

LAX APRIL 2015

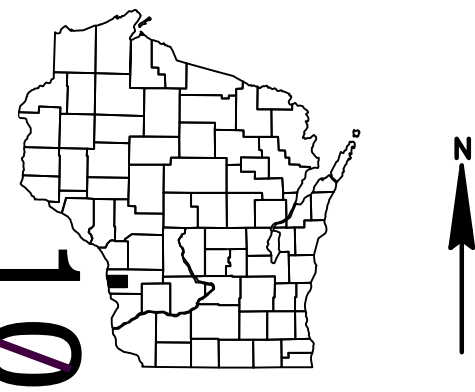
PROJECT ID: 5730-01-62

COUNTY: VERNON

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 = 68



DESIGN DESIGNATION

A.A.D.T. (2015)	=	900
A.A.D.T. (2035)	=	1100
D.H.V.	=	62
D.D.	=	60/40
T.	=	6.6%
DESIGN SPEED	=	60 MPH
ESALS	=	150,000

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

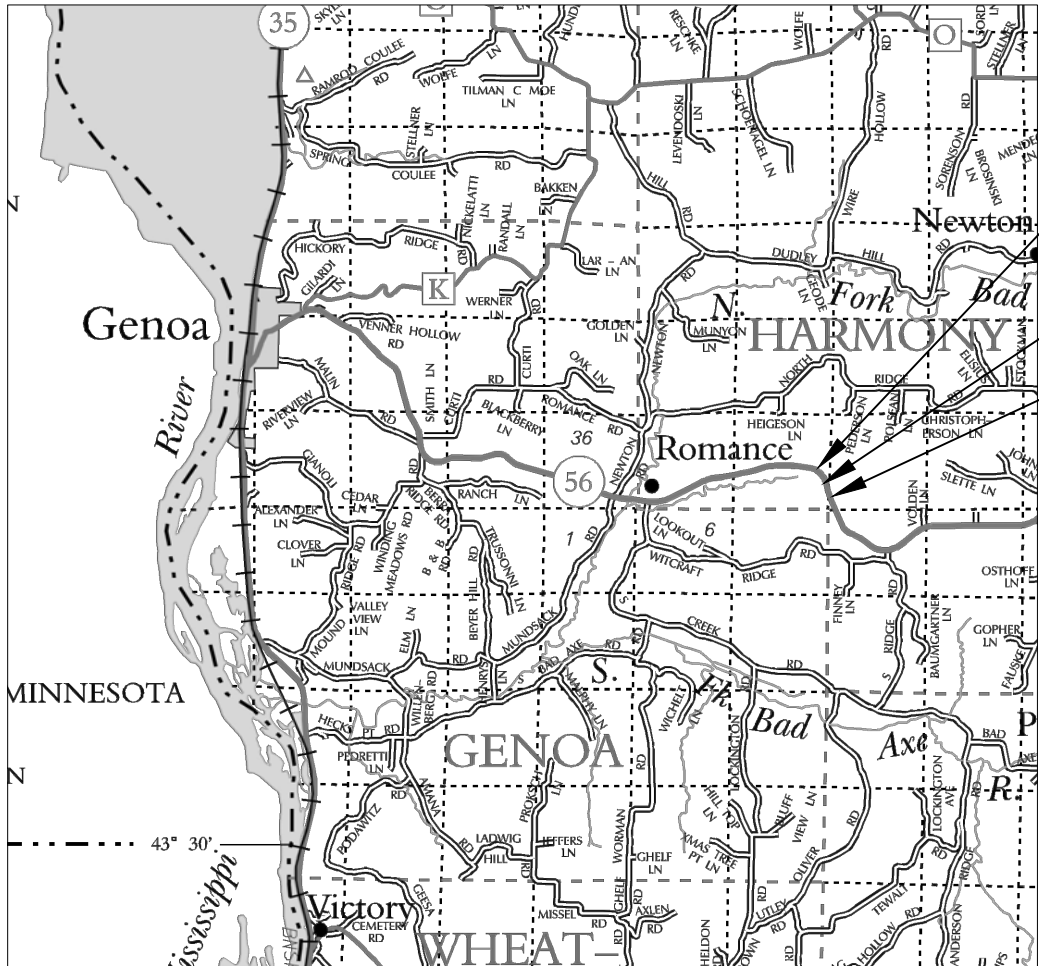
GENOA - VIROQUA

COX CREEK BRIDGE B-62-0060

STH 56

VERNON COUNTY

STATE PROJECT NUMBER
5730-01-62



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.00 MI

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5730-01-62	—	—

BEGIN PROJECT
STA: 373+00
X:643406
Y:149629

B-62-0060
STA: 375+40

END PROJECT
STA: 379+00
X:643813
Y:149198

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	TEAM ENGINEERING
Designer	LEE BALSIGER
Project Manager	TODD WALDO
Regional Examiner	MIKE RUD
Regional Supervisor	REINY YAHNKE
APPROVED FOR THE DEPARTMENT	
DATE: 10/28/2014	
	(Signature)

E



UTILITY COMPANIES & PERSONNEL

Todd Tunks
Vernon Telephone Cooperative - Communication Line
103 N Main St
P.O. Box 20
Westby, WI 54667
(800) 543-2029
ttunks@vermontel.com

DESIGN CONTACTS

Todd Waldo	Lee Balsiger
Project Manager	Project Designer
WISDOT SW Region	WISDOT SW Region
Project Development	Project Development
3550 Mormon Coulee Rd	3550 Mormon Coulee Rd
La Crosse, WI 54601	La Crosse, WI 54601
Phone (608) 785-9462	Phone (608) 785-9395
Todd.Waldo@dot.wi.gov	Lee.Balsiger@dot.wi.gov

DNR LIASON

Karen Kalvelage
Environmental Analysis & Review Specialist
Wisconsin Dept. of Natural Resources
West Central Region
3550 Mormon Coulee Rd
La Crosse, WI 54601
Phone (608) 785-9115
Karen.Kalvelage@wi.gov

STANDARD ABBREVIATIONS

AC.	ACRE	MAX.	MAXIMUM
AGG.	AGGREGATE	MGAL	1000 GALLONS
AH	AHEAD	MGS	MIDWEST GUARDRAIL SYSTEM
<	ANGLE	MIN.	MINIMUM
AE, AEW	APRON ENDWALL	N. C.	NORMAL CROWN OR NO CHANGE
ASPH.	ASPHALTIC	N	NORTH
A. D. T.	AVERAGE DAILY TRAFFIC	NO.	NUMBER
B. F.	BACK FACE	PAV' T	PAVEMENT
BK.	BACK	P. L. E.	PERMANENT LIMITED EASEMENT
BEG.	BEGIN	P. C.	POINT OF CURVATURE
B. M	BENCH MARK	P. I.	POINT OF INTERSECTION
C/L	CENTER LINE	P. T.	POINT OF TANGENCY
D	CENTRAL ANGLE OR DELTA	V. P. C.	VERTICAL POINT OF CURVATURE
C. M C. P.	CORRUGATED METAL CULVERT PIPE	V. P. I.	VERTICAL POINT OF INTERSECTION
C. M P.	CORRUGATED METAL PIPE	V. P. T.	VERTICAL POINT OF TANGENCY
CO.	COUNTY	PCC	PORTLAND CEMENT CONCRETE
CTH	COUNTY TRUNK HIGHWAY	P. E.	PRIVATE ENTRANCE
CR.	CREEK	P. L.	PROPERTY LINE
C. A. B. C.	CRUSHED AGGREGATE BASE COURSE	R	RADIUS OR RANGE
C. Y.	CUBIC YARD	R/L	REFERENCE LINE
C. P.	CULVERT PIPE	R. C. C. P.	REINFORCED CONCRETE CULVERT PIPE
C. & G.	CURB AND GUTTER	RT	RIGHT
D	DEGREE OF CURVE	REQ' D	REQUIRED
D. H. V.	DESIGN HOUR VOLUME	R. H. F.	RIGHT HAND FORWARD
DIA.	DIAMETER	R/W	RIGHT OF WAY
DISCH.	DISCHARGE	R.	RIVER
EA	EACH	RD.	ROAD
EAT	ENERGY ABSORBING TERMINAL	SHLD.	SHOULDER(S)
E	EAST	SHR.	SHRINKAGE
ELEC.	ELECTRIC(AL), ELEC. CABLE	S	SOUTH
EL. , ELEV.	ELEVATION	S. F.	SQUARE FOOT (FEET)
EXC.	EXCAVATION	SDD	STANDARD DETAIL DRAWING(S)
F. F.	FACE TO FACE	STH	STATE TRUNK HIGHWAY
FERT.	FERTILIZER	STA.	STATION
F. E.	FIELD ENTRANCE	S. E.	SUPERELEVATION
F/L, F. L.	FLOW LINE	S/L	SURVEY LINE
CWT.	HUNDRED WEIGHT	T	TANGENT
INL	INLET	TEL.	TELEPHONE
INTER.	INTERSECTION	TEMP.	TEMPORARY
JT.	JOINT	T. L. E.	TEMPORARY LIMITED EASEMENT
LT	LEFT	T. O. C.	TOP OF CURB
L. H. F.	LEFT HAND FORWARD	T.	(TRUCKS) PERCENT OF
L.	LENGTH OF CURVE	TYP.	TYPICAL
L. F.	LINEAR FOOT(FEET)	UNCL.	UNCLASSIFIED
LC.	LONG CHORD	U. G.	UNDERGROUND (CABLE)
LS	LUMP SUM	V. C.	VERTICAL CURVE
M. P.	MARKER POST	W	WEST

STATE PROJECT NO: 5730-01-62

HWY: STH 56

COUNTY: VERNON

GENERAL NOTES

SHEET NO:

E

FILE NAME : _____

PLOT DATE : _____

PLOT BY : _____

PLOT NAME : _____

ORG DATE : _____

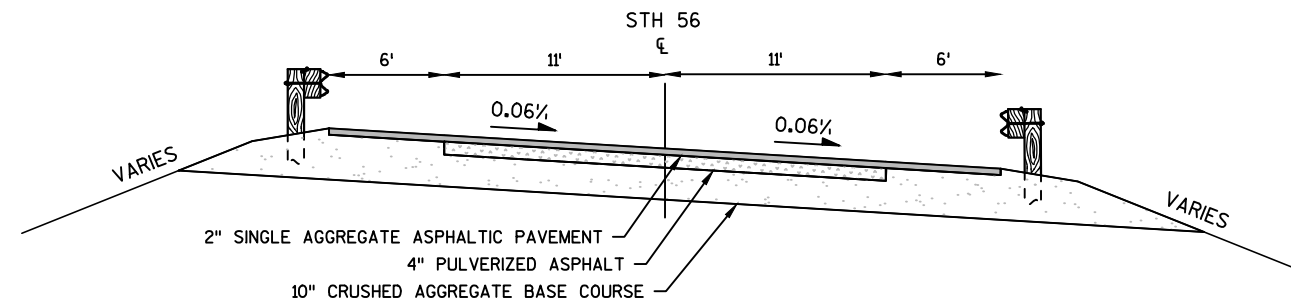
ORIGINATOR : DIST _

PLOT SCALE : 1:1

GENERAL NOTES

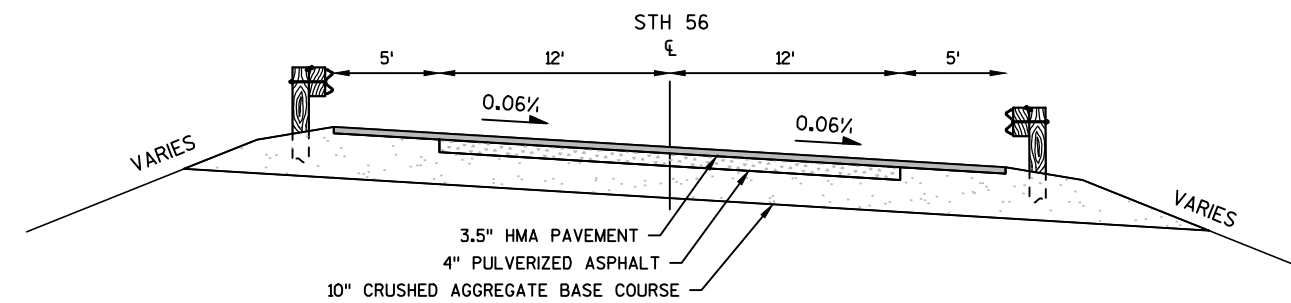
- CURVE DATA IS BASED ON ARC DEFINITION.
- THERE ARE NO KNOWN UTILITY FACILITIES WITHIN THE PROJECT AREA. HOWEVER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THIS. WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- NO TREES OR SHRUBS SHALL BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE BEEN DESIGNATED FOR REMOVAL BY THE ENGINEER.
- WHEN PORTIONS OF EXISTING ASPHALTIC SURFACES ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION, THE LINE OF SUCH REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUT JOINT THROUGH THE ASPHALTIC SURFACE SO THAT REMOVAL OF THE ASPHALT SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS. THE LOCATION OF SAW JOINTS AND THE AMOUNT REMOVED AT SIDE ROADS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- REMOVE EXISTING OLD CULVERTS AS SHOWN ON THE PLANS.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND MULCHED OR SODDED AS DIRECTED BY THE ENGINEER.
- SALVAGED TOPSOIL HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.
- SALVAGED TOPSOIL WHERE REQUIRED, IS TO BE PLACED ON ALL CUT AND FILL SLOPES TO AN APPROXIMATE DEPTH OF 4 INCHES AT THE TIME OF PLACING.
- DIMENSIONS OF RIPRAP PLACEMENT SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- IN THE PERFORMANCE OF THE WORK UNDER THE ITEM "MULCHING", ALL AREAS SEEDED AND FERTILIZED SHALL BE MULCHED AS DIRECTED BY THE ENGINEER.
- PRIOR TO THE PLACEMENT OF MGS, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
- PRIOR TO PLACING NEW SHOULDER MATERIAL ON EXISTING SHOULDERS, THE EXISTING SHOULDERS SHALL BE SHAPED AND COMPACTED TO PROVIDE A MINIMUM DEPTH OF 4 INCHES OF NEW SHOULDER MATERIAL ADJACENT TO THE SURFACE OF THE NEW PAVEMENT. MATERIAL EXCAVATED FOR THIS PURPOSE SHALL BE DEPOSITED ON THE OUTER PORTION OF THE EXISTING SHOULDER OR AS DIRECTED BY THE ENGINEER.
- SHAPING, TRIMMING AND DISPOSAL OF EXISTING SHOULDERS WILL BE INCIDENTAL TO THE BID ITEM OF BASE AGGREGATE DENSE.
- EXCESS MATERIAL ON THE EXISTING SHOULDERS SHALL BE SHAPED TO ALLOW A MINIMUM 2- 1/2 INCH DEPTH OF NEW CRUSHED AGGREGATE SHOULDERS.
- ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN
- 4. 5-INCH ASPHALTIC SURFACE SHALL BE PLACED IN TWO LAYERS
THE 12.5 MM GRADATION MAY BE USED IN BOTH LAYERS
- PLAN ELEVATIONS = NAVD 88 (2012) GEOID 12A-WI
- PLAN CORDINATES = WCCS VERNON COUNTY NAD 83 (2011)
- WHEN THE QUANTITIES OF ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

STATE PROJECT NO: 5730-01-62	HWY: STH 56	COUNTY: VERNON	GENERAL NOTES	SHEET NO:	E
------------------------------	-------------	----------------	---------------	-----------	---



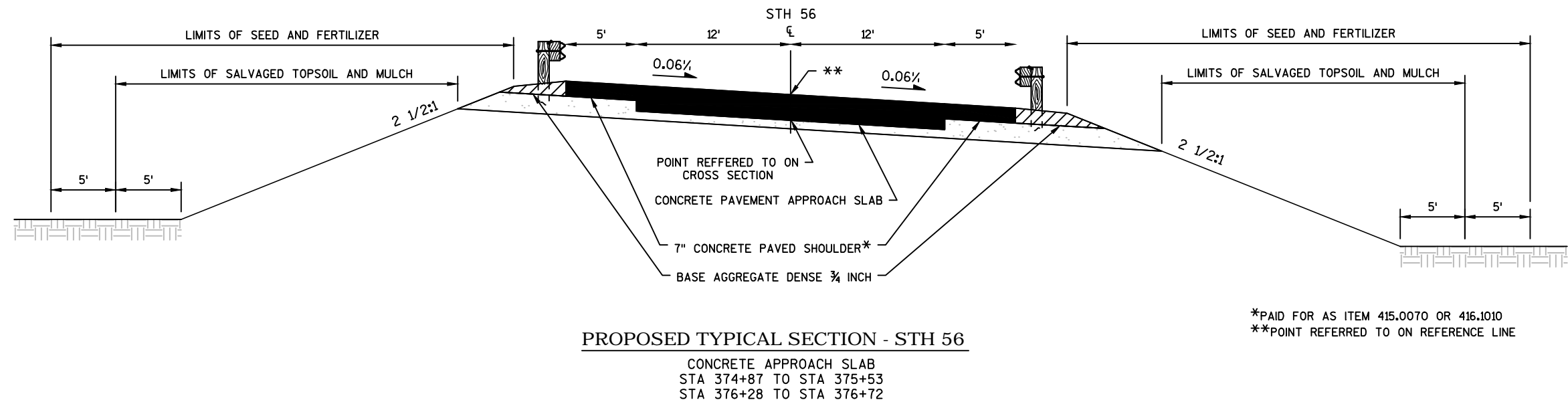
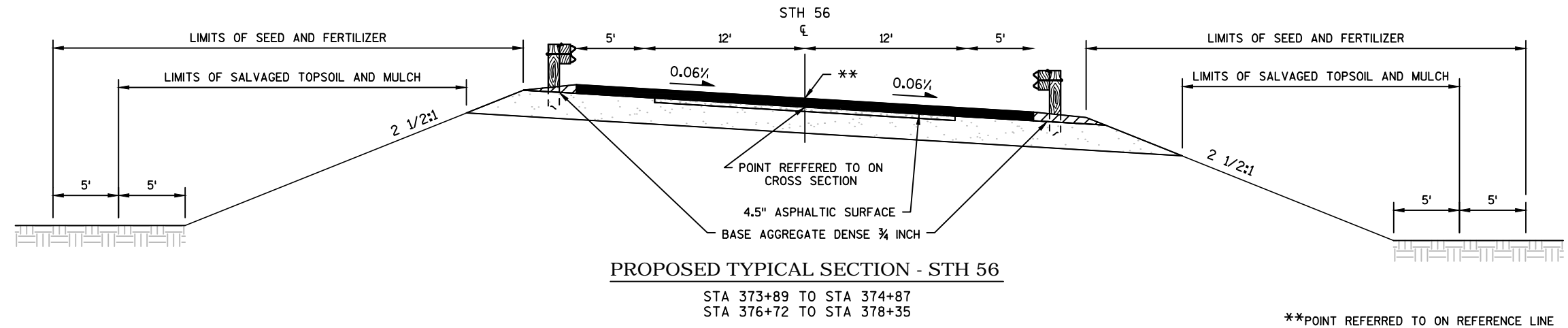
EXISTING TYPICAL SECTION - STH 56

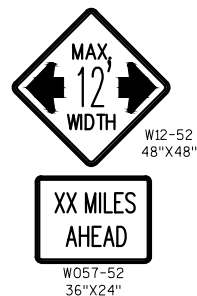
NORTH APPROACH
STA 373+89 TO STA 375+53



EXISTING TYPICAL SECTION - STH 56

SOUTH APPROACH
STA 376+28 TO STA 378+35





INSTALL AT INTERSECTION WITH SOUTH CREEK ROAD AND AS INDICATED ON STANDARD DETAIL DRAWING

STOP BAR
STA: 373+80

374

50'

STAGE 1 CONSTRUCTION

WORK AREA

B-62-60

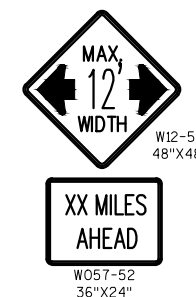
376

50'

STOP BAR
STA: 377+80

378

- UTILIZE S.D.D. "TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION" WITH ADDITIONS AND EXCEPTIONS AS SHOWN AND LISTED BELOW.
- SEE STRUCTURE DRAWINGS FOR PLACEMENT OF TEMPORARY CONCRETE BARRIER.
- ASPHALTIC PAVEMENT SHOULDER WIDENING IS NOT REQUIRED
- MAINTAIN 13' MINIMUM AVAILABLE WIDTH IN TRAVEL LANE AT ALL TIMES (SIGN FOR 12')



INSTALL AT INTERSECTION WITH SOUTH RIDGE ROAD AND AS INDICATED ON STANDARD DETAIL DRAWING



INSTALL AT INTERSECTION WITH SOUTH CREEK ROAD AND AS INDICATED ON STANDARD DETAIL DRAWING

STAGE 2 CONSTRUCTION

STOP BAR
STA: 373+80

374

50'

WORK AREA

B-62-60

376

50'

STOP BAR
STA: 377+80

378



INSTALL AT INTERSECTION WITH SOUTH RIDGE ROAD AND AS INDICATED ON STANDARD DETAIL DRAWING

LINE OF SIGHT MUST BE MAINTAINED DURING USE OF STOP CONDITION. WHENEVER CONSTRUCTION ACTIVITIES OBSCURE TRAFFIC SIGHT LINES, FLAGGING OPERATIONS MUST BE UTILIZED. EQUIPMENT AND/OR MATERIALS THAT BLOCK THE LINE OF SIGHT SHALL NOT BE PARKED OR STORED WITHIN WORK AREA DURING NON-WORK HOURS.



DATE 28JAN15		E S T I M A T E O F Q U A N T I T I E S			
LINE					5730-01-62
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0020	203.0200	Removing Old Structure (station) 01. 375+88.75	LS	1.000	1.000
0030	204.0110	Removing Asphaltic Surface	SY	1,350.000	1,350.000
0040	204.0165	Removing Guardrail	LF	510.000	510.000
0050	204.0220	Removing Inlets	EACH	1.000	1.000
0060	205.0100	Excavation Common	CY	203.000	203.000
0070	208.0100	Borrow	CY	581.000	581.000
0080	210.0100	Backfill Structure	CY	63.000	63.000
0090	213.0100	Finishing Roadway (project) 01. 5730-01-62	EACH	1.000	1.000
0100	305.0110	Base Aggregate Dense 3/4-Inch	TON	100.000	100.000
0110	415.0070	Concrete Pavement 7-Inch	SY	72.000	72.000
0120	415.0410	Concrete Pavement Approach Slab	SY	300.000	300.000
0130	416.0610	Drilled Tie Bars	EACH	9.000	9.000
0140	416.1010	Concrete Surface Drains	CY	8.000	8.000
0150	455.0605	Tack Coat	GAL	55.000	55.000
0160	465.0105	Asphaltic Surface	TON	240.000	240.000
0170	502.0100	Concrete Masonry Bridges	CY	50.000	50.000
0180	502.3200	Protective Surface Treatment	SY	408.000	408.000
0190	502.3210.S	Pigmented Protective Surface Treatment	SY	110.000	110.000
0200	502.5005	Masonry Anchors Type L No. 5 Bars	EACH	92.000	92.000
0210	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	4,696.000	4,696.000
0220	505.0906	Bar Couplers No. 6	EACH	20.000	20.000
0230	506.0105	Structural Steel Carbon	LB	1,025.000	1,025.000
0240	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	5.000	5.000
0250	506.7050.S	Removing Bearings (structure) 01. B-62-0060	EACH	5.000	5.000
0260	509.0301	Preparation Decks Type 1	SY	1.000	1.000
0270	509.0302	Preparation Decks Type 2	SY	1.000	1.000
0280	509.0500	Cleaning Decks	SY	408.000	408.000
0290	509.1500	Concrete Surface Repair	SF	34.000	34.000
0300	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0310	509.2500	Concrete Masonry Overlay Decks	CY	17.000	17.000
0320	509.9050.S	Cleaning Parapets	LF	262.000	262.000
0330	516.0500	Rubberized Membrane Waterproofing	SY	11.000	11.000
0340	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	1.000	1.000
0350	603.8000	Concrete Barrier Temporary Precast Delivered	LF	310.000	310.000
0360	603.8125	Concrete Barrier Temporary Precast Installed	LF	620.000	620.000
0370	606.0100	Riprap Light	CY	2.000	2.000
0380	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	30.000	30.000
0390	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	15.000	15.000
0400	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	1.000	1.000
0410	614.2300	MGS Guardrail 3	LF	150.000	150.000
0420	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
0430	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0440	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5730-01-62	EACH	1.000	1.000
0450	619.1000	Mobilization	EACH	1.000	1.000
0460	625.0500	Salvaged Topsoil	SY	300.000	300.000

DATE 28JAN15			E S T I M A T E O F Q U A N T I T I E S		
LINE					5730-01-62
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0470	627.0200	Mulchi ng	SY	1,200.000	1,200.000
0480	628.1504	Si lt Fence	LF	650.000	650.000
0490	628.1520	Si lt Fence Maintenance	LF	650.000	650.000
0500	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0510	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0520	629.0210	Fertilizer Type B	CWT	1.000	1.000
0530	630.0110	Seeding Mixture No. 10	LB	15.000	15.000
0540	643.0100	Traffic Control (project) 01. 5730-01-62	EACH	1.000	1.000
0550	643.0420	Traffic Control Barricades Type III	DAY	45.000	45.000
0560	643.0900	Traffic Control Signs	DAY	1,125.000	1,125.000
0570	645.0130	Geotextile Fabric Type R	SY	10.000	10.000
0580	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,800.000	1,800.000
0590	646.0600	Removing Pavement Markings	LF	1,600.000	1,600.000
0600	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	1,500.000	1,500.000
0610	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	24.000	24.000
0620	690.0150	Sawing Asphalt	LF	75.000	75.000
0630	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0640	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000

REMOVING SMALL PIPE CULVERTS

CATEGORY	STATION	TO	STATION	LOCATION	203. 0100 EACH	REMARKS
0010	374+98			RT	1	
TOTAL 0010					1	

REMOVING INLETS

CATEGORY	STATION	LOCATION	204. 0220 EACH	REMARKS
0010	375+03	RT	1	
TOTAL 0010			1	

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204. 0110 SY	REMARKS
0010	373+89	-	375+50		650	
0010	376+40	-	378+35		700	
TOTAL 0010					1350	

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204. 0165 LF	REMARKS
0010	373+90	-	375+10	RT	120	
0010	374+10	-	375+40	LT	130	
0010	376+30	-	377+60	RT	130	
0010	376+60	-	377+90	LT	130	
TOTAL 0010					510	

BASE AGGREGATE DENSE 3/4-INCH

CATEGORY	STATION	TO	STATION	LOCATION	305. 0110 TON	REMARKS
0010	373+89	-	375+10	RT	20	
0010	373+89	-	375+40	LT	25	
0010	376+30	-	379+00	RT	40	
0010	376+60	-	378+35	LT	15	
TOTAL 0010					100	

CONCRETE PAVEMENT 7-INCH

CATEGORY	STATION	TO	STATION	LOCATION	415. 0070 SY	REMARKS
0010	374+87	-	374+96	RT	5	APPROACH SLAB SHOULDER
0010	374+87	-	375+53	LT	35	APPROACH SLAB SHOULDER
0010	376+29	-	376+72	RT	22	APPROACH SLAB SHOULDER
0010	376+50	-	376+72	LT	10	APPROACH SLAB SHOULDER
TOTAL 0010					72	

CONCRETE PAVEMENT APPROACH SLAB						ASPHALTIC SURFACE					
CATEGORY	STATION TO	STATION	LOCATION	415. 0410 SY	REMARKS	CATEGORY	STATION TO	STATION	LOCATION	465. 0105 TON	REMARKS
0010	374+80 -	375+50		185		0010	373+89 -	375+80		90	
0010	376+50 -	376+75		115		0010	376+75 -	378+35		150	
TOTAL 0010				300		TOTAL 0010				240	
SURFACE DRAIN											
CATEGORY	STATION	STATION	LOCATION	DRILLED TIE BARS 416. 0610 EACH	CONCRETE SURFACE DRAINS 416. 1010 CY	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH 521. 1012 EACH	RI PRAP LIGHT 606. 0100 CY	PIPE UNDERDRAIN UNPERFORATED 12-INCH 612. 0212 LF	GEOTEXTILE FABRIC TYPE R 645. 0130 SY	REMARKS	
0010	374+96 -	375+24	RT	9	8	1	2	30	10		
TOTAL 0010				9	8	1	2	30	10		
TACK COAT						TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH					
CATEGORY	STATION TO	STATION	LOCATION	455. 0605 GAL	REMARKS	CATEGORY	STATION TO	STATION	LOCATION	649. 0400 LF	REMARKS
0010	373+89 -	374+87	STH 56	20		0010	373+80 -	377+80	RT	400	STAGE 1 WHITE EDGELINE
0010	376+72 -	378+35	STH 56	35		0010	374+30 -	377+50	CENTERLINE	350	STAGE 1 WHITE EDGELINE AT BARRIER
TOTAL 0010				55		0010	373+80 -	377+80	LT	400	STAGE 2 WHITE EDGELINE
						0010	374+30 -	377+50	CENTERLINE	350	STAGE 2 WHITE EDGELINE AT BARRIER
						TOTAL 0010				1500	
TRAFFIC CONTROL											
CATEGORY	STATION	TO	STATION	LOCATION	TRAFFIC CONTROL BARRICADES TYPE III 643. 0420 DAY	TRAFFIC CONTROL SIGNS 643. 0900 DAY	REMOVING PAVEMENT MARKINGS 646. 0600 LF	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 24-INCH 649. 1400 LF	REMARKS		
0010	373+80	-	377+80	STH 56			1600		2 EDGELINES AND DOUBLE YELLOW CENTERLINE		
0010	373+80			EB LANE				12			
0010	377+80			WB LANE				12			
0010	PROJECT			STH 56	45	1125					
TOTAL 0010					45	1125	1600	24			
PROJECT NO: 5730-01-62			HWY: STH 56			COUNTY:VERNON			MISCELLANEOUS QUANTITIES		
									SHEET:		
									E		

EROSION CONTROL

		SALVAGED TOPSOIL		MULCHING		SILT FENCE		SILT FENCE MAINTENANCE		MOBILIZATIONS EROSION CONTROL		MOBILIZATIONS EMERGENCY EROSION CONTROL		FERTILIZER TYPE B		SEEDING MIXTURE NO. 10		
CATEGORY	STATION	LOCATION	625. 0500 SY	627. 0200 SY	628. 1504 LF	628. 1520 LF	628. 1905 EACH	628. 1910 EACH	629. 0210 CWT	630. 0110 LB	REMARKS							
0010		PROJECT	300	1200	650	650	2	1	1	15								
		TOTAL 0010	300	1200	650	650	2	1	1	15								

GUARDRAIL

					MGS THRIE		
					MGS	BEAM	MGS GUARDRAIL
					GUARDRAIL 3	TRANSI TION	TERMI NAL EAT
					614. 2300	614. 2500	614. 2610
CATEGORY	STATION TO	STATION	LOCATION	LF	LF	EACH	REMARKS
0010	373+94	-	375+10	RT	25	39	1
0010	374+29	-	375+40	LT	25	39	1
0010	376+30	-	378+30	RT	75	39	1
0010	376+60	-	377+82	LT	25	39	1
TOTAL 0010				150	156	4	

PAVEMENT MARKING EPOXY 4-INCH

					646. 0106	
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	373+89	-	378+35	RT	450	WHITE EDGELINE
0010	373+89	-	378+35	CENTERLINE	900	DOUBLE YELLOW CENTERLINE
0010	373+89	-	378+35	LT	450	WHITE EDGELINE
TOTAL 0010					<u>1800</u>	

CONCRETE BARRIER TEMPORARY PRECAST DELIVERED

CATEGORY	LOCATION	603. 8000 LF	REMARKS
0010	PROJECT	310	
TOTAL 0010		310	

CONCRETE BARRIER TEMPORARY PRECAST INSTALLED

CATEGORY	LOCATION	603. 8125 LF	REMARKS
0010	PROJECT	310	STAGE 1
0010	PROJECT	310	STAGE 2
TOTAL 0010		620	

SAWING ASPHALT

CATEGORY	STATION	LOCATION	690. 0150 LF	REMARKS
0010	373+89	MAINLINE	35	
0010	378+35	MAINLINE	40	
TOTAL 0010			75	

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6)	Rock Excavation (7)	Reduced Marsh in Fill (8)	Reduced EBS in Fill (9)	Expanded Marsh Backfill (10)	Expanded EBS Backfill (11)	Expanded Rock (12)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow (item #208.0100)	Comment:
			Cut (2)	EBS Excavation (3)			(item #205.0500)	(item #205.0200)	Factor	Factor	Factor	Factor	Factor		Factor 1.25 (13)				
Division 1																			
	373+90 - 375+53.25 376+28.50 - 379+00	N. Approach S. Approach	93 110		32 69	61 41								261 285	326 356	-265 -315			
Division 1 Subtotal			203	0	101	102	0	0	0	0	0	0	0	546	683	-581			
Division 2																			
Division 2 Subtotal			0	0	0	0	0	0	0	0	0	0	0	0	0	0		581	
Grand Total			203.00	0.00	101.00	102.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	546.00	682.50	-580.50	0.00	580.50	
Total Common Exc			203.00																

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unusable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusable Pavement Material
- 6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 20505
- 7) Rock Excavation item number 205.0200
- 8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
- 9) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
- 10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.1100
- 11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.1100
- 12) Expanded Rock - Factor = 1.1
- 13) Expanded Fill. Factor = 1.25
- Depending on selections:
- Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or

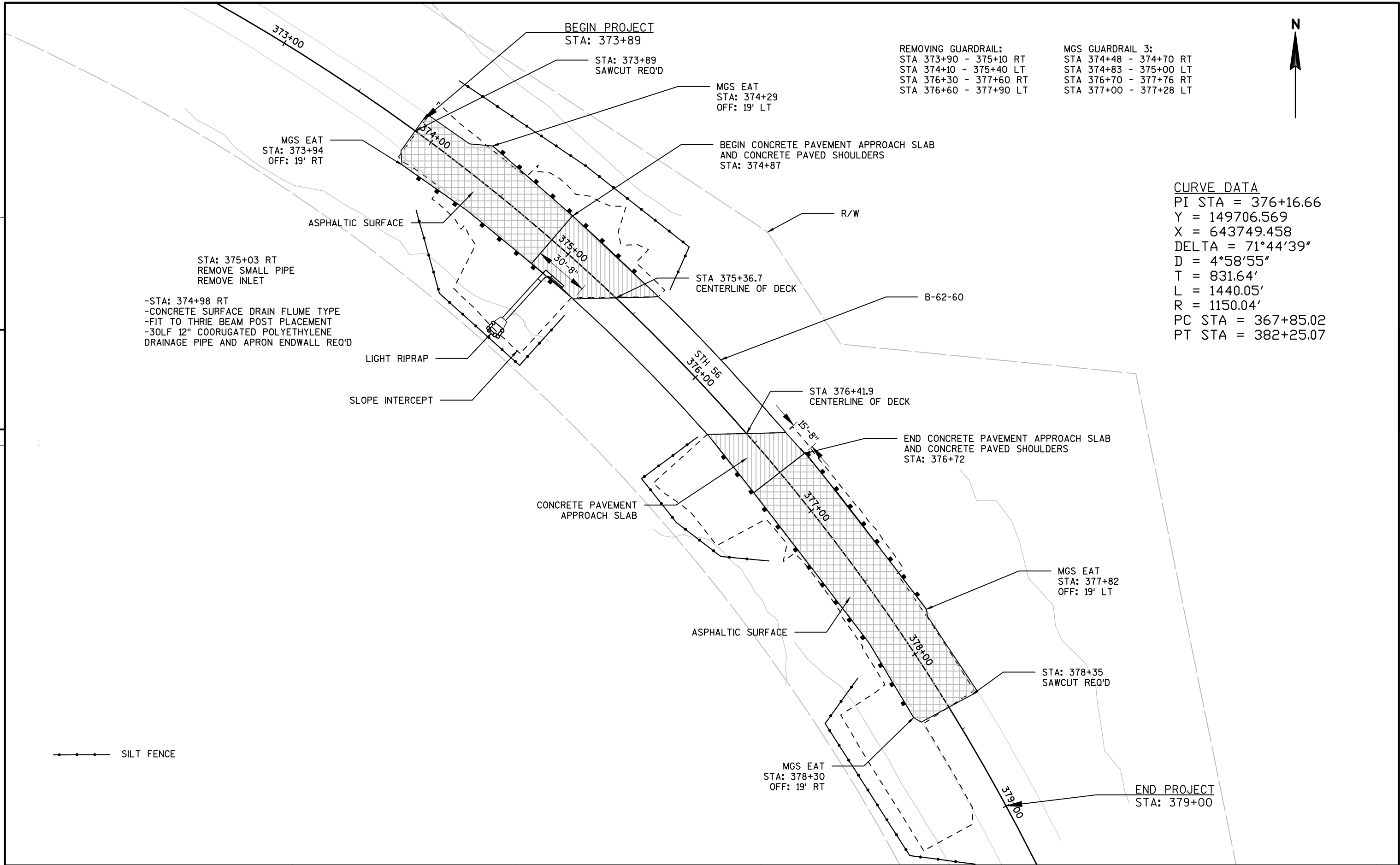
Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
- 15) Use 111,764 CY of material from Division 1. Borrow Excavation item number 208.0100

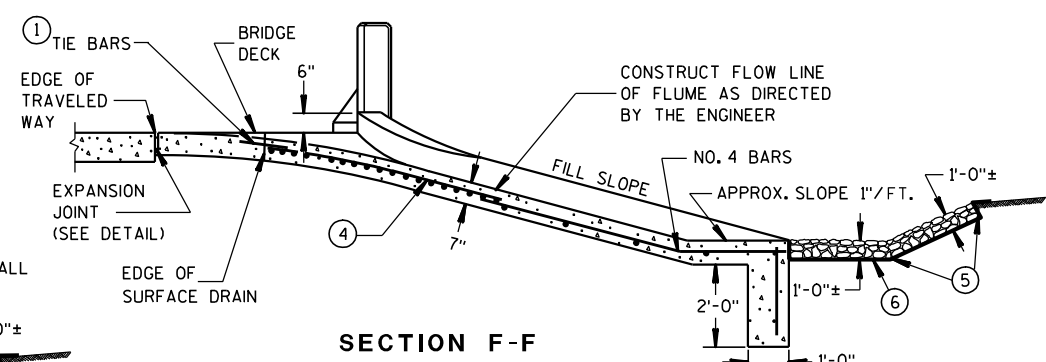


5

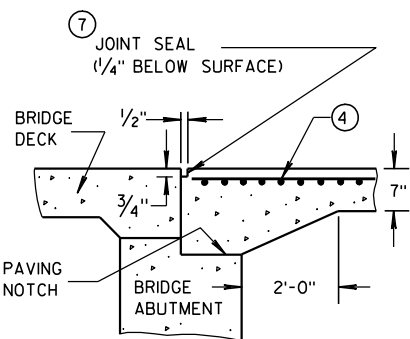
5

Standard Detail Drawing List

08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
13B02-07A	CONCRETE BRIDGE APPROACH
13B02-07B	STRUCTURAL APPROACH SLAB AND CONCRETE BRIDGE APPROACH
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D32-03	TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

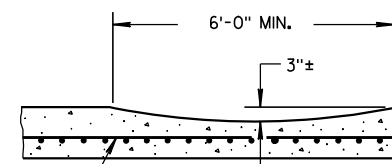


SECTION F-F

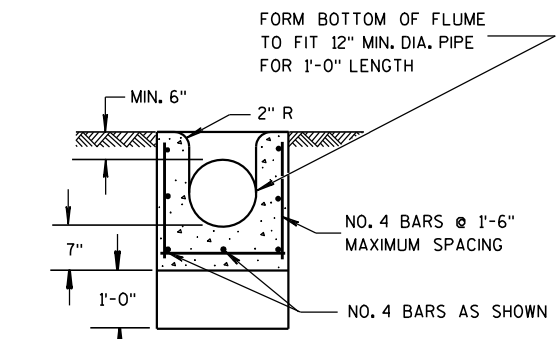


EXPANSION JOINT DETAIL

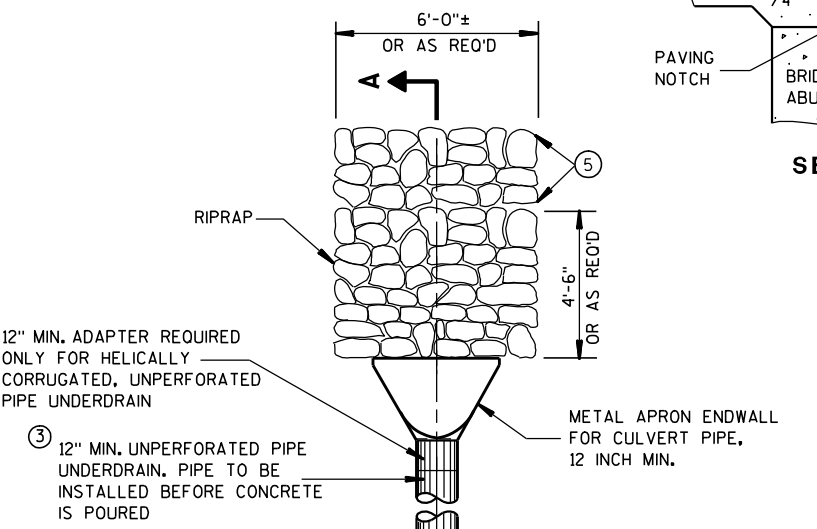
SECTION H-H



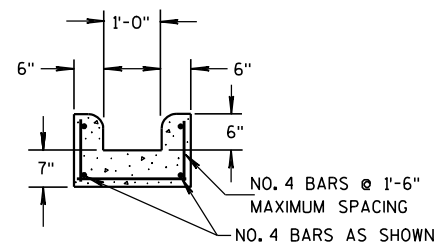
SECTION D-D



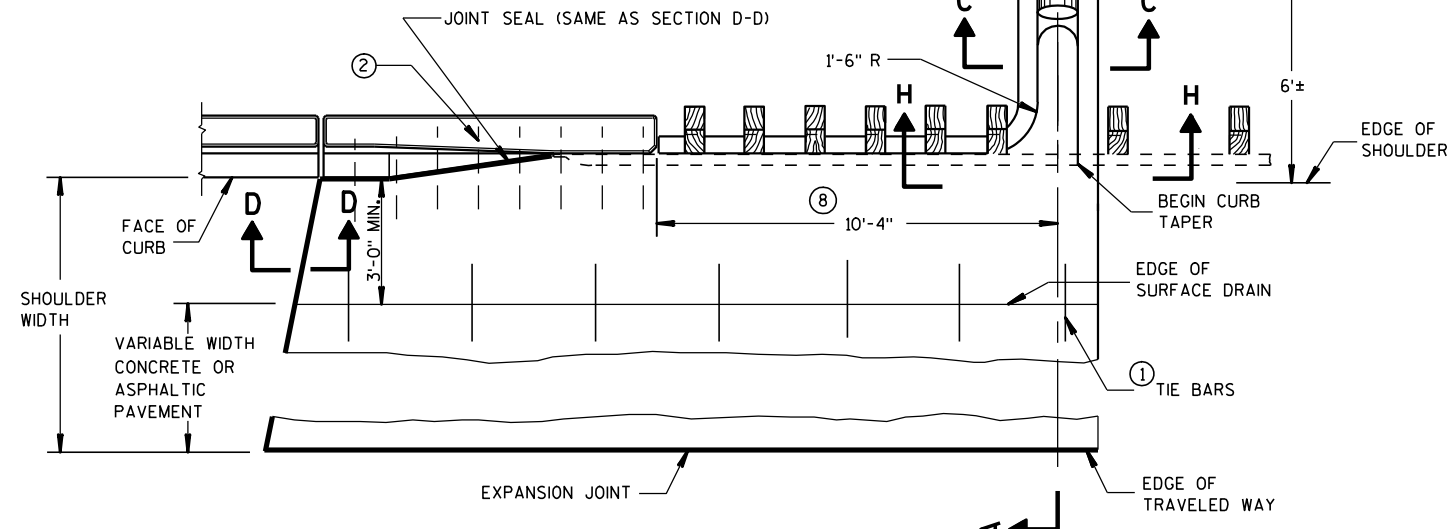
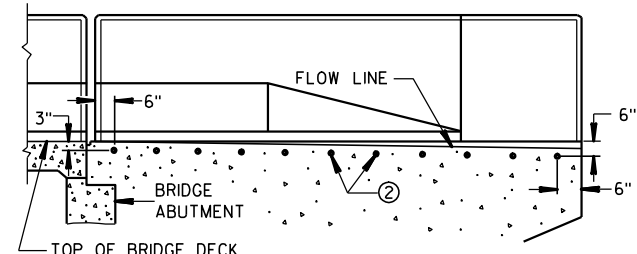
SECTION C-C



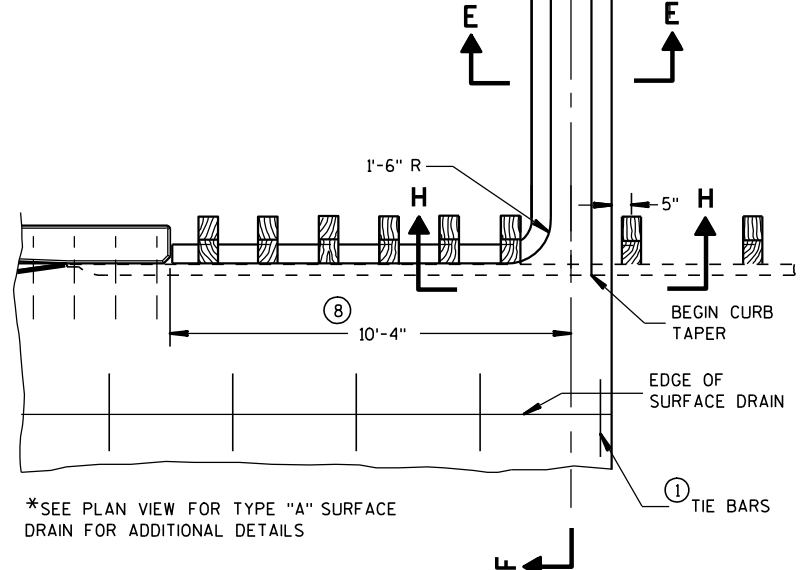
SECTION E-E



LOCATION OF TIE BARS IN WINGWALL



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



*SEE PLAN VIEW FOR TYPE "A" SURFACE
DRAIN FOR ADDITIONAL DETAILS

* PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

GENERAL NOTES

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

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

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE "R"
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1/2".

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



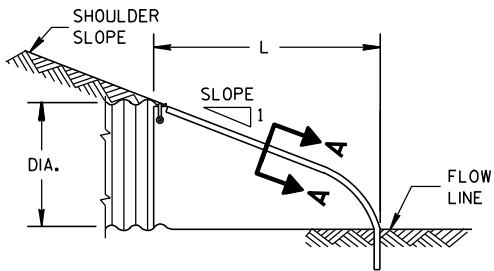
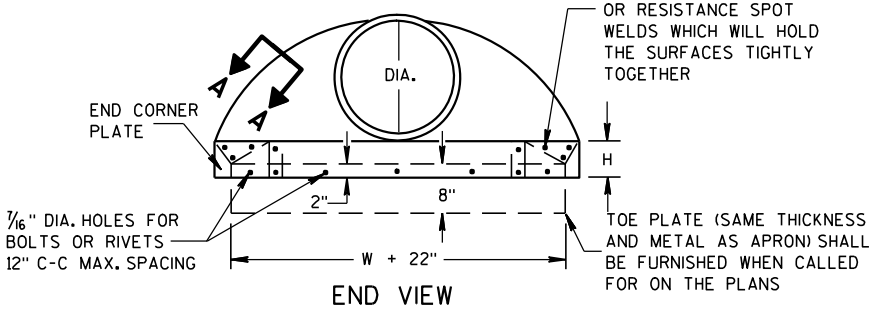
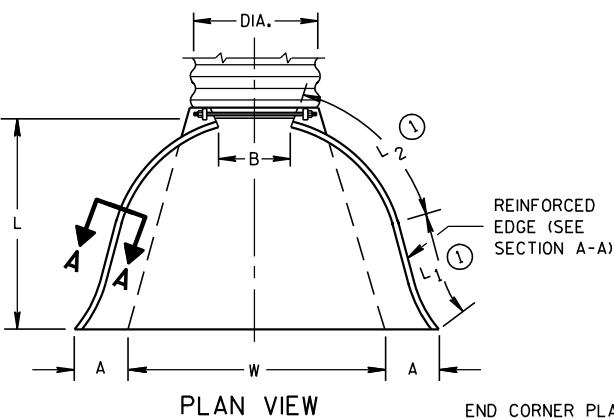
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS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



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

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.	
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.	
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.	
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.	
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.	

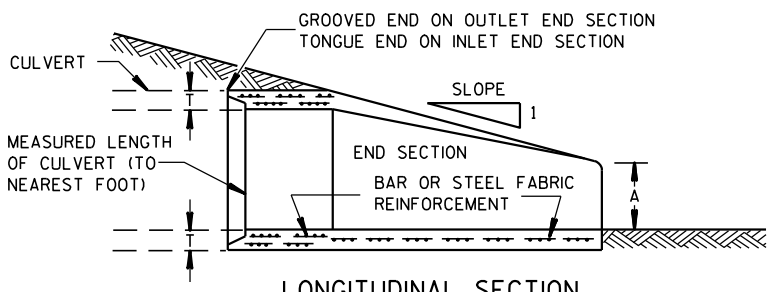
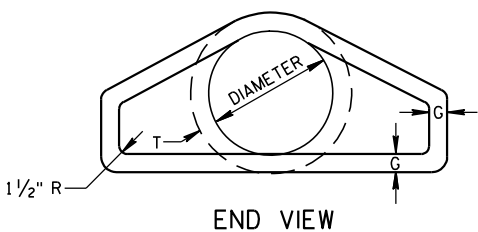
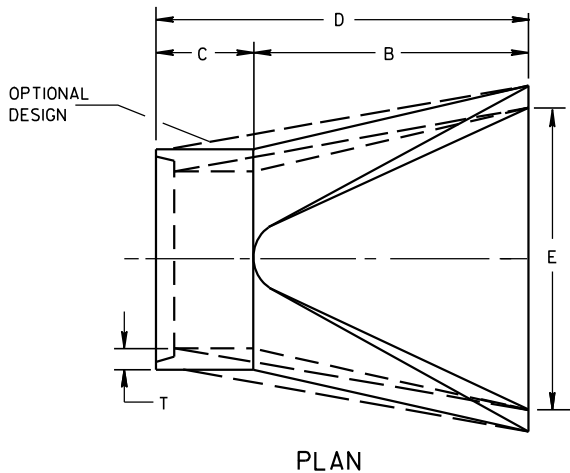
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

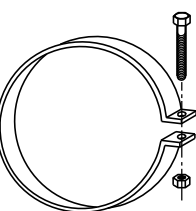
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43 ¹ / ₂	30	73 ¹ / ₂	48	3	3 to 1
27	3 ¹ / ₄	10 ¹ / ₂	49 ¹ / ₂	24	73 ¹ / ₂	54	3 ¹ / ₄	3 to 1
30	3 ¹ / ₂	12	54	19 ³ / ₄	73 ¹ / ₂	60	3 ¹ / ₂	3 to 1
36	4	15	63	34 ³ / ₄	97 ³ / ₄	72	4	3 to 1
42	4 ¹ / ₂	21	63	35	98	78	4 ¹ / ₂	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 ¹ / ₂	27	65	33 ¹ / ₄ -35	98 ¹ / ₄ -100	90	5 ¹ / ₂	2 ¹ / ₂ to 1
60	6	30-35	60	39	99	96	5	2 to 1
66	6 ¹ / ₂	24-30	72-78	21-27	99	102	5 ¹ / ₂	2 to 1
72	7	24-36	78	21	99	108	6	2 to 1
78	7 ¹ / ₂	24-36	78	21	99	114	6 ¹ / ₂	2 to 1
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1

*MINIMUM
**MAXIMUM

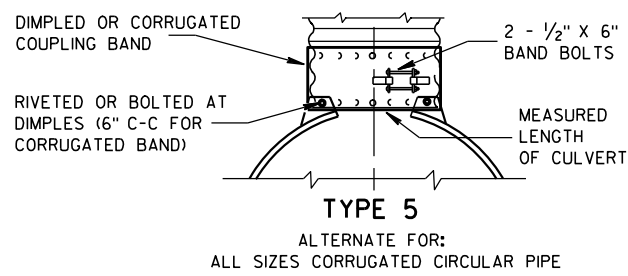
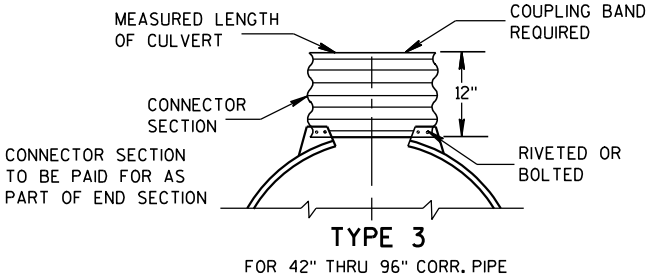
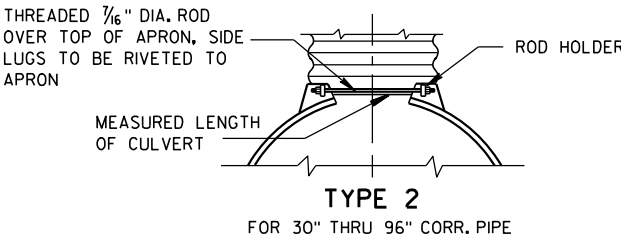
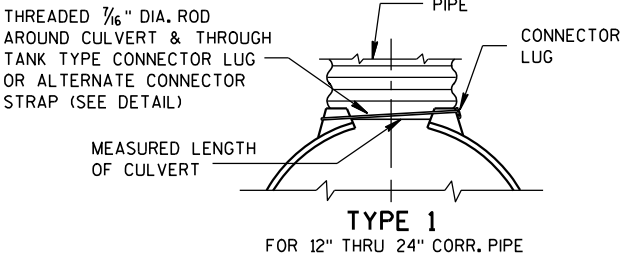


CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



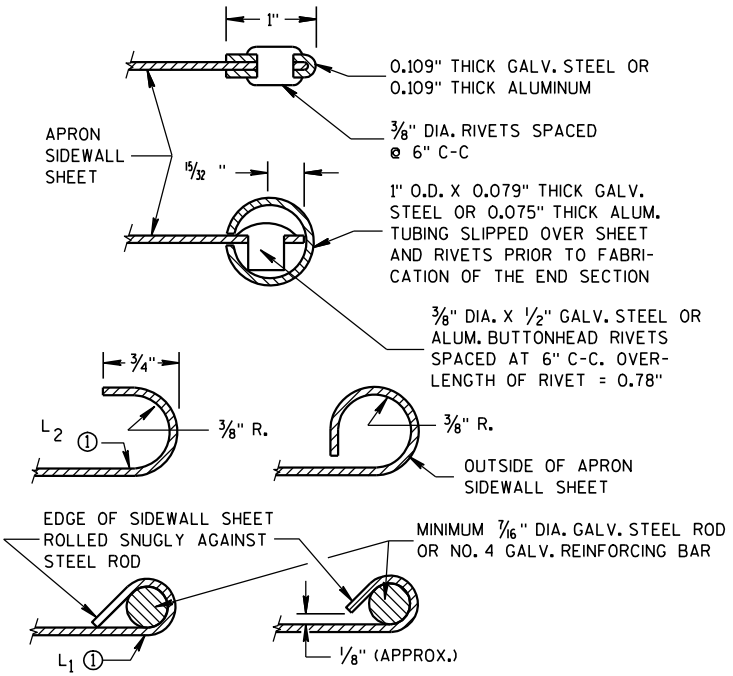
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



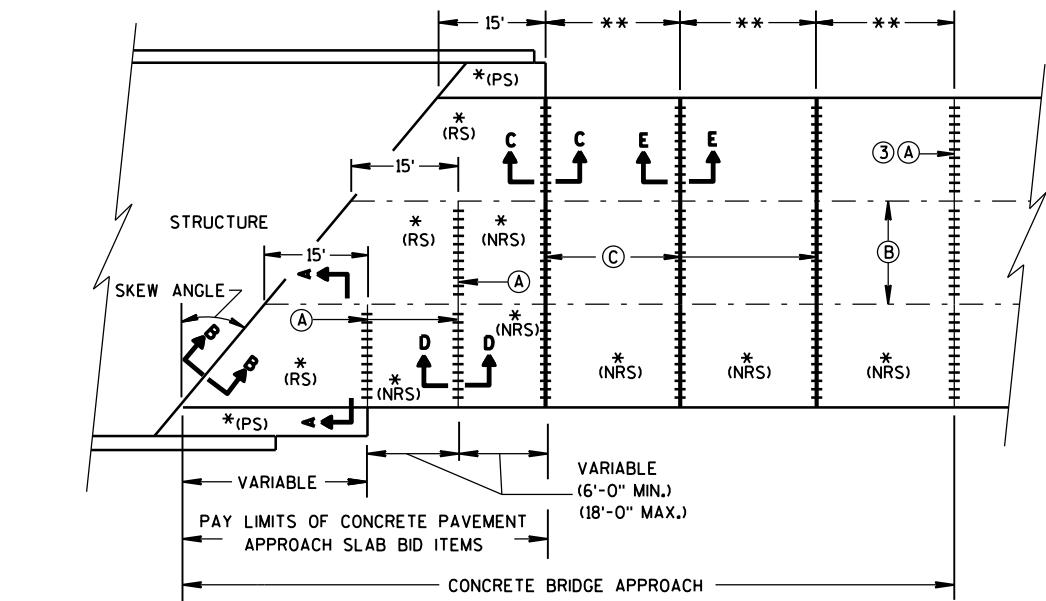
GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.
- ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.
- LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.
- WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.
- ① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

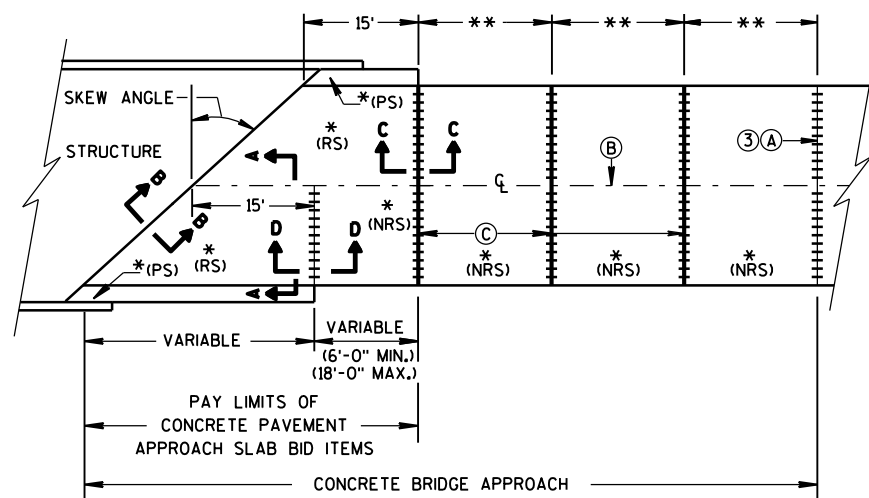
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

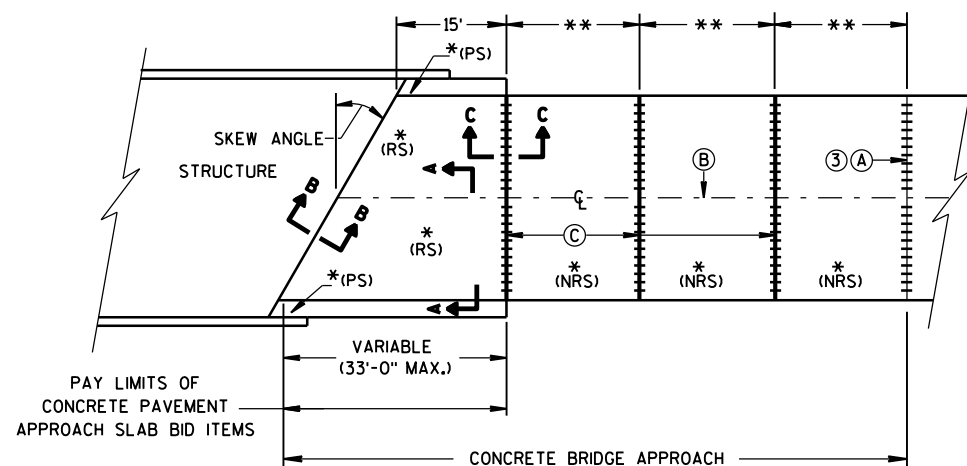
APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)



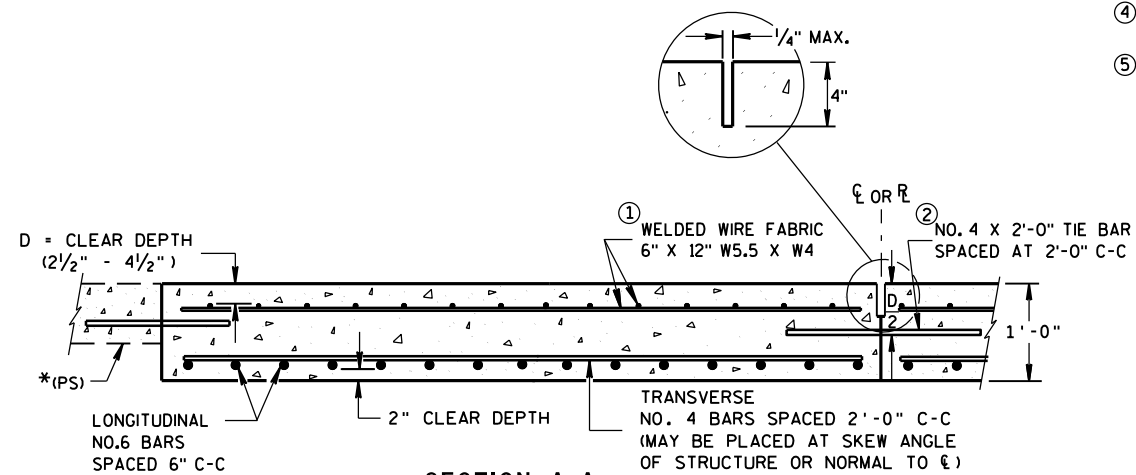
SKEWS > 30°
(PAVEMENT WIDTH ≤ 30')



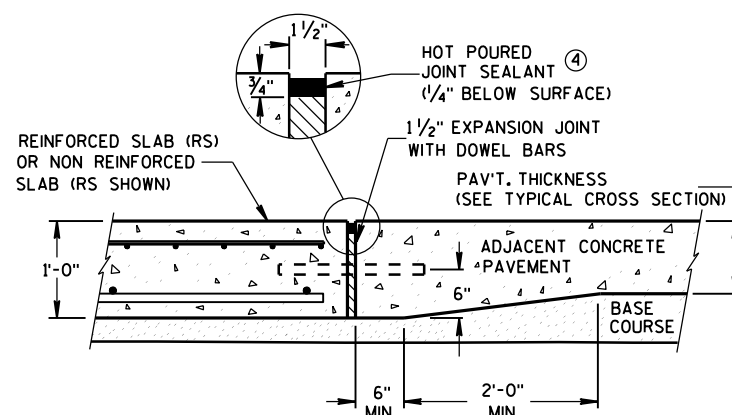
SKEWS ≤ 30°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT

- *(RS) = REINFORCED CONCRETE SLAB
 *(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
 (SEE DETAILS ELSEWHERE IN THE PLAN)
 *(NRS) = NON-REINFORCED CONCRETE SLAB
 **STANDARD TRANSVERSE JOINT SPACING
 (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
 ***STANDARD DOWEL BAR DIAMETER
 (SEE SDD 13C11, & SDD 13C13)

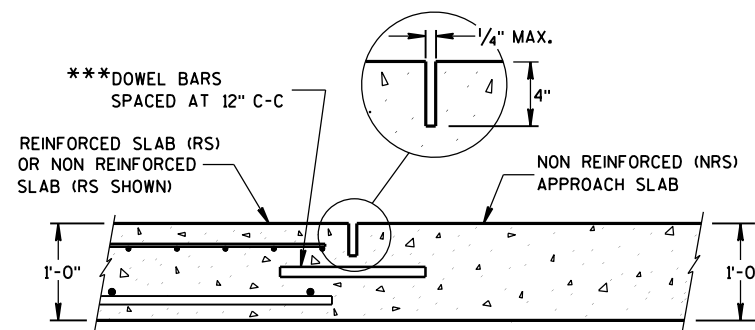
- (A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR R_C
 (B) STANDARD LONGITUDINAL JOINT AND TIE BARS.
 (C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR R_C



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



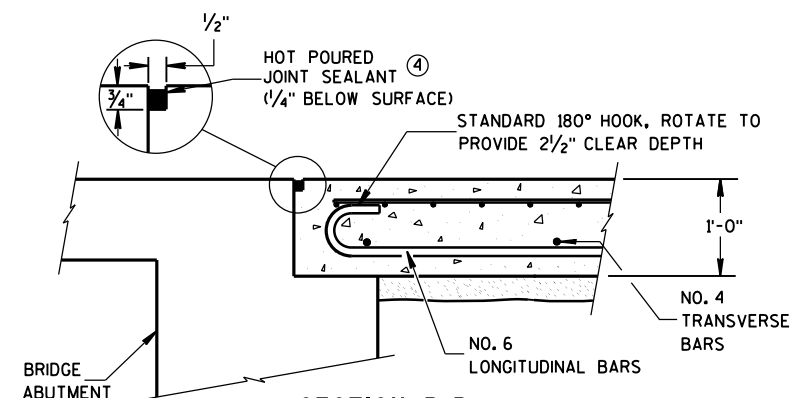
SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

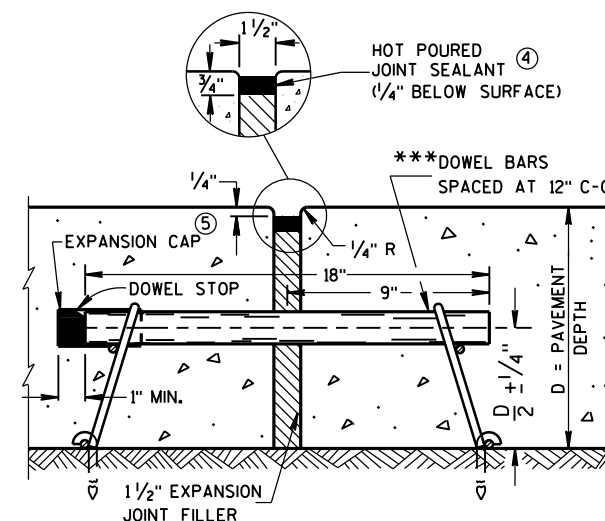
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- 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.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- 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.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION E-E
EXPANSION JOINT

CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

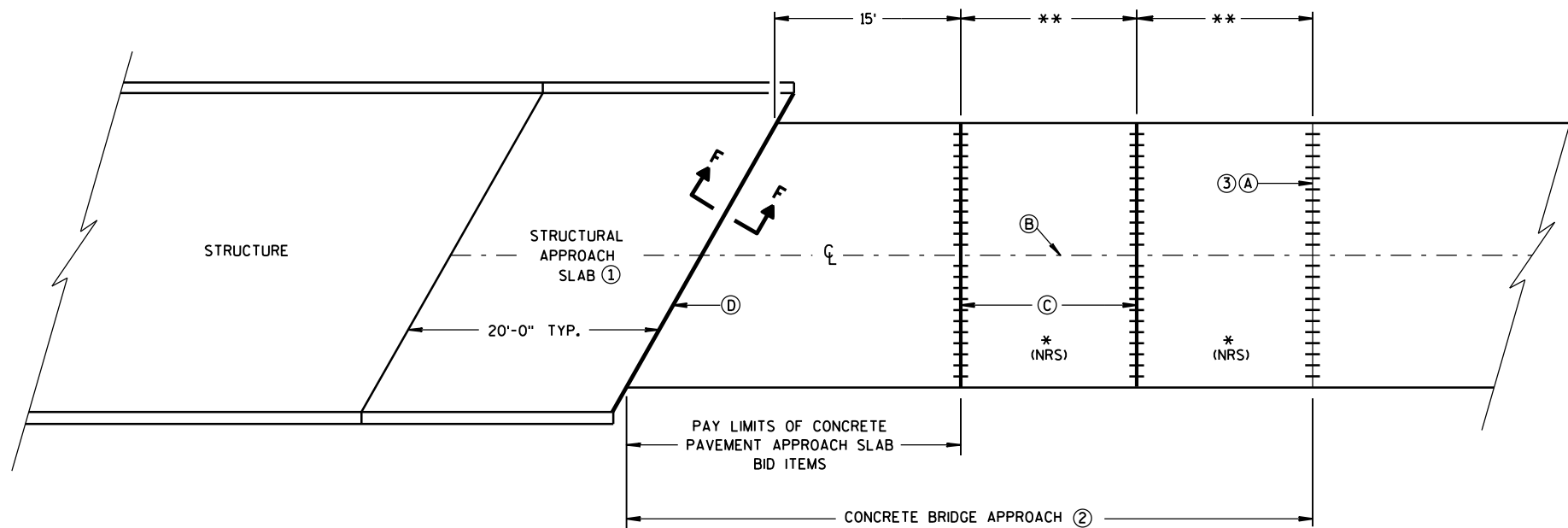
APPROVED

June, 2014

DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE BRIDGE APPROACH.

- ① CONFORM TO APPLICABLE BRIDGE MANUAL STANDARD DRAWINGS FOR *STRUCTURAL APPROACH SLABS* (SEE CHAPTER 12 - ABUTMENTS).
- ② CONFORM TO SHEET (a) OF THIS SET FOR *CONCRETE BRIDGE APPROACH* DETAILS, WITH ONE EXCEPTION—WHEN CONSTRUCTING A *CONCRETE BRIDGE APPROACH* NEXT TO A *STRUCTURAL APPROACH SLAB*, AS SHOWN IN THE DETAIL DRAWING, THE *CONCRETE BRIDGE APPROACH* WILL ONLY HAVE TWO EXPANSION JOINTS; THE THIRD EXPANSION JOINT IS AT THE END OF THE *STRUCTURAL APPROACH SLAB*.
- ③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

*(NRS) = NON-REINFORCED CONCRETE SLAB

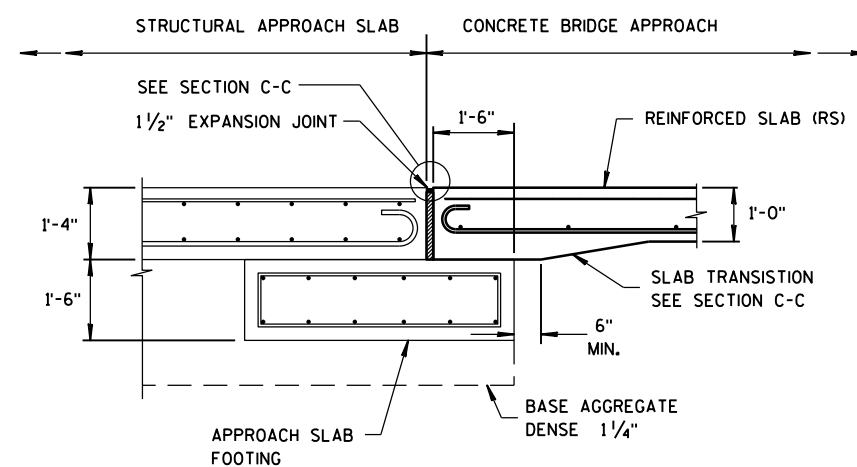
**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

(A) STANDARD CONTRACTION JOINT NORMAL TO R_L OR C_L

(B) STANDARD LONGITUDINAL JOINT AND TIE BARS.

(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR C_L

(D) 1½" EXPANSION JOINT (NO DOWELS)



SECTION F-F

FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB
AND
CONCRETE BRIDGE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

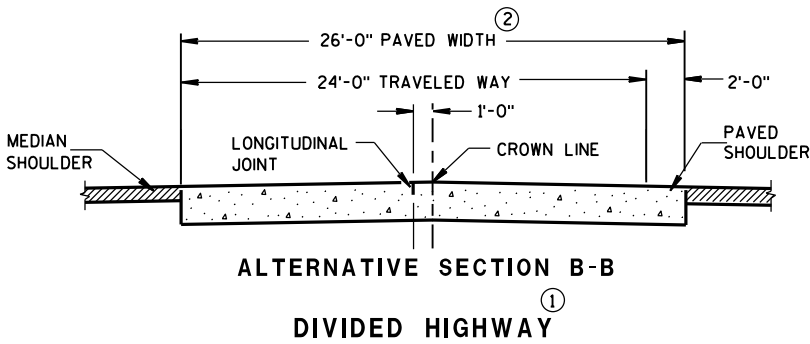
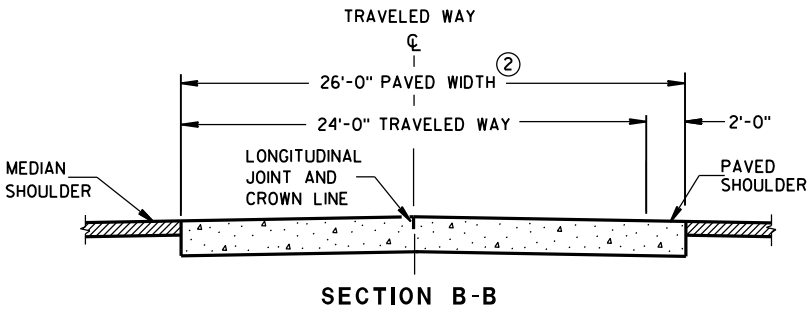
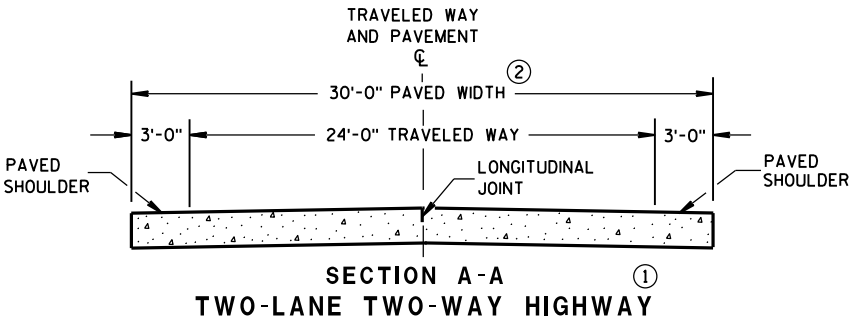
APPROVED

June, 2014

DATE

FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

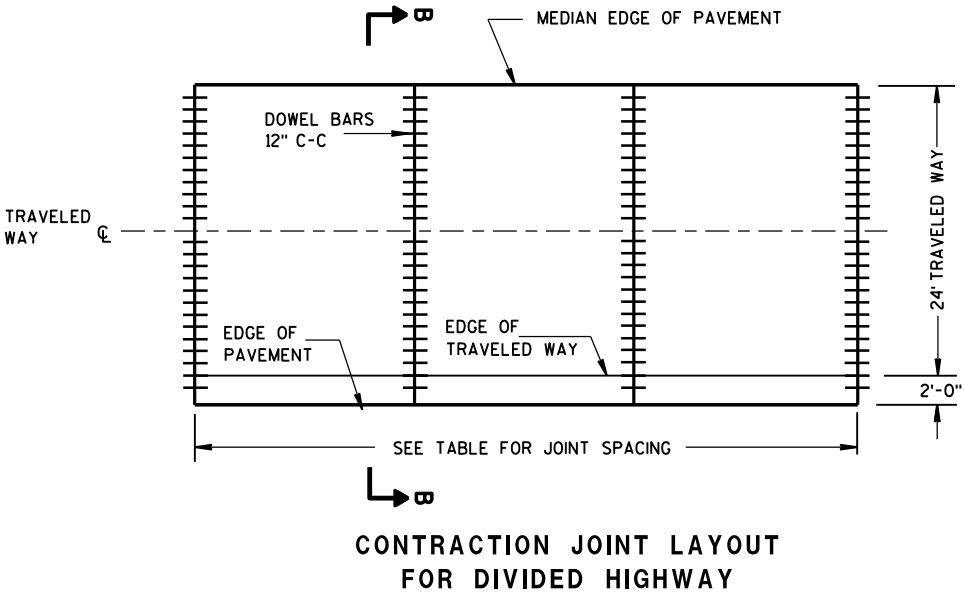
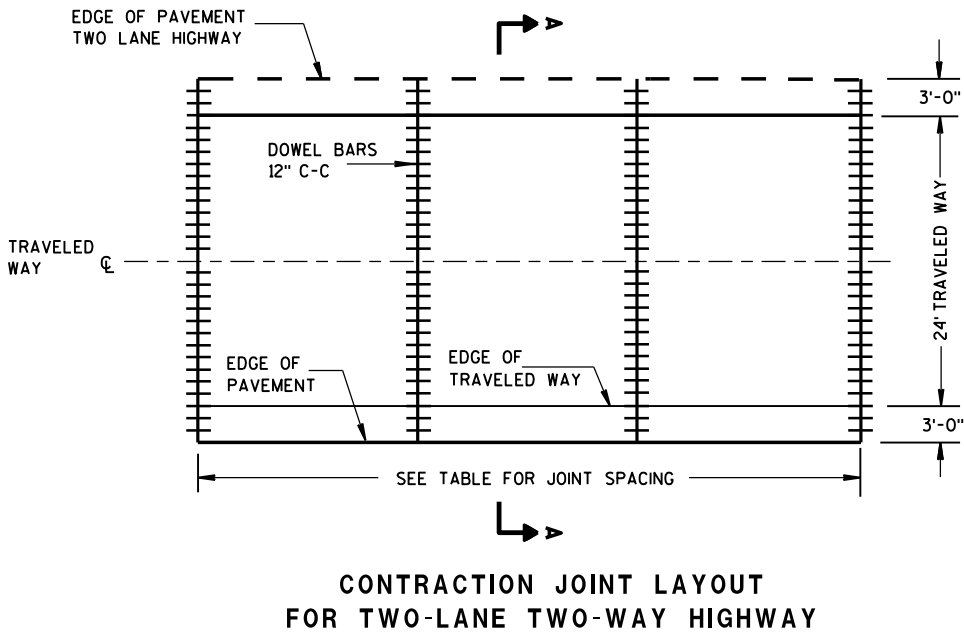
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

- ① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
- ② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

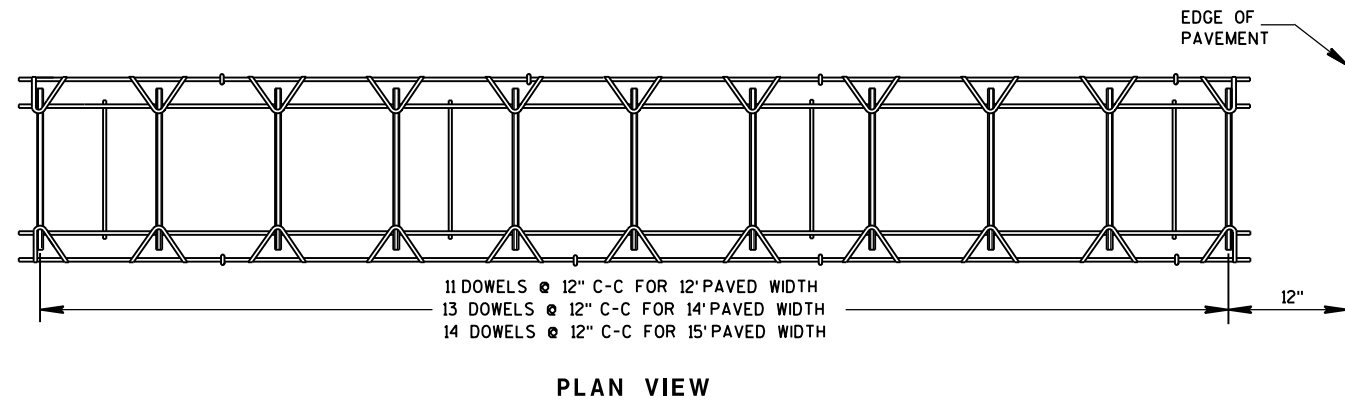
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

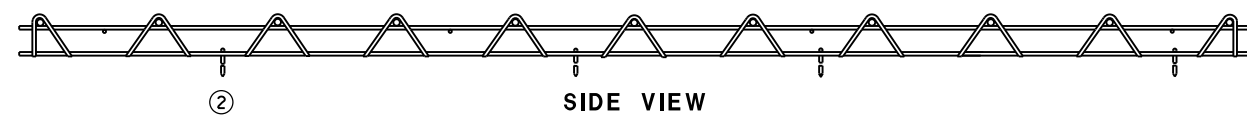


RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



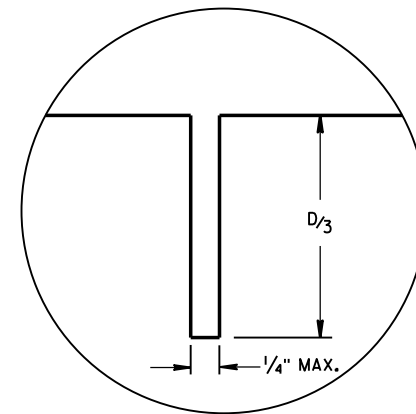
PLAN VIEW



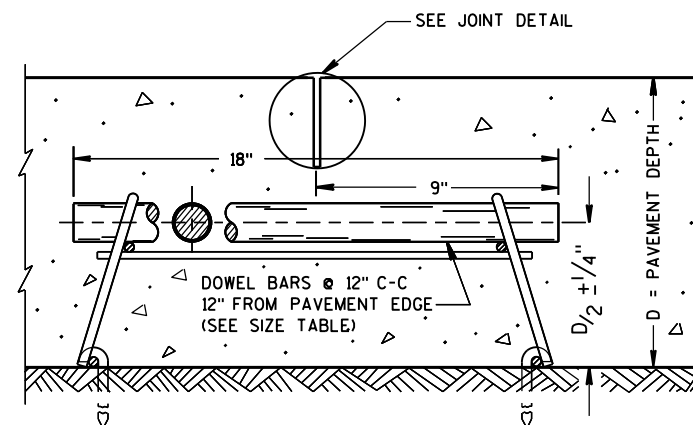
SIDE VIEW

(NORMAL TO CENTERLINE)

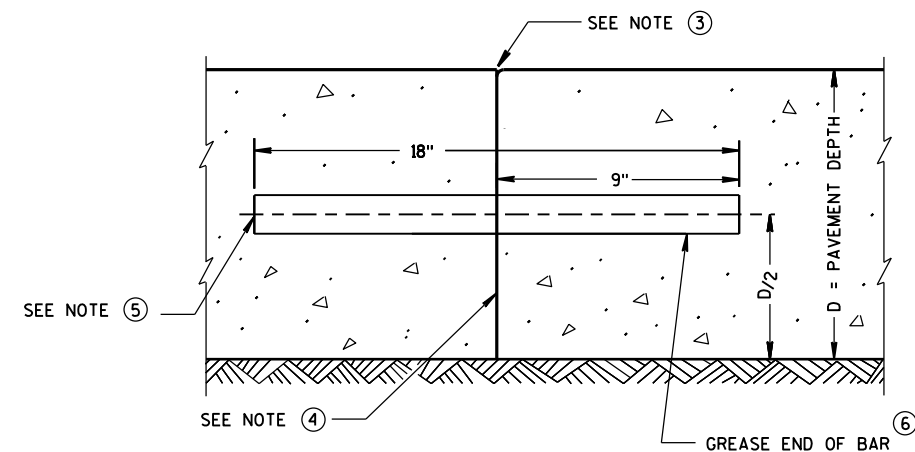
CONTRACTION JOINT DOWEL ASSEMBLY ①



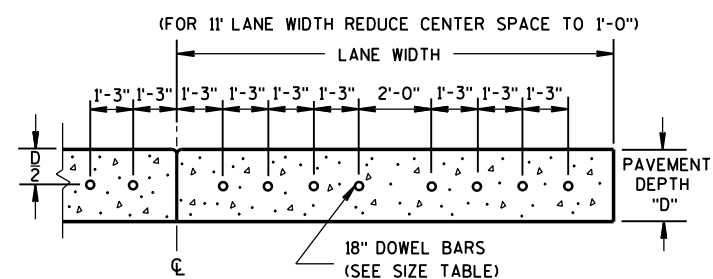
JOINT DETAIL



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

GENERAL NOTES

- ① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- ② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- ③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A $1/4$ -INCH RADIUS AT FORMED JOINTS.
- ④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- ⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.
- ⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- ⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS $1/8$ -INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.

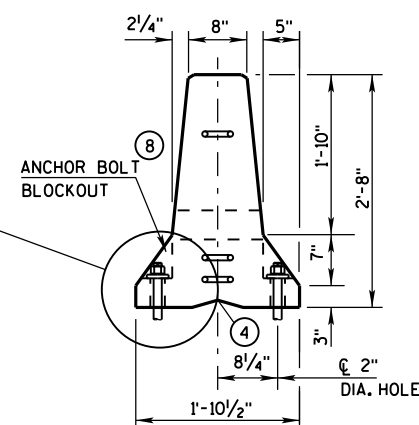
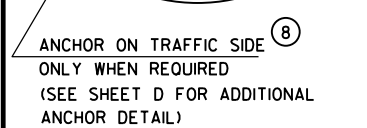
RURAL DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

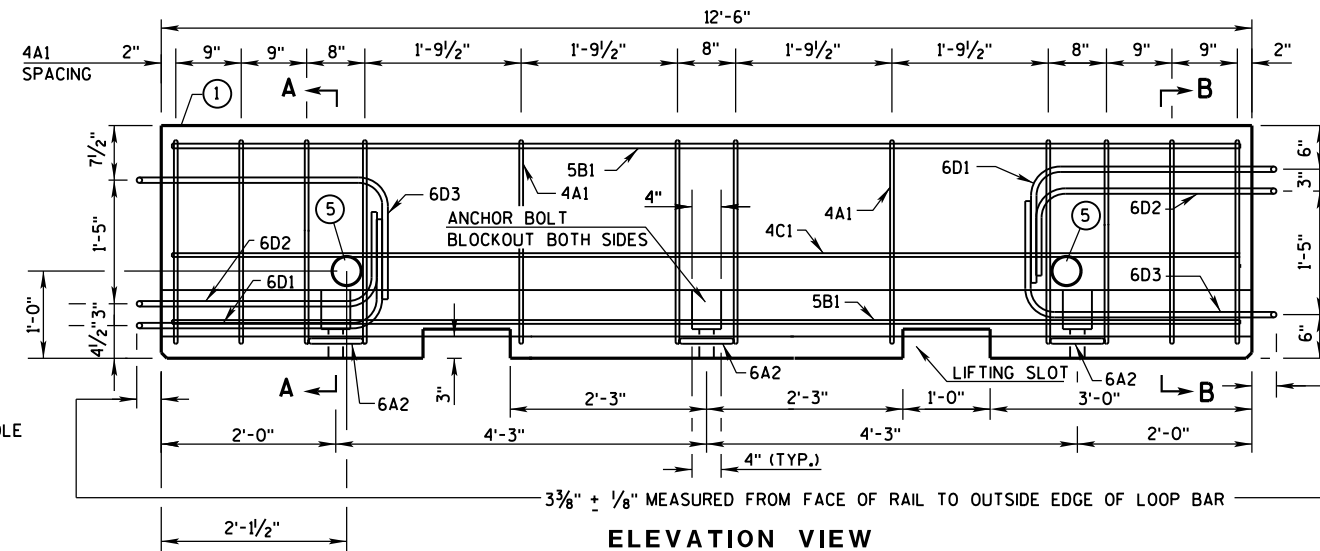
5/3/2013
DATE

FHWA

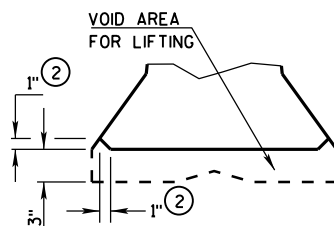
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



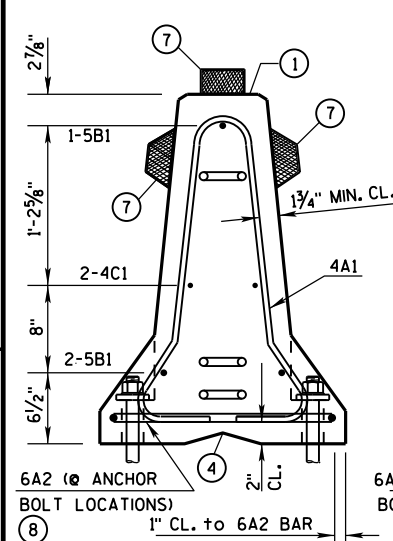
END VIEW



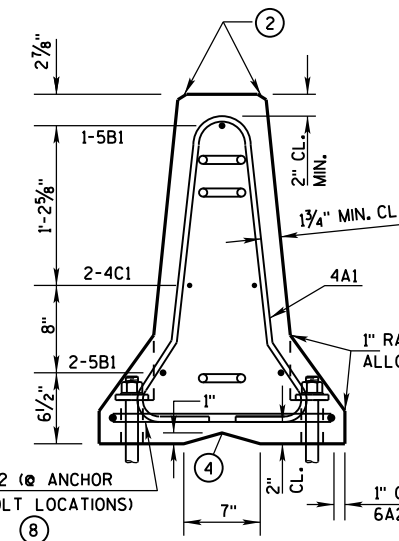
ELEVATION VIEW



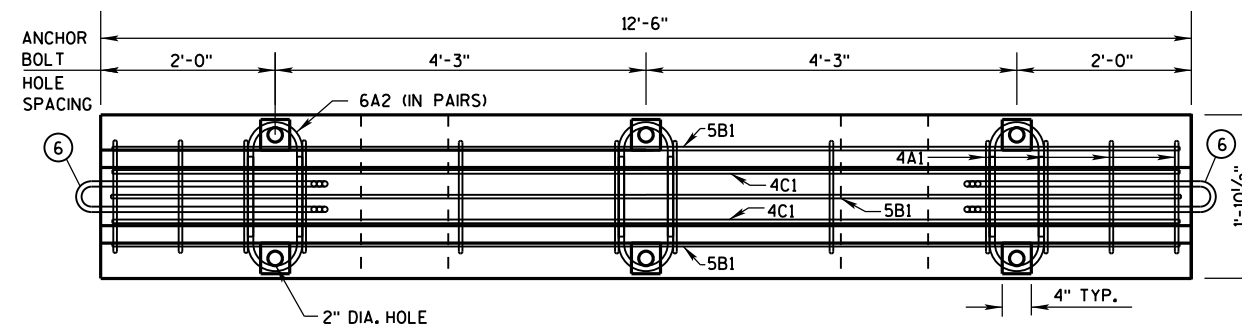
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

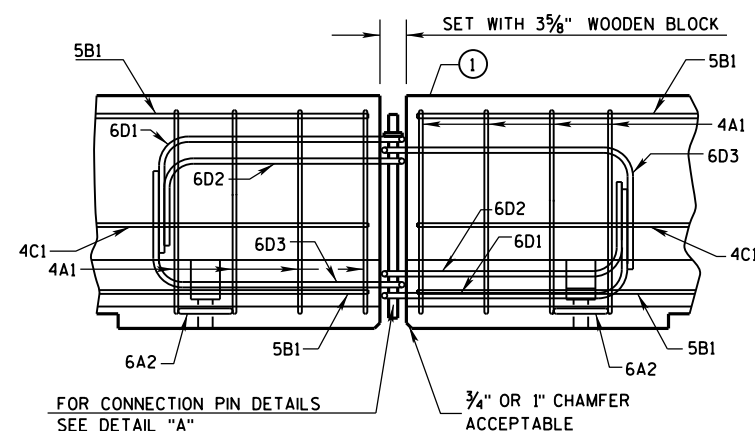


SECTION B-B
(STIRRUP PLACEMENT)

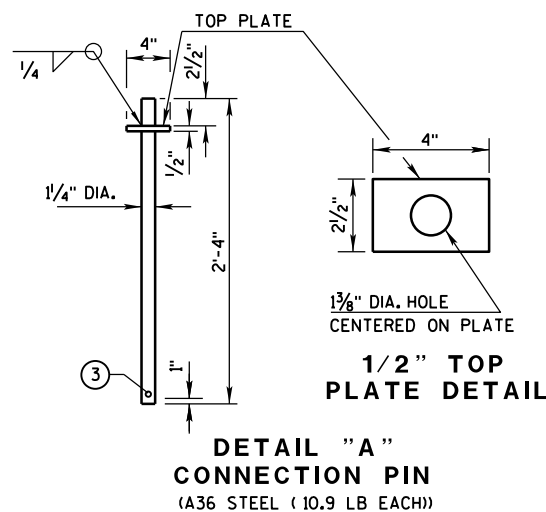


PLAN VIEW

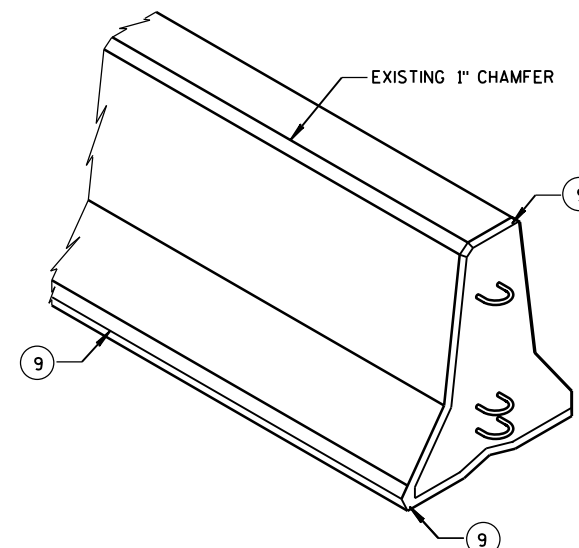
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(d) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE $\frac{3}{4}$ " SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3- $\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

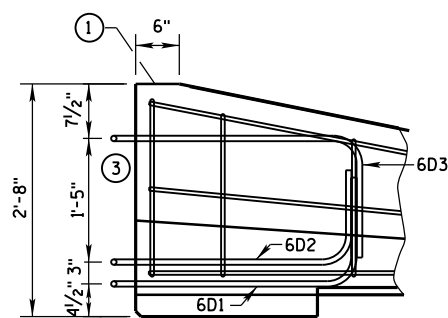
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

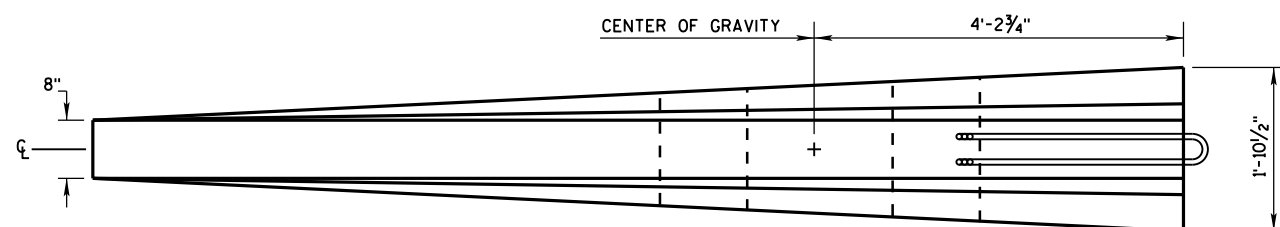
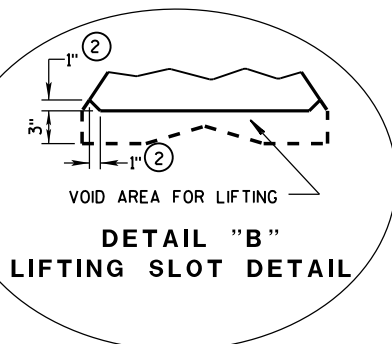
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

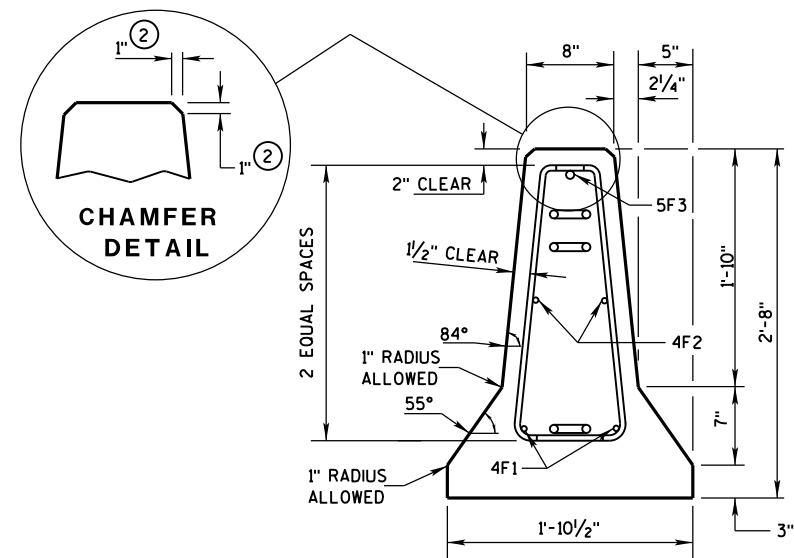


LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

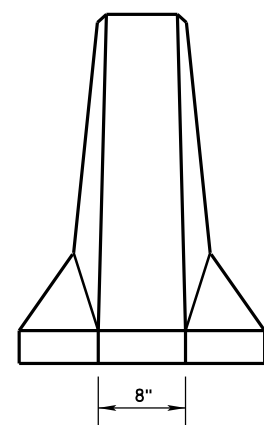
- ## GENERAL NOTES
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
 - ② 1" CHAMFER TO PREVENT SPALLING.
 - ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



PLAN VIEW

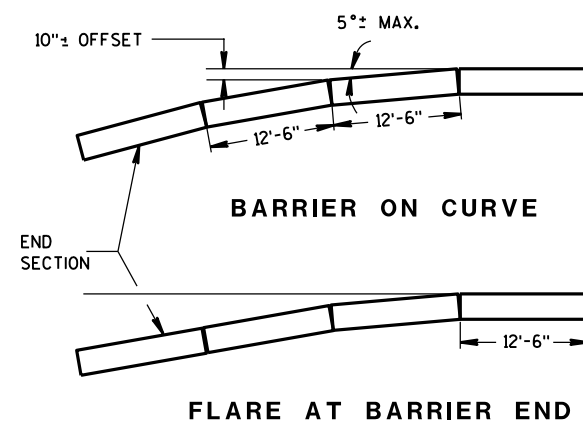


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

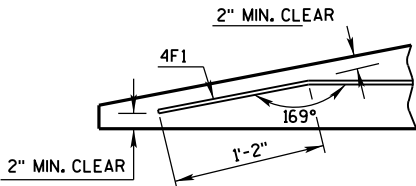
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

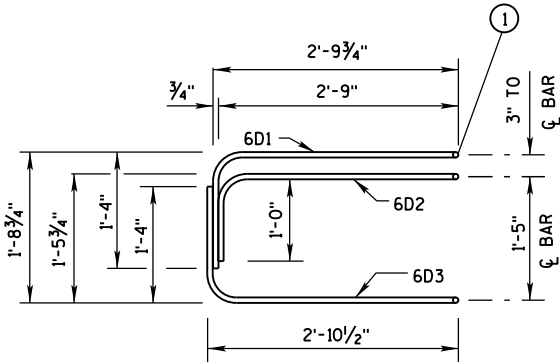
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

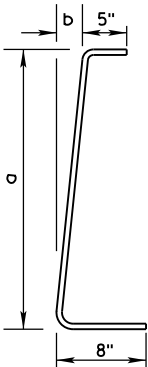
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

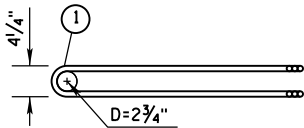
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

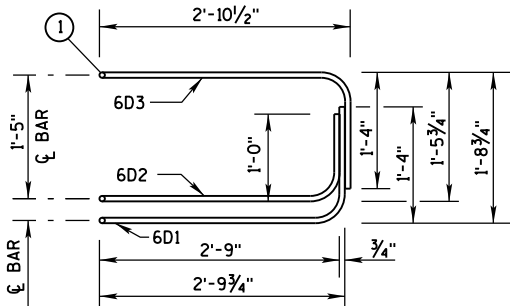
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

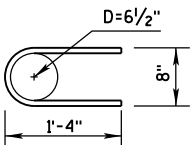


PLAN VIEW
LOOP BAR ASSEMBLY

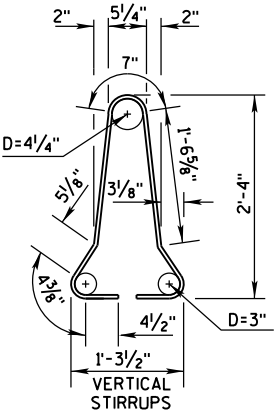
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

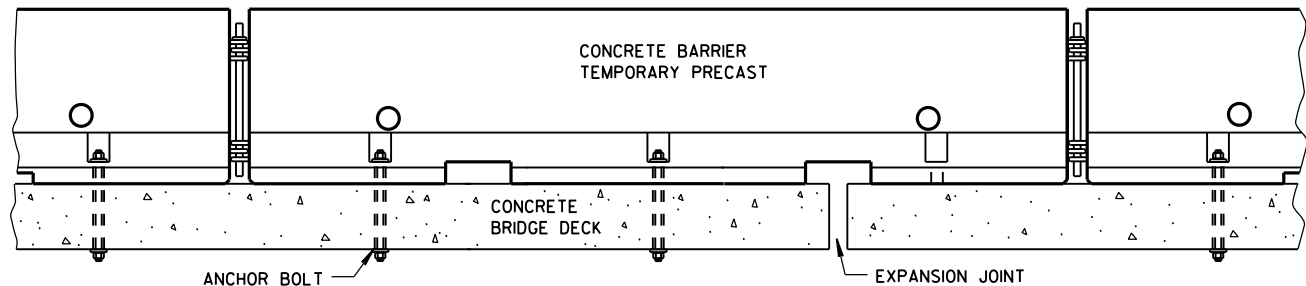
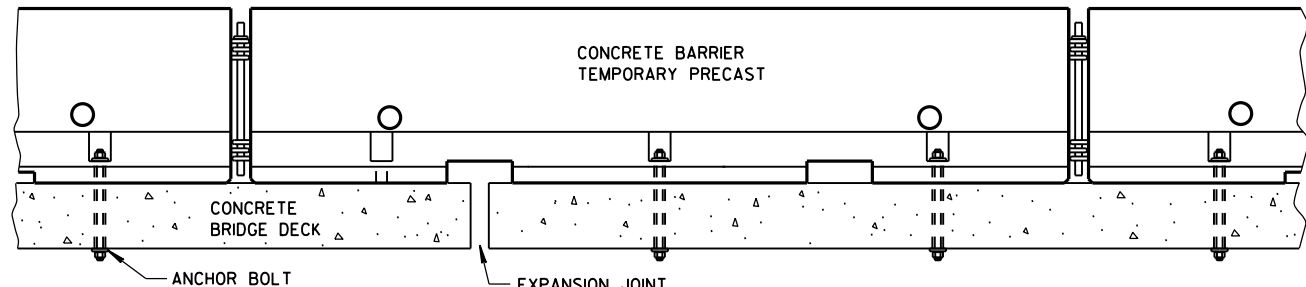


4A1

BARRIER SECTION

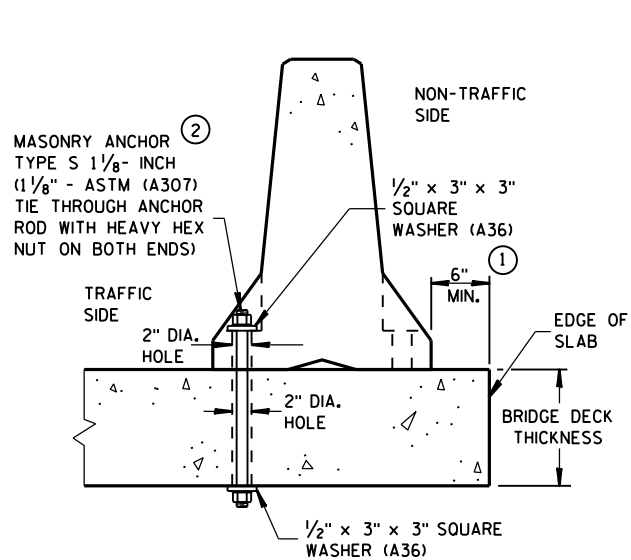
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



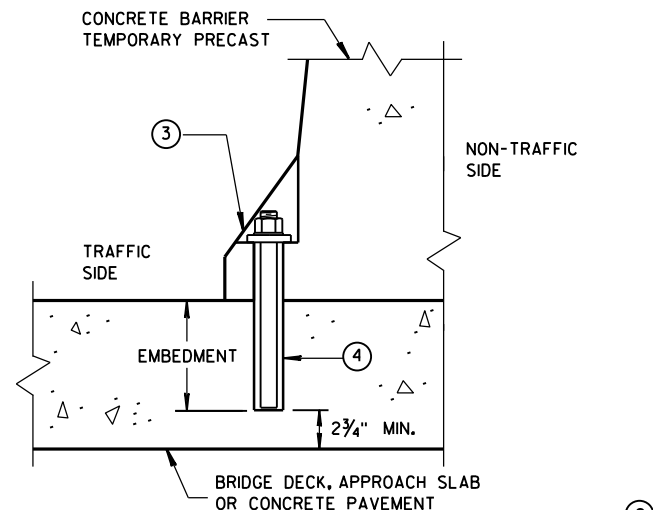
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



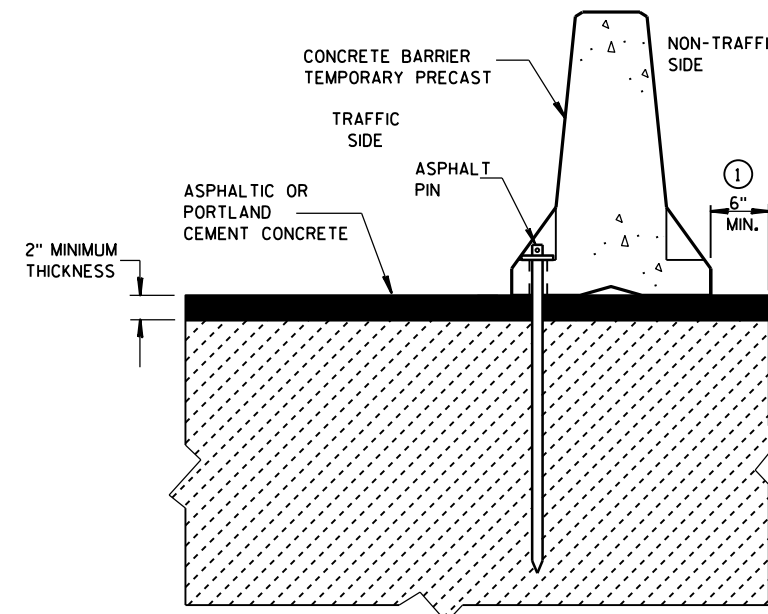
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



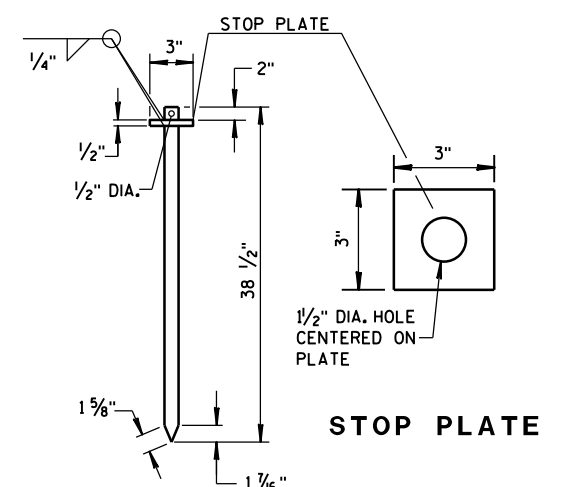
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

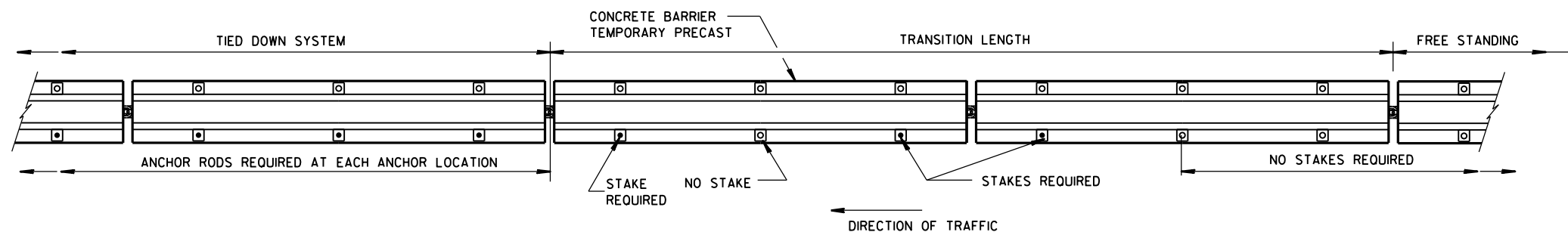


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN
(ASTM A36 STEEL)



PLAN VIEW FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

- CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

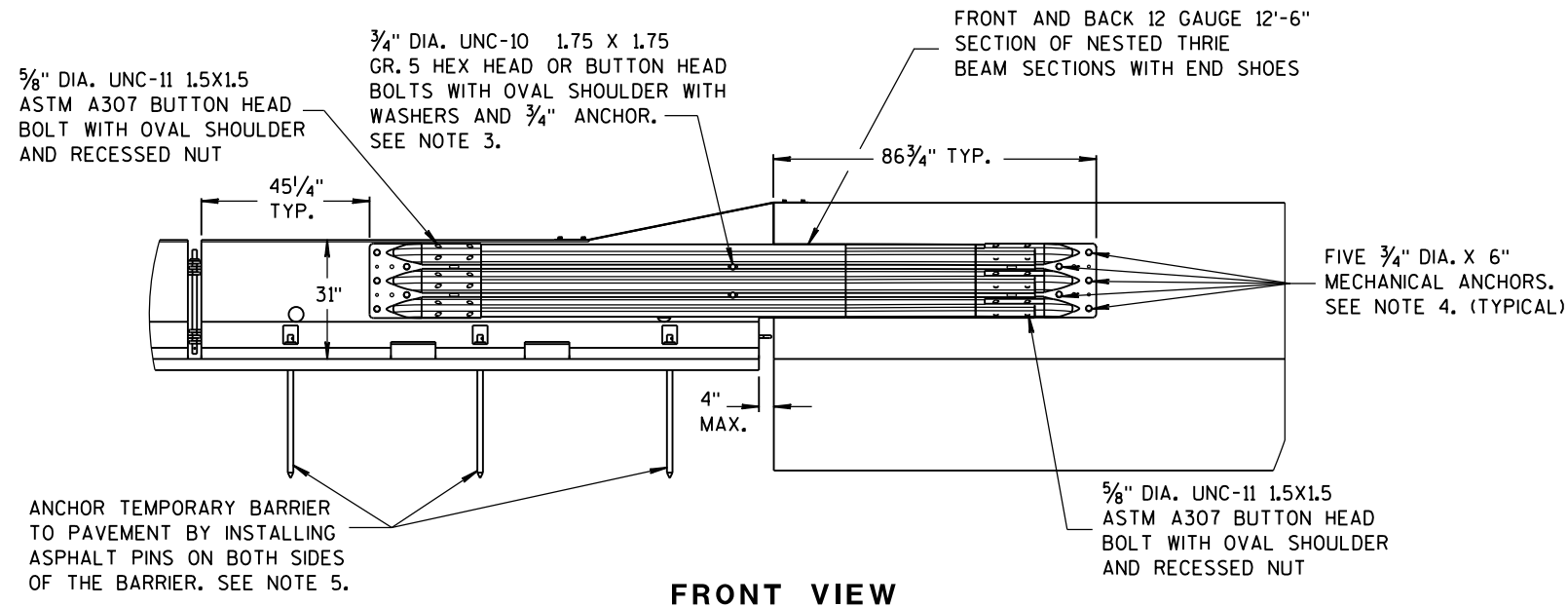
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

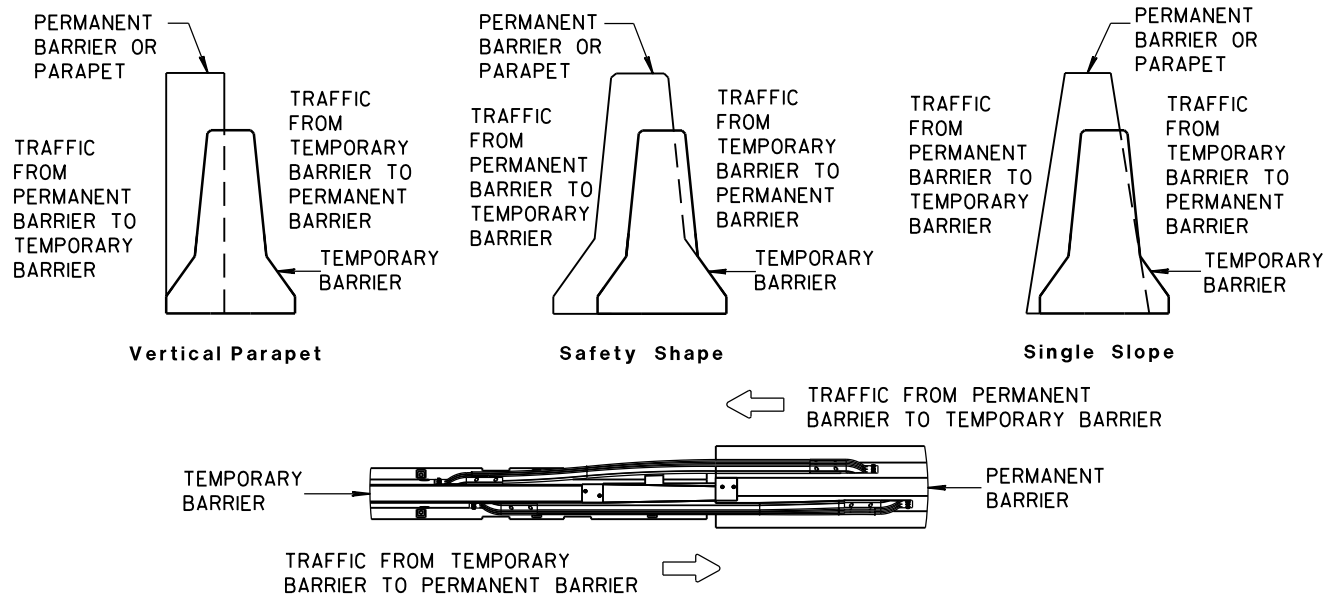
UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- 1/8" DIAMETER A307 THREADED ROD, 1/2" x 3" x 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



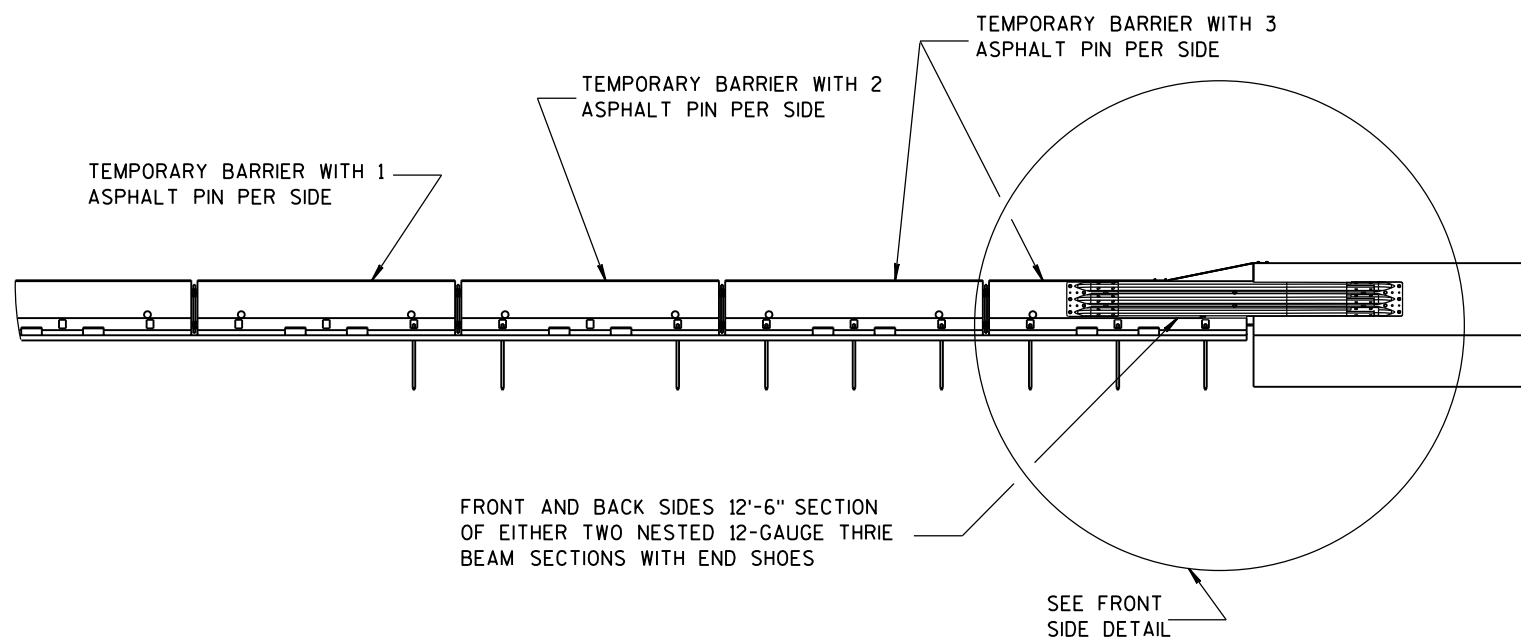
FRONT VIEW



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

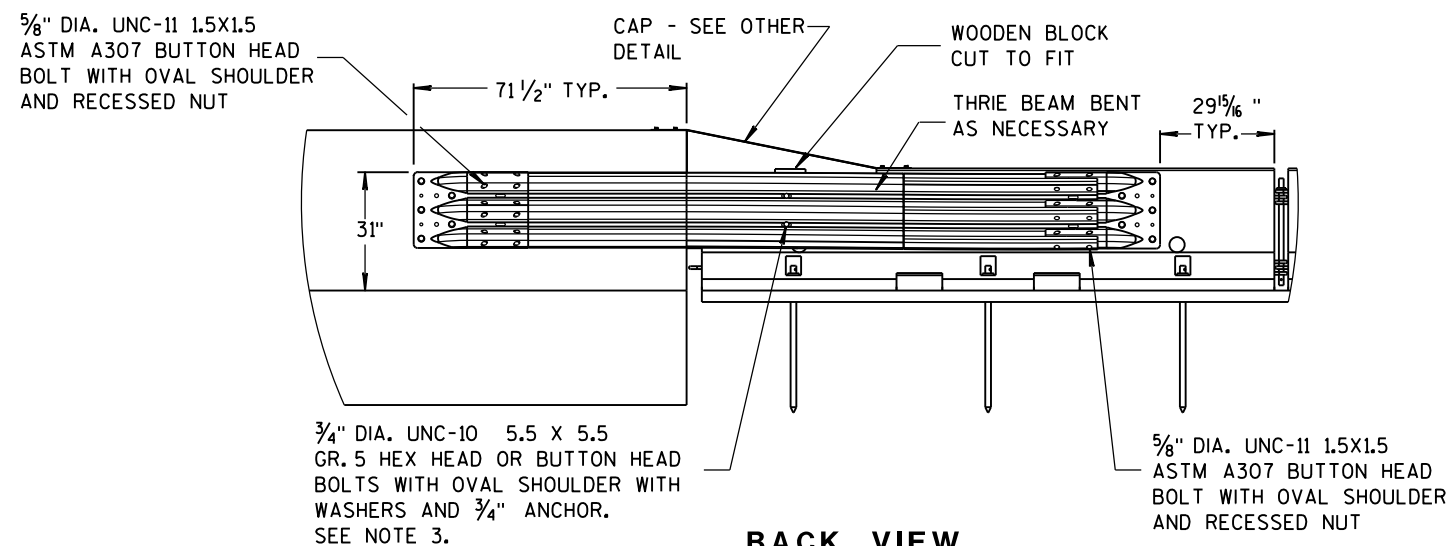
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

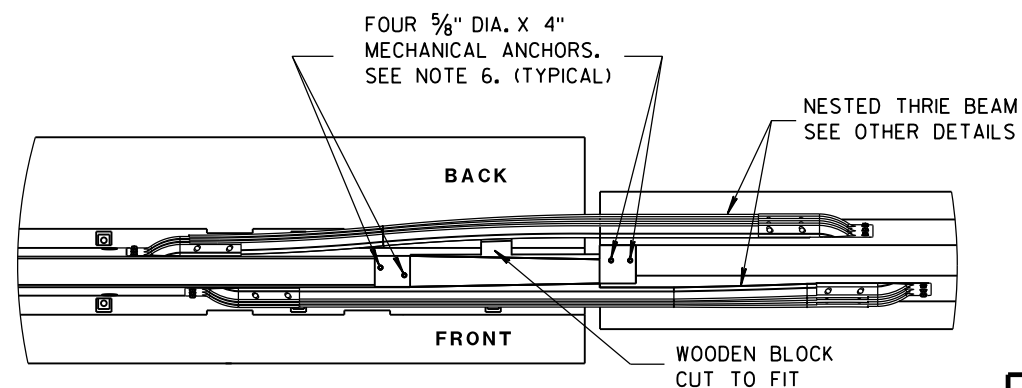


FRONT VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



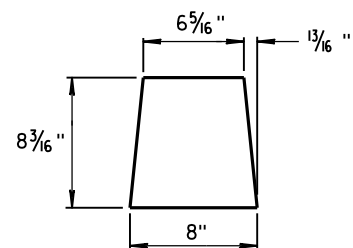
BACK VIEW



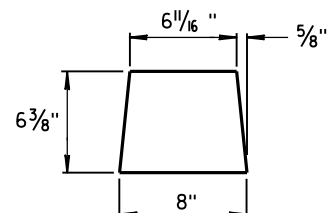
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

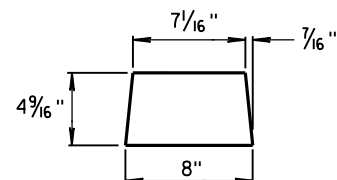
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



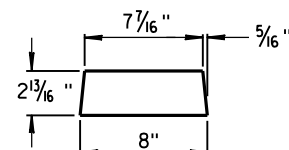
GUSSET 1



GUSSET 2

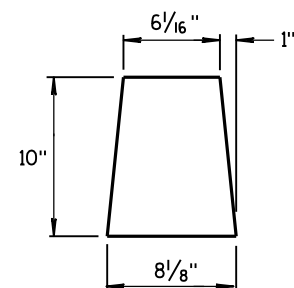


GUSSET 3

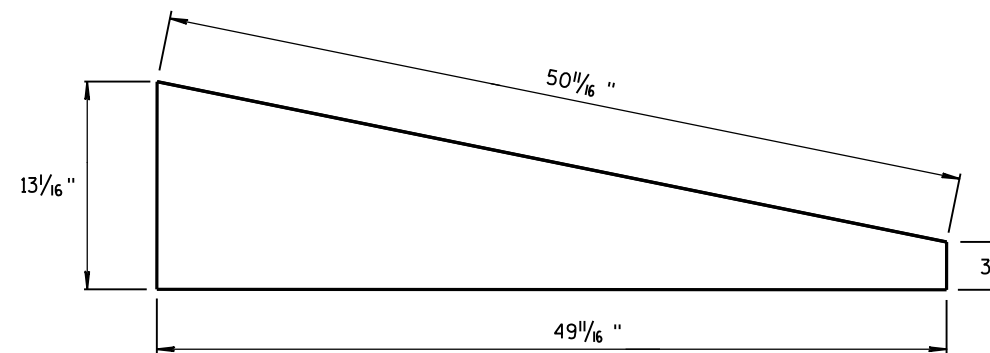


GUSSET 4

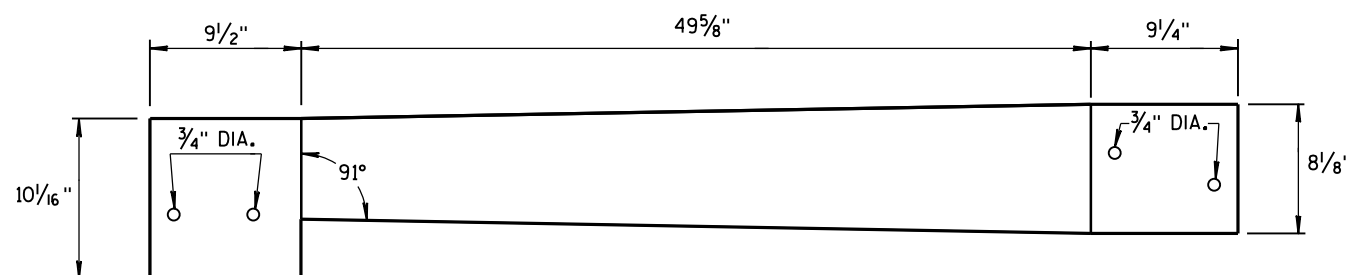
GUSSETS



END PLATE



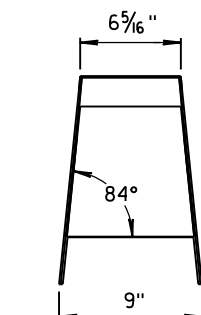
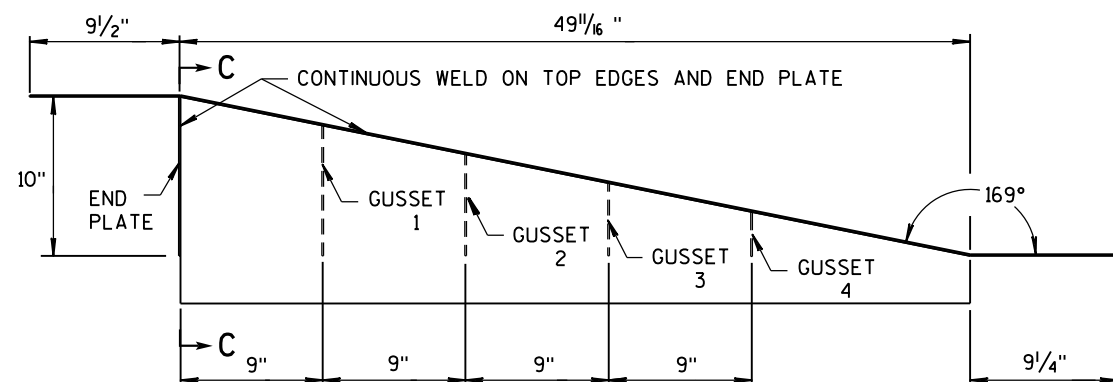
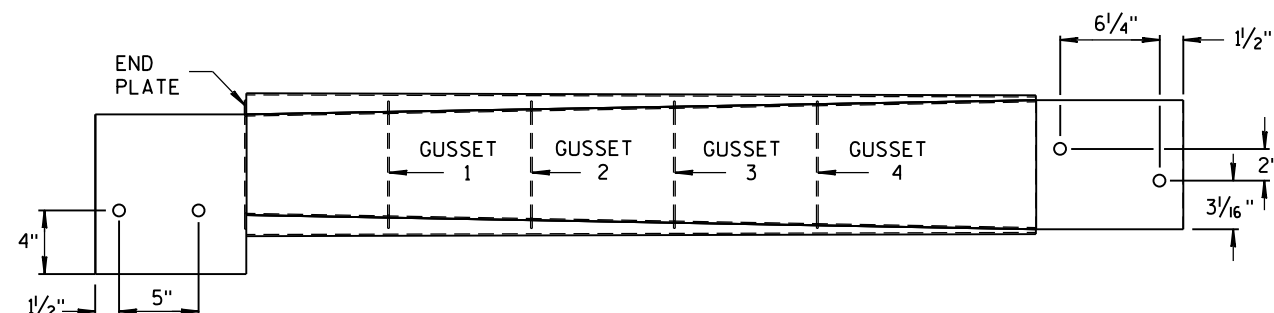
SIDE PLATE



TOP PLATE

**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

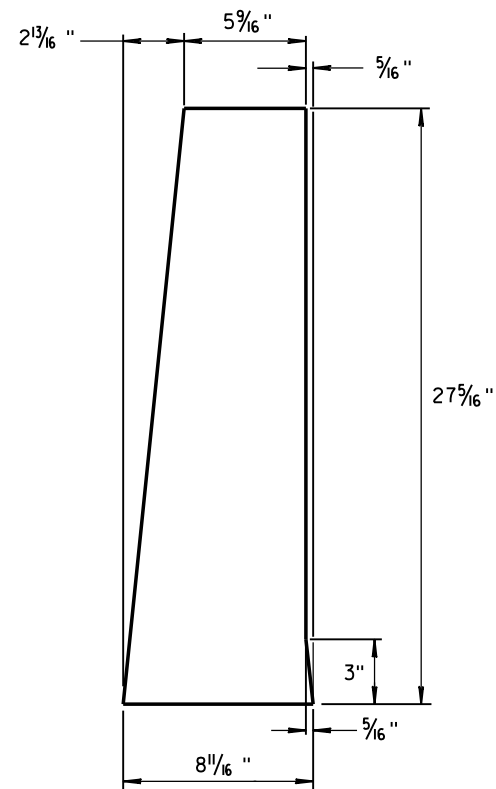
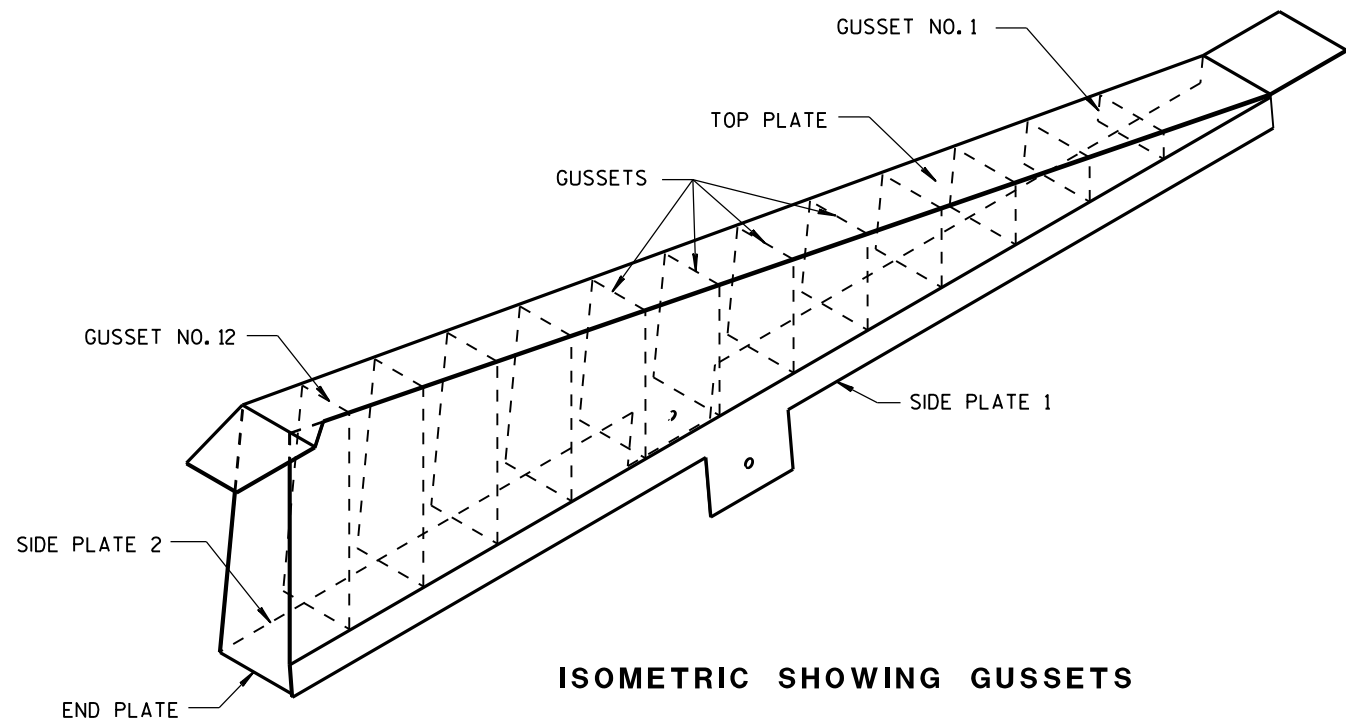
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

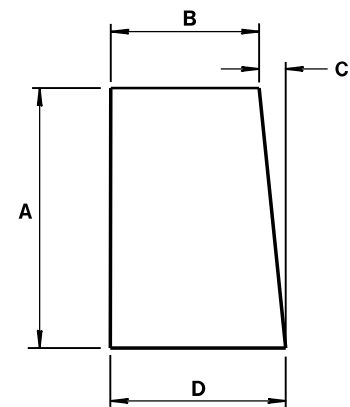
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END PLATE
1/8" STEEL PLATE

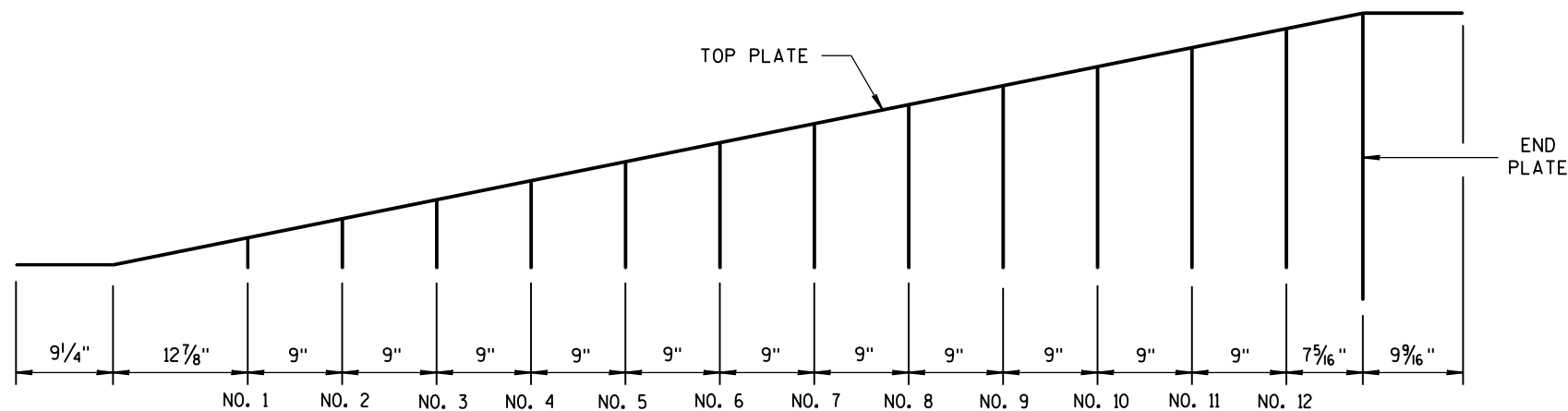


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	1 1/16 "	8 1/16 "
4	8 5/16"	7 3/16"	7/8"	8 1/16"
5	10 1/8"	7"	1 1/16 "	8 1/16"
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16"
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16"
8	15 9/16"	6 7/16"	1 9/16 "	8 1/16"
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16"
10	19 3/16"	6 1/16"	1 15/16 "	8 1/16"
11	21"	5 7/8"	2 3/16"	8 1/16"
12	22 13/16 "	5 11/16 "	2 5/16"	8 1/16"

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.

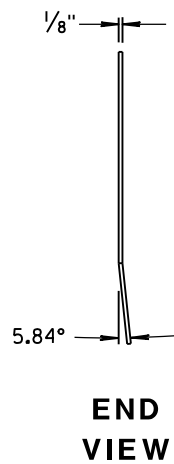
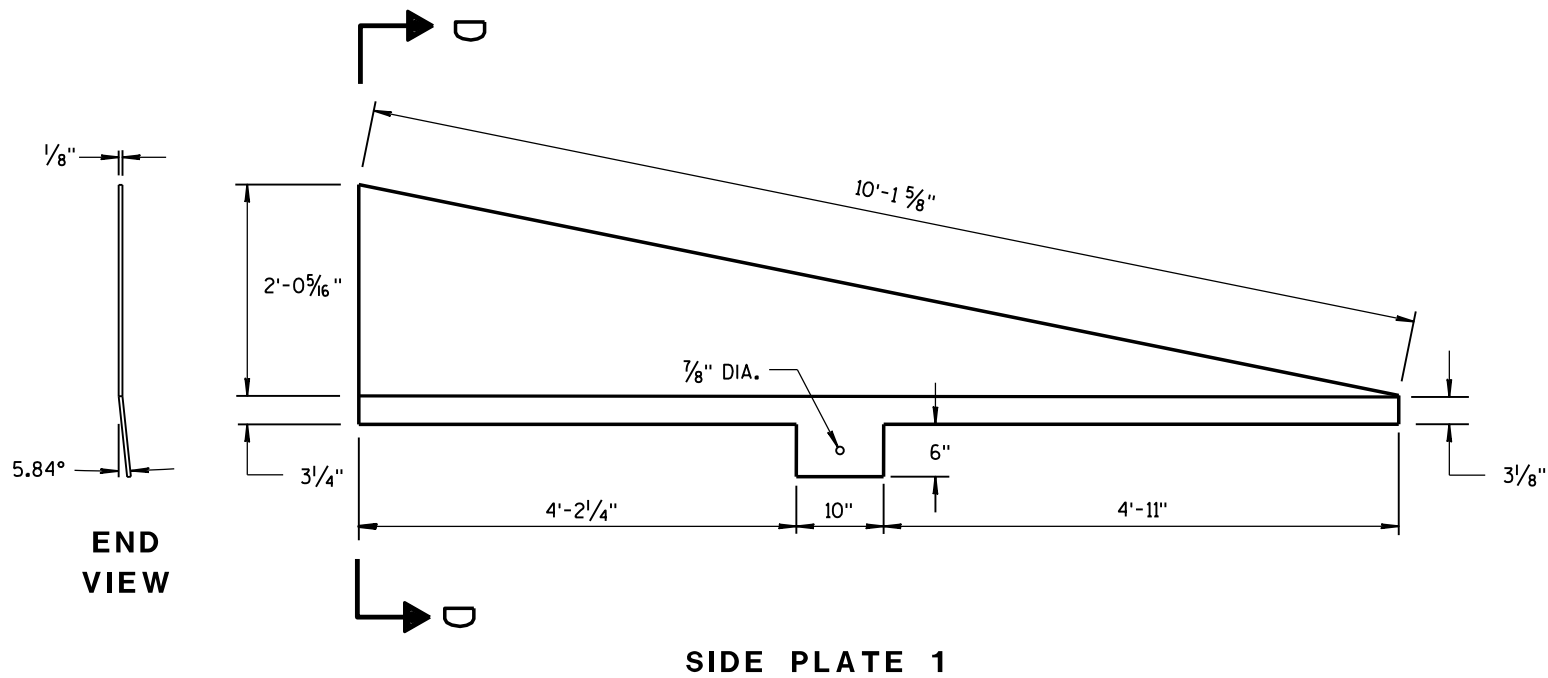
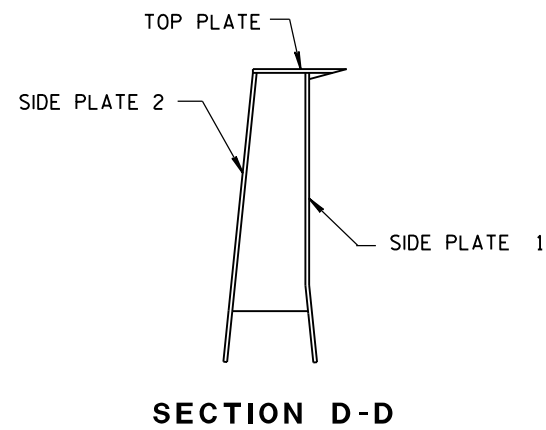
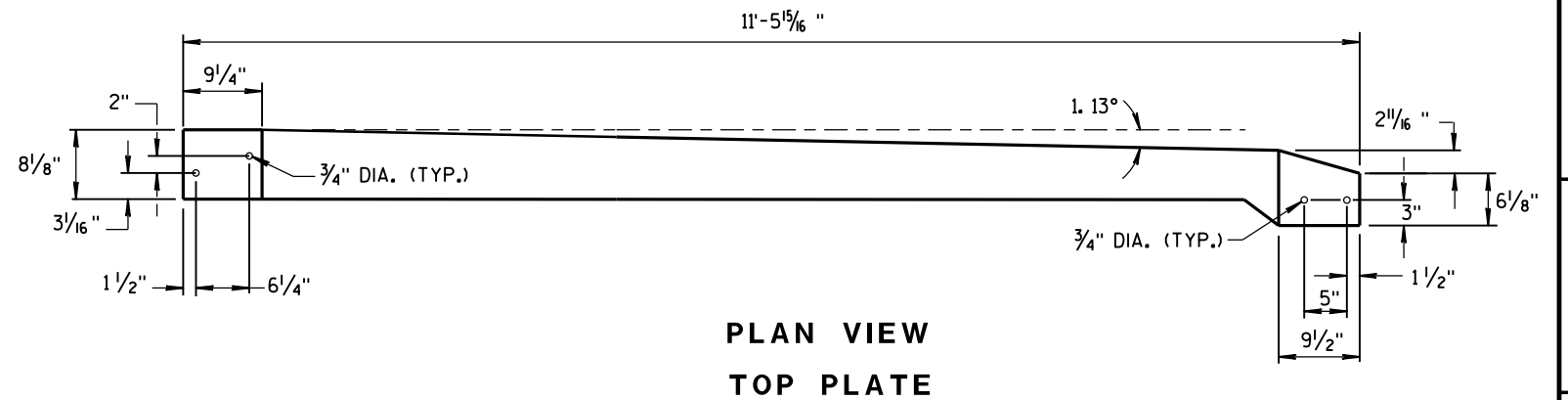
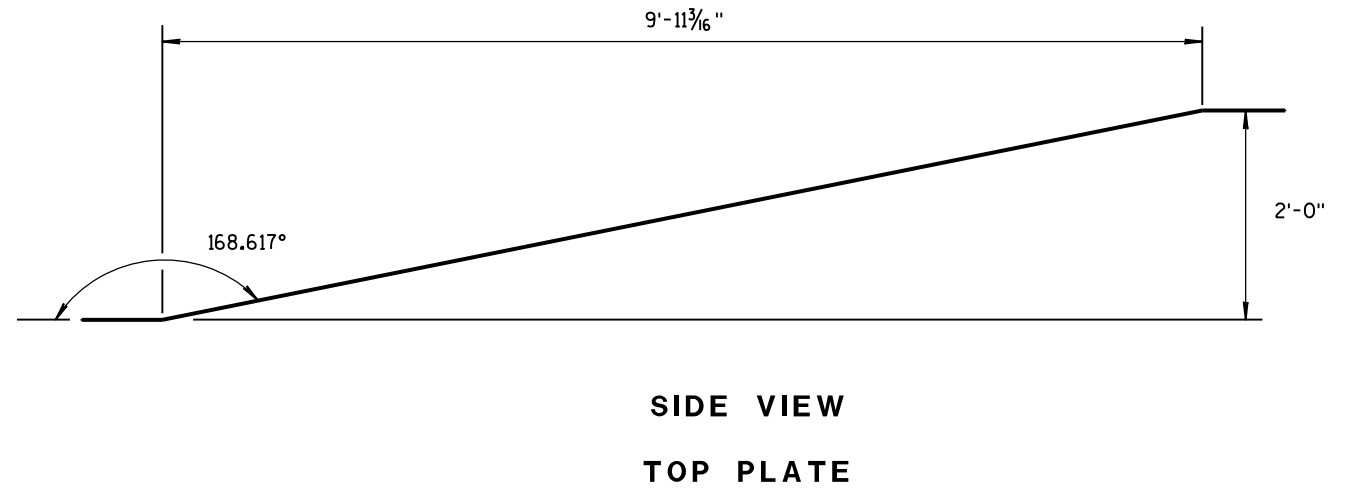
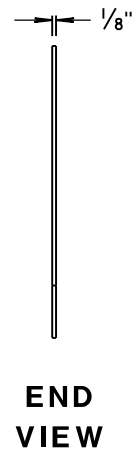
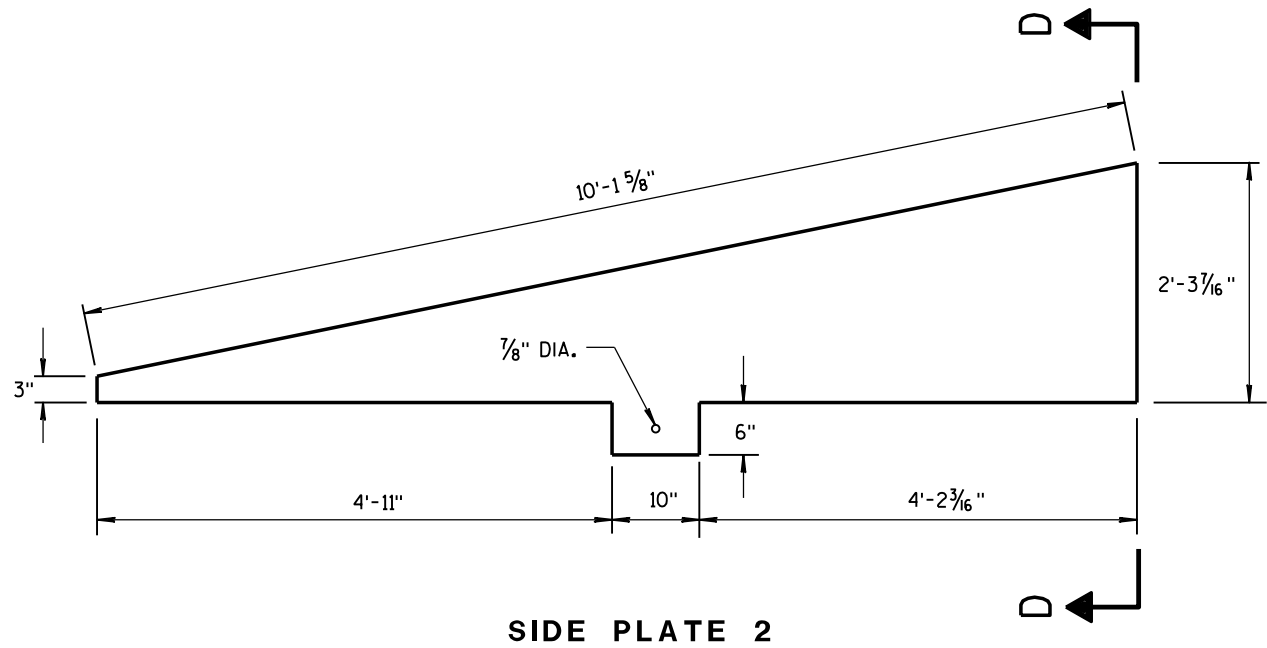


GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

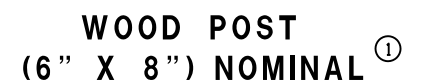


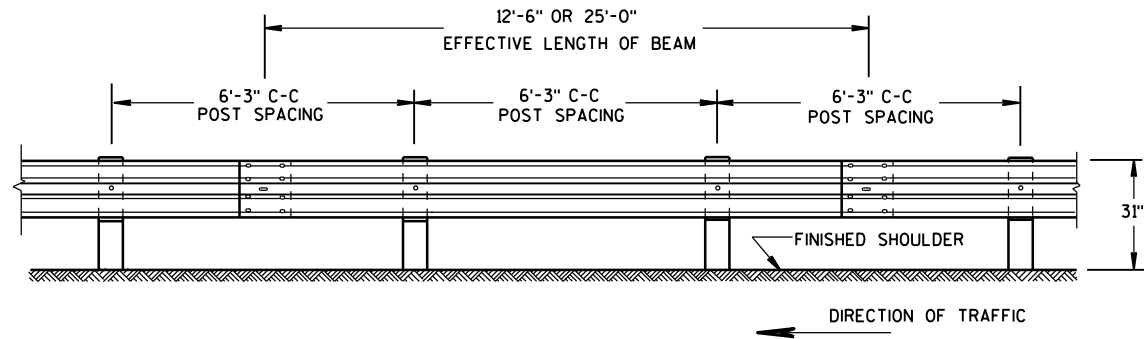
CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014 DATE	/S/ Jerry H. Zogg ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA	

S.D.D. 14 B 42-3a

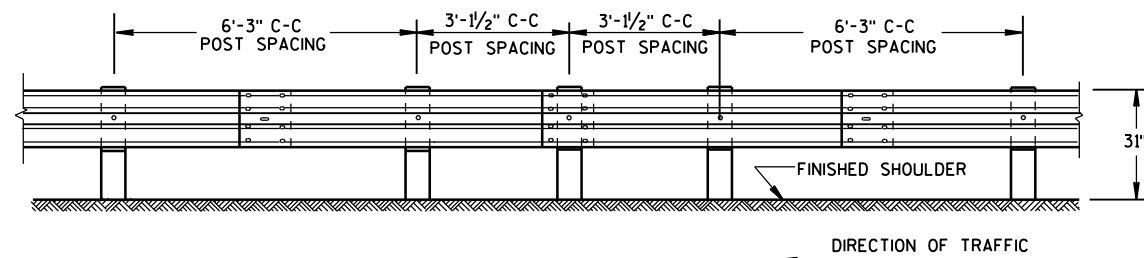
- S.D.D. 14 B 42-3a**





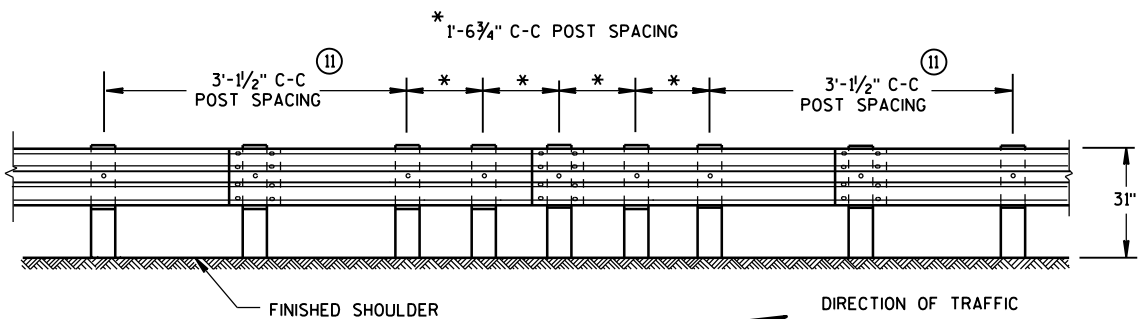
FRONT VIEW

POST SPACING STANDARD INSTALLATION



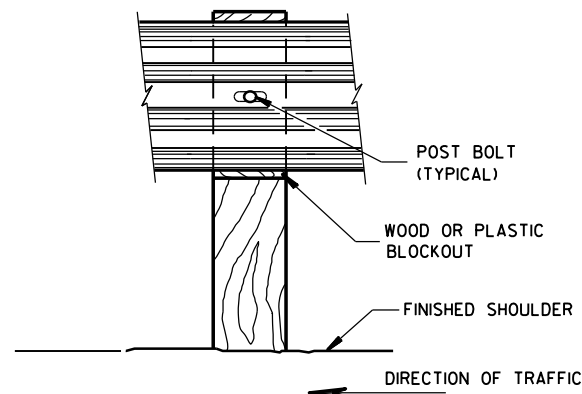
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

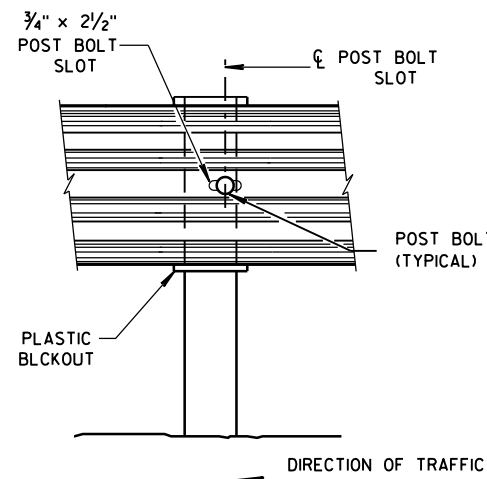


FRONT VIEW

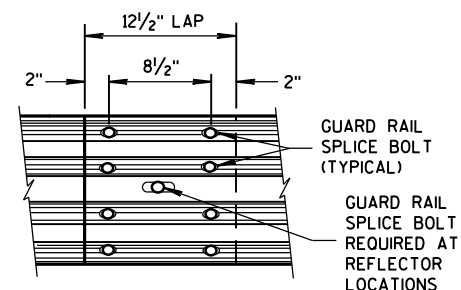
QUARTER POST SPACING (QS)



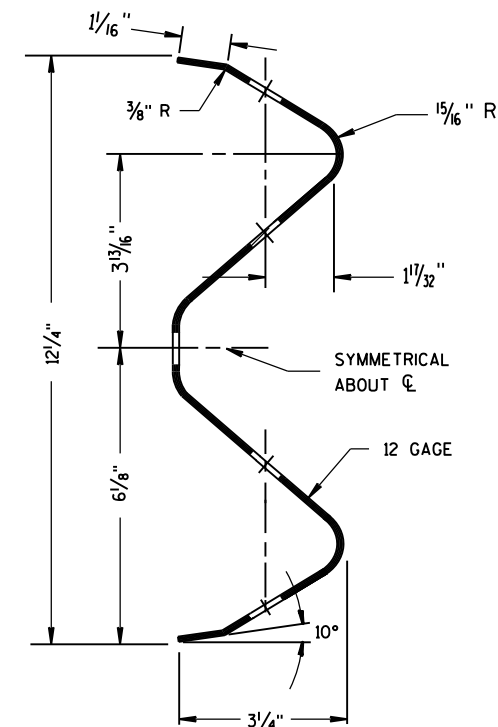
FRONT VIEW AT WOOD POST



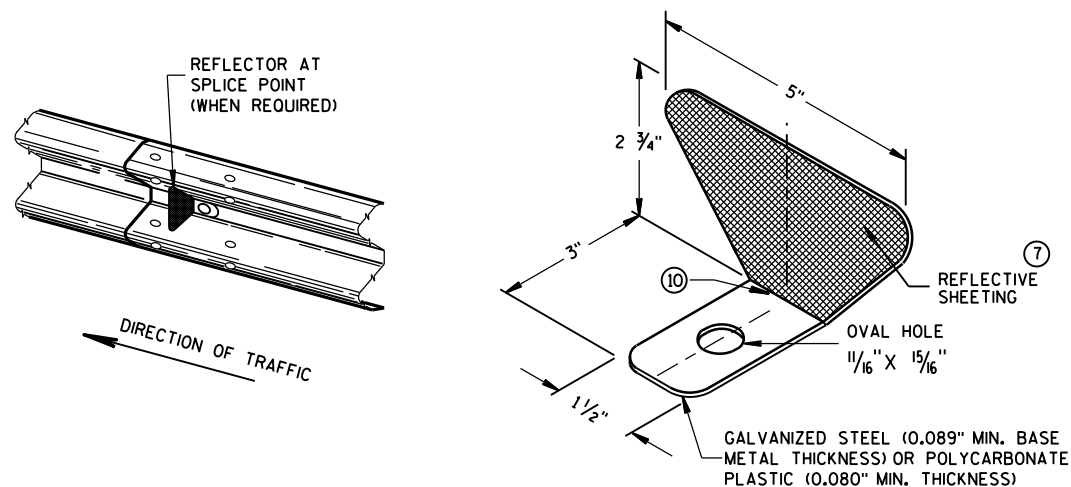
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

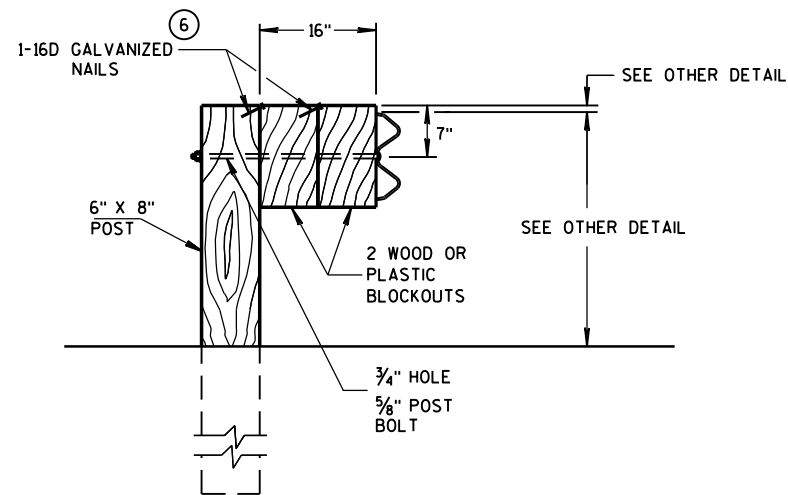
GENERAL NOTES

- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ^⑧				
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ^⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^⑩	3
	> 200'	100' C-C	2	

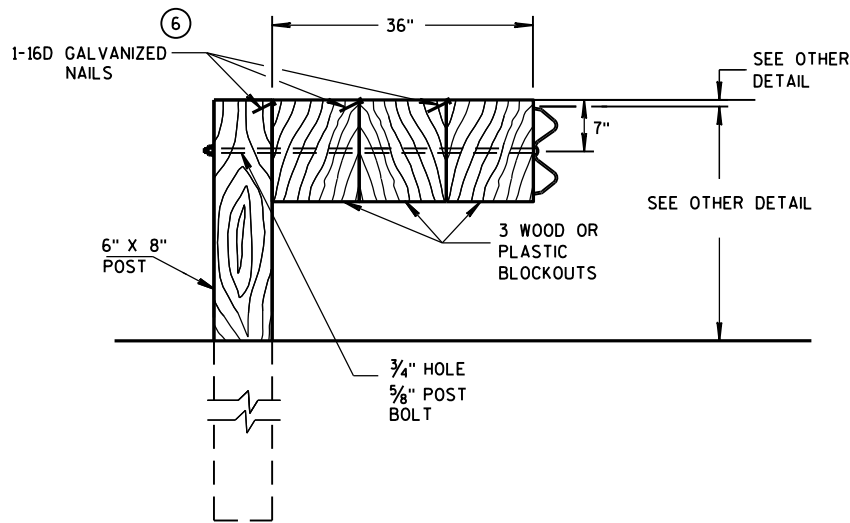
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

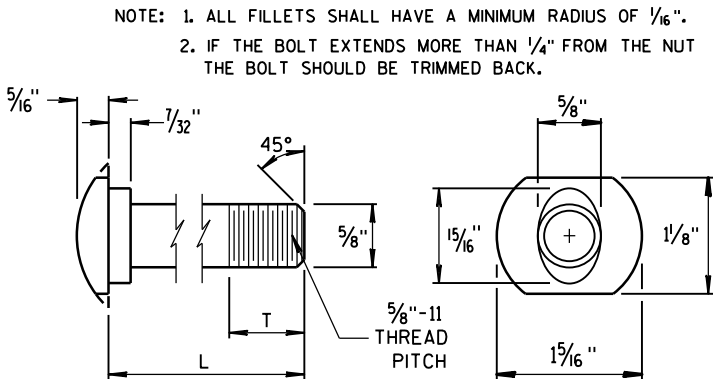
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



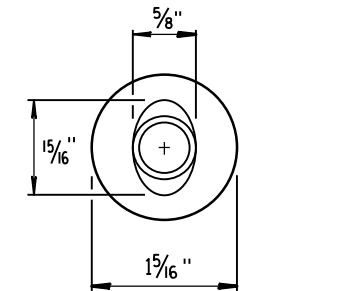
DETAIL FOR 36" BLOCKOUT DEPTH

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.

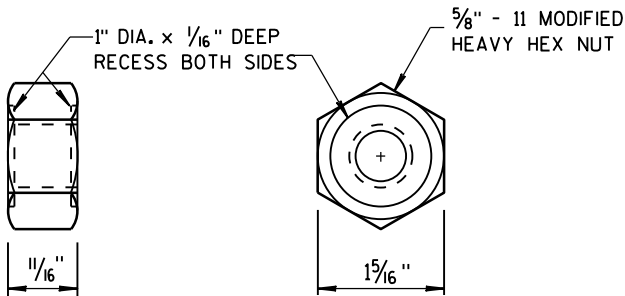
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



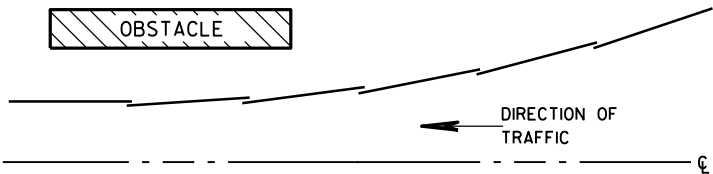
POST BOLT TABLE



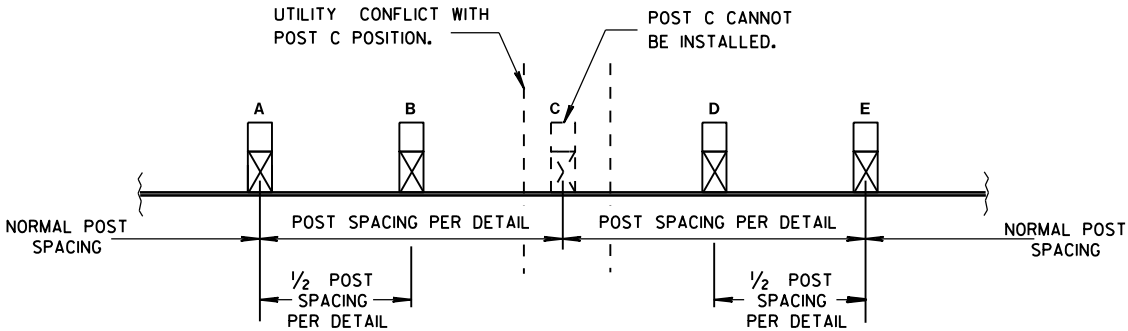
ALTERNATE BOLT HEAD



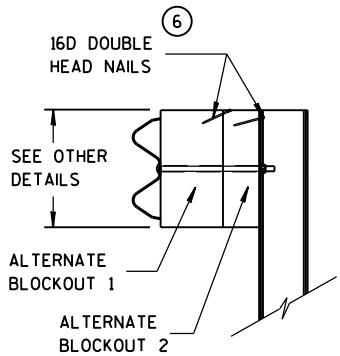
POST BOLT AND RECESS NUT



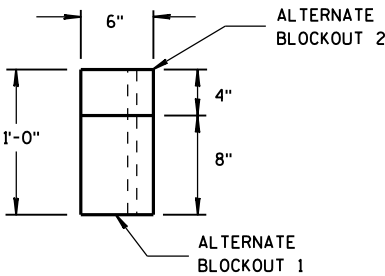
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

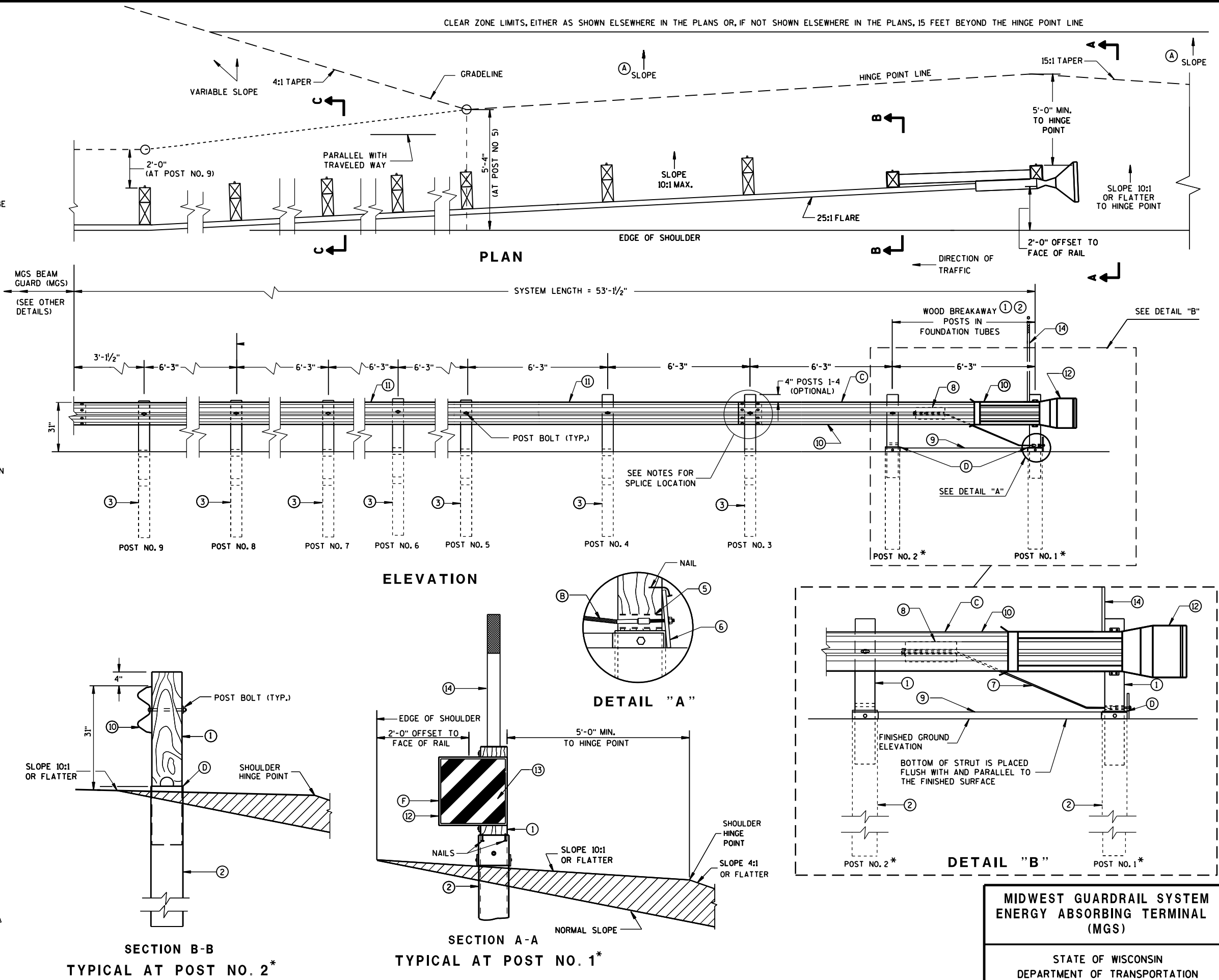
SEE SDD 14B42 FOR MORE INFORMATION.

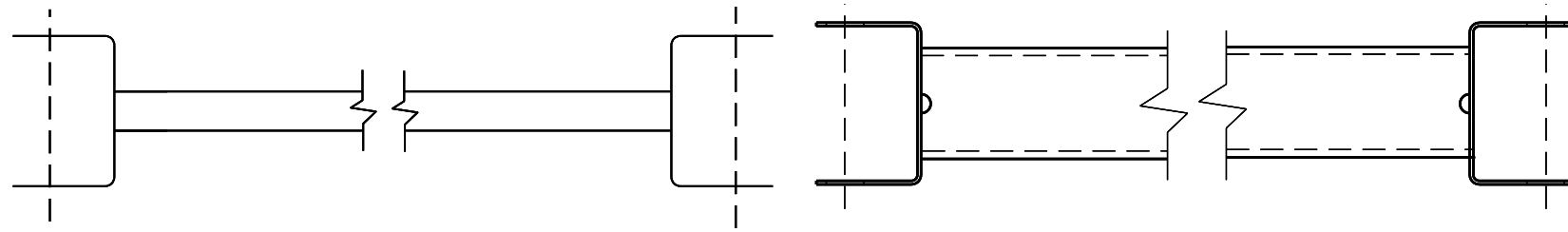
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

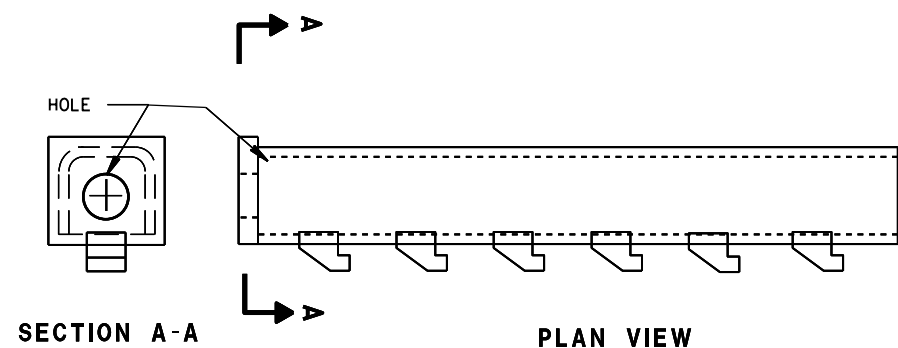
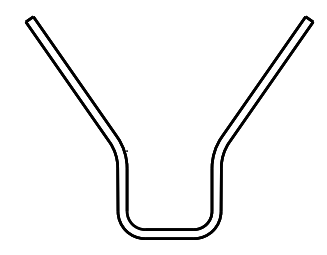
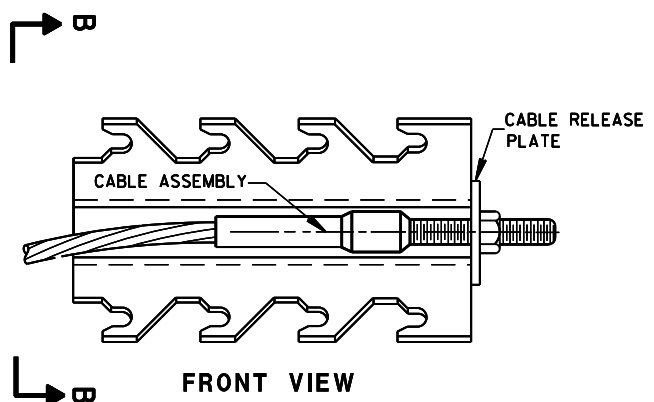
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3/2" 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.





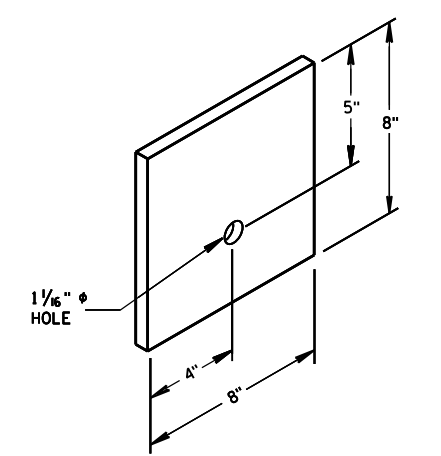
9 H
GENERIC GROUND STRUT



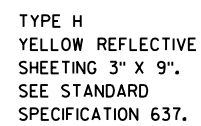
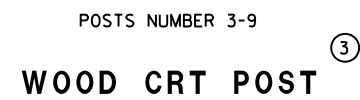
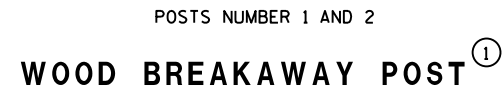
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

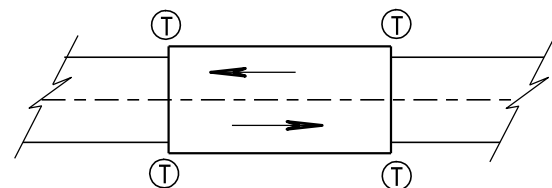
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



⑥
BEARING PLATE

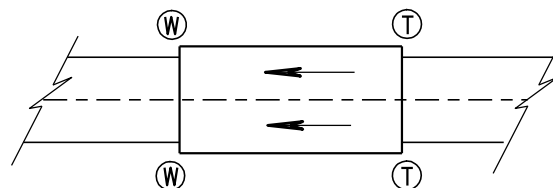


MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014	<i>/S/ Jerry H. Zogg</i>
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

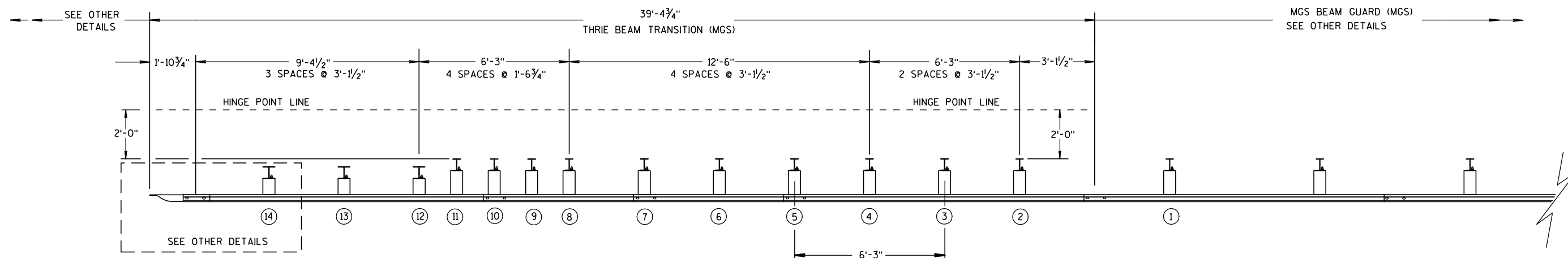
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

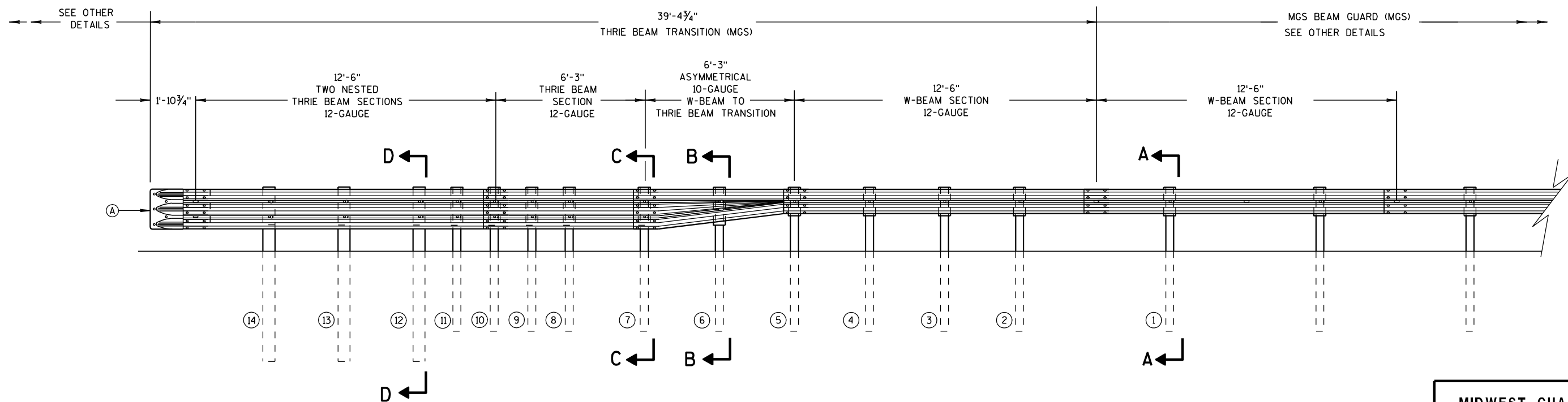
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

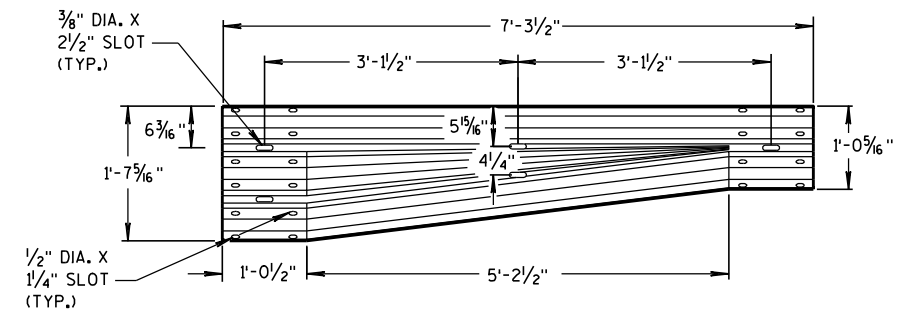
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

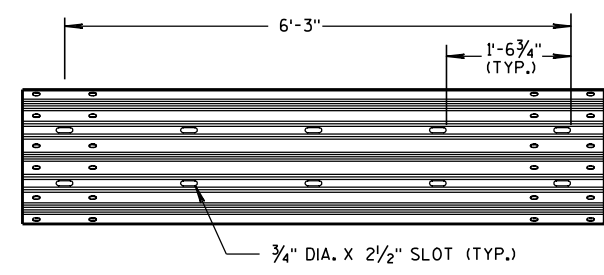
S.D.D. 14 B 45-3b



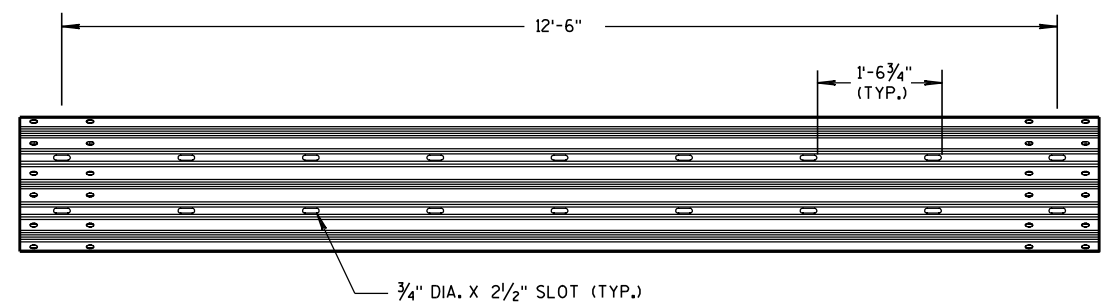
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



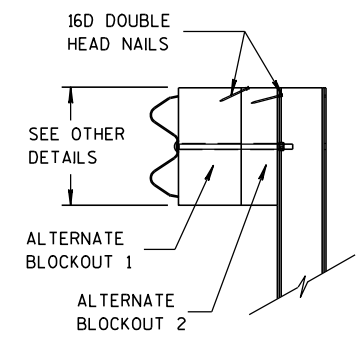
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

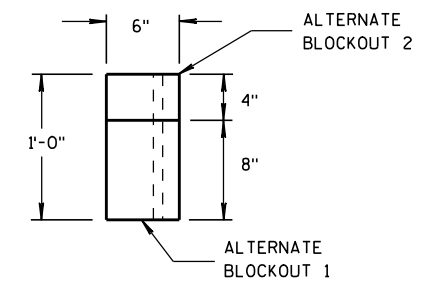


12'-6" THRIE BEAM SECTION

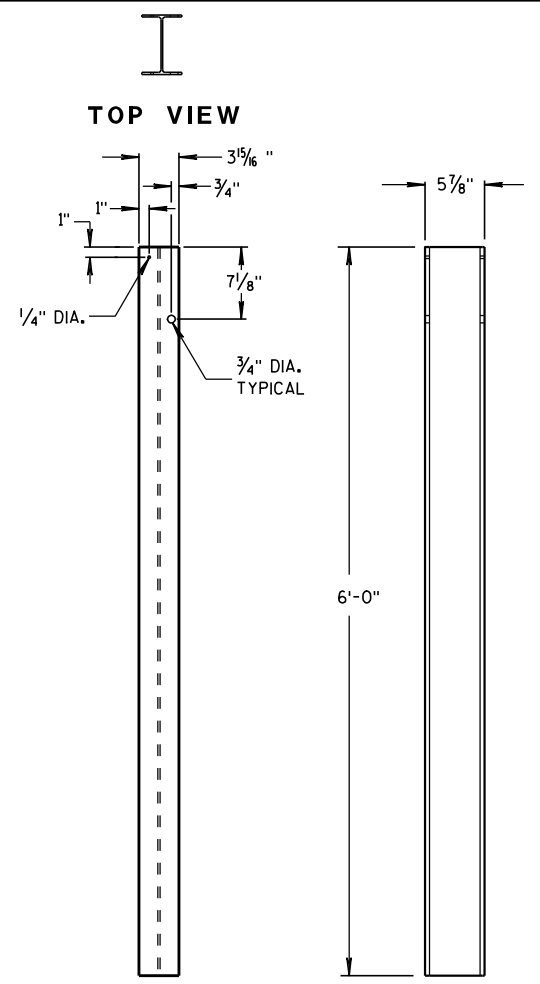


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



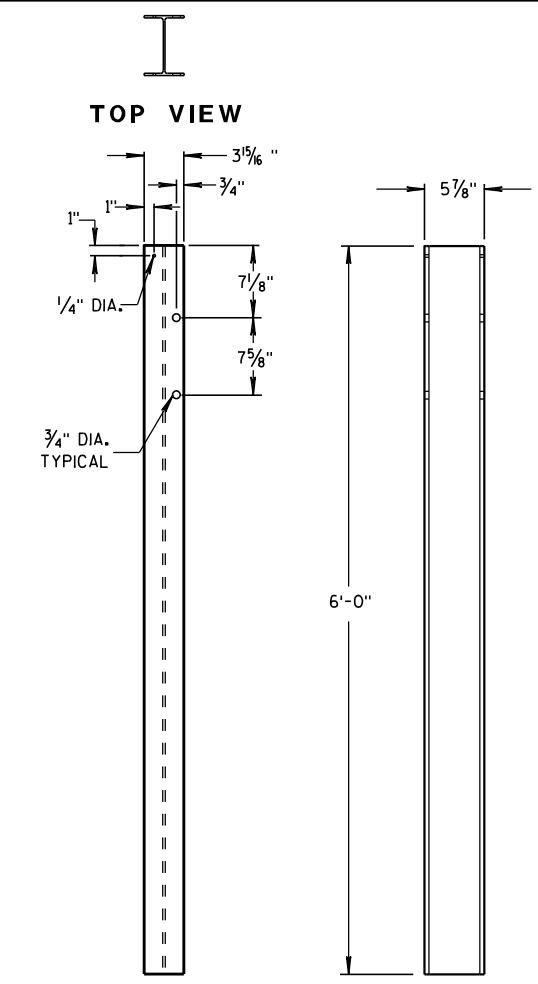
TOP VIEW



FRONT VIEW

SIDE VIEW

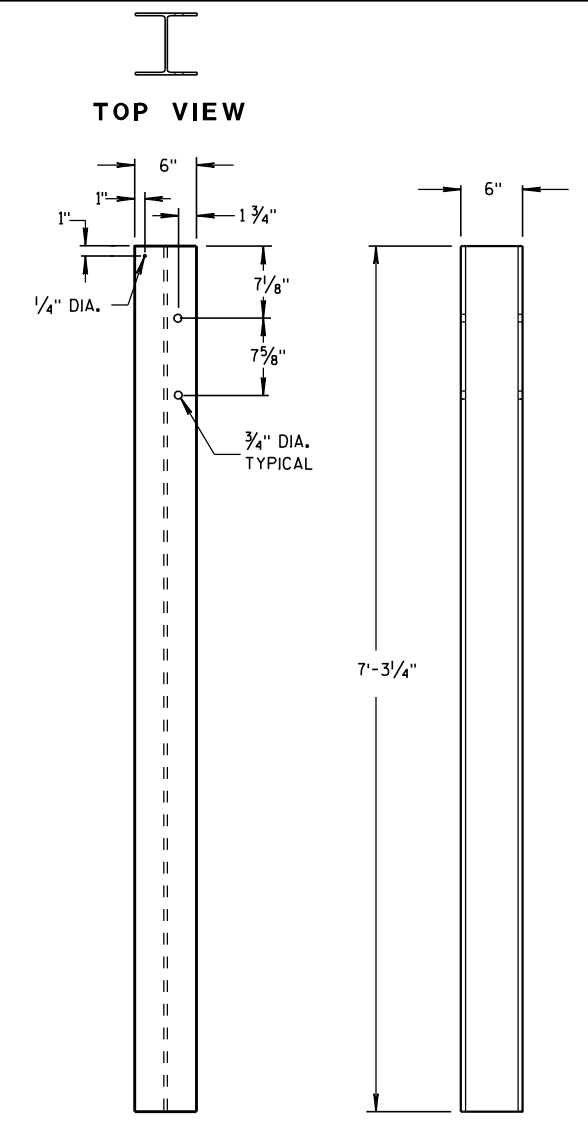
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

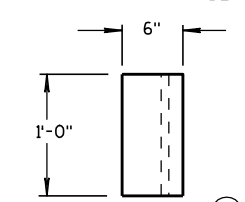


FRONT VIEW

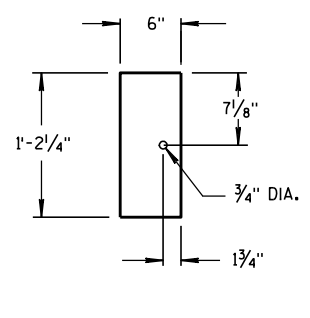
SIDE VIEW

STEEL POSTS 12-14

① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

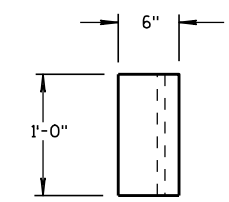


TOP VIEW

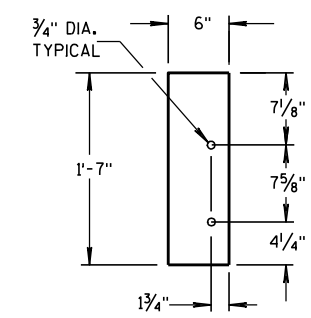


FRONT VIEW

BLOCKOUT POSTS 1-5

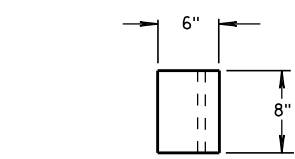


TOP VIEW

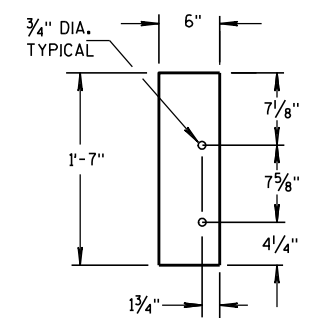


FRONT VIEW

BLOCKOUT POSTS 6-11



TOP VIEW



FRONT VIEW

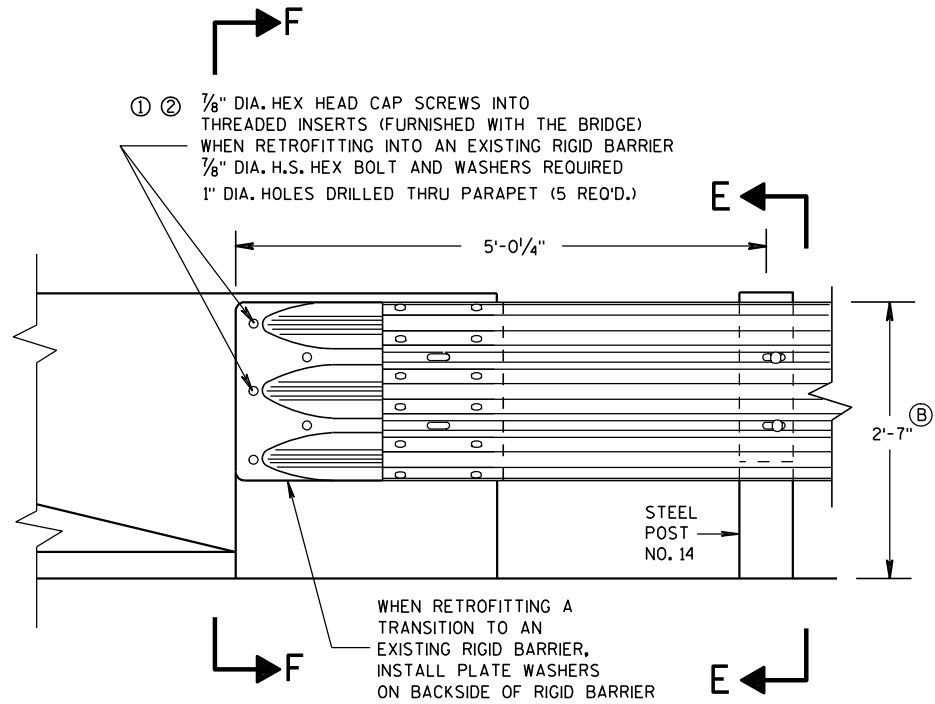
BLOCKOUT POSTS 12-14

STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

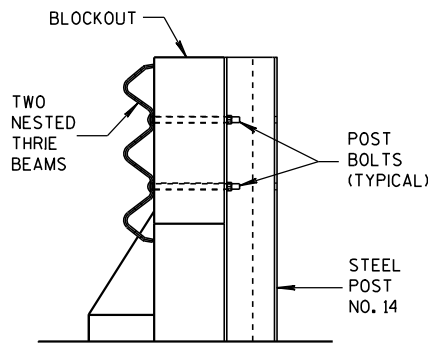
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS

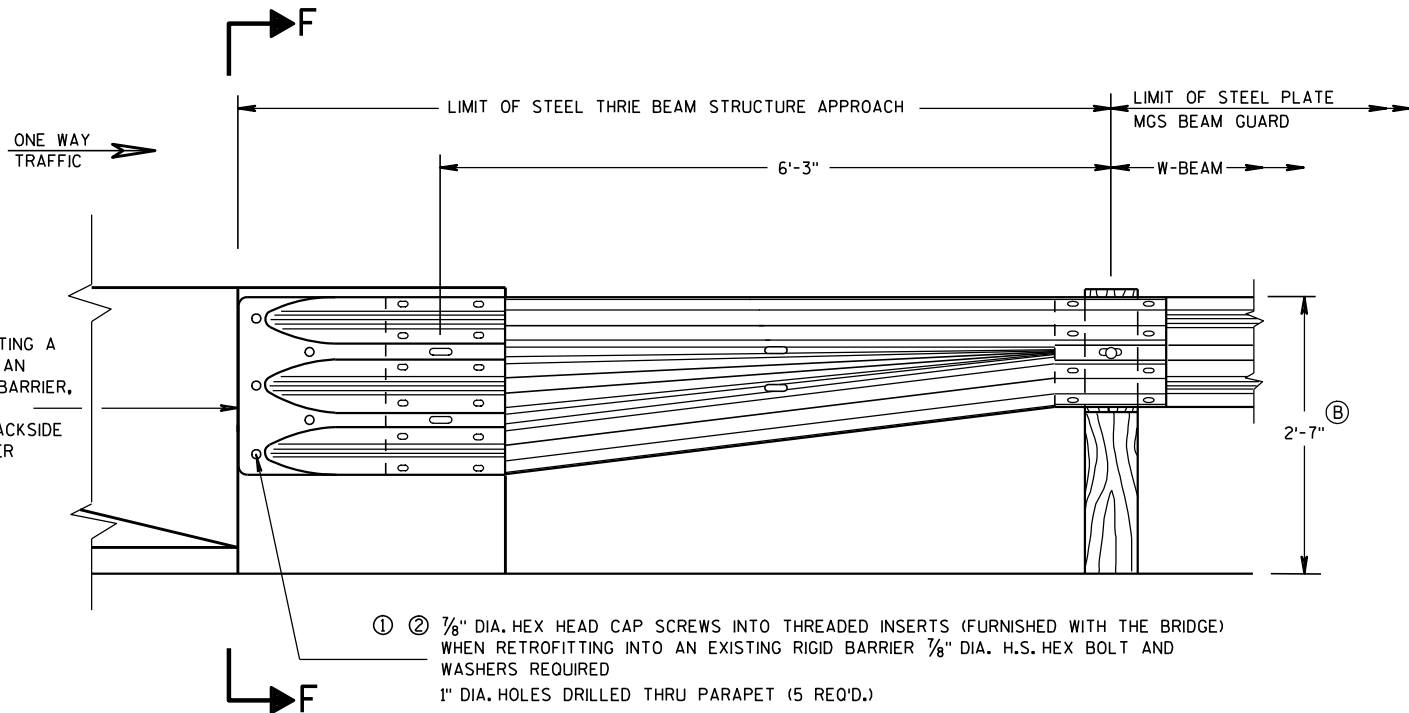


SECTION E-E

GENERAL NOTES

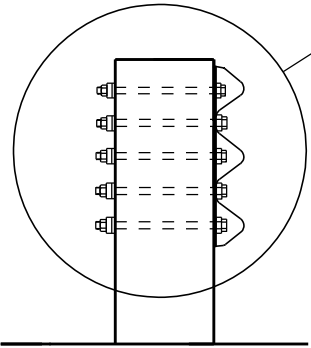
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- B TOLERANCE FOR TOP OF BEAM IS ± 1".

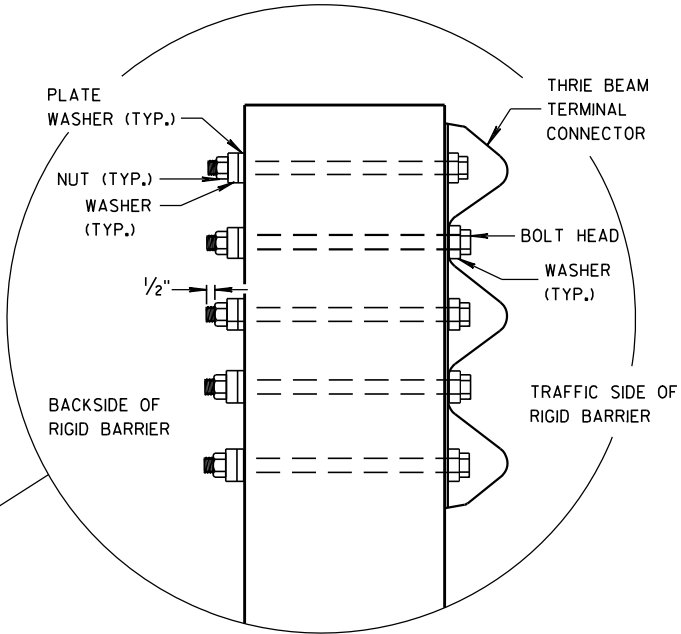


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

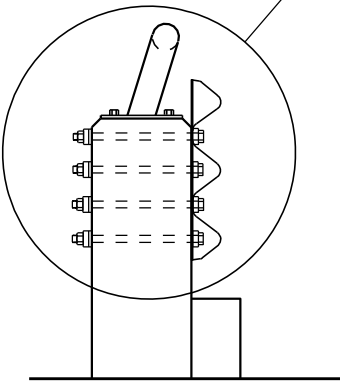
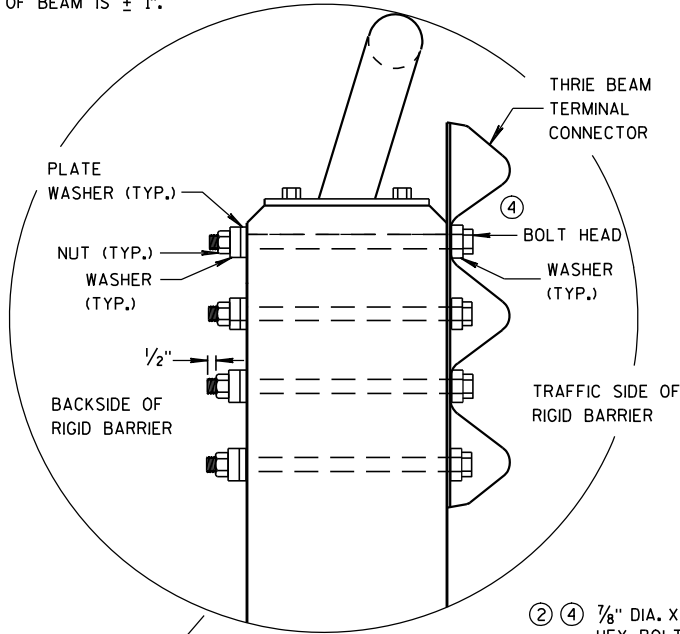


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

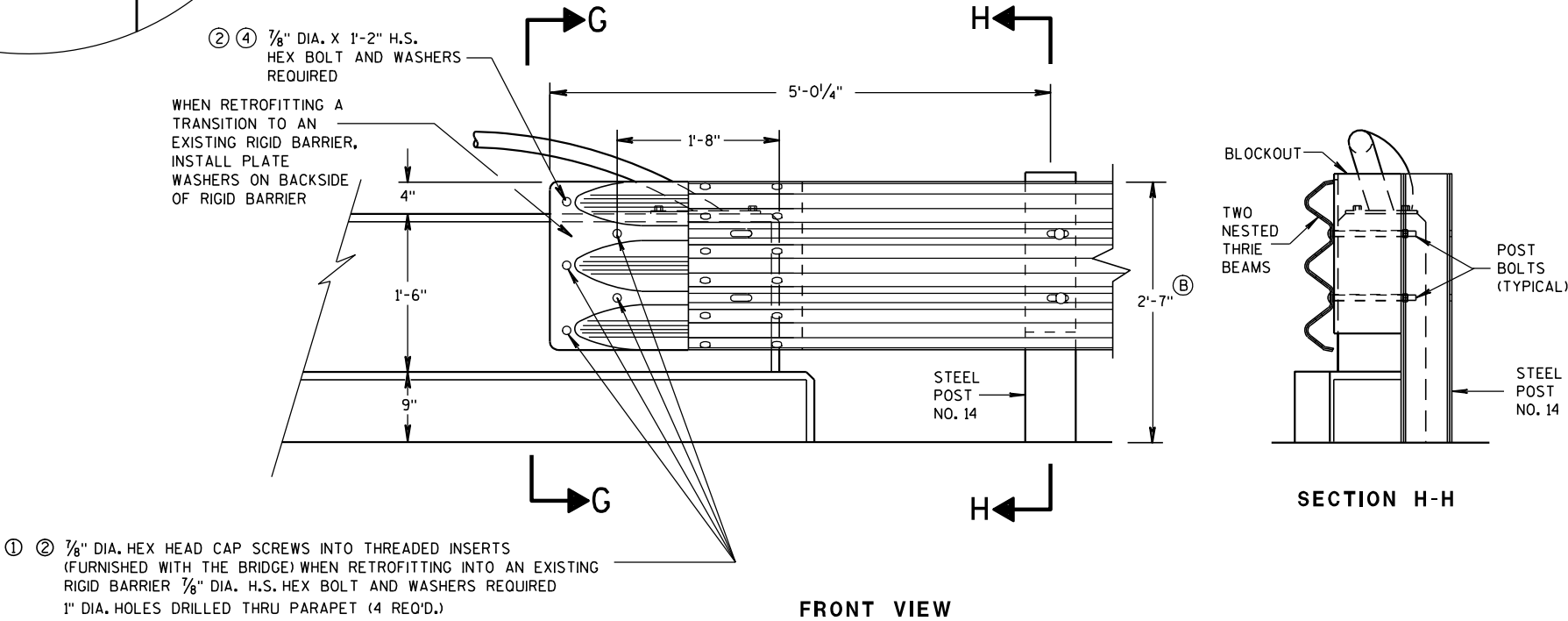
GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- ⓑ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

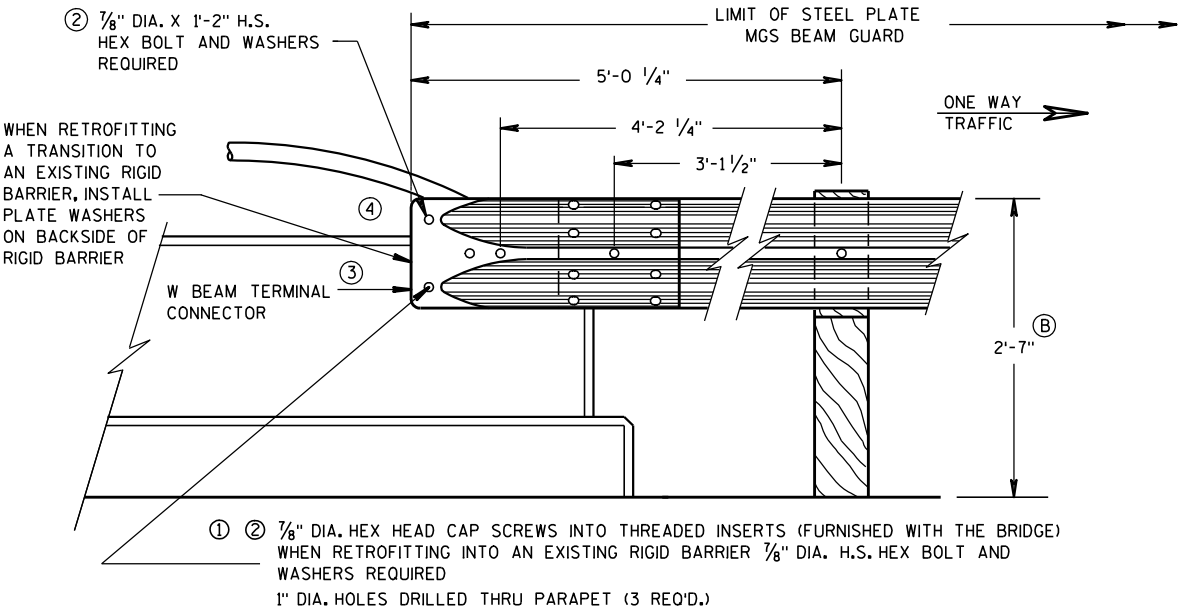


SECTION G-G



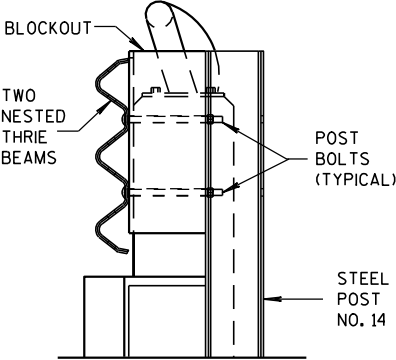
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

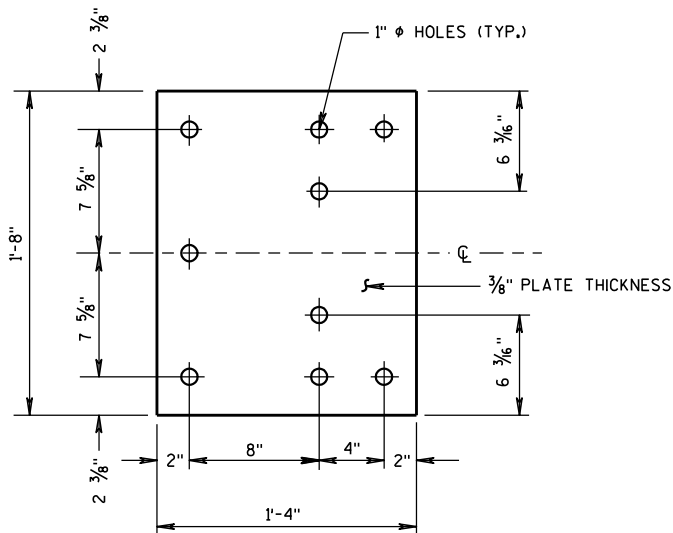


SECTION H-H

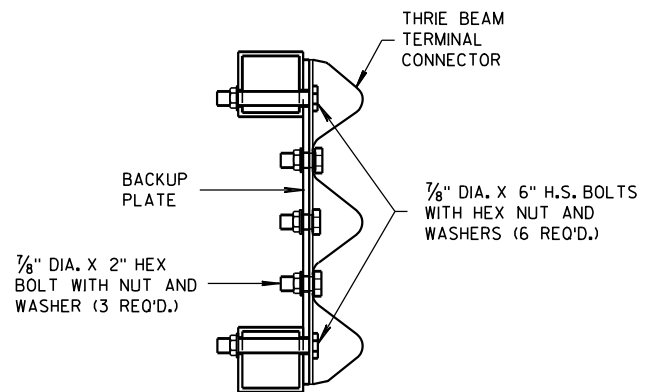
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

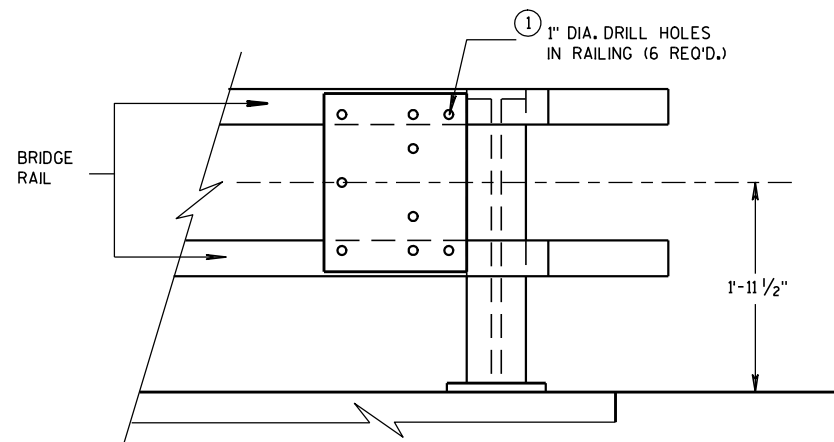
APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



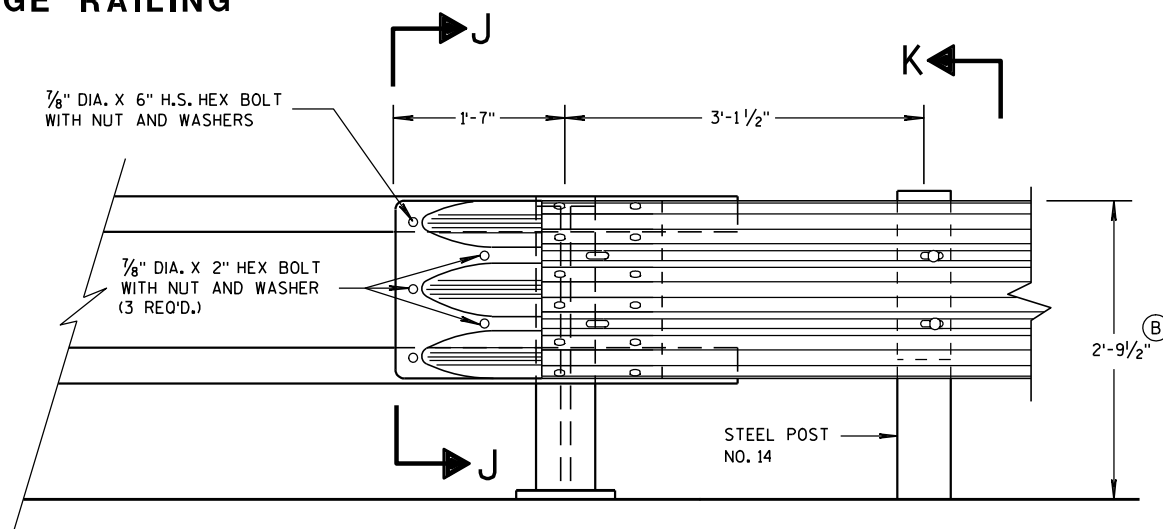
BACK-UP PLATE DETAIL



SECTION J-J

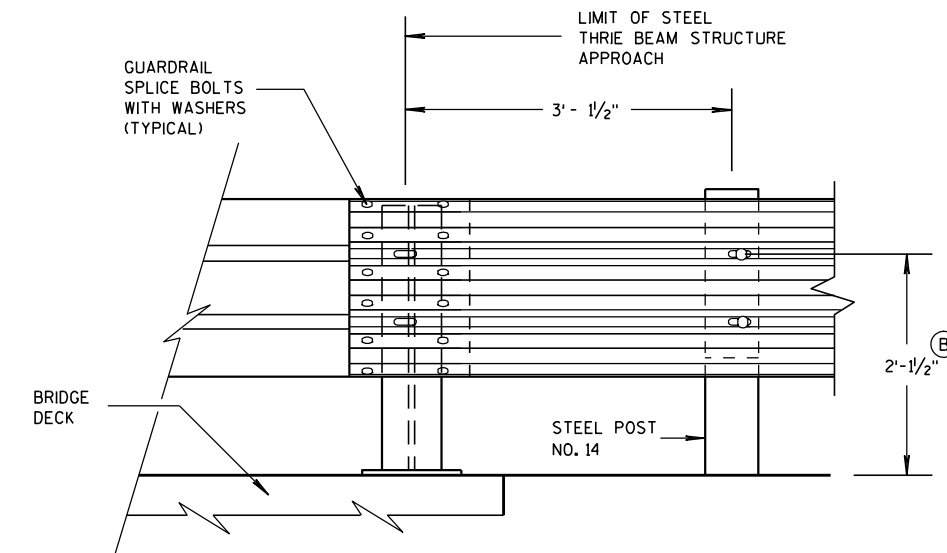


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



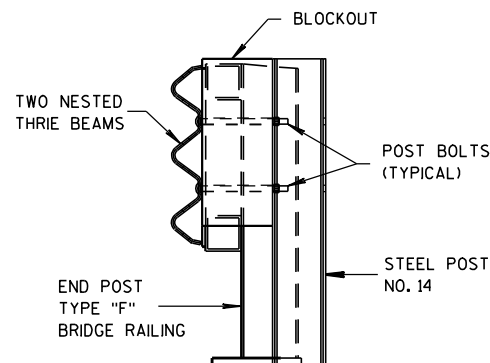
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

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

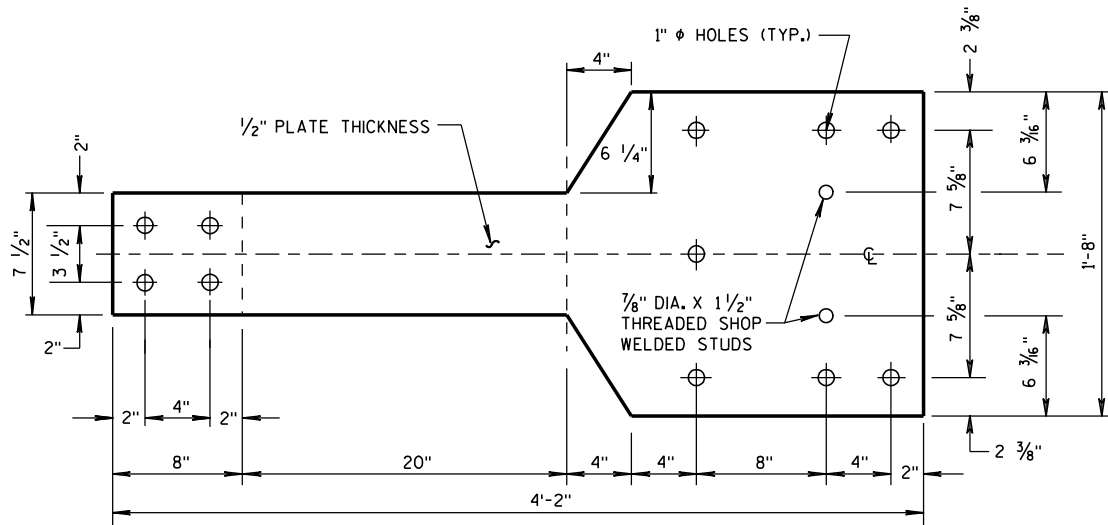
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

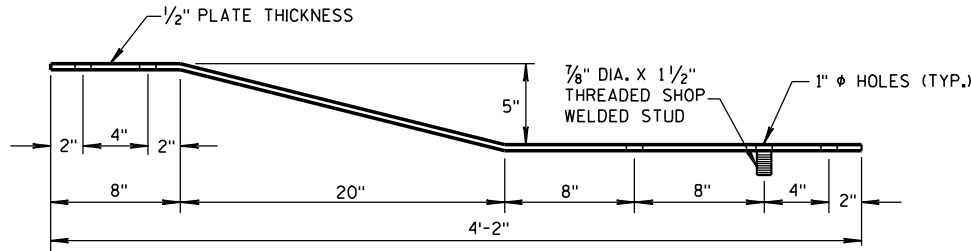
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

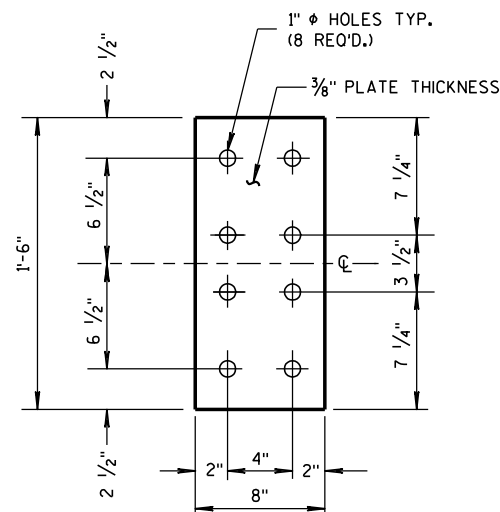
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

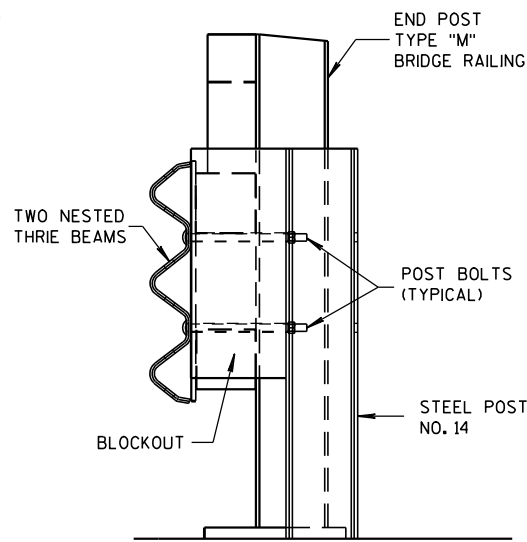


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

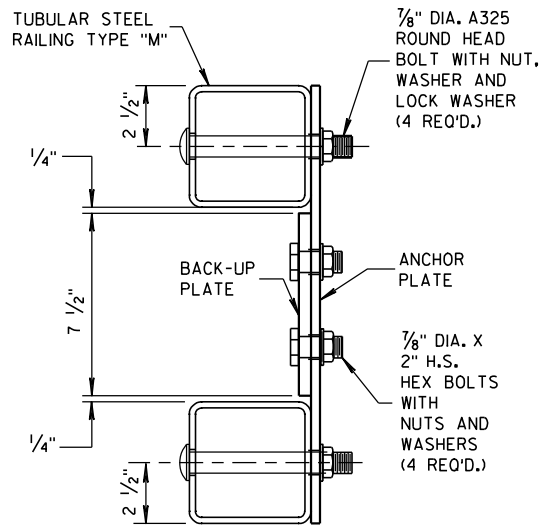


FRONT VIEW

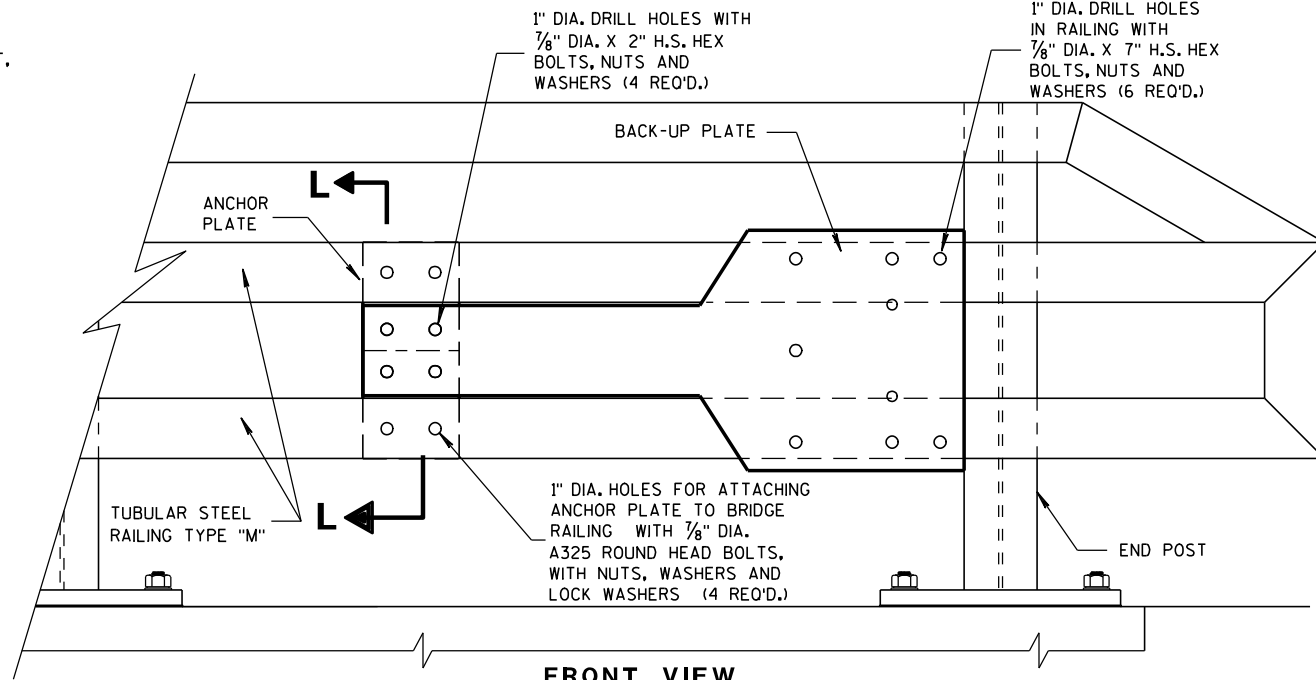
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

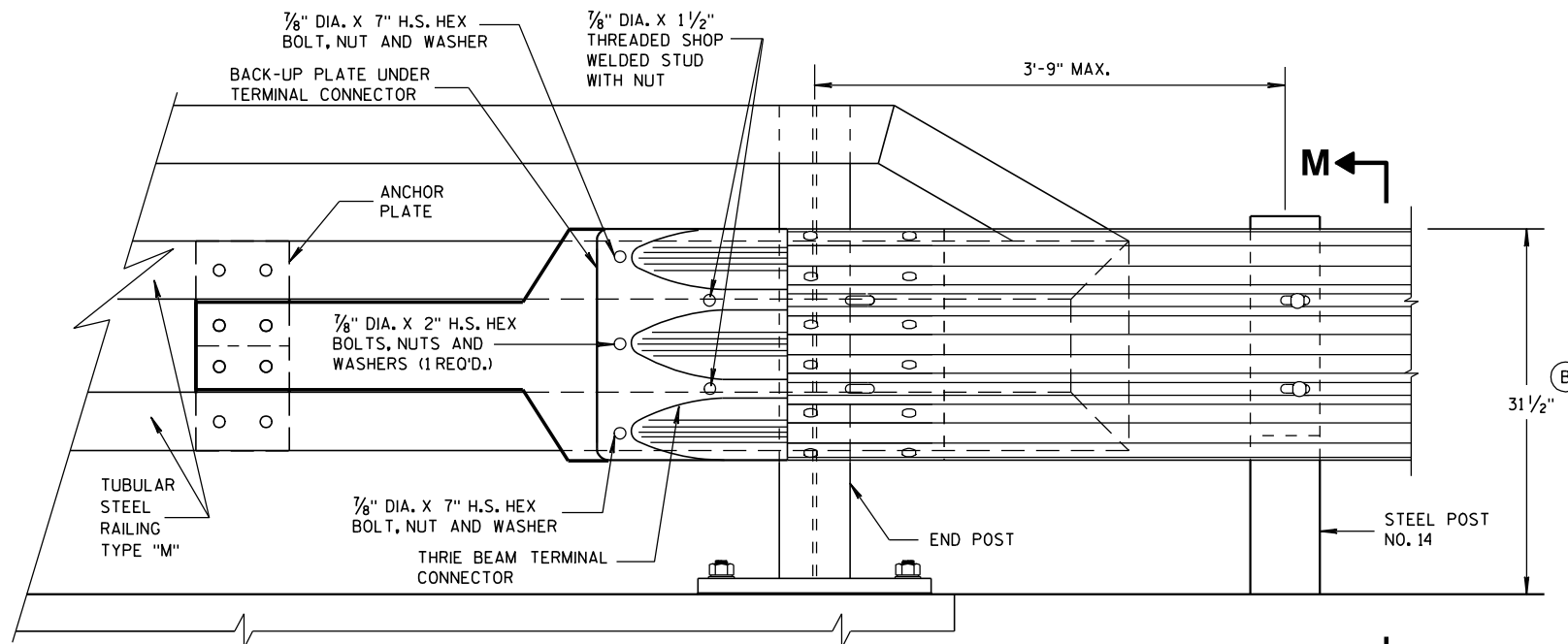


SECTION L-L

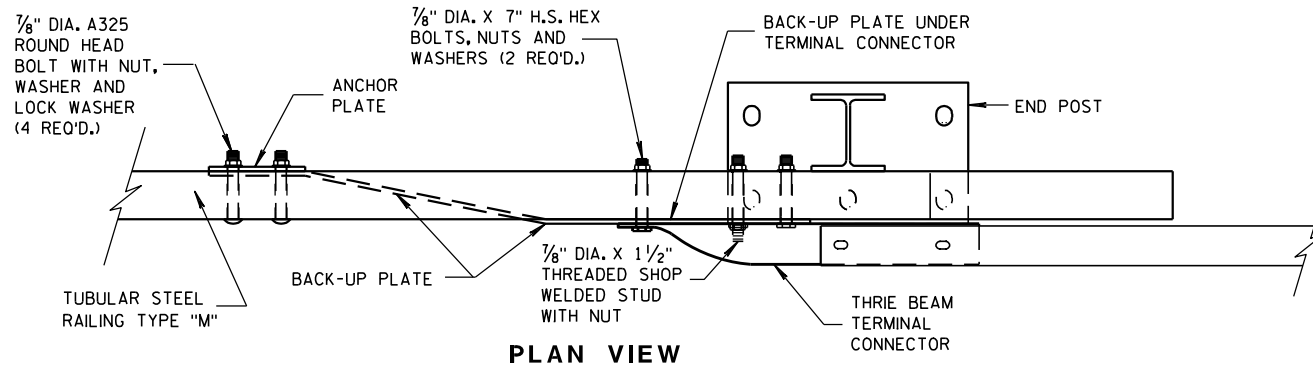


FRONT VIEW

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)

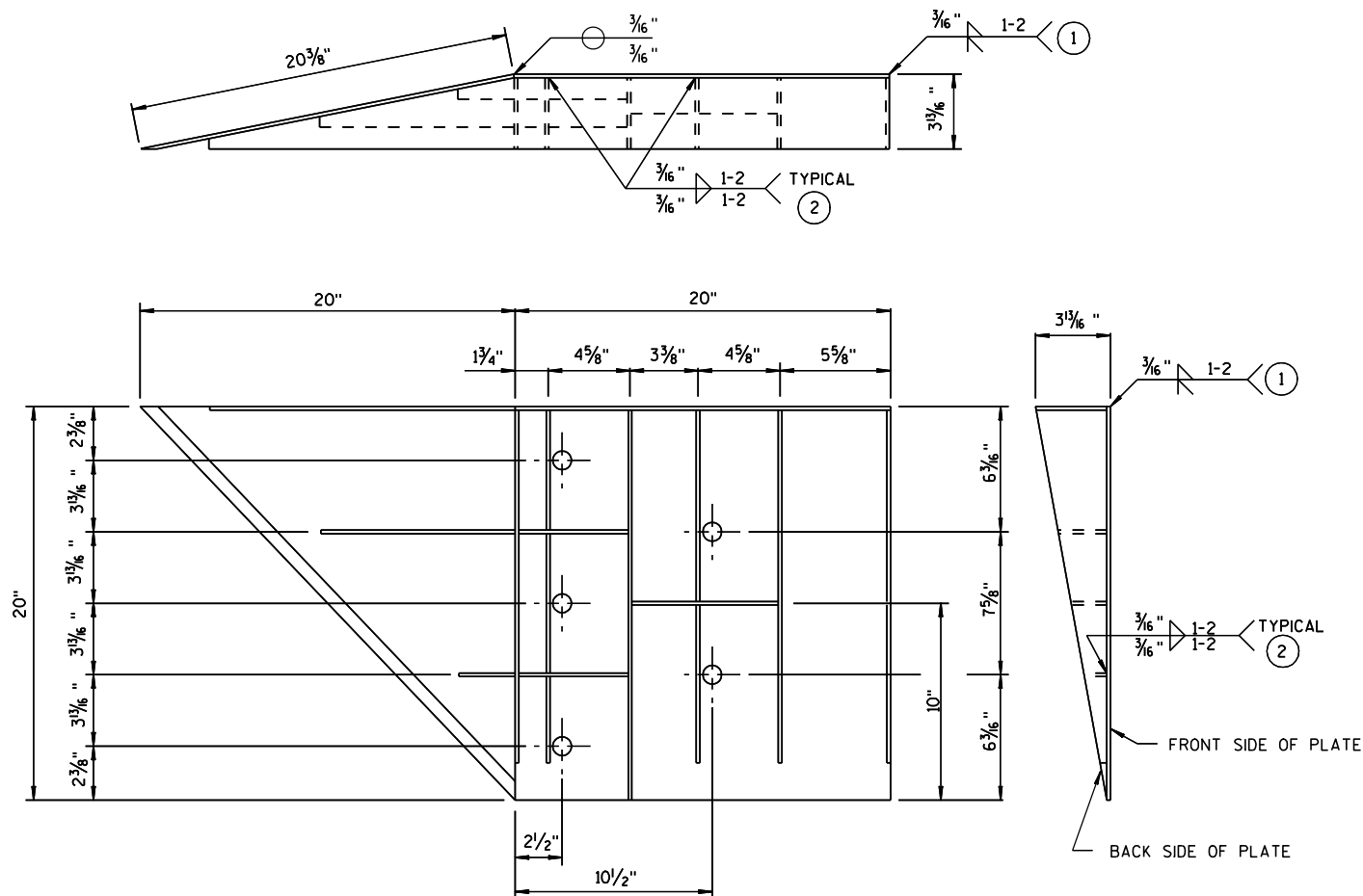
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

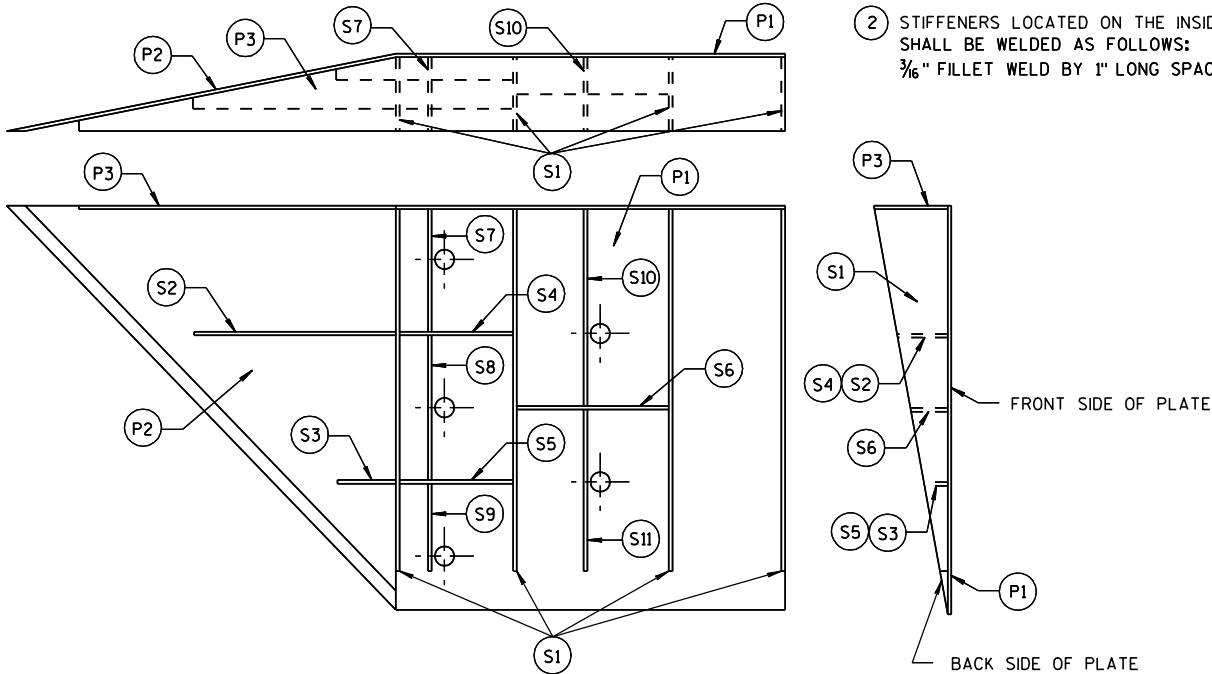


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 5/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 9/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

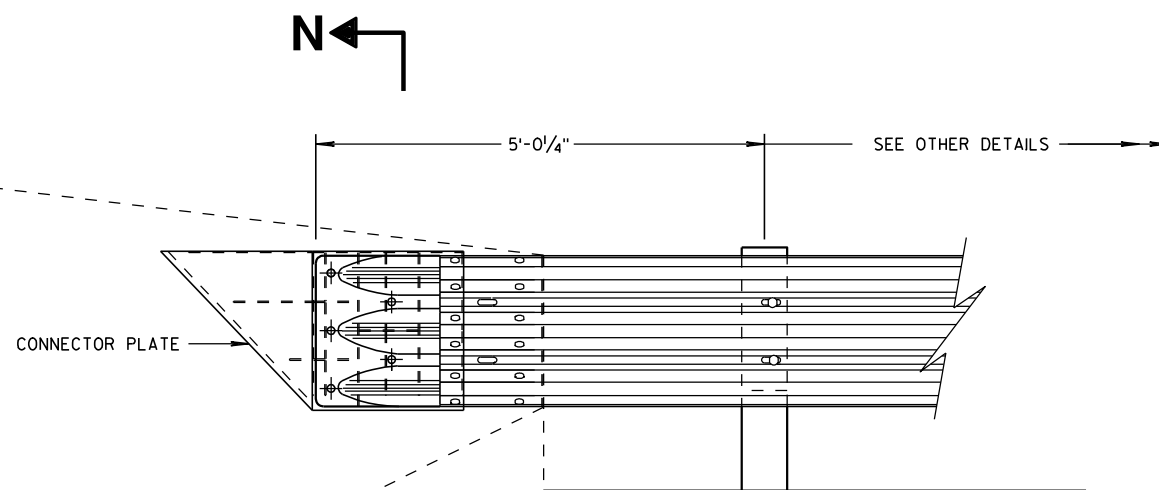
- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

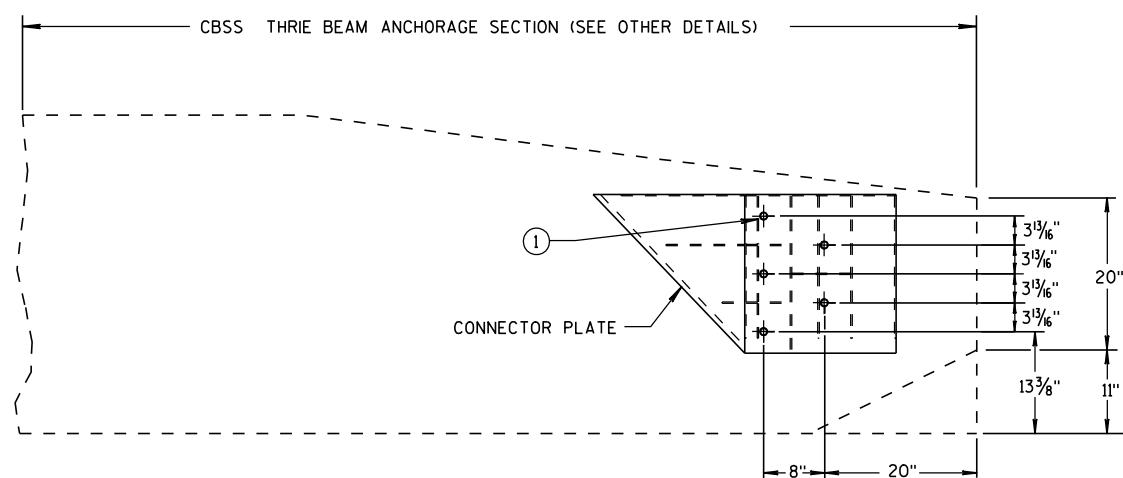
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. Zogg
FHWA ROADWAY STANDARDS DEVELOPMENT ENGINEER



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

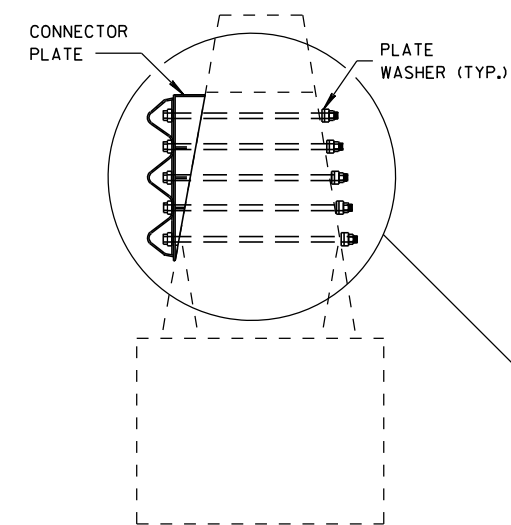


SINGLE SLOPE CONNECTION PLATE PLACEMENT

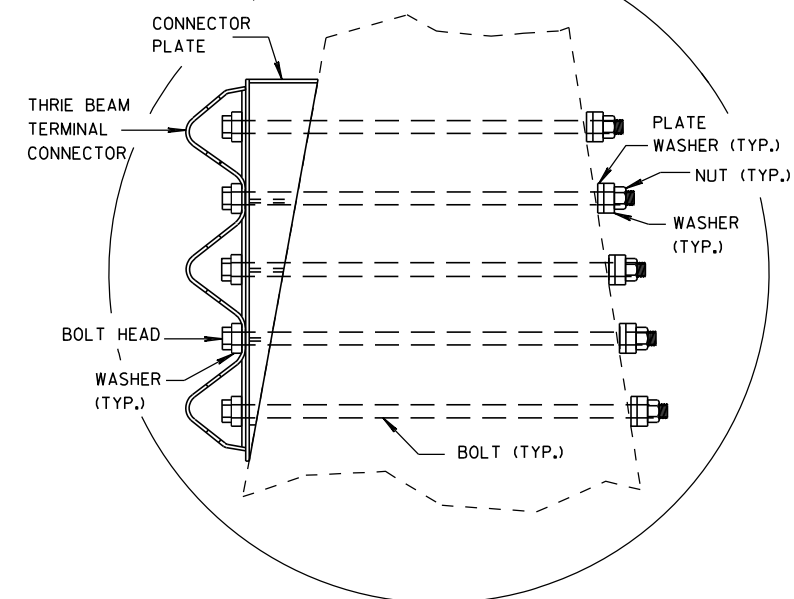
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



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

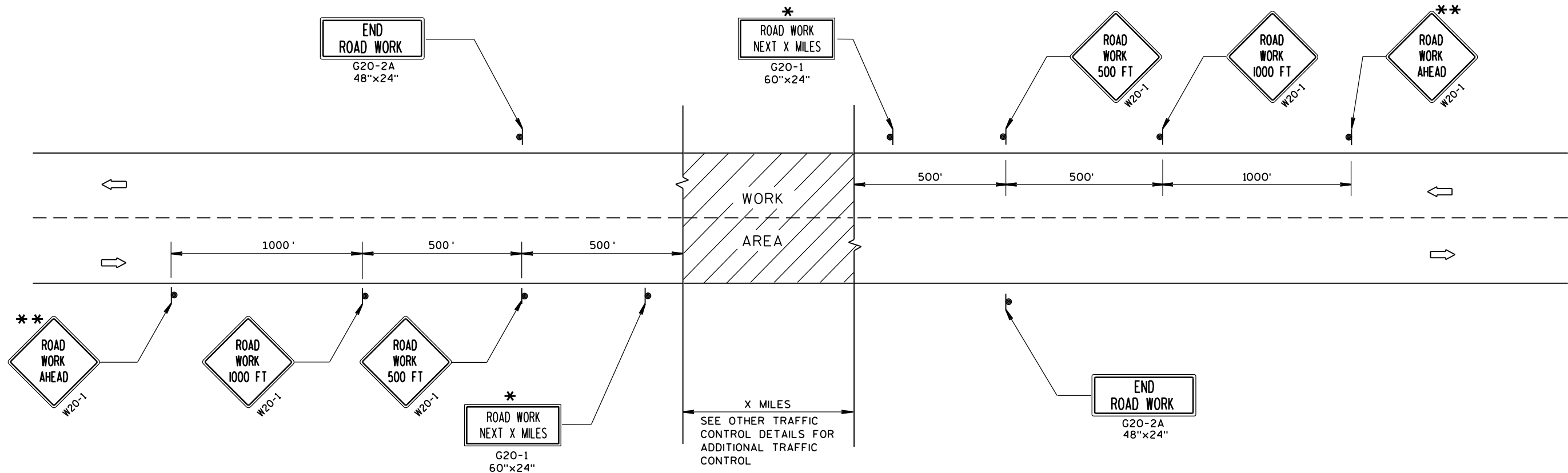
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

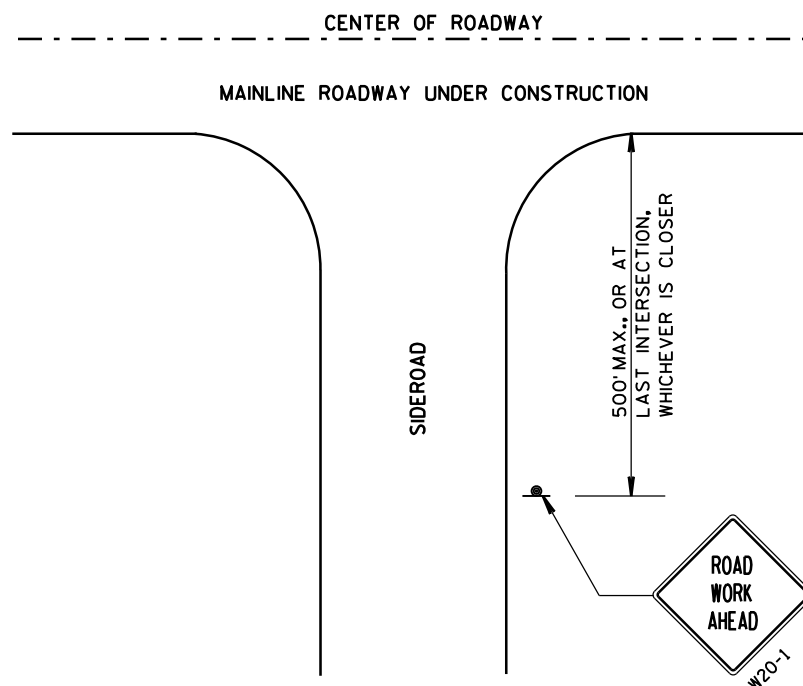
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



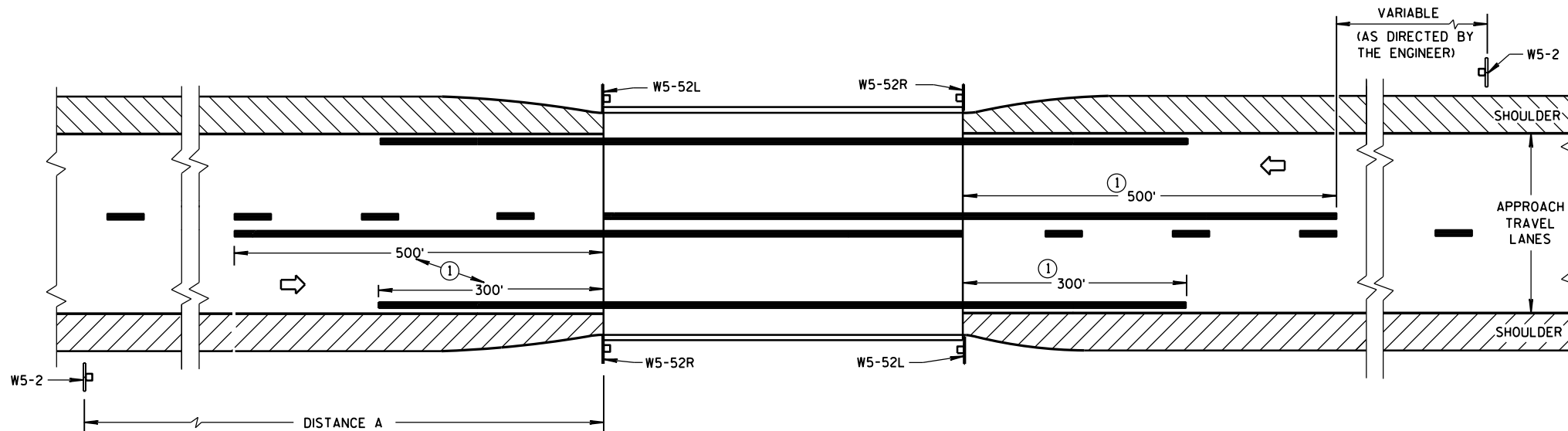
LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



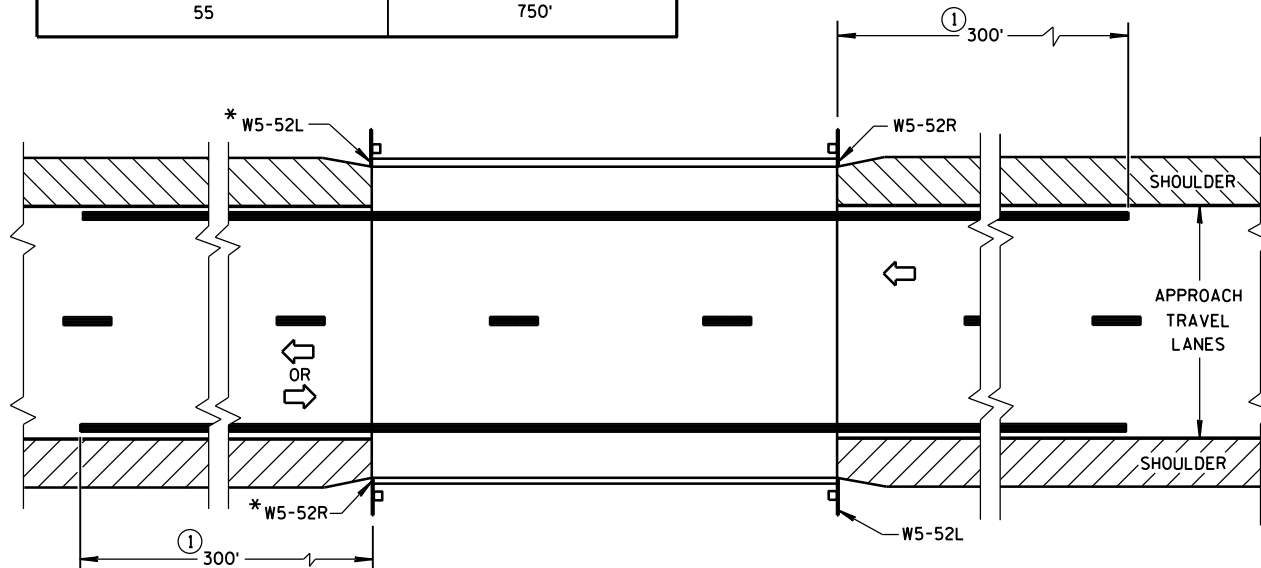
SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

DISTANCE TABLE

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

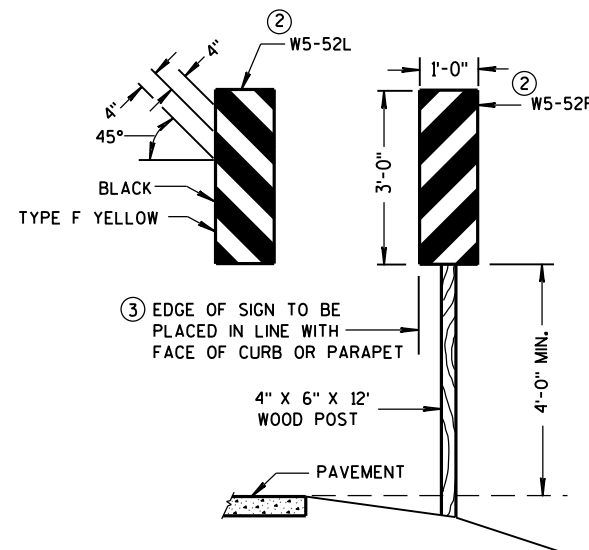


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



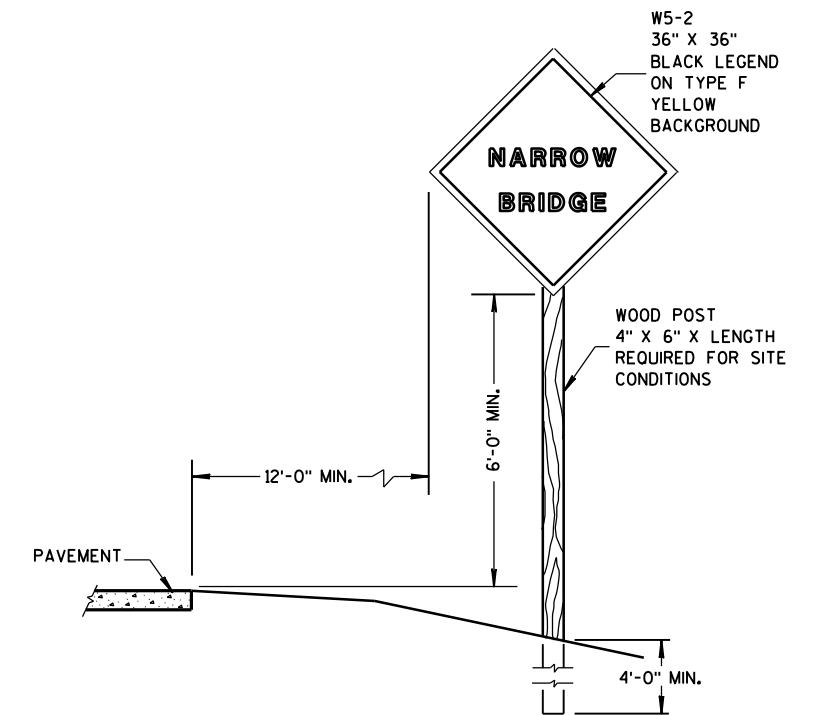
OBJECT MARKER PLACEMENT

GENERAL NOTES

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

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

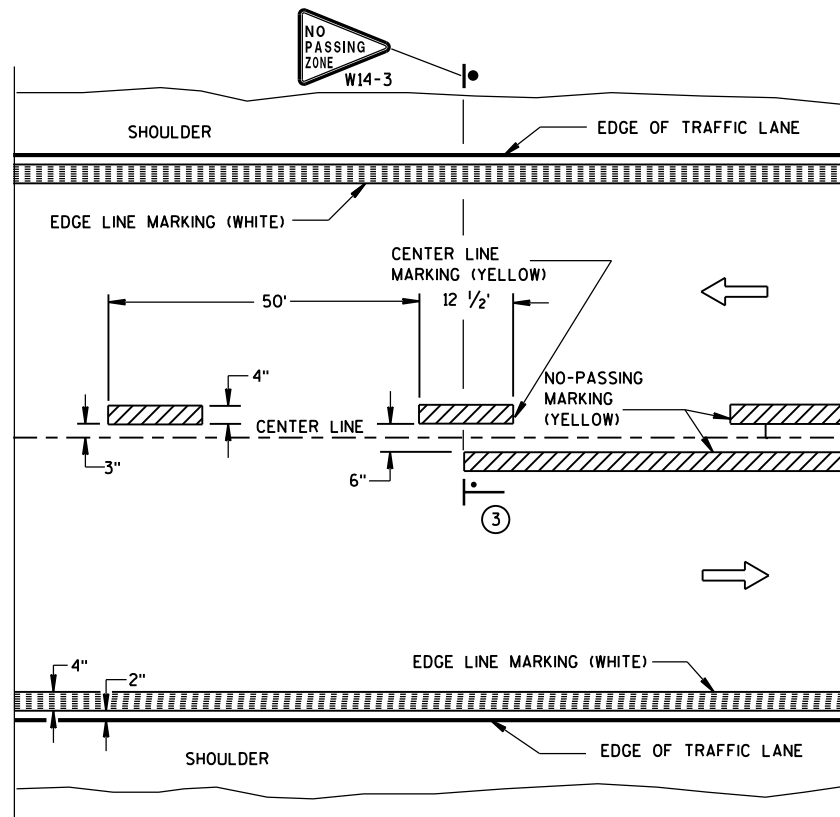


SIGN PLACEMENT

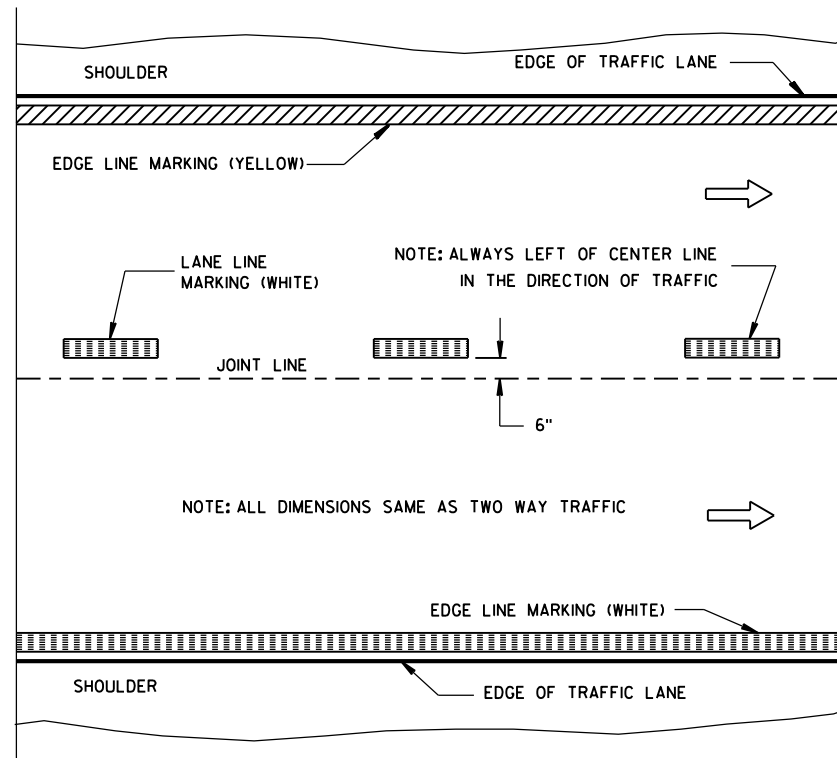
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-2014 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER OF DESIGN
FHWA

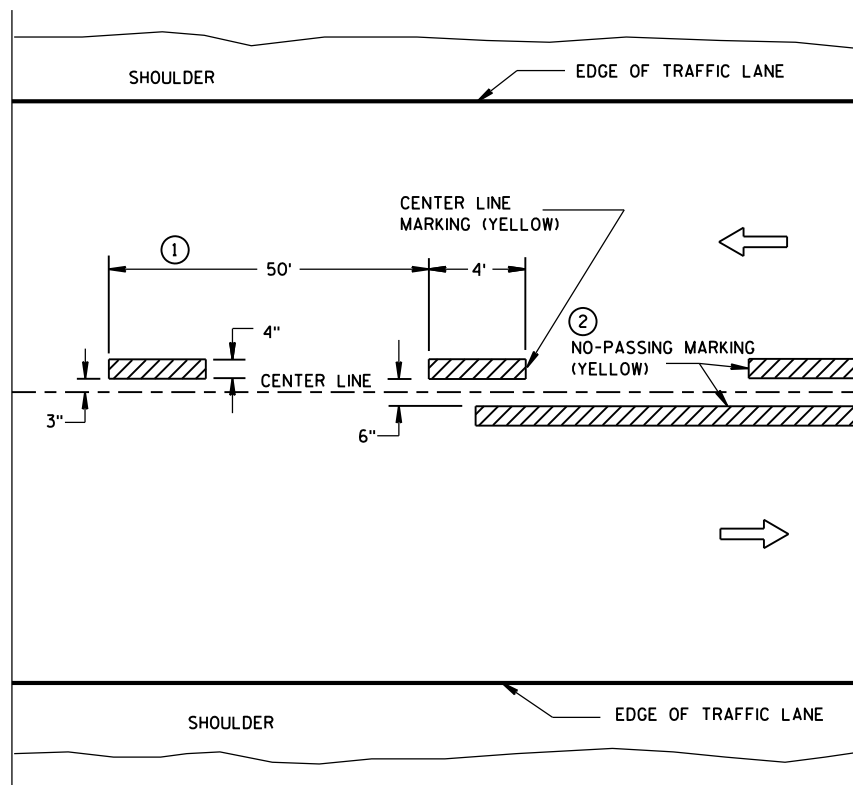


TWO WAY TRAFFIC

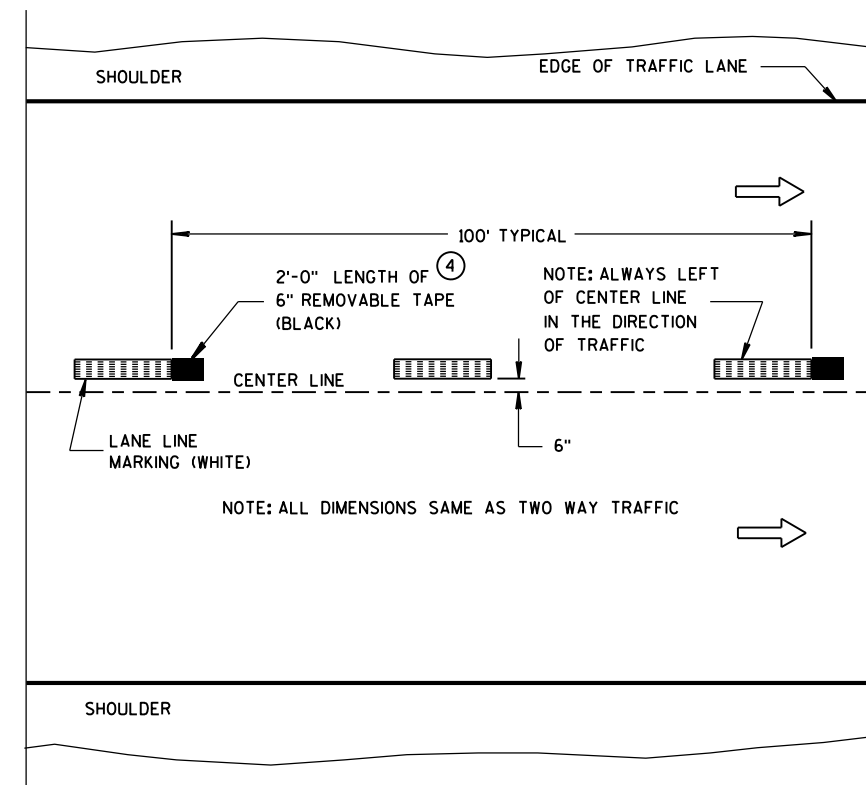


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

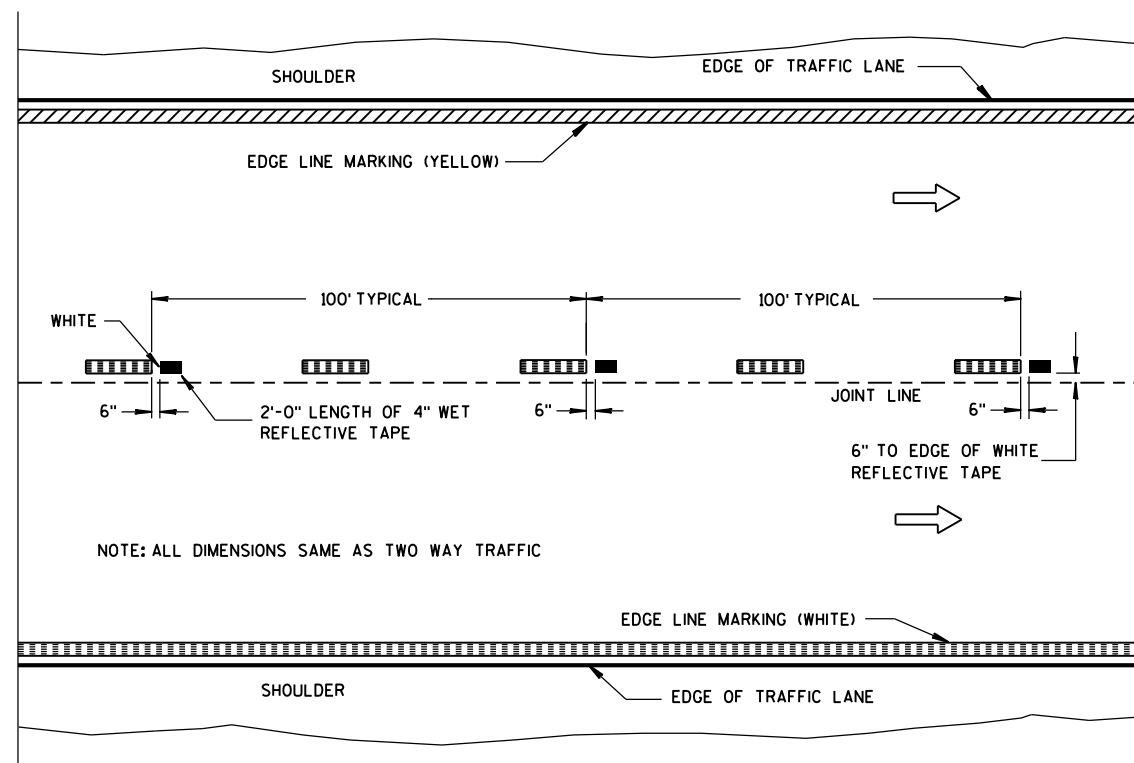
GENERAL NOTES

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

- ① HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

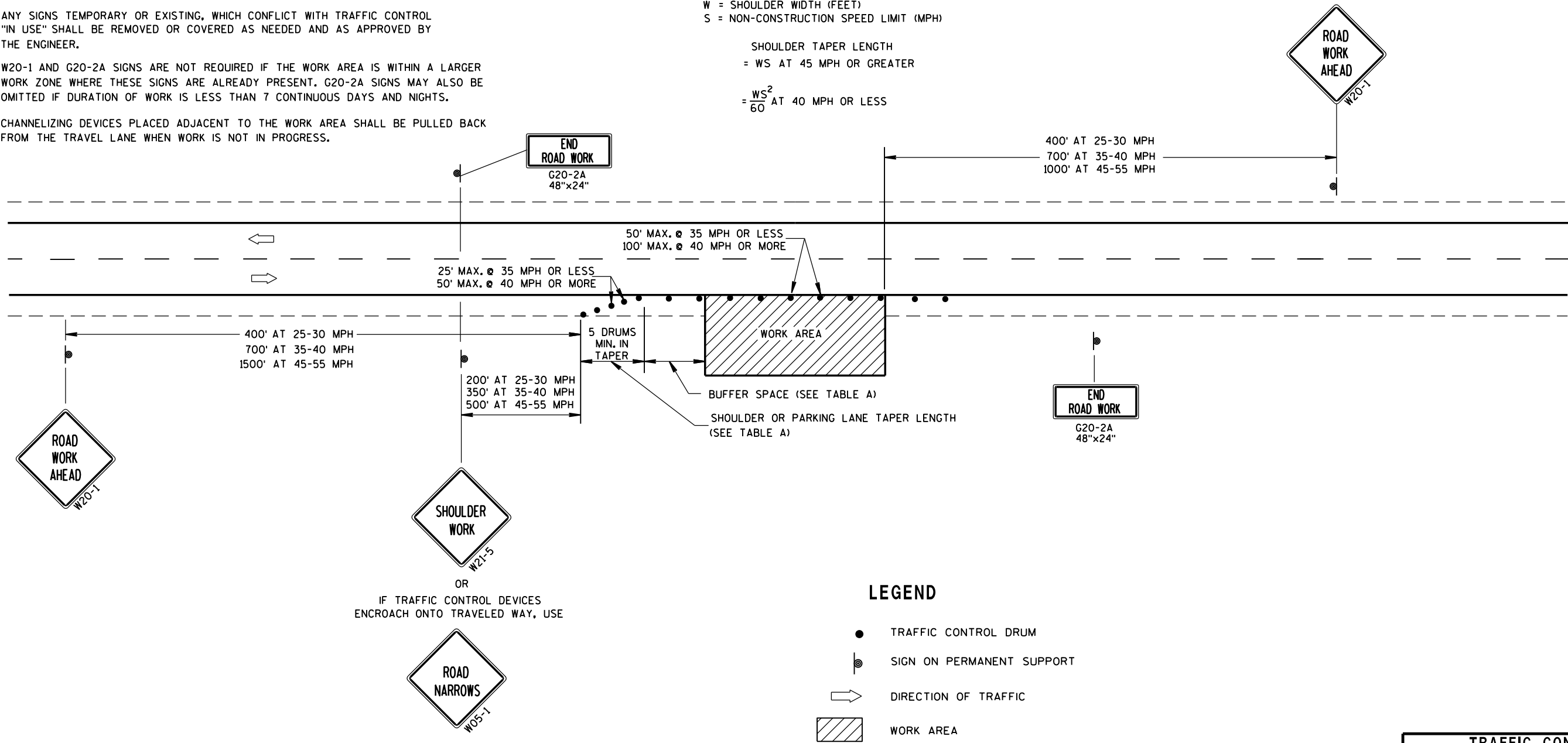
TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

= $\frac{WS^2}{60}$ AT 40 MPH OR LESS



LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

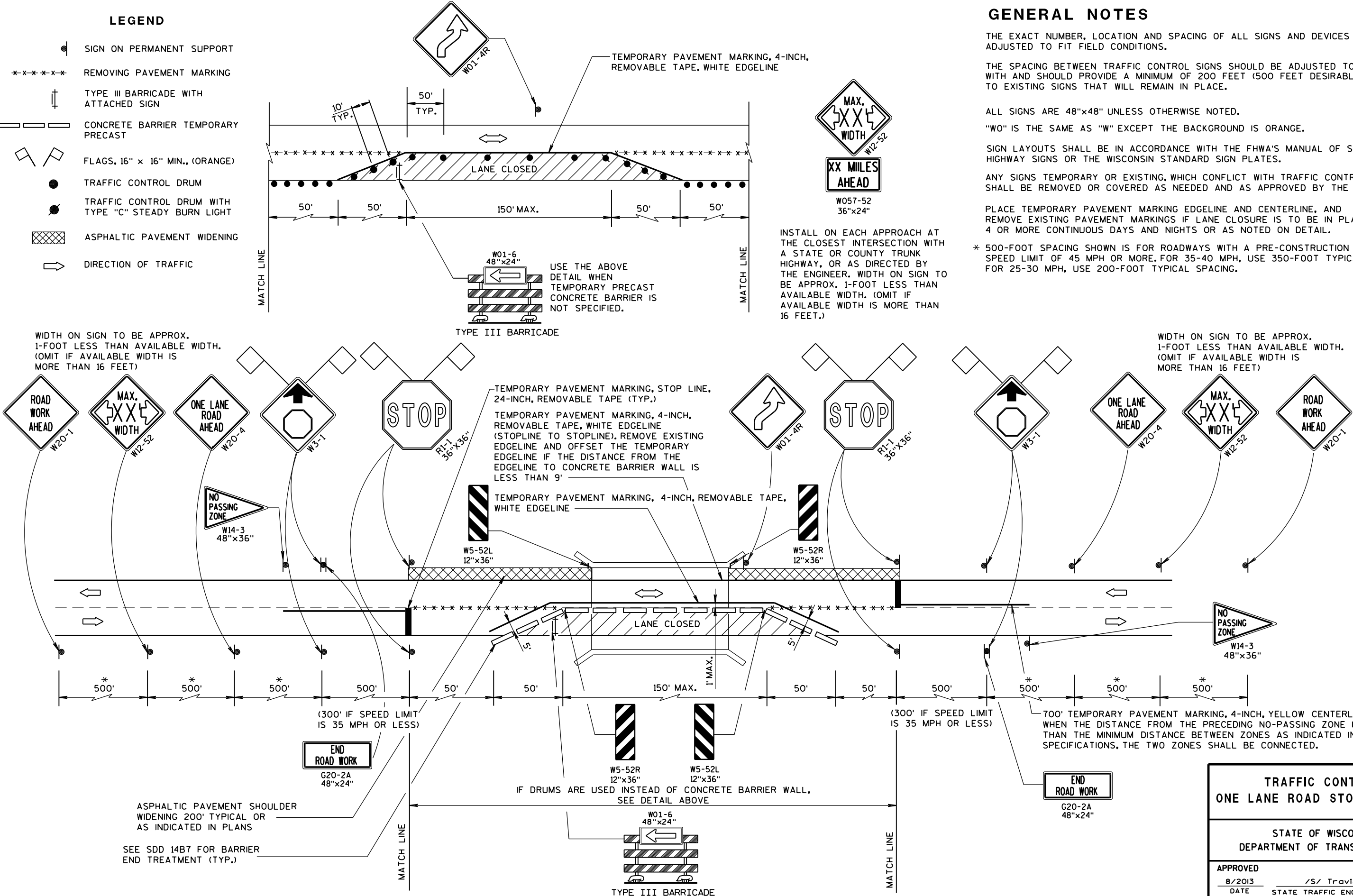
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

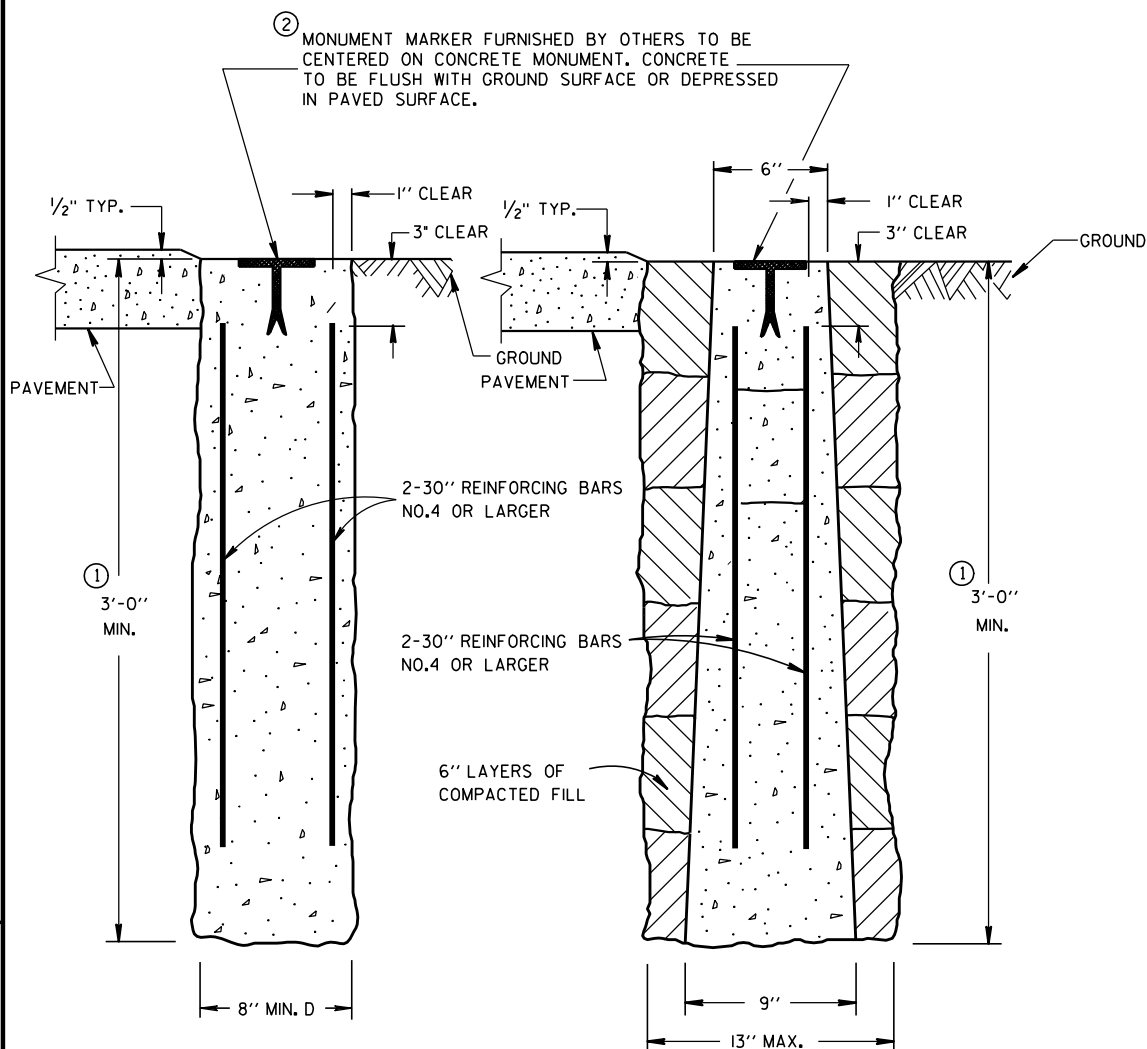
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.



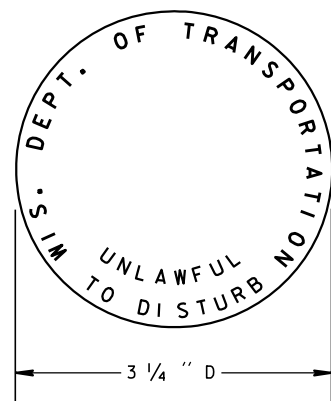


CAST-IN-PLACE

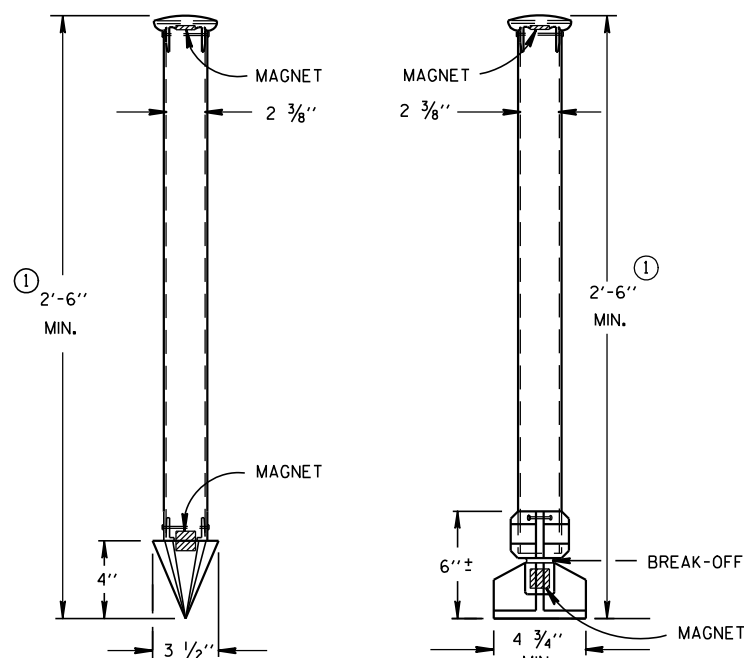
PRECAST

CONCRETE MONUMENTS

TYPE A



② WIS DOT MONUMENT MARKER LOGO
FOR TYPES "A", "C" & "D"



TYPE C

TYPE D

DRIVE-IN MONUMENT

BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

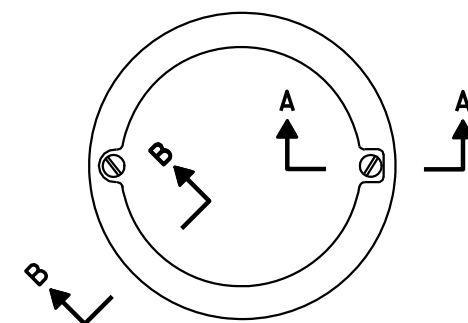
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

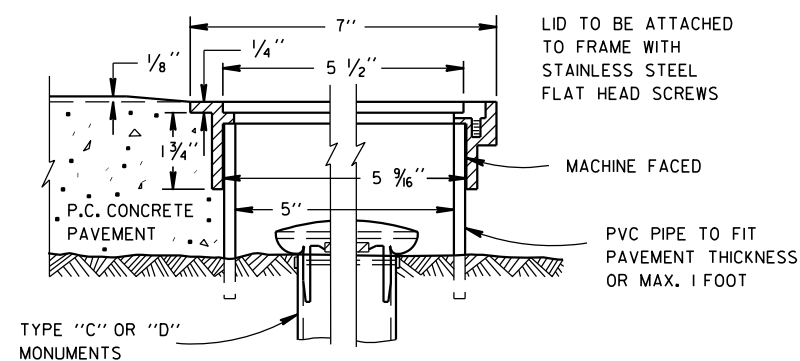
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

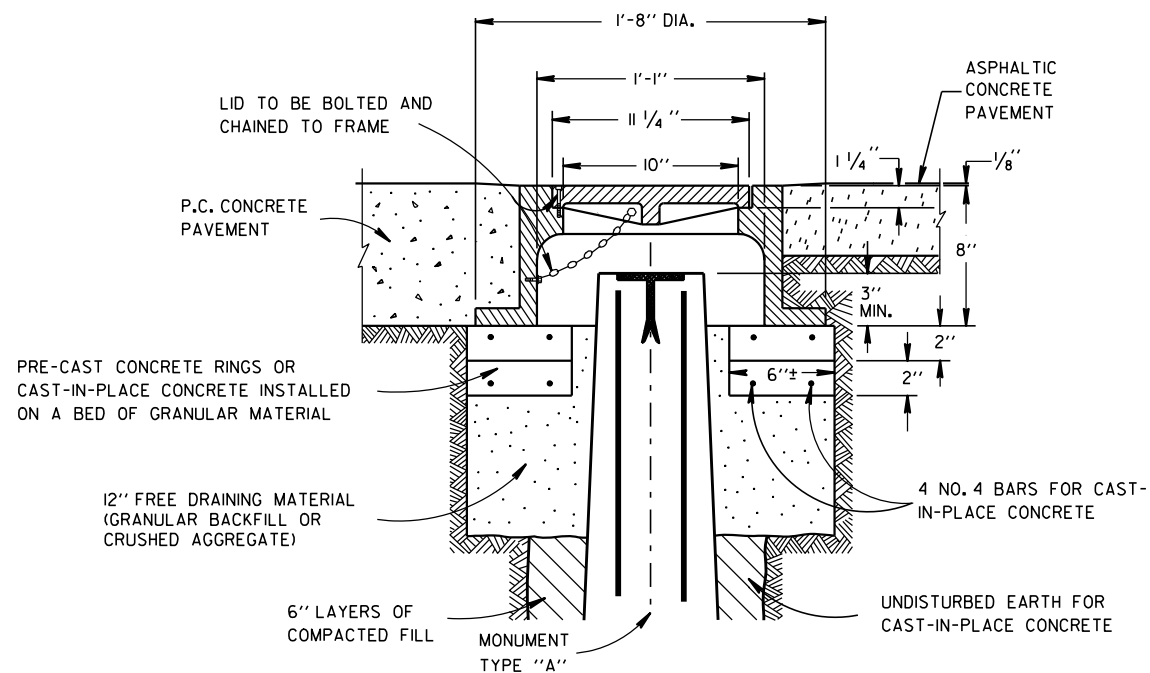
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

SECTION B-B SECTION A-A
ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)

LANDMARK REFERENCE
MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999

DATE

FHWA

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

DESIGN DATA

LIVE LOAD:

DESIGN RATING: HS-20
INVENTORY RATING: HS-21
OPERATING RATING: HS-49
WISCONSIN STANDARD PERMIT VEHICLE LOAD: 210 (KIPS)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB — $f'_c = 4,000$ P.S.I. ALL OTHER — $f'_c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — $f_y = 60,000$ P.S.I.
STRUCTURAL CARBON STEEL ASTM A709, GRADE 36 — $f_y = 36,000$ P.S.I.

TRAFFIC VOLUME

STH 56
A.D.T.=1200 (2035)
R.D.S.=55 M.P.H.

CURVE DATA

STH 56
P.I. = STA. 376+16.66
 $\Delta = 71^\circ 44' 39''$
 $D = 4^\circ 58' 55''$
 $T = 831.64'$
 $L = 1440.05$
 $R = 1150.04$
 $S.E. = 0.06\%$
 $P.C. = 367+85.02$
 $P.T. = 382+25.07$

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN $\frac{1}{2}$ ".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PIGMENTED PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE FRONT FACE AND TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS. COLOR SHALL BE GRAY (FEDERAL COLOR #26622). EXISTING PARAPET SHALL BE CLEANED PER THE BID ITEM "CLEANING PARAPETS". PRIOR TO THE APPLICATION OF THE PIGMENTED PROTECTIVE SURFACE TREATMENT.

DUE TO TRAFFIC STAGING, ALL BEARING WORK MUST BE COMPLETED BEFORE ANY WORK MAY BEGIN ON SUPERSTRUCTURE.

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
1	376+55	ALUMINUM PLAQUE, SOUTH END OF EAST PARAPET	763.84

TOTAL ESTIMATED QUANTITIES

BID ITEMS

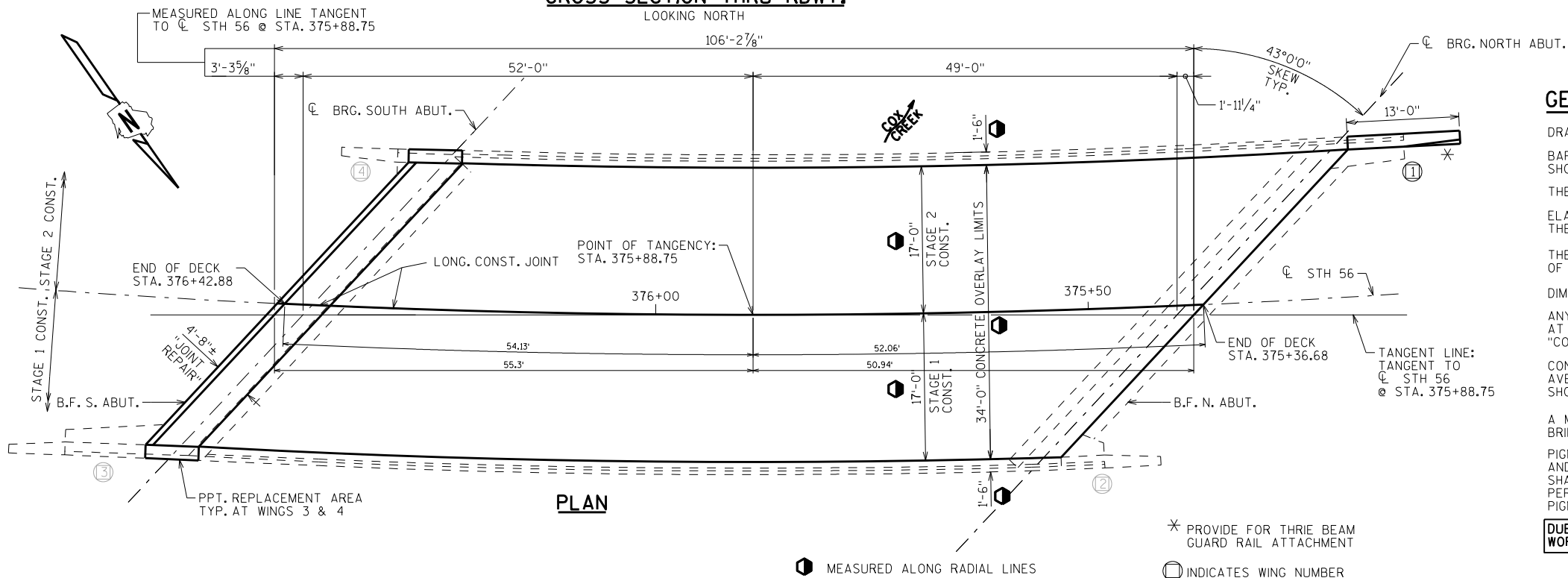
203.0200	REMOVING OLD STRUCTURE STA. 375+88.75	1	LS
210.0100	BACKFILL STRUCTURE	63	CY
502.0100	CONCRETE MASONRY BRIDGES	50	CY
502.3200	PROTECTIVE SURFACE TREATMENT	408	SY
502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	110	SY
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	92	EACH
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	4,696	LB
505.0906	BAR COUPLERS NO. 6	20	EACH
506.0105	STRUCTURAL STEEL CARBON	1,025	LB
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	5	EACH
506.7050.S	REMOVING BEARINGS B-62-60	5	EACH
509.0301	PREPARATION DECKS TYPE 1	1	SY
509.0302	PREPARATION DECKS TYPE 2	1	SY
509.0500	CLEANING DECKS	408	SY
**509.1500	CONCRETE SURFACE REPAIR	34	SF
509.2000	FULL-DEPTH DECK REPAIR	1	SY
509.2500	CONCRETE MASONRY OVERLAY DECKS	17	CY
509.9050.S	CLEANING PARAPETS	262	LF
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	11	SY
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	15	LF
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	1	EACH

NON-BID ITEMS

FILLER — $\frac{1}{2}$ ", $\frac{3}{4}$ ", $\frac{3}{2}$ " SIZE

CROSS SECTION THRU RDWY.

LOOKING NORTH

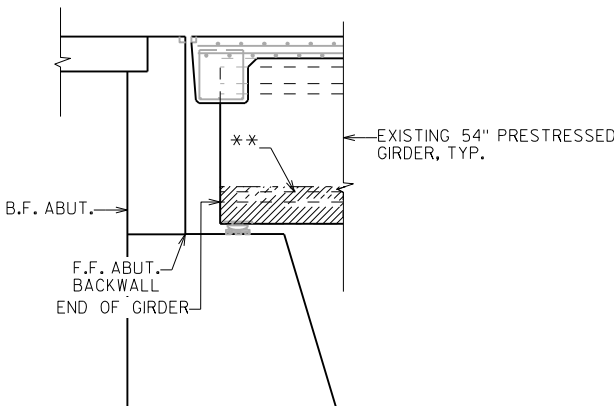


PLAN

MEASURED ALONG RADIAL LINES

* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT

INDICATES WING NUMBER



** CONCRETE SURFACE REPAIR - EXTERIOR FACE OF GIRDER 1 AT S. ABUT. FIELD ENGINEER TO VERIFY.

CONCRETE SURFACE REPAIR DETAIL

LONGITUDINAL CONSTRUCTION JOINT DETAIL

"CONCRETE MASONRY OVERLAY DECKS" BID ITEM SHALL MEET THE REQUIREMENTS OF SECTION 509.2 (4) OF THE STANDARD SPECIFICATIONS.

ROUTE OUT $\frac{1}{4}$ " X $\frac{3}{8}$ " DEEP AT JOINT. FILL IN WITH LOW VISCOSITY CRACK SEALER. (INCIDENTAL TO "CONCRETE MASONRY OVERLAY DECKS")

STRUCTURE DESIGN CONTACTS:

STEVEN DOOCY (608) 261-6063
AARON BONK (608) 261-0261

LIST OF DRAWINGS

- GENERAL PLAN
- BEARING REPLACEMENT
- REMOVAL DETAILS
- SOUTH ABUTMENT DIAPHRAGM
- JOINT REPAIR
- WING REPLACEMENT
- SLOPE FACE PARAPET B

NO.	DATE	REVISION	BY
Plans Prepared By WISDOT BUREAU OF STRUCTURES			
ACCEPTED	Signature: <i>William C. Dineen</i> CHIEF STRUCTURES DESIGN ENGINEER		1/15/15 DATE
STRUCTURE B-62-60			
STH 56 OVER COX CREEK			
COUNTY	VERNON	TOWN/CITY/VILLAGE	HARMONY
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	SAD	DESIGN CKD.	EMK
DRAWN BY	SAD	PLANS CKD.	EMK
GENERAL PLAN			SHEET 1 OF 7

◆ **TABLE OF FILLET WELD SIZES**

MATERIAL THICKNESS OF THICKER PART JOINED.	† MIN. SIZE OF FILLET WELD
TO 1/2" INCLUSIVE	3/16"
OVER 1/2" TO 3/4"	1/4"
OVER 3/4" TO 1 1/2"	△ 5/16"
OVER 1 1/2"	△ 3/8"

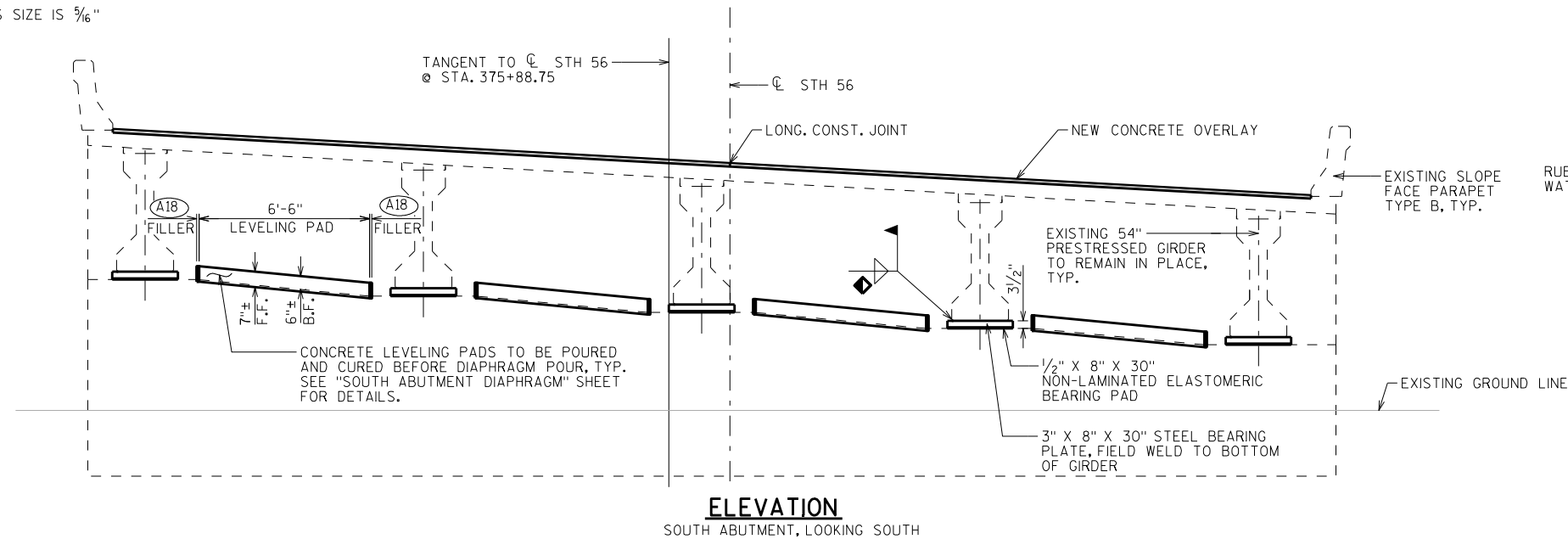
† EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

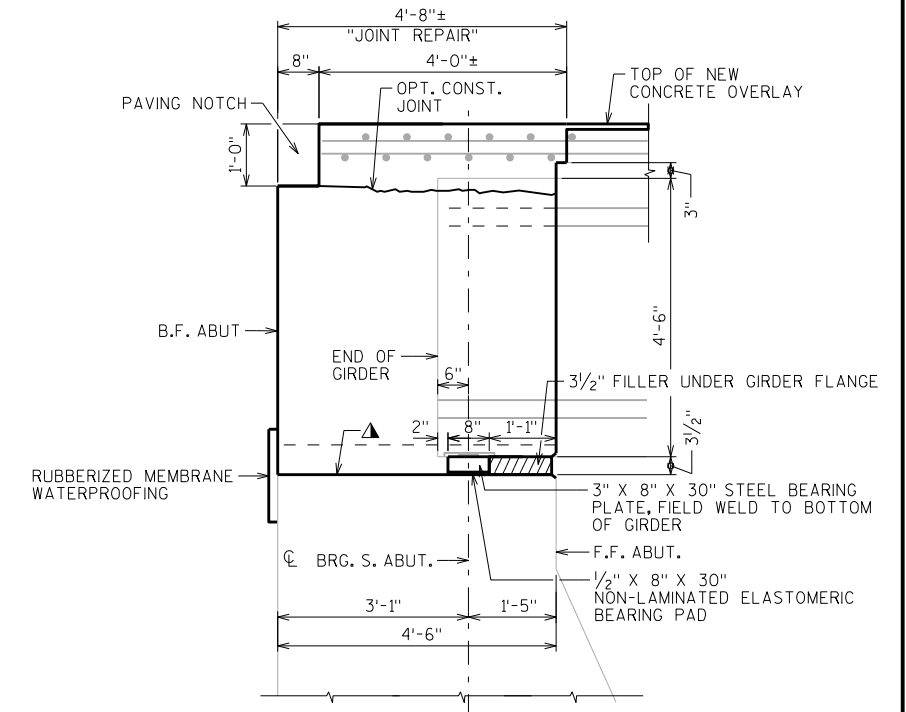
DUE TO TRAFFIC STAGING, ALL BEARING WORK MUST BE COMPLETED BEFORE ANY WORK MAY BEGIN ON SUPERSTRUCTURE.

▲ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP (INCLUDING TOP OF LEVELING PAD) BEFORE PLACING BEARING PADS AND/OR DIAPHRAGM. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

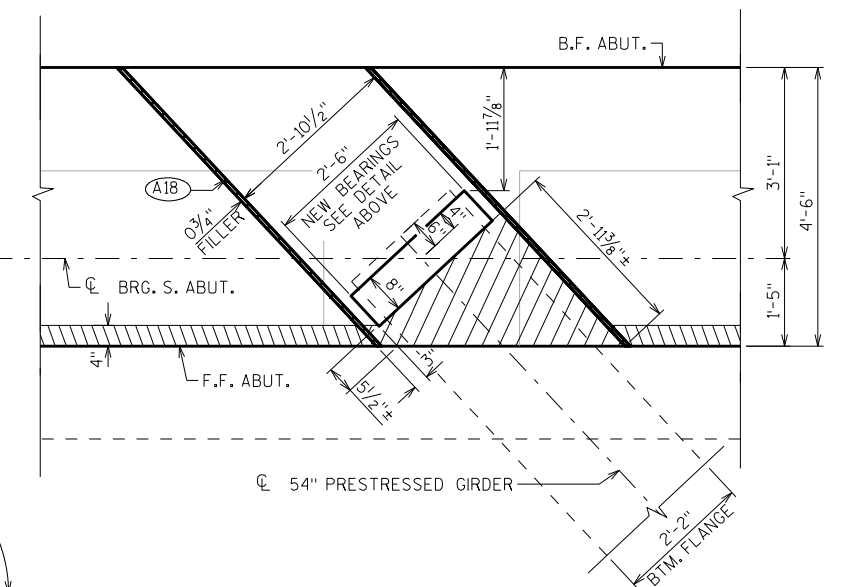
(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

**ELEVATION**

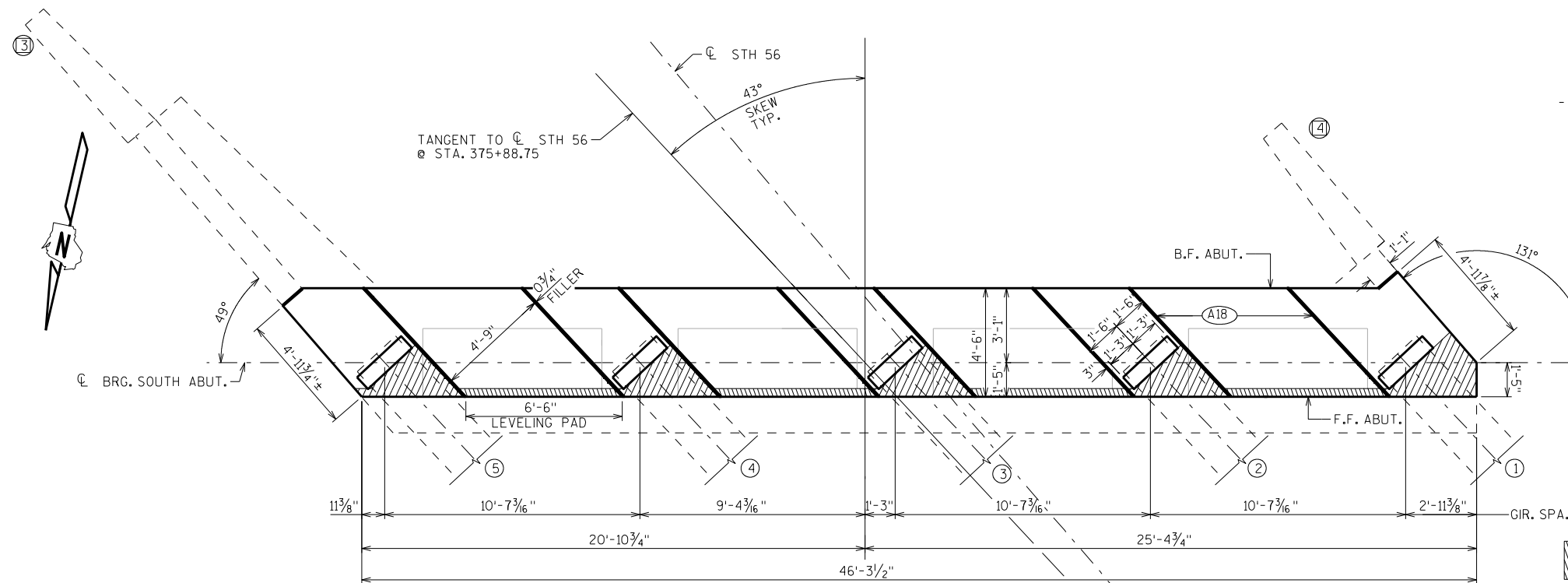
SOUTH ABUTMENT, LOOKING SOUTH

**SECTION THRU GIRDER**

SOUTH ABUTMENT - NORMAL TO CL ABUT.

**BEARING REPLACEMENT DETAIL**

DETAIL SIMILAR FOR ALL S. ABUT. BEARINGS

**PLAN**

SOUTH ABUTMENT

4" X 3/4" FILLER ALONG LEVELING PAD

3/2" FILLER UNDER GIRDER FLANGE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-62-60			
DRAWN BY		EMK	PLANS CK'D. SAD
BEARING REPLACEMENT			SHEET 2

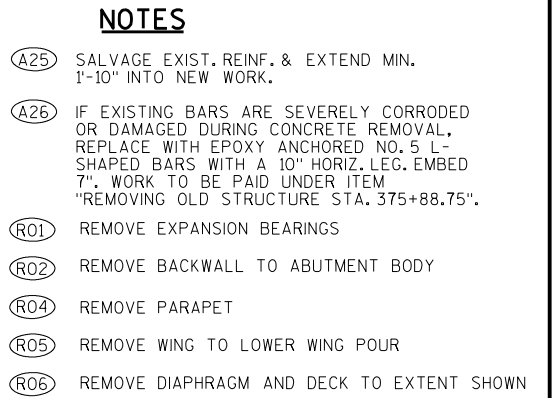


Diagram illustrating the cross-section of a bridge deck joint repair. Key dimensions and components are labeled:

- 4'-8" ± JOINT REPAIR**: Total width of the joint repair area.
- 2'-10" ±**: Width of the central repair section.
- 1'-1"**: Width of the left repair section.
- PAVING BLOCK**: Located on the left side of the joint.
- 7"**: Width of the paving block.
- 2" ±**: Width of the gap between the paving block and the joint.
- END OF DECK**: Left edge of the deck.
- PAVING NOTCH**: Notch in the paving block.
- R02**: Reinforcement bar in the paving block.
- B.F. ABUT.**: Backfill abutment.
- F.F. ABUT. BACKWALL**: Front face abutment backwall.
- END OF GIRDER**: End of the steel girder.
- R06**: Reinforcement bar in the joint repair.
- A25 A26**: Reinforcement bars in the joint repair.
- "CLEANING DECKS"**: Area for cleaning the decks.
- 7 1/2"**: Height of the joint repair.
- 3"**: Height of the paving block.
- 4'-6"**: Height of the joint repair.
- 3 1/2"**: Height of the joint repair.
- REMOVE EXISTING STRIP SEAL AND STEEL EXTRUSIONS**: Instruction for removal of existing materials.
- R01**: Reinforcement bar in the joint repair.
- REMOVE AND REPLACE ALL BEARINGS AT S. ABUT., SEE "BEARING REPLACEMENT" SHEET FOR DETAILS, BEFORE ANY REMOVAL CAN BE DONE. PAID FOR UNDER BID ITEM "REMOVING BEARINGS B-62-60"**: Instruction for bearing replacement.

Plan view of the deck and backwall. The deck width is 6'-1 3/4" ±, divided into two 3'-11 3/4" ± sections. The backwall width is 2'-2" ±. The deck height is 2'-8". Reinforcement details include A25 and A26 bars, and a circular detail R04. The F.F. BACKWALL and TOP OF DECK are indicated.

Diagram showing the elevation view of the bridge deck. The deck width is indicated as $6'-1\frac{3}{4}" \pm$. The deck thickness is indicated as $2'-8"$. The reinforcement details include A25 bars at the top and A26 bars at the bottom. The deck is supported by a structure labeled "F.F. BACKWALL". The reinforcement is labeled "R04". The top of the deck is labeled "TOP OF DECK".

Technical drawing of a roof plan showing a gabled roof with a chimney. The drawing includes dimensions for the roof sections and the chimney. The main roof has a total width of 13'-0" and a total depth of 13'-0". The chimney is 6'-6" wide and 6'-6" deep. The roof sections are labeled R04 and R05. The chimney is labeled A25 and A26. The drawing also shows a section of the roof with a slope of 12/12.

1'-6"

R04

1'-1"

R05

5"

A25 A26

SECTION B-B: WING REMOVAL LIMITS

NORTH ABUTMENT

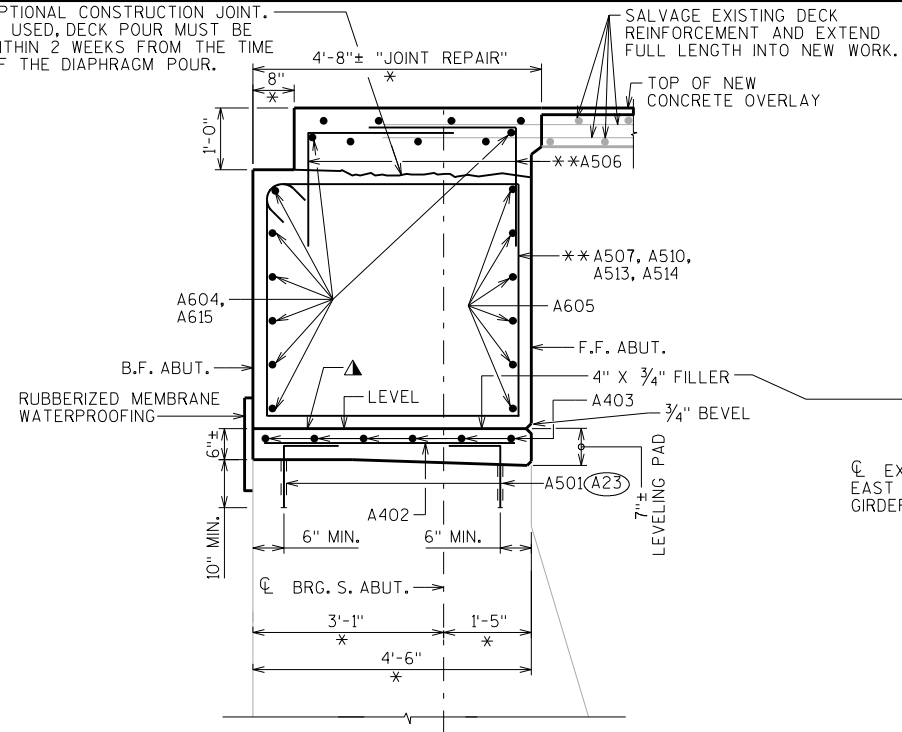
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-62-60			
		DRAWN BY SAD	PLANS C'K'D. EMK
REMOVAL DETAILS		SHEET 3	

BILL OF BARS

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

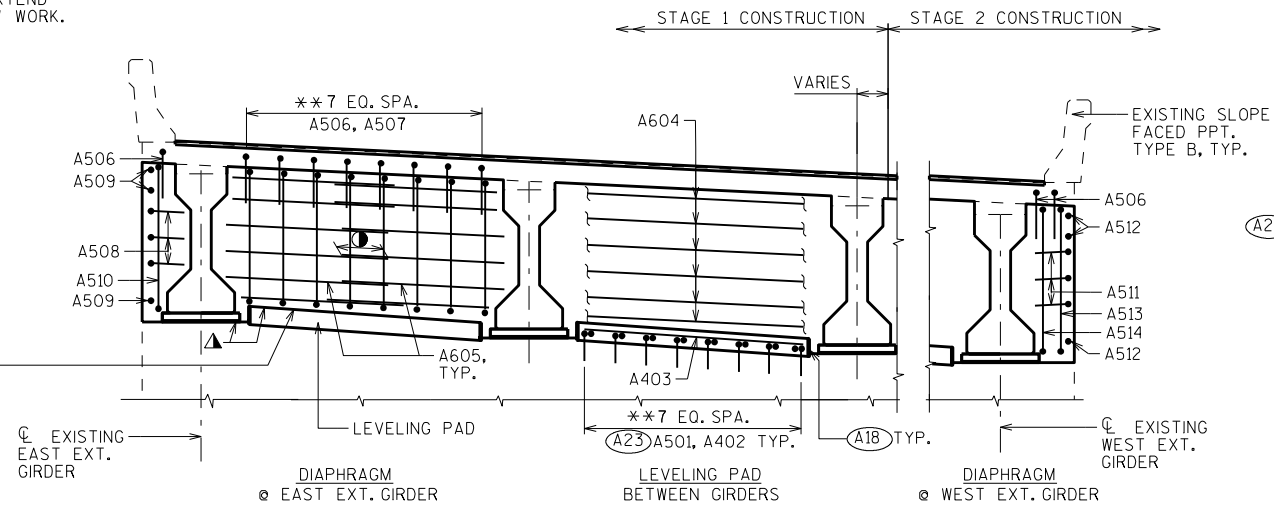
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	64	2'-2"	X		LEVELING PAD
A402	X	32	5'-8"			LEVELING PAD - LONG.
A403	X	24	6'-0"			LEVELING PAD - TRANS.
A604	X	8	24'-3"			DIAPHRAGM - HORIZ. - B.F. STAGE 1
A605	X	48	5'-5"			DIAPHRAGM - HORIZ. - F.F.
A506	X	70	5'-4"	X		DIAPHRAGM - VERT.
A507	X	32	19'-6"	X		DIAPHRAGM - STIRRUP
A508	X	3	8'-0"	X		EAST EXT. DIAPHRAGM - HORIZ.
A509	X	3	6'-8"	X		EAST EXT. DIAPHRAGM - HORIZ.
A510	X	1	18'-6"	X		EAST EXT. DIAPHRAGM - STIRRUP
A511	X	3	8'-2"	X		WEST EXT. DIAPHRAGM - HORIZ.
A512	X	3	6'-9"	X		WEST EXT. DIAPHRAGM - HORIZ.
A513	X	1	18'-10"	X		WEST EXT. DIAPHRAGM - STIRRUP
A514	X	1	20'-4"	X		WEST EXT. DIAPHRAGM - STIRRUP
A615	X	8	22'-9"			DIAPHRAGM - HORIZ. - B.F. STAGE 2

OPTIONAL CONSTRUCTION JOINT. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.



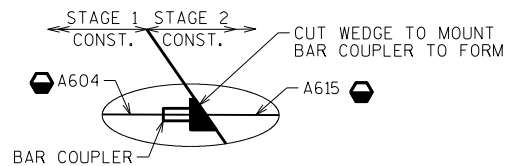
SECTION BETWEEN GIRDERS

SOUTH ABUTMENT - NORMAL TO STRUCTURE



ELEVATION

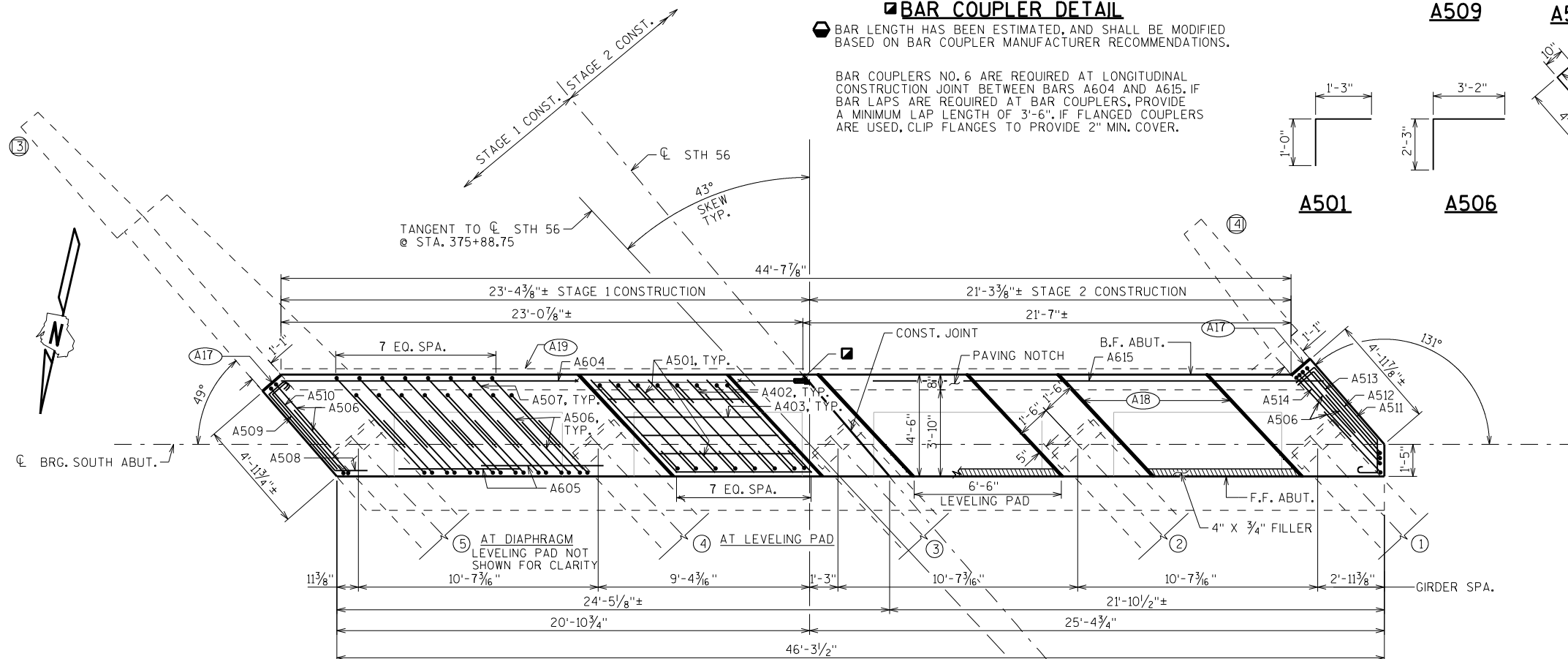
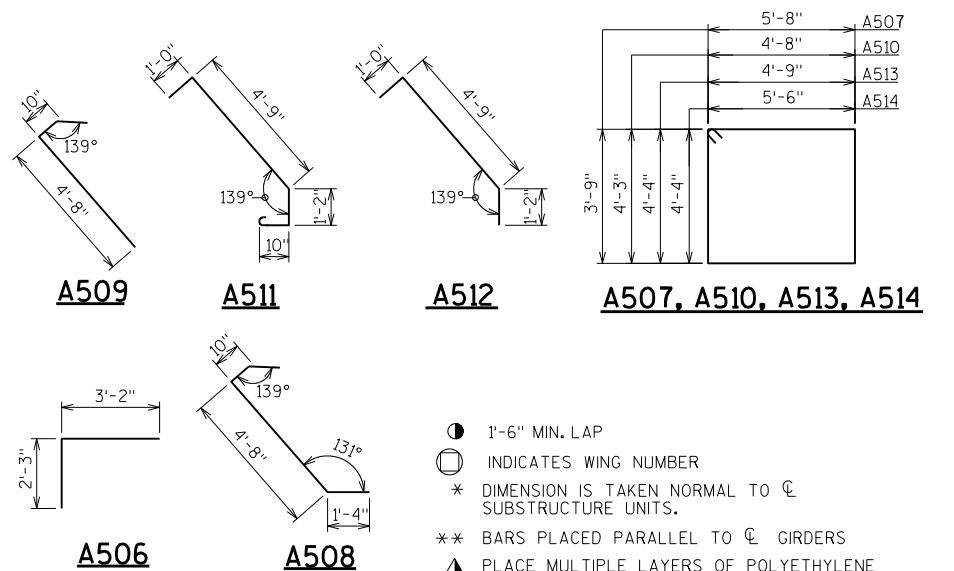
LOOKING SOUTH



BAR COUPLER DETAIL

BAR LENGTH HAS BEEN ESTIMATED, AND SHALL BE MODIFIED BASED ON BAR COUPLER MANUFACTURER RECOMMENDATIONS.

BAR COUPLERS NO. 6 ARE REQUIRED AT LONGITUDINAL CONSTRUCTION JOINT BETWEEN BARS A604 AND A615. IF BAR LAPS ARE REQUIRED AT BAR COUPLERS, PROVIDE A MINIMUM LAP LENGTH OF 3'-6". IF FLANGED COUPLERS ARE USED, CLIP FLANGES TO PROVIDE 2" MIN. COVER.



PLAN

SOUTH ABUTMENT

- ① 1'-6" MIN. LAP
- ② INDICATES WING NUMBER
- * DIMENSION IS TAKEN NORMAL TO ϕ SUBSTRUCTURE UNITS.
- ** BARS PLACED PARALLEL TO ϕ GIRDERS
- ▲ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP (INCLUDING TOP OF LEVELING PAD) BEFORE PLACING BEARING PADS AND/OR DIAPHRAGM. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ①⑦ 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ①⑧ 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- ①⑨ 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- ①②③ MASONRY ANCHORS TYPE L NO. 5 BARS, EMBED 10" IN CONCRETE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-62-60			
DRAWN BY EMK		PLANS CKD. SAD	
SOUTH ABUTMENT DIAPHRAGM		SHEET 4	

INDICATES WING NUMBER

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

STATE PROJECT NUMBER

5730-01-62

BILL OF BARS

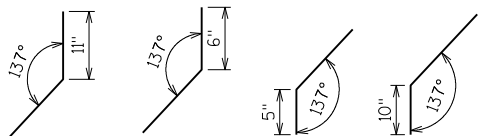
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
Δ S601	X	5	3'-5"		X	TRANSVERSE - TOP
S602	X	37	5'-1"			TRANSVERSE - TOP
Δ S603	X	5	3'-7"		X	TRANSVERSE - TOP
Δ S604	X	5	3'-0"		X	TRANSVERSE - BOTTOM
S605	X	38	5'-1"			TRANSVERSE - BOTTOM
Δ S606	X	5	2'-11"		X	TRANSVERSE - BOTTOM
S607	X	33	4'-9"			LONGITUDINAL - TOP
S508	X	13	4'-3"	X		PARAPET VERT.
S509	X	5	3'-6"	X		PARAPET VERT.
S510	X	18	4'-10"	X		PARAPET VERT.
S511	X	8	5'-9"			PARAPET HORIZ.
Δ S612	X	5	2'-9"		X	TRANSVERSE - BOTTOM STAGE 2
Δ S613	X	5	2'-8"		X	TRANSVERSE - TOP STAGE 2
Δ S614	X	5	2'-9"		X	TRANSVERSE - BOTTOM STAGE 1
Δ S615	X	5	3'-2"		X	TRANSVERSE - TOP STAGE 1
S616	X	1	2'-0"	X		TRANSVERSE - TOP STAGE 1
S617	X	1	2'-0"	X		TRANSVERSE - BOTTOM STAGE 1
S618	X	1	2'-0"	X		TRANSVERSE - TOP STAGE 2
S619	X	1	2'-0"	X		TRANSVERSE - BOTTOM STAGE 2

▲ LENGTH SHOWN FOR BAR 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
S601	1 SERIES OF 5	1'-11" TO 4'-10"
S603	1 SERIES OF 5	2'-1" TO 5'-0"
S604	1 SERIES OF 5	1'-6" TO 4'-6"
S606	1 SERIES OF 5	1'-5" TO 4'-5"
S612	1 SERIES OF 5	1'-1" TO 4'-7"
S613	1 SERIES OF 5	1'-2" TO 4'-2"
S614	1 SERIES OF 5	1'-3" TO 4'-3"
S615	1 SERIES OF 5	1'-8" TO 4'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.



S616 S617 S618 S619

(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

● CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-62-60			
DRAWN BY		SAD	PLANS CKD. EMK
JOINT REPAIR		SHEET 5	

STAGE 1 CONST. STAGE 2 CONST.

TANGENT TO C STH 56
@ STA. 375+88.75

LONG. CONST. JOINT.
SEAL WITH CRACK SEALER
PER SECTION 502.3.13
OF THE STANDARD SPEC.

(A25) TOP AND BOT.
LONG. REINF.

PLAN JOINT REPAIR

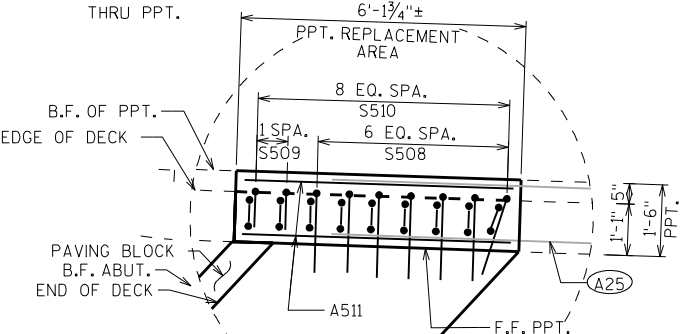
STAGE 1 STAGE 2
CONST. CONST.

BAR COUPLER DETAIL

BAR LENGTH HAS BEEN COMPUTED TO LONG. CONST. JOINT AND SHALL BE MODIFIED TO BAR COUPLER MANUFACTURER RECOMMENDATIONS.

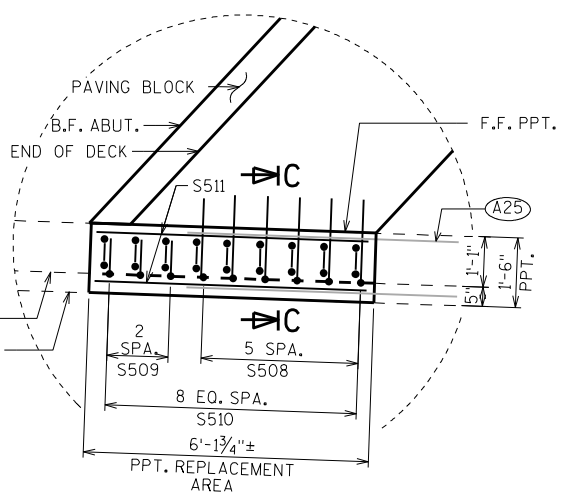
BAR COUPLERS NO. 6 ARE REQUIRED AT LONGITUDINAL CONSTRUCTION JOINT BETWEEN TRANSVERSE DECK BARS (SEE BAR COUPLER DETAIL). IF BAR LAPS ARE REQUIRED AT BAR COUPLERS, PROVIDE A MINIMUM LAP LENGTH OF 3'-6". IF FLANGED COUPLERS ARE USED, CLIP FLANGES TO PROVIDE 2" COVER TO TOP OF SLAB.

SECTION C-C THRU PPT.



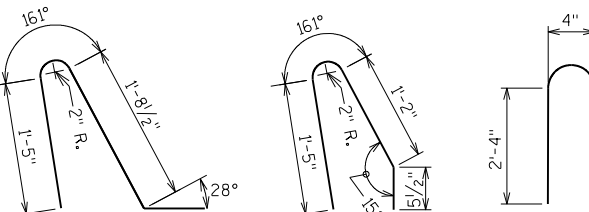
DETAIL B

WEST EDGE OF DECK SHOWN



DETAIL A

EAST EDGE OF DECK SHOWN



S508

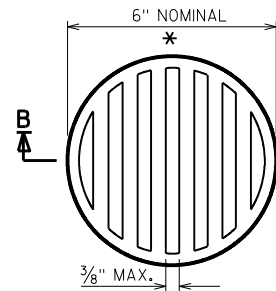
S509

S510

8

8

SCALE = 3



SECTION B-B

RODENT SHIELD DETAIL

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

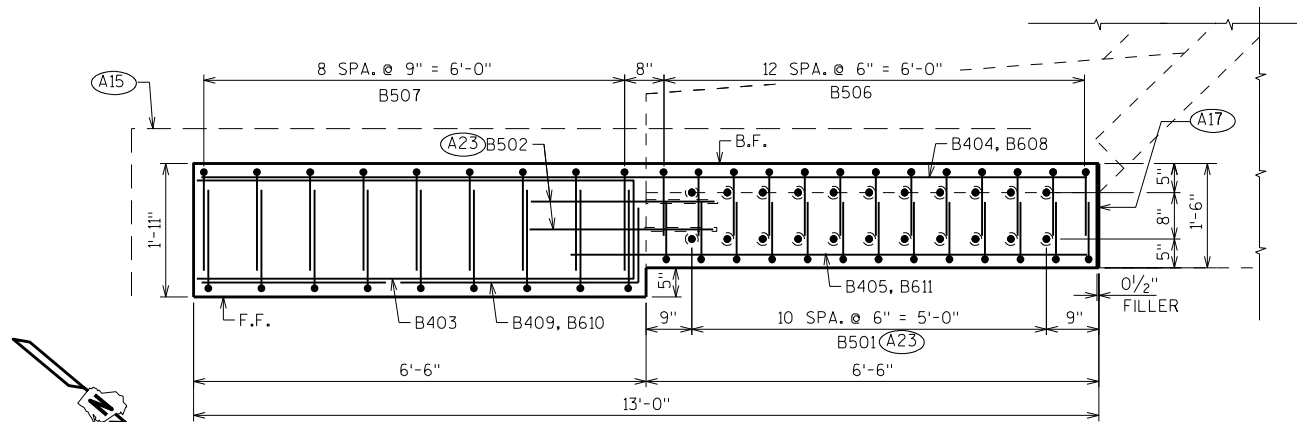
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

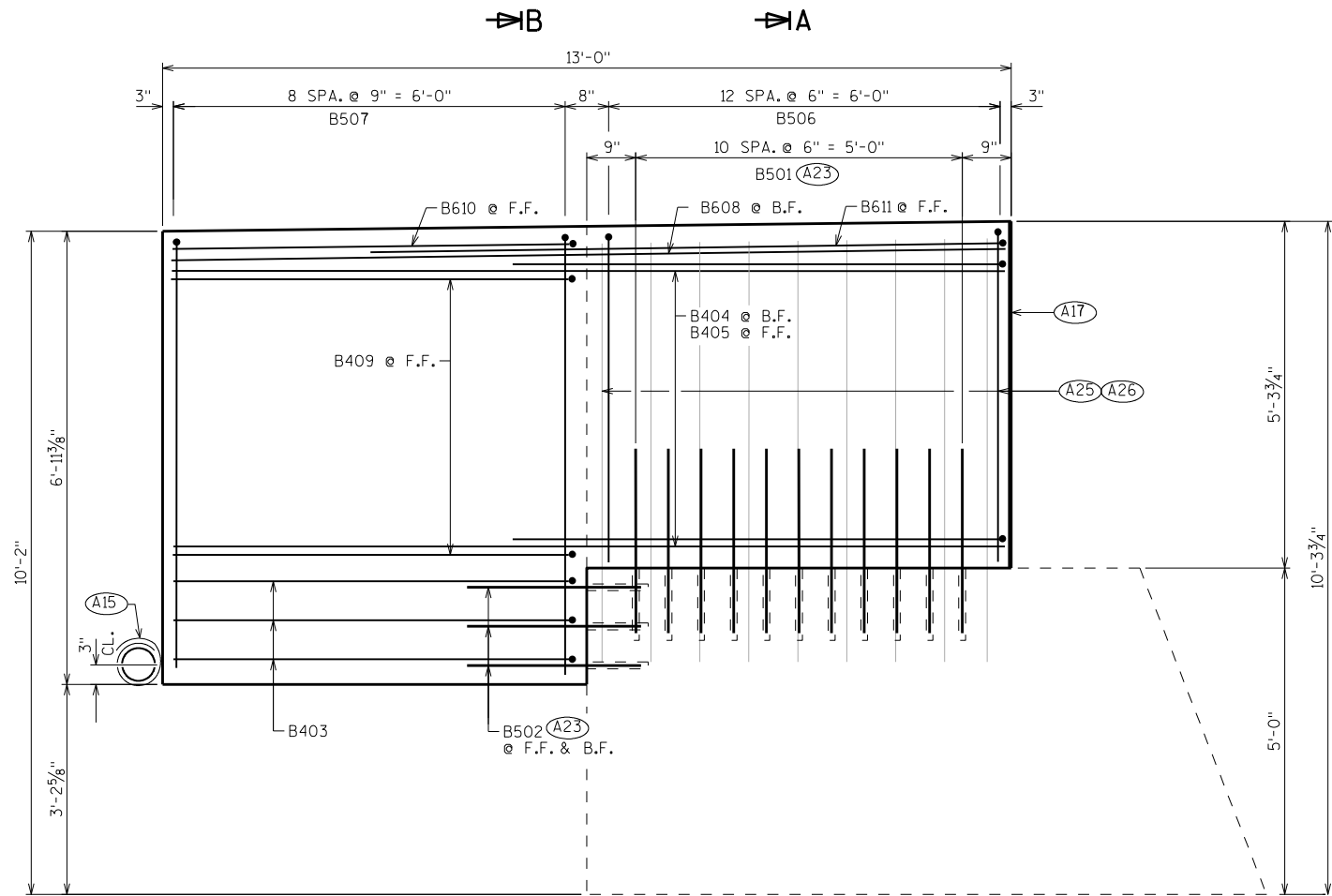
BILL OF BARS

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

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B501	X	22	4'-8"		ABUT. VERT. ANCHORS
B502	X	6	4'-8"		ABUT. HORIZ. ANCHORS
B403	X	3	13'-9"	X	WING HORIZ. - F.F. & B.F.
B404	X	7	12'-8"		WING HORIZ. - B.F.
B405	X	4	7'-6"		WING HORIZ. - F.F.
B506	X	26	5'-11"	X	WING VERT.
B507	X	18	13'-9"	X	WING VERT.
B608	X	1	12'-8"		WING HORIZ. - TOP - B.F.
B409	X	4	7'-1"	X	WING HORIZ. - F.F.
B610	X	1	7'-0"	X	WING HORIZ. - TOP - F.F.
B611	X	1	7'-6"		WING HORIZ. - TOP - F.F.

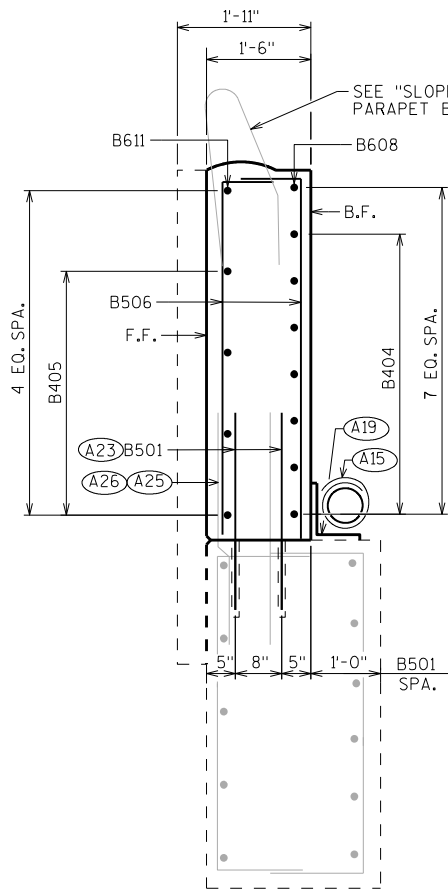


PLAN - WING 1

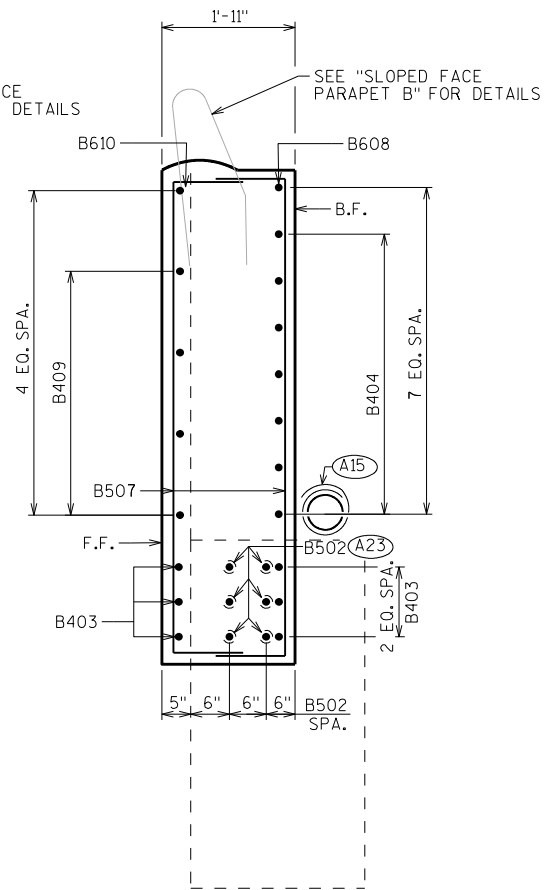


 B
  A

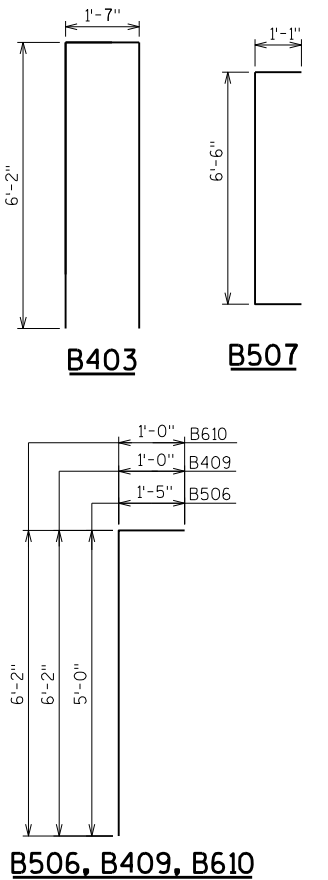
ELEVATION - WING 1
 LOOKING WEST



SECTION A-A
THRU WING 1



SECTION B-B
THRU WING 1



B506, B409, B610

NOTES

- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) 1/2" FILLER (INCLUDED IN WING LENGTH); SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

- (A23) MASONRY ANCHORS TYPE L NO. 5 BARS,
EMBED 1'-0" IN CONCRETE.
- (A25) SALVAGE EXIST. REINF. & EXTEND MIN. 1'-10" INTO
NEW WORK.
- (A26) IF EXISTING BARS ARE SEVERELY CORRODED
OR DAMAGED DURING CONCRETE REMOVAL,
REPLACE WITH EPOXY ANCHORED NO. 5 L-
SHAPED BARS WITH A 10" HORIZ. LEG. EMBED
7". WORK TO BE PAID UNDER ITEM
"REMOVING OLD STRUCTURE STA. 375+88.75".

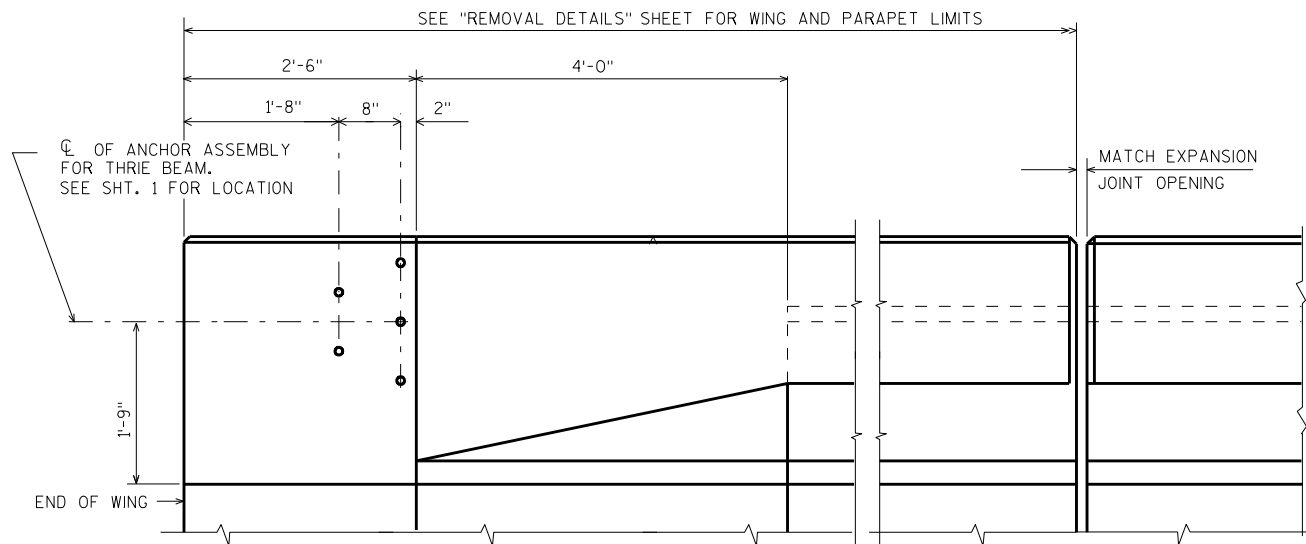
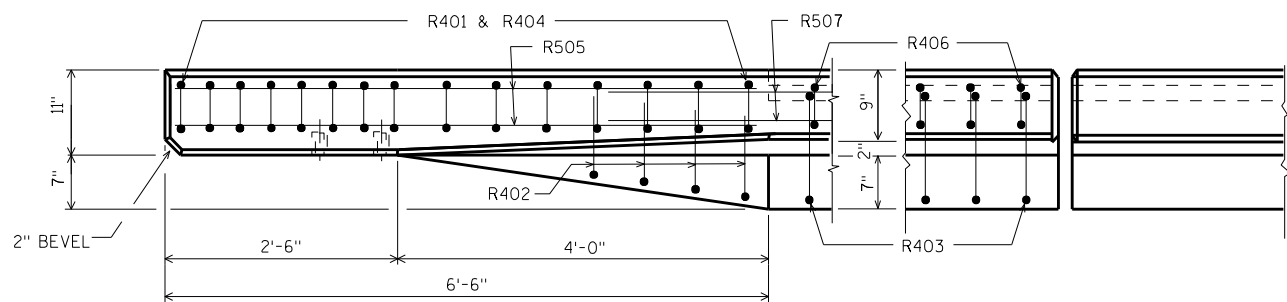
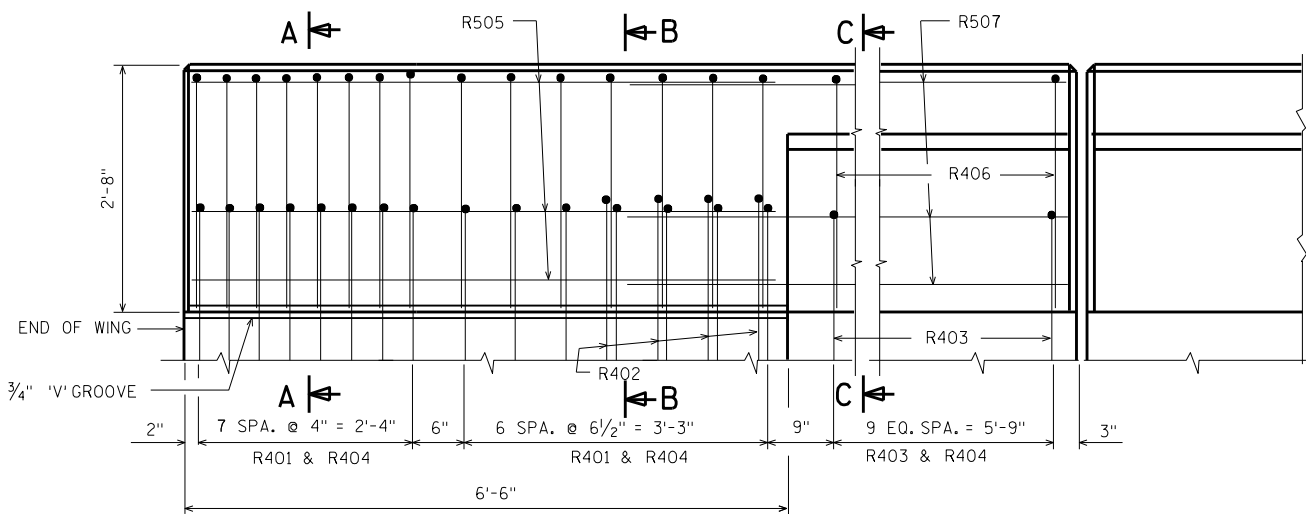
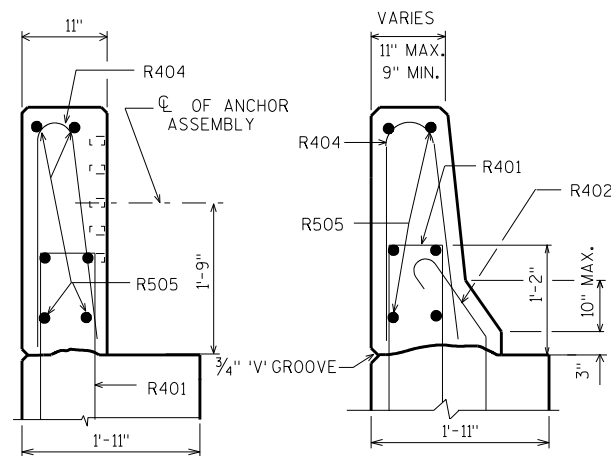
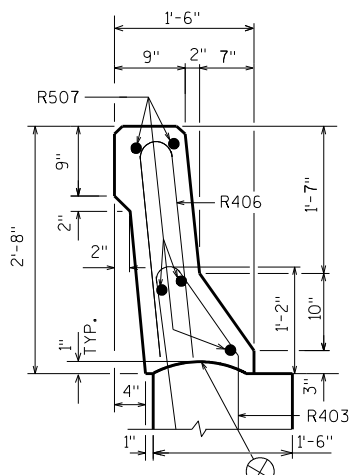
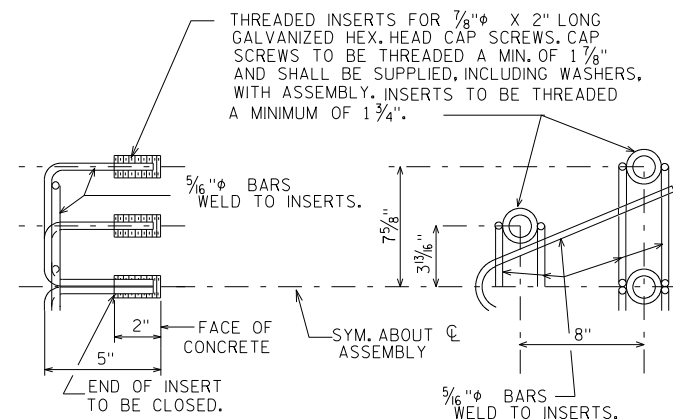
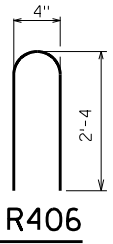
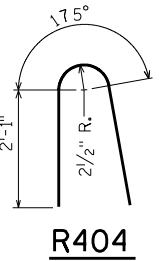
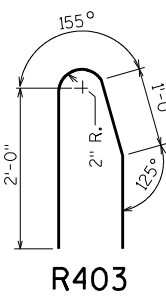
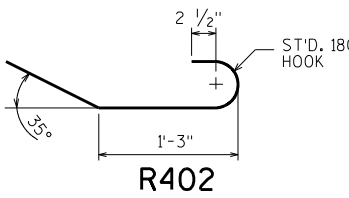
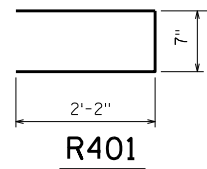
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-62-60					
			DRAWN BY EMK	PLANS CK'D.	SAD
WING REPLACEMENT				SHEET 6	

BILL OF BARS

FOR ABUTMENT PARAPETS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EPOXY COAT ALL PARAPET REINF.

BAR MARK	NO. REQ'D. NORTH ABUT.	LENGTH	BENT	LOCATION
R401	15	4-9	X	WING STIRRUPS
R402	4	3-1	X	WING
R403	10	4-9	X	WING STIRRUPS
R404	15	4-9	X	WING
R505	6	6-2		WING
R406	10	4-10	X	WING
R507	5	9-5		WING

**INSIDE ELEVATION****PLAN****OUTSIDE ELEVATION****SECTION A****SECTION B****SECTION C****DETAIL OF ANCHOR ASSEMBLY**

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-62-60			
DRAWN BY SAD		PLANS CK'D. EMK	
SLOPED FACE PARAPET B			SHEET 7

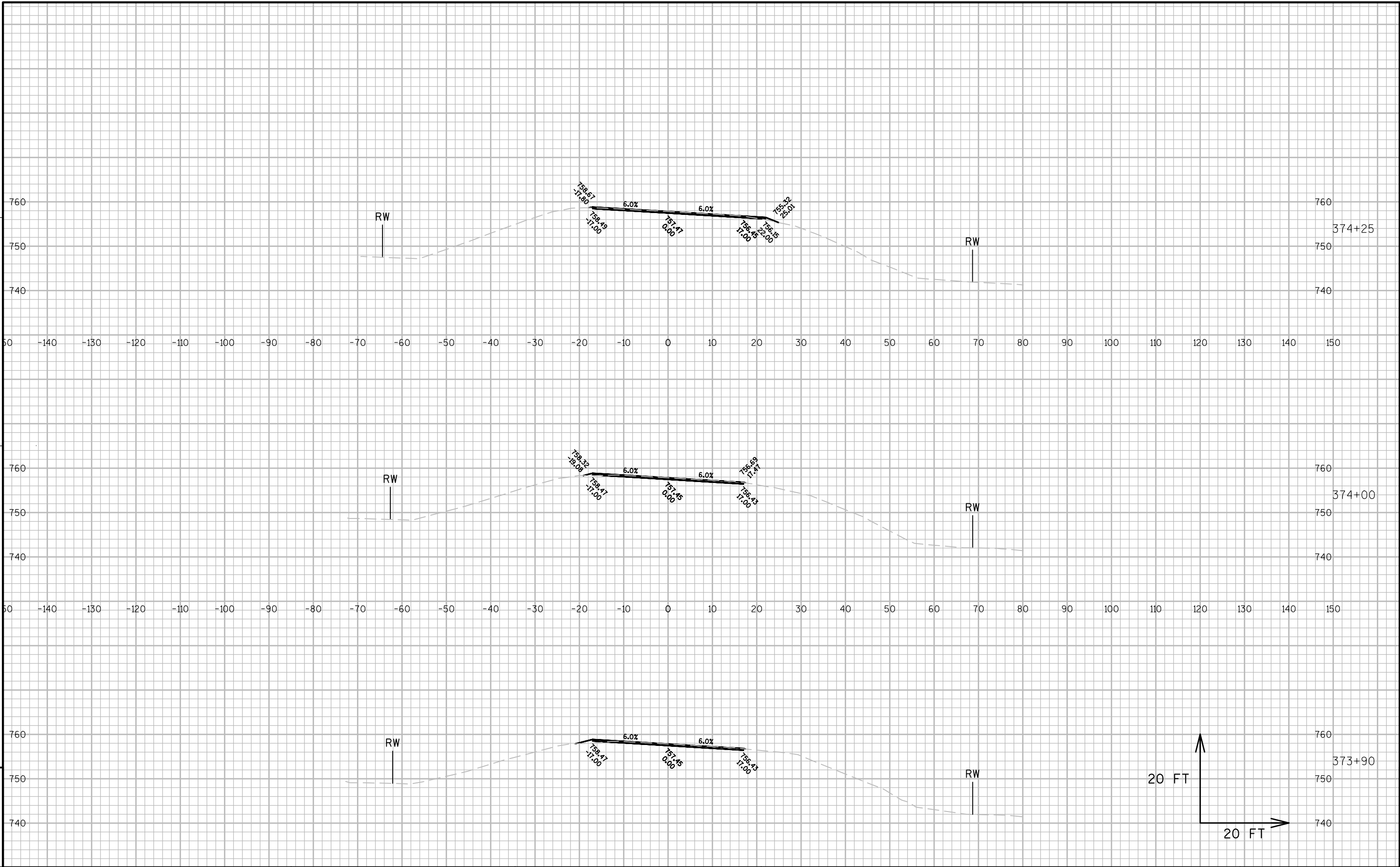
CONST. JOINT - STRIKE OFF AS SHOWN.

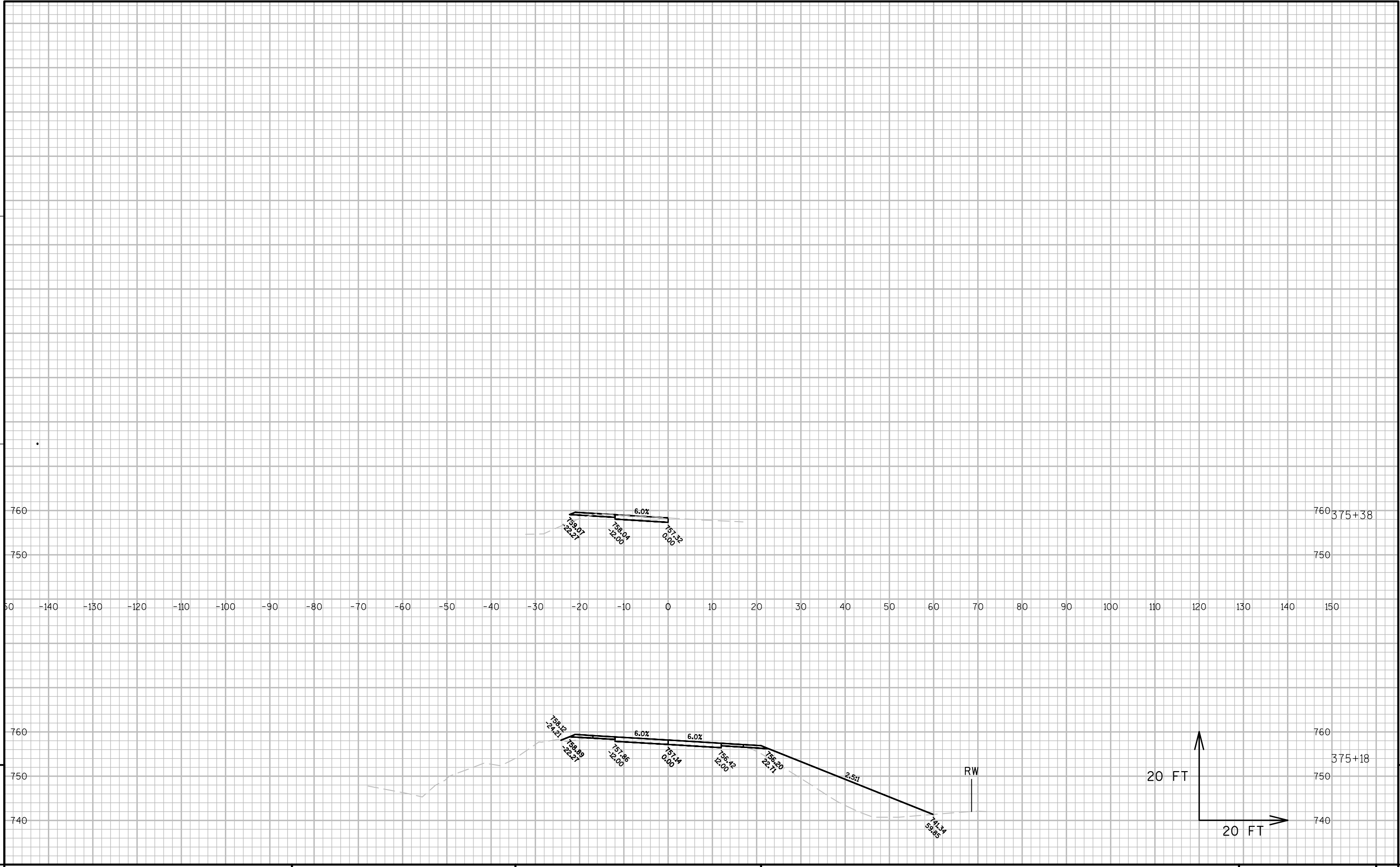
B-62-60 North Approach

STATION	Real Station	Distance	AREA (SF)						Incremental Vol (CY) (Unadjusted)						Cumulative Vol (CY)							Mass Ordinate	
			Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Fill 1.25	Expanded Marsh		Expanded EBS		Reduced Marsh		Reduced EBS
																	Backfill 1.50 Note 4	Expanded Rock 1.10	Backfill 1.30 Note 5	in Fill 0.60 Note 6	In Fill 0.80 Note 7		
																							Note 2
373+90.24	37390.24	0.00	10.78	6.00	1.64	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	
374+00	37400.00	9.76	11.20	6.00	0.36	0.00	0.00	0.00	4	2	0	0	0	0	4	0	0	0	0	0.00	0.00	1.35	
374+25	37425.00	25.00	12.11	6.00	0.45	0.00	0.00	0.00	11	6	0	0	0	0	15	1	0	0	0	0.00	0.00	6.12	
374+50	37450.00	25.00	12.23	6.00	2.99	0.00	0.00	0.00	11	6	2	0	0	0	26	3	0	0	0	0.00	0.00	9.85	
374+75	37475.00	25.00	11.38	6.00	52.24	0.00	0.00	0.00	11	6	26	0	0	0	37	35	0	0	0	0.00	0.00	-16.74	
375+00	37500.00	25.00	29.36	6.00	122.33	0.00	0.00	0.00	19	6	81	0	0	0	56	136	0	0	0	0.00	0.00	-104.46	
375+17.92	37517.92	17.92	31.96	6.00	159.70	0.00	0.00	0.00	20	4	94	0	0	0	76	253	0	0	0	0.00	0.00	-205.08	
375+37.5	37537.50	19.58	14.98	3.00	3.44	0.00	0.00	0.00	17	3	59	0	0	0	93	327	0	0	0	0.00	0.00	-265.26	

B-62-60 South Approach

STATION	Real Station	Distance	AREA (SF)						Incremental Vol (CY) (Unadjusted)						Cumulative Vol (CY)								Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	Marsh Exc	Rock Exc	EBS	Cut 1.00 Note 1	Expanded Marsh		Expanded EBS		Reduced Marsh	Reduced EBS		
																Expanded Fill 1.25	Backfill 1.50 Note 4	Expanded Rock 1.10	Backfill 1.30 Note 5	in Fill 0.60 Note 6	In Fill 0.80 Note 7		
																						Note 2	
376+43.75	37643.75	0.00	11.88	5.00	94.22	0.00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	
376+75	37675.00	31.25	15.30	10.00	39.69	0.00	0.00	0.00	16	9	77	0	0	0	16	97	0	0	0	0.00	0.00	-89.83	
377+00	37700.00	25.00	15.70	10.00	0.02	0.00	0.00	0.00	14	9	18	0	0	0	30	120	0	0	0	0.00	0.00	-107.71	
377+25	37725.00	25.00	16.21	10.00	0.00	0.00	0.00	0.00	15	9	0	0	0	0	45	120	0	0	0	0.00	0.00	-102.21	
377+50	37750.00	25.00	16.82	10.00	0.00	0.00	0.00	0.00	15	9	0	0	0	0	60	120	0	0	0	0.00	0.00	-96.18	
377+75	37775.00	25.00	14.80	10.00	0.00	0.00	0.00	0.00	15	9	0	0	0	0	75	120	0	0	0	0.00	0.00	-90.80	
378+00	37800.00	25.00	14.71	10.00	0.10	0.00	0.00	0.00	14	9	0	0	0	0	88	120	0	0	0	0.00	0.00	-86.45	
378+25	37825.00	25.00	14.90	10.00	61.01	0.00	0.00	0.00	14	9	28	0	0	0	102	155	0	0	0	0.00	0.00	-117.37	
378+50	37850.00	25.00	0.88	0.00	60.61	0.00	0.00	0.00	7	5	56	0	0	0	109	226	0	0	0	0.00	0.00	-185.08	
378+75	37875.00	25.00	0.29	0.00	57.96	0.00	0.00	0.00	1	0	55	0	0	0	110	294	0	0	0	0.00	0.00	-253.15	
379+00	37900.00	25.00	0.00	0.00	49.50	0.00	0.00	0.00	0	0	50	0	0	0	110	356	0	0	0	0.00	0.00	-315.20	

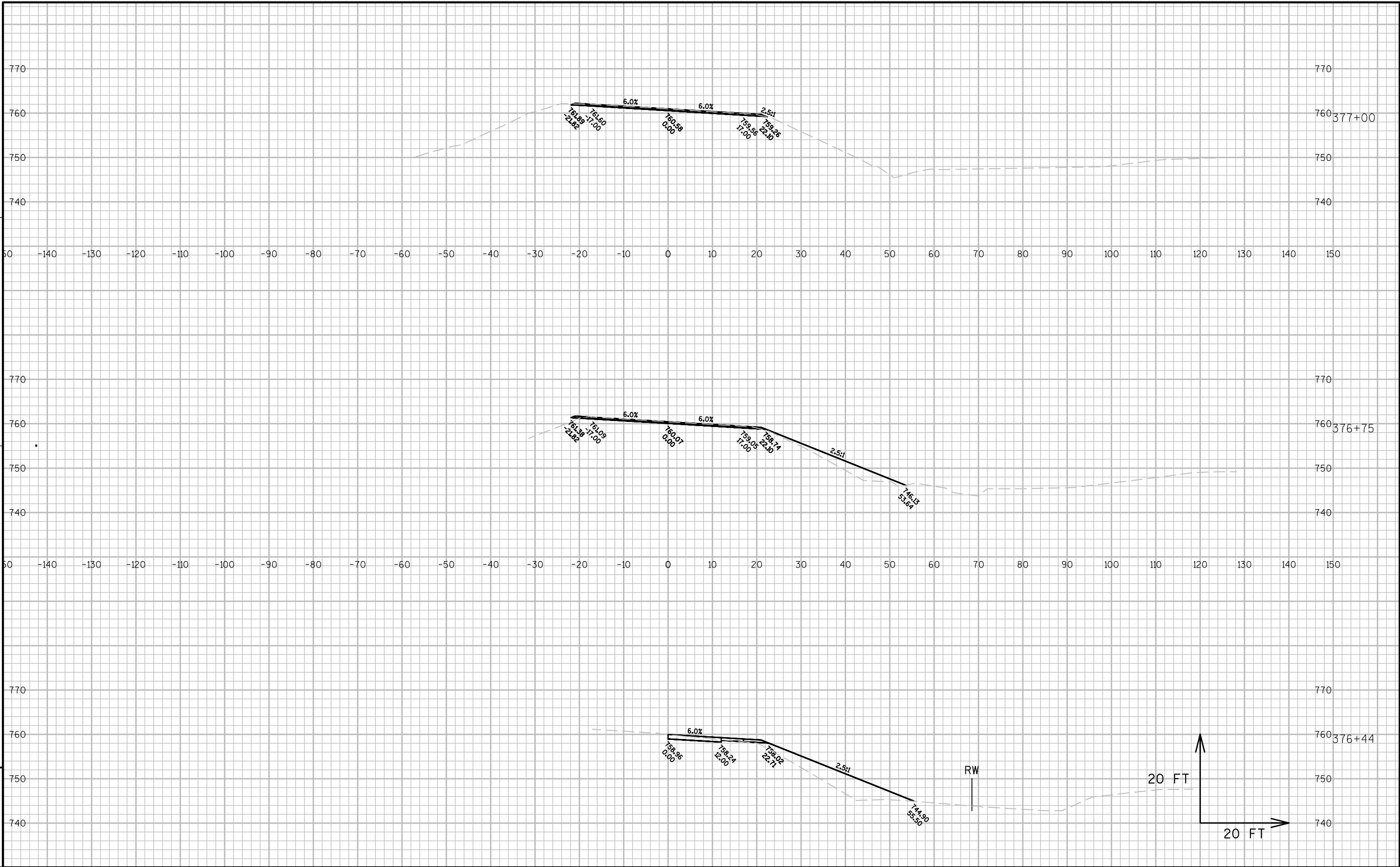


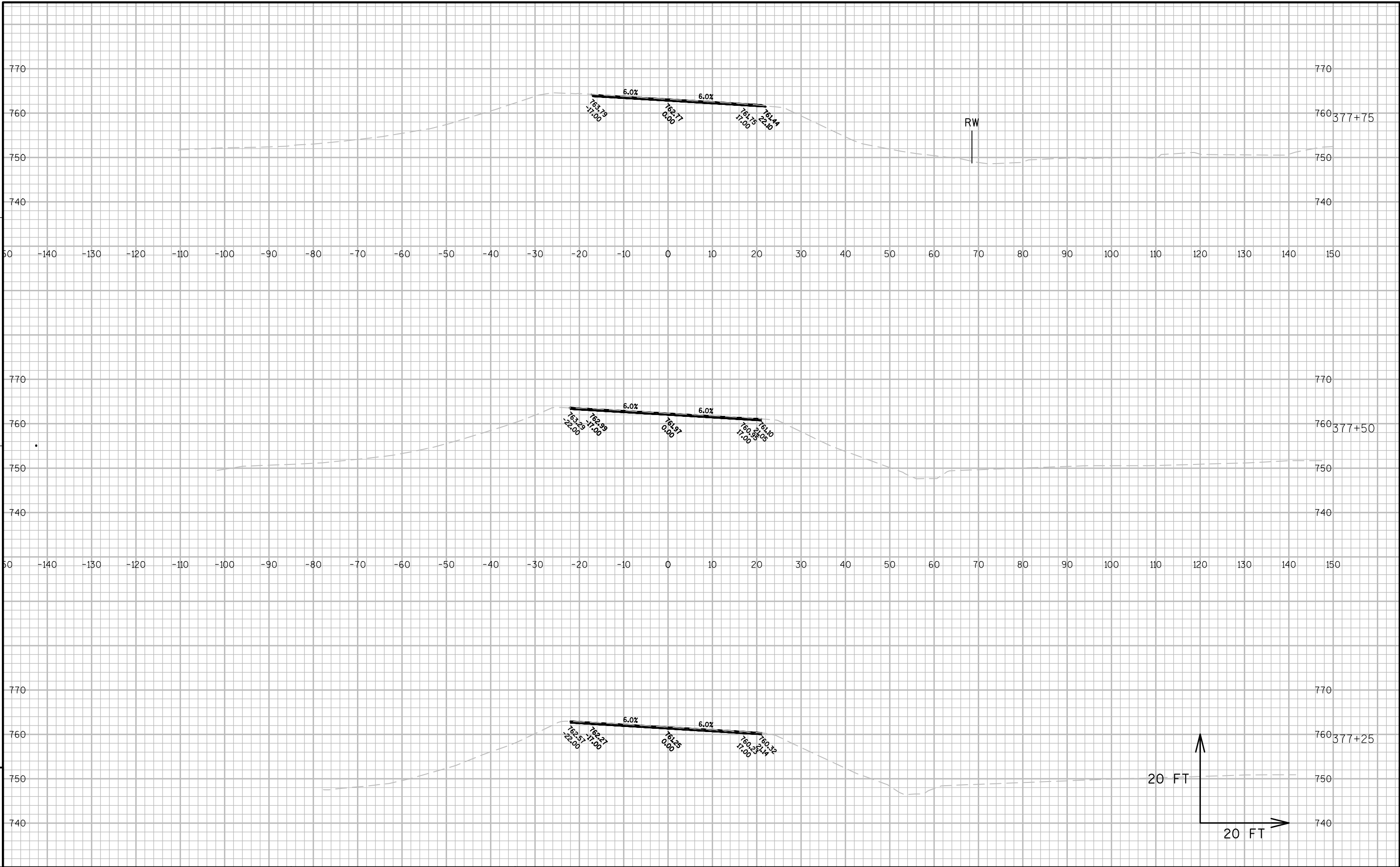


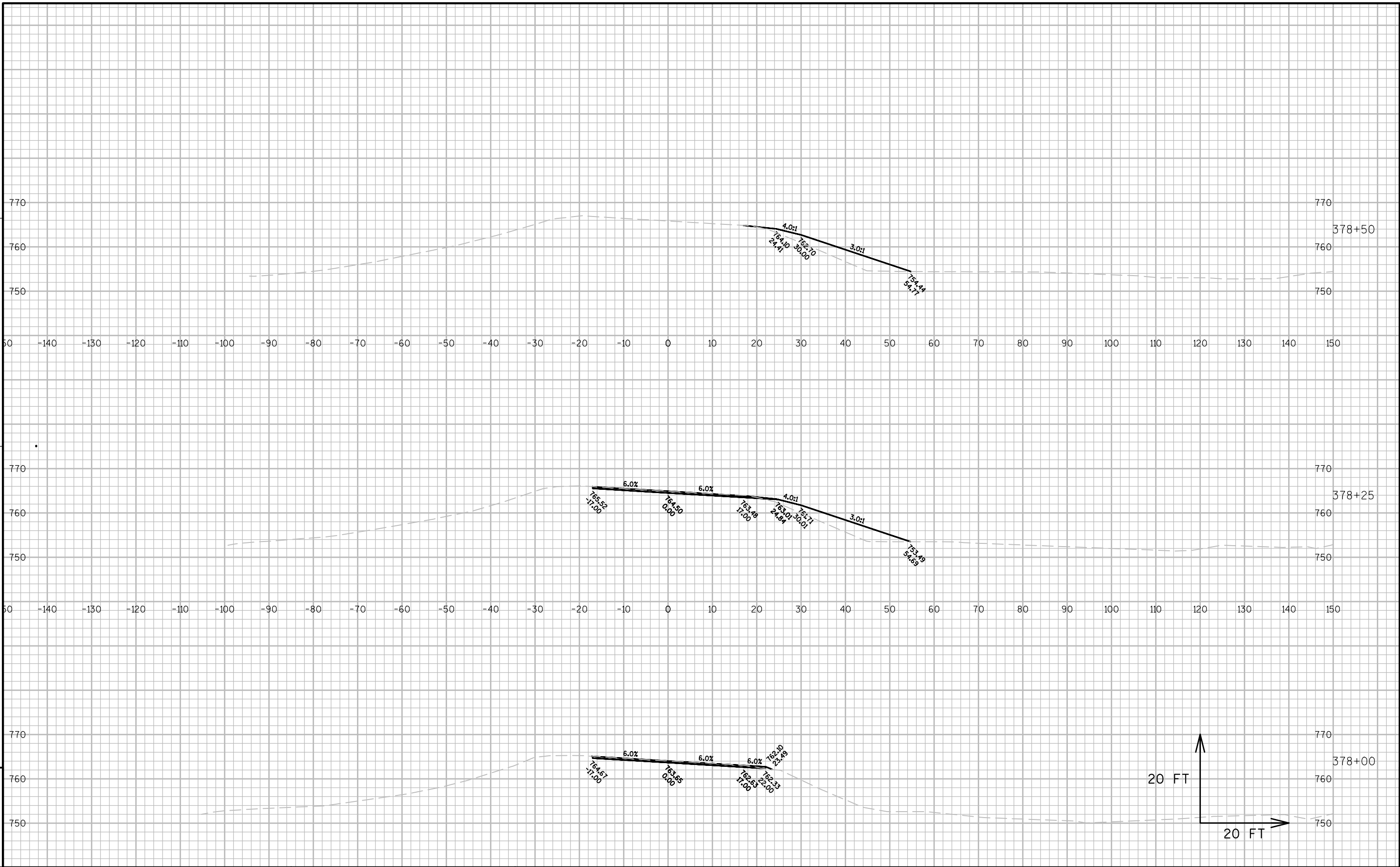
9

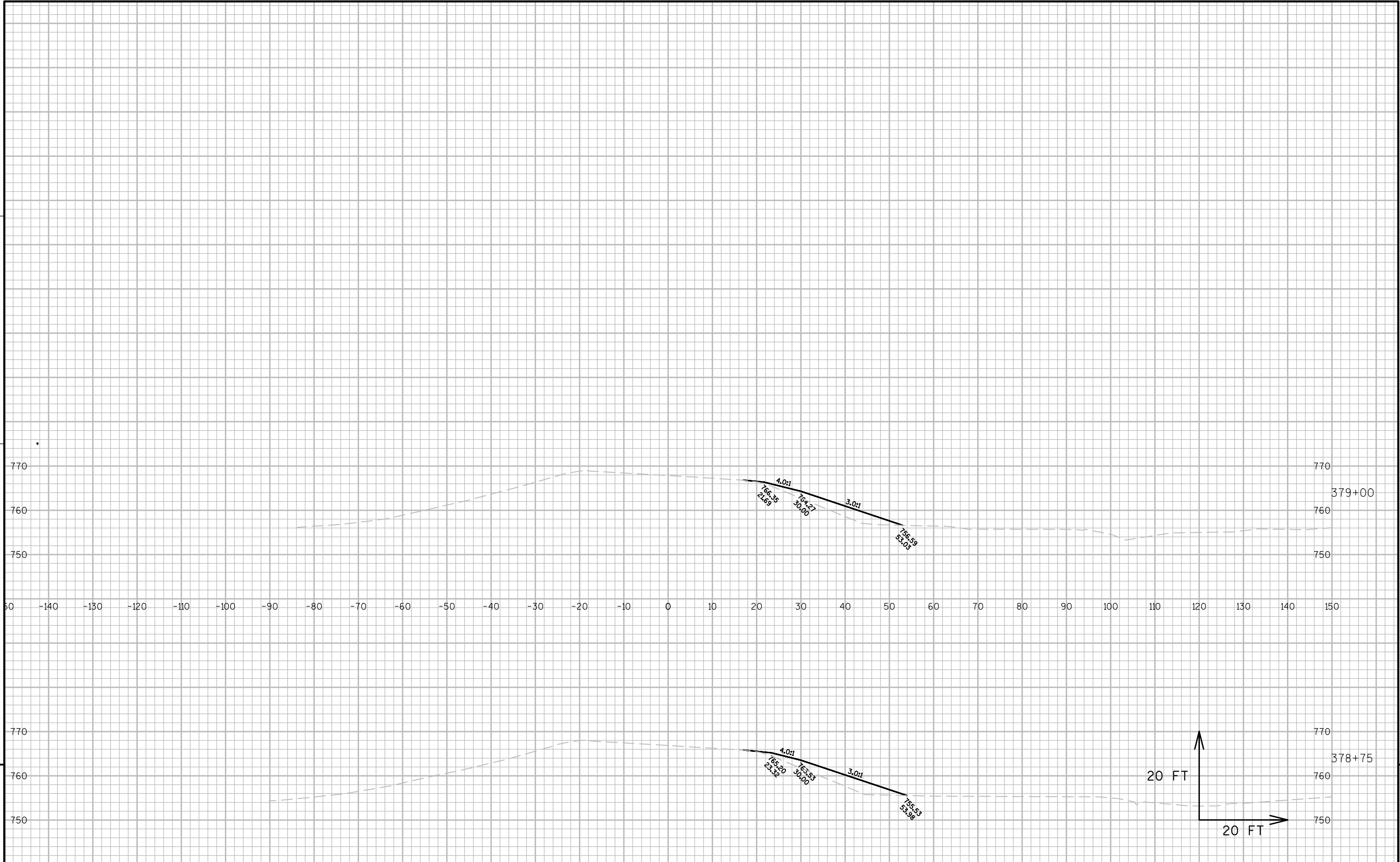
9

PROJECT NO:5730-01-62	HWY:STH 56	COUNTY:VERNON	CROSS SECTIONS: STH 56	SHEET	E
-----------------------	------------	---------------	------------------------	-------	---











Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>