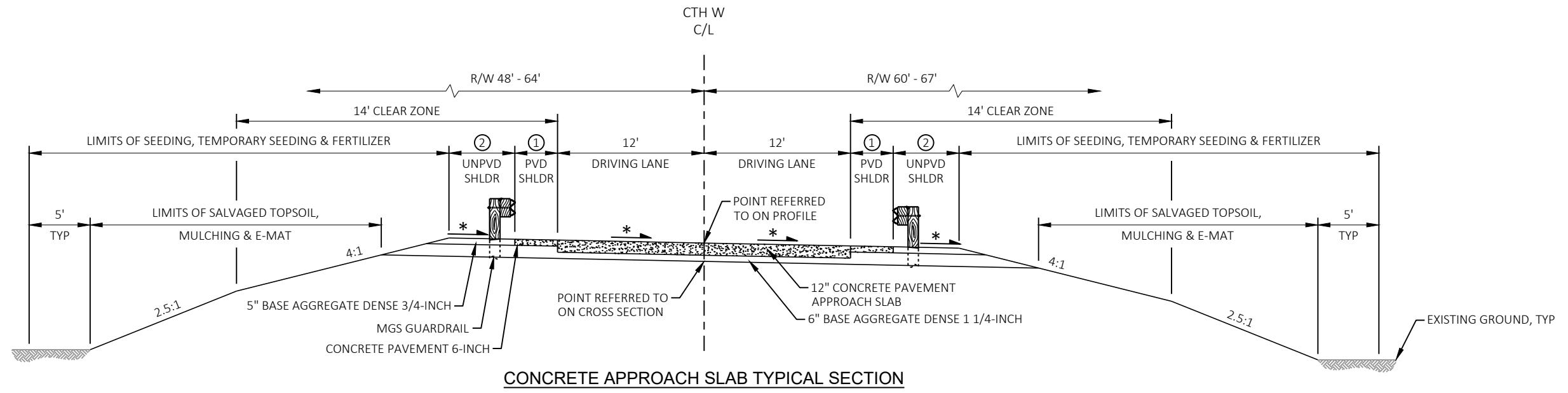
E



① 4' TYPICAL. PAVE TO FRONT FACE OF BEAM GUARD. WIDTH VARIES AT GUARDRAIL FLARES.

② VARIES FROM 3' TO 5' 11" WITH BEAM GUARD GRADING TAPER.

* SEE SUPERELEVATION TABLE



SUPERELEVATION TABLE							
TRANSITION EVENT POINTS		RATE (FT/FT)				COMMENTS	
LOCATION	STATION	LEFT OF CENTERLINE		RIGHT OF CENTERLINE			
		LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER		
BEGIN SHOULDER TAPER	10+96.00	0.012	0.012	---	---	MATCH EXISTING	
BEGIN PROJECT	11+55.00	0.038	0.038	-0.060	-0.060	MATCH EXISTING	
BEGINFULLSUPER	12+43.00	0.060	0.060	-0.060	-0.060		
ENDFULLSUPER	15+41.00	0.060	0.060	-0.060	-0.060		
END PROJECT	15+49.00	0.048	0.048	-0.059	-0.059	MATCH EXISTING	
END SHOULDER TAPER	16+00.00	---	---	-0.055	-0.055	MATCH EXISTING	

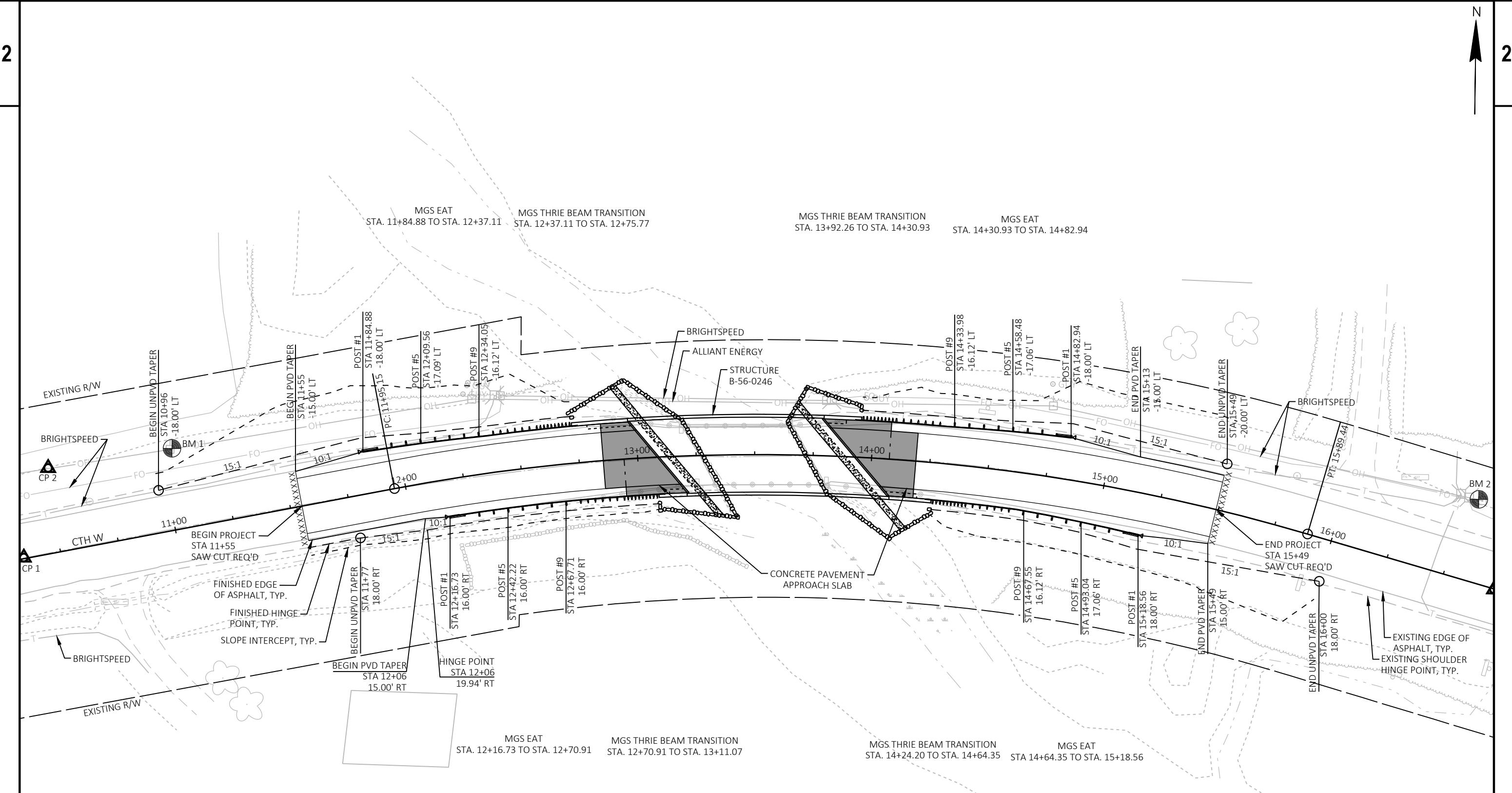
① 4' TYPICAL. PAVE TO FRONT FACE OF BEAM GUARD. WIDTH VARIES AT GUARDRAIL FLARES.

② VARIES FROM 3' TO 5' 11" WITH BEAM GUARD GRADING TAPER.

* SEE SUPERELEVATION TABLE

2

2



PROJECT NO: 5678-00-74

HWY: CTH W

COUNTY: SAUK

BEAM GUARD DETAILS

SHEET

E

FILE NAME : G:\00-PROJECT FILES\2023\23036 CTH I - USH 12, SKILLET CREEK BRIDGE, B-56-0595, CTH W - SAUK CO\0-CAD\Sheets\021001_BG.DWG
LAYOUT NAME - 021001_bg

PLOT DATE : 8/18/2025 8:53 PM

PLOT BY : FRIK MEYER

PLOT NAME

PLOT SCALE : 1 IN:40 FT

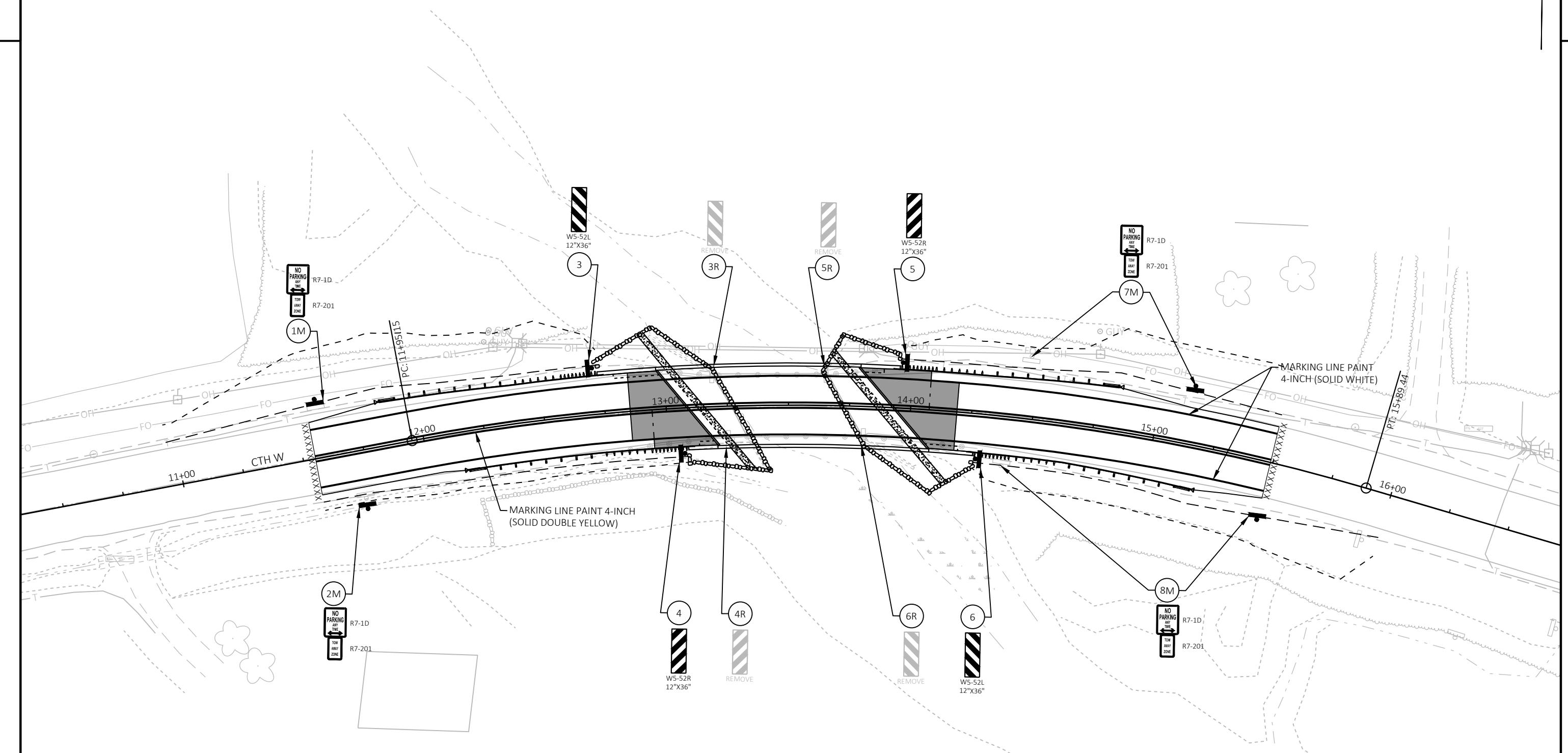
Page 1

NOTE:
CONSTRUCT IN ACCORDANCE WITH SDD "SIGNING
AND MARKING FOR TWO LANE BRIDGES" AND SDD
"PERMANENT LONGITUDINAL PAVEMENT MARKINGS"

2

N

2



LEGEND: PERMANENT SIGNING

PROPOSED SIGN MOUNTED ON POST(S)

EXISTING SIGN

DENOTES SIGN NUMBER

WORK CODE: R=REMOVE, M=MOVE
SIGN COUNT SEQUENCE

PROJECT NO: 5678-00-74

HWY: CTH W

COUNTY: SAUK

PERMANENT SIGNING AND PAVEMENT MARKING

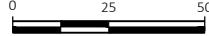
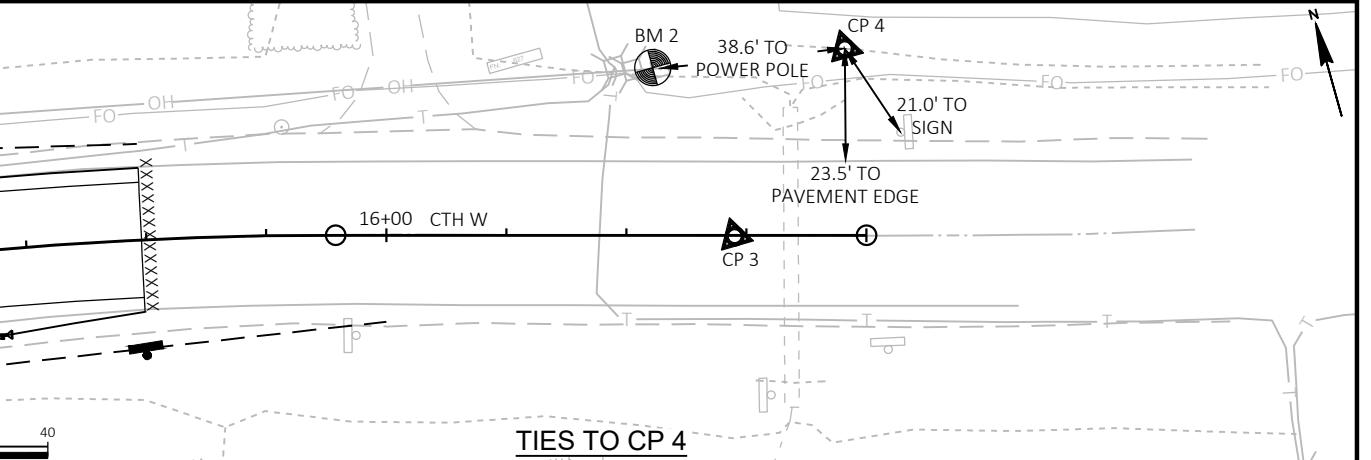
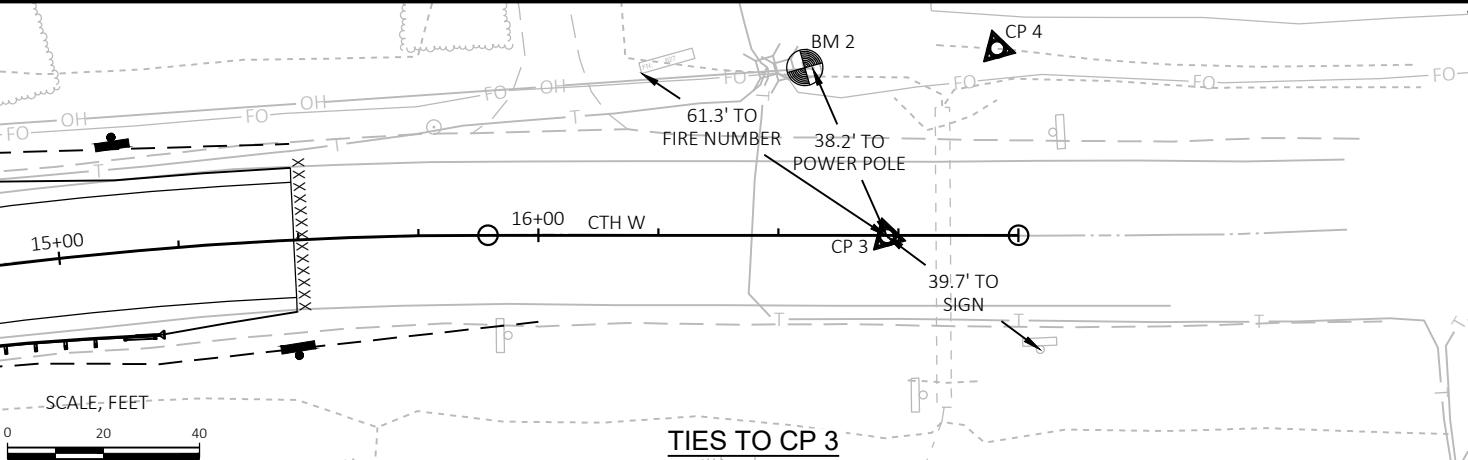
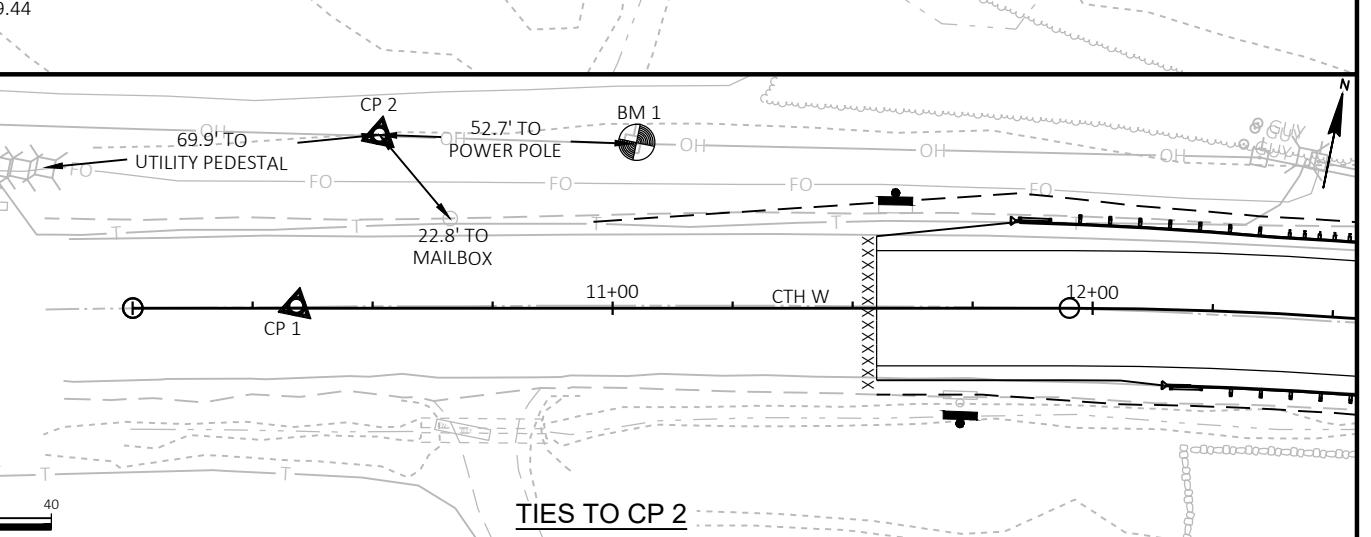
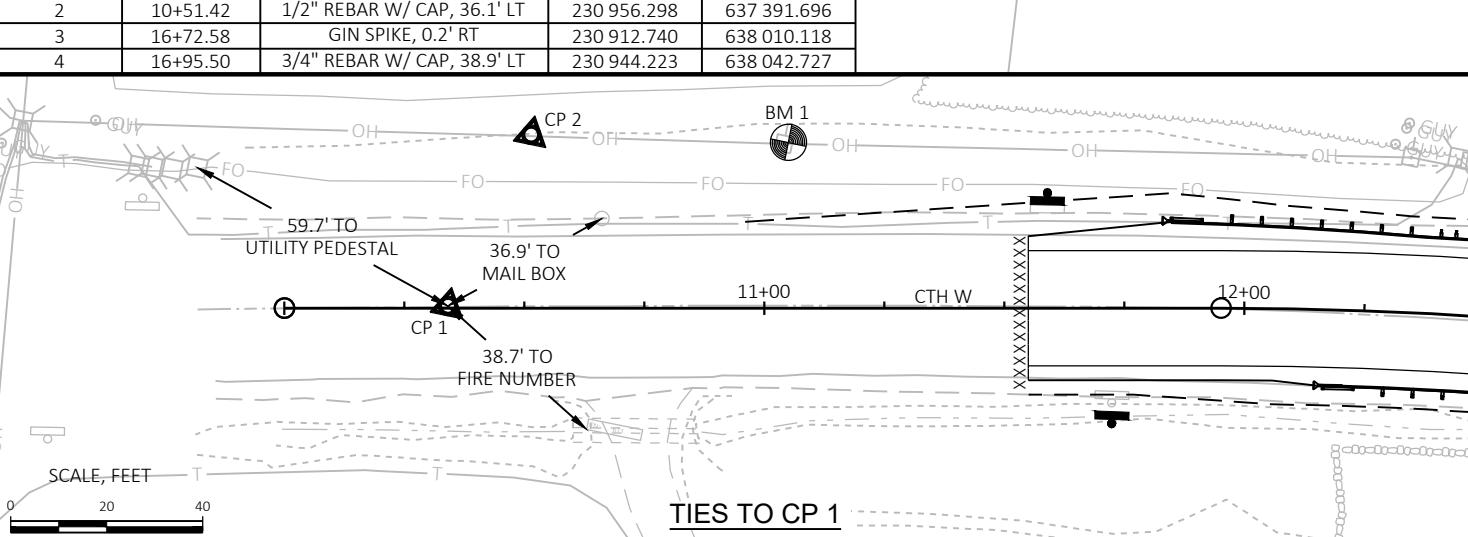
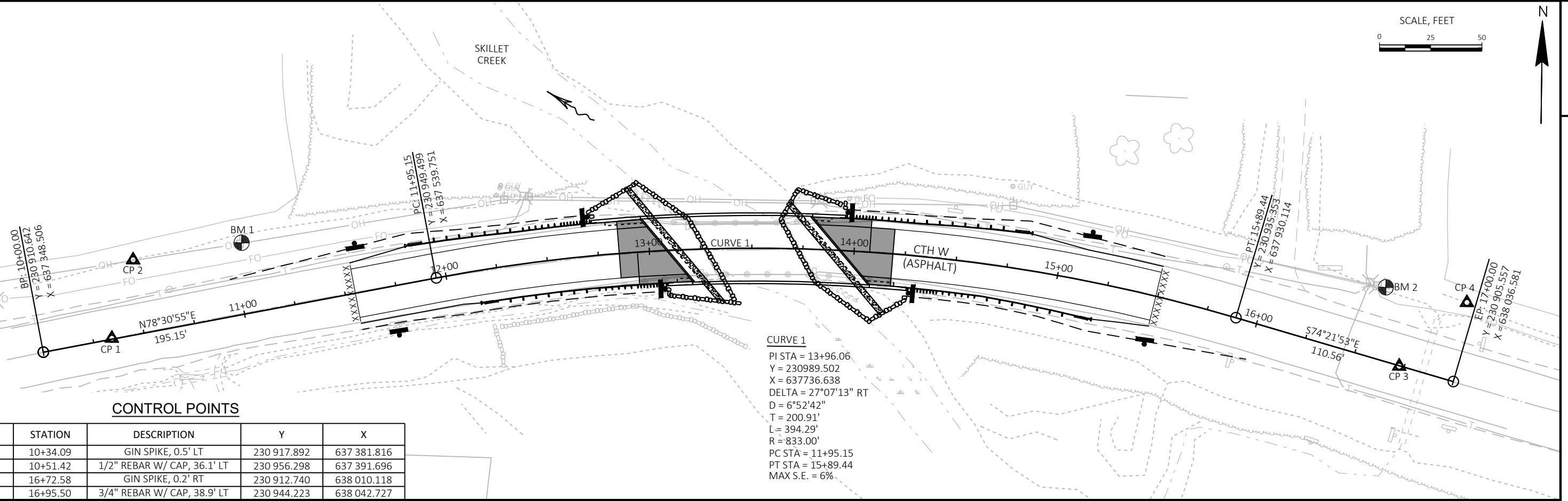
SHEET

E

2

N

2

 SCALE, FEET



PROJECT NO: 5678-00-74

HWY: CTH W

COUNTY: SAUK

ALIGNMENT DETAILS AND CONTROL POINT TIES

SHEET

E

Estimate Of Quantities

5678-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-56-0595	EACH	1.000	1.000
0008	204.0165	Removing Guardrail	LF	161.000	161.000
0010	205.0100	Excavation Common	CY	734.000	734.000
0012	206.1001	Excavation for Structures Bridges (structure) 01. B-56-0246	EACH	1.000	1.000
0014	210.1500	Backfill Structure Type A	TON	640.000	640.000
0016	213.0100	Finishing Roadway (project) 01. 5678-00-74	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	120.000	120.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,125.000	1,125.000
0022	415.0060	Concrete Pavement 6-Inch	SY	35.000	35.000
0024	415.0410	Concrete Pavement Approach Slab	SY	135.000	135.000
0026	455.0605	Tack Coat	GAL	48.000	48.000
0028	465.0105	Asphaltic Surface	TON	270.000	270.000
0030	502.0100	Concrete Masonry Bridges	CY	257.000	257.000
0032	502.3200	Protective Surface Treatment	SY	421.000	421.000
0034	503.0137	Prestressed Girder Type I 36W-Inch	LF	324.000	324.000
0036	505.0400	Bar Steel Reinforcement HS Structures	LB	7,950.000	7,950.000
0038	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	26,090.000	26,090.000
0040	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	8.000	8.000
0042	506.4000	Steel Diaphragms (structure) 01. B-56-0246	EACH	3.000	3.000
0044	513.4061	Railing Tubular Type M	LF	247.000	247.000
0046	516.0500	Rubberized Membrane Waterproofing	SY	25.000	25.000
0048	550.0020	Pre-Boring Rock or Consolidated Materials	LF	240.000	240.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	280.000	280.000
0052	606.0300	Riprap Heavy	CY	210.000	210.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0056	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0058	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0060	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5678-00-74	EACH	1.000	1.000
0062	619.1000	Mobilization	EACH	1.000	1.000
0064	624.0100	Water	MGAL	12.500	12.500
0066	625.0500	Salvaged Topsoil	SY	750.000	750.000
0068	627.0200	Mulching	SY	685.000	685.000
0070	628.1104	Erosion Bales	EACH	8.000	8.000
0072	628.1504	Silt Fence	LF	800.000	800.000
0074	628.1520	Silt Fence Maintenance	LF	1,280.000	1,280.000
0076	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0078	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0080	628.2004	Erosion Mat Class I Type B	SY	75.000	75.000
0082	628.6005	Turbidity Barriers	SY	425.000	425.000
0084	629.0210	Fertilizer Type B	CWT	1.000	1.000
0086	630.0180	Seeding Mixture No. 80	LB	10.000	10.000
0088	630.0200	Seeding Temporary	LB	43.000	43.000
0090	630.0400	Seeding Nurse Crop	LB	10.000	10.000
0092	630.0500	Seed Water	MGAL	35.000	35.000
0094	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0096	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0098	638.2102	Moving Signs Type II	EACH	8.000	8.000

Estimate Of Quantities

5678-00-74

Line	Item	Item Description	Unit	Total	Qty
0100	638.2602	Removing Signs Type II	EACH	4.000	4.000
0102	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0104	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0106	642.5001	Field Office Type B	EACH	1.000	1.000
0108	643.0300	Traffic Control Drums	DAY	70.000	70.000
0110	643.0420	Traffic Control Barricades Type III	DAY	2,254.000	2,254.000
0112	643.0705	Traffic Control Warning Lights Type A	DAY	4,508.000	4,508.000
0114	643.0900	Traffic Control Signs	DAY	1,764.000	1,764.000
0116	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0118	643.5000	Traffic Control	EACH	1.000	1.000
0120	645.0111	Geotextile Type DF Schedule A	SY	77.000	77.000
0122	645.0120	Geotextile Type HR	SY	372.000	372.000
0124	646.1005	Marking Line Paint 4-Inch	LF	1,576.000	1,576.000
0126	650.4500	Construction Staking Subgrade	LF	312.000	312.000
0128	650.5000	Construction Staking Base	LF	262.000	262.000
0130	650.6501	Construction Staking Structure Layout (structure) 01. B-56-0246	EACH	1.000	1.000
0132	650.7000	Construction Staking Concrete Pavement	LF	51.000	51.000
0134	650.9911	Construction Staking Supplemental Control (project) 01. 5678-00-74	EACH	1.000	1.000
0136	650.9920	Construction Staking Slope Stakes	LF	420.000	420.000
0138	690.0150	Sawing Asphalt	LF	60.000	60.000
0140	715.0502	Incentive Strength Concrete Structures	DOL	1,542.000	1,542.000
0142	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0144	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 13+50	EACH	1.000	1.000
0146	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0148	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0150	SPV.0195	Special 01. Select Crushed Material For Travel Corridor	TON	21.000	21.000

ALL ITEMS CATEGOR 0010 UNLESS NOTED OTERWISE

3

3

CLEARING AND GRUBBING

201.0105 201.0205
CLEARING GRUBBING

STATION	TO	STATION	LOCATION	STA	STA
11+00	-	15+00	CT W LT	4	4
		TOTAL		4	4

REMOVING GUARDRAIL

204.0165
STATION TO STATION LOCATION LF

12+2	-	13+33	SW UAD	51
12+ĀĀ	-	13+20	NW UAD	34
13+66	-	13+3	NE UAD	2Ā
13+1	-	14+2Ā	SE UAD	4Ā
				TOTAL
				161

DIVISION	FROM/TO STATION	205.0100 EXCAVATION COMMON (1)	CUT (2)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5)	FACTOR 1.25	MASS ORDINATE +/- (6)	WASTE
		205.0100 EXCAVATION COMMON (1)								
DIVISION 1										
WEST APPROACH		10+96.00/13+08.32	343	81	262	109	136	126	126	
EAST APPROACH		13+93.47/16+00.00	391	..	312	24	30	22	22	
DIVISION 1 SUBTOTAL			34	160	54	133	166	40Ā	40Ā	
GRAND TOTAL			34	160	54	133	166	40Ā	40Ā	

NOTESĀ

(1) EXCAVATION COMMON IS TE SUM OF TE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) SALVAGED/UNUSABLE PAVEMENT MATERIAL

(4) AVAILABLE MATERIAL CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(5) EXPANDED FILL FACTOR 1.25

(6) TE MASS ORDINATE + OR - T CALCULATED FOR TE DIVISION. PLUS UANTIT INDICATES AN EXCESS OF MATERIAL WITIN TE DIVISION.

MINUS INDICATES A SORTAGE OF MATERIAL WITIN TE DIVISION.

() FACTORS USED TO COMPUTE ANTICIPATED WASTE AND TE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONL.

BASE AGGREGATE DENSE

305.0110 305.0120 624.0100
BASE AGGREGATE AGGREGATE
DENSE DENSE
3/4-INĀ 1 1/4-INĀ WATER

STATION	TO	STATION	LOCATION	TON	TON	MGAL
10+6	-	13+0Ā	WEST APPROACĀ	55	550	6.1
13+5	-	16+00	EAST APPROACĀ	65	55	6.4
		TOTAL		120	1125	12.5

CONCRETE PAVEMENT

415.0060 CONCRETE PAVEMENT 6-INĀ
415.0410 CONCRETE PAVEMENT APPROAC SLAB

STATION	TO	STATION	LOCATION	SĀ	SĀ
12+5	-	13+1Ā	WEST APPROACĀ	1Ā	64
13+2	-	14+1Ā	EAST APPROACĀ	1Ā	1
		TOTAL		35	135

ASPALTIC SURFACE

455.0605 465.0105 ASPALTIC SURFACE
TAC COAT

STATION	TO	STATION	LOCATION	GAL	TON
11+55	-	12+4	WEST APPROACĀ	24	135
14+0Ā	-	15+4Ā	EAST APPROACĀ	24	135
		TOTAL		4Ā	20

MGS GUARDRAIL

614.2500 614.2610 MGS GUARDRAIL
MGS TRIE BEAM TERMINAL
TRANSITION EAT EACĀ

STATION	TO	STATION	LOCATION	LF
11+5	-	12+6	NW UAD	3.4
12+1Ā	-	13+11	SW UAD	3.4
13+2	-	14+3	NE UAD	3.4
14+24	-	15+1Ā	SE UAD	3.4
		TOTAL		15.6
				4

EROSION BALES

62.1104
STATION LOCATION EACĀ

13+44	SW UAD	6
UNDISTRIBUTED		2
TOTAL		.

SILT FENCE

62.1504 62.1520 SILT FENCE
SILT FENCE MAINTENANCE

STATION	TO	STATION	LOCATION	LF	LF
10+5	-	12+5	NW UAD	215	430
13+65	-	15+60	NE UAD	225	450
14+15	-	16+10	SE UAD	200	400
		UNDISTRIBUTED		160	---
		TOTAL		00	120

MOBILITIONS EROSION CONTROL

62.105 62.110 MOBILITIONS EROSION
MOBILITIONS EMERGENĀ
EROSION CONTROL
EROSION CONTROL

LOCATION	EACĀ	EACĀ
PROJECT	5	3
TOTAL	5	3

TURBIDIT BARRIERS

62.6005
LOCATION SĀ

WEST APPROACĀ	14
EAST APPROACĀ	156
UNDISTRIBUTED	5
TOTAL	425

PROJECT NO 56-00-4

W CT W

COUNTĀ SAUĀ

MISCELLANEOUS UANTITIES

SEET

E

ALL ITEMS CATEGOR 0010 UNLESS NOTED OTERWISE

3

FINISING ITEMS											
		625.0500	62.0200	62.2004	62.0210	630.010	630.0200	630.0400	630.0500		
STATION	TO	STATION	LOCATION	SALVAGED TOPSOIL	MULCING	CLASS I TPE B	FERTILIER TPE B	SEEDING MIXTURE NO. 0	SEEDING TEMPORARĀ LB	NURSE CROP LB	SEED WATER MGAL
10+6	-	12+3	NW UAD	20	20	---	0.30	1	13	1	10.5
11+55	-	13+0Ā	SW UAD	60	---	60	0.10	1	4	1	3.2
13+5	-	15+4Ā	NE UAD	15	15	---	0.20	1	9	1	.5
14+2Ā	-	16+00	SE UAD	0	0	---	0.20	1	9	1	6.Ā
UNDISTRIBUTED				145	140	15	0.20	6	8	6	6.Ā
TOTAL				50	65	5	1.00	10	43	10	35.0

PERMANENT SIGNING

STATION	LOCATION	SIGN NUMBER	SIGN CODE	634.0612 POSTS WOOD 4X6-INC X 12-FT EACĀ	63.2230 SIGNS TPE II REFLECTIVE F SF	63.2102 MOVING SIGNS TPE II EACĀ	63.2602 MOVING SIGNS TPE II EACĀ	63.3000 MOVING SMALL SIGN SUPPORTS EACĀ	63.4000 MOVING SMALL SIGN SUPPORTS EACĀ	REMAR
11+60	LT	R-1D R-201	1M	---	---	2	---	---	1	NO PARING AN TIME TOW AWA ONE
11+2	RT	R-1D R-201	2M	---	---	2	---	---	1	NO PARING AN TIME TOW AWA ONE
12+1	LT	W5-52L	3	1	3	---	---	---	---	BRIDGE AS MARS
13+0Ā	RT	W5-52R	4	1	3	---	---	---	---	BRIDGE AS MARS
13+2Ā	LT	W5-52L	3R	---	---	1	1	---	---	BRIDGE AS MARS
13+2Ā	RT	W5-52R	4R	---	---	1	1	---	---	BRIDGE AS MARS
13+64	LT	W5-52R	5R	---	---	1	1	---	---	BRIDGE AS MARS
13+4Ā	RT	W5-52L	6R	---	---	1	1	---	---	BRIDGE AS MARS
13+6	LT	W5-52R	5	1	3	---	---	---	---	BRIDGE AS MARS
14+2Ā	RT	W5-52L	6	1	3	---	---	---	---	BRIDGE AS MARS
15+13	LT	R-1D R-201	M	---	---	2	---	---	1	NO PARING AN TIME TOW AWA ONE
15+4Ā	RT	R-1D R-201	M	---	---	2	---	---	1	NO PARING AN TIME TOW AWA ONE
TOTAL				TOTAL	4	12	8	4	4	4

TRAFFIC CONTROL

	643.0300	643.0420	643.005	643.000	643.1050	643.5000			
LOCATION	DURATION	TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES	TRAFFIC CONTROL LIGTS	TRAFFIC CONTROL WARNING	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL PCMS	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL EACĀ
WEST APPROACĀ	98	---	---	9	2	1Ā	164	7	66
EAST APPROACĀ	98	---	---	9	2	1Ā	164	7	66
UNDISTRIBUTED	98	---	---	5	40	10	0	4	32
PROECT	7	10	0	---	---	---	---	2	14
TOTAL		10	0	23	2254	46	450	1Ā	164
								2	1

CONSTRUCTION STAING

STATION	TO	STATION	LOCATION	650.4500	650.5000	650.6501.01	650.11.01	650.000	650.20
CONSTRUCTION STAING SUBGRADE	CONSTRUCTION STAING BASE	CONSTRUCTION STRUCTURE LAOUT	CONSTRUCTION STAING LAOUT	CONSTRUCTION STAING 01. B-56-0246	CONSTRUCTION STAING SUPPLEMENTAL CONTROL	CONSTRUCTION STAING CONCRETE PAVEMENT	CONSTRUCTION STAING CONCRETE PAVEMENT	CONSTRUCTION STAING SLOPE STAES	CONSTRUCTION STAING SLOPE STAES
10+6	-	13+0Ā	WEST APPROACĀ	155	131	---	---	24	213
13+3	-	16+00	EAST APPROACĀ	15Ā	131	---	---	2Ā	20Ā
PROJECT				---	---	1	1	---	---
TOTAL				312	262	* 1	1	51	420

*CATEGOR 0020

MARING LINE PAINT 4-INC

STATION	TO	STATION	LOCATION	646.1005
			LF	REMAR
11+55	-	15+4Ā	EDGELINE LT	34
11+55	-	15+4Ā	EDGELINE RT	34
11+55	-	15+4Ā	CENTERLINE	788
				DOUBLE ELOWW
			TOTAL	156

SAWING ASPALT

STATION	LOCATION	60.0150
11+55	WEST APPRAOCĀ	30
15+4Ā	EAST APPRAOCĀ	30
	TOTAL	60

PROJECT NO 56-00-4

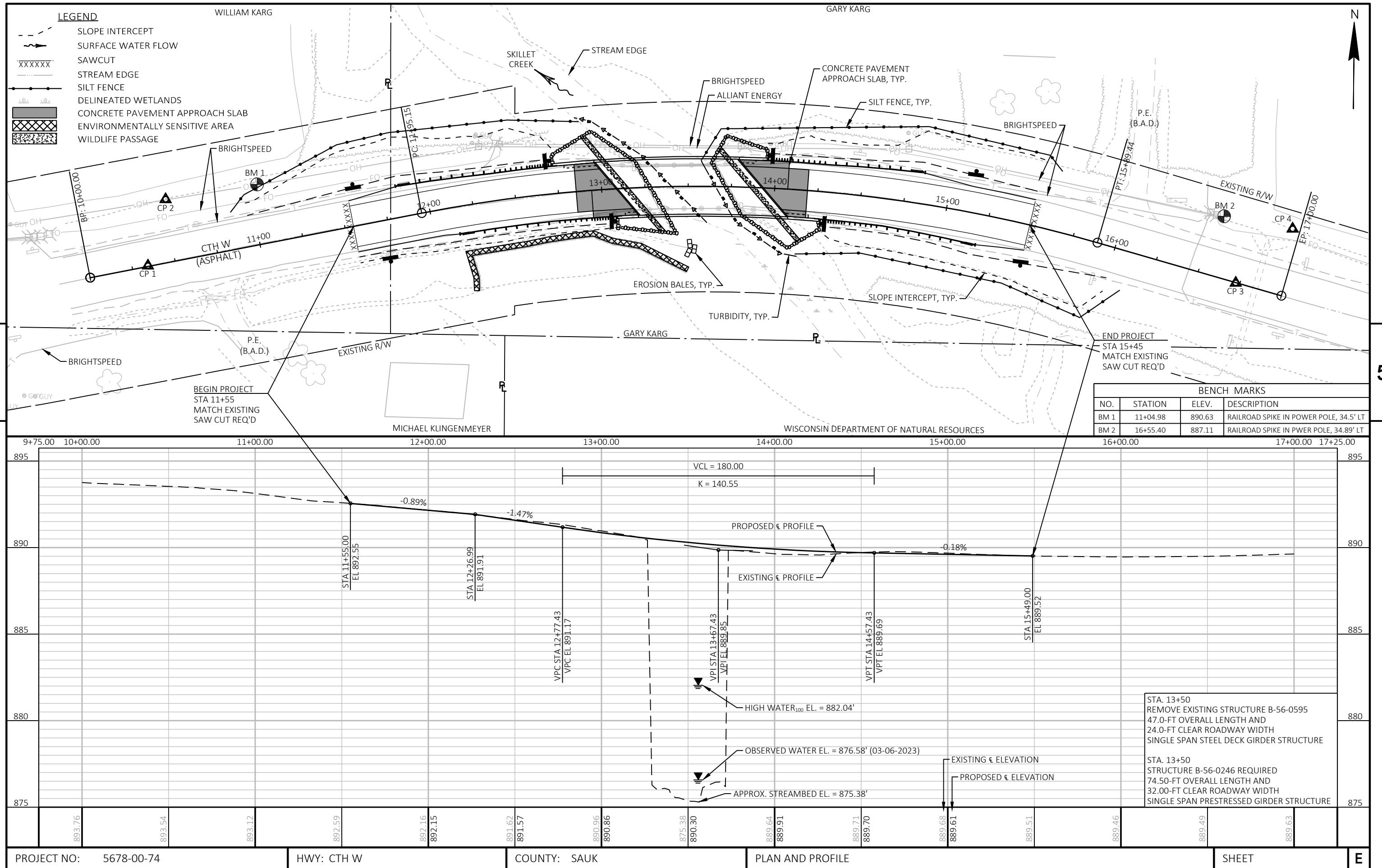
W CT W

COUNTĀ SAUĀ

MISCELLANEOUANTITIES

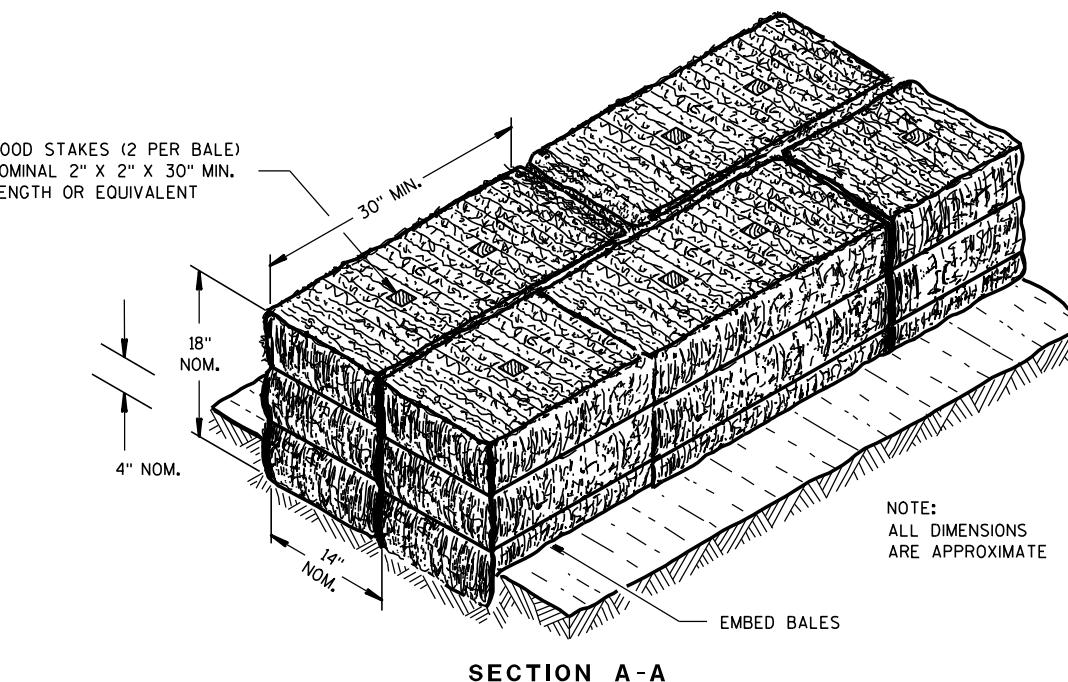
SEET

E

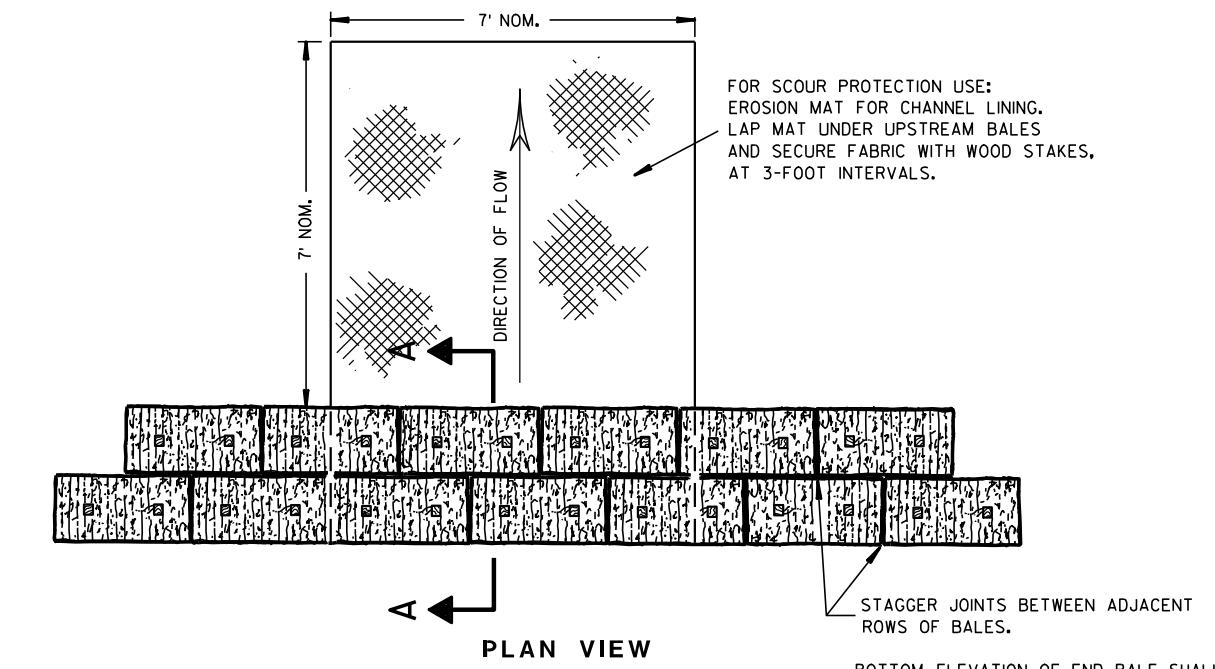


Standard Detail Drawing List

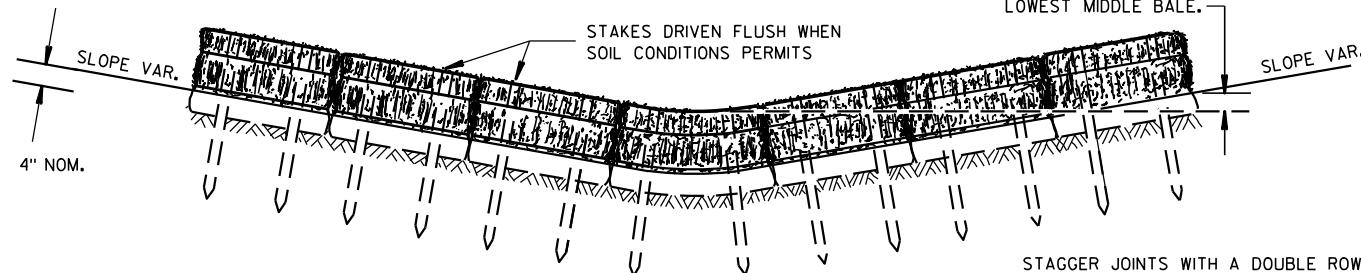
08E08-03	TYPI CAL I NSTALLATI ONS OF EROSI ON BALES / TEMPORARY DITCH CHECKS
08E09-06	SI LT FENCE
08E11-02	TURBI DI TY BARRI ER
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGI TUDI NAL JOINTS
14B42-07A	MI DWEST GUARDRAI L SYSTEM (MGS) GUARDRAI L
14B42-07B	MI DWEST GUARDRAI L SYSTEM (MGS) GUARDRAI L
14B42-07C	MI DWEST GUARDRAI L SYSTEM (MGS) GUARDRAI L
14B42-07D	MI DWEST GUARDRAI L SYSTEM (MGS) GUARDRAI L
14B44-04A	MI DWEST GUARDRAI L SYSTEM ENERGY ABSORBI NG TERMI NAL (MGS)
14B44-04B	MI DWEST GUARDRAI L SYSTEM ENERGY ABSORBI NG TERMI NAL (MGS)
14B44-04C	MI DWEST GUARDRAI L SYSTEM ENERGY ABSORBI NG TERMI NAL (MGS)
14B45-05A	MI DWEST GUARDRAI L SYSTEM THRI E BEAM TRANSI TI ON (MGS)
14B45-05B	MI DWEST GUARDRAI L SYSTEM THRI E BEAM TRANSI TI ON (MGS)
14B45-05C	MI DWEST GUARDRAI L SYSTEM THRI E BEAM TRANSI TI ON (MGS)
14B45-05H	MI DWEST GUARDRAI L SYSTEM THRI E BEAM TRANSI TI ON (MGS)
15C02-09A	BARRI CADES AND SI GNS FOR MAI NLI NE CLOSURES
15C02-09B	BARRI CADES AND SI GNS FOR VARIOUS CLOSURES
15C06-12	SI GNI NG & MARKI NG FOR TWO LANE BRI DGES
15C08-24A	PERMANENT LONGI TUDI NAL PAVEMENT MARKI NGS
15C11-10B	CHANNELIZI NG DEVI CES DRUMS, CONES, BARRI CADES AND VERTI CAL PANELS



SECTION A-A



PLAN VIEW



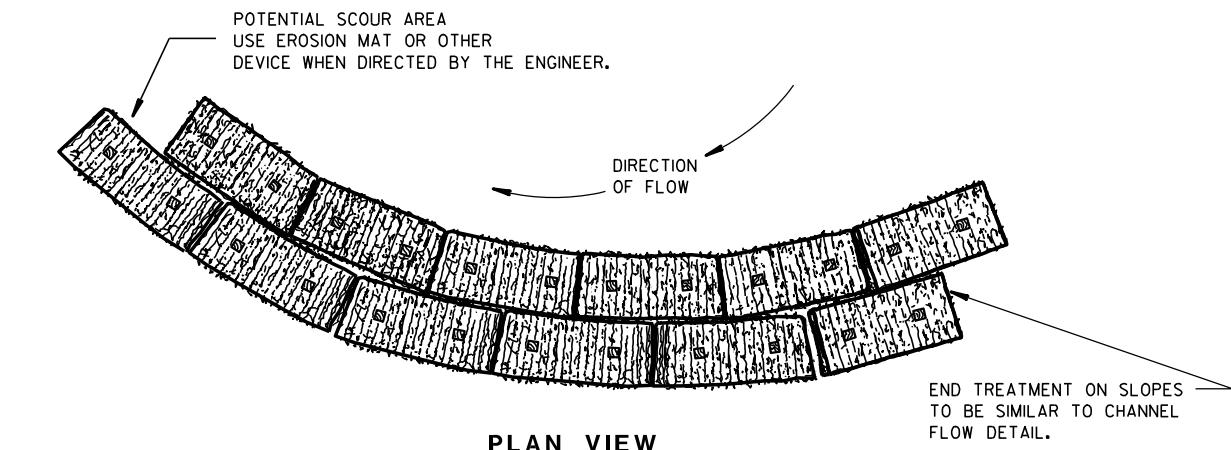
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

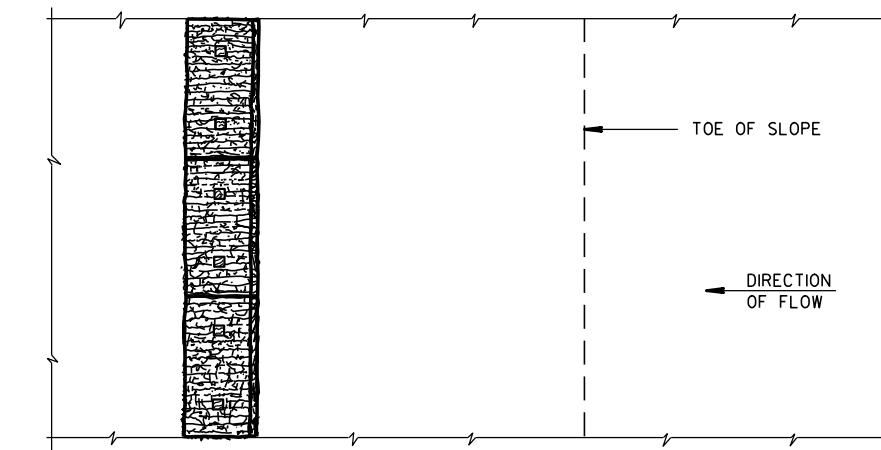
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

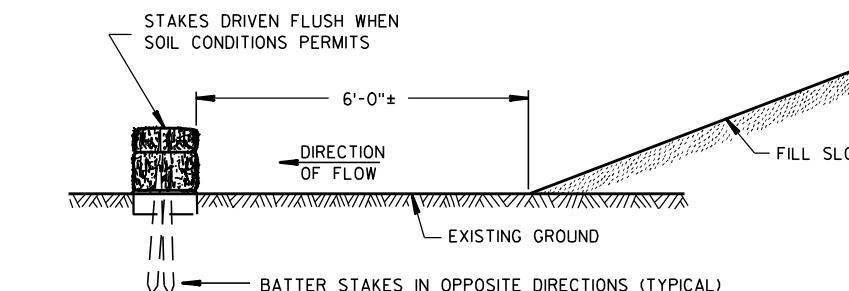


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

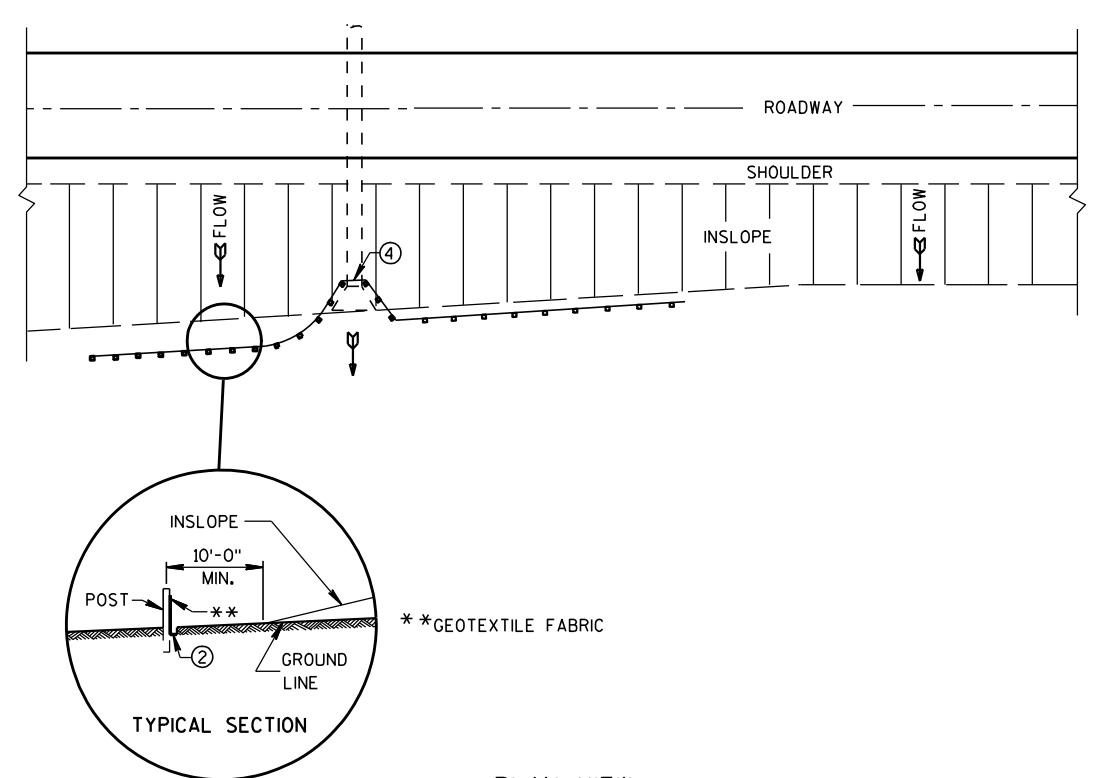
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

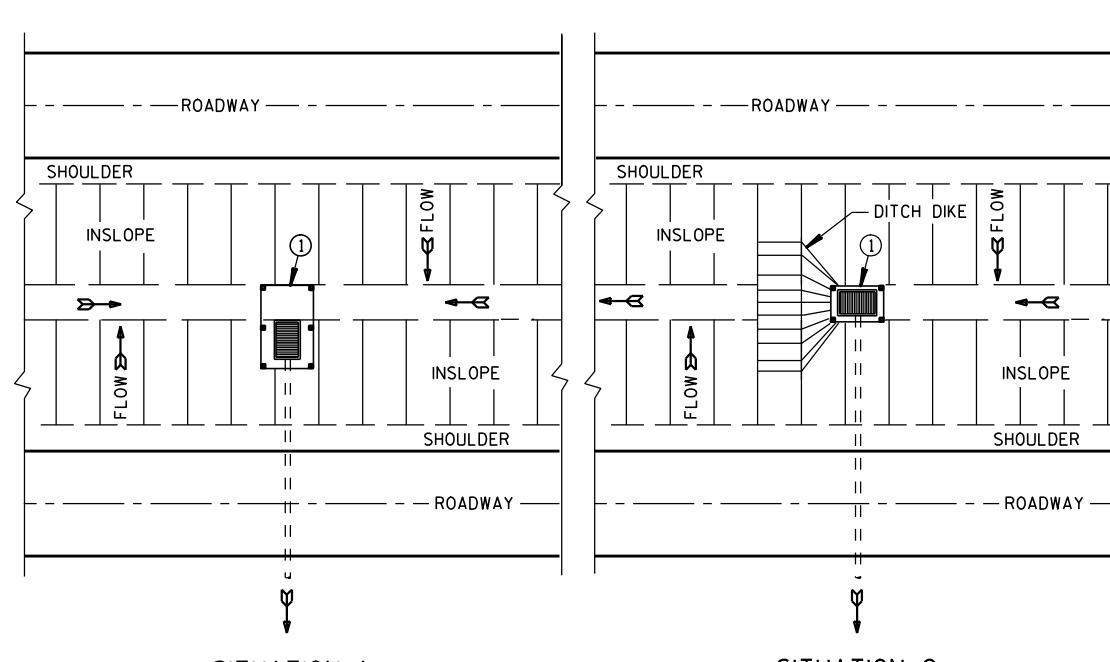
TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

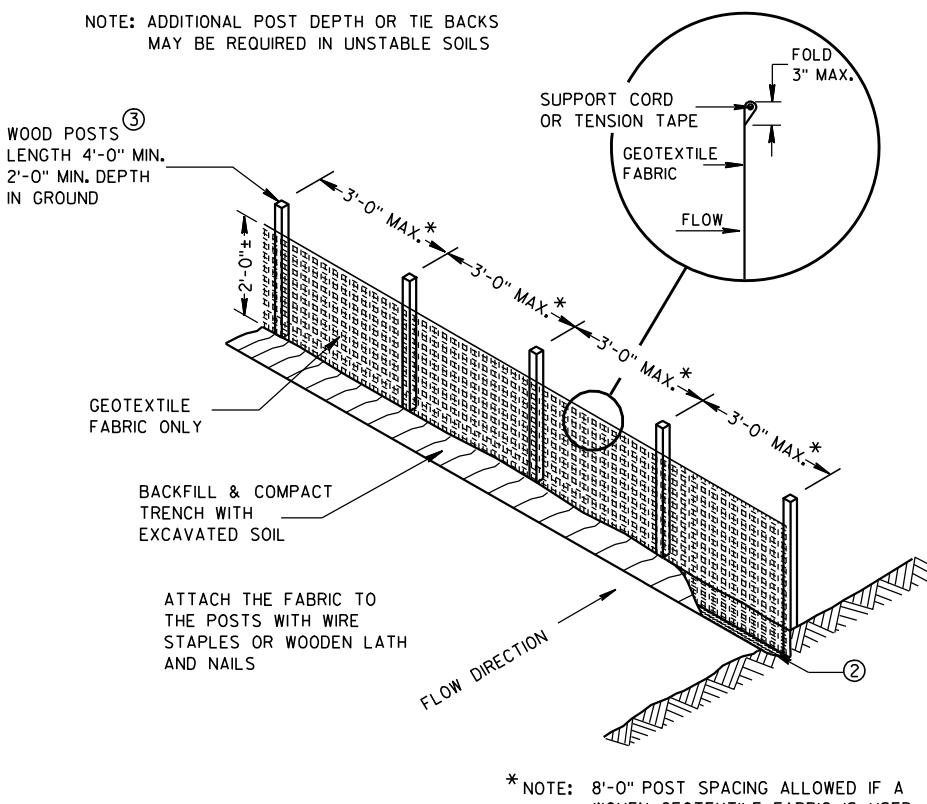
APPROVED
6/04/02 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



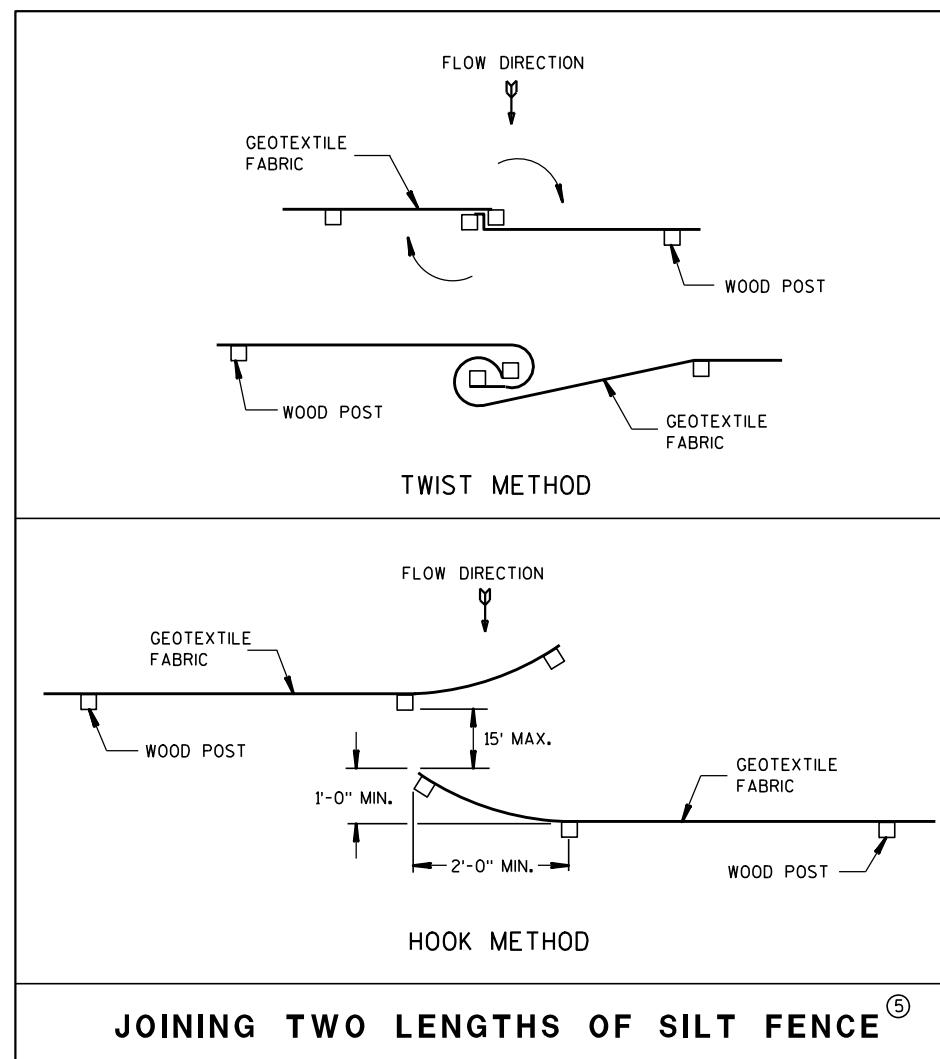
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

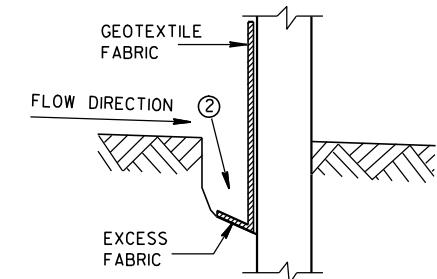


JOINING TWO LENGTHS OF SILT FENCE^⑤

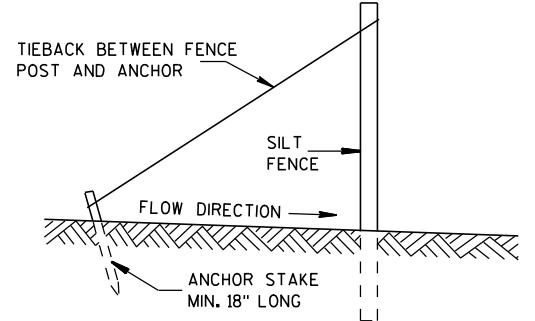
GENERAL NOTES

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 1/8" X 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

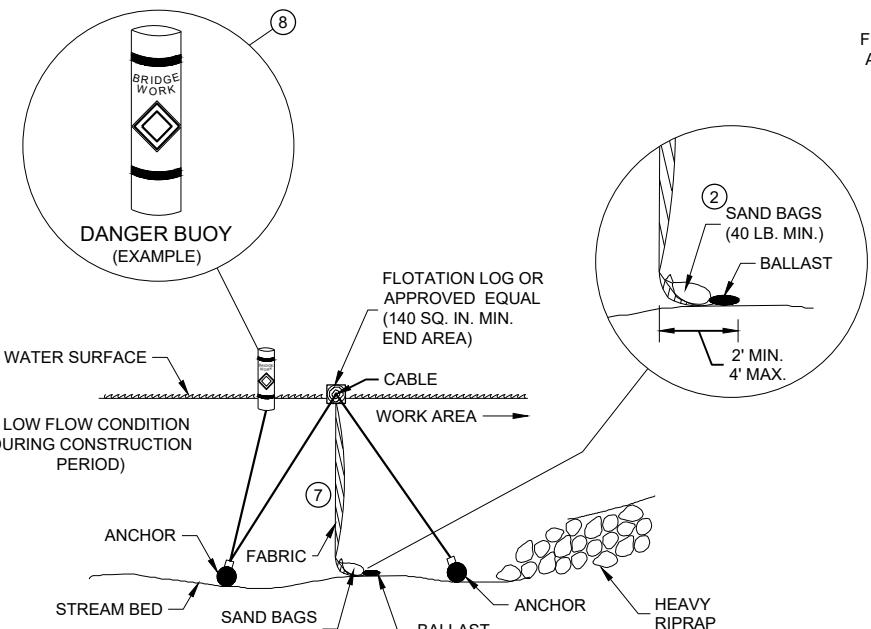


TRENCH DETAIL



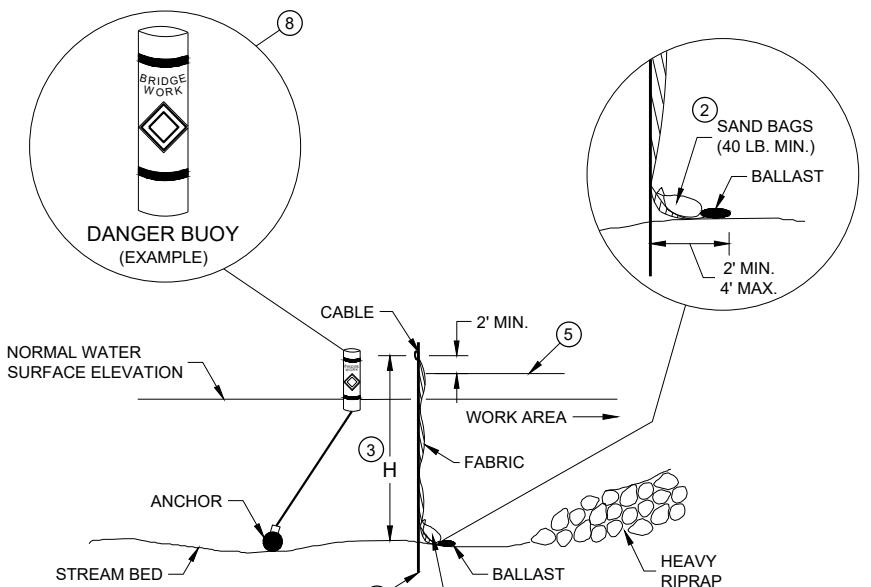
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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



SECTION B - B

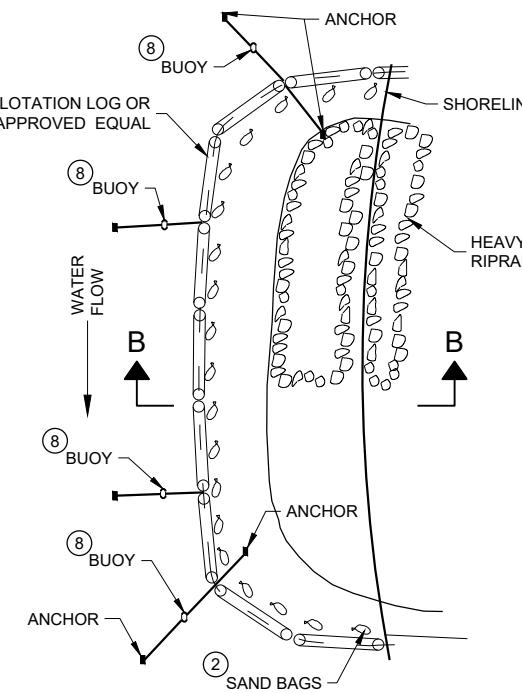
TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



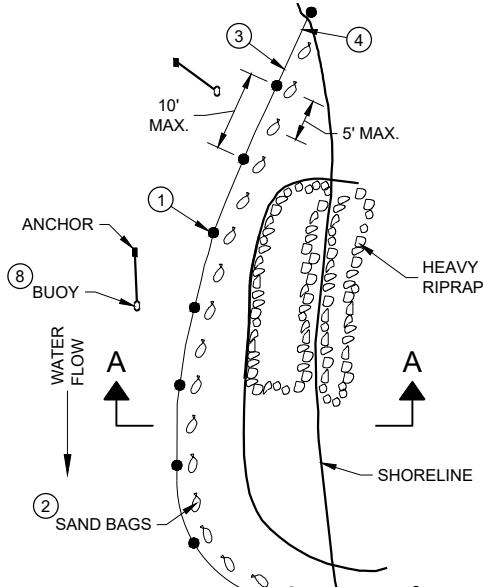
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



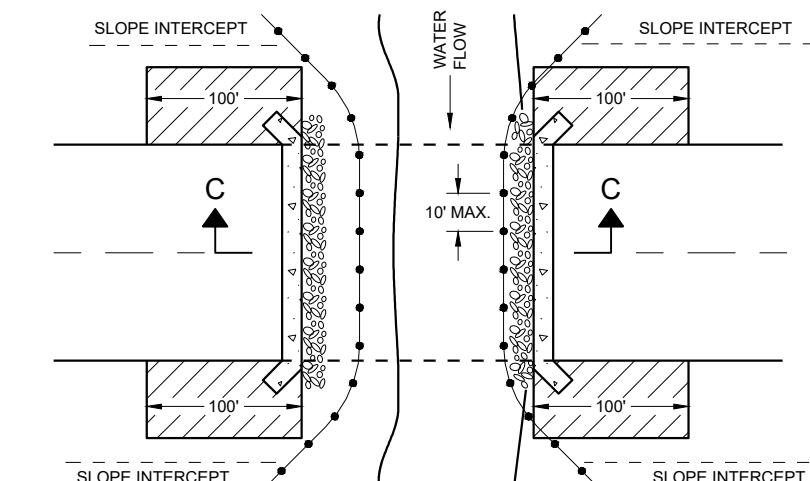
PLAN VIEW

GENERAL NOTES

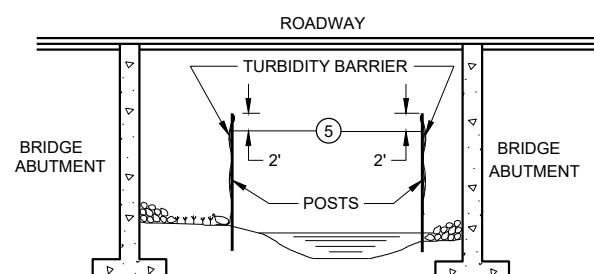
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

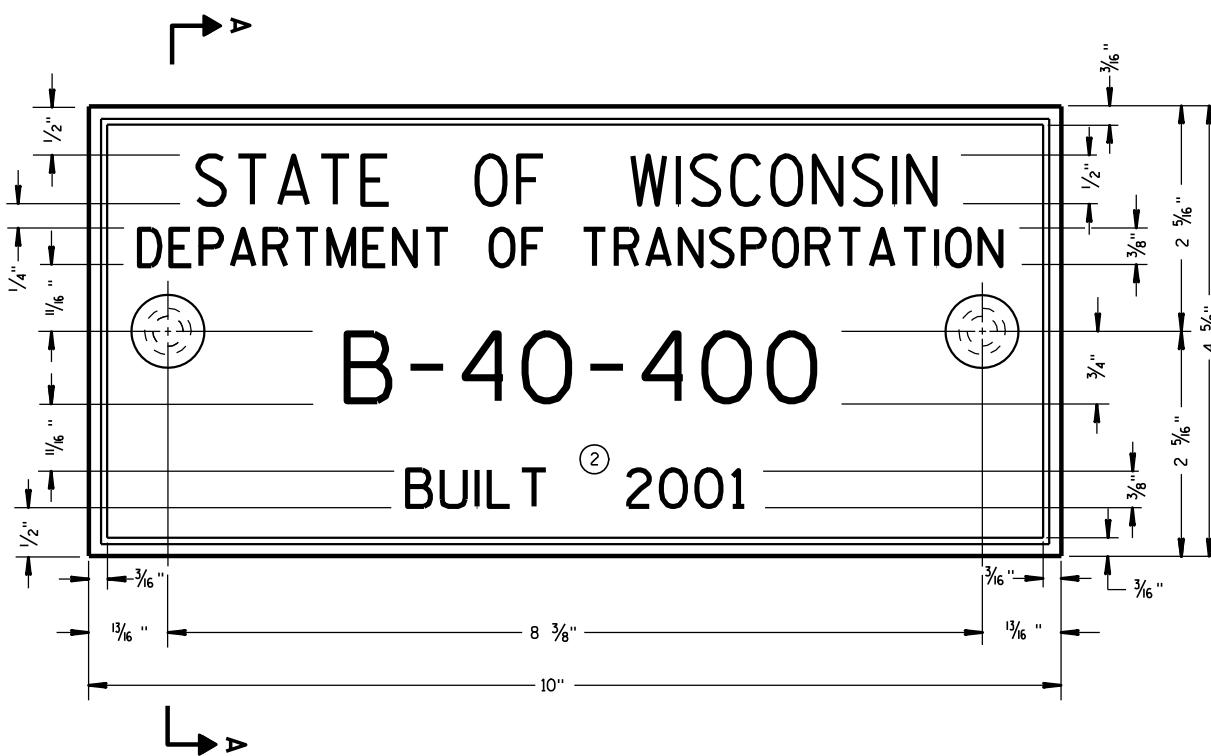
APPROVED
6/4/02 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
FHWA ENGINEER

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.

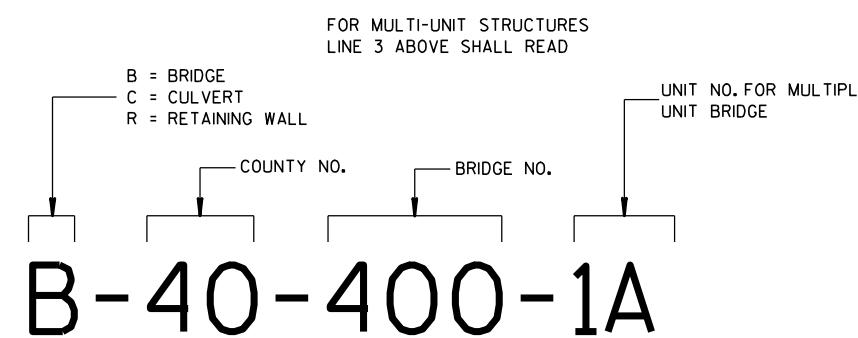
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- 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.



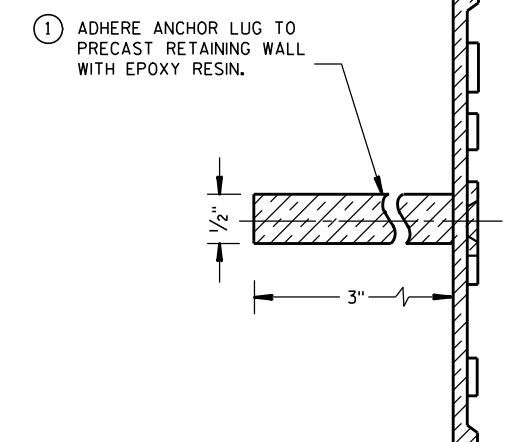
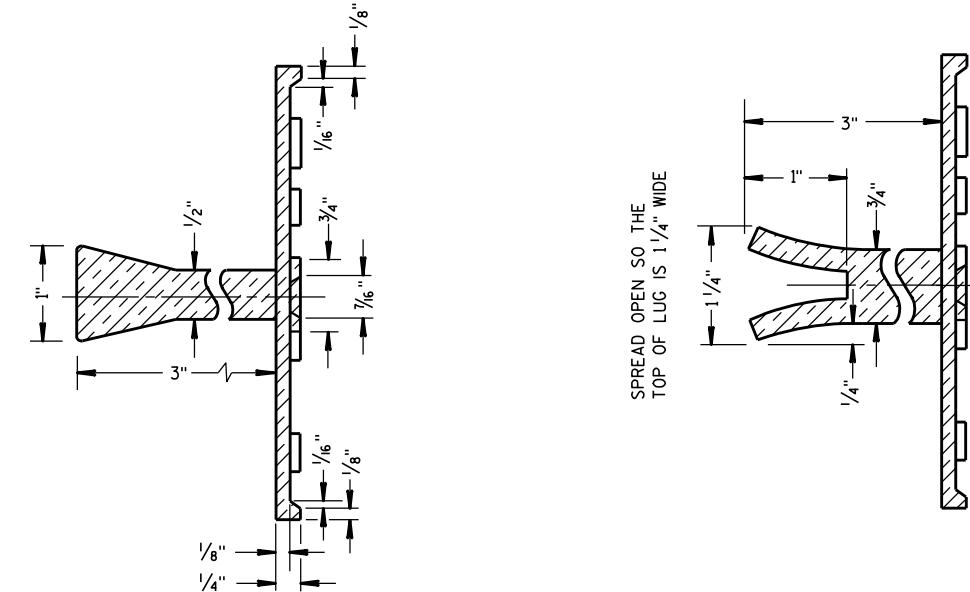
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

6



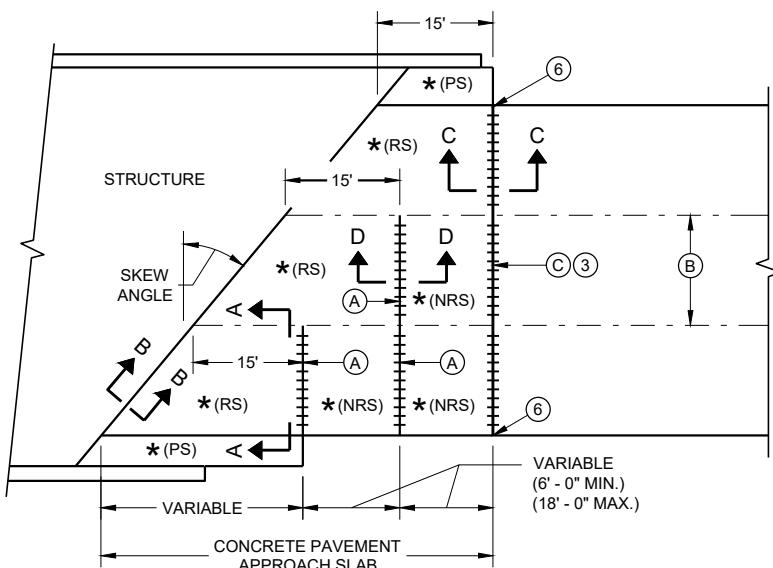
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

S.D.D. 12 A 3-10

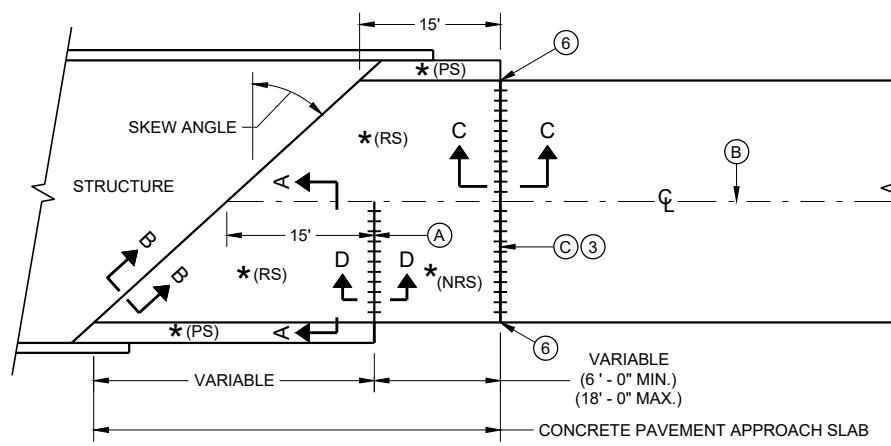


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

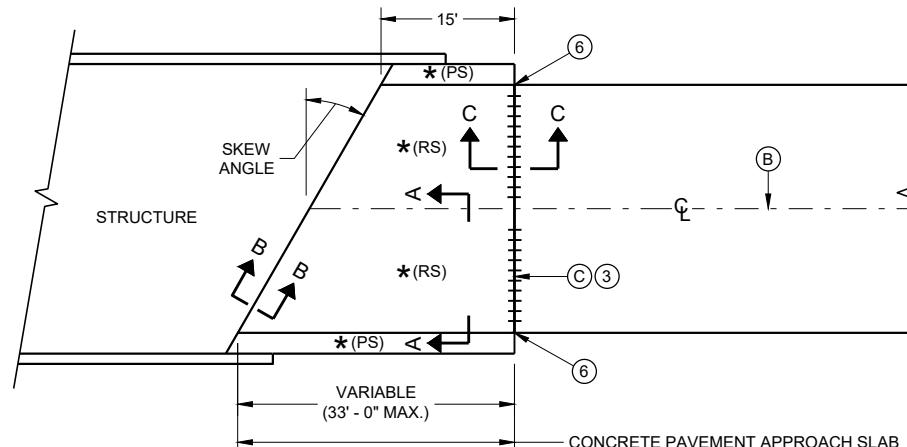
NAME PLATE (STRUCTURES)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 3/26/10 /S/ Scot Becker DATE CHIEF STRUCTURAL DEVELOPMENT ENGINEER FHWA



SKEWED APPROACH (PAVEMENT MORE THAN TWO LANES)

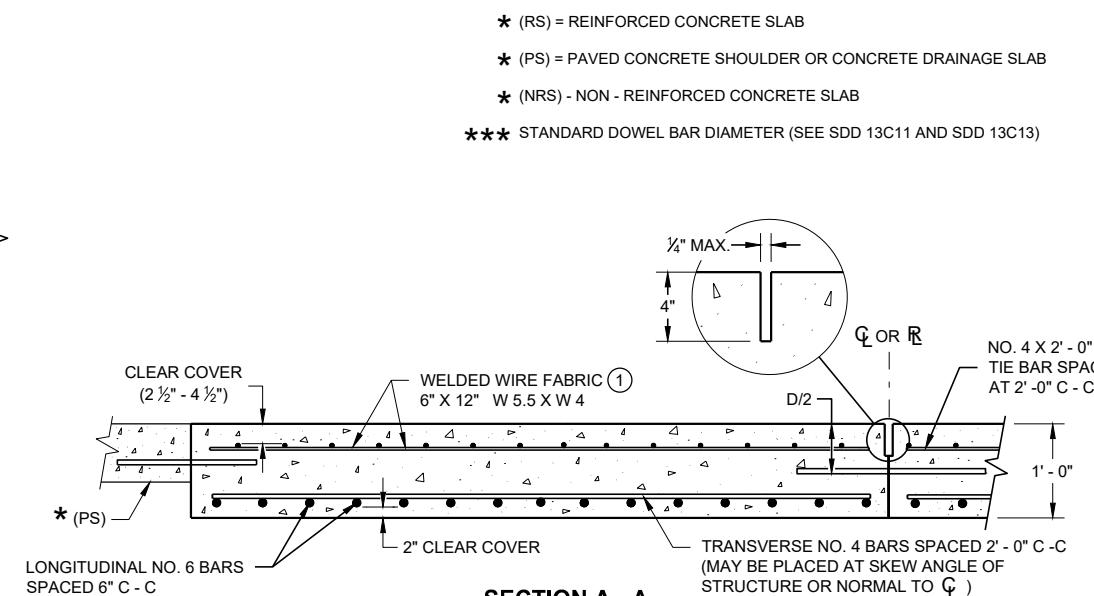


**SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')**



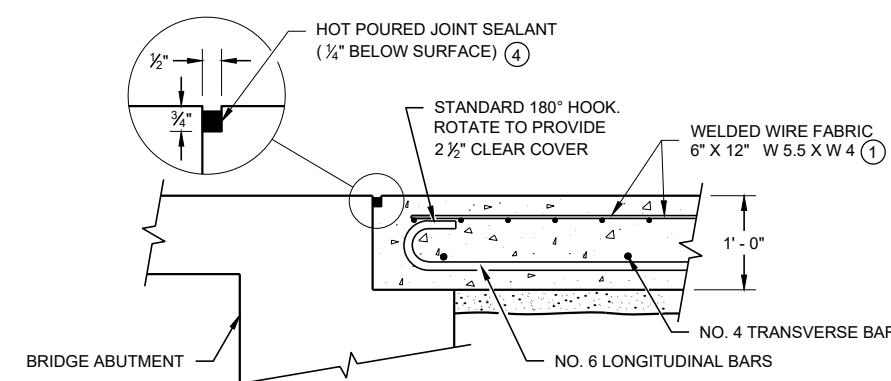
**SKEWS $\leq 20^\circ$
(PAVEMENT WIDTH $\leq 30'$)**

APPROACH SLAB AND ADJACENT PAVEMENT

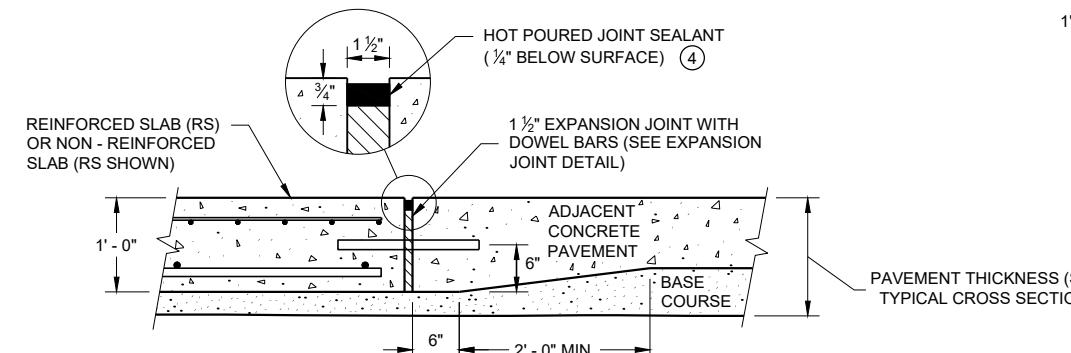


SECTION A - A

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 SPLIC NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLIC PER BAR. THE LENGTH OF LAP IS 20 INCHES.

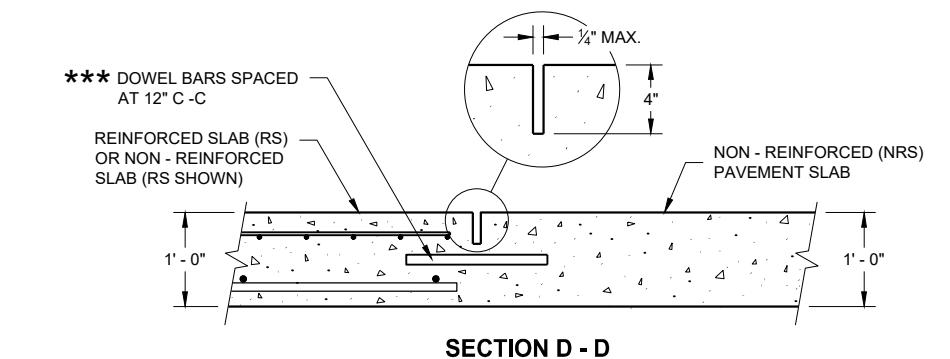
TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- 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 C OR R.

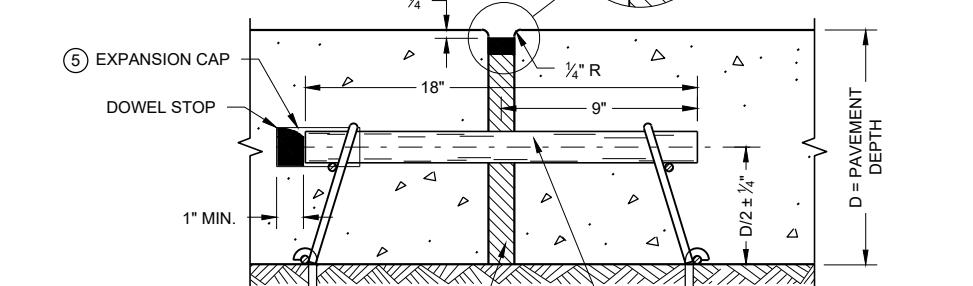
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO C OR R.



SECTION D - D

CONTRACTION JOINT

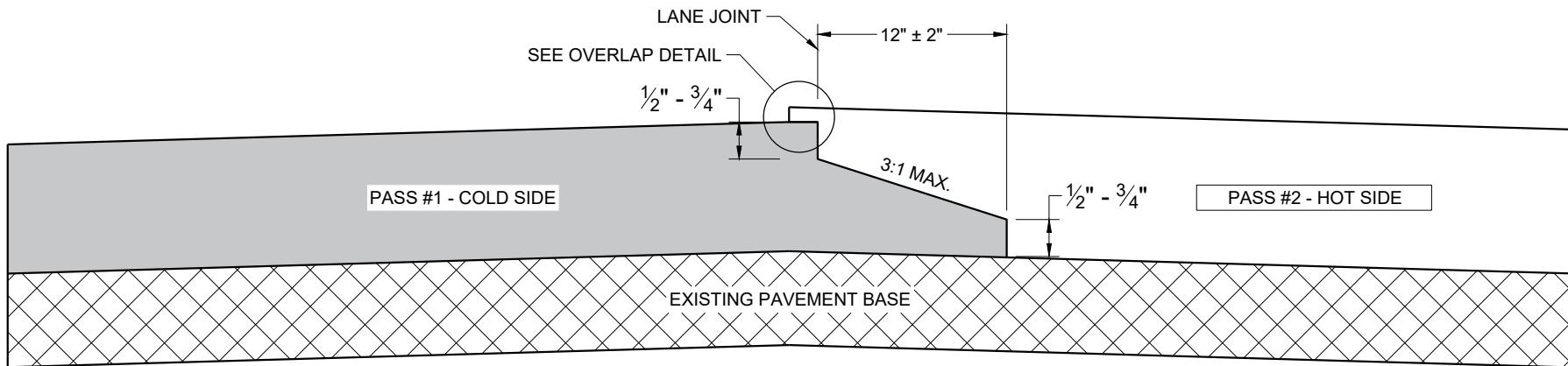


EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**

GENERAL NOTES

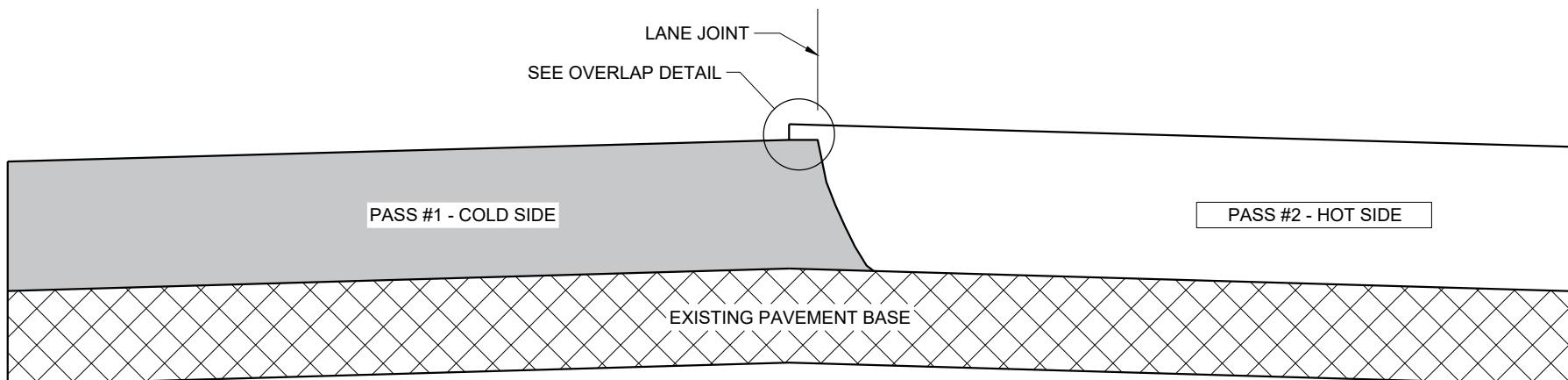
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1'' \pm 0.5''$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY $0.1''$ AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

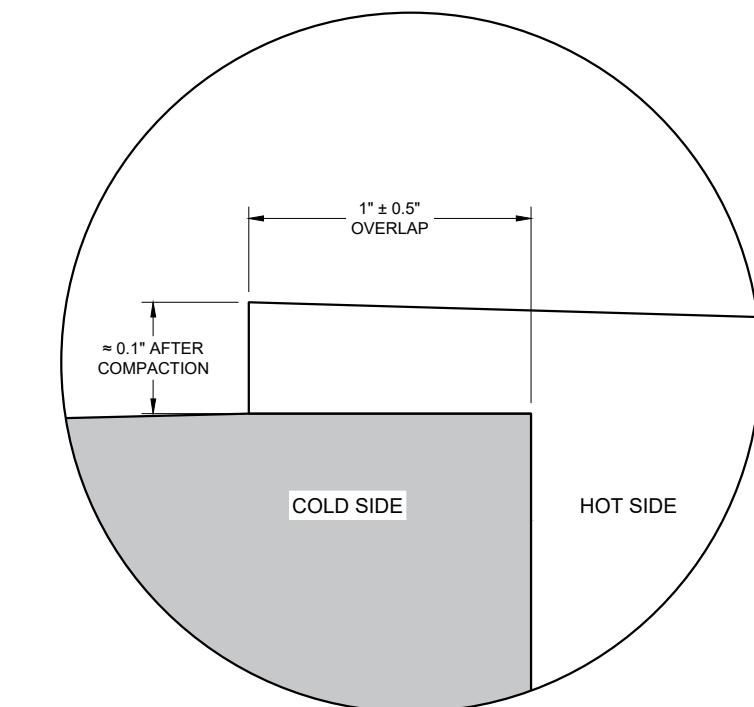
ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO $2''$ FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

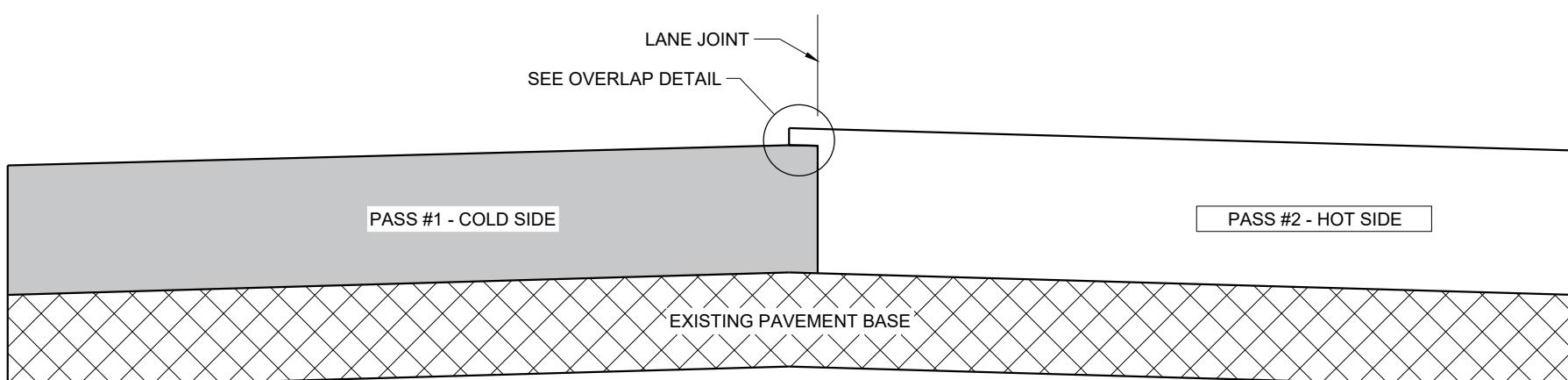
USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR AS THE ENGINEER DIRECTS.



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



OVERLAP DETAIL (TYPICAL)



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED	November 2020	/S/ Steven Hefel
DATE		
FHWA		
HMA PAVEMENT ENGINEER		

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.

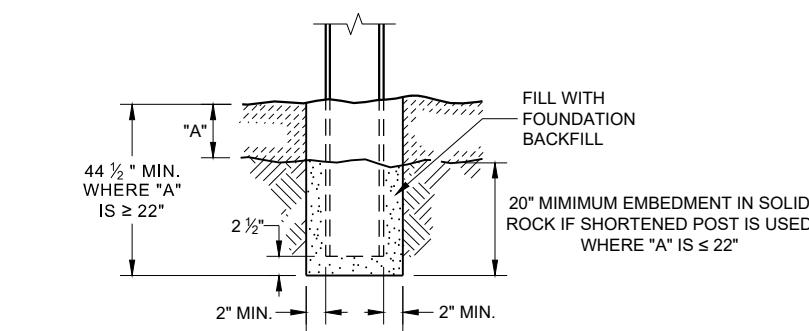
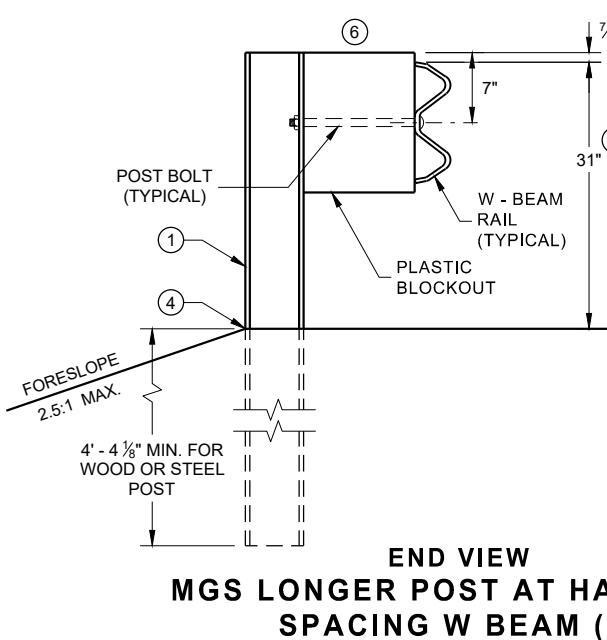
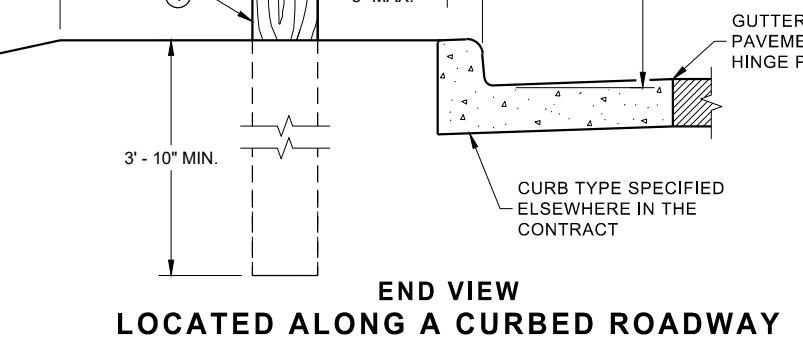
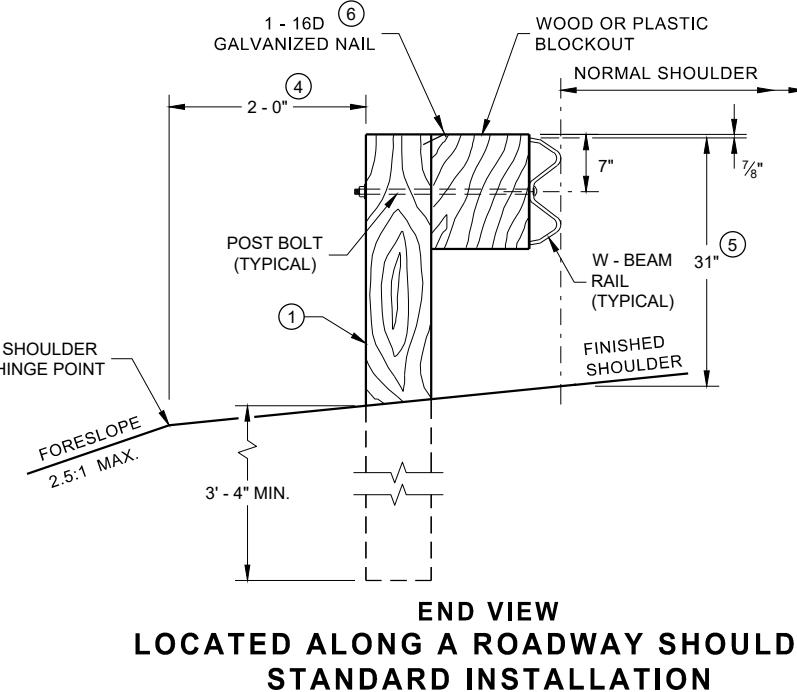
③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE 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).

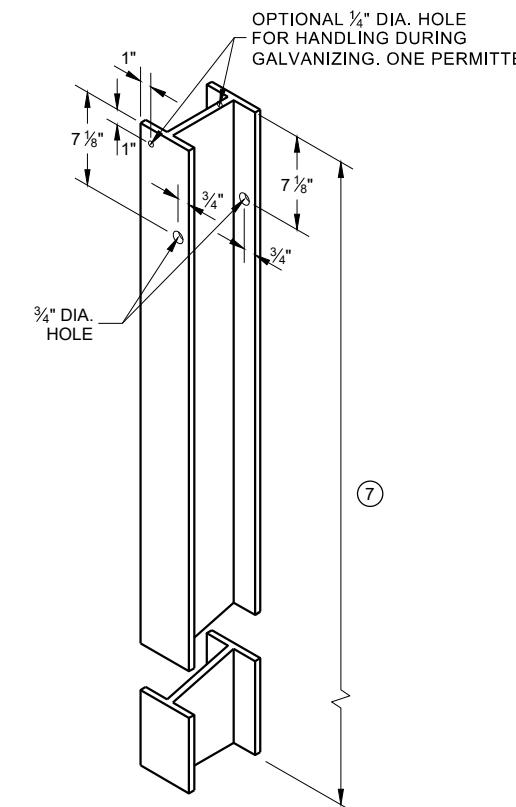
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1 ". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 $\frac{3}{4}$ " TO 32".

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.

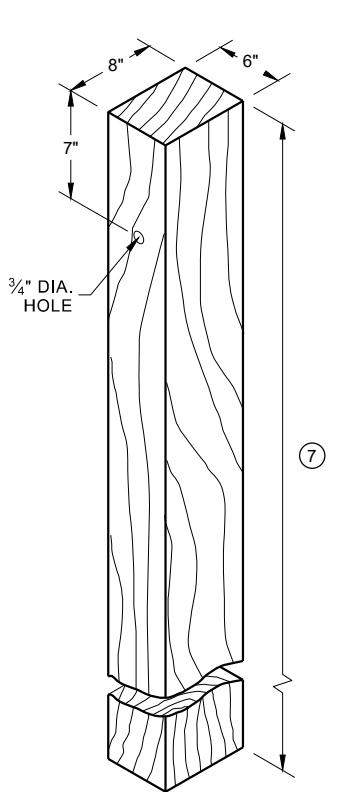
⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



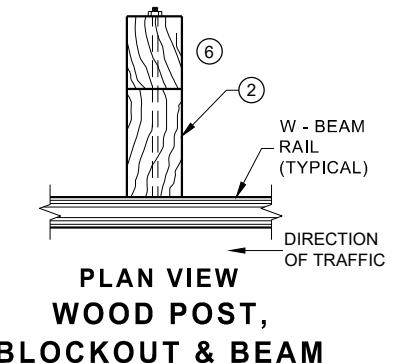
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ^③



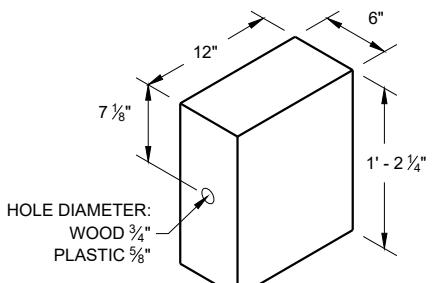
STEEL POST & HOLE
PUNCHING DETAIL
(W 6 X 9) ^①



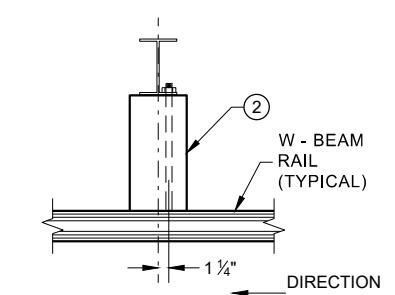
WOOD POST
(6" X 8") NOMINAL ^①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM

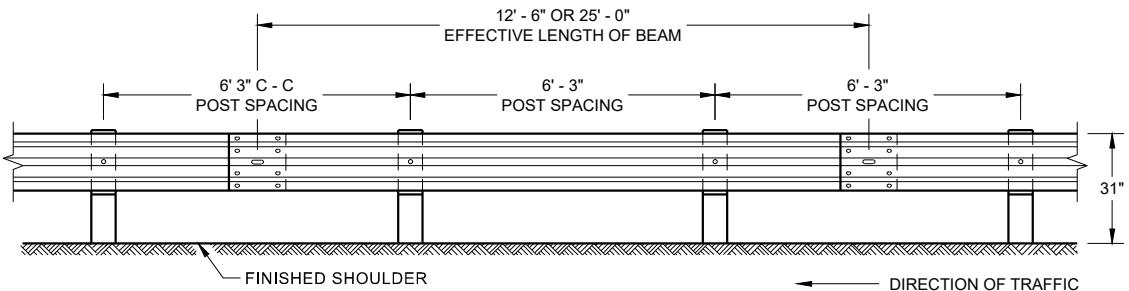


WOOD OR PLASTIC
BLOCKOUT ^②

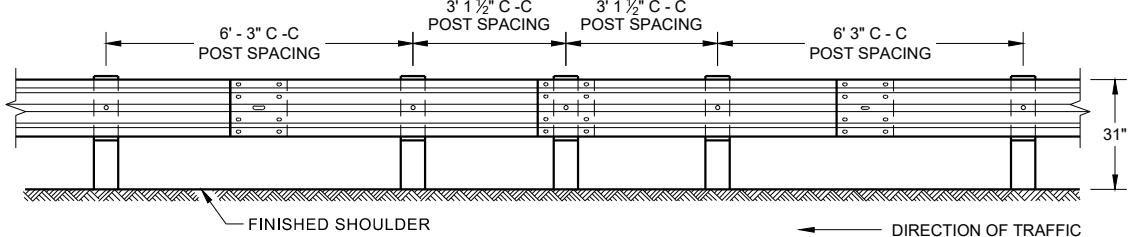


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

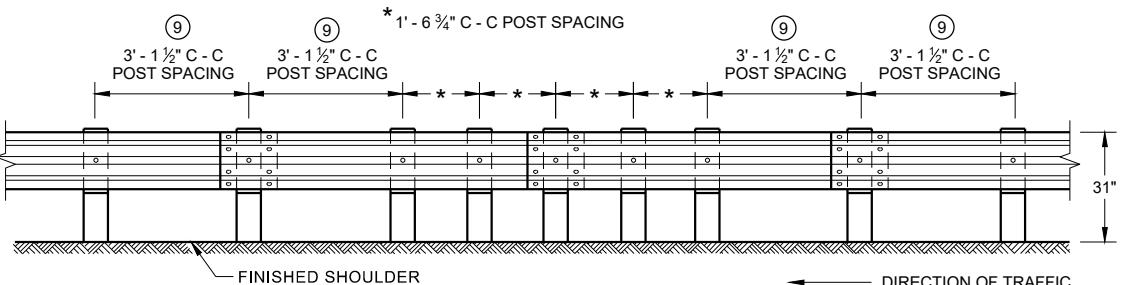
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL



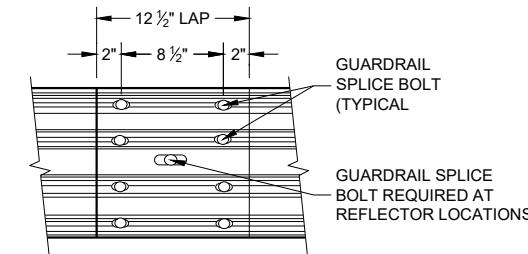
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



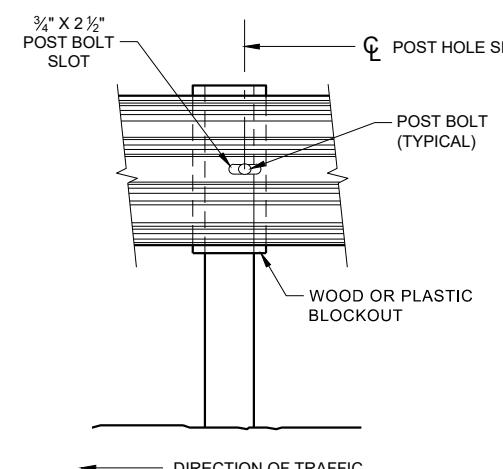
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



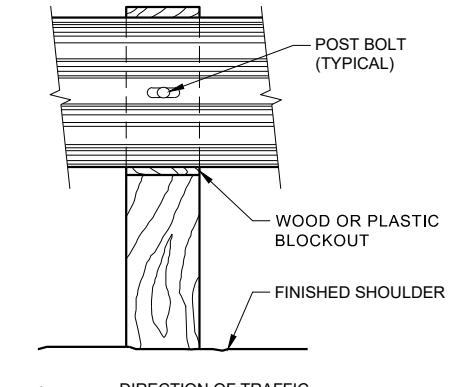
**FRONT VIEW
QUARTER POST SPACING (QS)**



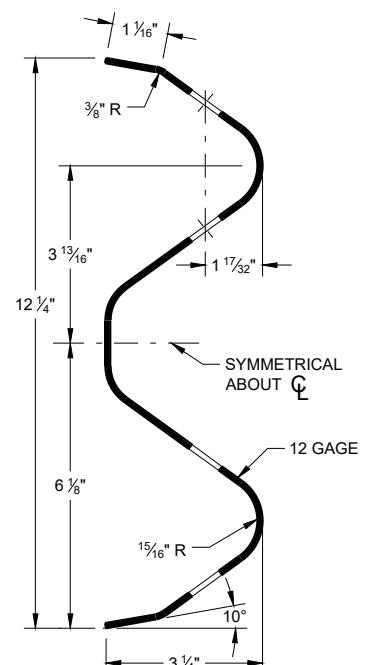
**FRONT VIEW
MID-SPAN BEAM SPLICE**



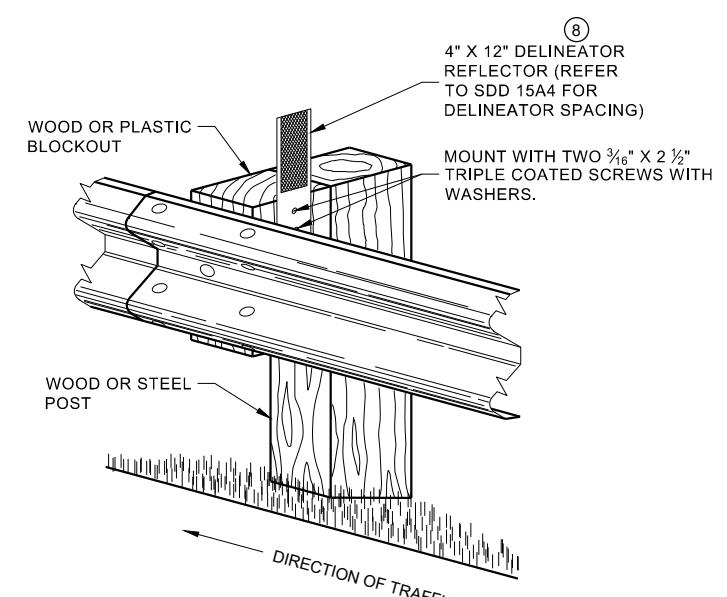
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

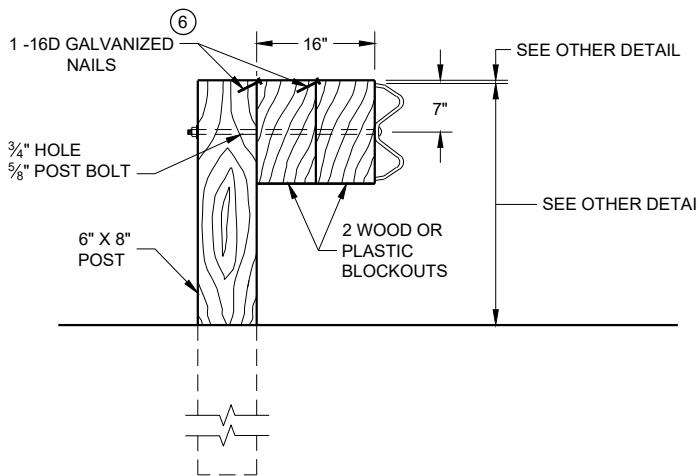
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{3}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{3}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{3}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A $\frac{3}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{3}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

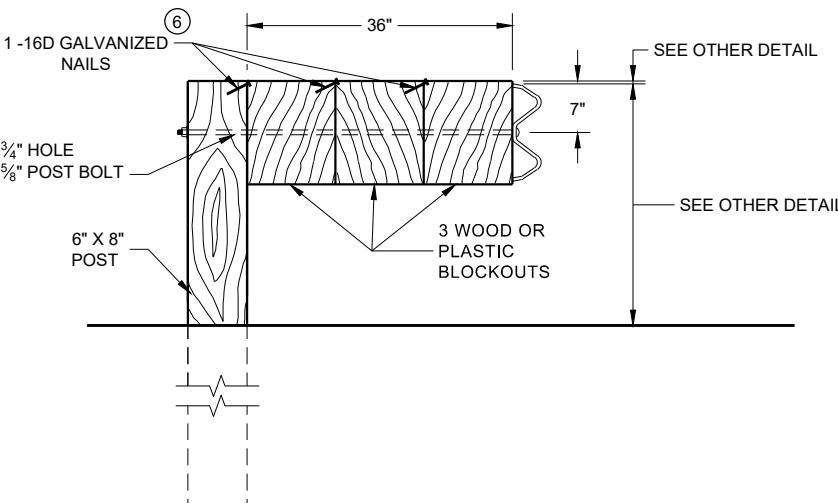
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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.

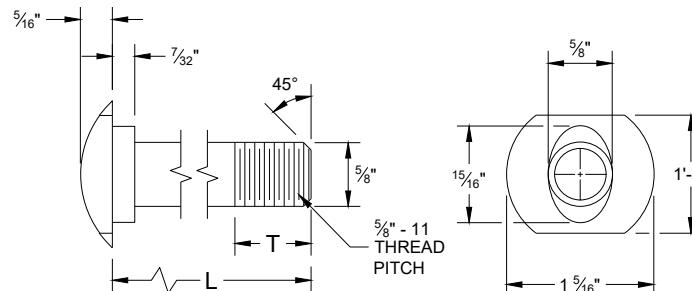


DETAIL FOR 36" BLOCKOUT DEPTH

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.

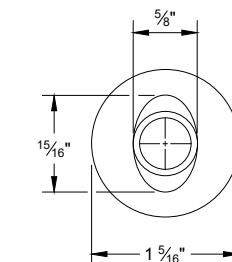
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

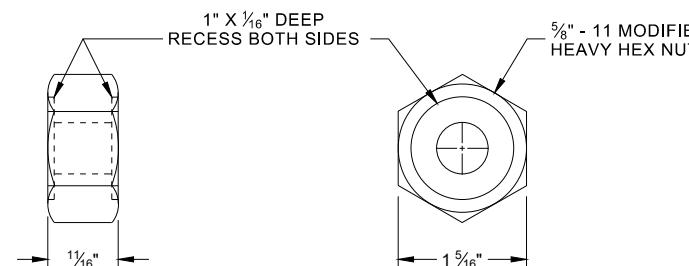


POST BOLT TABLE

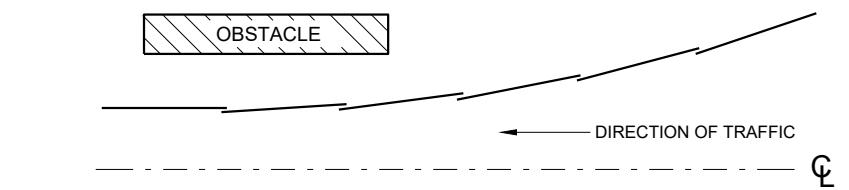
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



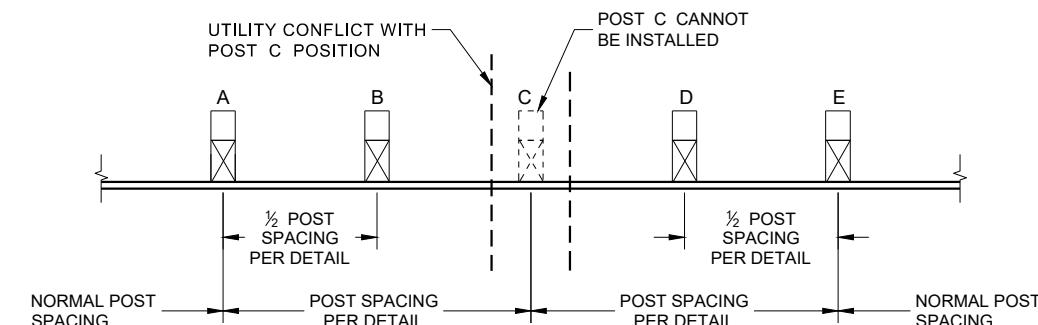
ALTERNATE BOLT HEAD



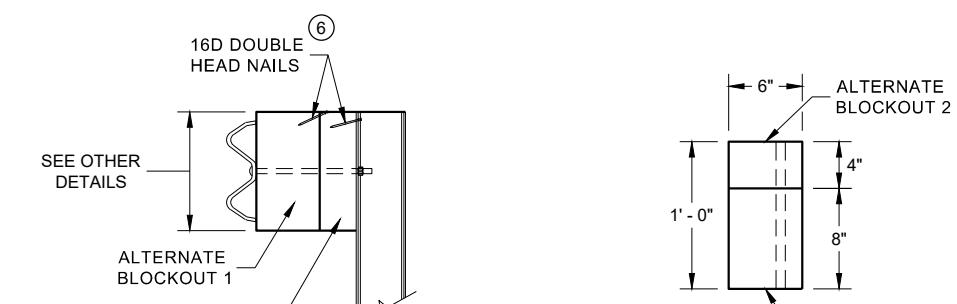
POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

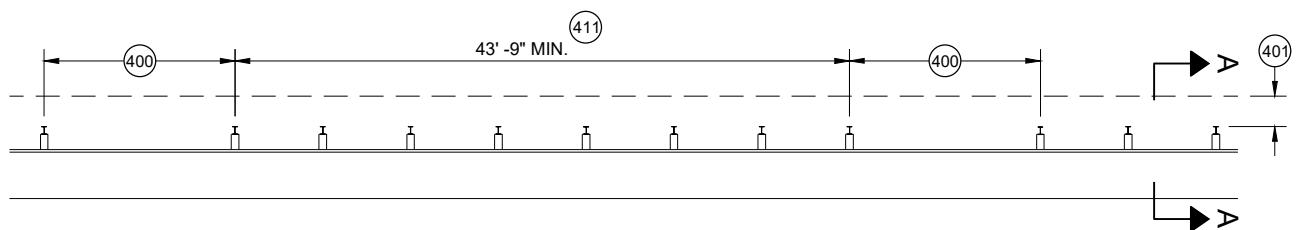


SIDE VIEW

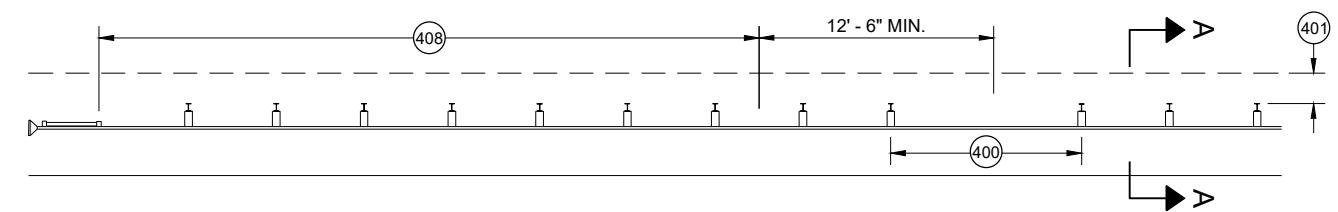
ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

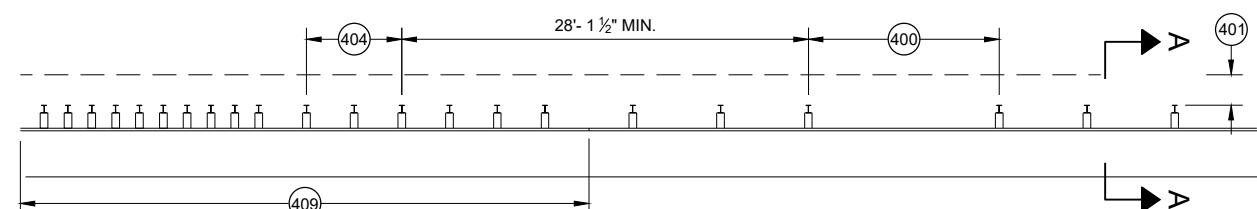
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



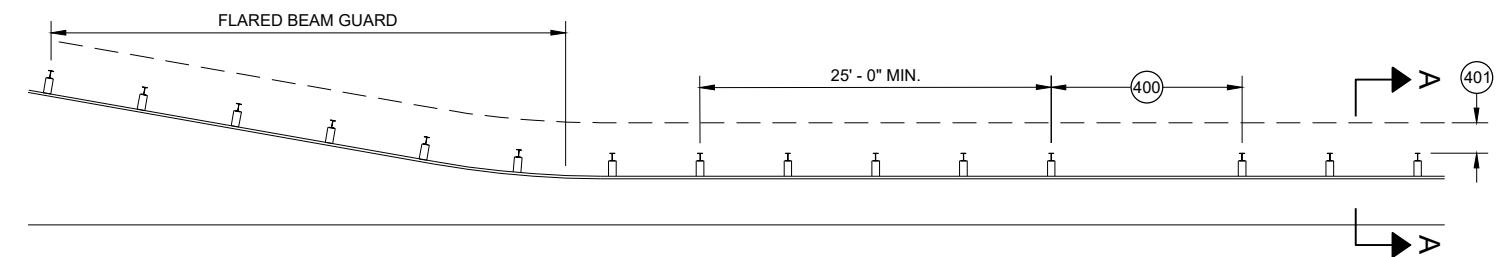
MISSING POST IN MGS GUARDRAIL



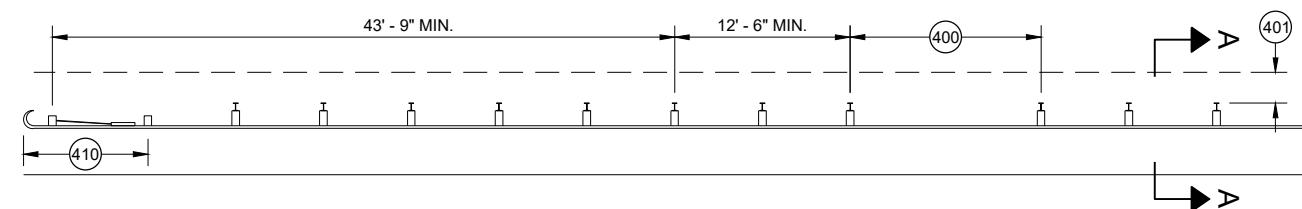
MISSING POST IN MGS GUARDRAIL NEAR EAT



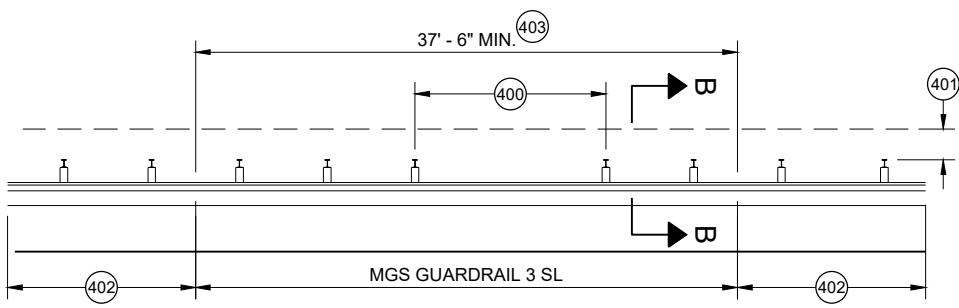
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

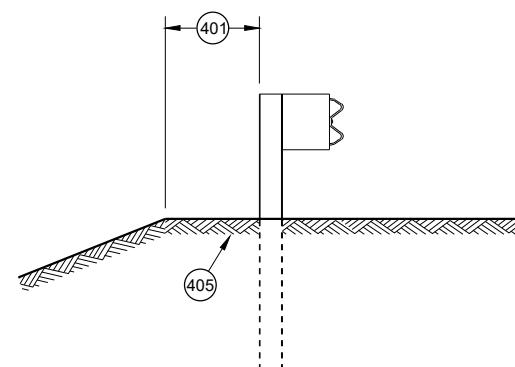


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

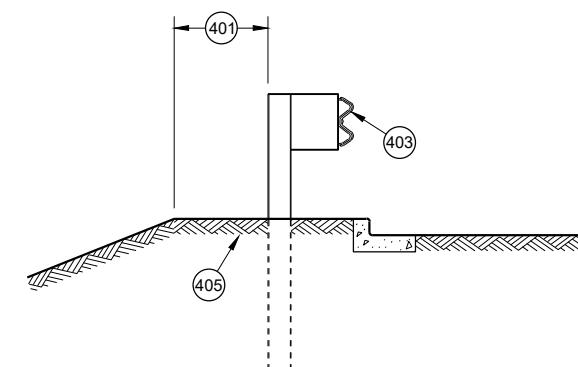


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) (407)

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 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) 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.

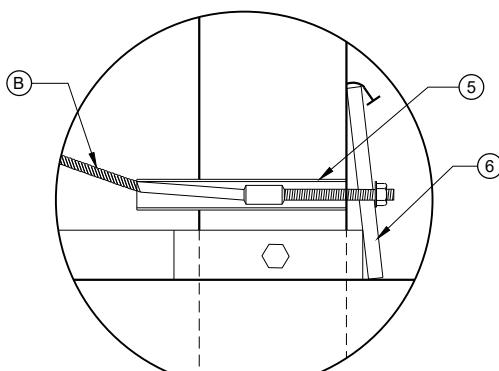
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

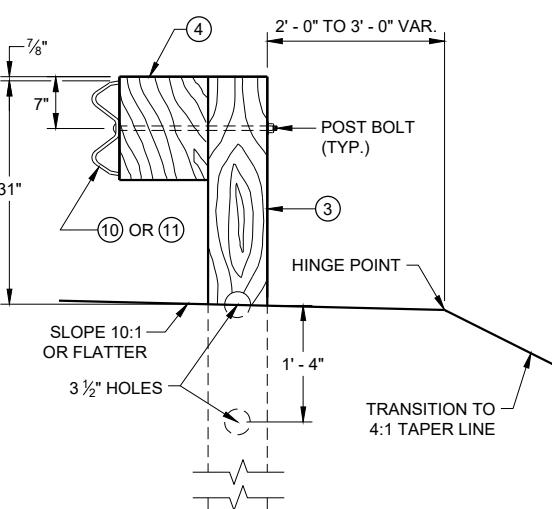
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

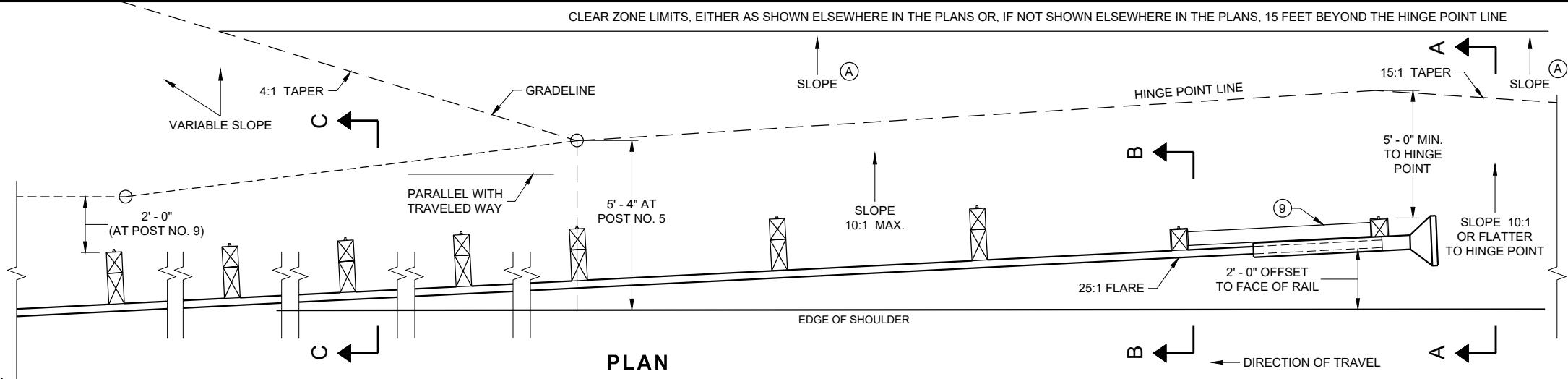
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



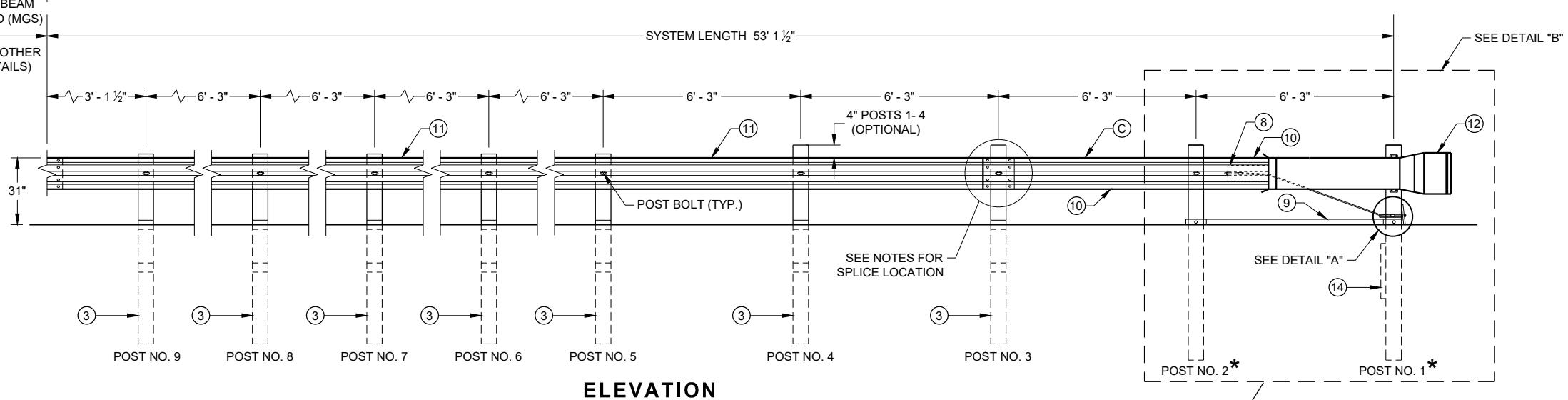
DETAIL "A" (E)



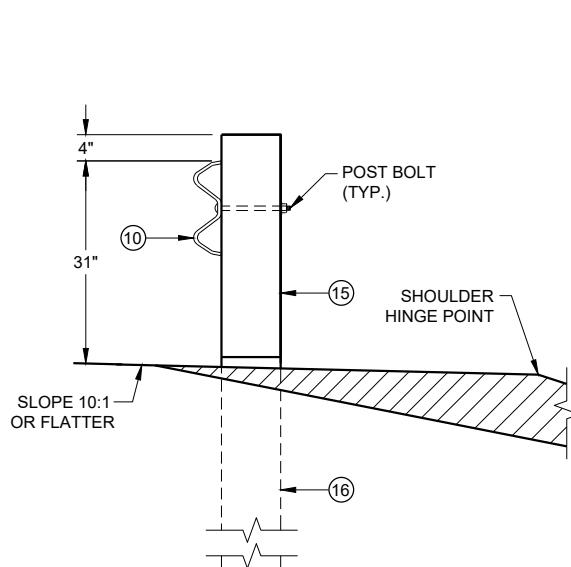
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



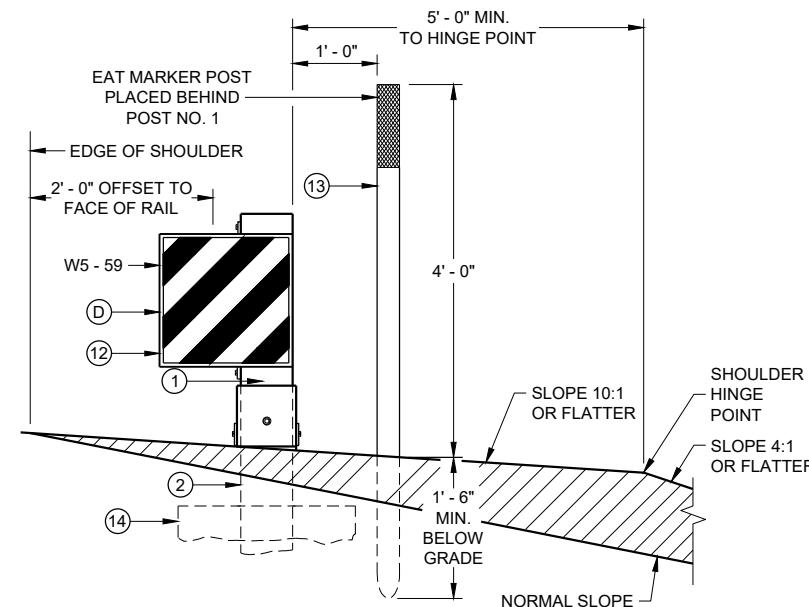
PLAN



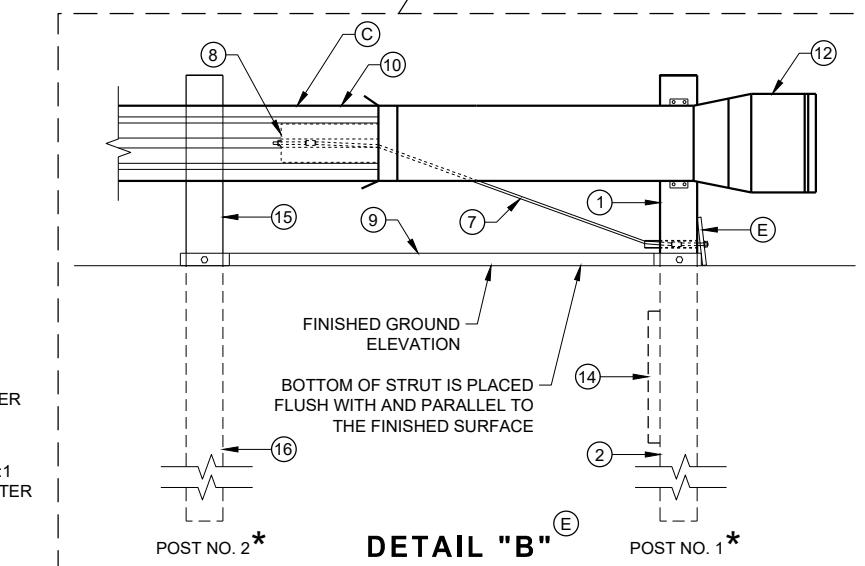
ELEVATION



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



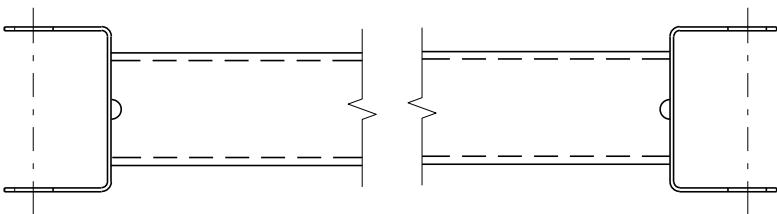
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

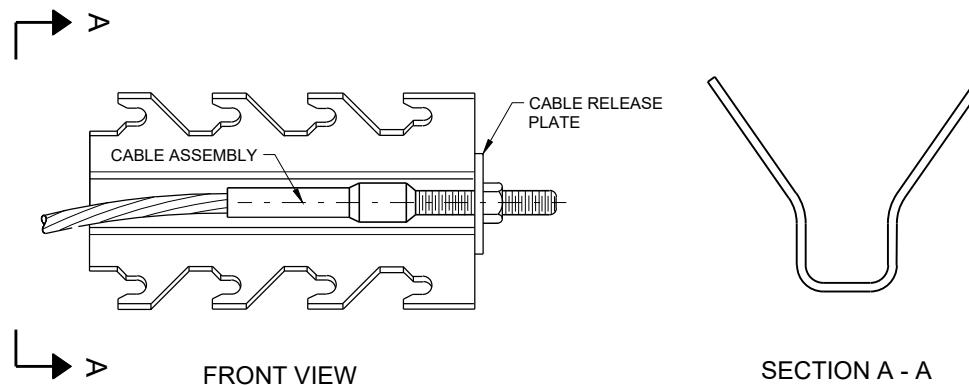
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

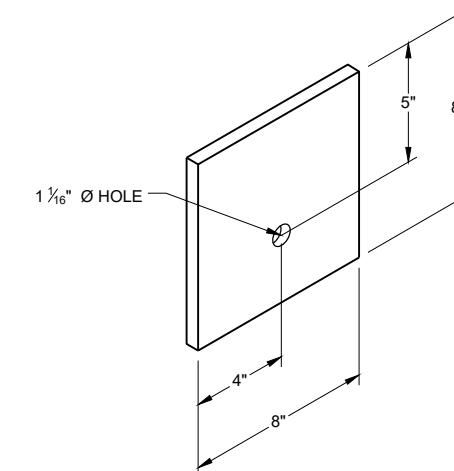


GENERIC GROUND STRUT ^{⑨ (E)}

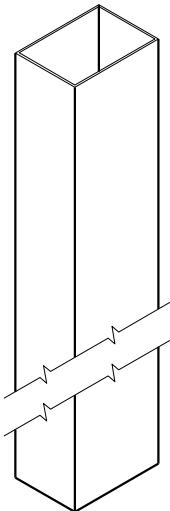
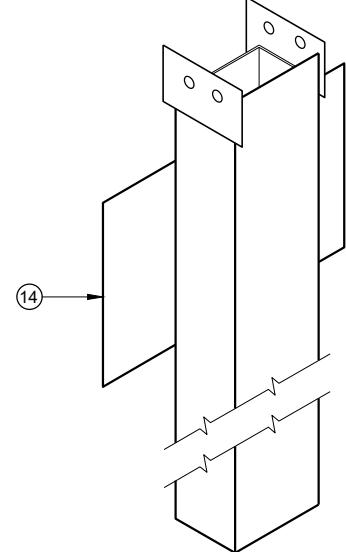
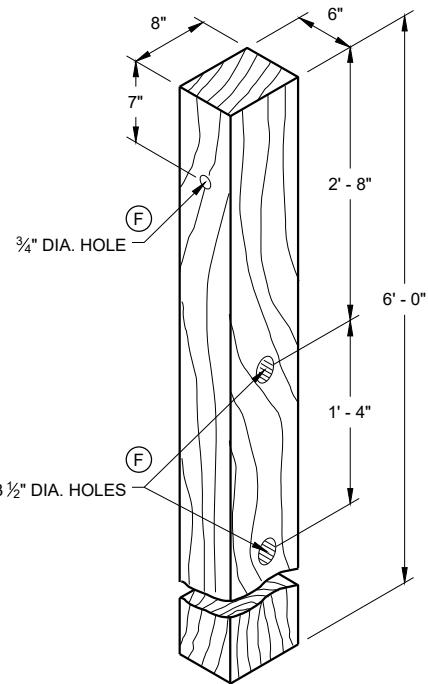
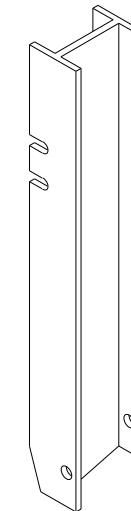
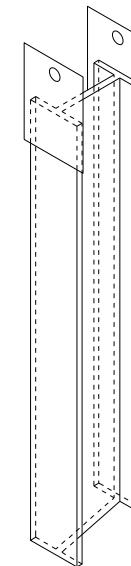
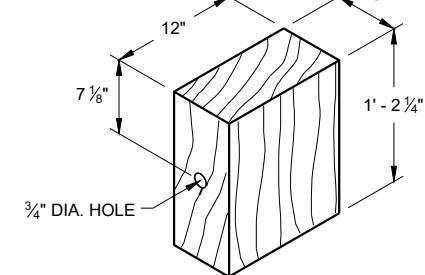
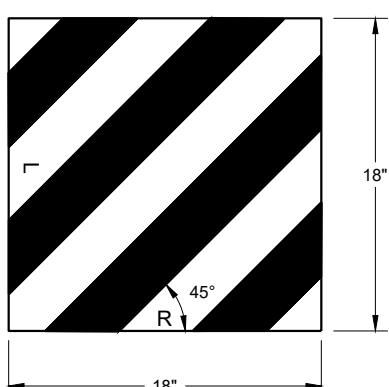
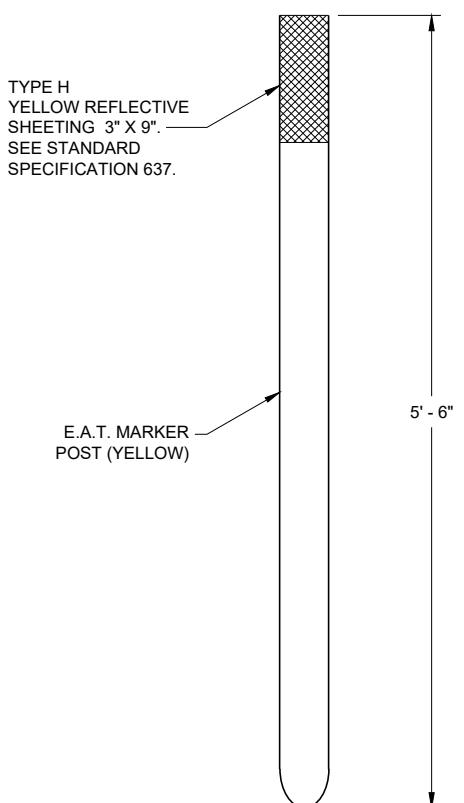


SECTION A - A

GENERIC ANCHOR CABLE BOX ^{⑨ (E)}



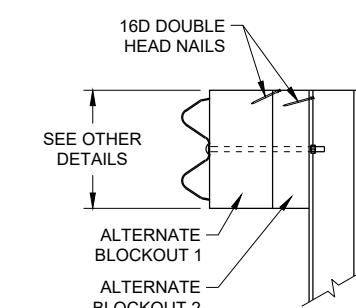
BEARING PLATE ^{⑯ (E)}

UPPER POST NO. 1 ^①_(E)LOWER POST NO. 1 ^②_(E)WOOD CRT POST
POSTS NUMBER 3-9 ^③_(E)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 & 2REFLECTIVE SHEETING DETAIL ^(E)

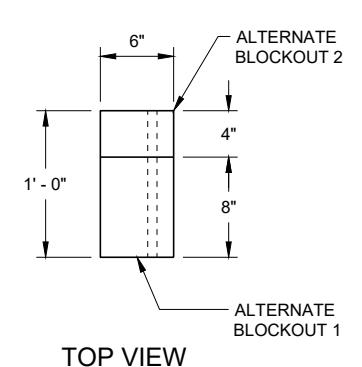
FRONT VIEW



SIDE VIEW

E.A.T. MARKER POST ^⑯_(E)

SIDE VIEW



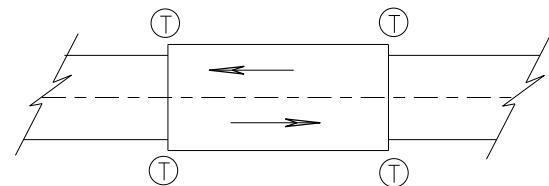
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

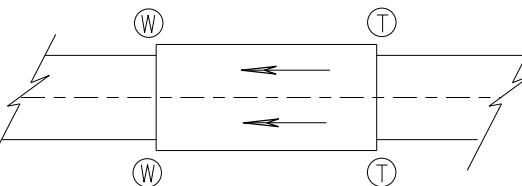
APPROVED
7/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



TWO WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED



ONE WAY TRAFFIC

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 $\frac{1}{2}$ ", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

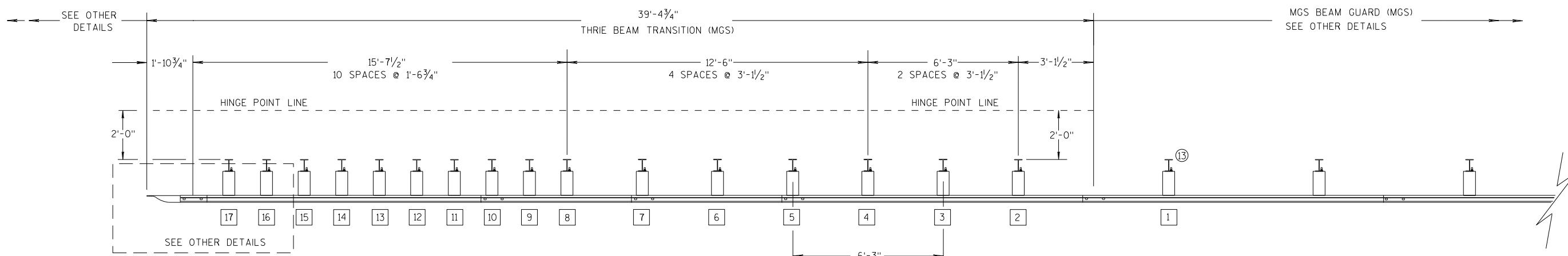
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

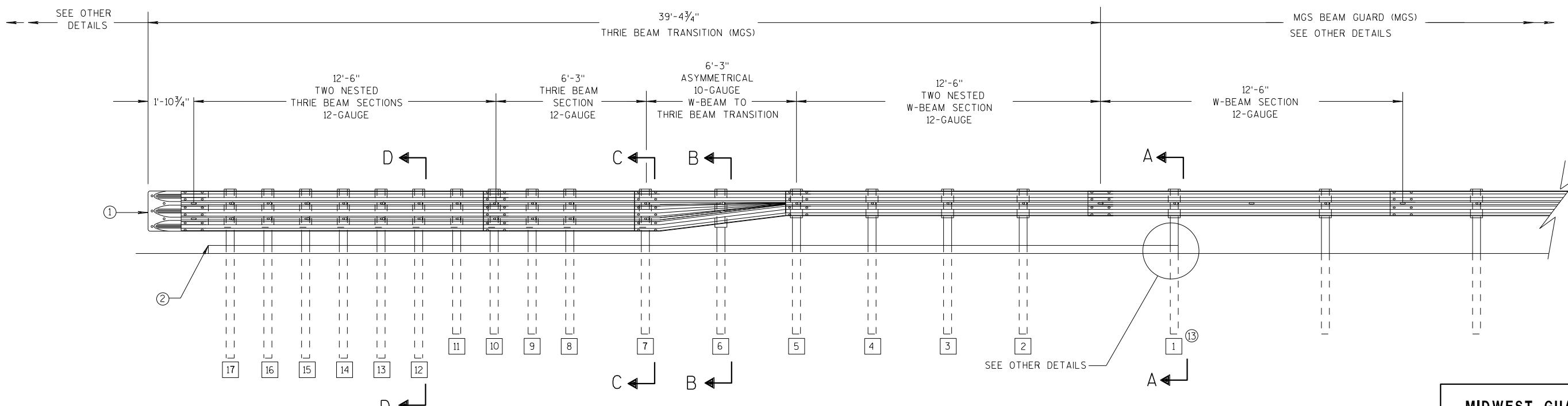
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

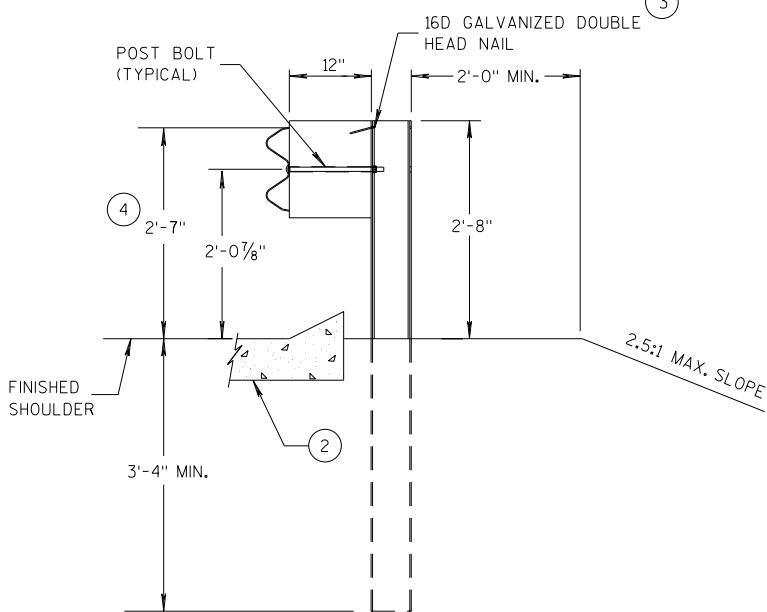
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

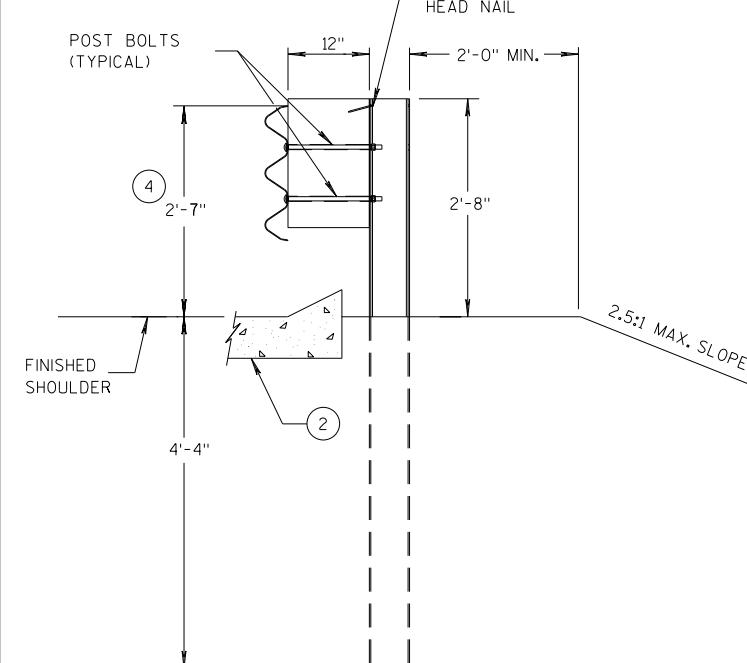
GENERAL NOTES

- (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 $\pm 1"$.
- (13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



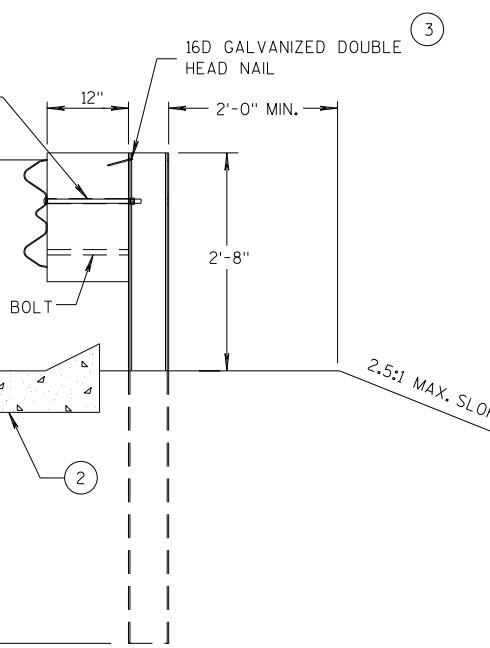
SECTION A-A
POSTS 1-5

6

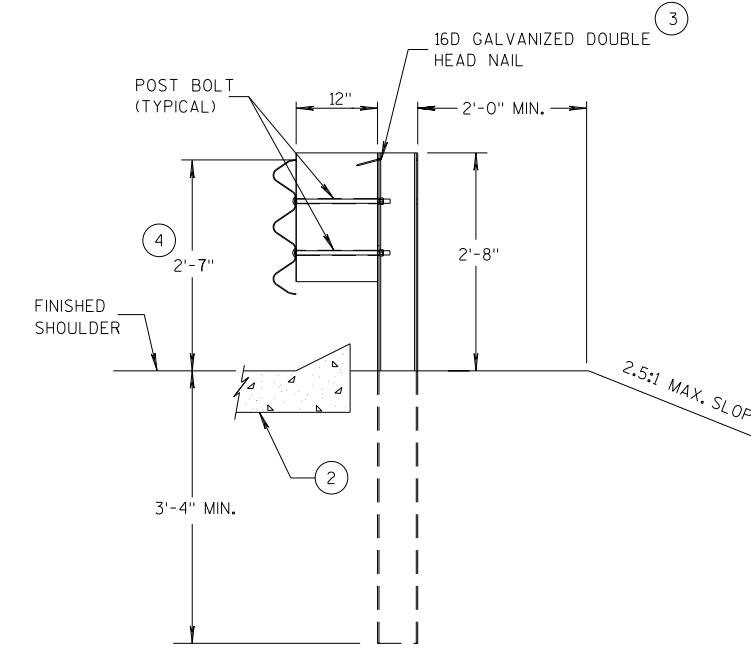


SECTION D-D
POSTS 12-17

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



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

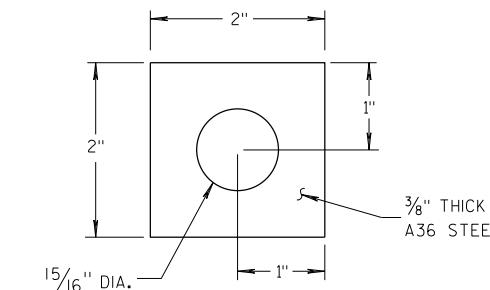
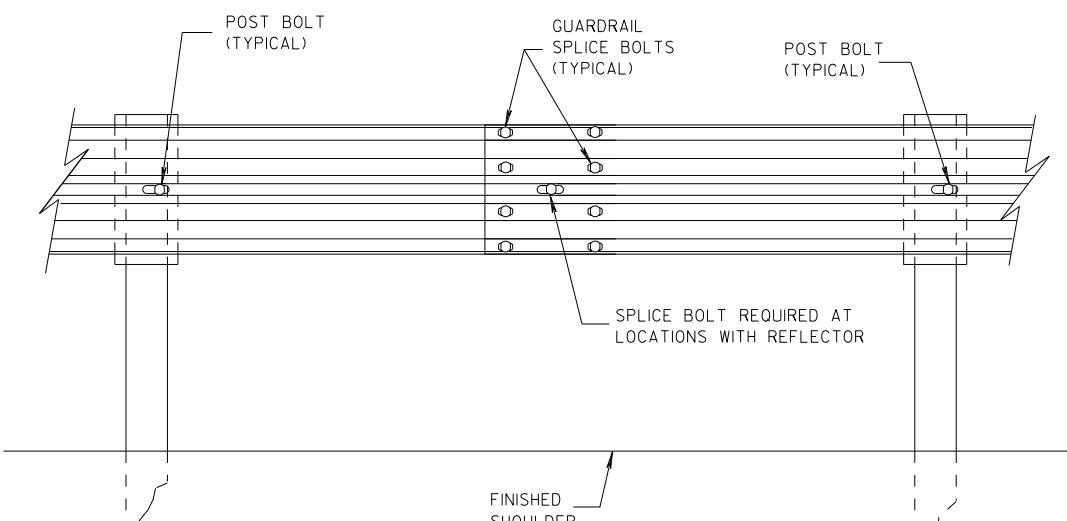
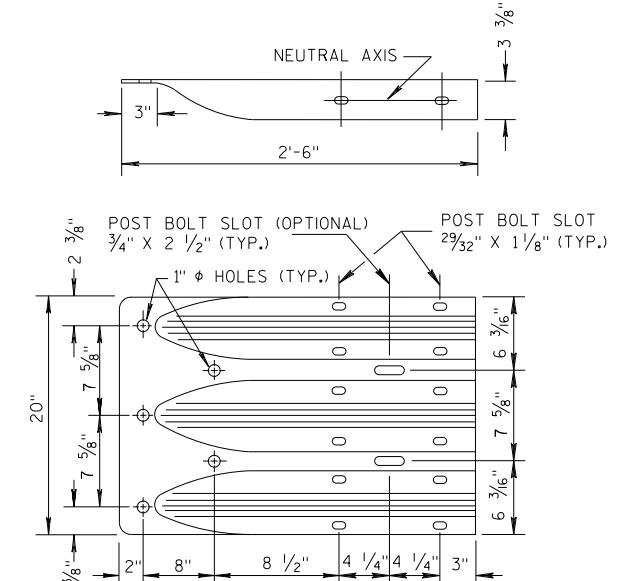


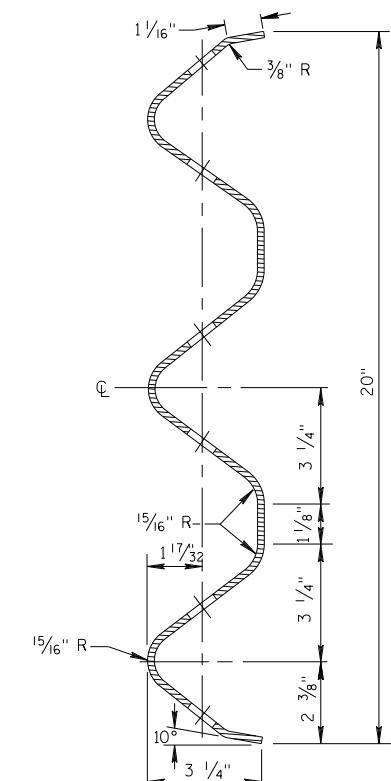
PLATE WASHER DETAIL



SPlice DETAIL



**THRIE BEAM
TERMINAL CONNECTOR**

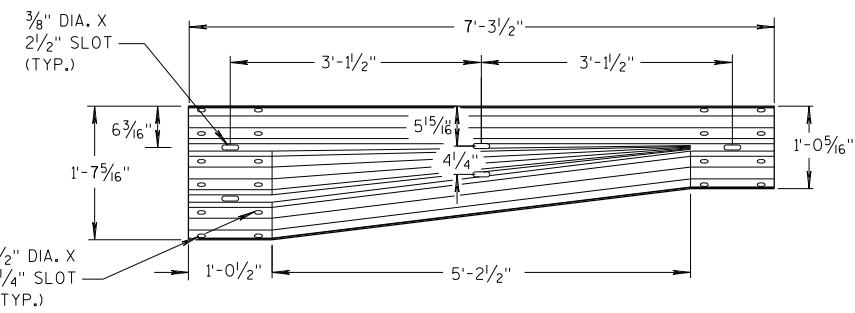


**SECTION THRU THRIE
BEAM RAIL ELEMENT**

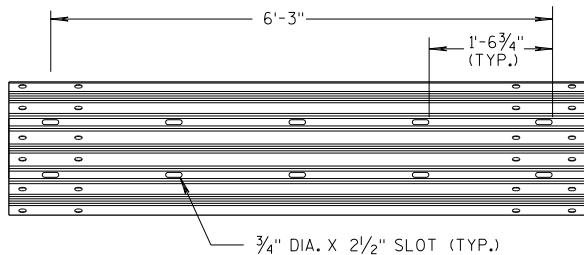
**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

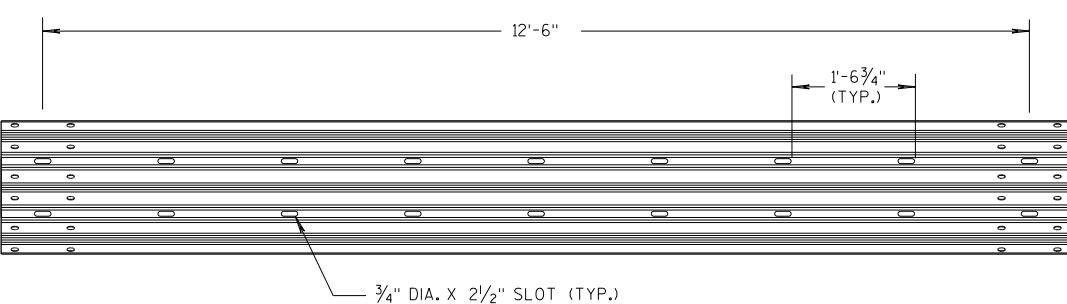
S.D.D. 14 B 45-5b



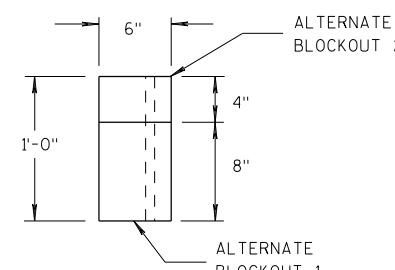
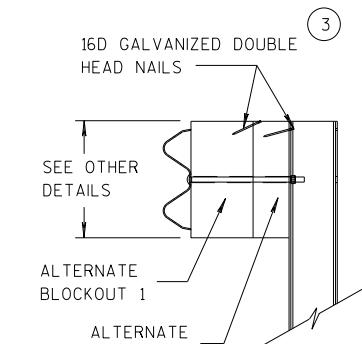
W-BEAM TO THRIE BEAM TRANSITION SECTION



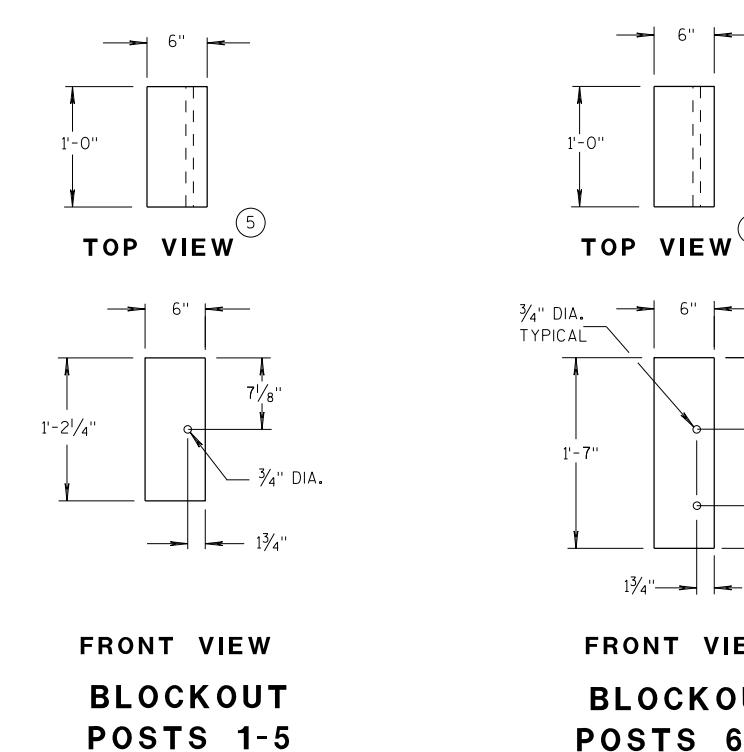
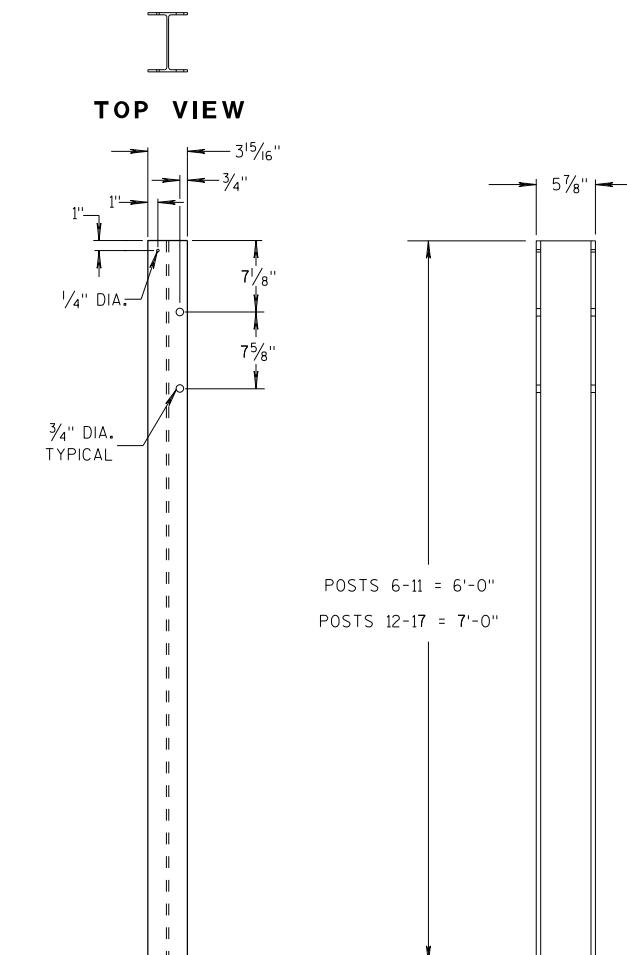
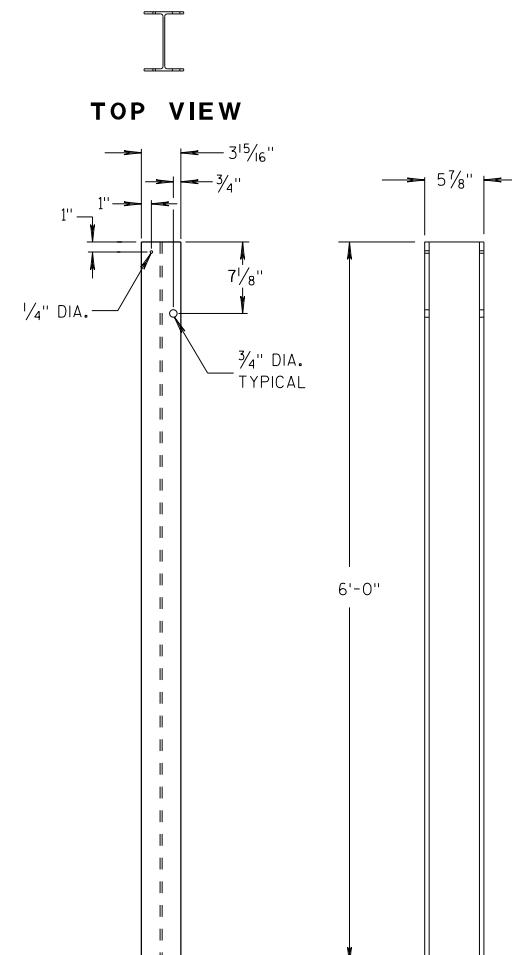
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION



SIDE VIEW
TOP VIEW
ALTERNATE WOOD BLOCKOUT DETAIL



GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND 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.

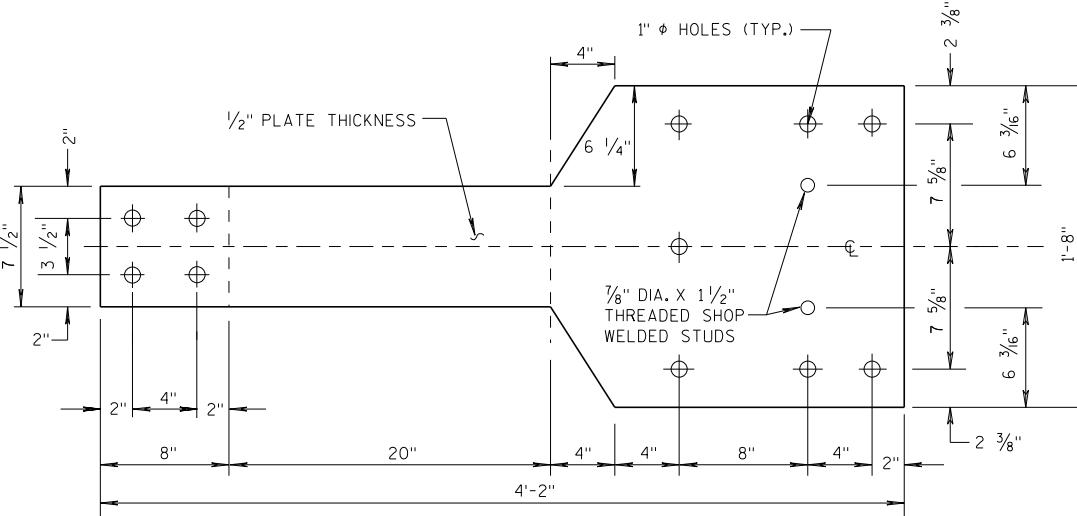
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

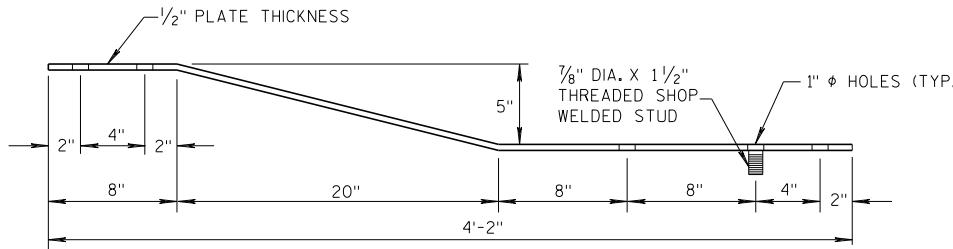
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

④ TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.

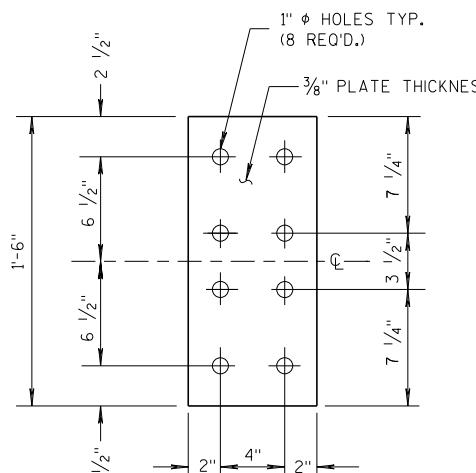


FRONT VIEW



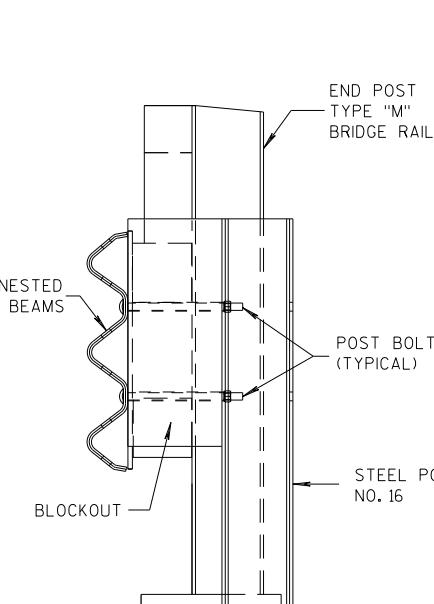
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

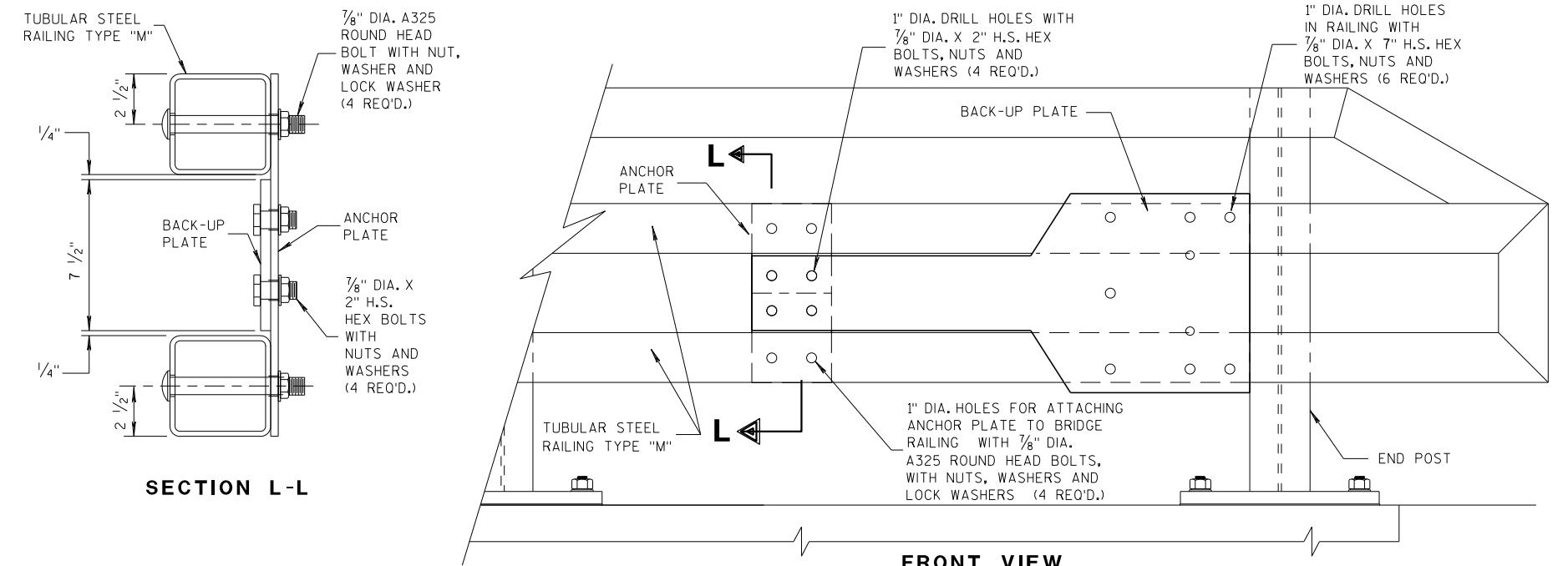


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"

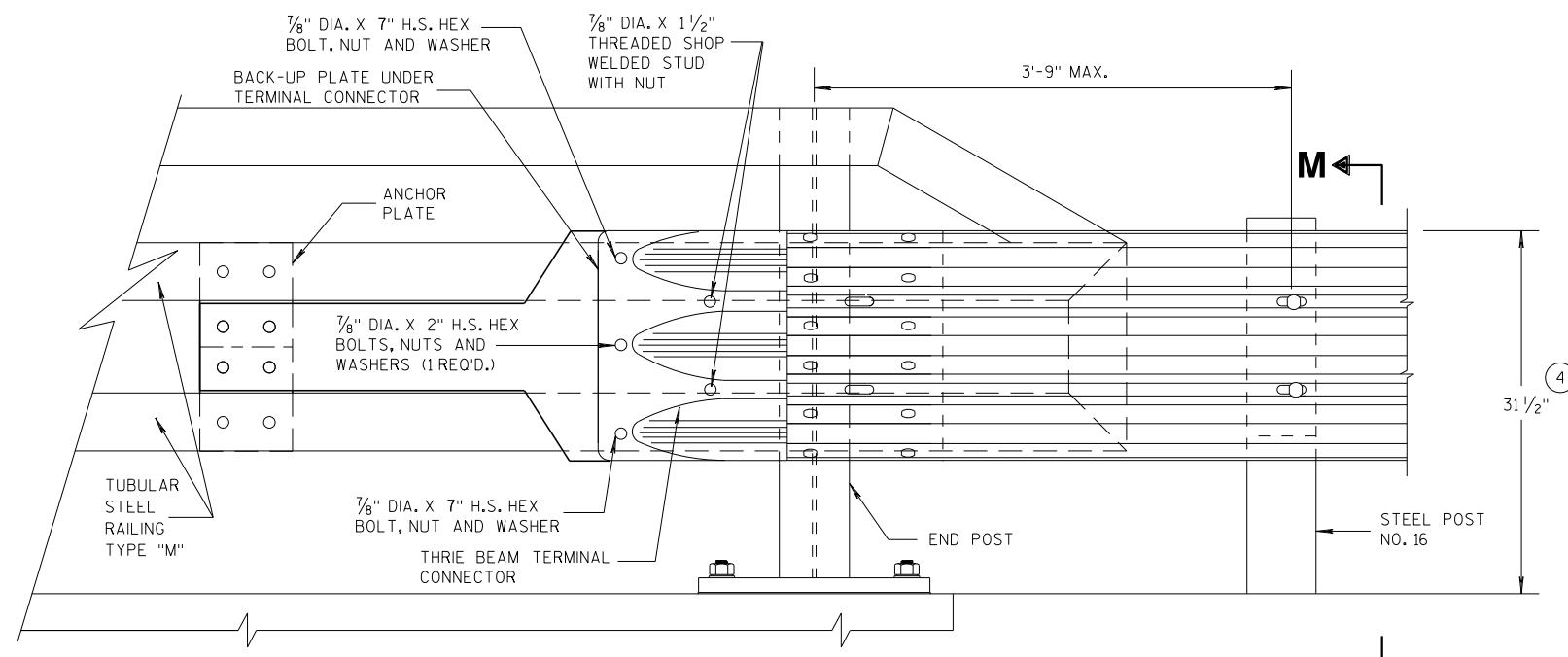


SECTION M-M

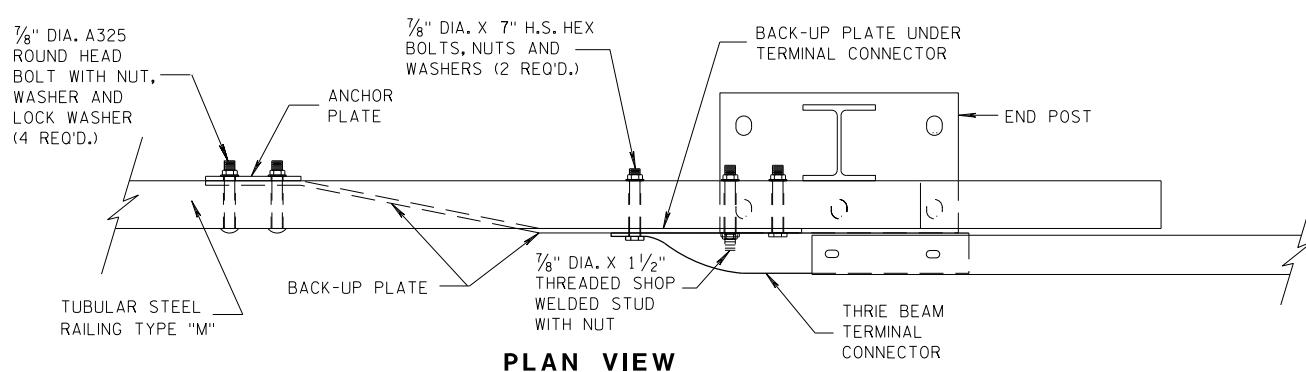


FRONT VIEW

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



FRONT VIEW



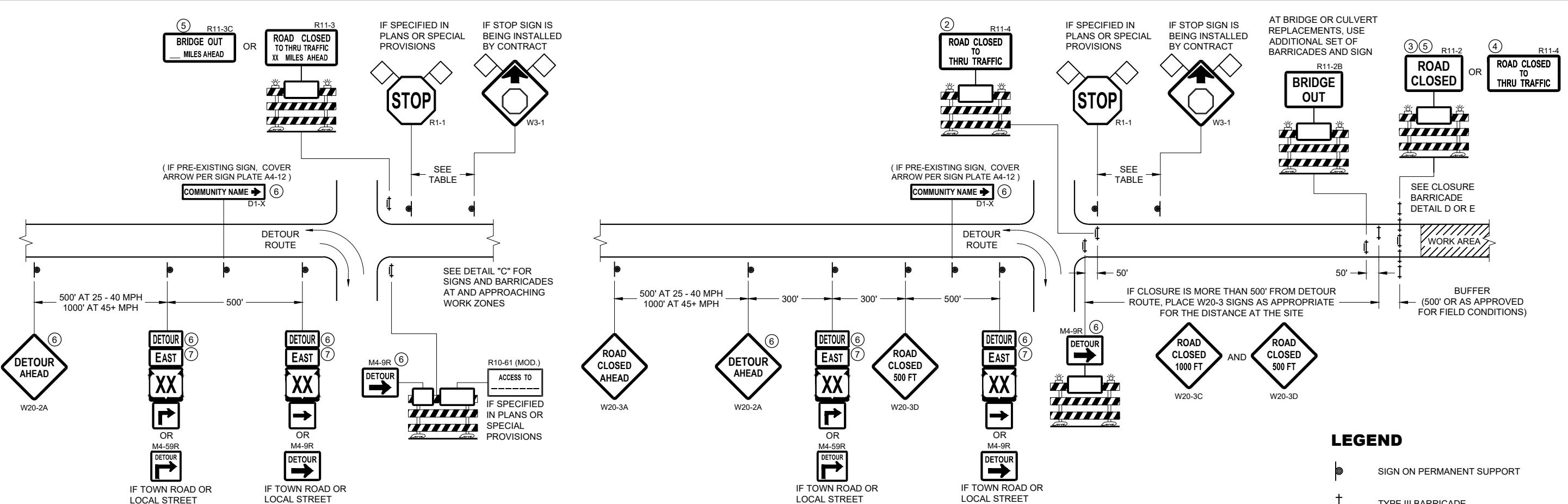
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



DETAIL A MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO $\frac{1}{2}$ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B MAINLINE CLOSURE WITH POSTED DETOUR

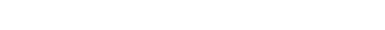
WORK ZONE LESS THAN $\frac{1}{2}$ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

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)



AT BRIDGE OR CULVERT REPLACEMENTS, USE ADDITIONAL SET OF BARRICADES AND SIGN



BRIDGE OUT



ROAD CLOSED TO THRU TRAFFIC



ROAD CLOSED 1000 FT



ROAD CLOSED 500 FT



DETOUR



EAST



XX



COUNTY X



M05 - 1



M06 - 1

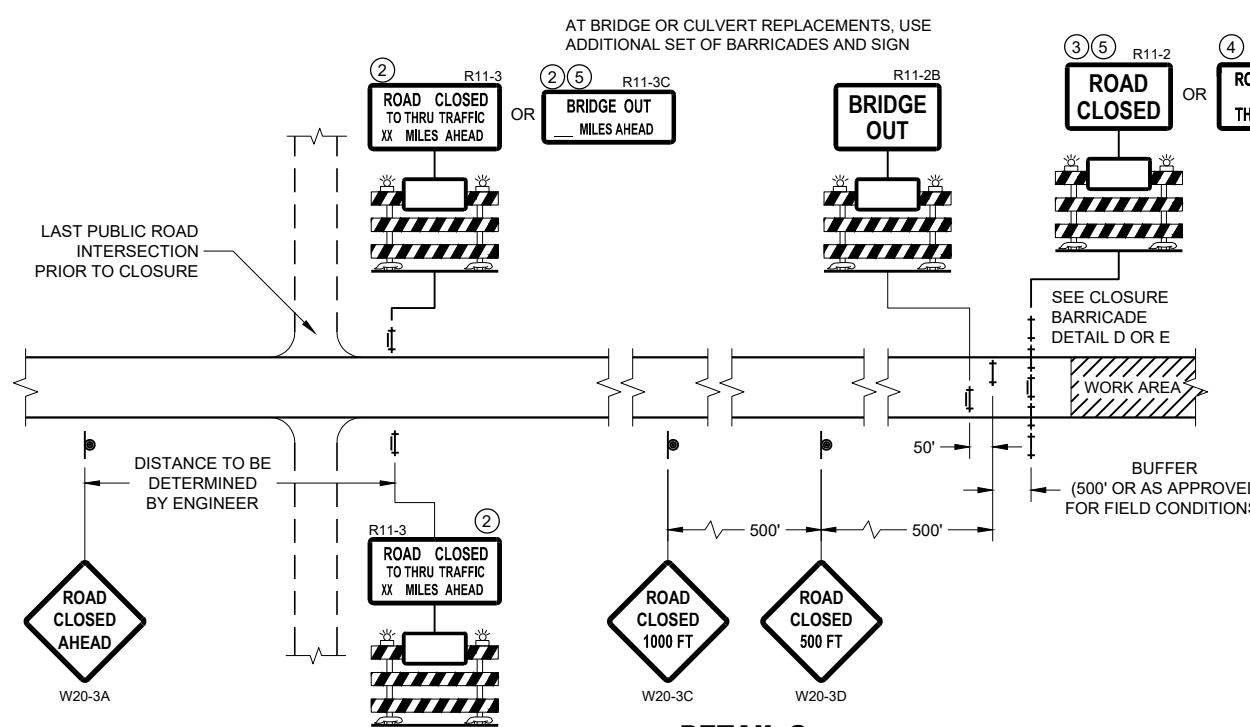
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



DETAIL C MAINLINE CLOSURE, NO POSTED DETOUR

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)

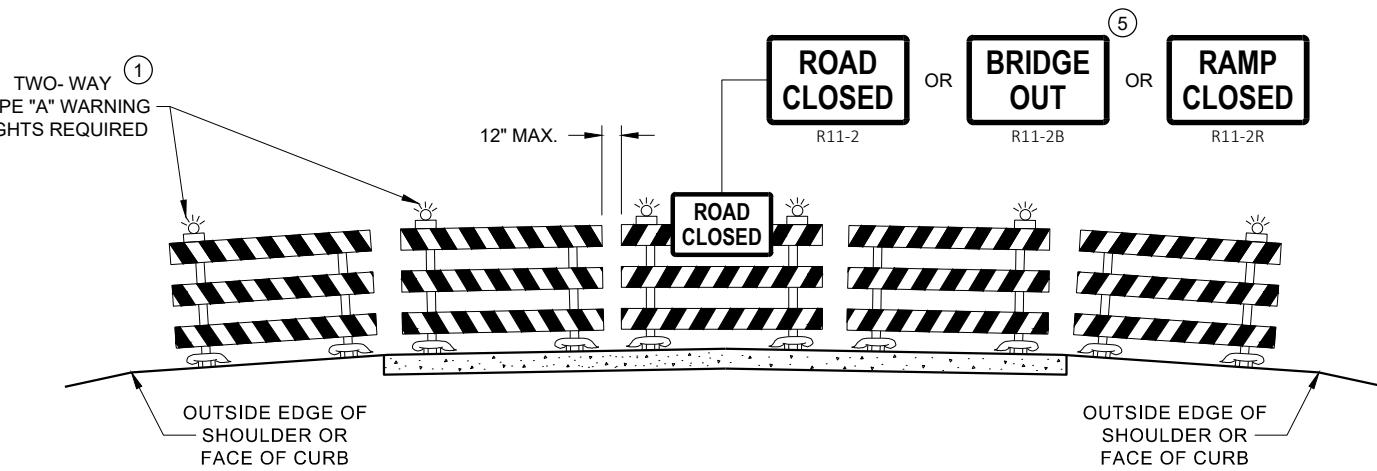
M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)

M05 - 1 AND M06 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

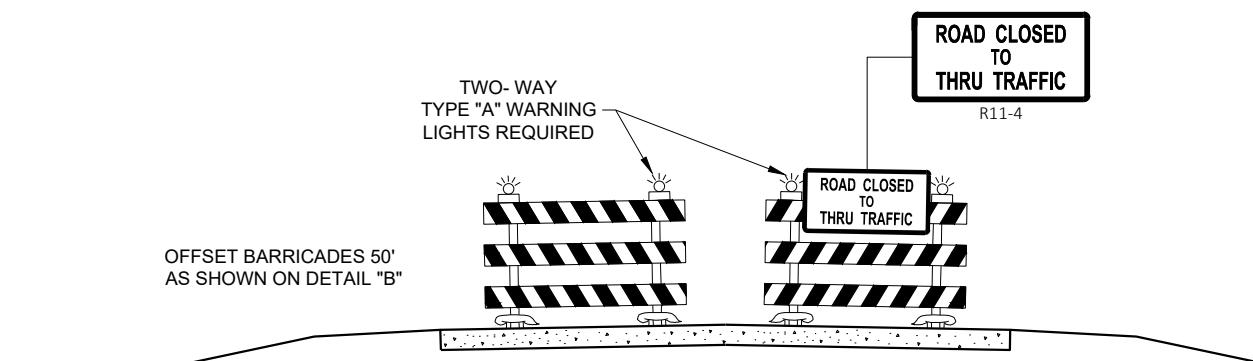
D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

R1 - 1 SHALL BE 36" X 36"



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW

6



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

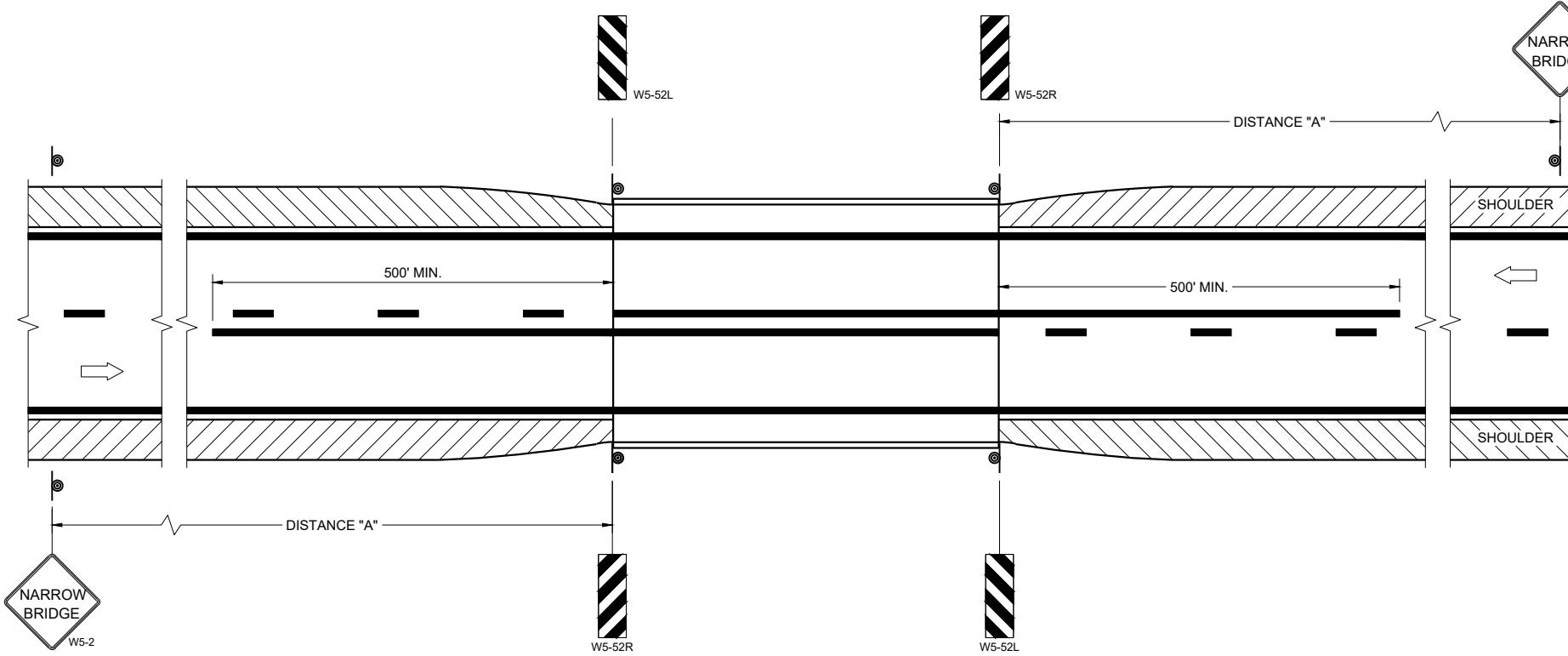
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS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

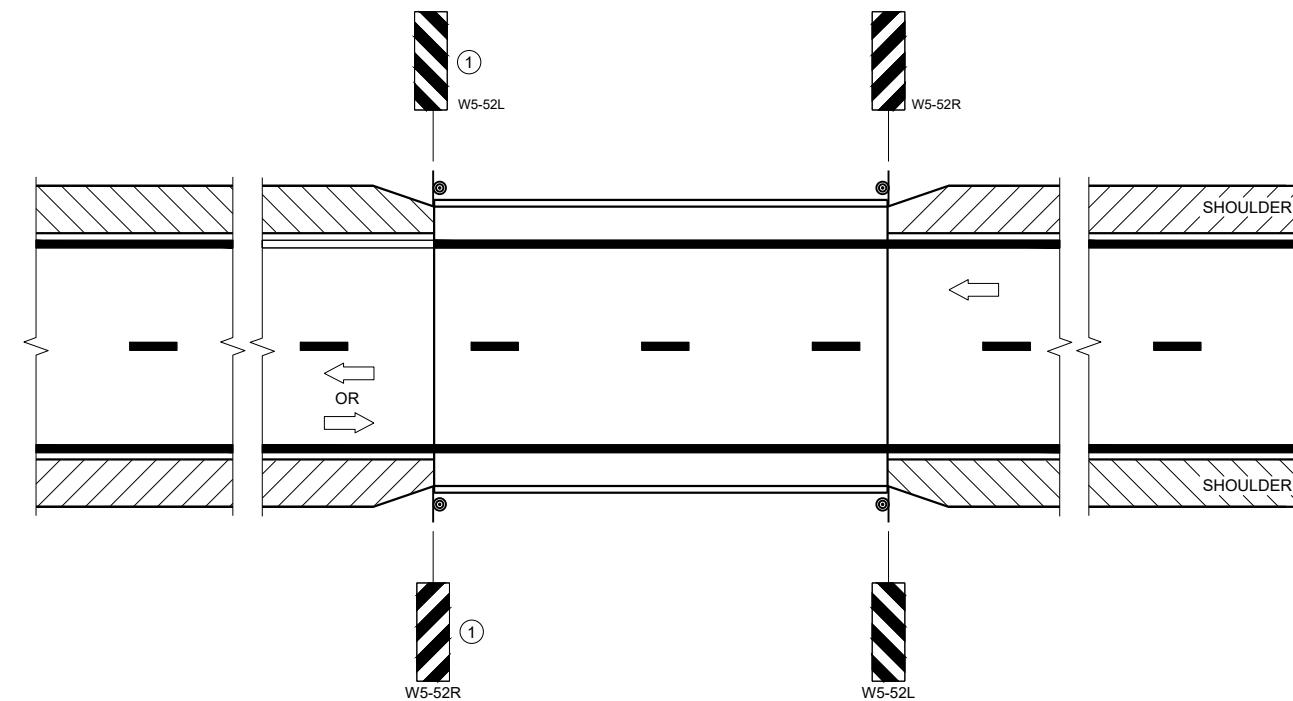
APPROVED
May 2023
DATE
FHWA

/S/ Andrew Heidtke
WORK ZONE ENGINEER



SITUATION 1

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



SITUATION 2

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

GENERAL NOTES

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

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

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

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

● SIGN ON PERMANENT SUPPORT

→ DIRECTION OF TRAFFIC

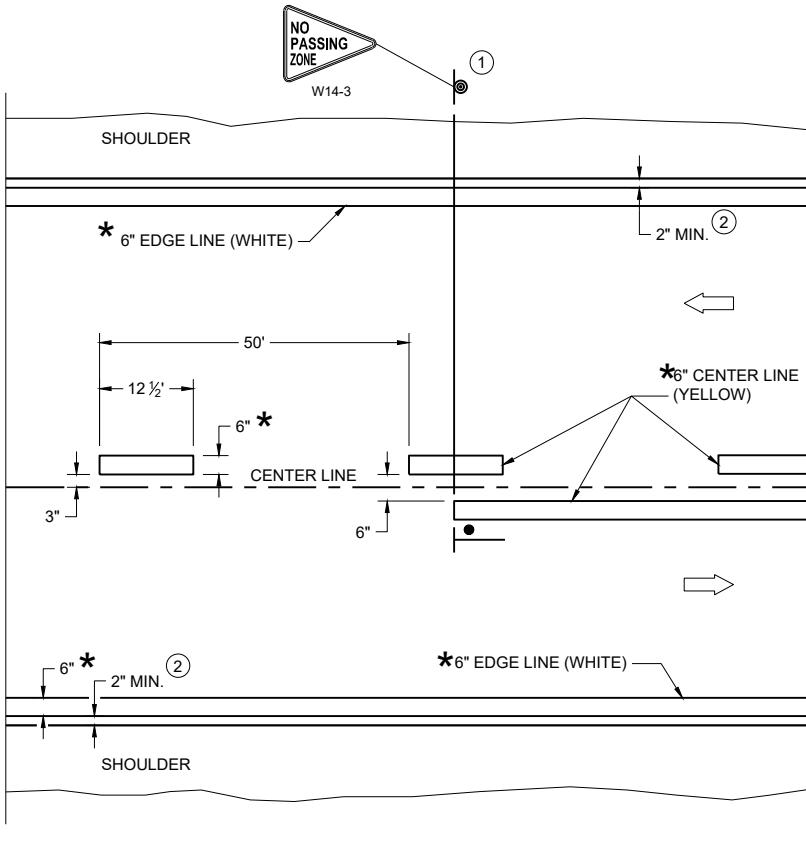
DISTANCE TABLE

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

SIGNING AND MARKING FOR TWO LANE BRIDGES

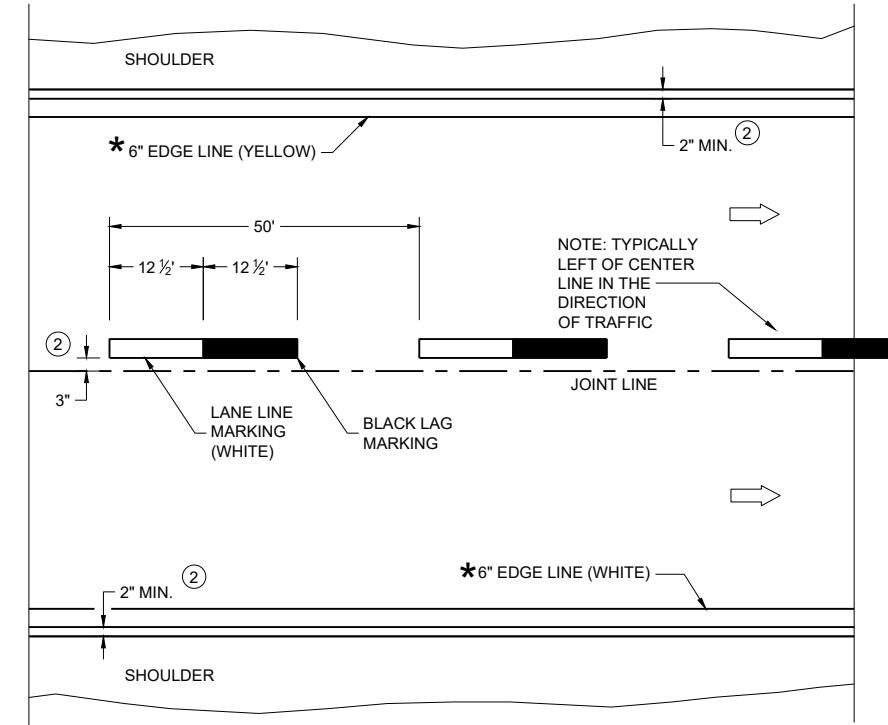
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC

PERMANENT PAVEMENT MARKING



ONE WAY TRAFFIC

GENERAL NOTES

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

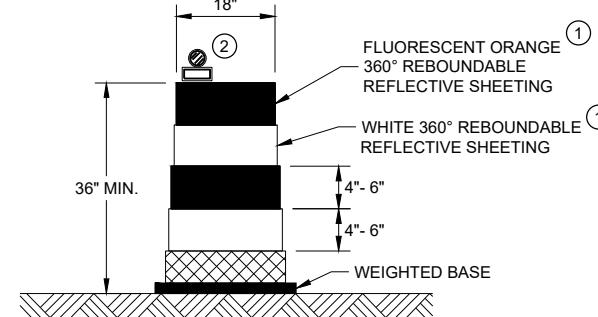
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

- 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.

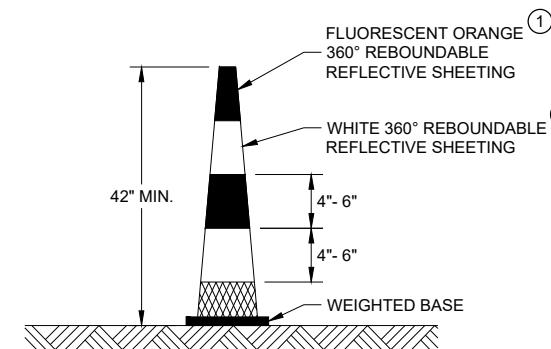
LEGEND

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

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer FHWA

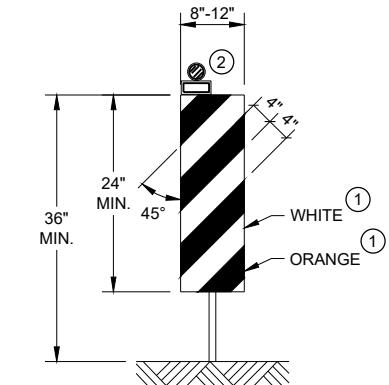
**DRUM**

BALLAST WIDTHS
RANGE FROM 24"-36"

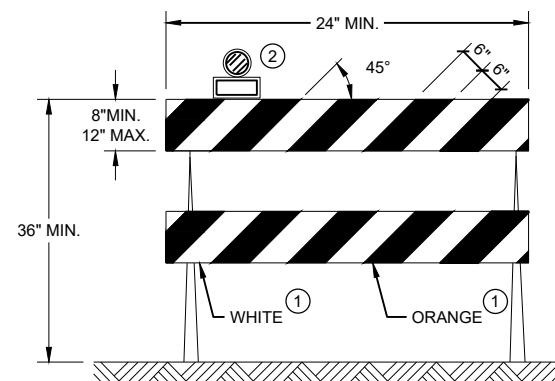
**42" CONE**

DO NOT USE IN TAPERS
½ SPACING OF DRUMS

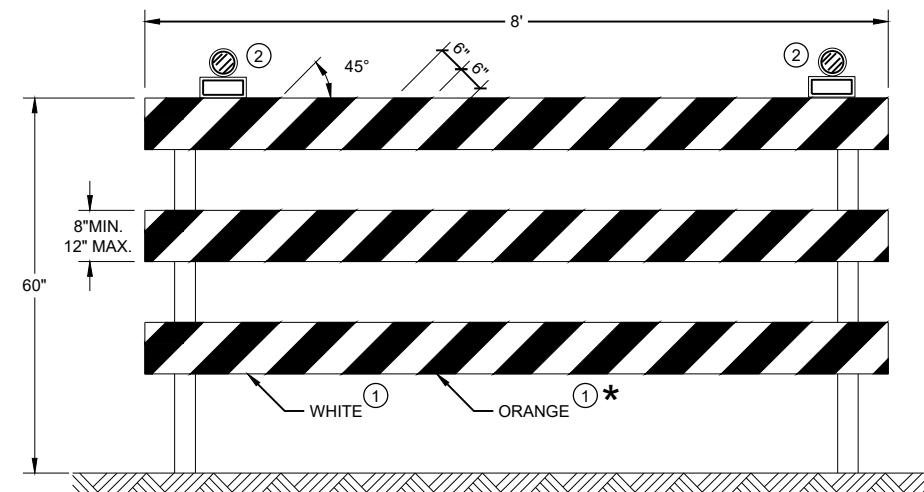
BALLAST WIDTHS
RANGE FROM 14"-20"

**VERTICAL PANEL**

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

**TYPE II BARRICADE**

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

**TYPE III BARRICADE**

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

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

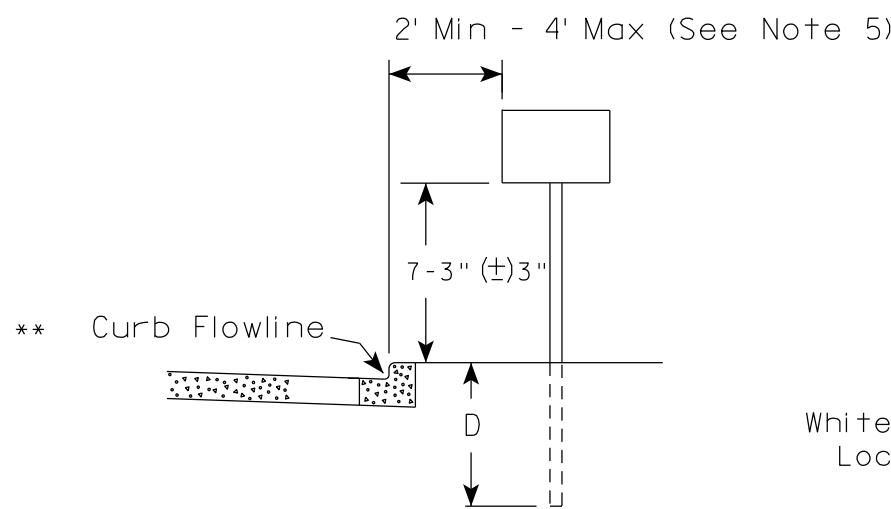
CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
--

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

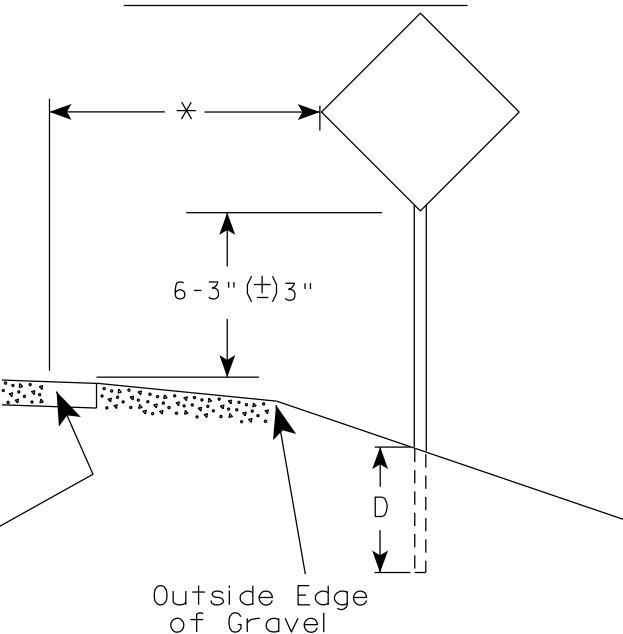
APPROVED
November 2022 /S/ Andrew Heidke
DATE
FHWA

WORK ZONE ENGINEER

URBAN AREA



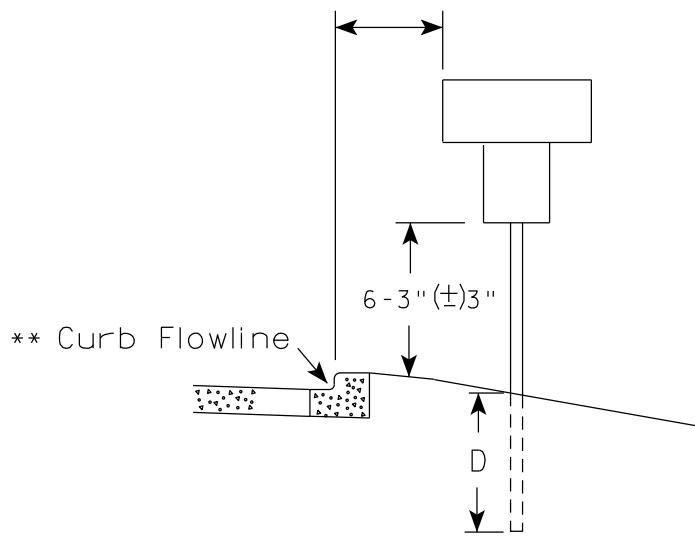
RURAL AREA (See Note 2)



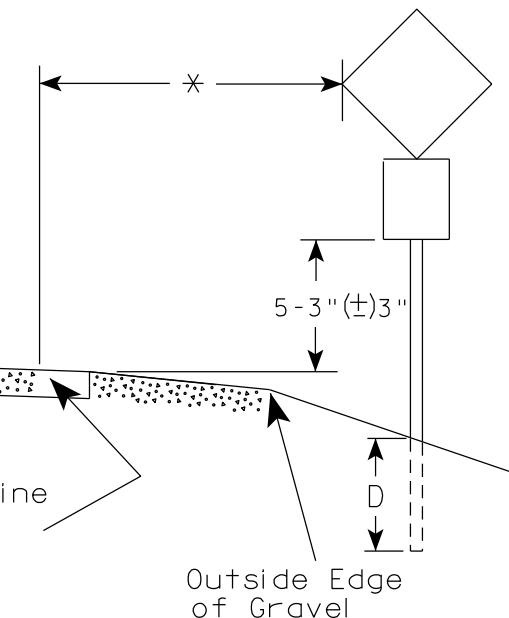
GENERAL NOTES

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

2' Min - 4' Max (See Note 5)



White Edgeline Location



** 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.

POST EMBEDMENT DEPTH

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

* 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 P. Rauch*
for State Traffic Engineer

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

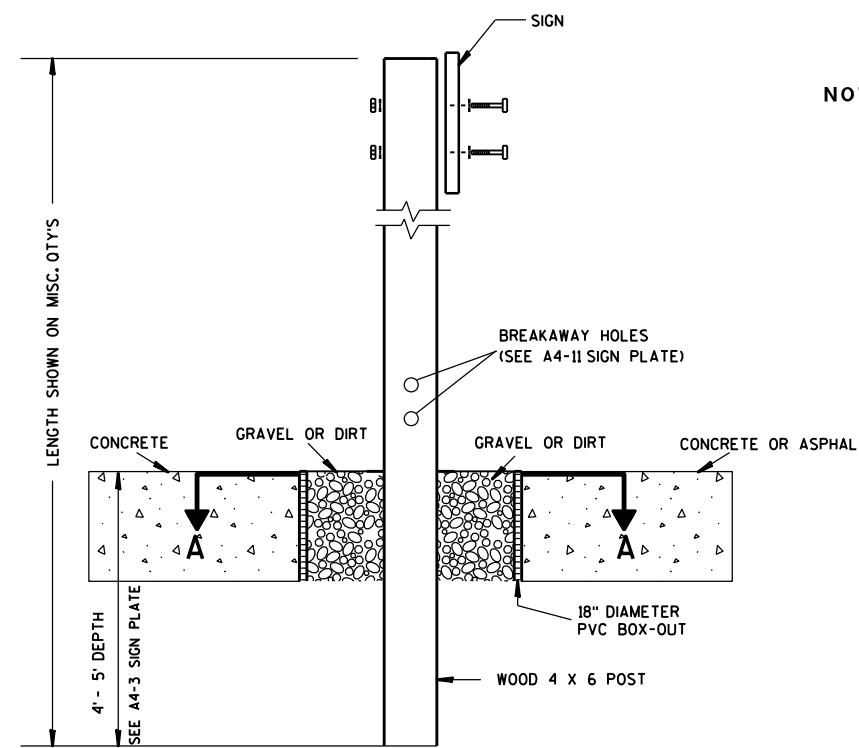
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

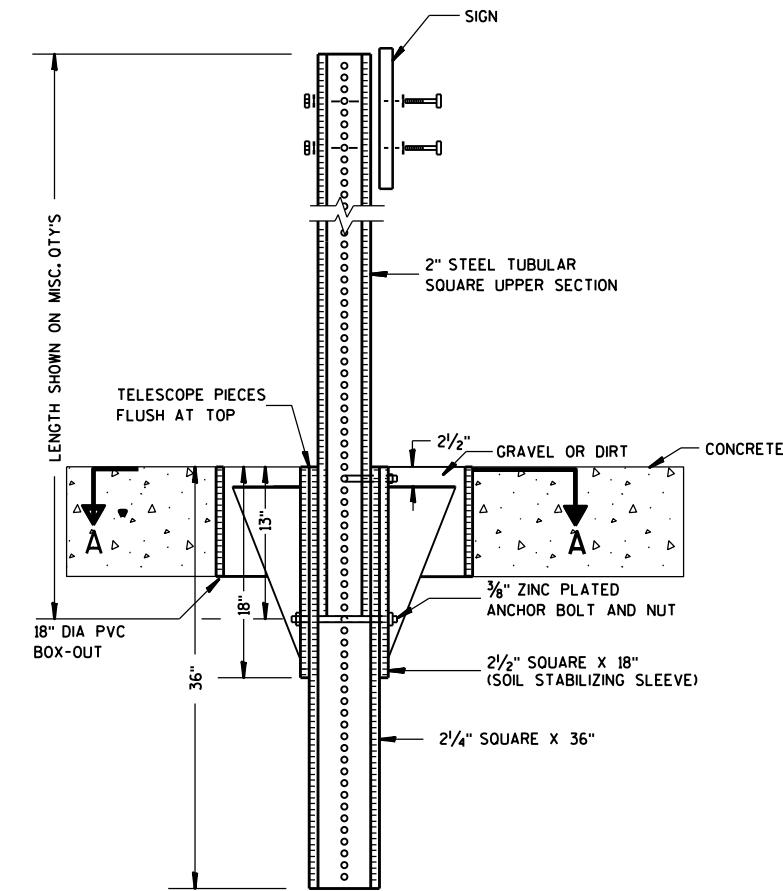


ELEVATION VIEW

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

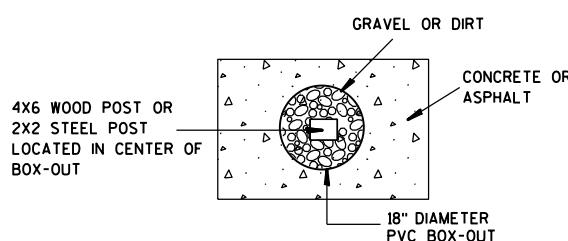
NOTES:

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



ELEVATION VIEW

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



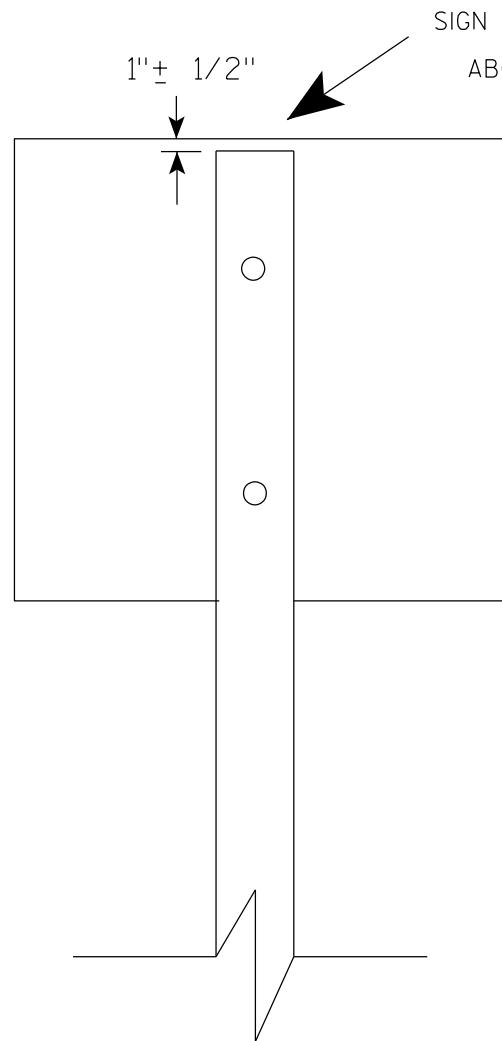
PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

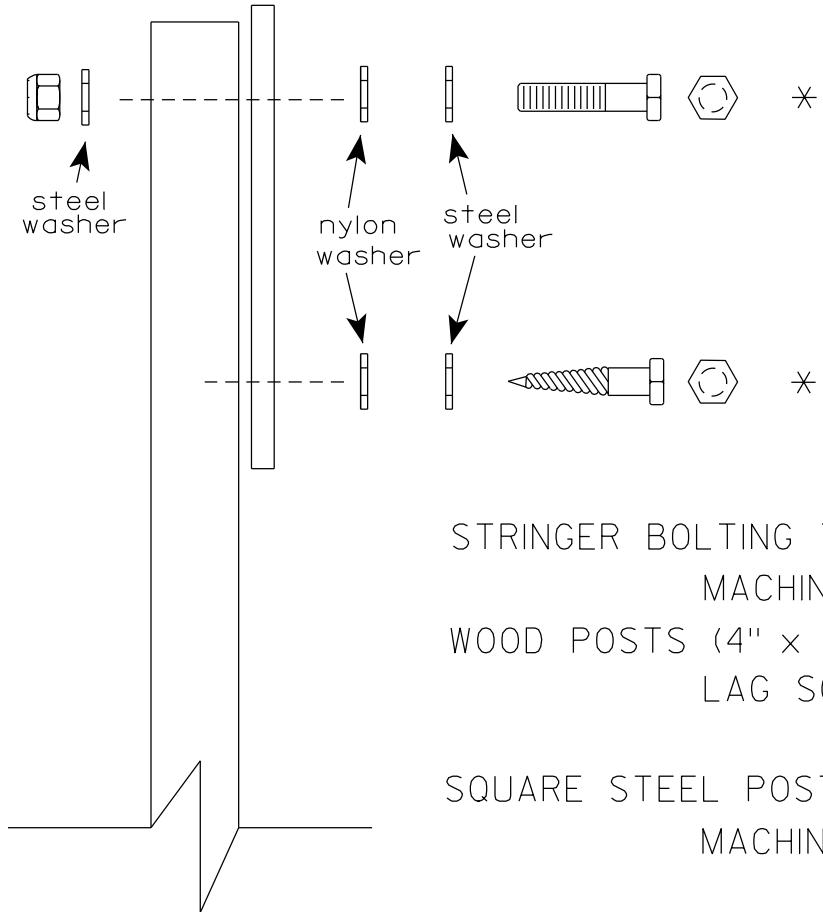
**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew P Rauch
for State Traffic Engineer
DATE 1/27/14 PLATE NO. A4-3B.1



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



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL

O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

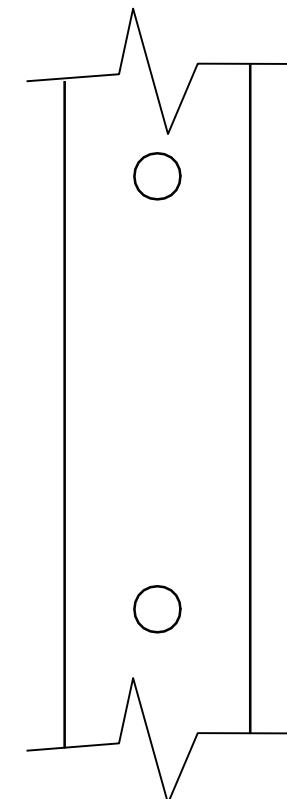
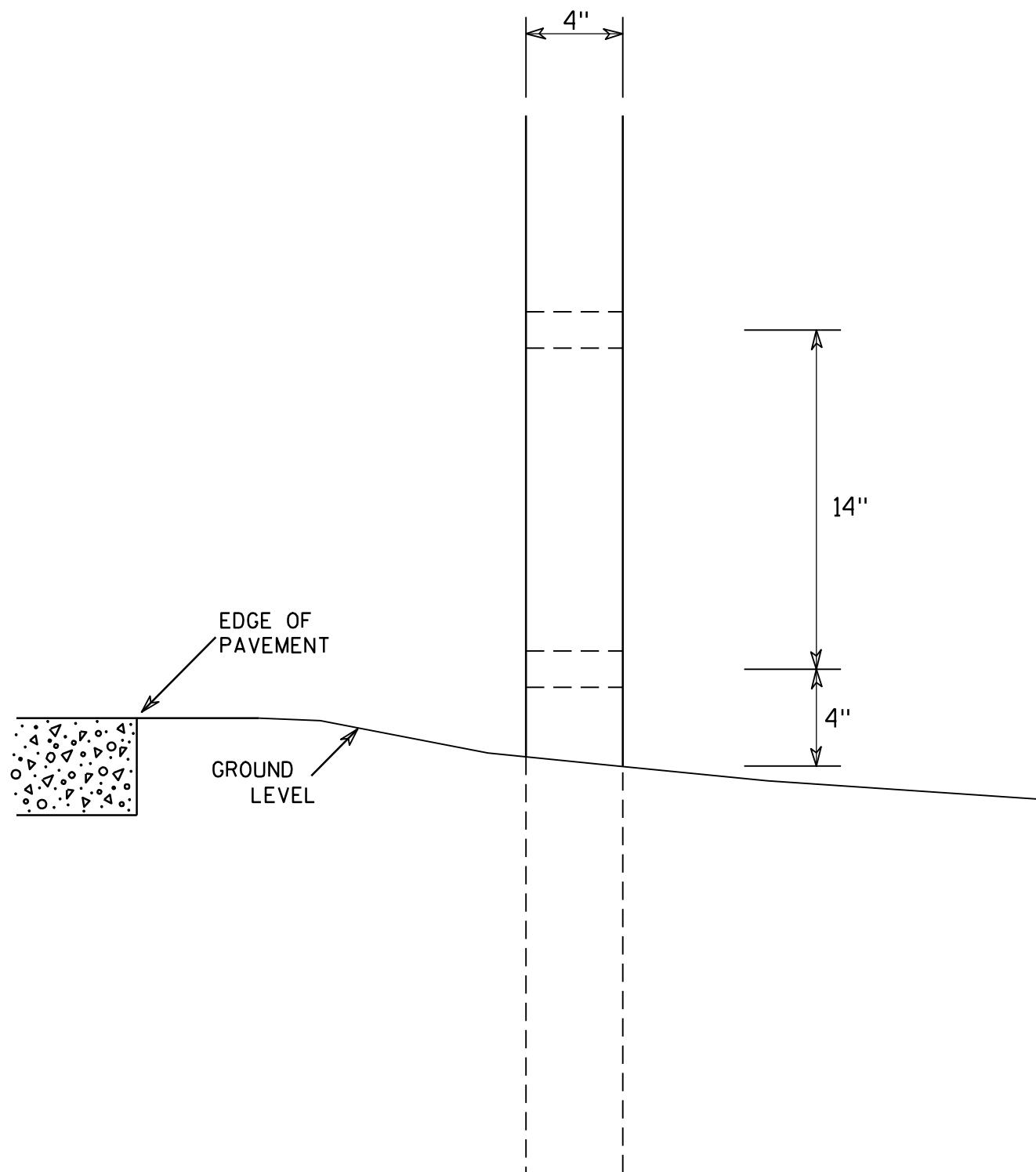
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Cheska J. Sprey
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

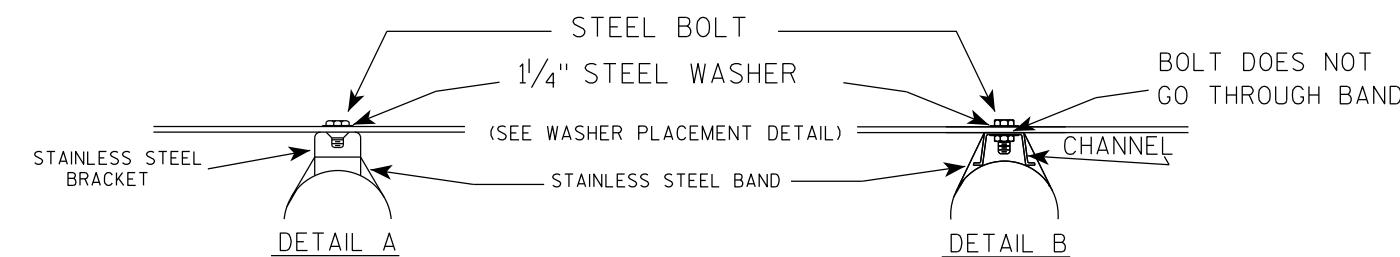
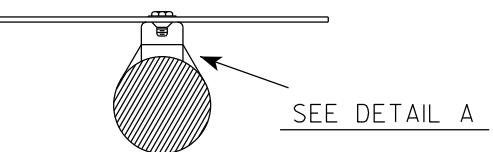
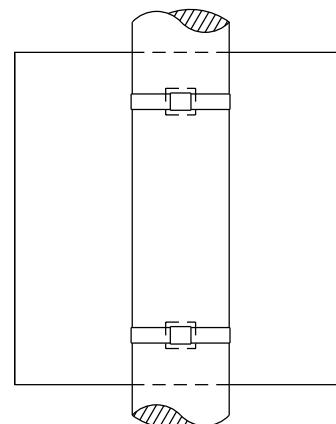
E

GENERAL NOTES

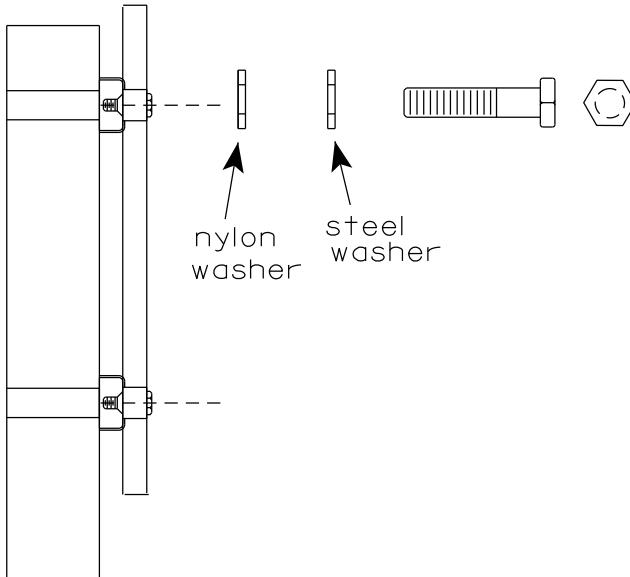
1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel.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

BANDING

SINGLE SIGN

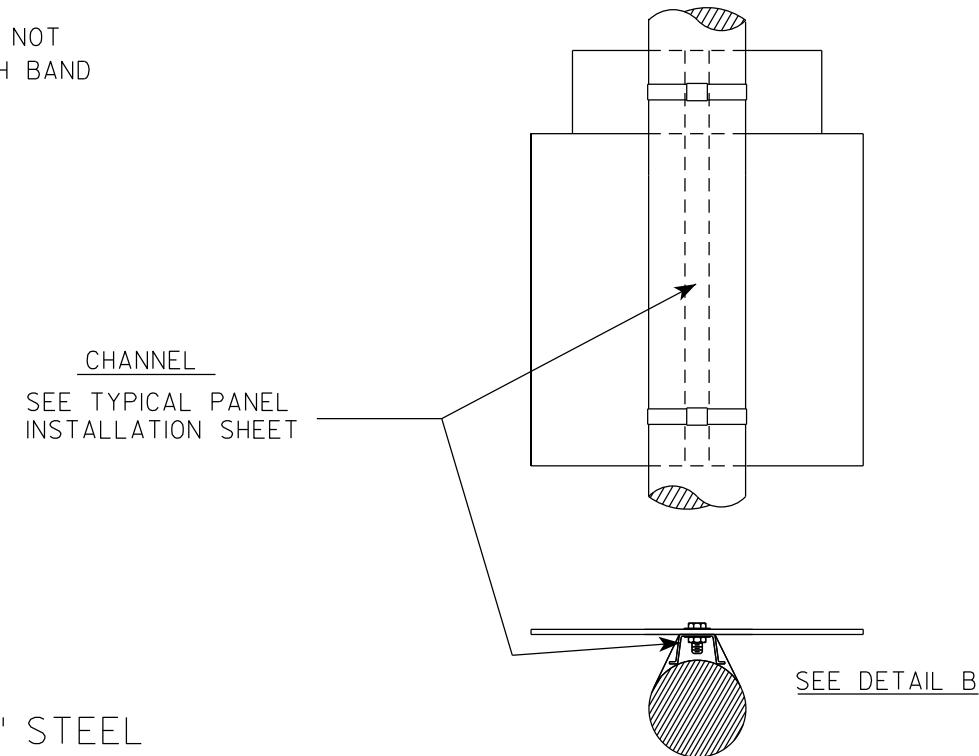


WASHER PLACEMENT



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

"J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew P. Rauch
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

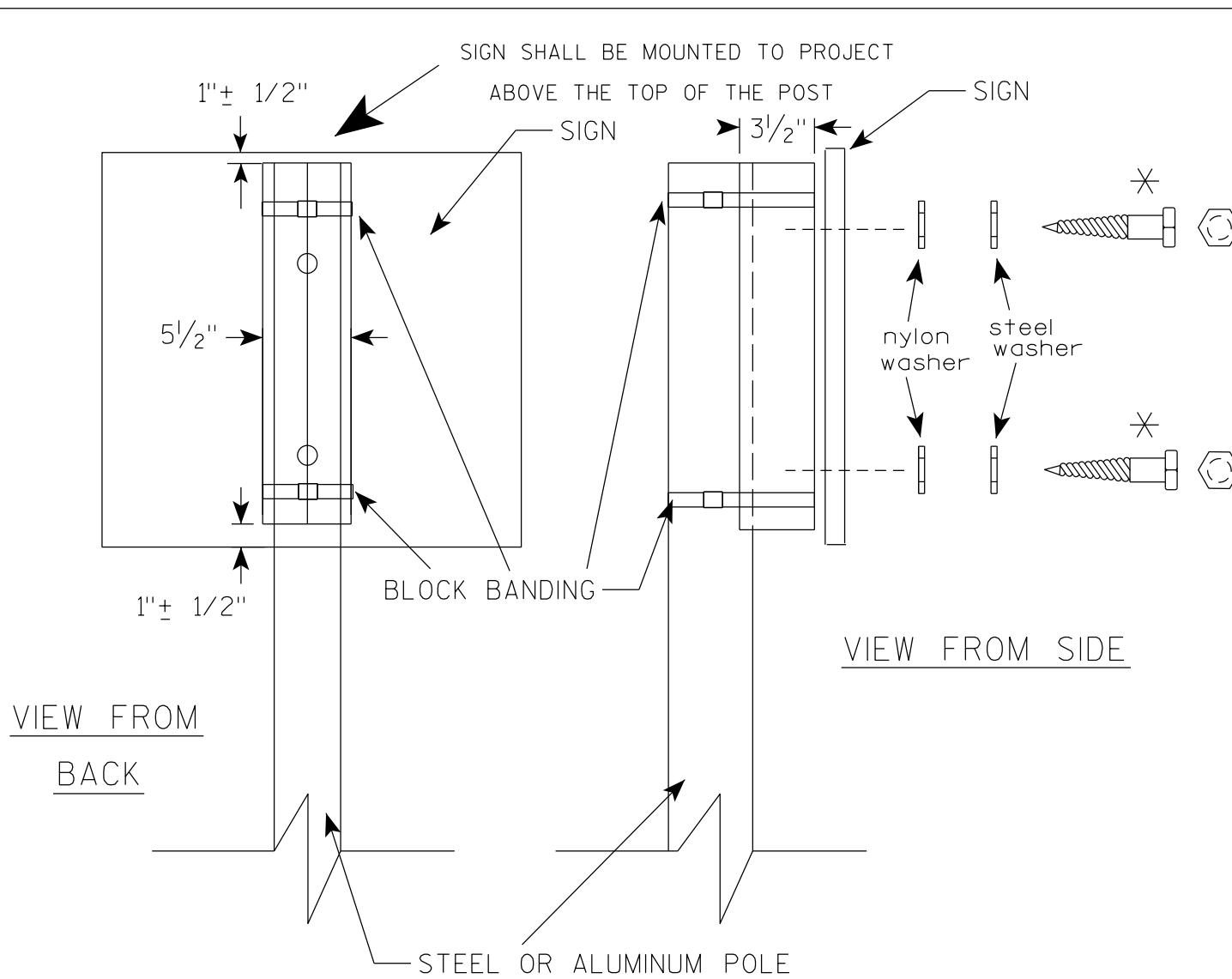
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

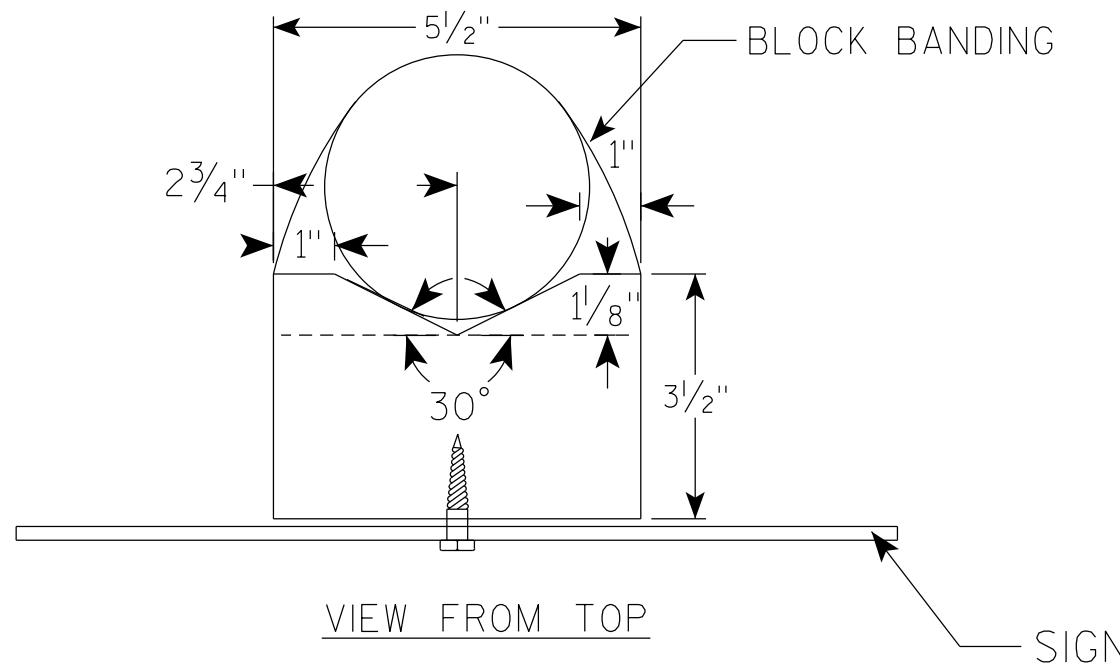
E



GENERAL NOTES

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

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



BLOCK BANDING DETAIL
(V-BLOCK OPTION)

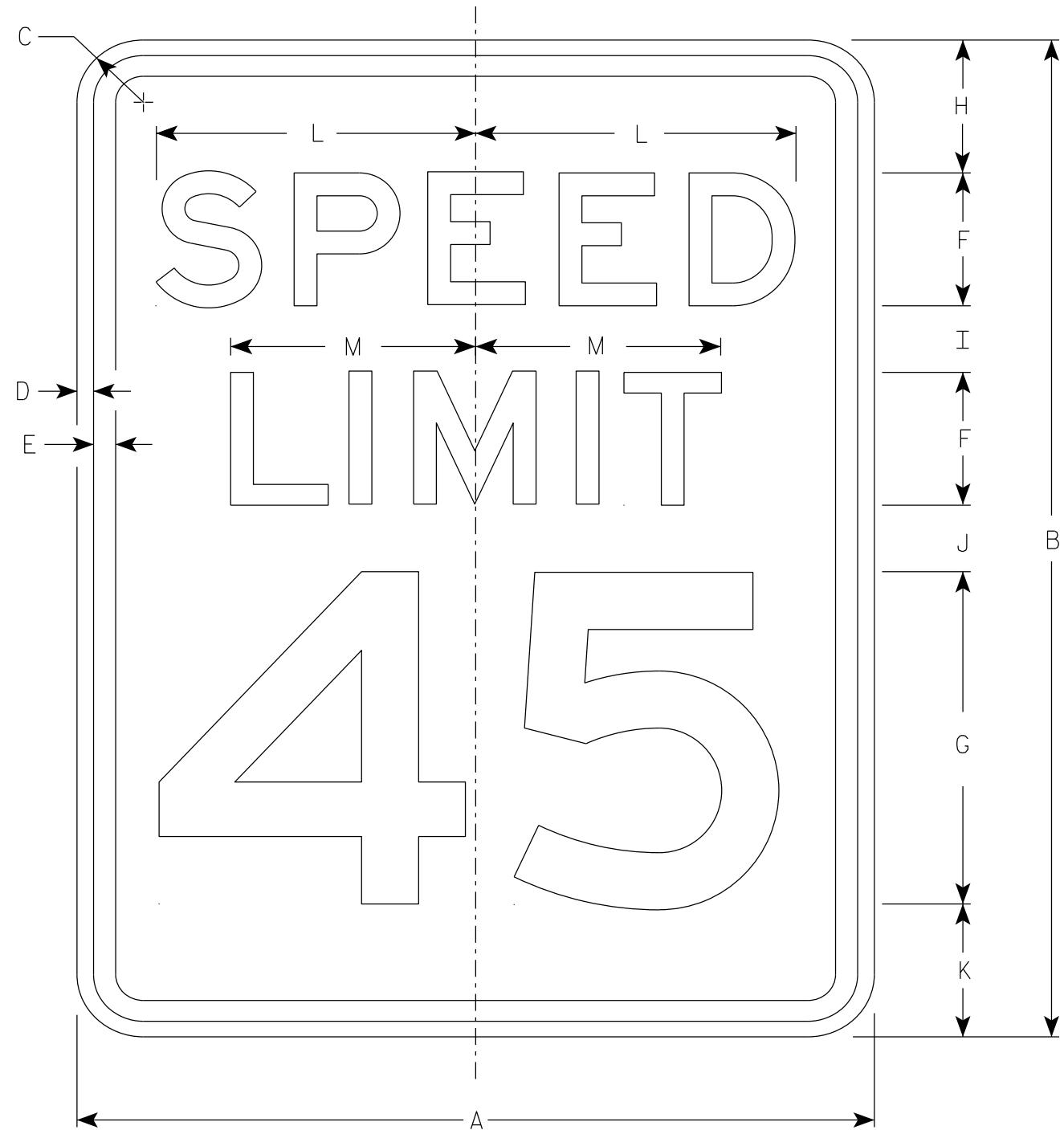
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

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

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.



R2-1

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	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2												3.0		
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8												5.0		
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4												7.5		
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11												12.0		
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11												12.0		
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8												20.0		

PROJECT NO:

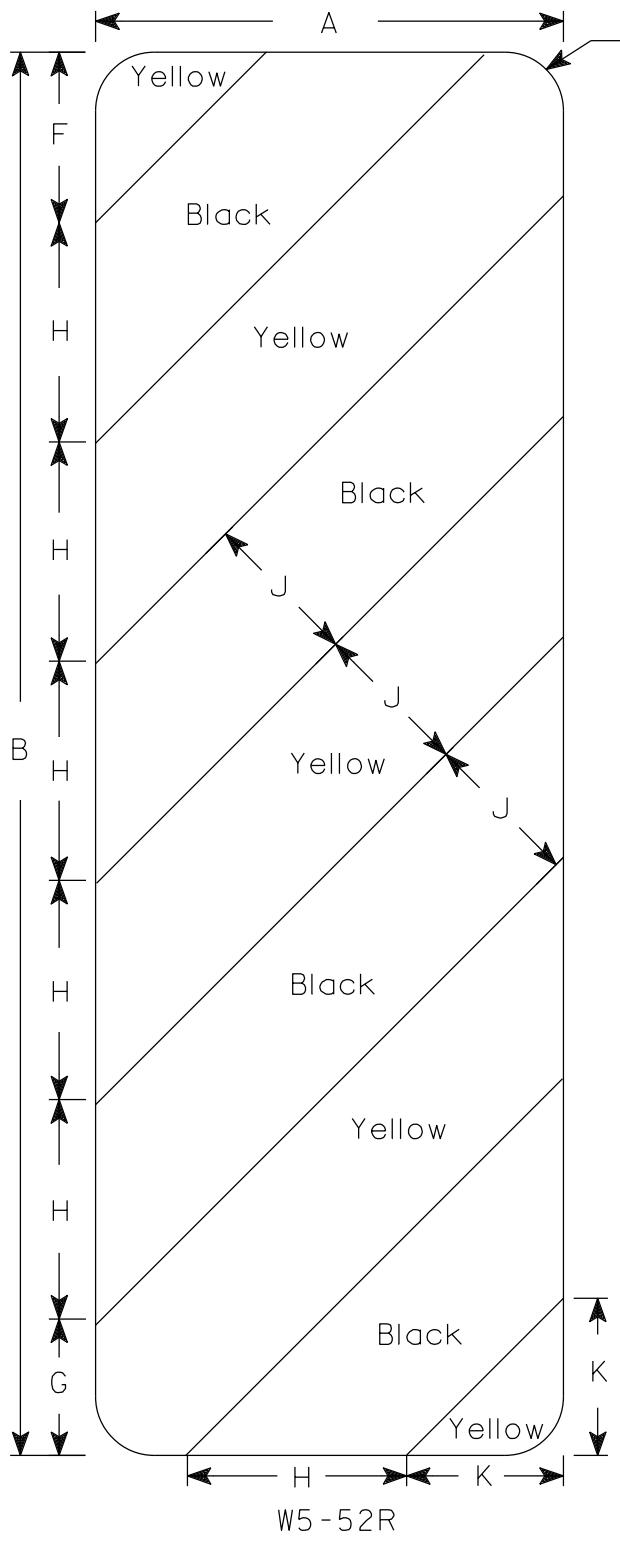
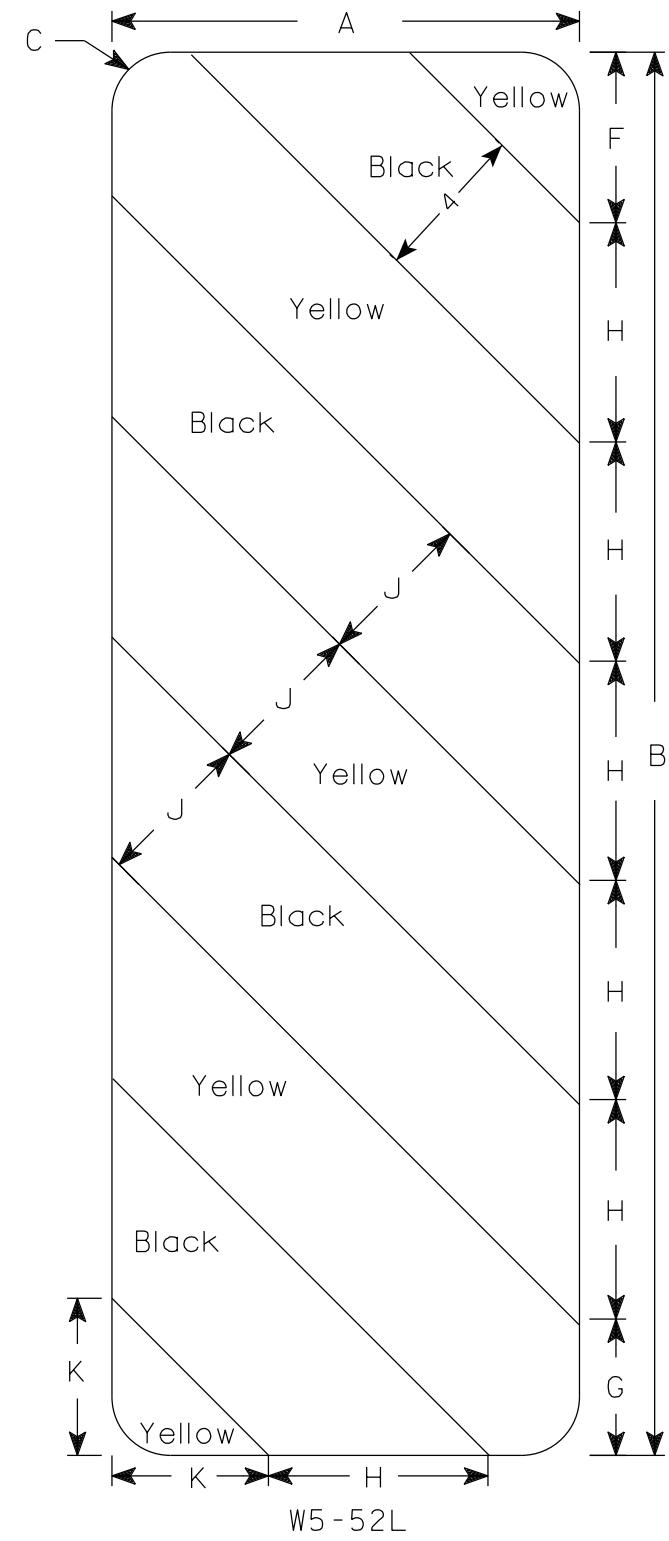
HWY:

COUNTY:

STANDARD SIGN	
R2-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew P Rauch</i> State Traffic Engineer
DATE	2/1/23
PLATE NO.	R2-1.14

SHEET NO: **E**

7



NOTES

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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

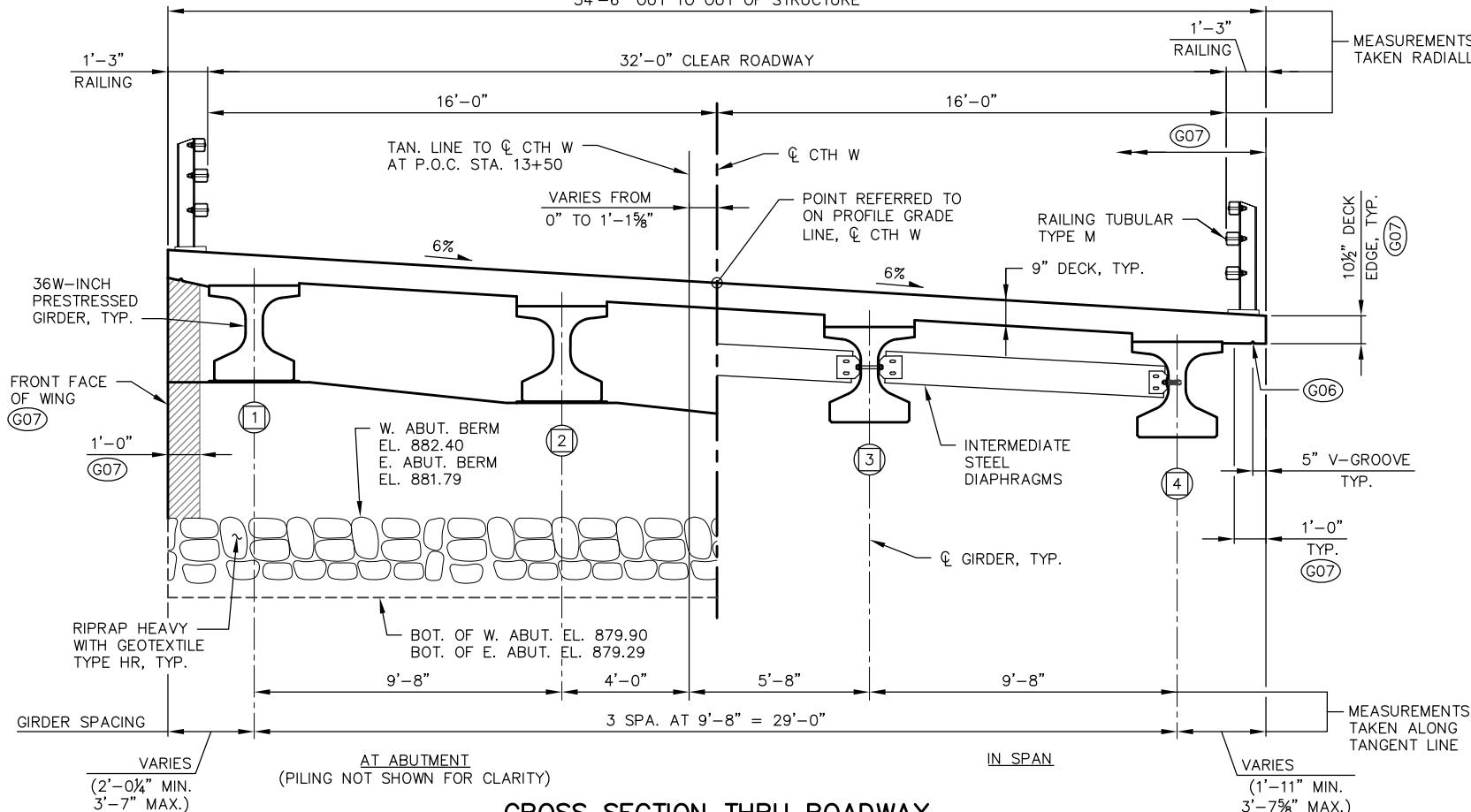
STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*

for State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

**TOTAL ESTIMATED QUANTITIES**

ITEM NO.	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTALS
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-56-595	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-56-246	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	310	330	---	640
502.0100	CONCRETE MASONRY BRIDGES	CY	64.0	61.5	130.8	257
502.3200	PROTECTIVE SURFACE TREATMENT	SY	23	20	378	421
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	---	---	324	324
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3,910	4,040	---	7,950
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,180	2,500	20,410	26,090
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	4	4	---	8
506.4000	STEEL DIAPHRAGMS B-56-246	EACH	---	---	3	3
513.4061	RAILING TUBULAR TYPE M	LF	39	37	171	247
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	13	---	25
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	120	120	---	240
550.1120	PILING STEEL HP 10-INCH X 42 LB	LF	140	140	---	280
606.0300	RIPRAP HEAVY	CY	105	105	---	210
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	110	---	220
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	37	40	---	77
645.0120	GEOTEXTILE TYPE HR	SY	184	188	---	372
SPV.0195.01	SELECT CRUSHED MATERIAL FOR TRAVEL CORRIDOR	TON	11	10	---	21
(NON-BID ITEM)	FILLER	SIZE	---	---	---	$\frac{1}{2}$ " & $\frac{3}{4}$ "

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 A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

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

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-56-246".

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

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE ABUTMENTS.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE "GENERAL PLAN" AND ABUTMENT SHEETS.

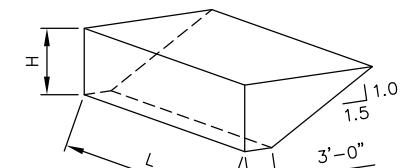
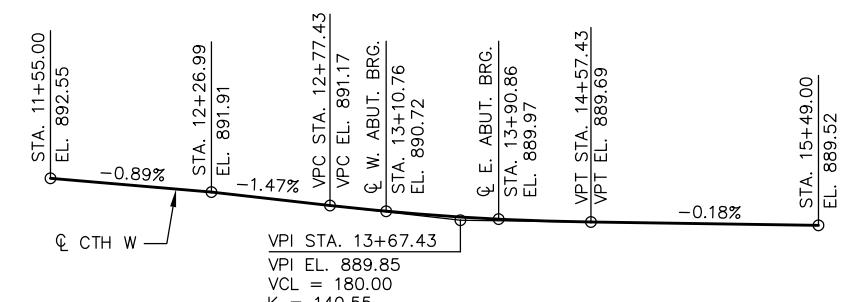
THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "36W-INCH PRESTRESSED GIRDER DETAILS" SHEET.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

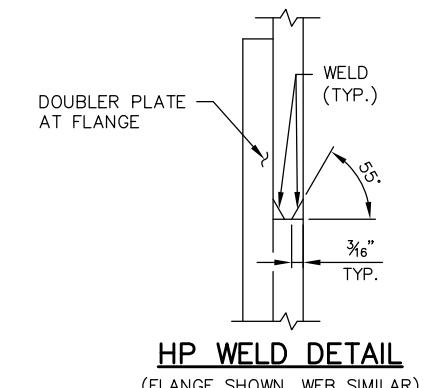
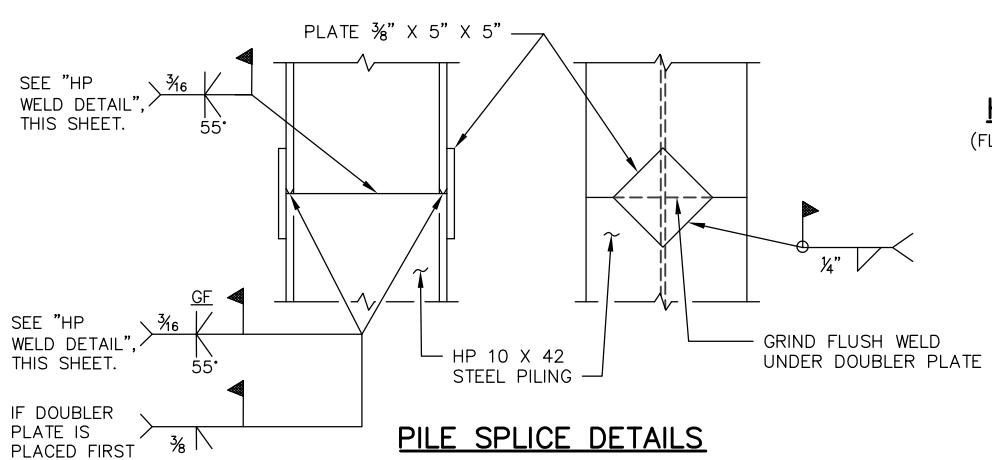
SHALLOW BEDROCK (LESS THAN 10-FT BELOW ABUTMENTS) WAS ENCOUNTERED IN THE BORINGS FOR BOTH THE WEST AND EAST ABUTMENTS. A MINIMUM OF 3-FEET OF PRE-BORE AT THE ABUTMENTS INTO SUITABLE BEDROCK IS REQUIRED IF THE MINIMUM 10-FEET OF PILE PENETRATION INTO NATURAL GROUND CANNOT BE ACHIEVED.

PILE PLACED IN PREBORED HOLES CORED INTO ROCK DO NOT REQUIRE DRIVING. PILES SHALL BE "FIRMLY SEATED" ON ROCK AFTER PLACEMENT IN PREBORED HOLES.

THE EXISTING STRUCTURE B-56-595 IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE WITH AN OVERALL LENGTH OF 47'-0" AND A CLEAR ROADWAY WIDTH OF 24'-0". SUPERSTRUCTURE, AND ABUTMENTS SHALL BE REMOVED IN ACCORDANCE WITH THE BID ITEM "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-56-595".

**ABUTMENT BACKFILL DIAGRAM**

L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)
 EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
 V_{CF} = $(L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
 V_{CY} = $V_{CF}(EF)/27$
 V_{TON} = $V_{CY}(2.0)$

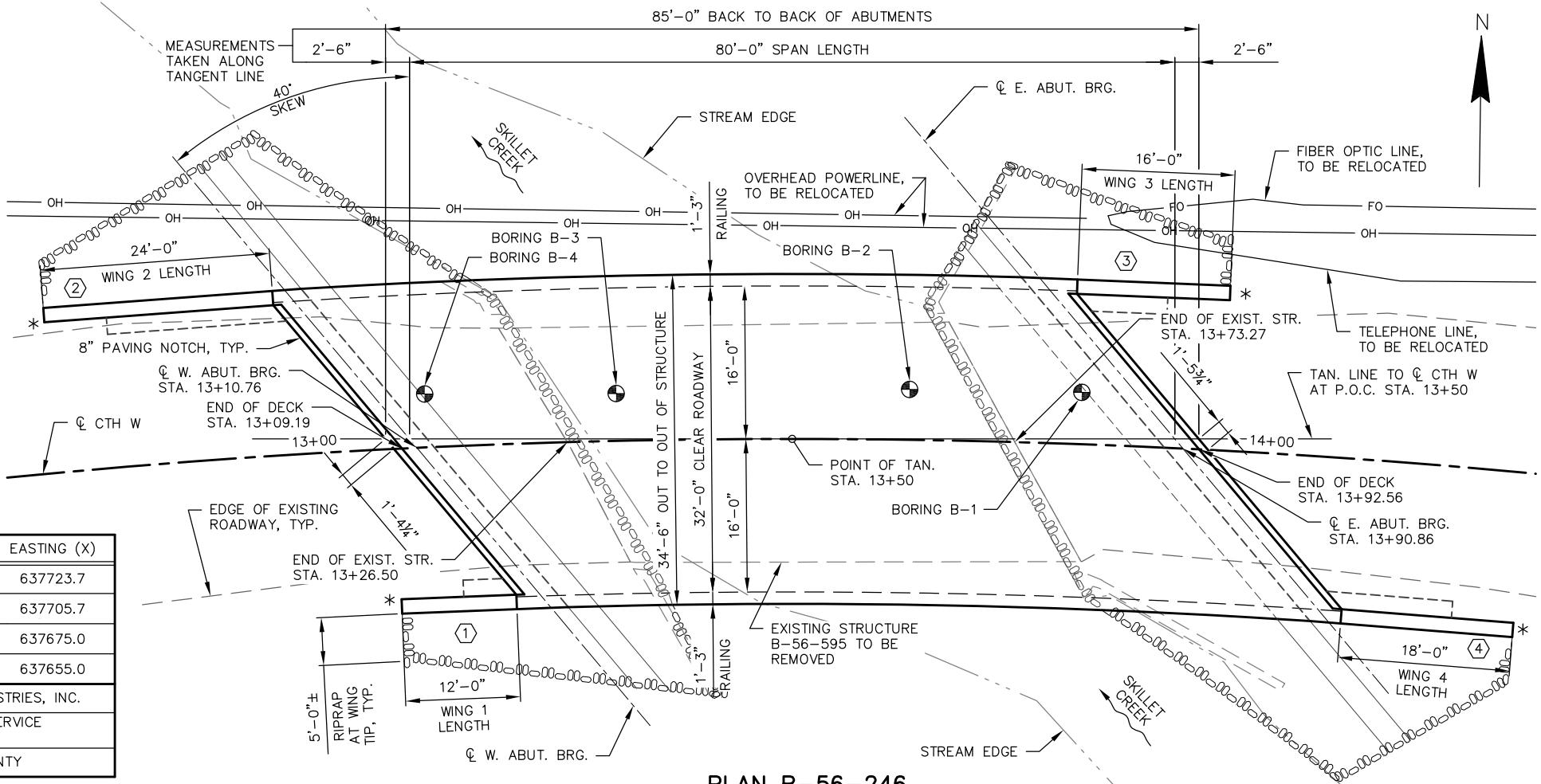


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
CROSS SECTION, GENERAL NOTES AND QUANTITIES			
SHEET 2 OF 21			

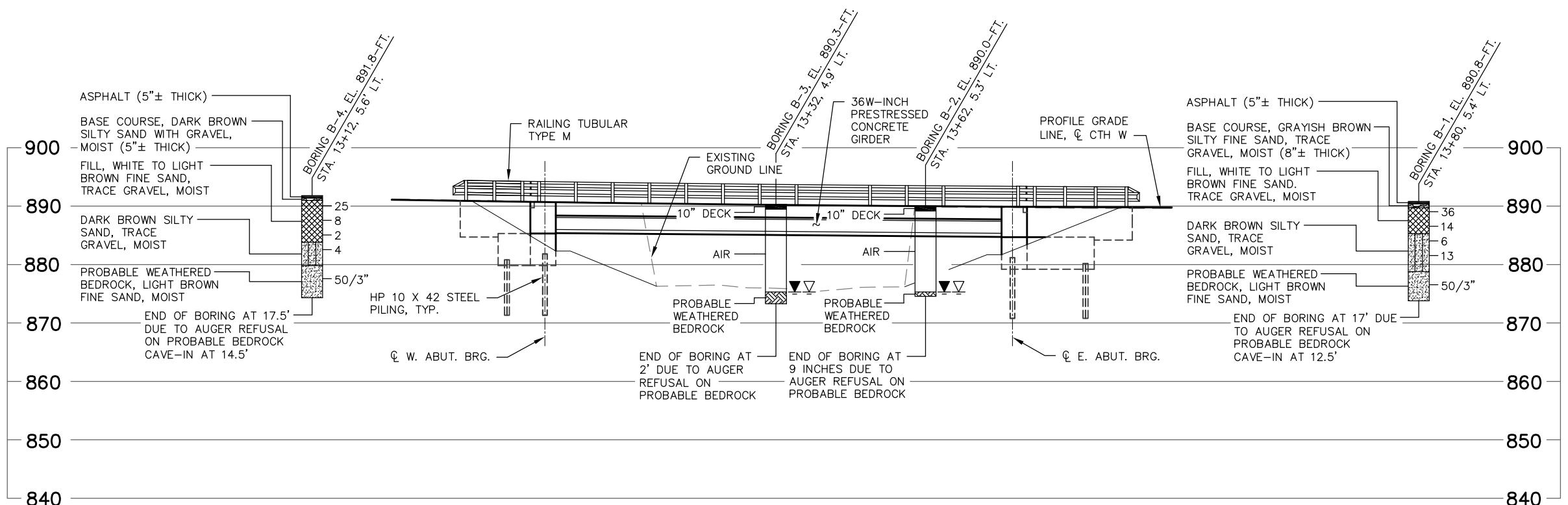
FILE: B560246_02_crs.dwg
PLOT SCALE: 1:1000
I.D. 5678-00-74
PLOT DATE: Aug 12, 2025

NOTES

* LOCATION OF BEAM GUARD ATTACHMENT
□ INDICATES WING NUMBER



PLAN B-56-246



STATE PROJECT NUMBER

5678-00-74

MATERIAL SYMBOLS

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

LEGEND OF BORING

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

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

GROUND WATER ELEVATION

AT TIME OF DRILLING

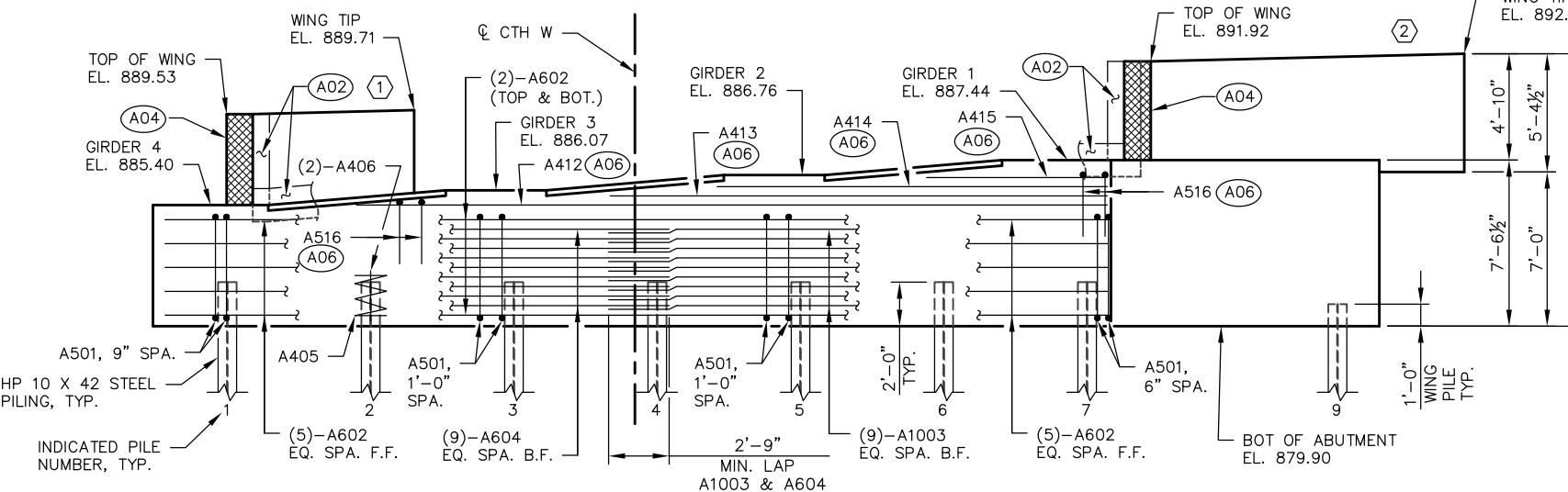
END OF DRILLING

AFTER DRILLING

ABBREVIATIONS

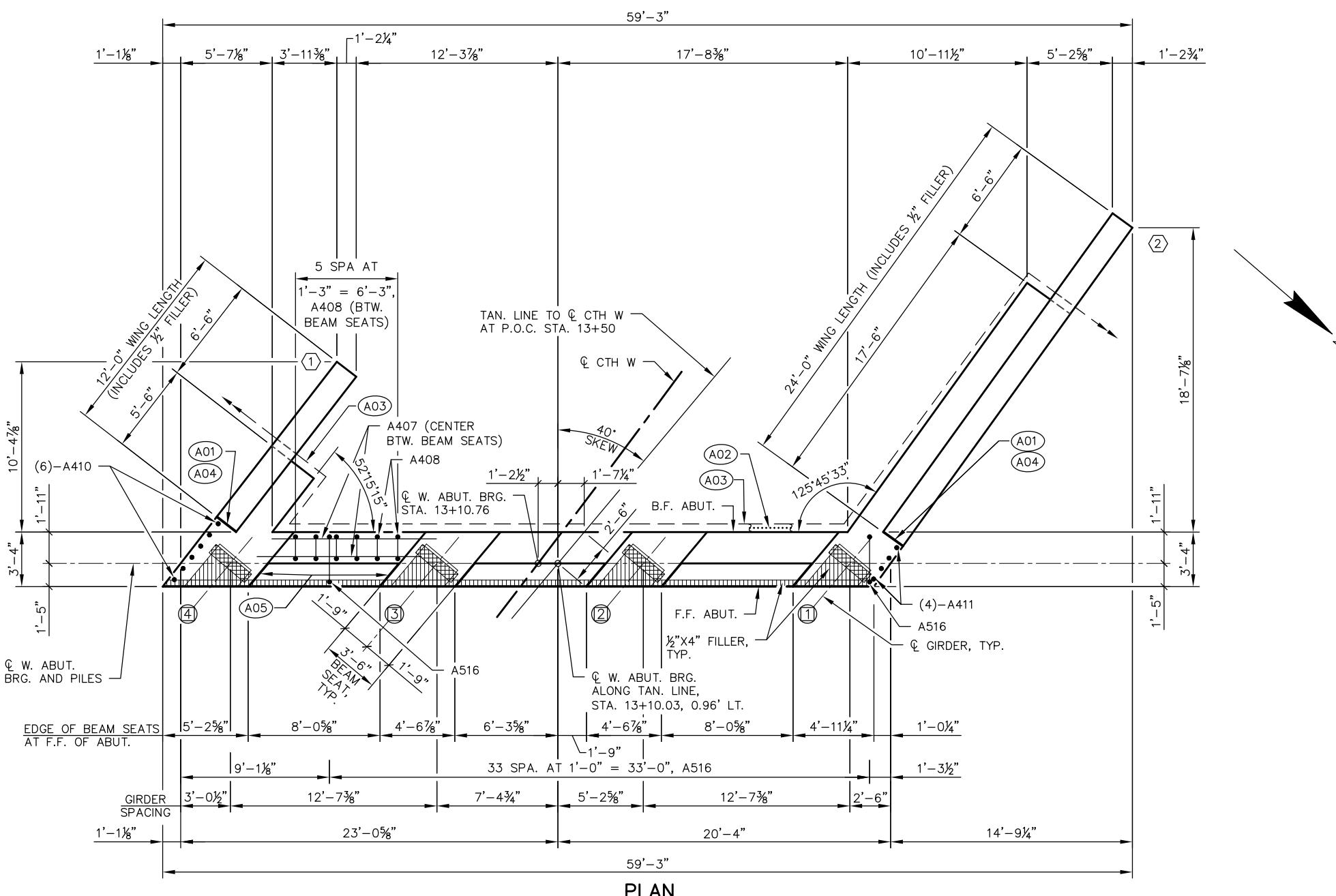
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
	DRAWN BY	JDO	PLANS OK'D
SUBSURFACE EXPLORATION			SHEET 3 OF 21



ELEVATION

(W. ABUT. - LOOKING WEST)



PLAN

NOTES

FOR TYPICAL SECTION THROUGH ABUTMENT BODY AND PILE LAYOUT SEE
"WEST ABUTMENT DETAILS" SHEET.

WEST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE WEST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICING DETAILS.

A01 SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

A03 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "WEST ABUTMENT DETAILS" SHEET. RODENT SHIELD IS INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

A04 $\frac{1}{2}$ " FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.

A05 $\frac{3}{4}$ " CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER, TYP.

A06 BARS A412, A413, A414, A415, & A516 REQUIRED ONCE ABUTMENT HEIGHT EXCEEDS LOW BEAM SEAT ELEVATION BY 4".

 INDICATES WING NUMBER

 INDICATES GIRDER LINE NUMBER

 INDICATES CONTINUATION

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
WEST ABUTMENT		SHEET 4 OF 21	
E: B560246_04_11abut.dwg DT SCALE:			

NOTES

WEST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEALED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE WEST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

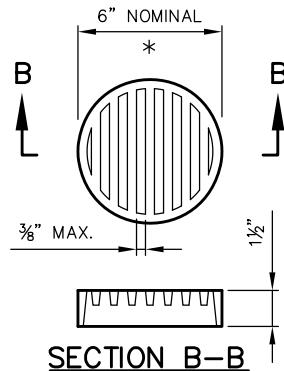
(A02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED THIS SHEET. RODENT SHIELD IS INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A06) BARS A412, A413, A414, A415, & A516 REQUIRED ONCE ABUTMENT HEIGHT EXCEEDS LOW BEAM SEAT ELEVATION BY 4".

□ INDICATES WING NUMBER

F.F. - FRONT FACE
B.F. - BACK FACE

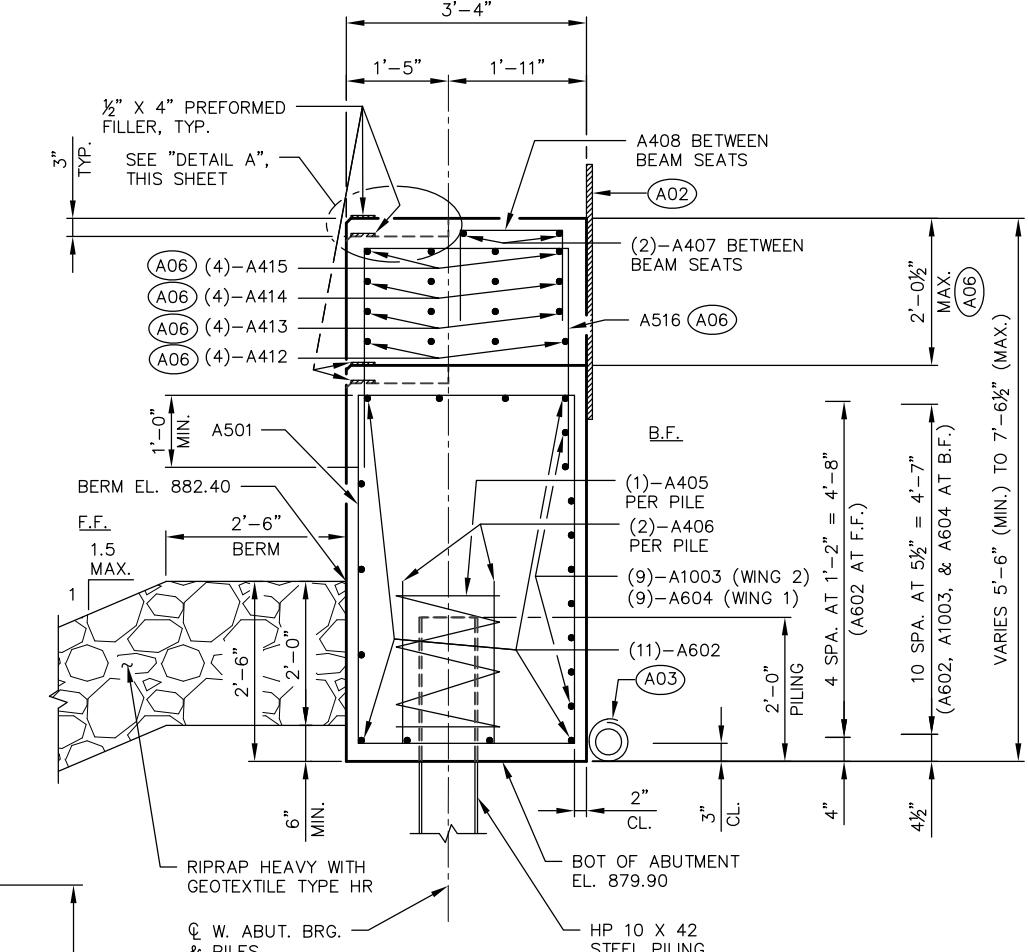


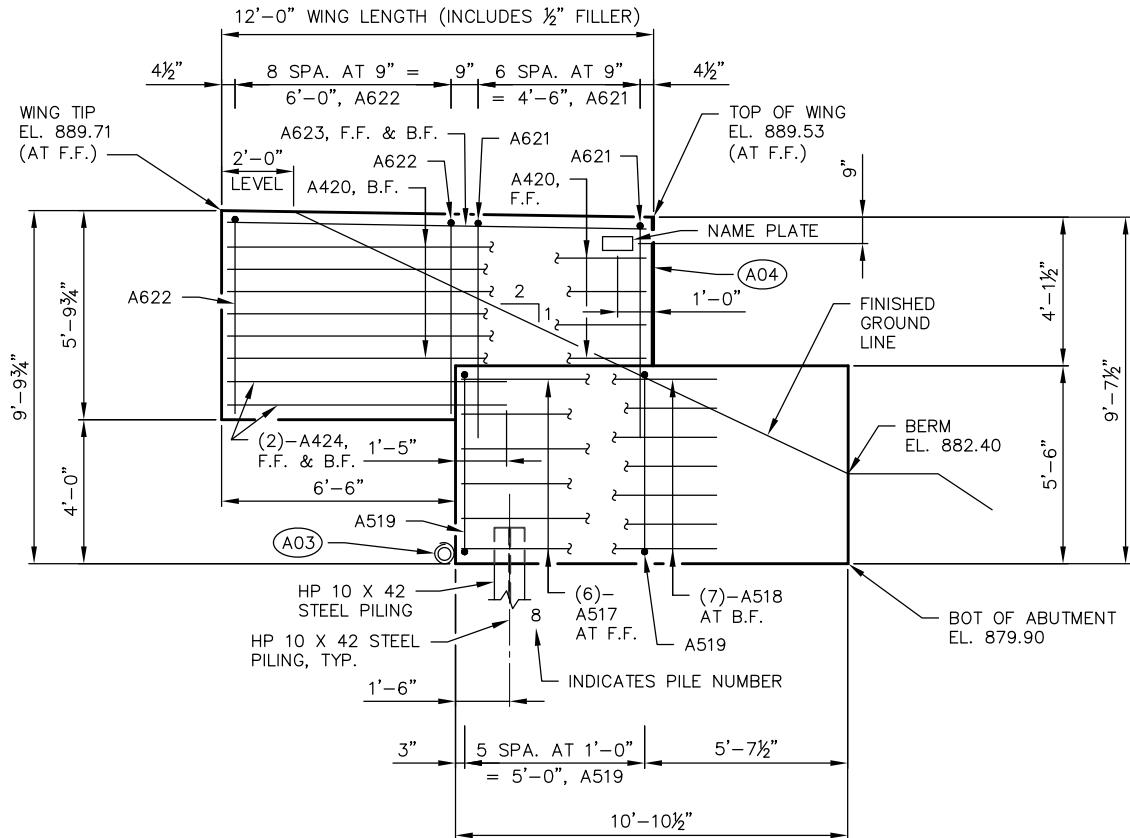
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY 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.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

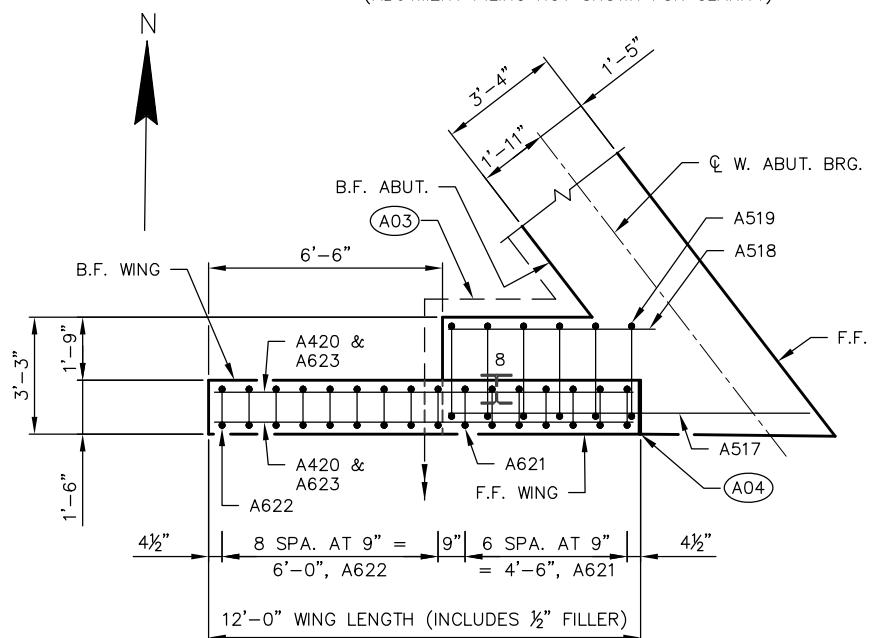
RODENT SHIELD DETAIL





WING 1 ELEVATION

(LOOKING AT WING 1 FRONT FACE)
(ABUTMENT PILING NOT SHOWN FOR CLARITY)



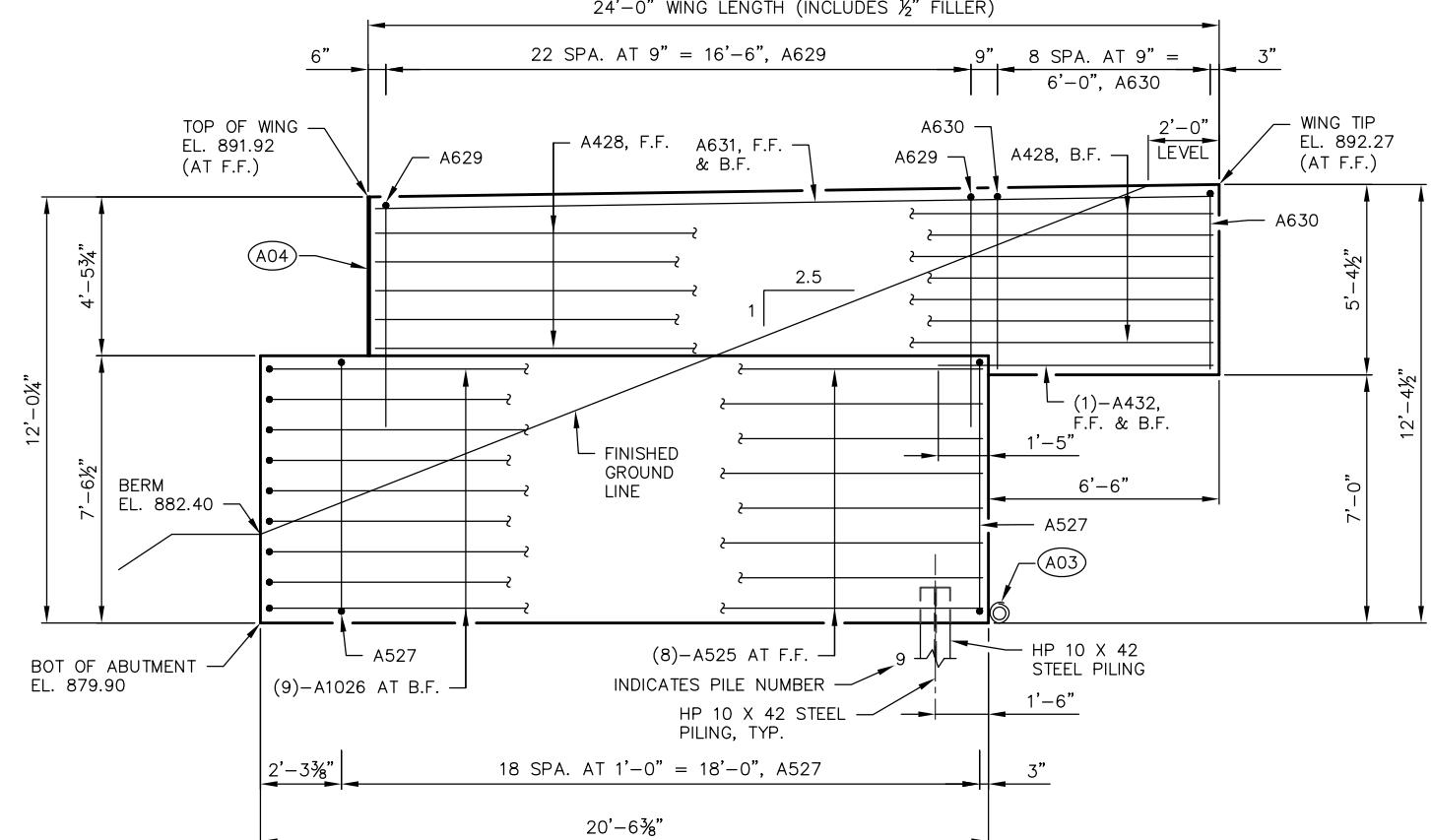
WING 1 PLAN

NOTES

SEE "WEST ABUTMENT REINFORCEMENT" SHEET FOR WING 1 AND WING SECTION.

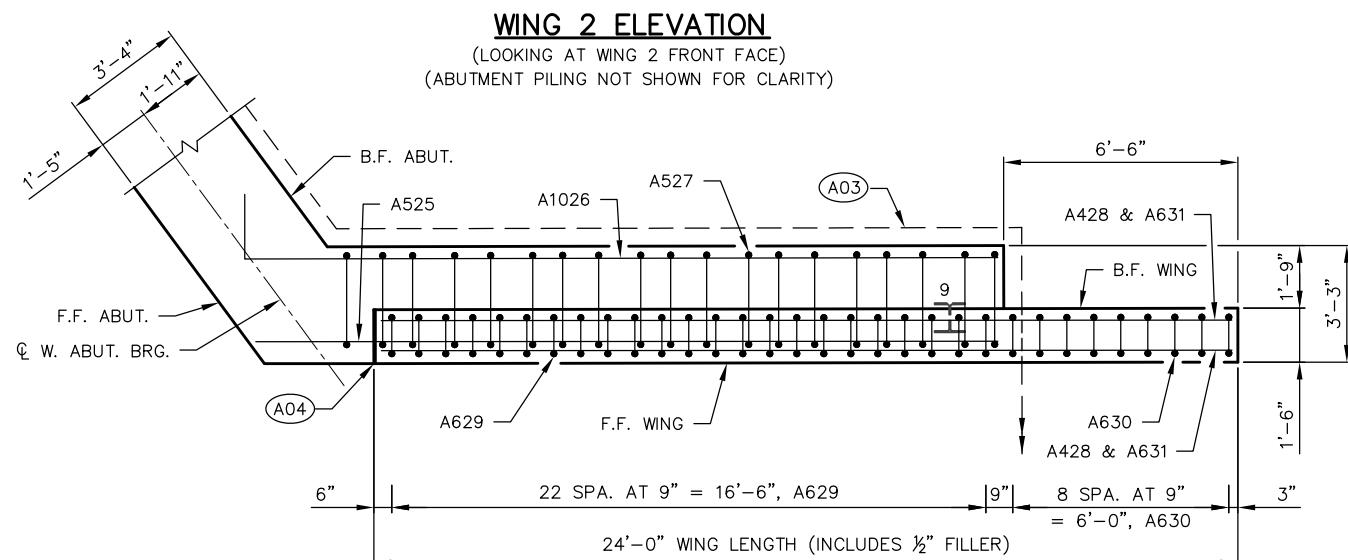
WEST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 170 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE WEST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICE DETAILS.



WING 2 ELEVATION

(LOOKING AT WING 2 FRONT FACE)
(ABUTMENT PILING NOT SHOWN FOR CLARITY)



WING 2 PLAN

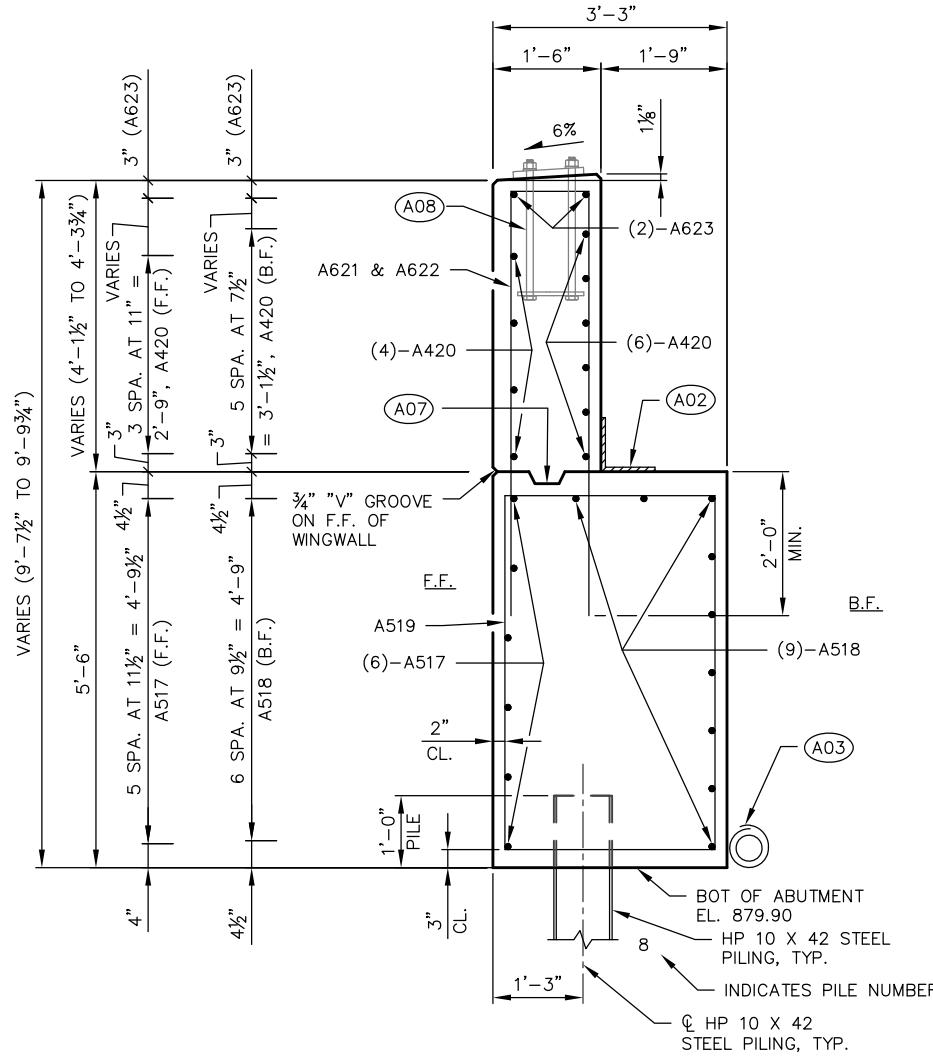
(A03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "WEST ABUTMENT DETAILS" SHEET. RODENT SHIELD IS INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(A04) $\frac{1}{2}$ " FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.

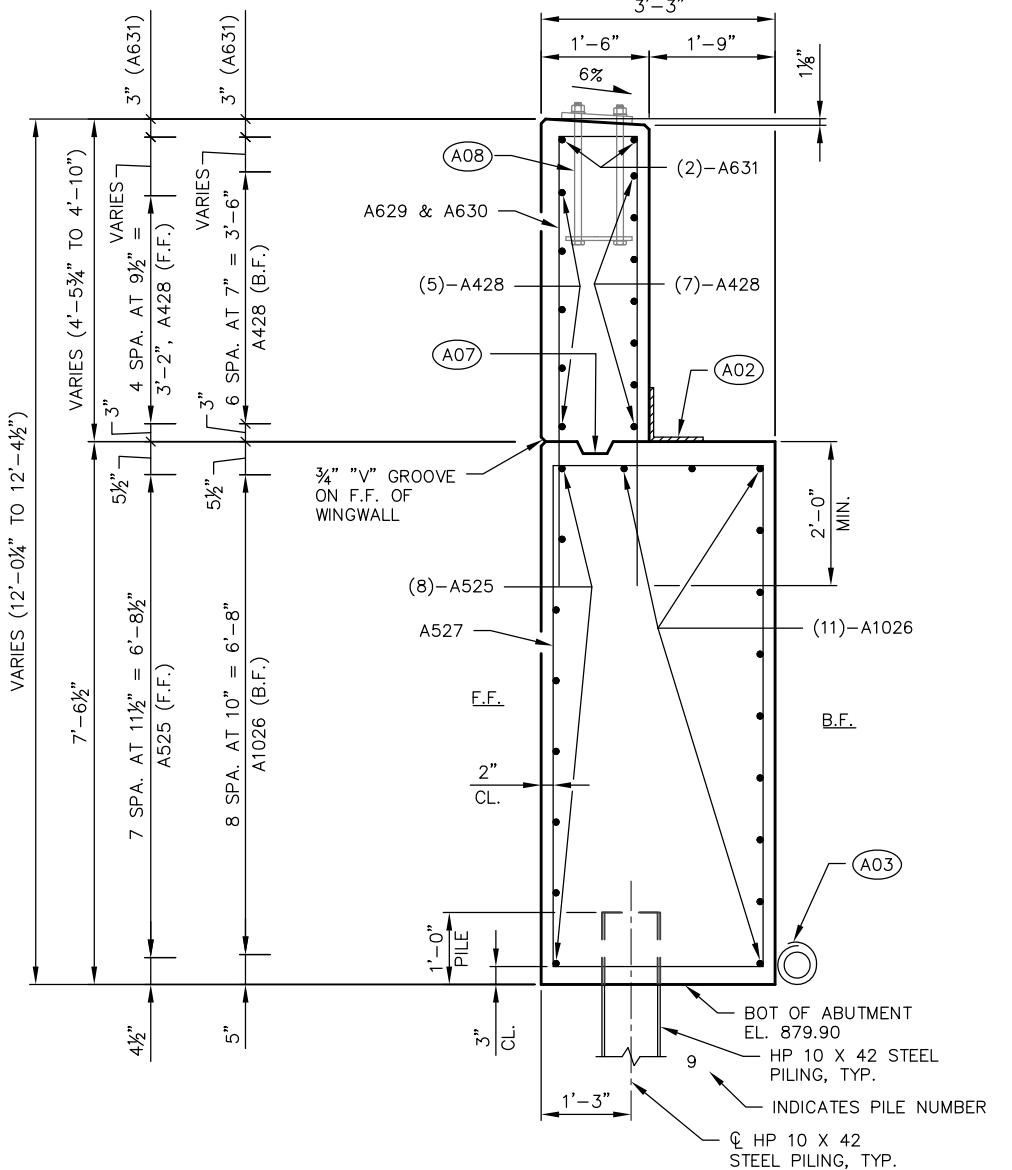
F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY		PLANS CK'D	ACK
WEST ABUTMENT WING DETAILS		SHEET 6 OF 21	
E: B560246_04_11abut.dwg OT SCALE:			

COATED = 3,180 LBS.
UNCOATED = 3,910 LBS.



WING 1 SECTION



WING 2 SECTION

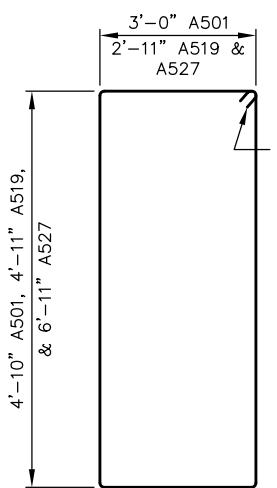
NOTES

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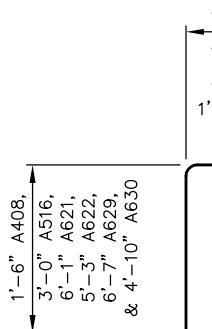
SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

- (A02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (A03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "WEST ABUTMENT DETAILS" SHEET. RODENT SHIELD IS INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- (A07) OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.
- (A08) SEE "RAILING TABULAR TYPE M" SHEET FOR ANCHORAGE DETAILS. SEE "SUPERSTRUCTURE" SHEET FOR RAIL POST SPACING ON WINGS.

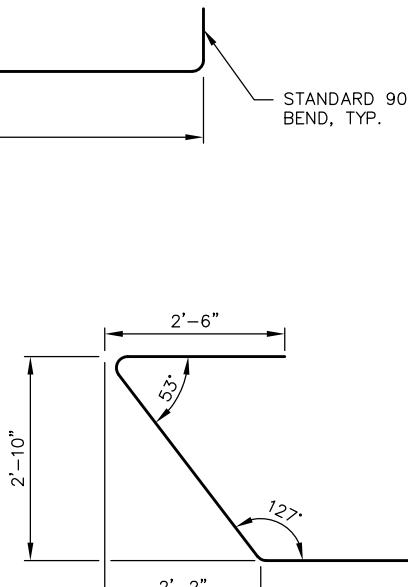
F.F. - FRONT FACE
B.F. - BACK FACE



A501, A519, & A527



A408, A516, A621,
A622, A629, & A630



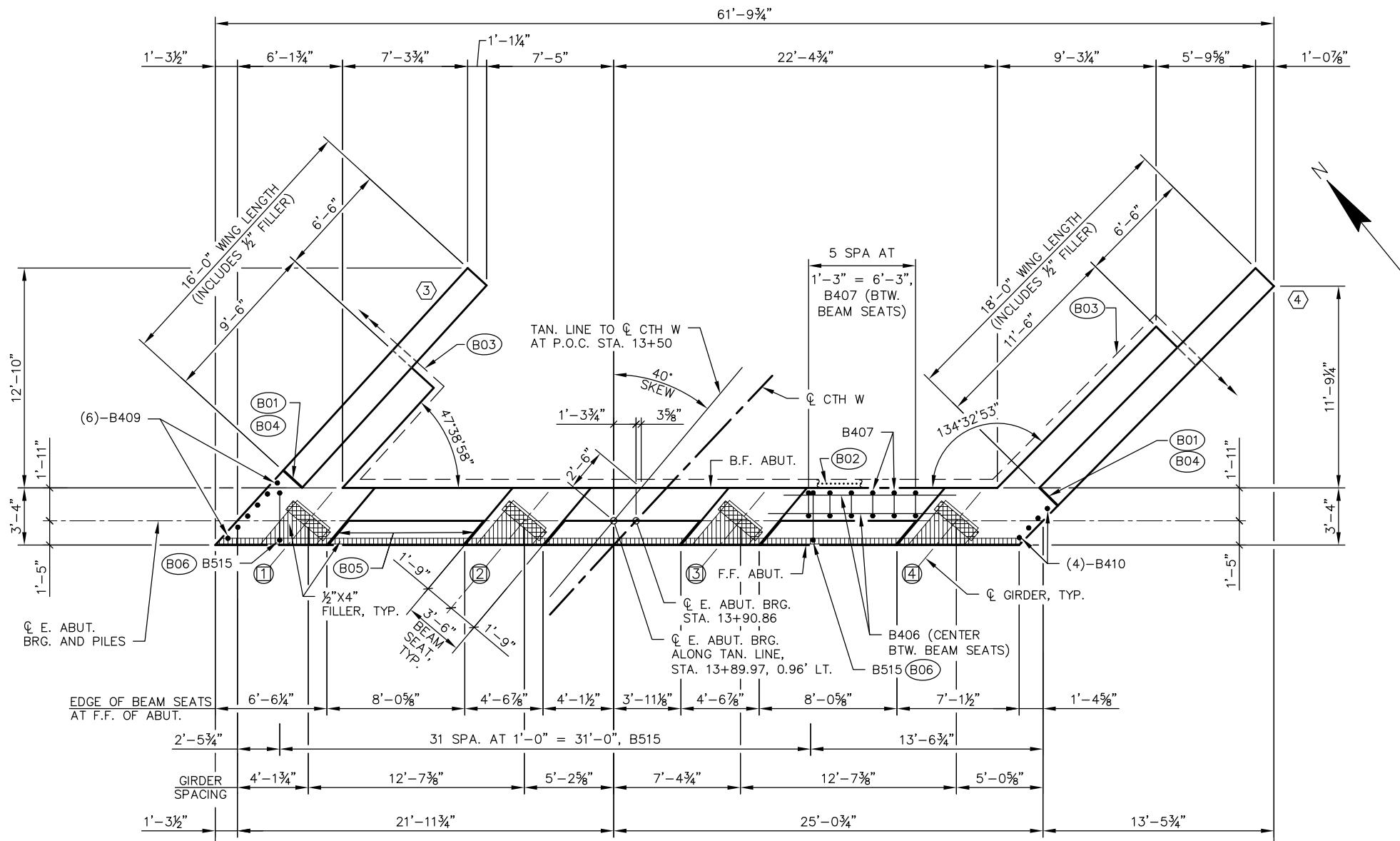
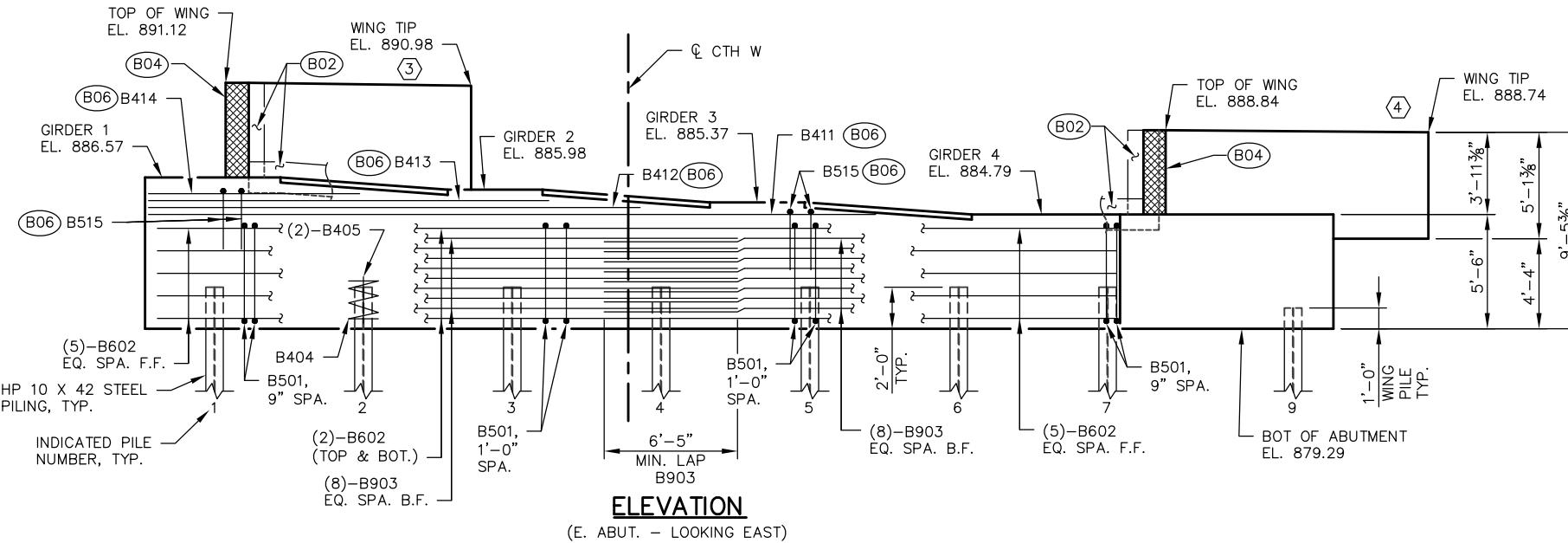
A509

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
A501	60	16'-4"	X		BODY - STIRRUP	VERT.
A602	11	43'-0"			BODY - F.F., TOP, & BOT.	HORIZ.
A1003	9	26'-3"	X		BODY - B.F. (NEAR WING 2)	HORIZ.
A604	9	18'-10"			BODY - B.F. (NEAR WING 1)	HORIZ.
A405	7	28'-0"	X		BODY - PILE STIRRUP	VERT.
A406	14	2'-3"			BODY - PILE	VERT.
A407	6	10'-1"			BODY - BTWN. BEAM SEAT	HORIZ.
A408	18	4'-5"	X		BODY - BTWN. BEAM SEAT STIRRUP	VERT.
A509	10	8'-4"	X		BODY - END STIRRUP	HORIZ.
A410	6	5'-1"			BODY - EDGE (NEAR WING 1)	VERT.
A411	4	7'-1"			BODY - EDGE (NEAR WING 2)	VERT.
A412	4	34'-0"			BODY - ADDITIONAL REINF.	HORIZ.
A413	4	22'-6"			BODY - ADDITIONAL REINF.	HORIZ.
A414	4	17'-8"			BODY - ADDITIONAL REINF.	HORIZ.
A415	4	8'-2"			BODY - ADDITIONAL REINF.	HORIZ.
A516	34	8'-9"	X		BODY - ADDITIONAL REINF. STIRRUP	VERT.
A517	6	10'-2"			WING 1 - F.F.	HORIZ.
A518	9	6'-0"			WING 1 - TOP & B.F.	HORIZ.
A519	6	16'-4"	X		WING 1 - STIRRUP	VERT.
A420	10	11'-7"			WING 1 - TOP - F.F. & B.F.	HORIZ.
A621	7	13'-0"	X		WING 1 - TOP - STIRRUP	VERT.
A622	9	11'-4"	X		WING 1 - TOP - END STIRRUP	VERT.
A623	2	11'-7"			WING 1 - TOP - F.F. & B.F.	HORIZ.
A424	4	7'-9"			WING 1 - F.F. & B.F.	HORIZ.
A525	8	20'-4"			WING 2 - F.F.	HORIZ.
A1026	11	22'-5"	X		WING 2 - TOP & B.F.	HORIZ.
A527	19	20'-4"	X		WING 2 - STIRRUP	VERT.
A428	12	23'-7"			WING 2 - TOP - F.F. & B.F.	HORIZ.
A629	23	14'-0"	X		WING 2 - TOP - STIRRUP	VERT.
A630	9	10'-6"	X		WING 2 - TOP - END STIRRUP	VERT.
A631	2	23'-7"			WING 2 - TOP - F.F. & B.F.	HORIZ.
A432	2	7'-9"			WING 2 - F.F. & B.F.	HORIZ.

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
WEST ABUTMENT REINFORCEMENT		SHEET 7 OF 21	
E: B560246_04_11abut.dwg LOT SCALE:			

**NOTES**

FOR TYPICAL SECTION THROUGH ABUTMENT BODY AND PILE LAYOUT SEE "EAST ABUTMENT DETAILS" SHEET.

EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEALED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE EAST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICING DETAILS.

EAST ABUTMENT BEAM SEATS SHALL BE SLOPED, SEE "BEAM SEAT DETAILS" SHEET FOR SLOPING DETAILS.

(B01) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(B02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(B03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "WEST ABUTMENT DETAILS" SHEET. RODENT SHIELD IS INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

(B04) $\frac{1}{2}$ " FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING FILLER INCLUDED IN WING LENGTH.

(B05) $\frac{3}{4}$ " CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDERS, TYP.

(B06) BARS B411, B412, B413, B414, & B515 REQUIRED ONCE ABUTMENT HEIGHT EXCEEDS LOW BEAM SEAT ELEVATION BY 4".

○ INDICATES WING NUMBER

□ INDICATES GIRDER LINE NUMBER

→ INDICATES CONTINUATION

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
EAST ABUTMENT			
SHEET 8 OF 21			

NOTES

EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE EAST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICE DETAILS.

EAST ABUTMENT BEAM SEATS SHALL BE SLOPED, SEE "BEAM SEAT DETAILS" SHEET FOR SLOPING DETAILS.

(B02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

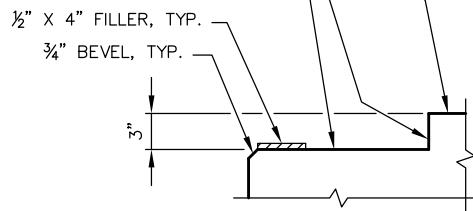
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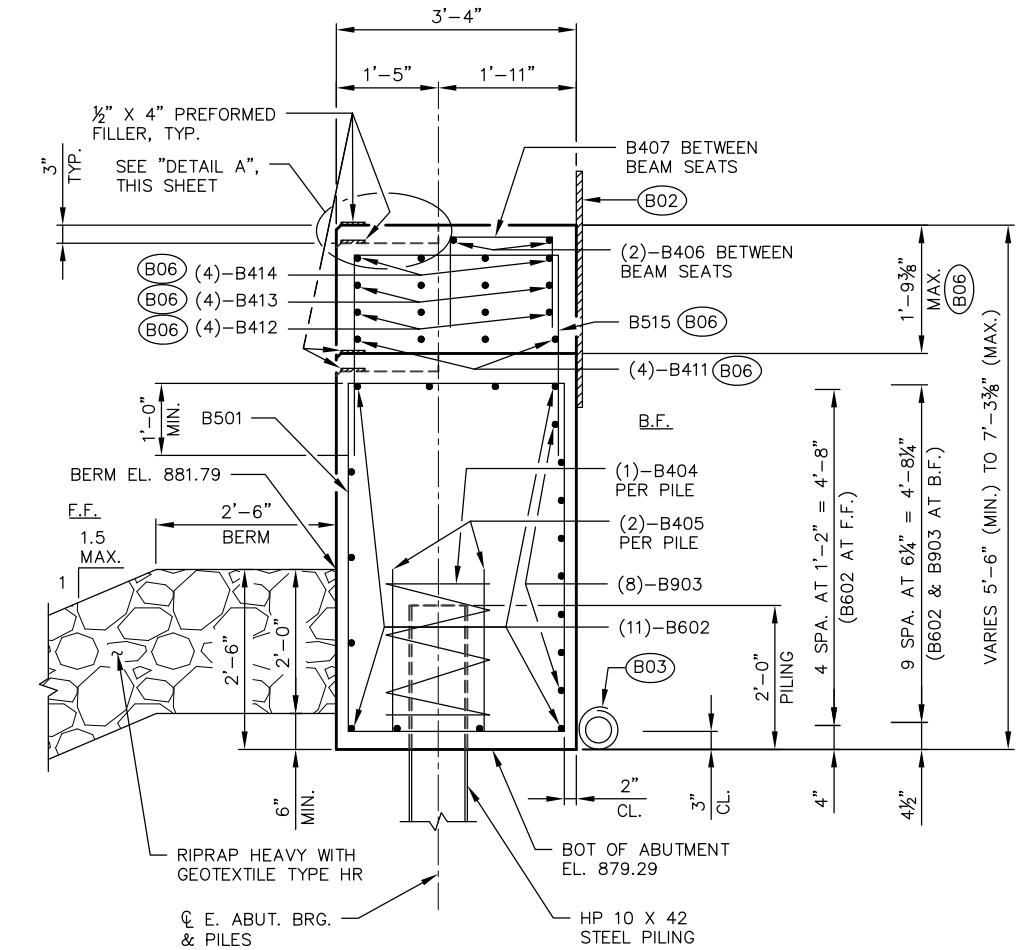
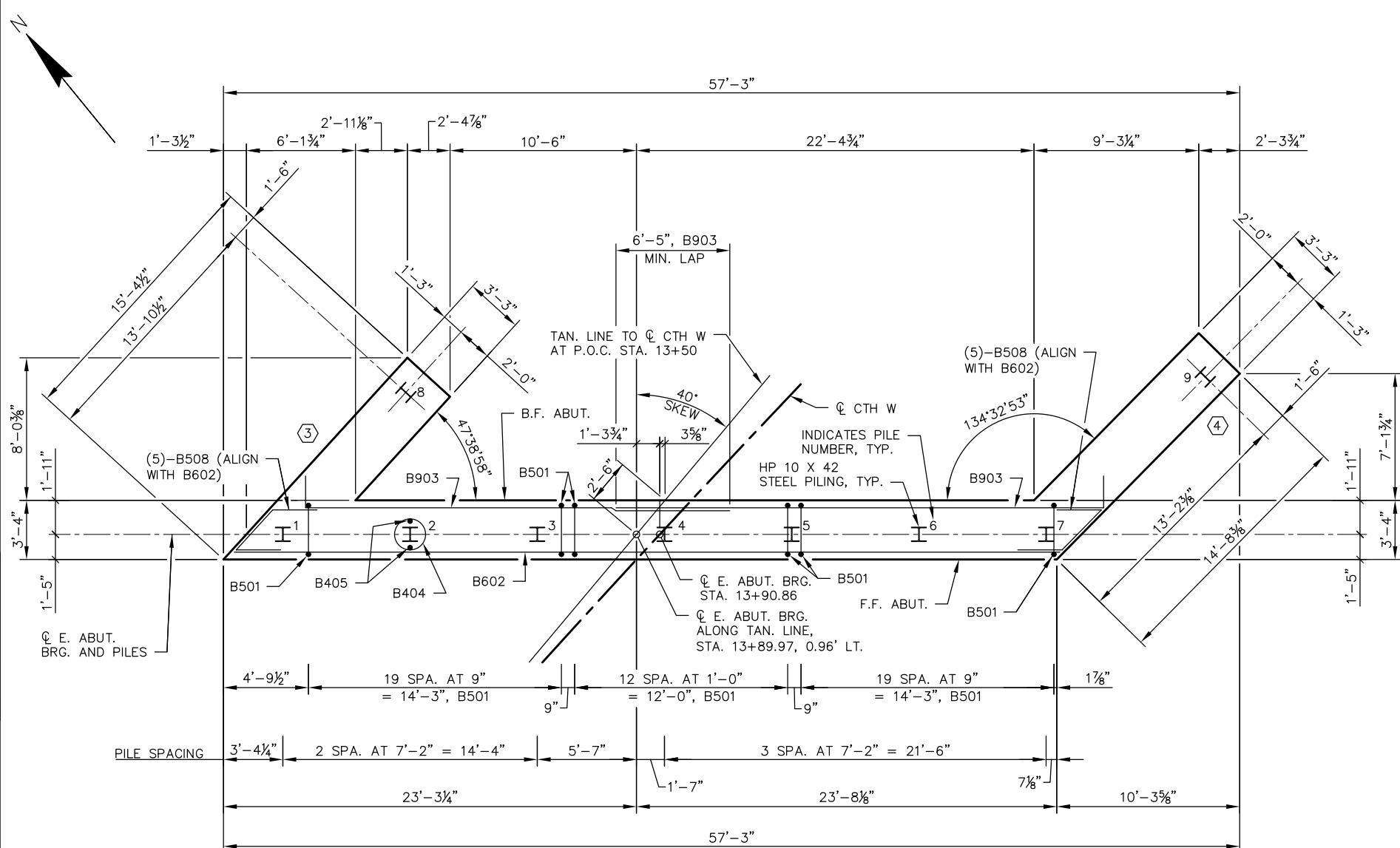
□ INDICATES WING NUMBER

F.F. - FRONT FACE
B.F. - BACK FACE

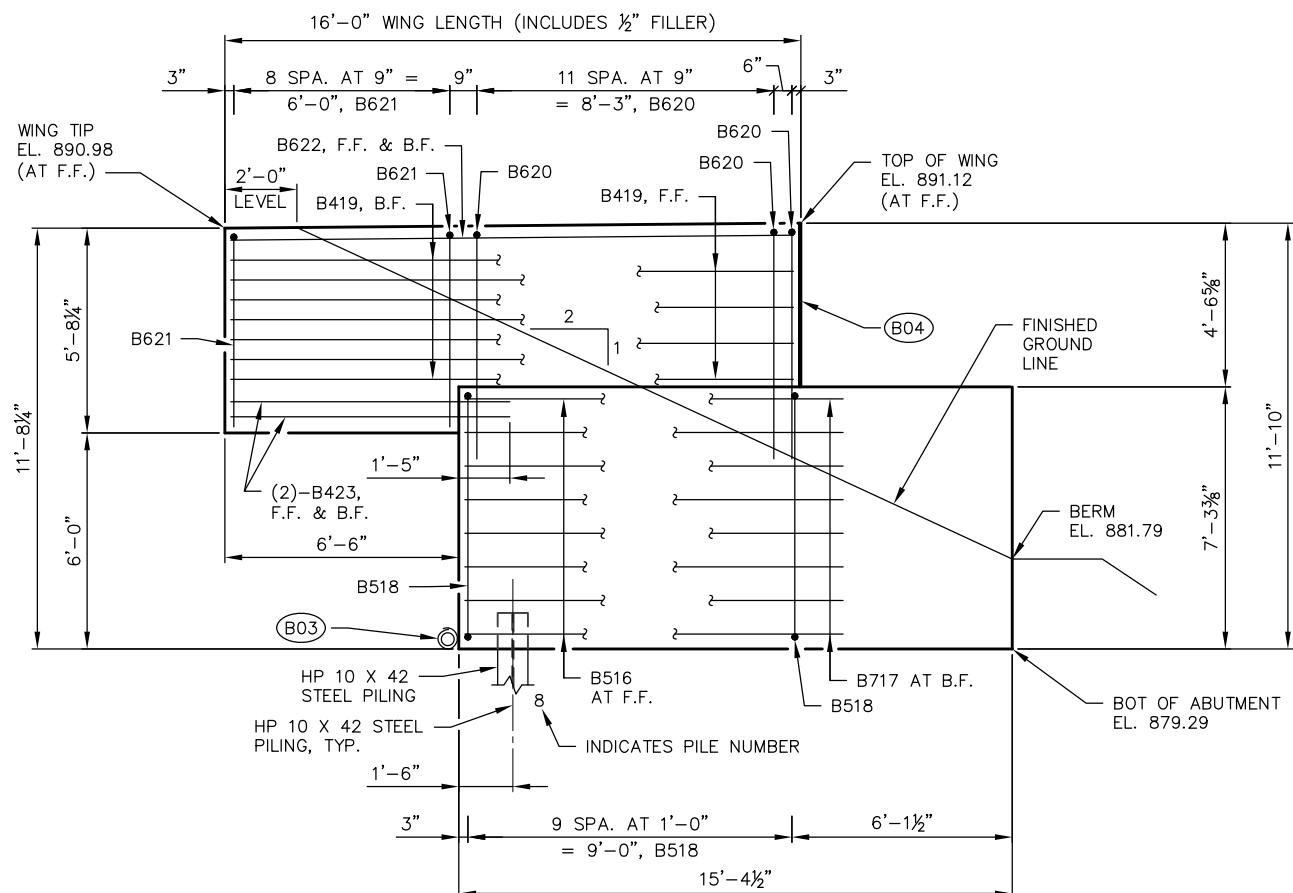
STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"



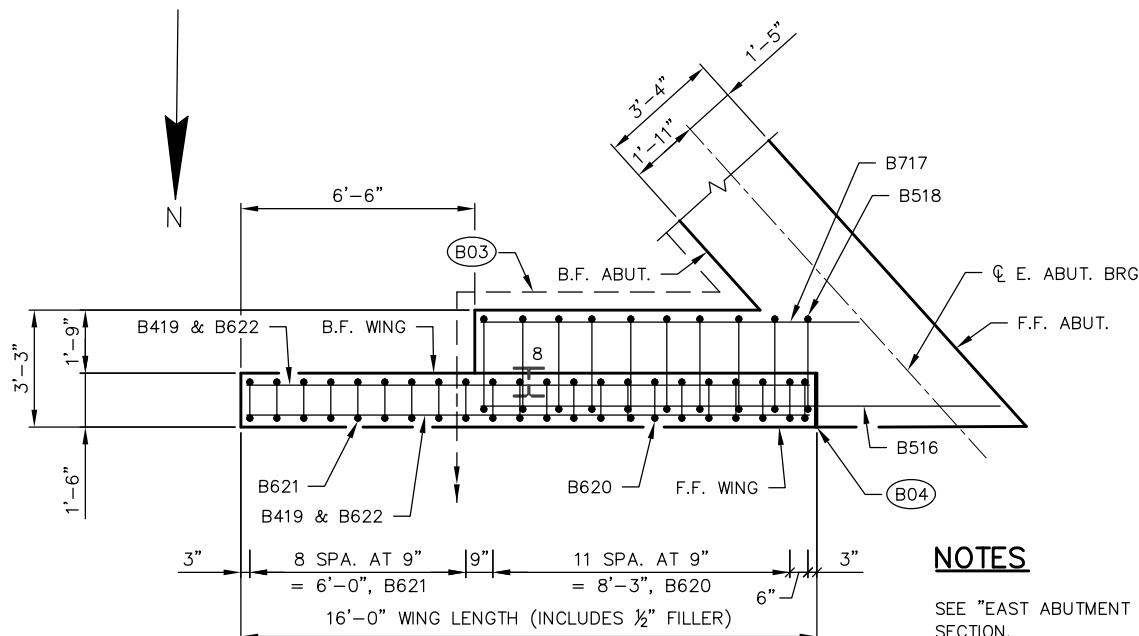
DETAIL A
(BETWEEN BEAM SEATS)



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
EAST ABUTMENT DETAILS			
SHEET 9 OF 21			



WING 3 ELEVATION
(LOOKING AT WING 3 FRONT FACE)
(ABUTMENT PILING NOT SHOWN FOR CLARITY)



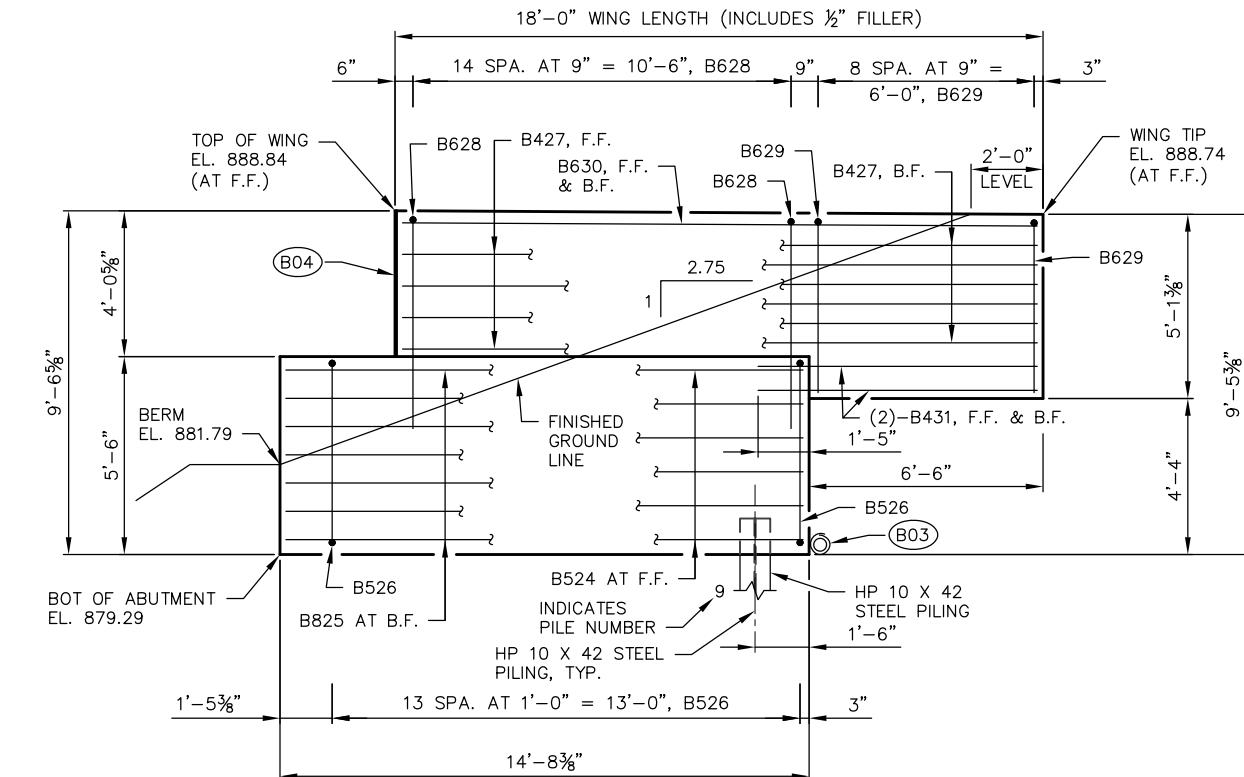
WING 3 PLAN

NOTES

SEE "EAST ABUTMENT REINFORCEMENT" SHEET FOR WING 3 AND WING 4 SECTION.

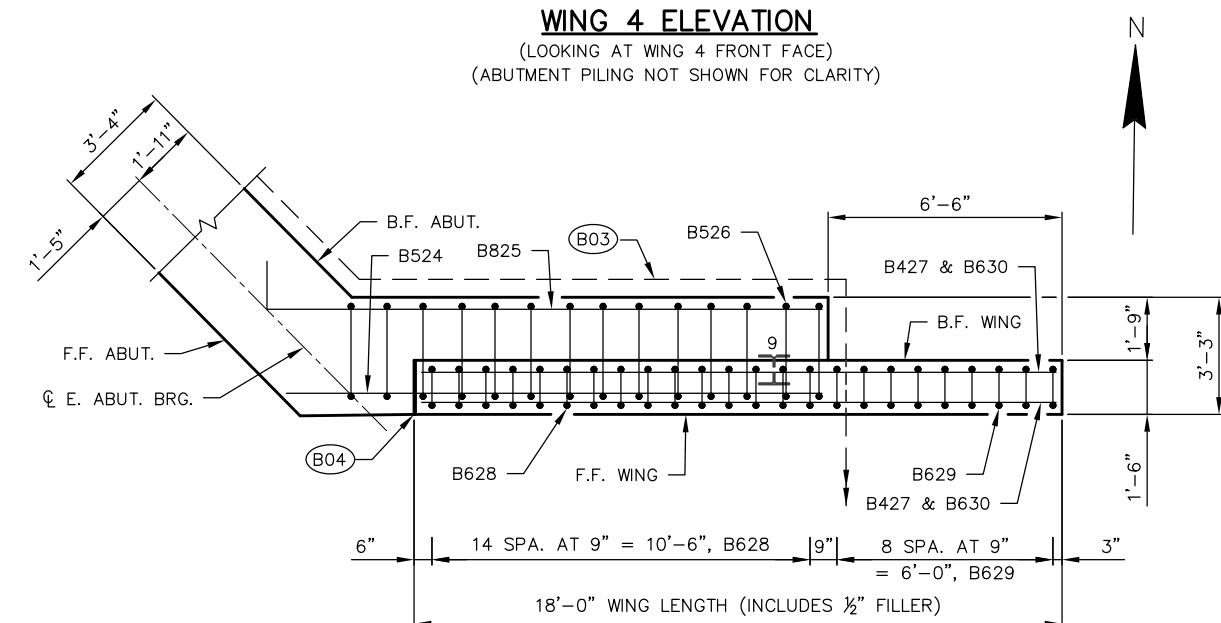
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SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE SPLICE DETAILS.



WING 4 ELEVATION

(LOOKING AT WING 4 FRONT FACE)
(ABUTMENT PILING NOT SHOWN FOR CLARITY)



WING 4 PLAN

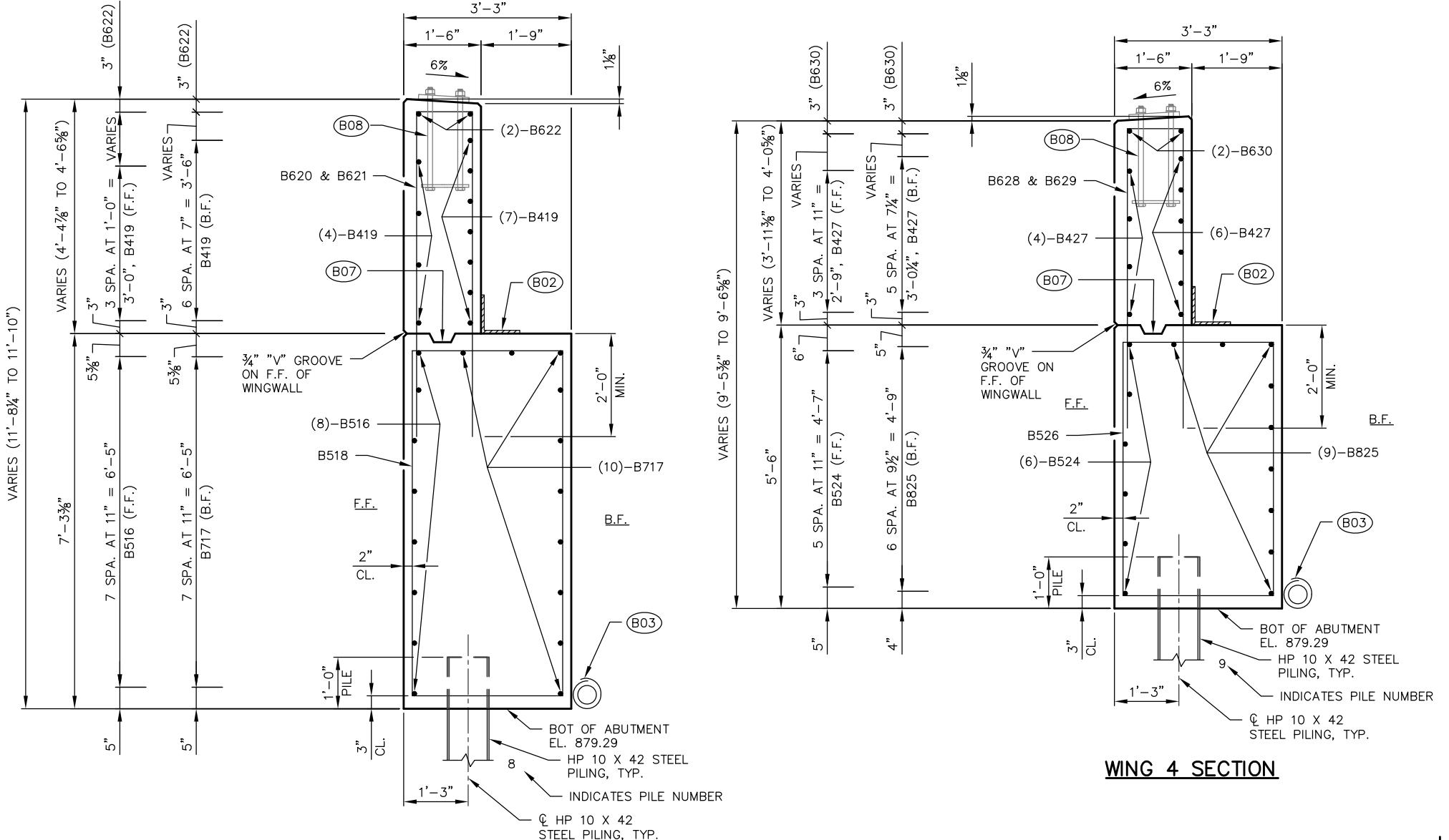
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(B04) $\frac{1}{2}$ " FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. FILLER INCLUDED IN WING LENGTH.

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
EAST ABUTMENT WING DETAILS		SHEET 10 OF 21	
FILE: B560246_04_11abut.dwg LOT SCALE:			

COATED = 2,500 LBS.
UNCOATED = 4,040 LBS.



WING 4 SECTION

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR

WING 3 SECTION

NOTES

EAST ABUTMENT TO BE SUPPORTED ON HP 10 X 42 STEEL PILING SEATED IN PREBORED HOLES CORED 3 FT MINIMUM INTO ROCK. PILE DRIVING IS NOT REQUIRED. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5. ESTIMATED 15 FT PILE LENGTHS AT THE EAST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES AND QUANTITIES" SHEET FOR PILE
SPLICING DETAILS

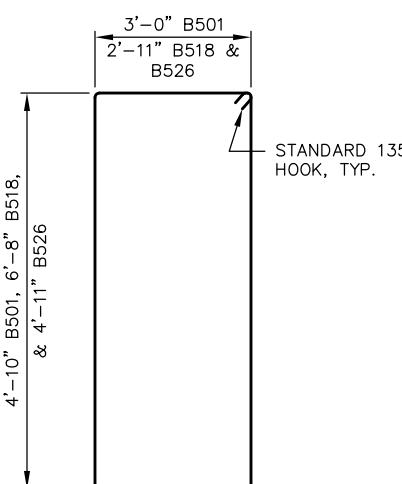
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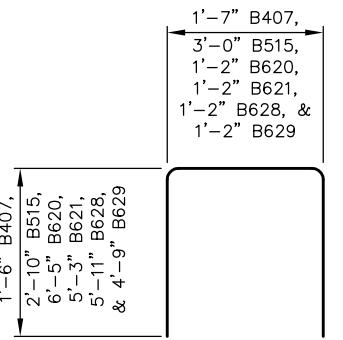
(B07) OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.

(B08) SEE "RAILING TABULAR TYPE M" SHEET FOR ANCHORAGE DETAILS.
SEE "SUPERSTRUCTURE" SHEET FOR RAIL POST SPACING ON WINGS.

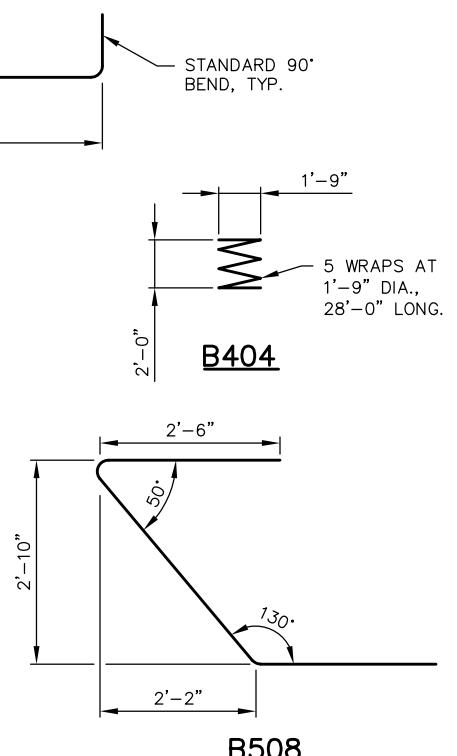
F.F. - FRONT FACE
B.F. - BACK FACE



B501, B518, & B526



B407, B515, B620,
B621, B628, & B629



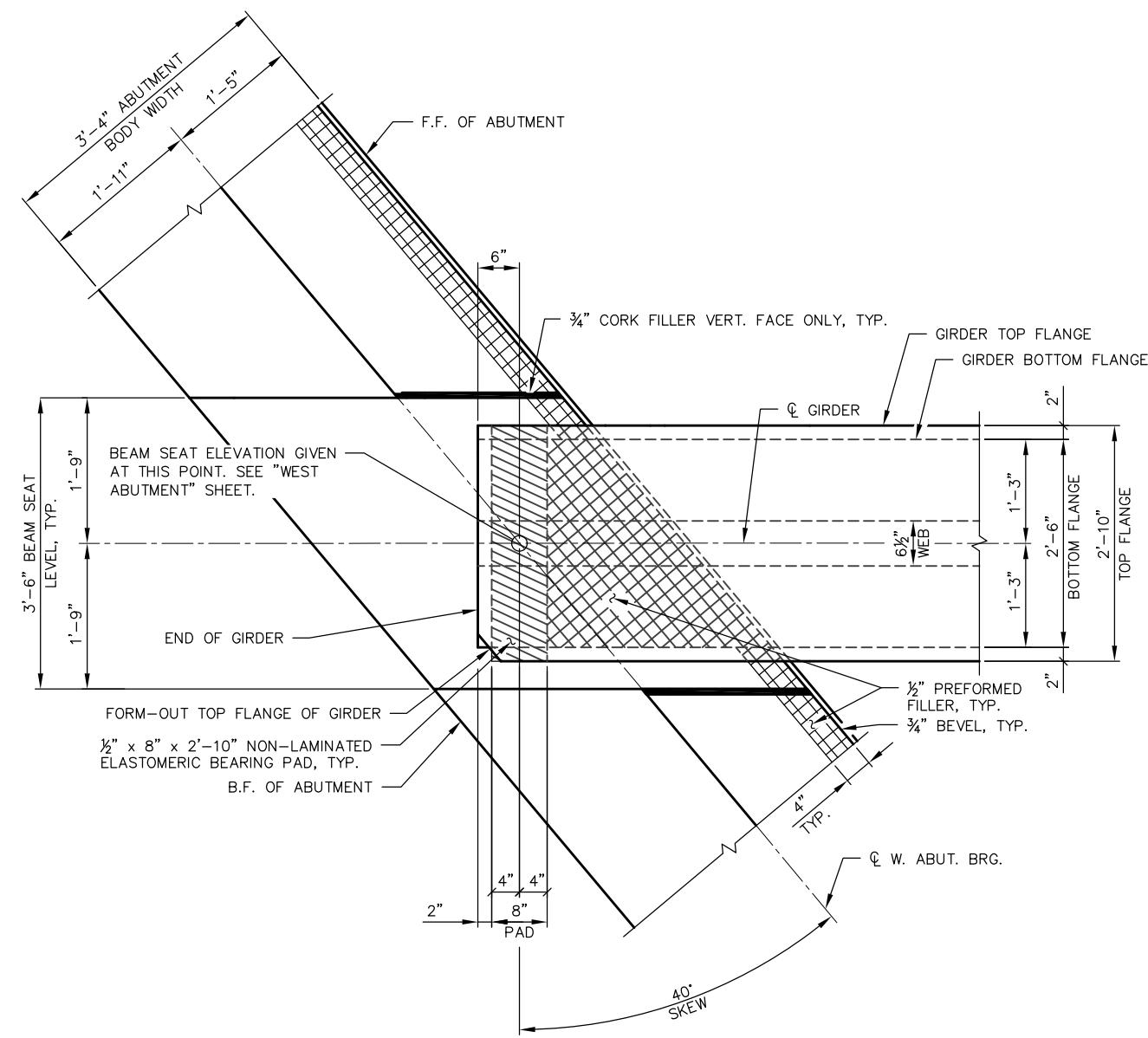
B508

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
B501	53	16'-4"	X		BODY - STIRRUP	VERT.
B602	11	46'-6"			BODY - F.F., TOP, & BOT.	HORIZ.
B903	16	27'-1"	X		BODY - B.F.	HORIZ.
B404	7	28'-0"	X		BODY - PILE STIRRUP	VERT.
B405	14	2'-3"			BODY - PILE	VERT.
B406	6	10'-1"			BODY - BTWN. BEAM SEAT	HORIZ.
B407	18	4'-5"	X		BODY - BTWN. BEAM SEAT STIRRUP	VERT.
B508	10	8'-4"	X		BODY - END STIRRUP	HORIZ.
B409	6	6'-10"			BODY - EDGE (NEAR WING 3)	VERT.
B410	4	5'-1"			BODY - EDGE (NEAR WING 4)	VERT.
B411	4	35'-0"			BODY - ADDITIONAL REINF.	HORIZ.
B412	4	23'-8"			BODY - ADDITIONAL REINF.	HORIZ.
B413	4	19'-3"			BODY - ADDITIONAL REINF.	HORIZ.
B414	4	10'-2"			BODY - ADDITIONAL REINF.	HORIZ.
B515	32	8'-5"	X		BODY - ADDITIONAL REINF. STIRRUP	VERT.
B516	8	14'-8"			WING 3 - F.F.	HORIZ.
B717	10	10'-9"			WING 3 - TOP & B.F.	HORIZ.
B518	10	19'-10"	X		WING 3 - STIRRUP	VERT.
B419	11	15'-7"			WING 3 - TOP - F.F. & B.F.	HORIZ.
B620	13	13'-8"	X		WING 3 - TOP - STIRRUP	VERT.
B621	9	11'-4"	X		WING 3 - TOP - END STIRRUP	VERT.
B622	2	15'-7"			WING 3 - TOP - F.F. & B.F.	HORIZ.
B423	4	7'-9"			WING 3 - F.F. & B.F.	HORIZ.
B524	6	14'-6"			WING 4 - F.F.	HORIZ.
B825	9	16'-7"	X		WING 4 - TOP & B.F.	HORIZ.
B526	14	16'-4"	X		WING 4 - STIRRUP	VERT.
B427	10	17'-7"			WING 4 - TOP - F.F. & B.F.	HORIZ.
B628	15	12'-8"	X		WING 4 - TOP - STIRRUP	VERT.
B629	9	10'-4"	X		WING 4 - TOP - END STIRRUP	VERT.
B630	2	17'-7"			WING 4 - TOP - F.F. & B.F.	HORIZ.
B431	4	7'-9"			WING 4 - F.F. & B.F.	HORIZ.

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

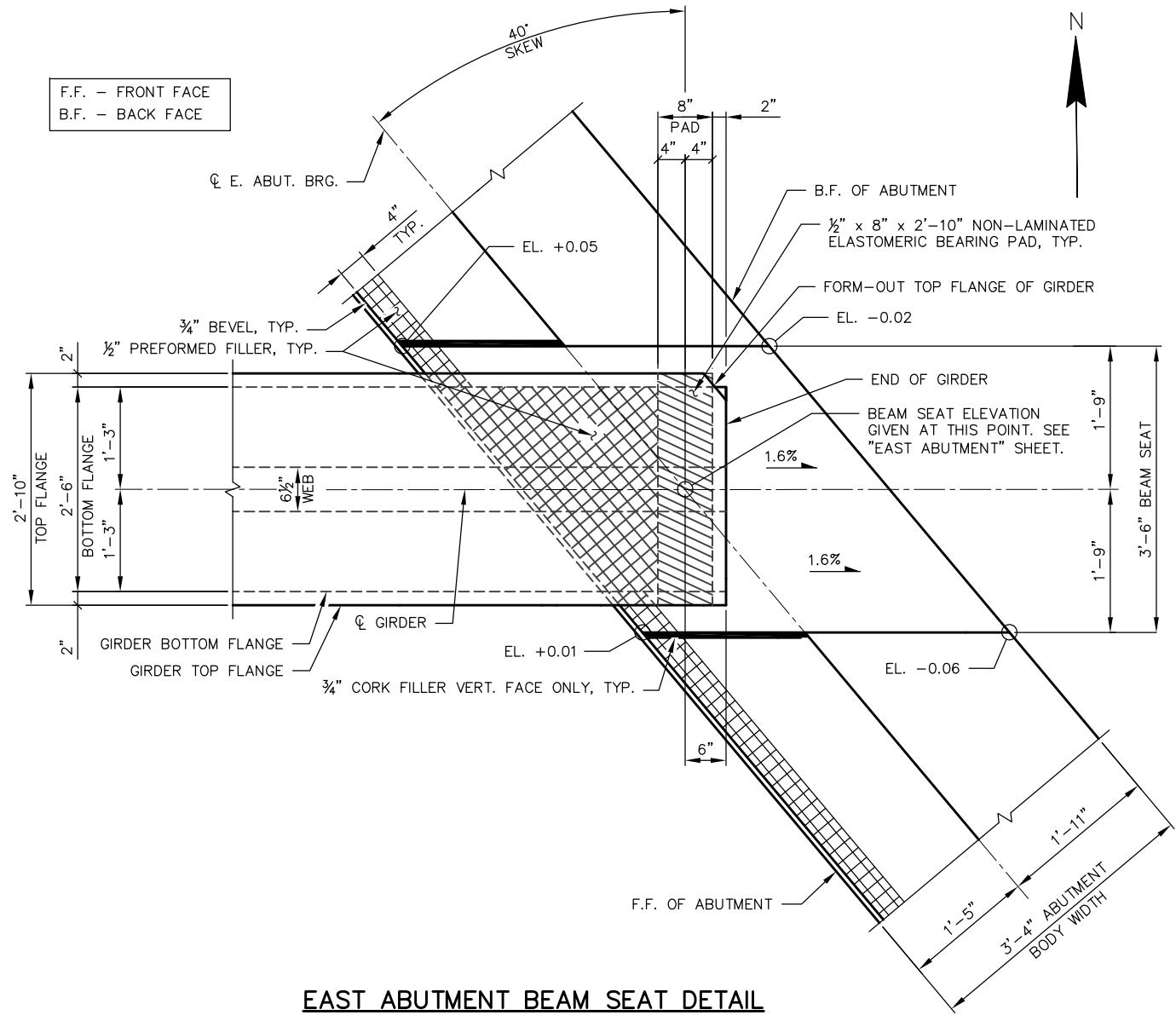
ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BT	JDO	PLANS CK'D	ACK
EAST ABUTMENT REINFORCEMENT		SHEET 11 OF 21	
FILE: B560246_04_11abut.dwg LOT SCALE:			



WEST ABUTMENT BEAM SEAT DETAIL

F.F. - FRONT FACE
B.F. - BACK FACE



EAST ABUTMENT BEAM SEAT DETAIL

(SLOPING BEAM SEAT)

TOP OF DECK ELEVATIONS

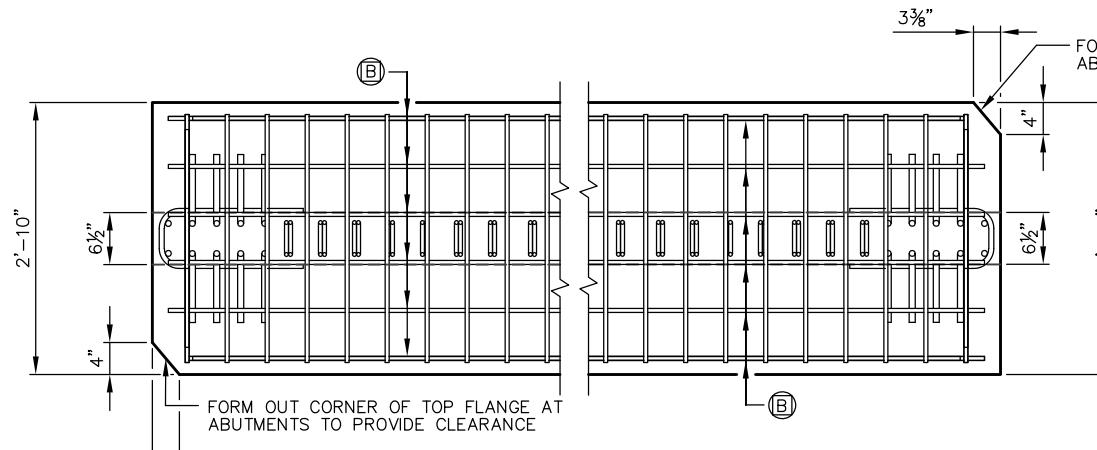
	Q. W. ABUT. BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	Q. E. ABUT. BRG.
N. DECK EDGE	891.92	891.82	891.73	891.64	891.55	891.47	891.39	891.31	891.24	891.18	891.12
GIRDER 1	891.77	891.65	891.53	891.43	891.32	891.23	891.15	891.07	891.01	890.96	890.91
GIRDER 2	891.08	890.96	890.85	890.74	890.65	890.57	890.49	890.43	890.37	890.32	890.29
GIRDER 3	890.38	890.27	890.16	890.07	889.99	889.91	889.85	889.79	889.74	889.70	889.67
GIRDER 4	889.69	889.58	889.49	889.40	889.33	889.27	889.21	889.16	889.12	889.09	889.07
S. DECK EDGE	889.53	889.44	889.35	889.27	889.20	889.12	889.06	888.99	888.94	888.89	888.84

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			

STRUCTURE B-56-246

DRAWN BY JDO PLANS CK'D ACK

BEAM SEAT DETAILS SHEET 12 OF 21



TOP FLANGE

STIRRUP SPACING TABLE							
SPAN	GIRDER	GIRDER LENGTH "L"	"S1"	"S2"	"S3"	"S4"	
1	1-4	81'-0"	6 1/2"	16 SPA. AT 1'-0" = 16'-0"	10 1/2"	25 SPA. AT 1'-3" = 31'-3"	

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.4 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

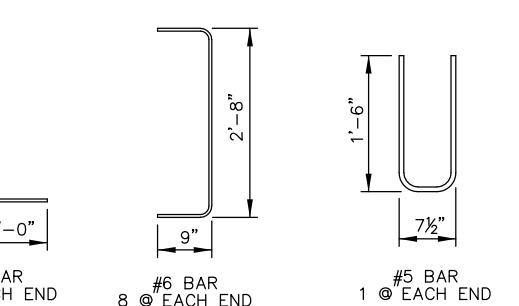
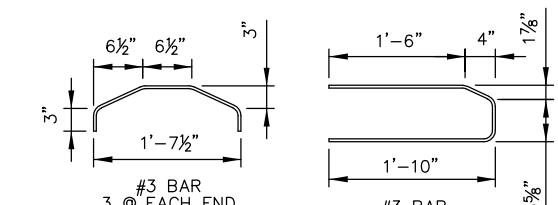
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS, SEE "INTERMEDIATE STEEL DIAPHRAGM" SHEET.

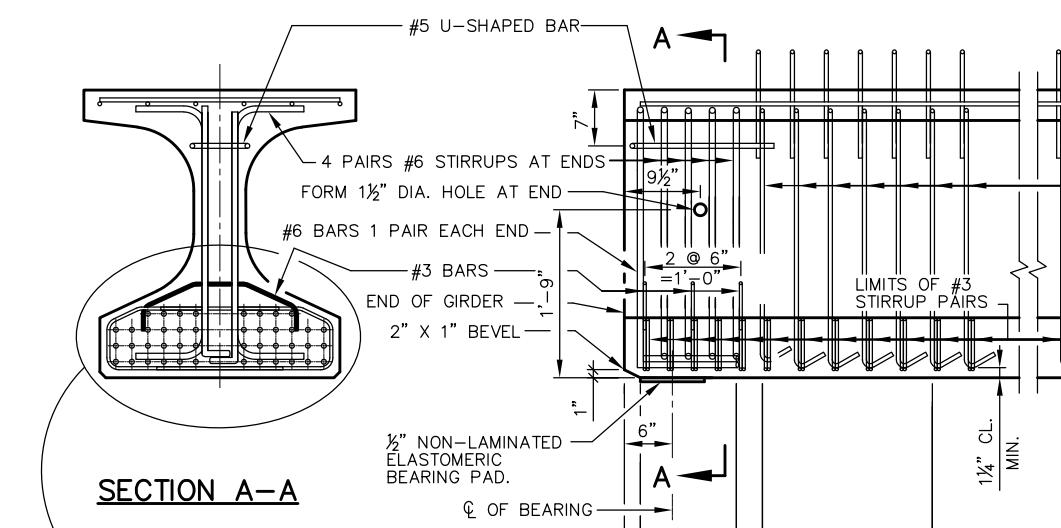
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DESIGN SECTION. IF USED, WWF SUBSTITUTION DETAILS SHALL BE SUBMITTED ELECTRONICALLY TO THE WISDOT FABRICATION LIBRARY AND ACCEPTED PRIOR TO SHOP DRAWING SUBMITTAL.

PRESTRESSING STRANDS SHALL BE 0.6" DIA. - 7 - WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.



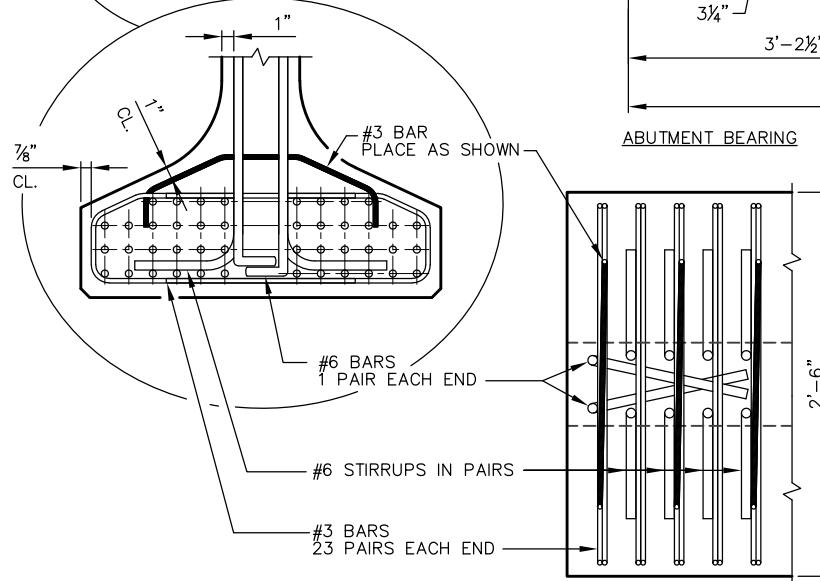
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
36W-INCH PRESTRESSED GIRDER		SHEET 13 OF 21	



SIDE VIEW & TYPICAL SECTION IN SPAN

(A) DETAIL TYP. AT EACH END
(B) (6) - #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

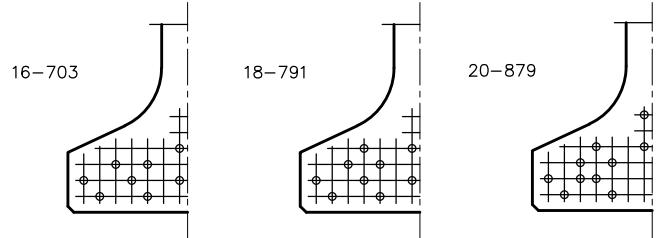
BOTTOM FLANGE



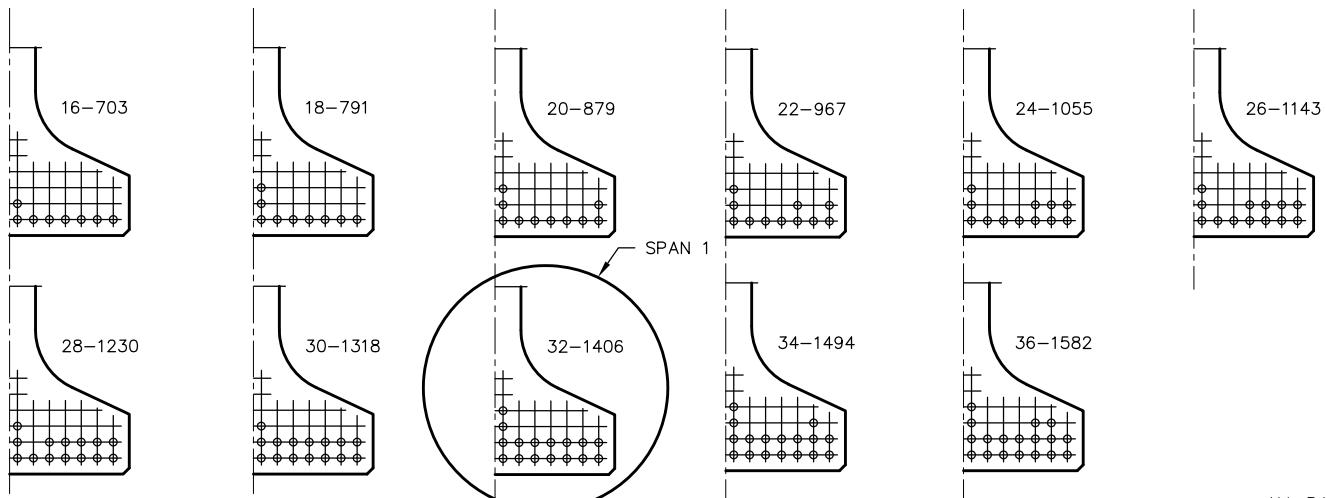
SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFLECTION (IN.)									CONC. STRGTH. f'c (psi)	"P" 1st 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPE PATTERN (IN.) *				UNDRAPE PATTERN			
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (psi) *	"A" MIN	"B" MIN	"B" MAX	"C" MIN	TOTAL NO. OF STRANDS	f'ci (psi) *
1	1 & 4	81'-0"	0.5	1.0	1.3	1.6	1.6	1.6	1.3	1.0	0.5	8,000	9.5"	8.0"	9.5"	0.6	32	6,800	31	11.5	14.5	5	---	---
1	2 & 3	81'-0"	0.6	1.1	1.5	1.7	1.8	1.7	1.5	1.1	0.6	8,000	9.0"	8.0"	9.0"	0.6	32	6,800	31	11.5	14.5	5	---	---

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE

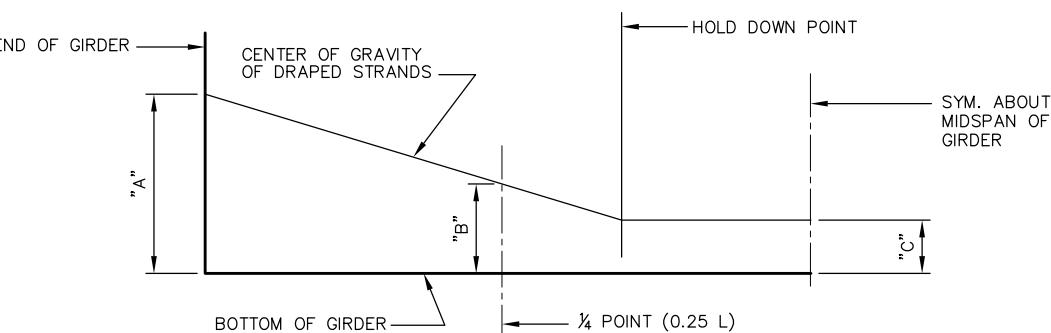
** SEE "36W-INCH PRESTRESSED GIRDER DETAILS" SHEET FOR LOCATION OF DRAPE STRANDS "A", "B", & "C".



STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF 0.6" DIA. STRANDS

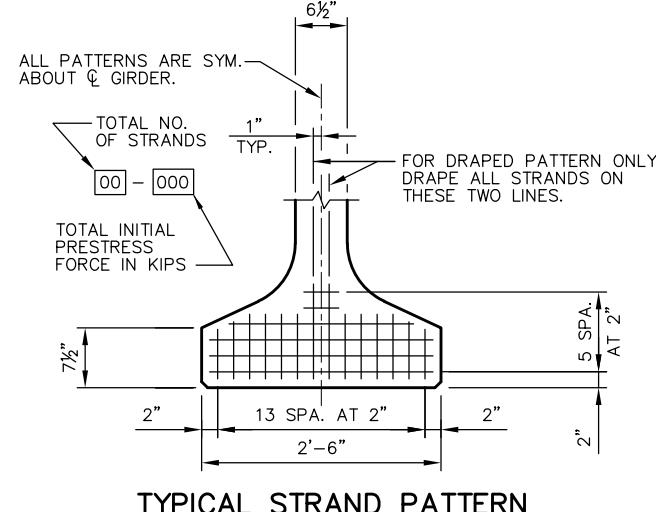


ARRANGEMENT AT $\frac{1}{4}$ SPAN - FOR GIRDERS WITH DRAPED 0.6" DIA. STRANDS



DRAPED STRAND PROFILE

(SEE GIRDER DATA TABLE ON "36W-INCH PRESTRESSED GIRDER" SHEET)

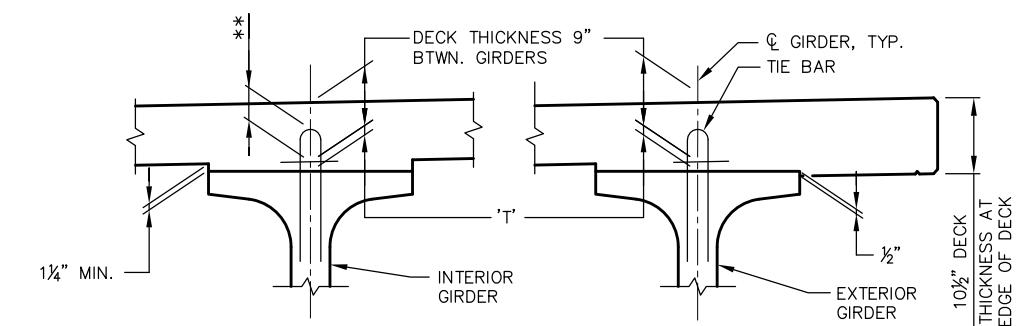


TYPICAL STRAND PATTERN

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)*
1	3.4

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



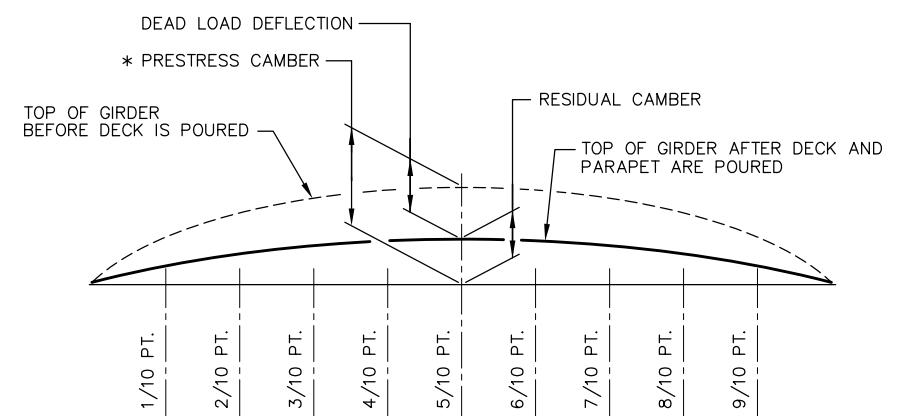
DECK HAUNCH DETAIL

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', ELEVATIONS OF TOP OF GIRDERS AT $\frac{1}{10}$ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

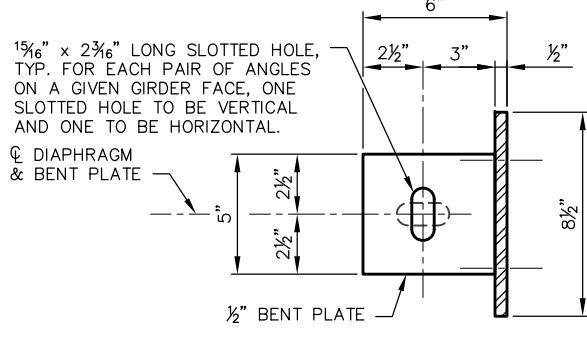
TOP OF DECK ELEVATION AT FINAL GRADE (SEE "BEAM SEAT DETAILS" SHEET)
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 4.3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

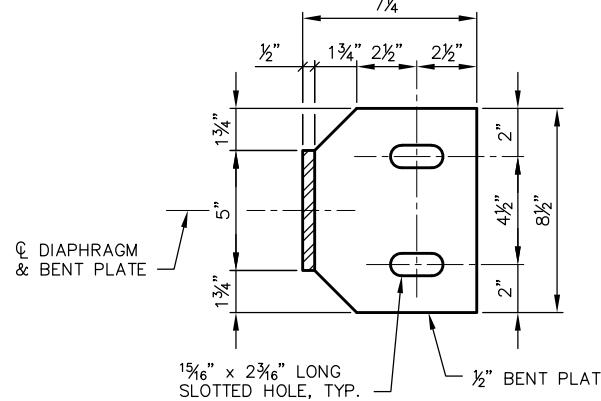


DEAD LOAD DEFLECTION AND CAMBER DIAGRAM
(SEE GIRDER DATA TABLE ON "36W-INCH PRESTRESSED GIRDER" SHEET)

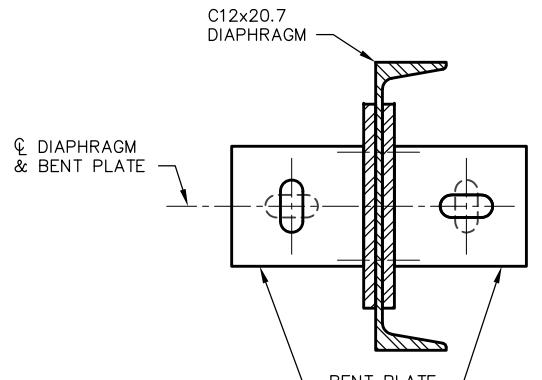
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
36W-INCH PRESTRESSED GIRDER DETAILS			SHEET 14 OF 21



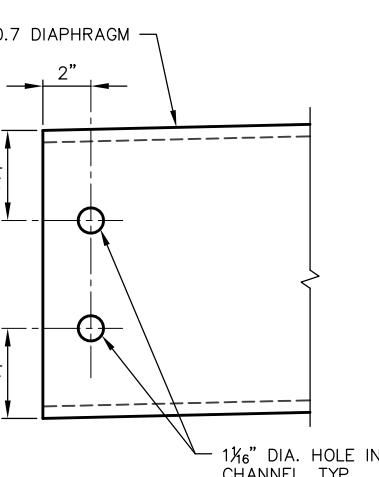
BENT PLATE AT GIRDER FACE



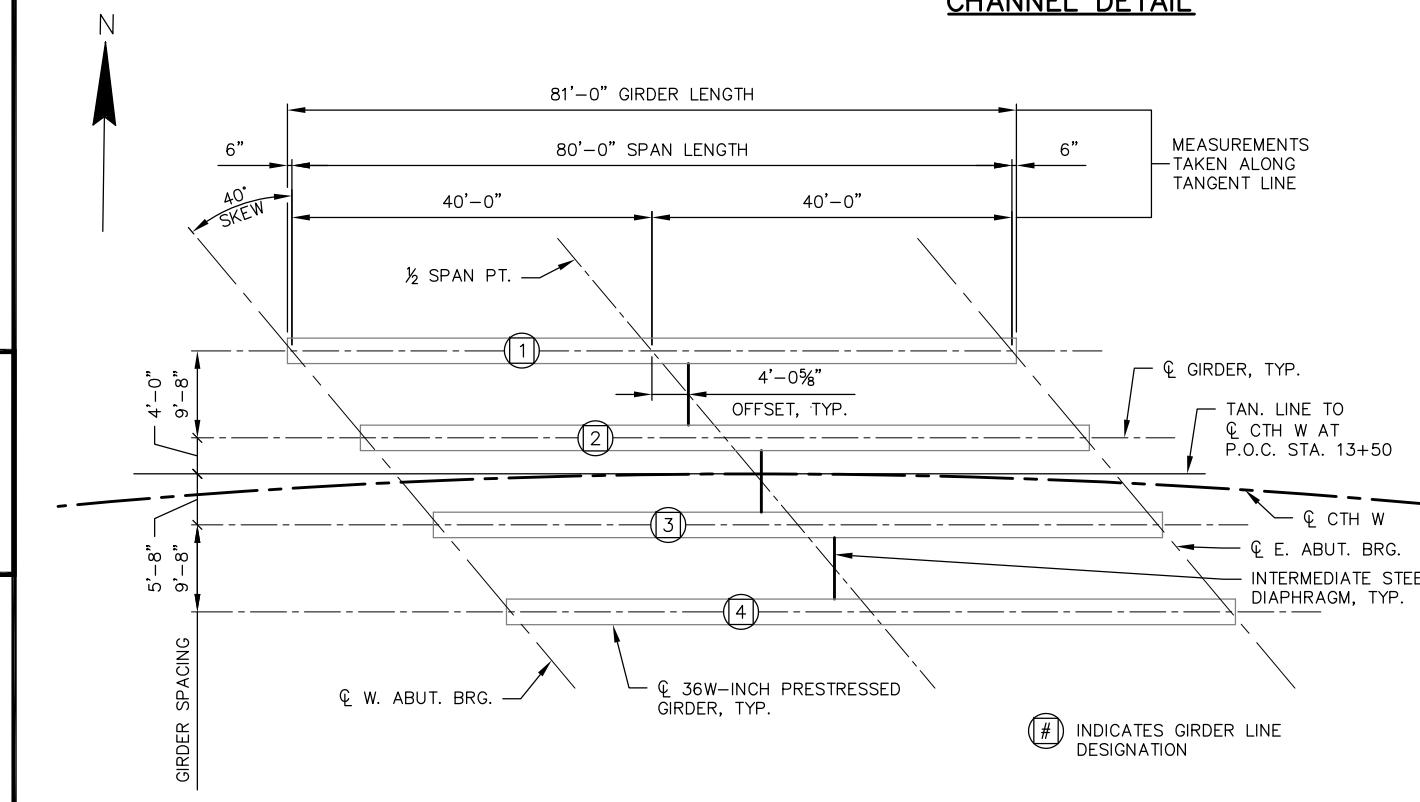
BENT PLATE AT DIAPHRAGM FACE



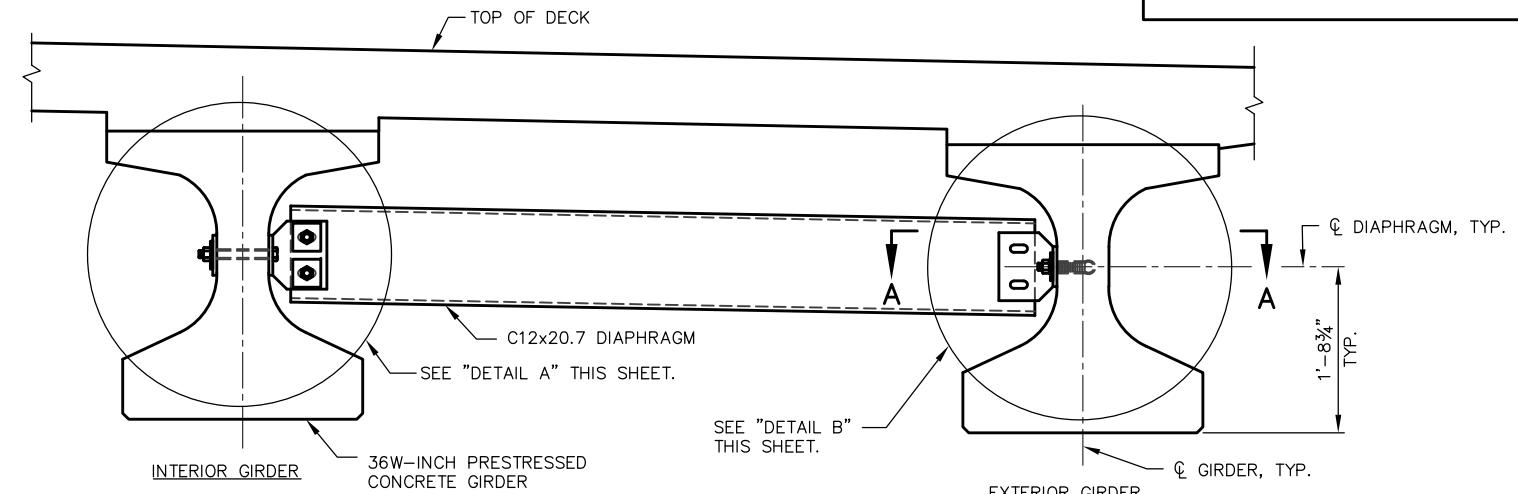
BENT PLATE ATTACHMENT TO CHANNEL



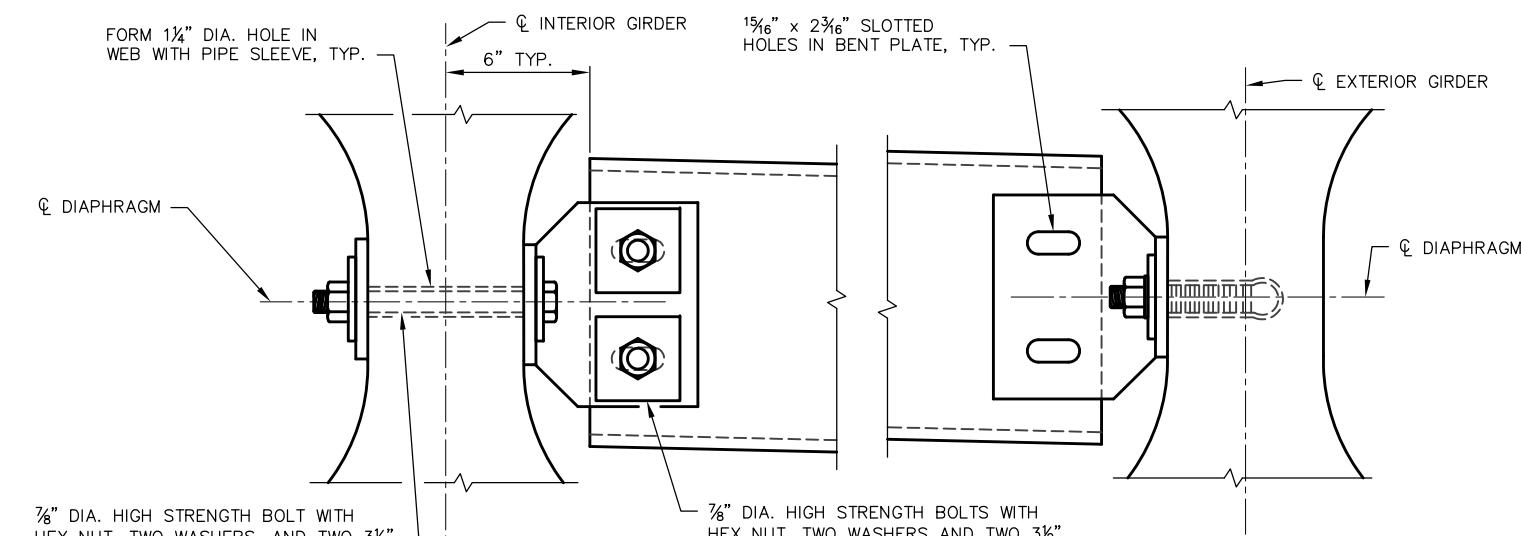
CHANNEL DETAIL



STEEL DIAPHRAGM LAYOUT PLAN

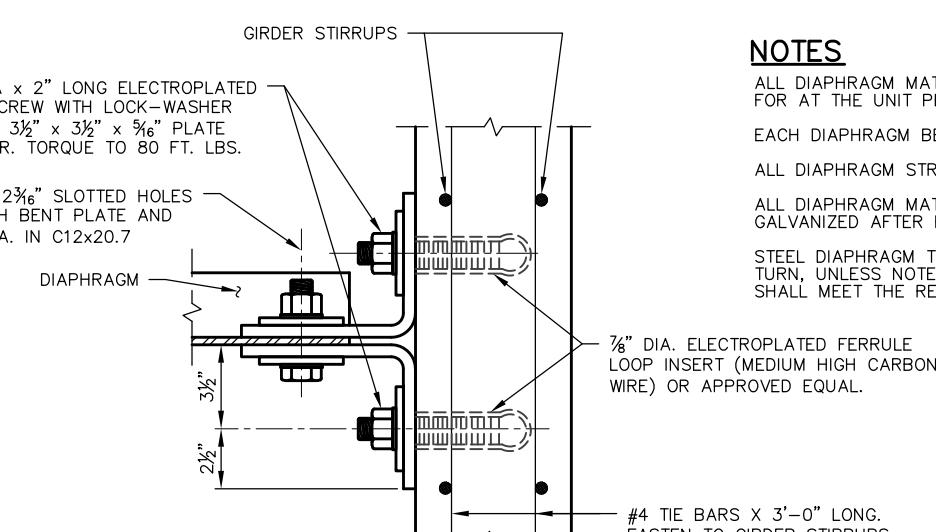


PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL A

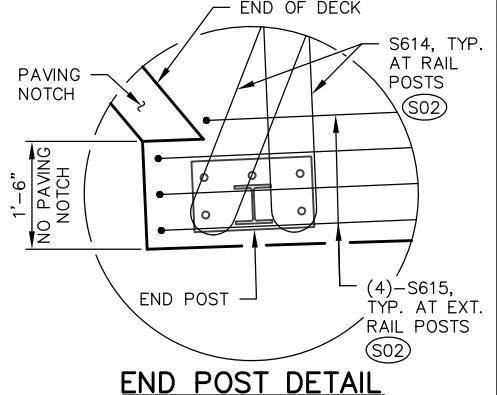
DETAIL B

SECTION A-A
(FOR EXTERIOR ATTACHMENT)

NOTES

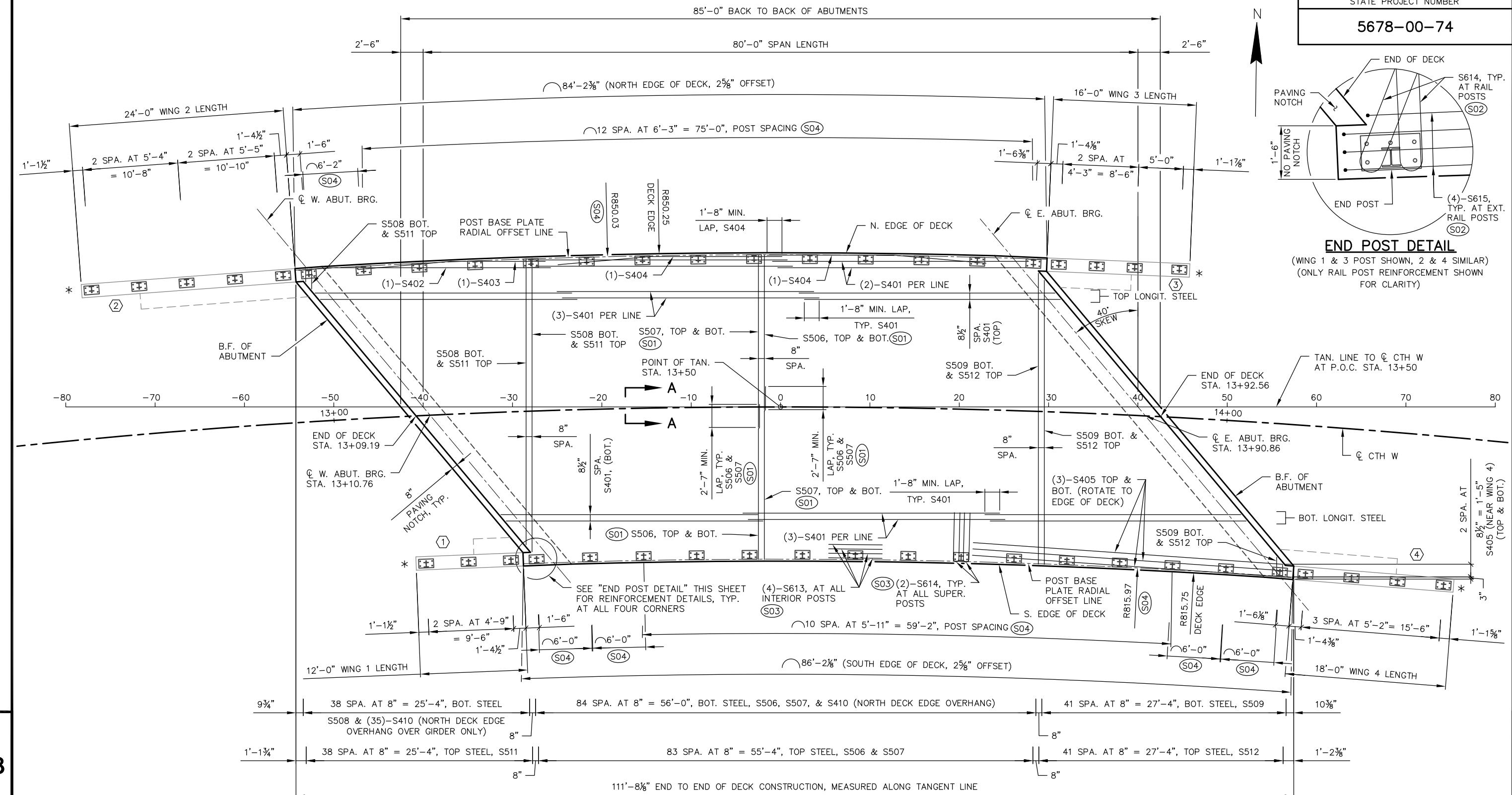
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDERS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-56-246", EACH.
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS 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.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
INTERMEDIATE STEEL DIAPHRAGM			
SHEET 15 OF 21			



END POST DETAIL

(WING 1 & 3 POST SHOWN, 2 & 4 SIMILAR)
(ONLY RAIL POST REINFORCEMENT SHOWN
FOR CLARITY)



NOTES

SEE "SUPERSTRUCTURE SECTION" SHEET FOR SECTION A-A.

(S01) ALTERNATE BETWEEN S506 & S507 ACROSS ENTIRE LENGTH OF THE BRIDGE DECK

(S02) ADJUST ORIENTATION OF S614 & S615 BAR AT END POST NEAR WINGS TO ENSURE CLEAR COVER AT END OF DECK AND 8" PAVING NOTCH.

(S03) SEE "RAILING TUBULAR TYPE M" SHEET FOR PLACEMENT OF RAIL POST REINFORCEMENT.

SUPERSTRUCTURE PLAN

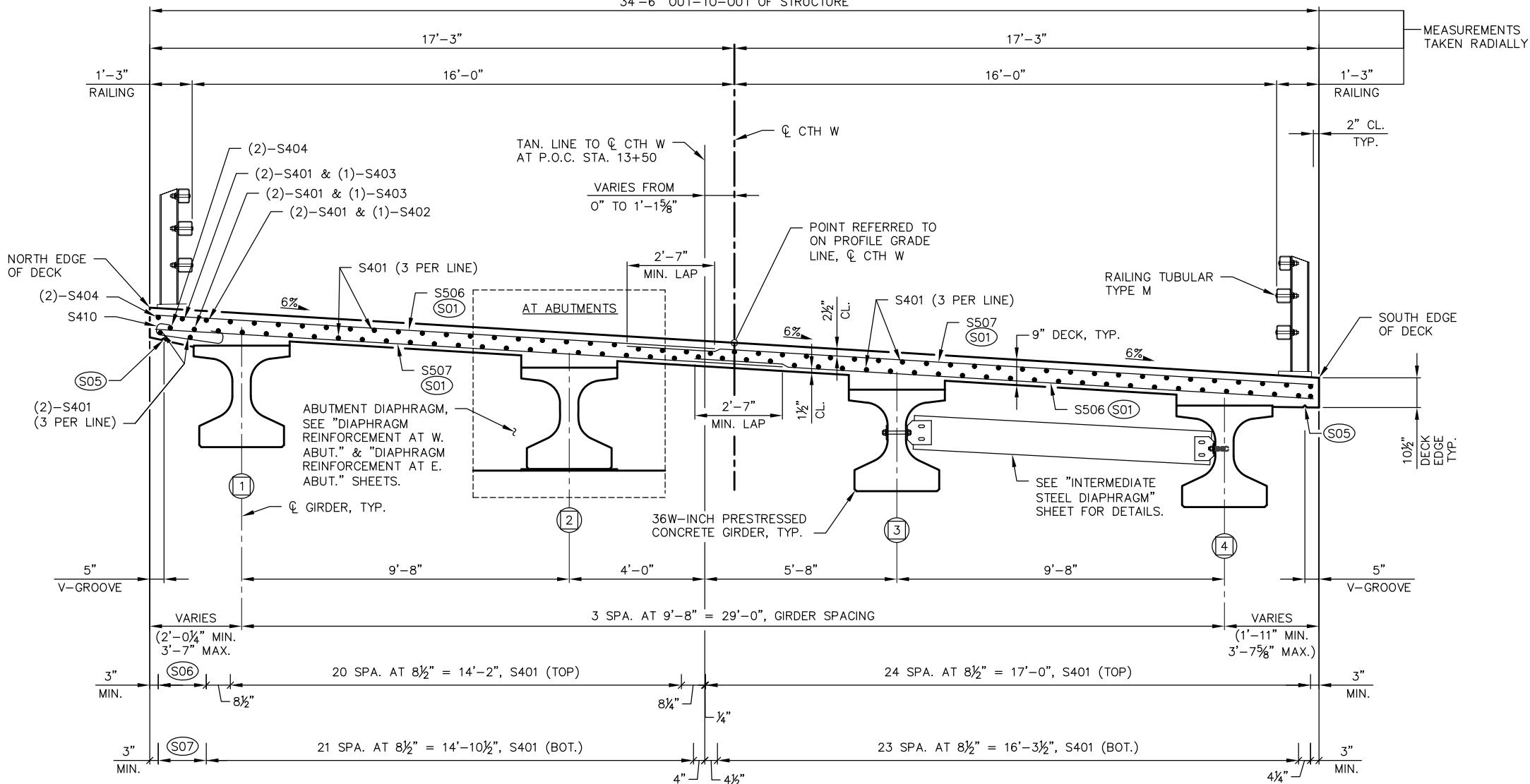
(S04) POST SPACING ON BRIDGE DECK MEASURED ALONG RADIAL LINE ALONG OUTSIDE EDGE OF POST BASE PLATE (PARALLEL TO DECK EDGES).

* LOCATION OF BEAM GUARD ATTACHMENT

(WING NUMBER)

F.F. - FRONT FACE
B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
SUPERSTRUCTURE			
SHEET 16 OF 21			



NOTES

(S01) ALTERNATE BETWEEN S506 & S507 ACROSS ENTIRE LENGTH OF THE BRIDGE DECK.

(S05) $\frac{3}{4}$ " V-GROOVE, EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT DIAPHRAGM. V-GROOVES ARE REQUIRED.

(S06) 2 SPA. AT 8 $\frac{1}{2}$ " = 1'-5", S401, S402, S403, & S404 (TOP).

(S07) 2 SPA. AT 8 $\frac{1}{2}$ " = 1'-5", S401, S403, & S404 (BOT.).

(#) INDICATES GIRDER LINE DESIGNATION

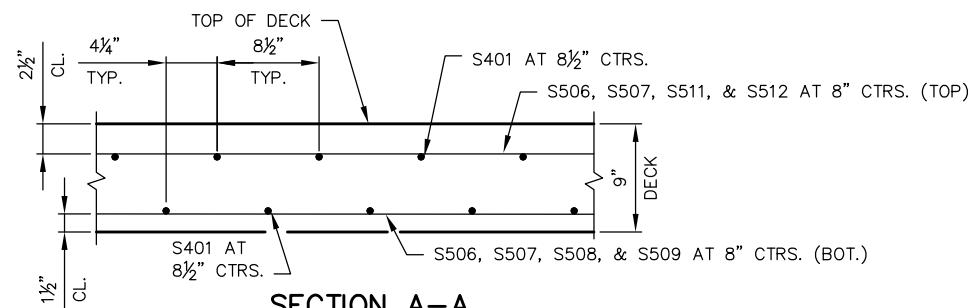
CROSS SECTION THRU ROADWAY

(LOOKING EAST)

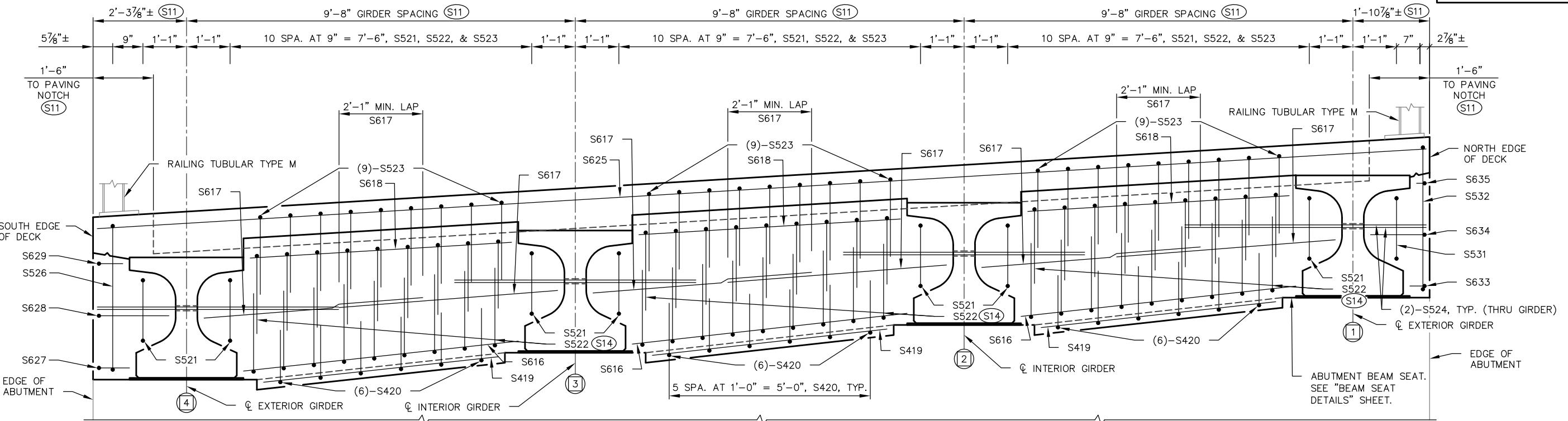
8

NORTH DECK EDGE				
SPAN PT	STA. ON $\frac{1}{4}$ CTH W	DISTANCE ALONG TANGENT LINE (LEFT)	OFFSET ALONG TANGENT LINE (LEFT)	EDGE OF DECK ELEVATION
$\frac{1}{4}$ W. ABUT.	12+97.96	-53.08	15.59	891.92
0.1	13+05.70	-45.20	16.05	891.82
0.2	13+13.44	-37.31	16.43	891.73
0.3	13+21.17	-29.42	16.74	891.64
0.4	13+28.91	-21.52	16.98	891.55
0.5	13+36.65	-13.63	17.14	891.47
0.6	13+44.39	-5.73	17.23	891.39
0.7	13+52.12	2.17	17.25	891.31
0.8	13+59.86	10.06	17.19	891.24
0.9	13+67.60	17.96	17.06	891.18
$\frac{1}{4}$ E. ABUT.	13+75.34	25.86	16.86	891.12

SOUTH DECK EDGE				
SPAN PT	STA. ON $\frac{1}{4}$ CTH W	DISTANCE ALONG TANGENT LINE	OFFSET ALONG TANGENT LINE (RIGHT)	EDGE OF DECK ELEVATION
$\frac{1}{4}$ W. ABUT.	13+24.26	-25.20	17.64	889.53
0.1	13+32.57	-17.07	17.43	889.44
0.2	13+40.88	-8.93	17.30	889.35
0.3	13+49.18	-0.80	17.25	889.27
0.4	13+57.49	7.33	17.28	889.20
0.5	13+65.80	15.47	17.40	889.12
0.6	13+74.10	23.60	17.59	889.06
0.7	13+82.41	31.73	17.87	888.99
0.8	13+90.71	39.85	18.22	888.94
0.9	13+99.02	47.98	18.66	888.89
$\frac{1}{4}$ E. ABUT.	14+07.33	56.09	19.18	888.84

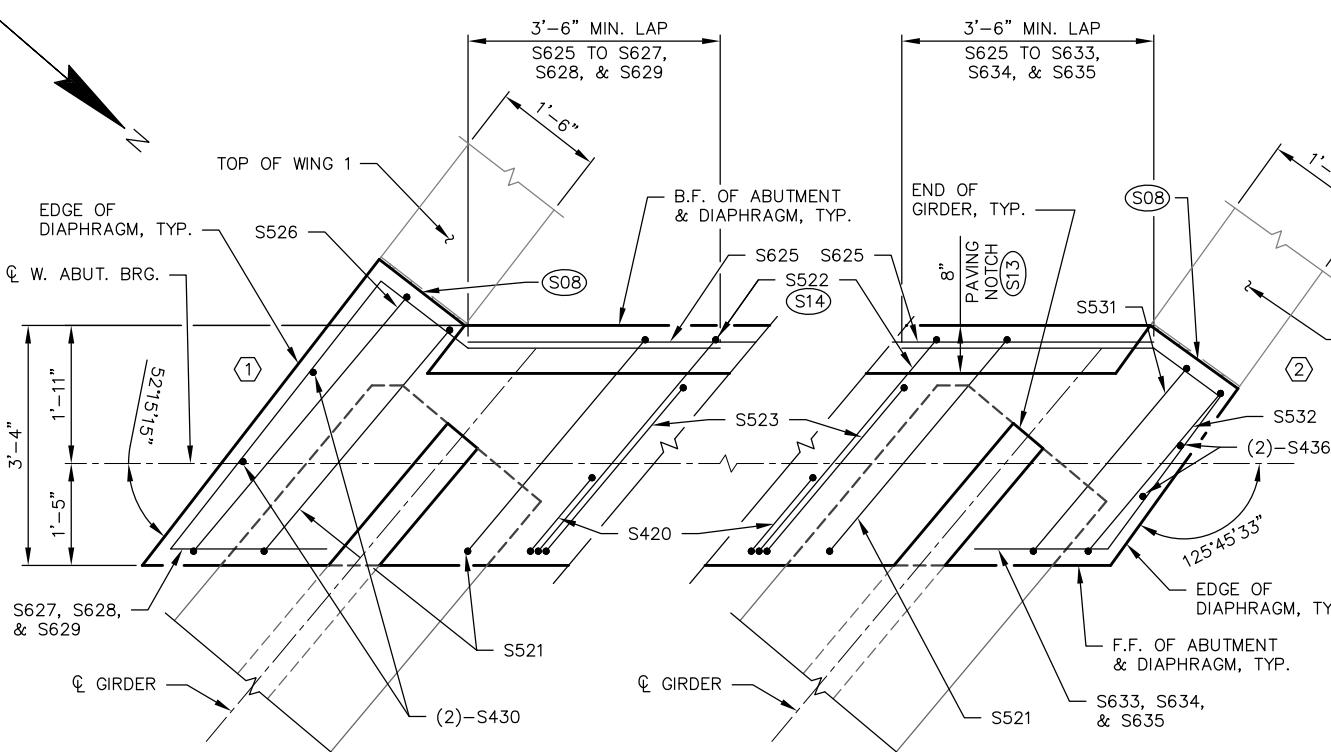
SECTION A-A
(IN SPAN BETWEEN GIRDERS)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY	JDO	PLANS CK'D	ACK
SUPERSTRUCTURE SECTION			
SHEET 17 OF 21			

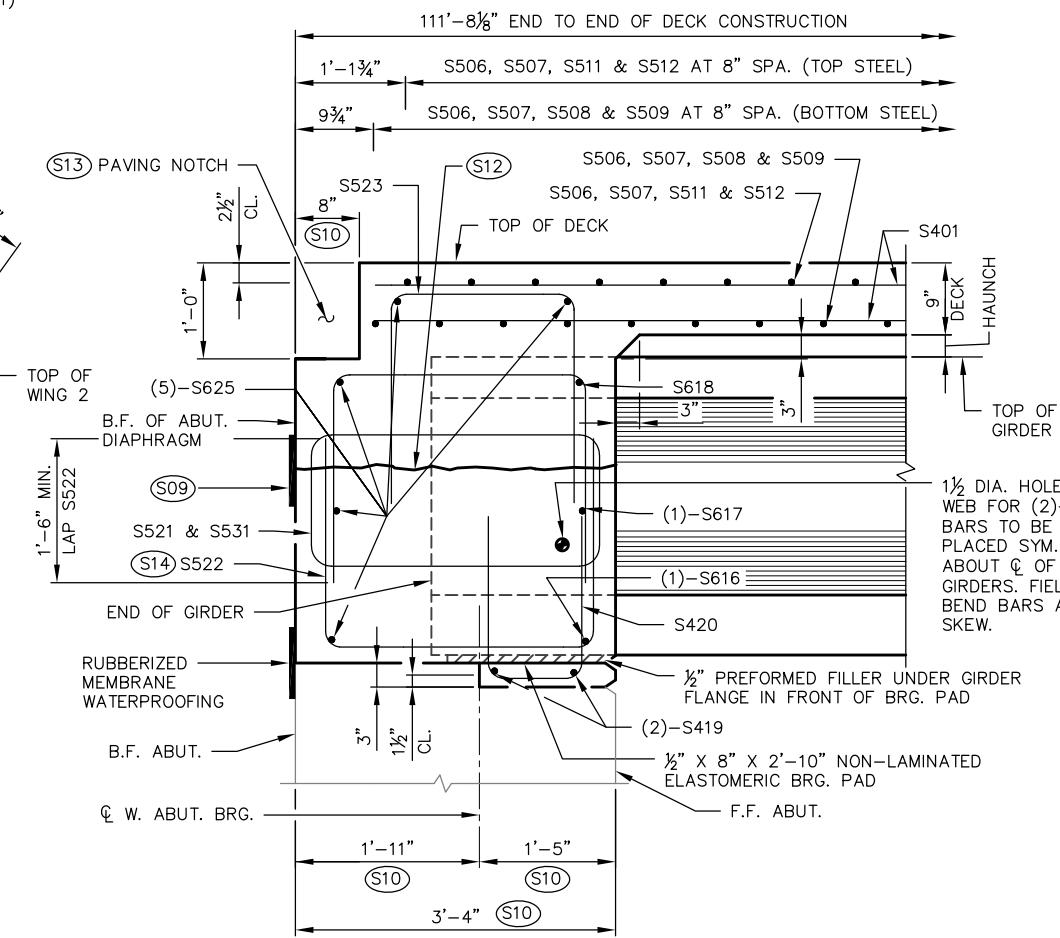


DIAPHRAGM REINFORCEMENT AT WEST ABUTMENT

(LOOKING WEST)



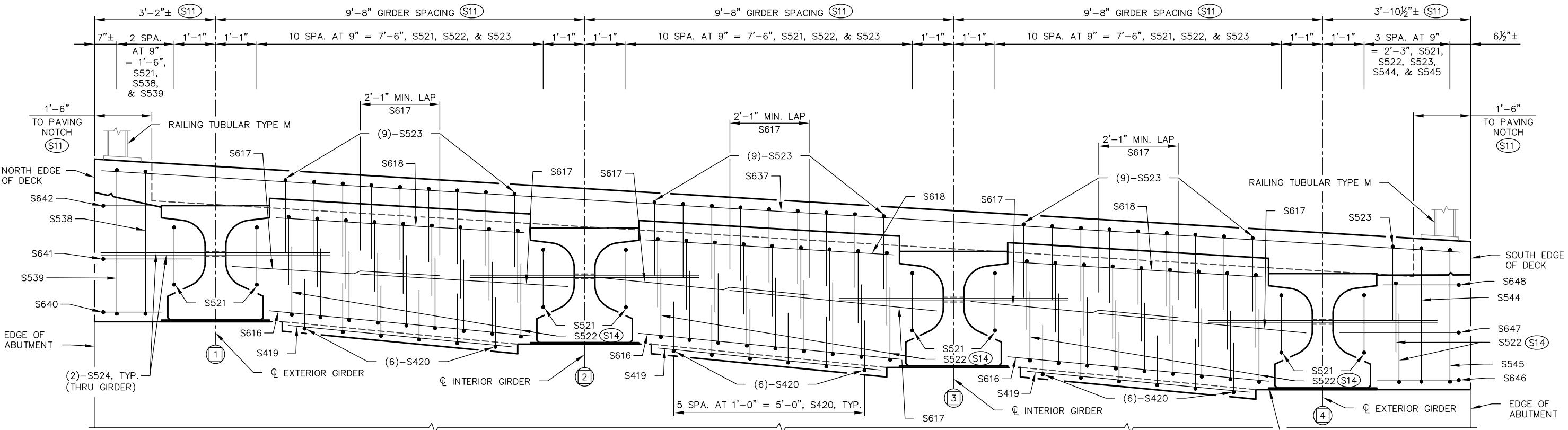
PLAN VIEW OF WEST ABUTMENT
DIAPHRAGM AT WINGS



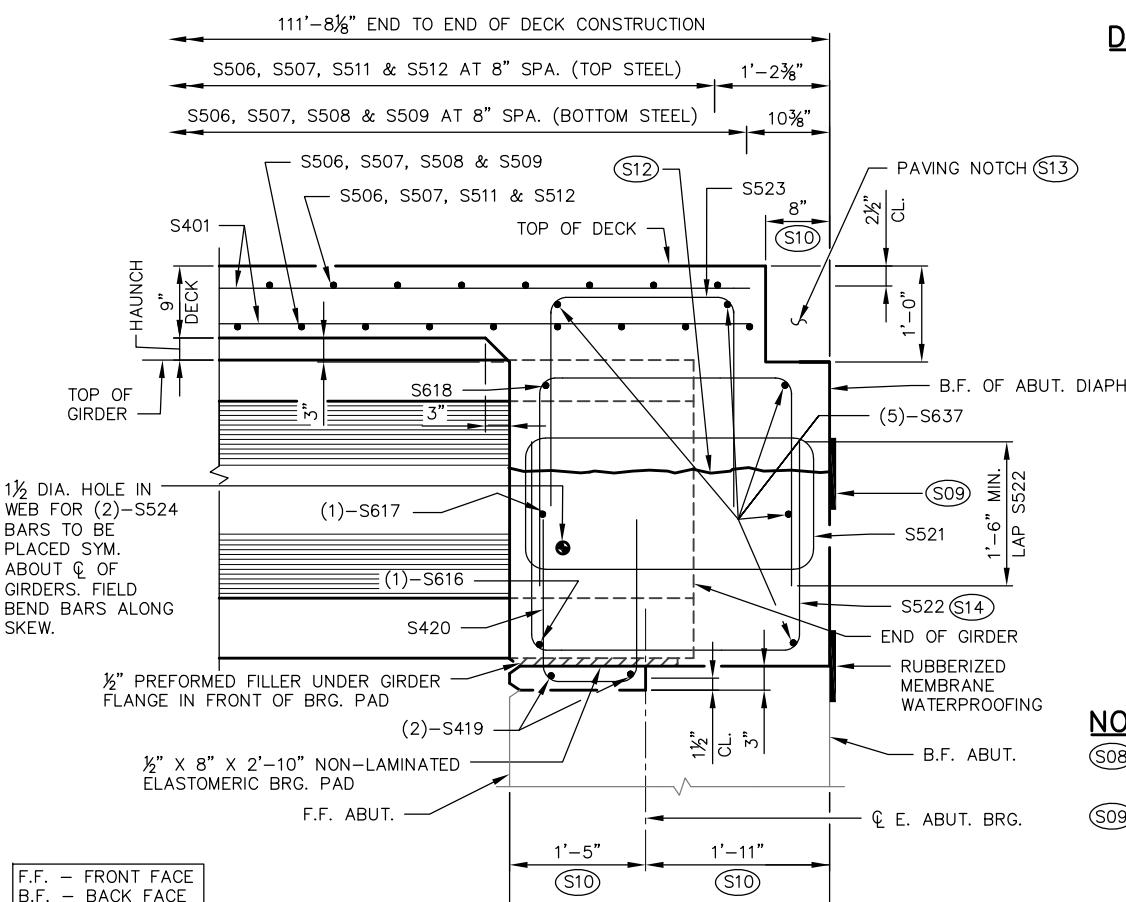
SECTION THRU DIAPHRAGM AT WEST ABUTMENT
(WEST ABUTMENT, LOOKING NORTH)

		F.F. - FRONT FACE
		B.F. - BACK FACE
E		REVISION
		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
STRUCTURE B-56-246		
DRAWN BY		JDO
PLANS CK'D		ACK
APHRAGM ORCEMENT AT W. ABUT.		SHEET 18 OF 21

FILE: B36U246_16_20_super.awg
PLOT SCALE:



DIAPHRAGM REINFORCEMENT AT EAST ABUTMENT (LOOKING EAST)



SECTION THRU DIAPHRAGM AT EAST ABUTMENT
(EAST ABUTMENT, LOOKING NORTH)

NOTE

(S08) $\frac{1}{2}$ " FILLER TO EXTEND FROM BR
SEAT TO TOP OF WING.

(S09) RUBBERIZED MEMBRANE
WATERPROOFING IF CONST. JOINT IS
USED (COST INCLUDED WITH BID ITE
"CONCRETE MASONRY BRIDGES").

- (S10) DIMENSION TAKEN NORMAL TO ABUTMENT.
- (S11) DIMENSION TAKEN NORMAL TO

(S10) DIMENSION TAKEN NORMAL TO ♢ ABUTMENT.

(S11) DIMENSION TAKEN NORMAL TO ♢

(S12) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME TO THE DIAPHRAGM POUR

(S10) DIMENSION TAKEN NORMAL TO C ABUTMENT.

(S11) DIMENSION TAKEN NORMAL TO C

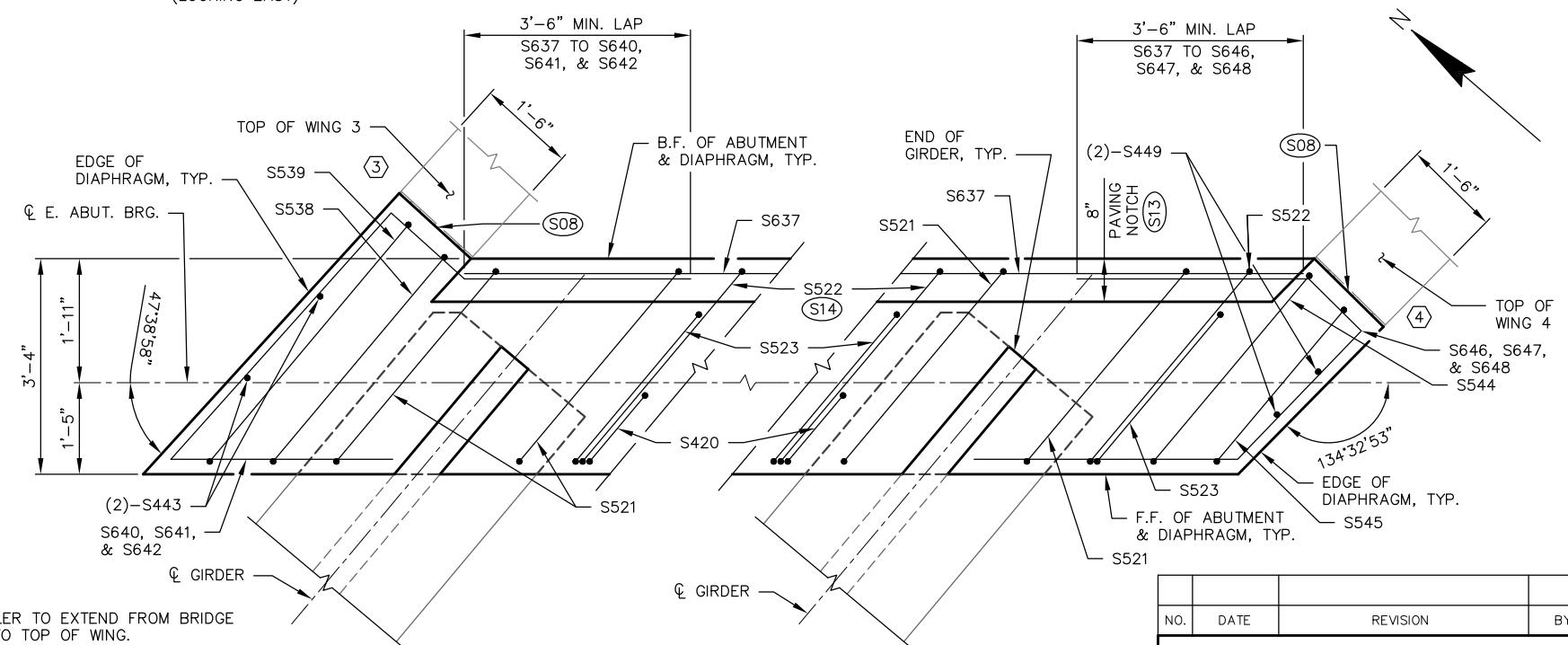
(S12) OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME TO THE

(S13) APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH

(S14) MINIMUM LAP OF 1'-6", S522

(S11) DIMENSION TAKEN NORMAL TO C
S12 DECK POUR MUST BE WITHIN 2
WEEKS FROM THE TIME TO THE
DIAPHRAGM POUR
(S14) MINIMUM LAP OF 1'-6", S522

PLAN VIEW OF EAST ABUTMENT
DIAPHRAGM AT WINGS



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-56-246

DRAWN
BY JDO

DIAPHRAGM
FOR SEGMENT A-1

ENFORCEMENT ACT

LD 5678-00-74

PLOT DATE: Aug 12 2025

BILL OF BARS
SUPERSTRUCTURE

COATED = 20,410 LBS.

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION
	COATED	UNCOATED				
S401	291		28'-9"			DECK - TOP & BOT. LONGIT.
S402	1		28'-3"	X		DECK - TOP - NORTH EDGE LONGIT.
S403	2		21'-2"	X		DECK - TOP & BOT. - NORTH EDGE LONGIT.
S404	4		23'-4"	X		DECK - TOP & BOT. - NORTH EDGE LONGIT.
S405	6		35'-9"			DECK - TOP & BOT. - SOUTH EDGE (NEAR WING 4) LONGIT.
S506	169		17'-5"			DECK - TOP & BOT. TRANS.
S507	169		19'-5"			DECK - TOP & BOT. TRANS.
S508	39		16'-9"	▲		DECK - BOT. - WEST END TRANS.
S509	42		16'-6"	▲		DECK - BOT. - EAST END TRANS.
S410	120		3'-0"	X		DECK - BOT. - OVERHANGS - NORTH EDGE TRANS.
S511	39		17'-2"	▲		DECK - TOP - WEST END TRANS.
S512	42		16'-10"	▲		DECK - TOP - EAST END TRANS.
S613	100		6'-0"			DECK - TOP AT INTERIOR RAIL POSTS LONGIT.
S614	58		11'-6"	X		DECK - TOP AT RAIL POSTS TRANS.
S615	16		4'-8"	X		DECK - TOP AT EXTERIOR RAIL POSTS LONGIT.
S616	6		8'-11"			ABUT. - DIAPHRAGM AT F.F. BOTTOM HORIZ.
S617	12		6'-10"			ABUT. - DIAPHRAGM AT F.F. HORIZ.
S618	6		8'-5"			ABUT. - DIAPHRAGM AT F.F. TOP HORIZ.
S419	12		7'-5"			ABUT. - DIAPHRAGM BOT. - BTWN. BEAM SEATS HORIZ.
S420	36		3'-11"	X		ABUT. - DIAPHRAGM - STIRRUP - BTWN. BEAM SEATS VERT.
S521	15		11'-8"	X		ABUT. - DIAPHRAGM - STIRRUP VERT.
S522	110		8'-2"	X		ABUT. - DIAPHRAGM - STIRRUP VERT.
S523	55		6'-9"	X		ABUT. - DIAPHRAGM - STIRRUP TOP VERT.
S524	16		6'-0"			ABUT. - DIAPHRAGM THRU GIRDER HORIZ.
S625	5		39'-7"			W. ABUT. - DIAPHRAGM - TOP & B.F. HORIZ.
S526	1		17'-2"	X		W. ABUT. - DIAPHRAGM - STIRRUP AT WING 1 VERT.
S627	1		10'-0"	X		W. ABUT. - DIAPHRAGM - AT WING 1 HORIZ.
S628	1		11'-4"	X		W. ABUT. - DIAPHRAGM - AT WING 1 HORIZ.
S629	1		9'-10"	X		W. ABUT. - DIAPHRAGM - AT WING 1 HORIZ.
S430	2		3'-8"			W. ABUT. - DIAPHRAGM EDGE - AT WING 1 VERT.
S531	1		10'-6"	X		W. ABUT. - DIAPHRAGM - STIRRUP AT WING 2 VERT.
S532	1		14'-8"	X		W. ABUT. - DIAPHRAGM - STIRRUP AT WING 2 VERT.
S633	1		7'-7"	X		W. ABUT. - DIAPHRAGM - AT WING 2 HORIZ.
S634	1		8'-11"	X		W. ABUT. - DIAPHRAGM - AT WING 2 HORIZ.
S635	1		7'-5"	X		W. ABUT. - DIAPHRAGM - AT WING 2 HORIZ.
S436	2		4'-1"			W. ABUT. - DIAPHRAGM EDGE - AT WING 2 VERT.
S637	5		43'-0"	E		E. ABUT. - DIAPHRAGM - TOP & B.F. HORIZ.
S538	1		17'-4"	X		E. ABUT. - DIAPHRAGM - STIRRUP AT WING 3 VERT.
S539	1		18'-8"	X		E. ABUT. - DIAPHRAGM - STIRRUP AT WING 3 VERT.
S640	1		11'-9"	X		E. ABUT. - DIAPHRAGM - AT WING 3 HORIZ.
S641	1		13'-1"	X		E. ABUT. - DIAPHRAGM - AT WING 3 HORIZ.
S642	1		11'-7"	X		E. ABUT. - DIAPHRAGM - AT WING 3 HORIZ.
S443	2		4'-2"			E. ABUT. - DIAPHRAGM EDGE - AT WING 3 VERT.
S544	1		15'-8"	X		E. ABUT. - DIAPHRAGM - STIRRUP AT WING 4 VERT.
S545	1		14'-4"	X		E. ABUT. - DIAPHRAGM - STIRRUP AT WING 4 VERT.
S646	1		9'-10"	X		E. ABUT. - DIAPHRAGM - AT WING 4 HORIZ.
S647	1		11'-4"	X		E. ABUT. - DIAPHRAGM - AT WING 4 HORIZ.
S648	1		9'-8"	X		E. ABUT. - DIAPHRAGM - AT WING 4 HORIZ.
S449	2		3'-8"			E. ABUT. - DIAPHRAGM EDGE - AT WING 4 VERT.

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

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

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

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
S508	1	SERIES OF 39
		1'-0" TO 32'-6"
S509	1	SERIES OF 42
		11" TO 32'-0"
S511	1	SERIES OF 39
		1'-5" TO 32'-10"
S512	1	SERIES OF 42
		1'-3" TO 32'-4"

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

5678-00-74

BAR BEND DIMENSIONS

MARK	"A"
S402	24'-11"
S403	10'-8"
S404	14'-9"

MARK	"B"	"C"
S420	1'-4"	1'-5"
S522	2'-3"	3'-11"
S523	2'-0"	3'-0"

MARK	"D"	"E"
S521	1'-7"	3'-11"
S526	3'-8"	4'-7"
S531	1'-7"	3'-4"
S532	4'-1"	2'-11"
S538	4'-1"	4'-3"
S539	4'-1"	4'-11"
S544	3'-8"	3'-10"
S545	3'-8"	3'-2"

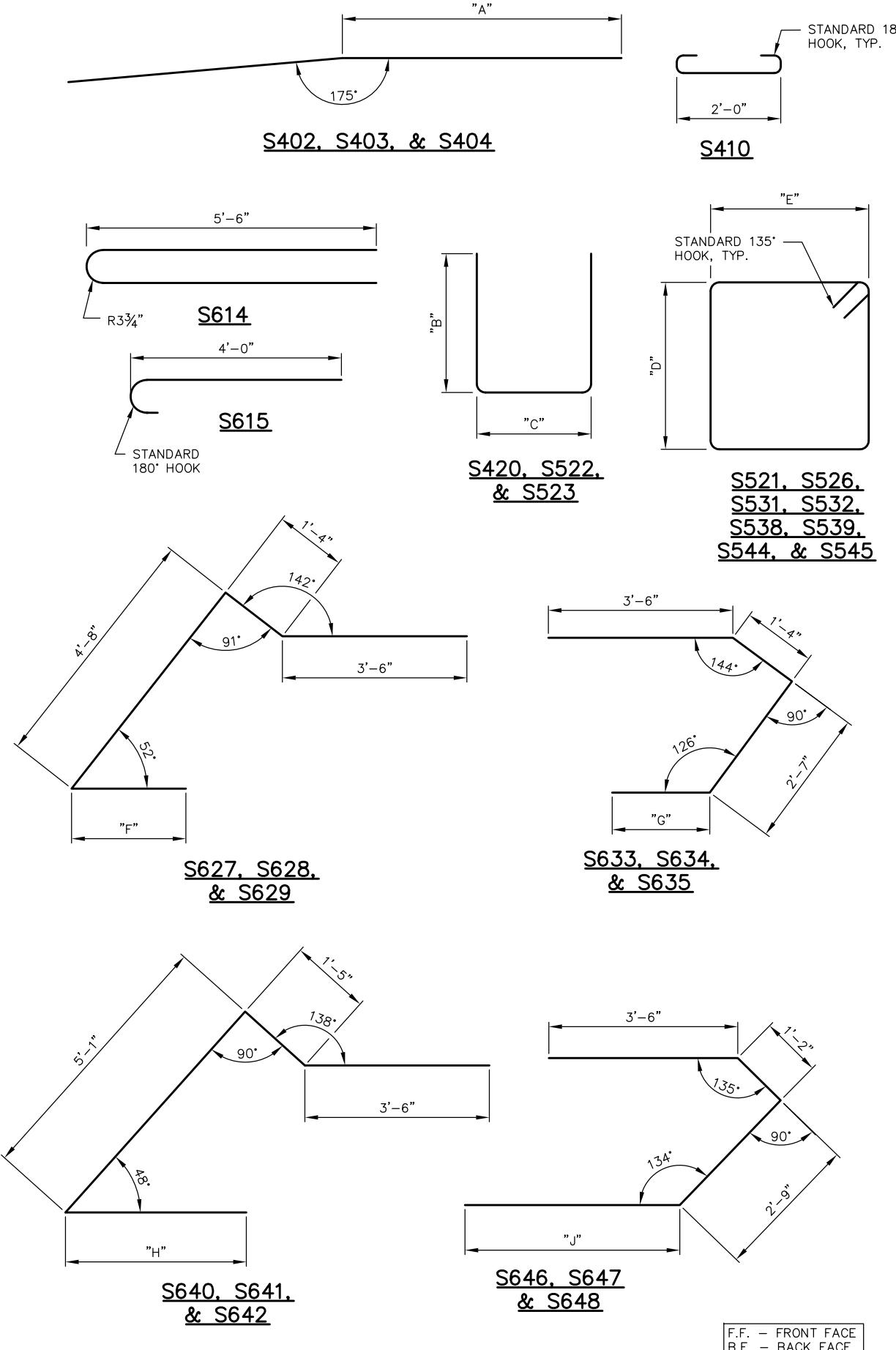
MARK	"F"
S627	10"
S628	2'-2"
S629	8"

MARK	"G"
S633	6"
S634	1'-10"
S635	4"

MARK	"H"
S640	2'-1"
S641	3'-5"
S642	1'-11"

MARK	"J"
S646	2'-9"
S647	4'-3"
S648	2'-7"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246			
DRAWN BY JDO PLANS CK'D ACK			
SUPERSTRUCTURE REINFORCEMENT		SHEET 20 OF 21	



SECTION A-A

(R01) TIE TO TOP MAT OF STEEL.

ANCHOR PLATE AT RAIL TO DECK CONNECTION

ANCHOR PLATE AT BEAM GUARD ATTACHMENT

POST SHIM DETAIL

BACK-UP PLATE DETAIL AT BEAM GUARD ATTACHMENTS

SECTION B-B

FIELD ERECTION JOINT DETAIL

ANCHOR BOLTS

ANCHOR PLATE

SECTION C-C

TOP VIEW AT END POST (THRIE BEAM RAIL ATTACHMENT)

SECTION D-D

DETAIL AT END POST (THRIE BEAM RAIL ATTACHMENT)

SECTION THRU POST WEB

SECTION THRU RAIL

SHOP RAIL SPLICE DETAIL (LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

TYPICAL RAIL TO POST CONNECTIONS

SECTION E-E

PART ELEVATION OF RAILING

LEGEND

1. W6 x 25 WITH $1\frac{1}{8}$ " x $1\frac{1}{2}$ " HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

2. PLATE $1\frac{1}{4}$ " x $11\frac{3}{4}$ " x $1'-8"$ WITH $1\frac{1}{16}$ " DIA. OVERRSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.

3. ASTM A449 - $1\frac{1}{8}$ " DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE $1'-9"$ LONG IN ABUTMENT PLATE. AT POSTS ON CONCRETE DECK SUPERSTRUCTURES WHERE THE DECK THICKNESS IS $> 16"$ USE $1'-3"$ LONG. USE $10\frac{3}{4}$ " LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)

4. $\frac{5}{8}$ " x 11 " x $1'-8"$ ANCHOR PLATE (GALVANIZED) WITH $1\frac{1}{16}$ " DIA. HOLES FOR ANCHOR BOLTS NO. 3.

5. TS $5 \times 4 \times 0.25$ STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

5A. TS $5 \times 5 \times 0.25$ STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

6. $\frac{7}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, $\frac{3}{16}$ " x $1\frac{1}{8}$ " x $1\frac{1}{8}$ " MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

7. $\frac{1}{2}$ " THK. BACK-UP PLATE WITH $2 - \frac{7}{8}$ " x $1\frac{1}{2}$ " THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

8. 1 " DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR $\frac{7}{8}$ " DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

9. SPLICE SLEEVE FABRICATED FROM $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT".

10. $\frac{3}{8}$ " x $3\frac{1}{2}$ " x $2'-4"$ PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

10A. $\frac{3}{8}$ " x $2\frac{1}{2}$ " x $2'-4"$ PLATE USED IN NO. 5, $\frac{3}{8}$ " x $3\frac{1}{2}$ " x $2'-4"$ PLATE USED IN NO. 5A. 2 PER RAIL.

11. $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER. USE $15\frac{1}{16}$ " x $1\frac{1}{4}$ " LONG. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND $1\frac{1}{16}$ " x $2\frac{1}{4}$ " MIN. LONG. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE $1\frac{1}{16}$ " DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.

12. $\frac{7}{8}$ " DIA. x $1\frac{1}{2}$ " LONG THREADED SHOP WELDED STUDS (2 REQ'D.).

13. $\frac{3}{8}$ " x 8 " x $1'-6"$ PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.

14. $\frac{7}{8}$ " DIA. x 2 " LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).

15. 1 " DIA. HOLES IN TUBES NO. 5A FOR $\frac{7}{8}$ " DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

8

8

FILE: B560246_21_mrail.dwg
PLOT SCALE:

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-56-246	DRAWN BY JDO	PLANS CK'D	ACK
RAILING TUBULAR TYPE M			SHEET 21 OF 21

WEST APPROACH

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
106.00	0.00	.1	0.00	0.00	0	0	0	0	0	0
1100.00	4.00	.20	0.00	0.00	1	0	0	1	0	1
1155.01	55.01	54.63	12.3Ā	1.64	65	13	1Ā	66	24	2Ā
11.00	21.ĀĀ	53.02	12.43	23.51	44	10	1Ā	110	45	42
114.	.	51.3	12.54	2.36	15	4	8	125	55	43
1200.00	15.12	50.01	12.50	23.ĀĀ	2Ā	7	15	153	4	45
1206.00	6.00	50.06	12.52	21.43	11	3	5	164	0	4Ā
120.56	3.56	50.31	12.54	20.0Ā	7	2	3	11	4	4Ā
1216.3	.1	4.2	12.5Ā	1.2	13	3	5	14	0	52
1234.05	1.32	50.03	12.55	1.53	32	8	12	216	105	61
1242.22	.1	4.13	12.51	20.5	15	4	6	231	113	65
1250.00	.	51.14	12.44	20.5Ā	14	4	6	245	120	6Ā
126.1	1.1	50.24	12.32	3.5Ā	33	8	8	2ĀĀ	130	2
123.12	5.41	50.20	12.30	3.54	10	2	1	2ĀĀ	131	89
1300.00	26.ĀĀ	40.1Ā	10.2Ā	2.12	45	11	3	333	135	11Ā
130.32	.32	22.5	5.52	2.4	10	2	1	343	136	126
STRUCTURE B-56-0246										
		EST APPROAC TOTAL			343	1	10Ā			

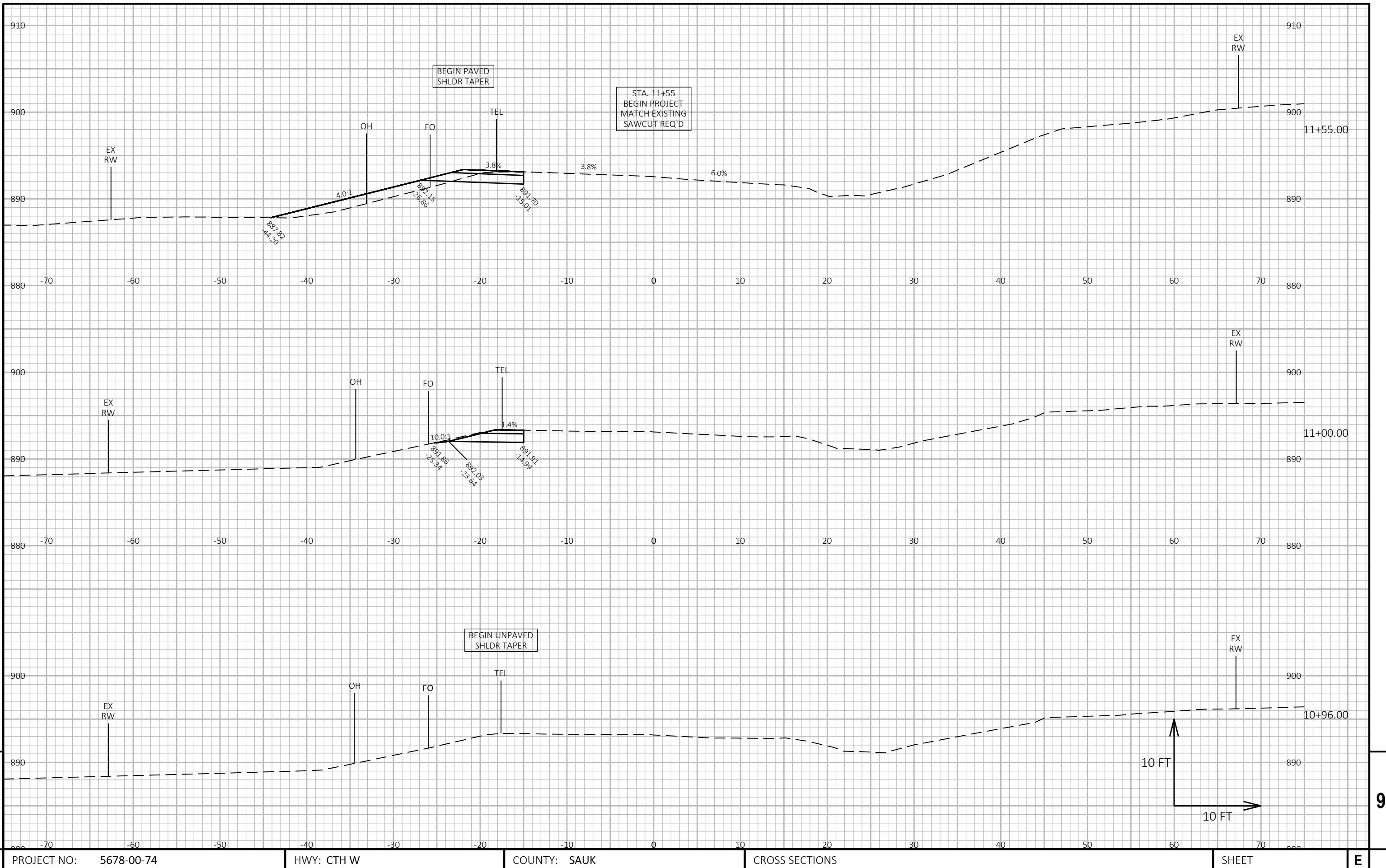
EAST APPROACH

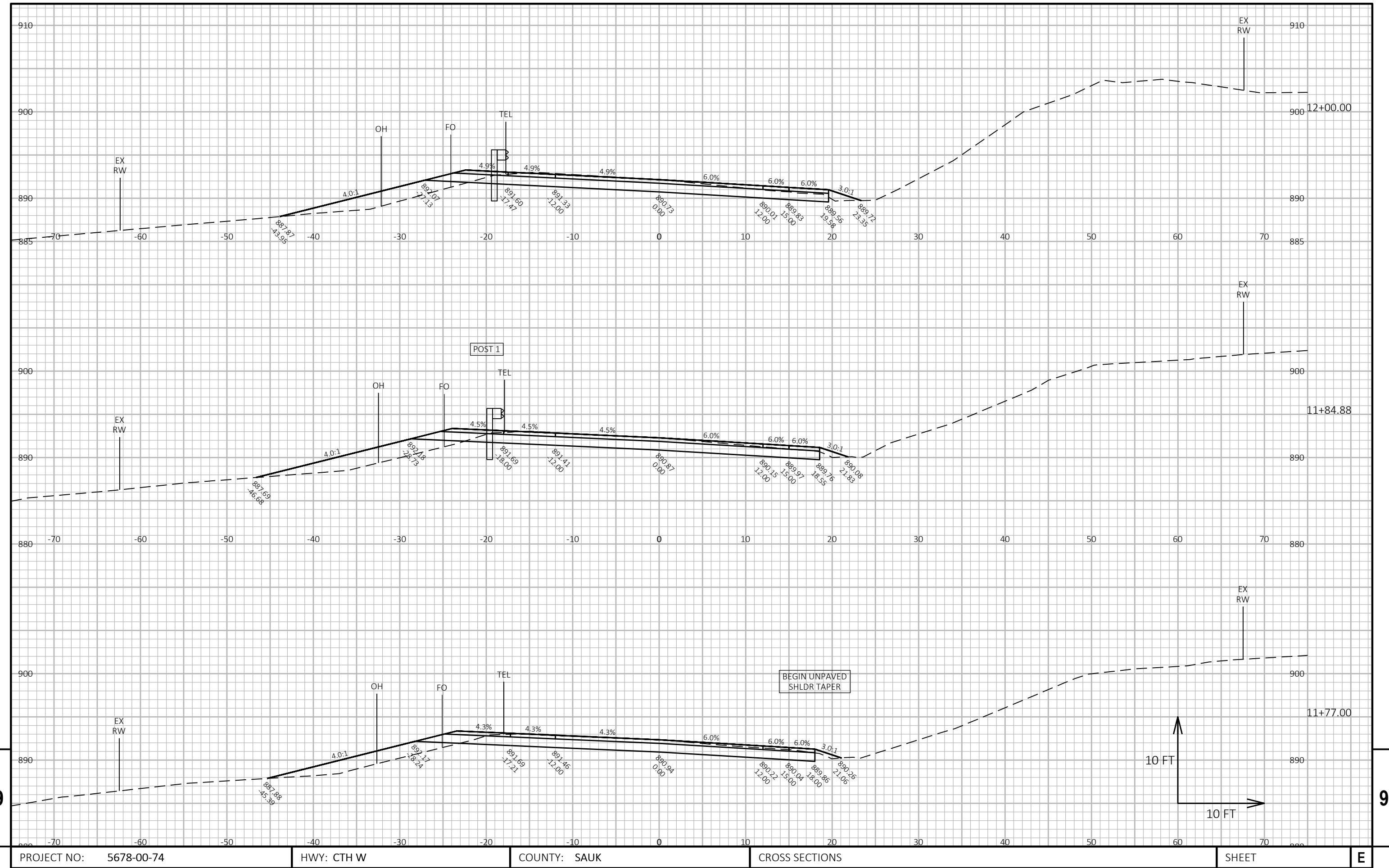
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
STRUCTURE B-56-0246										
13+93.47	0.00	24.94	5.74	0.00	0	0	0	0	0	0
13+94.95	1.48	35.04	6.45	0.20	2	0	0	2	0	2
14+00.00	5.05	40.75	8.86	0.03	.	1	0	.	0	8
142.00	2.00	54.60	11.60	1.3Ā	4Ā	10	1	5Ā	1	45
1433.	6.ĀĀ	5.04	11.ĀĀ	0.6	14	3	0	1	1	56
1450.00	16.02	61.31	12.20	0.26	35	7	0	106	1	4
145.4	.4	61.5Ā	12.3Ā	0.40	1Ā	4	0	125	1	99
146.55	.0	61.01	12.41	0.4	21	4	0	146	1	116
142.4	15.3Ā	61.34	12.4Ā	.04	35	7	2	11	4	141
143.04	10.10	5.3	12.53	6.ĀĀ	23	5	3	204	8	156
1500.00	6.6	5.15	12.56	.22	15	3	2	21Ā	10	165
1513.00	13.00	5.5	12.55	5.00	2Ā	6	3	24Ā	14	14
151.56	5.56	60.ĀĀ	12.54	3.ĀĀ	12	3	1	260	15	12
154.	30.43	60.52	12.3Ā	6.13	6Ā	14	6	32Ā	23	23Ā
1600.00	51.01	6.2Ā	0.00	0.16	63	12	6	31	30	22
		EAST APPROAC TOTAL			31	79	24			
		PROJECT TOTAL			34	160	133			

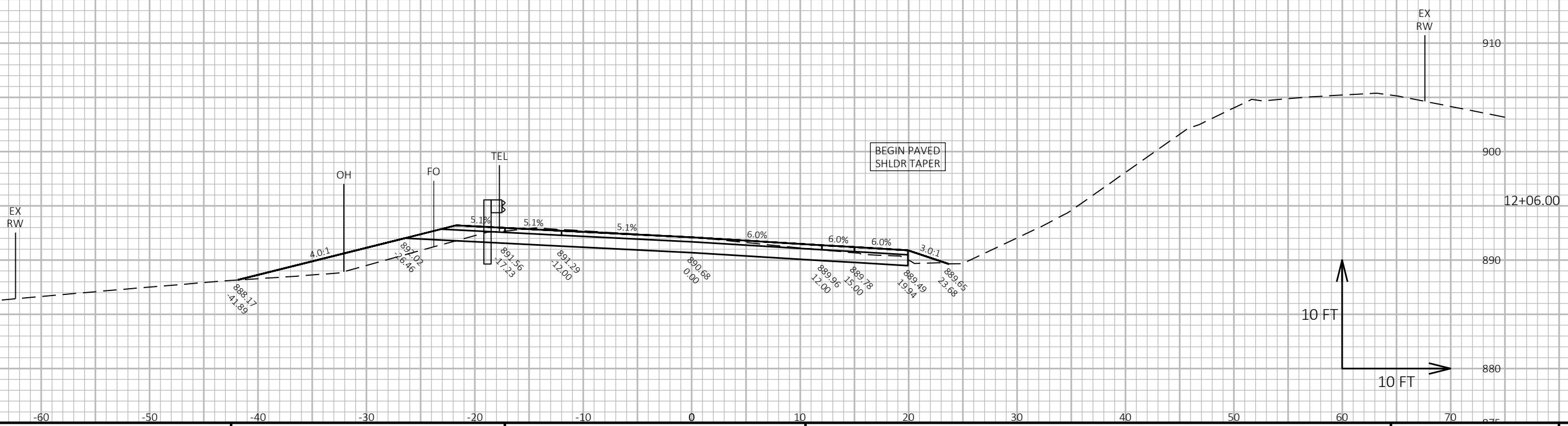
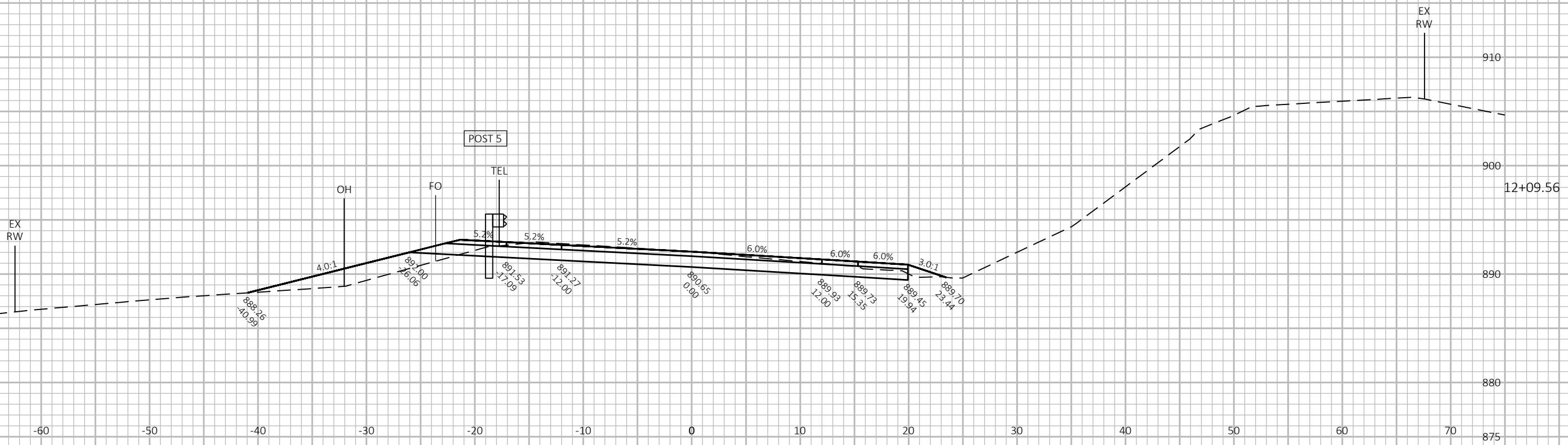
NOTESĀ

1 - CUT
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL
4 - MASS ORDINATE

CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
TIS DOES NOT SO UP IN CROSS SECTIONS
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
(CUT) - (FILL FILL FACTOR) - (SALVAGED/UNUSABLE PAVEMENT MATERIAL)
PLUS UANTITY INDICATES AN EXCESS OF MATERIAL ITIN TE DIVISION. MINUS UANTITY INDICATES A SORTAGE OF MATERIAL ITIN TE DIVISION.







PROJECT NO: 5678-00-74

HWY: CTH

COUNTY: SAUK

CROSS SECTIONS

SHEET

E

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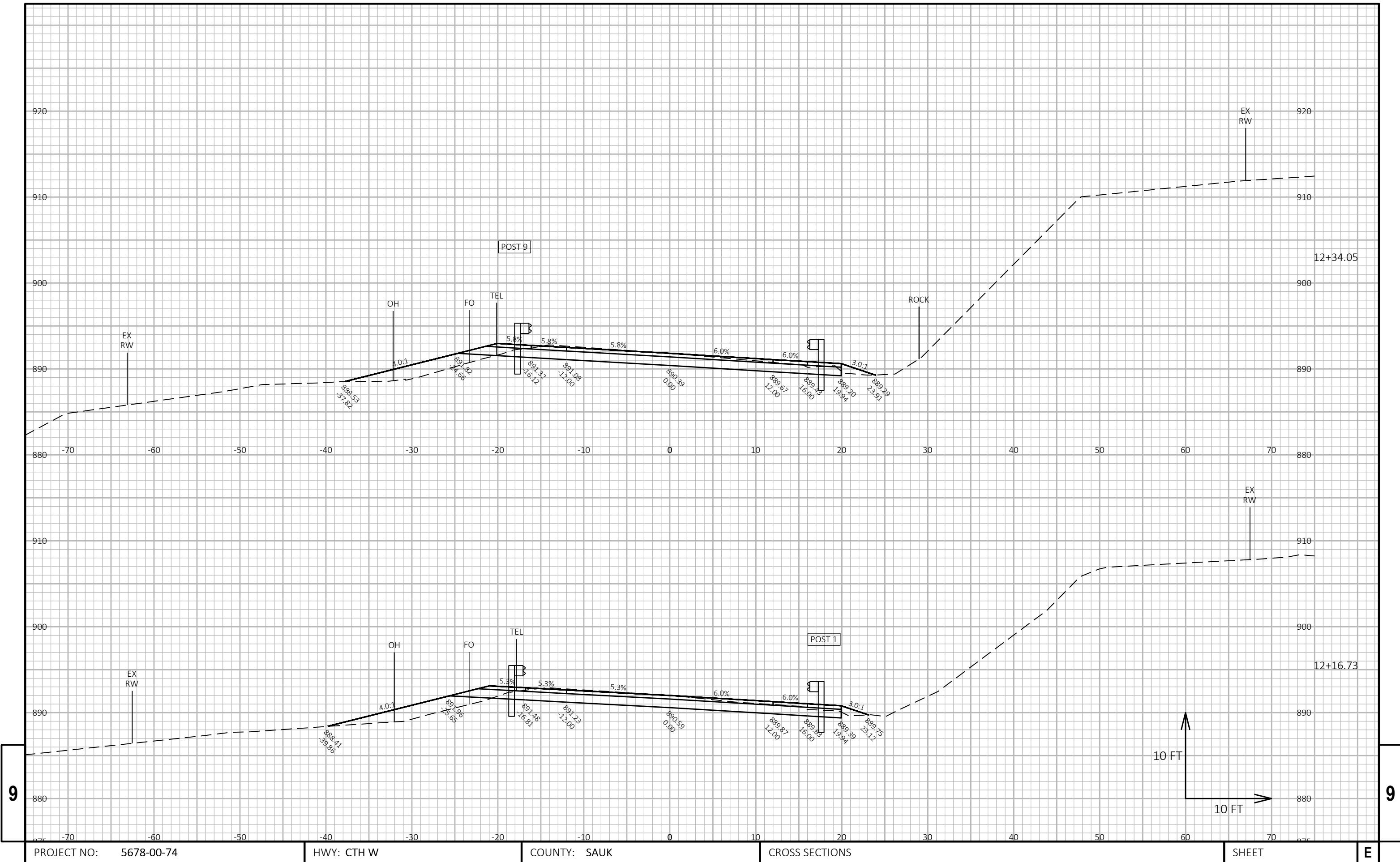
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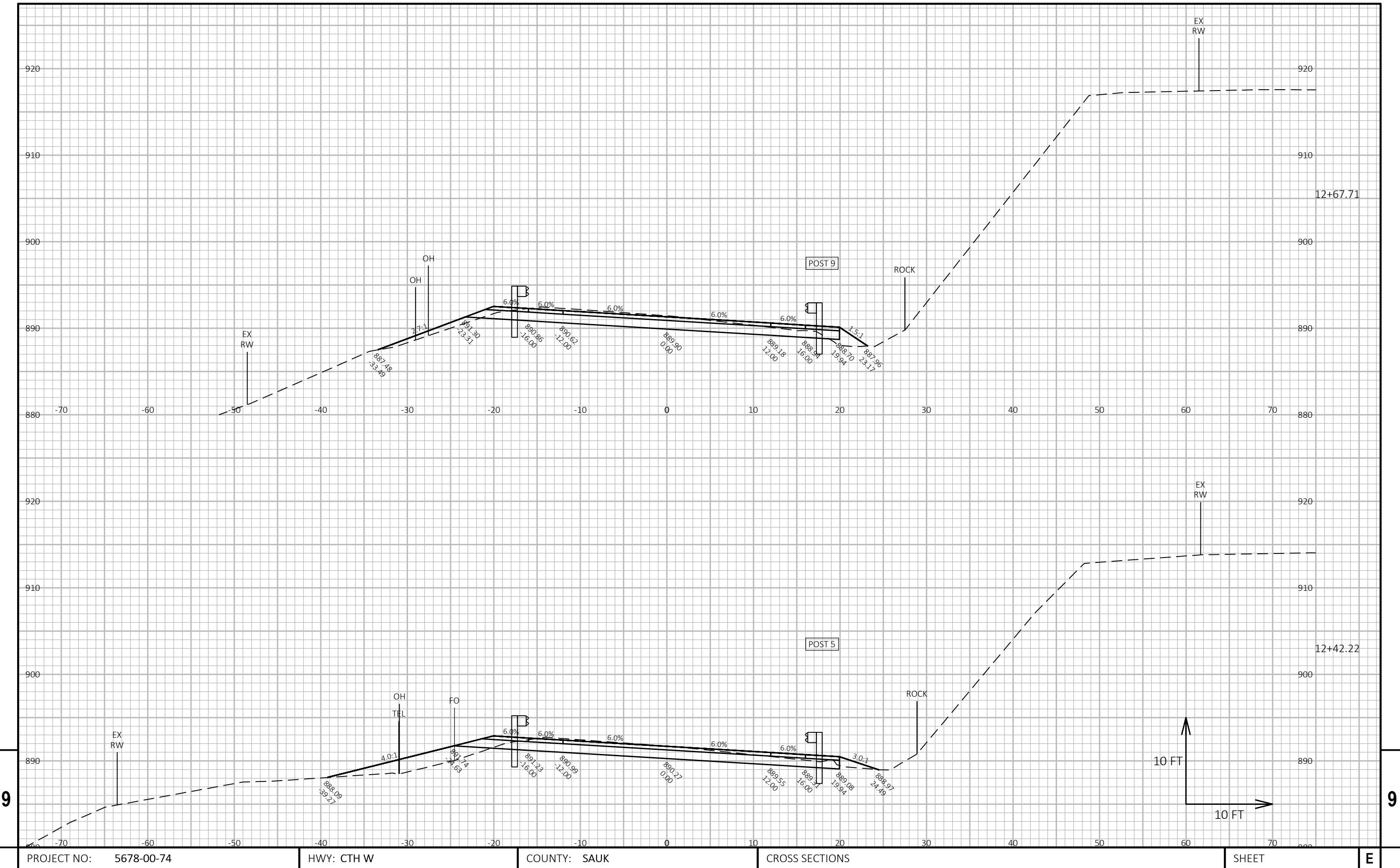
PLOT BY : ZACH PAULUS

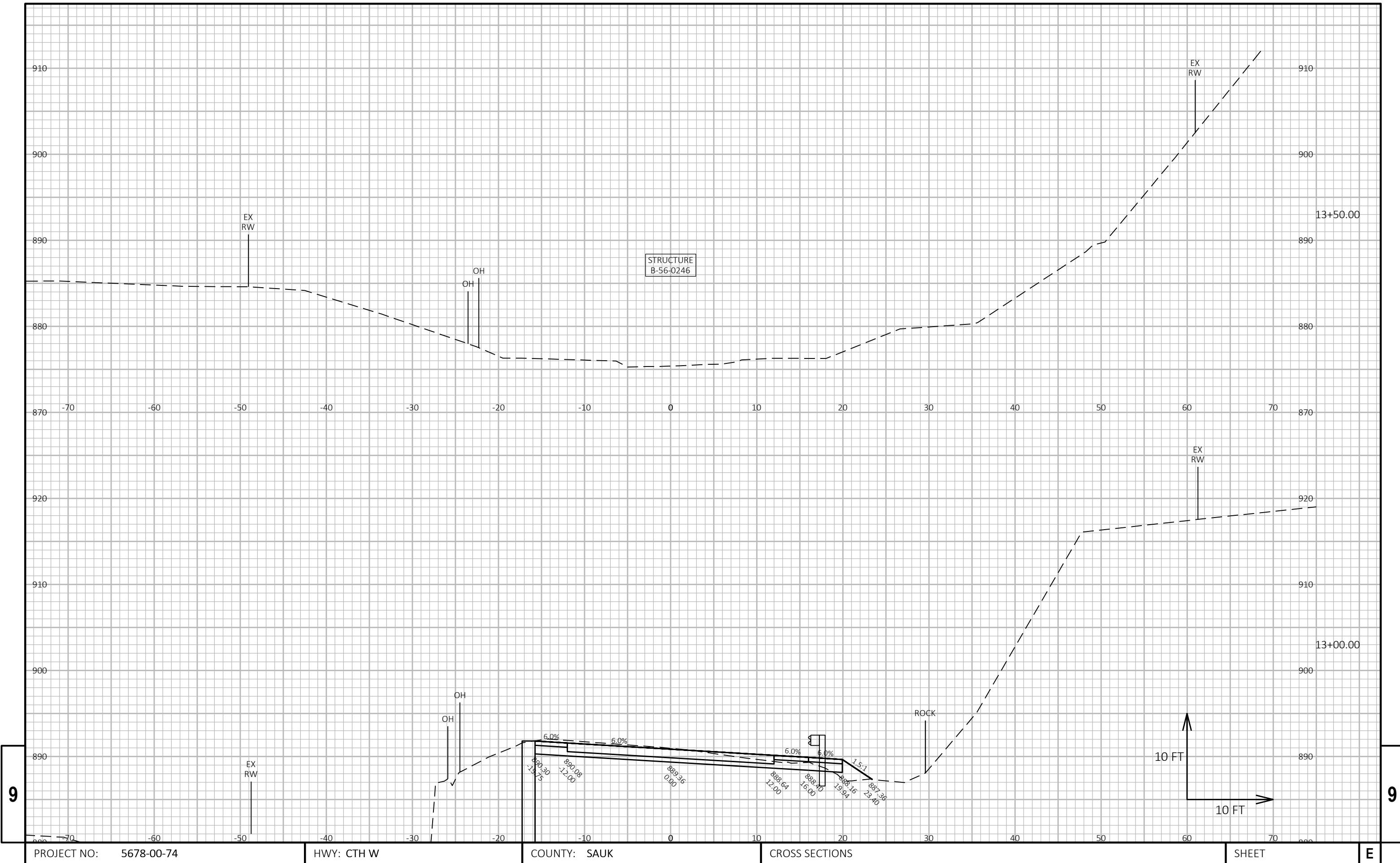
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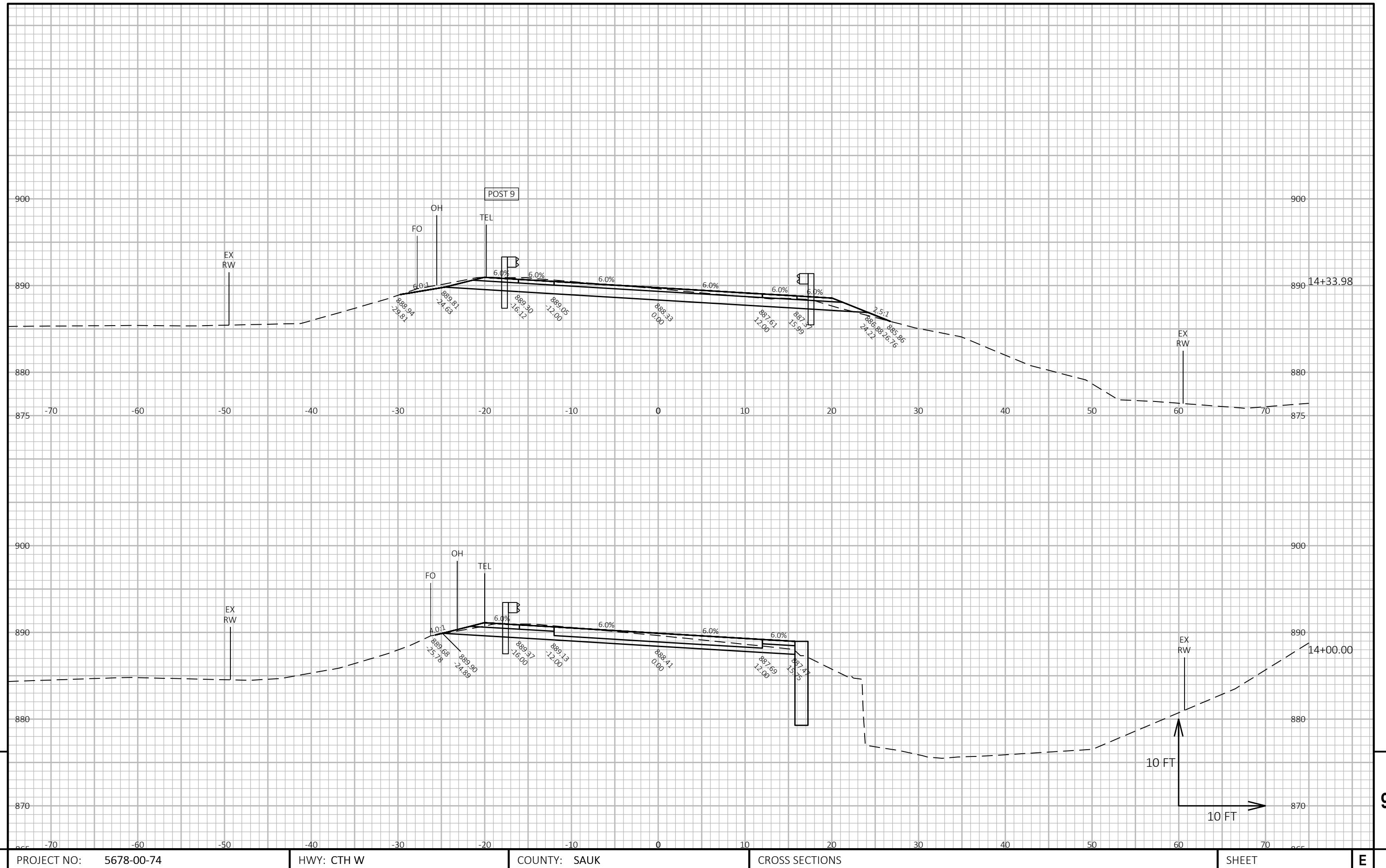
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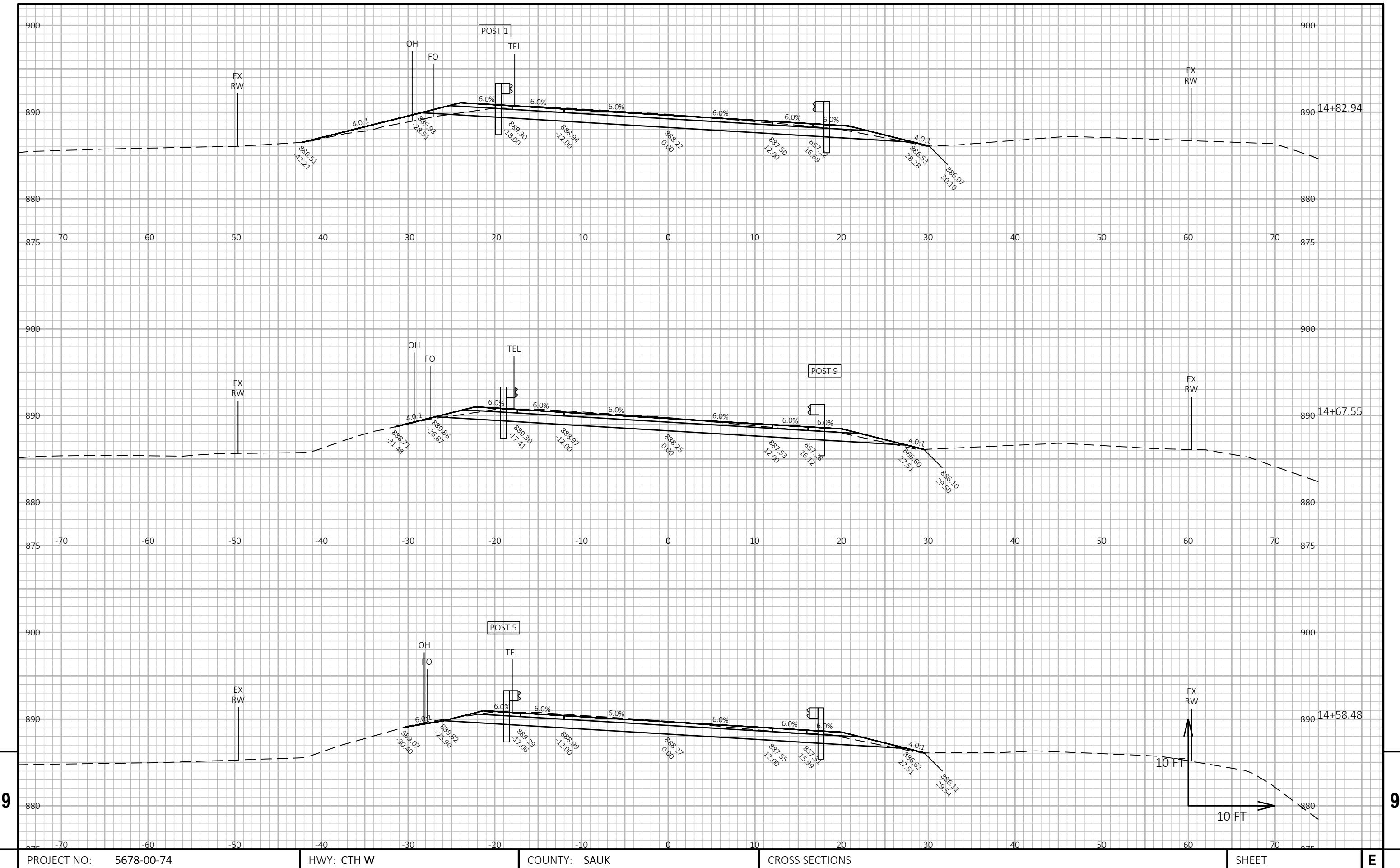
WISDOT/CADD\$ SHEET 49











PROJECT NO: 5678-00-74

HWY: CTH

COUNTY: SAUK

CROSS SECTIONS

SHEET

E

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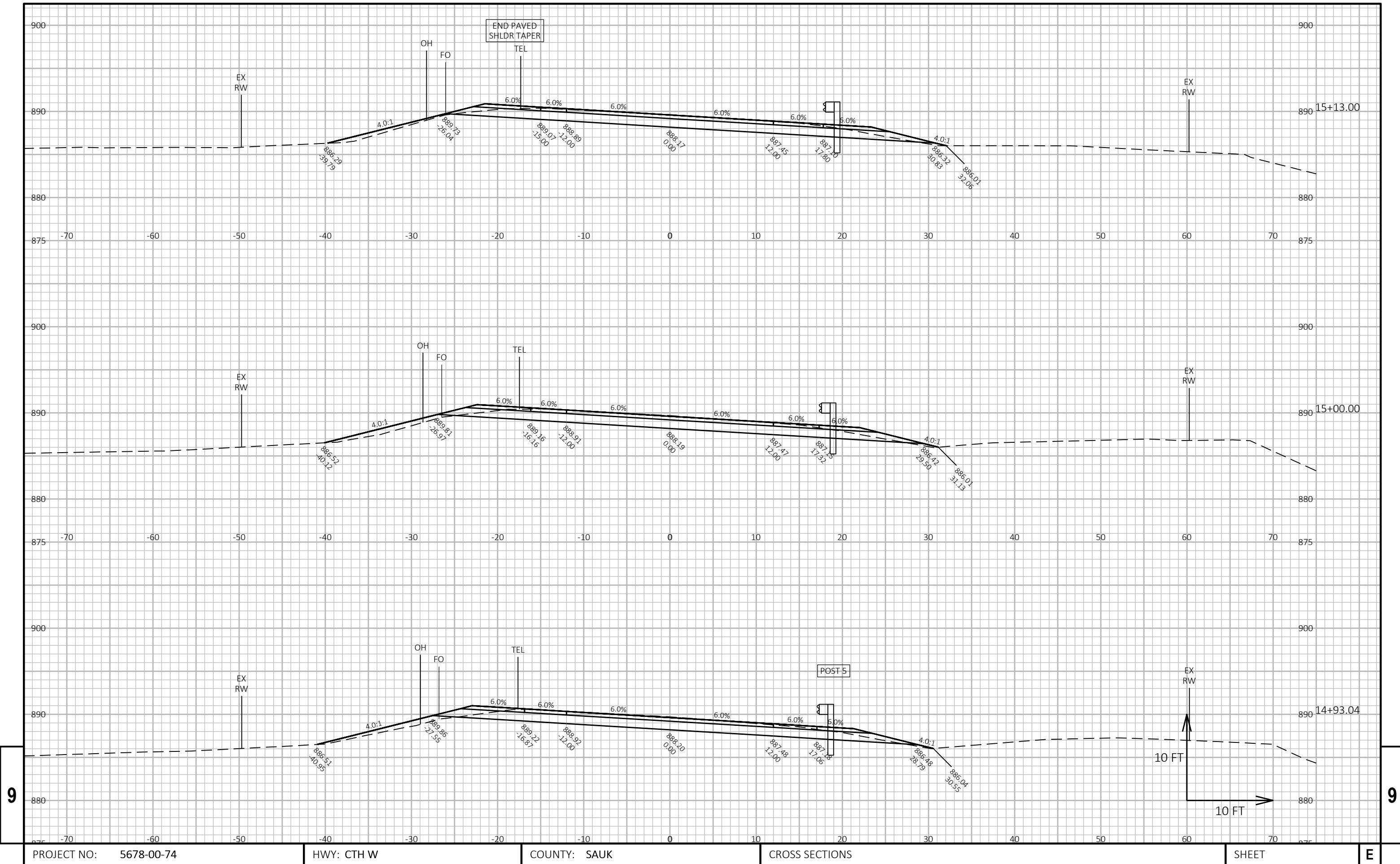
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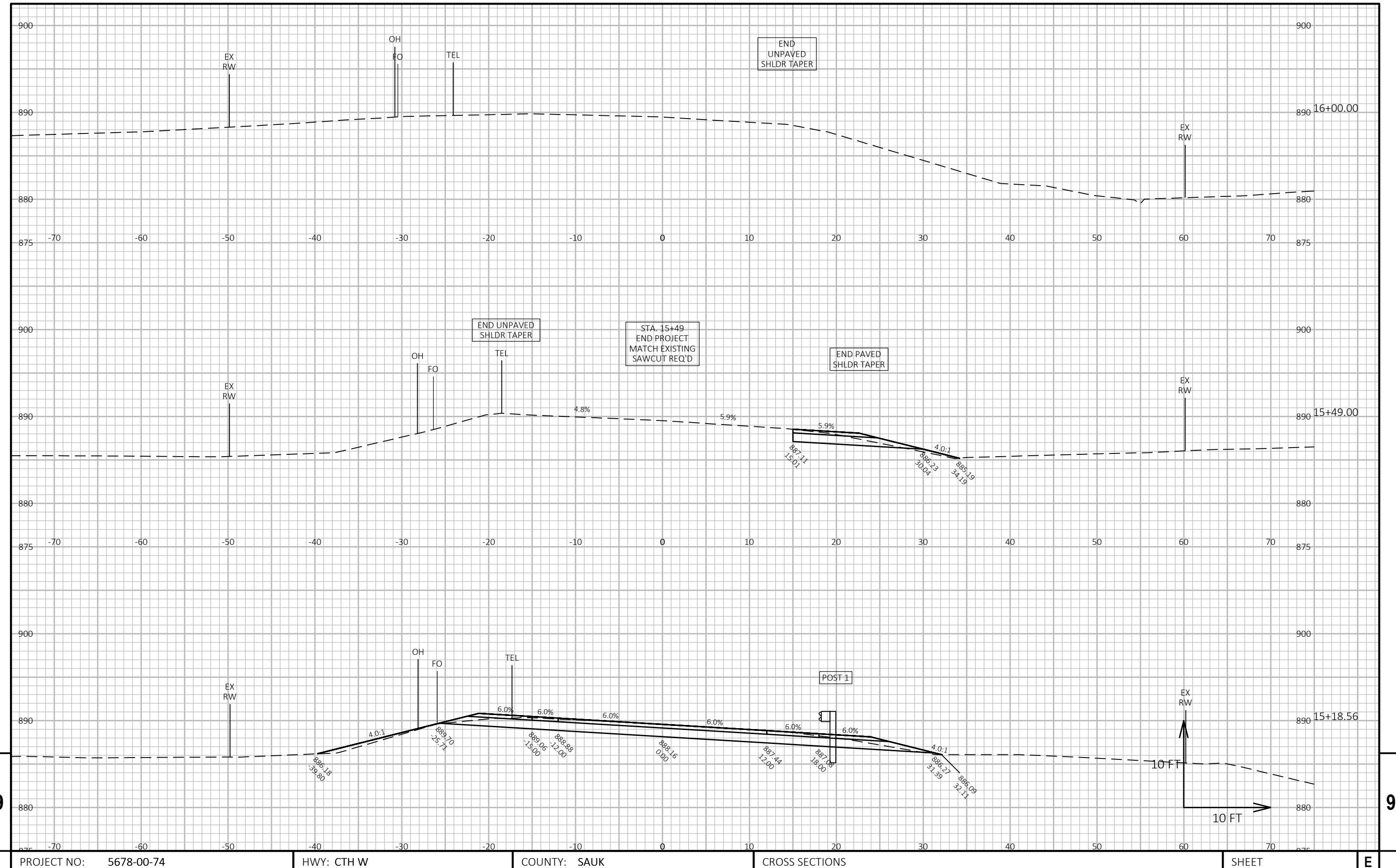
PLOT BY : ZACH PAULUS

PLOT NAME :

NOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD\$ SHEET 49





PROJECT NO: 5678-00-74

HWY: CTH

COUNTY: SAUK

CROSS SECTIONS

SHEET

E

FILE NAME : G:\00-PROJECT FILES\2023\23036 CTH I - USH 12, SKILLET CREEK BRIDGE, B-56-0595, CTH W - SAUK CO\0-CAD\Sheets\090201_XS.DWG
LAYOUT NAME - 090210_xs

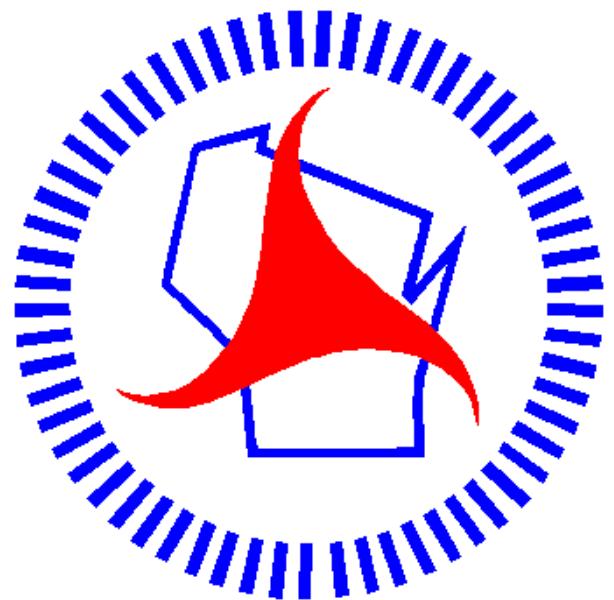
PLOT DATE : 12/15/2025 12:40 PM

PLOT BY : ZACH PAULUS

PLOT NAME

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD\$ SHEET 49



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