EAU

PROJECT ID: 8080-08-75

WITH: 8110-00-79

COUNTY: ST. CROIX

OCTOBER 2025

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 = 192

PROJECT LOCATION



N

DESIGN DESIGNATION 8080-08-75

A.A.D.T.	(2026)	=	14,180
A.A.D.T.	(2046)	=	14,180
D.H.V.	(2046)	=	1,688
D.D.	(%)	=	60/40
T.	(%)	=	5.3%
DESIGN SPEED	(MPH)	=	65 MPH/45MPH
ESALS		=	1,600,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

HUDSON - SOMERSET

150TH AVE TO CTH C

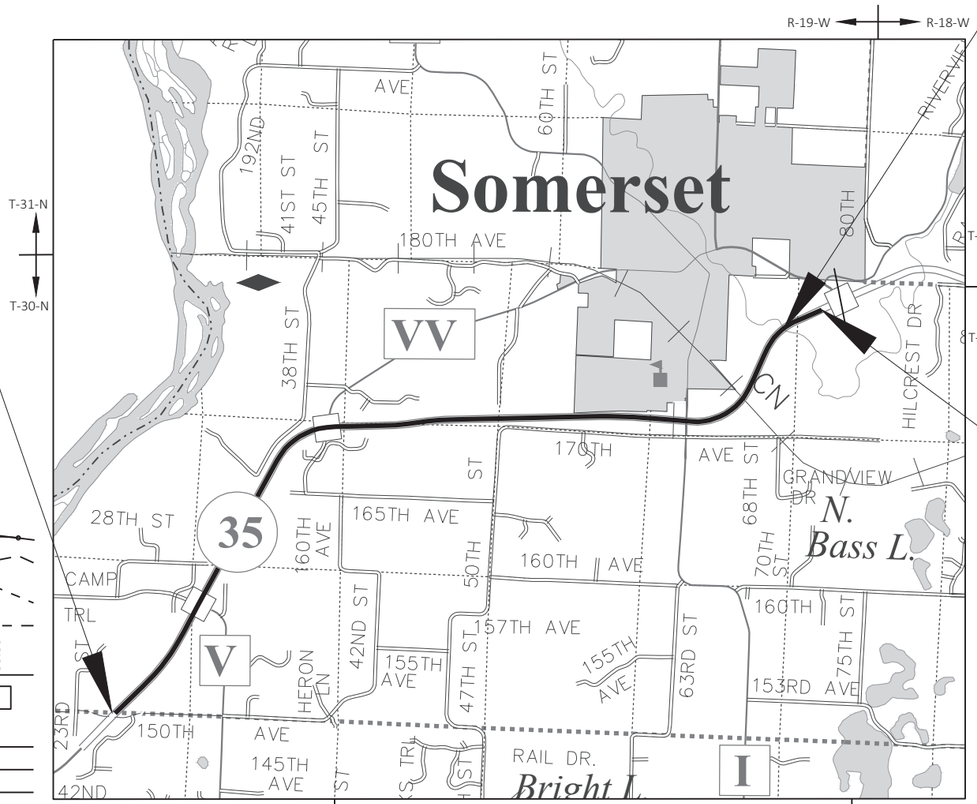
STH 35

ST. CROIX COUNTY

STATE PROJECT NUMBER
8080-08-75

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8080-08-75	WISC 2026016	1

BEGIN PROJECT 8080-08-75
STA 304+28.30'NB'
Y = 379,995.682
X = 512,540.553
STA 304+28.32'SB'
Y = 380,032.085
X = 512,501.181



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 5.908 MI

NET EXCEPTION TO CL LENGTH
STA 608+39.65'NB' - STA 610+92.28'NB'
B-55-182
STA 608+61.93'SB' - STA 611+14.51'SB'
B-55-183

END PROJECT 8080-08-75
STA 618+73.99'NB'
Y = 394,897.147
X = 536,237.588
STA 618+73.99'SB'
Y = 394,946.473
X = 536,213.259

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ST. CROIX COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		**UTILITIES**	
REFERENCE LINE	300'EB'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
WOODED OR SHRUB AREA		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

ORIGINAL PLANS PREPARED BY

SEH



DATE: 04-17-2025 Justin Shavlik
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH, WISDOT
Designer	SEH
Project Manager	TOU YANG
Regional Examiner	NW REGION
Regional Supervisor	TOU YANG

APPROVED FOR THE DEPARTMENT

DATE: 4/17/2025 (Signature)

E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\010101_TI.DWG PLOT DATE : 4/17/2025 9:07 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME :

GENERAL NOTES

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

THE ENGINEER WILL DETERMINE ANY DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN.

PLAN REMOVAL AREAS ARE APPROXIMATE, DETERMINE EXACT LIMITS IN THE FIELD.

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED, FERTILIZED, SEEDED AND EMATTED.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

PROPOSED ROADWAY IMPROVEMENTS SHALL MATCH EXISTING SUPERELEVATIONS AND ROADWAY CROSS SLOPES.

THE EXACT LOCATIONS AND QUANTITIES OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FOR MAINLINE HMA PAVING OVERLAY (453+48'EB - 618+74'SB'), COMPLETE CONSTRUCTION OF LOWER AND UPPER LIFTS IN OUTSIDE LANE BEFORE CONSTRUCTION ON THE INSIDE LANE BEGINS. IN ADDITION, THE CENTERLINE JOINT SHALL BE A VERTICAL CONSTRUCTION JOINT ON BOTH THE UPPER AND LOWER LIFTS.

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

DISTURBED AREAS WITHIN THE RIGHT OF WAY AS A RESULT OF THIS PROJECT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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

AS-BUILTS USED FOR PLAN DEVELOPMENT
PROJECT NO: AFE 55-1740, CONSTRUCTION YEAR: 1968
PROJECT NO: 1559-01-71, CONSTRUCTION YEAR: 1979
PROJECT NO: 1550-00-80/81, CONSTRUCTION YEAR: 2003
PROJECT NO: 1559-08-72, CONSTRUCTION YEAR: 2005
PROJECT NO: 1559-08-73, CONSTRUCTION YEAR: 2005
PROJECT NO: 1559-08-74/75, CONSTRUCTION YEAR: 2005
PROJECT NO: 1559-08-78, CONSTRUCTION YEAR: 2005
PROJECT NO: 1559-08-76/77, CONSTRUCTION YEAR: 2006

UTILITY CONTACTS

ARVIG COMMUNICATIONS SYSTEMS - COMMUNICATION LINE
150 2ND STREET SW
PERHAM, MN 56573
TELEPHONE:218.298.4951
ATTENTION:BRIAN WOCHNICK
EMAIL:BRIAN.WOCHNICK@ARVIG.COM

AT&T WISCONSIN - COMMUNICATION LINE
304 S DEWEY STREET
EAU CLAIRE, WI 54701
TELEPHONE:715.410.0656
ATTENTION:RICK PODOLAK
EMAIL:RP4514@ATT.COM

BALDWIN LIGHTSTREAM - COMMUNICATION LINE
930 MAPLE STREET
BALDWIN, WI 54002
TELEPHONE:715.688.1034 (OFFICE)
TELEPHONE:715.760.0968 (MOBILE)
ATTENTION:MATT KNEGENDORF
EMAIL:MKNEGENDORF@LSWI.NET

BRIGHTSPEED OF NW WI - COMMUNICATION LINE
2121 BIRCH AVE
PROCTOR, MN 55810
TELEPHONE: 980.376.1865
ATTENTION: MICHAEL COUGHLIN
EMAIL: MICHAEL.COUGHLIN@BRIGHTSPEED.COM

MIDWEST NATURAL GAS - GAS/PETROLEUM
611 SHAY STREET
SOMERSET, WI 54025
TELEPHONE:715.247.1290 (OFFICE)
TELEPHONE:715.797.0590 (MOBILE)
ATTENTION:RICHARD HYDE
EMAIL:RICHH@MIDWESTNATURALGAS.COM

NORTHWEST COMMUNICATIONS - COMMUNICATION LINE
116 HARRIMAN AVE N
AMERY, WI 54001
TELEPHONE:715.268.7101 (OFFICE)
TELEPHONE:715.554.1620 (MOBILE)
ATTENTION:GREG CARDINAL
EMAIL:GREGCARDINAL@AMERYTEL.NET

SOMERSET VILLAGE OF WATER & SEWER UTILITIES - SEWER, WATER
110 SPRING STREET
PO BOX 356
SOMERSET, WI 54025
TELEPHONE:715.760.0884
ATTENTION:ROBERT GUNTHER
EMAIL:RGUNTHER@VILLAGEOFSOMERSET.US

ST CROIX ELECTRIC COOPERATIVE - ELECTRICITY
1925 RIDGEWAY STREET
P.O. BOX 160
HAMMOND, WI 54015
TELEPHONE:715.796.5633 (OFFICE)
TELEPHONE:651.283.0069 (MOBILE)
ATTENTION:BRIAN FERG
EMAIL:BRIANF@SCECNET.NET

XCEL ENERGY - ELECTRICITY
2001 OLD HWY 35 A
HUDSON, WI 54016
TELEPHONE:612.346.5766
ATTENTION:ASHLEY LARSON
EMAIL:ASHLEY.N.LARSON@XCELENERGY.COM

RUNOFF COEFFICIENT TABLE

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

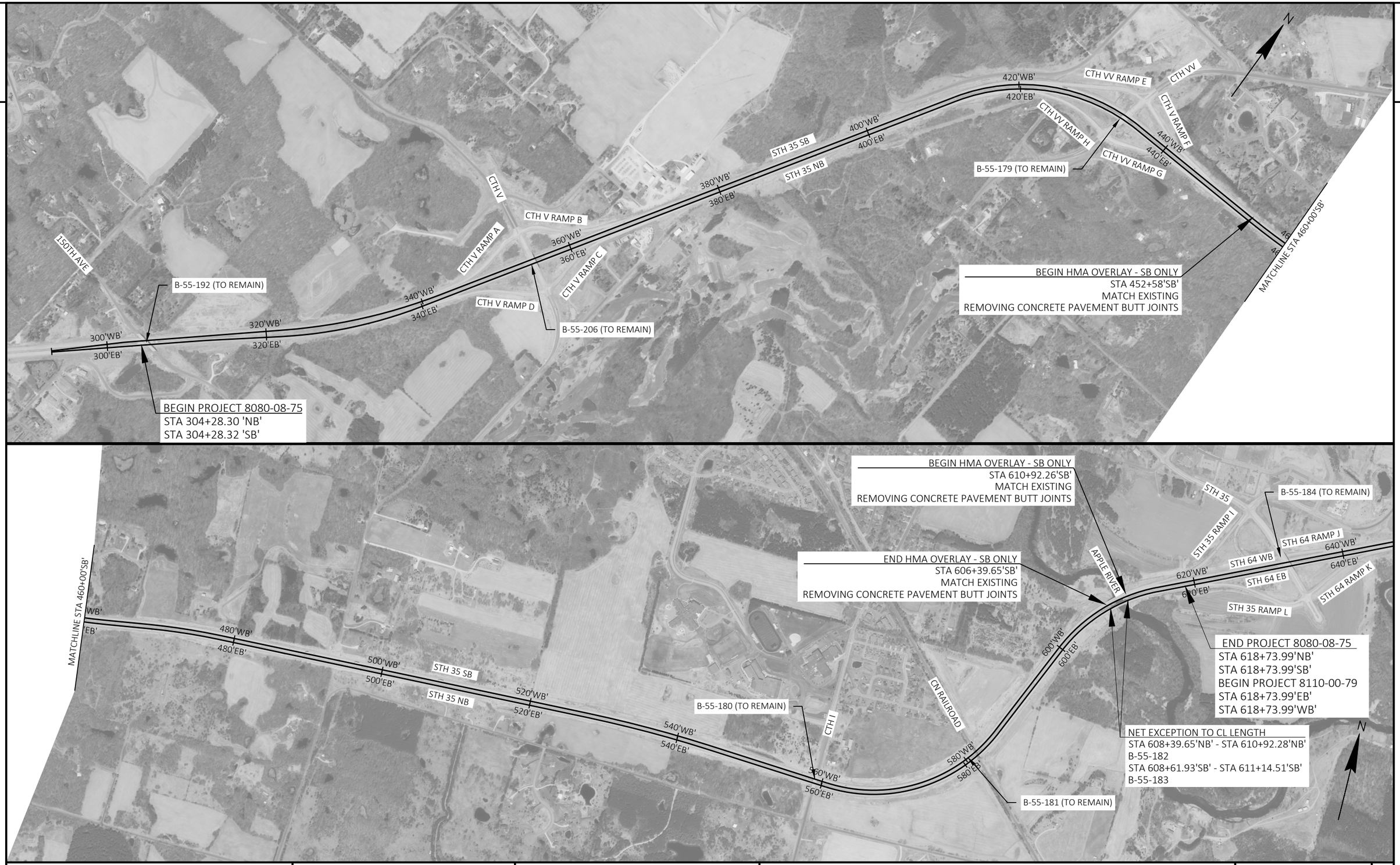
TOTAL PROJECT AREA = 144.380 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 3.758 ACRES

WISDOT CONTACT
NORTHWEST REGION HQ
718 WEST CLAIREMONT AVE
EAU CLAIRE, WI 54701
TELEPHONE: 715.883.5570
ATTENTION: TOU YANG
EMAIL: TOU.YANG@DOT.WI.GOV

DESIGN CONTACT
SEH
10 NORTH BRIDGE STREET
CHIPPEWA FALLS WI 54729
TELEPHONE: 715.720.6291
ATTENTION: JUSTIN SHAVLIK
EMAIL: JSHAVLIK@SEHINC.COM

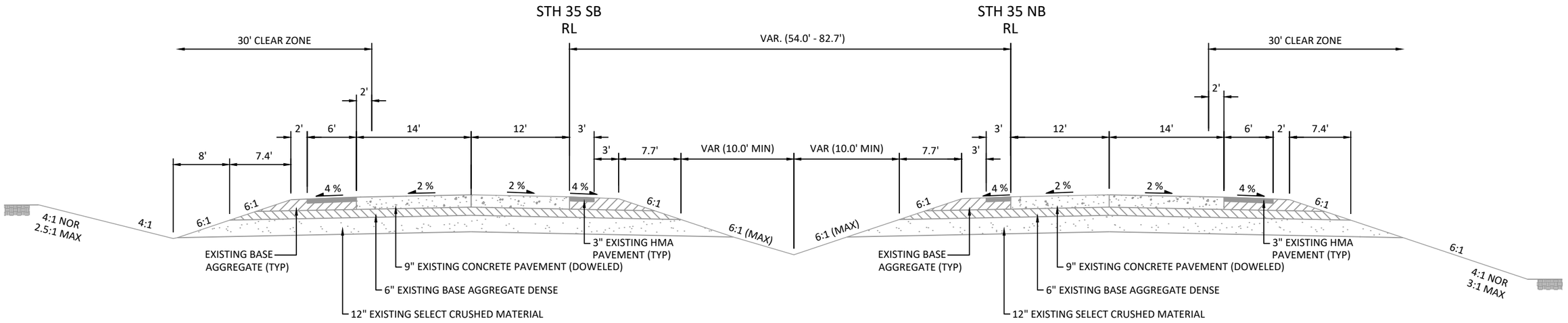
WDNR CONTACT
DNR WEST CENTRAL REGION HQ
1300 WEST CLAIREMONT AVE
EAU CLAIRE, WI 54701
TELEPHONE 715.635.4229
ATTENTION: AMY LESIK
EMAIL: AMYL.LESIK@WISCONSIN.GOV

2



PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PROJECT OVERVIEW	SHEET 3	E

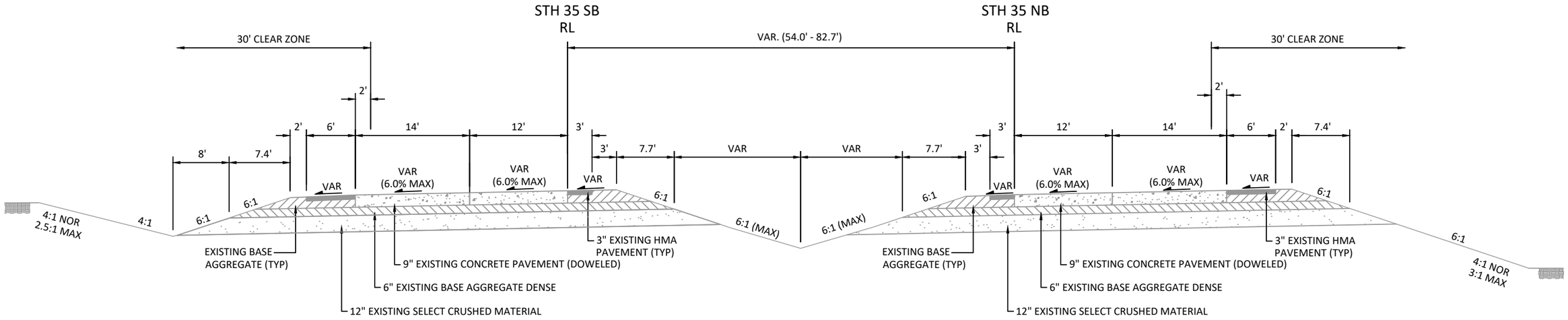
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LAYOUT NAME - 01(8080)
PLOT DATE : 6/4/2025 9:01 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

STH 35

STA 304+28'NB' - STA 317+97'NB'	STA 462+55'NB' - STA 469+36'NB'	STA 304+28'SB' - STA 317+97'SB'	STA 462+49'SB' - STA 469+30'SB'
STA 343+63'NB' - STA 363+50'NB'	STA 477+27'NB' - STA 557+19'NB'	STA 343+63'SB' - STA 363+50'SB'	STA 477+27'SB' - STA 557+25'SB'
STA 368+50'NB' - STA 370+85'NB'	STA 589+65'NB' - STA 596+47'NB'	STA 368+50'SB' - STA 370+85'SB'	STA 589+65'SB' - STA 596+47'SB'
STA 379+00'NB' - STA 408+30'NB'	STA 616+99'NB' - STA 618+74'NB'	STA 379+00'SB' - STA 408+30'SB'	STA 616+99'SB' - STA 618+74'SB'
STA 439+35'NB' - STA 448+76'NB'		STA 439+35'SB' - STA 448+76'SB'	

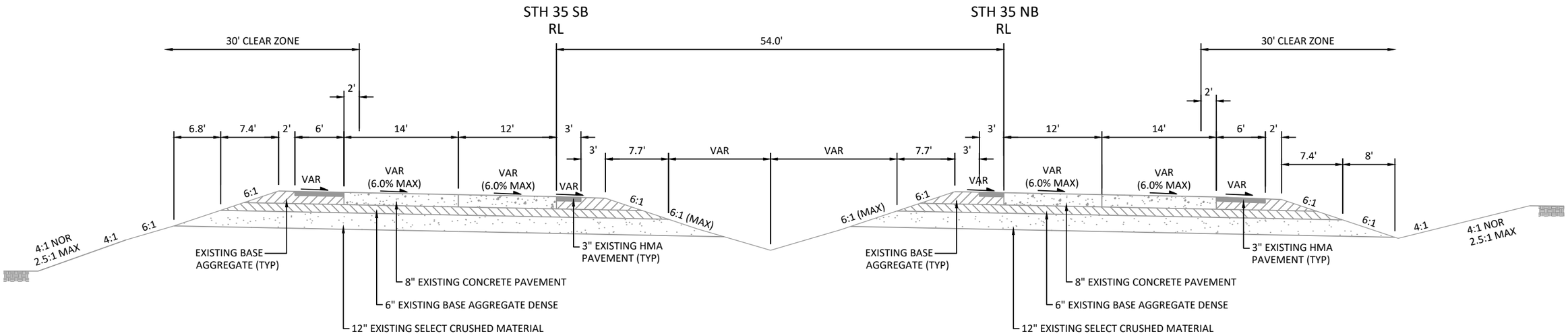


EXISTING TYPICAL SECTION

STH 35
SUPERELEVATED SECTION

STA 317+97'NB' - STA 343+63'NB'	STA 317+97'SB' - STA 343+63'SB'
STA 448+76'NB' - STA 462+55'NB'	STA 448+76'SB' - STA 462+49'SB'
STA 557+19'NB' - STA 589+65'NB'	STA 557+25'SB' - STA 589+65'SB'

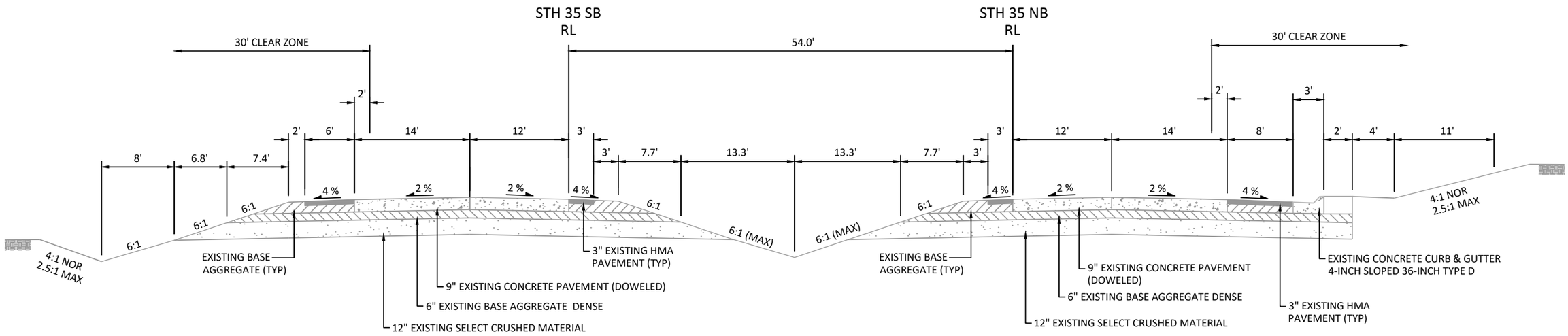
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 4	E



EXISTING TYPICAL SECTION

STH 35
SUPERELEVATED SECTION

STA 408+30'NB' - STA 439+35'NB' STA 408+30'SB' - STA 439+35'SB'
STA 469+36'NB' - STA 477+27'NB' STA 469+30'SB' - STA 477+27'SB'
STA 596+47'NB' - STA 616+99'NB' STA 596+47'SB' - STA 616+99'SB'

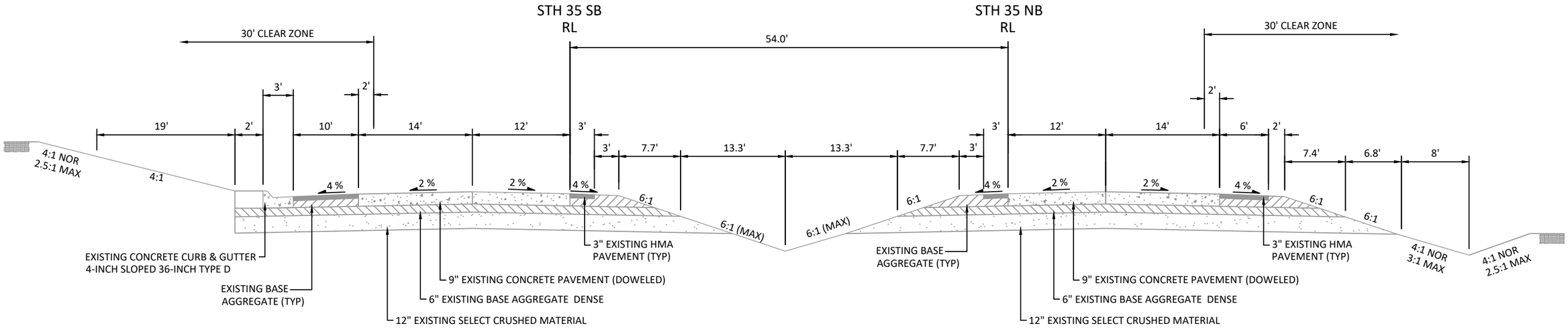


EXISTING TYPICAL SECTION

STH 35

STA 363+50'NB' - STA 368+50'NB' STA 363+50'SB' - STA 368+50'SB'

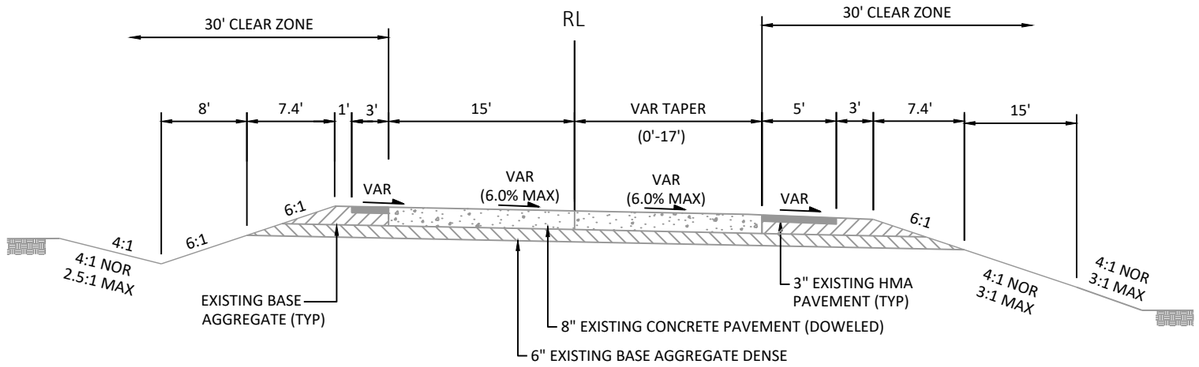
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 5	E



EXISTING TYPICAL SECTION

STH 35

STA 370+85'NB' - STA 379+00'NB' STA 370+85'SB' - STA 379+00'SB'



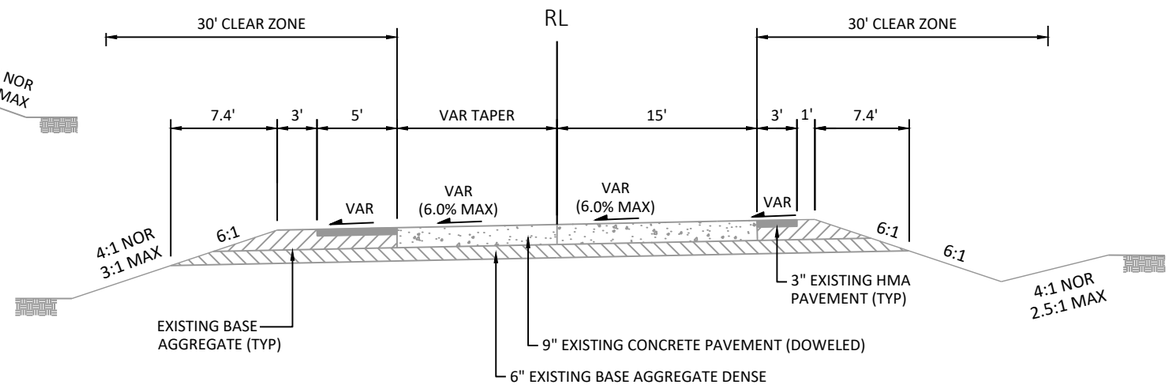
EXISTING TYPICAL SECTION

CTH V RAMP C
STA 355+00'C' - 355+29'C'
STA 357+71'C' - 368+35'C'

CTH V RAMP D
STA 342+15'D' - 352+01'D'
STA 355+24'D' - 355+63'D'

CTH VV RAMP G
STA 432+85'G' - 433+20'G'
STA 437+34'G' - 445+33'G'

CTH VV RAMP H
STA 420+65'H' - 431+80'H'



EXISTING TYPICAL SECTION

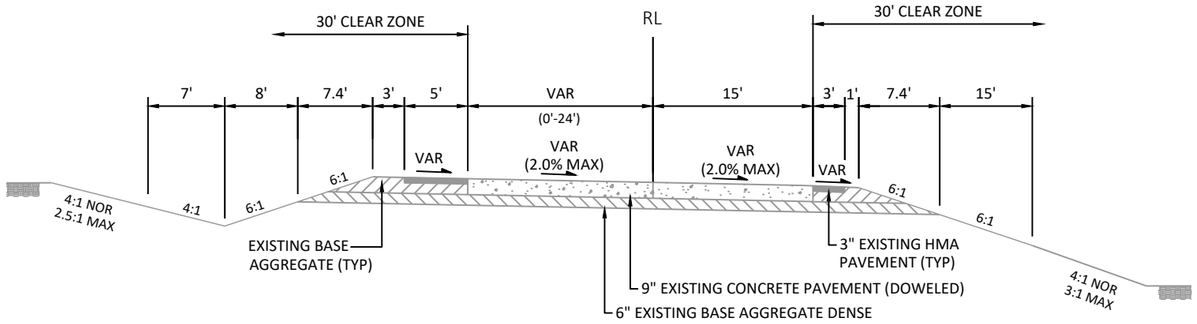
CTH V RAMP B
STA 357+97'B' - STA 367+75'B'

CTH V RAMP A
STA 342+22'A' - STA 351+36'A'

CTH VV RAMP F
STA 438+10'F' - STA 445+93'F'

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 6	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 02A-10ft
PLOT DATE : 6/5/2025 9:44 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

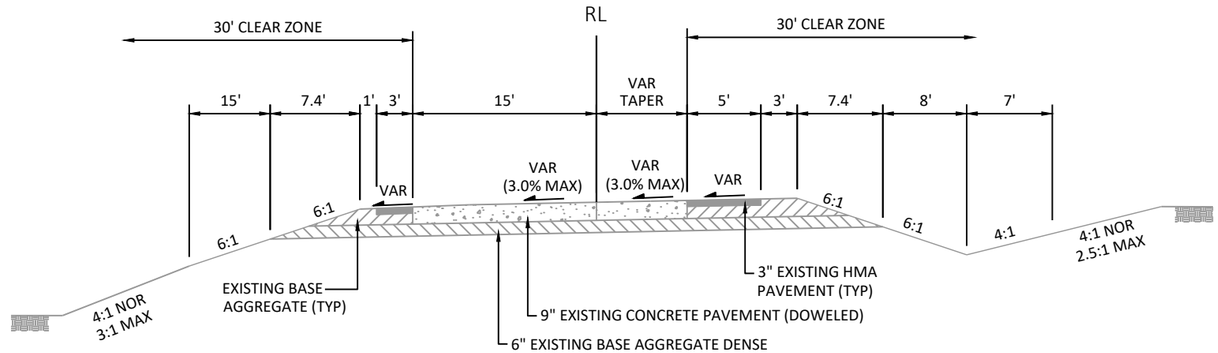


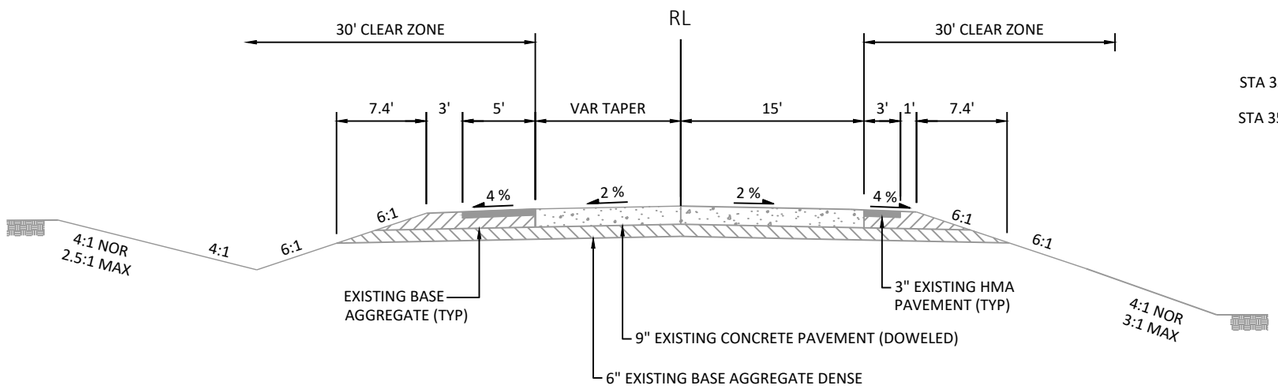
EXISTING TYPICAL SECTION

CTH V RAMP B
STA 354+20'B' - STA 357+97'B'

CTH V RAMP A
STA 351+36'A' - STA 354+68'A'

CTH VV RAMP E
STA 422+12'E' - STA 423+75'E'
STA 431+43'E' - STA 435+98'E'





EXISTING TYPICAL SECTION

CTH V RAMP C
STA 355+29'C' - STA 357+71'C'

CTH V RAMP D
STA 352+01'D' - STA 355+24'D'

CTH VV RAMP G
STA 443+20'G' - STA 435+82'G'

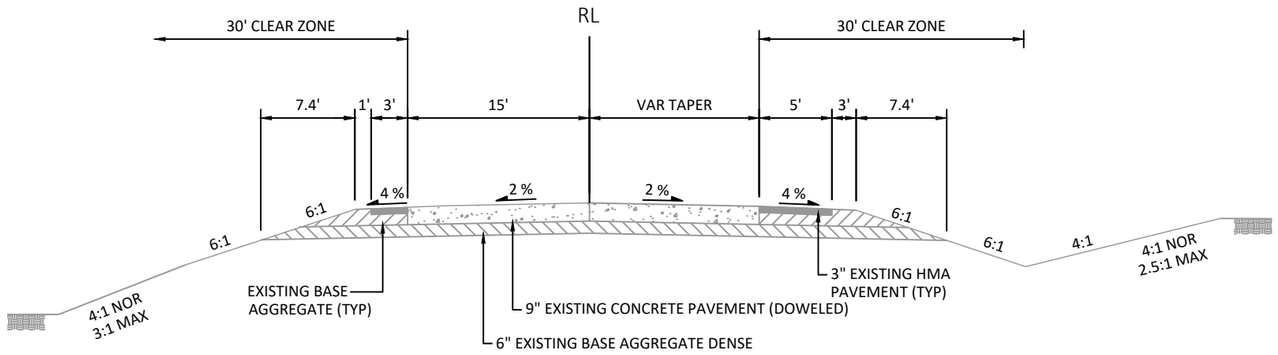
STH 35 RAMP L
STA 629+76'L' - STA 634+95'L'

EXISTING TYPICAL SECTION

CTH VV RAMP E
STA 423+75'E' - STA 431+43'E'

CTH VV RAMP F
STA 434+20'F' - STA 438+10'F'

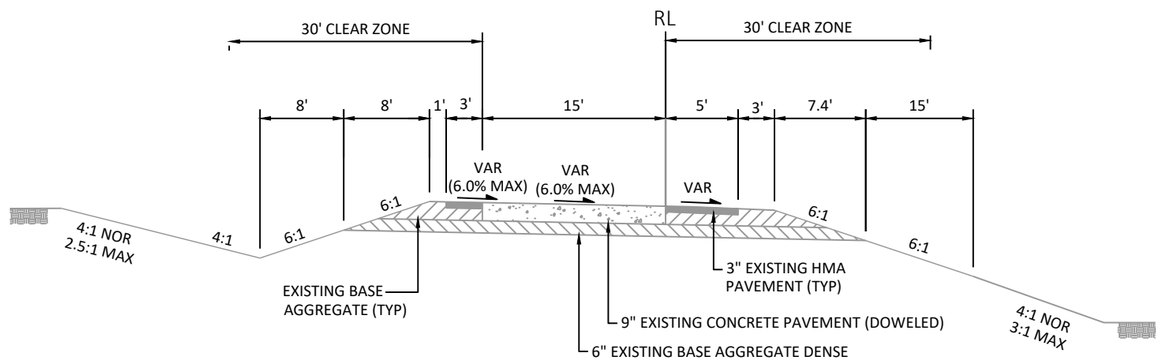
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 7	E



EXISTING TYPICAL SECTION

CTH VV RAMP G

STA 435+82'G' - STA 437+34'G'



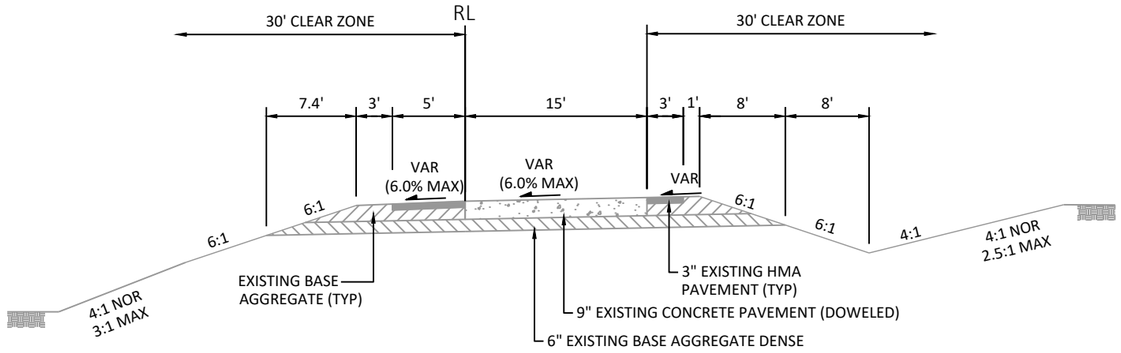
EXISTING TYPICAL SECTION

STH 35 RAMP L

STA 620+30'L' - STA 629+76'L'

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 8	E

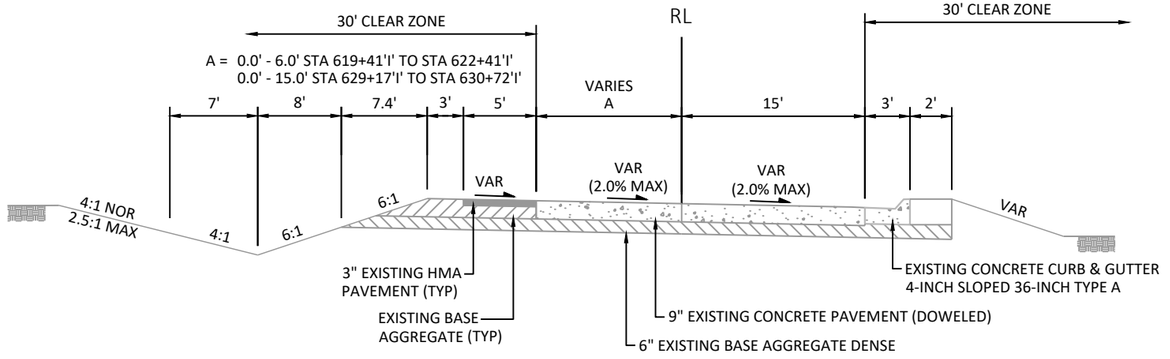
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LAYOUT NAME - 03-10ft
PLOT DATE : 6/5/2025 9:44 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

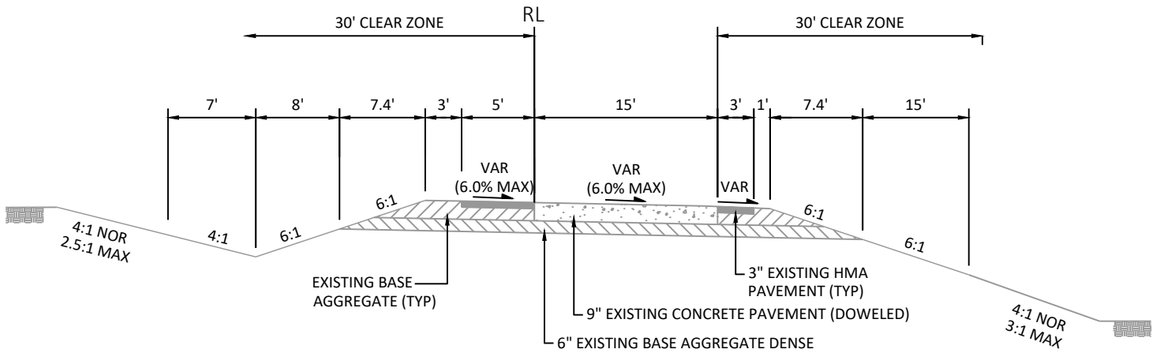


EXISTING TYPICAL SECTION

STH 35 RAMP I

STA 612+50'I' - STA 625+69'I'





EXISTING TYPICAL SECTION

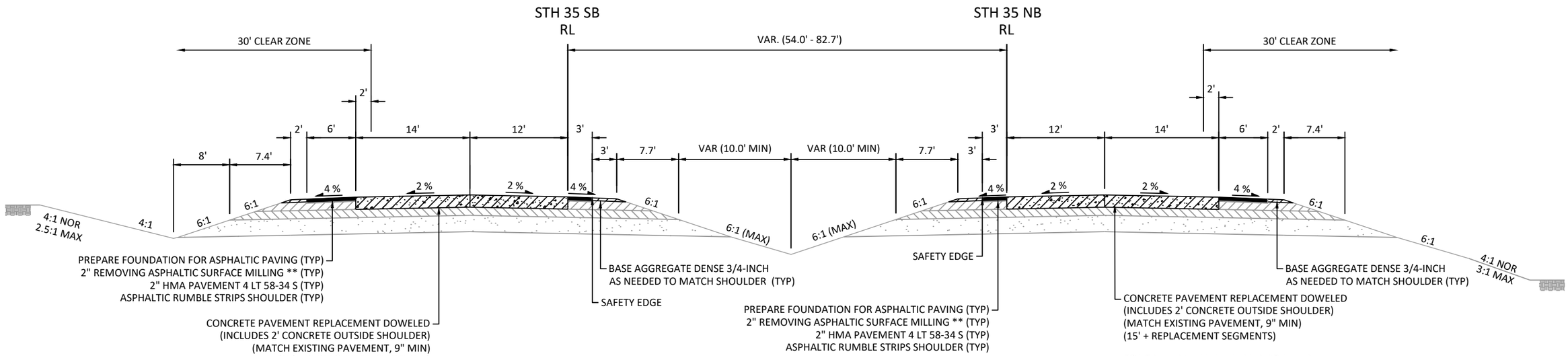
STH 35 RAMP I

STA 625+69'I' - STA 627+50'I'

EXISTING TYPICAL SECTION

STH 35 RAMP I

STA 627+50'I' - STA 631+00'I'



FINISHED TYPICAL SECTION

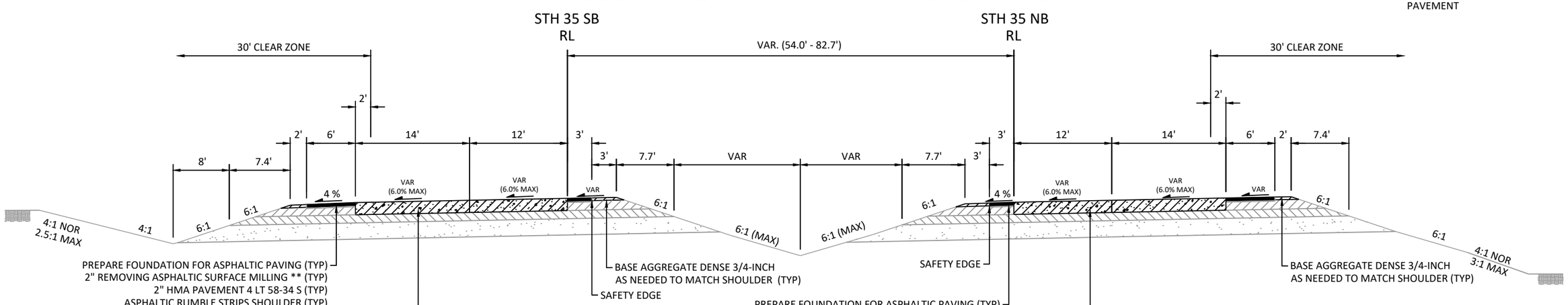
STH 35

STA 304+28'NB' - STA 317+97'NB'
STA 343+63'NB' - STA 363+50'NB'
STA 368+50'NB' - STA 370+85'NB'
STA 379+00'NB' - STA 408+30'NB'
STA 439+35'NB' - STA 448+76'NB'

STA 462+55'NB' - STA 469+36'NB'
STA 477+27'NB' - STA 557+19'NB'
STA 589+65'NB' - STA 596+47'NB'
STA 616+99'NB' - STA 618+74'NB'

STA 304+28'SB' - STA 317+97'SB'
STA 343+63'SB' - STA 363+50'SB'
STA 368+50'SB' - STA 370+85'SB'
STA 379+00'SB' - STA 408+30'SB'
STA 439+35'SB' - STA 448+76'SB'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



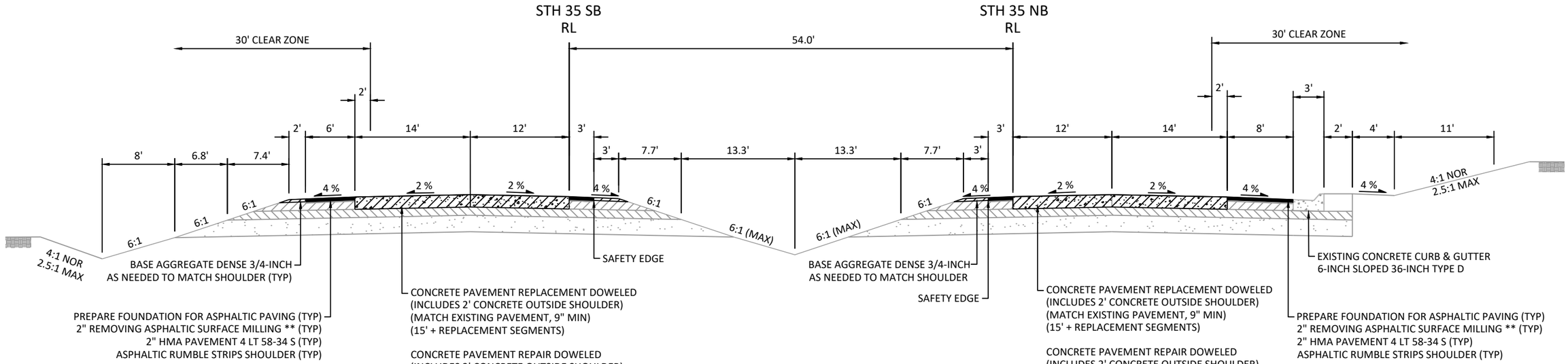
FINISHED TYPICAL SECTION

STH 35
SUPERELEVATED SECTION

STA 317+97'NB' - STA 343+63'NB'
STA 448+76'NB' - STA 462+55'NB'
STA 557+19'NB' - STA 589+65'NB'

STA 317+97'SB' - STA 343+63'SB'
STA 448+76'SB' - STA 453+48'SB'

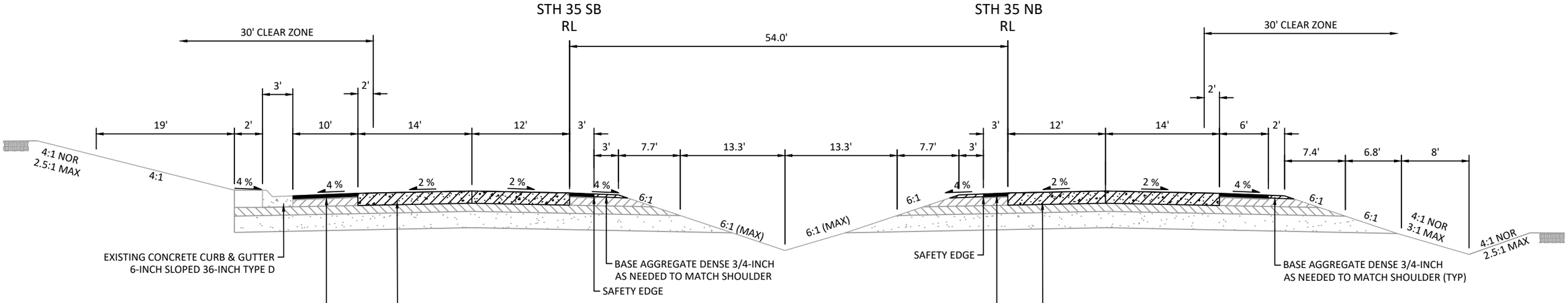
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 10	E



FINISHED TYPICAL SECTION

STH 35
STA 363+50'NB' - STA 368+50'NB'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



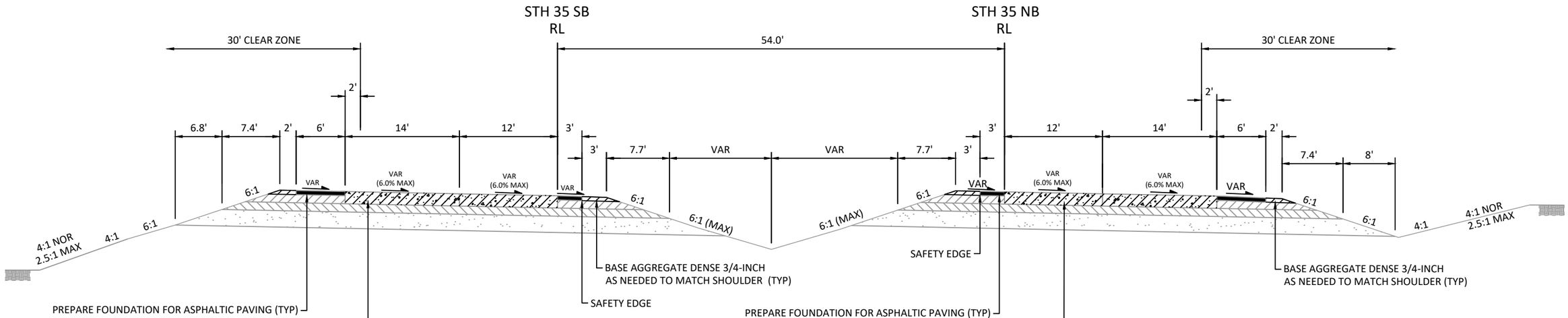
FINISHED TYPICAL SECTION

STH 35
STA 370+85'NB' - STA 379+00'NB' STA 370+85'SB' - STA 379+00'SB'

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 11	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 06-10ft 75-2
PLOT DATE : 6/5/2025 9:45 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

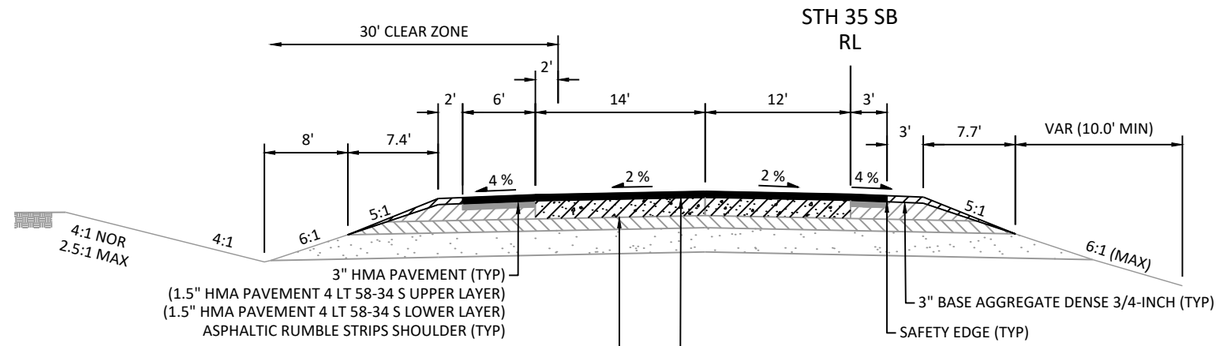


FINISHED TYPICAL SECTION

STH 35
SUPERELEVATED SECTION

STA 408+30'NB' - STA 439+35'NB' STA 408+30'SB' - STA 439+35'SB'
STA 469+36'NB' - STA 477+27'NB'
STA 587+00'NB' - STA 608+44'NB'
STA 610+96'NB' - STA 616+99'NB'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



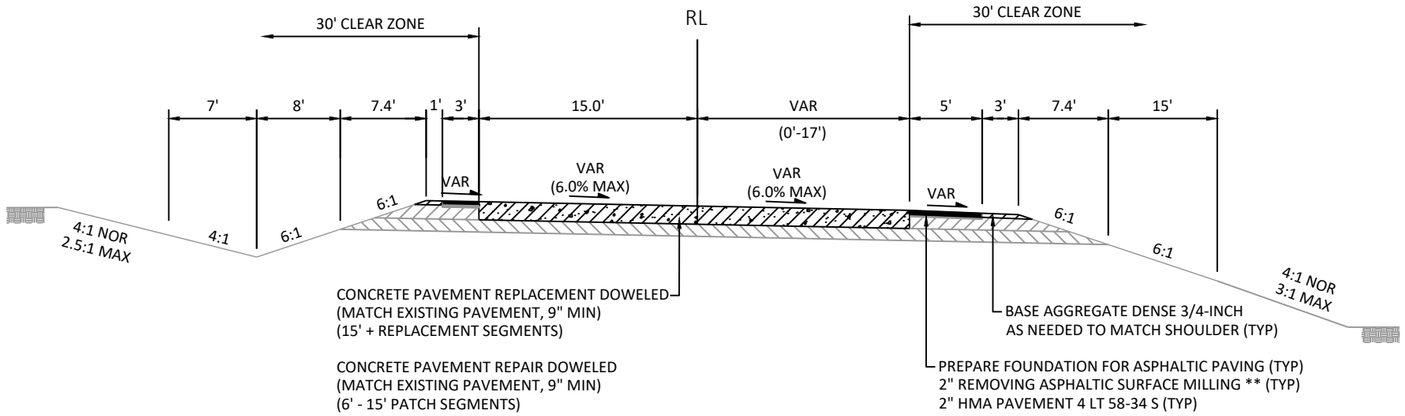
* STA 566+74'SB' - STA 567+33'SB'
STA 569+60'SB' - STA 570+64'SB'

FINISHED TYPICAL SECTION

STH 35 SB ONLY
STA 453+48'SB' - STA 608+40'SB'
STA 610+92'SB' - STA 618+74'SB'

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 12	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 05A-10ft-75-3
PLOT DATE : 6/5/2025 9:45 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT

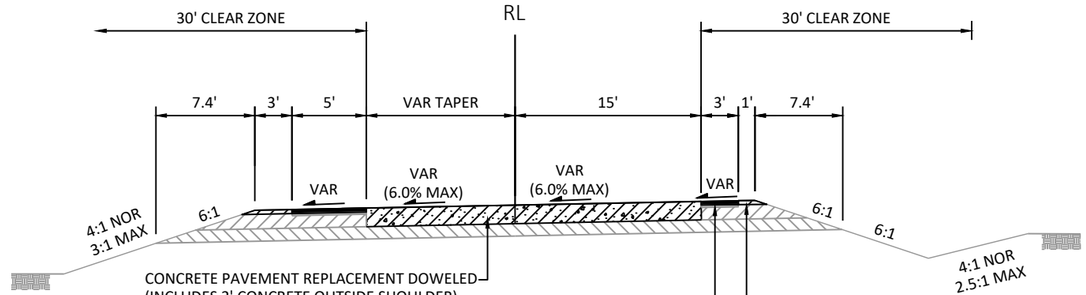
FINISHED TYPICAL SECTION

CTH V RAMP C
STA 355+00'C' - 355+29'C'
STA 357+71'C' - 368+35'C'

CTH VV RAMP G
STA 432+85'G' - 433+20'G'
STA 437+34'G' - 445+33'G'

CTH V RAMP D
STA 342+15'D' - 352+01'D'
STA 355+24'D' - 355+63'D'

CTH VV RAMP H
STA 420+65'H' - 431+80'H'



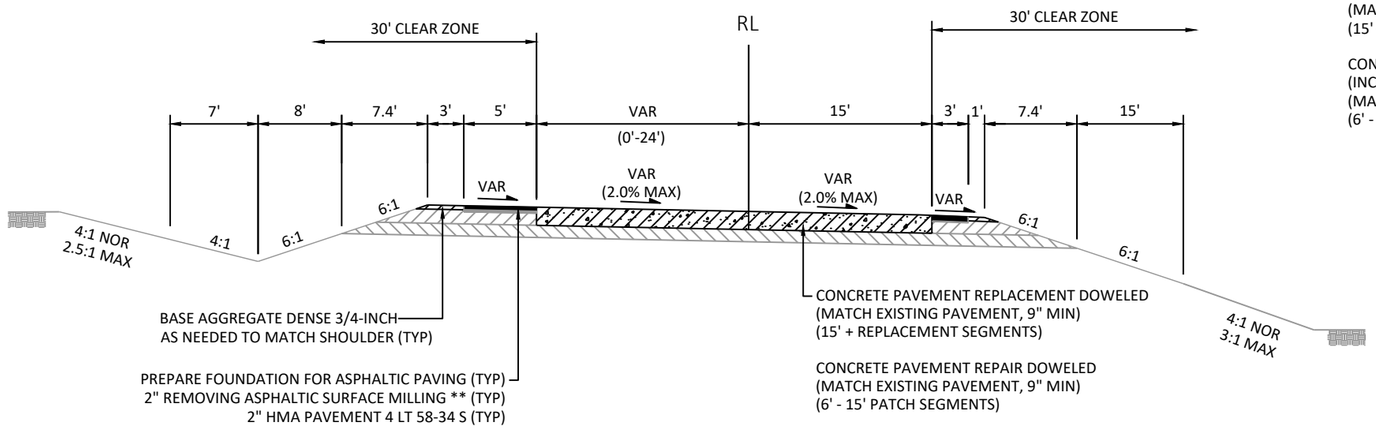
FINISHED TYPICAL SECTION

CTH V RAMP B
STA 357+97'B' - STA 367+75'B'

CTH VV RAMP F
STA 438+10'F' - STA 445+93'F'

STH 35 RAMP I
STA 613+00'I' - STA 631+40'I'

CTH V RAMP A
STA 342+22'A' - STA 351+36'A'

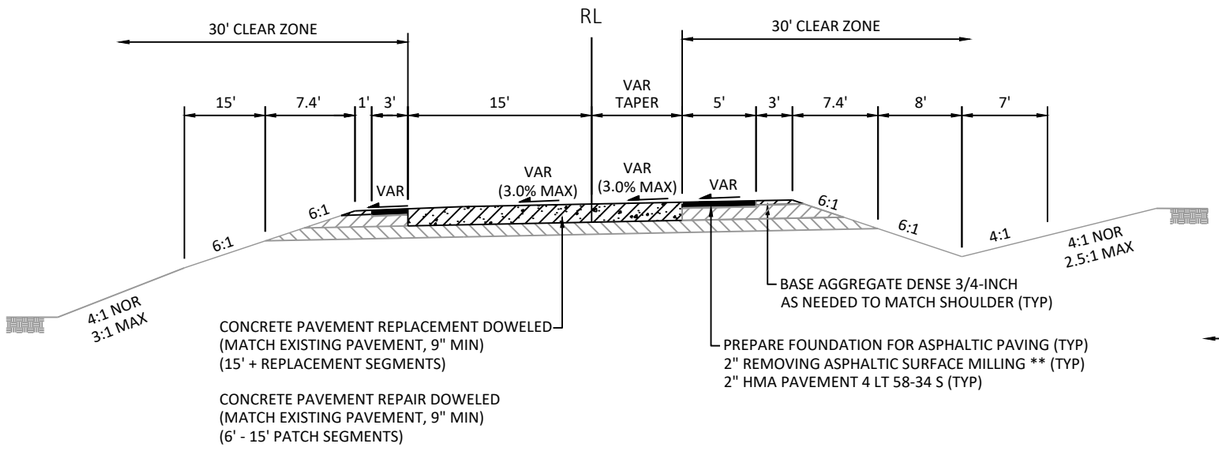


FINISHED TYPICAL SECTION

CTH V RAMP B
STA 354+20'B' - STA 357+97'B'

CTH VV RAMP E
STA 422+12'E' - STA 423+75'E'
STA 431+43'E' - STA 435+98'E'

CTH V RAMP A
STA 351+36'A' - STA 354+68'A'



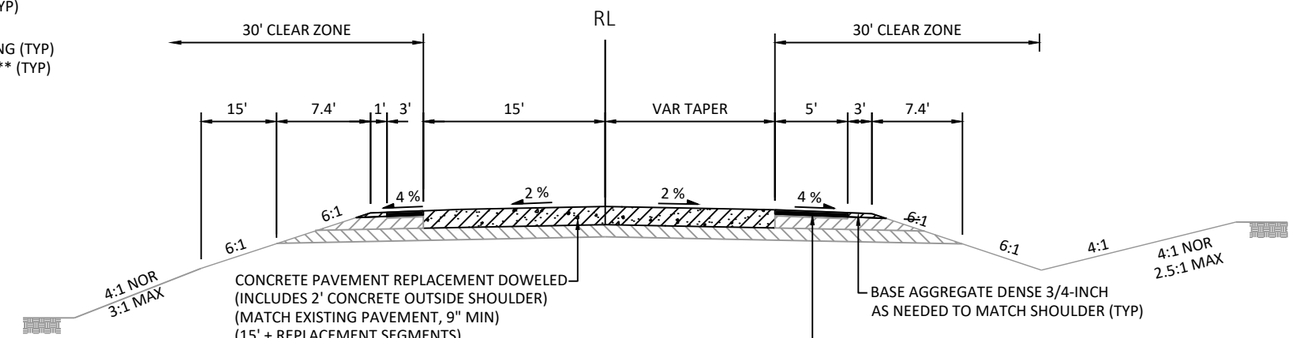
FINISHED TYPICAL SECTION

CTH V RAMP C
STA 355+29'C' - STA 357+71'C'
CTH V RAMP D
STA 352+01'D' - STA 355+24'D'

CTH VV RAMP G
STA 443+20'G' - STA 435+82'G'

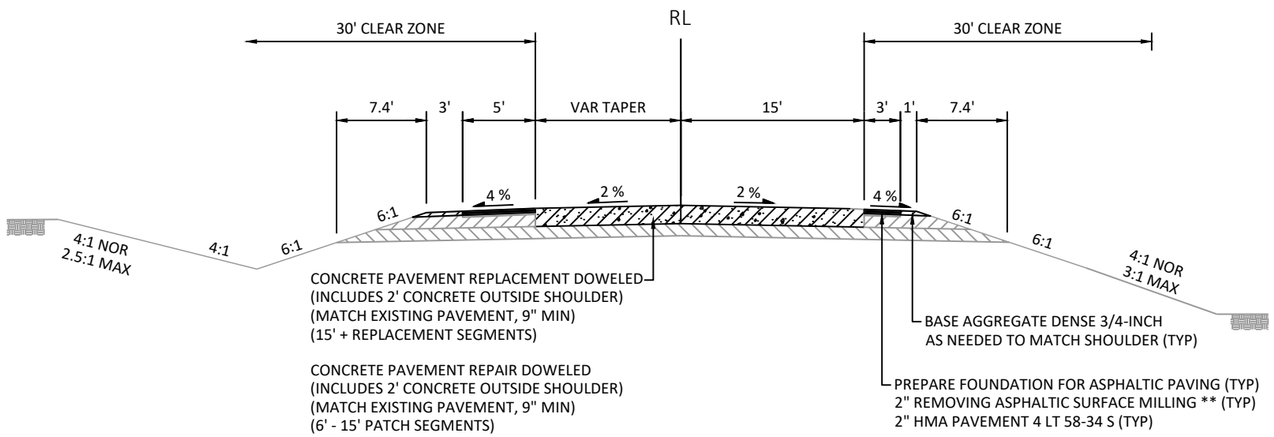
STH 35 RAMP L
STA 629+76'L' - STA 635+95'L'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



FINISHED TYPICAL SECTION

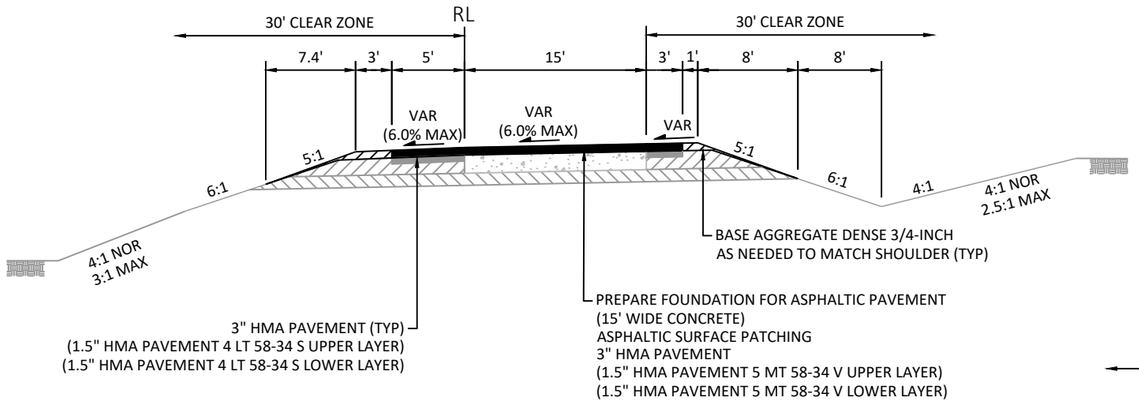
CTH VV RAMP G
STA 435+82'G' - STA 437+34'G'



FINISHED TYPICAL SECTION

CTH VV RAMP E
STA 423+75'E' - STA 431+43'E'
CTH VV RAMP F
STA 434+20'F' - STA 438+10'F'

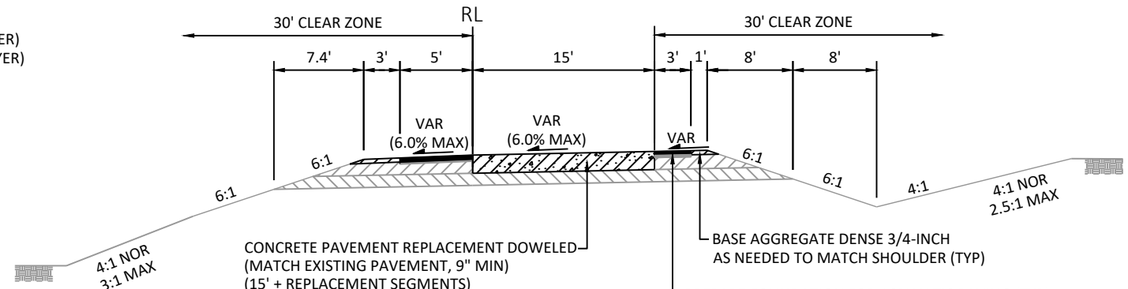
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FINISHED TYPICAL SECTION

STH 35 RAMP I

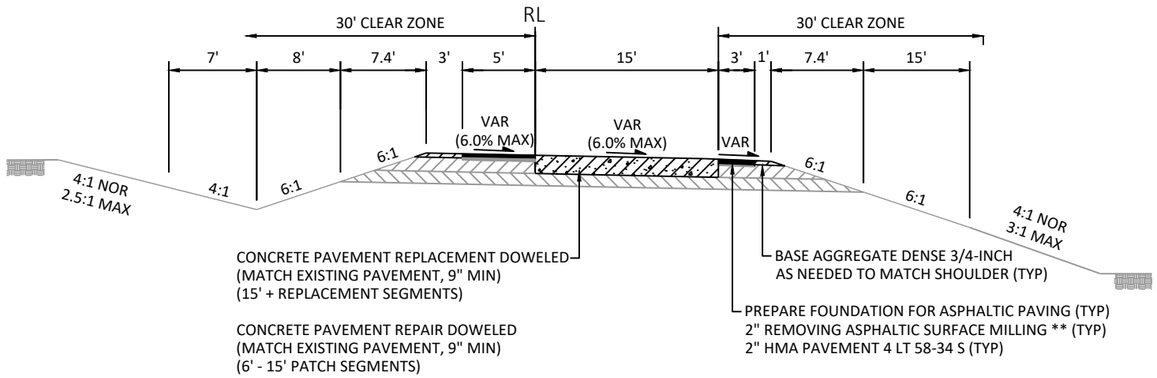
STA 612+50'I' - STA 620+25'I'



FINISHED TYPICAL SECTION

STH 35 RAMP I

STA 620+250'I' - STA 625+69'I'



FINISHED TYPICAL SECTION

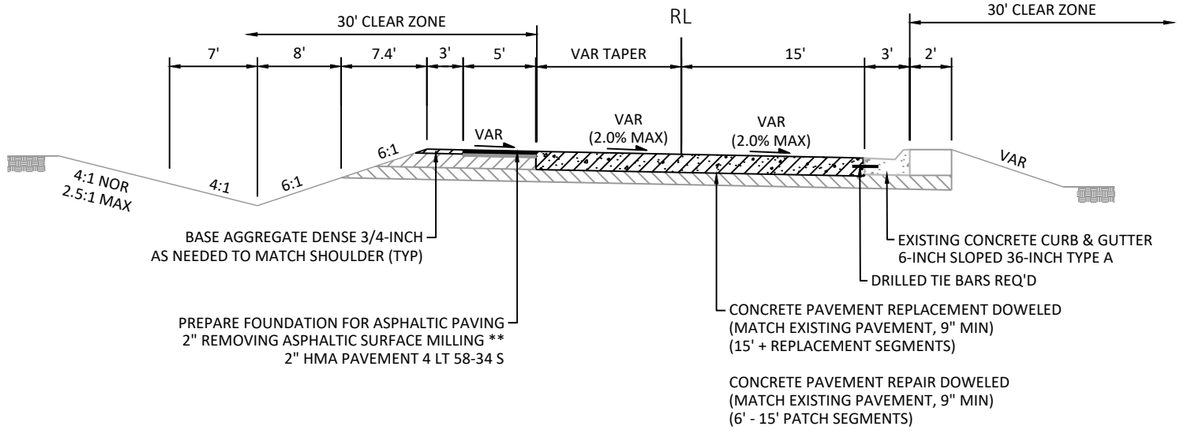
STH 35 RAMP I

STA 625+69'I' - STA 627+50'I'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT

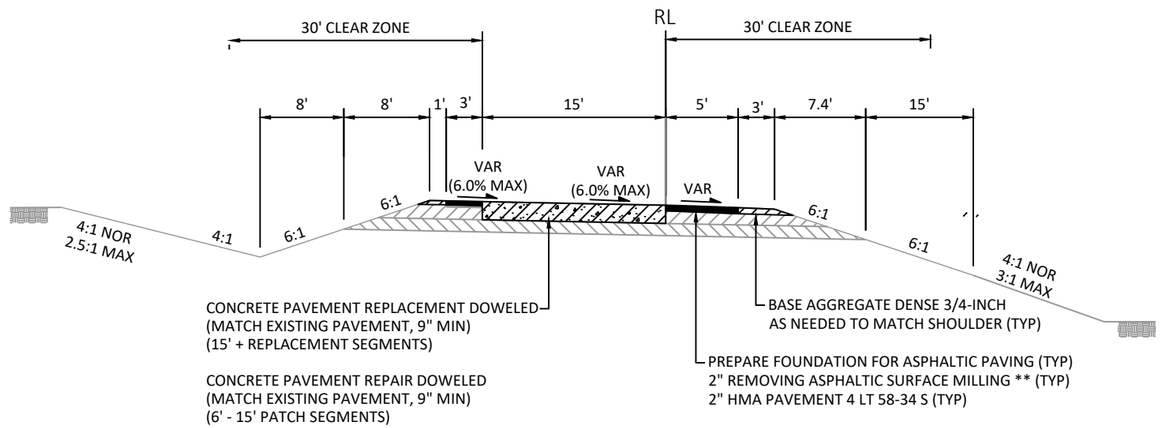
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** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



FINISHED TYPICAL SECTION

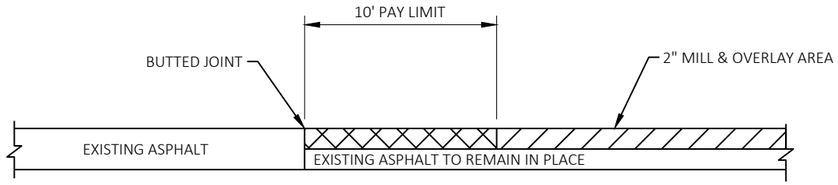
STH 35 RAMP I
STA 627+50'I' - STA 631+00'I'



FINISHED TYPICAL SECTION

STH 35 RAMP L
STA 620+30'L' - STA 629+76'L'

2

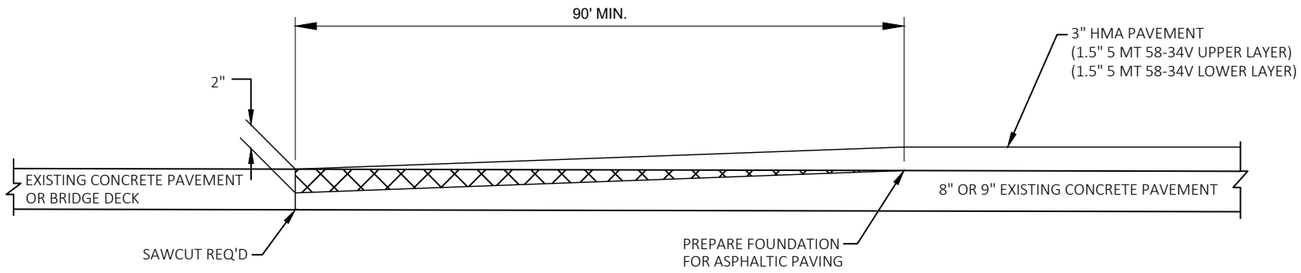


PAID FOR AS REMOVING ASPHALTIC SURFACE BUTT JOINTS

PAID FOR AS REMOVING ASPHALTIC SURFACE MILLING

NOTE:
ANY SAWCUT USED WILL BE CONSIDERED INCIDENTAL TO THE ITEM "REMOVING ASPHALTIC SURFACE BUTT JOINTS"

SHOULDER BUTT JOINT DETAIL

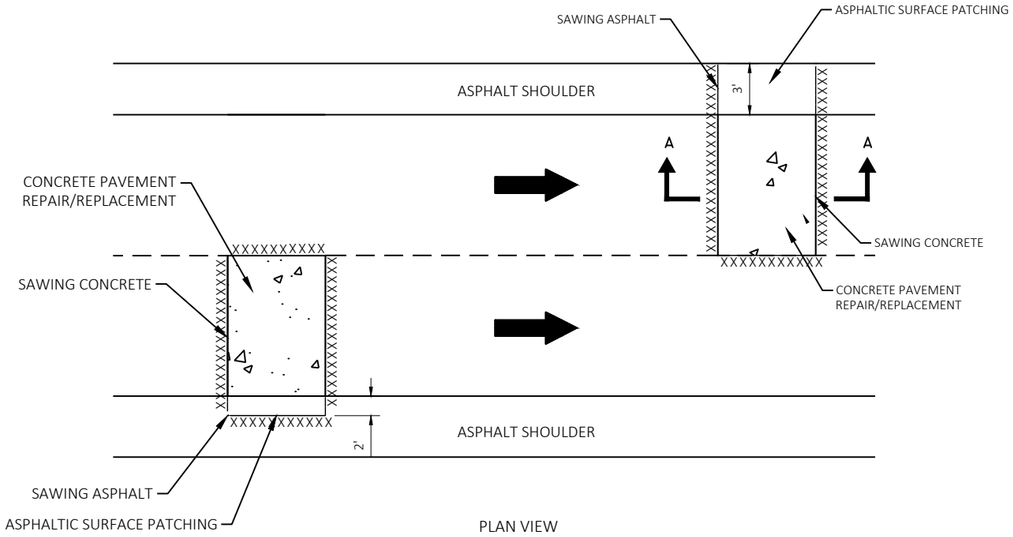


PAID FOR AS REMOVING CONCRETE PAVEMENT BUTT JOINTS

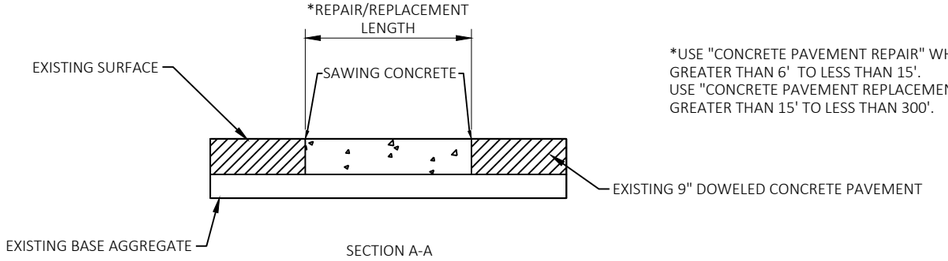
NOTE:
ANY SAWCUT USED WILL BE CONSIDERED INCIDENTAL TO THE ITEM "REMOVING CONCRETE PAVEMENT BUTT JOINTS"

MAINLINE HMA PAVEMENT OVERLAY BUTT JOINT DETAIL

STA 453+48'SB' - STA 454+38'SB'
STA 607+72'SB' - STA 608+62'SB'
STA 611+15'SB' - STA 612+05'SB'



PLAN VIEW



SECTION A-A

*USE "CONCRETE PAVEMENT REPAIR" WHEN LENGTH IS GREATER THAN 6' TO LESS THAN 15'.
USE "CONCRETE PAVEMENT REPLACEMENT" WHEN LENGTH IS GREATER THAN 15' TO LESS THAN 300'.

NOTES:
THICKNESS OF CONCRETE REPAIR/REPLACEMENT MAY VARY. 9" AVERAGE THICKNESS IS EXPECTED.

PROVIDE A 6' MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR TO ADJACENT TRANSVERSE JOINT OR CRACK.

DAMAGE TO EITHER EXISTING PAVEMENT OR EXISTING SHOULDERS OUTSIDE OF REPAIR LIMITS SHALL BE PREPARED AS DIRECTED BY THE ENGINEER AND WILL BE INCIDENTAL TO THE ITEMS OF "CONCRETE REPAIR" AND "CONCRETE REPLACEMENT".

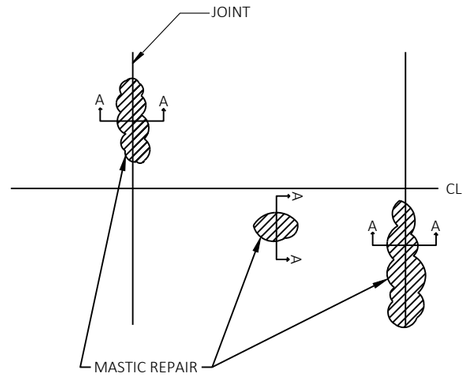
SALVAGE AND REUSE EXISTING BASE AGGREGATE

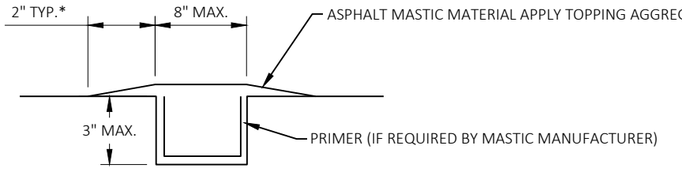
SAW CUTS TO BE PAID FOR UNDER STANDARD SAWING BID ITEMS.

SEE SDD "CONCRETE PAVEMENT REPAIR AND REPLACEMENT" FOR ADDITIONAL INFORMATION.

CONCRETE PAVEMENT REPAIR/REPLACMENT

LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.





SECTION A-A

*OR AS RECOMMENDED BY THE MANUFACTURER

NOTE:
CLEAN JOINTS WITHOUT ROUTING.

REMOVE ONLY LOOSE, DE-BONDED, AND FAILED GROUT AND OTHER DELETERIOUS MATERIAL.

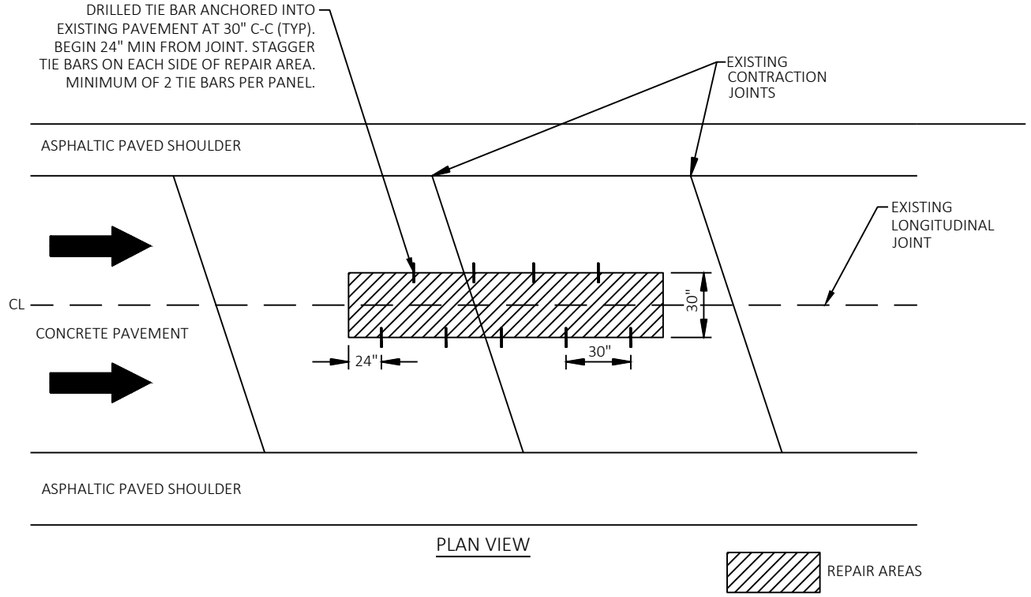
EXISTING GROUT THAT IS WELL BONDED SHOULD REMAIN.

CONTRACTOR SHOULD REMOVE MATERIAL WITH A HIGH PRESSURE AIR NOZZLE TO THE MAXIMUM EXTENT POSSIBLE. JACK HAMMERING IS TO BE USED WITH THE APPROVAL OF THE ENGINEER.

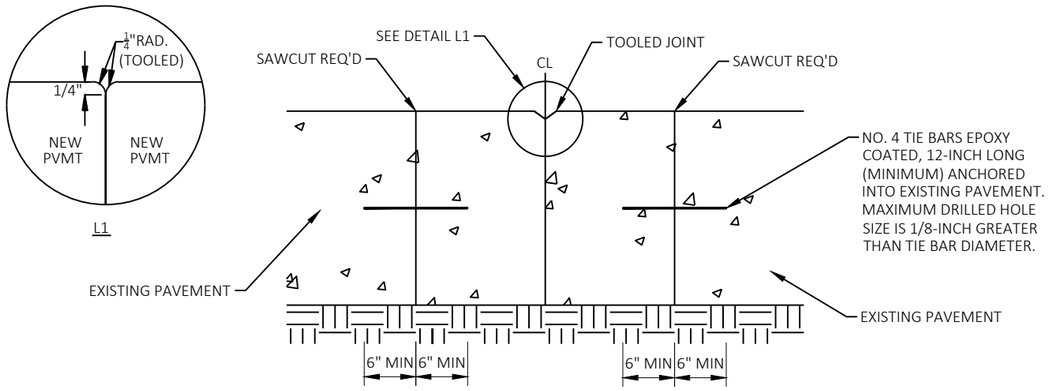
REPAIR LIMITS WILL BE DETERMINED BY THE ENGINEER.

ASPHALT MASTIC JOINT SEALING DETAIL

LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.



PLAN VIEW

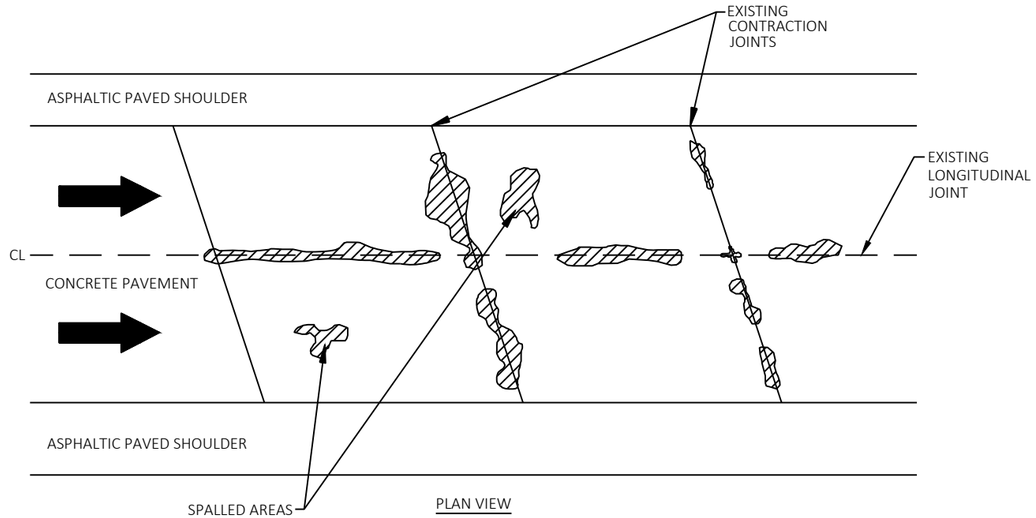


L1

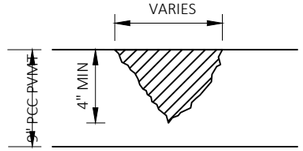
SECTION VIEW

CONCRETE PAVEMENT CENTERLINE JOINT REPAIR

LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.



PLAN VIEW



REPAIR AREAS

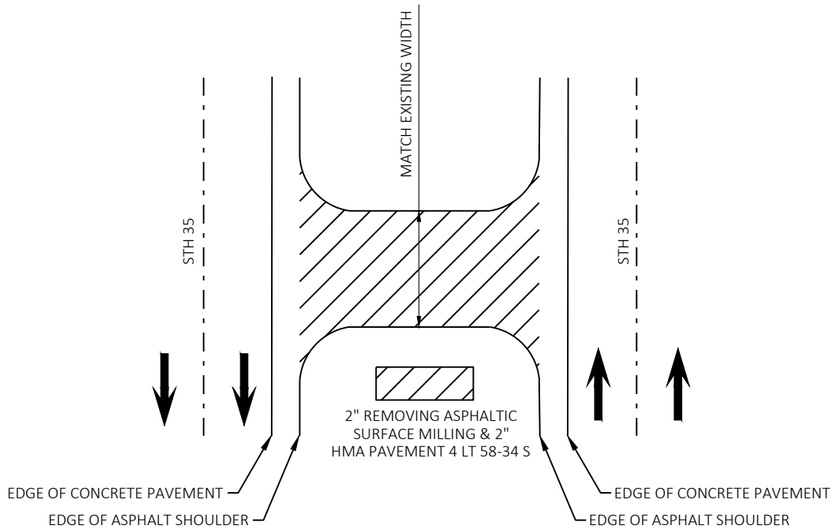
NOTES:
REMOVE ALL CONCRETE, ASPHALT, AND ANY UNSOUND MATERIAL FROM TRAVERSE AND LONGITUDINAL CRACKS AS WELL AS ANY RANDOM CRACKS. LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE SHALL BE PLACED IN THE JOINT REPAIR AREA. PATCHING SHALL BE COMPACTED IN LIFTS (2 LIFT MINIMUM) UNTIL FLUSH WITH THE SURFACE OF THE CONCRETE. ASPHALTIC SURFACE PAID SEPARATELY FROM THIS ITEM.

DEPTH VARIES A MINIMUM DEPTH OF 4 INCHES TO A FULL DEPTH JOINT AS CONDITIONS DICTATE.

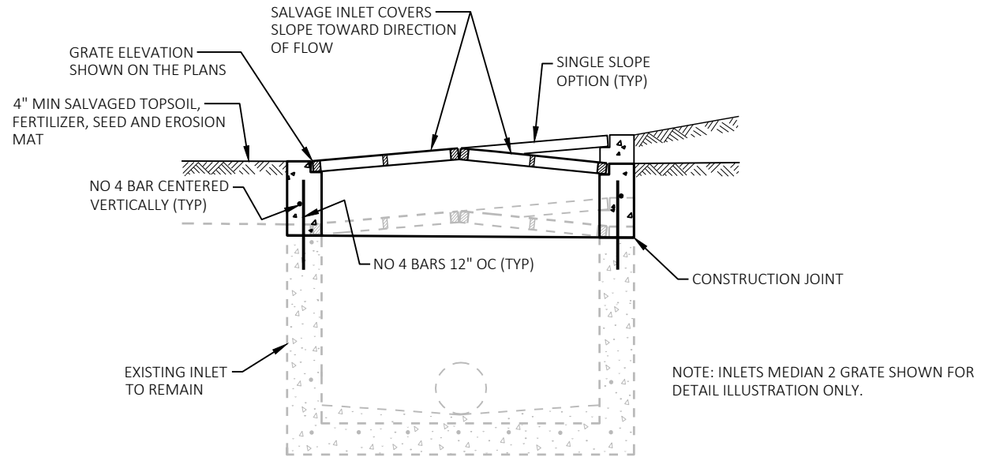
PREPARE FOUNDATION FOR ASPHALTIC PAVING

STH 35 SB OVERLAY
STA 453+48'SB' - STA 618+74'SB'



SIDEROAD MEDIAN AND MAINTENANCE CROSSOVER DETAIL

STA 340+40'NB'
STA 384+90'NB'
STA 406+60'NB'
STA 460+00'NB'
STA 594+30'NB'

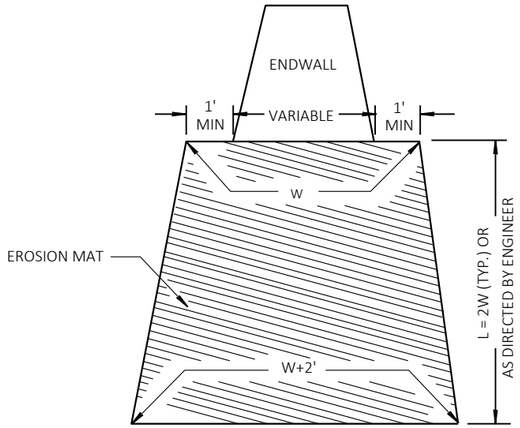


NOTE:
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

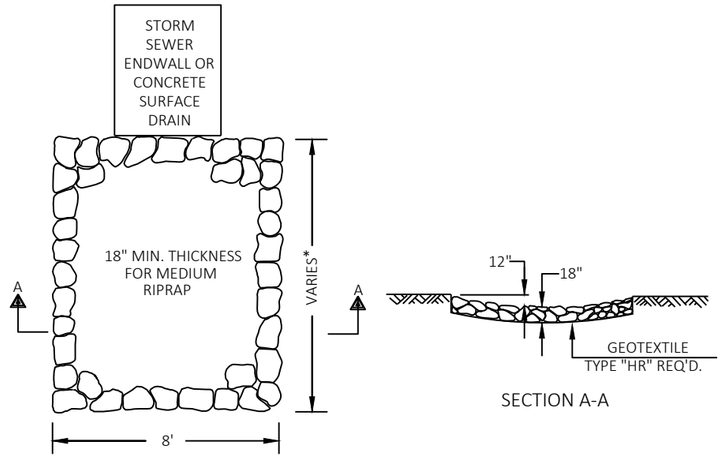
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

SEE S.D.D. "INLETS MEDIAN 1 & 2 GRATE" FOR MORE INFORMATION.

RECONSTRUCTION INLETS MEDIAN 2 GRATE



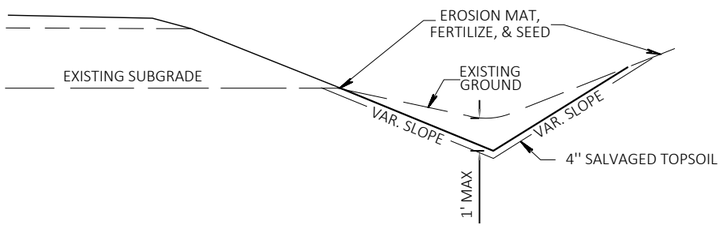
EROSION MAT TREATMENT AT CULVERTS



SECTION A-A

RIPRAP MEDIUM TREATMENT DETAIL

NOTE:
SEE PLAN DETAILS FOR LENGTH OF RIPRAP

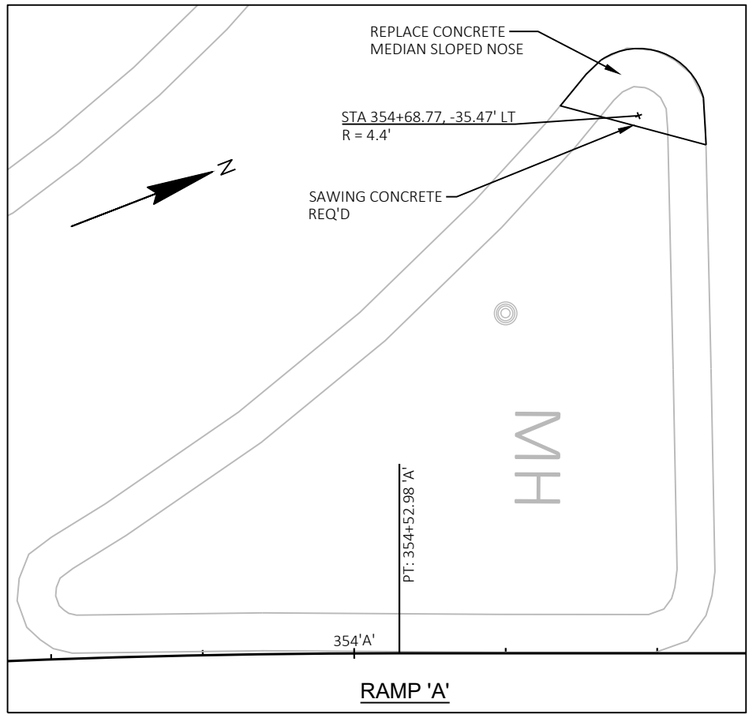


CLEANING DITCH DETAIL

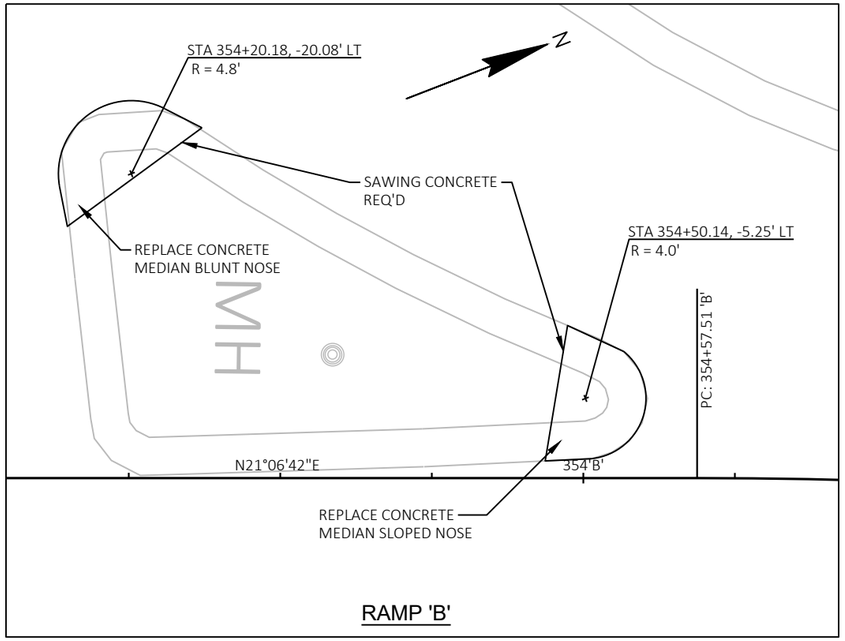
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CONSTRUCTION DETAILS	SHEET 21	E

NOTES:
PROPOSED GRADES ARE INTENDED TO BE REPLACE "IN-KIND". ADJUSTMENTS MAY BE REQUIRED IN THE FIELD TO MEET EXISTING CONDITIONS.

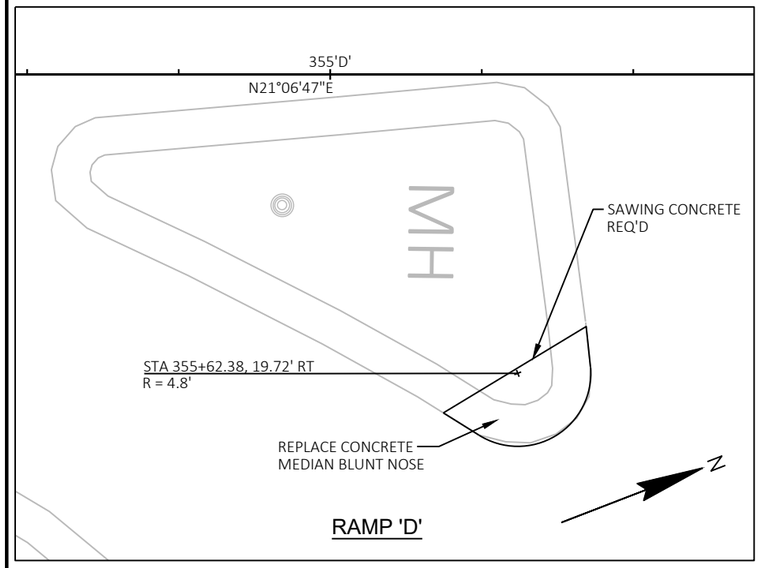
ENGINEER IN FIELD MAY ADJUST SAWCUT LIMITS BASED ON FIELD CONDITIONS.



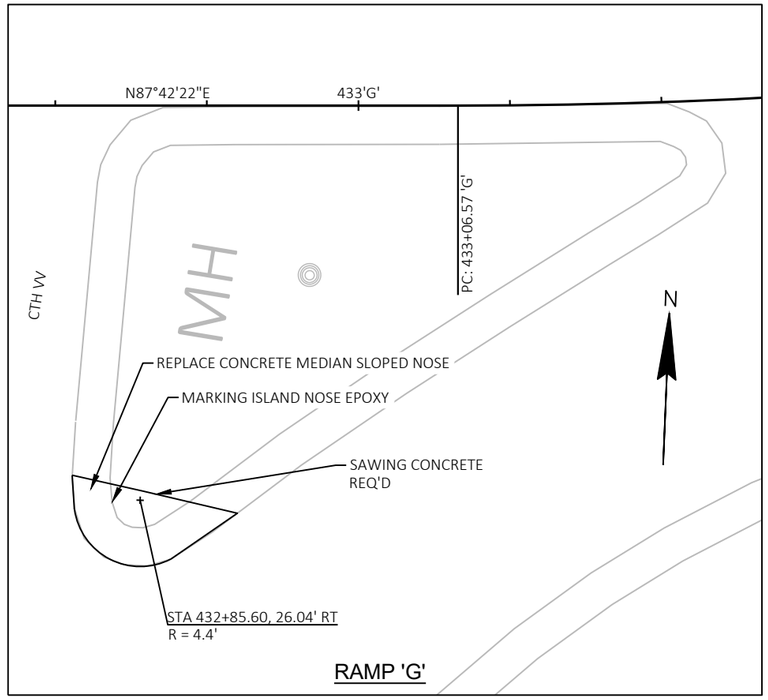
RAMP 'A'



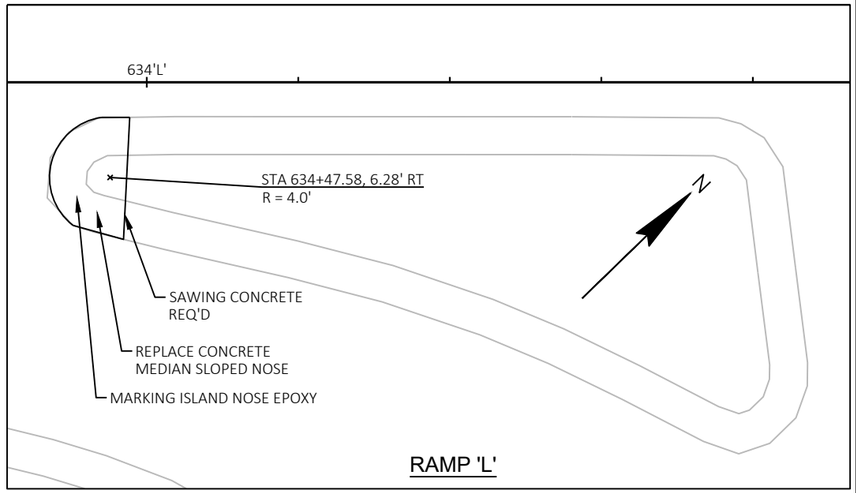
RAMP 'B'



RAMP 'D'



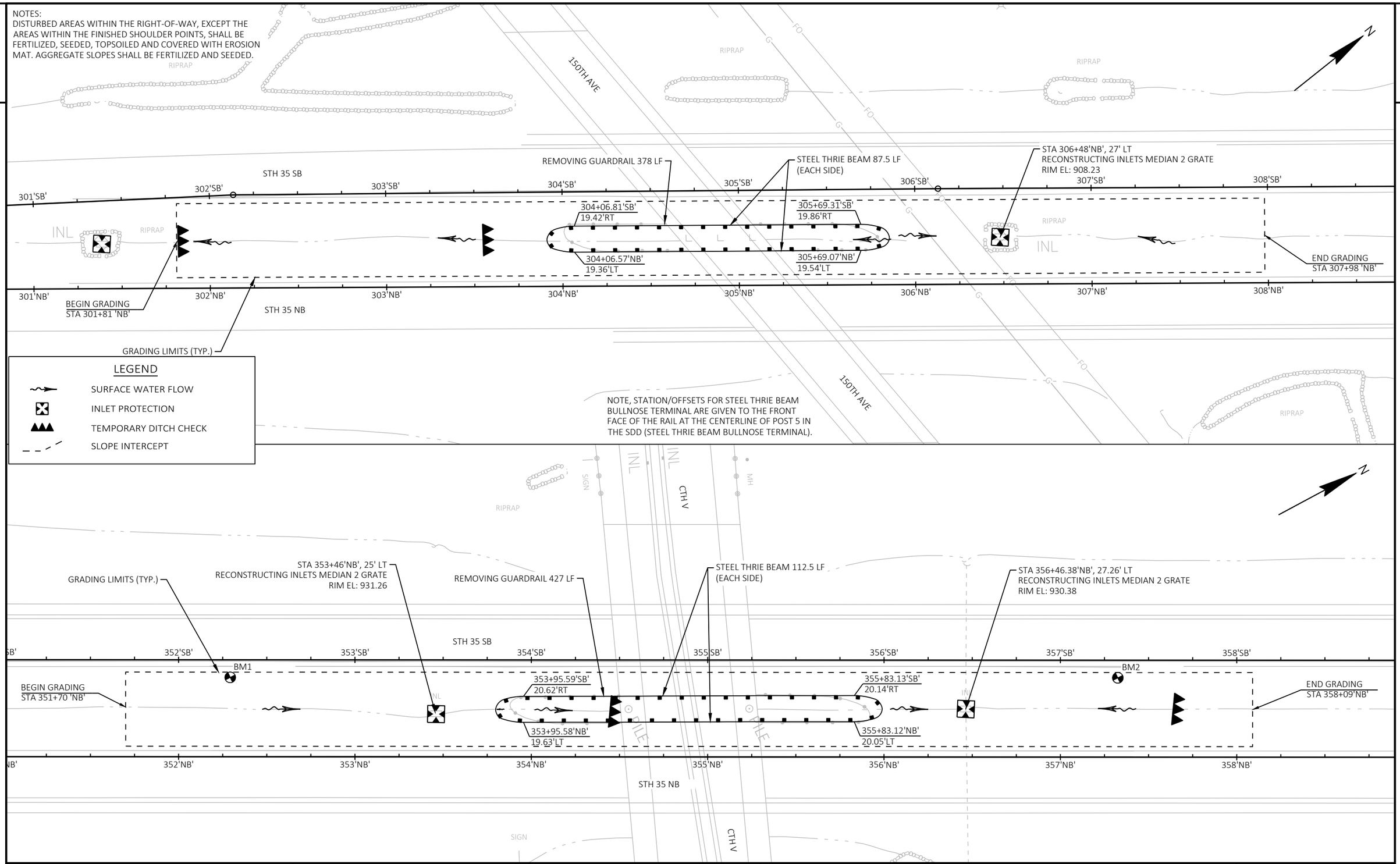
RAMP 'G'



RAMP 'L'

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CONSTRUCTION DETAILS - ISLAND REPAIR DETAIL	SHEET 22	E

NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.



PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 23	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\021002 CD.DWG
LAYOUT NAME - 07
PLOT DATE : 6/4/2025 9:06 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 42

NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.

2

2

CLEANING DITCH 75 FT

N

STEEL THRIE BEAM 112.5 LF
(EACH SIDE)

REMOVING GUARDRAIL 452 LF

STA 435+2'NB', 32' LT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 933.48

STA BACK = 436+57.40
STA AHEAD = 436+00.00

GRADING LIMITS (TYP.)

433+26.47'SB'
19.80'RT

435+15.97'SB'
19.73'RT

432+76.17'NB'
19.89'LT

434+61.56'NB'
19.89'LT

BEGIN GRADING
STA 430+95 'NB'

BM 3

BM 4

END GRADING
STA 436+97 'NB'

STH 35 SB

STH 35 NB

CTH VV

RIPRAP

PILE

INL

NOTE, STATION/OFFSETS FOR STEEL THRIE BEAM BULLNOSE TERMINAL ARE GIVEN TO THE FRONT FACE OF THE RAIL AT THE CENTERLINE OF POST 5 IN THE SDD (STEEL THRIE BEAM BULLNOSE TERMINAL).

LEGEND

- SURFACE WATER FLOW
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SLOPE INTERCEPT

CTH I

STA 557+27'NB', 27' LT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 924.06

STEEL THRIE BEAM 75 LF
(EACH SIDE)

REMOVING GUARDRAIL 377 LF

558+29.21'SB'
20.32'RT

559+78.74'SB'
20.17'RT

558+23.61'NB'
19.82'LT

559+73.14'NB'
19.97'LT

BEGIN GRADING
STA 556+03 'NB'

BM 5

BM 6

END GRADING
STA 562+01 'NB'

GRADING LIMITS (TYP.)

STA 560+70'NB', 24' LT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 924.79

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 24	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\021002 CD.DWG
LAYOUT NAME - 08
PLOT DATE : 6/4/2025 9:07 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2

2

SIGN

INL

CANADIAN NATIONAL

STA 580+45'NB', 20' LT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 897.53

578'SB'

579'SB'

580'SB'

581'SB'

582'SB'

583'SB'

584'SB'

585'SB'

STH 35 SB

BEGIN GRADING
STA 578+60 'NB'

BM 7

STEEL THRIE BEAM 62.5 LF
(EACH SIDE)

REMOVING GUARDRAIL 352 LF

580+80.18'SB'
20.56'RT

582+13.29'SB'
20.56'RT

581+29.63'NB'
19.48'LT

582+65.36'NB'
19.48'LT

BM 8

END GRADING
STA 584+32 'NB'

586'NB'

579'NB'

580'NB'

581'NB'

582'NB'

583'NB'

584'NB'

585'NB'

STH 35 NB

GRADING LIMITS (TYP.)

LEGEND

SURFACE WATER FLOW

INLET PROTECTION

TEMPORARY DITCH CHECK

SLOPE INTERCEPT

RIPRAP

NOTE, STATION/OFFSETS FOR STEEL THRIE BEAM BULLNOSE TERMINAL ARE GIVEN TO THE FRONT FACE OF THE RAIL AT THE CENTERLINE OF POST 5 IN THE SDD (STEEL THRIE BEAM BULLNOSE TERMINAL).

STA 606+97'NB' 32' LT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 844.80

GRADING LIMITS (TYP.)

607'I'

608'I'

609'I'

610'I'

STA 607+76.20'NB'
CONCRETE SURFACE DRAIN
6'X8' RIPRAP MEDIUM

END GRADING
STA 608+47 'NB'

603'SB'

604'SB'

605'SB'

606'SB'

607'SB'

608'SB'

609'SB'

610'SB'

STH 35 SB

605+41.72'NB'
11.33'LT

BM 9

605+16.72'NB'
14.00'LT

605+66.72'NB'
10.00'LT

605+66.72'NB'
6.00'LT

607+76.20'NB'
25.57'LT

REMOVING SURFACE DRAINS

608+21.72'NB'
10.00'LT

608+21.91'NB'
6.00'LT

BEGIN GRADING
STA 604+07 'NB'

603+96.72'NB'
6.00'LT

604+41.72'NB'
3.00'LT

MGS EAT POST #1
STA 605+16.72'NB'
8.00LT

607+64.20'NB'
0.00'

603'NB'

604'NB'

605'NB'

606'NB'

607'NB'

608'NB'

609'NB'

610'I'

STH 35 NB

SEE CONSTRUCTION DETAILS FOR
SHOULDER WORK

REMOVING CONCRETE PAVEMENT

STA 605+16.72'NB' - STA 608+19.72'NB'
MGS GUARDRAIL TERMINAL EAT
MGS GUARDRAIL 3 (212.5 LF)
MGS THRIE BEAM TRANSITION

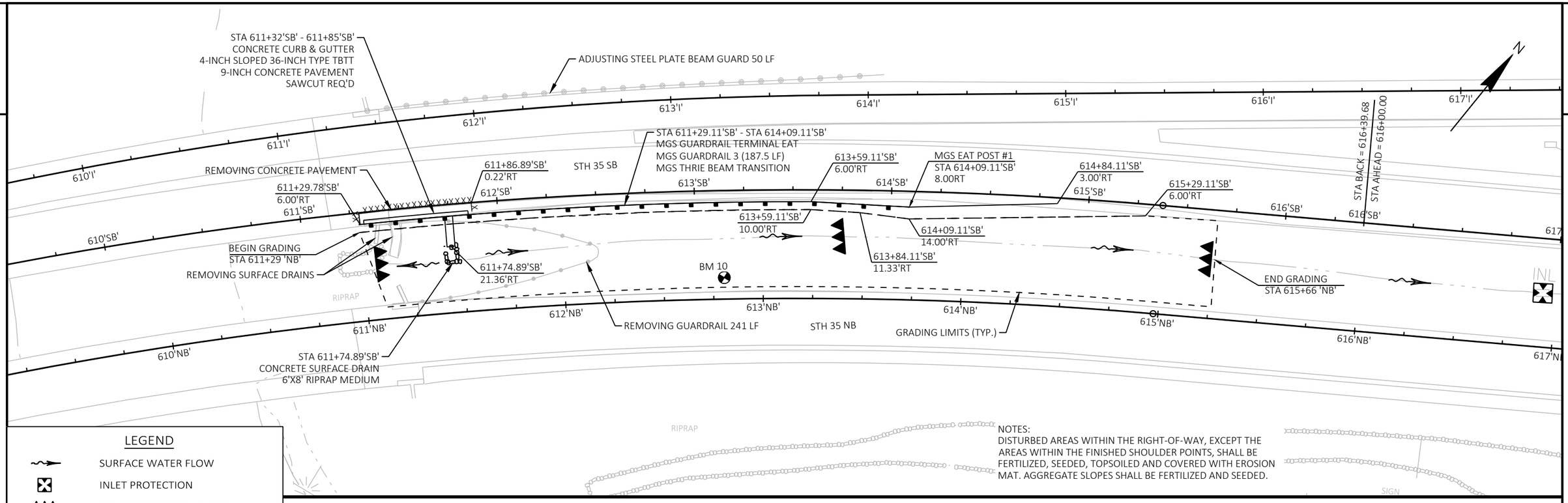
REMOVING GUARDRAIL 254 LF

STA 607+66'NB' - STA 608+19'NB'
CONCRETE CURB & GUTTER
4-INCH SLOPED 36-INCH TYPE TBTT
9-INCH CONCRETE PAVEMENT
SAWCUT REQ'D

ADJUSTING STEEL PLATE
BEAM GUARD 50 LF

NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 25	E



LEGEND

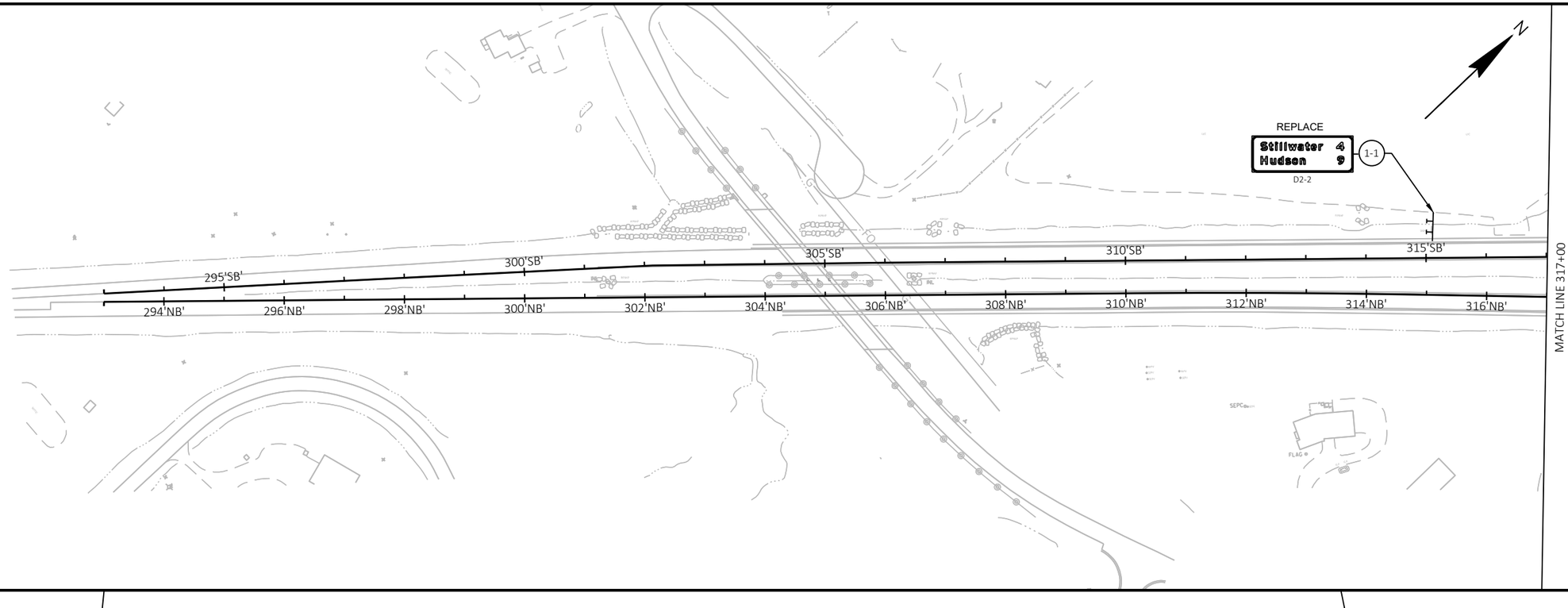
- SURFACE WATER FLOW
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SLOPE INTERCEPT

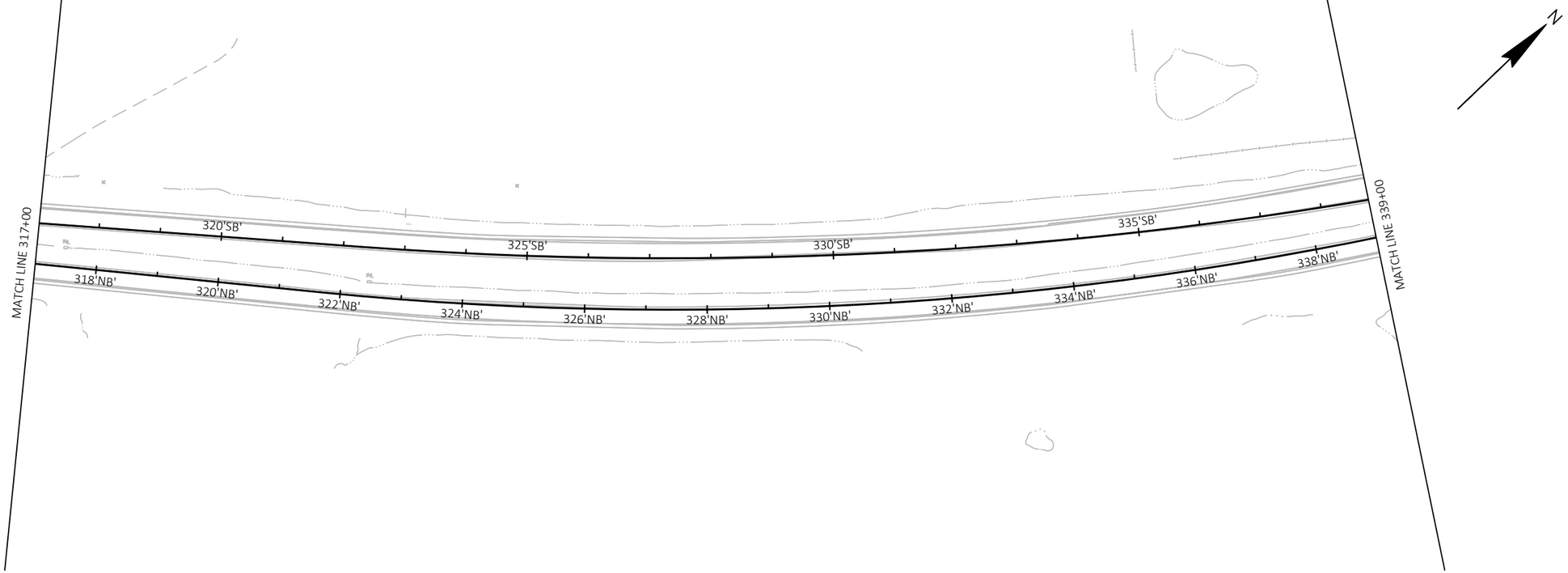
NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 26	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\021002 CD.DWG
LAYOUT NAME - 10
PLOT DATE : 6/4/2025 9:08 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : ##########

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS





PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 27	E

2

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS

MATCH LINE 339+00

340'SB' 345'SB' 350'SB' 355'SB' 360'SB' 365'SB'

340'NB' 342'NB' 344'NB' 346'NB' 348'NB' 350'NB' 352'NB' 354'NB' 356'NB' 358'NB' 360'NB' 362'NB' 364'NB' 366'NB' 368'NB'

34 32 30 28 26

REPLACE

Somerset Exits
BUS 64 1
NORTH C 5

E8-1A

2-1

MATCH LINE 369+00

2

REPLACE

EXIT 4

V
Andersen Scout
Camp Rd

E1-5P
E4-1A

2-2

MATCH LINE 369+00

370'SB' 375'SB' 380'SB' 385'SB' 390'SB' STH 35/64 395

370'NB' 372'NB' 374'NB' 376'NB' 378'NB' 380'NB' 382'NB' 384'NB' 386'NB' 388'NB' 390'NB' STH 35/64 392'NB' 394'NB'

REPLACE

EXIT 6

BUS 64
Somerset
½ MILE

E1-5P
E4-1A

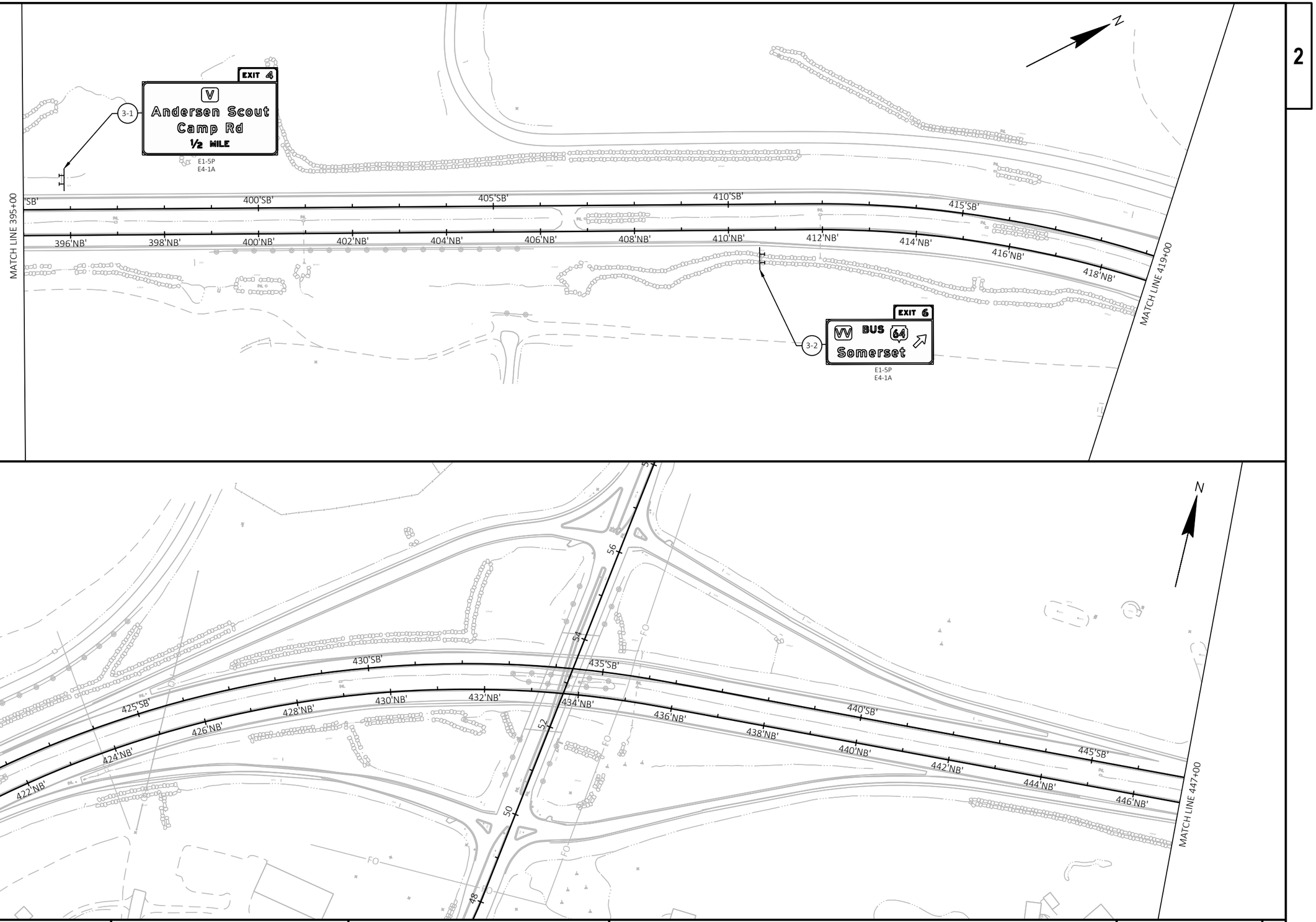
2-3

MATCH LINE 395+00

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 28	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - 02
PLOT DATE : 6/4/2025 9:11 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS



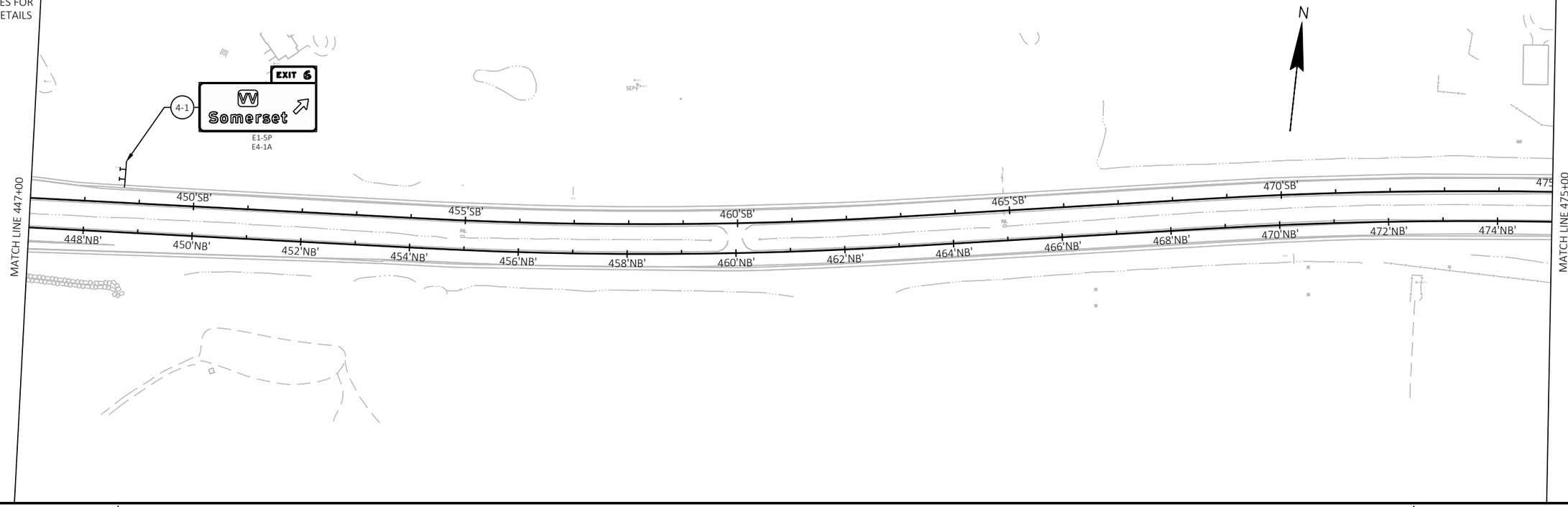
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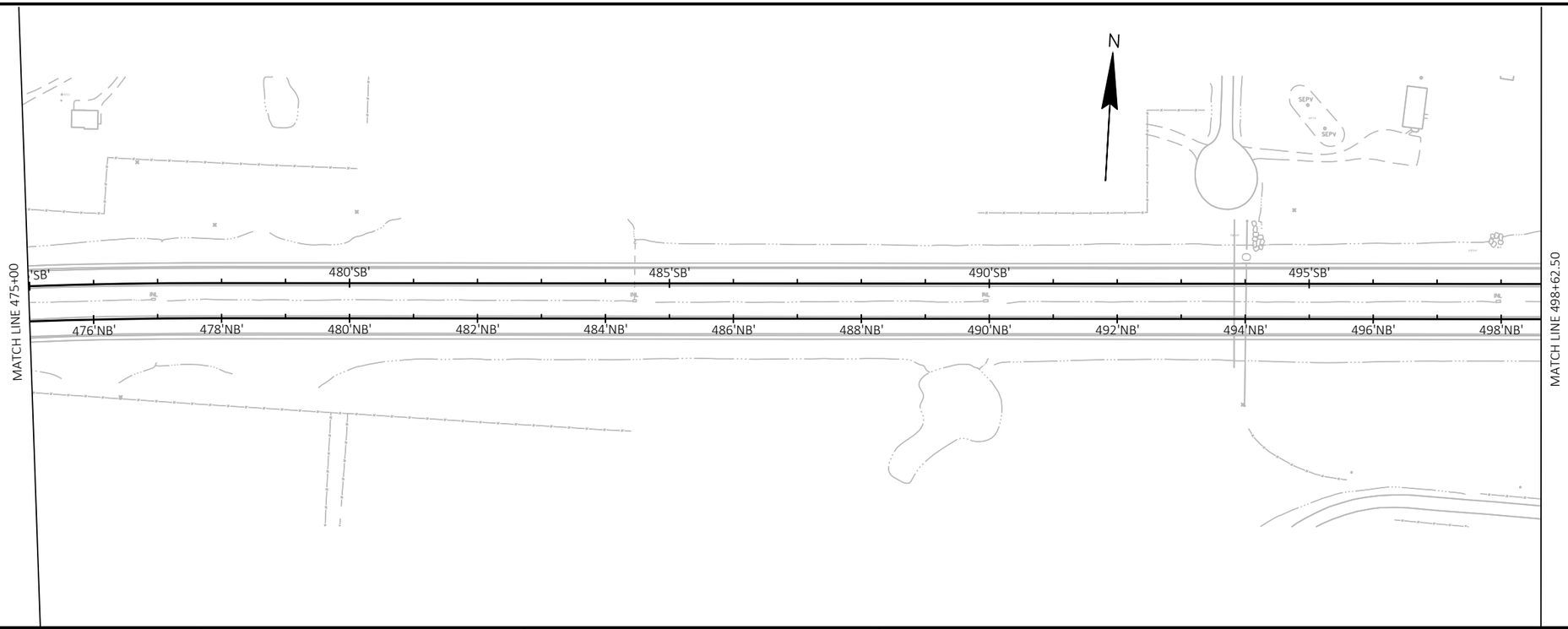
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LAYOUT NAME - 03

PLOT DATE : 6/4/2025 9:11 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS



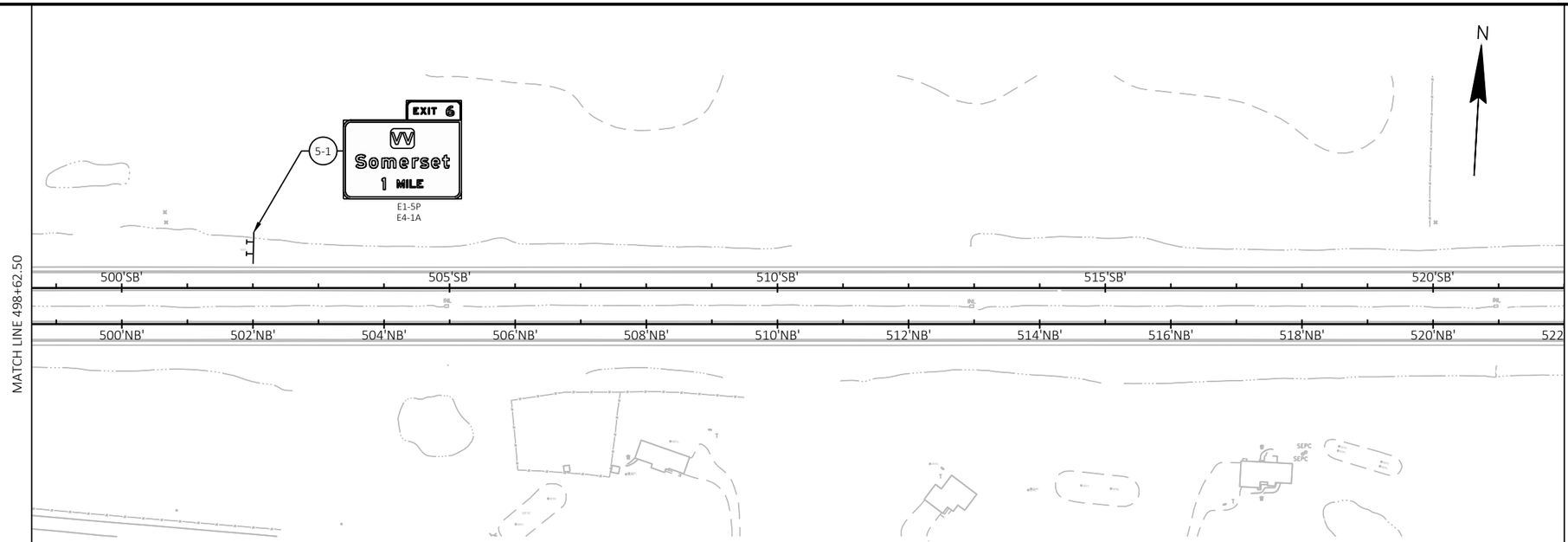


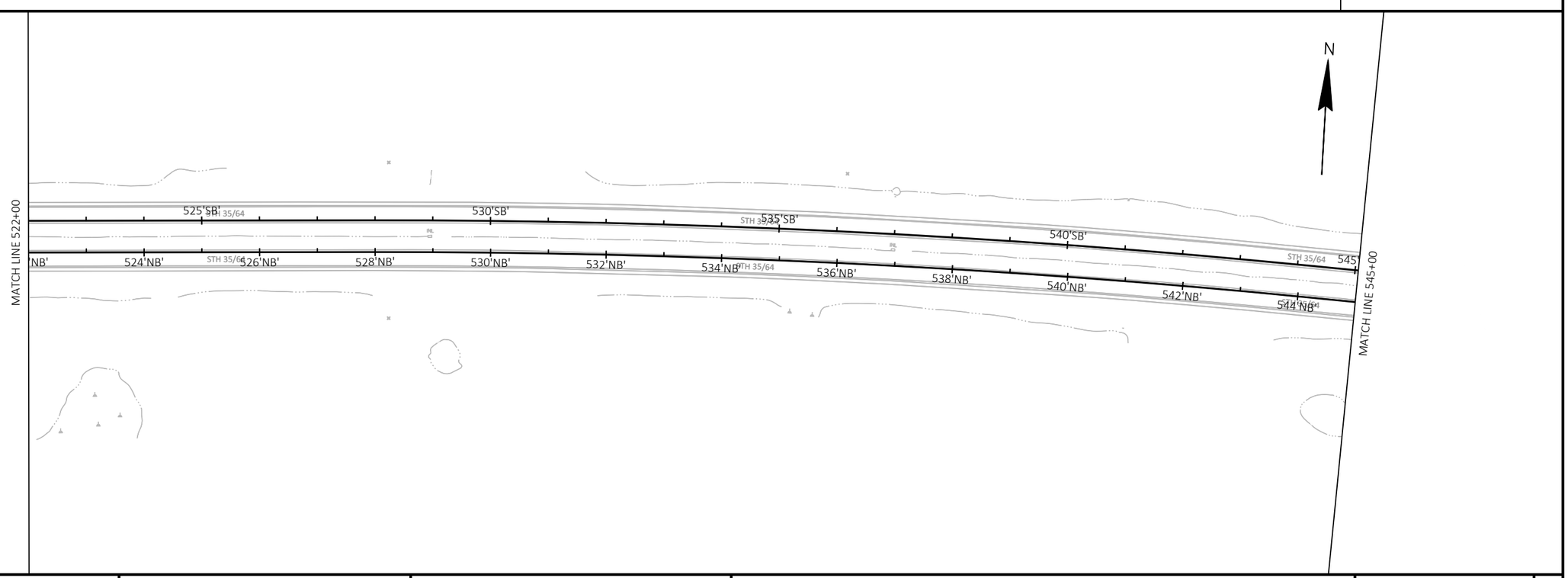
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 30	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - 04
PLOT DATE : 6/4/2025 9:12 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

2

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS

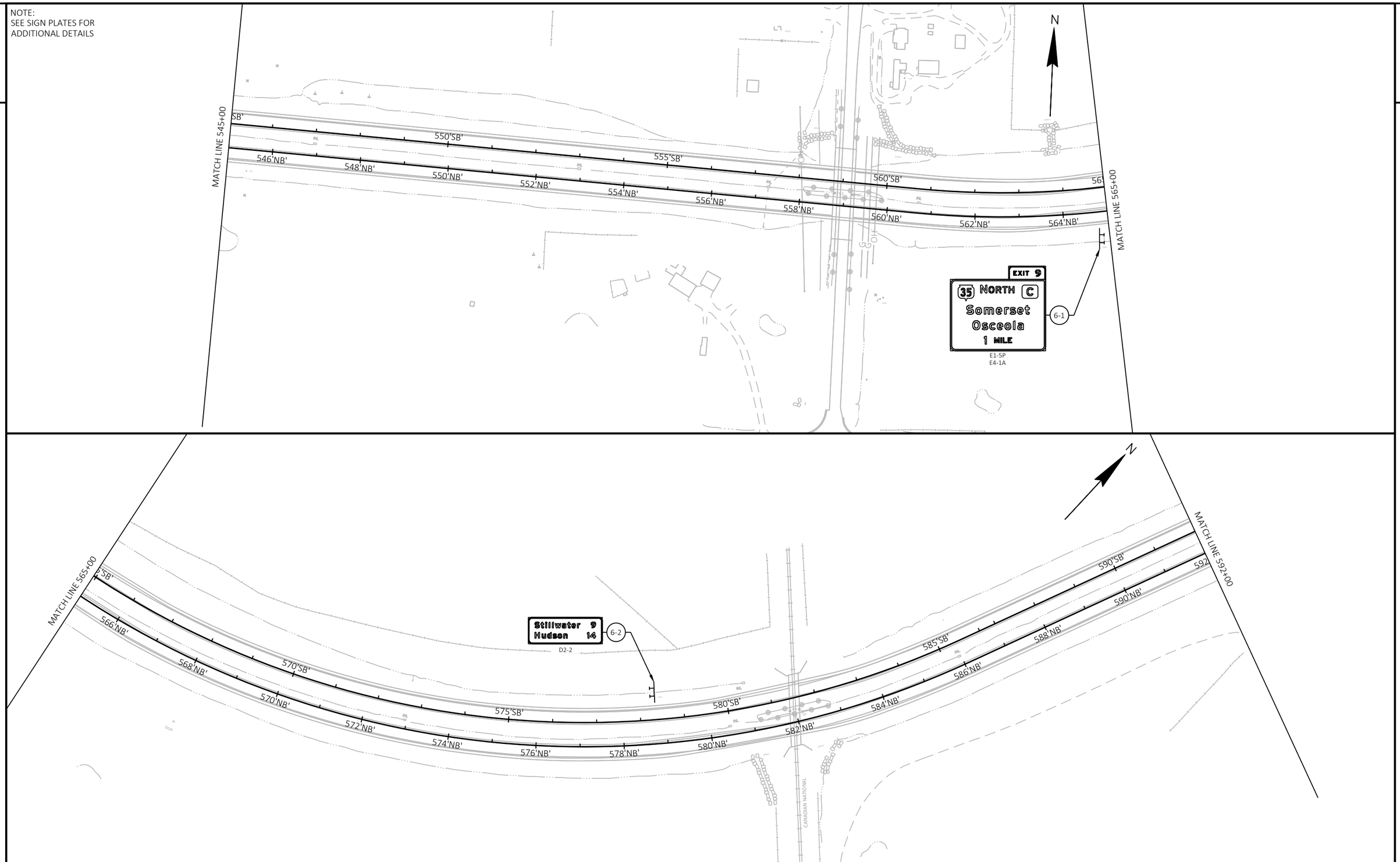




PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 31	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - 05
PLOT DATE : 6/4/2025 9:13 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS



PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 32	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - 06
PLOT DATE : 6/4/2025 9:14 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:200 FT

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS

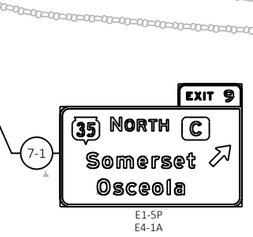
MATCH LINE 592+00

MATCH LINE 615+00

595'SB'
600'SB'
605'SB'
610'SB'
615'SB'
594'NB'
596'NB'
598'NB'
600'NB'
602'NB'
604'NB'
606'NB'
608'NB'
610'NB'
612'NB'
614'NB'

MATCH LINE 615+00

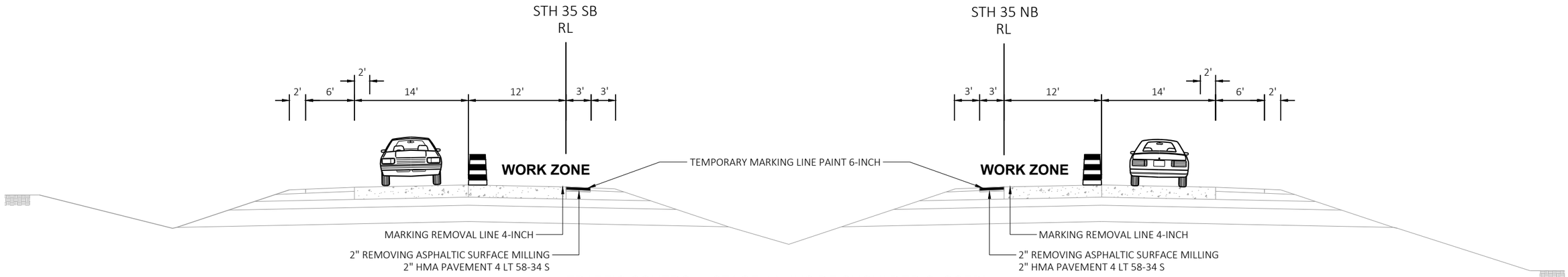
620'SB'
625'SB'
630'SB'
635'SB'
640'SB'
645'SB'
616'NB'
618'NB'
620'NB'
622'NB'
624'NB'
626'NB'
628'NB'
630'NB'
632'NB'
634'NB'
636'NB'
638'NB'
640'NB'
642'NB'
644'NB'



E1-5P
E4-1A

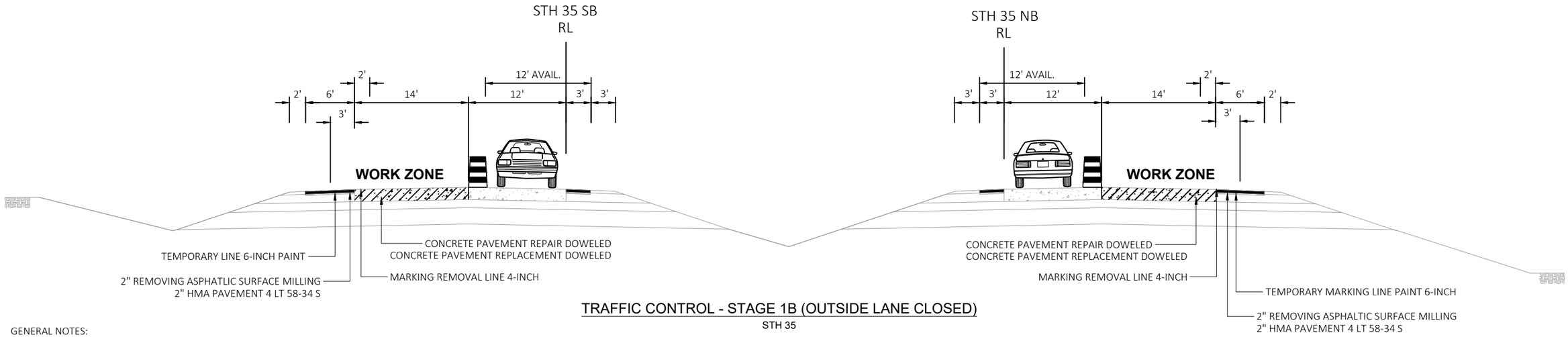
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 33	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - 07
PLOT DATE : 6/4/2025 9:14 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44



TRAFFIC CONTROL - STAGE 1A (INSIDE SHOULDER CLOSED)

STH 35



TRAFFIC CONTROL - STAGE 1B (OUTSIDE LANE CLOSED)

STH 35

GENERAL NOTES:

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL IN UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

DRUMS IN TAPERS SHALL BE EQUIPPED WITH THE TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

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

INTERSECTION STAGING SHALL BE DETERMINED BY CONTRACTOR MEANS AND METHODS. INTERSECTION STAGING SHALL BE APPROVED BY THE ENGINEER PRIOR TO DEPLOYMENT.

DROP OFF CANNOT EXIST FOR MORE THAN 48 HOURS WHEN GREATER THAN 4". MAKE NOTE THAT CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE PAVEMENT WITHIN THAT TIMEFRAME.

NB/SB LANES WILL USE TRAFFIC QUEUE WARNING SYSTEM, WITH ADVANCED WARNING AREA OUT 4 MILES, PLACE FIRST PCMS 4 MILES AHEAD OF CLOSURE.

SINGLE LANE CLOSURES SHALL NOT EXCEED 2 MILES IN LENGTH.

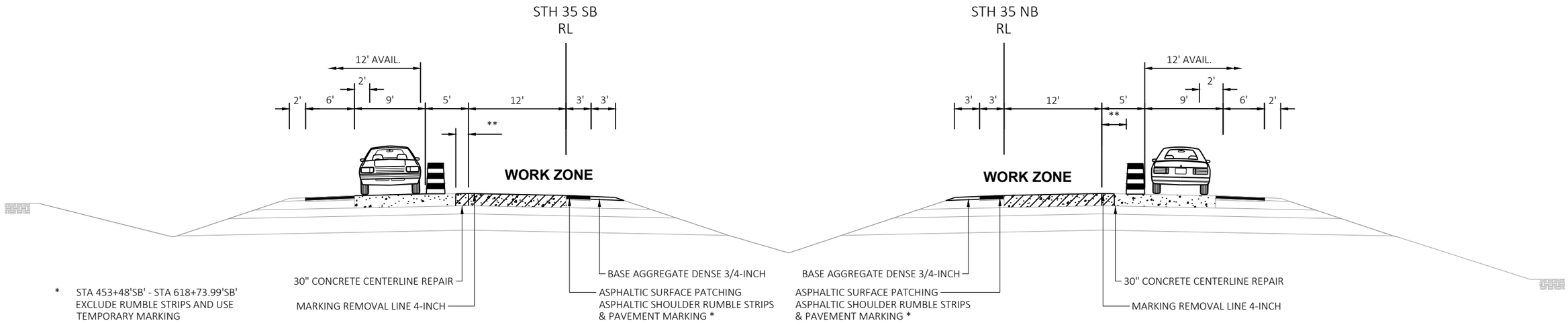
USE ASPHALTIC SURFACE PATCHING ON INSIDE LANE SHOULDER CONCRETE REPAIR AREAS.

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM"
- SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION"
- SDD "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE"
- SDD "TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE"
- SDD "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE"
- SDD "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE"
- SDD "TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE"
- SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"
- SDD "TRAFFIC CONTROL, DROP-OFF SIGNING"
- SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH"

2



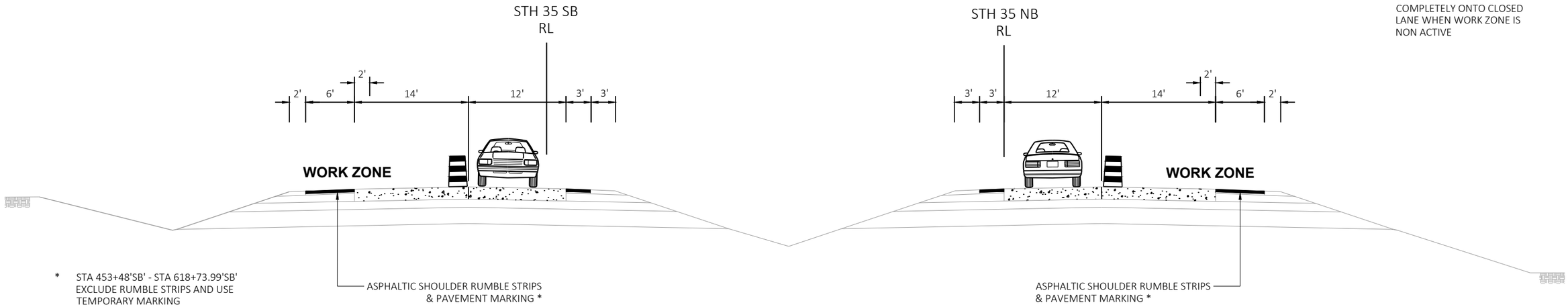
* STA 453+48'SB' - STA 618+73.99'SB'
EXCLUDE RUMBLE STRIPS AND USE
TEMPORARY MARKING

** 0' TYP, 3' MAX FOR CENTERLINE JOINT REPAIR

TRAFFIC CONTROL - STAGE 2A (INSIDE CLOSED)

STH 35

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE



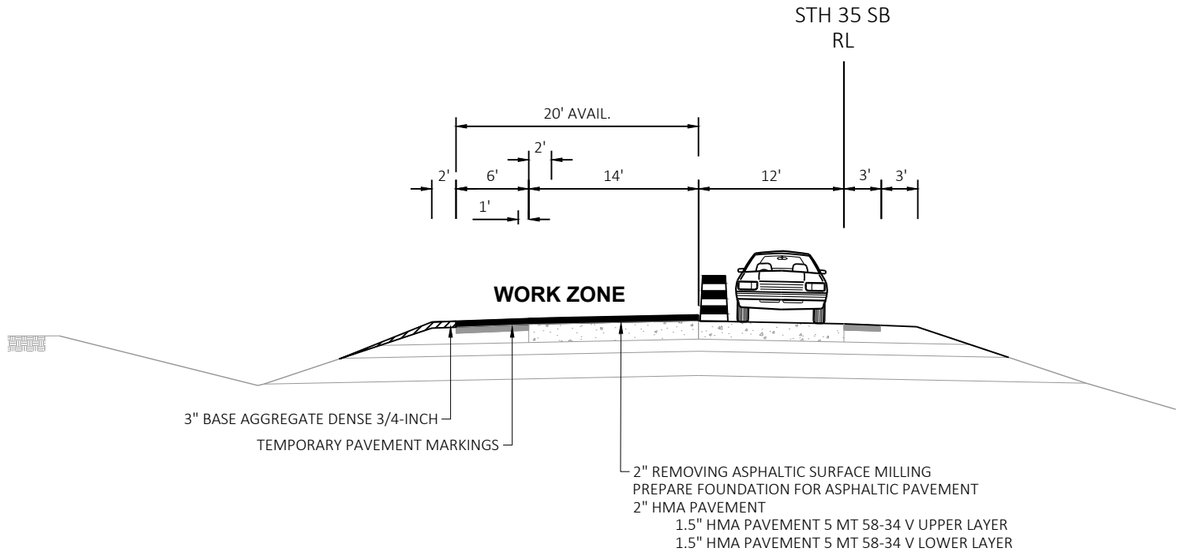
* STA 453+48'SB' - STA 618+73.99'SB'
EXCLUDE RUMBLE STRIPS AND USE
TEMPORARY MARKING

TRAFFIC CONTROL - STAGE 2B (OUTSIDE LANE SHOULDER WORK)

STH 35

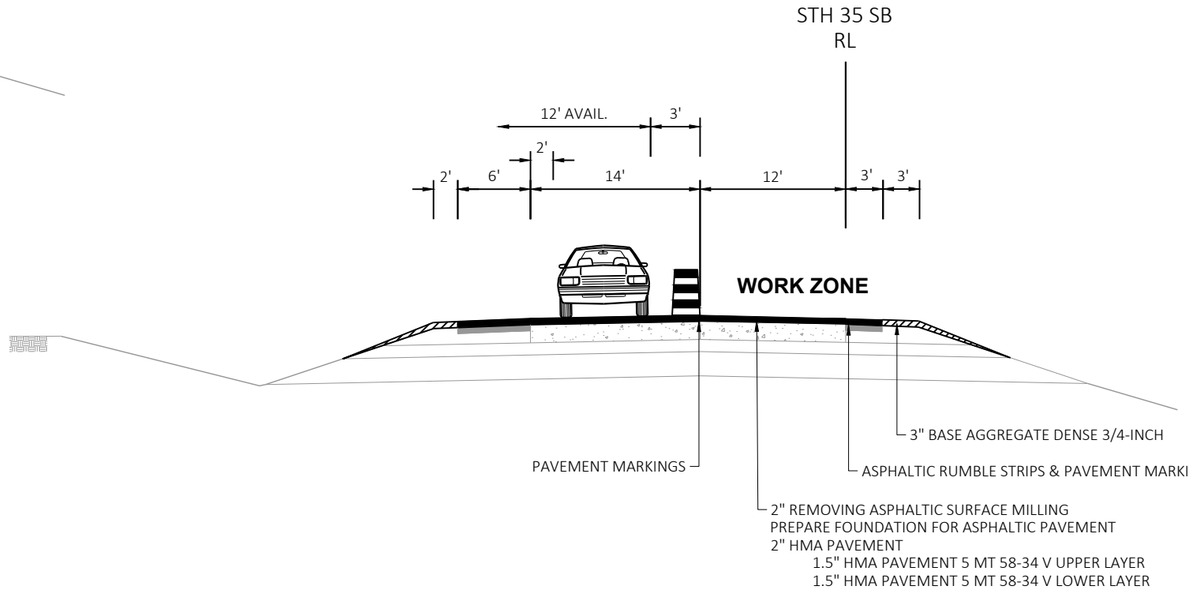
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 35	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\025100_TC.DWG
LAYOUT NAME - 13 b
PLOT DATE : 6/4/2025 9:08 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



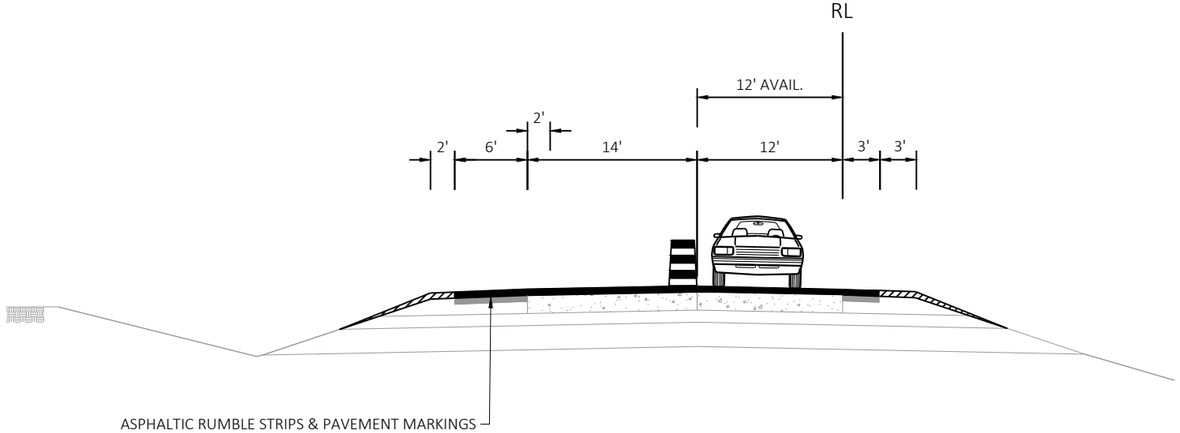
TRAFFIC CONTROL - STAGE 3 (OUTSIDE LANE CLOSED)

STH 35 SB
STA 453+48 - STA 618+73.99



TRAFFIC CONTROL - STAGE 4A (INSIDE LANE CLOSED)

STH 35 SB
STA 453+48 - STA 618+73.99



TRAFFIC CONTROL - STAGE 4B (OUTSIDE LANE CLOSED)

STH 35 SB
STA 453+48 - STA 618+73.99

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE

2

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

STH 35 NB EXIT RAMP AT CTH VV DETAILS SHOWN. MODIFY DETAIL AS NEEDED FOR OTHER EXIT RAMP CLOSURES.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

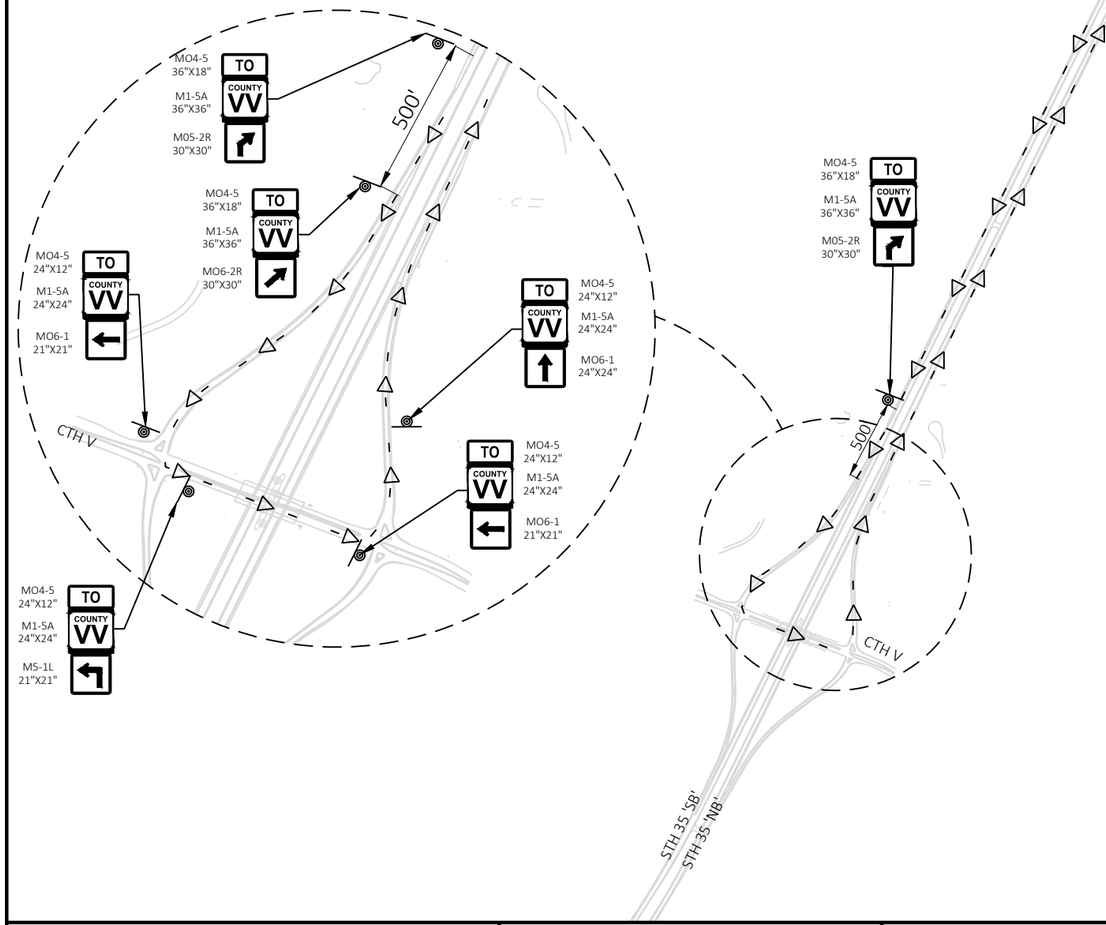
DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM REQUIRED COMPRESSIVE STRENGTH.

PLACE DETOUR ASSEMBLIES ON THE RIGHT SHOULDER AND MEDIAN SHOULDER ON STH 35 EXCEPT FOR ANY ASSEMBLIES WITH THE MO6-2R ARROW.



GENERAL SB EXIT RAMP CLOSURE AND TURN AROUND DETAIL

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 37	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\025101_TC (RAMPS).DWG
LAYOUT NAME - 20
PLOT DATE : 6/4/2025 9:08 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 42

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION, ON RAMP LANE CLOSURE (SHEET D)"

STH 35 NB ENTRANCE RAMP AT STH VV DETAILS SHOWN, MODIFY DETAIL AS NEEDED FOR OTHER ENTRANCE RAMP CLOSURES.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

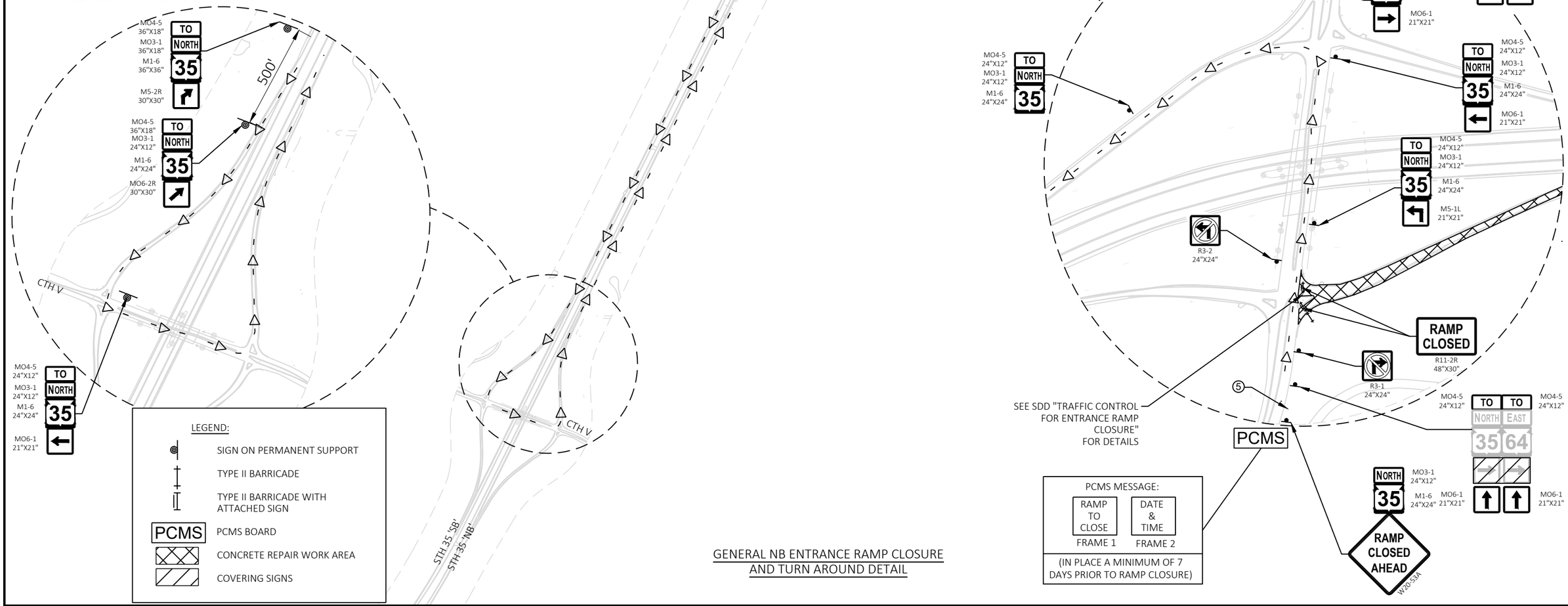
DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

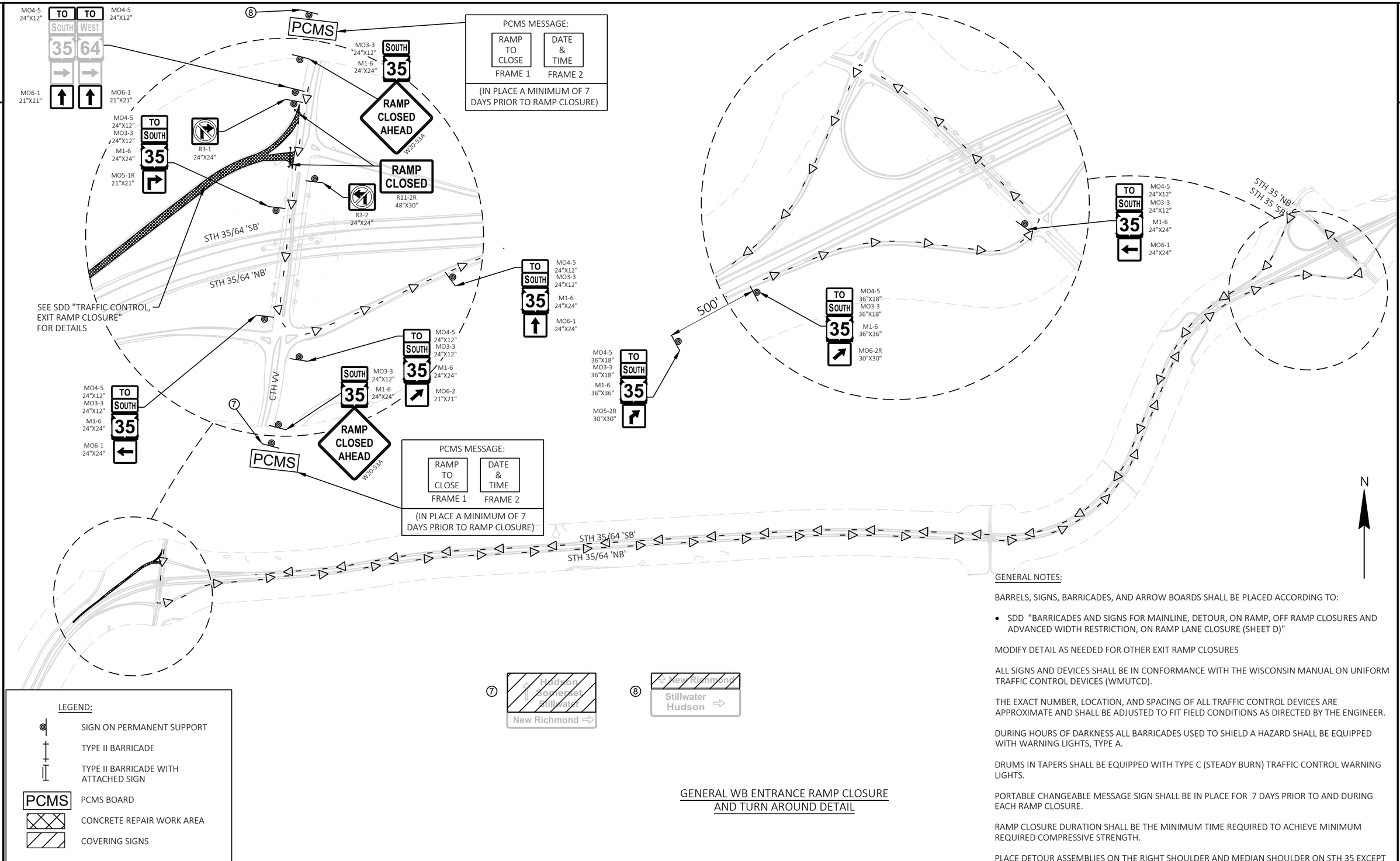
RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM REQUIRED COMPRESSIVE STRENGTH.

PLACE DETOUR ASSEMBLIES ON THE RIGHT SHOULDER AND MEDIAN SHOULDER ON STH 35 EXCEPT FOR ANY ASSEMBLIES WITH THE MO6-2R ARROW.



GENERAL NB ENTRANCE RAMP CLOSURE
AND TURN AROUND DETAIL

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 38	E



GENERAL WB ENTRANCE RAMP CLOSURE AND TURN AROUND DETAIL

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION, ON RAMP LANE CLOSURE (SHEET D)"

MODIFY DETAIL AS NEEDED FOR OTHER EXIT RAMP CLOSURES

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM REQUIRED COMPRESSIVE STRENGTH.

PLACE DETOUR ASSEMBLIES ON THE RIGHT SHOULDER AND MEDIAN SHOULDER ON STH 35 EXCEPT FOR ANY ASSEMBLIES WITH THE MO6-2R ARROW.

2

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

MODIFY DETAIL AS NEEDED FOR OTHER EXIT RAMP CLOSURES

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

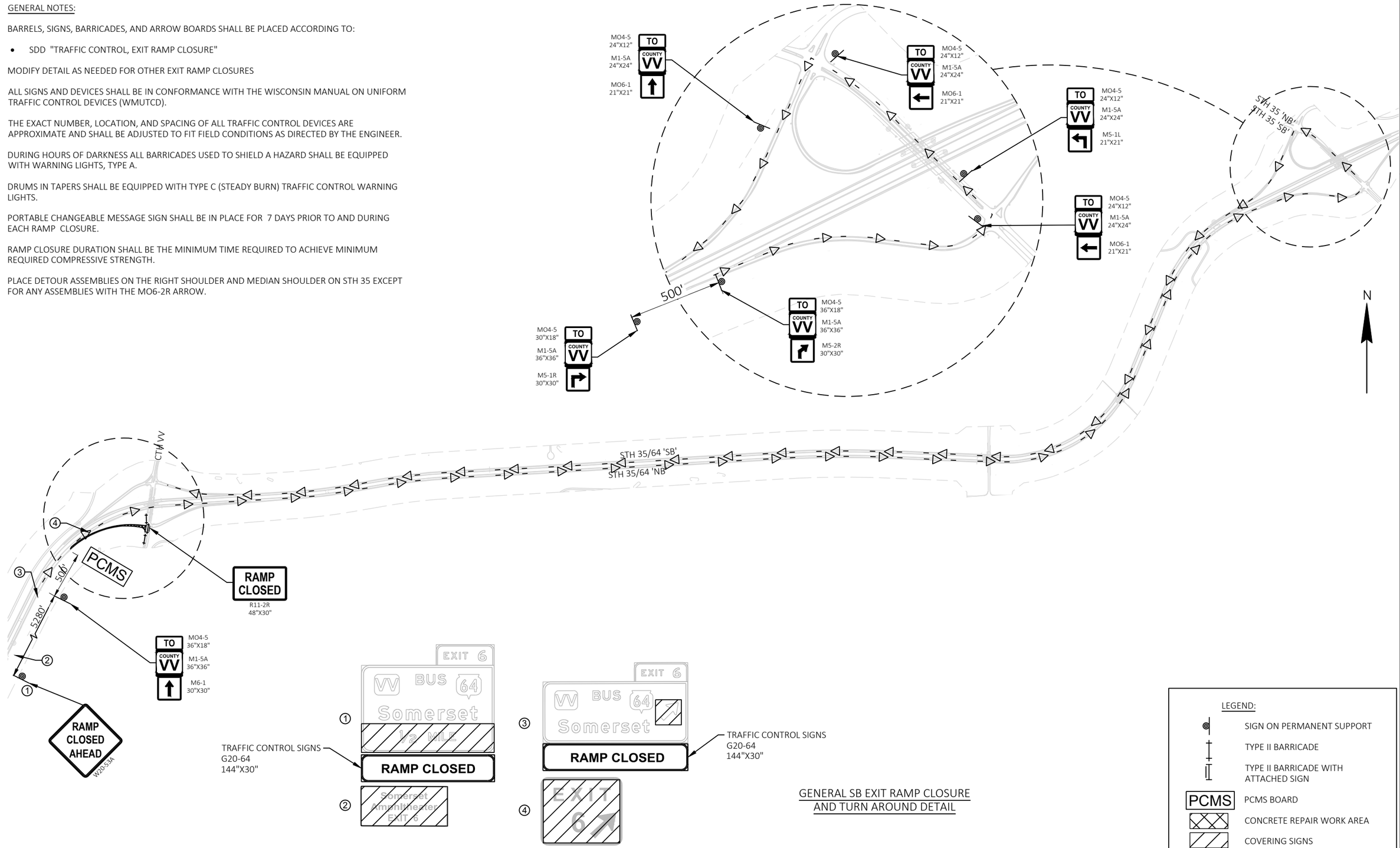
DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM REQUIRED COMPRESSIVE STRENGTH.

PLACE DETOUR ASSEMBLIES ON THE RIGHT SHOULDER AND MEDIAN SHOULDER ON STH 35 EXCEPT FOR ANY ASSEMBLIES WITH THE MO6-2R ARROW.



GENERAL SB EXIT RAMP CLOSURE AND TURN AROUND DETAIL

LEGEND:

- SIGN ON PERMANENT SUPPORT
- TYPE II BARRICADE
- TYPE II BARRICADE WITH ATTACHED SIGN
- PCMS — PCMS BOARD
- CONCRETE REPAIR WORK AREA
- COVERING SIGNS

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 40	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\025101_TC (RAMPS).DWG
LAYOUT NAME - 23
PLOT DATE : 6/4/2025 9:09 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : Custom
WISDOT/CADDS SHEET 42

8080-08-75

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	5.000	5.000
0004	204.0100	Removing Concrete Pavement	SY	48.000	48.000
0006	204.0105	Removing Concrete Pavement Butt Joints	SY	810.000	810.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	479.000	479.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	56,207.000	56,207.000
0012	204.0165	Removing Guardrail	LF	2,481.000	2,481.000
0014	204.0190	Removing Surface Drains	EACH	2.000	2.000
0020	205.0100	Excavation Common	CY	860.000	860.000
0022	208.0100	Borrow	CY	1,424.000	1,424.000
0024	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 8080-08-75	EACH	1.000	1.000
0028	213.0100	Finishing Roadway (project) 01. 8080-08-75	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	8,797.000	8,797.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	500.000	500.000
0036	415.0060	Concrete Pavement 6-Inch	SY	50.000	50.000
0038	416.0610	Drilled Tie Bars	EACH	7,605.000	7,605.000
0040	416.0620	Drilled Dowel Bars	EACH	2,544.000	2,544.000
0042	455.0605	Tack Coat	GAL	11,982.000	11,982.000
0044	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0046	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0048	460.2000	Incentive Density HMA Pavement	DOL	6,000.000	6,000.000
0050	460.2005	Incentive Density PWL HMA Pavement	DOL	8,010.000	8,010.000
0052	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	6,510.000	6,510.000
0054	460.2010	Incentive Air Voids HMA Pavement	DOL	8,210.000	8,210.000
0056	460.5244	HMA Pavement 4 LT 58-34 S	TON	9,375.000	9,375.000
0058	460.6645	HMA Pavement 5 MT 58-34 V	TON	8,211.000	8,211.000
0060	460.9000.S	Material Transfer Vehicle	EACH	0.500	0.500
0062	465.0110	Asphaltic Surface Patching	TON	735.000	735.000
0064	465.0520	Asphaltic Rumble Strips, Shoulder	LF	124,784.000	124,784.000
0068	520.8700	Cleaning Culvert Pipes	EACH	4.000	4.000
0070	524.0627	Apron Endwalls for Culvert Pipe Salvaged 27-Inch	EACH	1.000	1.000
0074	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	112.000	112.000
0076	602.3010	Concrete Surface Drains	CY	2.900	2.900
0078	606.0200	Riprap Medium	CY	6.600	6.600
0086	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	10.000	10.000
0088	614.0230	Steel Thrie Beam	LF	900.000	900.000
0090	614.0400	Adjusting Steel Plate Beam Guard	LF	790.000	790.000
0092	614.2300	MGS Guardrail 3	LF	400.000	400.000
0094	614.2500	MGS Thrie Beam Transition	LF	78.800	78.800
0096	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0100	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8080-08-75	EACH	1.000	1.000
0104	619.1000	Mobilization	EACH	0.600	0.600
0106	620.0200	Concrete Median Blunt Nose	SF	80.000	80.000
0108	620.0300	Concrete Median Sloped Nose	SF	160.000	160.000
0110	624.0100	Water	MGAL	93.000	93.000
0112	625.0500	Salvaged Topsoil	SY	25,000.000	25,000.000
0114	628.1504	Silt Fence	LF	200.000	200.000
0116	628.1520	Silt Fence Maintenance	LF	200.000	200.000
0118	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000

8080-08-75

Line	Item	Item Description	Unit	Total	Qty
0122	628.2008	Erosion Mat Urban Class I Type B	SY	25,000.000	25,000.000
0124	628.7005	Inlet Protection Type A	EACH	15.000	15.000
0126	628.7504	Temporary Ditch Checks	LF	360.000	360.000
0128	629.0210	Fertilizer Type B	CWT	15.760	15.760
0130	630.0130	Seeding Mixture No. 30	LB	1,125.000	1,125.000
0132	630.0200	Seeding Temporary	LB	565.000	565.000
0134	630.0500	Seed Water	MGAL	565.000	565.000
0136	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	11.000	11.000
0138	637.1220	Signs Type I Reflective SH	SF	2,027.500	2,027.500
0140	638.2601	Removing Signs Type I	EACH	19.000	19.000
0142	642.5001	Field Office Type B	EACH	0.600	0.600
0144	643.0300	Traffic Control Drums	DAY	142,662.000	142,662.000
0146	643.0370.S	Digital Speed Reduction System (DSRS)	DAY	318.000	318.000
0148	643.0420	Traffic Control Barricades Type III	DAY	414.000	414.000
0150	643.0705	Traffic Control Warning Lights Type A	DAY	732.000	732.000
0152	643.0715	Traffic Control Warning Lights Type C	DAY	2,196.000	2,196.000
0154	643.0810.S	Connected Arrow Board	DAY	318.000	318.000
0156	643.0900	Traffic Control Signs	DAY	5,022.000	5,022.000
0158	643.0910	Traffic Control Covering Signs Type I	EACH	12.000	12.000
0160	643.0920	Traffic Control Covering Signs Type II	EACH	15.000	15.000
0162	643.1050	Traffic Control Signs PCMS	DAY	204.000	204.000
0164	643.1200.S	Portable Automated Real-Time Traffic Queue Warning System	DAY	96.000	96.000
0166	643.1220.S	Connected Work Zone Start and End Location Markers	DAY	636.000	636.000
0168	643.3165	Temporary Marking Line Paint 6-Inch	LF	125,800.000	125,800.000
0170	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	2,640.000	2,640.000
0172	643.5000	Traffic Control	EACH	0.500	0.500
0174	645.0120	Geotextile Type HR	SY	13.000	13.000
0176	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	15,722.000	15,722.000
0178	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	162,115.000	162,115.000
0180	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	9,902.000	9,902.000
0184	646.5420	Marking Aerial Enforcement Bar Epoxy	EACH	12.000	12.000
0186	646.6120	Marking Stop Line Epoxy 18-Inch	LF	242.000	242.000
0188	646.7220	Marking Chevron Epoxy 24-Inch	LF	100.000	100.000
0190	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000
0192	646.9000	Marking Removal Line 4-Inch	LF	162,115.000	162,115.000
0194	646.9100	Marking Removal Line 8-Inch	LF	9,902.000	9,902.000
0196	650.4000	Construction Staking Storm Sewer	EACH	8.000	8.000
0202	650.8000	Construction Staking Resurfacing Reference	LF	62,892.000	62,892.000
0204	650.9911	Construction Staking Supplemental Control (project) 01. 8080-08-75	EACH	1.000	1.000
0208	650.9920	Construction Staking Slope Stakes	LF	3,940.000	3,940.000
0210	690.0150	Sawing Asphalt	LF	3,104.000	3,104.000
0212	690.0250	Sawing Concrete	LF	20,598.000	20,598.000
0214	740.0440	Incentive IRI Ride	DOL	11,736.000	11,736.000
0216	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0218	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,000.000	1,000.000
0220	SPV.0060	Special 01. Fill Erosion	EACH	3.000	3.000
0222	SPV.0060	Special 02. Reconstructing Inlets Median 2 Grate	EACH	8.000	8.000
0224	SPV.0090	Special 01. Asphaltic Mastic Joint Sealing	LF	8,524.000	8,524.000
0226	SPV.0090	Special 02. Cleaning Ditch	LF	75.000	75.000

8080-08-75

Line	Item	Item Description	Unit	Total	Qty
0228	SPV.0180	Special 01. Concrete Pavement Repair Doweled	SY	1,284.000	1,284.000
0230	SPV.0180	Special 02. Concrete Pavement Replacement Doweled	SY	8,709.000	8,709.000
0232	SPV.0180	Special 03. 30" Concrete Centerline Repair	SY	1,747.000	1,747.000

3

CLEARING

STATION	LOCATION	201.0105 STA	REMARKS
STH 35			
356+48	NB & SB	1	CULVERT LT & RT
411+95	NB RT	1	CULVERT RT
435+23	NB RT	1	CULVERT RT
484+46	SB LT	1	CULVERT LT
557+24	NB RT	1	CULVERT LT
PROJECT TOTALS		5	

REMOVING GUARDRAIL

STATION	LOCATION	204.0165 LF
STH 35		
303+92 - 305+88	MEDIAN	378
353+82 - 356+00	MEDIAN	427
432+60 - 434+78	MEDIAN	452
558+08 - 559+88	MEDIAN	377
581+14 - 582+81	MEDIAN	352
607+07 - 608+20	NB LT	254
611+10 - 612+18	SB RT	241
PROJECT TOTALS		2481

CONCRETE REMOVAL ITEMS

STAGE	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0105 REMOVING CONCRETE PAVEMENT BUTT JOINTS SY	204.0190 REMOVING SURFACE DRAINS EACH	*690.0250 SAWING CONCRETE LF
	STH 35					
1B	VARIOUS	RAMPS	26	-	-	125
	STAGE 1B ITEM TOTALS		26	0	0	125
3	453+48	SB	-	140	-	-
	613+00-631+40	RAMP I	-	550	-	-
	620+30-634+95	RAMP L		-		
	STAGE 3 ITEM TOTALS		0	690	0	0
4A	453+48	SB	-	120	-	-
	607+66-608+19	NB	12	-	1	22
	611+32-611+85	SB	10	-	1	22
	STAGE 4A ITEM TOTALS		22	120	2	44
	PROJECT TOTALS		48	810	2	169

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVING ASPHALTIC SURFACE ITEMS

STAGE	STATION	LOCATION	204.0115 BUTT JOINTS SY	204.0120 MILLING SY
	STH 35			
1A	304+28 - 355+00	NB	3	1691
	304+28 - 355+00	SB	3	1682
	355+00 - 434+00	NB	-	2633
	355+00 - 434+00	SB	-	2638
	434+00 - 618+74	NB	7	6074
	434+00 - 453+48	SB	0	669
	STAGE 1A ITEM TOTALS		13	15386
1B	304+28 - 355+00	NB	7	3381
	304+28 - 355+00	SB	7	3363
	355+00 - 434+00	NB	-	5267
	355+00 - 434+00	SB	-	5275
	434+00 - 618+74	NB	13	12148
	434+00 - 453+48	SB	-	1337
	342+22-354+68	RAMP A	9	929
	354+20-367+75	RAMP B	9	1110
	355+00-365+28	RAMP C	9	1133
	342+15-355+64	RAMP D	9	1093
	423+75-435+98	RAMP E	9	1023
	434+19-445+93	RAMP F	9	928
	432+85-445+33	RAMP G	9	929
	420+65-431+80	RAMP H	9	874
	613+00-631+40	RAMP I	9	805
	620+30-634+95	RAMP L	9	1226
	STAGE 1B ITEM TOTALS		116	40821
3	453+48-618+74	SB	180	-
	613+00-620+25	RAMP I	80	-
	STAGE 3 ITEM TOTALS		260	0
4A	453+48-618+74	SB	90	-
	STAGE 4A ITEM TOTALS		90	0
	PROJECT TOTALS		479	56207

3

3

EARTHWORK SUMMARY (PROJECT ID 8080-08-75)

CATEGORY 0010

FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	SALVAGED / UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5) FACTOR 1.25	MASS ORDINATE +/- (6)	WASTE	208.0100 BORROW	COMMENT:
301+81'NB' - 307+98'NB'	MEDIAN	62	0	62	227	284	-222			
351+70'NB' - 358+09'NB'	MEDIAN	0	0	0	697	871	-871			
430+51'NB' - 436+87'NB'	MEDIAN	261	0	261	223	279	-18			
555+98'NB' - 561+99'NB'	MEDIAN	50	0	50	268	335	-285			
579+03'NB' - 584+92'NB'	MEDIAN	49	0	49	220	275	-226			
603+97'NB' - 608+22'NB'	MEDIAN	239	0	239	52	65	174			
611+32'NB' - 615+29'NB'	MEDIAN	199	0	199	140	175	24			
PROJECT TOTALS		860					-1,424		1,424	

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT . ITEM NUMBER 205.0100

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

(3) SALVAGED/UNUSABLE PAVEMENT MATERIAL

(4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(5) EXPANDED FILL FACTOR = 1.25

DEPENDING ON SELECTIONS:

(6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE STAGE. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE STAGE. MINUS INDICATES A SHORTAGE OF MATERIAL.

PREPARE FOUNDATION FOR ASPHALTIC PAVING (8080-08-75)

STATION	LOCATION	211.0101.01 EACH
STH 35		
PROJECT	NB & SB	1
PROJECT TOTALS		1

FINISHING ROADWAY (8080-08-75)

STATION	213.0100.01 EACH
STH 35	
PROJECT	1
PROJECT TOTALS	1

BASE AGGREGATE DENSE ITEMS

STAGE	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
	STH 35				
1A	304+28 - 355+00	NB	241	-	2.4
	304+28 - 355+00	SB	240	-	2.4
	355+00 - 434+00	NB	375	-	3.8
	355+00 - 434+00	SB	376	-	3.8
	434+00 - 618+74	NB	878	-	8.8
	434+00 - 453+48	SB	95	-	1.0
	CONCRETE REPAIRS		-	250	2.5
	STAGE 1A ITEM TOTALS		2206	250	24.6
1B	304+28 - 355+00	NB	175	-	1.7
	304+28 - 355+00	SB	174	-	1.7
	355+00 - 434+00	NB	272	-	2.7
	355+00 - 434+00	SB	273	-	2.7
	434+00 - 618+74	NB	637	-	6.4
	434+00 - 453+48	SB	69	-	0.7
	342+22-354+68	RAMP A	73	-	0.7
	354+20-367+75	RAMP B	87	-	0.9
	355+00-365+28	RAMP C	60	-	0.6
	342+15-355+64	RAMP D	85	-	0.9
	423+75-435+98	RAMP E	81	-	0.8
	434+19-445+93	RAMP F	73	-	0.7
	432+85-445+33	RAMP G	74	-	0.7
	420+65-431+80	RAMP H	68	-	0.7
	620+25-631+40	RAMP I	214	-	2.1
	620+30-634+95	RAMP L	95	-	1.0
	CONCRETE REPAIRS		-	250	2.5
	STAGE 1B ITEM TOTALS		2509	250	27.6
3	453+48-618+74	SB	1801	-	18.0
	613+00-620+25	RAMP I	117	-	1.2
	STAGE 3 ITEM TOTALS		1918	0	19.2
4A	453+48-618+74	SB	2164	-	21.6
	STAGE 4A ITEM TOTALS		2164	0	21.6
	PROJECT TOTALS		8797	500	93.0

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PWL MIXTURE USE TABLE

LOCATION	STATION - STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
26-FOOT DRIVING LANE	453+48 - 608+62 'SB' 611+14 - 618+74 'SB'	UPPER LAYER	5 MT58-34 V	5 MT58-34 V	4004	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT460.2005
26-FOOT DRIVING LANE	453+48 - 608+62 'SB' 611+14 - 618+74 'SB'	LOWER LAYER	CONCRETE PAVEMENT	5 MT58-34 V	4004	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT460.2005
15-FOOT DRIVING LANE RAMP I	612+50 - 620+25 "I"	UPPER LAYER	5 MT58-34 V	5 MT58-34 V	101	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELGIBLE FOR INCENTIVE
15-FOOT DRIVING LANE RAMP I	612+50 - 620+25 "I"	LOWER LAYER	CONCRETE PAVEMENT	5 MT58-34 V	101	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELGIBLE FOR INCENTIVE
3, 6-FOOT SHOULDERS	453+48 - 608+62 'SB' 611+14 - 618+74 'SB'	UPPER LAYER	4 LT58-34 S	4 LT58-34 S	1386	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 6-FOOT SHOULDERS	453+48 - 608+62 'SB' 611+14 - 618+74 'SB'	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	1386	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 5-FOOT SHOULDERS	612+50 - 620+25 "I"	UPPER LAYER	4 LT58-34 S	4 LT58-34 S	54	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 5-FOOT SHOULDERS	612+50 - 620+25 "I"	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	54	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3-FOOT INSIDE SHOULDER	304+28 - 453+48 'SB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	718	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
6-10-FOOT OUTSIDE SHOULDER	304+28 - 453+48 'SB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	958	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3-FOOT INSIDE SHOULDER	304+28 - 608+40 'NB' 610+92 - 618+74 'NB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	1497	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
6-10-FOOT OUTSIDE SHOULDER	304+28 - 608+40 'NB' 610+92 - 618+74 'NB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	1997	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
RAMP SHOULDERS	RAMP A, B, C, D, E, F, G, H, L 620+25 - 631+00 'I'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT58-34 S	1325	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000

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ASPHALTIC PAVEMENT ITEMS

STAGE	STATION	LOCATION	455.0605 TACK COAT GAL	460.5244 HMA PAVEMENT 4 LT 58-34 S TON	460.6645 HMA PAVEMENT 5 MT 58-34 V TON	465.0110 ASPHALTIC SURFACE PATCHING TON
	STH 35					
1A	304+28 - 355+00	NB	118	189	-	19
	304+28 - 355+00	SB	118	188	-	19
	355+00 - 434+00	NB	184	295	-	29
	355+00 - 434+00	SB	185	295	-	30
	434+00 - 618+74	NB	425	680	-	68
	434+00 - 453+48	SB	47	75	-	7
	STAGE 1A ITEM TOTALS		1077	1723	0	172
1B	304+28 - 355+00	NB	237	379	-	13
	304+28 - 355+00	SB	235	377	-	13
	355+00 - 434+00	NB	369	590	-	20
	355+00 - 434+00	SB	369	591	-	20
	434+00 - 618+74	NB	850	1361	-	45
	434+00 - 453+48	SB	94	150	-	5
	342+22-354+68	RAMP A	65	104	-	10
	354+20-367+75	RAMP B	78	124	-	12
	355+00-365+28	RAMP C	79	127	-	13
	342+15-355+64	RAMP D	77	122	-	12
	423+75-435+98	RAMP E	72	115	-	11
	434+19-445+93	RAMP F	65	104	-	10
	432+85-445+33	RAMP G	65	104	-	10
	420+65-431+80	RAMP H	61	98	-	10
	620+25-631+40	RAMP I	181	290	-	80
	620+30-634+95	RAMP L	86	137	-	14
	STAGE 1B ITEM TOTALS		2982	4772	0	298
3	453+48-618+74	SB	4400	1848	4312	123
	613+00-620+25	RAMP I	222	108	203	80
	STAGE 3 ITEM TOTALS		4622	1956	4515	203
4A	453+48-618+74	SB	3300	924	3696	62
	STAGE 4A ITEM TOTALS		3300	924	3696	62
	PROJECT TOTALS		11982	9375	8211	735

HMA PERCENT WITHIN LIMITS (PWL)

LOCATION	460.0105.S TEST STRIP VOLUMETRICS EACH	460.0110.S TEST STRIP DENSITY EACH
PROJECT	1	2
PROJECT TOTALS	**1**	**2**

ASPHALTIC RUMBLE STRIPS

STAGE	STATION	LOCATION	465.0520 ASPHALTIC RUMBLE STRIPS SHOULDER LF
	STH 35		
2A	304+28 - 355+00	NB	5072
	304+28 - 355+00	SB	5072
	355+00 - 434+00	NB	7900
	355+00 - 434+00	SB	7900
	434+00 - 618+74	NB	18224
	434+00 - 453+48	SB	1948
	STAGE 2A ITEM TOTALS		46116
2B	304+28 - 355+00	NB	5072
	304+28 - 355+00	SB	5072
	355+00 - 434+00	NB	7900
	355+00 - 434+00	SB	7900
	434+00 - 618+74	NB	18224
	434+00 - 453+48	SB	1948
	STAGE 2B ITEM TOTALS		46116
4A	453+48-618+74	SB	16276
	STAGE 4A ITEM TOTALS		16276
4B	453+48-618+74	SB	16276
	STAGE 4B ITEM TOTALS		16276
	PROJECT TOTALS		124784

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CULVERT PIPES ITEMS

STATION	LOCATION	520.8700 CLEANING CULVERT PIPES EACH	524.0627 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 27-INCH EACH
STH 35			
435+23	NB &SB	2	-
464+97	NB LT	-	1
484+46	SB LT	1	-
557+24	NB RT	1	-
PROJECT TOTALS		4	1

RECONSTRUCTING INLETS MEDIAN 2 GRATE

STATION	LOCATION	SPV.0060.02 EACH	EXISTING RIM ELEVATION	PROPOSED RIM ELEVATION	ELEVATION CHANGE
STH 35					
306+46'NB'	26.6' LT	1	906.79	908.23	1.4
353+46'NB'	24.4' LT	1	929.26	931.26	2.0
356+46'NB'	27.3' LT	1	928.46	930.38	1.9
435+21'NB'	32.0' LT	1	932.5	933.48	1.0
557+26'NB'	27.3' LT	1	922.58	924.06	1.5
560+70'NB'	23.6' LT	1	924.07	924.79	0.7
580+45'NB'	20.2' LT	1	897.73	897.53	-0.2
606+97'NB'	32.2' LT	1	844.70	844.80	0.1
PROJECT TOTALS		8			

CONCRETE ITEMS

STATION	LOCATION	415.0060 CONCRETE PAVEMENT 6-INCH SY	601.0590 CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	602.3010 CONCRETE SURFACE DRAINS CY	620.0200 CONCRETE BLUNT NOSE SF	620.0300 CONCRETE SLOPED NOSE SF
STH 35						
607+65 - 608+22	NB	25	56	1.4	-	-
610+99 - 611+85	SB	25	56	1.5	-	-
354+20	RAMP A	-	-	-	-	40
354+95	RAMP B	-	-	-	40	40
355+00	RAMP D	-	-	-	40	-
432+82	RAMP G	-	-	-	-	40
633+40	RAMP L	-	-	-	-	40
PROJECT TOTALS		50	112	2.9	80	160

GUARDRAIL ITEMS

STATION	LOCATION	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
STH 35							
303+90 - 305+85	MEDIAN	2	175	-	-	-	-
353+80 - 356+00	MEDIAN	2	225	-	-	-	-
398+94 - 405+85	NB RT	-	-	690			
432+60 - 434+75	MEDIAN	2	225	-	-	-	-
558+05 - 559+90	MEDIAN	2	150	-	-	-	-
581+15 - 582+80	MEDIAN	2	125	-	-	-	-
605+16 - 608+21	NB LT & RT	-	-	50	212.5	39.4	1
611+29 - 614+09	SB LT & RT	-	-	50	187.5	39.4	1
PROJECT TOTALS		10	900	790	400	78.8	2

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RESTORATION ITEMS

STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
STH 35						
301+81 - 307+98	MEDIAN	3167	2.00	143	71	71
351+70 - 358+09	MEDIAN	3280	2.07	148	74	74
430+95 - 436+97	MEDIAN	3475	2.19	156	78	78
556+03 - 562+01	MEDIAN	3076	1.94	138	69	69
578+60 - 584+32	MEDIAN	2979	1.88	134	67	67
604+07 - 608+47	NB LT	2003	1.26	90	45	45
611+29 - 615+66	SB RT	2029	1.28	91	46	46
UNDISTRIBUTED (25%)	NB & SB	4991	3.15	225	115	115
PROJECT TOTALS		25000	15.76	1125	565	565

MOBILIZATIONS EROSION CONTROL

STATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
PROJECT	4	4
PROJECT TOTALS	4	4

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EROSION CONTROL ITEMS

STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7005 INLET PROTECTION TYPE A EACH	628.7504 TEMPORARY DITCH CHECKS LF	SPV.0060.01 FILL EROSION EACH	SPV.0090.02 CLEANING DITCH LF
STH 35										
301+81 - 307+98	MEDIAN	-	-	-	-	3167	2	32	-	-
351+70 - 358+09	MEDIAN	-	-	-	-	3280	2	32	-	-
390+87	NB RT	-	-	-	-	-	-	-	1	-
400+98	NB RT	-	-	-	-	-	-	-	1	-
430+95 - 436+97	MEDIAN	-	-	-	-	3475	2	80	-	75
464+97	SB LT	-	-	-	-	-	-	-	1	-
556+03 - 562+01	MEDIAN	-	-	-	-	3076	2	16	-	-
578+60 - 584+32	MEDIAN	-	-	-	-	2979	2	48	-	-
604+07 - 608+47	NB LT	3.7	7	-	-	2003	1	32	-	-
611+29 - 615+66	SB RT	1.6	3	-	-	2029	1	48	-	-
UNDISTRIBUTED (25%)	NB & SB	1.3	3	200	200	4991	3	72	-	-
PROJECT TOTALS		6.6	13	200	200	25000	15	360	3	75

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PERMANENT SIGNING ITEMS

SIGN NUMBER	LOCATION	MILE MARKER	SIGN CODE	MESSAGE	TYPE I SIZE	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS EACH	637.1220 SIGNS TYPE I REFLECTIVE SH SF	638.2601 REMOVING SIGNS TYPE I EACH	REMARKS
1-1	SB		D2-2	STILLWATER 5 HUDSON 12	168" X 60"	1	70.00	1	REPLACE
2-1	NB		E8-1A	SOMERSET EXITS VV BUS 64 1 35 NORTH C 5	192" X 108"	1	144.00	1	REPLACE
2-2	SB		E1-5P	EXIT 4	84" X 30"	-	17.50	1	REPLACE
2-2	SB		E4-1A	V ANDERSEN SCOUT [TR] CAMP ROAD	324" X 126"	1	283.50	1	REPLACE
2-3	NB		E1-5P	EXIT 6	84" X 30"	-	17.50	1	REPLACE
2-3	NB		E1-1A	VV BUS 64 SOMERSET 1/2 MILE	192" X 126"	1	168.00	1	REPLACE
3-1	SB		E1-5P	EXIT 4	84" X 30"	-	17.50	1	
3-1	SB		E1-1A	V ANDERSEN SCOUT CAMP ROAD 1/2 MILE	288" X 126"	1	252.00	1	REPLACE
3-2	NB		E1-5P	EXIT 6	84" X 30"	-	17.50	1	REPLACE
3-2	NB		E4-1A	VV BUS 64 SOMERSET [TR]	228" X 96"	1	152.00	1	REPLACE
4-1	SB		E1-5P	EXIT 6	84" X 30"	-	17.50	1	REPLACE
4-1	SB		E4-1A	VV SOMERSET [TR]	216" X 90"	1	135.00	1	REPLACE
5-1	SB		E1-5P	EXIT 6	84" X 30"	-	17.50	1	REPLACE
5-1	SB		E1-1A	VV SOMERSET 1 MILE	180" X 120"	1	150.00	1	REPLACE
6-1	NB		E1-5P	EXIT 9	84" X 30"	-	17.50	1	REPLACE
6-1	NB		E1-1A	35 NORTH C SOMERSET OSCEOLA 1 MILE	216" X 162"	1	243.00	1	REPLACE
6-2	SB		D2-2	STILLWATER 10 HUDSON 17	168" X 60"	1	70.00	1	REPLACE
7-1	NB		E1-5P	EXIT 9	84" X 30"	-	17.50	1	REPLACE
7-1	NB		E4-1A	35 NORTH C SOMERSET [TR] OSCEOLA	240" X 132"	1	220.00	1	REPLACE
PROJECT TOTALS						11	2027.50	19	

DIGITAL SPEED REDUCTION SYSTEM

STATION	LOCATION	DIGITAL SPEED LIMIT TRAILERS (DSLT)	643.0370.S DIGITAL SPEED REDUCTION SYSTEM DAY
STH 35			
STAGE 1	NB	7	79
STAGE 1	SB	7	79
STAGE 2	NB	7	23
STAGE 2	SB	7	23
STAGE 3	NB	7	32
STAGE 3	SB	7	32
STAGE 4	NB	7	25
STAGE 4	SB	7	25
PROJECT TOTALS			318

NOTE: PLACE DSLT IN ADVANCED WARNING AREA AND EVERY 1 MILE THEREAFTER

PORTABLE AUTOMATED REAL-TIME TRAFFIC QUEUE WARNING SYSTEM

STATION	LOCATION	PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)	PORTABLE TRAFFIC SENSORS (PTS)	643.1200.S QUEUE WARNING SYSTEM DAY
STH 35				
STAGE 1	NB	4	4	79
STAGE 1	SB	4	4	79
STAGE 2	NB	4	4	23
STAGE 2	SB	4	4	23
STAGE 3	NB	4	4	32
STAGE 3	SB	4	4	32
STAGE 4	NB	4	4	25
STAGE 4	SB	4	4	25
PROJECT TOTALS				318

NOTE: PLACE PCMS TO 4 MILES UPSTREAM OF LANE CLOSURE TAPER. PLACE PTS TO 3 MILES UPSTREAM OF LANE CLOSURE

TRAFFIC CONTROL

STAGE	LOCATION	643.0030 DRUMS EACH	643.0030 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0810.S CONNECTED ARROW BOARD EACH	643.0810.S CONNECTED ARROW BOARD DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY	643.1220 CONNECTED WORK ZONE START AND END LOCATION MARKERS EACH	643.1220 CONNECTED WORK ZONE START AND END LOCATION MARKERS DAY	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	643.3180 TEMPORARY MARKING LINE REMOVEABLE TAPE 6-INCH LF	643.5000 TRAFFIC CONTROL EACH	CALENDAR DAYS
STH 35	PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	2	14	-	-	-	-	0.5	7
STAGE 1A	NB & SB	890	34698	2	78	4	156	12	468	2	78	18	702	-	-	4	156	62900	660	-	39
STAGE 1B	NB & SB	890	35588	2	80	4	160	12	480	2	80	18	720	-	-	4	160	46374	660	-	40
STAGE 2	NB & SB	890	20463	2	46	4	92	12	276	2	46	18	414	-	-	4	92	-	1320	-	23
STAGE 3	NB & SB	890	28470	2	64	4	128	12	384	2	64	18	576	-	-	4	128	16526	-	-	32
STAGE 4	NB & SB	890	22243	2	50	4	100	12	300	2	50	18	450	-	-	4	100	-	-	-	25
RAMP CLOSURES		50	1200	4	96	4	96	12	288	-	-	90	2160	10	190	-	-	-	-	-	24
																					1
PROJECT TOTALS			142662		414		732		2196		318		5022		204		636	125800	2640	0.5	

TRAFFIC CONTROL - COVERING SIGNS

STAGE	LOCATION	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I SIGN MESSAGE	NUMBER OF CYCLES	NUMBER OF SIGNS	EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II SIGN MESSAGE	NUMBER OF CYCLES	NUMBER OF SIGNS	EACH
STH 35									
1B	RAMP D, EXIT	1 MILE, ARROW	1	2	2	EXIT/ARROW	1	1	1
	RAMP B, EXIT	1 MILE, ARROW	1	2	2	EXIT/ARROW	1	1	1
	RAMP A, ENTRANCE		-	-	-	STILLWATER	1	2	2
	RAMP C, ENTRANCE		-	-	-	SOMERSET	1	2	2
	RAMP H, EXIT	1 MILE, ARROW, SOMERSET	1	3	3	EXIT/ARROW	1	1	1
	RAMP F, EXIT	1 MILE, ARROW, SOMERSET	1	3	3	EXIT/ARROW	1	1	1
	RAMP E, ENTRANCE		-	-	-	STILLWATER/HUDSON	1	2	2
	RAMP G, ENTRANCE		-	-	-	NEW RICHMOND	1	2	2
	RAMP L, EXIT	1 MILE, ARROW, CEDAR LAKE	1	2	2	EXIT/ARROW	1	1	1
	RAMP I, ENTRANCE		-	-	-	STILLWATER/HUDSON	1	2	2
PROJECT TOTALS					12				15

PERMANENT PAVEMENT MARKING ITEMS

STATION	LOCATION	646.2025 GROOVED BLACK EPOXY 6-INCH LF	646.2040 GROOVED WET REF EPOXY 6-INCH EDGE LINE WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH EDGE LINE YELLOW LF	646.4040 GROOVED WET REF EPOXY 10-INCH WHITE LF	646.5420 MARKING AERIAL ENFORCEMENT BARS EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.7220 CHEVRON EPOXY 24-INCH LF	646.8220 MARKING ISLAND NOSE EPOXY EACH	646.9000 MARKING REMOVAL LINE 4-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF
STH 35											
304+28 - 618+74	NB	7861	27019	39307	-	2	-	-	-	66326	-
304+28 - 618+74	SB	7861	27713	39307	-	10	-	-	-	67020	-
304+28 - 618+74	NB RAMPS	-	9676	4760	4723	-	148	50	2	14436	4723
304+28 - 618+74	SB RAMPS	-	9035	5298	5179	-	94	50	-	14333	5179
PROJECT TOTALS		15722	73443	88672	9902	12	242	100	2	162115	9902
			162115								

*EXISTING EPOXY EDGELINES TO BE REMOVED. PAID FOR AS MARKING REMOVAL LINE 4-INCH

CONSTRUCTION STAKING ITEMS

STATION	LOCATION	650.4000 STORM SEWER EACH	650.8000 RESURFACING REFERENCE LF	650.9911.01 SUPPLEMENTAL CONTROL (8080-08-75) EACH	650.9920 SLOPE STAKES LF
STH 35					
150TH AVE - CTH V	NB & SB	2	10150	1	1256
CTH V - CTH VV	NB & SB	1	15728	-	647
CTH VV - CTH I	NB & SB	2	25086	-	601
CTH I - STH 35	NB & SB	3	11928	-	1436
PROJECT TOTALS		8	62892	1	3940

SAWING ITEMS

LOCATION	690.0150 SAWING ASPHALT LF
STH 35 NB	
150TH AVE - CTH V	36
CTH V ON RAMP	36
CTH V OFF RAMP	30
CTH V - CTH VV	108
CTH V ON RAMP	84
CTH V OFF RAMP	36
CTH VV - CTH I	258
CTH I - STH 35	102
STH 35 ON RAMP	30
UNDISTRIBUTED	790
SUBTOTAL	1510
STH 35 SB	
150TH AVE - CTH V	102
CTH V OFF RAMP	42
CTH V ON RAMP	54
CTH V - CTH VV	216
CTH V OFF RAMP	24
CTH V ON RAMP	96
CTH VV - CTH I	96
CTH I - STH 35	42
STH 35 OFF RAMP	132
UNDISTRIBUTED	790
SB SUBTOTAL	1594
PROJECT TOTALS	3104

ASPHALTIC MASTIC JOINT SEALING

LOCATION	SPV.0090.01 (LF)
STH 35 NB	
345+80 - 347+48	168
352+10 - 354+16	206
355+22 - 357+42	220
361+94 - 363+26	132
369+54 - 370+47	93
376+06 - 378+32	226
380+99 - 382+81	182
386+29 - 388+49	220
397+51 - 400+04	253
403+44 - 404+61	117
413+28 - 414+05	77
414+81 - 415+84	103
417+32 - 419+84	252
425+07 - 426+84	177
439+93 - 442+23	230
482+16 - 483+46	130
502+08 - 508+40	632
515+24 - 516+57	133
520+13 - 530+40	1027
533+25 - 536+90	365
540+32 - 547+19	1060
553+12 - 553+75	63
554+53 - 560+33	580
563+93 - 564+96	140
NB SUBTOTAL	6786
STH 35 SB	
335+16 - 336+57	141
355+32 - 355+82	100
369+54 - 369+99	45
396+27 - 398+76	249
403+73 - 405+35	162
407+84 - 408+54	70
419+13 - 423+92	643
440+99 - 441+83	328
SB SUBTOTAL	1738
PROJECT TOTALS	8524

3

CONCRETE REPAIR AND REPLACEMENT ITEMS

STAGE	STATION	LOCATION	SPV.0180.01 CONCRETE PAVEMENT REPAIR DOWELED 6'-15' SY	SPV.0180.02 CONCRETE PAVEMENT REPLACEMENT DOWELED (SY) >15' LT	SPV.0180.03 30" CONCRETE CENTERLINE REPAIR SY	415.9700 DRILLED DOWEL BARS EACH	416.0160 DRILLED TIE BARS EACH	*690.0250 SAWING CONCRETE LF
1B	STH 35 NB							
	304+28 - 355+00	150TH AVE - CTH V	23	249	-	126	70	371
	355+00 - 434+00	CTH V - CTH VV	163	1613	-	288	457	1590
	434+00 - 559+00	CTH VV - CTH I	79	1283	-	288	350	1324
	559+00 - 618+74	CTH I - STH 35	65	185	-	108	64	329
	STH 35 SB							
	304+28 - 355+00	150TH AVE - CTH V	87	235	-	126	83	403
	355+00 - 434+00	CTH V - CTH VV	109	380	-	198	126	622
	423+75-435+98	RAMP E	0	36	-	20	-	30
	434+00 - 453+48	CTH VV - CTH I	109	733	-	180	216	821
	453+48 - 559+00	CTH VV - CTH I	44	529	-	-	-	-
	559+00 - 618+74	CTH I - STH 35	65	252	-	90	82	344
	STAGE 1B ITEM TOTALS		745	5494	0	1424	1448	5834
2A	STH 35 NB							
	304+28 - 355+00	150TH AVE - CTH V	0	259	141	48	483	1280
	355+00 - 434+00	CTH V - CTH VV	60	909	219	272	923	2715
	434+00 - 559+00	CTH VV - CTH I	68	465	347	256	1160	3284
	559+00 - 618+74	CTH I - STH 35	56	24	166	64	502	1351
	STH 35 SB							
	304+28 - 355+00	150TH AVE - CTH V	75	121	141	80	465	1281
	355+00 - 434+00	CTH V - CTH VV	93	292	219	160	748	2109
	434+00 - 453+48	CTH VV - CTH I	93	475	54	160	326	1056
	453+48 - 559+00	CTH VV - CTH I	37	453	293	-	991	-
	559+00 - 618+74	CTH I - STH 35	56	216	166	80	560	1519
	STAGE 2A ITEM TOTALS		539	3215	1747	1120	6157	14595
	PROJECT TOTALS		1284	8709	1747	2544	7605	20429

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

5

LEGED

ASPHALT MASTIC IT SEALIG

HMA VERLAÈĀ

CCRETE REPAIR AREA

TE
LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ

BEGI CSTRCTI
STA 33'SB'

MIDEST ATRAL GAS

RTHEST CMMICATIS

5TH AVE

BP 3 'SB'
3
5

PI 3 'SB'
355
55

PI 335 'SB'
3
53555

PI 33 'SB'
35
5

PI 3 'SB'
35
533

3'SB'
5'SB'
3'E
3'SB'
3'E
5'E
35'SB'
STH 35 SB
35'5E
3'SB'
3'E
35'SB'

3'B'
5'B'
3'B'
35'B'
STH 35 B
35'E
3'B'
35'B'

CAUTION

REMVE REPLACE BLLSE
SEE GARDRAIL DETAIL SHEET

BP 3 'B'
3
5

PC 35 'B'

PT 35 'B'

MATCH LIE 3

PI STA 335 'B' 'B'
353
53
DELTA ' RT
D '3
T '
L 53'
R 5'
PC STA 35 'B' 'B'
PT STA 35 'B' 'B'

BEGI PRECT
STA 33'B'
MATCH EISTIG
REMVIG ASPHALTIC
SRFACE BTT ITS RE'D

PI STA 3333 'SB' 'SB'
35
55
DELTA '3 LT
D 5'
T 5'
L '
R 53'
PC STA 3333 'SB' 'SB'
PT STA 33 'SB' 'SB'
SE `ÂÂÂÂÂ

PC 3333 'SB' 'SB'

BP 333 'A'
353
535

PC 3335 'A'

PI STA 33 'A'
35
5
DELTA 5' LT
D 5'33
T '
L 5'
R '
PC STA 3335 'A'
PT STA 33 'A'

STA 335'SB'

STA 335'SB'

3'E
3'SB'
3'E
35'SB'
STH 35 SB
33'SB'
33'5E
333'A'
335'E
335'SB'

STA 335'SB' 3 LT

STA 333'A'

MATCH LIE 3

3'B'
35'B'
STH 35 B
33'B'
335'B'

STA 33335'B'

STA 333'B'

PC 35 'B'

MATCH LIE 33

PI STA 33 'B' 'B'
35
533
DELTA '5 LT
D '
T '
L 3'
R 55'
PC STA 35 'B' 'B'
PT STA 33 'B' 'B'
SE 3

PRECT 5	H STH 35	CT ST CRI	PLAĀ	SHEET 54	E

FILE AME SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLA5P SCDG
LAT AME ..

PLT DATE 55 AM PLT B GAR ELLIAS PLT AME PLT SCALE I FT

ISDTCADDS SHEET

PI STA 3333 'SB' 'SB'
35
55
DELTA '3 LT
D 5'
T 5'
L '
R 53'
PC STA 3333 'SB' 'SB'
PT STA 33 'SB' 'SB'
SE`ÃÃÃÃÃ

PI STA 3 'A'
3355
55
DELTA '5 LT
D 5'
T 55'
L 53'
R 5'
PC STA 35 'A'
PT STA 353 'A'

PI STA 353 'A'
35
553
DELTA 5' RT
D '5
T 3'
L 5'
R 5'
PC STA 3553 'A'
PT STA 355 'A'

PI STA 355 'B'
335
55
DELTA 353' RT
D '5
T 3'
L 3'
R 35'
PC STA 3555 'B'
PT STA 3533 'B'

PI STA 3 'B'
355
555
DELTA 3' LT
D 5'
T 33'
L '
R 5'
PC STA 353 'B'
PT STA 3 'B'

N

REPLACE CCRETE
MEDIA SLPED SE

ED CSTRCTI
STA 35'A'

PC 3553 'A'

PT 355 'A'

EP 3555 'A'
3
553

BP 355 'B'
33333
55

PC 3555 'B'

REPLACE CCRETE
MEDIA BLT SE

REPLACE CCRETE
MEDIA SLPED SE

PT 3533 'B'

STA 33'B'
RESRFACE MAITEACE CRSSVER
MATCH EISTIG IDTH
SEE CSTRCTI DETAIL

PT 353 'A'

STA AHEAD 33 'SB'
STA BAC 3'SB'

PT 33 'SB'
PT 33 'A'
3
A B AB
PC 35 'A'
PI 3 'SB'
3335
553
'SB'

STA 33'SB'
STA 3'SB'

3'A'
5'3E
35'A'
'3E
35'A'
5'5
'E
355'B'
5'E
3'B'
'SB'
PC 353 'B'
PI 35 'SB'
35
55
PT 3 'B'

CTH V RAMP A
CTH V RAMP B

BEGI CSTRCTI
STA 355'B'

CTH V

REMVE REPLACE BLLSE
SEE GARDRAIL DETAIL SHEET

RECSTRCTIG ILETS MEDIA GRATE
SEE GARDRAIL DETAIL SHEET

STA 355'SB'
STA 3553'SB'

RECSTRCTIG ILETS
MEDIA GRATE SEE
GARDRAIL DETAIL SHEET

ST CRI ELEC CP
STA 35'SB'

STA 3'SB'
STA 3'SB'
353'E

STA 33'SB'
STA 35'SB'
35'B'

MATCH LIE 33

STA 33'B' RT
STA 3'D'
STA 35'B'
STA 3'B'
3'E
35'B'
35'E
35'D'
STH 35 B
STH 35 SB
35'SB'
'E
BMĀ
355'SB'
3'B'
STA 3'B'
STA 3'SB'
STA 33'SB'
35'B'
STA 35'B'
STA 355'B'
STA 33'B'
35'C'
53'53E

ÃÃÃÃÃÃÃ
M DM

'B'
BP 3 'D'
33
5

PT 33 'B'

PC 35 'D'
PI 3 'B'
3333
5535

CTH V RAMP D
533'5E
35'D'

3 AB
3
A B AB

BP 355 'C'
3355
55

3'C'
53'
CTH V RAMP C

PC 35 'C'
PI 35 'B'
3555
555
PT 3 'C'

'5E
355'C'
355'D'

PT 353 'D'
PC 353 'D'
PT 353 'C'

PI STA 33 'B' 'B'
35
533
DELTA '5 LT
D '
T '
L 3'
R 55'
PC STA 35 'B' 'B'
PT STA 33 'B' 'B'
SE 3

PI STA 35 'D'
333
55
DELTA '5 RT
D 5'
T 3'
L 5'
R 53'
PC STA 35 'D'
PT STA 353 'D'

PI STA 3533 'D'
33333
55
DELTA 33' LT
D 3'5
T 55'
L 3'
R '
PC STA 353 'D'
PT STA 353 'D'

ED CSTRCTI
STA 3555'D'

PT 353 'D'
EP 353 'D'
3353
55

PC 355 'C'

REPLACE CCRETE
MEDIA BLT SE

BEGI CSTRCTI
STA 35'C'

STA 35'B' 'SB'
CLEARIG RE'D AT LT RT AE

PI STA 35553 'C'
33
55
DELTA 3'3 LT
D '5
T '
L 5'
R 35'
PC STA 355 'C'
PT STA 353 'C'

PI STA 35 'C'
3
55
DELTA ' RT
D 5'5
T '
L 5'
R '
PC STA 35 'C'
PT STA 3 'C'

LEGED

ASPHALT MASTIC IT SEALIG

HMA VERLAÈĀ

CCRETE REPAIR AREA

TE
LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ

BECHMAR TABLE

PIT	STATIFFSET	DESCRIPTIĀĀ	ELEVATIĀĀ
BM Ā	355'EB' 5L'B'	3 SP	333
BM Ā	35355'EB' 'B'	3 SP	3

PRECT 5	HĀĀĀ STH 35	CT ST CRI	PLAĀ	SHEET 55 E

FILE AME Ā SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLA5P SCDG
LAT AME 02
PLT DATE Ā 55 AM
PLT B ĀĀ GAR ELLIAS
PLT AME Ā
PLT SCALE Ā ############
ISDTCADDS SHEET

LEGED

ASPHALT MASTIC IT SEALIG

HMA VERLAÈĀ

CCRETE REPAIR AREA

TE
LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ

STA 3'B'
RESRFACE MAITEACE CRSSVER
MATCH EISTIG IDTH
SEE CSTRCTI DETAIL

MATCH LIE 3

MATCH LIE 35

EP 3 'B' 355 55

MIDEST ATRAL GAS
STA 3'B'

ST CRI ELEC CP

PI 3 'SB' 333 553

STA 35'SB'

STA 3'SB'

STA 3'SB'

STA 3'SB'

STA 3'SB'

STA 3'SB'

3'SB'
3'B'

CAUTION

'E

35'SB'

STH 35 SB

3'SB'

35'SB'

3'53E

3'SB'

35'S

'E

35'B'

3'53E

53'53E

STH 35 B

3'B'

35'B'

3'B'

35'B

3'C'

35'C'

STA 3'B'

STA 3'B'

STA 3'B'

STA 33'B'

STA 3'B'

STA 3'B'

STA 3'B'

STA 3'B'

STA 3'B'

STA 35'B'

ATT

RTHEST
CMMICATIS

RT

STA 3'B'

STA 33'B'

MIDEST ATRAL GAS

EP 3 'C' 355 553

PI 3 'B' 33 55

'B'

STA 3'B'
FILL ERSI RE'D AT RT AE IT

STA 5'B'
RESRFACE MAITEACE CRSSVER
MATCH EISTIG IDTH
SEE CSTRCTI DETAIL

PI STA 53 'SB' 'SB'
355
5533
DELTA '5 RT
D '
T 35'
L '
R 3'
PC STA 'SB'
PT STA 33 'SB'
SE 55

PI 'SB' 35 5

'SB'

PC 'SB'

STA 535'SB'

STA 'SB'

STA 3'SB'

STA 'SB'

STA 3'SB'

STA 33'SB'

STA 3'SB'

MATCH LIE 35

'SB'

3'53E

STH 35 SB

5'SB'

'E

'SB'

STA 5'SB'

STA 3'B'

STA 5'B'

5'SB'

'E

'B'

3'53E

STH 35 B

5'B'

'B'

'H'

5'B'

5'H'

STA 35'B'

STA 'B'

STA 3'B'

STA 'B'

STA 'B'

STA 33'B'

3'E

STA 'B'

STA 5'B'

STA 3'B'

STA 35'B' T 555'B'
ADSTIG STEEL PLATE BEAM GARD

STA 33'B' 33 RT

STA 3'H'

PI 'B' 355 5

BP 3 'H' 35 55

PC 55 'B'

PC 'H'

PI STA 5 'B'
335
5533
DELTA '5 RT
D '5
T 33'
L '
R '
PC STA 55 'B' 'B'
PT STA 353 'B' 'B'
SE 5

STA 'B'

MATCH LIE ÂÂÂÂÂÂ

L 'H'

PC 53 'H'

STA 'B'
FILL ERSI RE'D AT RT AE IT

STA 5'B'
CLEARIG RE'D AT RT AE

5

5

PRECT 5	HĀĀĀ STH 35	CT ST CRI	PLAĀ	SHEET 56	E

FILE AME Ā SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLASP SCDG
LAT AME 3

PLT DATE Ā 55 AM PLT B ĀĀ GAR ELLIAS PLT AME Ā PLT SCALE Ā I FT

ISDTCADDS SHEET

LEGED

ASPHALT MASTIC IT SEALIG

HMA VERLAÈĀ

CCRETE REPAIR AREA

BECHMAR TABLE			
PIT	STATIFFSET	DESCRIPTIĀĀ	ELEVATIĀĀ
BM 3	35'EB' 3LT 'B'	3 SP	5
BM Ā	35'EB' 3LT 'B'	3 SP	35

TE
LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ

PI STA 53 'SB' 'SB'
355
5533
DELTA '5 RT
D '
T 35'
L '
R 3'
PC STA 'SB' 'SB'
PT STA 33 'SB' 'SB'
SE 55

PI STA 3 'E'
355
5
DELTA 3' RT
D '
T 3'
L 3'
R 35'
PC STA 5 'E'
PT STA 3 'E'

PI STA 33 'E'
3553
553
DELTA 3' RT
D '5
T 3'
L 3'
R 55'
PC STA 33 'E'
PT STA 35 'E'

PI STA 'F'
35
5
DELTA 3' LT
D 5'
T 3'
L 55'
R 5'
PC STA 3 'F'
PT STA 3 'F'

N

ED CSTRCTI
STA 35'E'

BEGI CSTRCTI
STA 3'F'

PC 33 'E'
PT 35 'E'
EP 33 'E'
33
333
555
BP 3 'F'
533

PI 53 'E'
3355
53

PI 5 'E'
335
55

PI 3 'F'
33
555

PC 3 'F'

PT 3 'E'

PT 3 'F'

CTH VV
CTH VV RAMP 'E'
CTH VV RAMP 'F'
CTH VV RAMP 'H'
CTH VV RAMP 'G'

35'E'
3'5E
5'E
3'E'
S35'3E
55'3E
'E'
55'E
5'5E
5'F'

REMVE REPLACE
BLLSE SEE
GARDRAIL DETAIL
SHEET

STA 353'SB'
STA 33'SB'
STA 3'SB'
STA 35'SB'
PT 33 'SB'
STA AHEAD 3 'SB'
STA BAC 35'SB'

STA 'SB'
STA 3'SB'
3'SB'
55'5E
5'5E

STH 35 SB
STH 35 B
BM3
BMA
STA 3'B'
STA 35'B'
3'B'
5'B'
33'E
35'B'
55'5E
5'5B'

CLEAIG DITCH
3 AB

RECSTRCTIG ILETS MEDIA GRATE
SEE GARDRAIL DETAIL SHEET

REPLACE CCRETE
MEDIA SLPED SE

STA 'B'
STA 5'B'
STA 33'B'
PT 353 'B'
5'3E
53'55E
5'G'

BRIGHTSPEED
ST CRI ELEC CP
STA 'B'
STA 5'B'
5'H'
3'H'
55'53E
33'G'
35'G'

ARVIG CMM SS

PT 33 'H'
EP 333 'H'
3
5533
BP 33 'G'
3
5555
PC 335 'G'
PT 35 'G'
PC 35 'G'
PT 'G'

MATCH LIE ĀĀĀĀĀĀ
MATCH LIE ĀĀĀĀĀĀ

PI STA 5 'B'
335
5533
DELTA '5 RT
D '5
T 33'
L '
R '
PC STA 55 'B'
PT STA 353 'B'
SE 5

PI STA 5 'H'
35
55
DELTA 33' RT
D '
T 3'
L 53'
R 3'
PC STA 'H'
PT STA 'H'

PI STA 55 'H'
35
55
DELTA 5353'5 RT
D '
T 5'
L 5'
R 33'
PC STA 53 'H'
PT STA 33 'H'

STA 353'B' 'SB'
CLEARIG RE'D AT RT AE
CLEAIG CLVERT PIPES RE'D LT RT

PI STA 33 'G'
355
5
DELTA 3' LT
D 3'
T 5'
L 535'
R 3'
PC STA 335 'G'
PT STA 35 'G'

PI STA 'G'
35
55
DELTA 5' RT
D 5'5
T '
L 3'
R 5'
PC STA 35 'G'
PT STA 'G'

PRECT 5	HĀĀĀ STH 35	CT ST CRI	PLAĀ	SHEET 57	E

FILE AME Ā SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLASP SCDG
LAT AME 04
PLT DATE Ā 55 AM
PLT B ĀĀ GAR ELLIAS
PLT AME Ā
PLT SCALE Ā I FT
ISDTCADDS SHEET

BEGI HMA VERLA SB L
STA 53'SB'
MATCH EISTIG
REMVIG CCRETE
PAVEMET BTT ITS

STA 3'SB'
EP 33 'F'
355
553
STA 3'SB' LT
STA 33'F'
STA 3'SB'
MATCH LIE ÄÄÄÄÄ
5'SB'
33'E
33'E
5'B'
53'55E
5'G'
STA 533'B'
STA 5353'B' 5 RT
STA 5353'G'
EP 5353 'G'
35
55
PC 5 'SB'
'SB'
'B'
PC 5 'B'

PI STA 55 'SB'
333
53
DELTA '3 LT
D 3'
T 5'
L '
R '
PC STA 5 'SB'
PT STA 'SB'
SE 3

STA 'B'
RESRFACE MAITEACE CRSSVER
MATCH EISTIG IDTH
SEE CSTRCTI DETAIL

STH 35 SB
35'SB'
'SB'
STH 35 B
STA 53'B'
'B'

PI STA 533 'B' 'B'
35
55
DELTA '3 LT
D '5
T 55'
L '
R 3'
PC STA 5 'B' 'B'
PT STA 3 'B' 'B'
SE 3

PT 'SB'
PT 3 'B'

STA 'SB'
APR EDALLS FR CLVERT PIPE SALVAGED ICH LT
FILL ERSI RE'D AT LT AE IT

PI STA 3 'SB'
3
535
DELTA ' RT
D '
T '
L '
R 3'
PC STA 5 'SB'
PT STA 'SB'
SE ÄÄÄÄÄ

PC 5 'SB'
5'SB'
5'SB'
5'E
5'B'
5'B'
5'E
'B'
PC 'B'

PI STA 3 'B'
3
533
DELTA ' RT
D '
T 55'
L '
R 3'
PC STA 'B'
PT STA 'B'
SE 3

MATCH LIE 5

N

5

LEGED
ASPHALT MASTIC IT SEALIG
HMA VERLAÈÄ
CCRETE REPAIR AREA

TE
LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDÄ

STA 'SB'
CLEARIG RE'D AT LT AE
CLEAIG CLVERT PIPES RE'D LT

PT 'SB'
'SB'
STH 35 SB
3'E
5'SB'
5'SB'
5'SB'
3'E
'B'
5'B'
STH 35 B
'B'
5'B'
STA 5'B'
STA 3'B'
STA 'B'
STA 'B'
STA 'B'
STA 'B'
ÄÄÄÄÄÄÄ
S M SM
MIDEST ATRAL GAS
ST CRI ELEC CP
CAUTION
PT 'B'
'B'
MATCH LIE 5

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PRECT 5	HÄÄÄ STH 35	CT ST CRI	PLAÄ	SHEET 58 E

FILE AME Ä SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLA5P SCDG
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PLT DATE Ä 55 AM
PLT B ÄÄ GAR ELLIAS
PLT AME Ä
PLT SCALE Ä I FT
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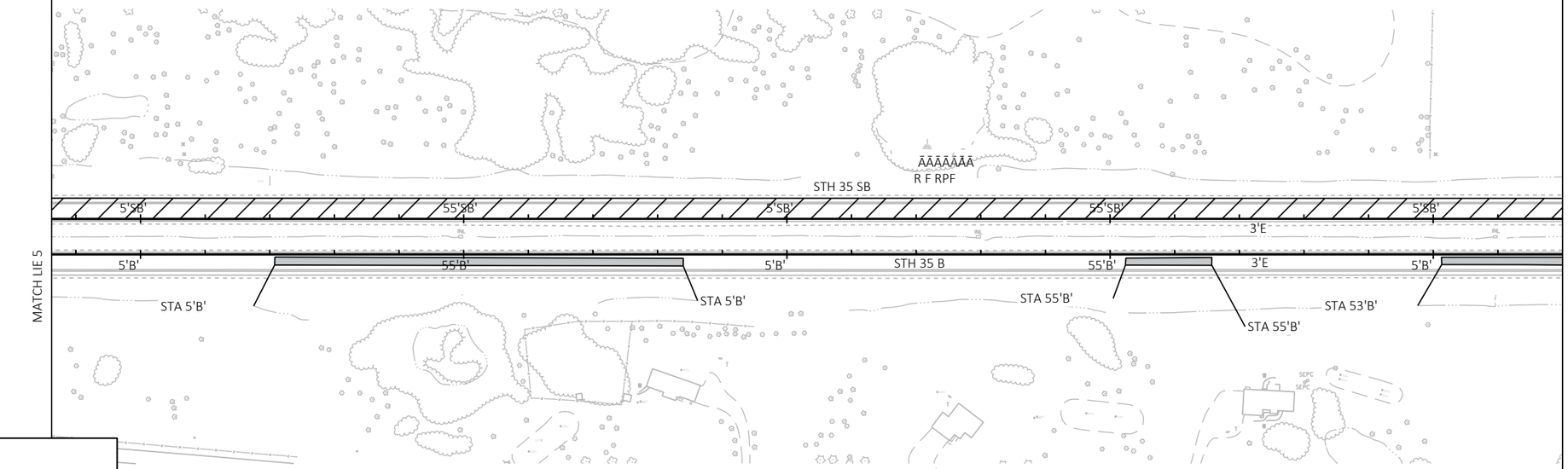
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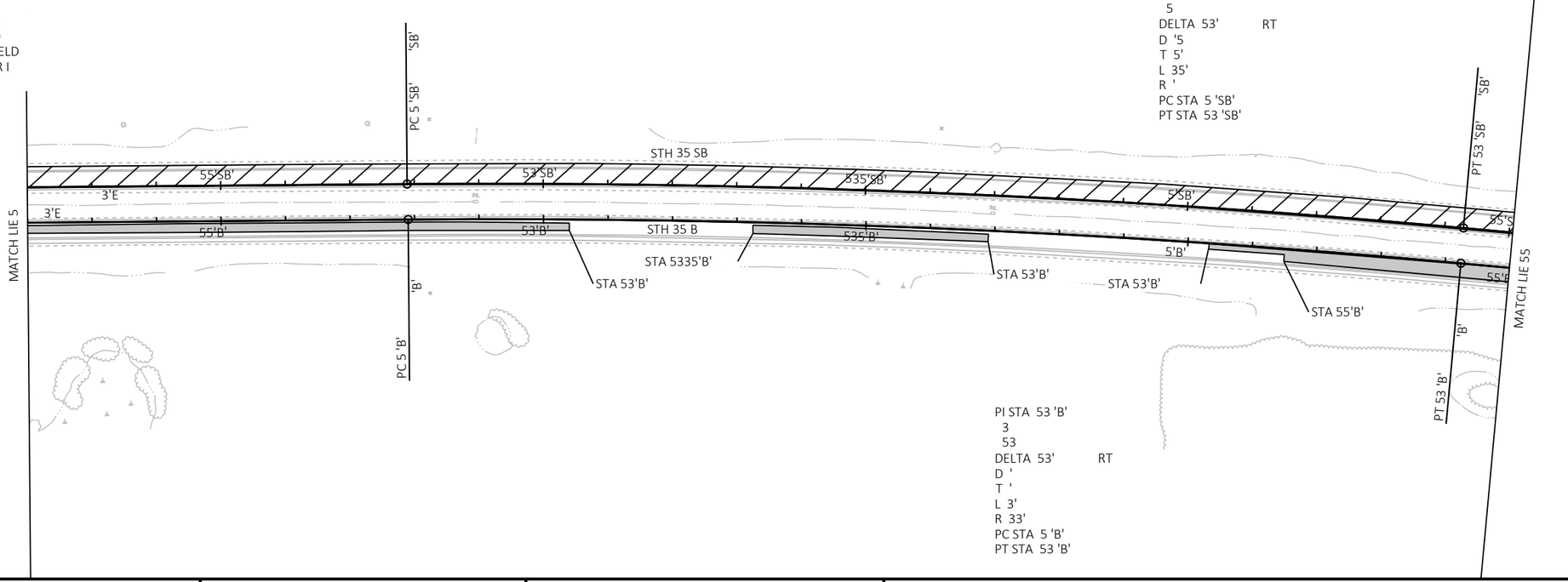
ASPHALT MASTIC IT SEALIG

HMA VERLAÈĀ

CCRETE REPAIR AREA

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LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ





PRECT 5	HĀĀĀ STH 35	CT ST CRI	PLAĀ	SHEET 59	E

FILE AME Ā SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLA5P SCDG
LAT AME 06
PLT DATE Ā 55 5 AM
PLT B ĀĀ GAR ELLIAS
PLT AME Ā
PLT SCALE Ā I FT
ISDTCADDS SHEET

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LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDÃ

N

RTHEST
CMMICATIS

MIDEST ATRAL GAS

RECSTRCTIG ILETS MEDIA GRATE
SEE GARDRAIL DETAIL SHEET

MATCH LIE 55

STA 553'B'
STA 5'B'
STA 553'B'
STA 55'B'
STA 553'B'
STA 553'B'
STA 5535'B'
STA 553'B'
STA 553'B'
STA 555'B'
STA 555'B'
STA 5555'B'
STA 55'B'
STA 55'B'
STA 5'B'
STA 533'B'
STA 53'B'
STA 5'B'

SM
S3'E
55'SB'
STH 35 SB
STH 35 B
AÃÃÃÃÃÃ
BM5
CATHON
CANADIAN NATIONAL
CTH I
PC 5 'SB'

REMVE REPLACE BLLSE
SEE DETAIL SHEET

RECSTRCTIG ILETS MEDIA GRATE
SEE DETAIL SHEET

ST CRI ELEC CP

CEL EERG

STA 55'B'
CLEARIG RE'D AT RT AE
CLEAIG CLVERT PIPES RE'D RT

MATCH LIE 55

BECHMAR TABLE			
PIT	STATIFFSET	DESCRIPTIÃÃ	ELEVATIÃÃ
BM 5	55'EB' 5LT 'B'	3 SP	5
BM Ã	5'EB' 3LT 'B'	3 SP	5
BM Ã	5'EB' LT 'B'	3 SP	901.798
BM Ã	555'EB' LT 'B'	3 SP	53

LEGED
ASPHALT MASTIC IT SEALIG
HMA VERLAÈÃ
CCRETE REPAIR AREA

PI STA 5 'SB' 'SB'
333
5335
DELTA '3 LT
D '
T 5'
L '
R '
PC STA 5 'SB' 'SB'
PT STA 55 'SB' 'SB'
SE 5

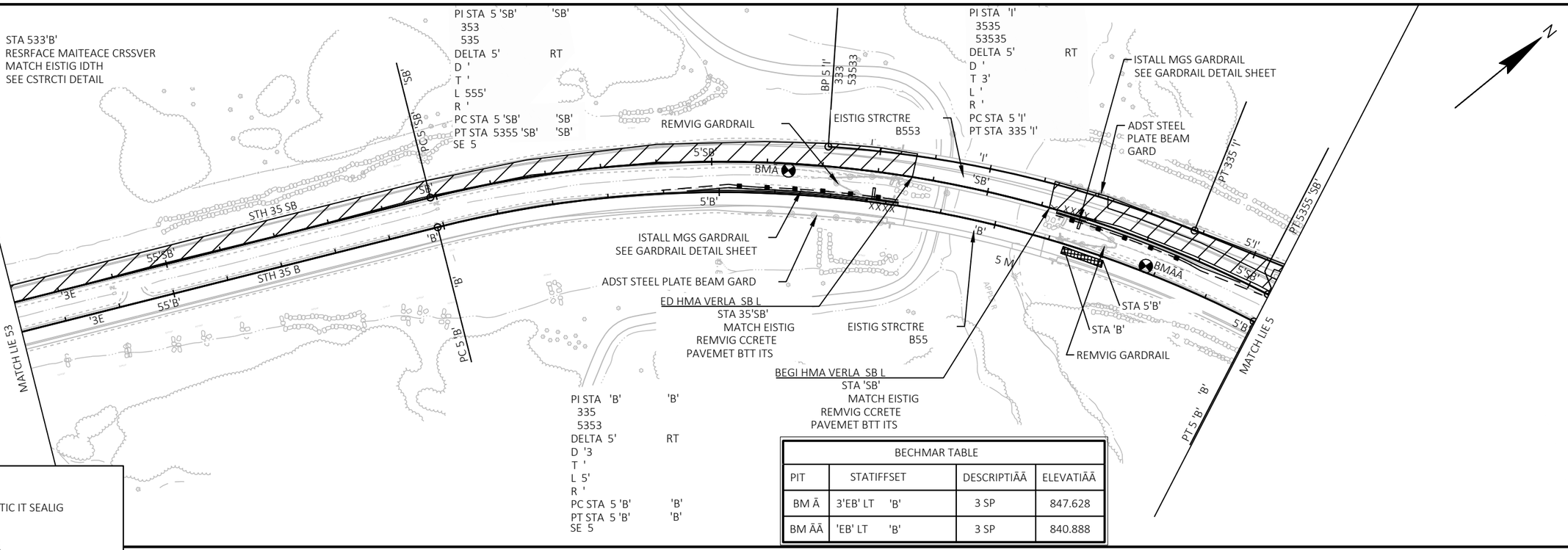
PI STA 55 'B' 'B'
35
533
DELTA '3 LT
D '5
T 5'
L 5'
R '
PC STA 5 'B' 'B'
PT STA 53 'B' 'B'
SE 5

N

STA 5'SB'
STA 533'SB'
STA 5'SB'
STA 5'SB'
STA AHEAD 5 'SB'
STA BAC 533'SB'
PT 55 'SB'
PT 53 'B'
MATCH LIE 55
MATCH LIE 53
STH 35 B
STH 35 SB
SM
5'B'
55'B'
55'SB'
'3E
BMÃ
BMÃ
REMVE REPLACE BLLSE
SEE GARDRAIL DETAIL SHEET
RECSTRCTIG ILETS MEDIA GRATE
SEE GARDRAIL DETAIL SHEET
CANADIAN NATIONAL

PRECT 5	HÃÃÃ STH 35	CT ST CRI	PLAÃ	SHEET 60	E

FILE AME Ã SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLA5P SCDG
LAT AME 07
PLT DATE Ã 55 5 AM
PLT B ÃÃ GAR ELLIAS
PLT AME Ã
PLT SCALE Ã I FT
ISDTCADDS SHEET



BECHMAR TABLE			
PIT	STATIFFSET	DESCRIPTIĀĀ	ELEVATIĀĀ
BM Ā	3'EB' LT 'B'	3 SP	847.628
BM ĀĀ	'EB' LT 'B'	3 SP	840.888

LEGED

ASPHALT MASTIC IT SEALIG

HMA VERLAÈĀ

CCRETE REPAIR AREA

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LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ

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PRECT 5	HĀĀĀ STH 35	CT ST CRI	PLAĀ	SHEET 61	E

FILE AME Ā SEHICCMPARAPPRECTSIT535FIALDSGC3D5STH 35STH C3DSHEETSPLA5P SCDG
LAT AME 08
PLT DATE Ā 55 5 AM PLT B ĀĀ GAR ELLIAS PLT AME Ā PLT SCALE Ā ########### ISDTCADDS SHEET

BECHMAR TABLE			
PIT	STATIFFSET	DESCRIPTIĀĀ	ELEVATIĀĀ
BM ĀĀ	'EB' LT	3 SP	5
BM ĀĀ	353'EB' 3LT	3 SP	848.240

TE
LIMITS F ASPHALT MASTIC IT SEALIG
CCRETE REPAIR AD REPLACEMET AD
HMA VERLA MA BE ADSTED I THE FIELD
AD SHALL BE VERIFIED B THE EGIEER I
THE FIELDĀ

LEGED
ASPHALT MASTIC IT SEALIG
HMA VERLAÈĀ
CCRETE REPAIR AREA

PI STA 5 ''
353
53
DELTA '
D 5'5
T 555'
L 3'
R 3'
PC STA 53 ''
PT STA 33 ''

LT

PI STA 33 ''
3535
53533
DELTA 3'5
D '
T '
L 53'
R 53'
PC STA 33 ''
PT STA 3 ''

RT

PI STA 35 'I'
355
5335
DELTA 3'
D 53'5
T 33'
L 5'
R '
PC STA 553 'I'
PT STA 'I'

LT

EP 35 'I'
3
53

CTH C

ED CSTRCTI
STA 3'I'

BEGI CSTRCTI
STA 3''

PT 'I'

STH 35 RAMP I

PC 53 ''

PI ''
3535
53

STH 35

ED HMA VERLA
STA 5'I'
MATCH EISTIG
REMVIG CCRETE
PAVEMET BTT ITS

STA AHEA 'SB'
STA BAC 3'SB'
PC 553 'I'

ED HMA VERLA
STA 'SB'
BEGI HMA VERLA
STA 'B'

STH RAMP

PT 33 ''

PC 33 ''

PT 3 ''

SMERSET VILLAGE ATER

EP ''
333
53355

BMĀĀ

STH B

STA 33'B'

STA 3'B'

STA 33'B'

BMĀĀ

STH EB

STA 33'B'

STA 3'B'

STA 33'B'

MATCH LIE 5

STH 35 RAMP L

BP 5 'L'
33
535

ED PRECT 5
STA 3'EB'
BEGI PRECT
STA 3'B'

PC 'L'

PT 'L'

ED CSTRCTI
STA 35'L'

REPLACE CCRETE
MEDIA SLPED SE

PC 33 'L'

PT 333 'L'

EP 35335 'L'
333
53

STH 35

BP 3335 ''
35
53

STH RAMP

PC 33 ''

PT 353 ''

BEGI CSTRCTI
STA 335''

PI STA 535 'L'
355
5333
DELTA 5'
D 5'3
T '
L 55'
R '
PC STA 'L'
PT STA 'L'

RT

PI STA 355 'L'
35
533
DELTA 53'
D 5'55
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R 3'
PC STA 33 'L'
PT STA 333 'L'

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PI STA 3 ''
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DELTA '
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PC STA 33 ''
PT STA 353 ''

LT

PI STA ''
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D 5'
T 5'
L 33'
R '
PC STA 33 ''
PT STA ''

RT

PRECT 5	HĀĀĀ STH 35	CT ST CRI	PLAĀ	SHEET 62	E

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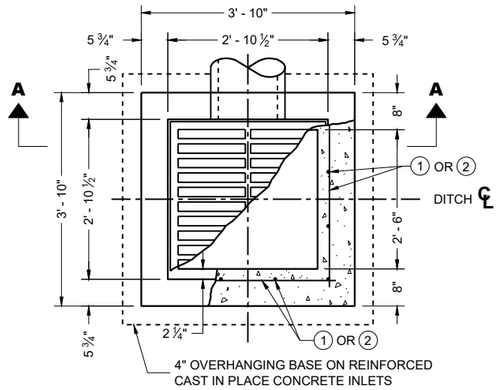
Standard Detail Drawing List

08C08-03	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D16-11	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
11A01-06	MAINTENANCE CROSSOVER FOR FREEWAYS
11B02-02	CONCRETE MEDIAN NOSE
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A07-02	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-17A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B26-05A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09D	ON RAMP LANE CLOSURE
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C14-04	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C18-09B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C19-09C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-08A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-08C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-14A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

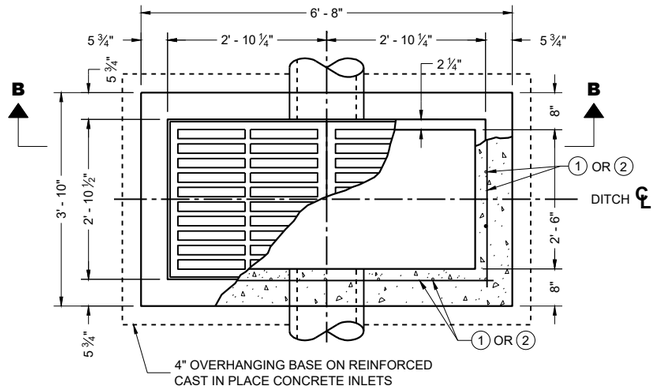
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Standard Detail Drawing List

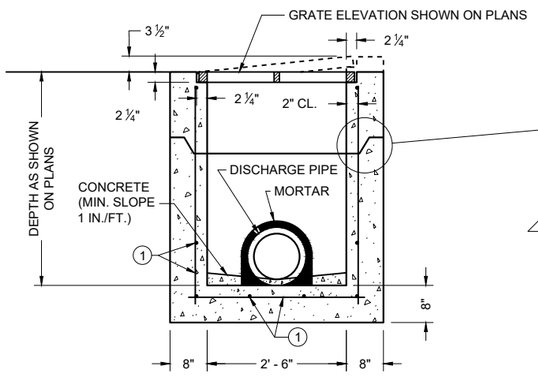
15D12-14B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D12-14E	TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE
15D12-14G	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D15-07A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING



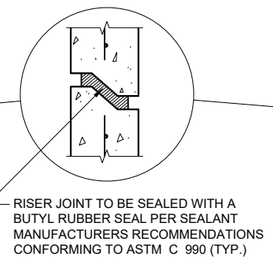
PLAN VIEW

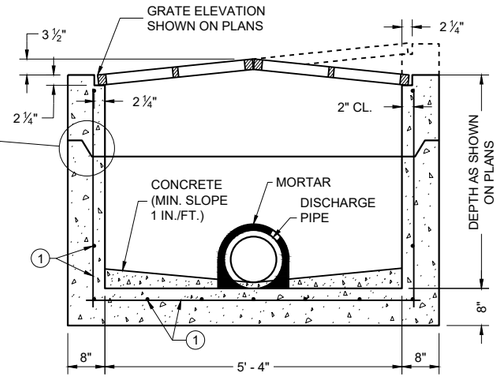


PLAN VIEW

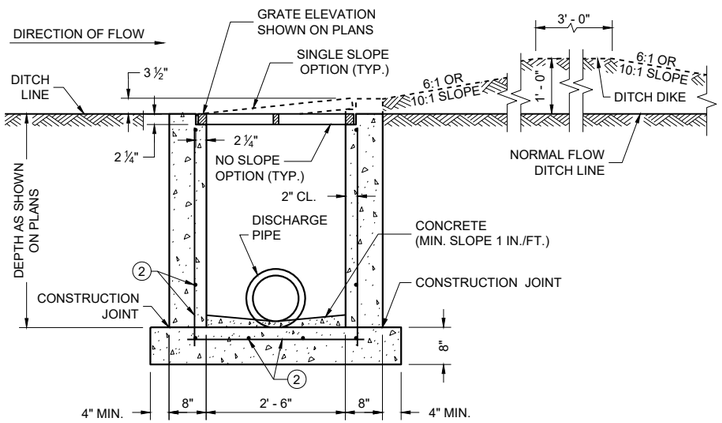


PRECAST REINFORCED CONCRETE SECTION A - A



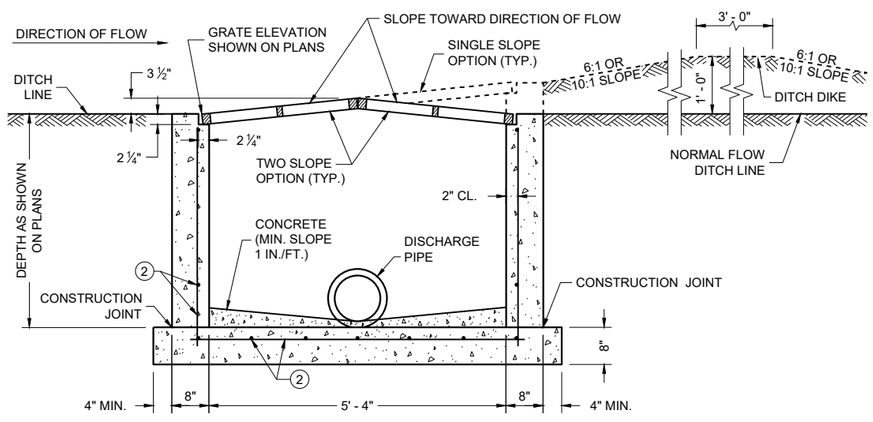


PRECAST REINFORCED CONCRETE SECTION B - B



REINFORCED CAST IN PLACE CONCRETE SECTION A - A

INLETS MEDIAN 1 GRATE



REINFORCED CAST IN PLACE CONCRETE SECTION B - B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

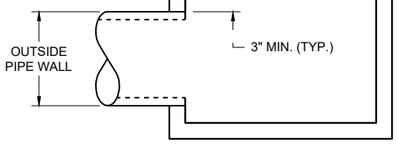
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

(2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.



DETAIL "A"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

INLETS
MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

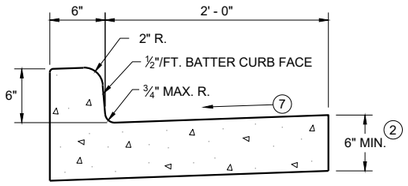
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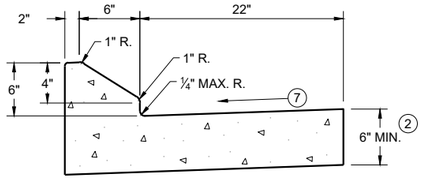
SDD 08C08-03

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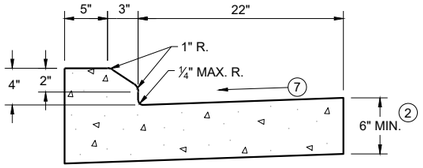
SDD 08C08-03



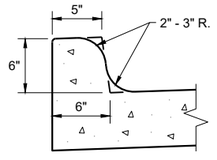
TYPES A (1) & D



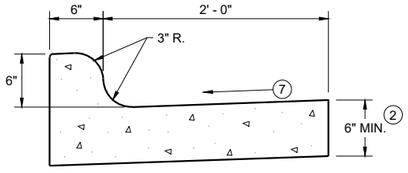
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

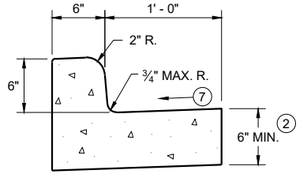


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



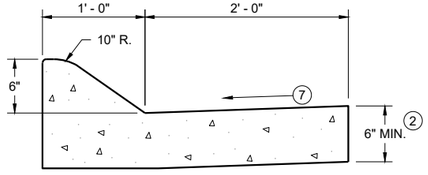
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

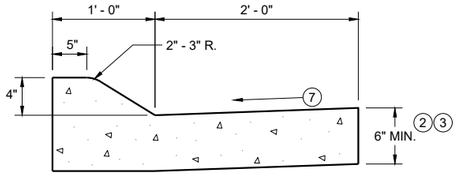


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

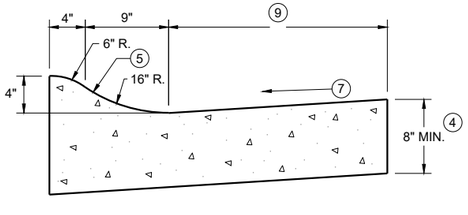


6" SLOPED CURB TYPES A (1) & D



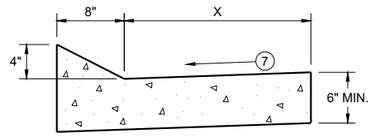
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

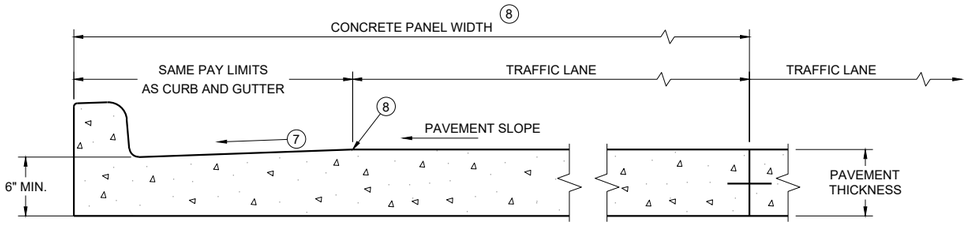


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

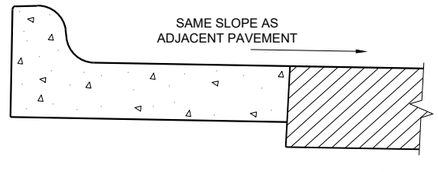
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

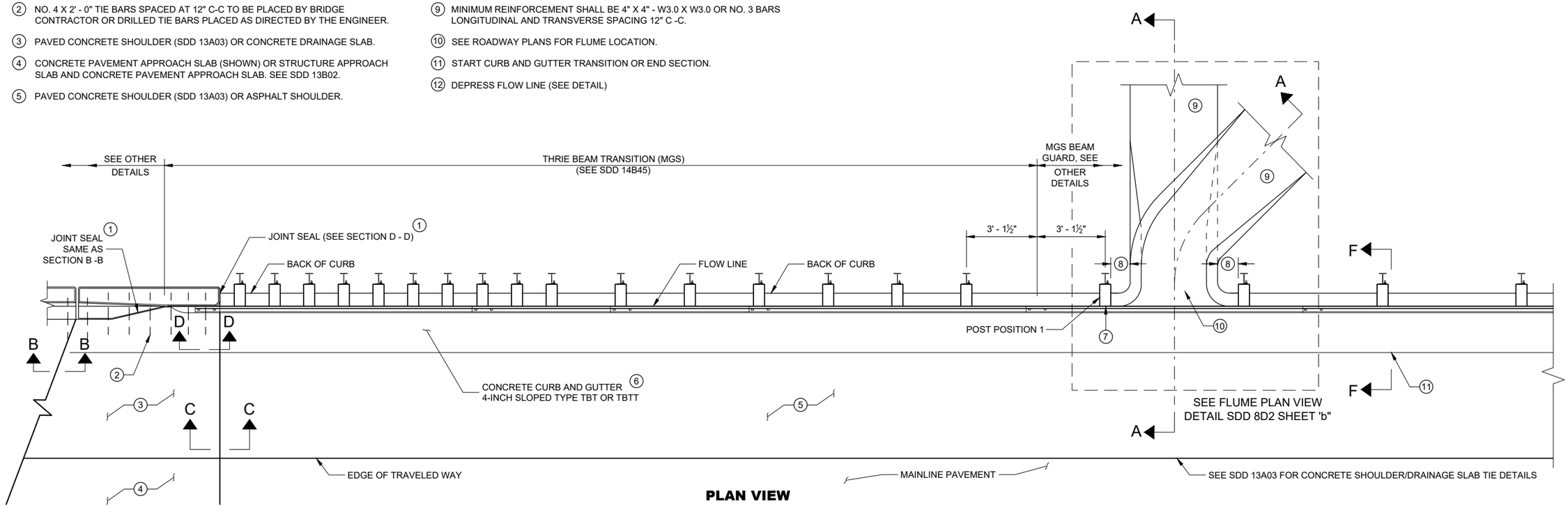
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

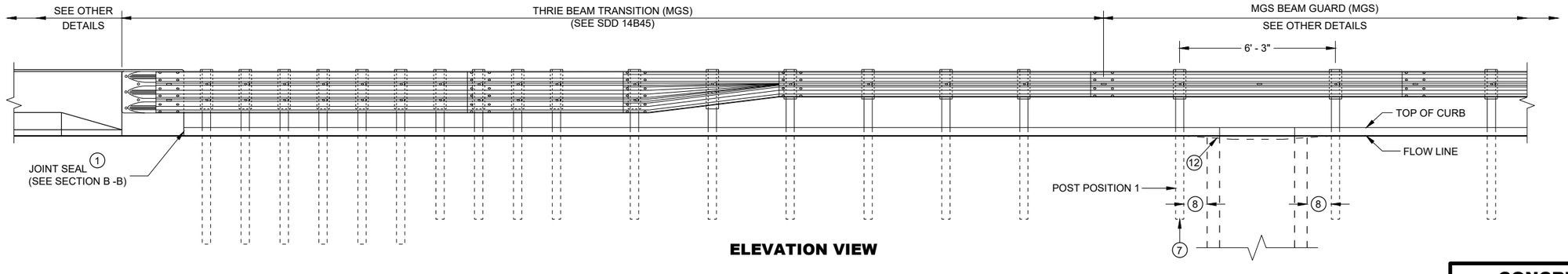
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



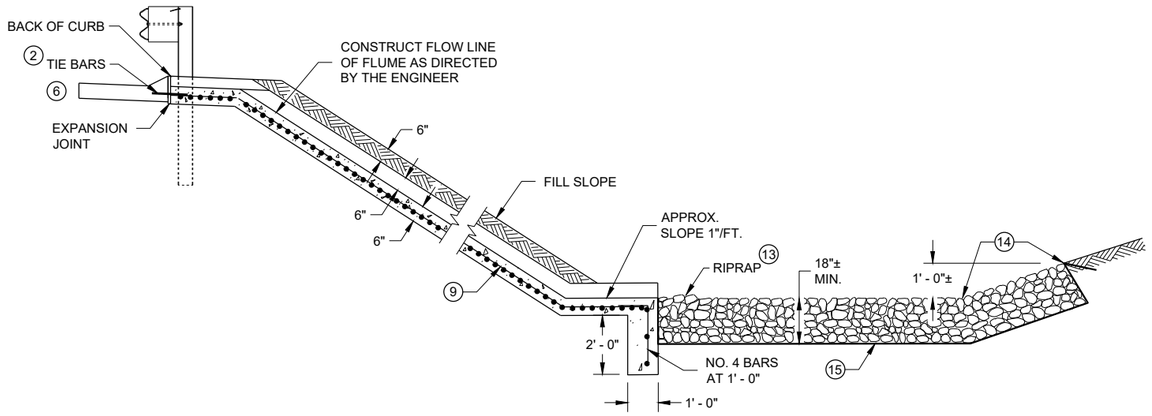
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

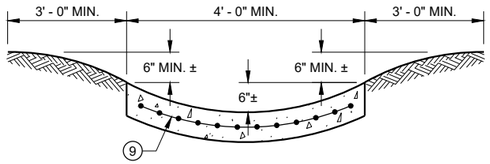
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 08a

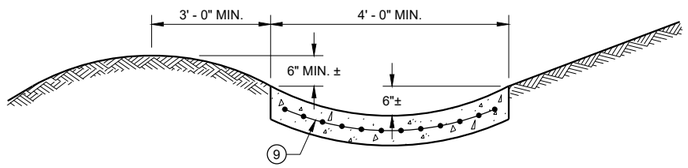
SDD 08D02 - 08a



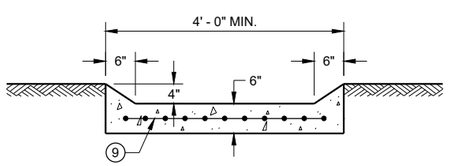
SECTION A - A



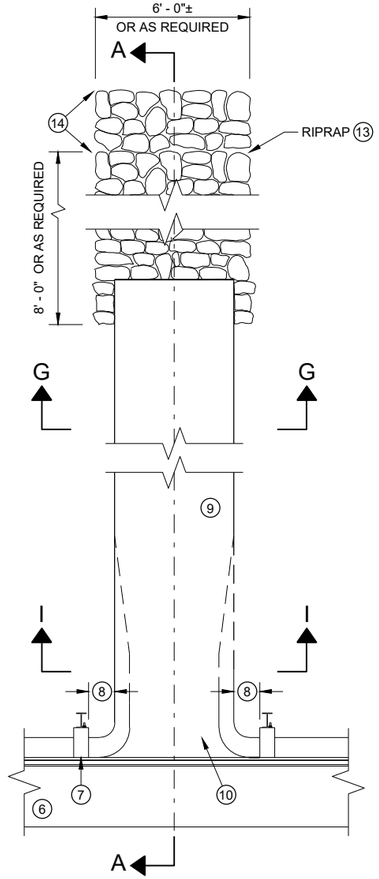
SECTION G - G



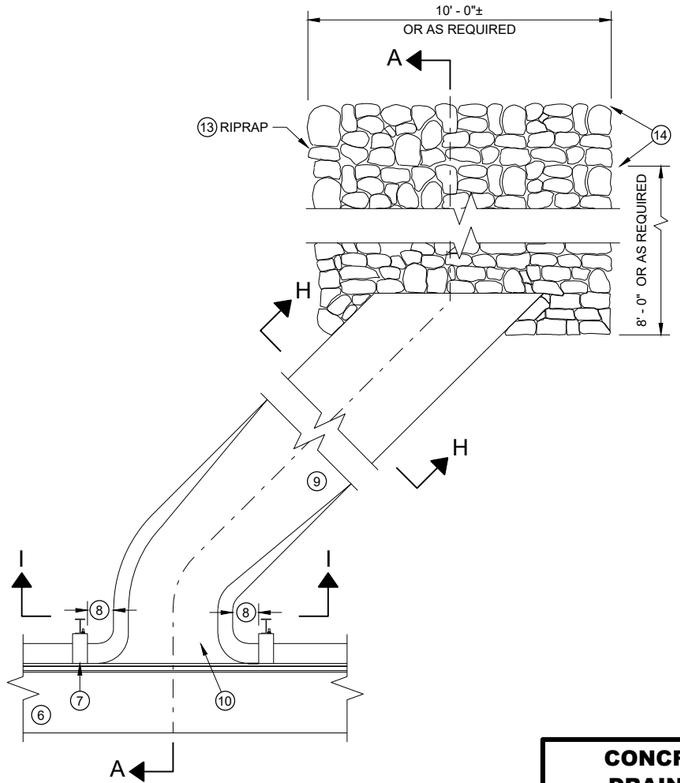
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

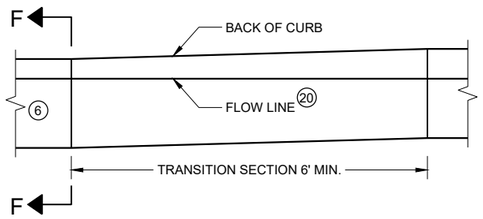
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

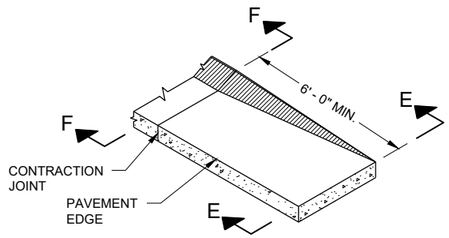
SDD 08D02 - 08b

6

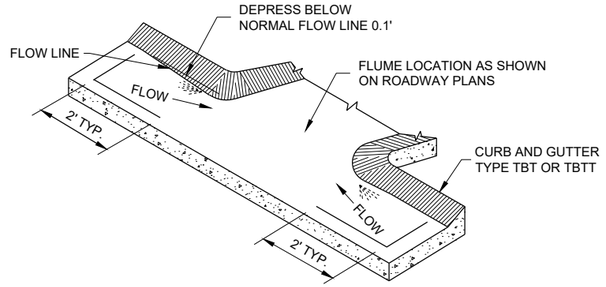
SDD 08D02 - 08b



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



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



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

GENERAL NOTES

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

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

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(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

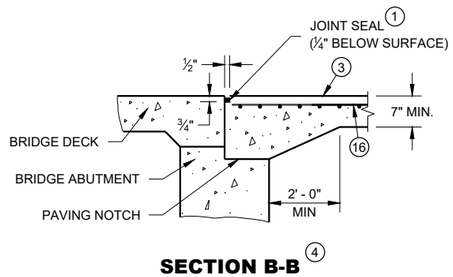
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

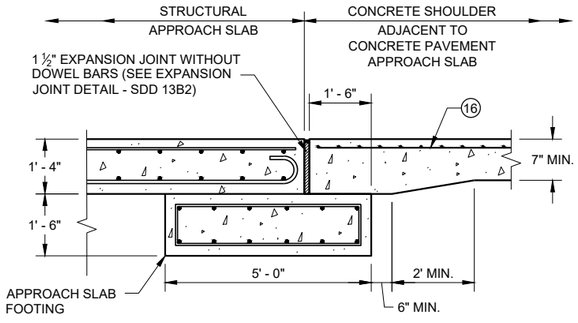
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

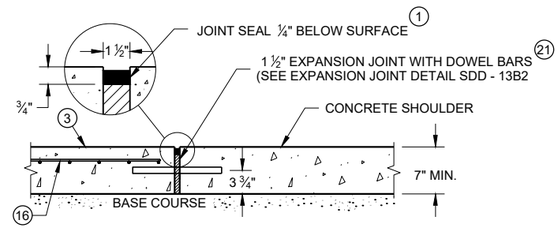
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



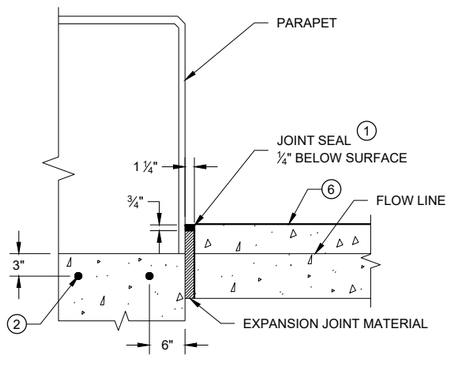
SECTION B-B (4)



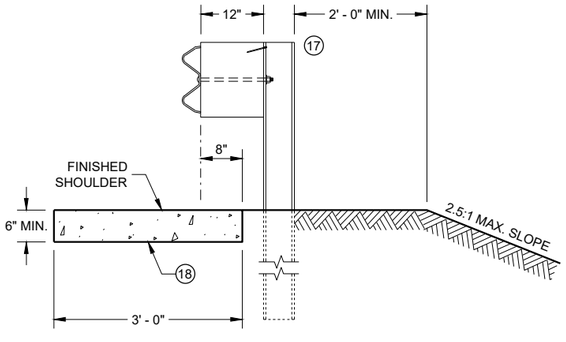
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



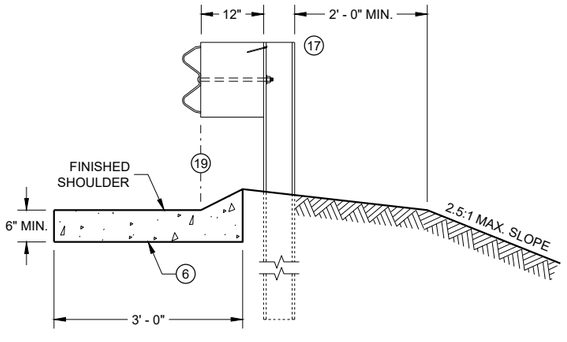
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

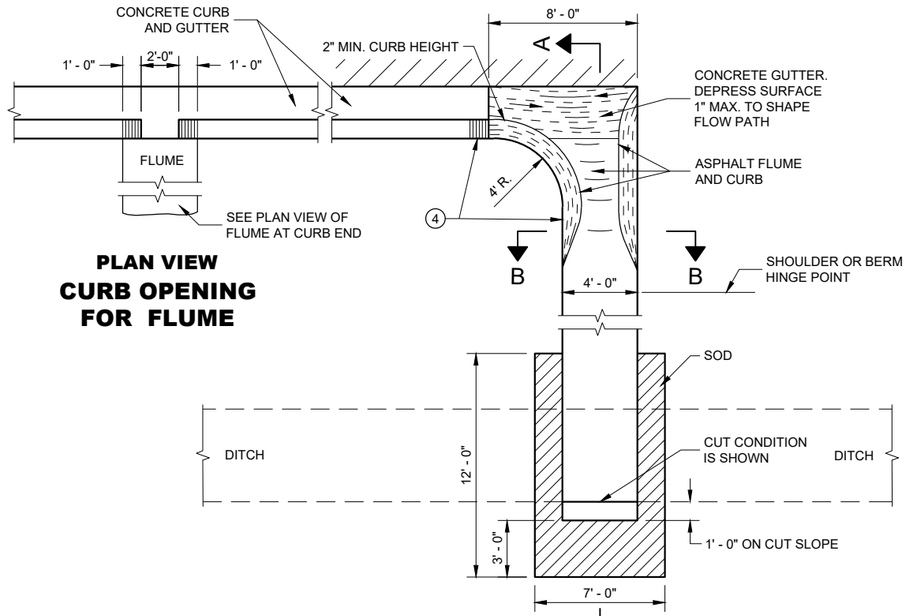
APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6
SDD 08D02 - 08c

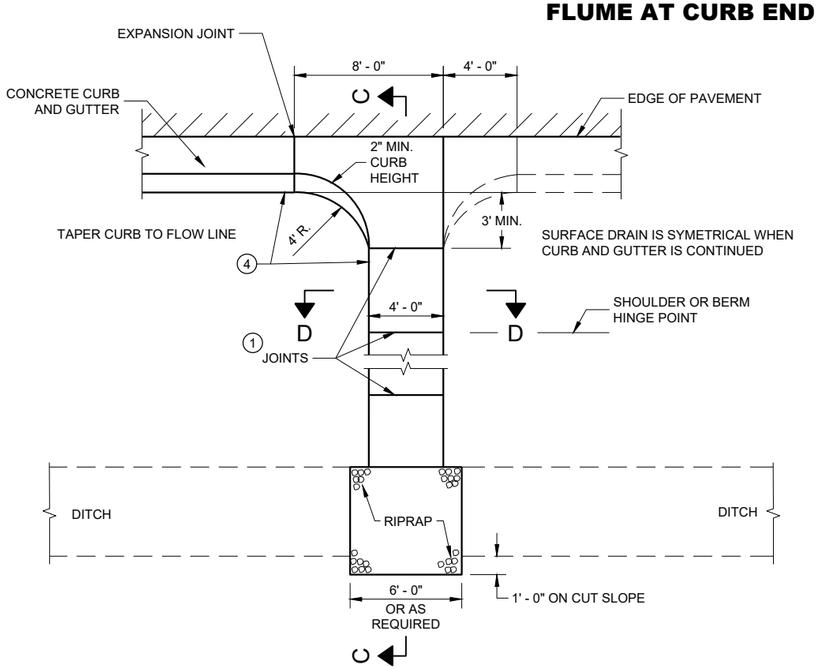
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



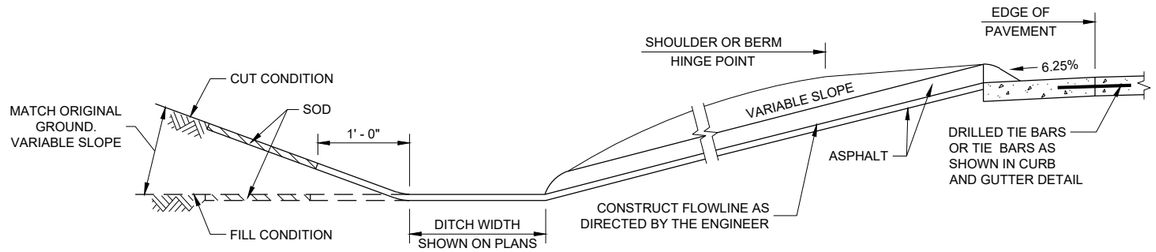
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

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

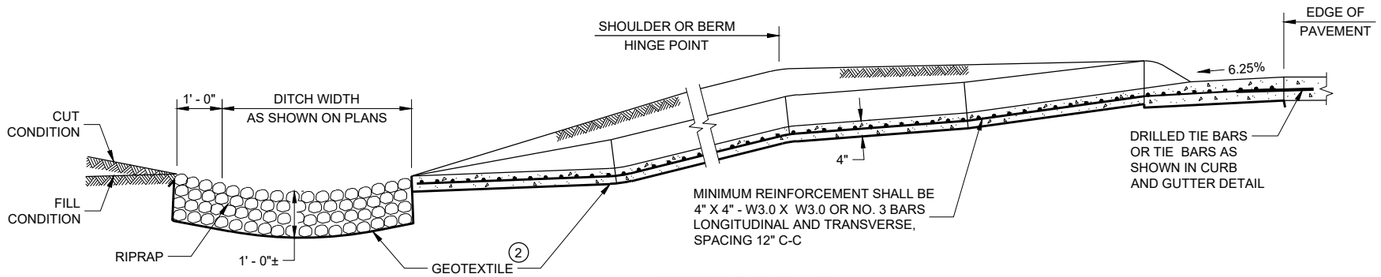
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.

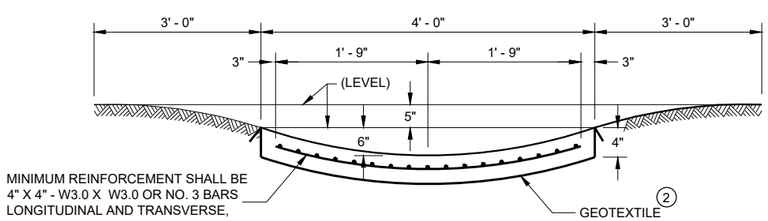


SECTION A - A

SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

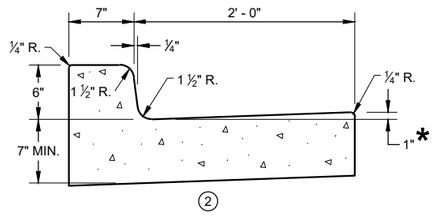
FHWA

6

SDD 08D04 - 07

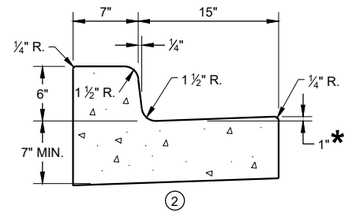
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SDD 08D04 - 07

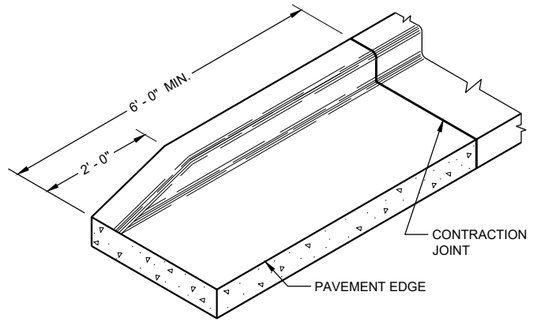


CONCRETE CURB AND GUTTER 31" ①

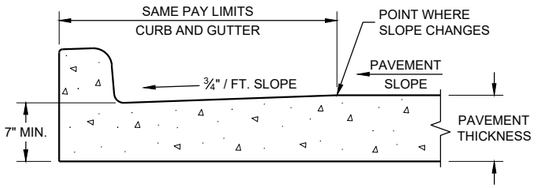
*TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



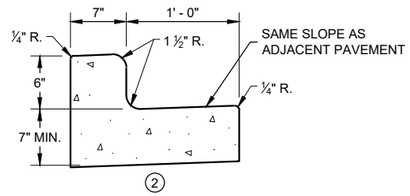
CONCRETE CURB AND GUTTER 22" ①



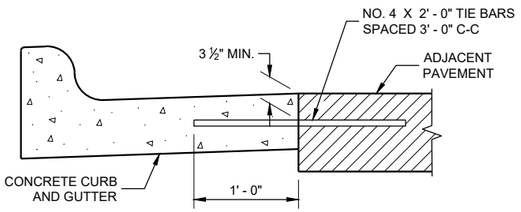
END SECTIONCURB AND GUTTER



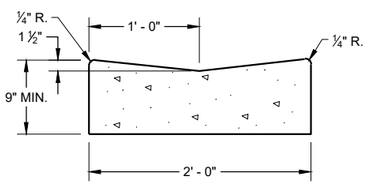
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER



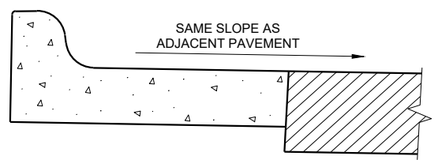
CONCRETE CURB AND GUTTER 19" ①



TYPICAL TIE BAR LOCATION ①



CONCRETE GUTTER 24" ①



HIGH SIDE SECTION ③

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

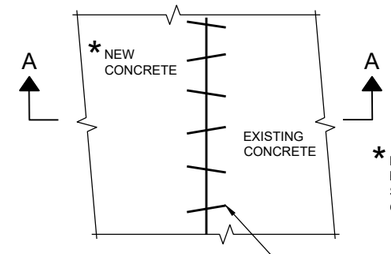
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUITED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

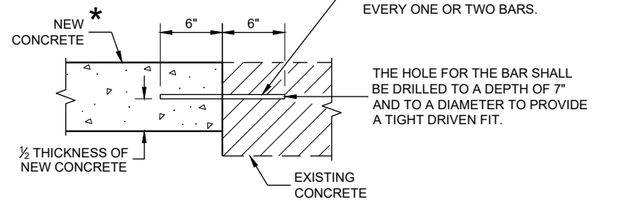
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLANS



PLAN VIEW

* EXISTING AND NEW CONCRETE MAY BE CURB AND GUTTER, SURFACE DRAINS, PAVEMENT OR OTHER CONCRETE STRUCTURE.



SECTION A - A

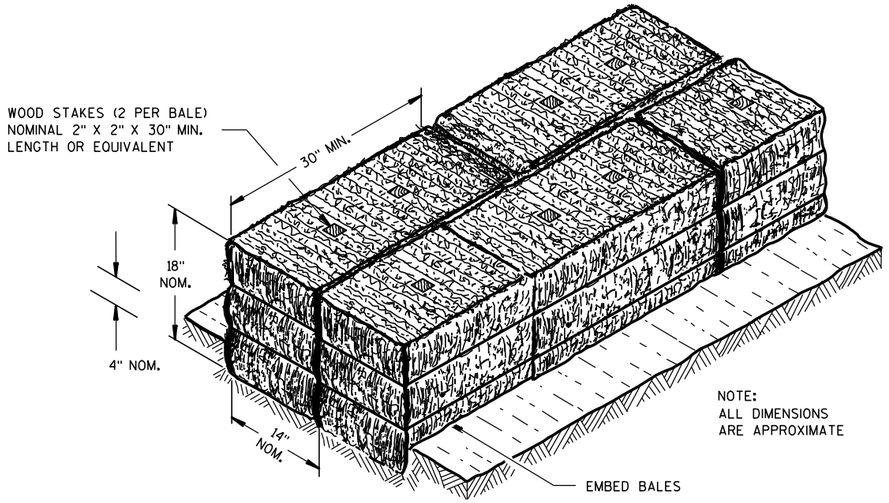
PAVEMENT TIES

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

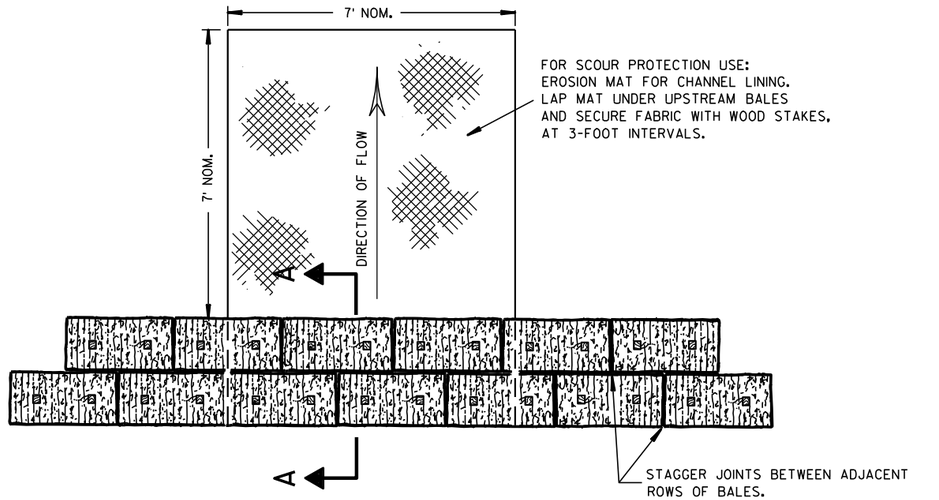
(For Optional use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

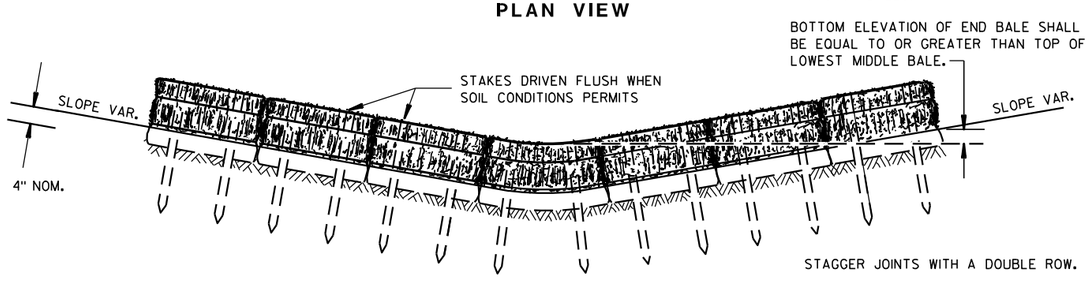
APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA



SECTION A-A



PLAN VIEW



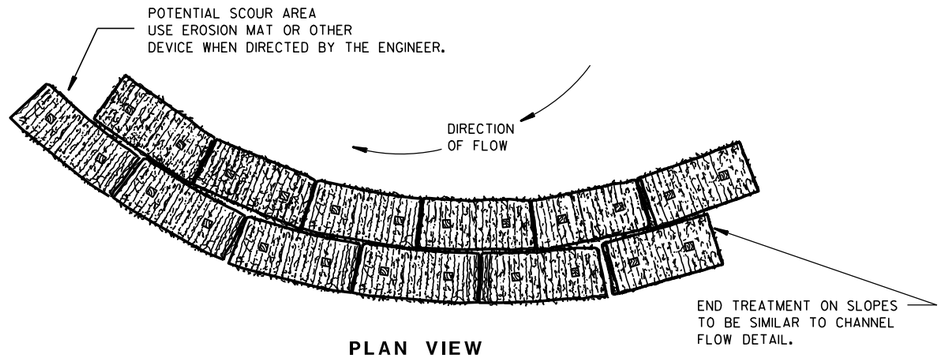
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

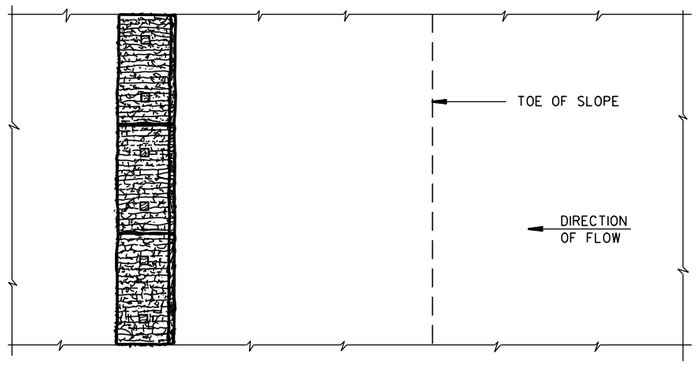
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

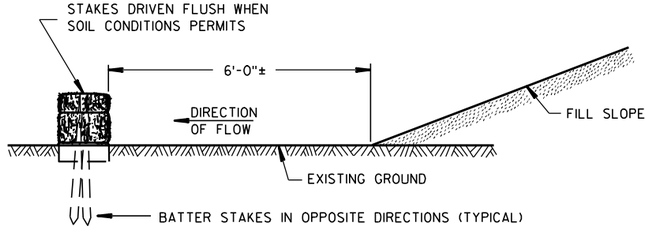


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

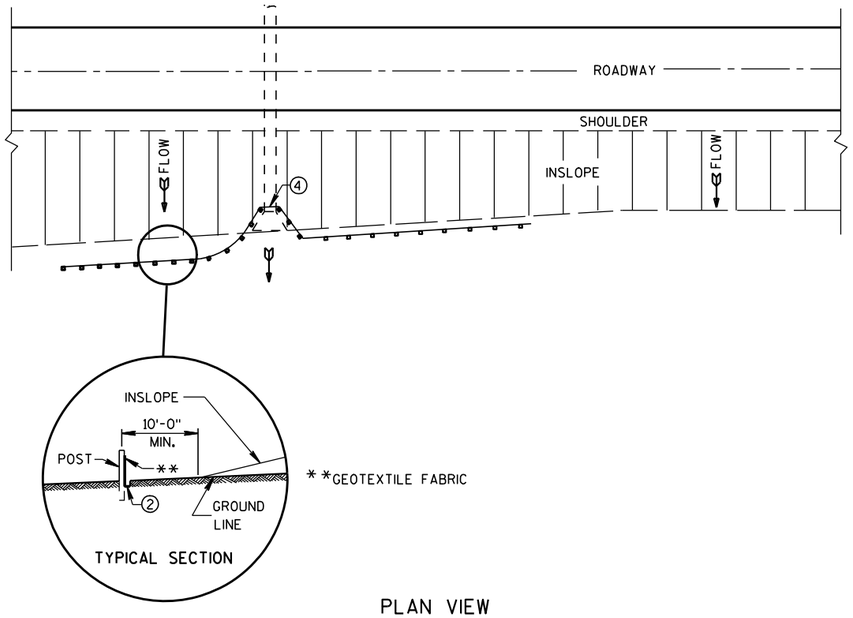
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

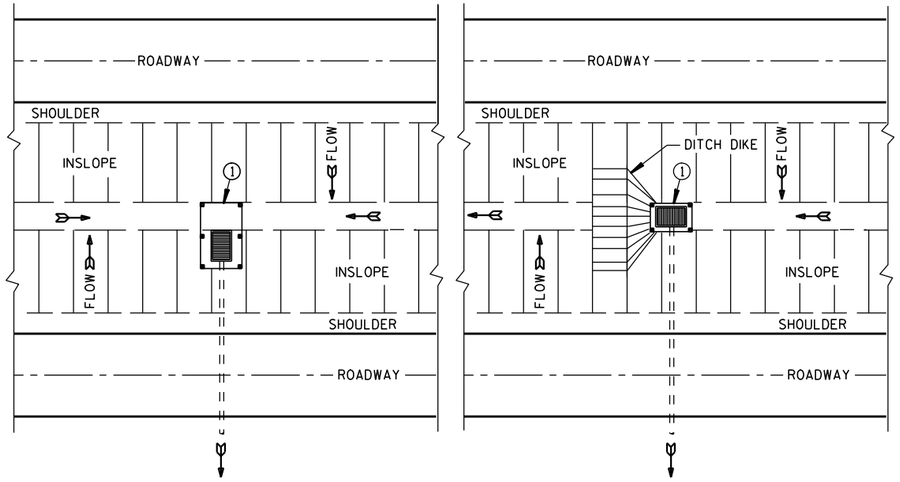
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



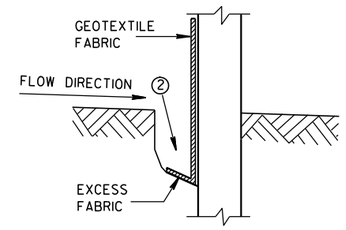
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

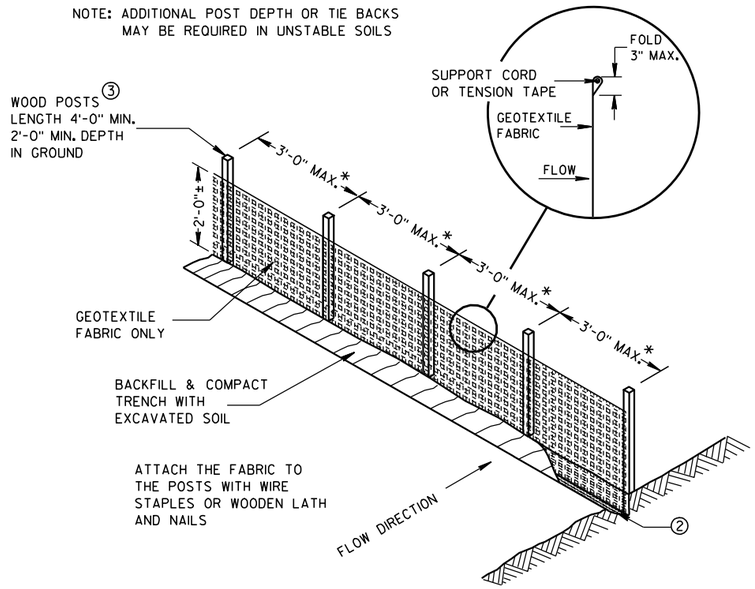
GENERAL NOTES

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

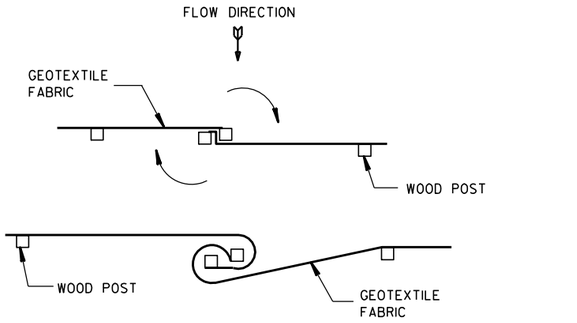
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



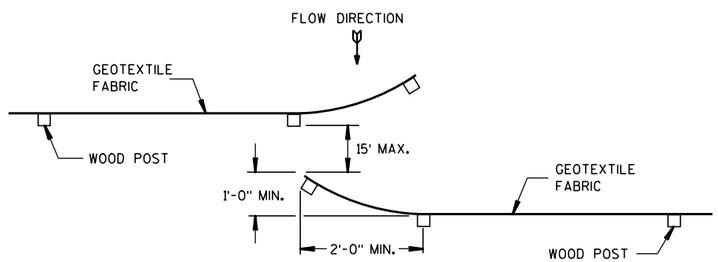
TRENCH DETAIL



SILT FENCE

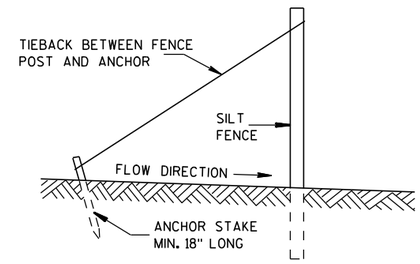


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

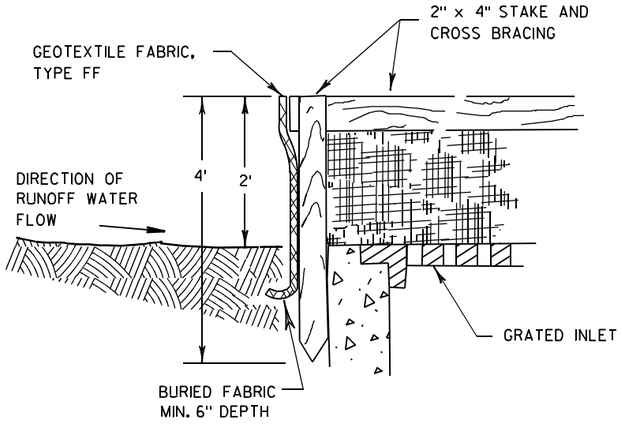
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

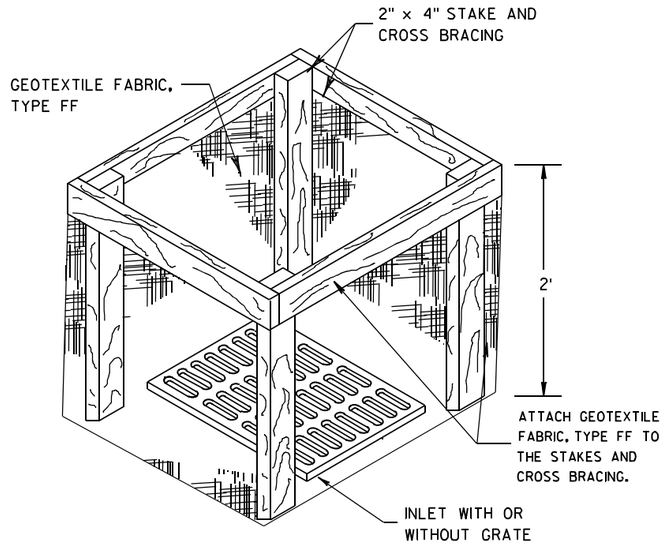
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S.D.D. 8 E 9-6

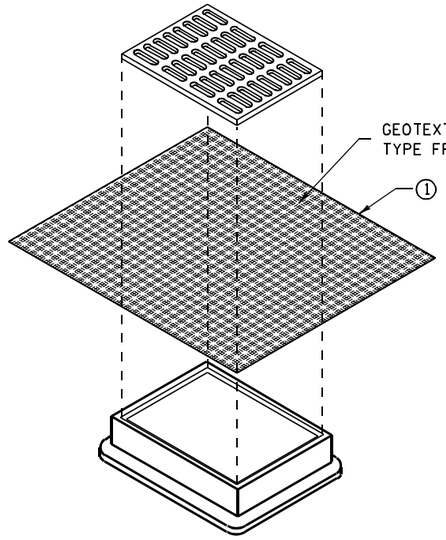
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S.D.D. 8 E 9-6



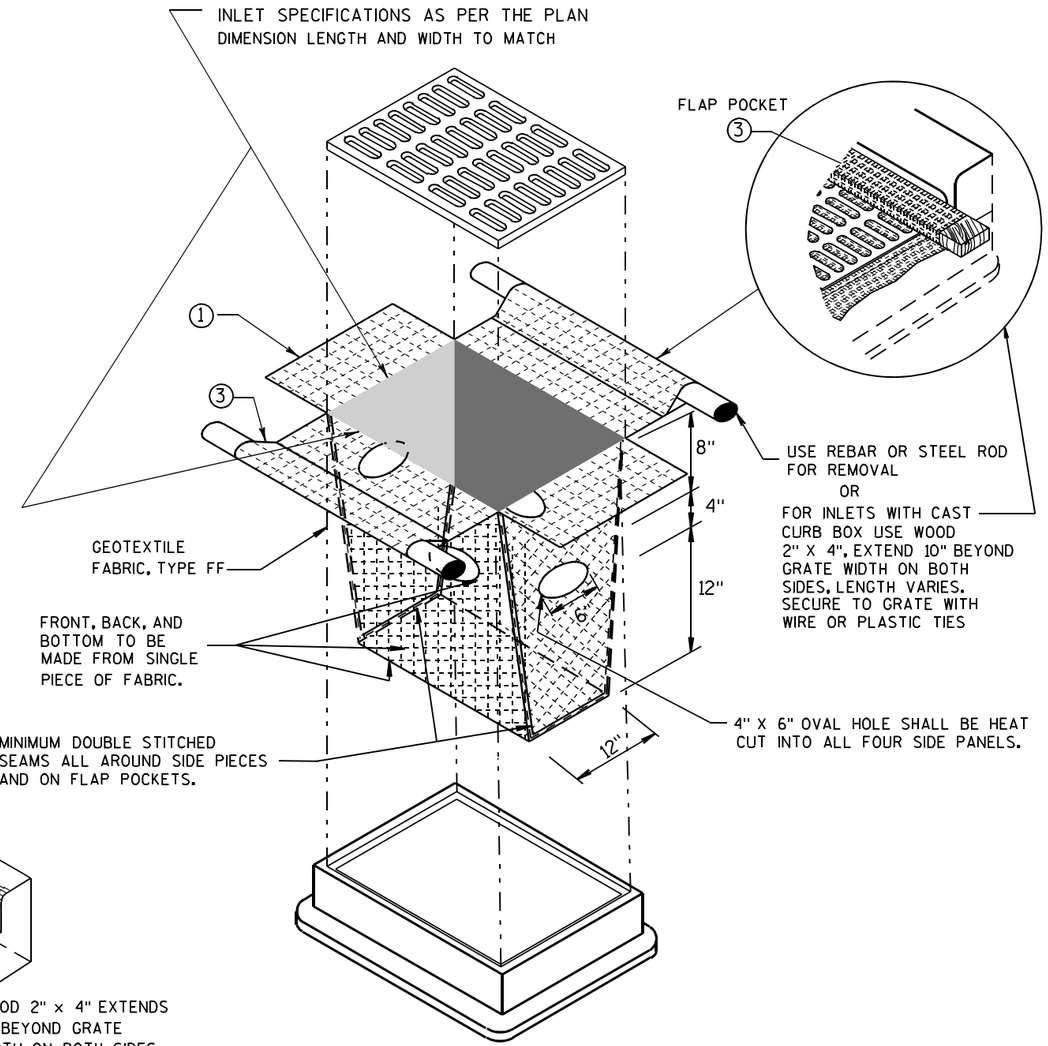


INLET PROTECTION, TYPE A



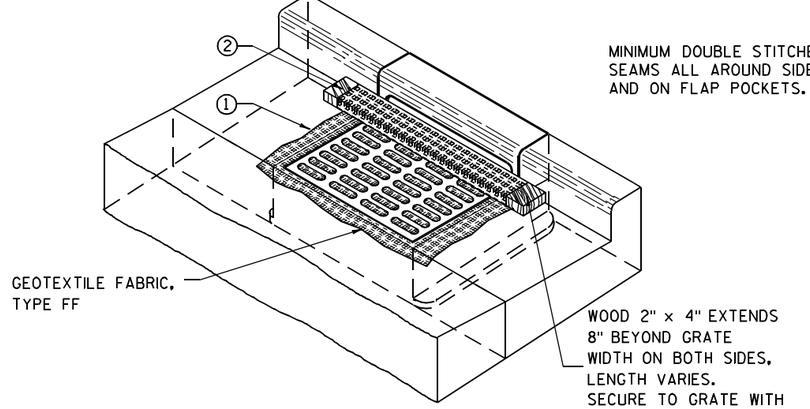
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

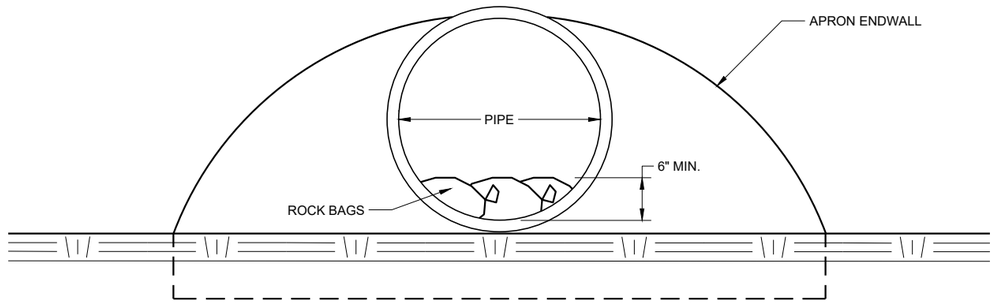
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

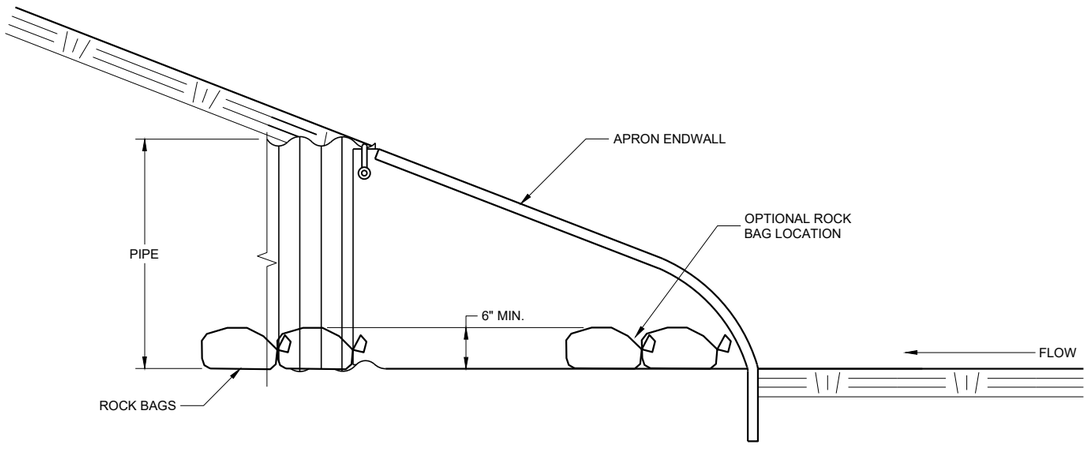
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

6

SDD 08E15 - 01

METAL APRON ENDWALLS

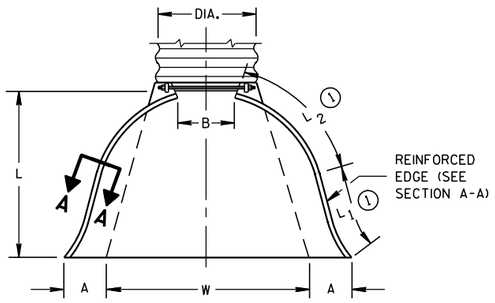
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

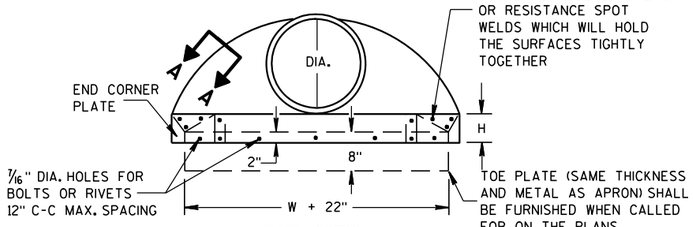
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	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 2/5 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

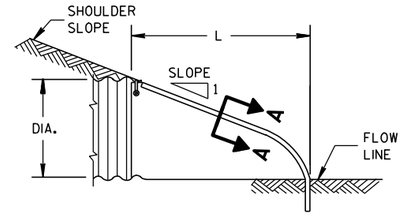
*MINIMUM
**MAXIMUM



PLAN VIEW

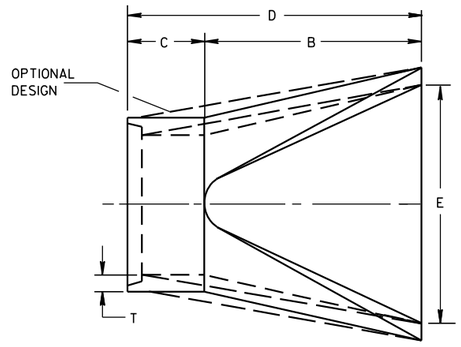


END VIEW

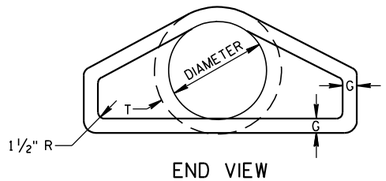


SIDE ELEVATION

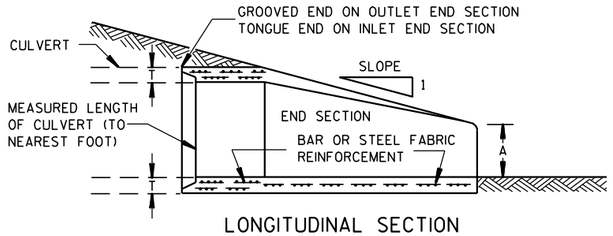
METAL ENDWALLS



PLAN

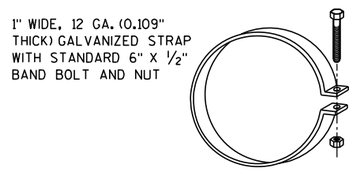


END VIEW



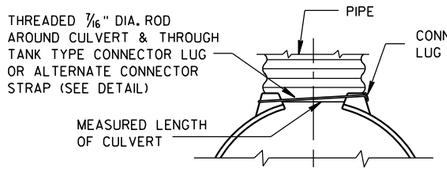
LONGITUDINAL SECTION

CONCRETE ENDWALLS

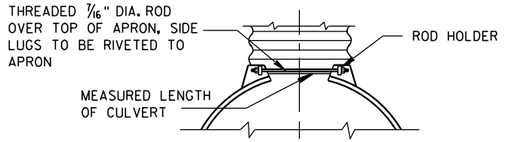


ALTERNATE FOR TYPE 1 CONNECTION

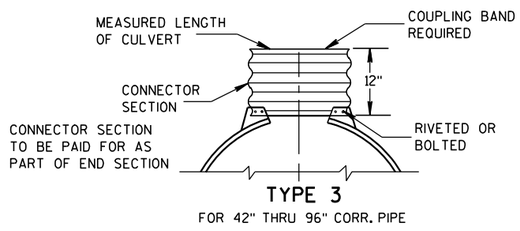
END SECTION CONNECTOR STRAP



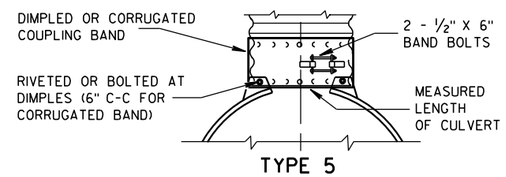
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

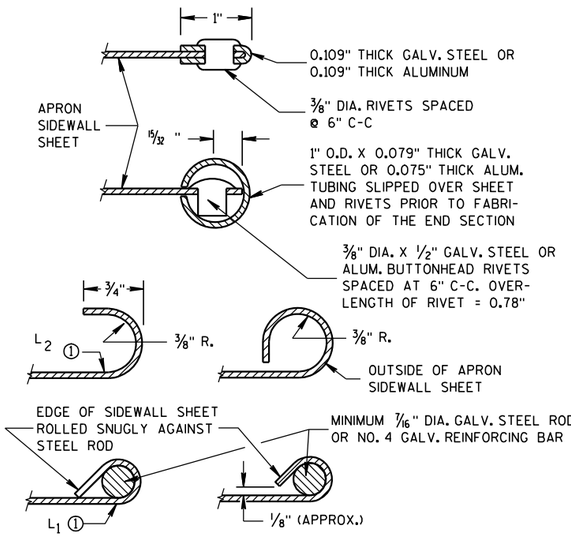
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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



SECTION A-A

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.

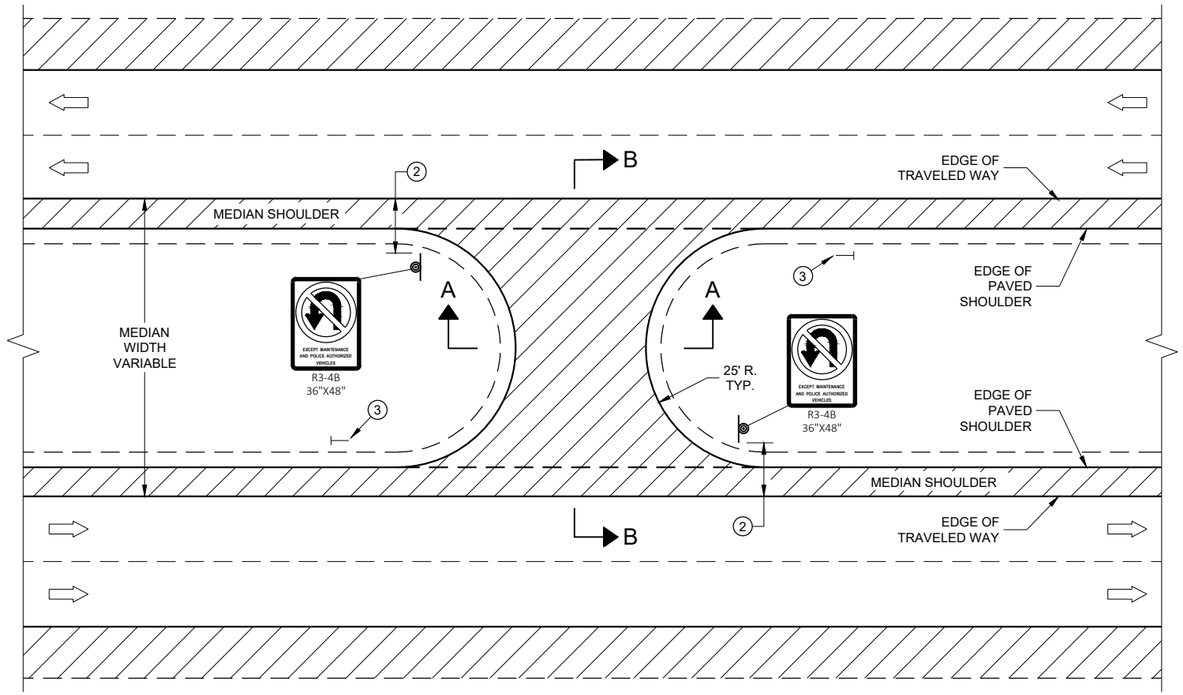
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

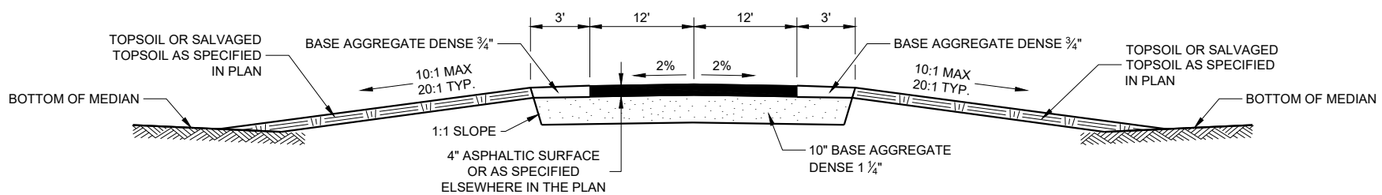
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

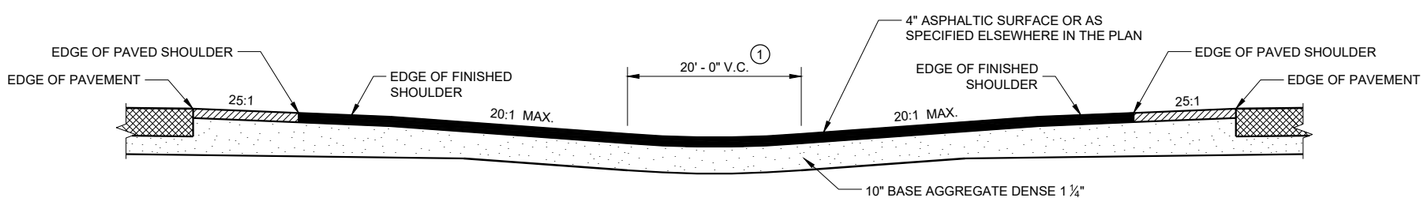
S.D.D. 8 F 1-11



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

1. ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.
2. SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.
3. INSTALL DELINEATOR. SEE STANDARD DETAIL DRAWING 15A4.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DELINEATOR
- DIRECTION OF TRAFFIC

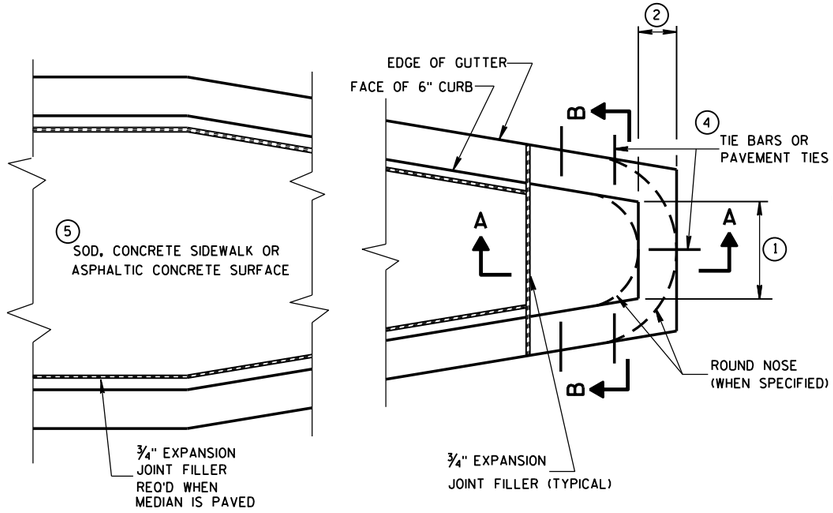
MAINTENANCE CROSSOVER FOR FREEWAYS

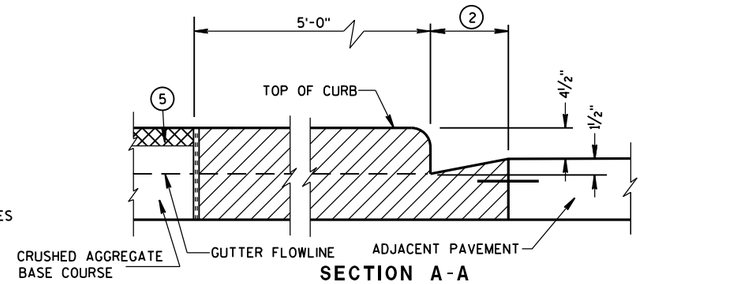
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

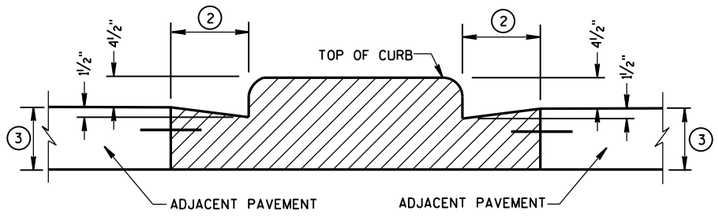
APPROVED
November 2019 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6
SDD 11A01 - 06







CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

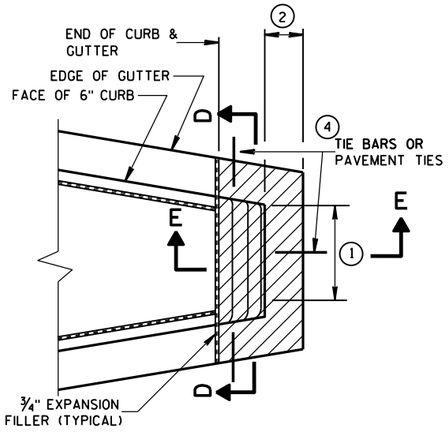
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

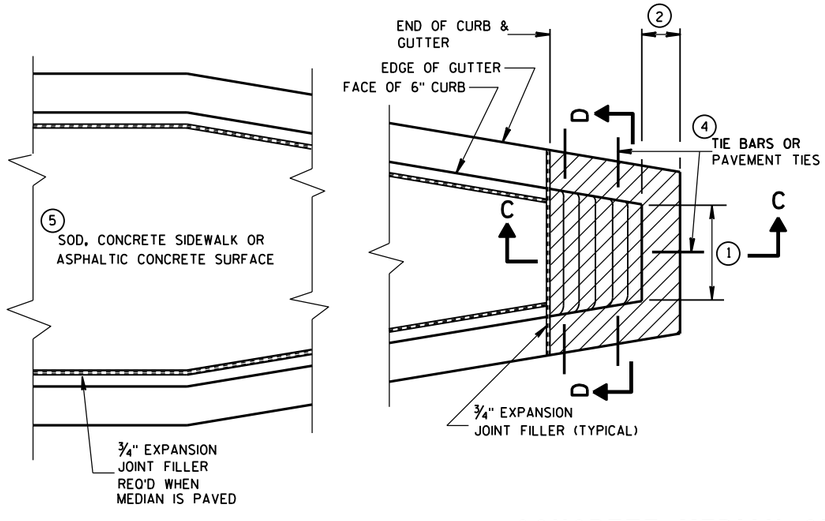
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

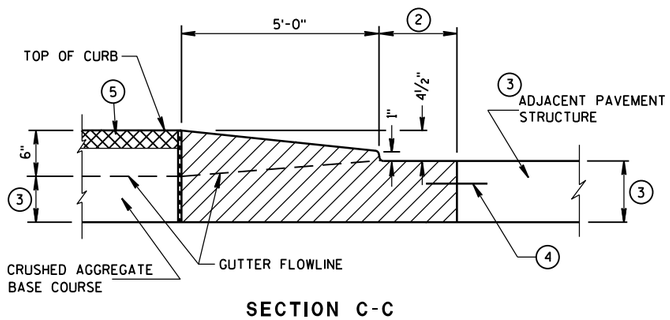
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

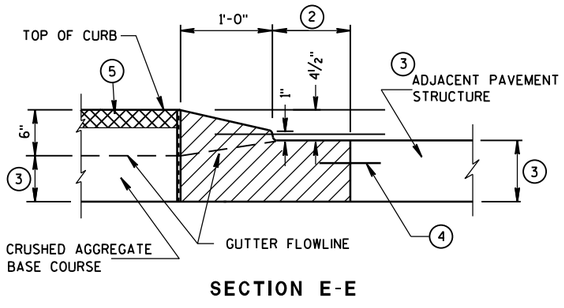
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



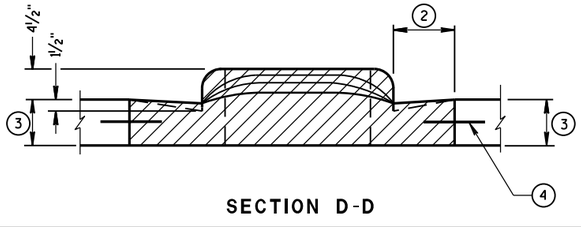




CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/8/2006 DATE FHWA	/S/ Jerry H. Zogg ROADWAY STANDARDS D 78 ENGINEER

6

S.D.D. 11 B 2-2

6

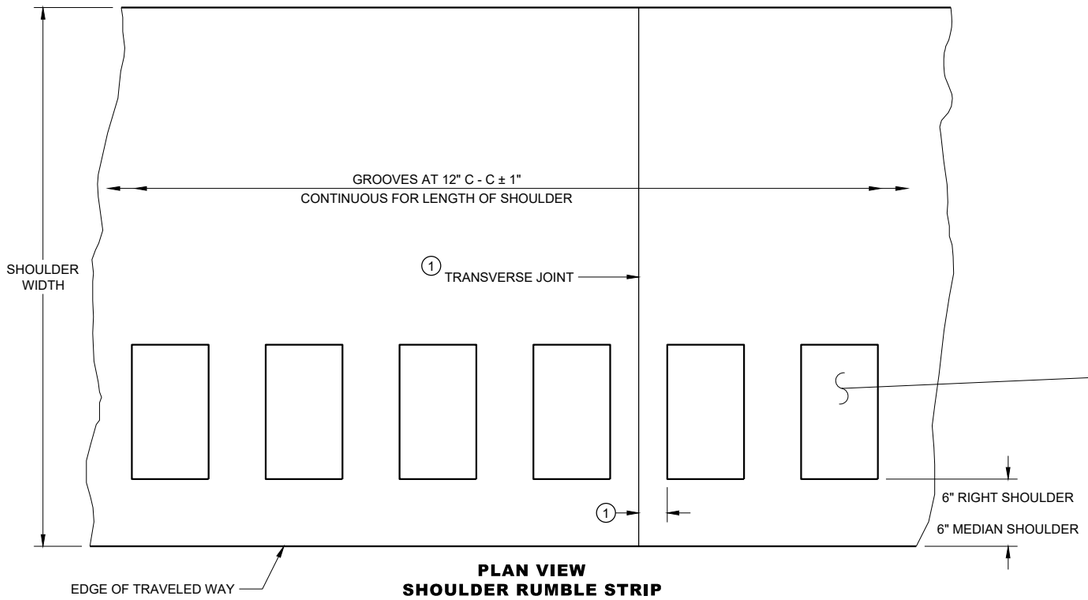
S.D.D. 11 B 2-2

GENERAL NOTES

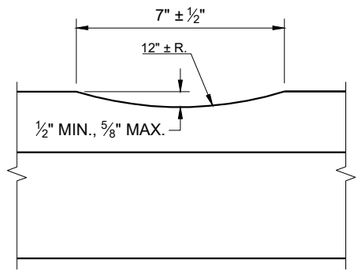
SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

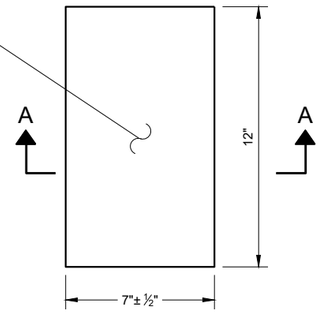
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.



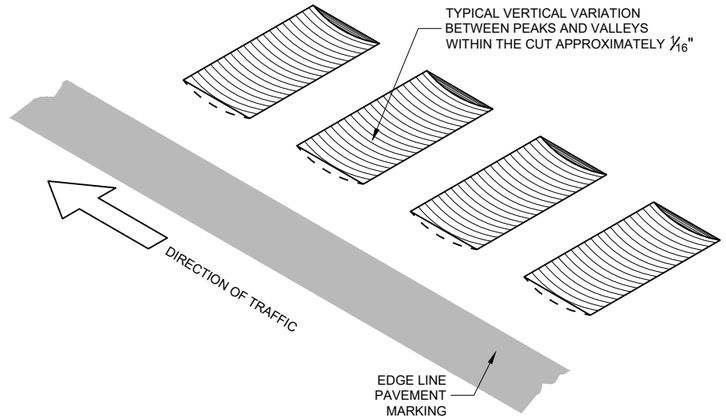
PLAN VIEW
SHOULDER RUMBLE STRIP



SECTION A - A

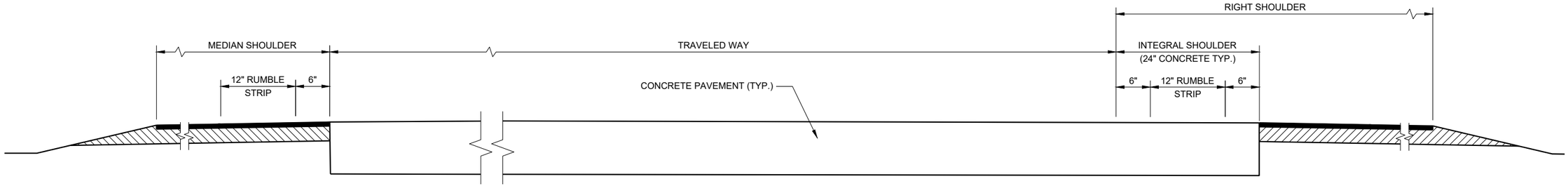


PLAN VIEW
(SINGLE GROOVE)



ISOMETRIC

PLACEMENT DETAIL FOR RUMBLE STRIP



SECTION VIEW

TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)

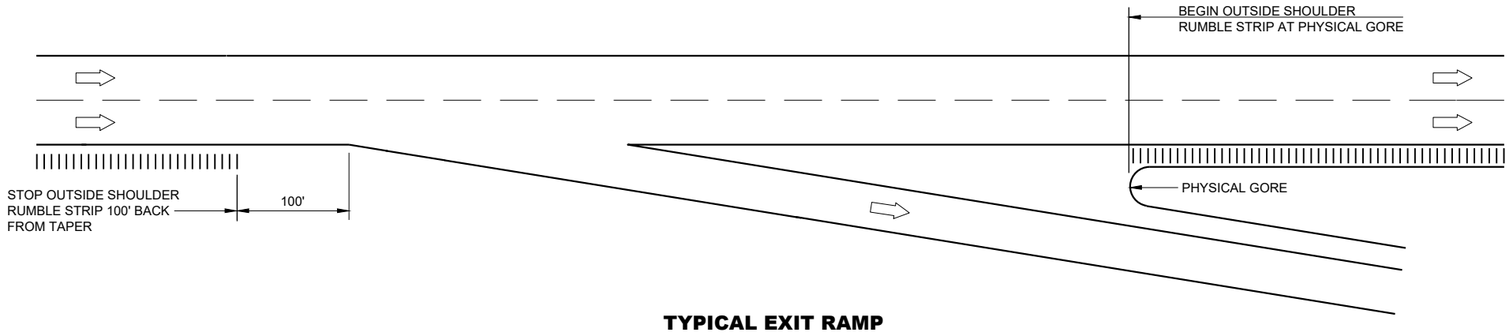
SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13A05-06a

SDD 13A05-06a



TYPICAL EXIT RAMP

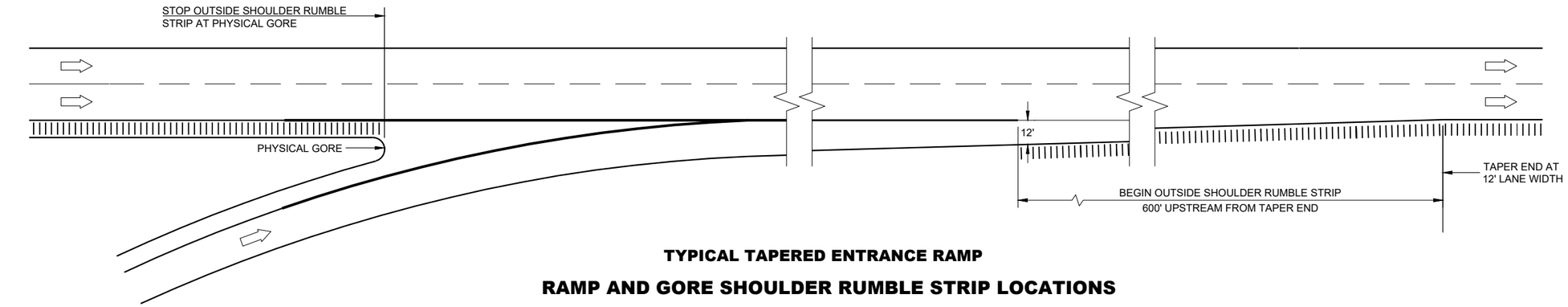
GENERAL NOTES

NO RUMBLE STRIP ON EXIT, DIRECTIONAL OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIALAND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

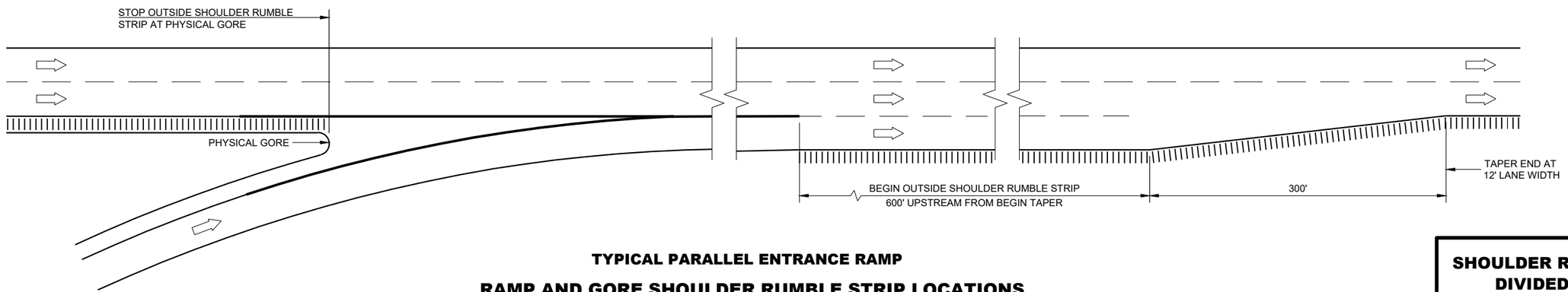
LEGEND

DIRECTION OF TRAFFIC



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

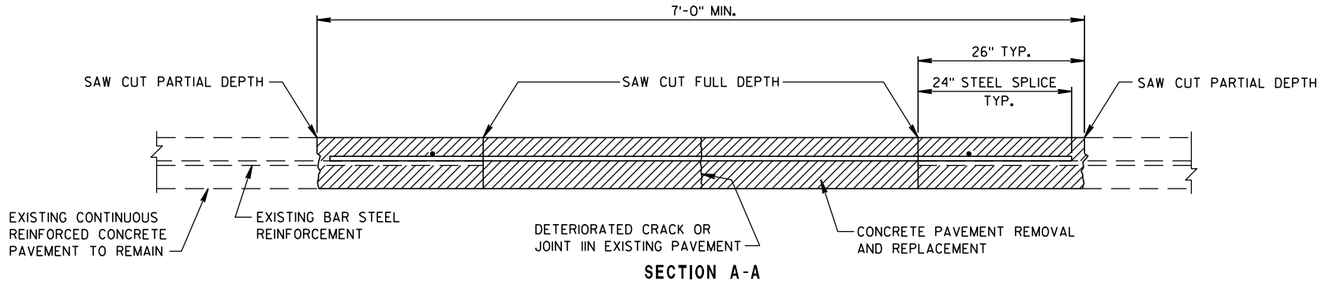
APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY DESIGN STANDARDS UNIT SUPERVISOR
FHWA

6

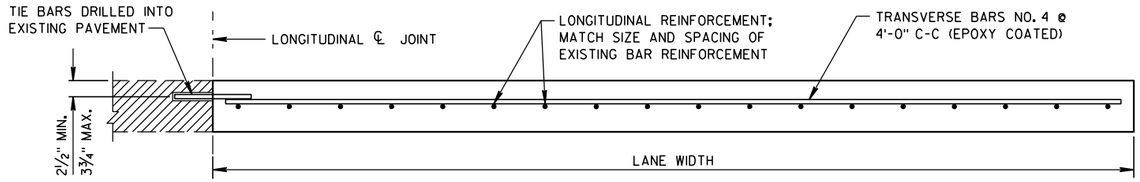
SDD 13A05-06b

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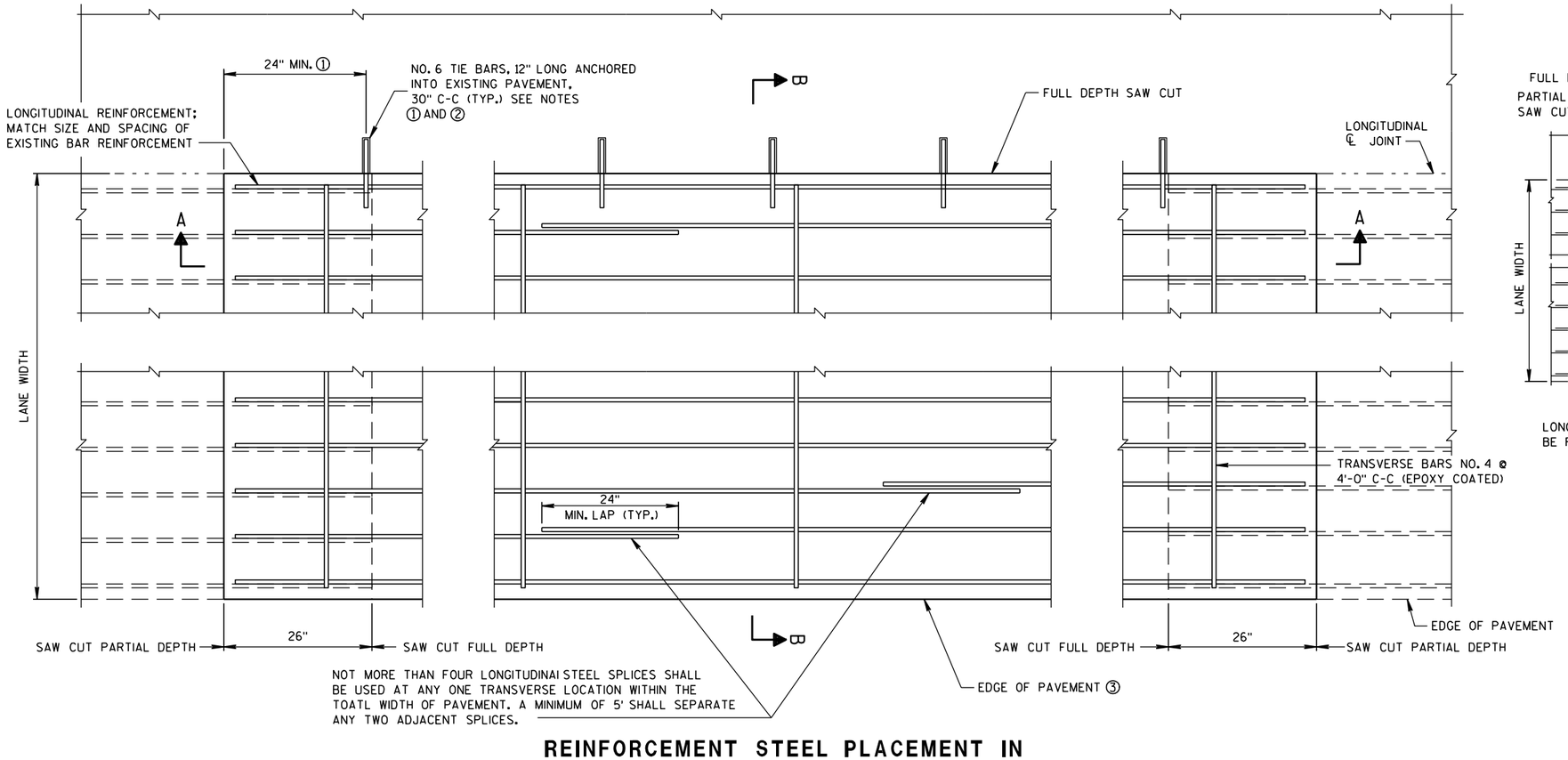
SDD 13A05-06b



SECTION A-A



SECTION B-B



NOT MORE THAN FOUR LONGITUDINAI STEEL SPLICES SHALL BE USED AT ANY ONE TRANSVERSE LOCATION WITHIN THE TOATL WIDTH OF PAVEMENT. A MINIMUM OF 5' SHALL SEPARATE ANY TWO ADJACENT SPLICES.

REINFORCEMENT STEEL PLACEMENT IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPLACEMENT

GENERAL NOTES

PLACE ALL BAR STEEL REINFORCEMENT AT MID PAVEMENT DEPTH UNLESS OTHERWISE NOTED.

PAY FOR THE TRANSVERSE AND LONGITUDINAL JOINT SAW CUT AS LINEAR FEET OF "SAWING CONCRETE".

WHEN THE PASSING AND TRAVELING LANES ARE TO BE REPLACED, REPLACE THE PASSING LANE FIRST.

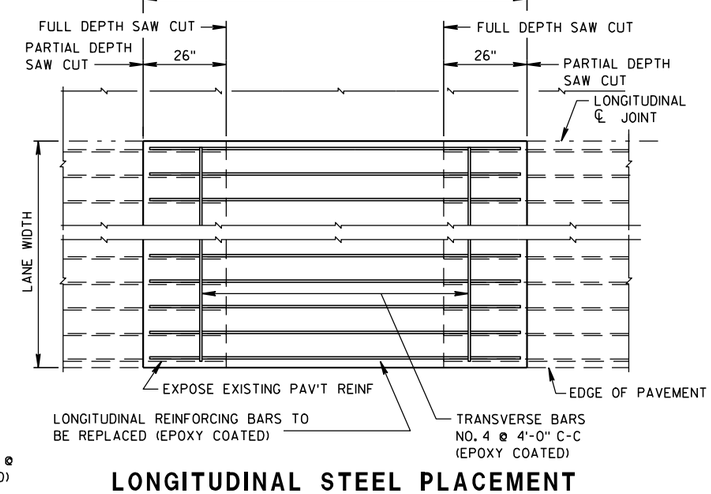
ADD TRANSVERSE STEEL BARS TO REPAIRS GREATER THAN 6'IN LENGTH, USE NO. 4 BARS PLACED TRANSVERSELY AND SPACED 4'C-C. PAYMENT SHALL BE INCIDENTAL TO "CONCRETE PAVEMENT CONTINUOUS REINFORCEMENT".

TIE ALL CONCRETE PAVEMENT REPAIRS WHICH ARE GREATER THAN 15'IN LENGTH, AND ARE ADJACENT TO EXISING CONCRETE PAVEMENT, TO THE EXISTING PAVEMENT USING TIE BARS. DETAILS FOR TIE BAR CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS.

① PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

② ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

③ SAW CUT THE LONGITUDINAL EDGE JOINT IF THE ADJACENT SHOULDER IS CONCRETE.



LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

PLAN VIEW

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

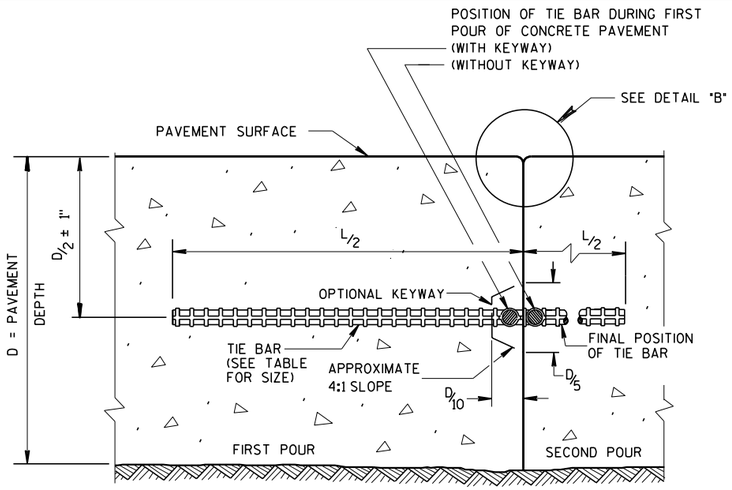
11/1/2011 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE NEER

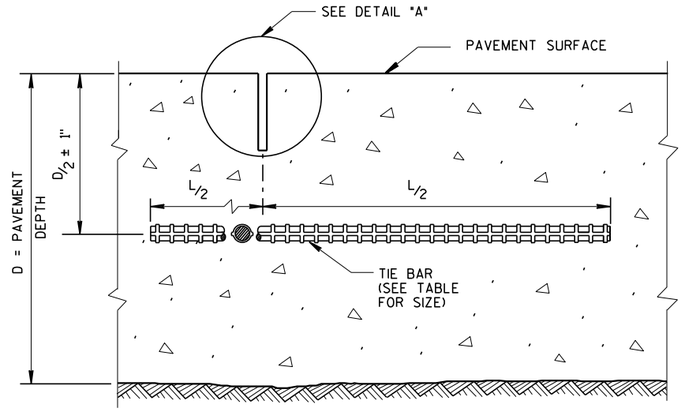
FHWA

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S.D.D. 13 A 7-2



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

TIE BAR TABLE

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

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

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

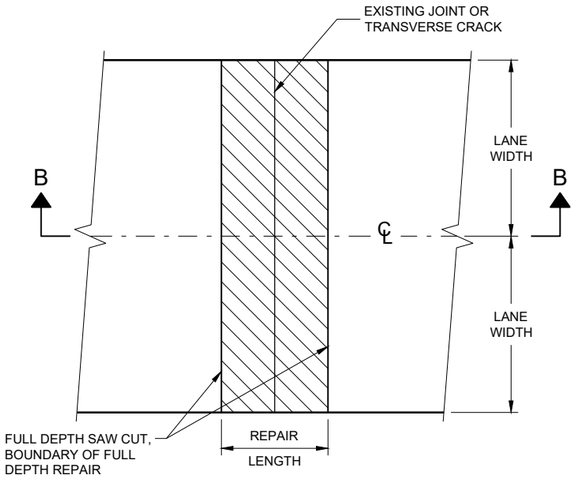
PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

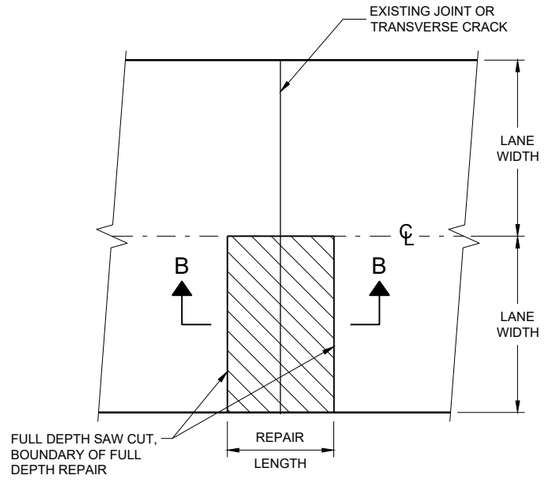
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 13 C 1-19



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

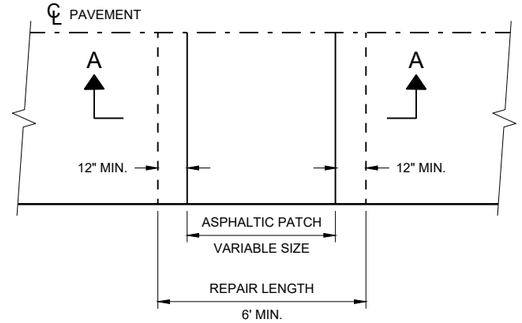
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

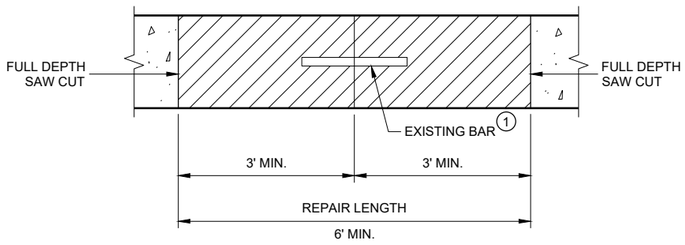
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.



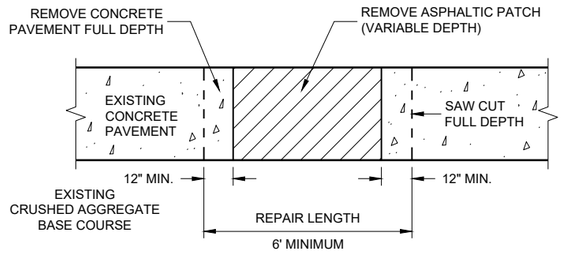
PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION B - B

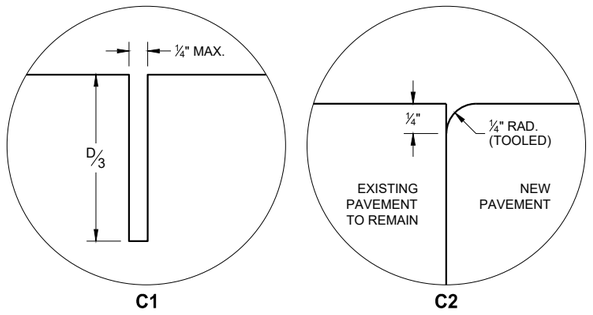
CONCRETE REMOVAL



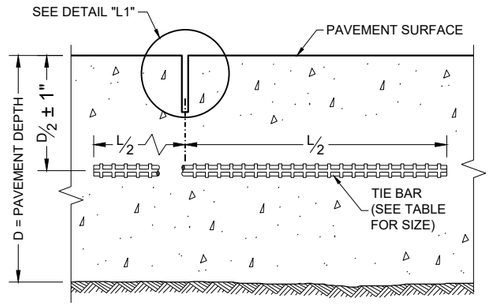
SECTION A - A

HMA PATCH REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

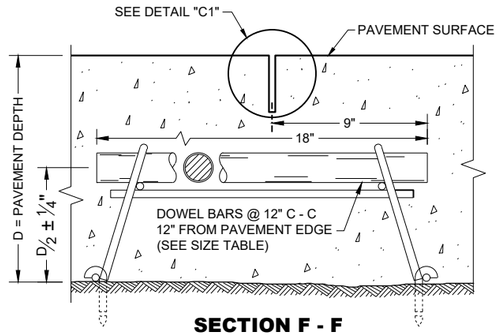


TRANSVERSE JOINTS



SECTION C - C

SAWED LONGITUDINAL JOINT



SECTION F - F

DOWELED CONTRACTION JOINT

GENERAL NOTES

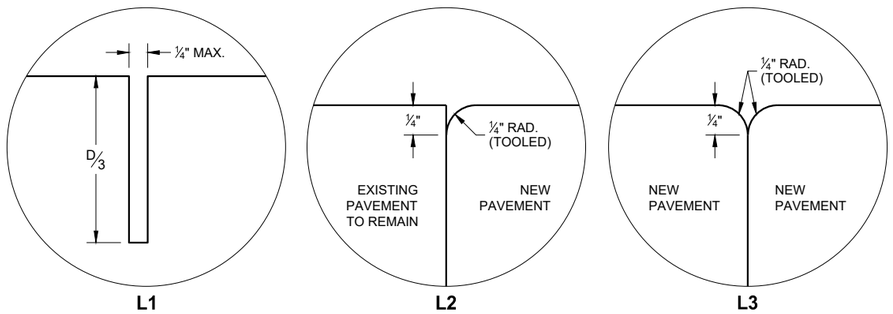
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

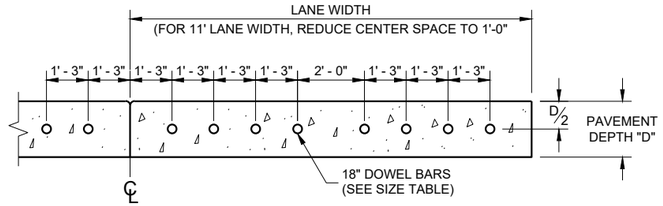
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

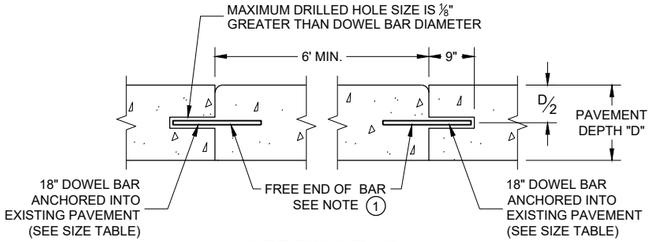


LONGITUDINAL JOINTS



SECTION E - E

DRILLED DOWEL BAR CONSTRUCTION JOINT



SECTION D - D

TIE BAR TABLE

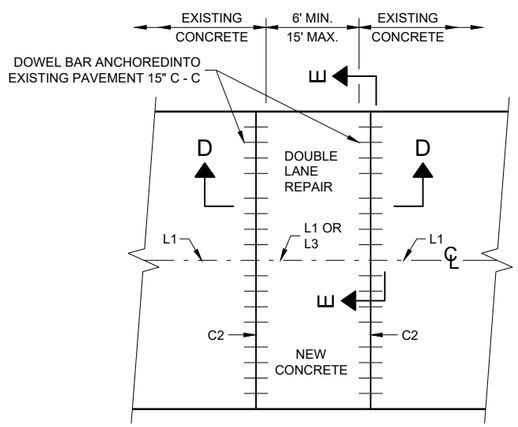
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

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

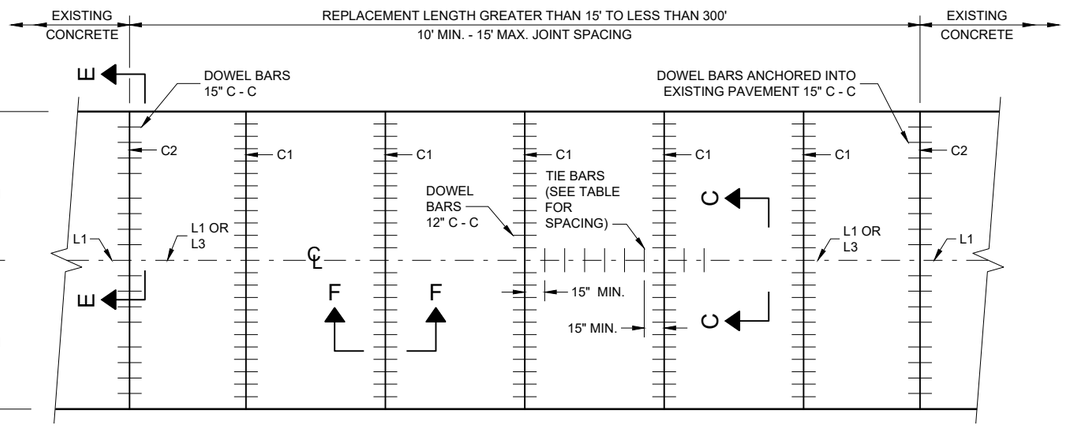
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	NONE	12'
7", 7 ½"	1"	1"	14'
8" & ABOVE	1 ¼"	1 ¼"	15'



PLAN VIEW

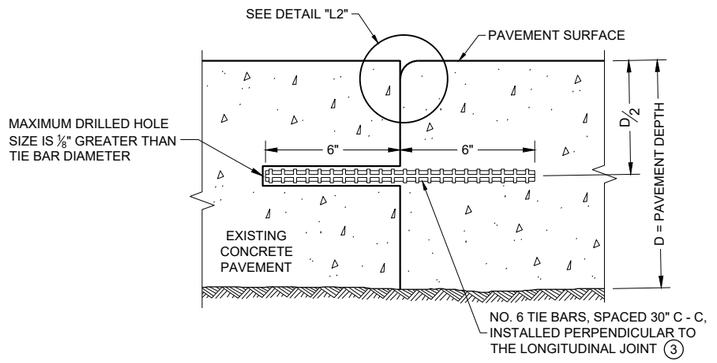
MULTILANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTILANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

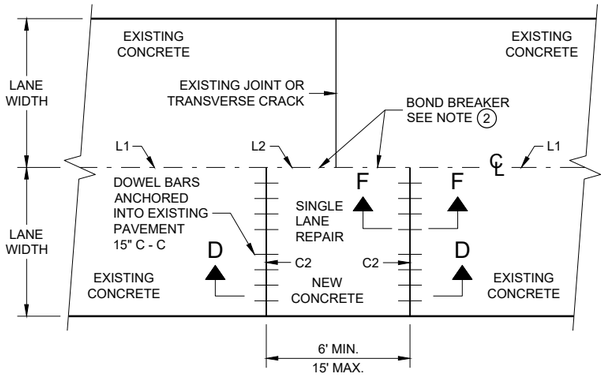


SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

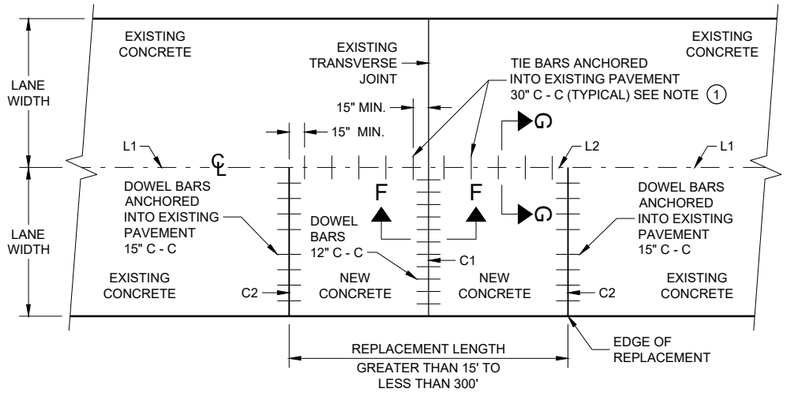
GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

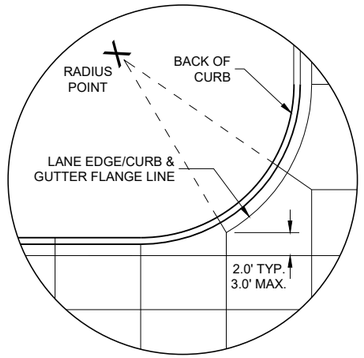
CONCRETE REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

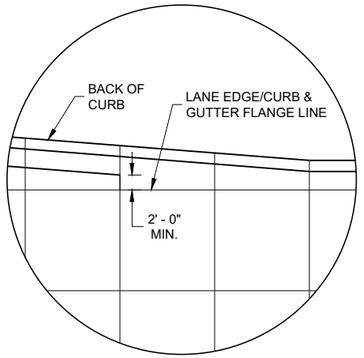
APPROVED
November 2022
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVISO
FHWA

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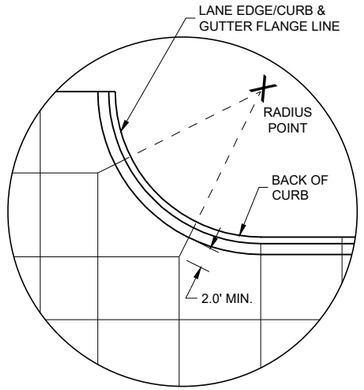
SDD 13C09 - 17c



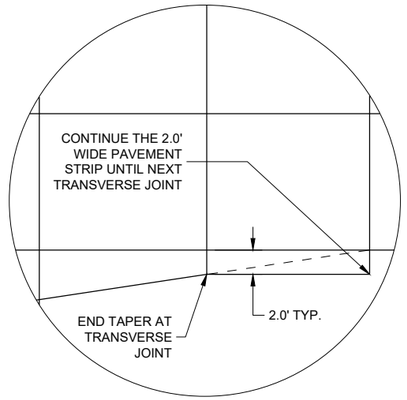
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

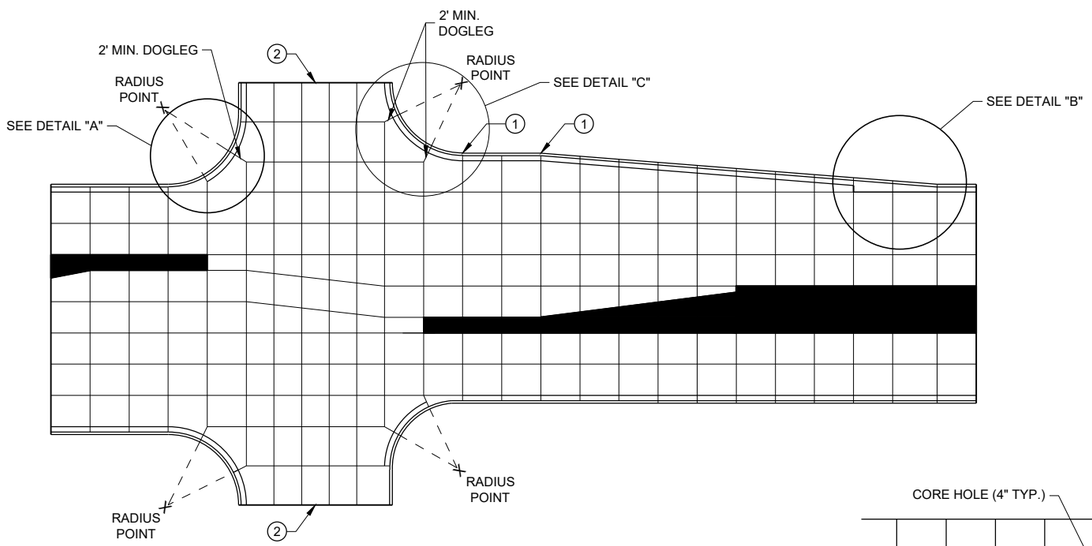
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.

(2) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.

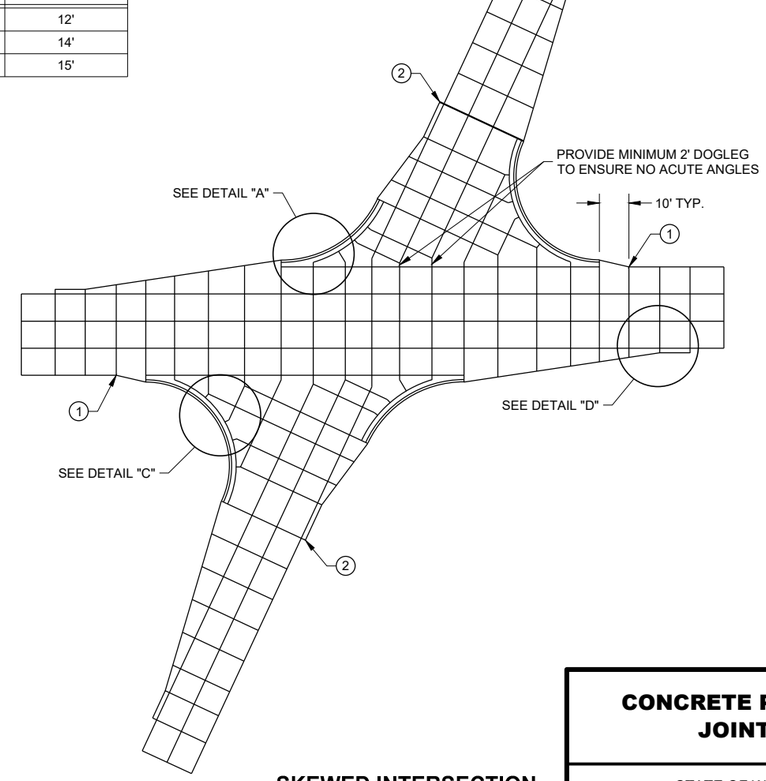
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



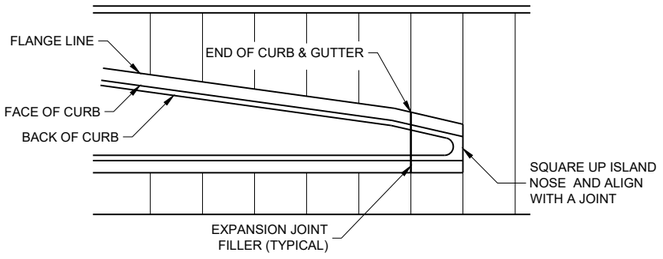
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

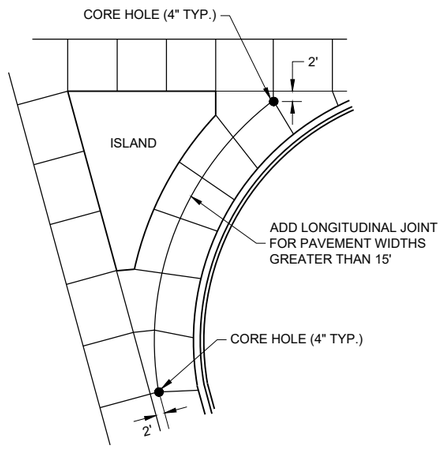
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08a

6

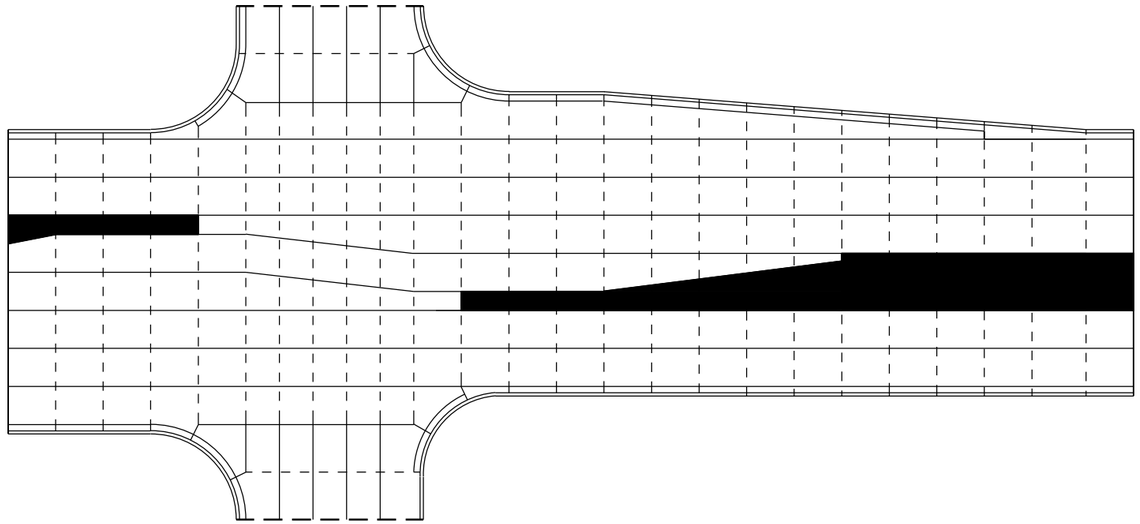
SDD 13C18 - 08a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

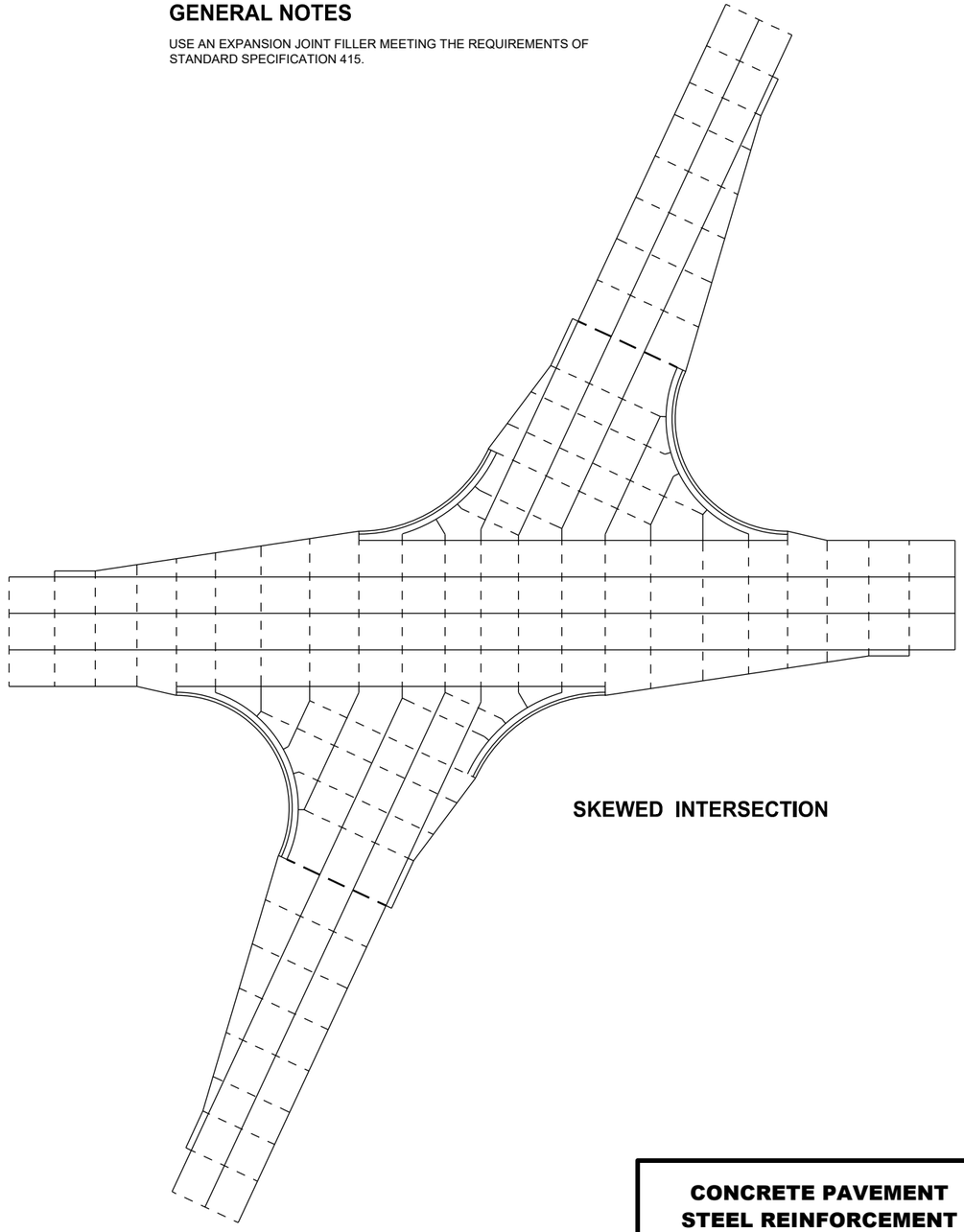
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

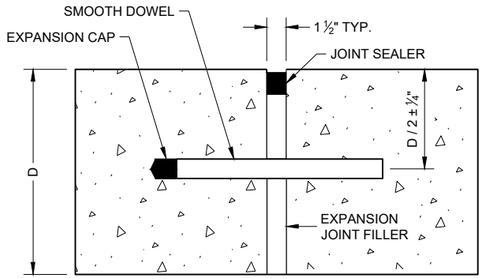
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SDD 13C18 - 08b

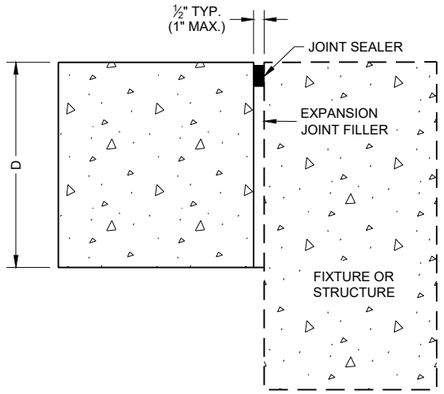
CONCRETE PAVEMENT STEEL REINFORCEMENT

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SDD 13C18 - 08b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

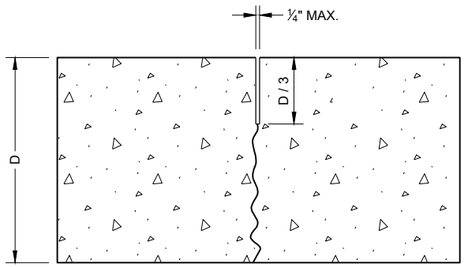
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

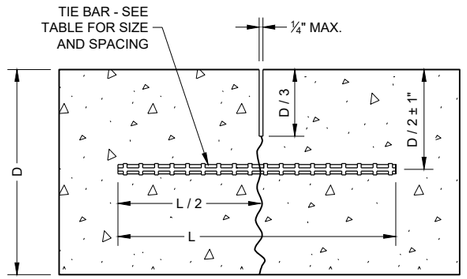
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

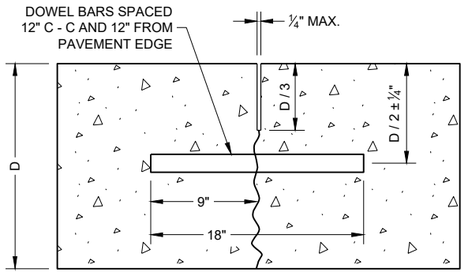
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

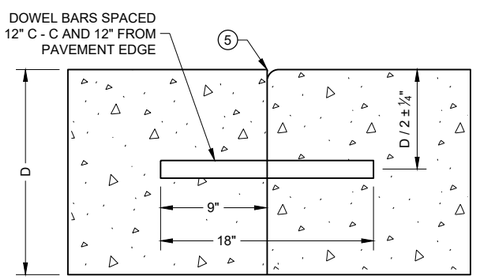


TIED LONGITUDINAL

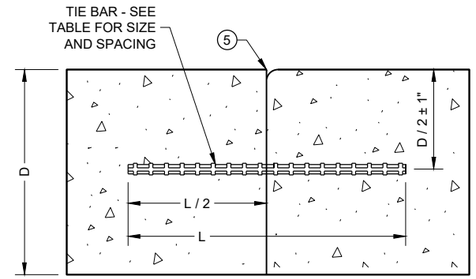


DOWELED TRANSVERSE

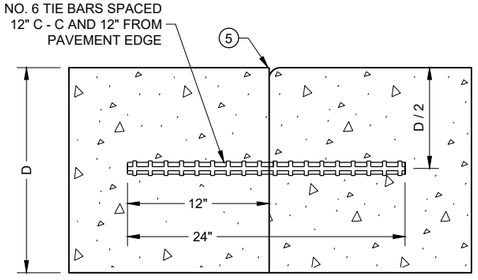
CONTRACTION JOINTS (2)



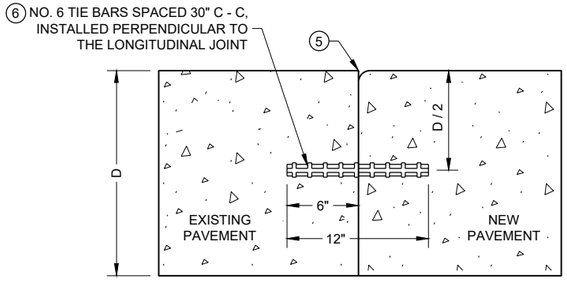
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

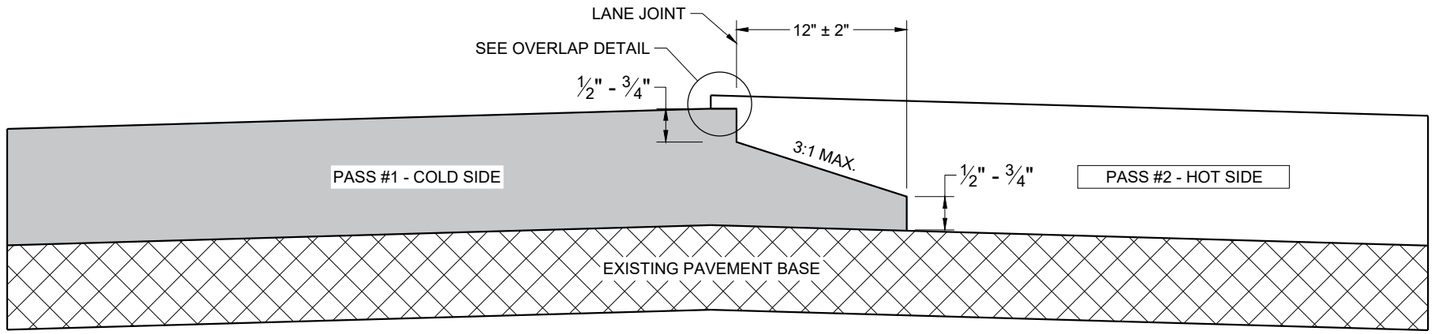
CONSTRUCTION JOINTS (4)

CONCRETE PAVEMENT JOINT TYPES

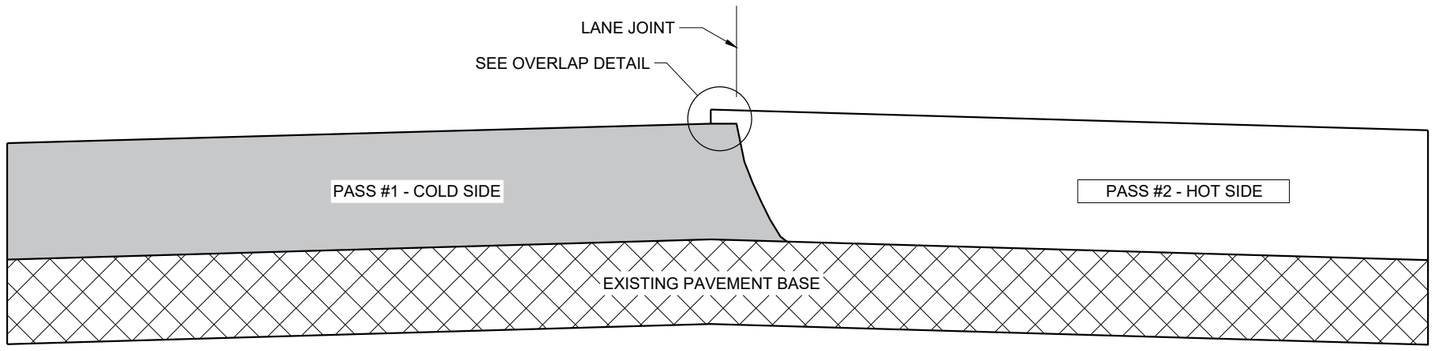
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

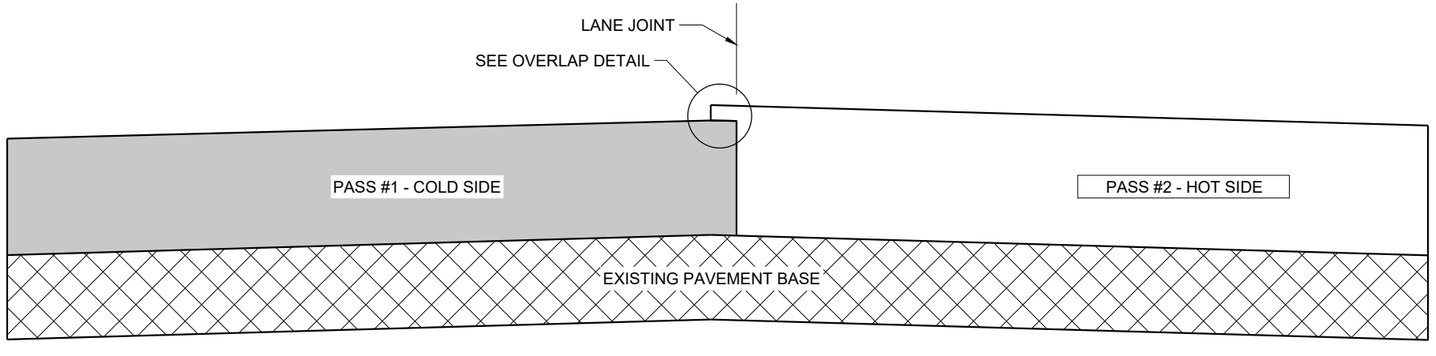
SDD 13C18 - 08c



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

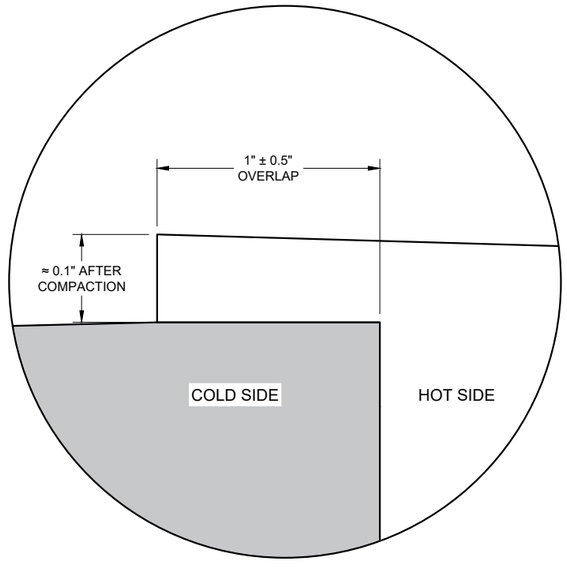
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGIN

FHWA

6

SDD 13C19 - 03

6

SDD 13C19 - 03

SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"X8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.

2. USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPELTER COATING ON GALVANIZED POSTS.

3. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

4. USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

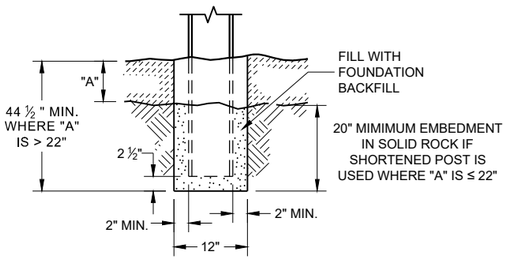
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.

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

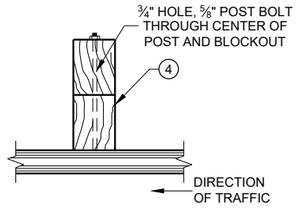
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



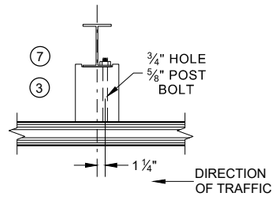
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (6)



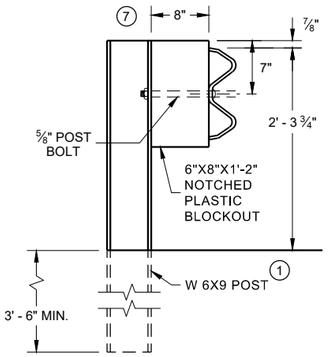
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



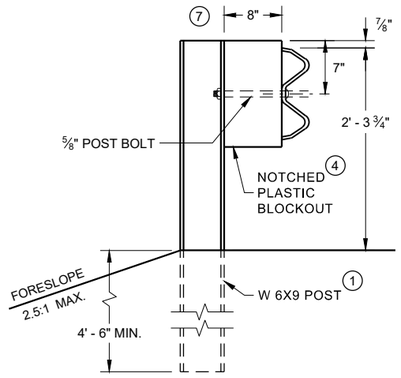
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



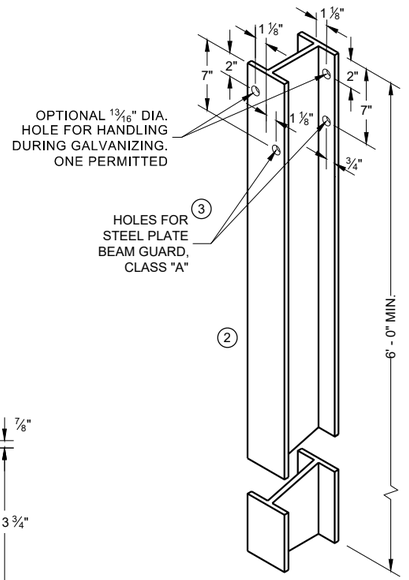
END VIEW

STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



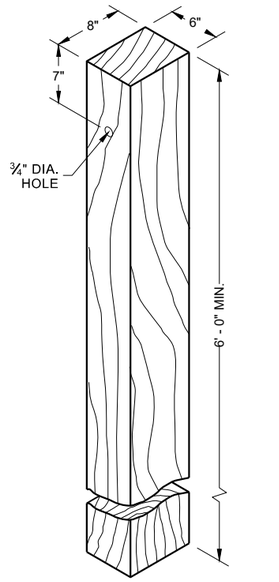
END VIEW

LONGER POST AT HALF POST SPACING W BEAM (LHW)

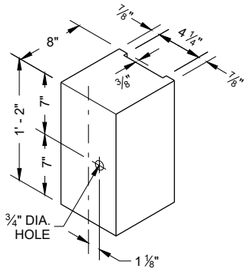


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

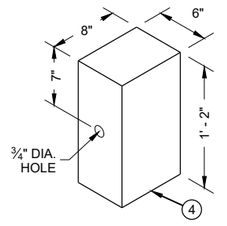
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



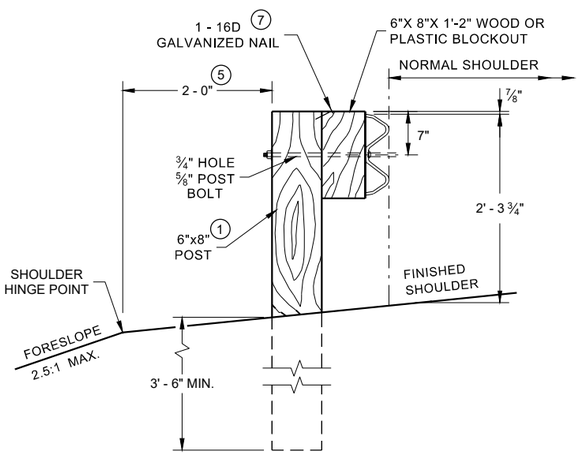
WOOD POST (6" X 8") NOMINAL (1)



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS

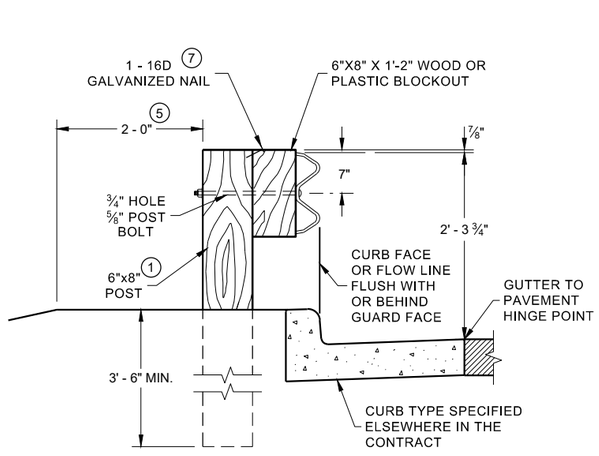


WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



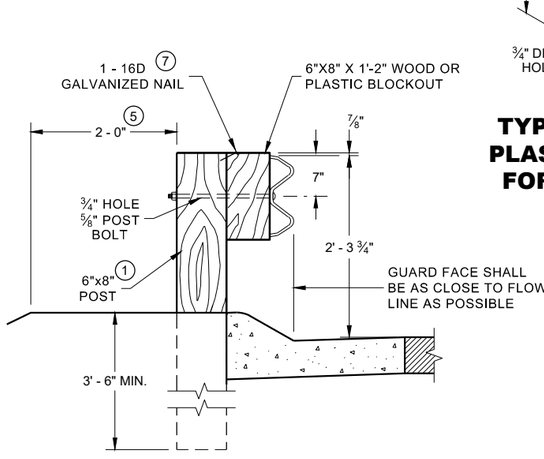
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW

LOCATED ALONG A CURBED ROADWAY



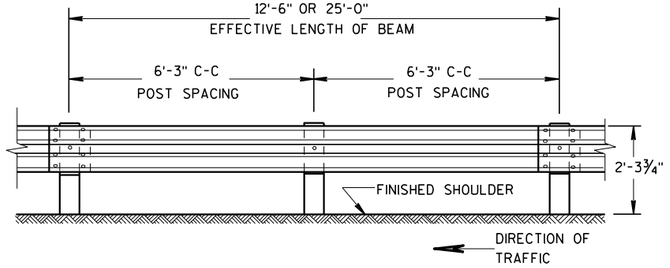
END VIEW

LOCATED ALONG A MOUNTABLE CURBED ROADWAY

STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS

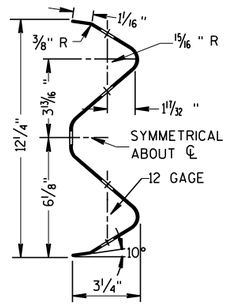
STATE OF WISCONSIN
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SDD 14B15 -11a

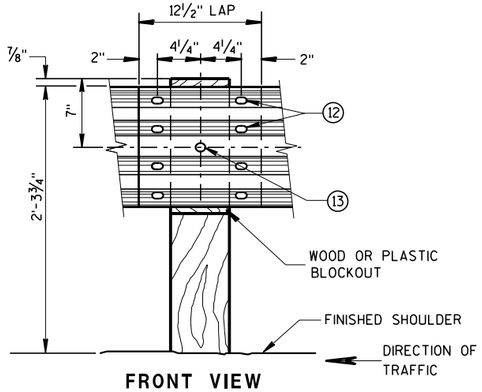


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

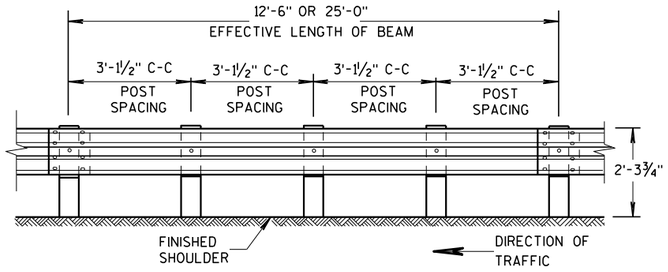
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

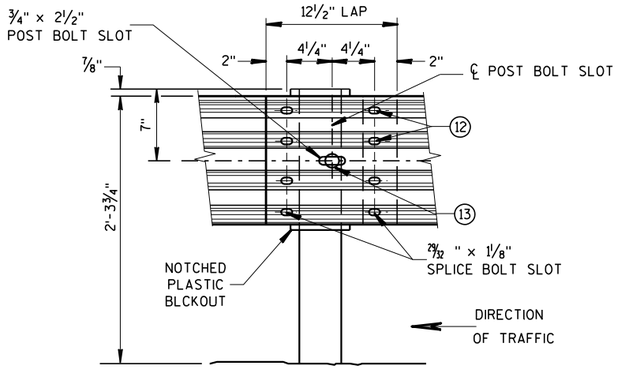
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



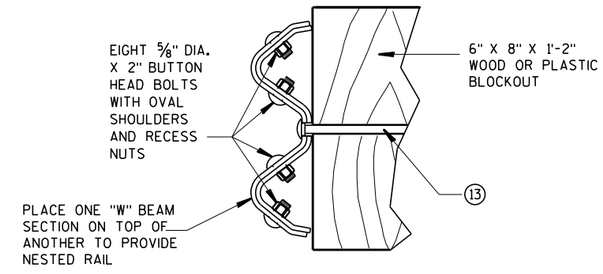
FRONT VIEW

POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

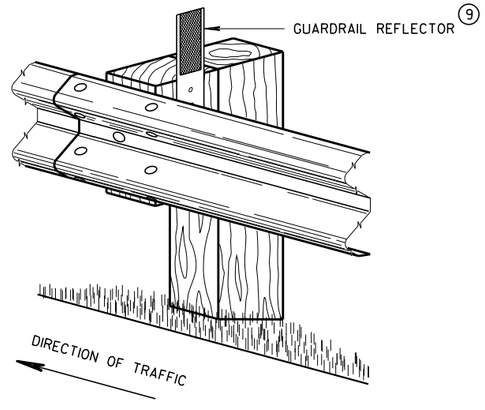


NESTED W BEAM (NW)

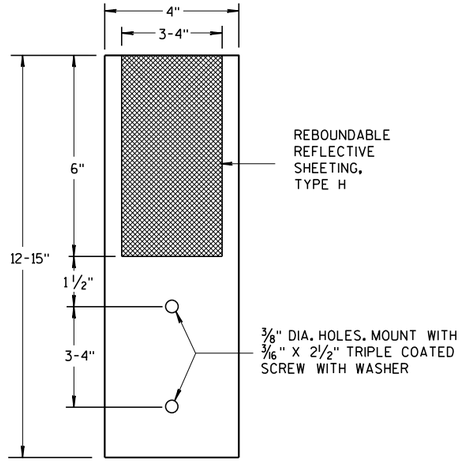
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

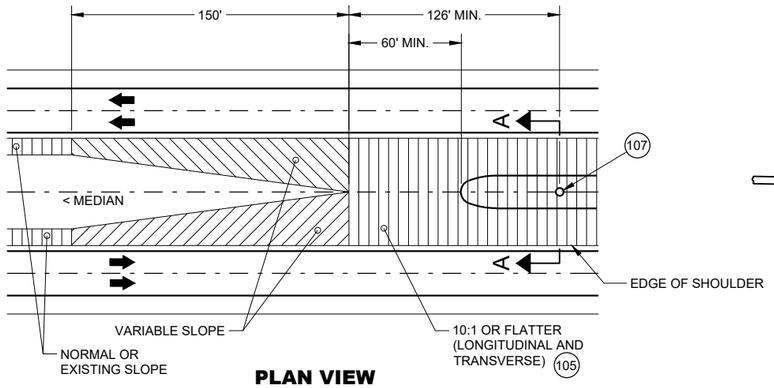
STATE OF WISCO 91
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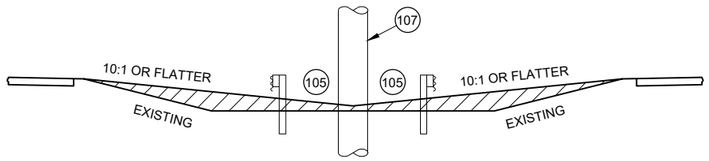
S.D.D. 14 B 15-11b

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S.D.D. 14 B 15-11b



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

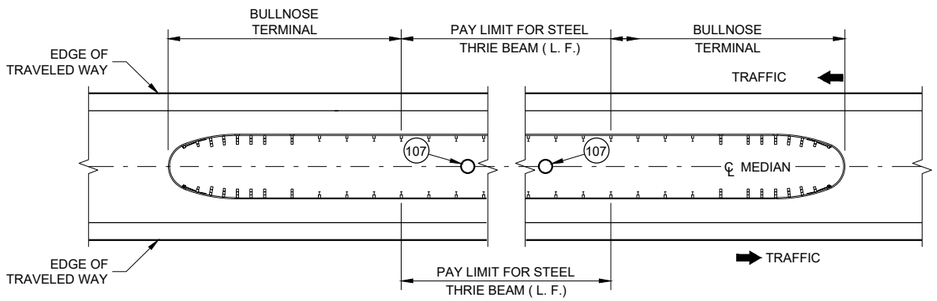
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

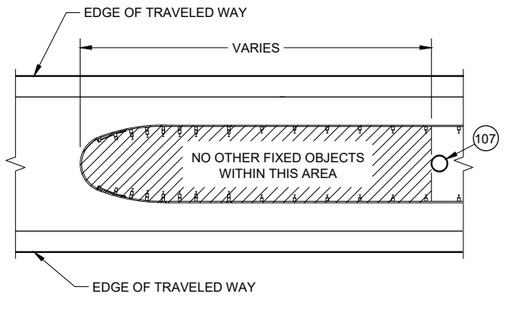
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

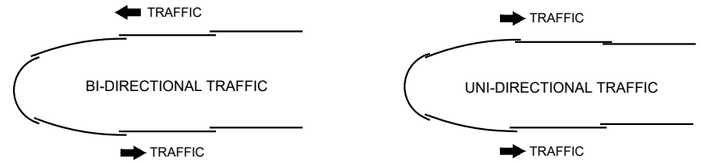
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



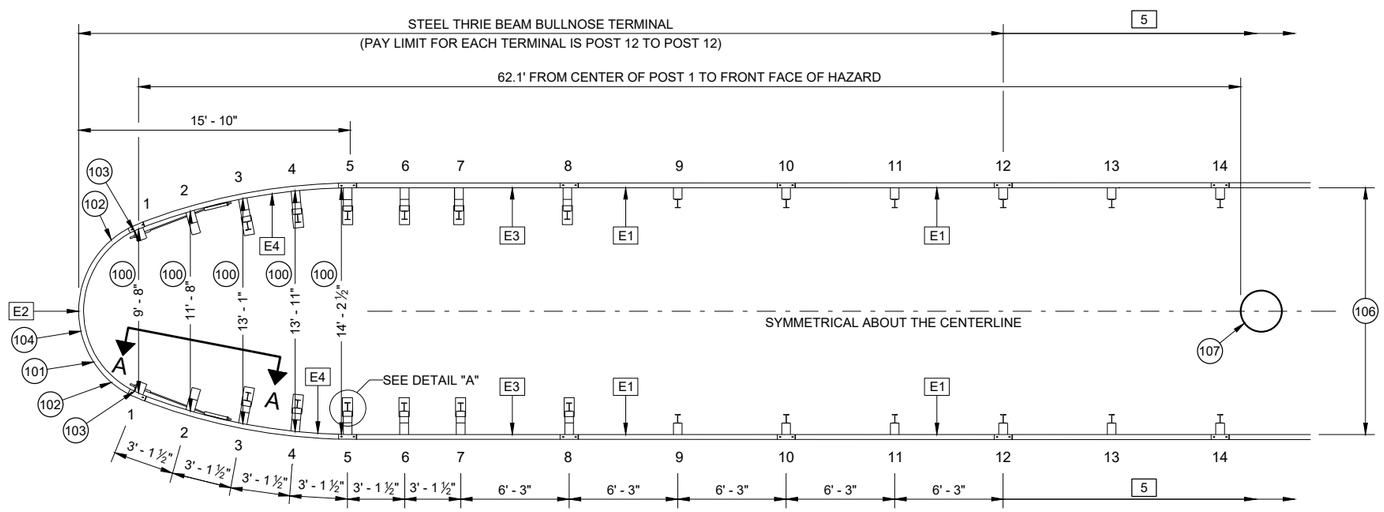
MEDIAN HAZARD PROTECTION PAY LIMITS



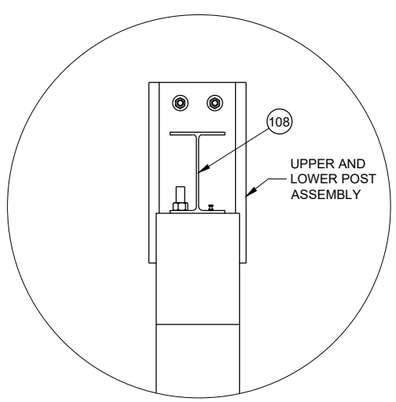
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



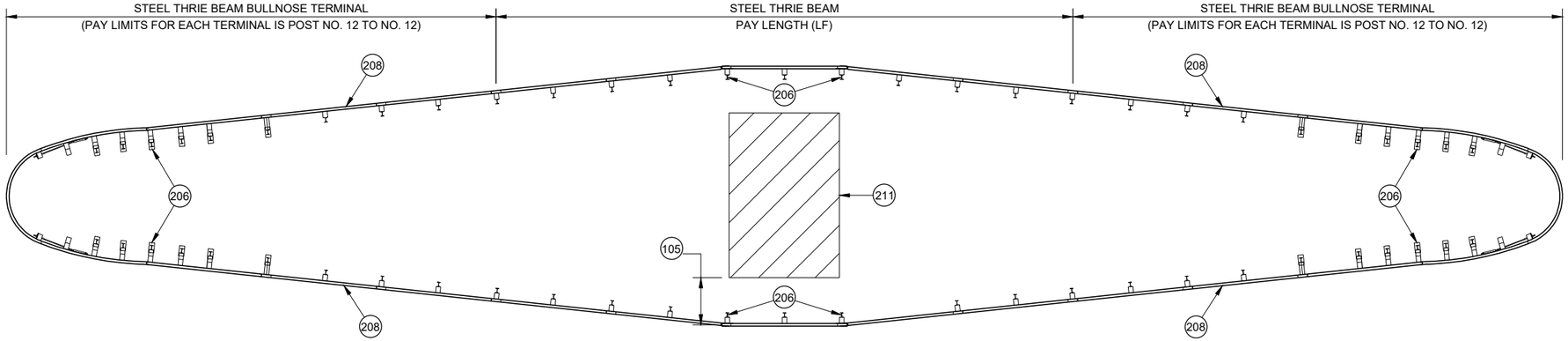
DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B26 - 05a

SDD 14B26 - 05a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

205 CONCRETE BARRIER OR BRIDGE RAIL.

206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

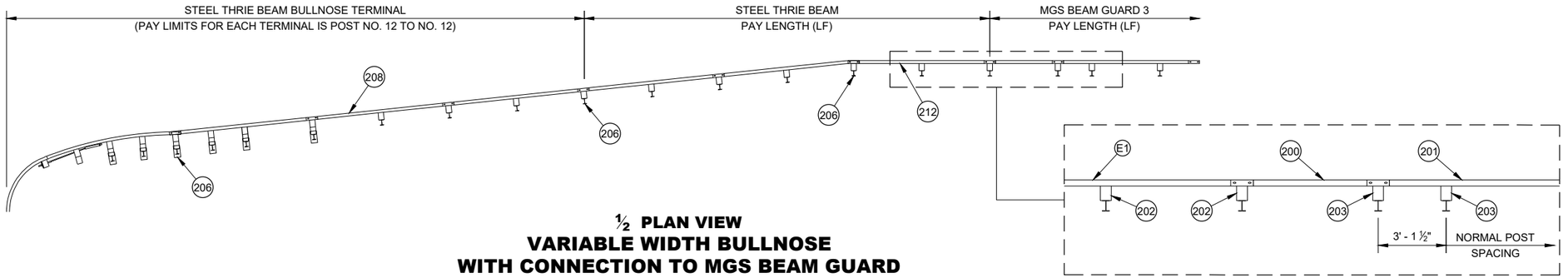
208 SEE PLAN FOR FLARE RATE.

209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

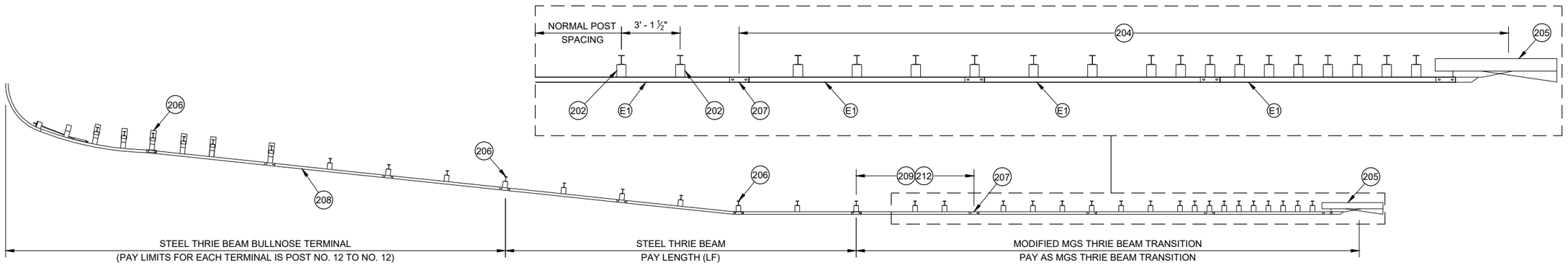
210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

211 WIDER HAZARD TO BE SHIELDED.

212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO MGS BEAM GUARD



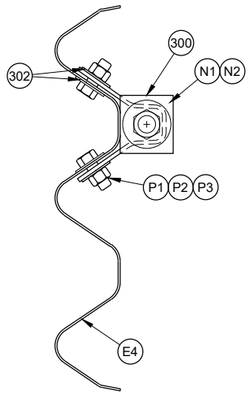
½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA[illegible]

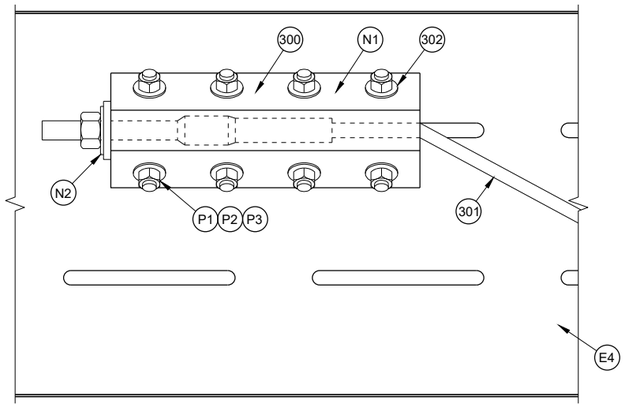
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SDD 14B26 - 05b

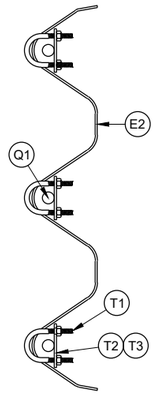


PROFILE VIEW

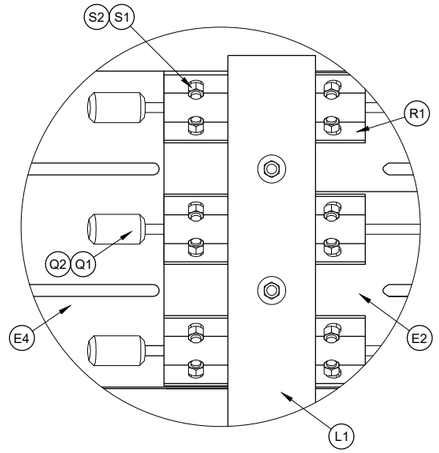
CABLE ANCHOR ASSEMBLY CONNECTION



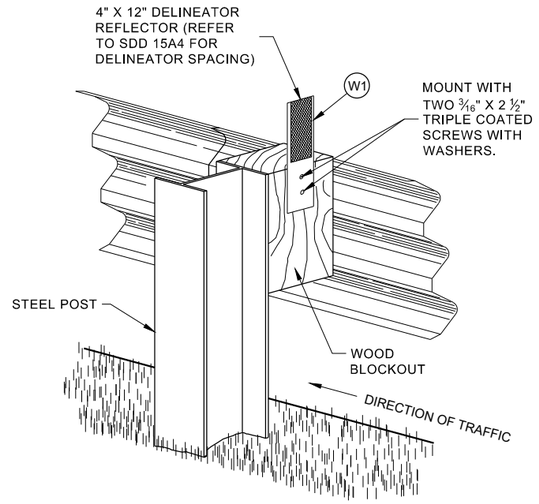
CABLE ANCHOR ASSEMBLY



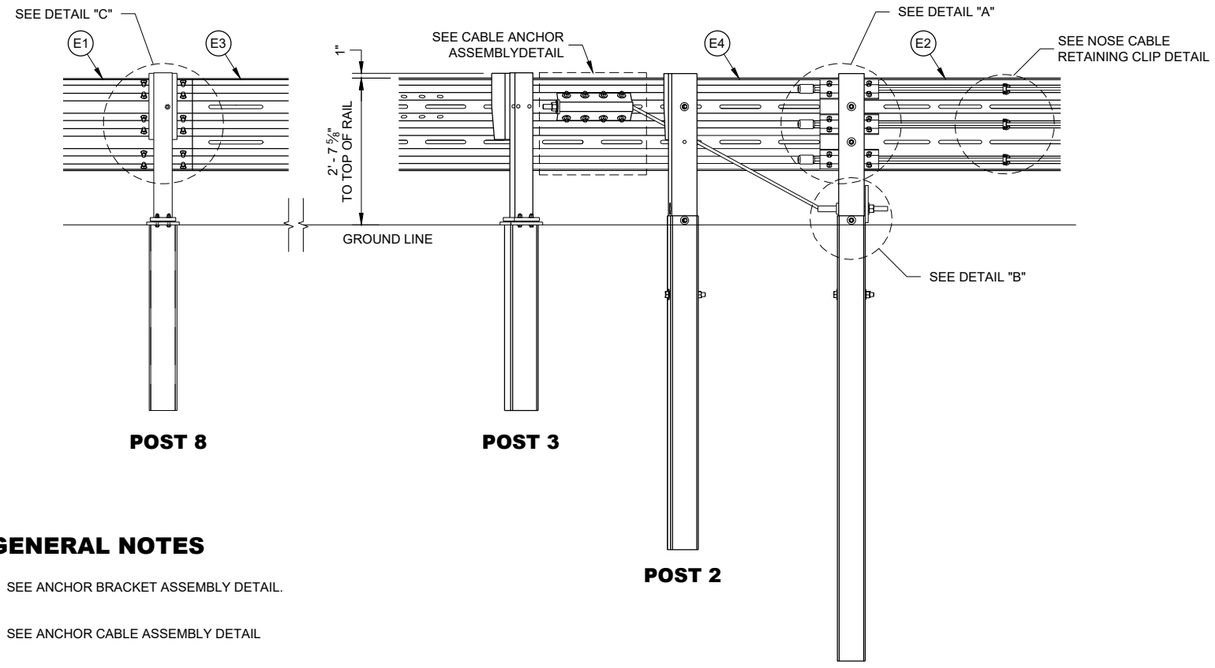
NOSE CABLE RETAINING CLIP



DETAIL "A"

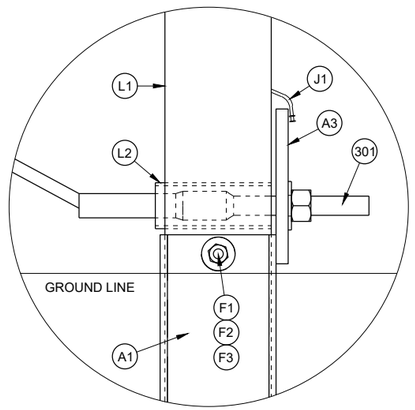


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

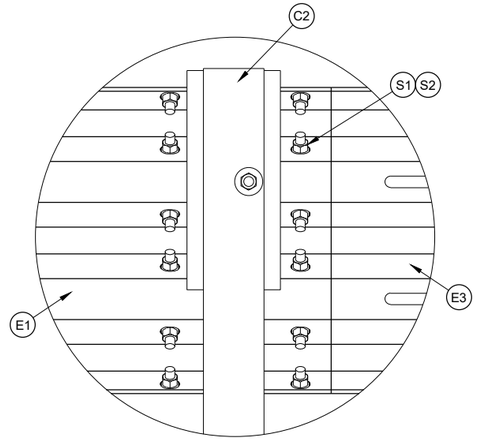


POST 8 **POST 3** **POST 2** **POST 1**

CROSS SECTION A - A



DETAIL "B"



DETAIL "C" THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

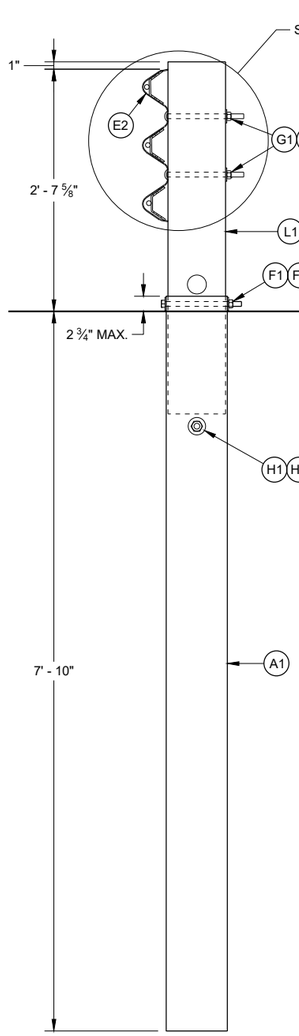
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

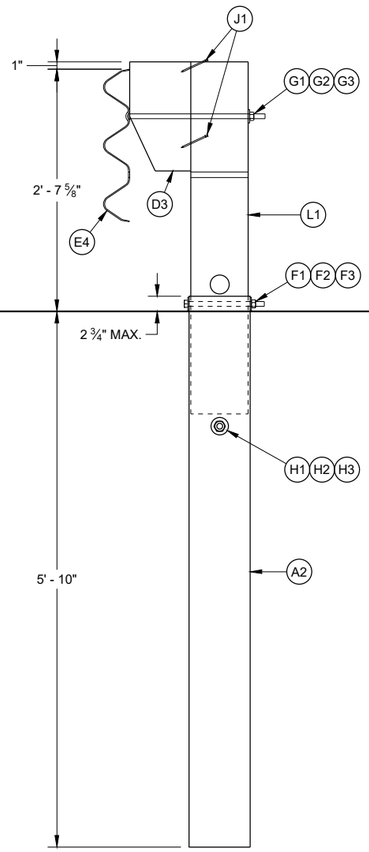
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SDD 14B26 - 05c

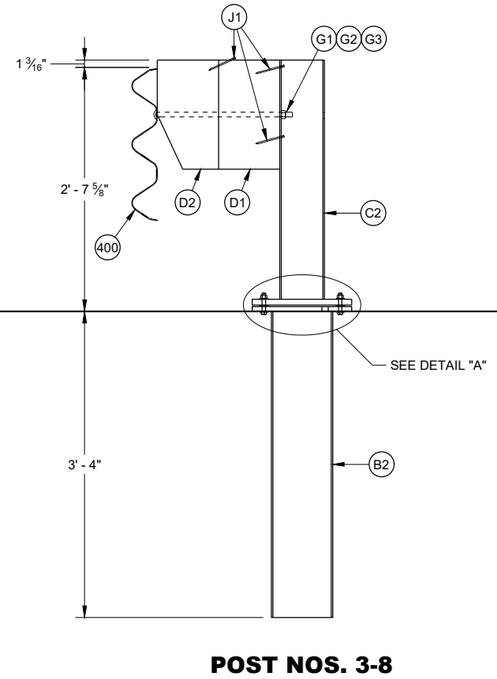
SDD 14B26 - 05c



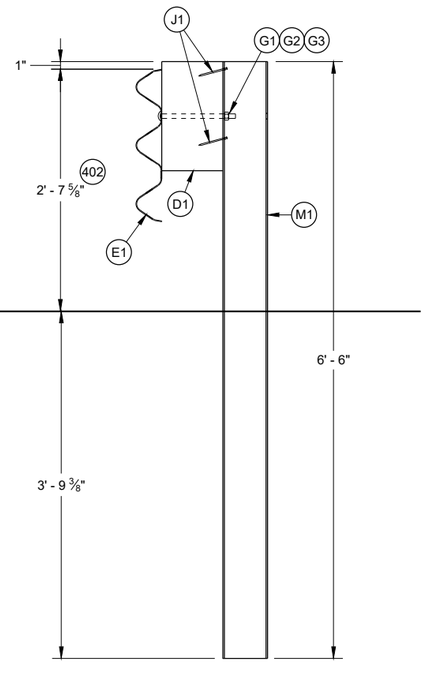
POST NO. 1



POST NO. 2



POST NOS. 3-8



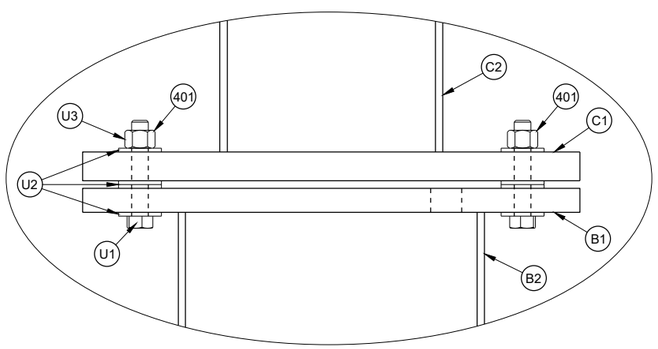
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

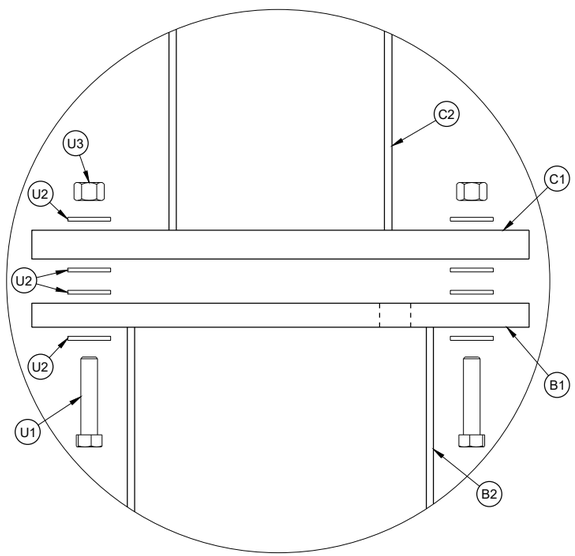
(400) RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

(401) TORQUE BOLD BETWEEN 60-75 FT-LB

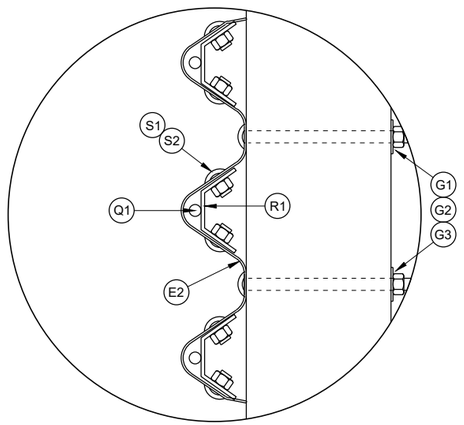
(402) HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



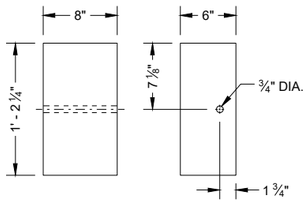
DETAIL "B"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

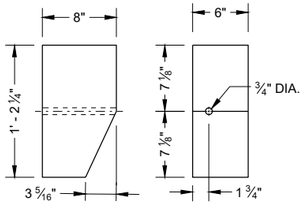
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SDD 14B26 - 05d



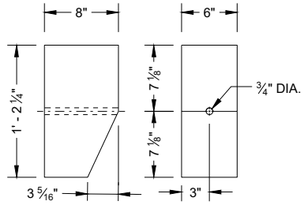
ELEVATION PROFILE

BLOCKOUT (D1)



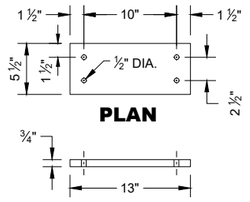
ELEVATION PROFILE

BLOCKOUT (D2)



ELEVATION PROFILE

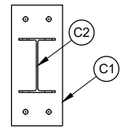
BLOCKOUT (D3)



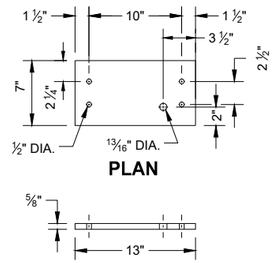
PLAN

PROFILE

UPPER SHEAR PLATE (C1)



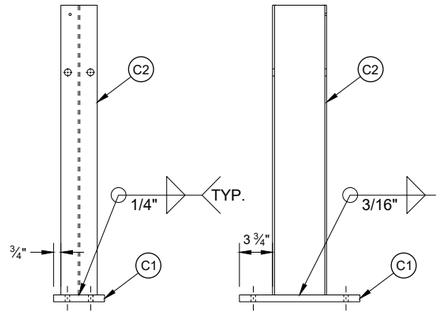
PLAN



PLAN

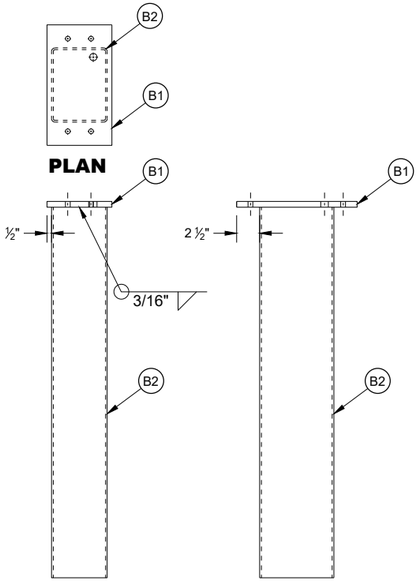
PROFILE

LOWER SHEAR PLATE (B1)



ELEVATION PROFILE

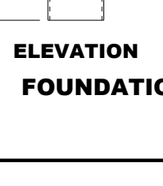
UPPER POST ASSEMBLY



PLAN

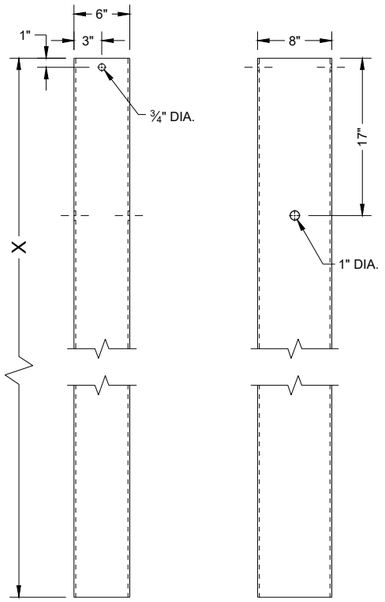
ELEVATION PROFILE

LOWER POST ASSEMBLY



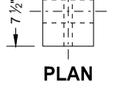
PLAN

PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"

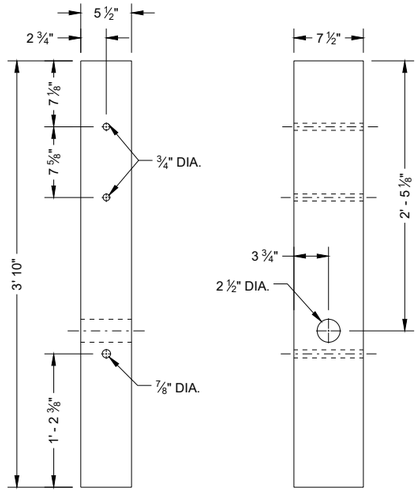


ELEVATION PROFILE

FOUNDATION TUBE

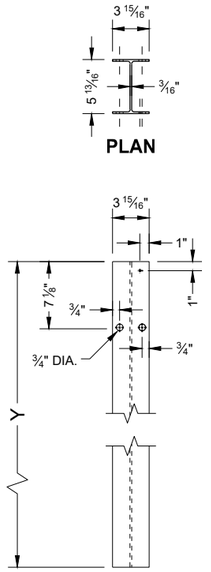


PLAN



ELEVATION PROFILE

BCT POST (L1)



PLAN

ELEVATION

POST

PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

6

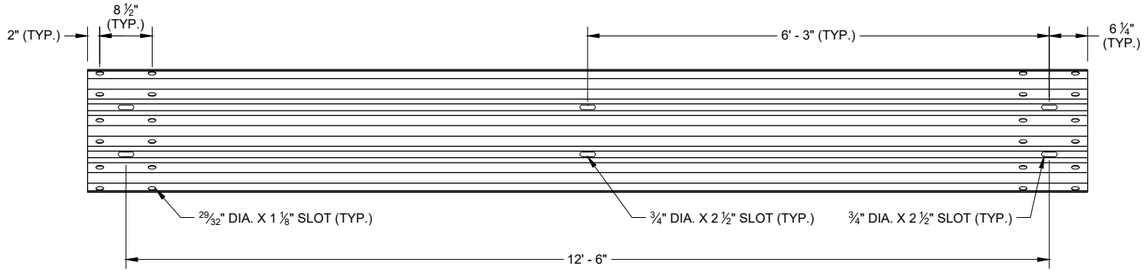
SDD 14B26 - 05e

STEEL THRIE BEAM BULLNOSE TERMINAL

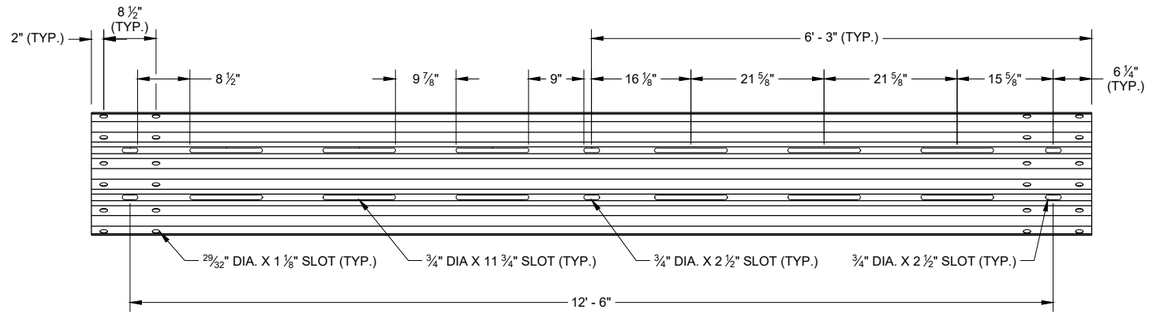
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

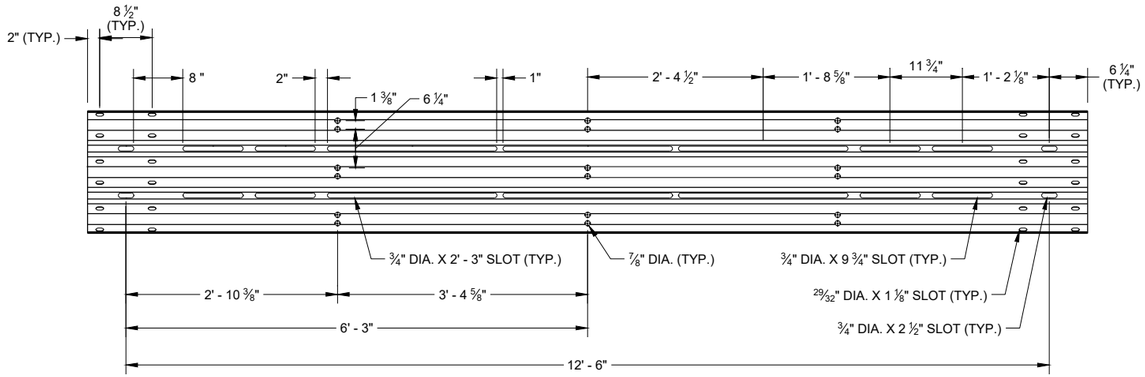
SDD 14B26 - 05e



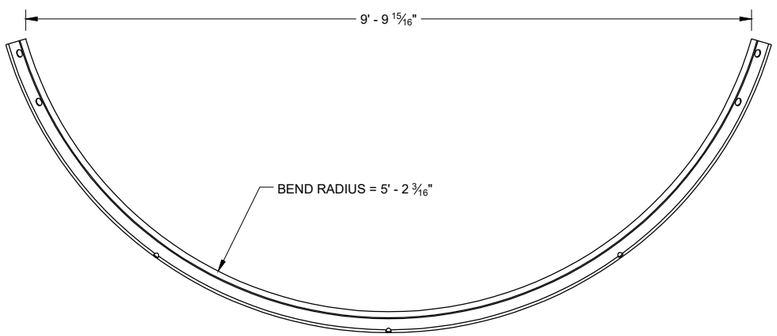
SLOTTED THRIE BEAM RAIL E1



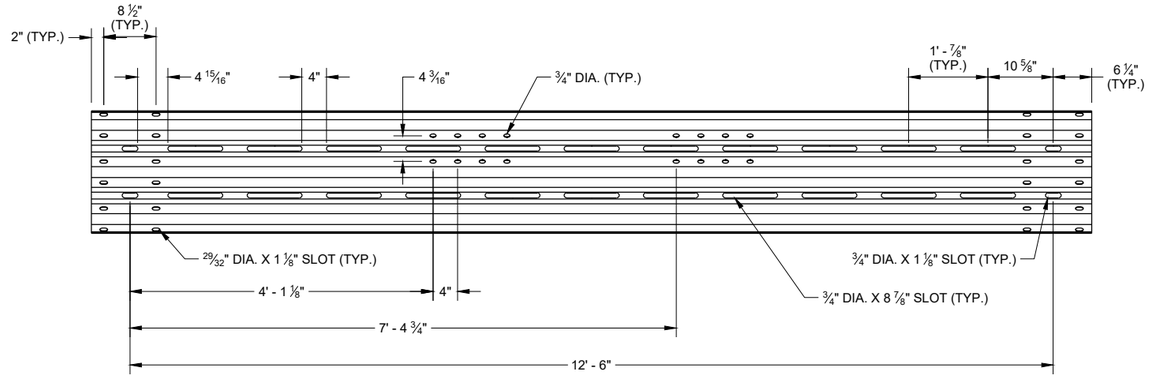
SLOTTED THRIE BEAM RAIL E3



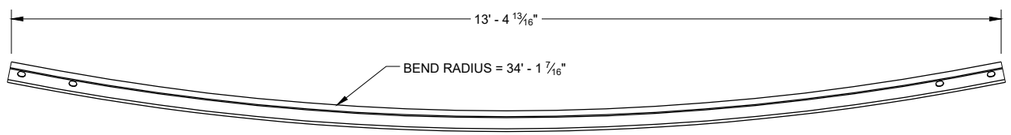
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4

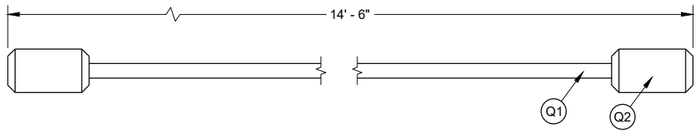


PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

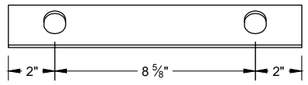
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

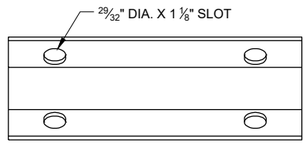
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SDD 14B26 - 05f



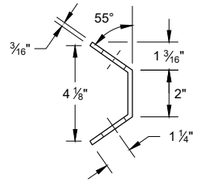
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

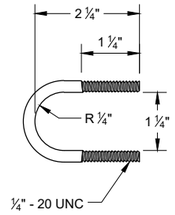


ELEVATION VIEW

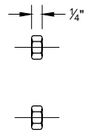


PROFILE VIEW

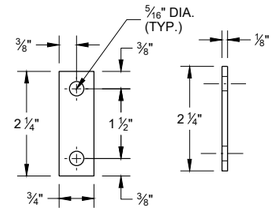
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

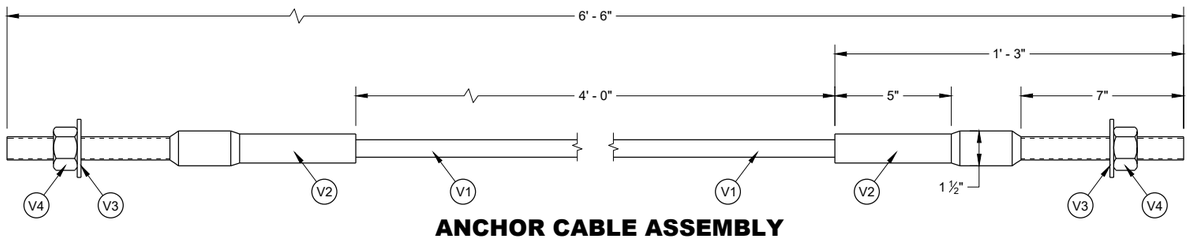


U - BOLT NUT (T3)

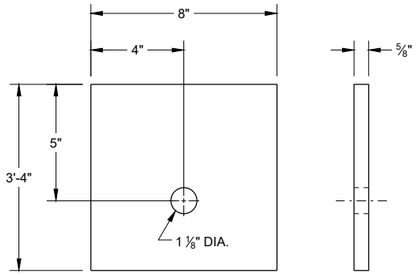


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

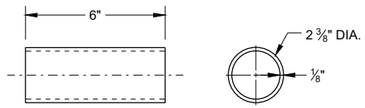


ANCHOR CABLE ASSEMBLY



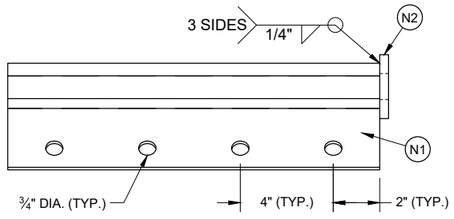
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

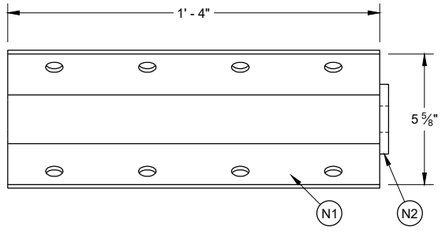


ELEVATION VIEW **PROFILE VIEW**

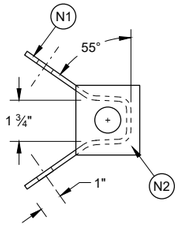
BCT POST SLEEVE (L2)



PLAN VIEW

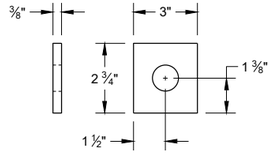


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B26 - 05g

SDD 14B26 - 05g

BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT POST	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B1	LOWER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
F2	5/8" DIA. GROUND STRUT AND YOKE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
F3	GROUND STRUT AND YOKE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
G1	5/8 " DIA. POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	POST BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	POST BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
H1	7/8" DIA. SOIL TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
M2	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N1	ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N2	ANCHOR BRACKET - BEARING PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	¾" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

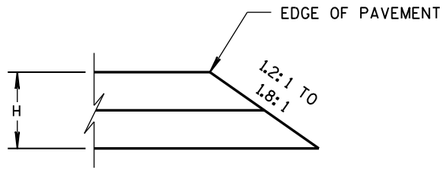
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

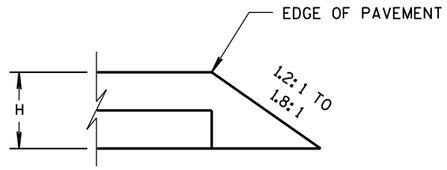
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SDD 14B26 - 05h



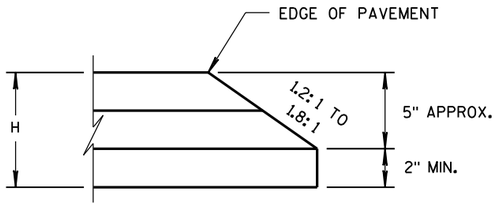
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



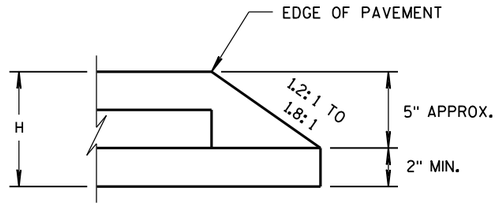
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FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

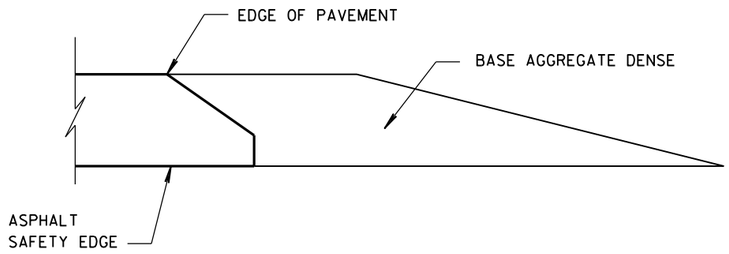
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

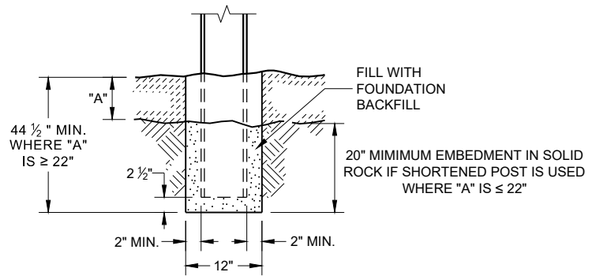
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

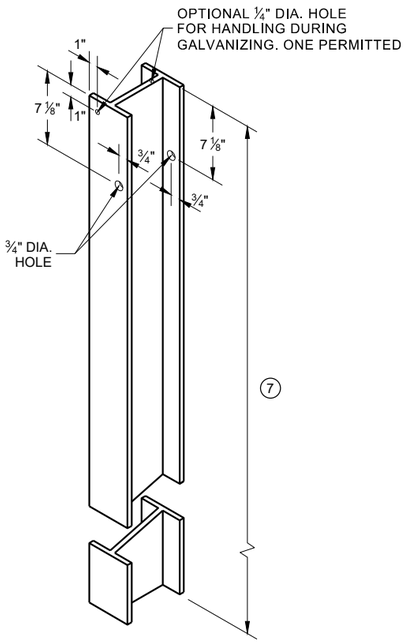
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

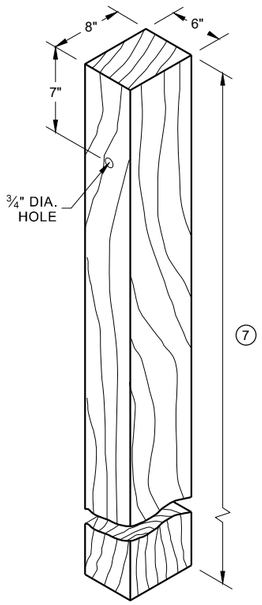
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



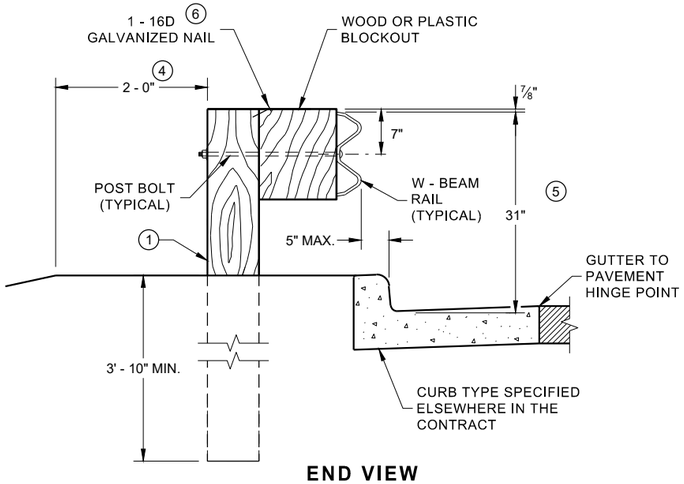
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



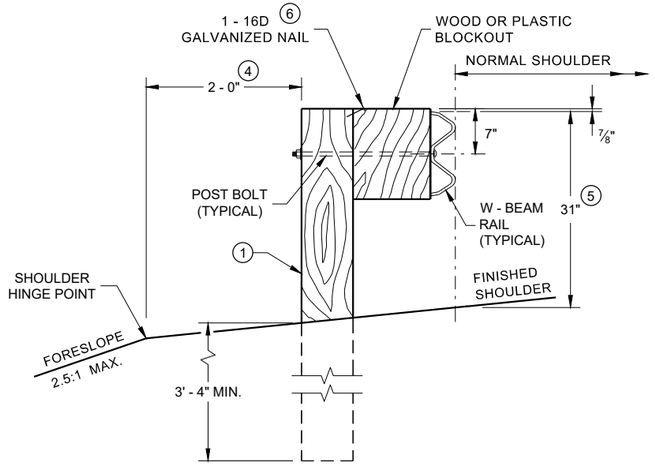
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



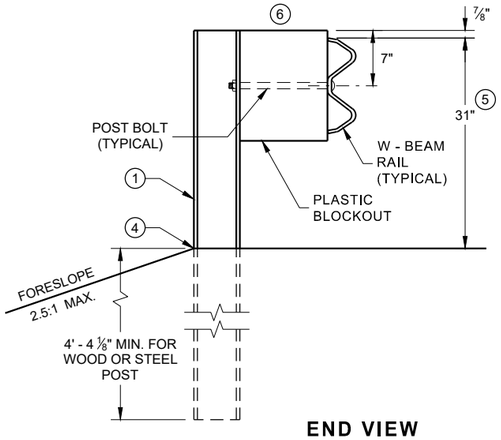
WOOD POST (6" X 8") NOMINAL (1)



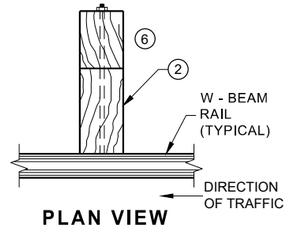
END VIEW
LOCATED ALONG A CURBED ROADWAY



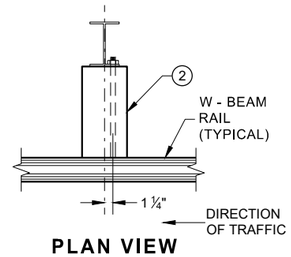
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



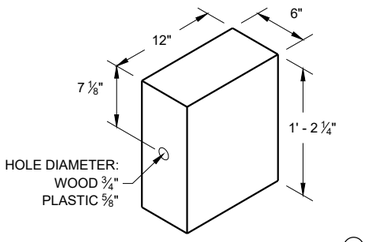
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



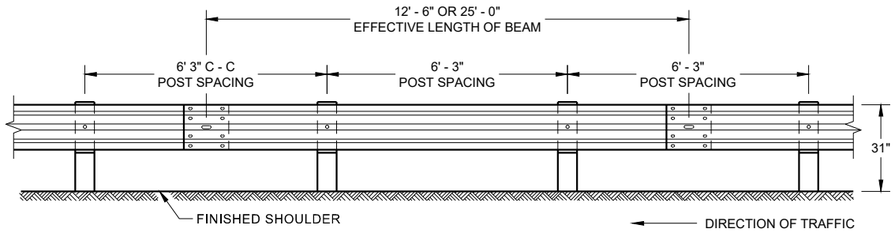
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

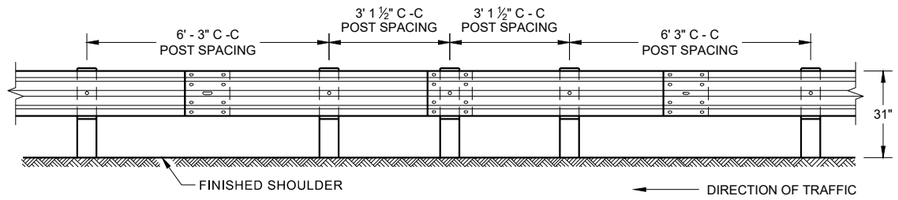
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

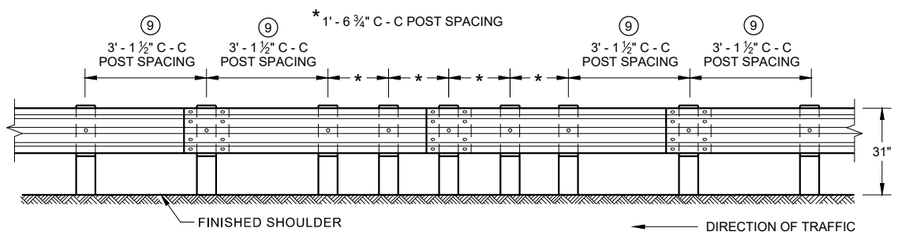
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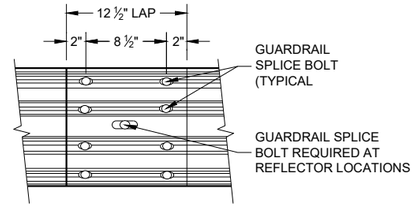
FRONT VIEW
POST SPACING STANDARD INSTALLATION



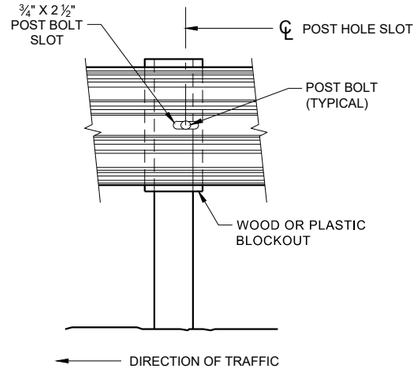
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



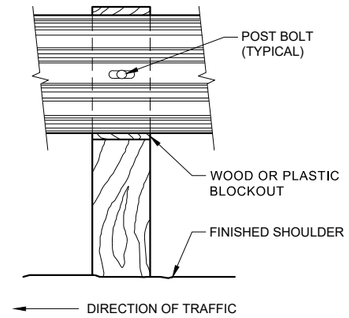
FRONT VIEW
QUARTER POST SPACING (QS)



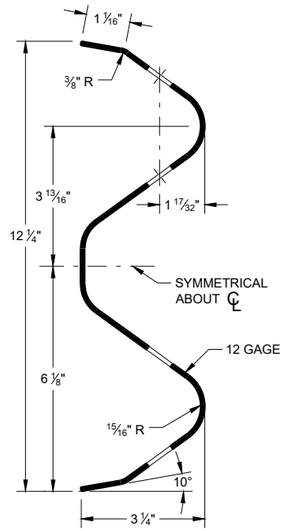
FRONT VIEW
MID-SPAN BEAM SPLICE



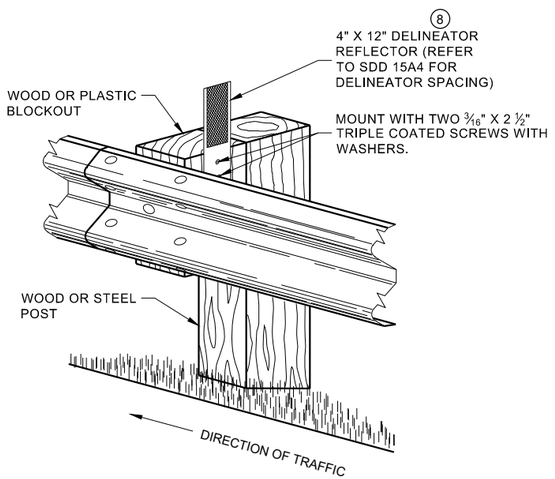
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

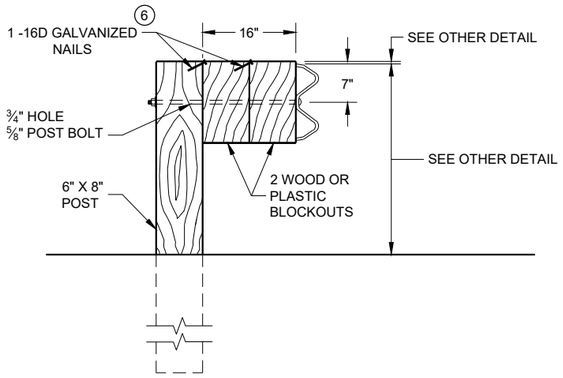
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b
SDD 14B42 - 07b

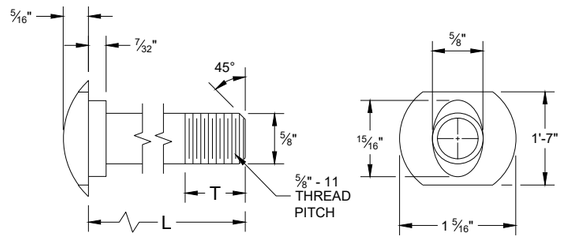


DETAIL FOR 16" BLOCKOUT DEPTH

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

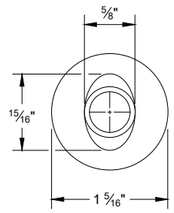
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

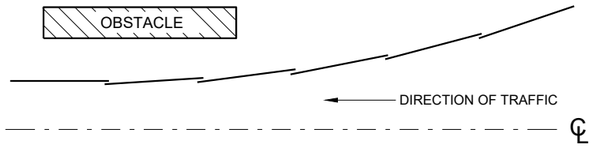


POST BOLT TABLE

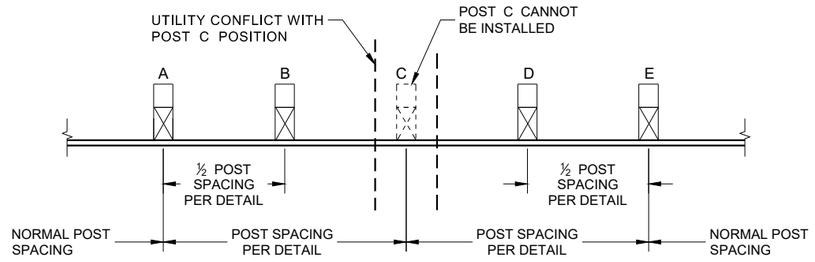
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



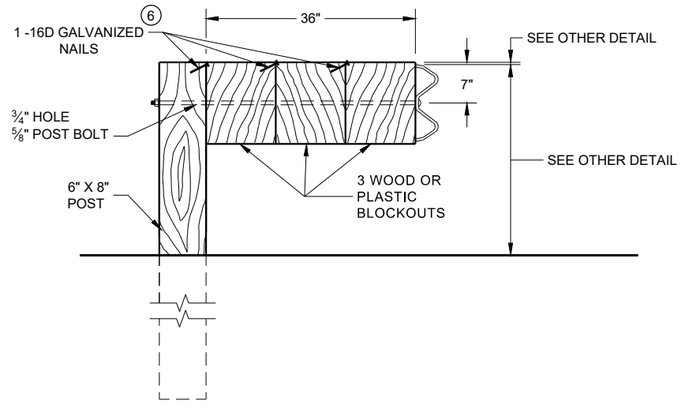
ALTERNATE BOLT HEAD



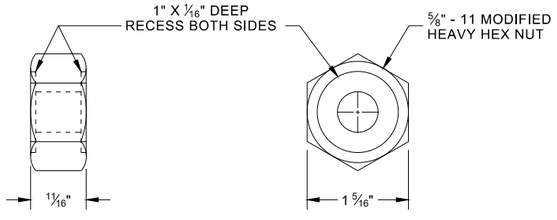
PLAN VIEW
BEAM LAPPING DETAIL



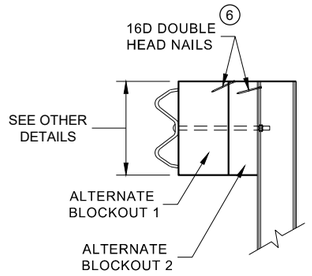
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



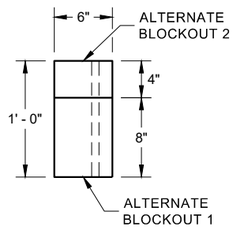
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

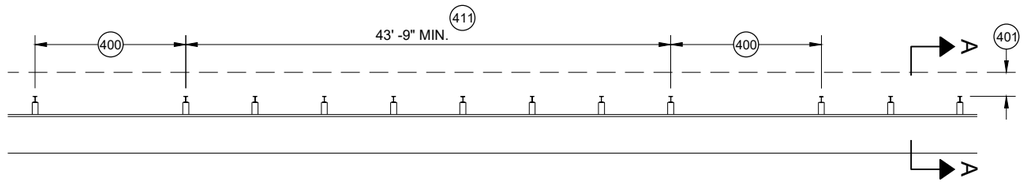
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

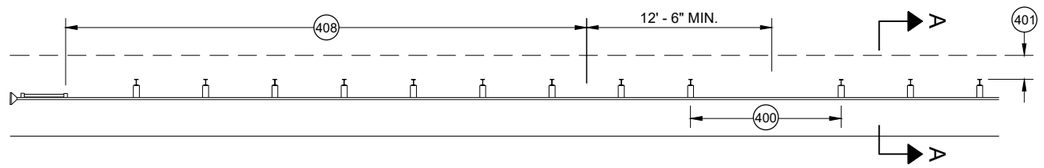
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

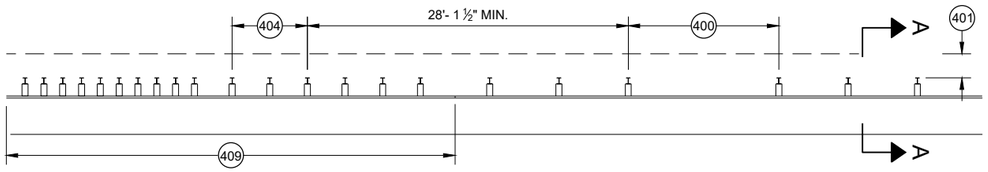
SDD 14B42 - 07c



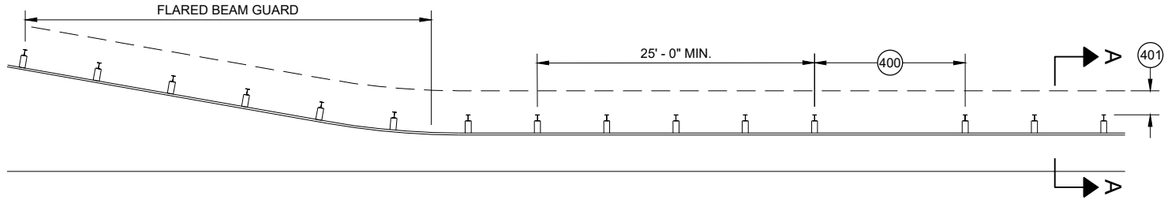
MISSING POST IN MGS GUARDRAIL



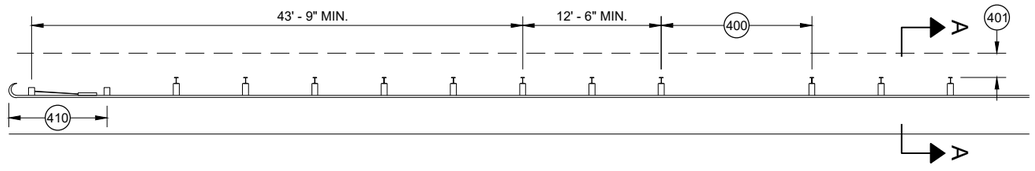
MISSING POST IN MGS GUARDRAIL NEAR EAT



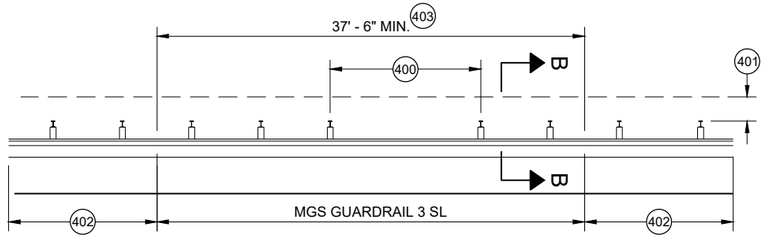
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

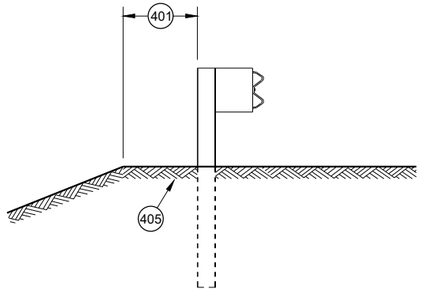


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

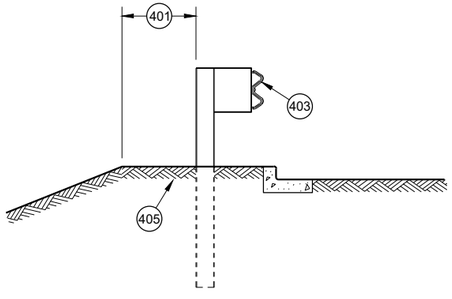


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

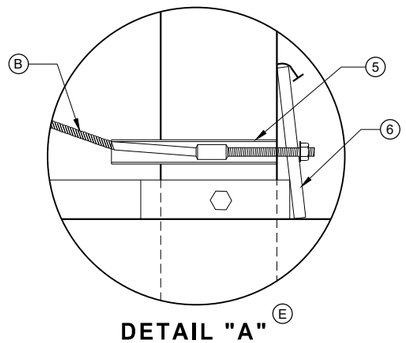
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

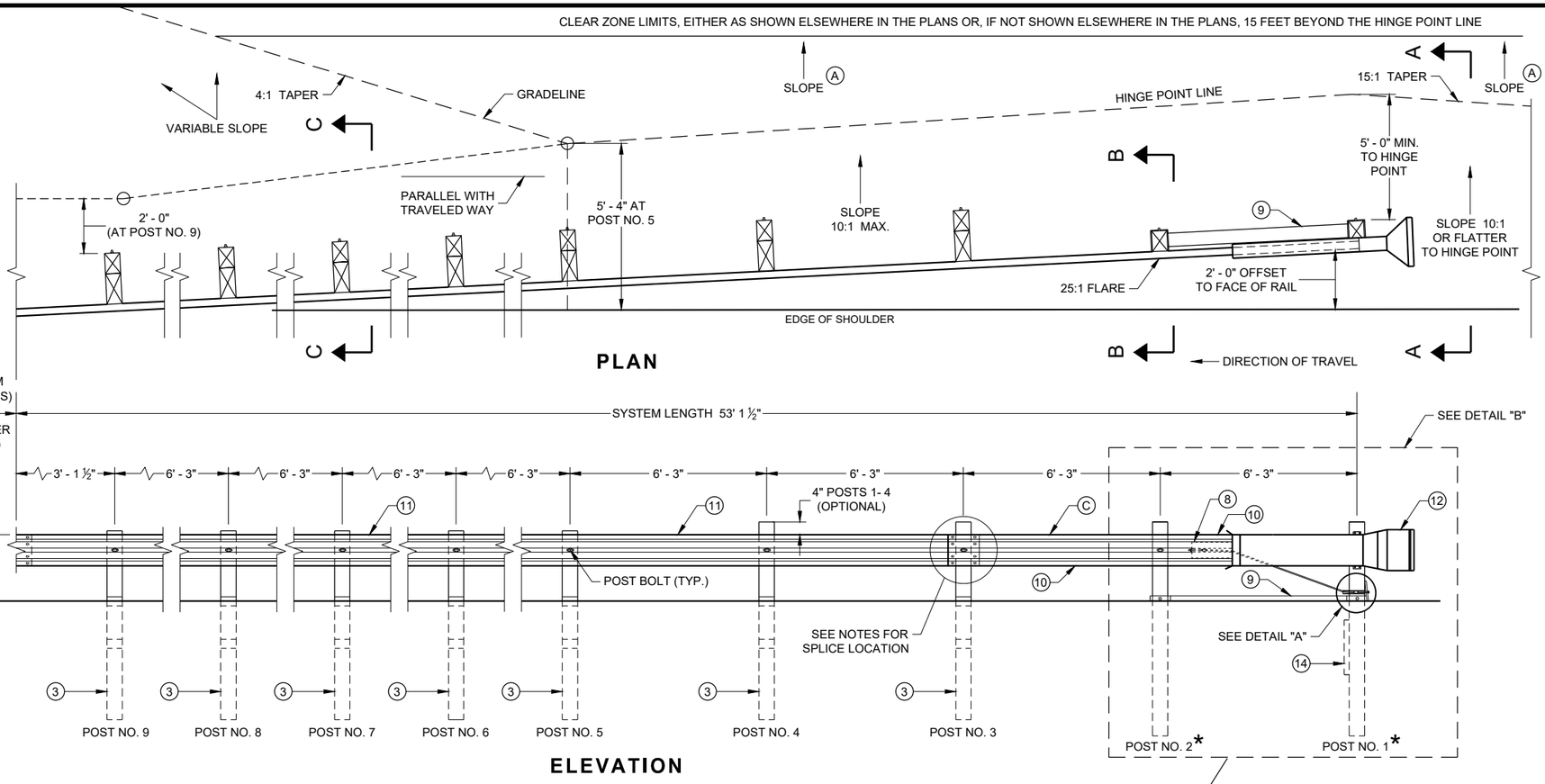
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

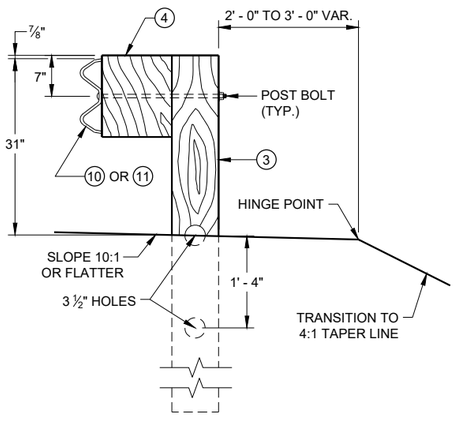
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

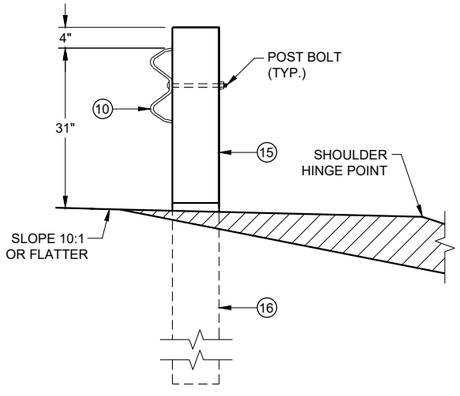


DETAIL "A" (E)

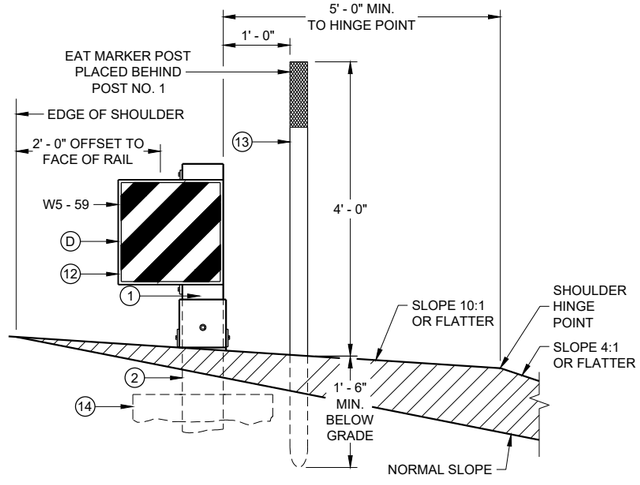




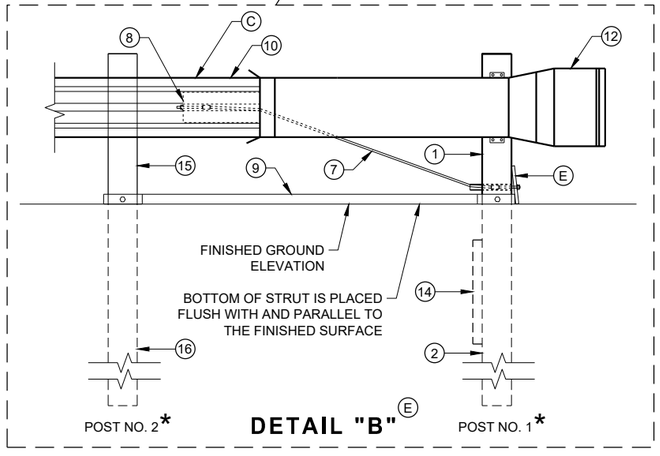
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

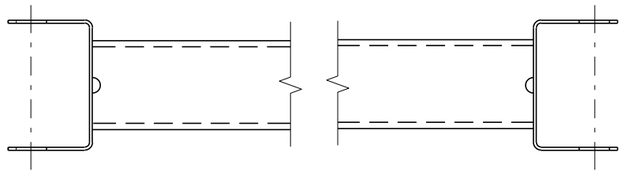


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

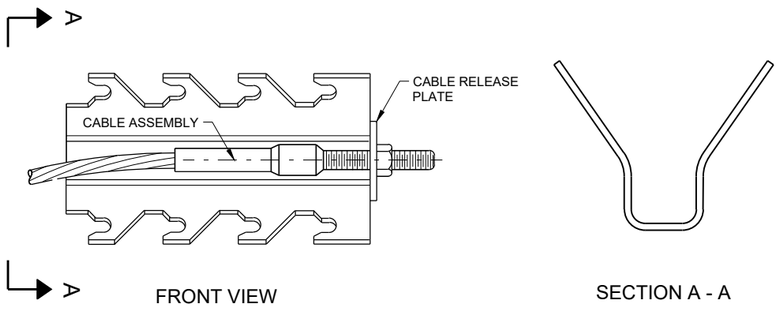
SDD 14B44 - 04a



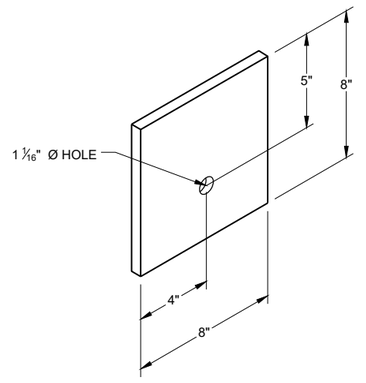
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

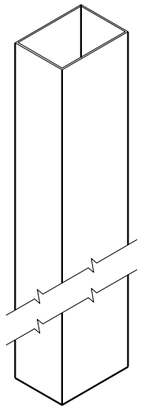
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SDD 14B44 - 04b

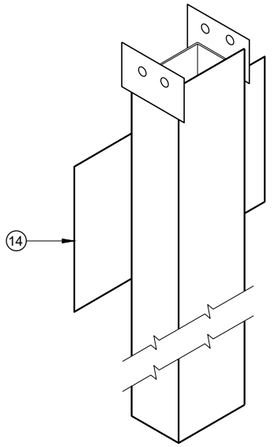
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

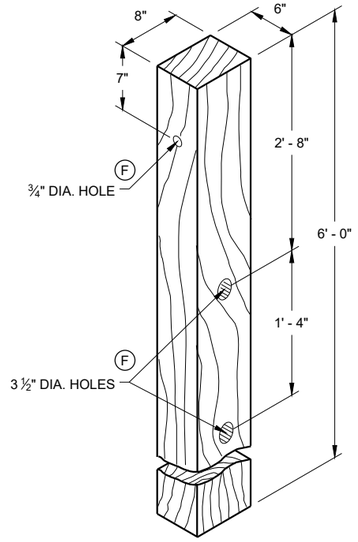
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



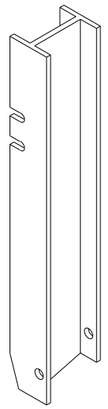
UPPER POST NO. 1 (1) (E)



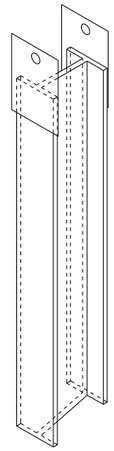
LOWER POST NO. 1 (2) (E)



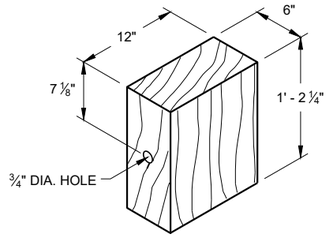
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



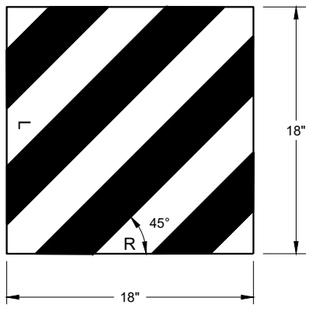
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

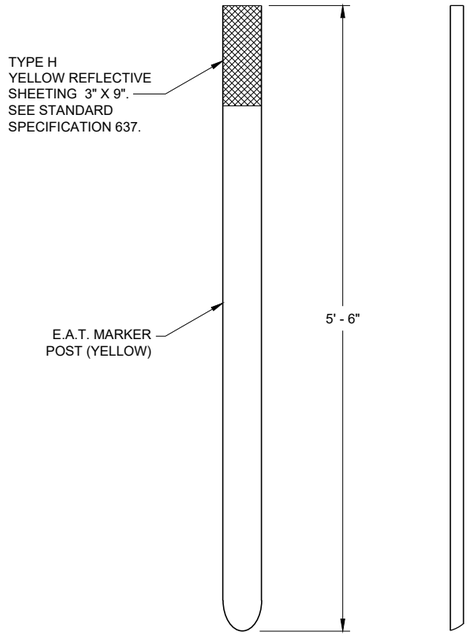


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



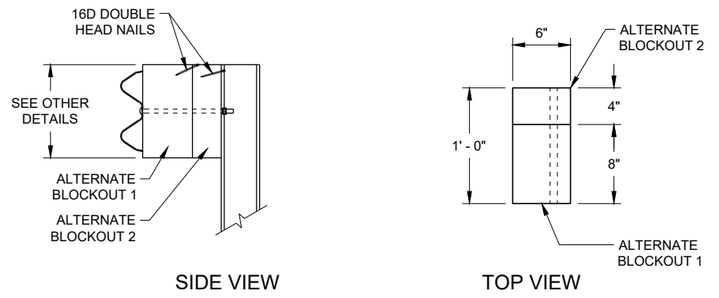
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

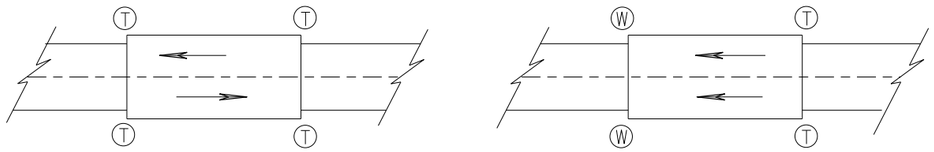
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c
SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

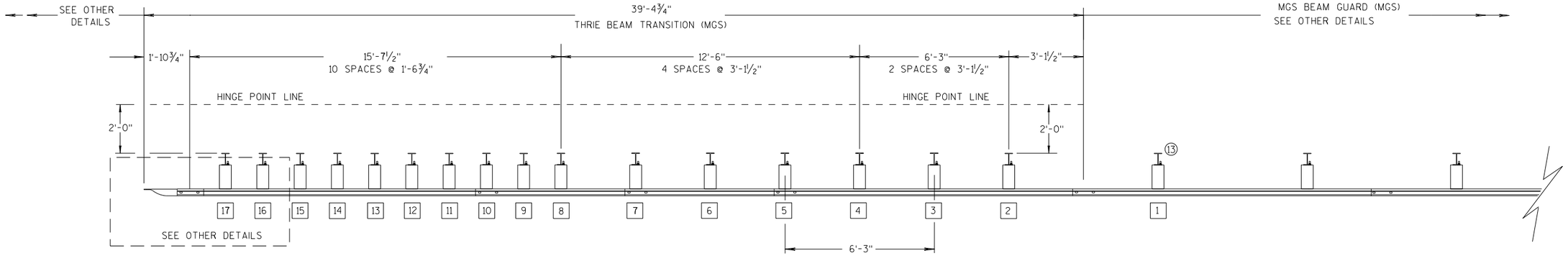
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

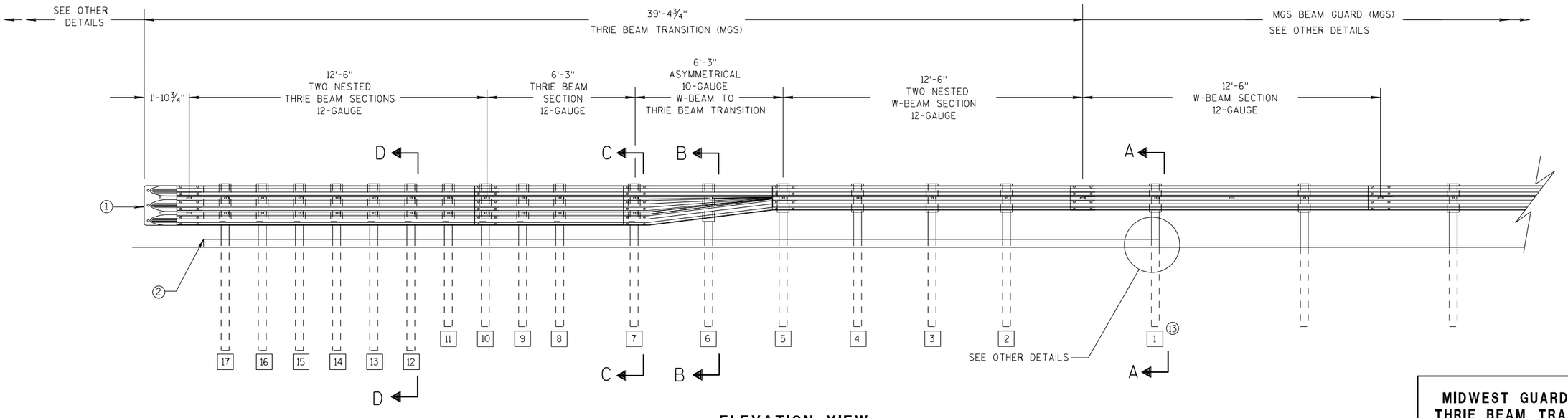
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

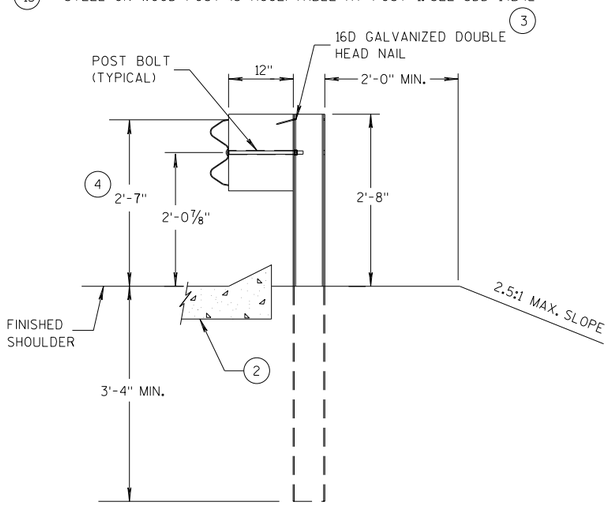
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

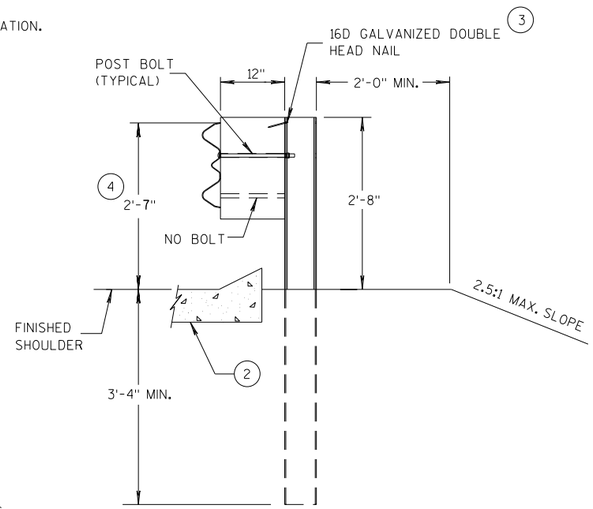
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



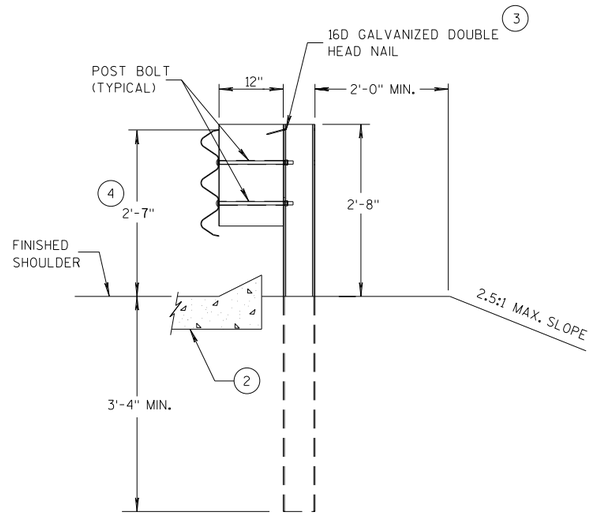
SECTION A-A (13)

POSTS 1-5



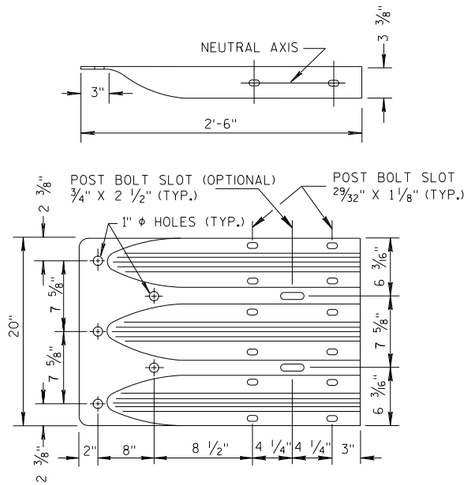
SECTION B-B

POST 6

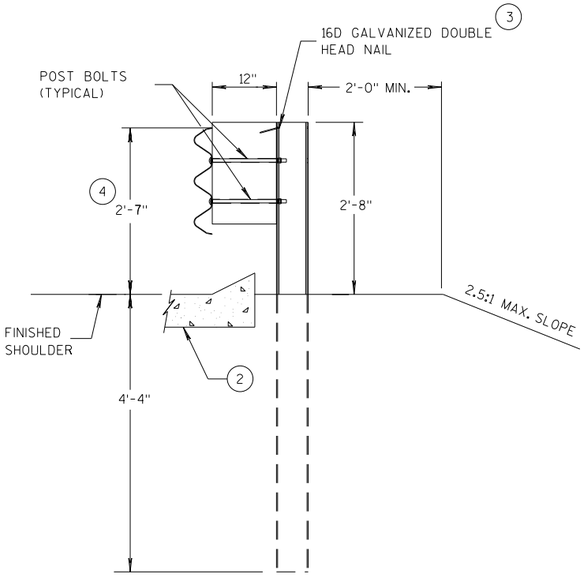


SECTION C-C

POSTS 7-11

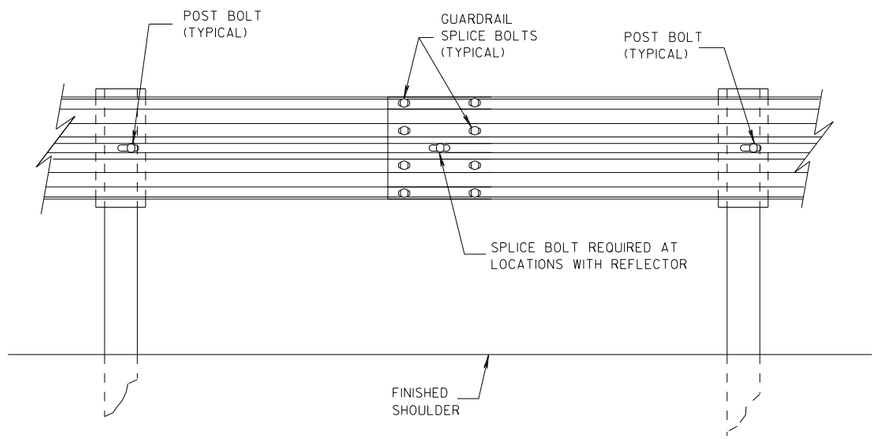


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

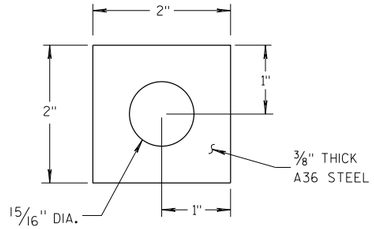
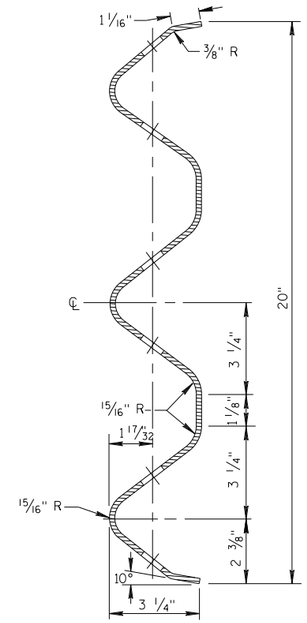


PLATE WASHER DETAIL



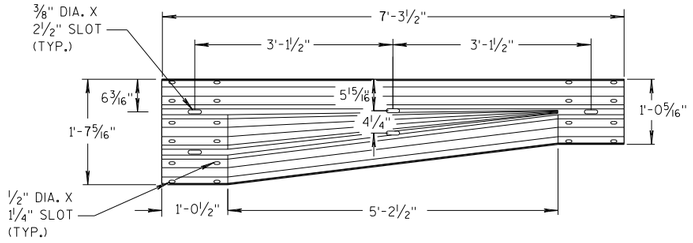
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

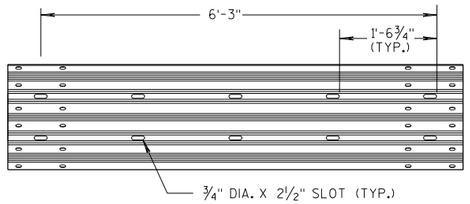
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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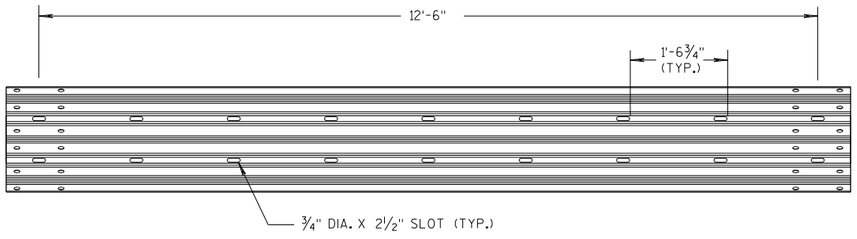
S.D.D. 14 B 45-5b



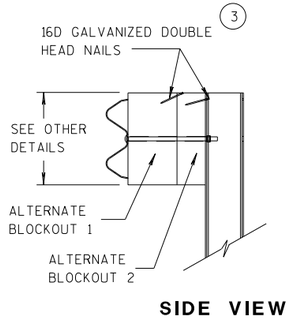
W-BEAM TO THRIE BEAM TRANSITION SECTION



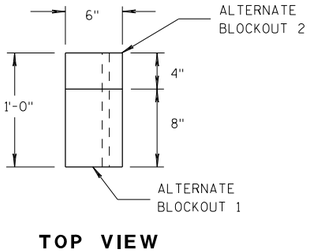
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

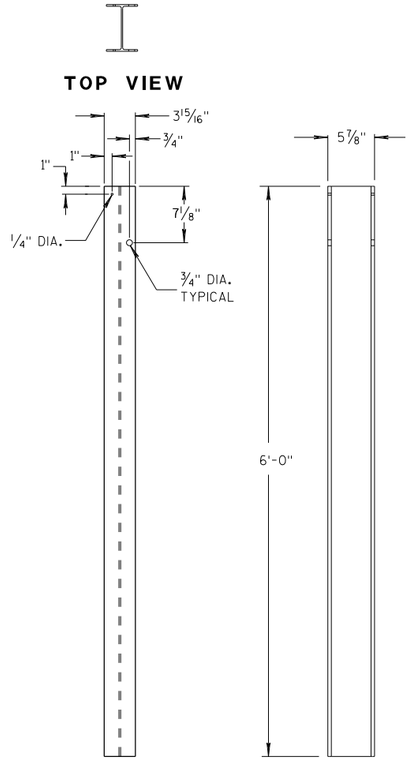


SIDE VIEW



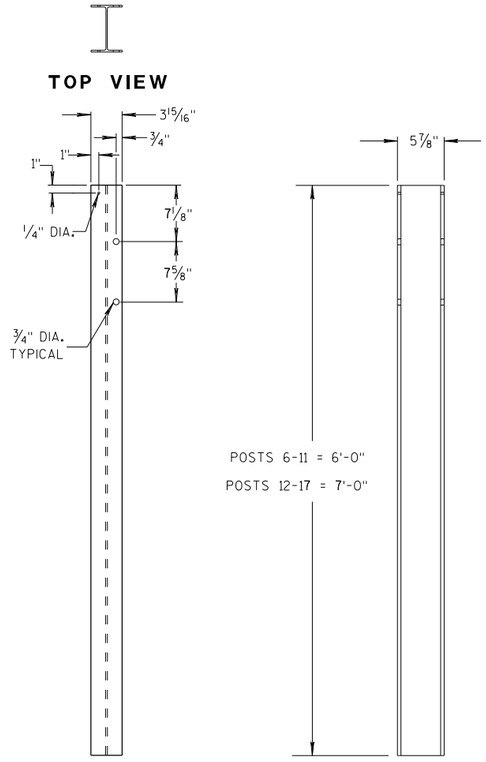
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



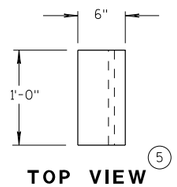
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

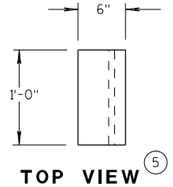


FRONT VIEW SIDE VIEW

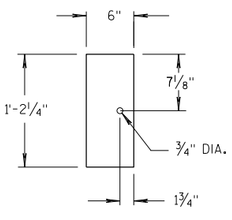
STEEL POSTS 6-17



TOP VIEW (5)

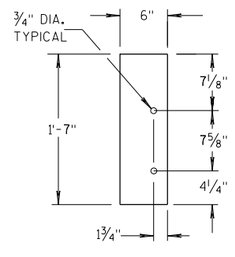


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

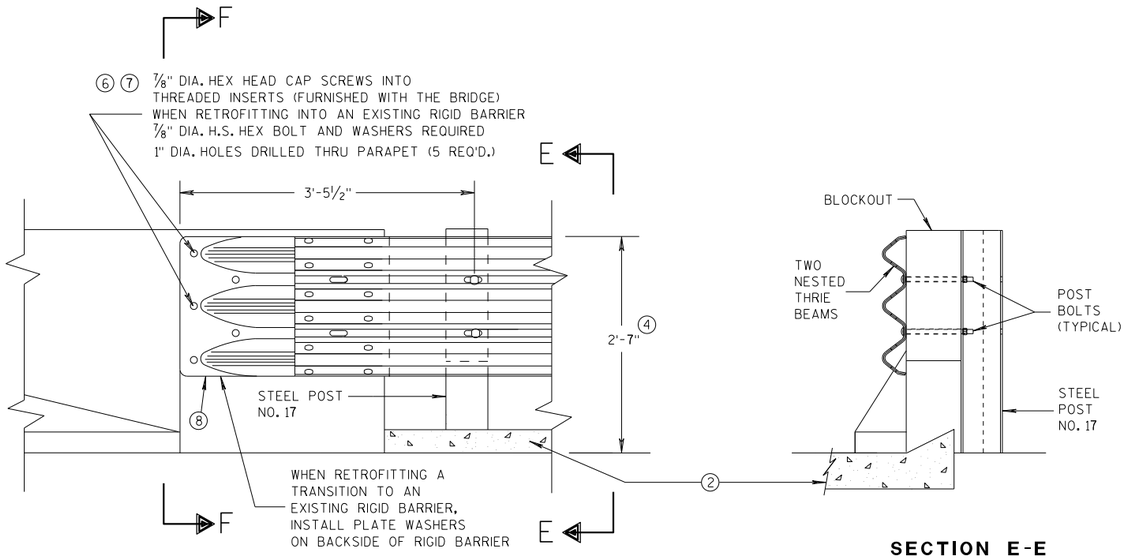
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

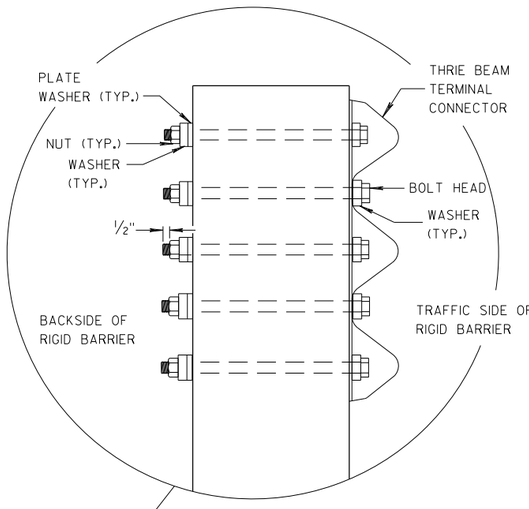
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

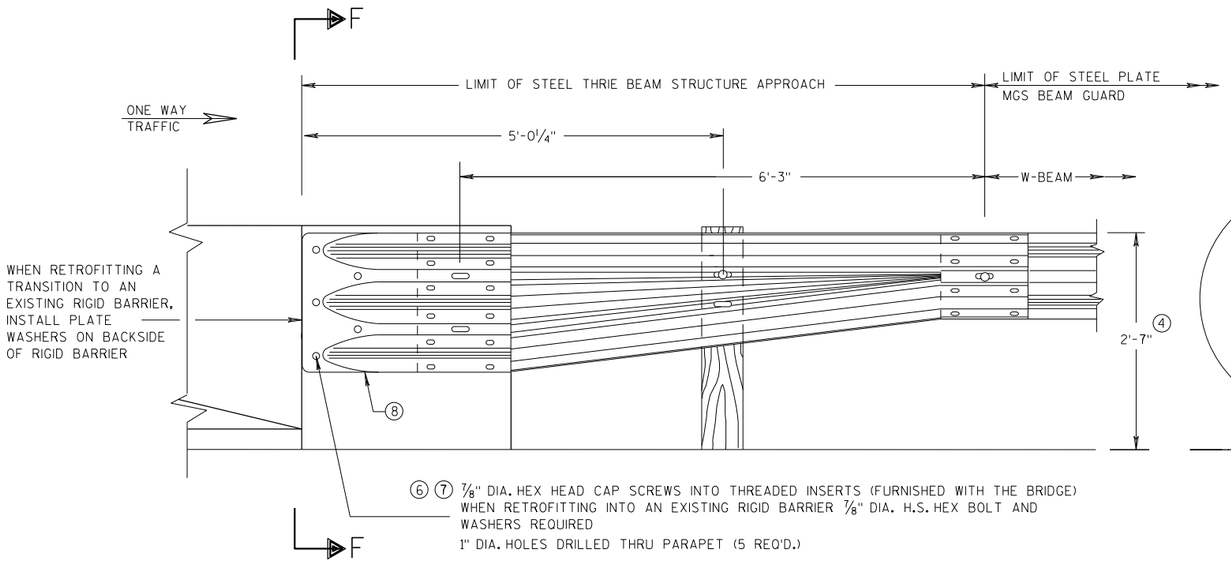
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

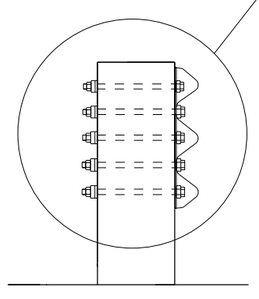
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

⑧ 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".

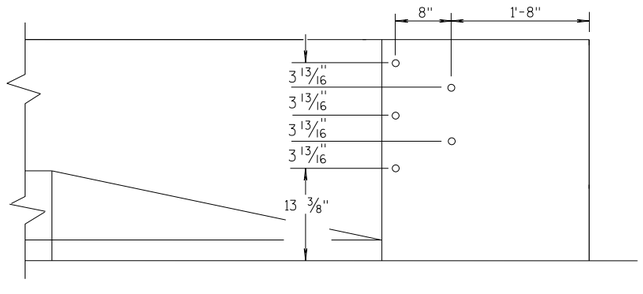




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS NT
FHWA

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

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

GENERAL NOTES

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

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

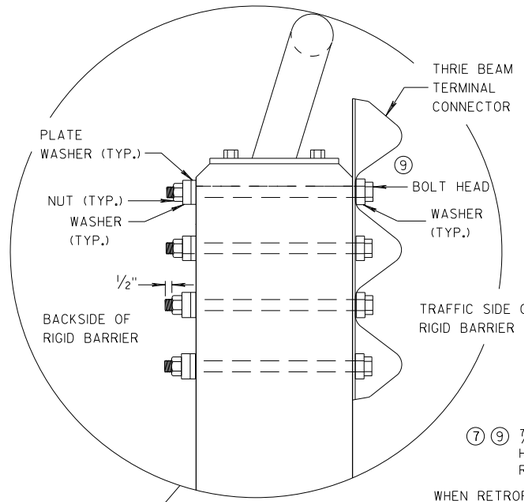
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

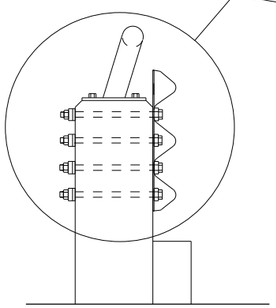
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) 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 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

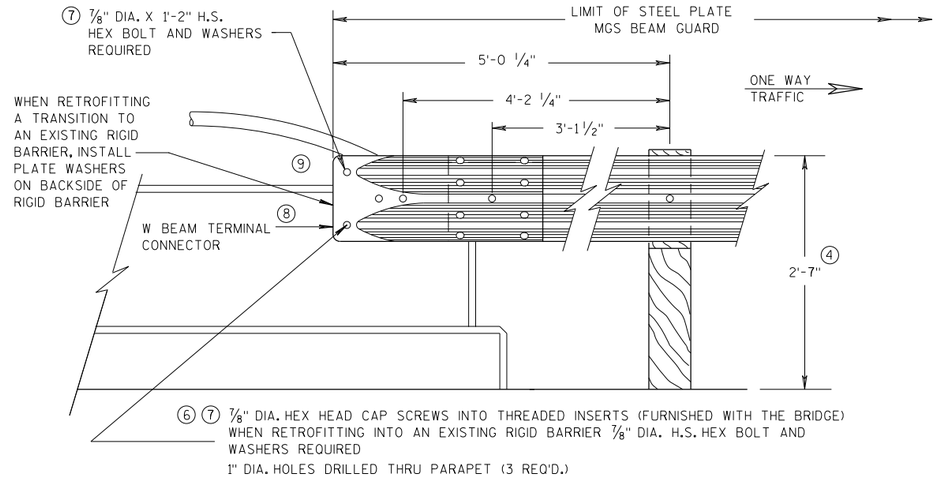
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) 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.





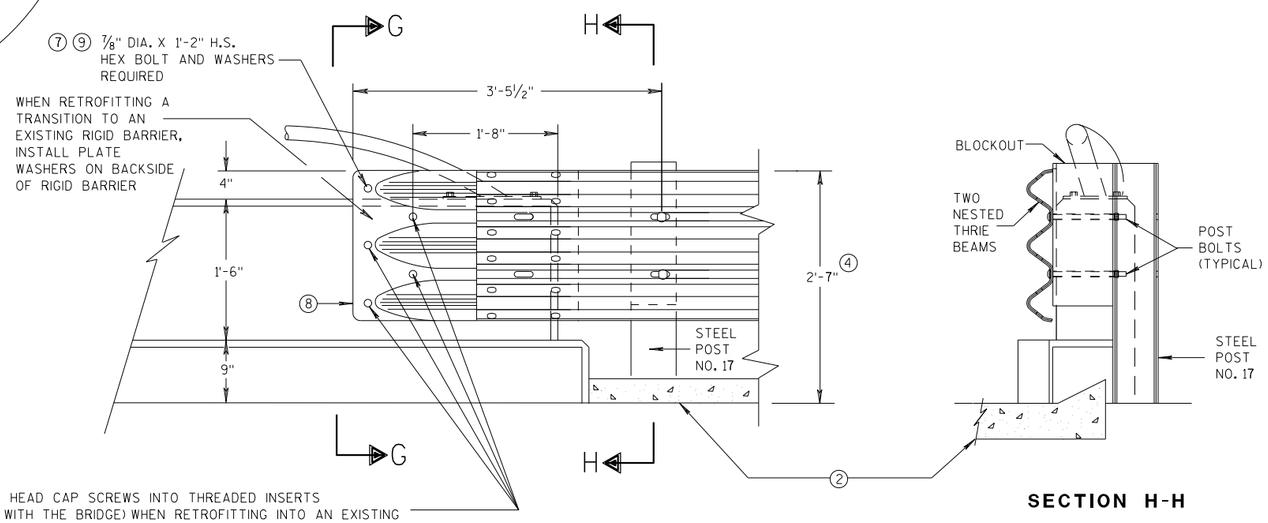
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

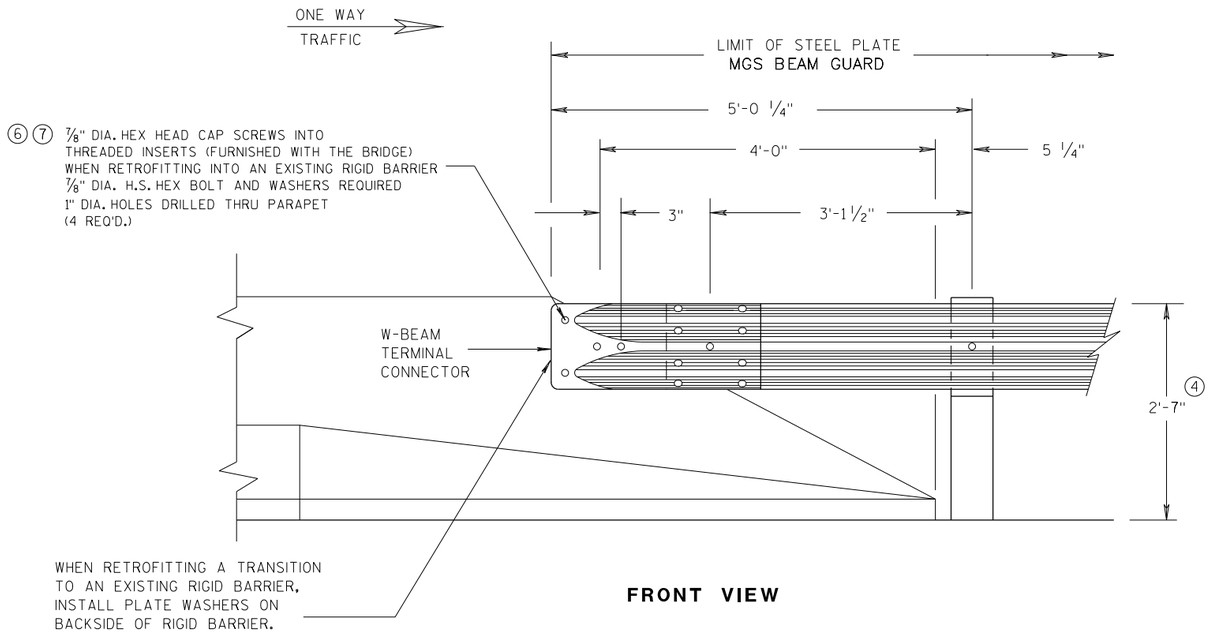
APPROVED
07/2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS NT
FHWA

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

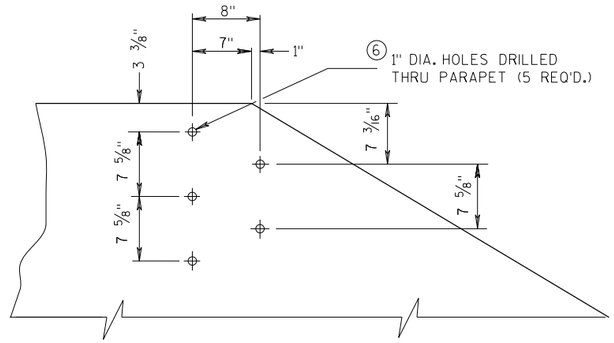
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

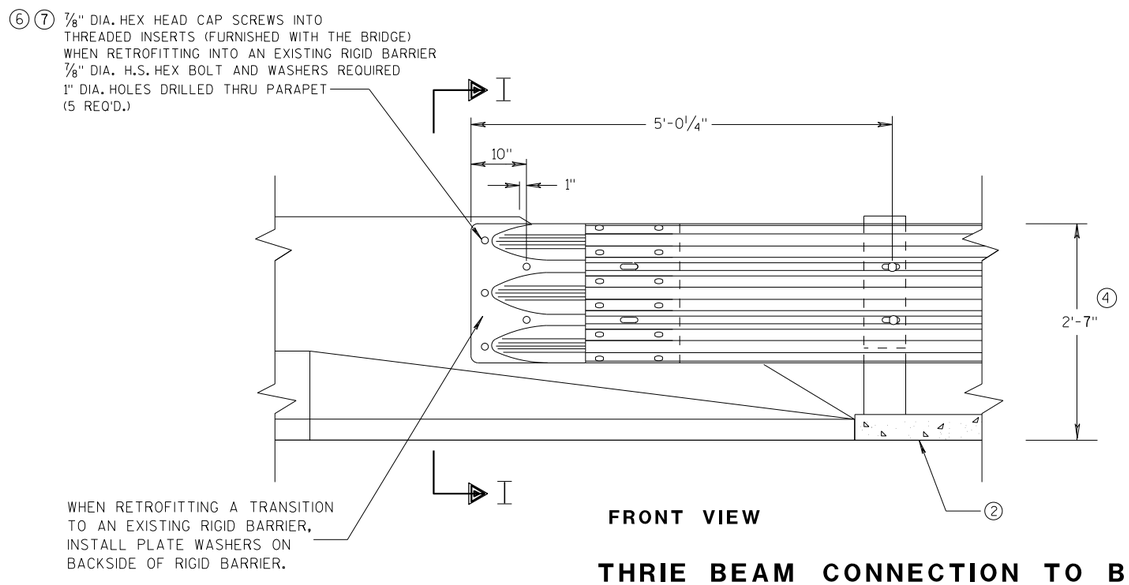
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

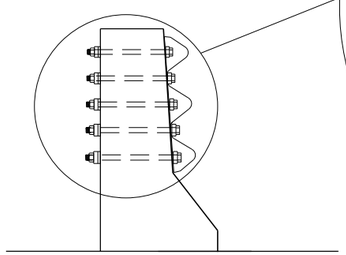
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



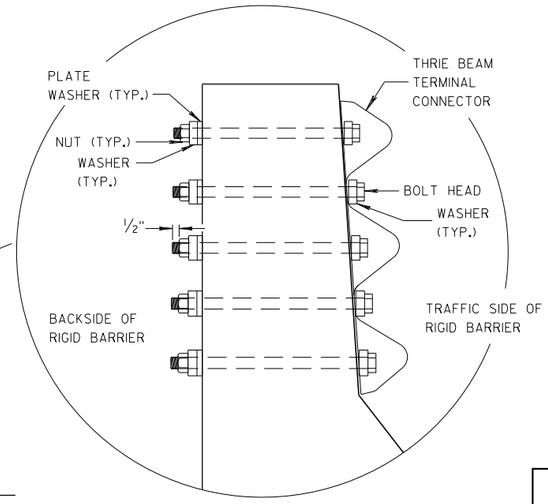
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

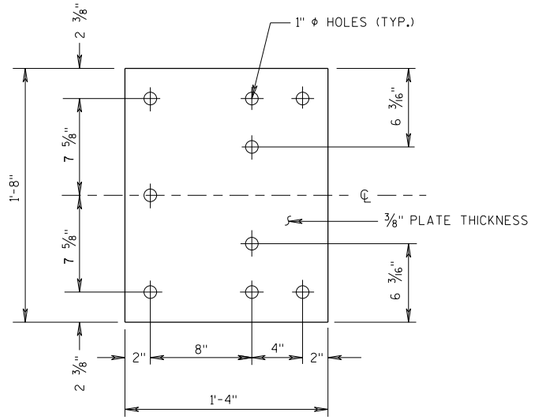
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

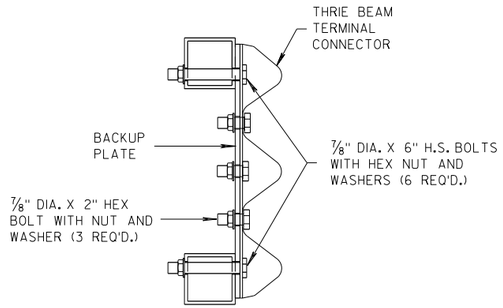
APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI
ENT
FHWA

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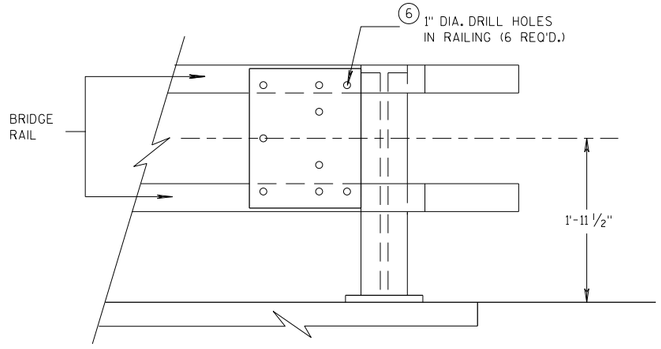
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL



SECTION J-J

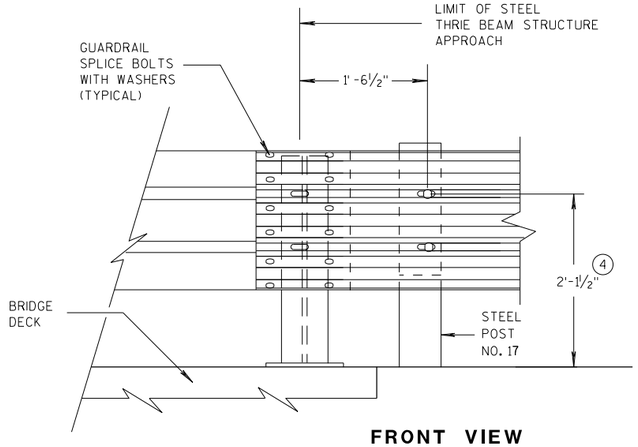


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

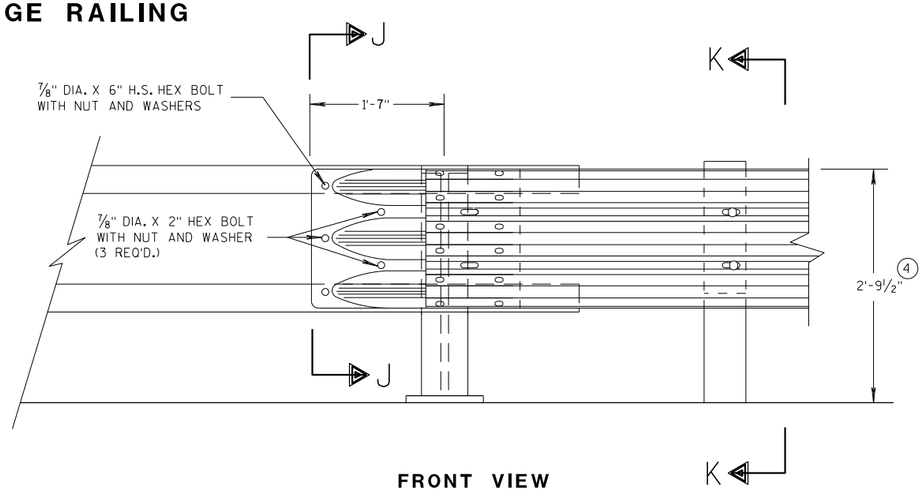
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

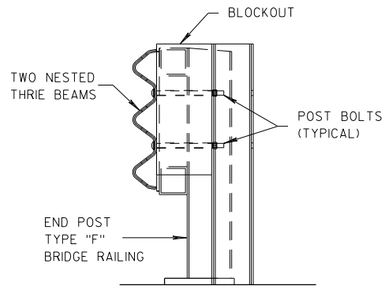


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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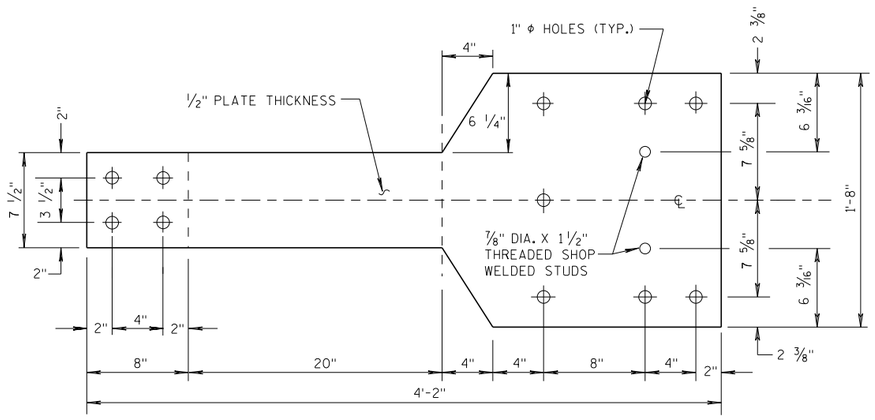
S.D.D. 14 B 45-5g

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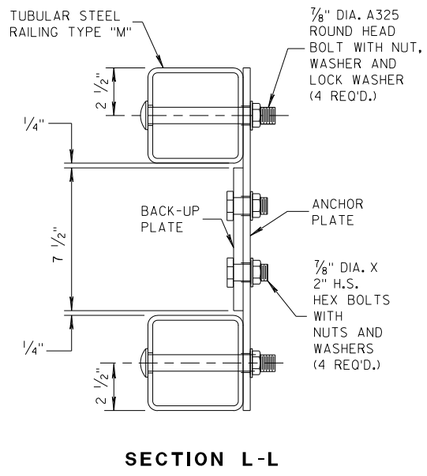
S.D.D. 14 B 45-5g

GENERAL NOTES

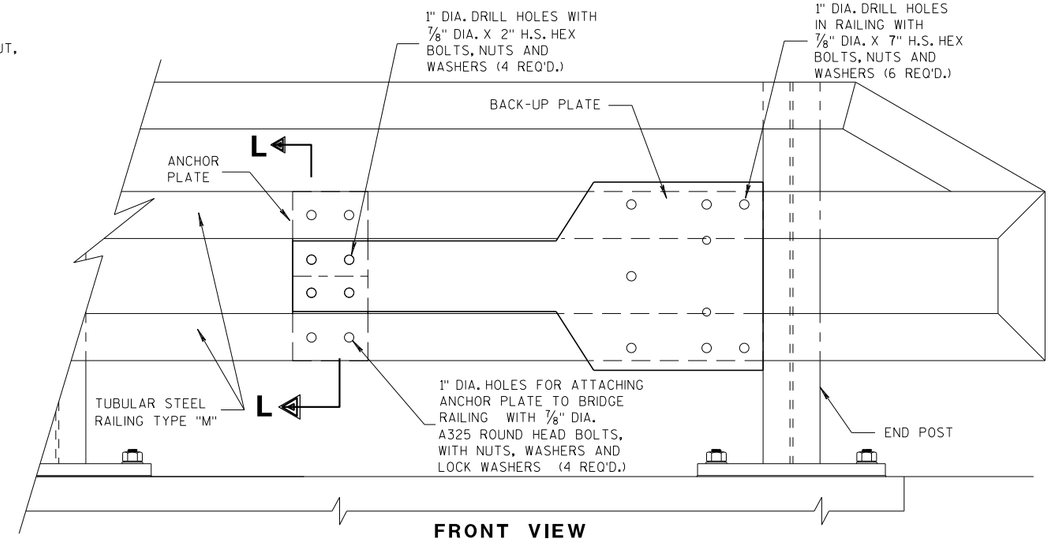
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



FRONT VIEW

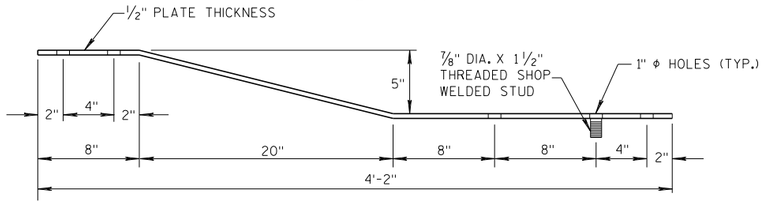


SECTION L-L



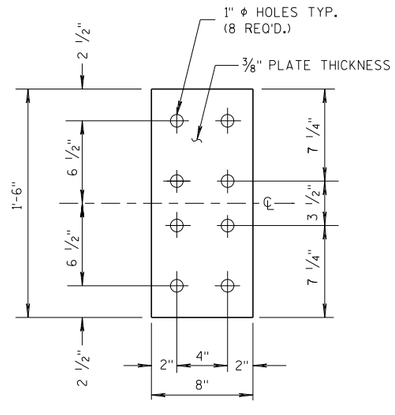
FRONT VIEW

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



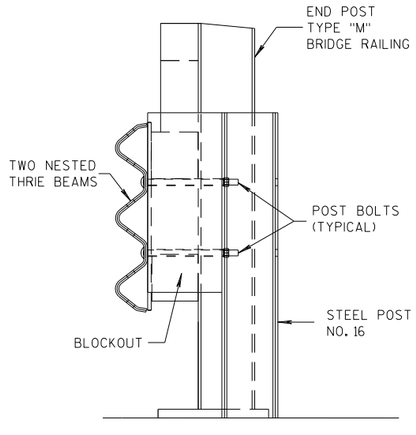
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

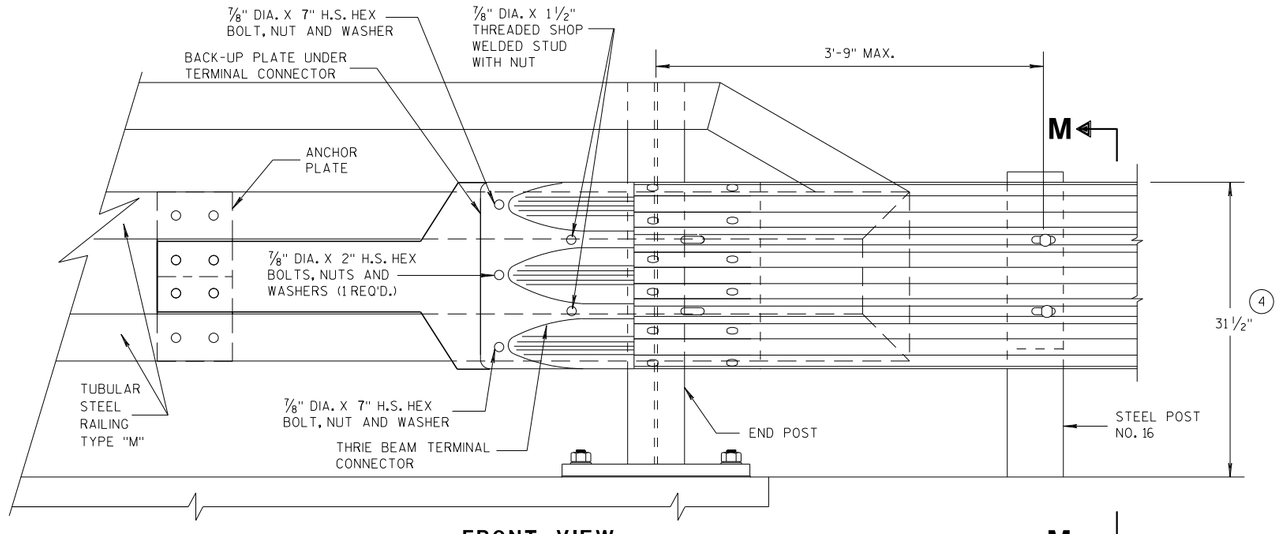


FRONT VIEW

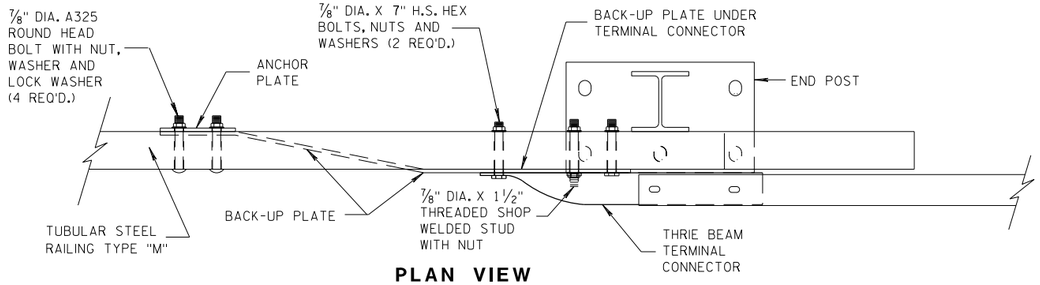
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

6

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

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.

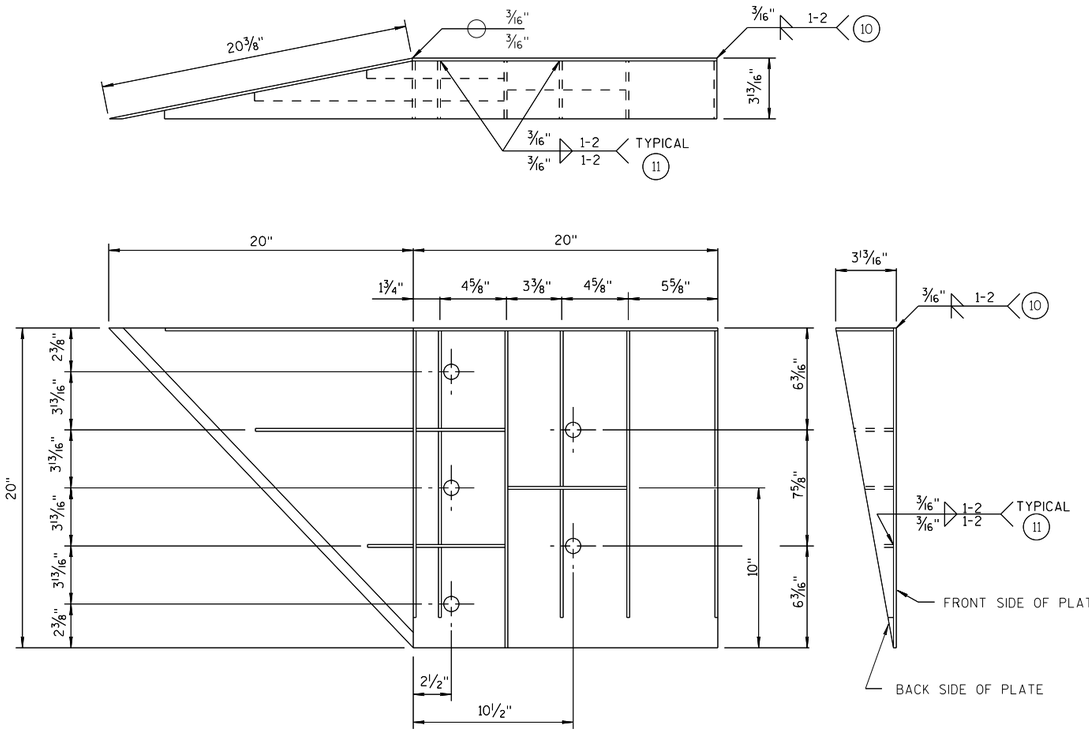
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) 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.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

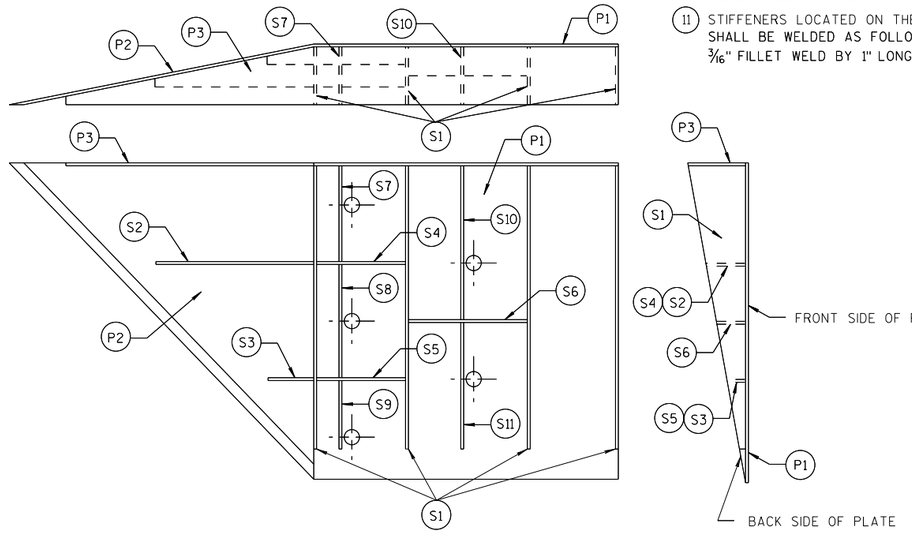


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF 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 9/16"	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 7/16"	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 5/32" 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 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

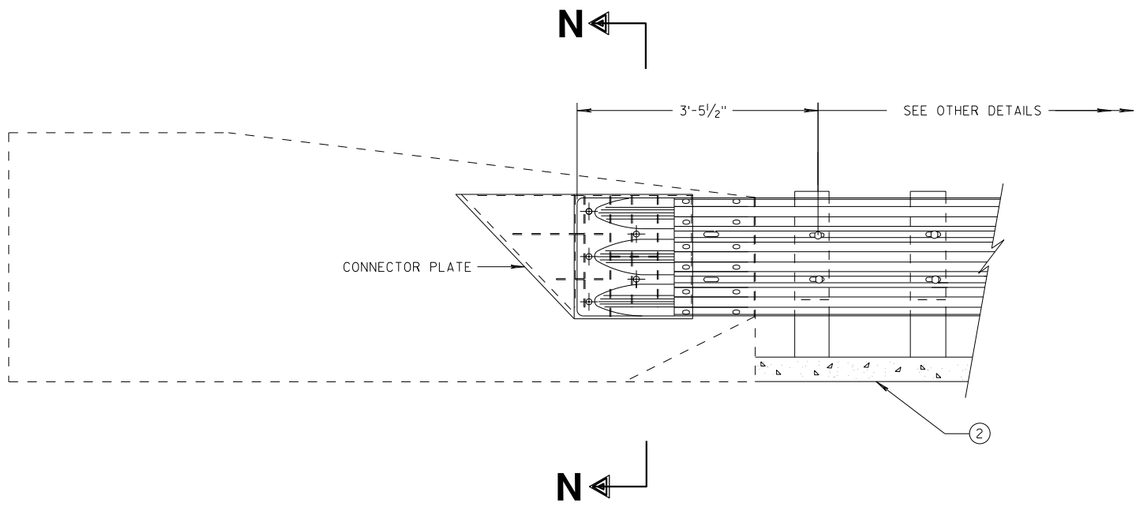
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018
DATE
FHWA

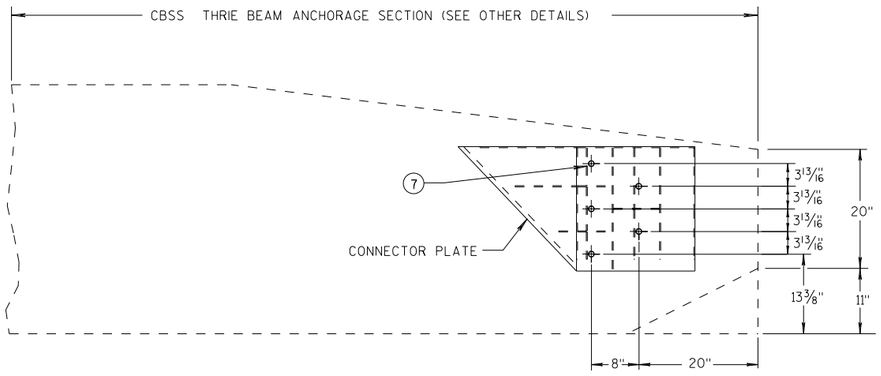
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



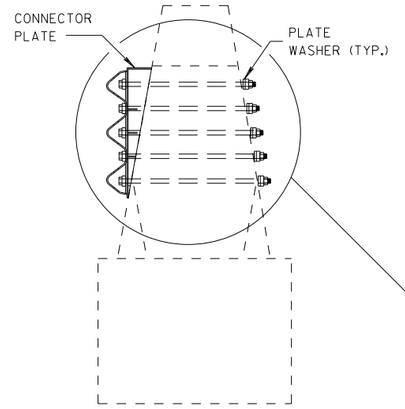
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

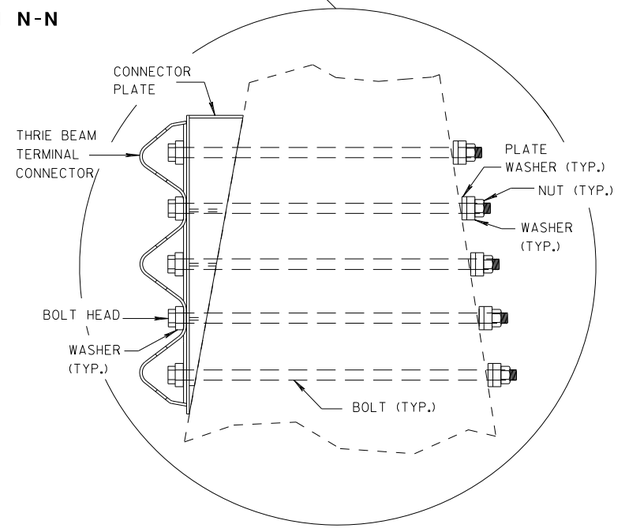
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) 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 5/32" 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

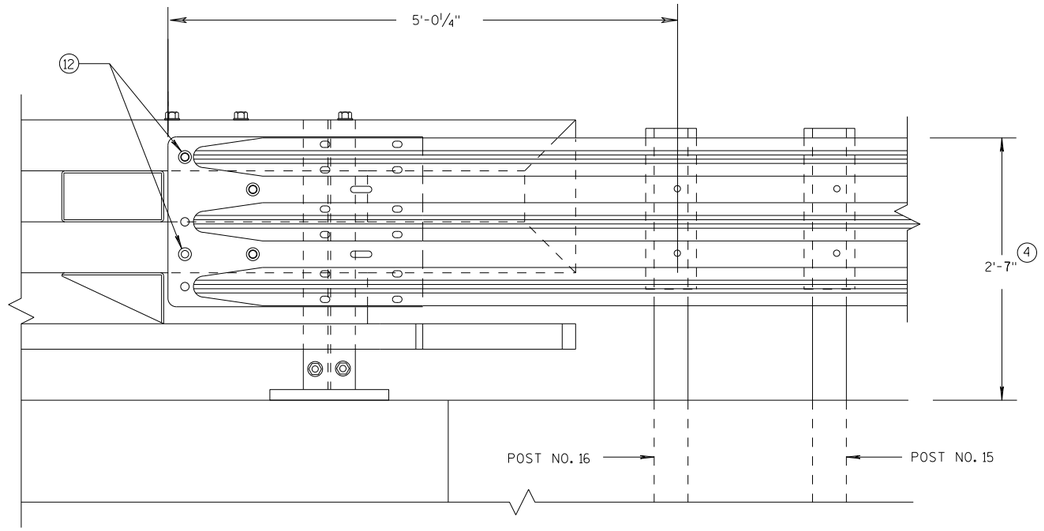
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DI UNIT SUPERVIS
FHWA

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

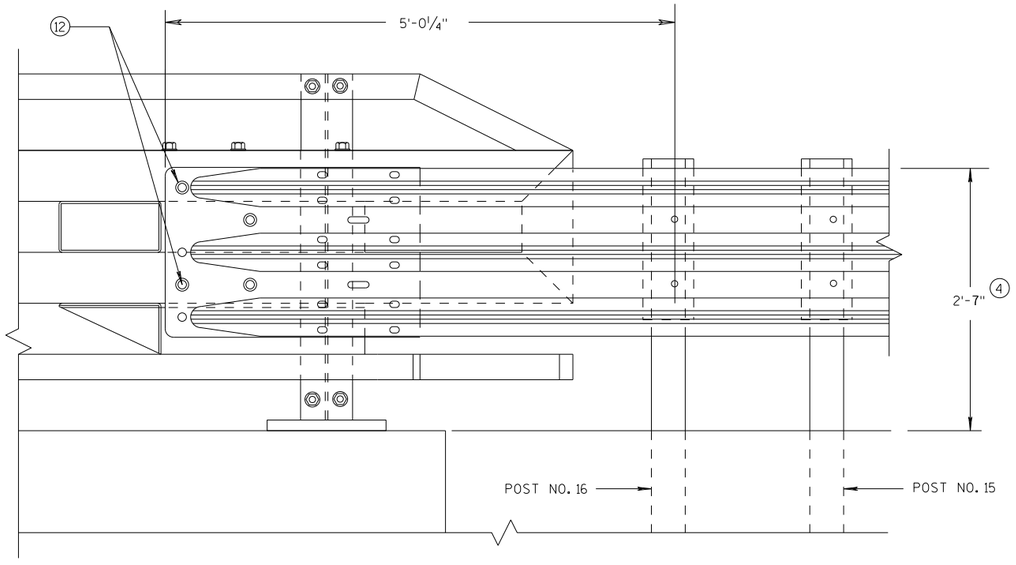
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S.D.D. 14 B 45-5j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

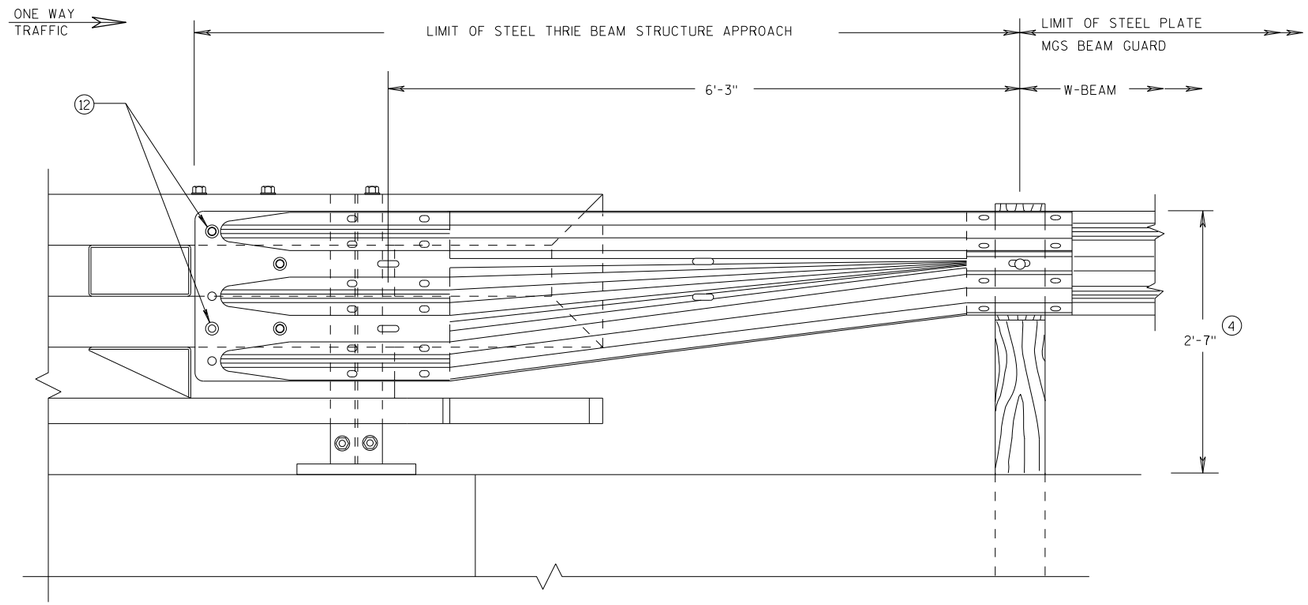
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S.D.D. 14 B 45-5k

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



FRONT VIEW

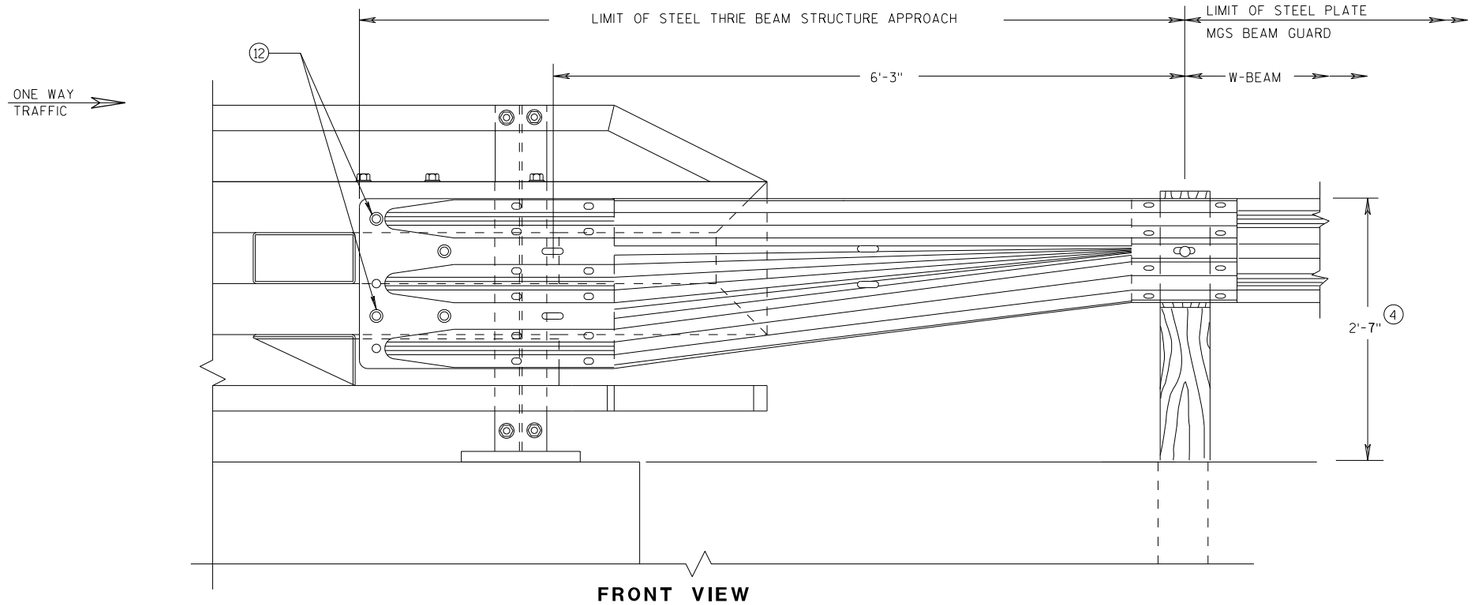
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

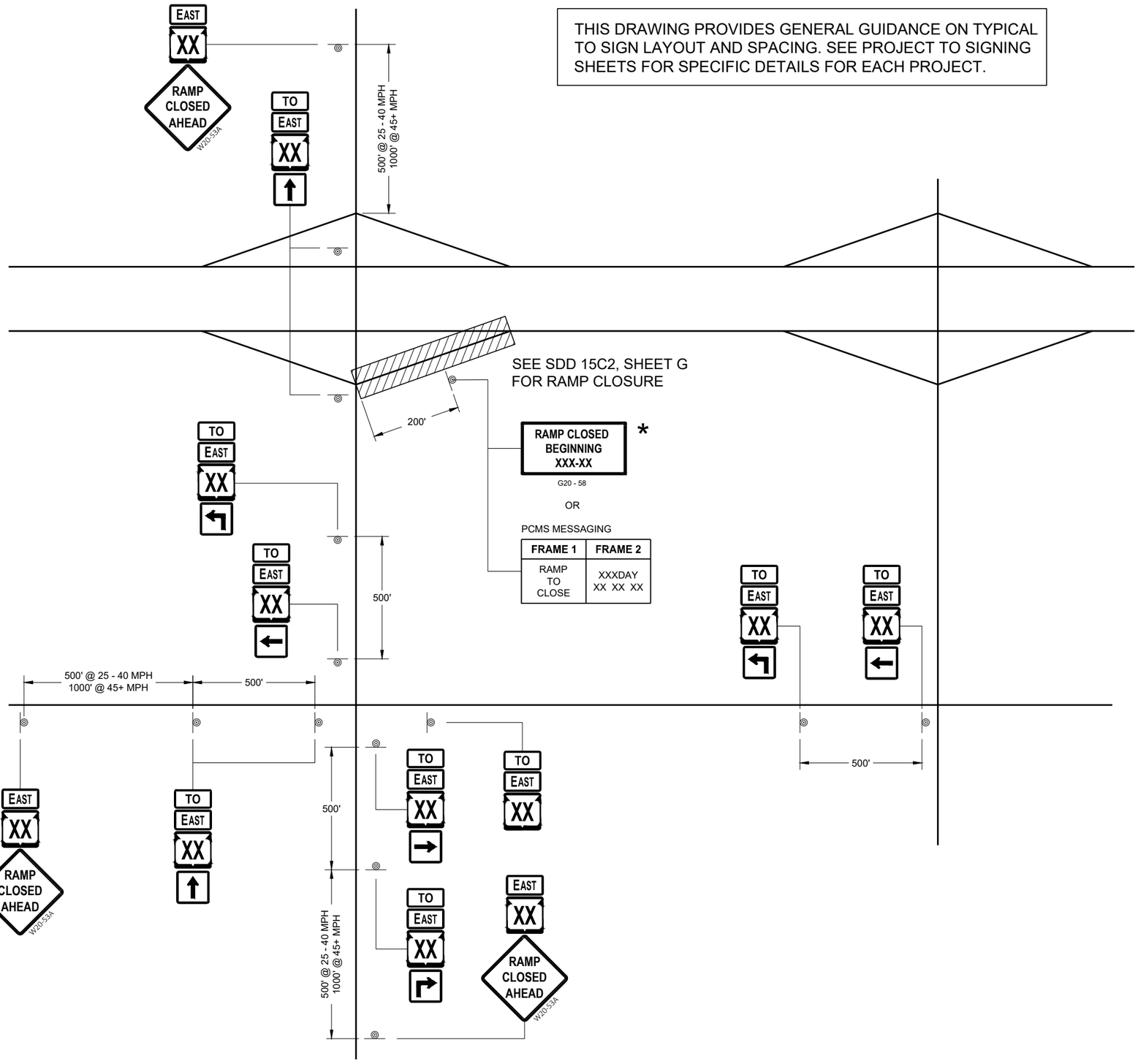
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S.D.D. 14 B 45-5L

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



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

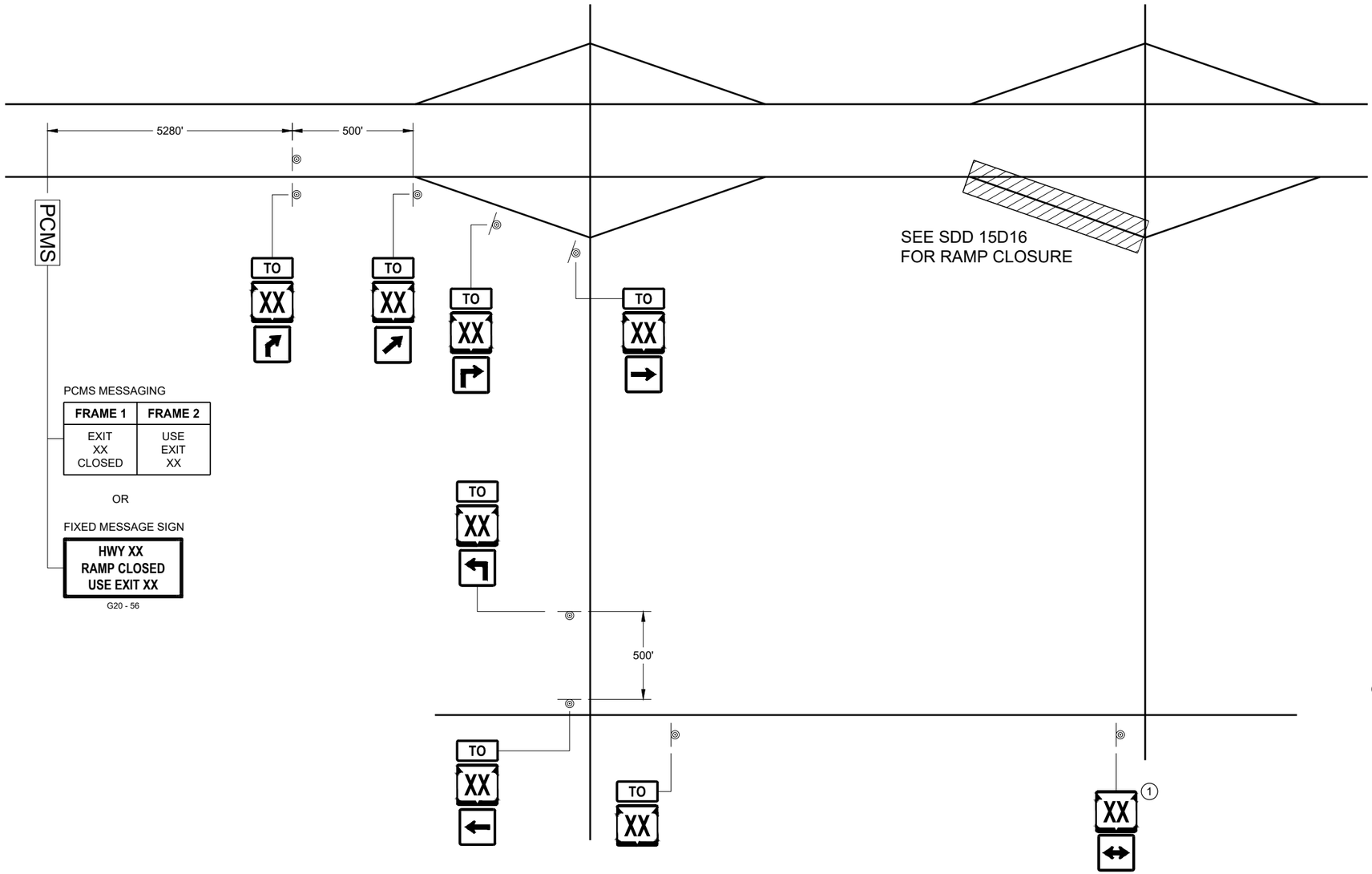
ON RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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SDD 15C02 - 09d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

G20 - 56

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

(1) ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

OFF RAMP
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

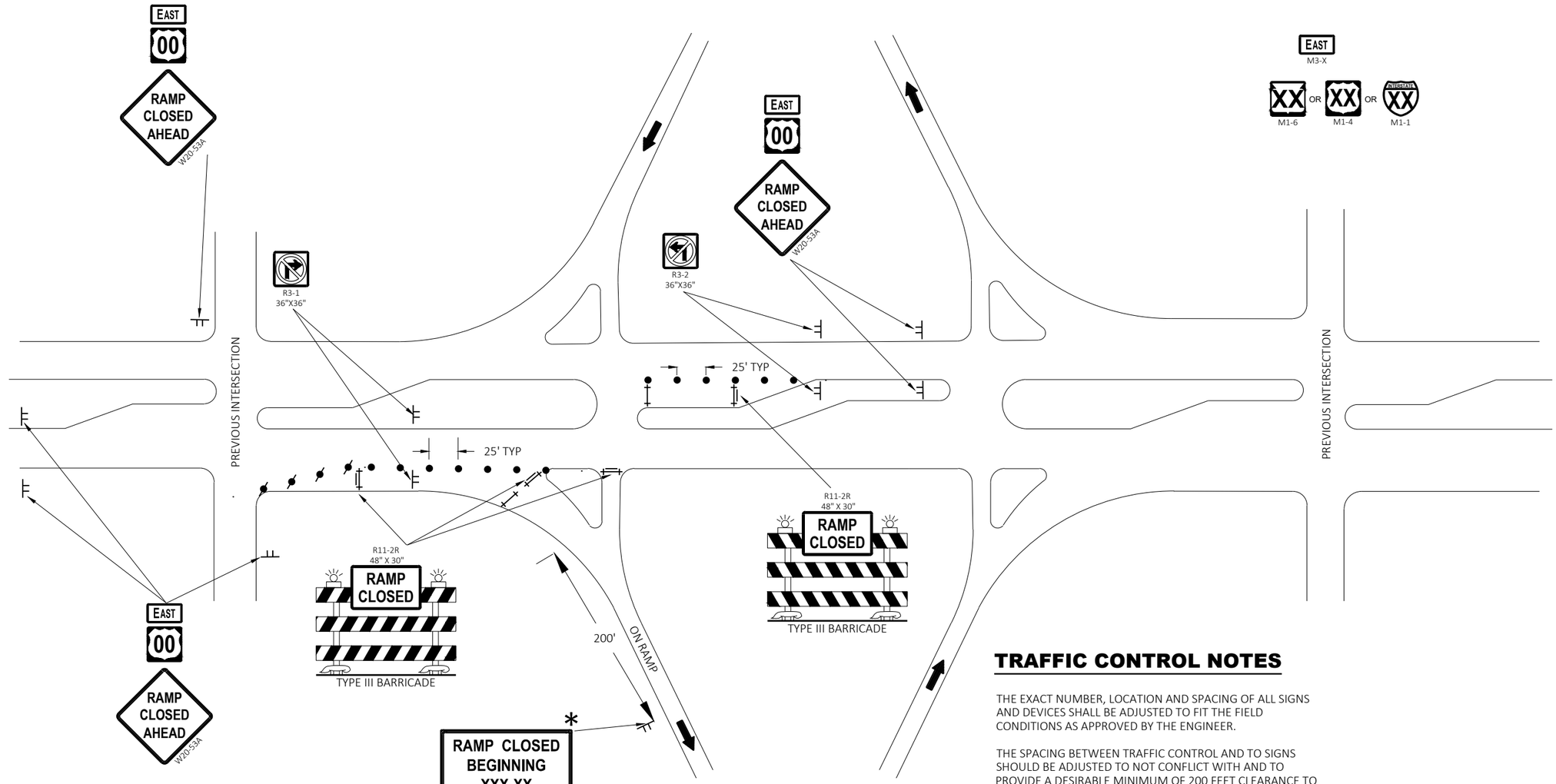
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SDD 15C02 - 09e

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SDD 15C02 - 09e



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

TRAFFIC CONTROL NOTES

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24"x24" (36" x18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-1, M1-4, AND M1-6 SHALL BE 24"x24" (36"x36" IF NEEDED TO MATCH EXISTING SIGNS)
- W20-53A SHALL BE 48"X48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

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SDD 15C02-09g

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SDD 15C02-09g

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

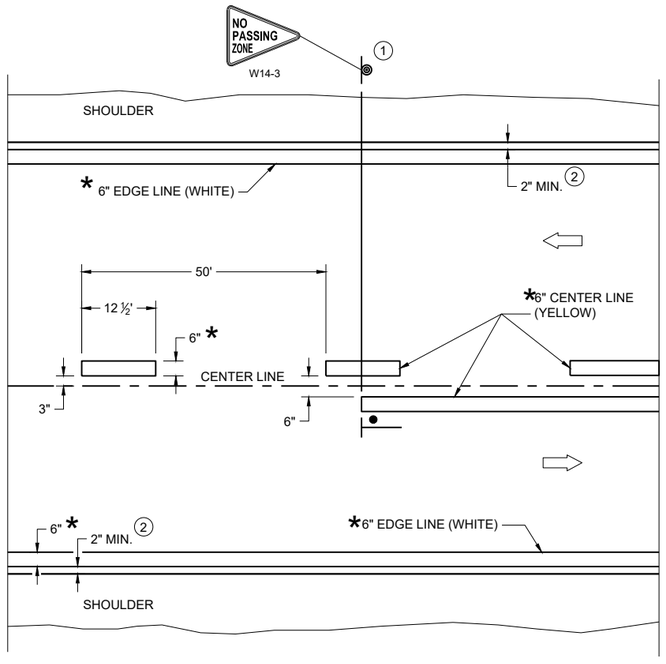
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

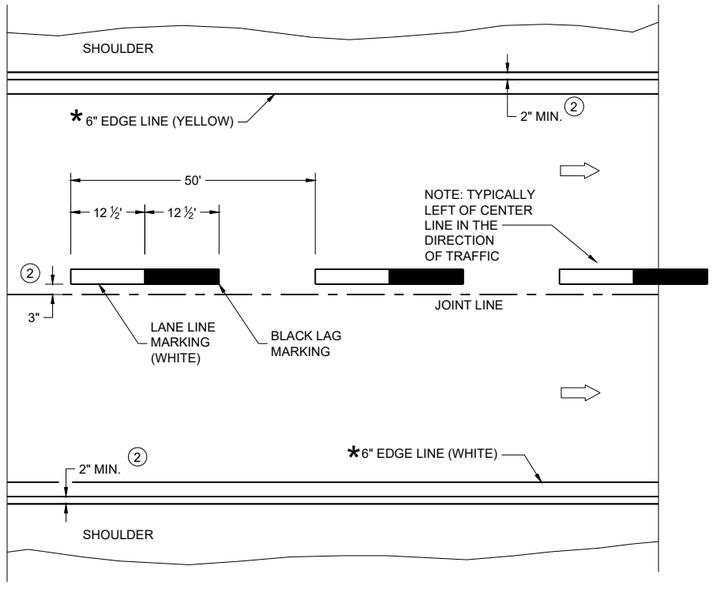
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

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PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

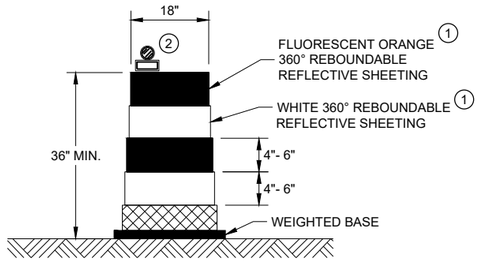
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

SDD 15C08-23a

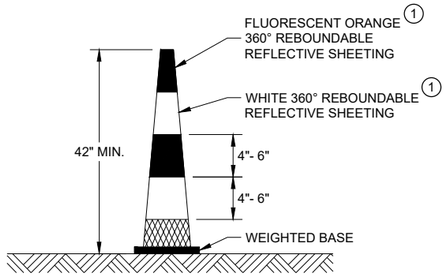
GENERAL NOTES

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



DRUM

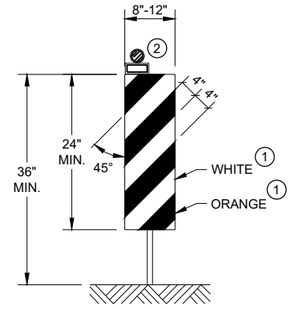
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

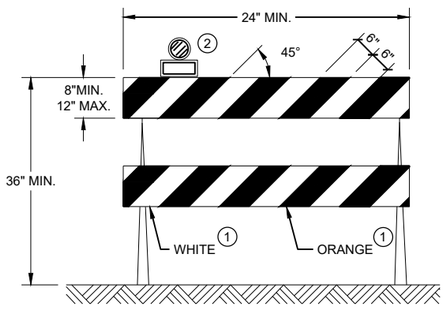
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



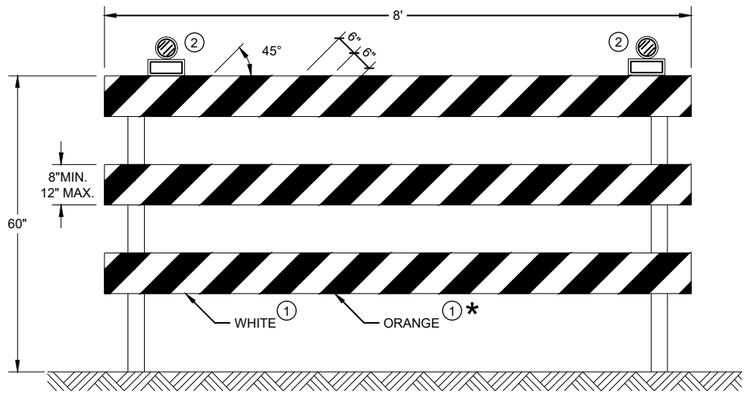
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

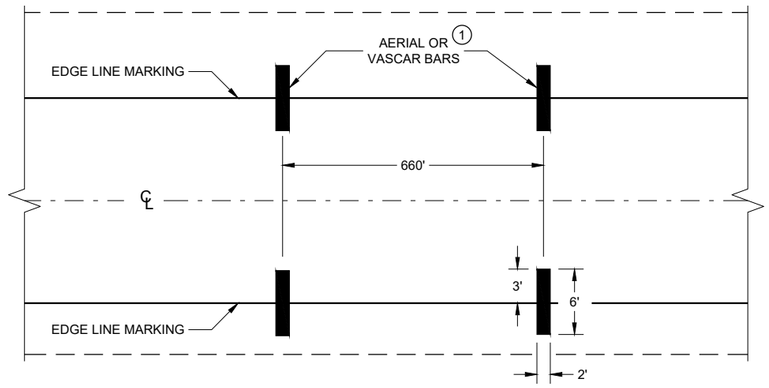
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SDD 15C11 - 10b

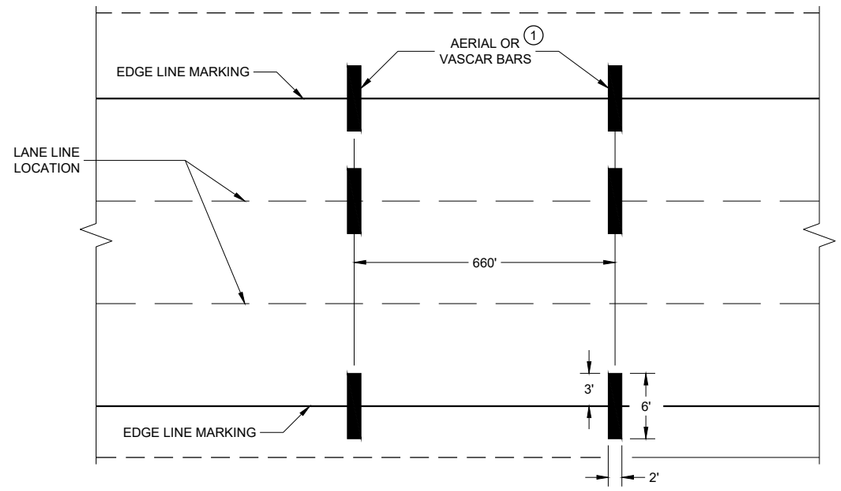
GENERAL NOTES

(1) PLACE TWO TO FIVE AERIAL OR VASCAR BARS AT 660 FOOT SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

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

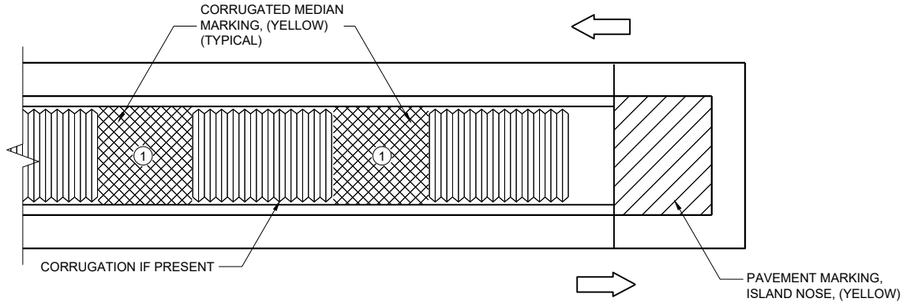
FHWA

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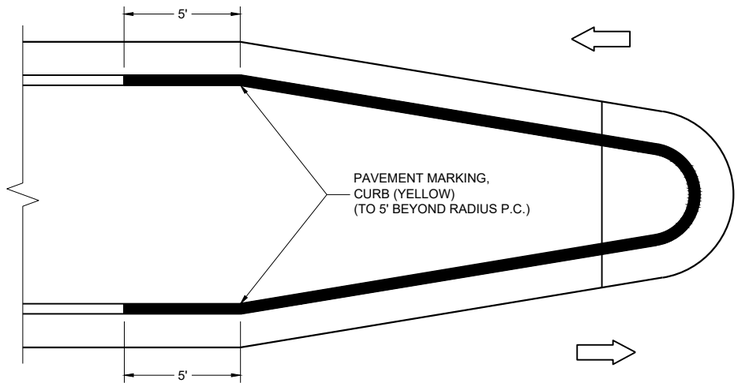
SDD 15C14 - 04

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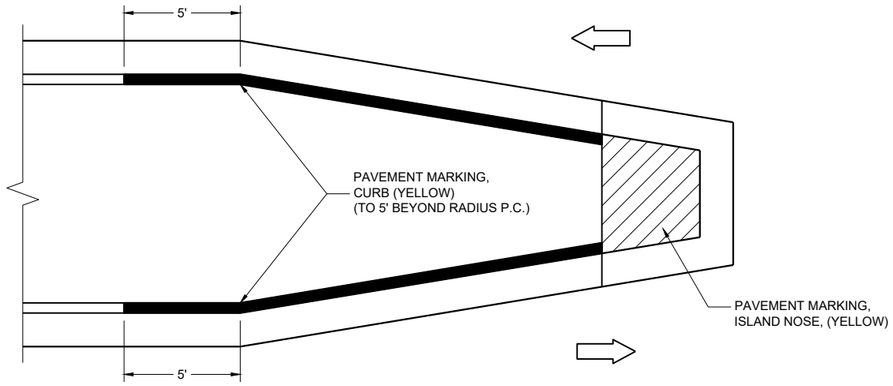
SDD 15C14 - 04



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

**TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS**

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

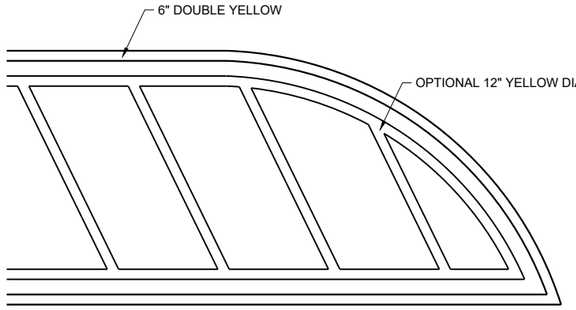
(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL



FLUSH MEDIAN ISLAND NOSE

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

LEGEND

V1 MARKING VEHICLE

V2 SHADOW VEHICLE

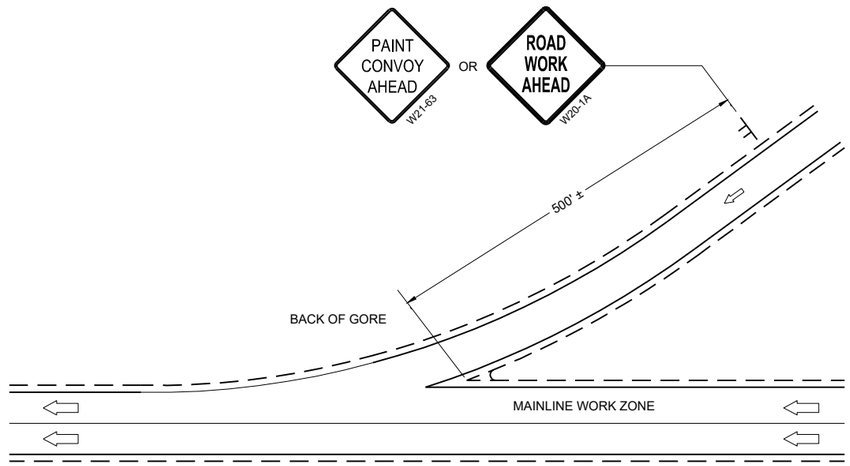
V3 TRAIL VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (MERGE)



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

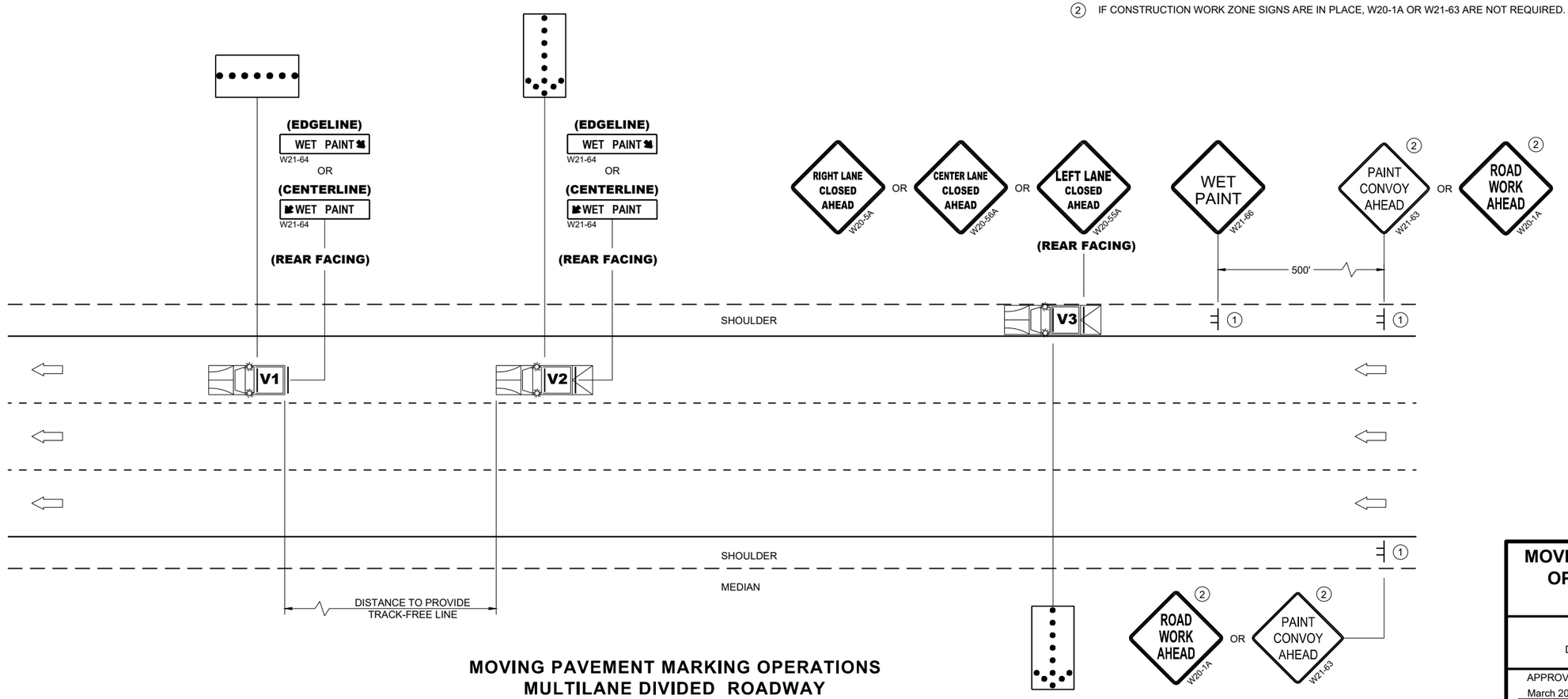
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

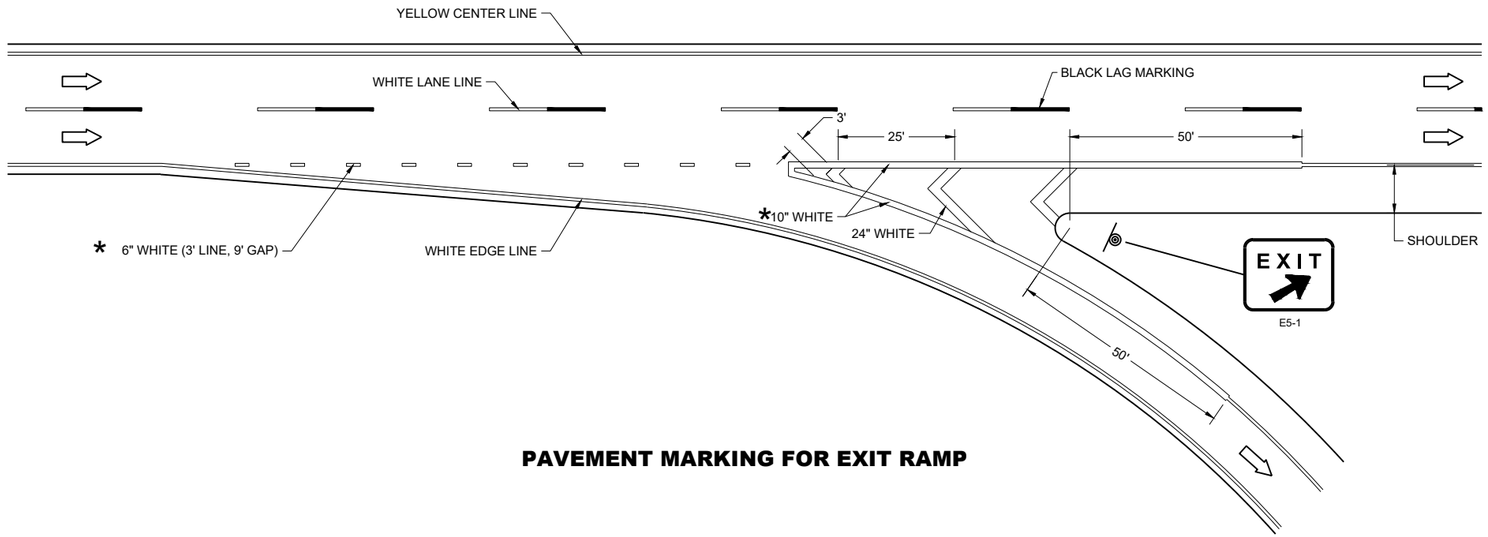
FHWA

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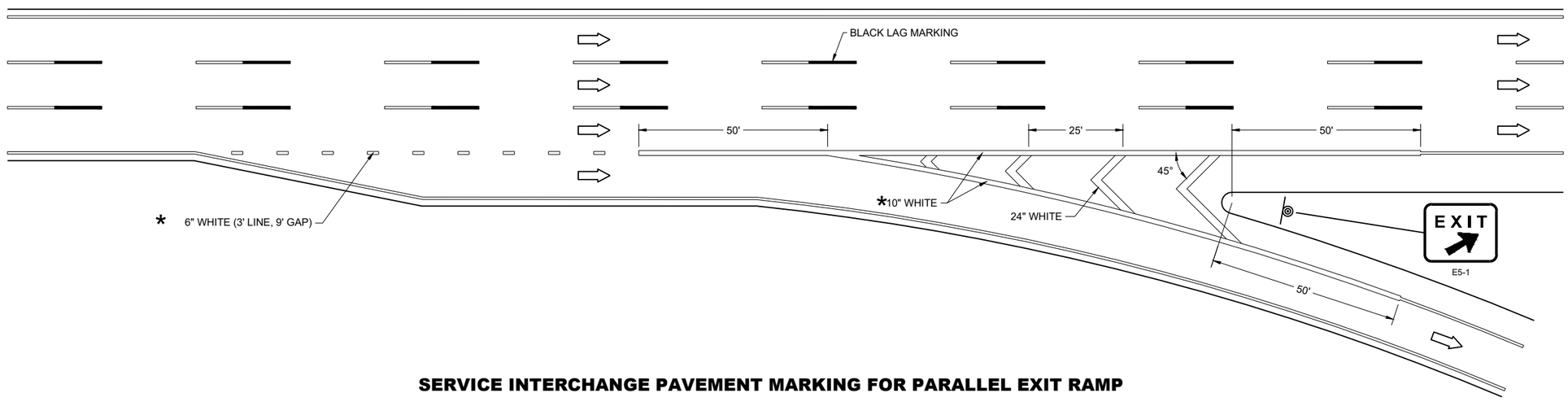
SDD 15C19-9c

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SDD 15C19-9c



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

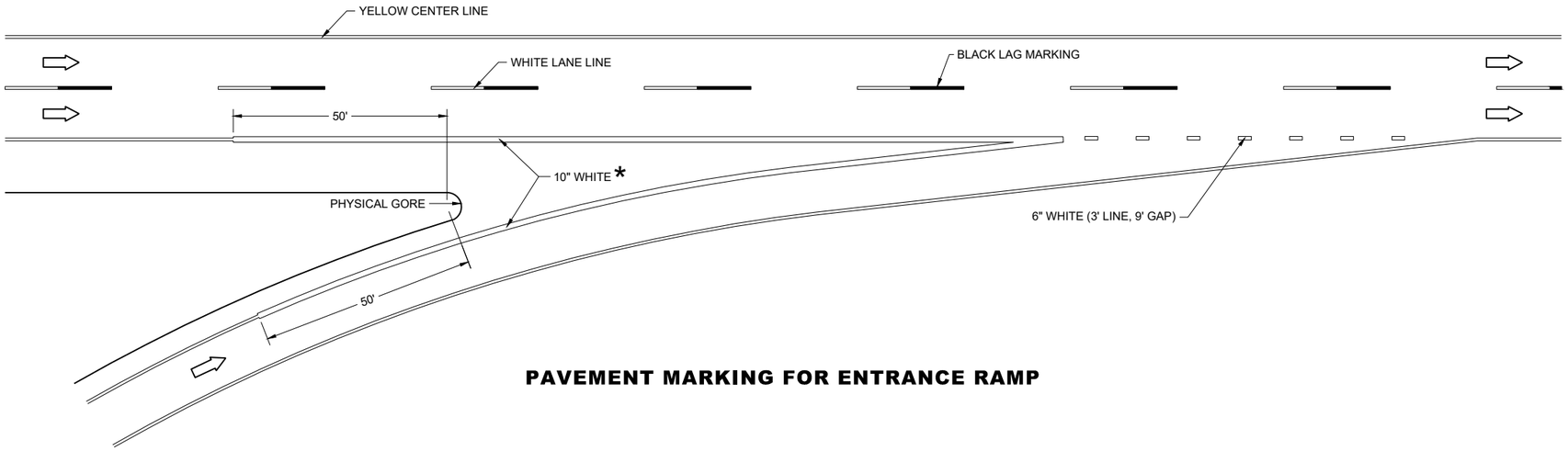
PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 15C31-08a

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

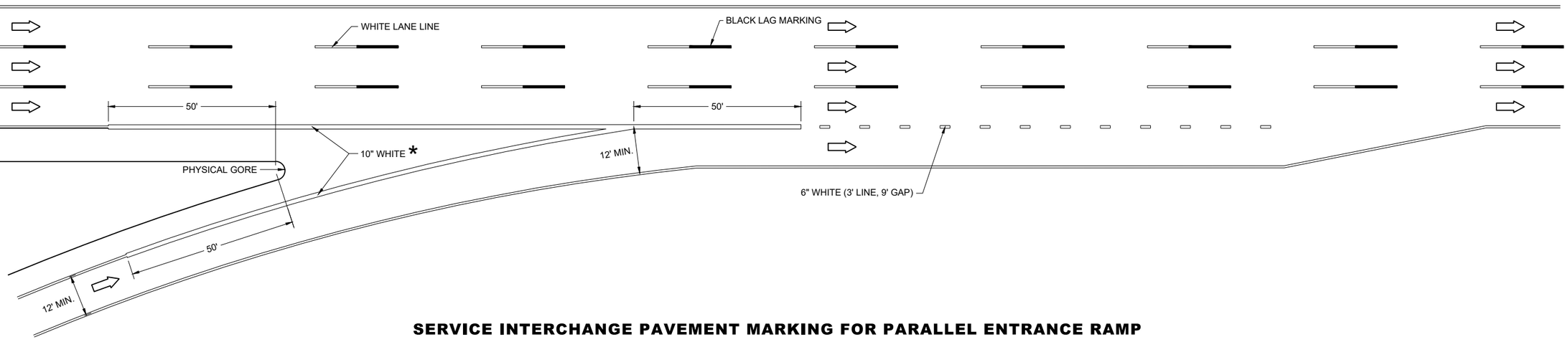


PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

6

6

SDD 15C31-08c

SDD 15C31-08c

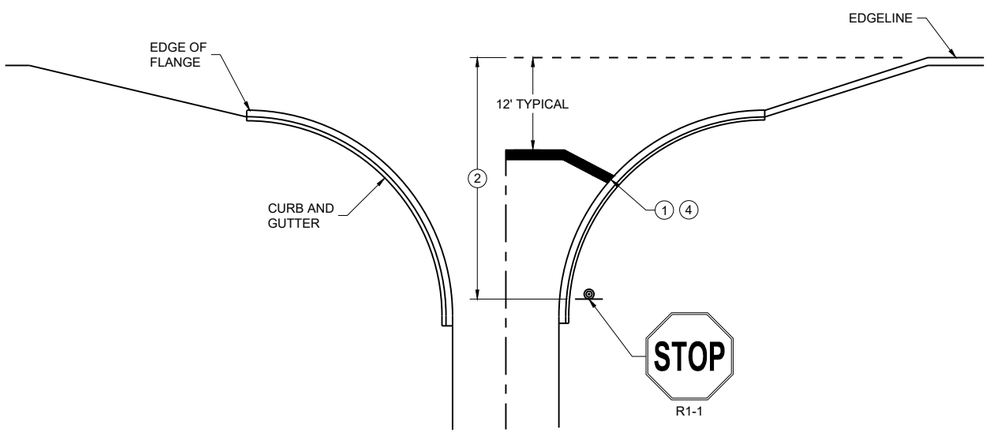
PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

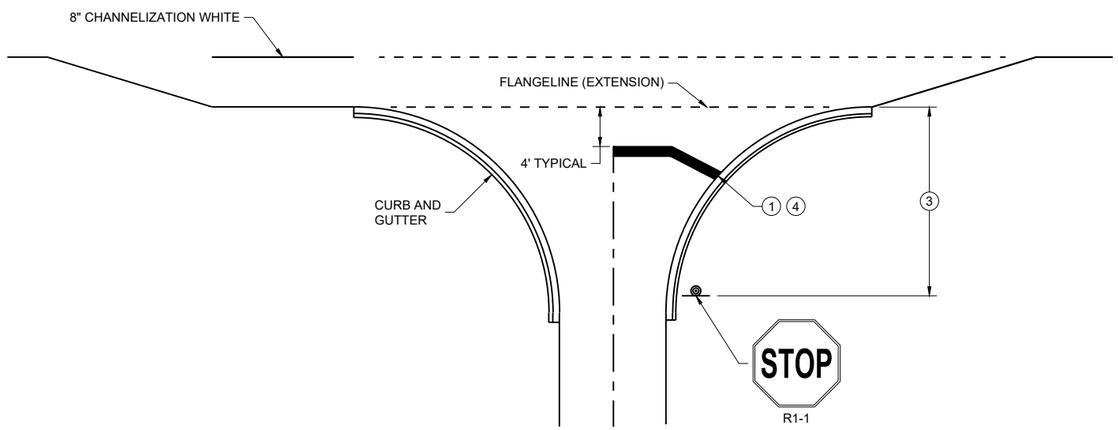
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

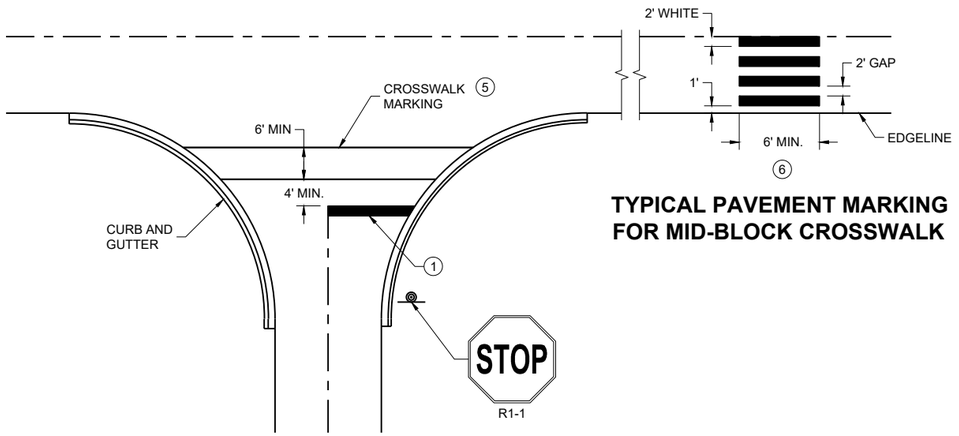
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

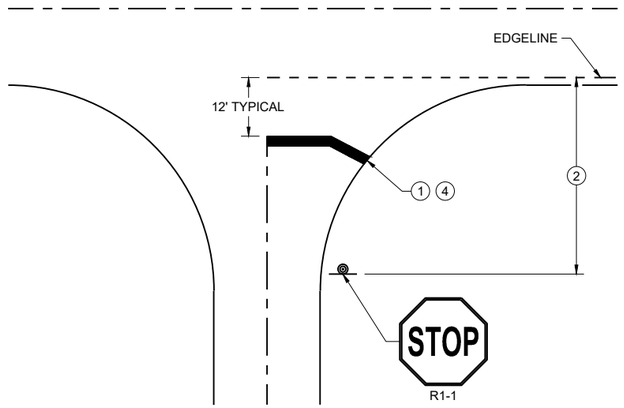


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK (5)

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

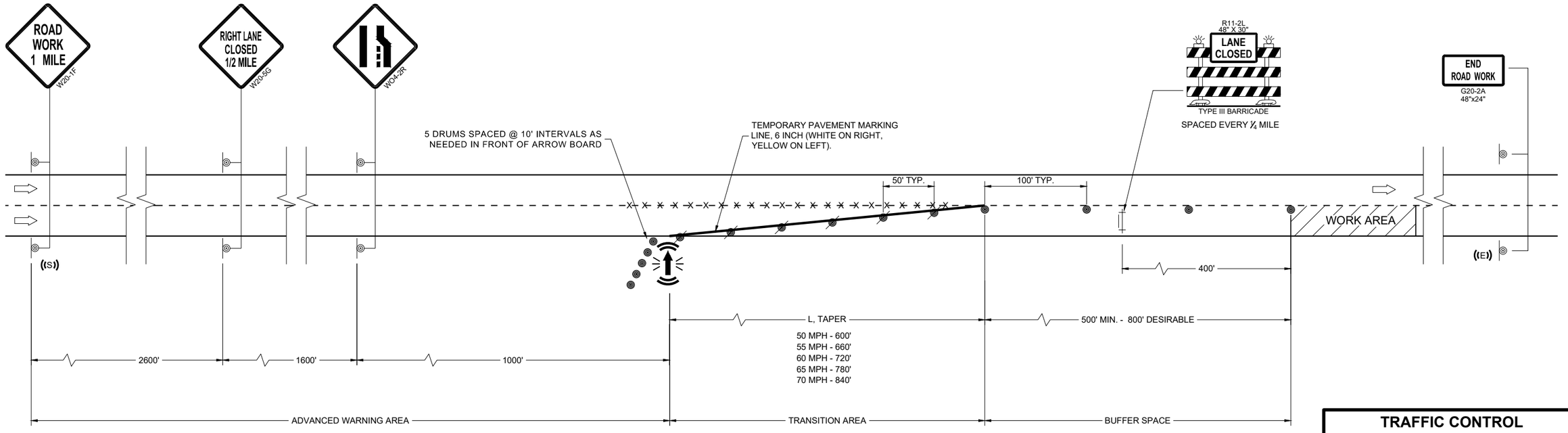
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6
SDD 15D12-14a

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

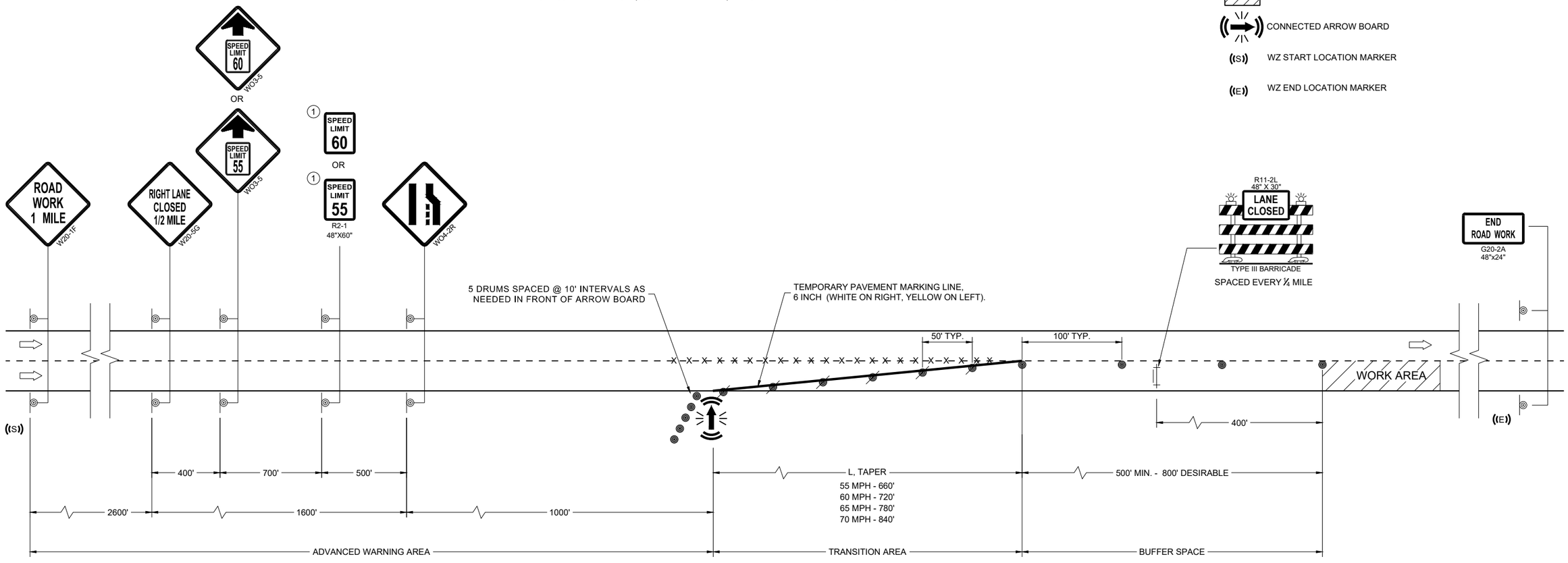
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

6
SDD 15D12-14b

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- (S) — PORTABLE TRAFFIC SENSOR (PTS)
- (S) — WZ START LOCATION MARKER
- (E) — WZ END LOCATION MARKER

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

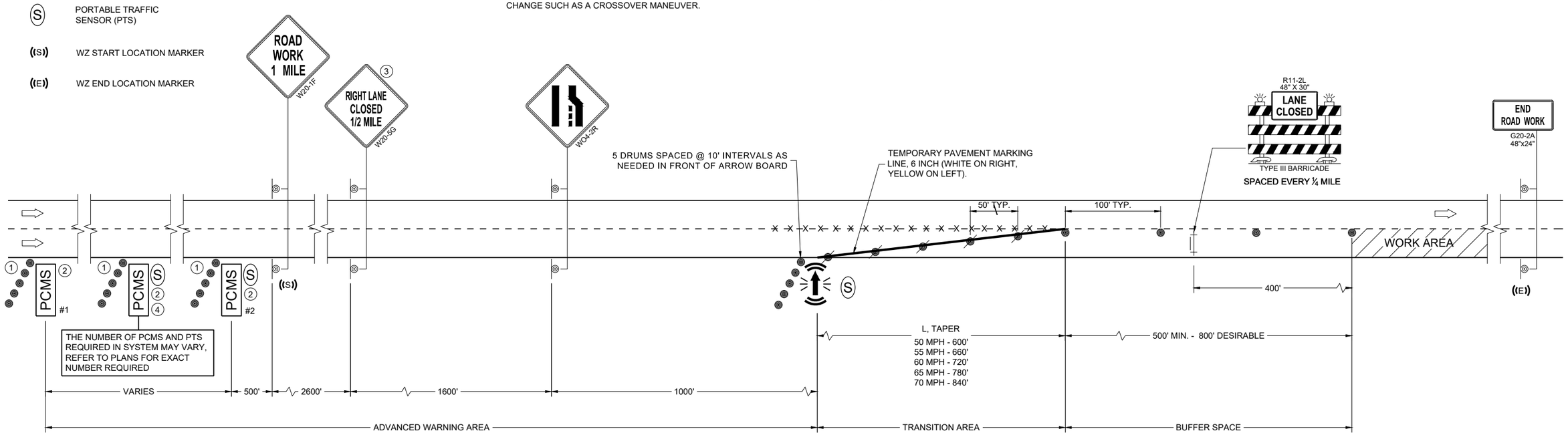
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON PCMS, ARROW BOARD OR OTHER TRAILER DEVICES.

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS ON BOTH SIDES OF THE ROADWAY.
3. IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
4. PLACE PCMS EVERY ONE MILE BETWEEN PCMS #1 AND PCMS #2, OR AS THE ENGINEER DIRECTS. THE NUMBER OF PCMS MAY BE MORE THAN SHOWN ON THIS DETAIL.
5. PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR ARROW MERGE MODE.



⑤ PCMS MESSAGING

SPEEDS 0 MPH TO 19 MPH		SPEEDS 20 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER
FRAME 1	FRAME 2	FRAME 1	FRAME 2	
STOPPED TRAFFIC AHEAD	EXPECT DELAYS	SLOW TRAFFIC AHEAD	PREPARE TO STOP	(FLASHING CAUTION MODE)

TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Erin Schwark — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6 SDD 15D12-14e

6 SDD 15D12-14e

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

IF THE SPEED LIMIT WILL CHANGE BASED ON THE PRESENCE OF WORKERS, USE THE TAPER LENGTH THAT MATCHES THE HIGHER OF THE TWO SPEEDS FOR A CONTINUOUS LANE CLOSURE.

(1) EXISTING POST MOUNTED SPEED LIMIT SIGNS SHOULD BE COVERED OR REMOVED.

(2) PLACE DSLT IN ADVANCE WARNING AREA AND THROUGHOUT PROJECT LIMITS. IF THE LANE CLOSURE MOVES DOWNSTREAM, LEAVE DSLT IN PLACE.

(3) AT EXISTING POST MOUNTED SPEED LIMIT SIGN AFTER THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. IF THERE IS NOT AN EXISTING SIGN, PLACE 1,500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP

(4) IF WORK AREA STARTS LESS THAN 1,000 FEET FROM END OF LANE CLOSURE TAPER, OMIT DIGITAL SPEED LIMIT TRAILER AT THAT LOCATION.

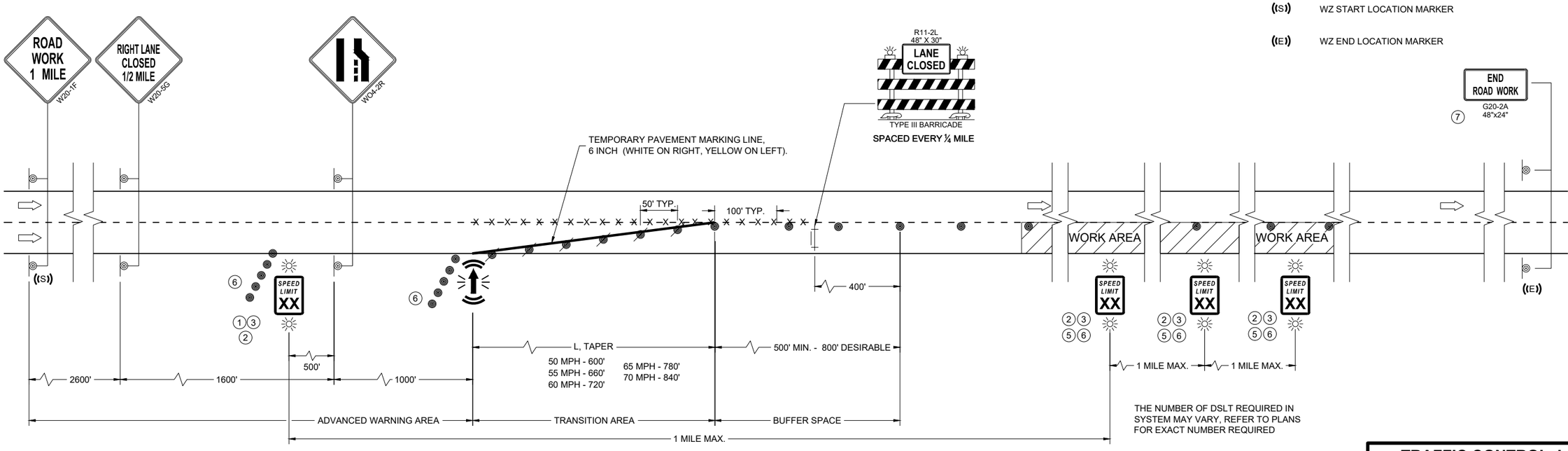
(5) PLACE A DIGITAL SPEED LIMIT TRAILER A MINIMUM OF EVERY ONE MILE. MODIFY PLACEMENT AS DIRECTED BY ENGINEER WHEN DIGITAL SPEED LIMIT TRAILER IS LOCATED IN CLOSE PROXIMITY TO AN ACCELERATION LANE OF AN ENTRANCE RAMP.

(6) 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.

(7) INCLUDE NON-DIGITAL R2-1 RESUME SPEED LIMIT SIGNS 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END ROAD WORK" SIGN.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- DIGITAL SPEED LIMIT TRAILER (DSLT)
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER



TRAFFIC CONTROL, LANE CLOSURE, DIGITAL SPEED REDUCTION SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6 SDD 15D12-14g

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

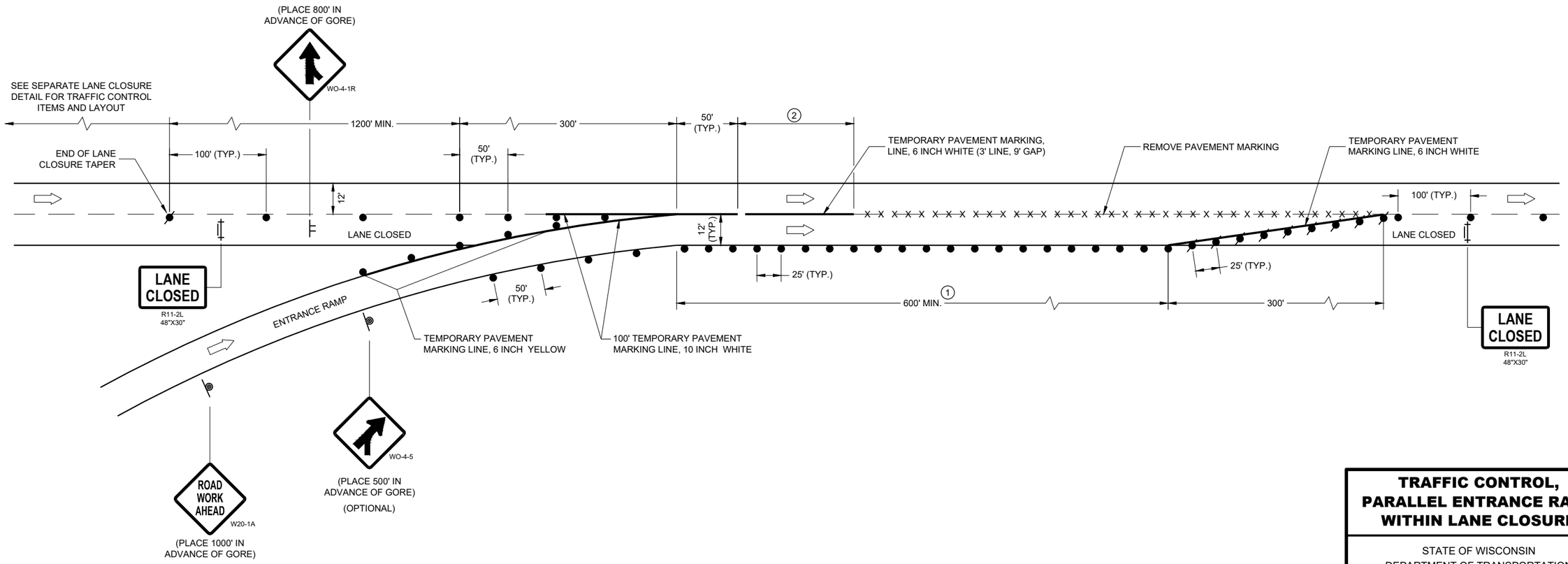
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REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 15D15-07a

6

SDD 15D15-07a

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

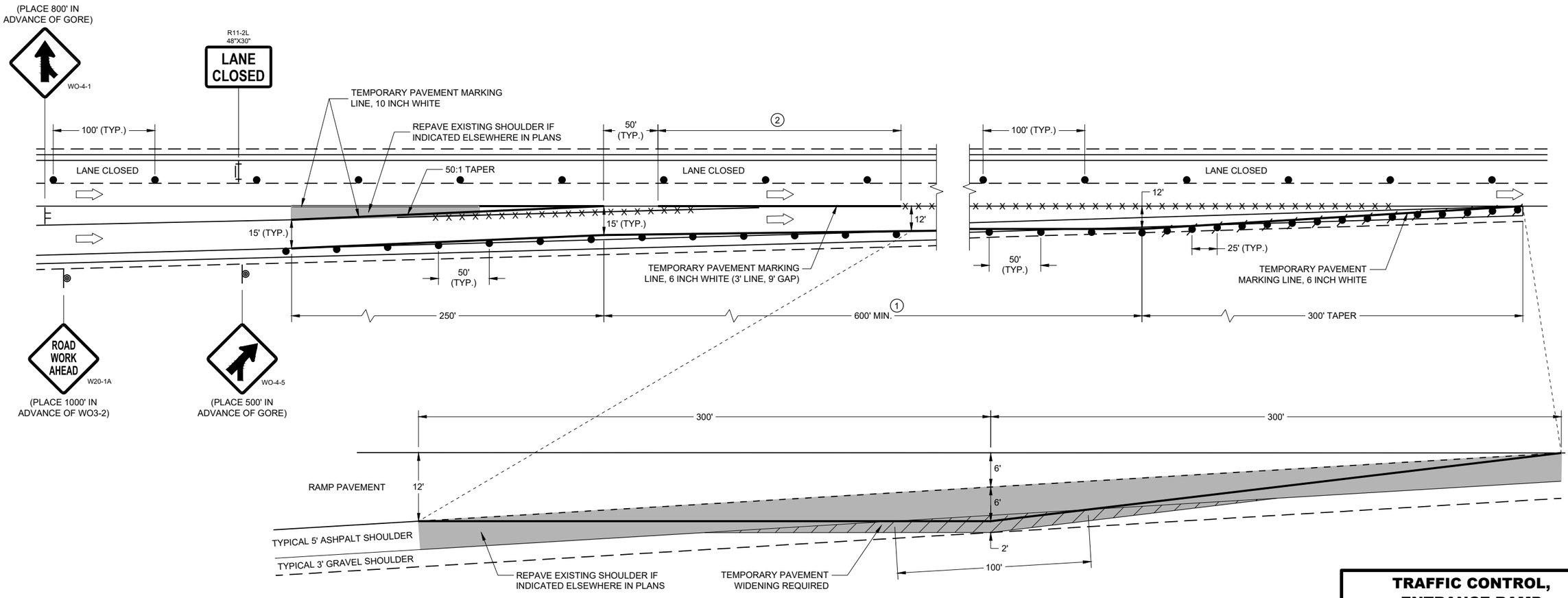
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REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 15D15-07b

6

SDD 15D15-07b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

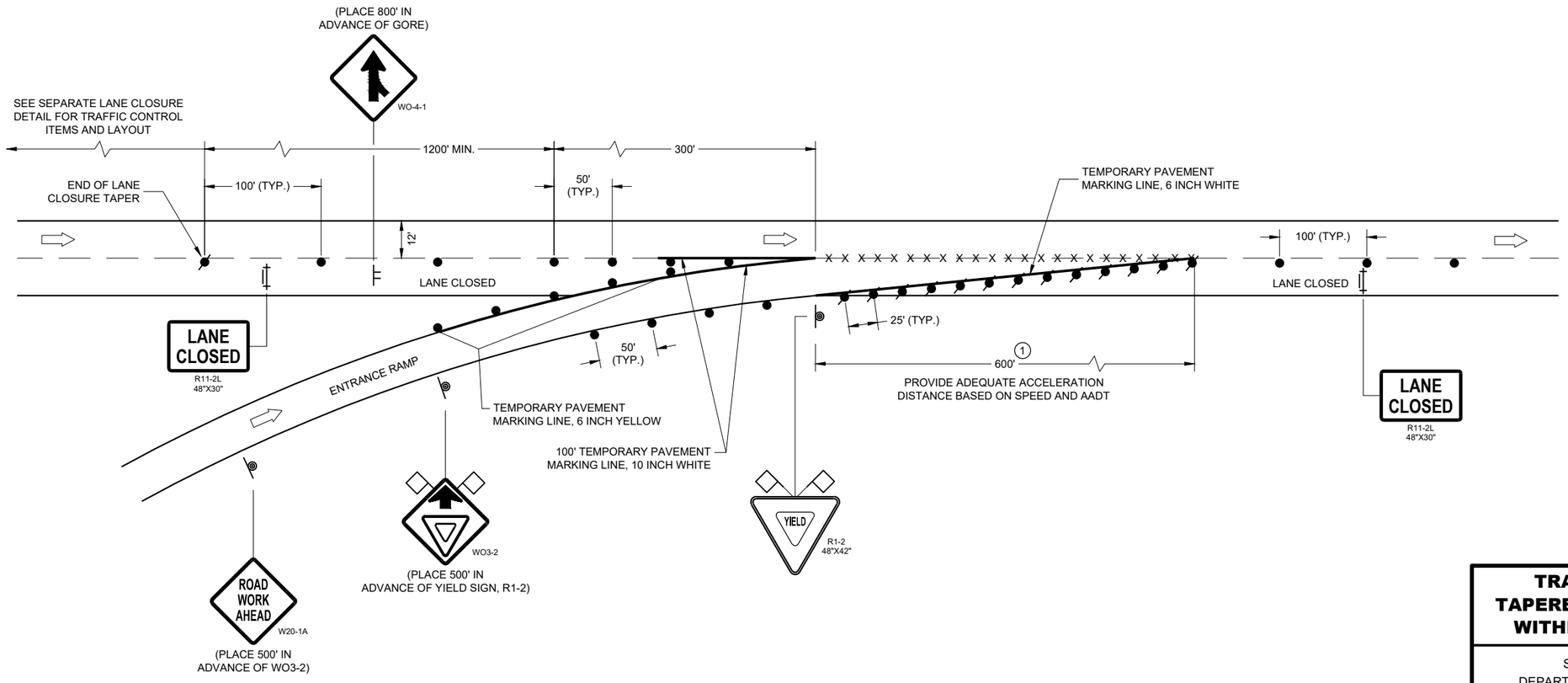
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
SDD 15D15-07c

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

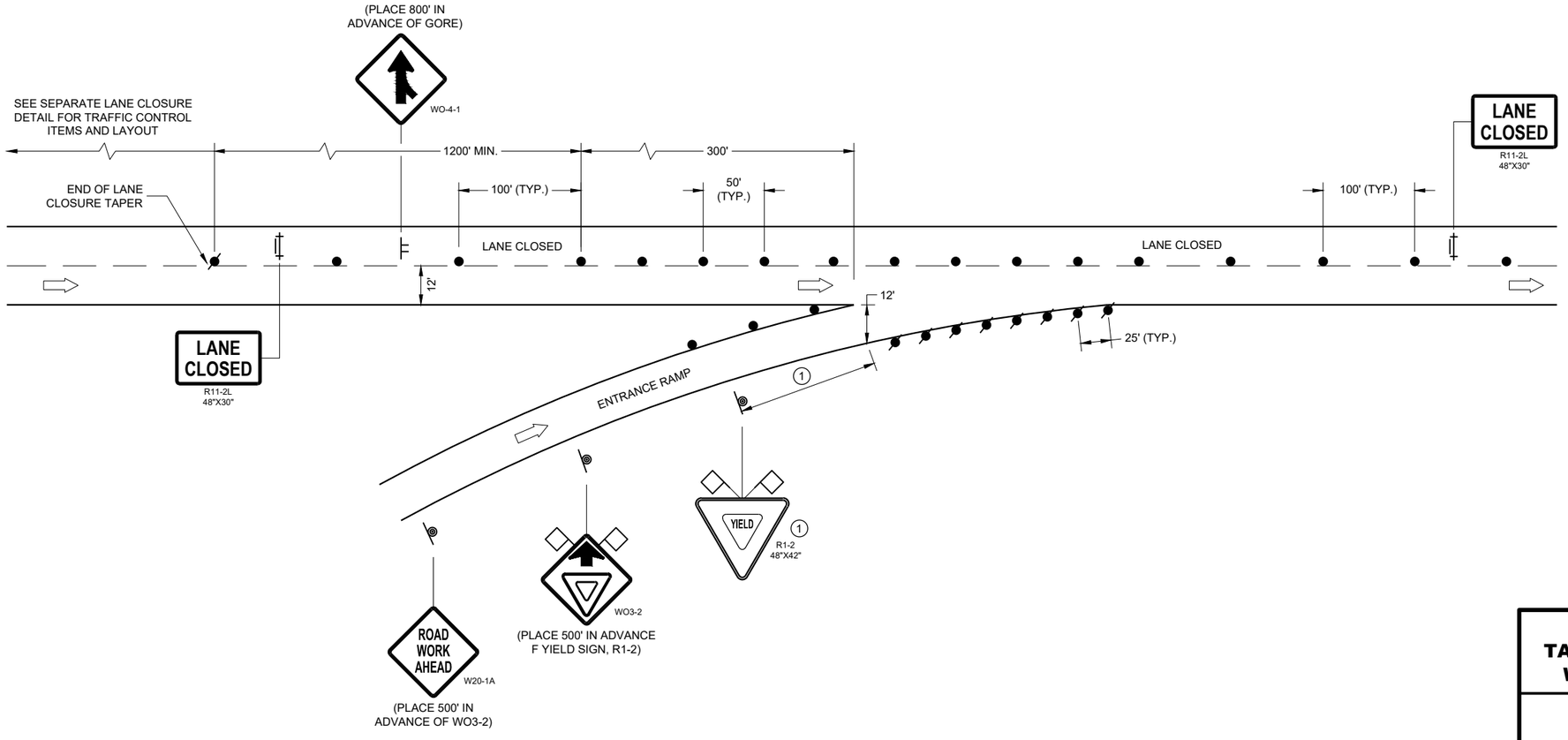
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IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 15D15-07d

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SDD 15D15-07d

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

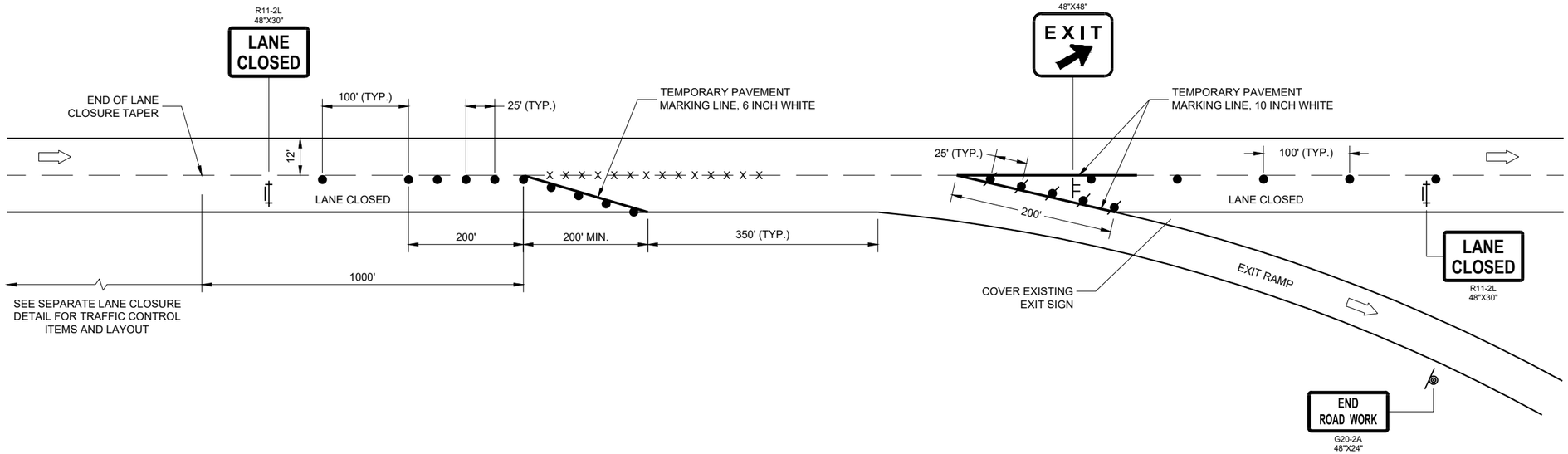
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IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.



TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

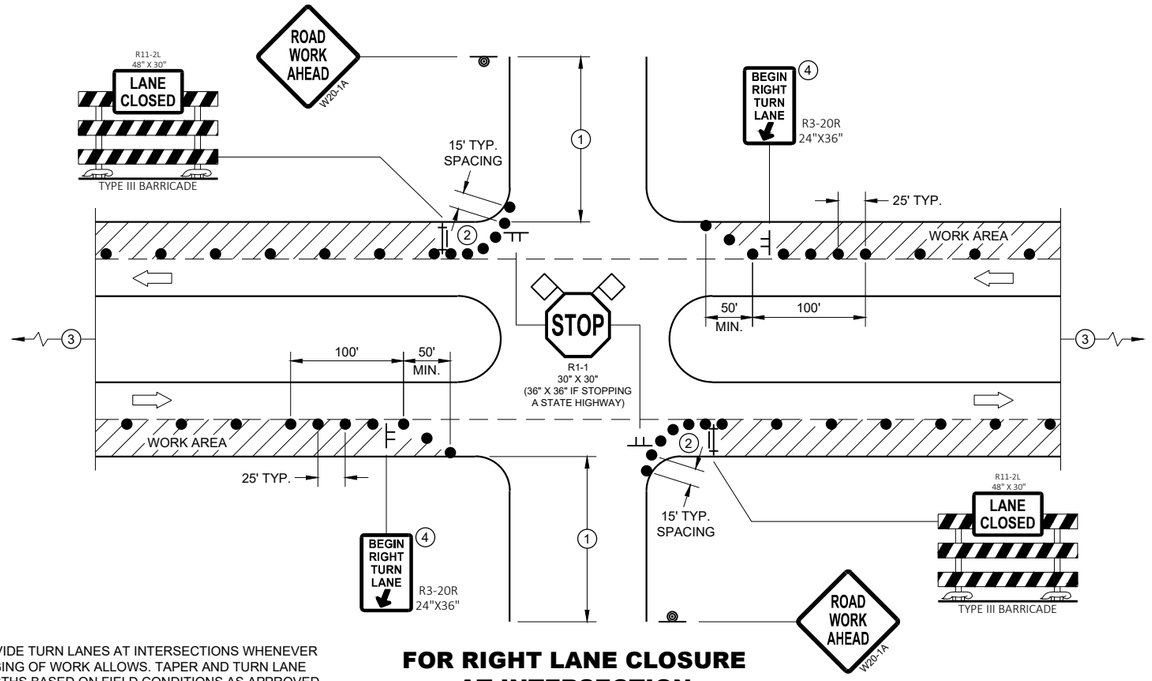
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WORK ZONE ENGINEE

FHWA

6

SDD 15D15-07e
SDD 15D15-07e



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

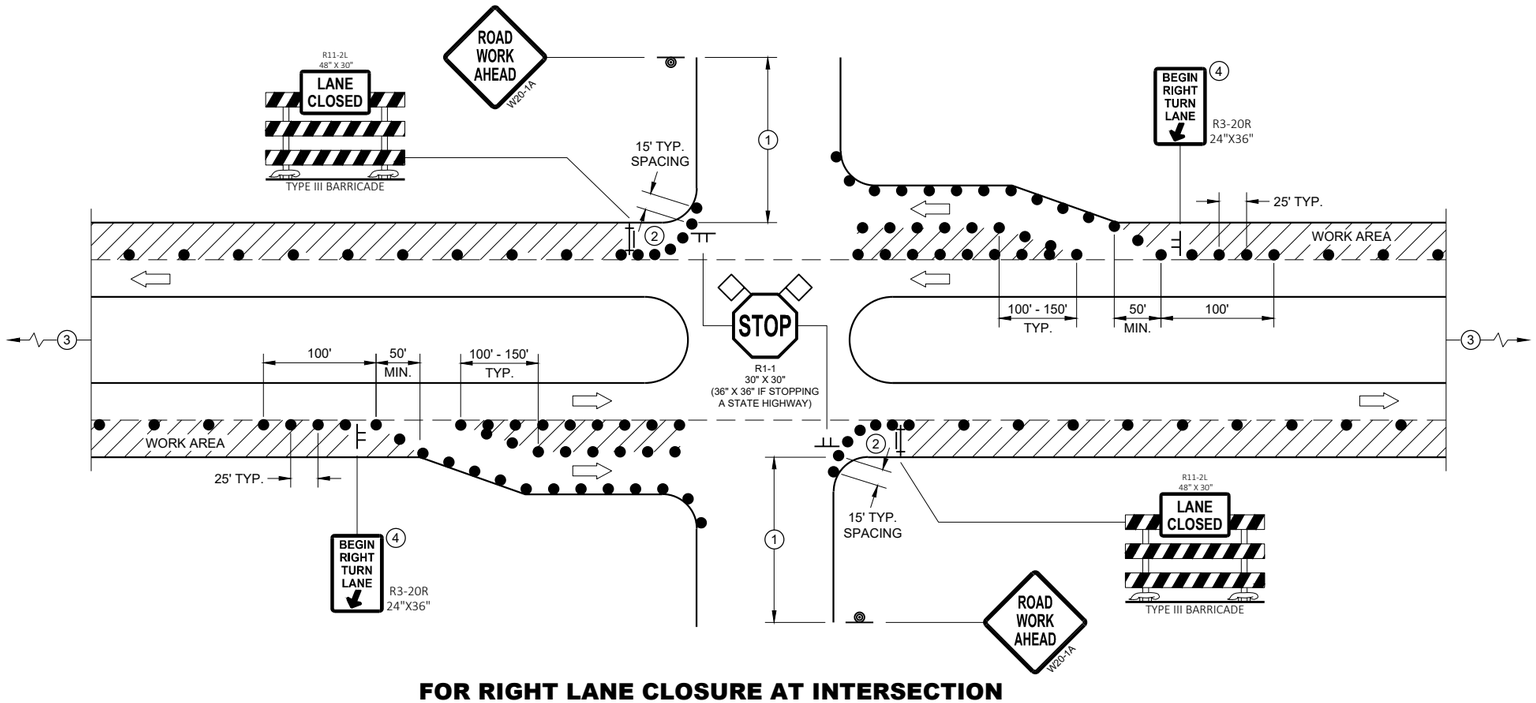
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

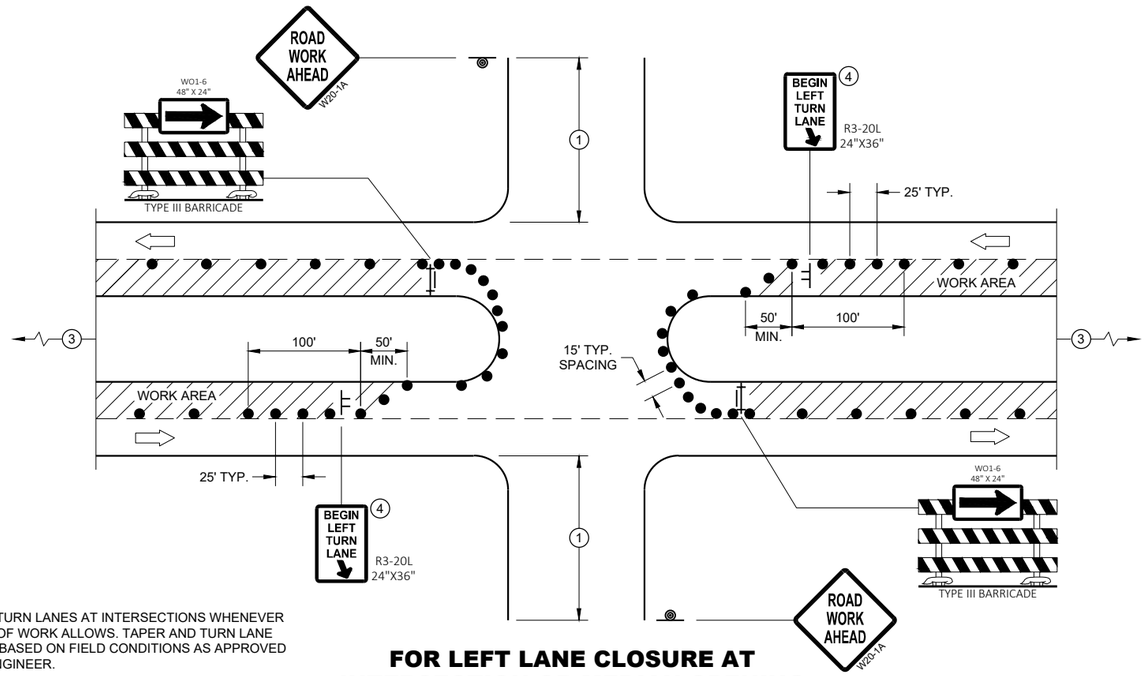


FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

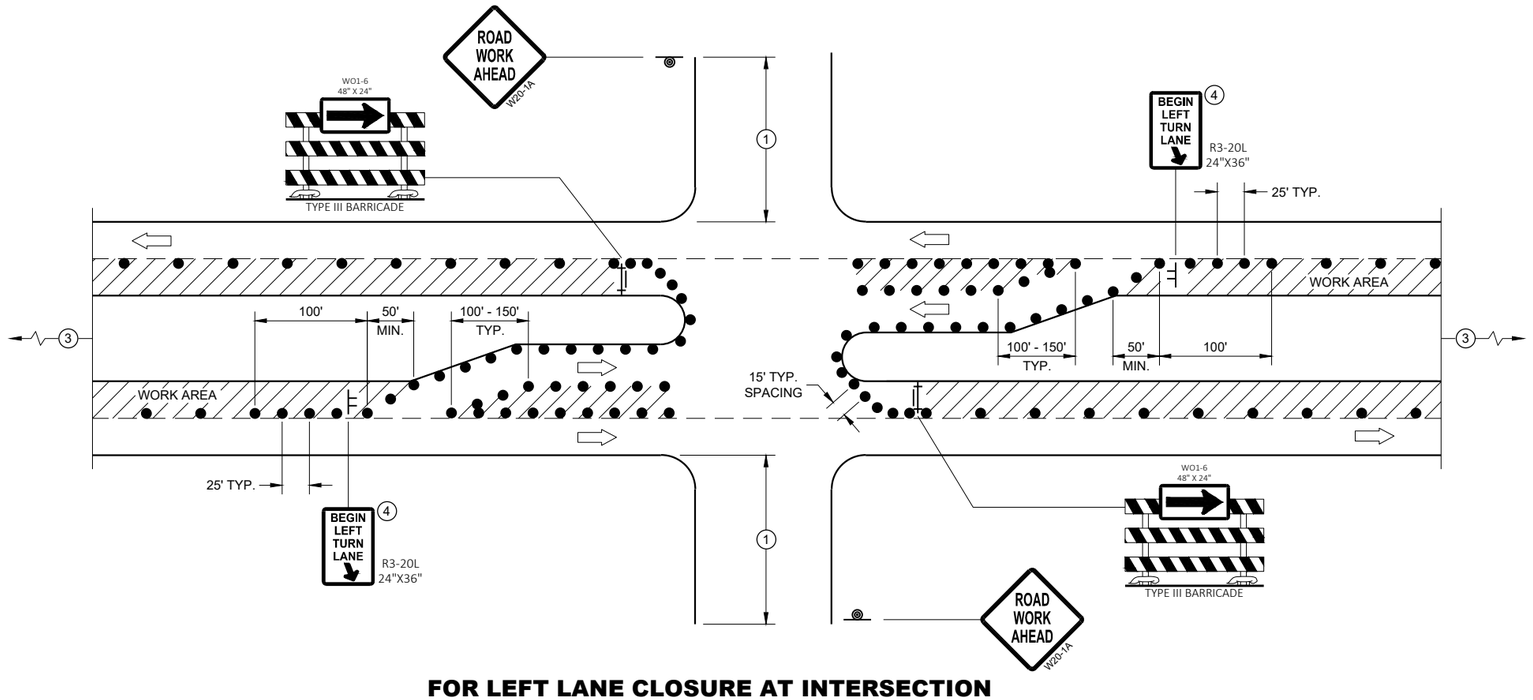
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D21 - 07b

6

SDD 15D21 - 07b

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

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

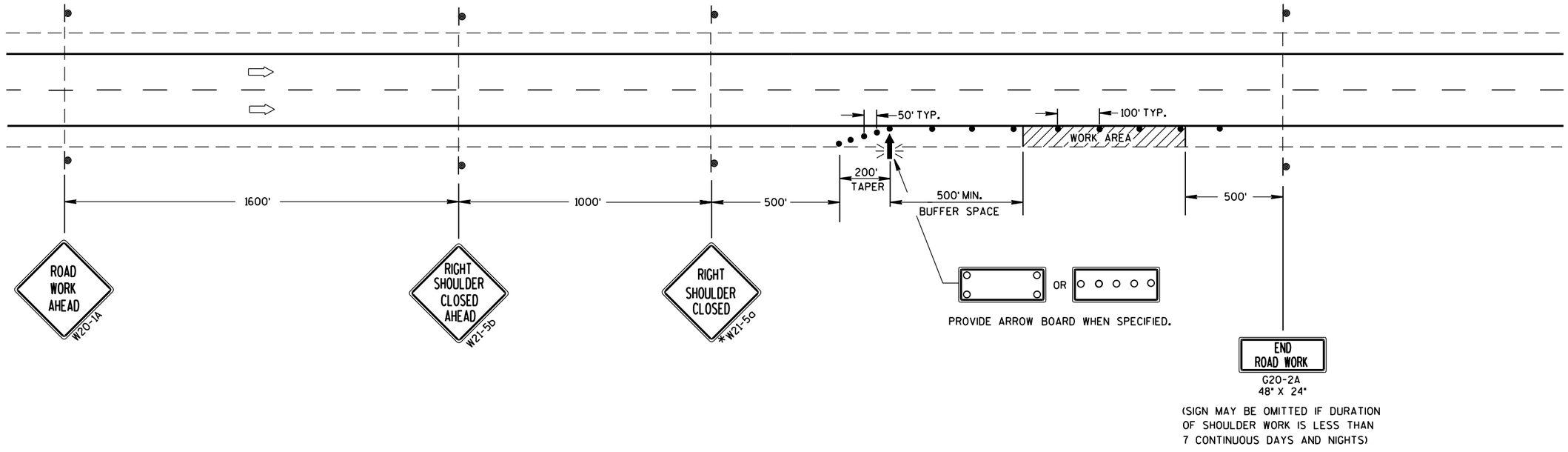
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

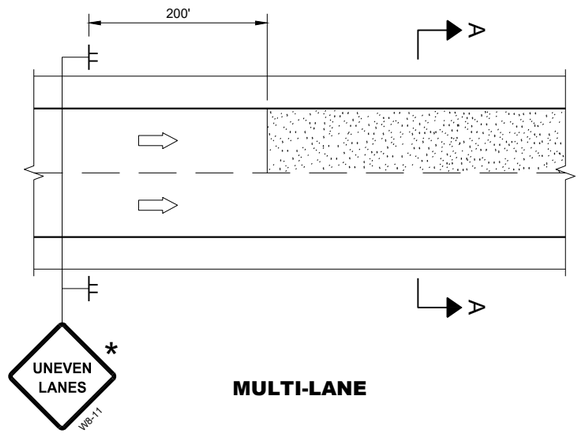
June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

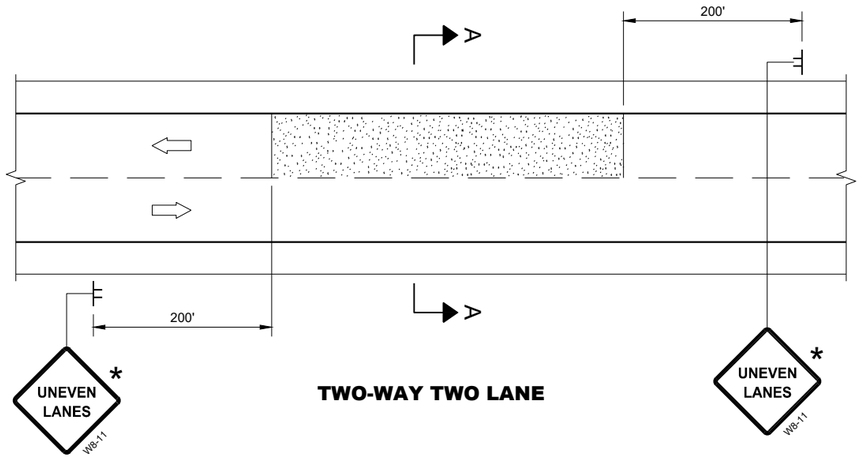
FHWA

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S.D.D. 15 D 27-3



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

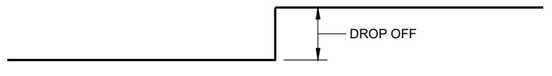
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

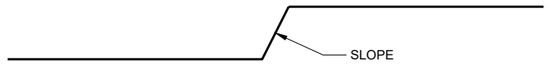
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

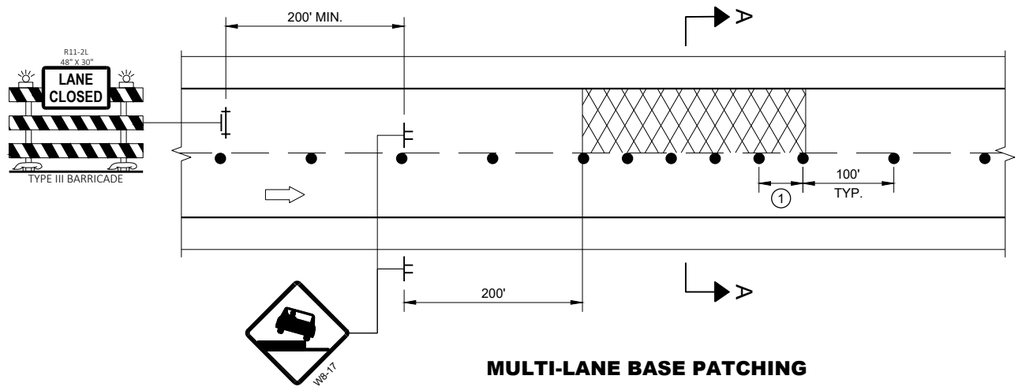


SECTION A - A

OR

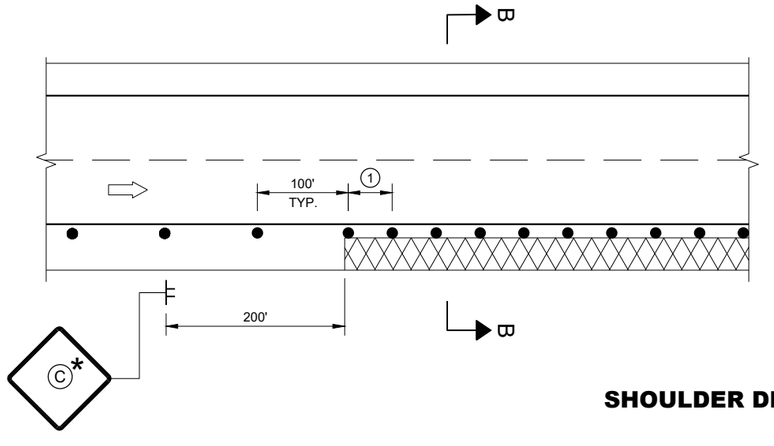


SECTION A - A

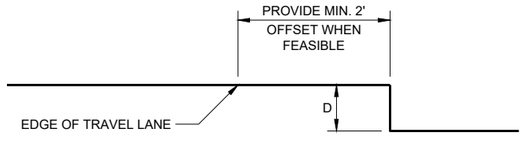


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

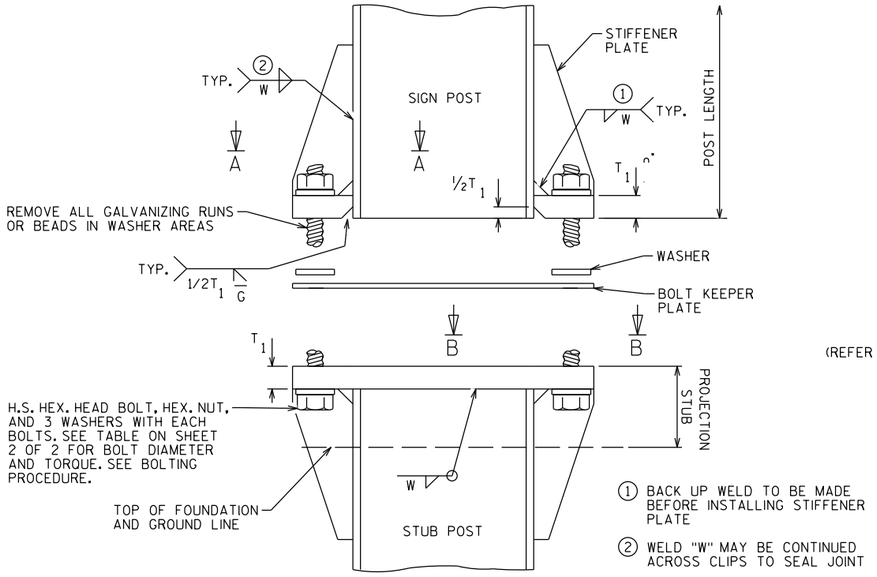
APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D39 - 02

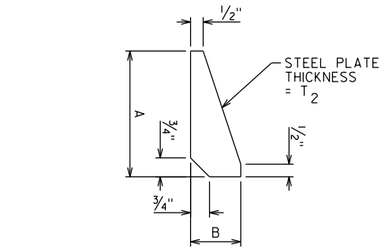
SDD 15D39 - 02



① BACK UP WELD TO BE MADE BEFORE INSTALLING STIFFENER PLATE

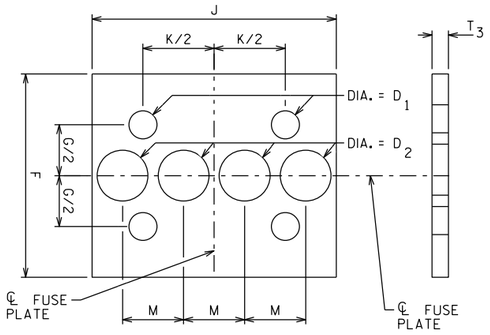
② WELD "W" MAY BE CONTINUED ACROSS CLIPS TO SEAL JOINT

SIGN POST & STUB POST ELEVATION



STIFFENER PLATE DETAIL

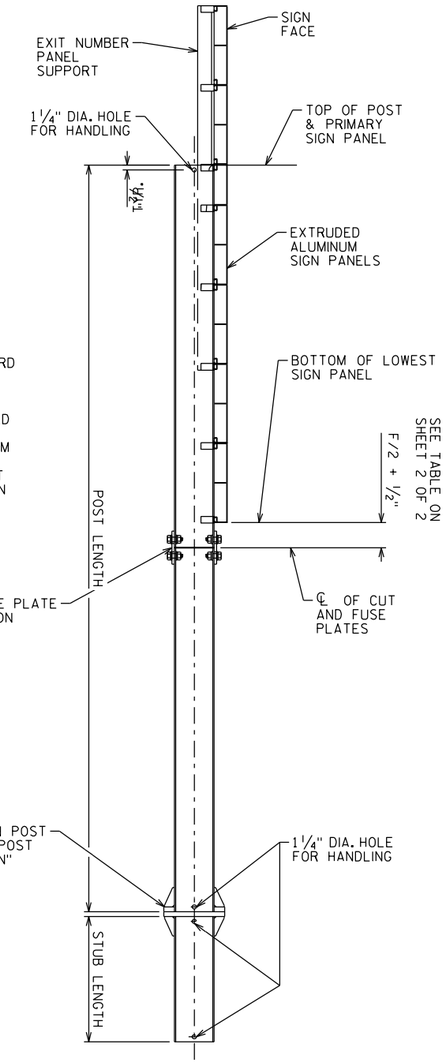
(REFER TO TABLE ON SHEET 2 OF 2 FOR DIMENSIONS)



PERFORATED FUSE PLATE DETAIL

USE H.S. HEX HEAD BOLTS, HEX HEAD NUT AND FLAT WASHER UNDER NUT. INSTALL BOLTS PER THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 506.3.12.3.

ALL HOLES SHALL BE DRILLED, SUB-PUNCHED AND REAMED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER, FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. ASTM A572 GRADE 50 OR ASTM A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. MILL TEST REPORTS SHALL BE SUBMITTED FOR FUSE PLATES. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.



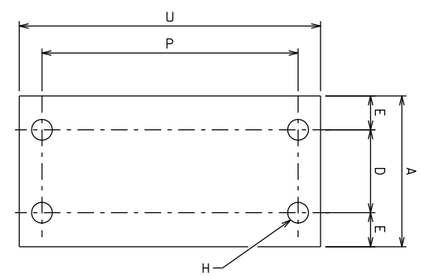
POST DETAIL

☆ WELD THICKNESS = FLANGE THICKNESS - 1/16"

SECTION A-A

SECTION B-B

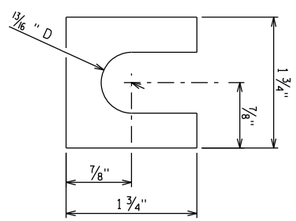
FUSE PLATE CONNECTION DETAIL



H = BOLT DIA. + 1/8"

BOLT KEEPER PLATE DETAIL

30 GA GALVANIZED SHEET STEEL



SHIM DETAIL

FURNISH TWO .012"± THICK AND TWO .032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.

BOLTING PROCEDURE FOR BASE CONNECTION

1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

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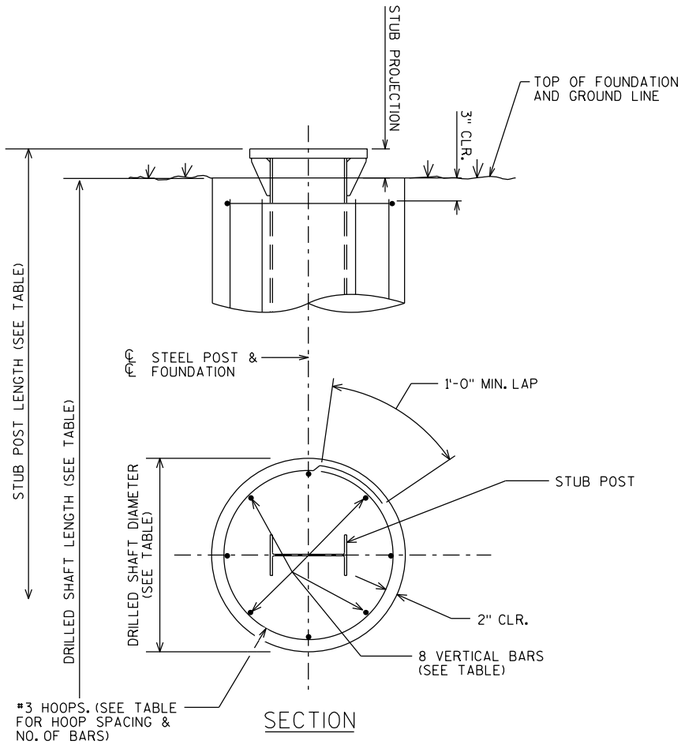
CONNECTION & FOUNDATION DETAILS 1 OF 2

SHEET A3-1.20

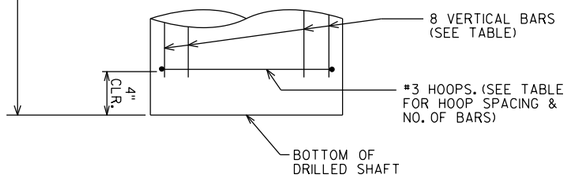
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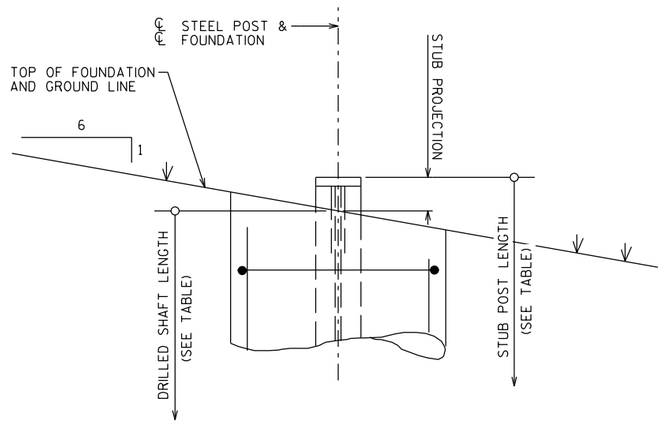
7



SECTION



FOUNDATION DETAIL



SHAFT PLACEMENT

FOUNDATION DATA TABLE

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME ◆	TOTAL REINF. WEIGHT ◆
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2½"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2½"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2½"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

BASE CONNECTION & FUSE PLATE DATA TABLE

POST SHAPE	WEIGHT PER FOOT	BASE CONNECTION DATA: BOLT SIZE & TORQUE	A	B	C	D	E	T1	T2	W	R	BOLT KEEPER PLATE DATA: P	U	PERFORATED FUSE PLATE DATA: F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS	BOLT LENGTH	V ◪
W6X15	15 LB	⅝" DIA. X 4" 36 TO 38 FT-LB	5"	2"	1¼"	2¾"	1⅛"	1¼"	½"	¼"	11/32"	8½"	10"	5"	2½"	6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"	2.4	2	73.0 LB
W8X18	18 LB											10⅝"	12⅛"	5"	2½"	5¼"	2¾"	1¼"	11/16"	1 1/16"	⅜"	⅝"	2.0	2	83.0 LB
W8X21	21 LB	¾" DIA. X 4¾" 62 TO 63 FT-LB	6"	2¼"	1⅜"	3½"	1¼"	1½"	¾"	5/16"	13/32"	11"	12¾"	5½"	2½"	5¼"	2¾"	1¼"	13/16"	1"	½"	¾"	3.1	2¼"	124.0 LB
W10X22	22 LB											12⅞"	14⅝"	6"	3"	5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾"	3.9	2¼"	134.0 LB
W12X26	26 LB											15"	16¾"	6"	3"	6½"	3½"	1⅝"	13/16"	1 5/16"	½"	¾"	4.5	2¼"	152.0 LB

◪ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST = V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND WASHERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS NOTED OTHERWISE.

FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.

ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.

H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

FOUNDATION MATERIAL PROPERTIES

CONCRETE MASONRY	F'C = 3,500 P.S.I.
BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60	FY = 60,000 P.S.I.

DESIGN DATA

DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM REVISIONS).

DEAD LOADS (DL):

- STEEL POST SELF WEIGHT
- SIGN PANEL WEIGHT = 3 PSF

WIND LOADS (WL):

WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN PANELS AND THE STEEL SIGN POSTS.

- BASIC WIND SPEED = 76 MPH
- MEAN RECURRANCE INTERVAL (MRI) = 10 YEARS
- HEIGHT & EXPOSURE FACTOR = 1.00
- DIRECTIONALITY FACTOR = 0.85
- GUST EFFECT FACTOR = 1.14

WIND LOAD CASES:

- WL CASE 1: 1.0 X NORMAL WIND
- WL CASE 2: 1.0 X TRANSVERSE WIND
- WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

LOAD COMBINATIONS:

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

FOUNDATION DESIGN DATA

THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:

- SOIL UNIT WEIGHT = 115 PCF
- ANGLE OF INTERNAL FRICTION = 24 DEGREES
- SOIL MODULUS PARAMETER = 25 LB/IN3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

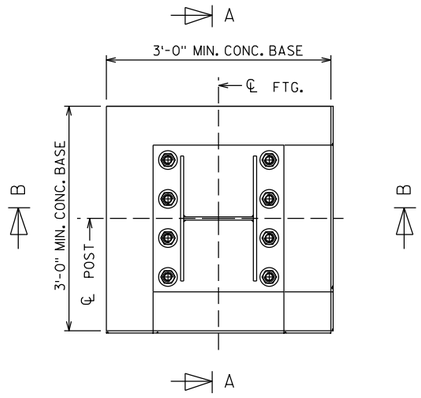
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CONNECTION & FOUNDATION DETAILS 2 OF 2

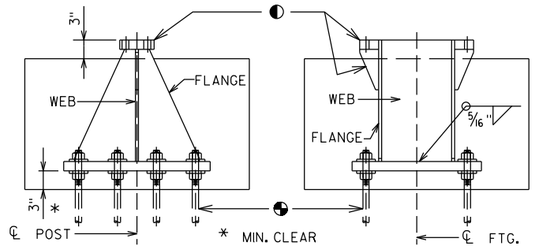
SHEET A3-1.20

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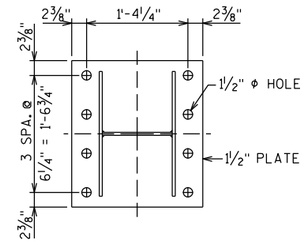
STUB AND ADHESIVE ANCHOR DETAILS



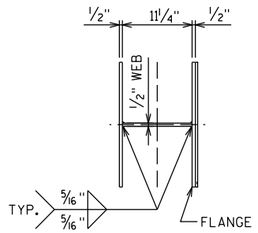
STUB SECTION



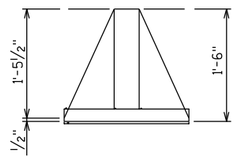
SECTION A-A SECTION B-B



BASE PLATE



STUB



FLANGE

◐ SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.

◔ ADHESIVE ANCHORS 1¼-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

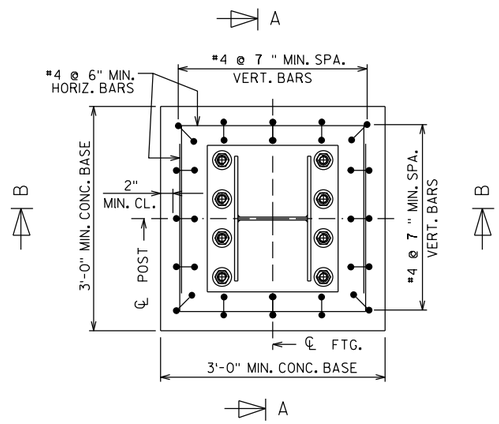
GENERAL NOTES:

QUANTITIES PER BASE:
REINFORCING STEEL = 62 LB
CONCRETE = 0.6 CY
STRUCTURAL STEEL = 335 LB

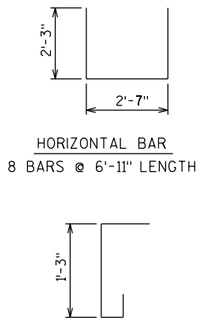
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

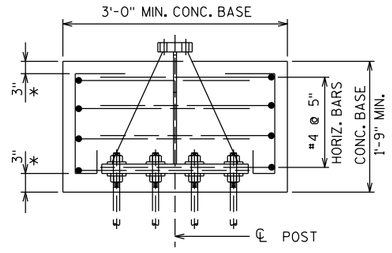
IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

CONCRETE BASE DETAILS

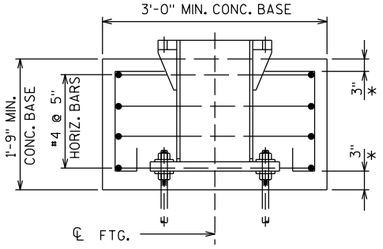


CONCRETE BASE PLAN





SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

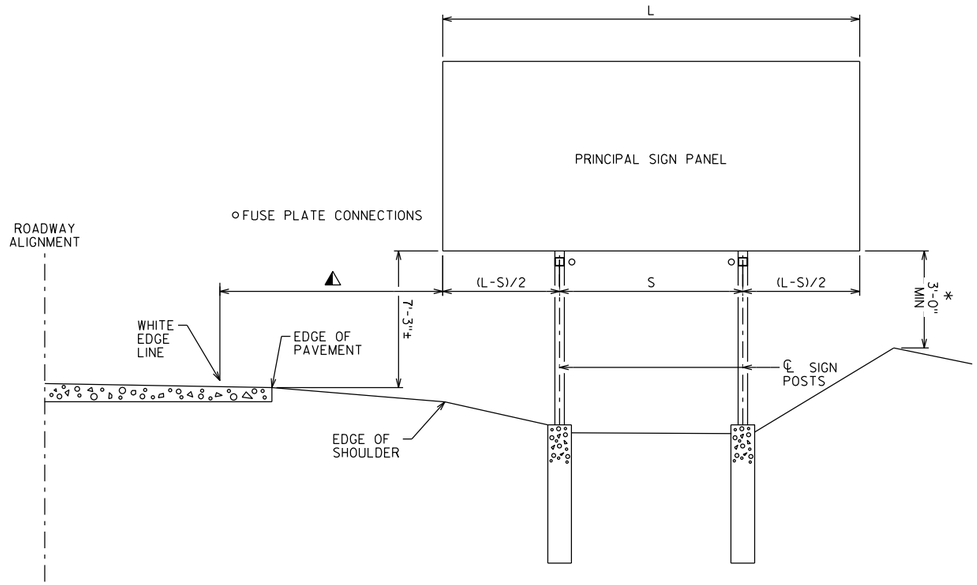
STRUCTURE BTO TYPE I SIGNS

DRAWN BY	PLANS CK'D.

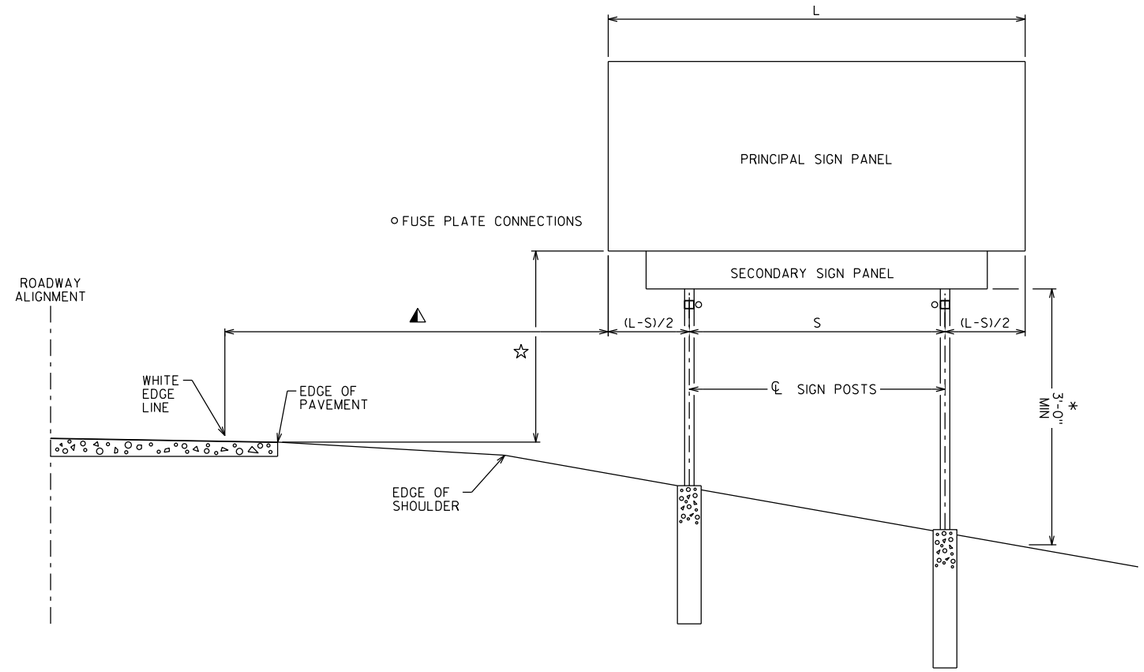
ALTERNATE BREAK-AWAY BASE ON ROCK

SHEET A3-1M.2

146



INSTALLATION WITHOUT SECONDARY SIGN



INSTALLATION WITH SECONDARY SIGN

TYPE 1 SIGN INSTALLATION NOTES:

FOR A 2-POST INSTALLATION, "S" EQUALS 3L/5, BUT SHALL NOT BE LESS THAN 6'-0".

FOR A 3-POST INSTALLATION, "S" EQUALS 5L/7, BUT SHALL NOT BE LESS THAN 12'-0". THE SPACING BETWEEN ANY TWO POSTS SHALL NOT BE LESS THAN 6'-0".

◭ UNLESS NOTED IN THE PLANS, THE SIGN OFFSET DISTANCE SHALL BE A MINIMUM OF 17'-6" FROM THE WHITE EDGE LINE, DESIRABLE 30'-0".

WHERE SIGNS ARE MOUNTED BEHIND CRASH WORTHY PROTECTION SUCH AS GUARDRAIL OR BARRIER WALL, THE LATERAL OFFSET MAY BE 4'-6" BEHIND THE GUARDRAIL OR BARRIER WALL.

THE ± TOLERANCE SHOWN ON THIS SHEETS IS 3".

THE VERTICAL SIGN HEIGHT CLEARANCES SHOWN ON THIS SHEET ARE MEASURED FROM THE BOTTOM OF THE SIGN PANEL TO THE NEAR EDGE OF PAVEMENT.

☆ THE VERTICAL CLEARANCE SHALL BE 8'-3"± WHEN THE SECONDARY SIGN HEIGHT IS 3'-0" OR LESS. FOR SECONDARY SIGN HEIGHTS LARGER THAN 3'-0", THE VERTICAL CLEARANCE TO THE BOTTOM OF THE SECONDARY SIGN PANEL SHALL BE 5'-3"±.

* THE VERTICAL SIGN GROUND CLEARANCE ON RIGHT END OF SIGN SHALL BE A MINIMUM OF 3'-0"±.

○ FOR 2-POST SIGNS, IF THERE IS A SECONDARY SIGN THAT IS NOT AS WIDE AS THE POSTS, INSTALL FUSE PLATES BENEATH PRINCIPAL SIGN.

FOR SECONDARY SIGNS THAT ARE NOT AS WIDE AS THE EXTERIOR POSTS, SECURE SIGN WITH CHANNEL STEEL AS DESCRIBED IN A4-6.

POST LENGTHS SHOWN IN THE MISCELLANEOUS QUANTITIES ARE ESTIMATED LENGTHS. THE CONTRACTOR SHALL VERIFY POST LENGTHS AT THE TIME OF FINAL GRADING.

REFER TO THE TRAFFIC ENGINEERING OPERATIONS AND SAFETY MANUAL FOR FURTHER GUIDANCE ON MINIMUM VERTICAL CLEARANCE REQUIREMENTS.

NO.	DATE	REVISION	BY
	2/29/24		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

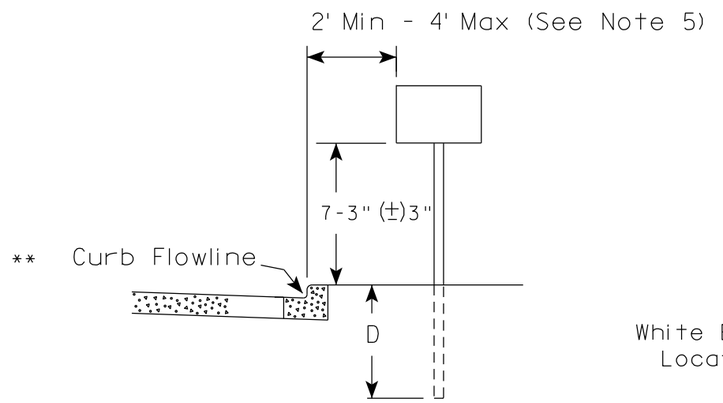
DRAWN BY	PLANS CK'D.

TYPICAL TYPE I SIGN INSTALLATION

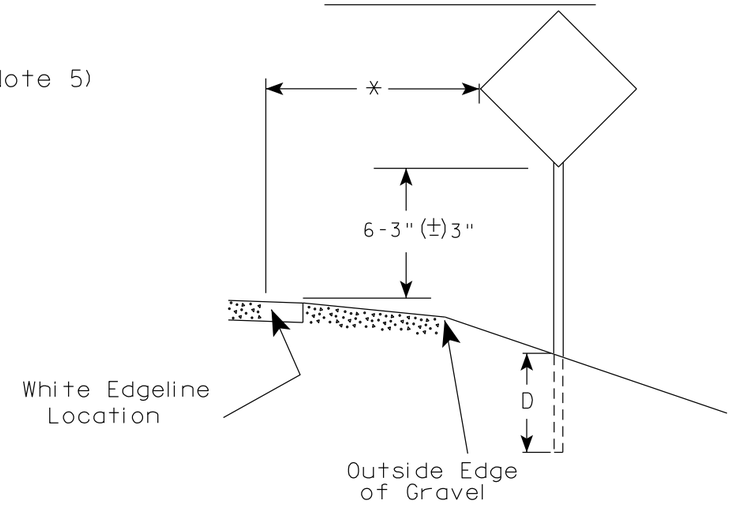
SHEET A4-1.11

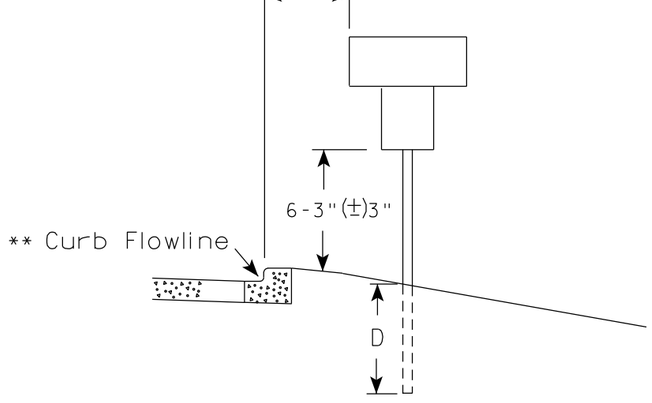
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E

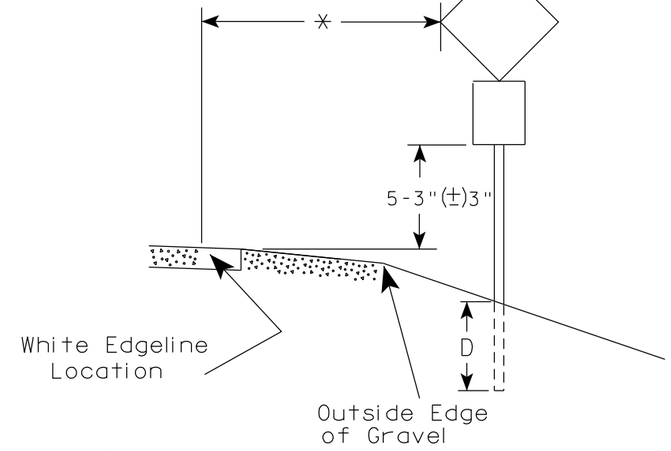
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

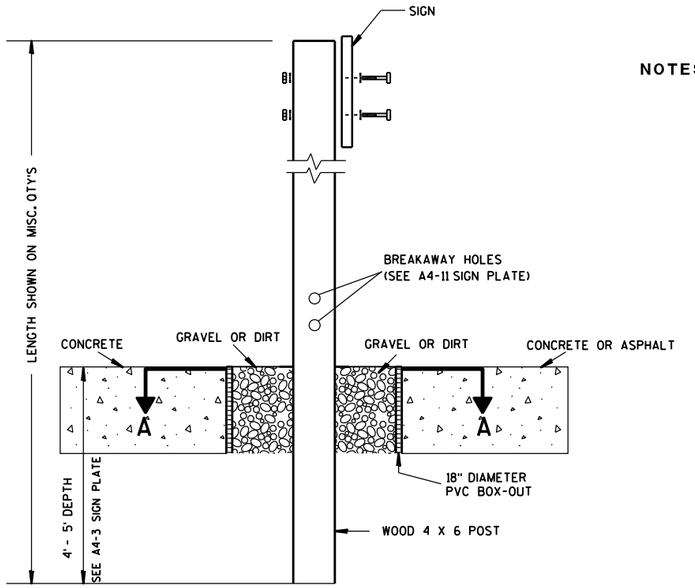
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

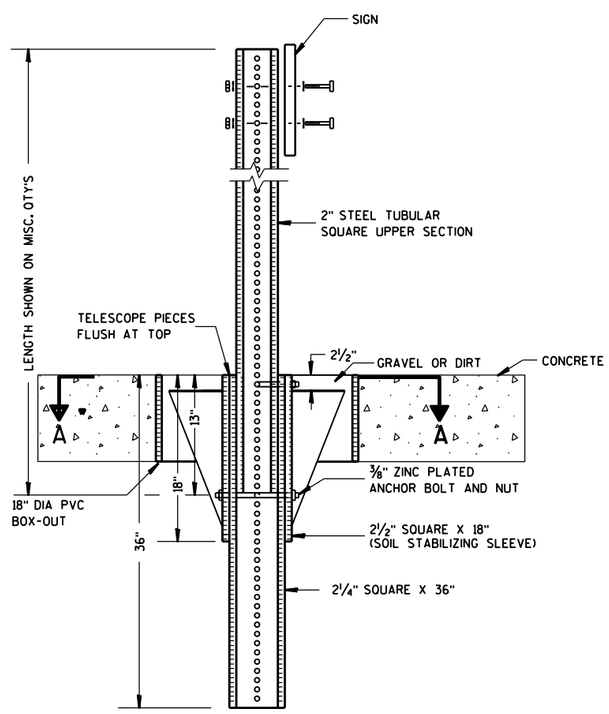
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 148	E



ELEVATION VIEW

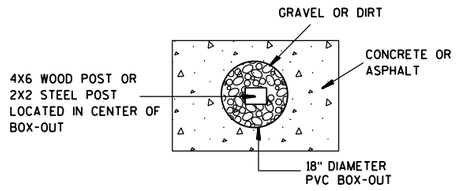
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

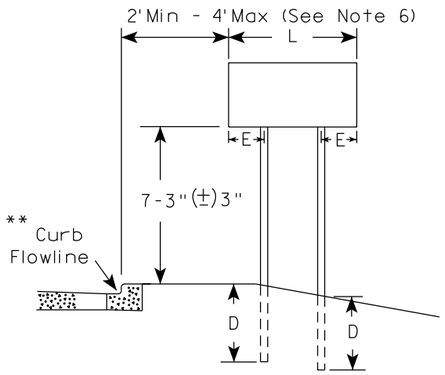
APPROVED Matthew R Rauch
for State Traffic Engineer

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

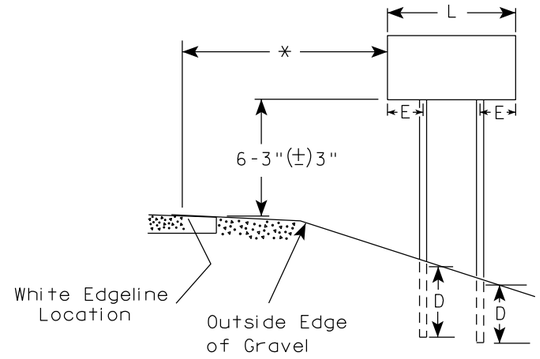
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

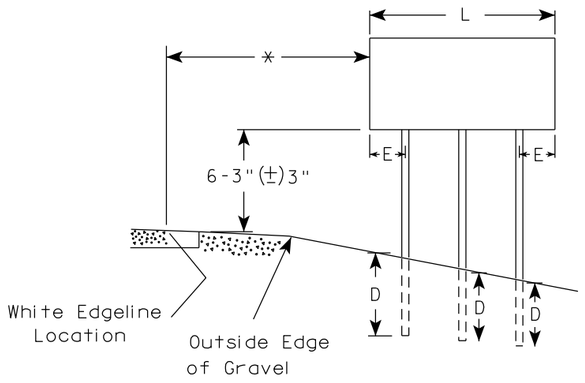
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

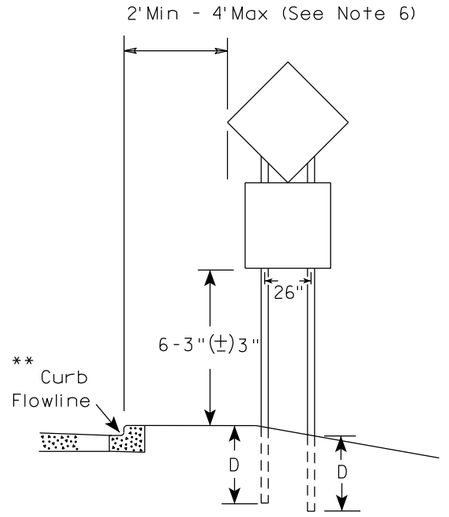
URBAN AREA



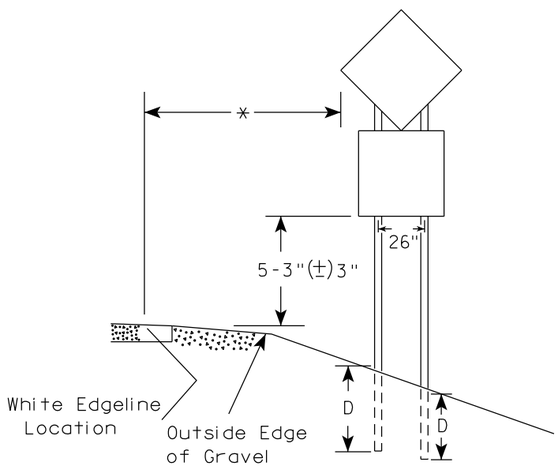
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 3".

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

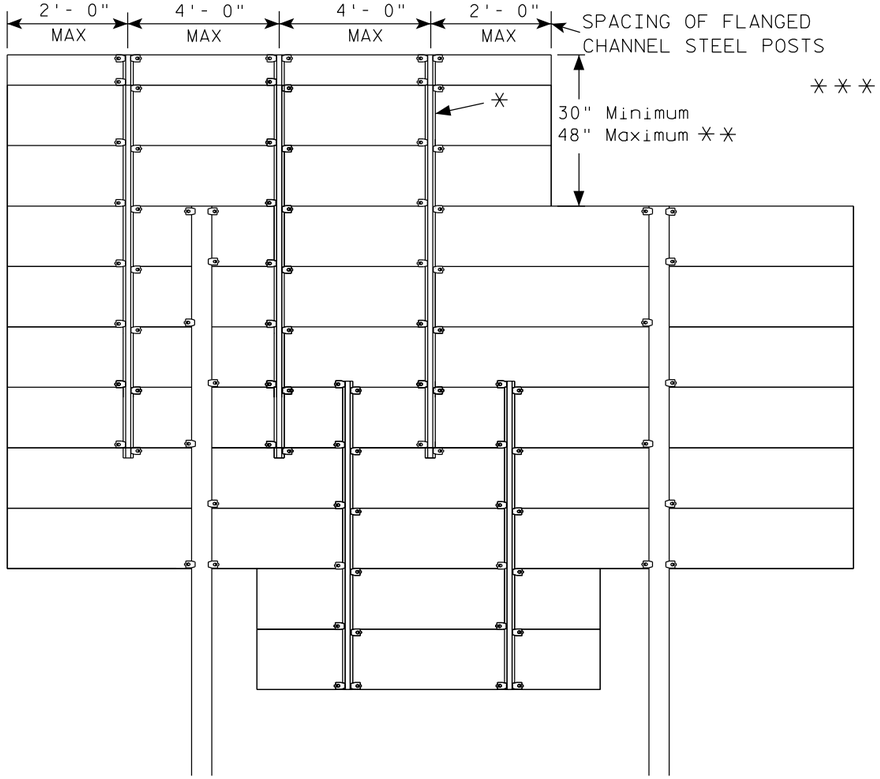
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 150	E

GROUND MOUNTED SIGN



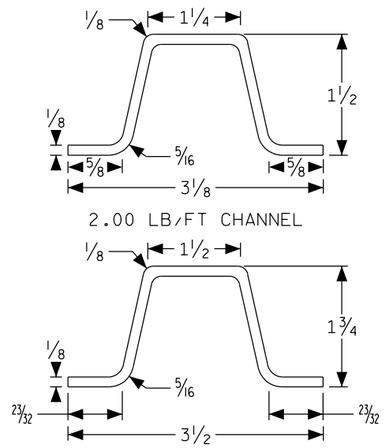
✳=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

✳✳=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

✳✳✳ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

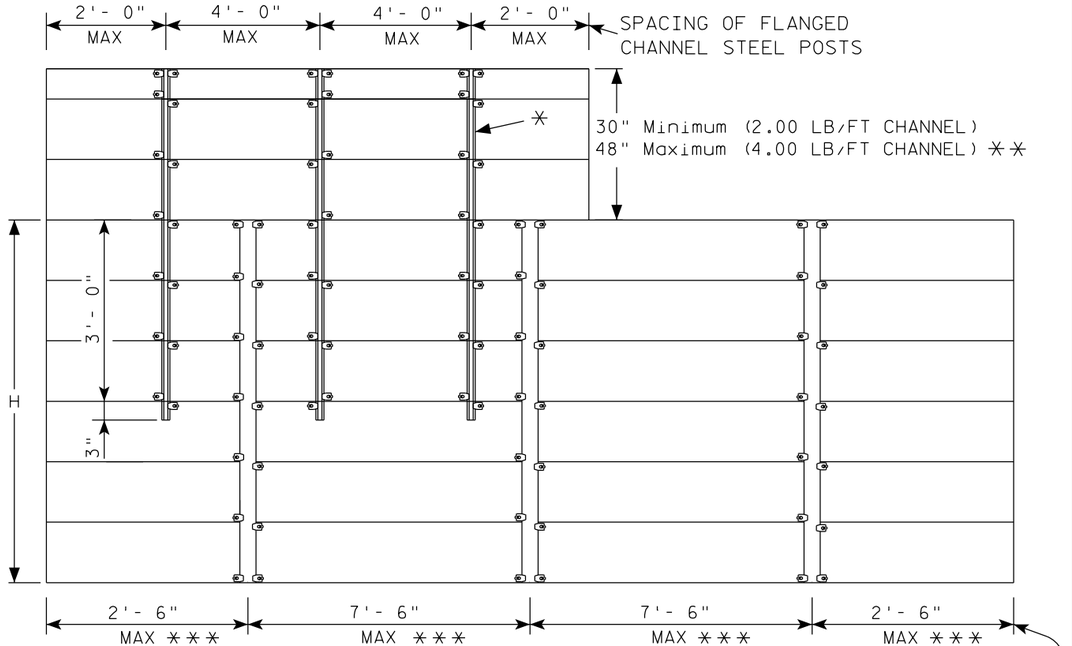
NOT TO SCALE



2.00 LB/FT CHANNEL

4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS 5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

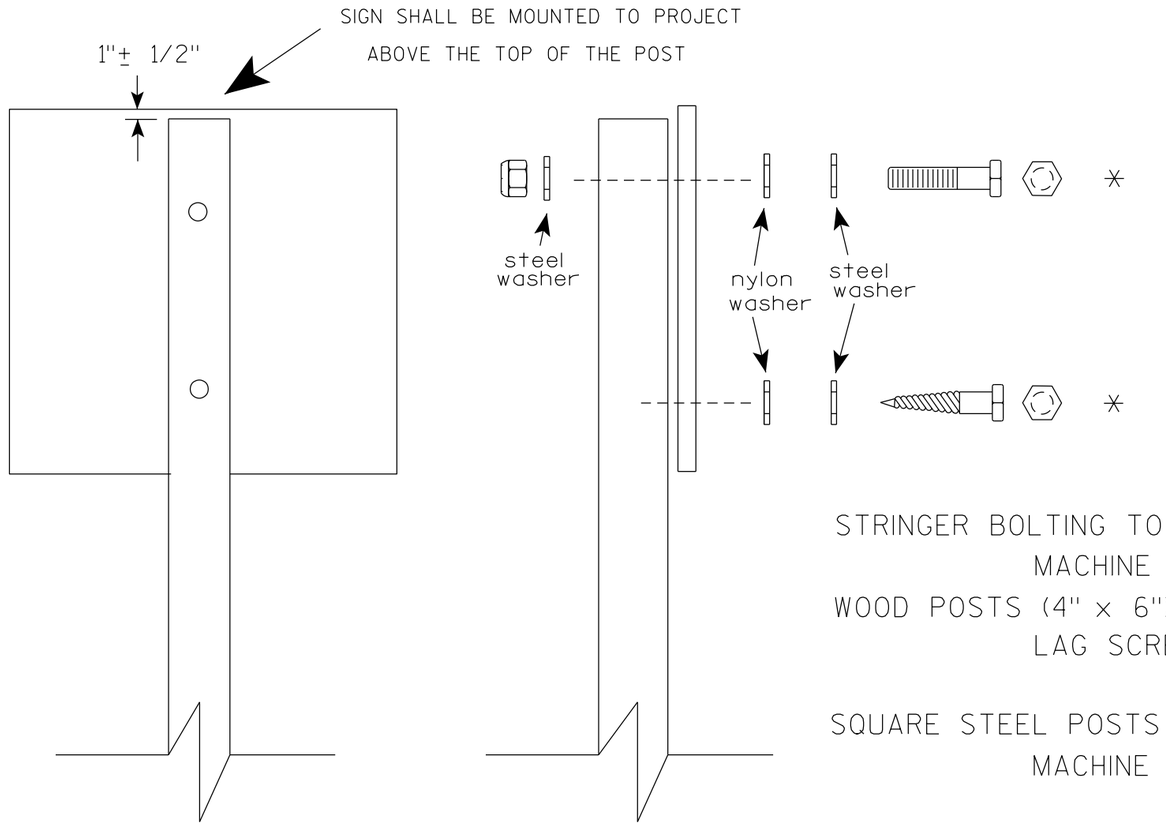
   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-6.12



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

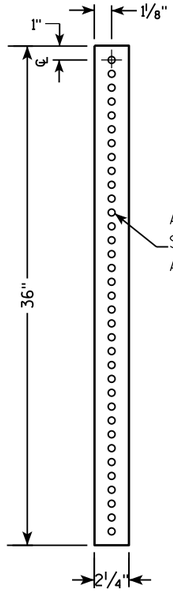
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

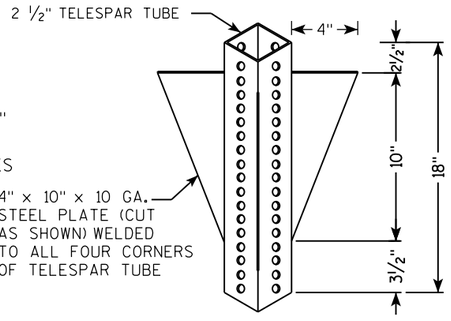
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

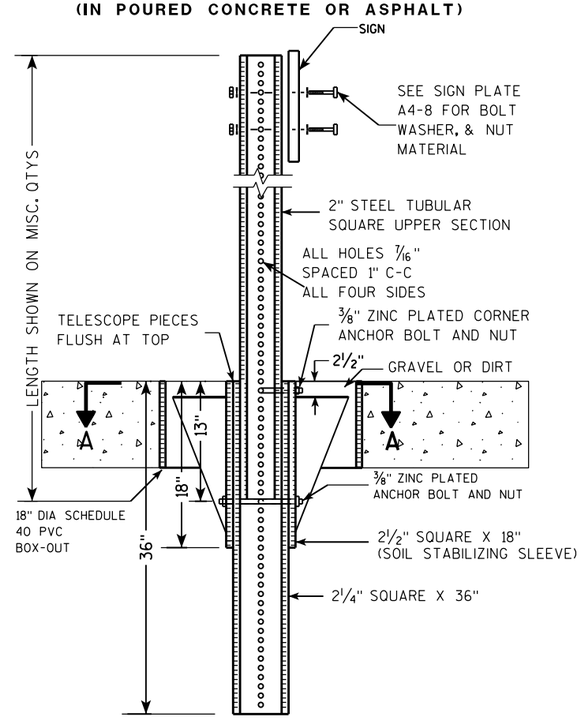
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



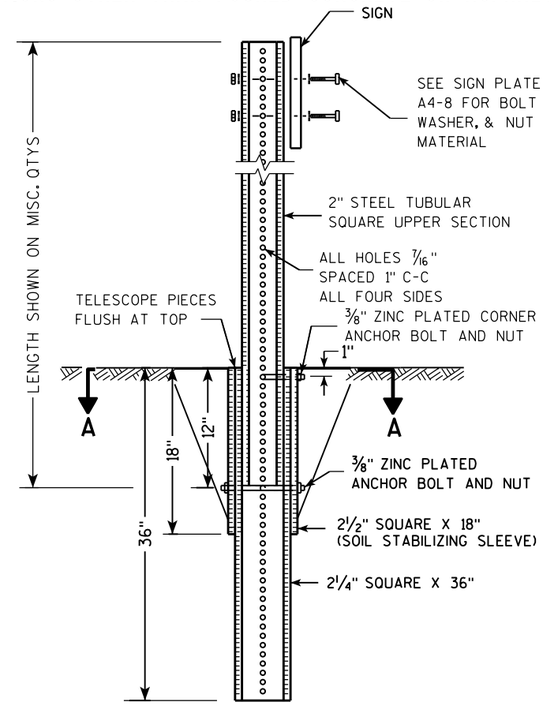
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

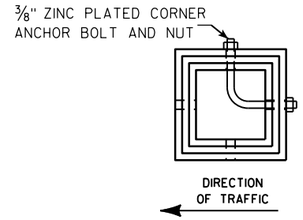


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

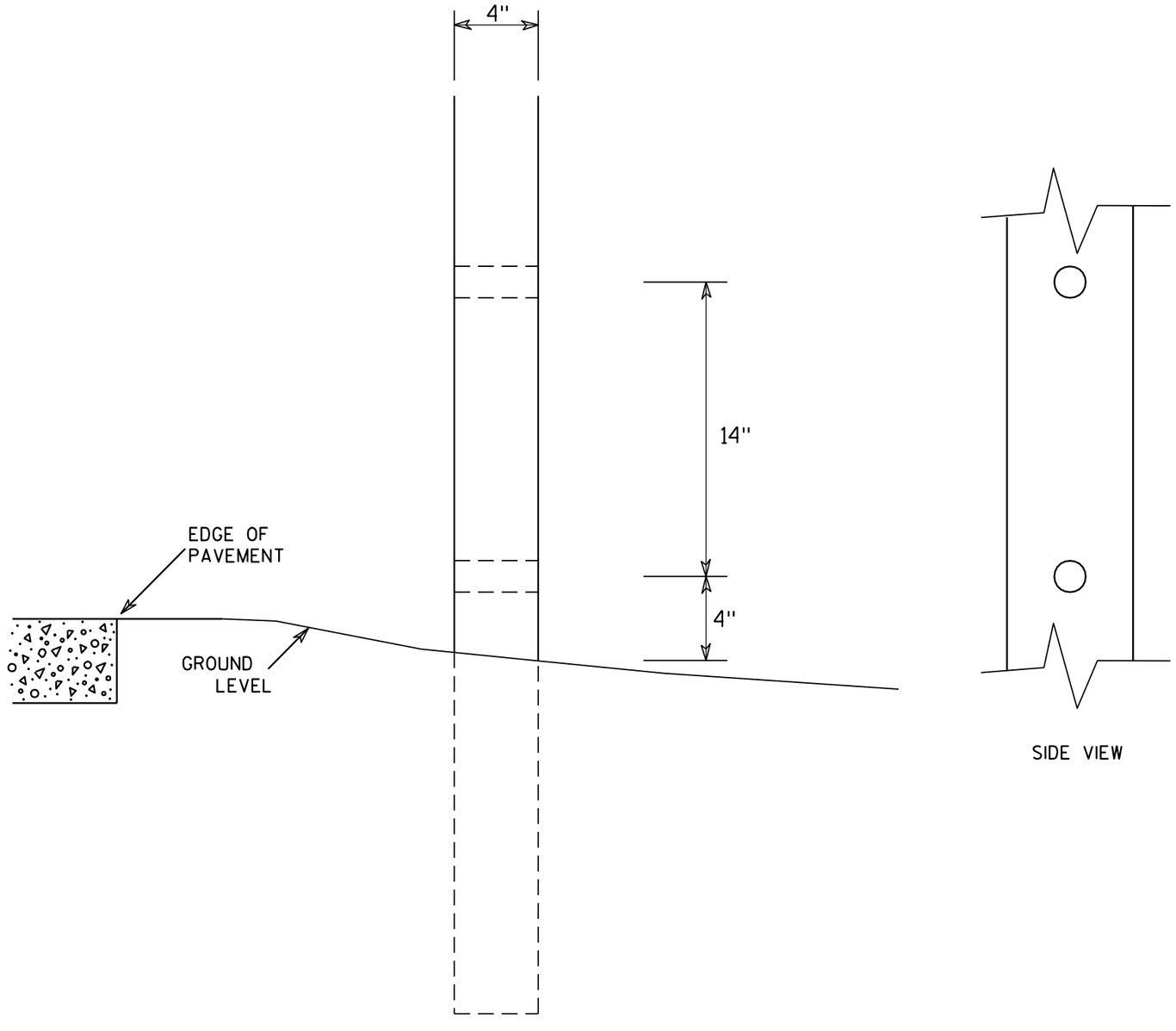
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

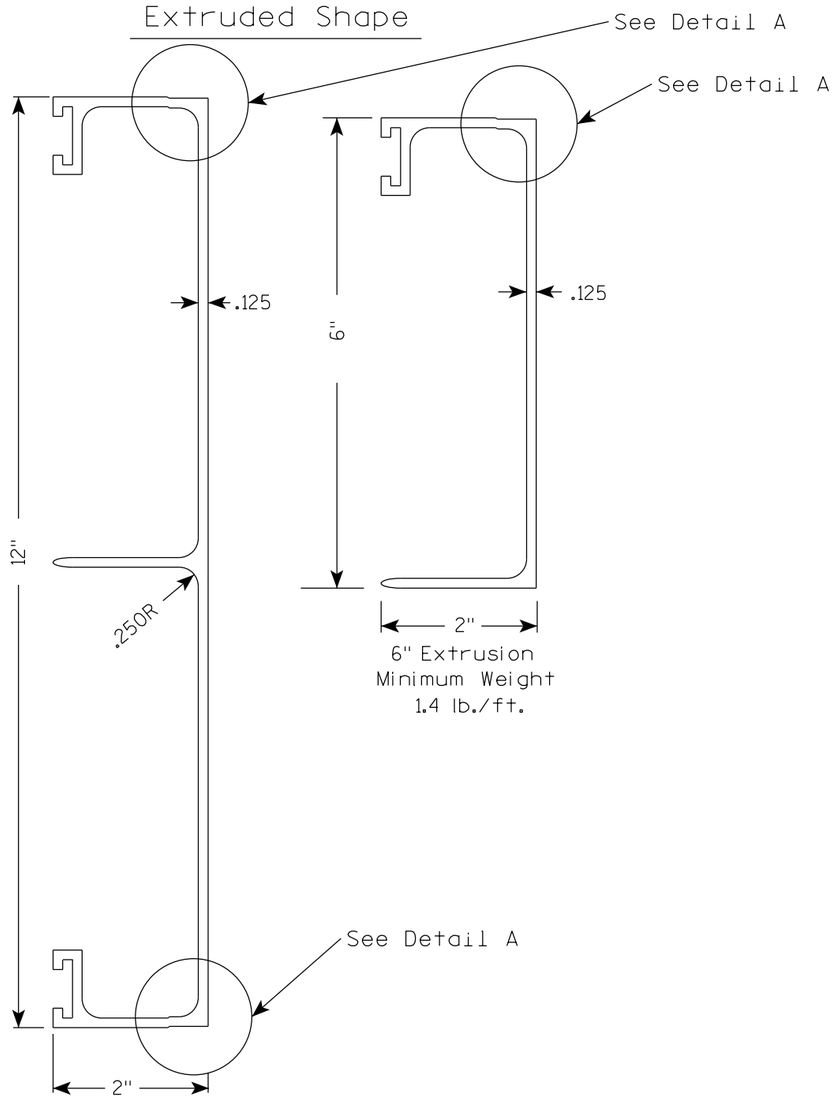
WISCONSIN DEPT OF TRANSPORTATION

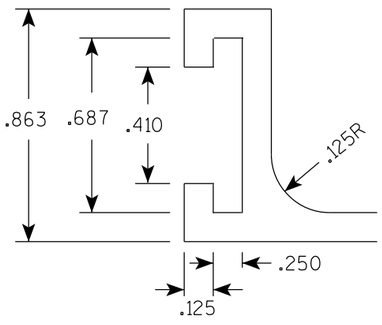
APPROVED Chester J Spang for State Traffic Engineer

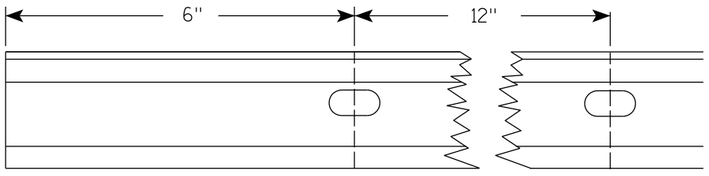
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 154	E

Extruded Shape







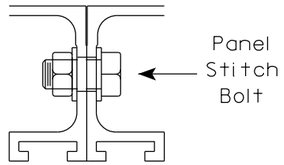
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

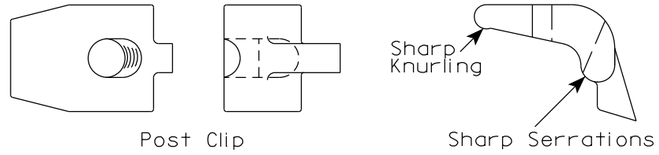
The hardware includes:

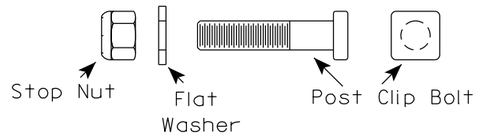
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

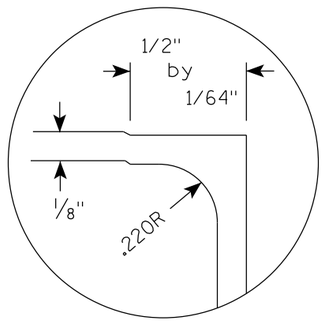
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

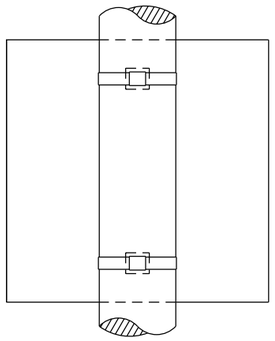
DATE 1/07/20 PLATE NO. A5-2.10

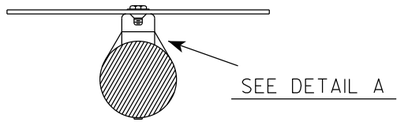
PROJECT NO:

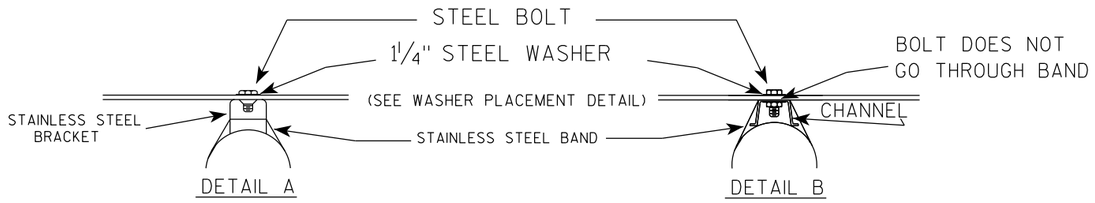
SHEET NO: 155 E

BANDING

SINGLE SIGN



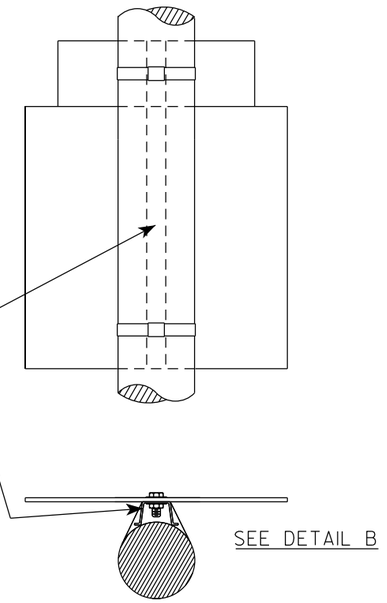




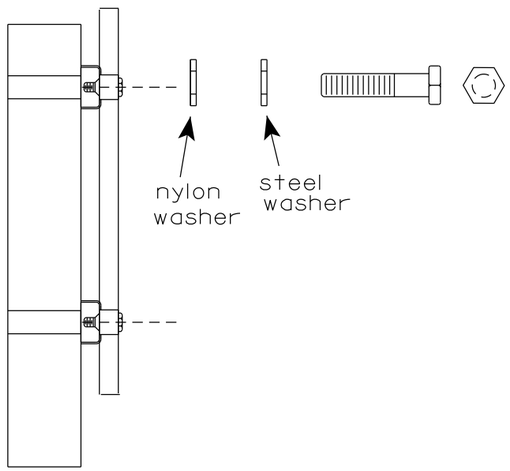
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

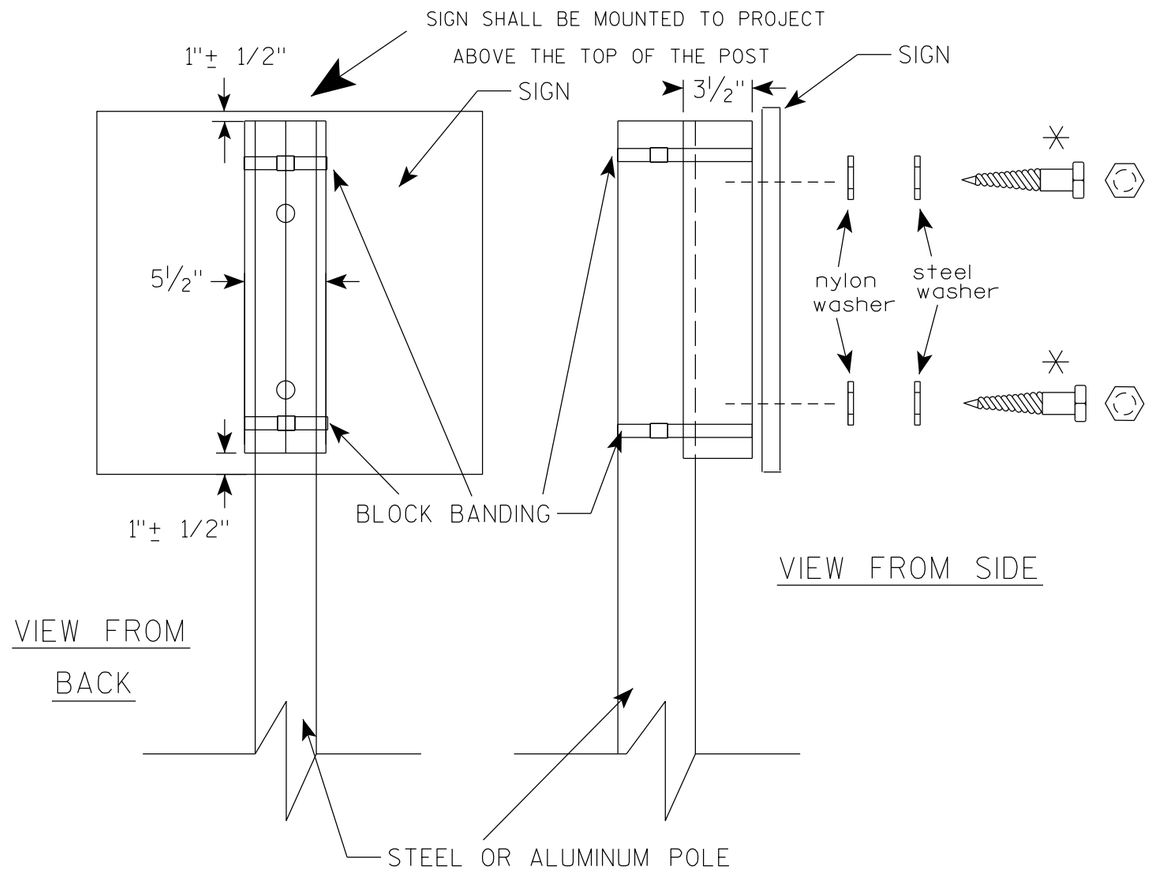
DATE 6/10/19 PLATE NO. A5-9.4

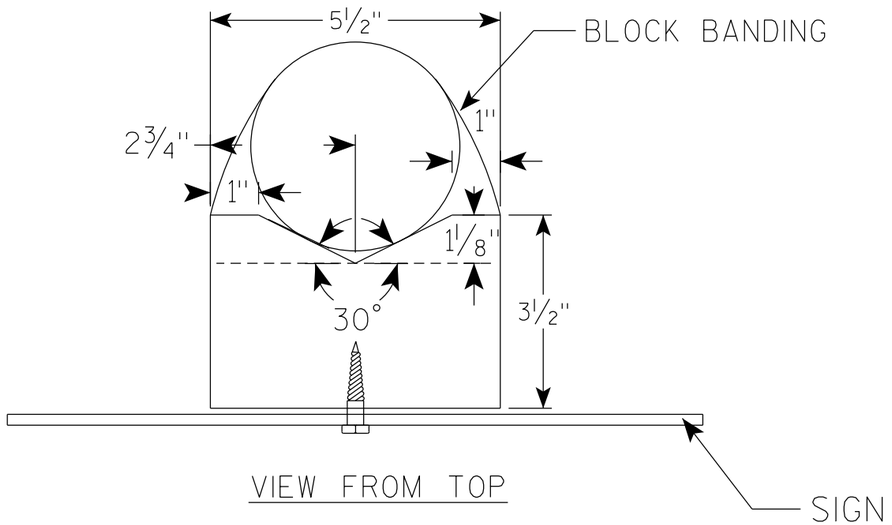
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 156	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

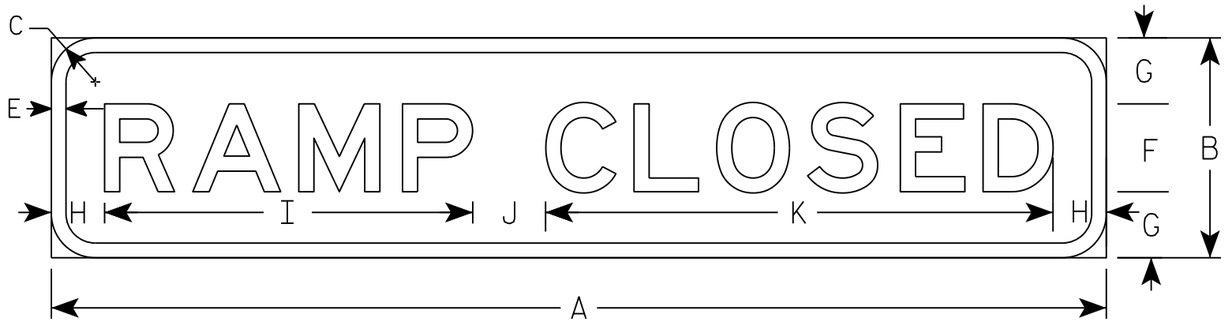
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 157 E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E



G20-64

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	144	30	6		2	12	9	7 1/4	50 1/4	10	69 1/4																30.0
5																											

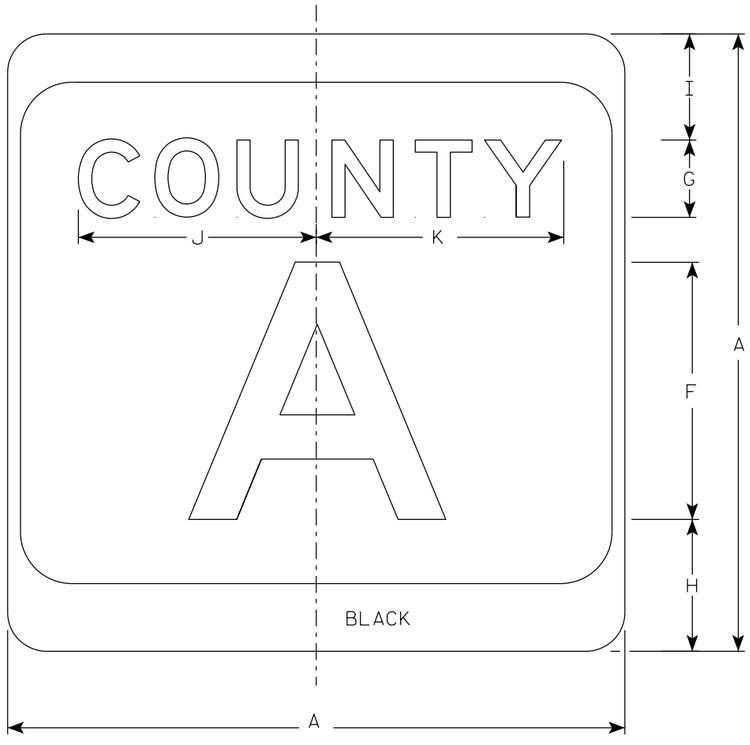
STANDARD SIGN
G20-64

WISCONSIN DEPT OF TRANSPORTATION

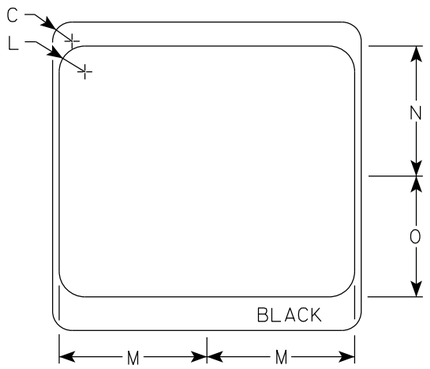
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/18 PLATE NO. G20-64.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 158 | E

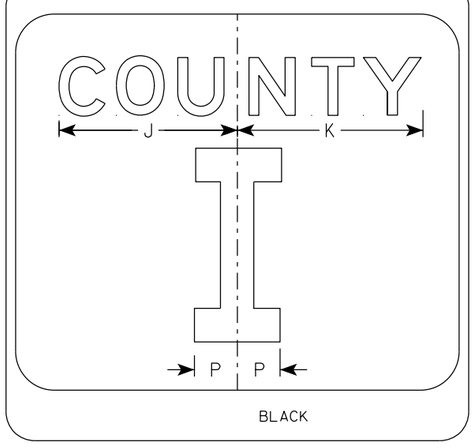


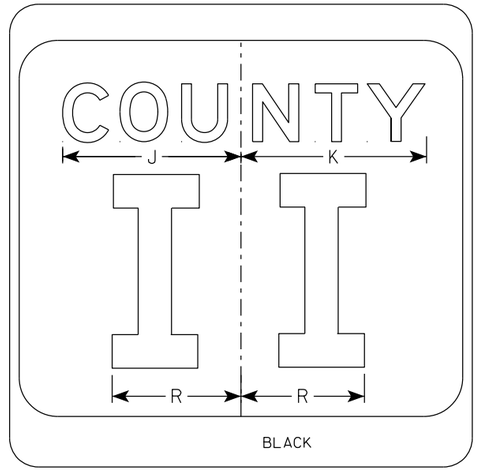
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
5. Substitute appropriate letters & optically center to achieve proper balance.





SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
2M	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

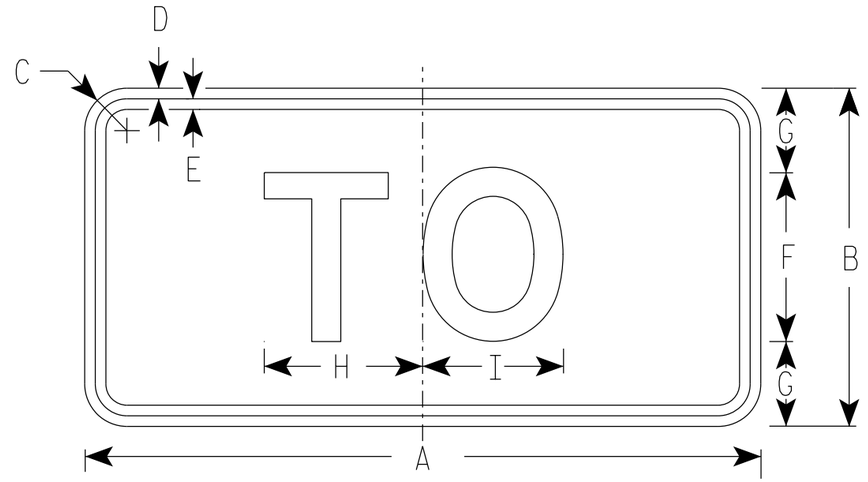
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

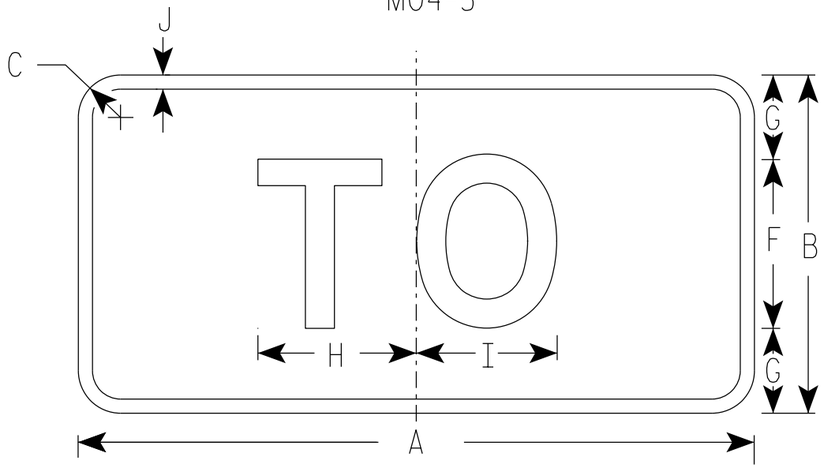
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M15A.dgn PLOT DATE : 8-NOV 2022 8:26 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black
   MB4-5 Background - Blue
   Message - White
   MK4-5 Background - Green
   Message - White
   MM4-5 Background - White
   Message - Green
   MN4-5 Background - Brown
   Message - White
   MP4-5 Background - White
   Message - Blue
   M04-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 ½	⅜	⅜	6	3	5 ⅜	5 ¼	½																	2.00
2M	24	12	1 ½	⅜	⅜	6	3	5 ⅜	5 ¼	½																	2.00
3	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5
4	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5
5	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5

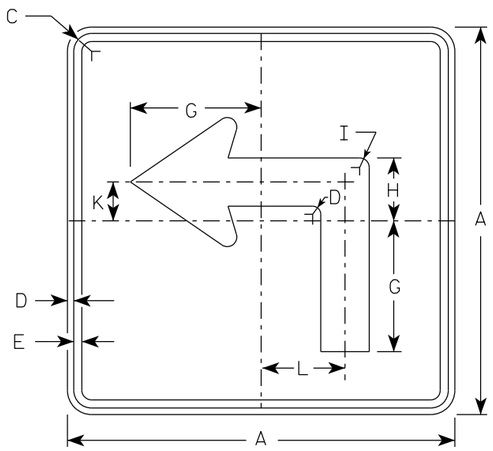
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

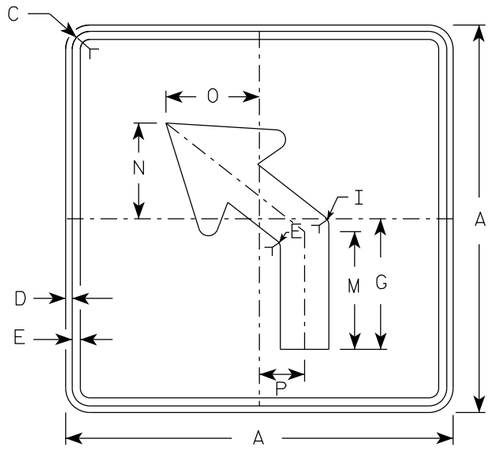
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/8/2023 PLATE NO. M4-5.11

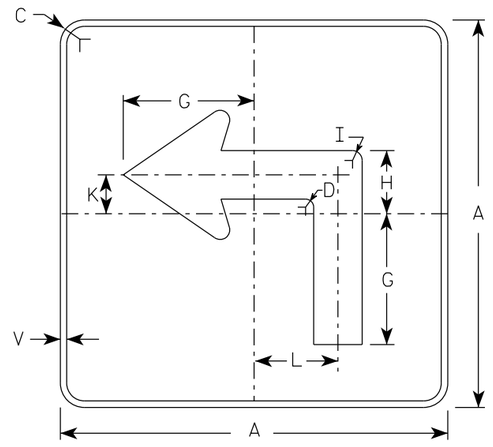
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 160 E



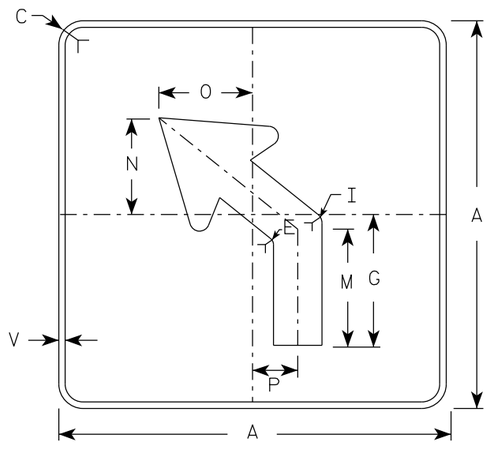
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L

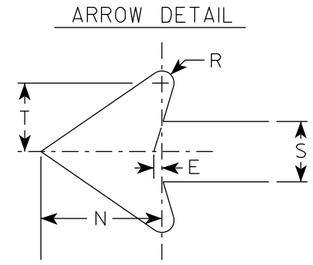


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

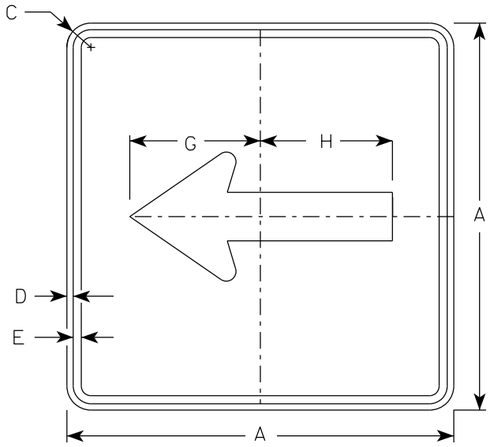
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

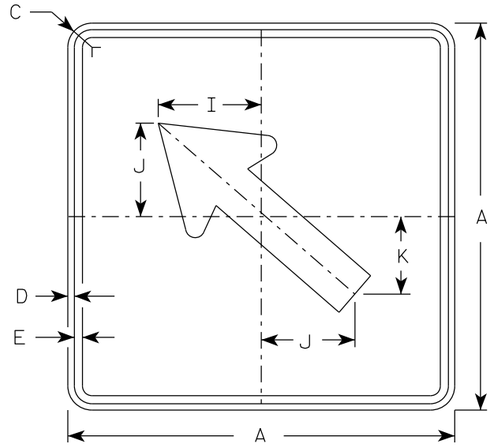
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

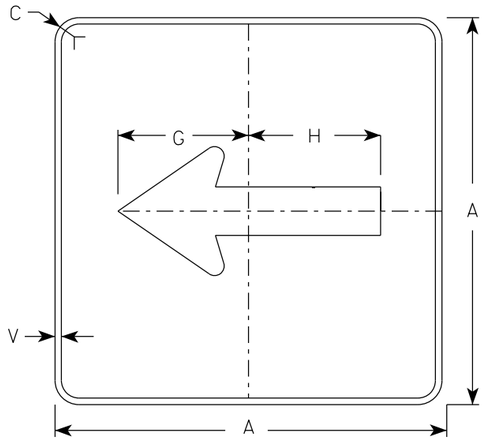
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 161 | E



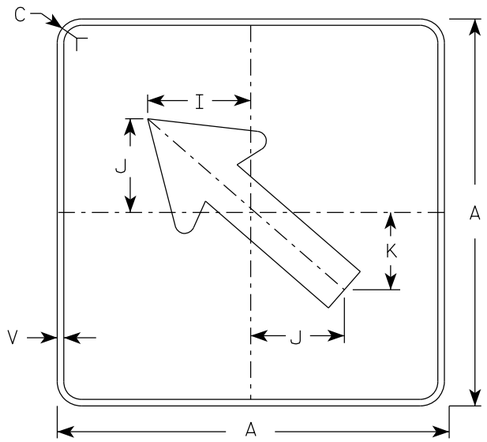
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

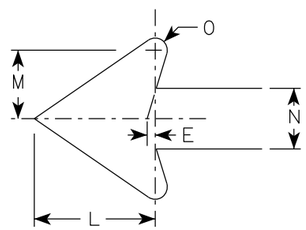


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

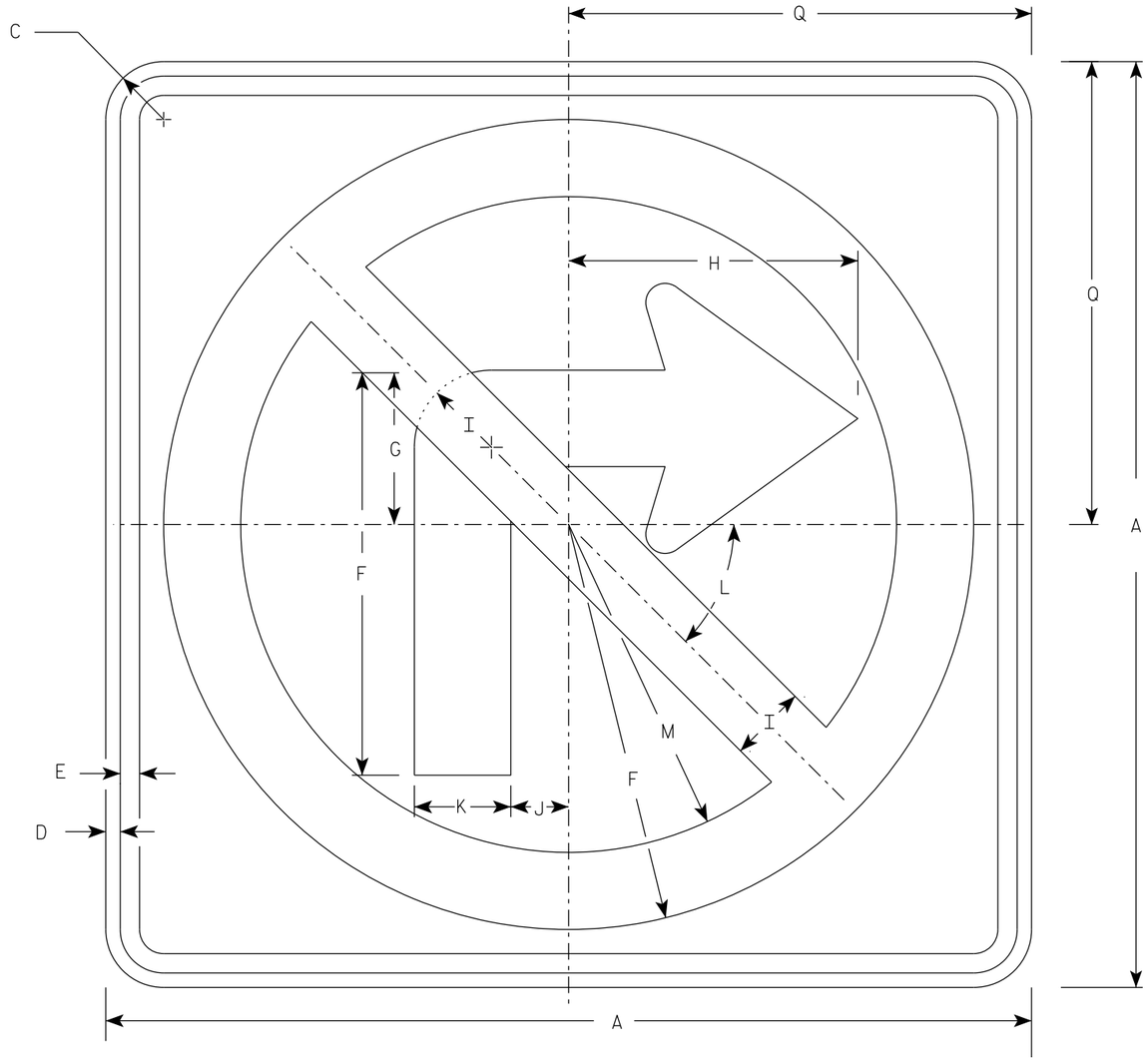
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 162 | E

7

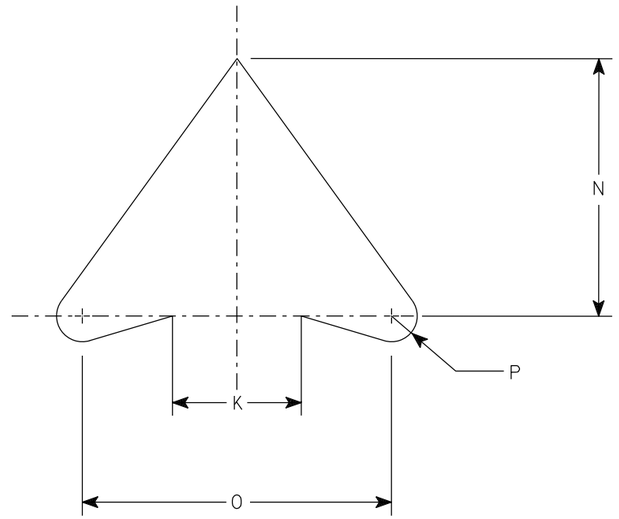
7



R3-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 ½	⅜	½	10 ½	4	7 ½	2	1 ½	2 ½	45	8 ½	5	6	½	12										4.0
2S	24		1 ½	⅜	½	10 ½	4	7 ½	2	1 ½	2 ½	45°	8 ½	5	6	½	12										4.0
2M	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45	12 ¾	7 ½	9	¾	18										9.0
3	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45	12 ¾	7 ½	9	¾	18										9.0
4	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45°	12 ¾	7 ½	9	¾	18										9.0
5	48		2 ¼	¾	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

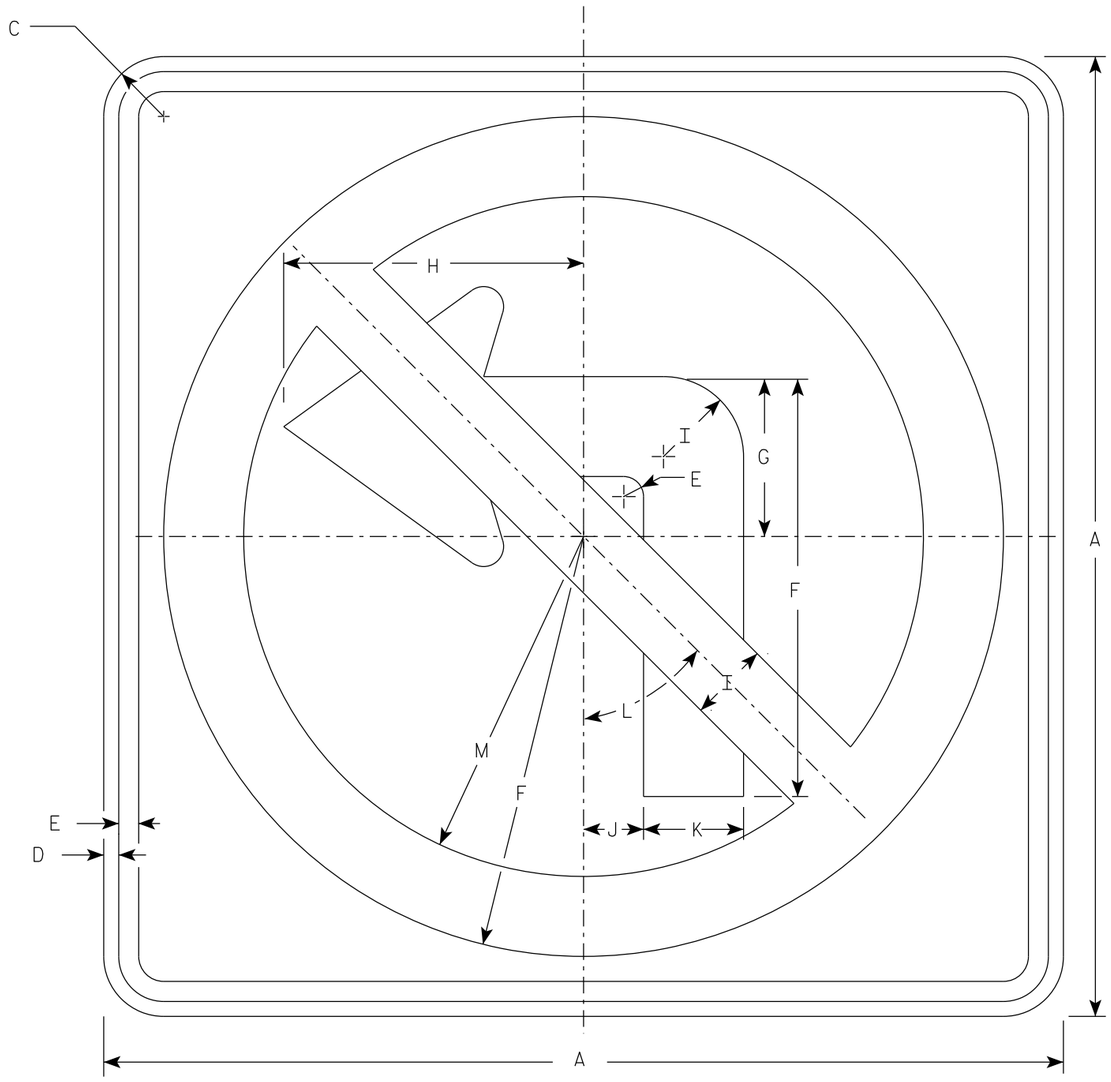
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/2/23 PLATE NO. R3-1.6

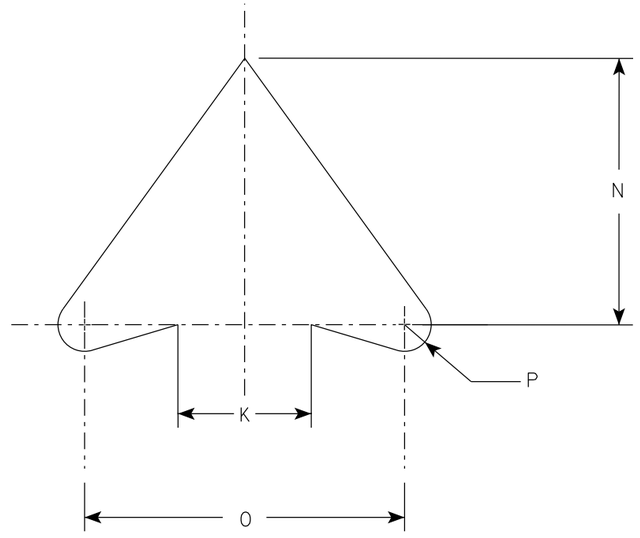
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 163 | E



R3-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

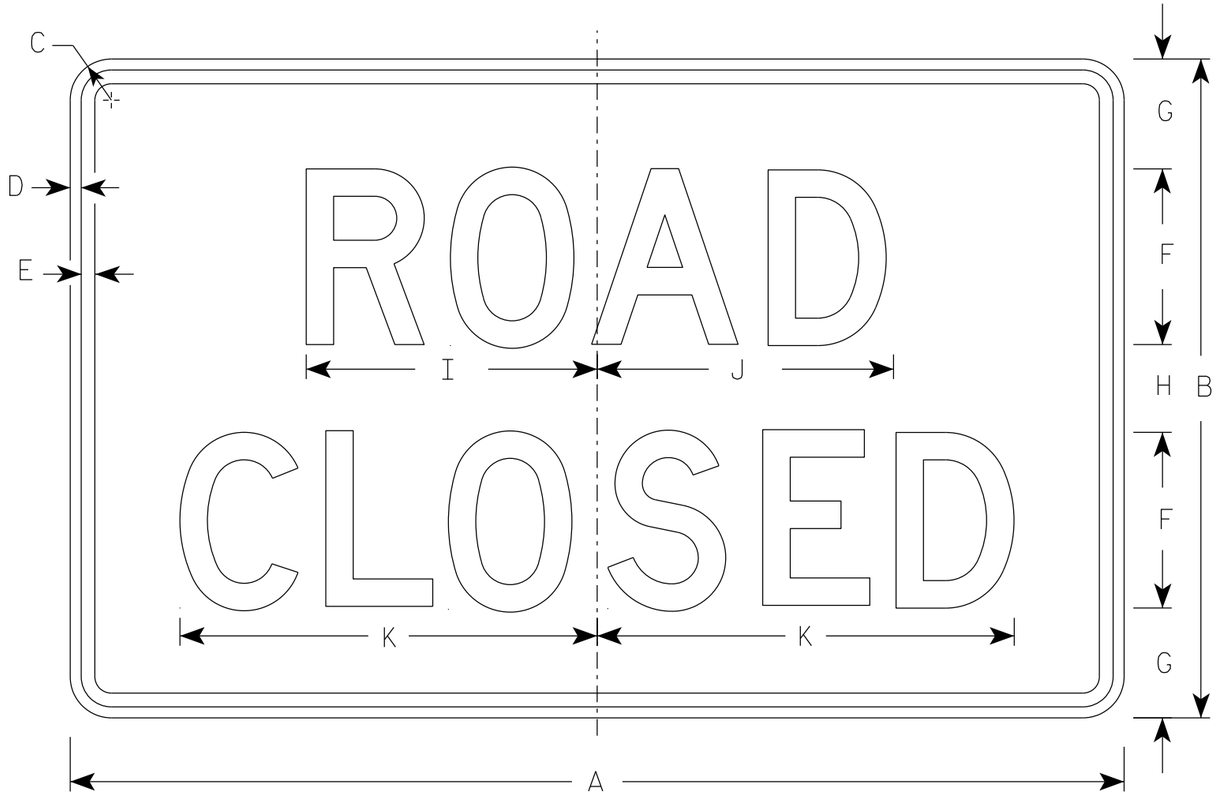
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/2/23 PLATE NO. R3-2.11

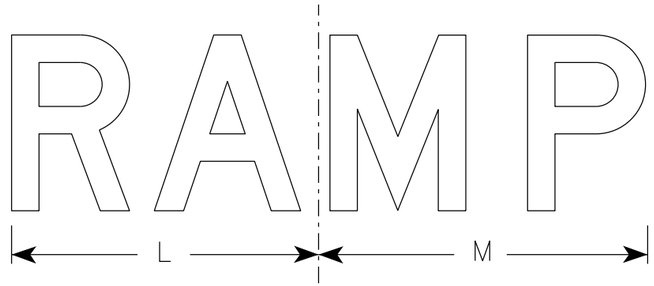
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 164 | E



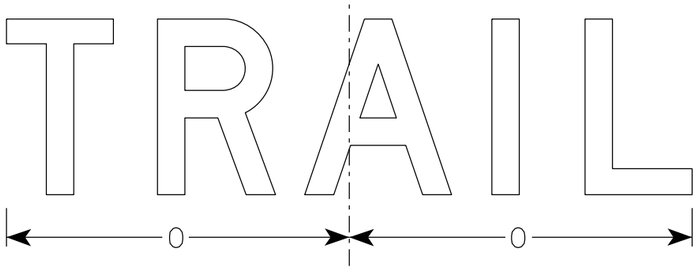
R11-2

NOTES

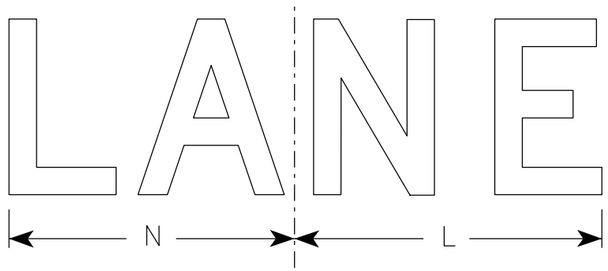
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

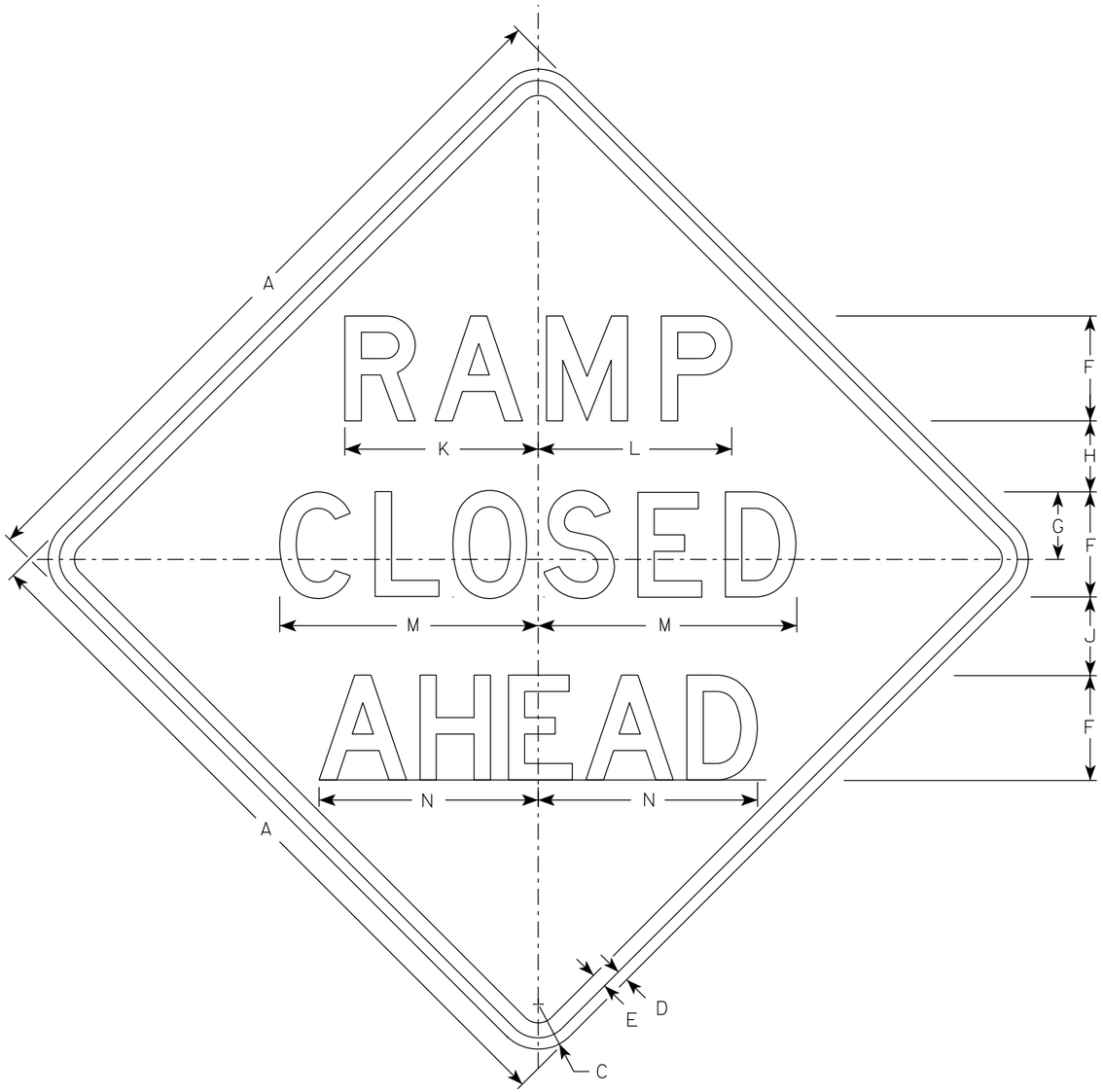
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

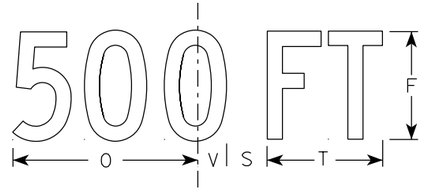
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

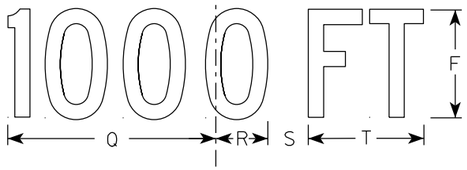
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



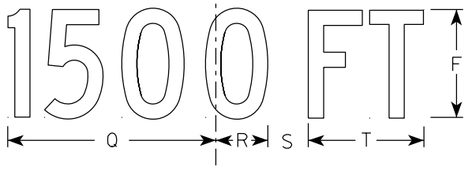
W20-53A



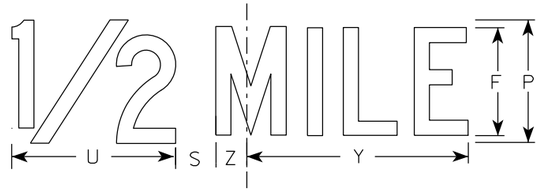
W20-53D



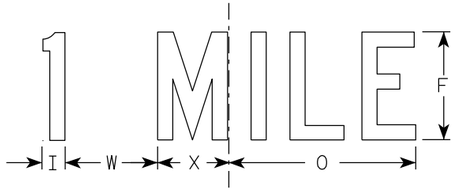
W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

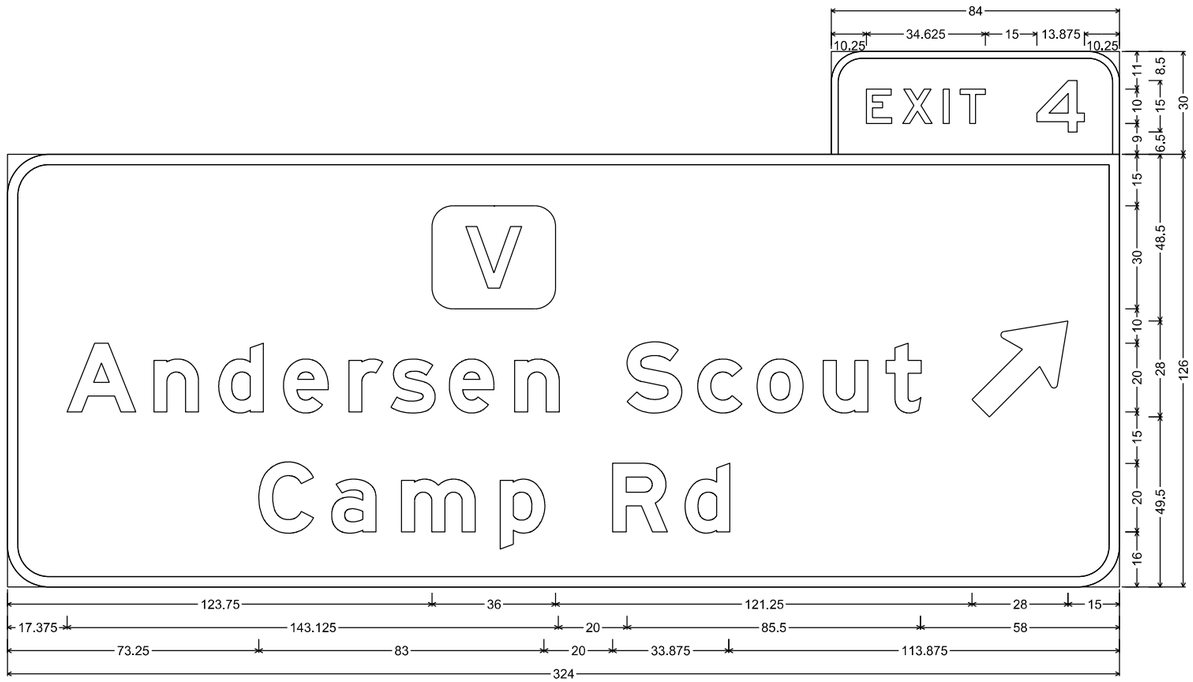
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-53.2

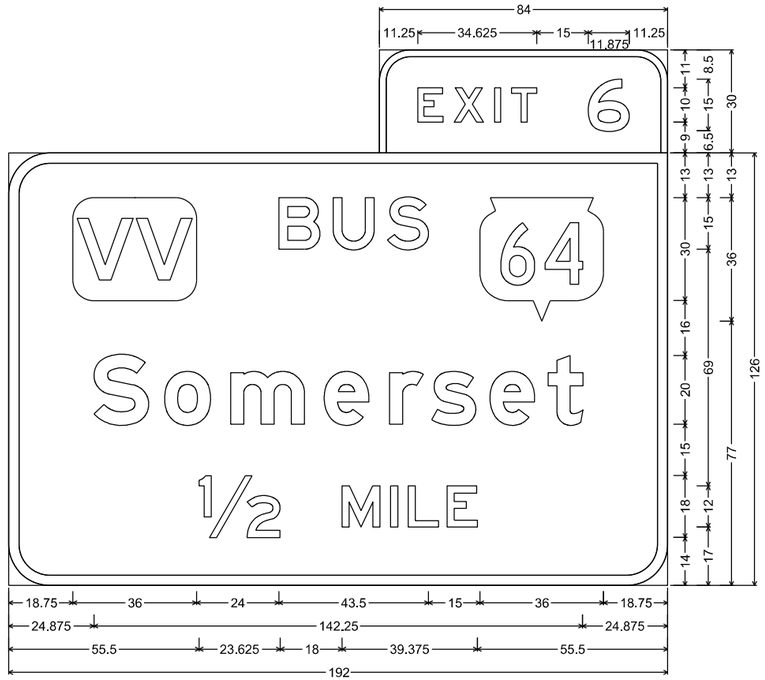
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

NOTES

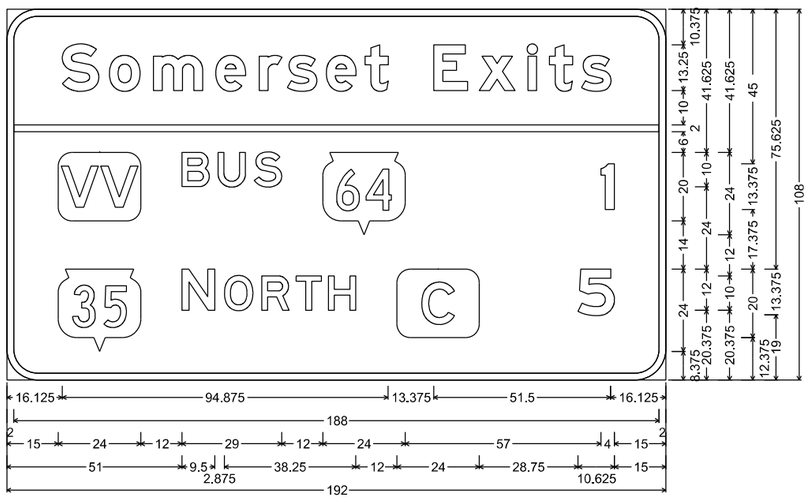
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



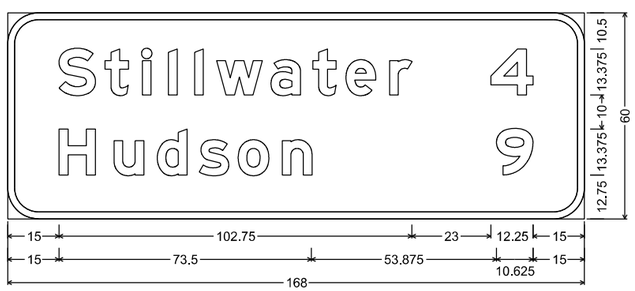
E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border



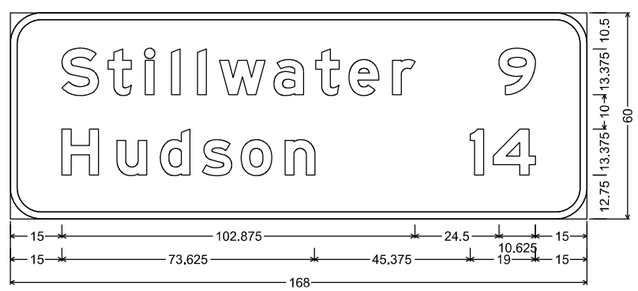
E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border



E8-1A; 9.000" Radius, 2.000" Border



D2-2; 9.000" Radius, 2.000" Border



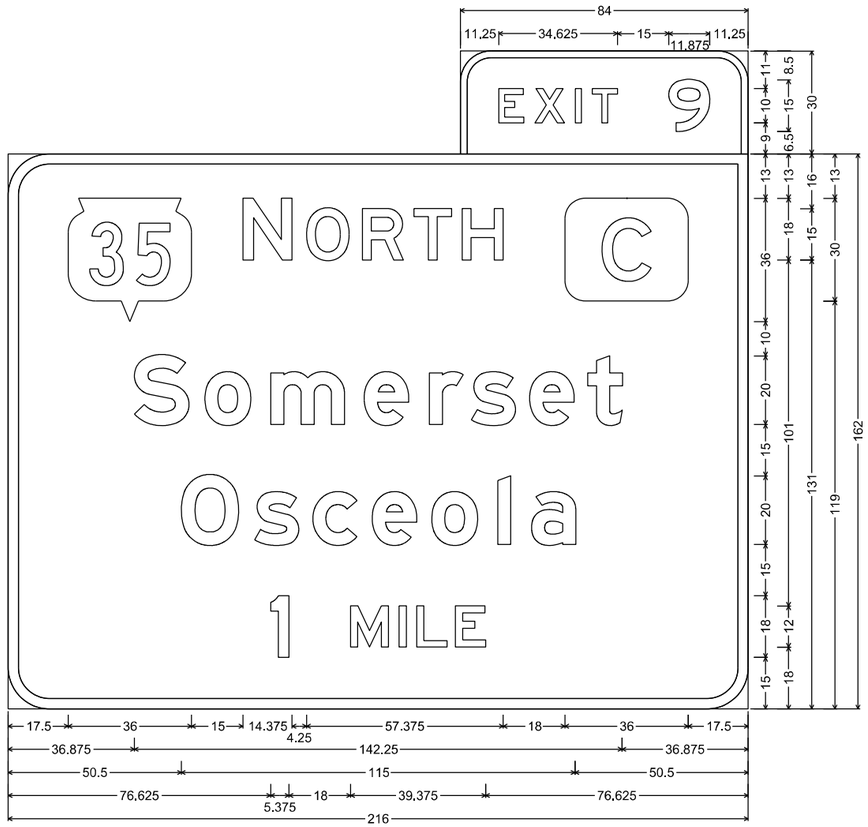
D2-2; 9.000" Radius, 2.000" Border

7

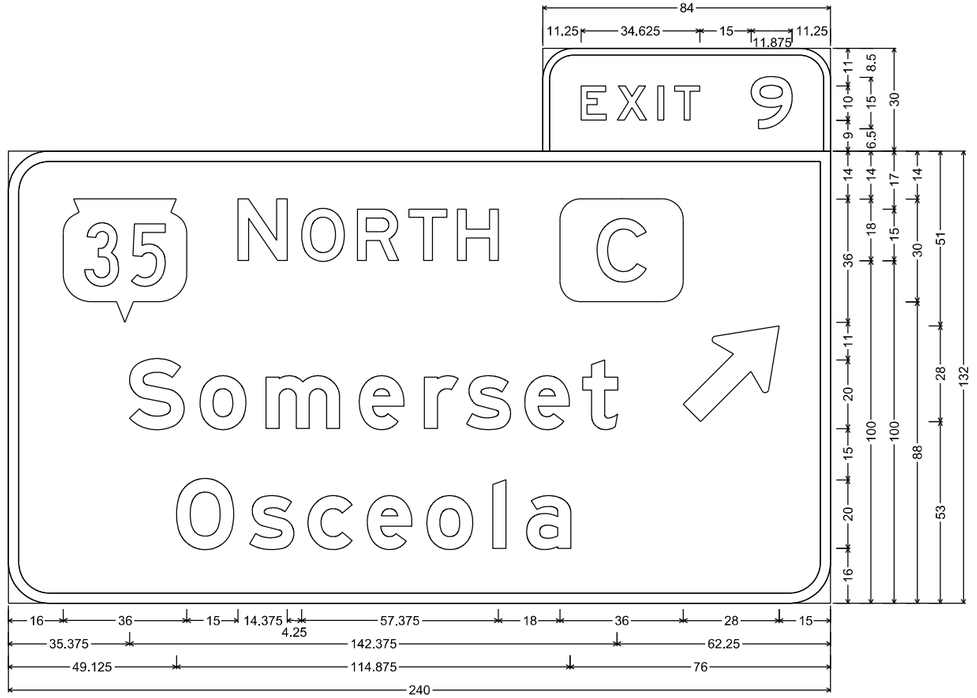
7

NOTES

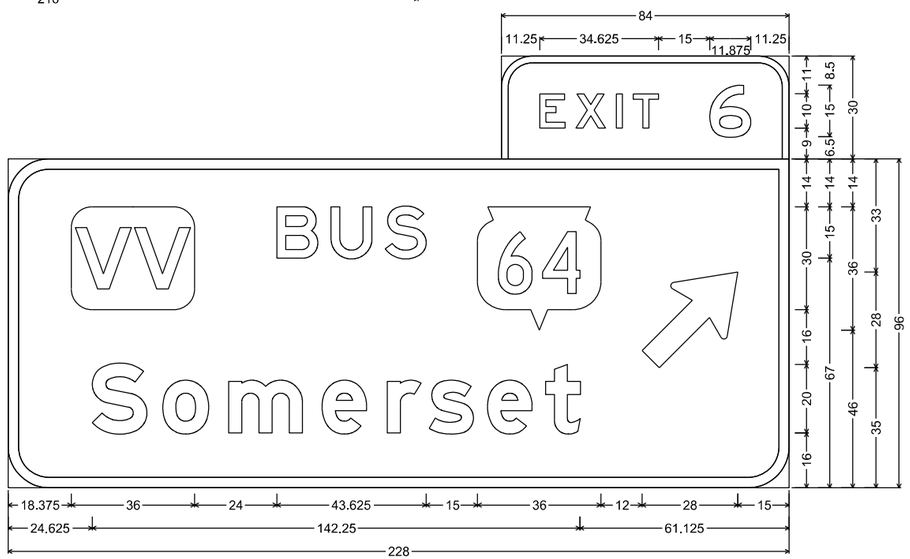
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border

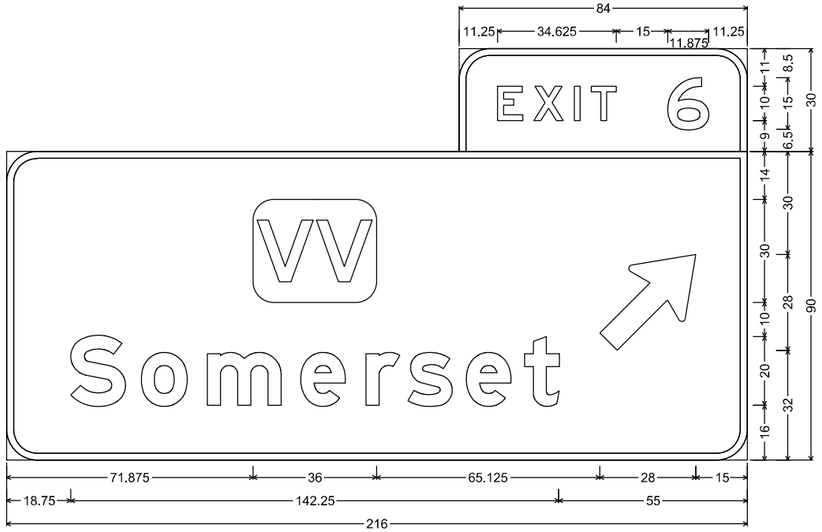
7

7

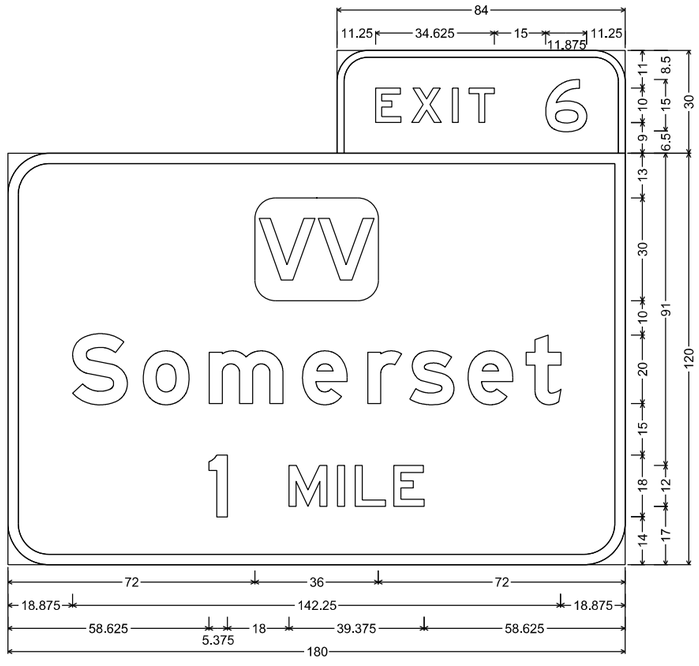
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST CROIX	PERMANENT SIGNING	SHEET NO: 168	E

NOTES

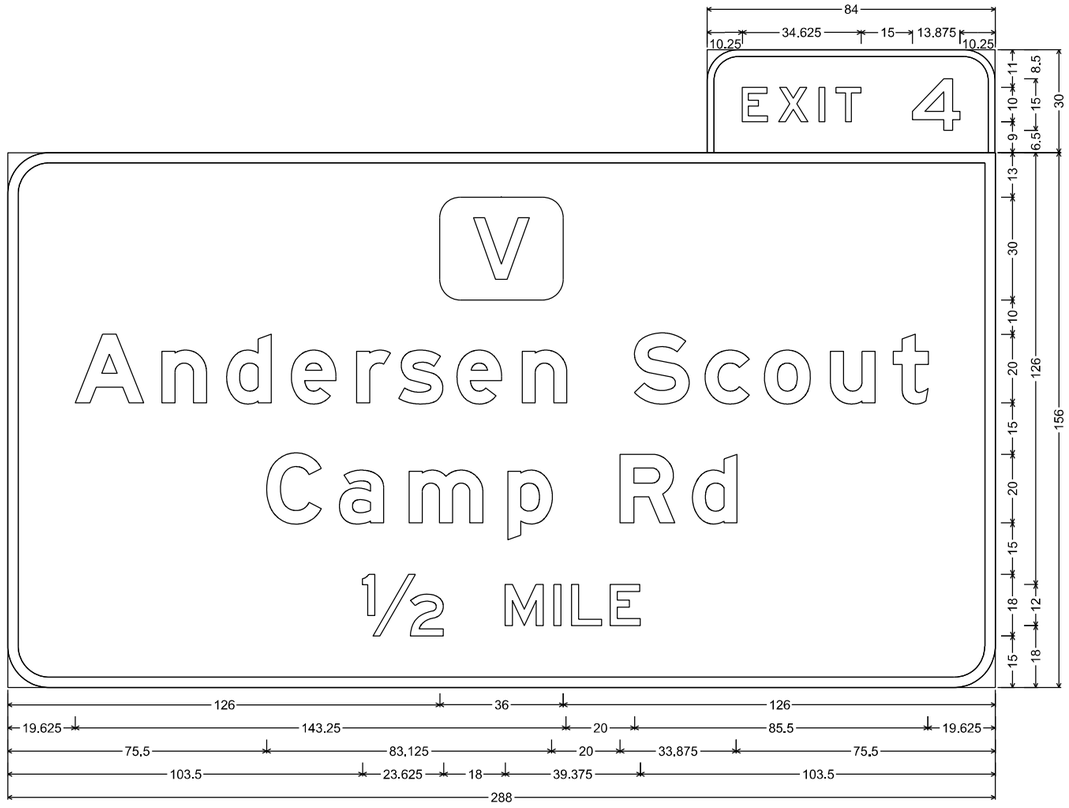
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border

7

7

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST CROIX	PERMANENT SIGNING	SHEET NO: 169	E

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	301+81	30181	0	0.00	11.60	0	0	0	0	0
	303+31	30331	150	4.71	1.77	13	37	13	46	-33
	303+94	30394	63	7.56	1.27	14	4	27	51	-23
	304+07	30407	12	6.95	1.15	3	1	31	52	-21
	304+92	30492	85	4.35	2.03	18	5	49	58	-9
	305+28	30528	36	2.74	2.08	5	3	53	61	-8
	305+69	30569	41	2.53	3.76	4	4	57	67	-9
	305+81	30581	12	3.04	2.86	1	2	59	69	-10
	306+48	30648	67	0.00	35.13	4	47	62	128	-65
	306+69	30669	21	0.00	33.81	0	27	62	161	-99
	307+98	30798	129	0.00	7.07	0	98	62	283	-221
						62	227			

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	430+51	43051	0	32.67	0.33	0	0	0	0	0
	432+01	43201	150	9.99	11.97	119	34	119	43	76
	432+64	43264	64	8.64	5.89	22	21	141	69	71
	432+76	43276	12	7.90	7.17	4	3	144	73	71
	433+39	43339	63	3.57	16.43	13	27	157	107	51
	433+99	43399	61	3.58	23.59	8	45	165	163	2
	434+62	43462	63	1.09	12.37	5	42	171	215	-44
	434+73	43473	12	1.54	10.29	1	5	171	221	-50
	435+21	43521	48	3.72	9.49	5	18	176	243	-67
	435+37	43537	16	5.39	8.04	3	5	179	250	-71
	436+87	43687	150	24.40	0.31	83	23	261	279	-17
						261	223			

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	351+70	35170	0	0.01	35.50	0	0	0	0	0
	353+20	35320	150	0.00	39.67	0	209	0	261	-261
	353+46	35346	26	0.25	39.63	0	38	0	309	-309
	353+83	35383	37	0.00	18.65	0	40	0	359	-359
	353+95	35395	12	0.00	15.28	0	8	0	369	-368
	354+55	35455	60	0.00	21.59	0	41	0	420	-419
	355+24	35524	68	0.00	18.96	0	51	0	484	-484
	355+82	35582	59	0.00	27.86	0	51	0	548	-548
	355+95	35595	13	0.00	33.20	0	14	0	566	-565
	356+46	35646	51	0.00	38.43	0	68	0	651	-650
	356+59	35659	13	0.00	36.49	0	17	0	673	-672
	358+09	35809	150	0.03	20.85	0	159	0	872	-871
						0	697			

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	555+98	55598	0	2.62	4.26	0	0	0	0	0
	557+26	55726	128	0.03	25.07	6	70	6	87	-81
	557+48	55748	21	0.02	15.50	0	16	6	107	-101
	558+12	55812	64	0.00	11.62	0	32	6	147	-141
	558+23	55823	12	0.00	8.20	0	4	6	152	-146
	558+78	55878	55	0.00	9.52	0	18	6	175	-169
	559+18	55918	40	0.02	8.41	0	13	6	192	-185
	559+73	55973	55	0.43	6.88	0	16	7	211	-204
	559+85	55985	12	1.61	6.94	0	3	7	215	-208
	560+49	56049	64	0.17	22.31	2	35	9	258	-249
	560+70	56070	21	0.21	19.03	0	16	9	278	-269
	561+99	56199	129	16.54	0.00	40	45	50	335	-285
						50	268			

9

9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	EARTHWORK DATA	SHEET 170	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 01

PLOT DATE : 6/4/2025 9:25 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 49

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	579+03	57903	0	5.33	2.97	0	0	0	0	0
	580+45	58045	142	0.00	27.27	14	79	14	99	-85
	580+53	58053	8	0.00	13.15	0	6	14	107	-93
	581+17	58117	64	0.64	6.39	1	23	15	136	-121
	581+28	58128	11	1.01	7.89	0	3	15	140	-124
	581+86	58186	58	1.65	8.96	3	18	18	162	-144
	582+08	58208	22	3.99	7.76	2	7	20	171	-150
	582+67	58267	59	1.65	13.30	6	23	26	199	-173
	582+77	58277	11	0.55	14.46	0	5	27	206	-179
	583+42	58342	64	3.46	8.60	5	27	32	240	-209
	584+92	58492	150	2.74	1.24	17	27	49	274	-226
						49	220			

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	611+32	61132	0	1.36	42.65	0	0	0	0	0
	611+75	61175	43	6.69	6.94	6	39	6	49	-43
	612+67	61267	92	14.49	8.97	36	27	42	83	-40
	613+59	61359	92	13.56	8.43	48	30	90	120	-30
	613+84	61384	25	18.72	9.07	15	8	105	130	-25
	614+09	61409	25	16.60	11.63	16	10	122	142	-21
	614+84	61484	75	17.72	3.67	48	21	169	169	1
	615+29	61529	45	17.73	1.82	30	5	199	174	24
						199	140			

PROJECT ID 8080-08-75

STH 35 'NB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	603+97	60397	0	18.22	1.10	0	0	0	0	0
	604+42	60442	45	16.33	1.33	29	2	29	3	26
	605+17	60517	75	17.10	0.48	46	3	75	6	70
	605+42	60542	25	26.83	0.65	20	1	96	6	89
	605+67	60567	25	28.16	0.85	25	1	121	7	114
	606+32	60632	65	15.38	2.26	53	4	174	12	162
	606+97	60697	65	4.95	7.35	24	12	198	26	172
	607+76	60776	79	14.07	0.24	28	11	226	40	186
	608+22	60822	45	1.42	22.94	13	19	239	65	174
						239	52			

9

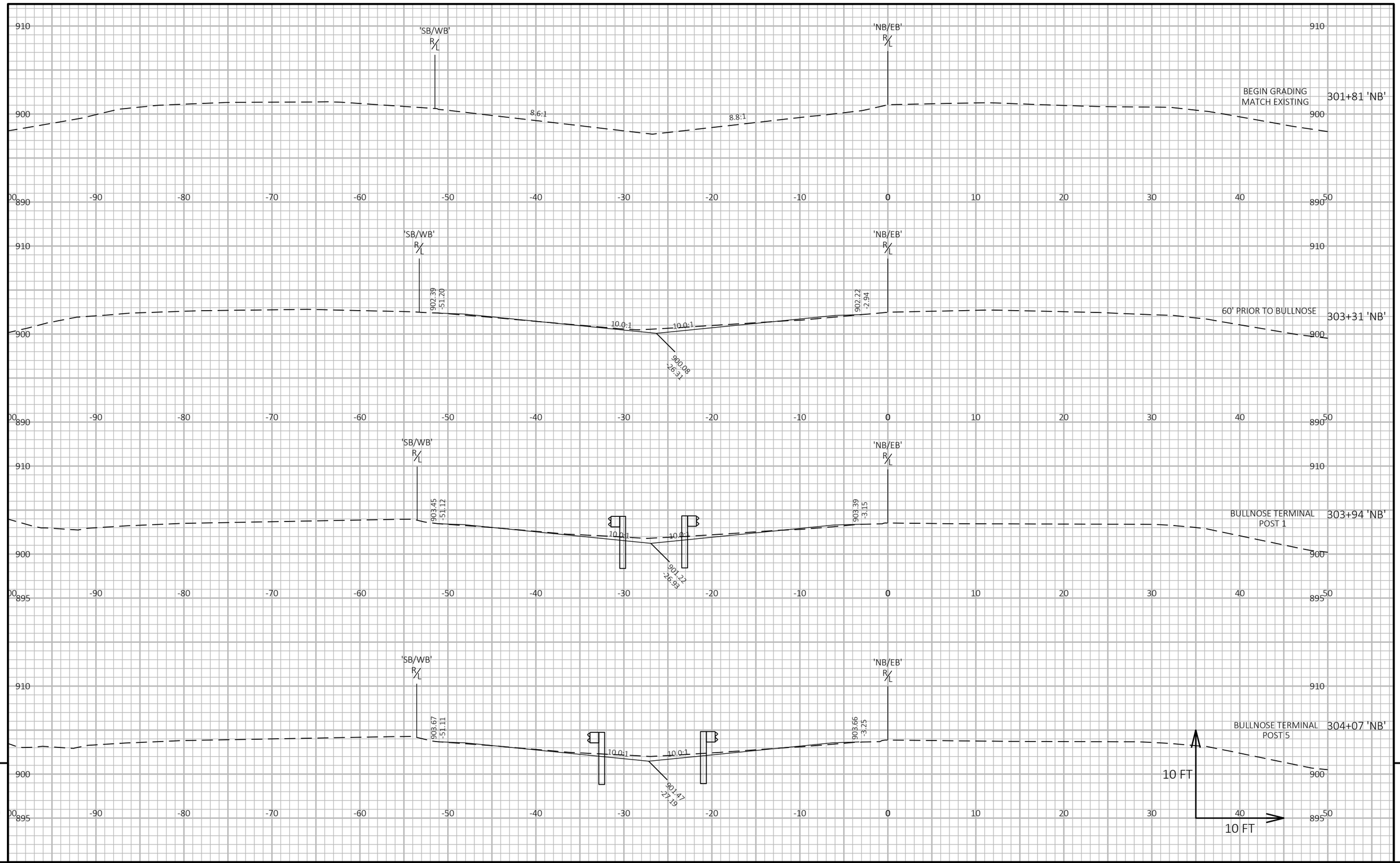
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PROJECT NO: 8080-08-75 | HWY: STH 35 | COUNTY: ST. CROIX | EARTHWORK DATA | SHEET 171 | E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090101-EW.DWG
LAYOUT NAME - 02

PLOT DATE : 6/4/2025 9:25 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 49



PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 172	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 6/4/2025 9:27 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 173	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02

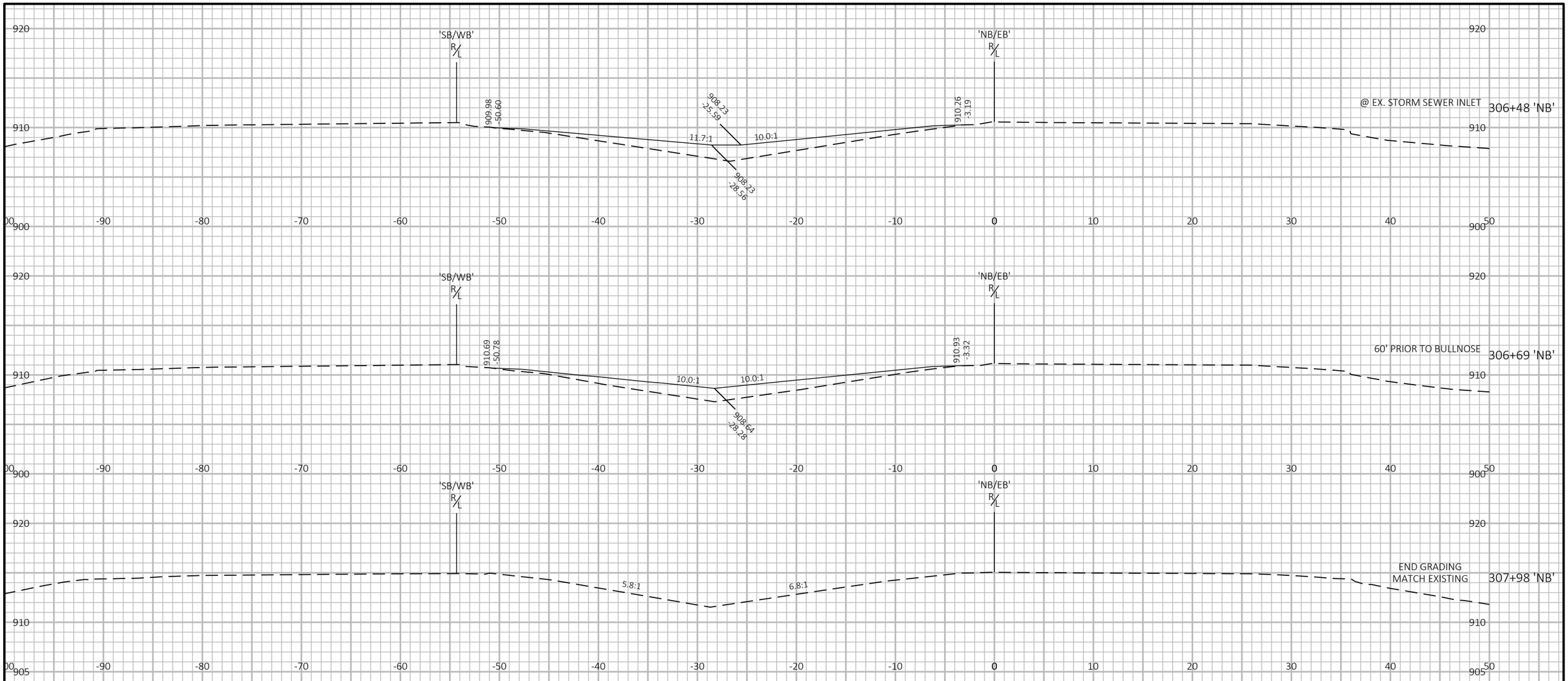
PLOT DATE : 6/4/2025 9:27 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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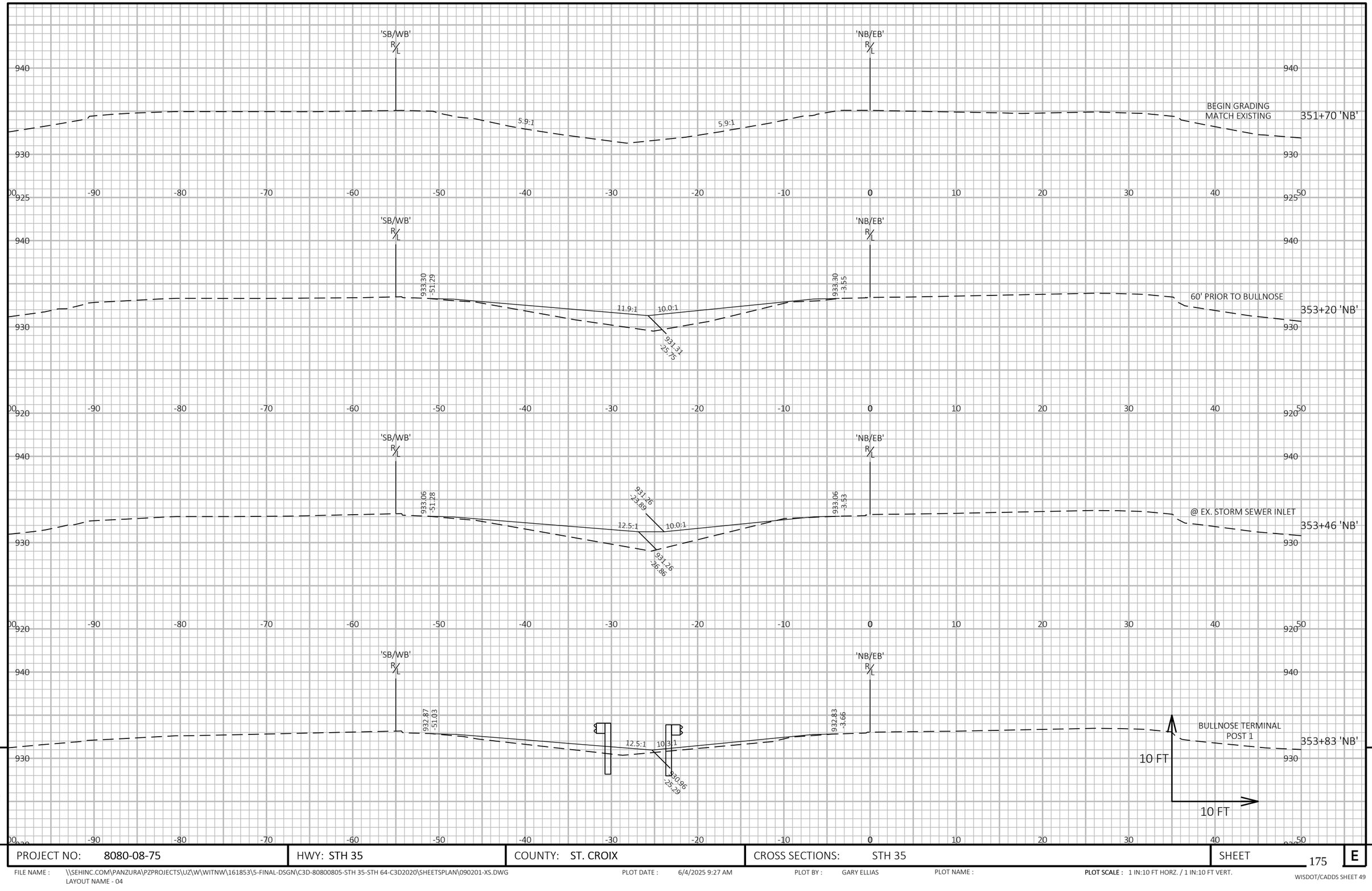
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 174	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 03

PLOT DATE : 6/4/2025 9:27 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 175	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 04

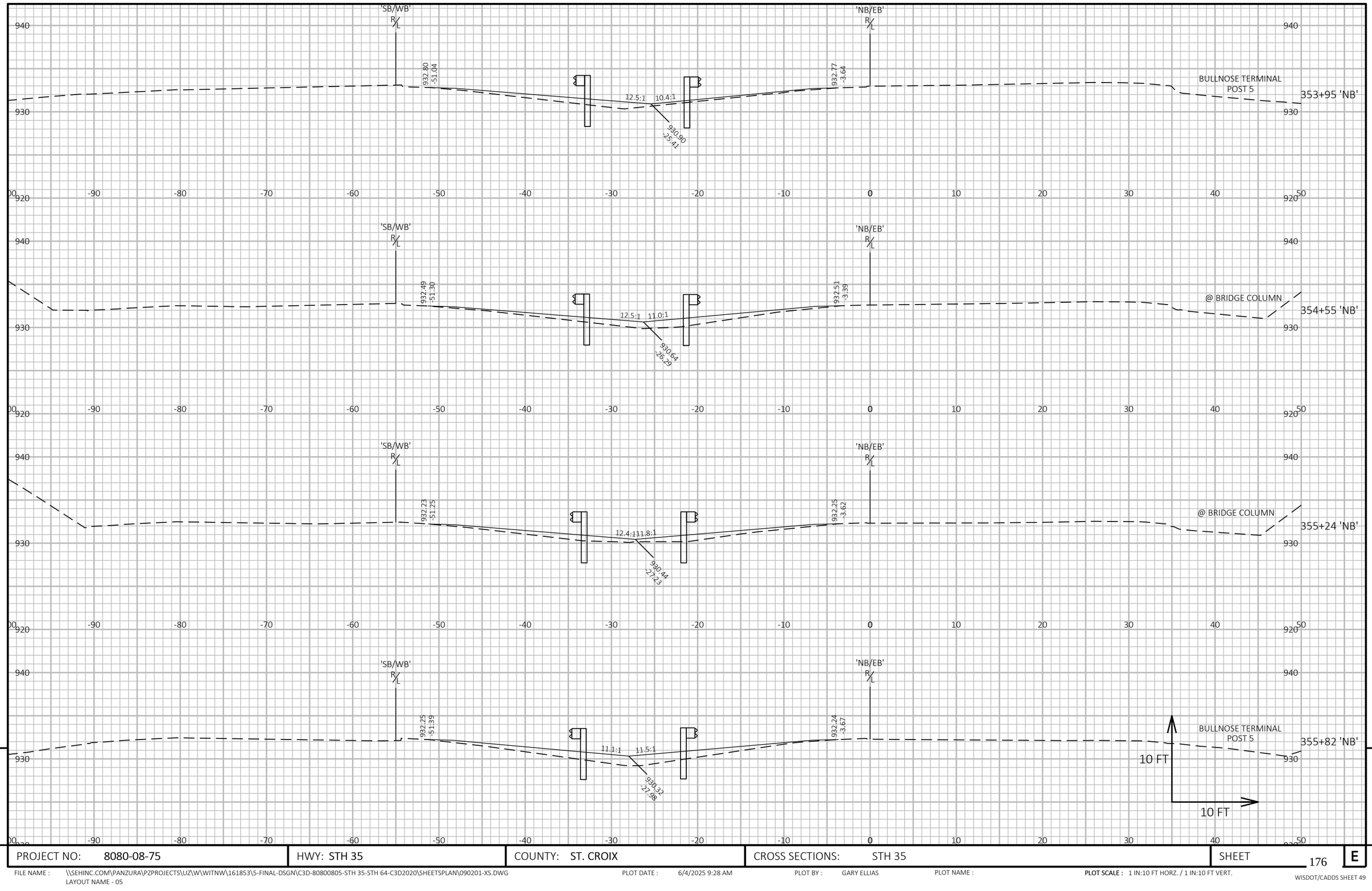
PLOT DATE : 6/4/2025 9:27 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 176	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 05

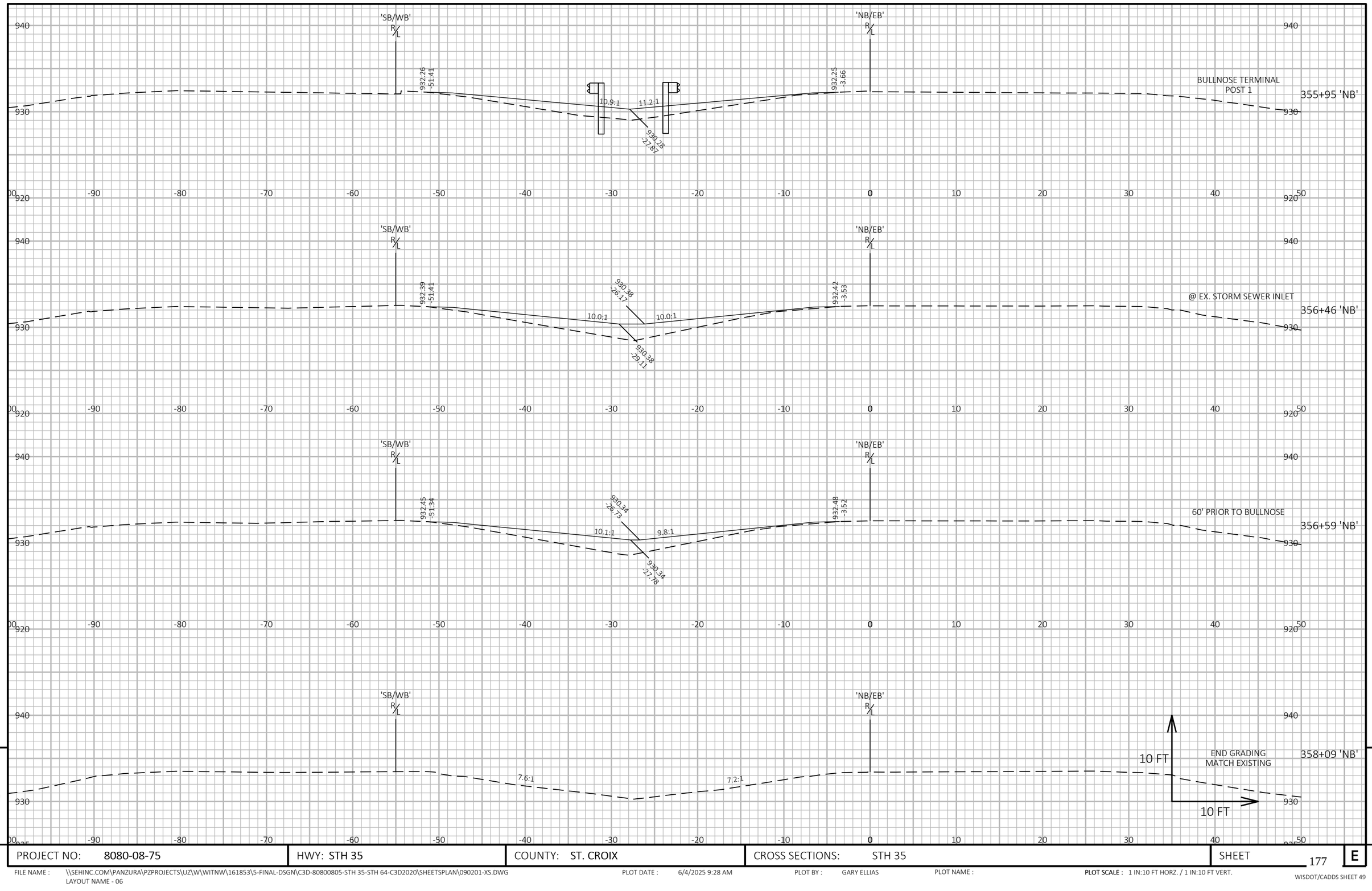
PLOT DATE : 6/4/2025 9:28 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 177	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 06

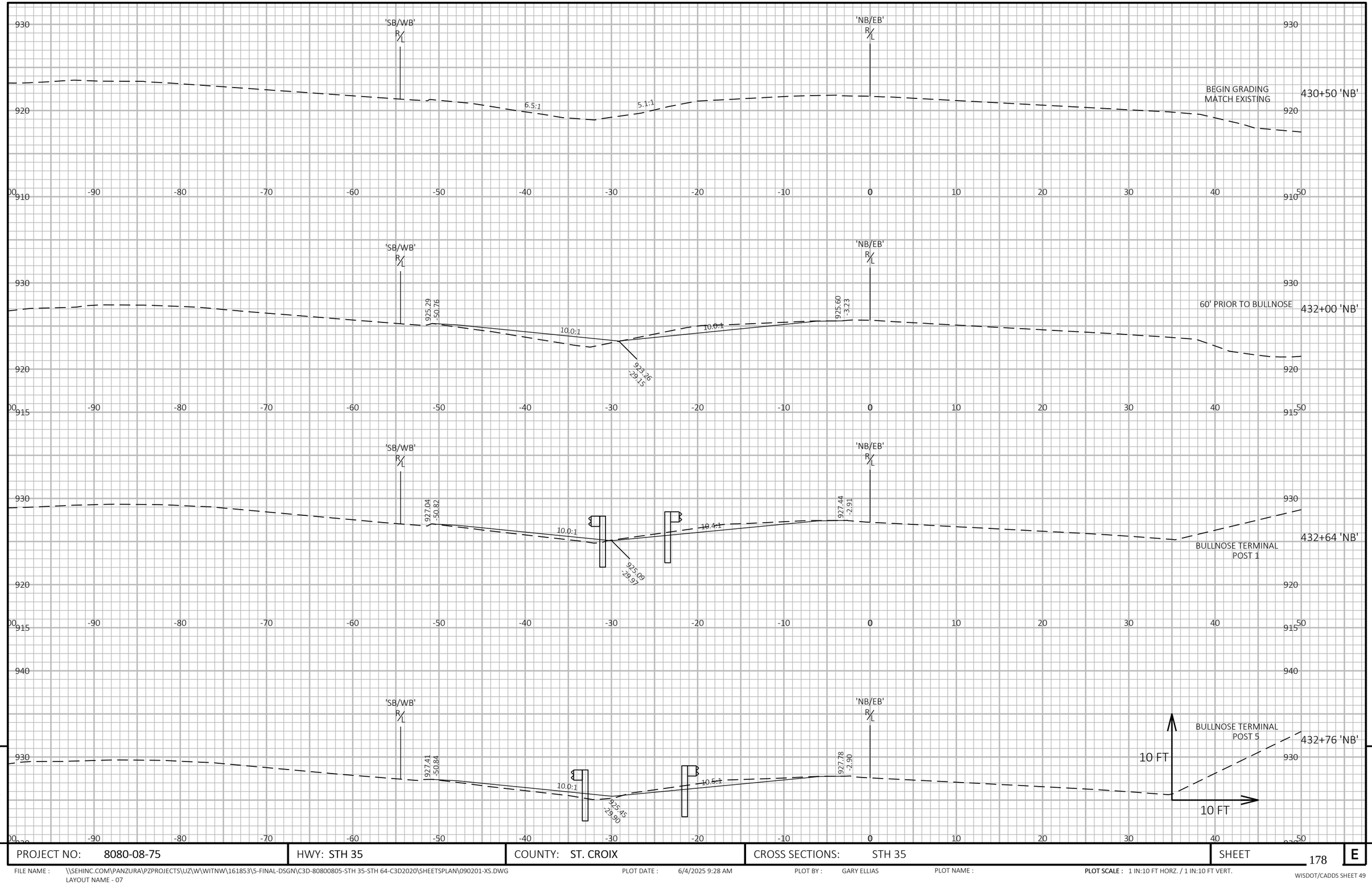
PLOT DATE : 6/4/2025 9:28 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 178	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 6/4/2025 9:28 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9

9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 179	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 08

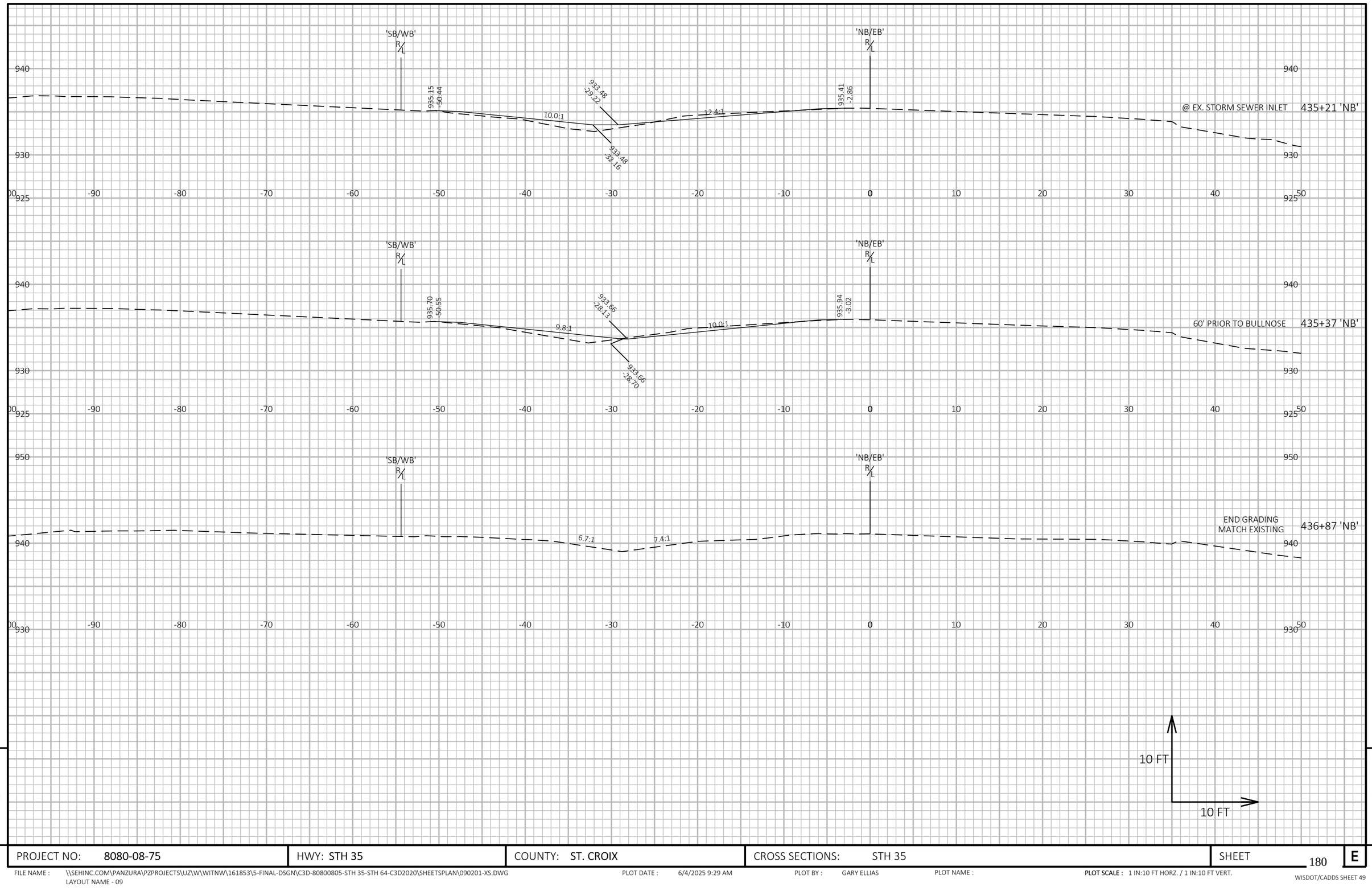
PLOT DATE : 6/4/2025 9:29 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

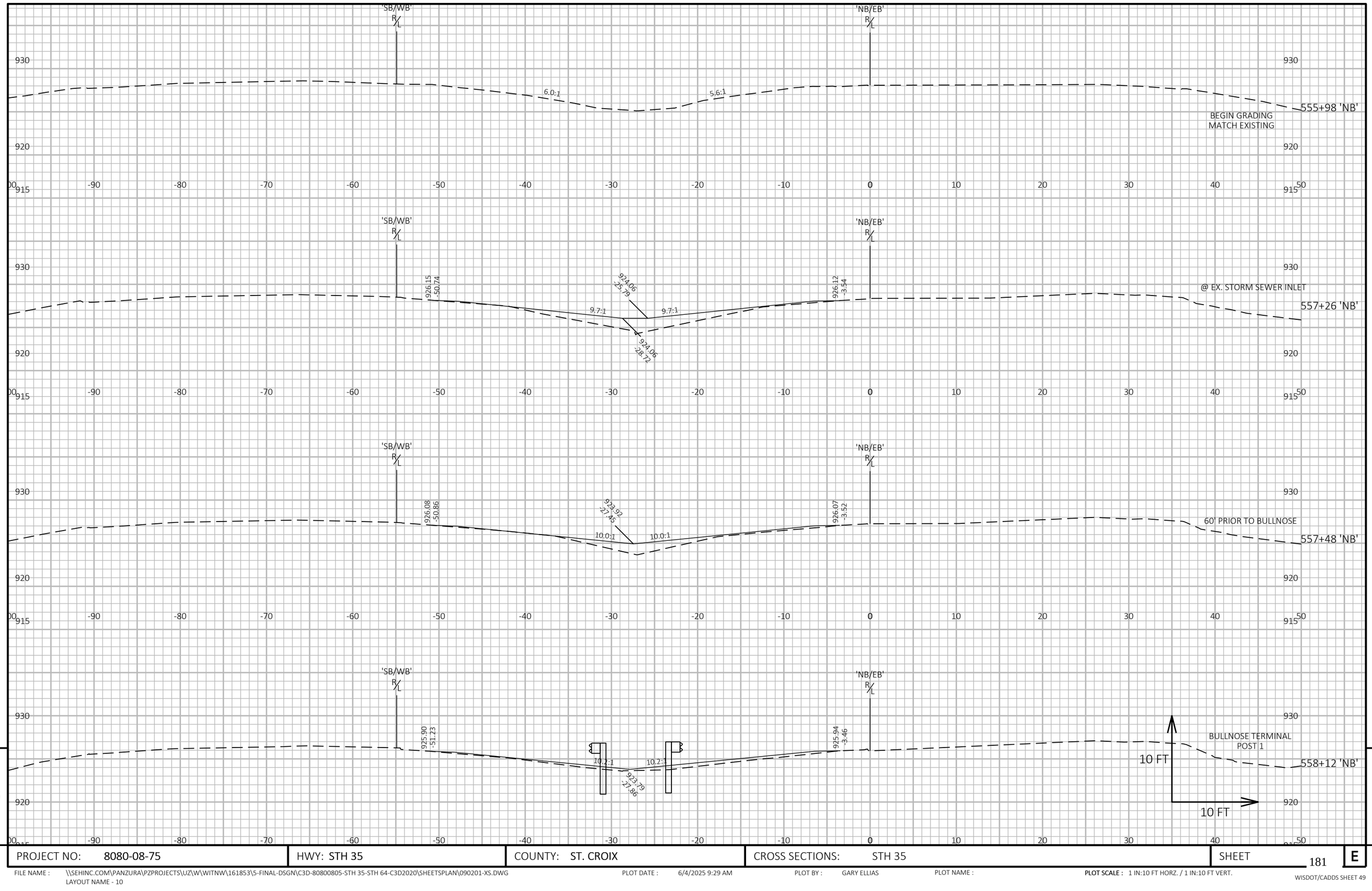
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 180	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 09

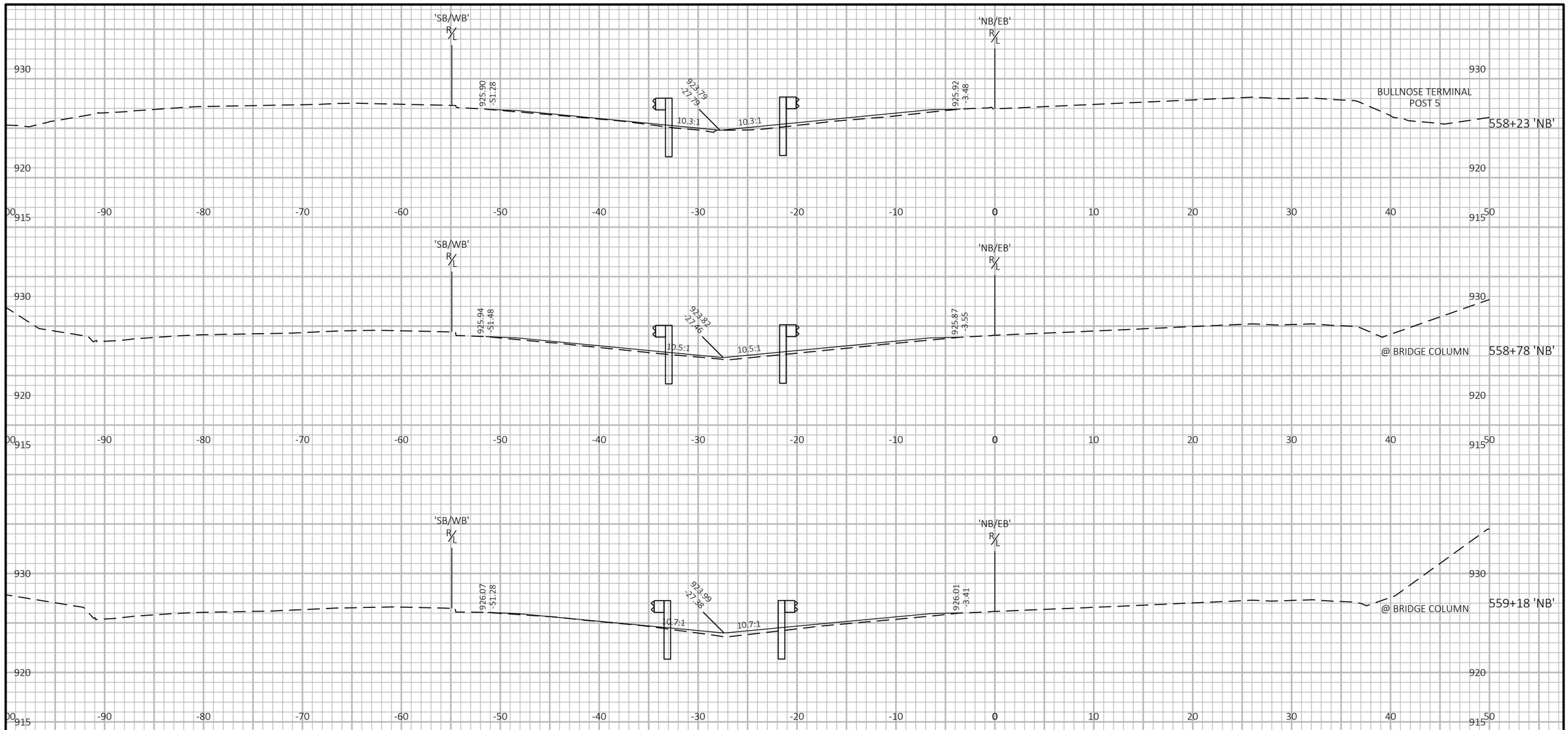
PLOT DATE : 6/4/2025 9:29 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 181	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 10
PLOT DATE : 6/4/2025 9:29 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 182	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 11

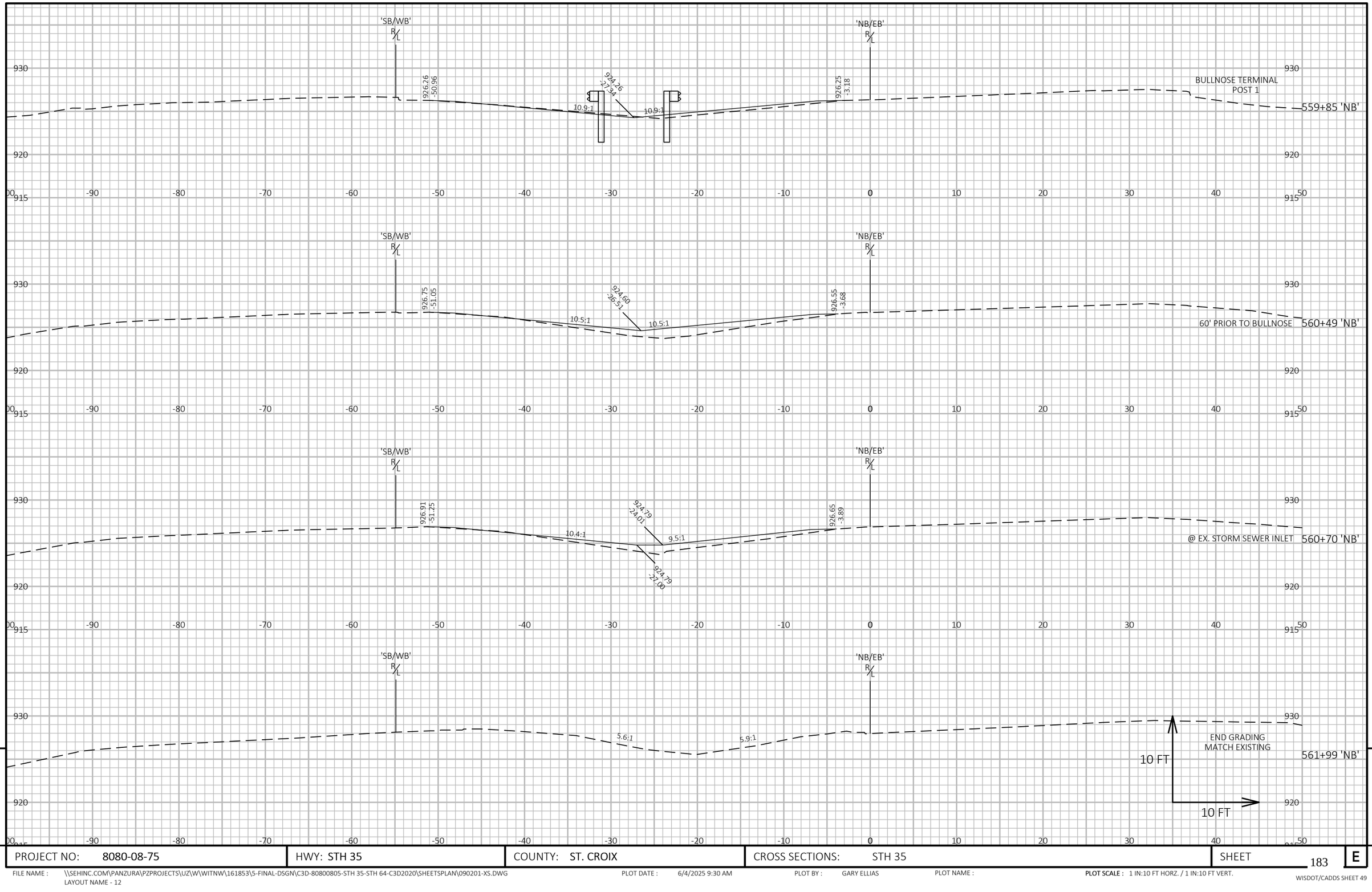
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PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

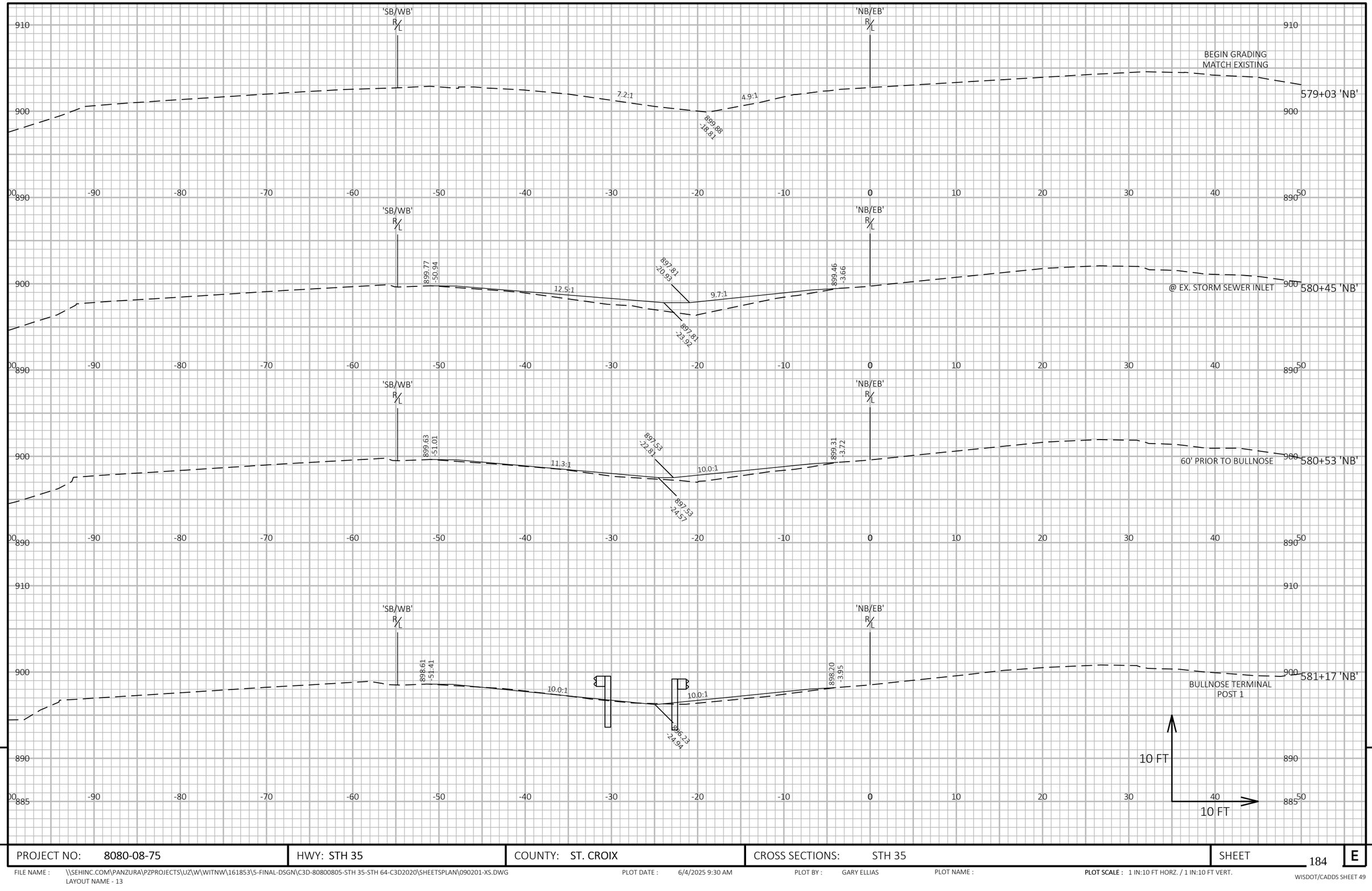
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 183	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 12

PLOT DATE : 6/4/2025 9:30 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 184	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 13

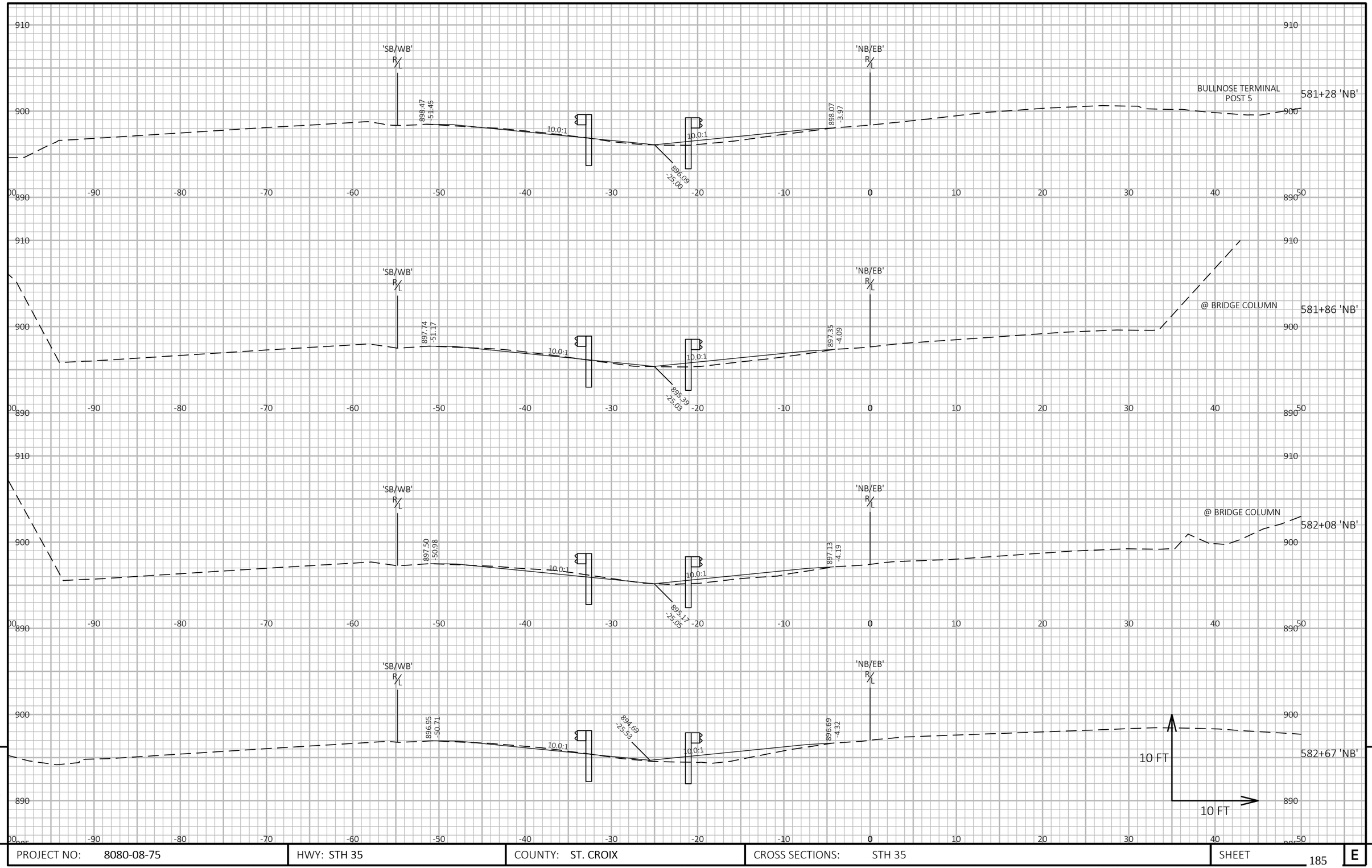
PLOT DATE : 6/4/2025 9:30 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

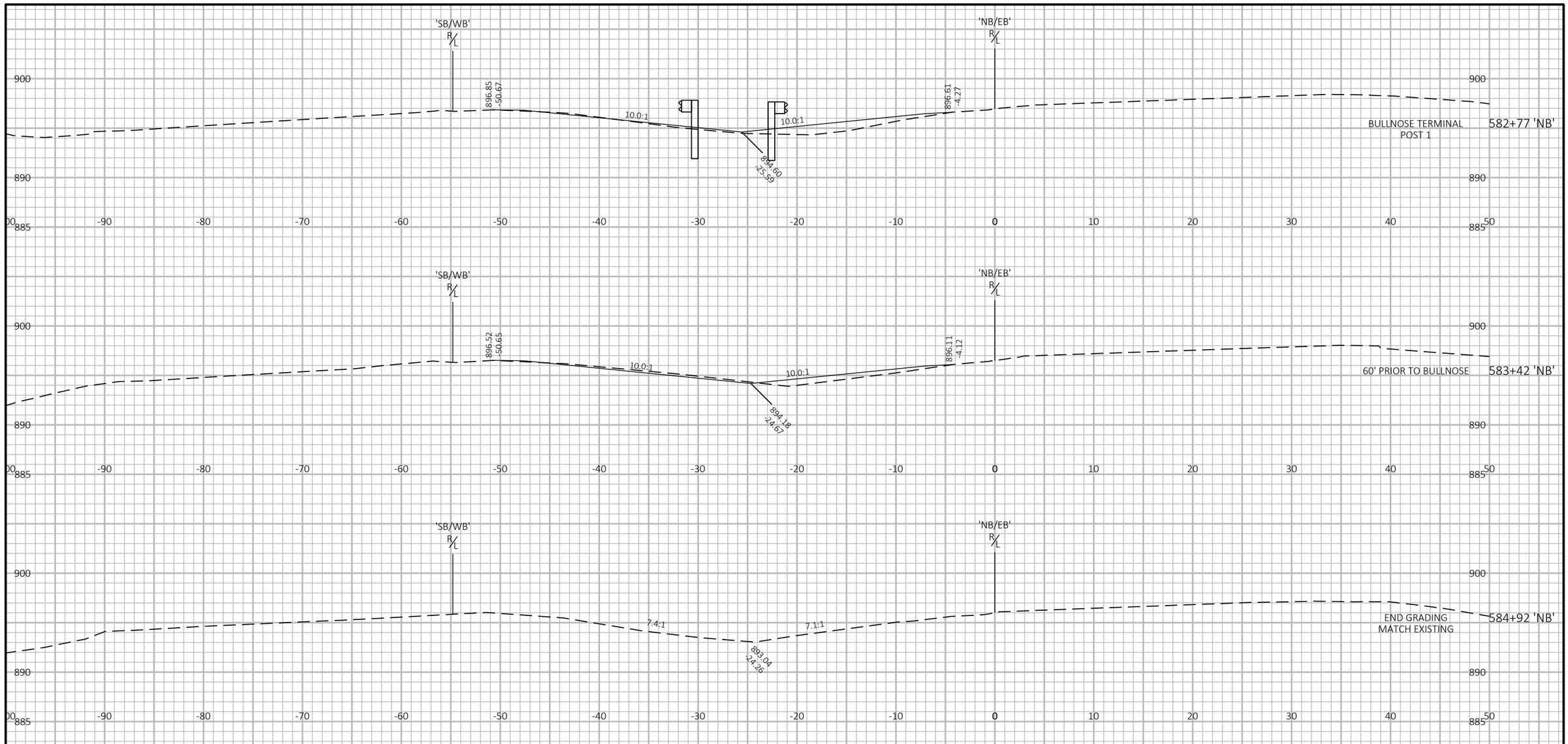
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 185	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 14

PLOT DATE : 6/4/2025 9:30 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

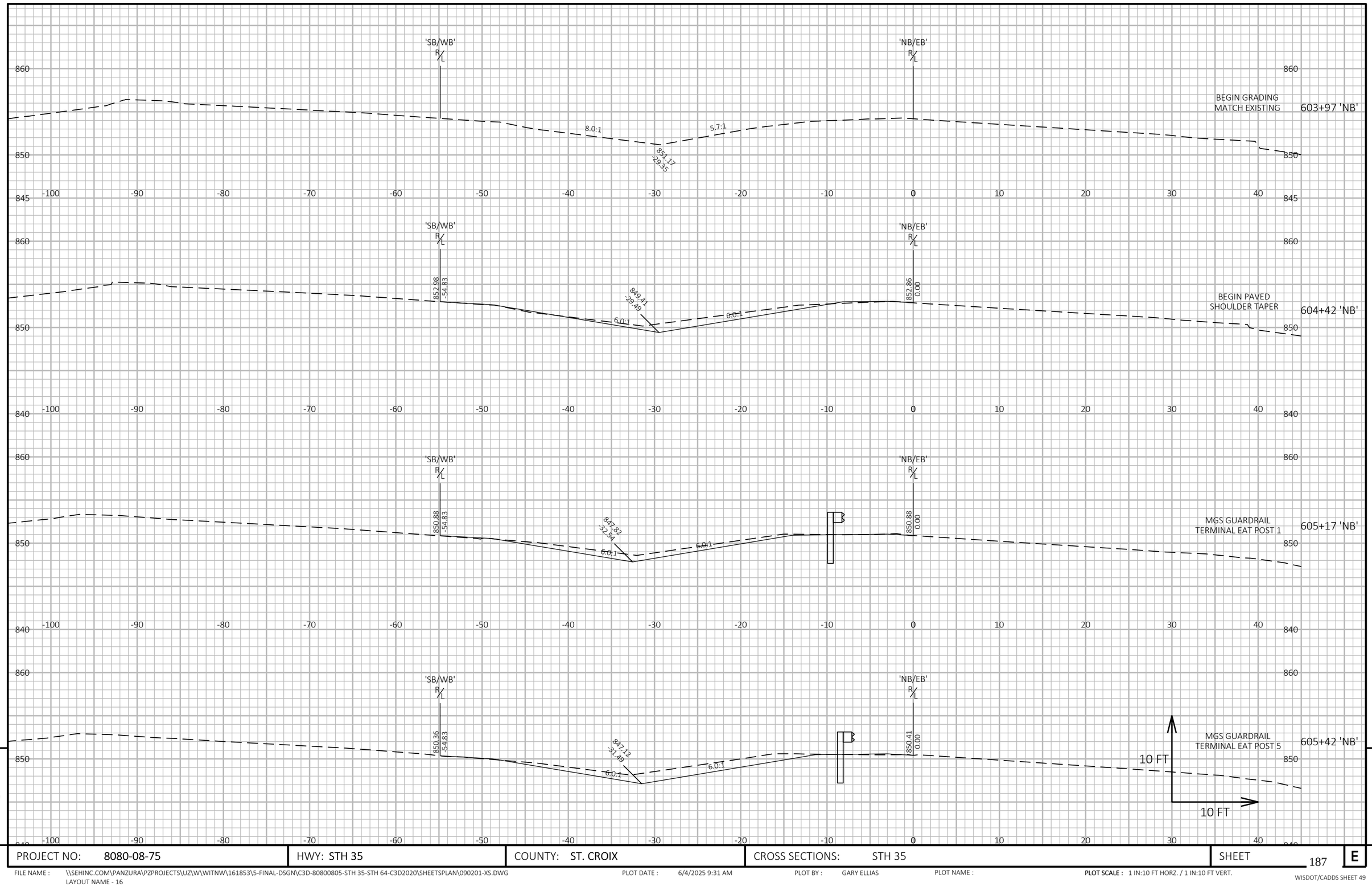
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 186	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 15

PLOT DATE : 6/4/2025 9:31 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

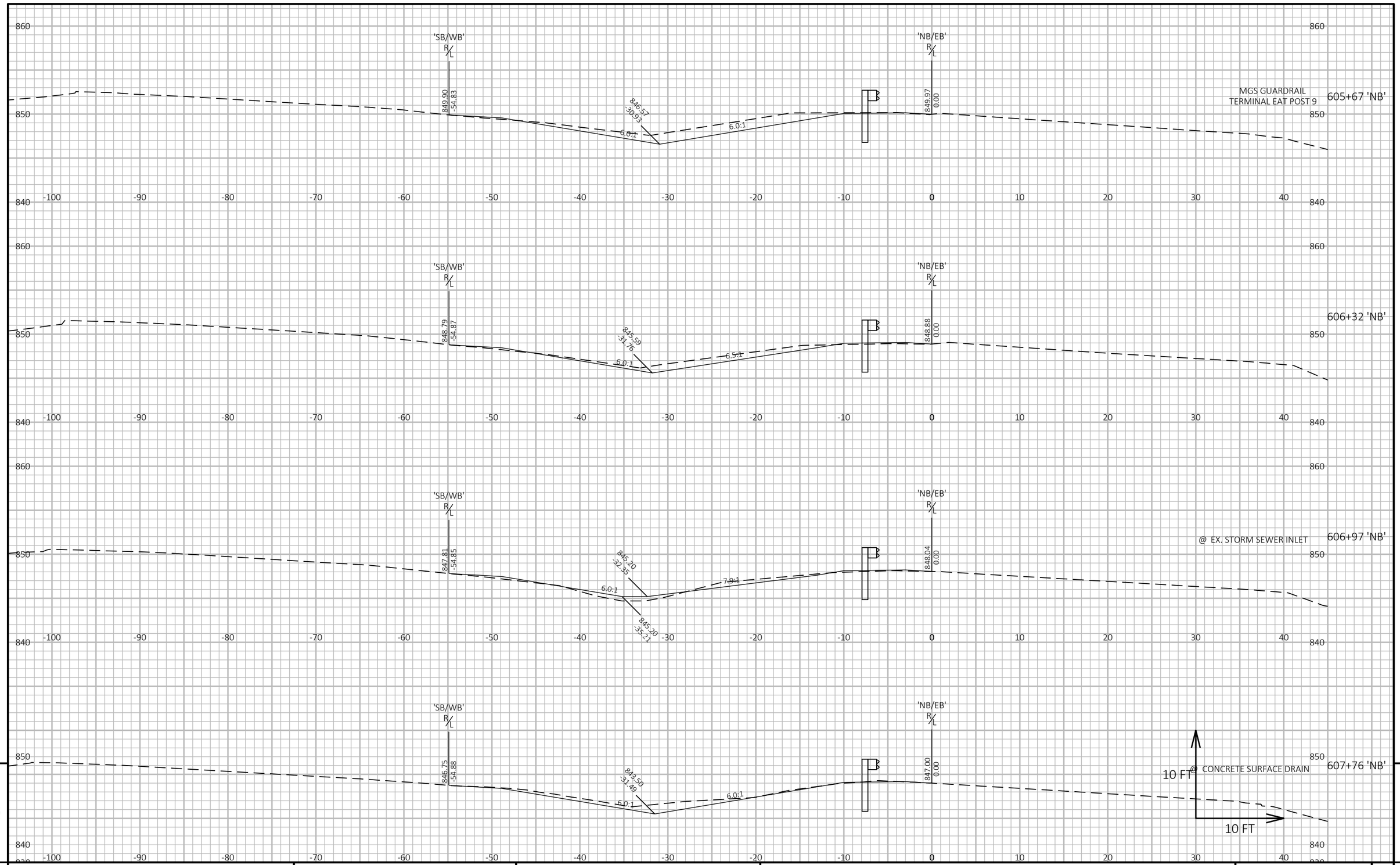
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 187	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 16

PLOT DATE : 6/4/2025 9:31 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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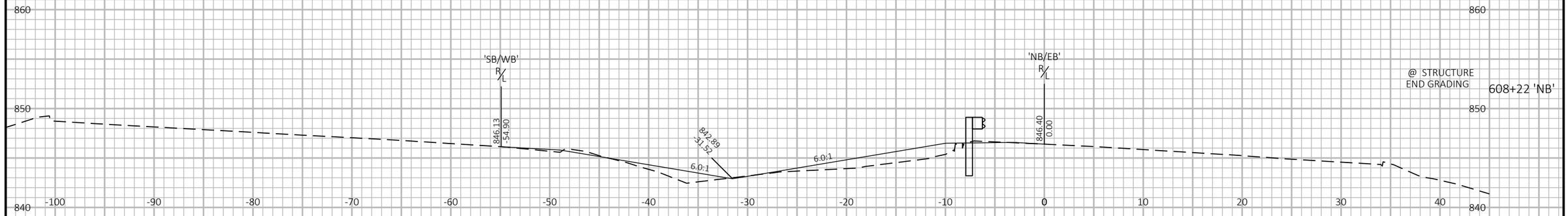
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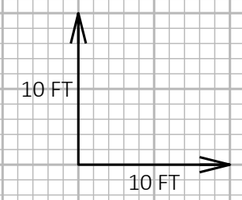
PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 188	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 17

PLOT DATE : 6/4/2025 9:31 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





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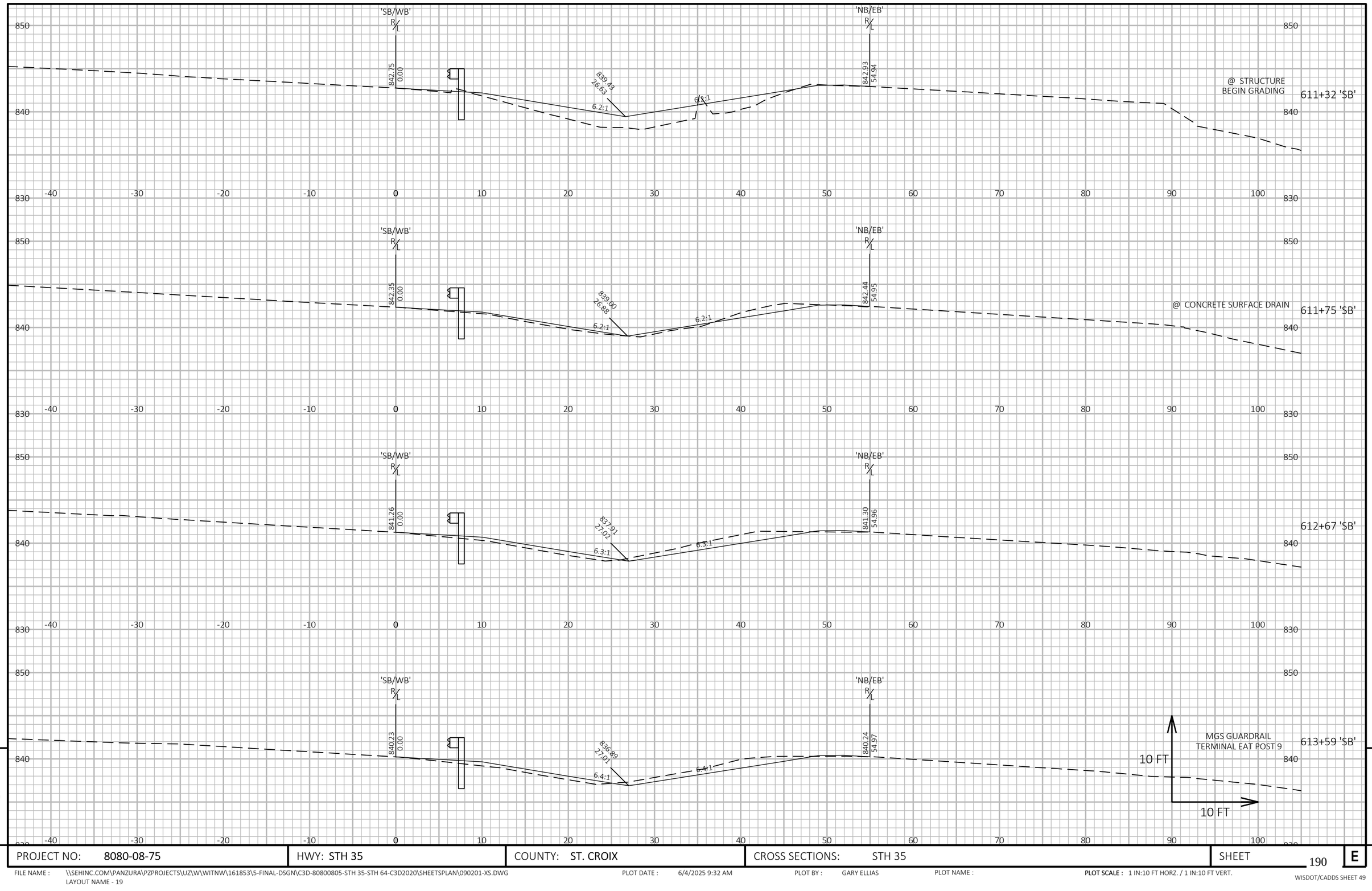
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 189	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 18

PLOT DATE : 6/4/2025 9:32 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

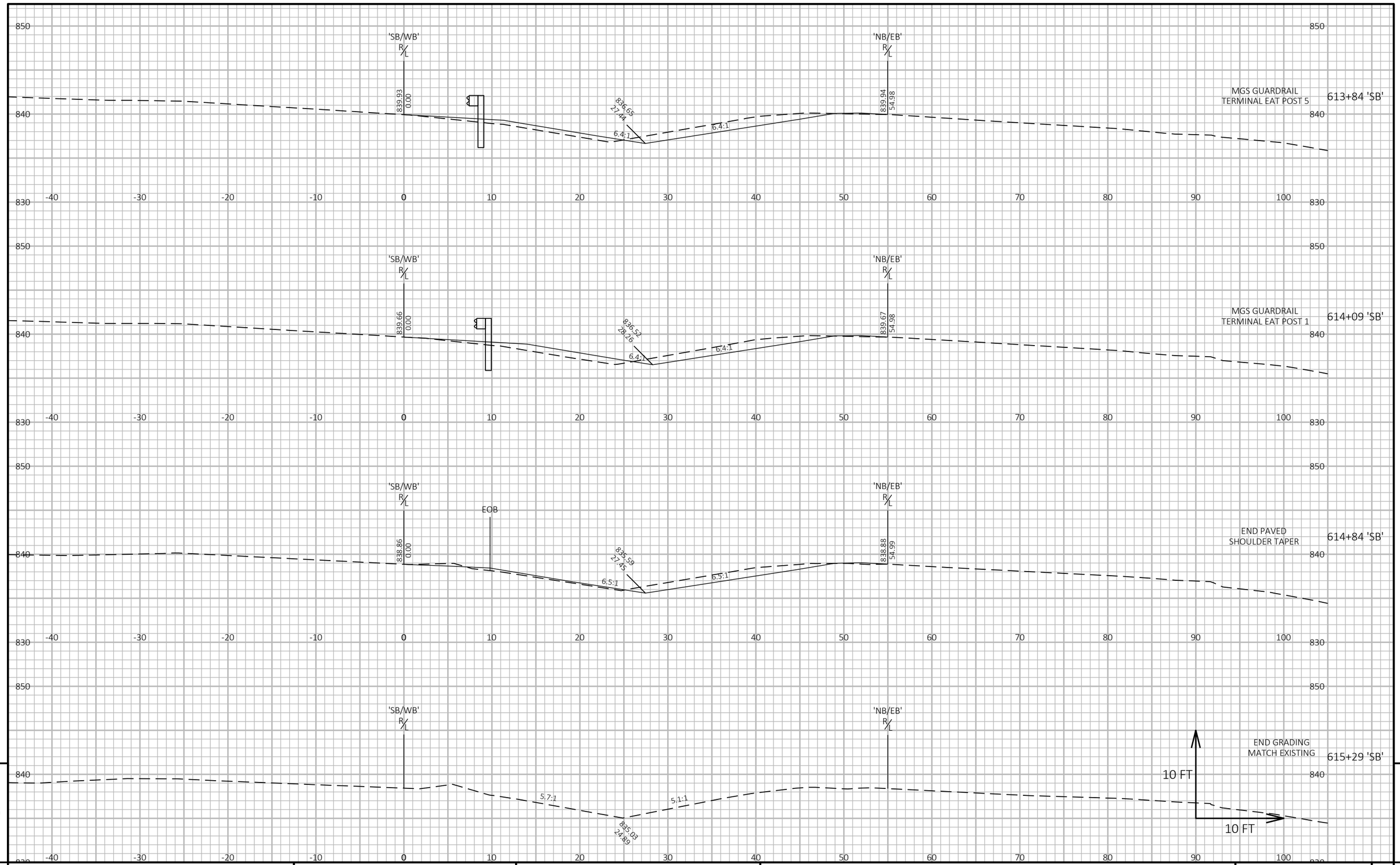
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PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 190	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 19

PLOT DATE : 6/4/2025 9:32 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8080-08-75	HWY: STH 35	COUNTY: ST. CROIX	CROSS SECTIONS: STH 35	SHEET 191	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 20

PLOT DATE : 6/4/2025 9:32 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

Place Sheet Numbers

EAU

PROJECT ID: 8110-00-75

WITH: 8080-08-75

COUNTY: ST. CROIX

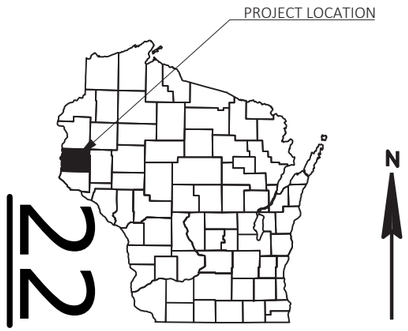
OCTOBER 2025

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 = 212

PROJECT LOCATION



22

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8110-00-79	WISC 2026017	1

STILLWATER - NEW RICHMOND

STH 35 TO 142ND STREET

STH 64

ST. CROIX COUNTY

STATE PROJECT NUMBER
8110-00-79

NET EXCEPTION TO CL LENGTH
STA 661+88.91'EB' - STA 669+15.89'EB'
B-55-185
STA 662+00.26'WB' - STA 670+19.86'WB'
B-55-186

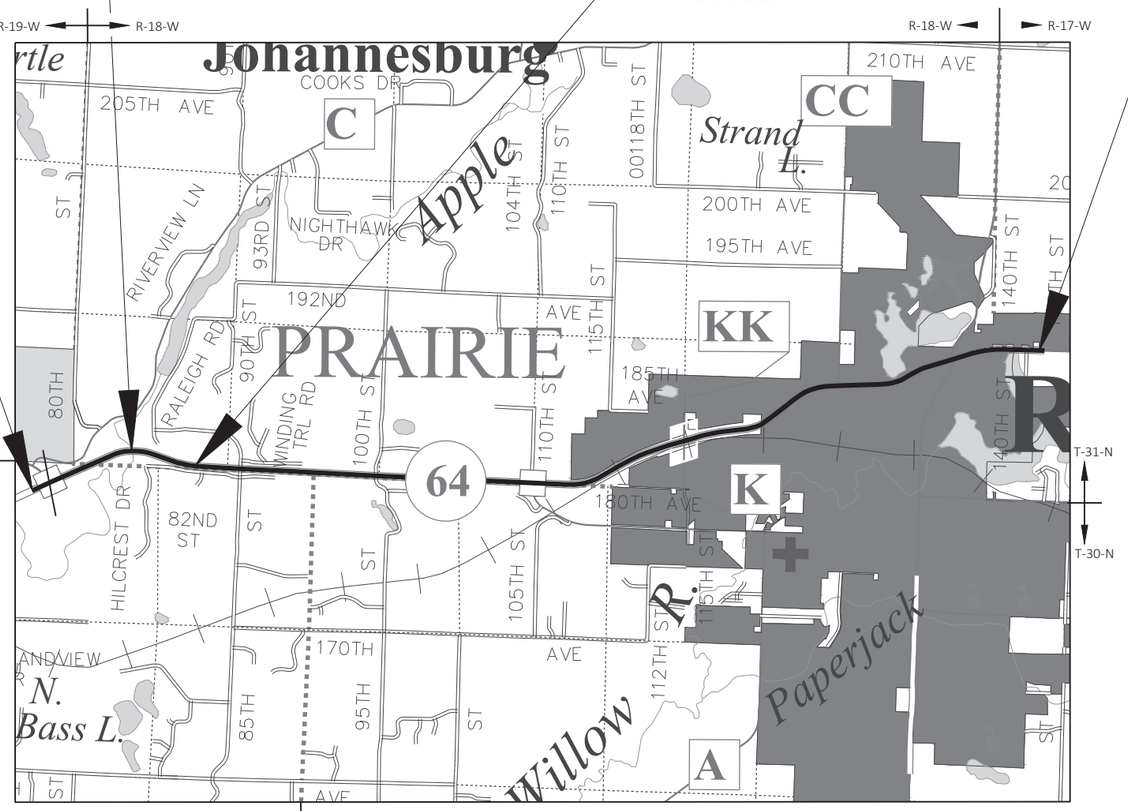
NET EXCEPTION TO CL LENGTH
STA 684+74.03'EB' - STA 689+44.89'EB'
B-55-218
STA 685+00.72'WB' - STA 689+46.91'WB'
B-55-219

END PROJECT 8110-00-79
STA 989+11.27'EB'
Y = 401,401.488
X = 571,620.034
STA 989+11.27'WB'
Y = 401,413.848
X = 571,620.046

DESIGN DESIGNATION 8110-00-79

A.A.D.T.	(2026)	=	12,710
A.A.D.T.	(2046)	=	15,680
D.H.V.	(2046)	=	3,813
D.D.	(%)	=	60/40
T.	(%)	=	11.3%
DESIGN SPEED	(MPH)	=	65 MPH/55MPH/45MPH
ESALS		=	1,600,000

BEGIN PROJECT 8110-00-79
STA 618+73.99'EB'
Y = 394,897.147
X = 536,237.588
STA 618+73.99'WB'
Y = 394,946.473
X = 536,213.259



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 6.788 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ST. CROIX COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

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 (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE
- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES
- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ORIGINAL PLANS PREPARED BY

SEH

WISCONSIN
JUSTIN SHAVLIK
45324-6
CHIPPEWA FALLS
WISCONSIN
PROFESSIONAL ENGINEER

DATE: 04-17-2025 Justin Shavlik
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH, WISDOT
Designer	SEH
Project Manager	TOU YANG
Regional Examiner	NW REGION
Regional Supervisor	TOU YANG

APPROVED FOR THE DEPARTMENT

DATE: 4/17/2025
(Signature)

E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\010101_TI.DWG PLOT DATE : 4/17/2025 9:07 AM PLOT BY : JUSTIN SHAVLIK PLOT NAME :

GENERAL NOTES

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

THE ENGINEER WILL DETERMINE ANY DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN.

PLAN REMOVAL AREAS ARE APPROXIMATE, DETERMINE EXACT LIMITS IN THE FIELD.

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED, FERTILIZED, SEEDED AND EMATTED.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

PROPOSED ROADWAY IMPROVEMENTS SHALL MATCH EXISTING SUPERELEVATIONS AND ROADWAY CROSS SLOPES.

THE EXACT LOCATIONS AND QUANTITIES OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FOR MAINLINE HMA PAVING OVERLAY (618+74'WB' - 648+40'WB' AND 706+28'EB' - 791+12'EB'), COMPLETE CONSTRUCTION OF LOWER AND UPPER LIFTS IN OUTSIDE LANE BEFORE CONSTRUCTION ON THE INSIDE LANE BEGINS. IN ADDITION, THE CENTERLINE JOINT SHALL BE A VERTICAL CONSTRUCTION JOINT ON BOTH THE UPPER AND LOWER LIFTS. IN ADDITION, THE CENTERLINE JOINT SHALL BE A VERTICAL CONSTRUCTION JOINT ON BOTH THE UPPER AND LOWER LIFTS.

ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

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

DISTURBED AREAS WITHIN THE RIGHT OF WAY AS A RESULT OF THIS PROJECT BEYOND WHAT IS SHOWN IN THE PLAN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 170.050 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.107 ACRES

UTILITY CONTACTS

BALDWIN LIGHTSTREAM - COMMUNICATION LINE
930 MAPLE STREET
BALDWIN, WI 54002
TELEPHONE:715.688.1034 (OFFICE)
TELEPHONE:715.760.0968 (MOBILE)
ATTENTION:MATT KNEGENDORF
EMAIL:MKNEGENDORF@LSWI.NET

CITY OF NEW RICHMOND - ELECTRICITY
156 E 1ST STREET
NEW RICHMOND, WI 54017
TELEPHONE:715.243.0437 (OFFICE)
TELEPHONE:715.829.5505 (MOBILE)
ATTENTION:WES ARNDT
EMAIL:WARNDT@NEWRICHMONDWI.GOV

CITY OF NEW RICHMOND - SEWER, WATER
156 E 1ST STREET
NEW RICHMOND, WI 54017
TELEPHONE:715.243.0436
ATTENTION:DAVE PUFALL
EMAIL:DPUFALL@NEWRICHMONDWI.GOV

DAIRYLAND POWER COOPERATIVE - ELECTRICITY
P.O. BOX 817
LA CROSSE, WI 54602
TELEPHONE:608.787.1381
ATTENTION:MICHAEL LYDON
EMAIL:MICHAEL.LYDON@DAIRYLANDPOWER.COM

FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
521 N 4TH STREET
WAUSAU, WI 54403
TELEPHONE:715.847.1240
ATTENTION:CHRIS POLLACK
EMAIL:CHRISTOPHER.POLLACK@FTR.COM

LAKESIDE FOODS, INC. - WATER
660 HIGH STREET
NEW RICHMOND, WI 54017
TELEPHONE:715.243.7367 Ext 4981 (OFFICE)
TELEPHONE:715.716.4981 (MOBILE)
ATTENTION:BARRY AUSEN
EMAIL:BAUSEN@LAKESIDEFOODS.COM

MIDCONTINENT COMMUNICATIONS - COMMUNICATION LINE
50 22ND STREET E
WEST FARGO, ND 58078
TELEPHONE:701.630.1261
ATTENTION:CAM BERG
EMAIL:CAMERON.BERG@MIDCO.COM

NORTHWEST COMMUNITY COMM - COMMUNICATION LINE
116 HARRIMAN AVE N
AMERY, WI 54001
TELEPHONE:715.268.7101 (OFFICE)
TELEPHONE:715.554.1620 (MOBILE)
ATTENTION:GREG CARDINAL
EMAIL:GREGCARDINAL@AMERYTEL.NET

SOMERSET VILLAGE OF WATER & SEWER UTILITIES - SEWER, WATER
110 SPRING STREET
PO BOX 356
SOMERSET, WI 54025
TELEPHONE:715.760.0884
ATTENTION:ROBERT GUNTHER
EMAIL:RGUNTHER@VILLAGEOFSOMERSET.US

WE ENERGIES - GAS/PETROLEUM
104 W SOUTH STREET
RICE LAKE, WI 54868
TELEPHONE: 715.234.9605 (OFFICE)
TELEPHONE: 715.213.4327 (MOBILE)
ATTENTION:STEVEN CHAVERS
EMAIL: STEVEN.CHAVERS@WE-ENERGIES.COM

XCEL ENERGY - ELECTRICITY
2001 OLD HWY 35 A
HUDSON, WI 54016
TELEPHONE:612.346.5766
ATTENTION:ASHLEY LARSON
EMAIL:ASHLEY.N.LARSON@XCELENERGY.COM

XCEL ENERGY - ELECTRICITY-TRANSMISSION
414 NICOLLET MALL
MINEAPOLIS MN 55401
TELEPHONE: 612.321.3109
ATTENTION:MITCHELL A DIENGER
EMAIL:MITCHELL.A.DIENGER@XCELENERGY.COM

XCEL ENERGY - GAS/PETROLEUM
2001 OLD HWY 35 A
HUDSON, WI 54016
TELEPHONE:715.386.4811
ATTENTION:JENNY BORGERSON
EMAIL:JENNY.L.BORGERSON@XCELENERGY.COM

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

WISDOT CONTACT
NORTHWEST REGION HQ
718 WEST CLAIREMONT AVE
EAU CLAIRE, WI 54701
TELEPHONE: 715.883.5570
ATTENTION: TOU YANG
EMAIL: TOU.YANG@DOT.WI.GOV

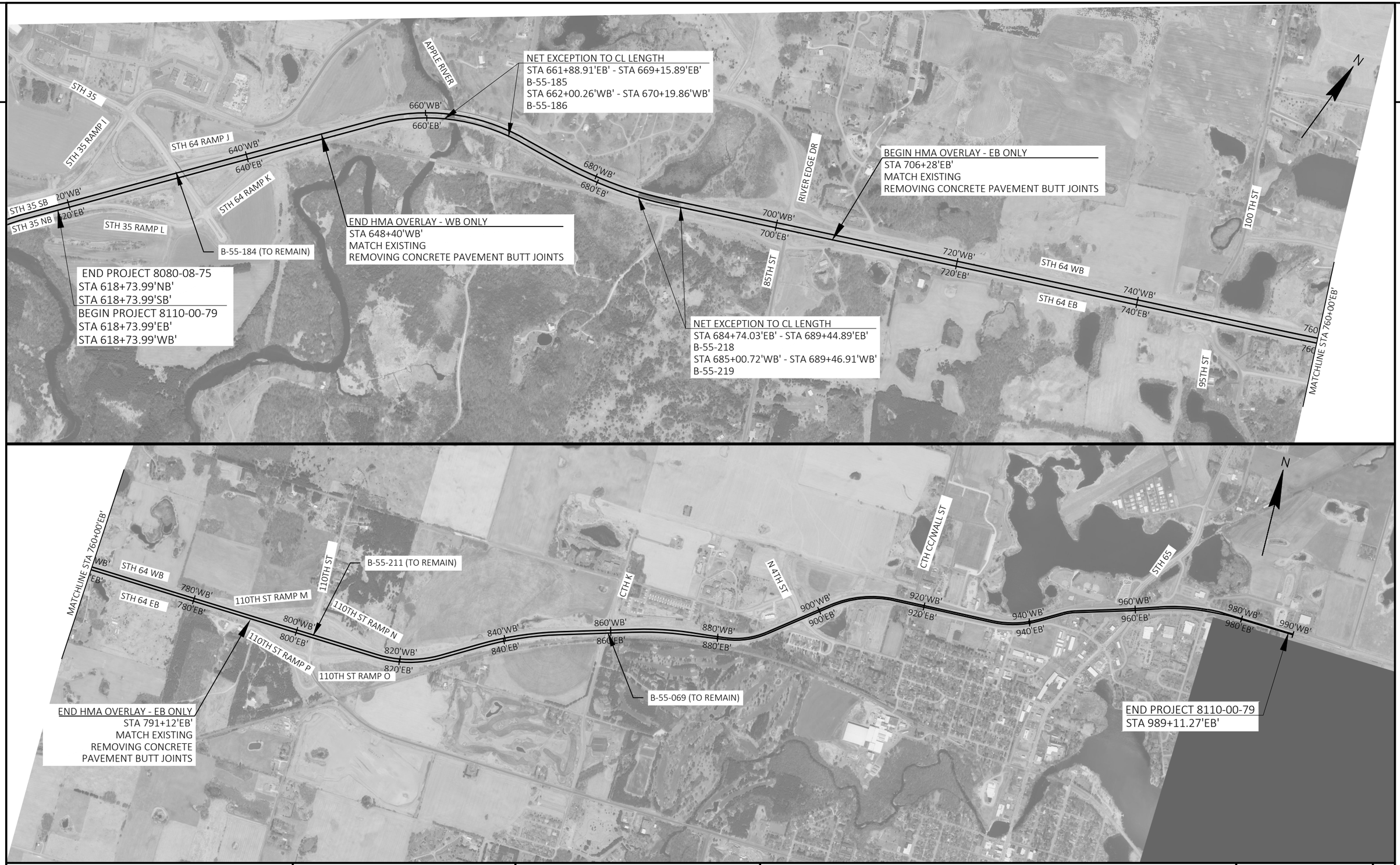
DESIGN CONTACT
SEH
10 NORTH BRIDGE STREET
CHIPPEWA FALLS WI 54729
TELEPHONE: 715.720.6291
ATTENTION: JUSTIN SHAVLIK
EMAIL: JSHAVLIK@SEHINC.COM

WDNR CONTACT
DNR WEST CENTRAL REGION HQ
1300 WEST CLAIREMONT AVE
EAU CLAIRE, WI 54701
TELEPHONE 715.635.4229
ATTENTION: AMY LESIK
EMAIL: AMYL.LESIK@WISCONSIN.GOV

STREET LIGHTING CONTACT

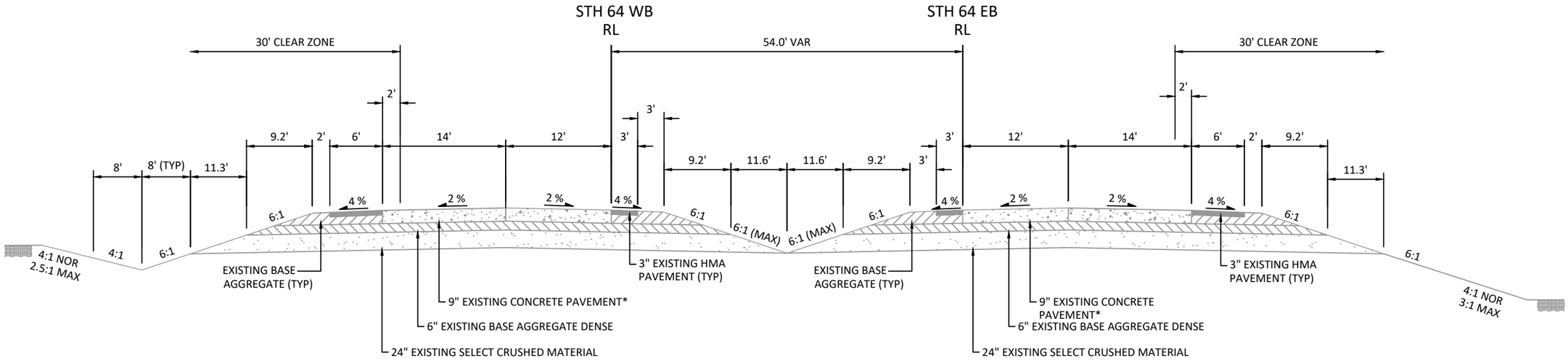
CITY OF NEW RICHMOND - STREET LIGHTING
156 E 1ST STREET
NEW RICHMOND, WI 54017
TELEPHONE:715.243.0437 (OFFICE)
TELEPHONE:715.829.5505 (MOBILE)
ATTENTION:WES ARNDT
EMAIL:WARNDT@NEWRICHMONDWI.GOV

2



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 01 (8110)
PLOT DATE : 6/4/2025 9:06 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 42

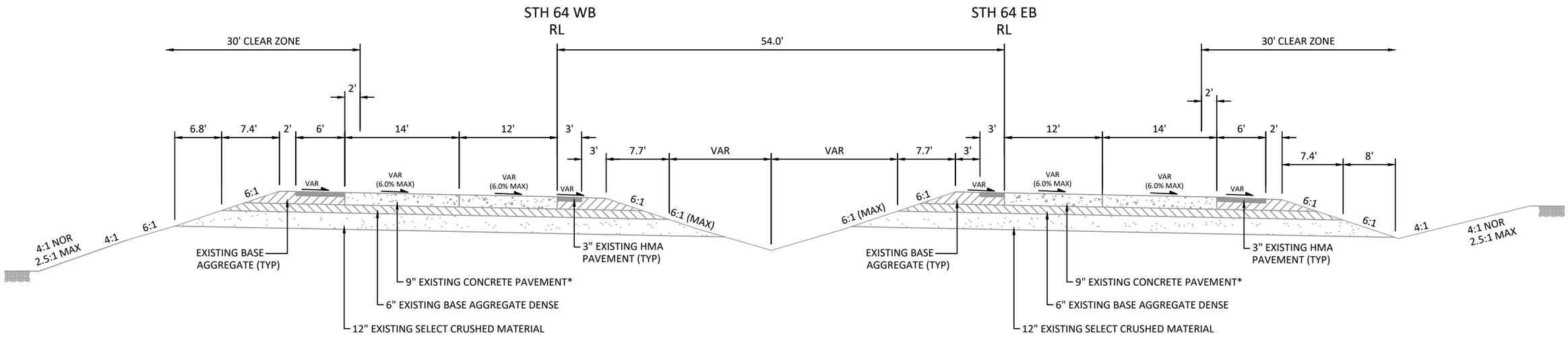


EXISTING TYPICAL SECTION

STH 64

STA 618+74'EB' - STA 652+46'EB' STA 831+05'EB' - STA 833+80'EB' STA 648+00'WB' - STA 652+46'WB' STA 830+73'WB' - STA 833+48'WB'
STA 672+67'EB' - STA 673+82'EB' STA 854+05'EB' - STA 862+75'EB' STA 673+10'WB' - STA 674+24'WB' STA 854+05'WB' - STA 862+75'WB'
STA 691+11'EB' - STA 814+62'EB' STA 876+75'EB' - STA 879+00'EB' STA 691+11'WB' - STA 814+62'WB' STA 876+85'WB' - STA 879+10'WB'

* 9" CONCRETE PAVEMENT STA 618+74 TO STA 707+00
8" CONCRETE PAVEMENT STA 707+00 TO STA 989+11



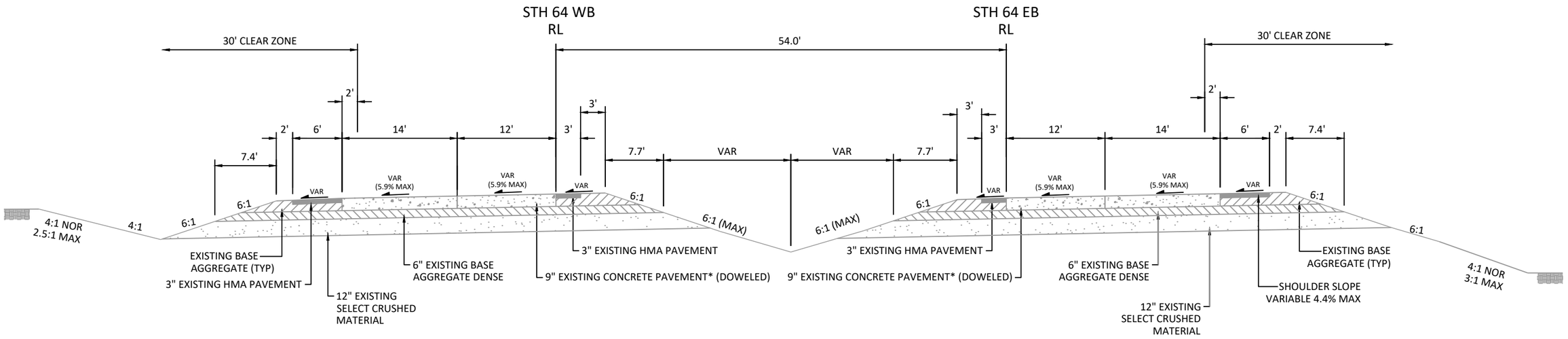
EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION

STA 652+46'EB' - STA 672+67'EB' STA 652+46'WB' - STA 673+10'WB'
STA 833+80'EB' - STA 854+05'EB' STA 833+48'WB' - STA 854+05'WB'
STA 862+75'EB' - STA 876+75'EB' STA 862+75'WB' - STA 876+85'WB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 09A-10ft 64-2
PLOT DATE : 6/5/2025 9:56 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:10 FT

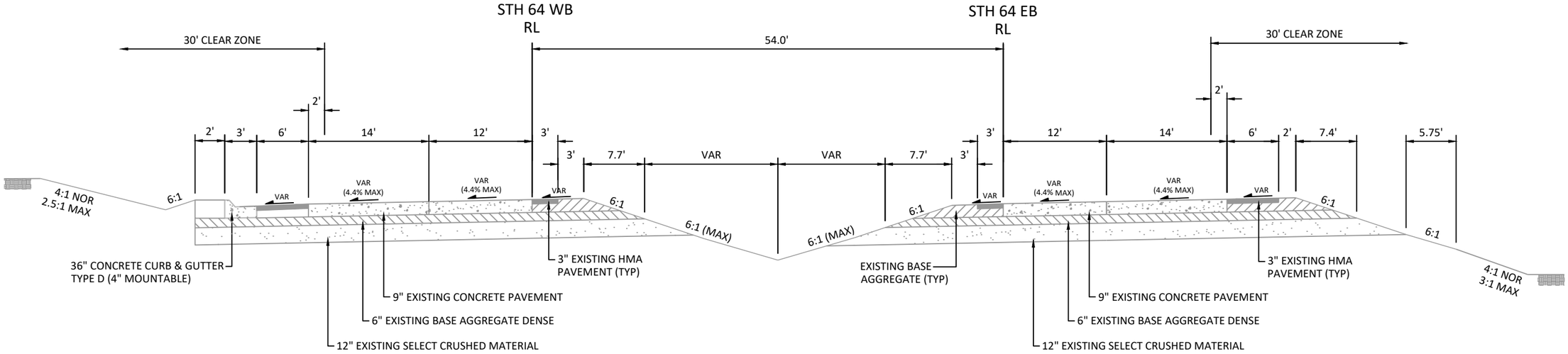


EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION

STA 673+82'EB' - STA 676+00'EB' STA 674+24'WB' - STA 676+41'WB'
STA 680+00'EB' - STA 691+11'EB' STA 680+36'WB' - STA 691+11'WB'
STA 814+62'EB' - STA 831+05'EB' STA 814+62'WB' - STA 830+73'WB'

* 9" CONCRETE PAVEMENT STA 618+74
TO STA 707+00
8" CONCRETE PAVEMENT STA 707+00
TO STA 989+11

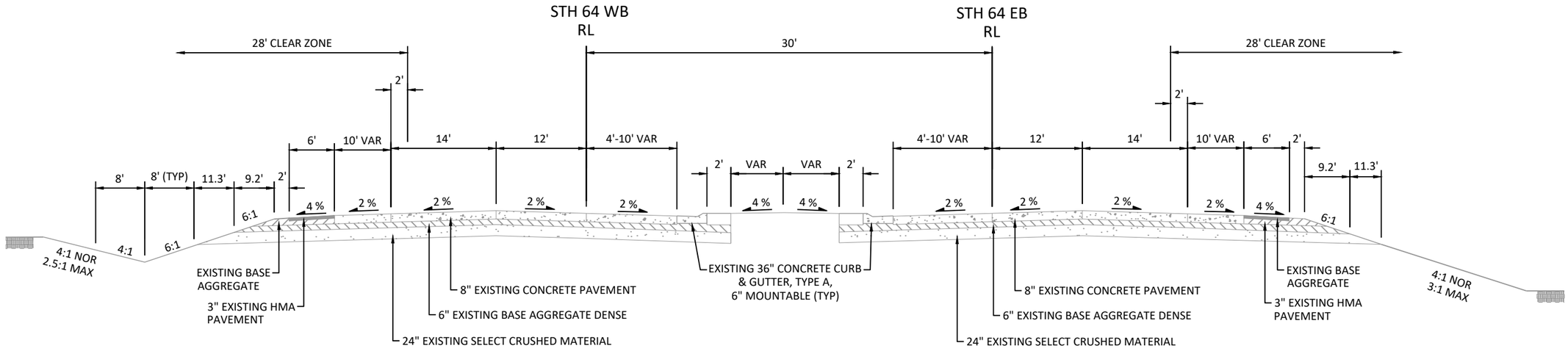


EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION

STA 676+00'EB' - STA 680+00'EB' STA 676+41'WB' - STA 680+36'WB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 5	E

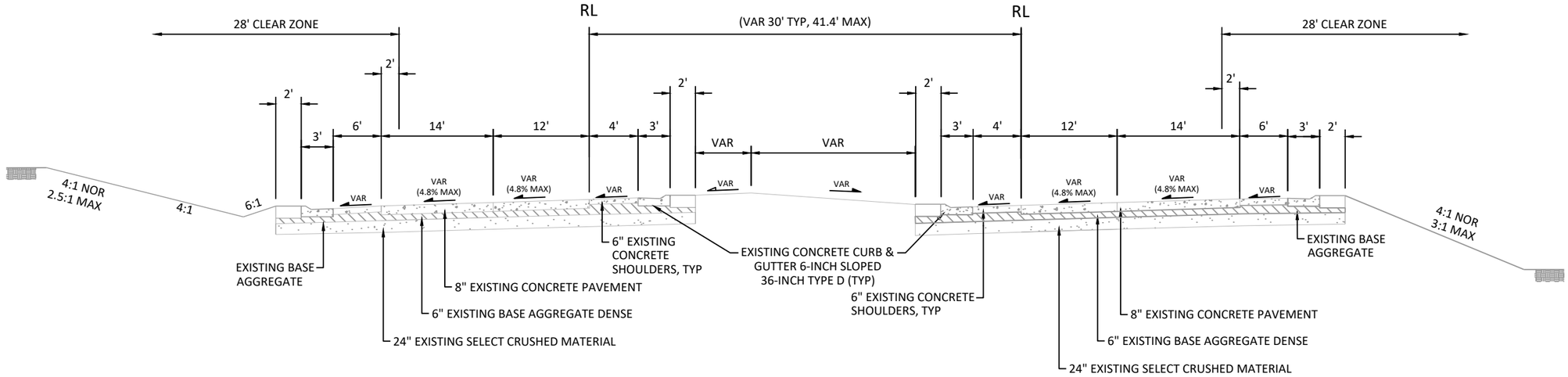


EXISTING TYPICAL SECTION

STH 64

STA 879+00'EB' - STA 932+25'EB'
STA 944+25'EB' - STA 946+25'EB'
STA 951+25'EB' - STA 956+81'EB'

STA 879+00'WB' - STA 901+50'WB'



EXISTING TYPICAL SECTION

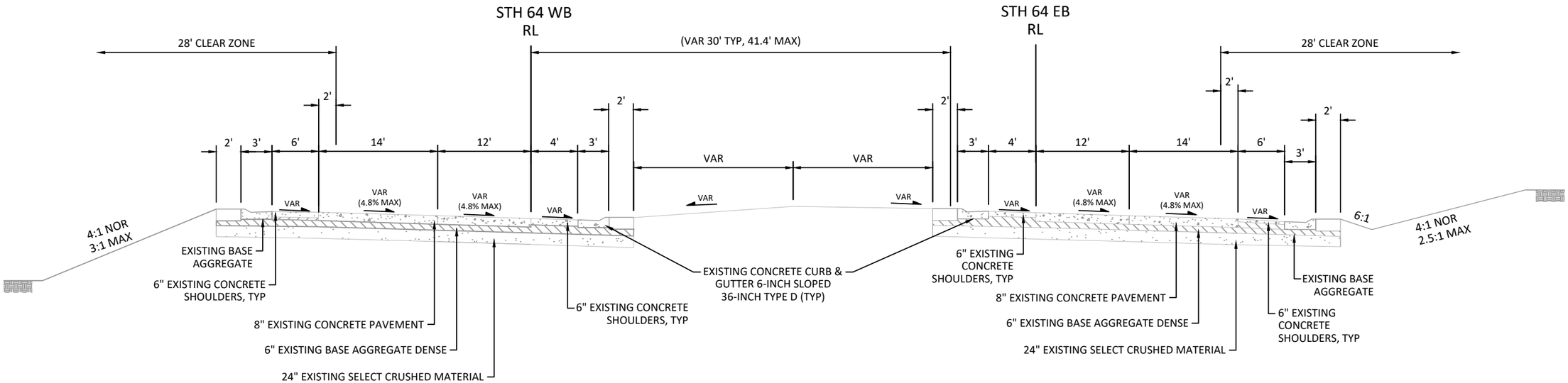
STH 64
SUPERELEVATED SECTION

STA 932+25'EB' - STA 944+25'EB'
STA 932+22'WB' - STA 944+10'WB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 6	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 10A-10ft 64-4
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

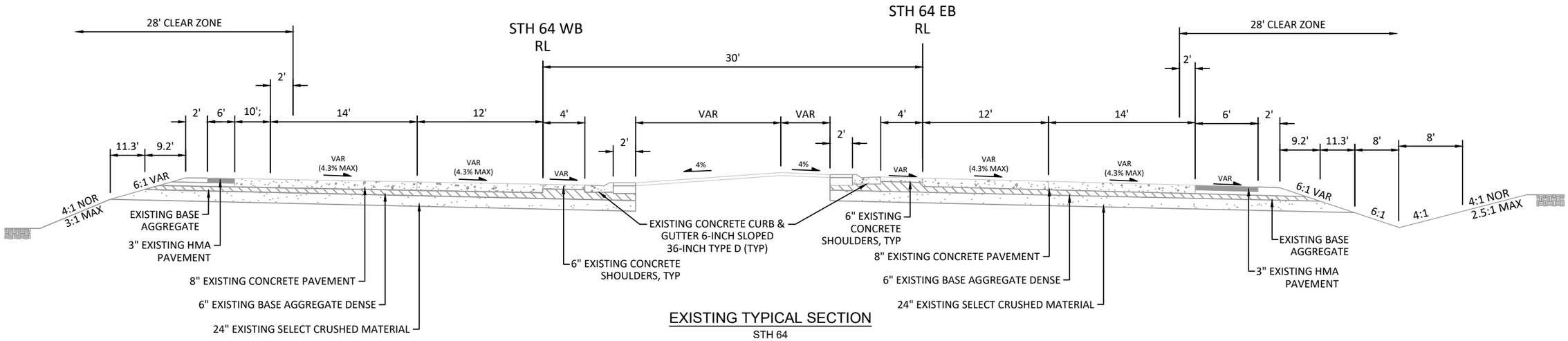
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EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION

STA 946+25'EB' - STA 951+25'EB' STA 946+10'EB' - STA 951+25'EB'
STA 963+87'EB' - STA 977+10'EB' STA 963+86'EB' - STA 977+20'EB'



EXISTING TYPICAL SECTION

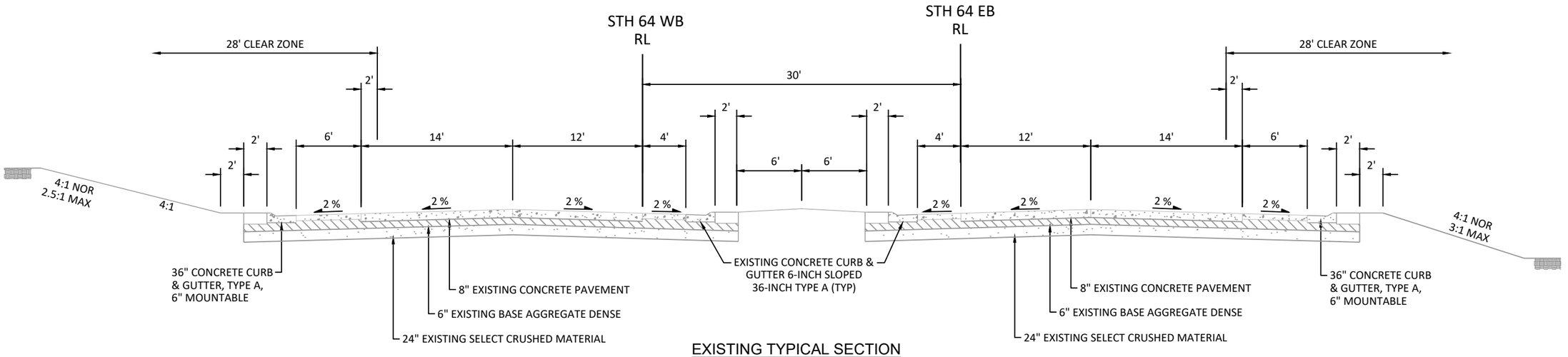
STH 64
SUPERELEVATED SECTION

STA 901+50'EB' - STA 916+00'EB' STA 901+50'WB' - STA 916+00'WB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 7	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 10B-10ft 64-5
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

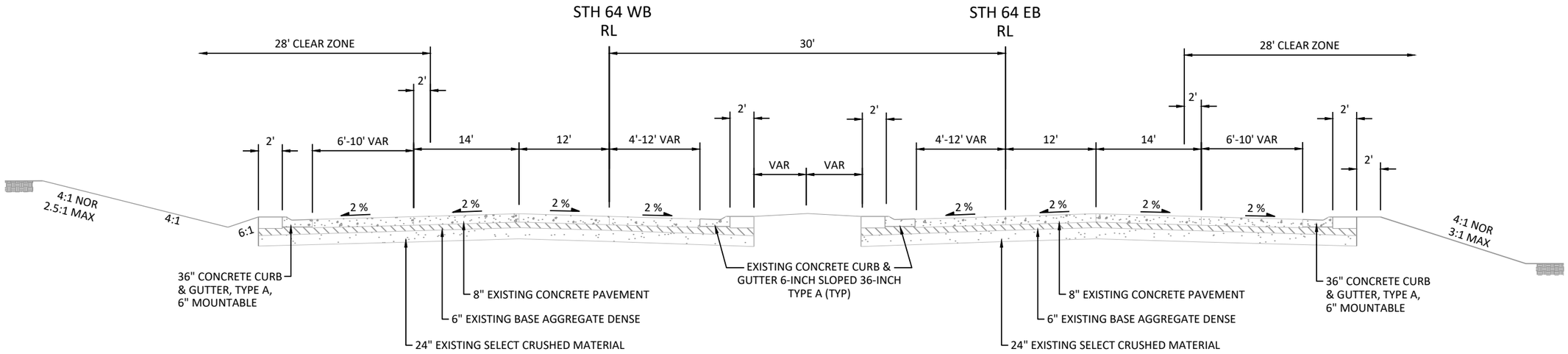
2



EXISTING TYPICAL SECTION

STH 64

STA 916+00'EB' - STA 932+22'EB'
STA 944+25'EB' - STA 946+25'EB'
STA 951+25'EB' - STA 956+81'EB'
STA 916+00'WB' - STA 932+22'WB'
STA 944+10'WB' - STA 946+10'WB'
STA 951+25'WB' - STA 956+81'WB'



EXISTING TYPICAL SECTION

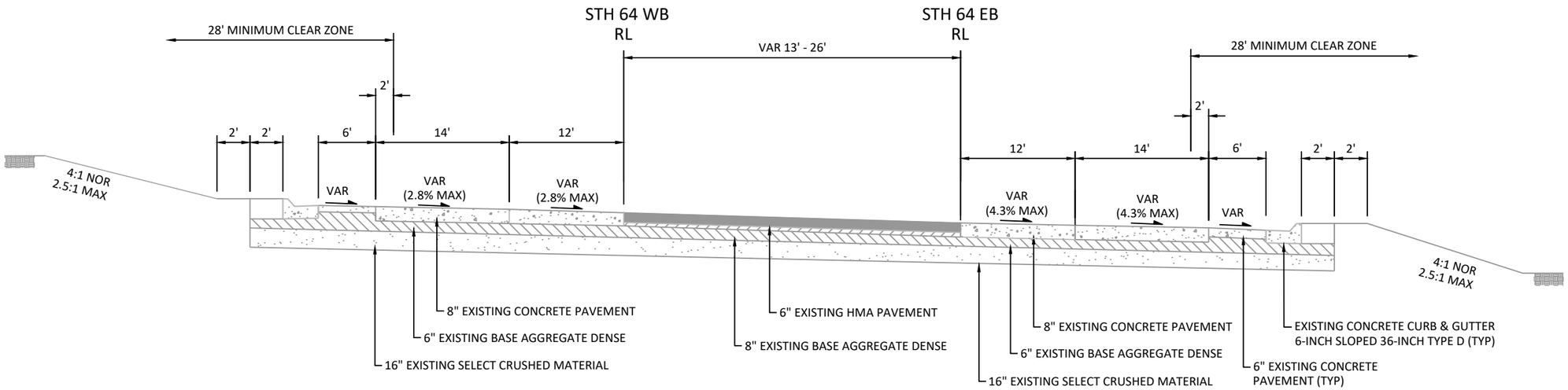
STH 64

STA 956+81'EB' - STA 963+87'EB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 8	E

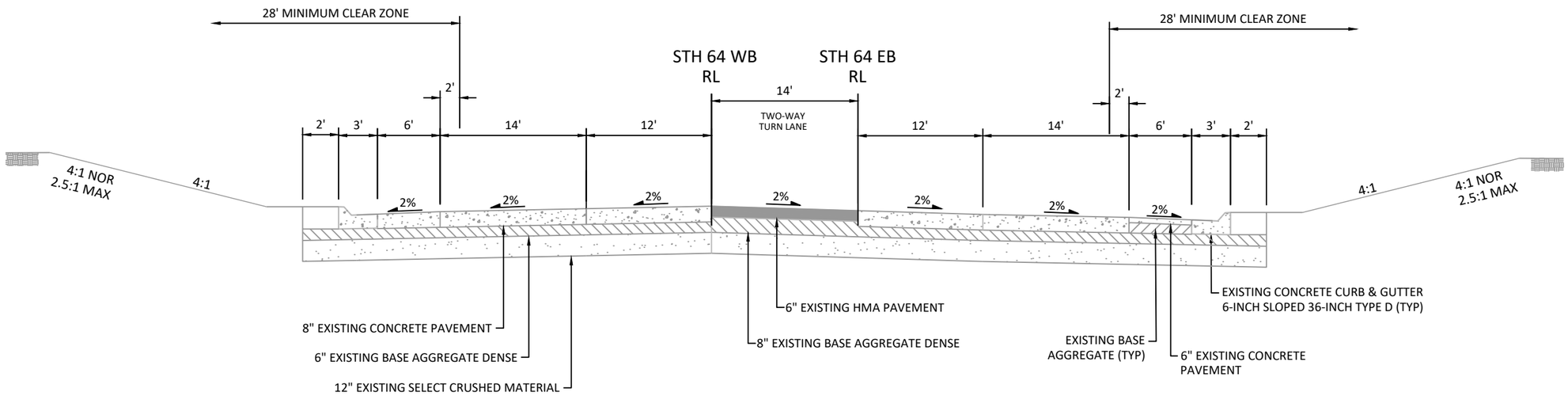
FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 10C-10ft 64-6
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2



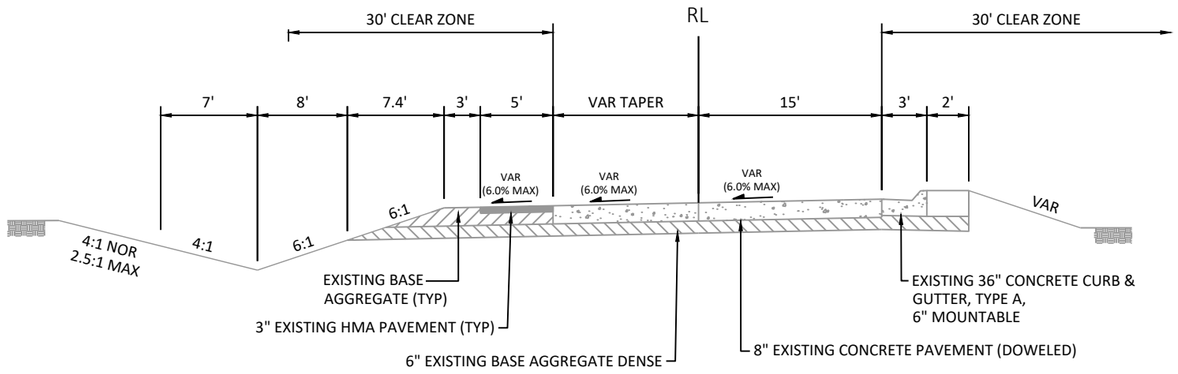
EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 977+10'EB' - STA 980+75'EB'



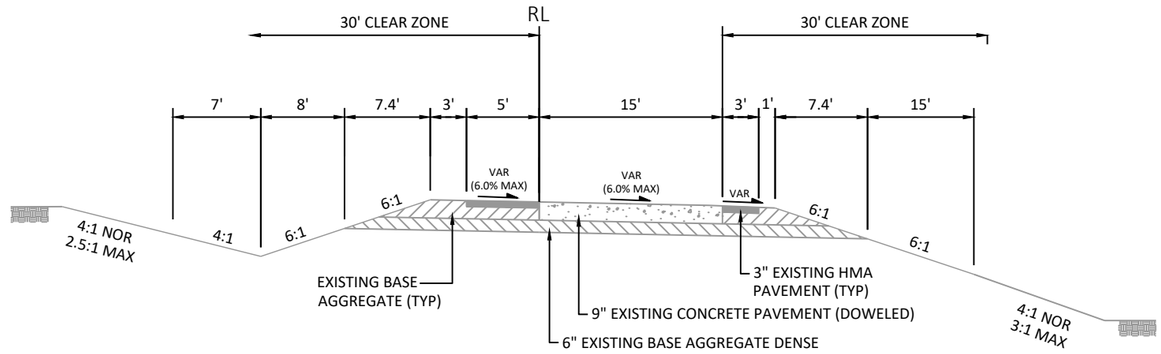
EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 980+75'EB' - STA 989+11'EB'



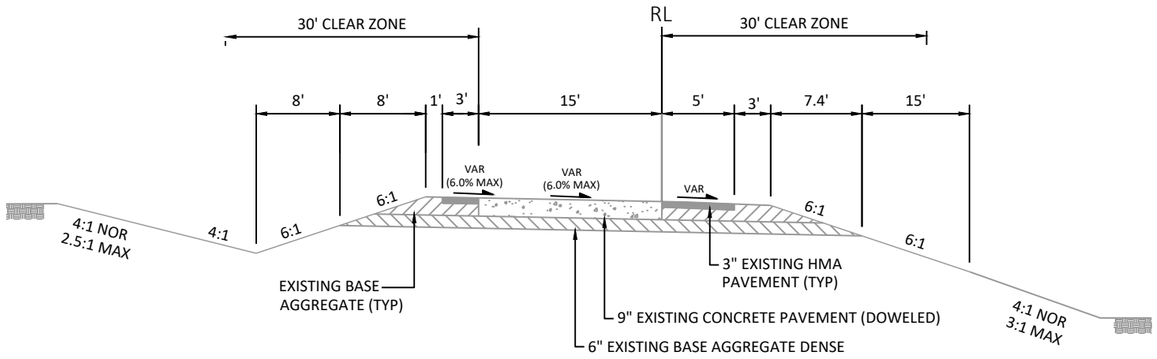
EXISTING TYPICAL SECTION

STH 35 RAMP J
STA 620+30'J' - STA 623+50'J'



EXISTING TYPICAL SECTION

STH 35 RAMP J
STA 629+75'J' - STA 640+40'J'

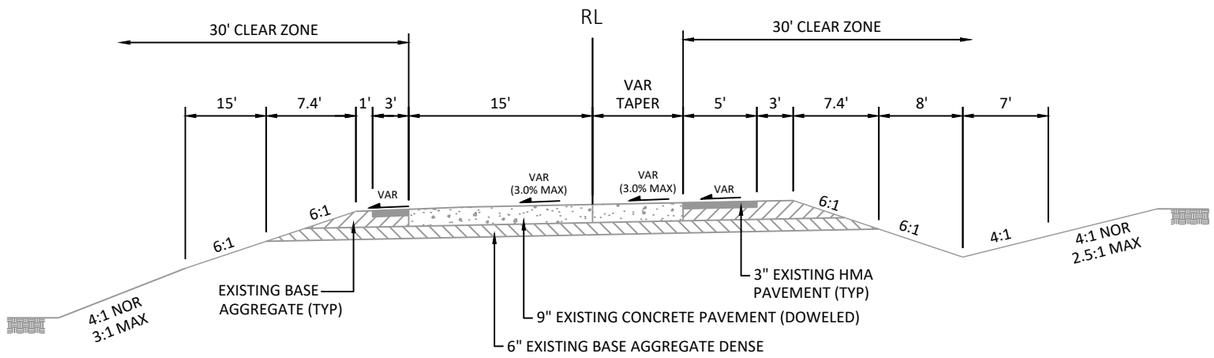


EXISTING TYPICAL SECTION

STH 35 RAMP J
STA 623+50'J' - STA 629+75'J'

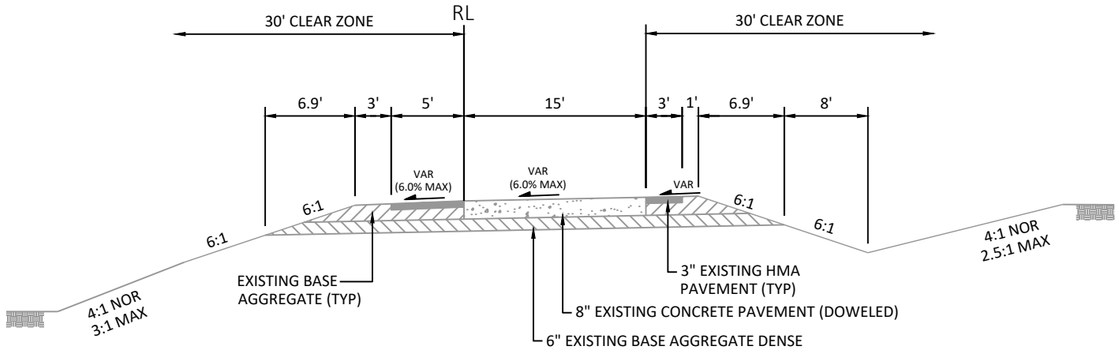
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 10	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 11A-10ft 64-8
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



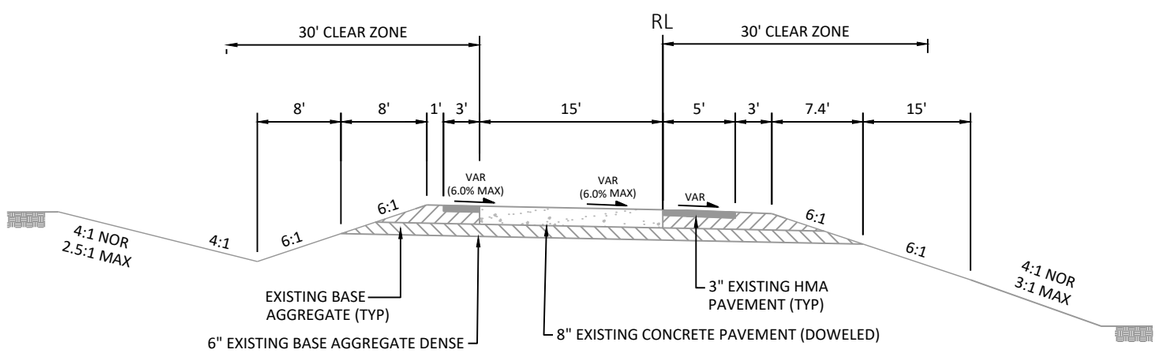
EXISTING TYPICAL SECTION

STH 35 RAMP K
STA 634+00'K' - STA 638+44'K'



EXISTING TYPICAL SECTION

110TH ST RAMP M
STA 790+00'M' - 799+39'M'
110TH ST RAMP N
STA 811+75'N' - 819+54'N'

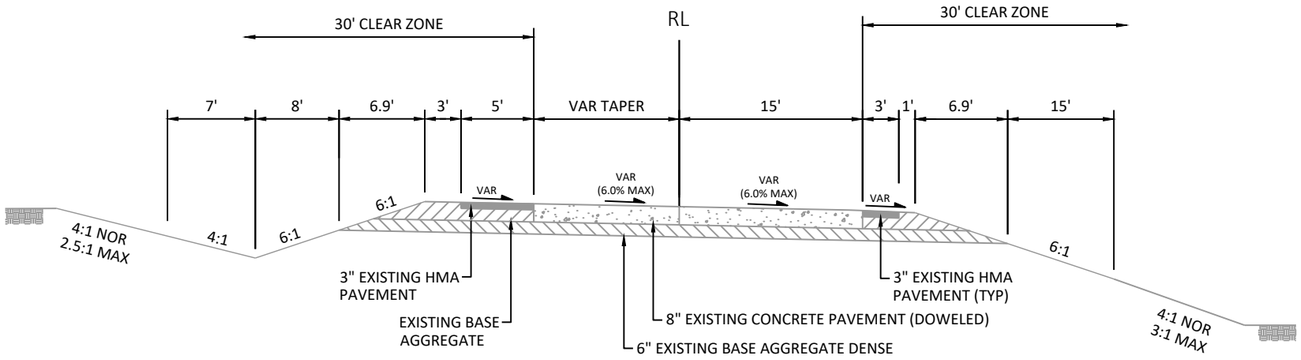


EXISTING TYPICAL SECTION

STH 35 RAMP K
STA 638+44'K' - STA 647+35'K'

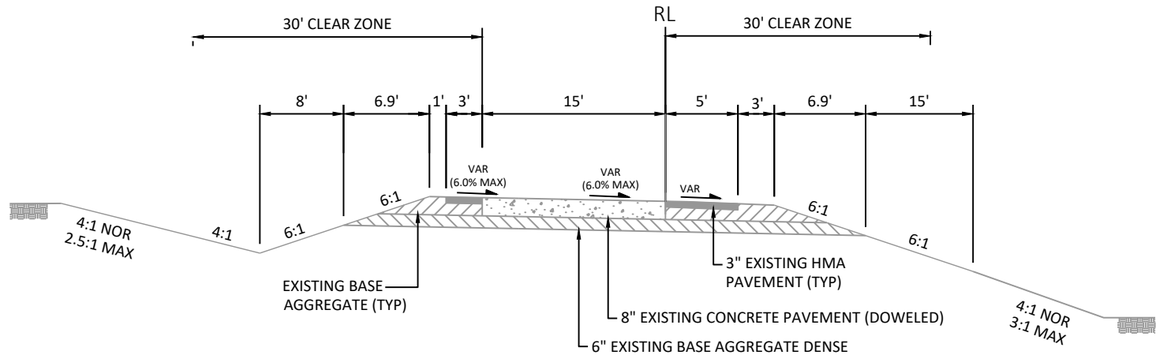
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 11	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 11B-10ft 64-9
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



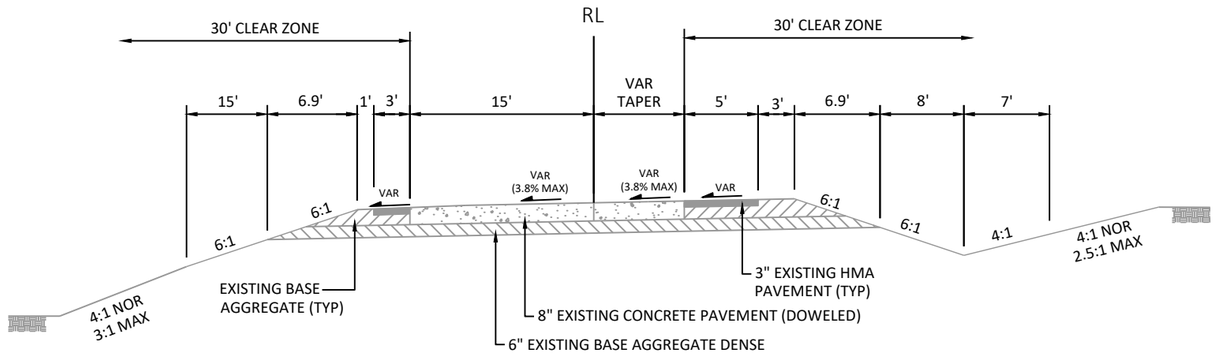
EXISTING TYPICAL SECTION

110TH ST RAMP M
STA 799+39'M' - 803+00'M'
110TH ST RAMP N
STA 804+00'N' - 811+75'N'



EXISTING TYPICAL SECTION

110TH ST RAMP O
STA 810+22'O' - 816+35'O'
110TH ST RAMP P
STA 789+40'P' - 800+12'P'

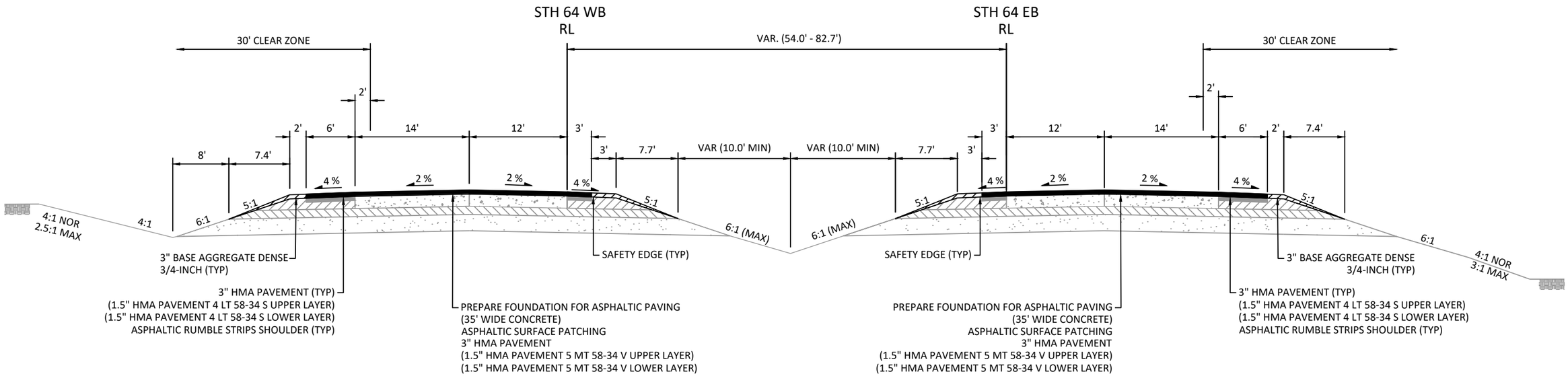


EXISTING TYPICAL SECTION

110TH ST RAMP O
STA 804+65'O' - 810+22'O'
STA 816+35'O' - 821+00'O'
110TH ST RAMP P
STA 800+12'P' - 804+82'P'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 12	E

2

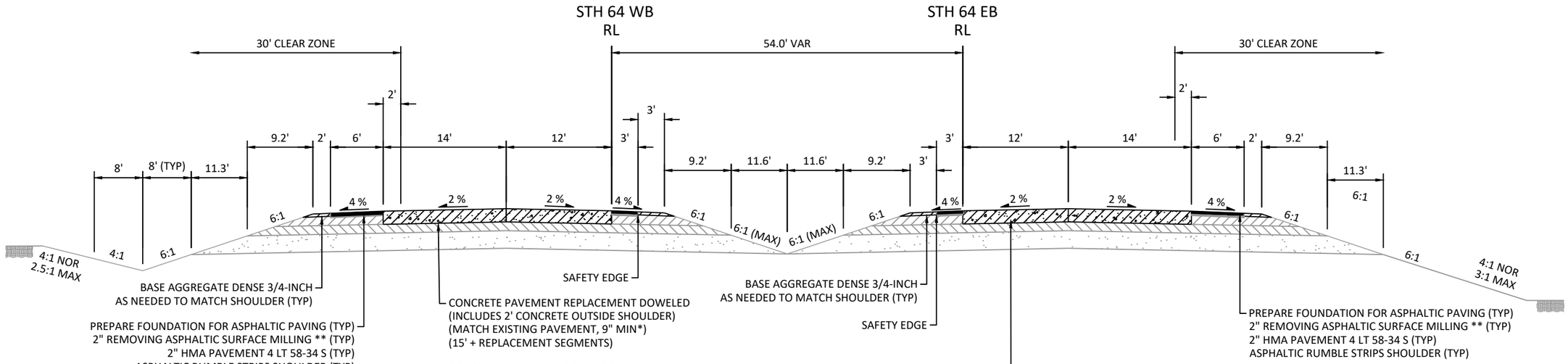


FINISHED TYPICAL SECTION

STH 64
STA 618+00'WB' - STA 648+00'WB'
STA 706+28'EB' - STA 791+12'EB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 13	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 12-10ft 64 -1
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



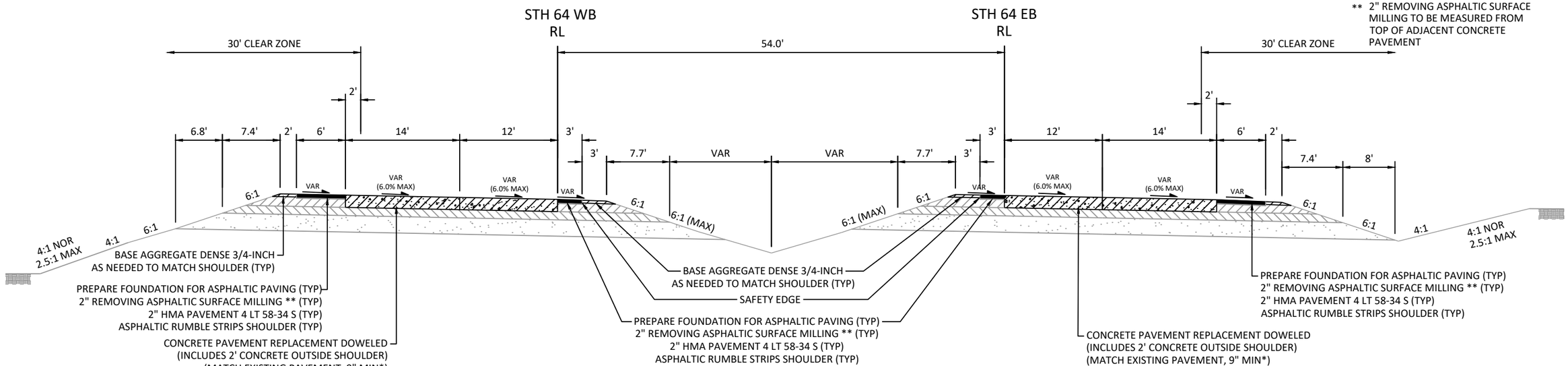
FINISHED TYPICAL SECTION

STH 64

STA 618+74'EB' - STA 652+46'EB'
STA 672+67'EB' - STA 673+82'EB'
STA 691+11'EB' - STA 814+62'EB'
STA 831+05'EB' - STA 833+80'EB'
STA 854+05'EB' - STA 862+75'EB'
STA 876+75'EB' - STA 879+00'EB'

* 9" CONCRETE PAVEMENT STA 618+74 TO STA 707+00
8" CONCRETE PAVEMENT STA 707+00 TO STA 989+11

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



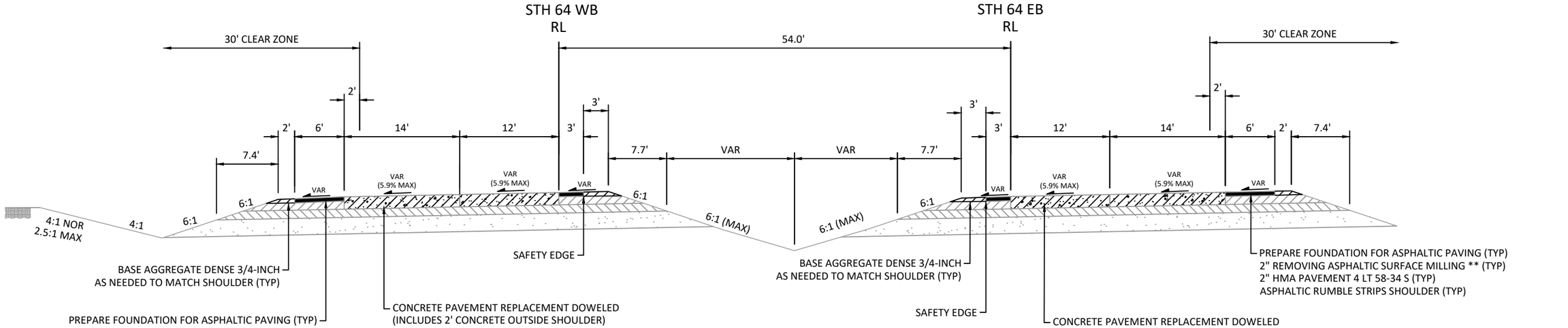
FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION

STA 652+46'EB' - STA 672+67'EB'
STA 833+80'EB' - STA 854+05'EB'
STA 862+75'EB' - STA 876+75'EB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 14	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 12A-10ft 64-2
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

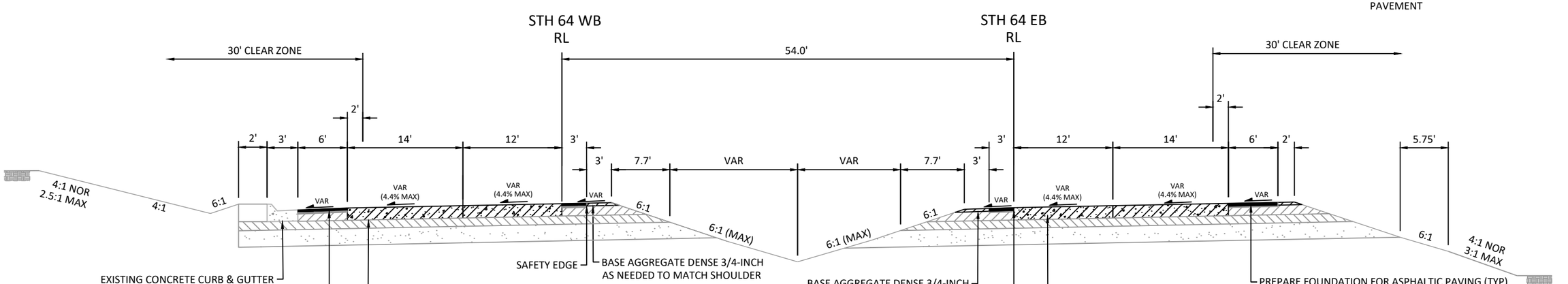


FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 673+82'EB' - STA 676+00'EB'
STA 680+00'EB' - STA 691+11'EB'
STA 814+62'EB' - STA 831+05'EB'

* 9" CONCRETE PAVEMENT STA 618+74 TO STA 707+00
8" CONCRETE PAVEMENT STA 707+00 TO STA 989+11

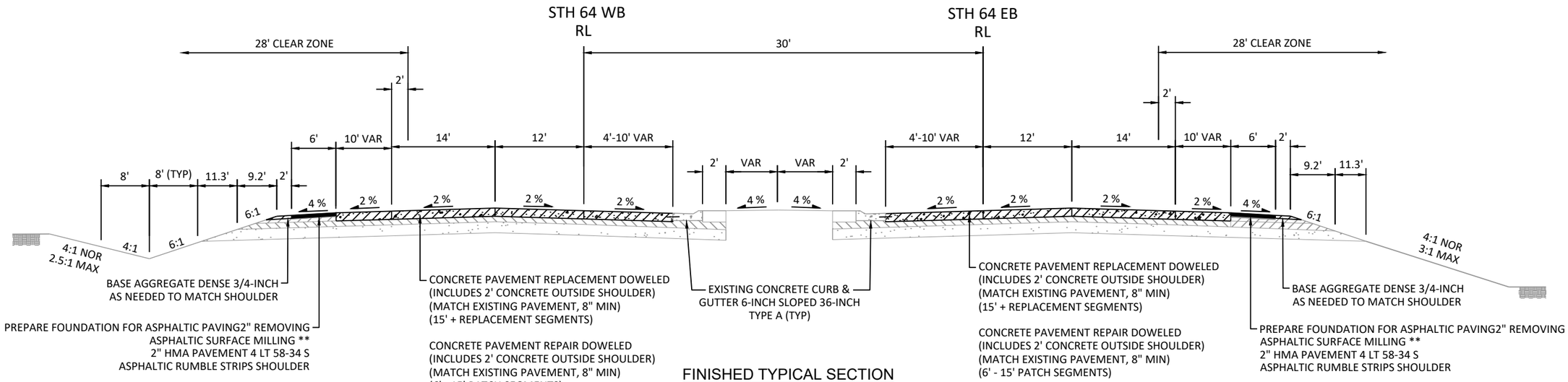
** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 676+00'EB' - STA 680+00'EB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 15	E

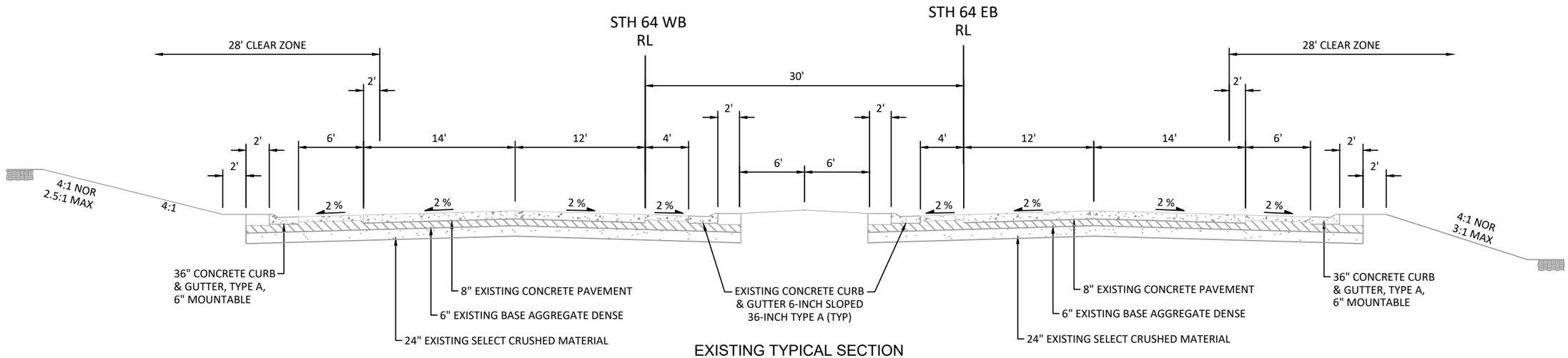


FINISHED TYPICAL SECTION

STH 64

STA 879+00'EB' - STA 932+25'EB'
STA 944+25'EB' - STA 946+25'EB'
STA 951+25'EB' - STA 956+81'EB'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



EXISTING TYPICAL SECTION

STH 64

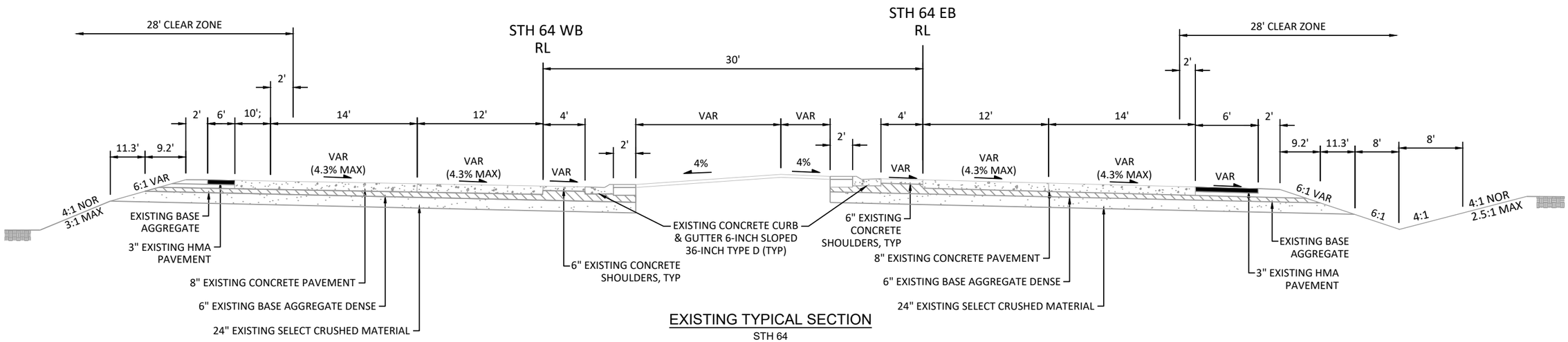
STA 916+00'EB' - STA 932+22'EB'
STA 944+25'EB' - STA 946+25'EB'
STA 951+25'EB' - STA 956+81'EB'

STA 916+00'WB' - STA 932+22'WB'
STA 944+10'WB' - STA 946+10'WB'
STA 951+25'WB' - STA 956+81'WB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 16	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 13A-10ft 64-4
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

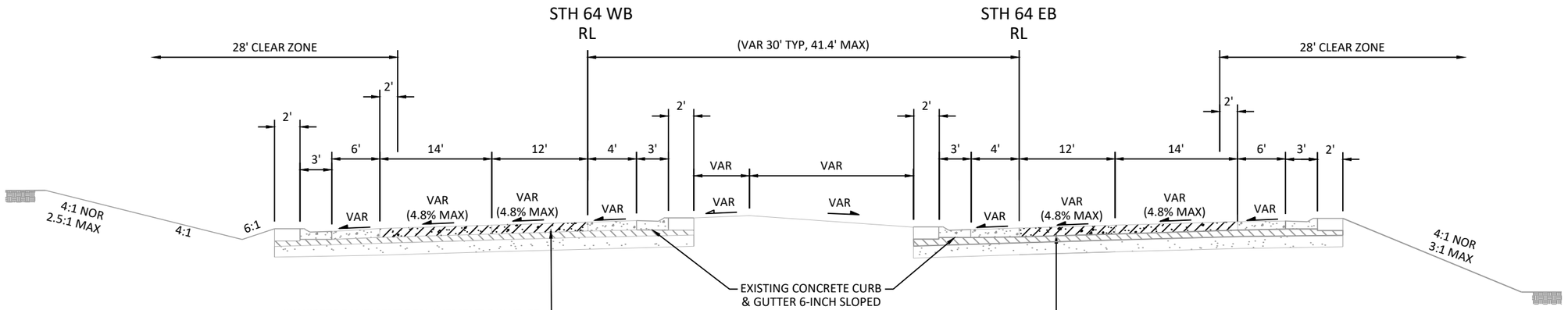
2



EXISTING TYPICAL SECTION

STH 64
SUPERELEVATED SECTION

STA 901+50'EB' - STA 916+00'EB' STA 901+50'WB' - STA 916+00'WB'

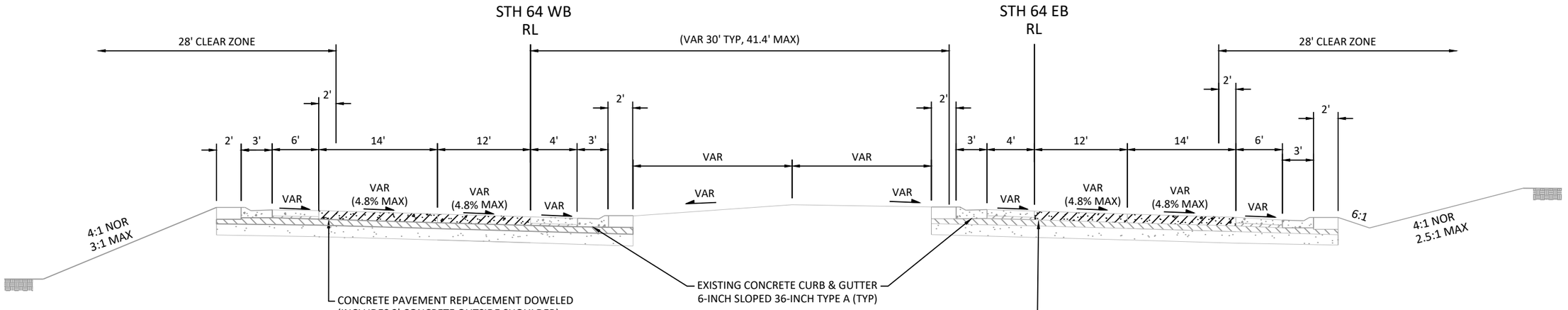


FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 932+25'EB' - STA 944+25'EB'

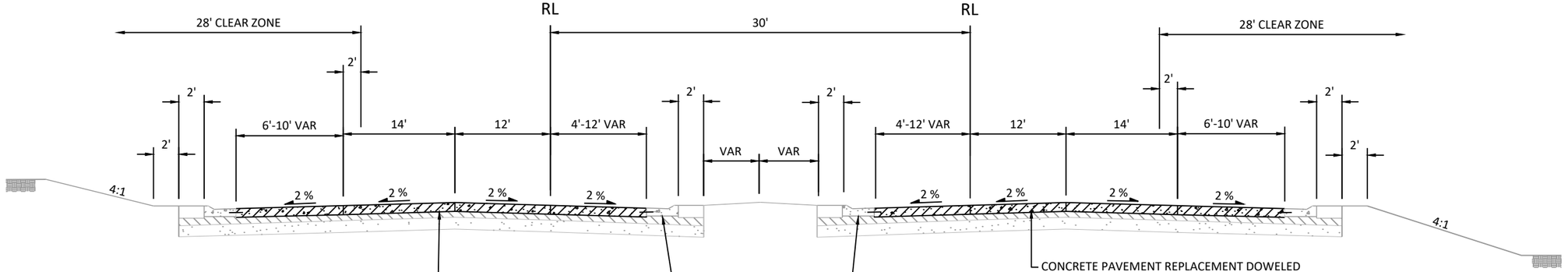
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 17	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 13C-10ft 64-5
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 946+25'EB' - STA 951+25'EB'
STA 963+87'EB' - STA 977+10'EB'



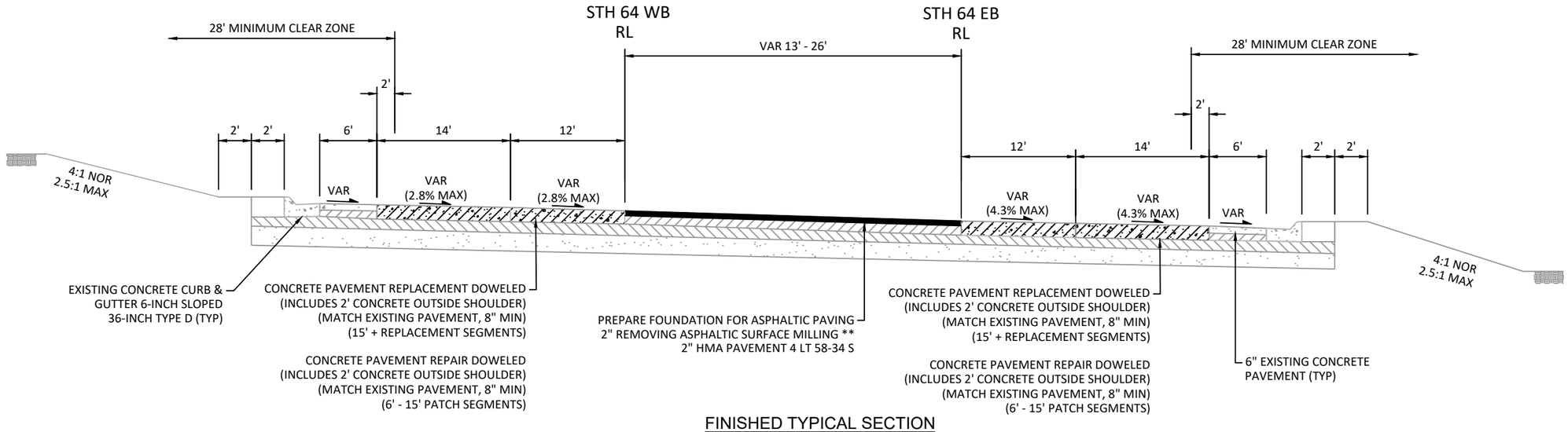
FINISHED TYPICAL SECTION

STH 64
STA 956+81'EB' - STA 963+87'EB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 18	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 14-10ft 64-6
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

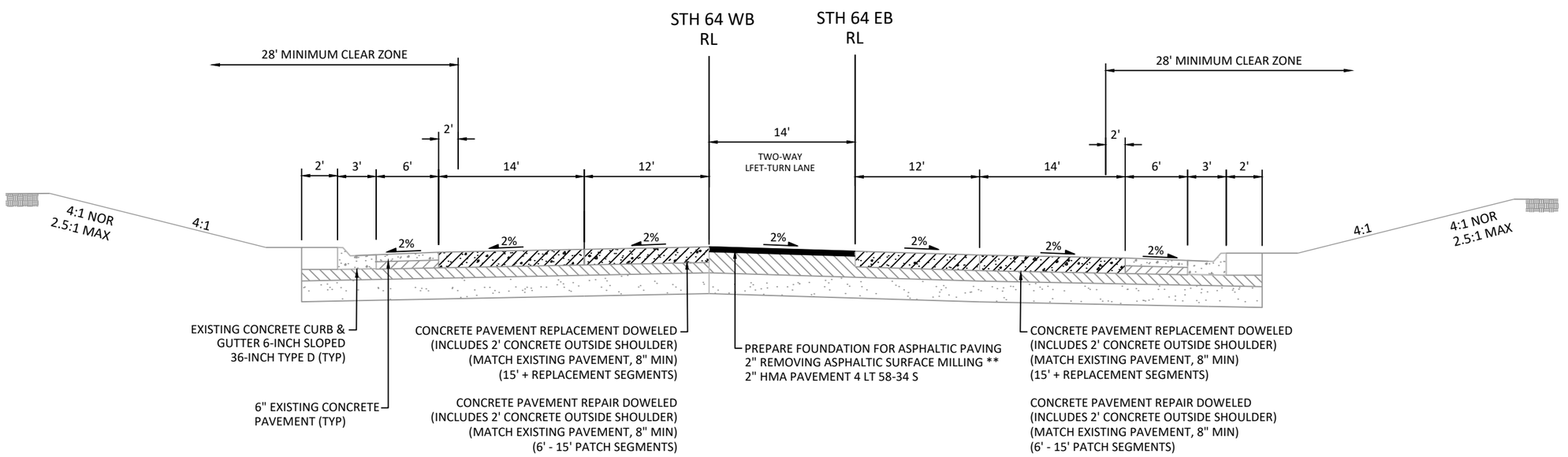
2



FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 977+10'EB' - STA 980+75'EB'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT

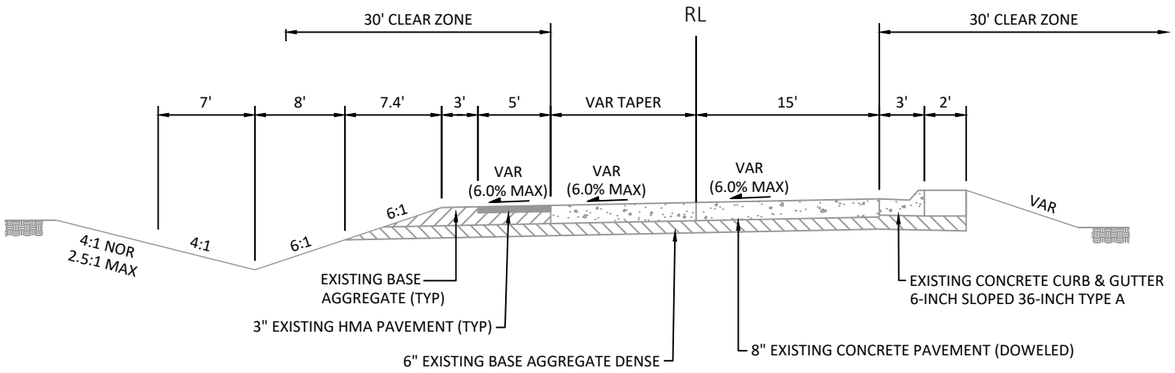


FINISHED TYPICAL SECTION

STH 64
SUPERELEVATED SECTION
STA 980+75'EB' - STA 989+11'EB'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 19	E

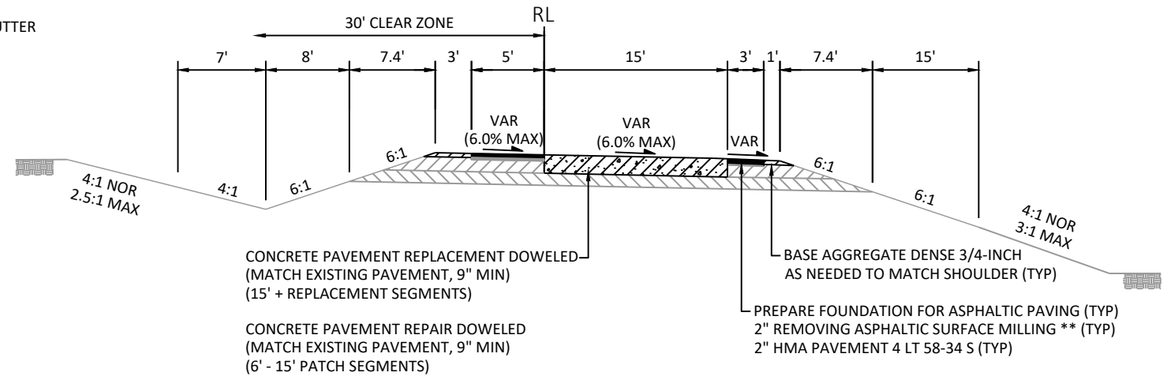
FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 15-10ft 64-7
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION

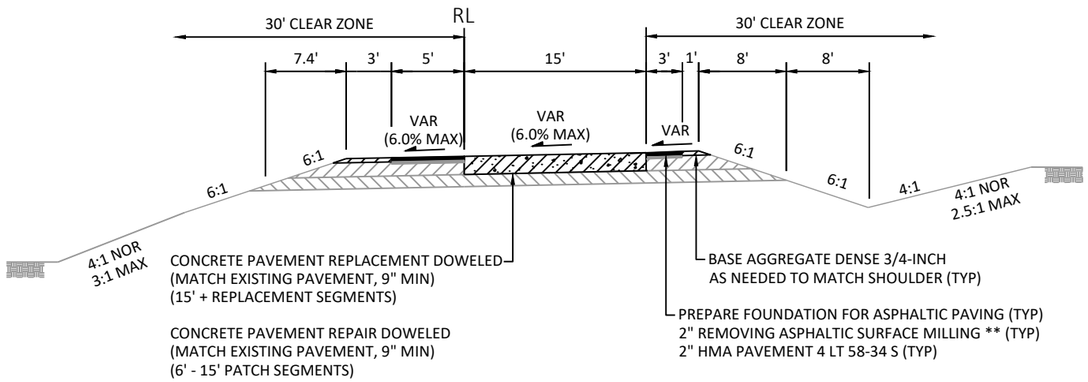
STH 35 RAMP J
STA 620+30'J' - STA 623+50'J'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



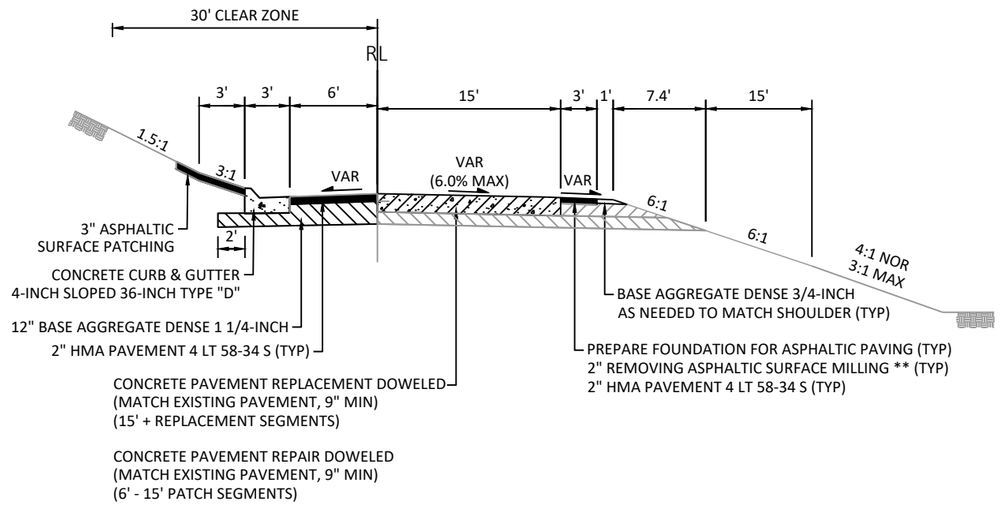
FINISHED TYPICAL SECTION

STH 35 RAMP J
STA 629+75'J' - STA 630+80'J'
STA 633+05'J' - STA 640+40'J'



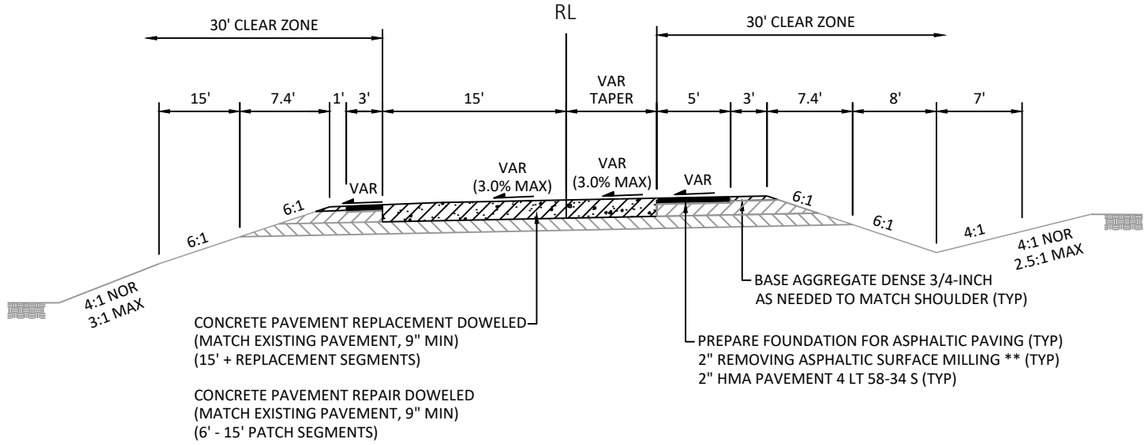
FINISHED TYPICAL SECTION

STH 35 RAMP J
STA 623+50'J' - STA 629+75'J'



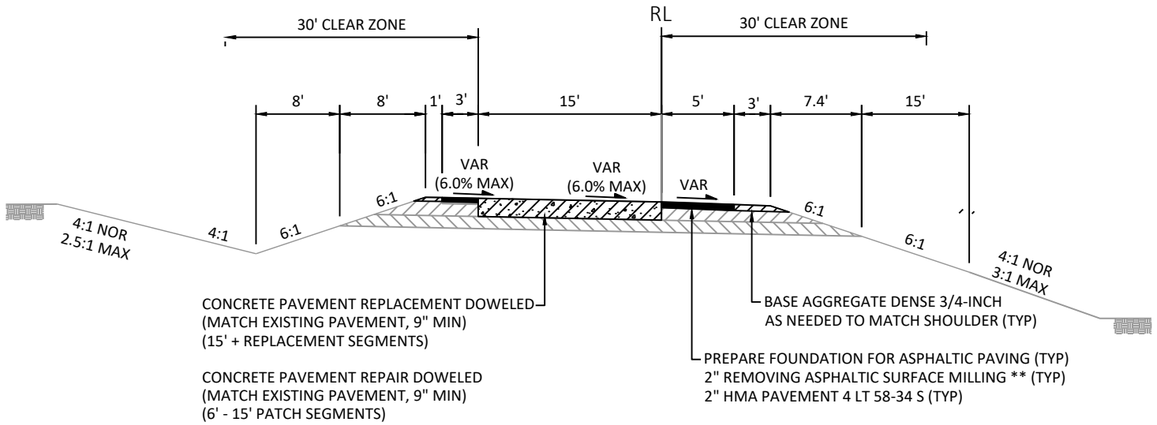
FINISHED TYPICAL SECTION

STH 35 RAMP J
STA 630+80'J' - STA 633+05'J'



FINISHED TYPICAL SECTION

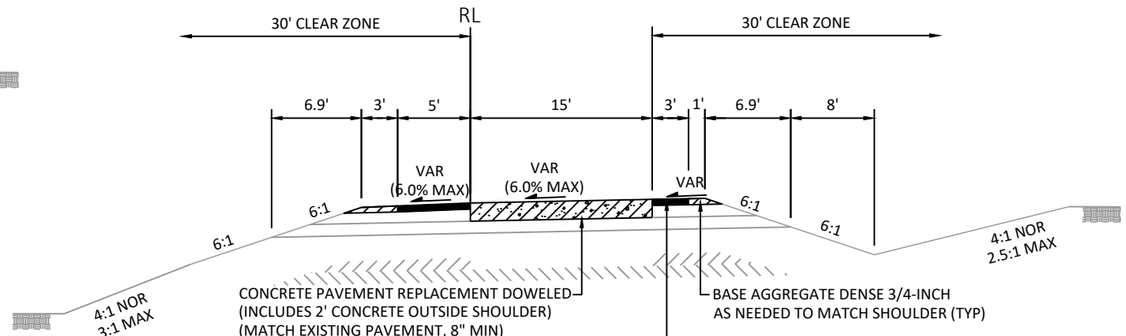
STH 35 RAMP K
STA 634+00'K' - STA 638+44'K'



FINISHED TYPICAL SECTION

STH 35 RAMP K
STA 638+44'K' - STA 647+35'K'

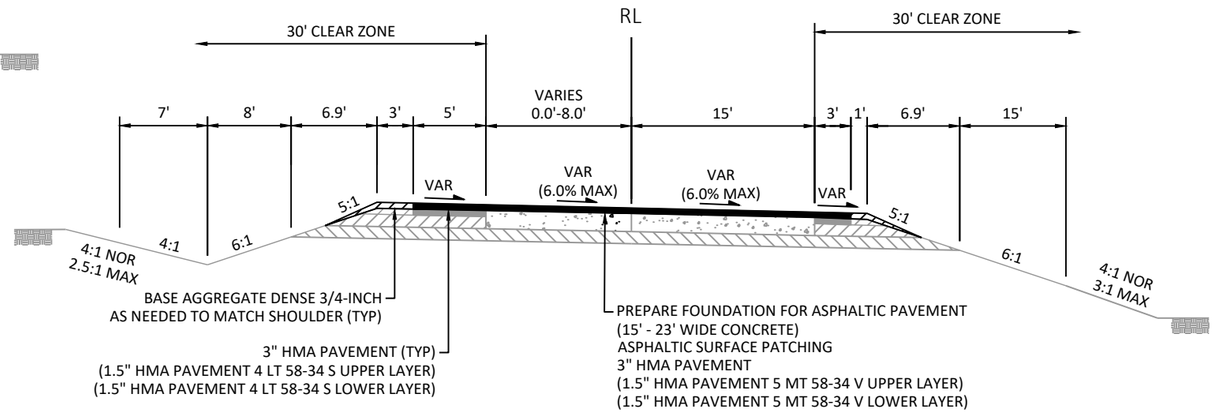
2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



FINISHED TYPICAL SECTION

110TH ST RAMP M
STA 790+00'E' - 799+39'E'
110TH ST RAMP N
STA 811+75'N' - 819+54'N'

** 2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT

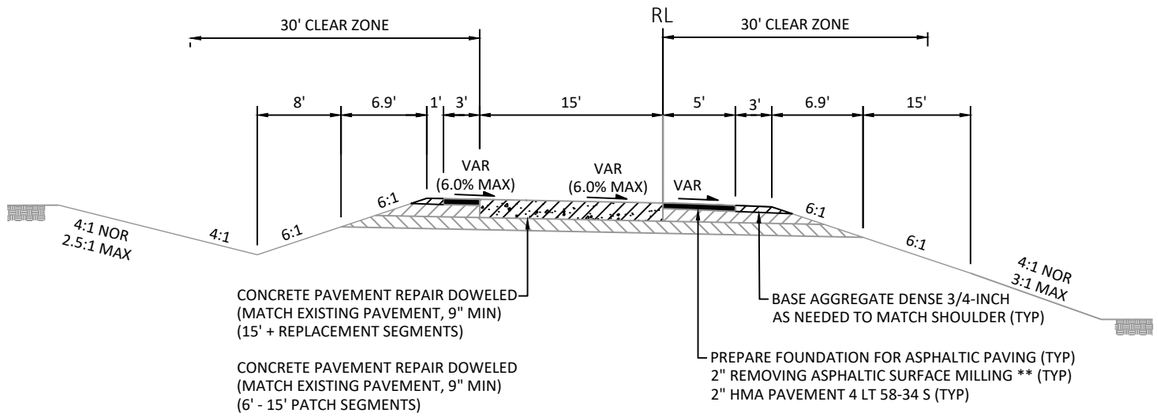


FINISHED TYPICAL SECTION

110TH ST RAMP M
STA 790+94'M' - 802+67'M'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TYPICAL SECTIONS	SHEET 21	E

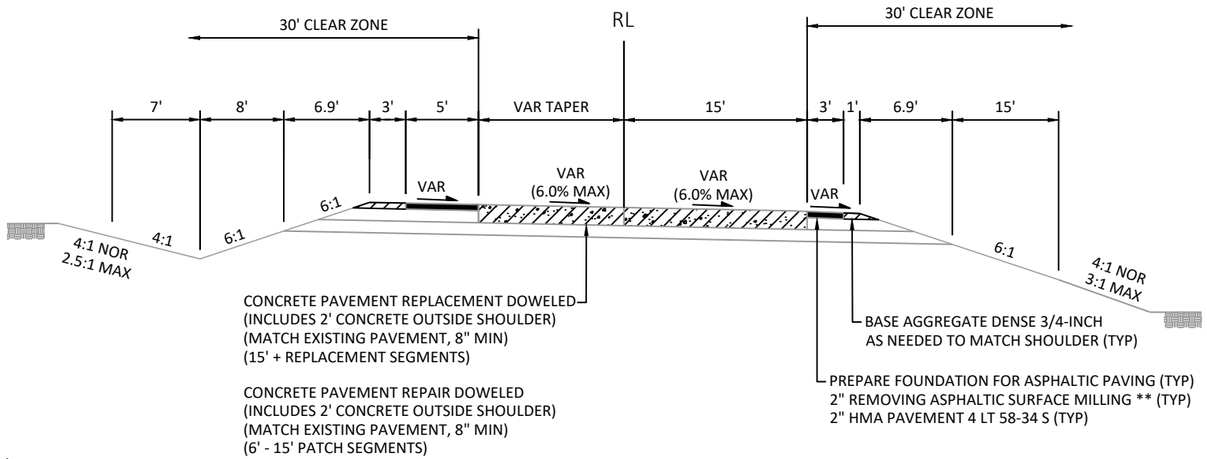
FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - 16A-10ft 64-9
PLOT DATE : 6/5/2025 9:56 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



FINISHED TYPICAL SECTION

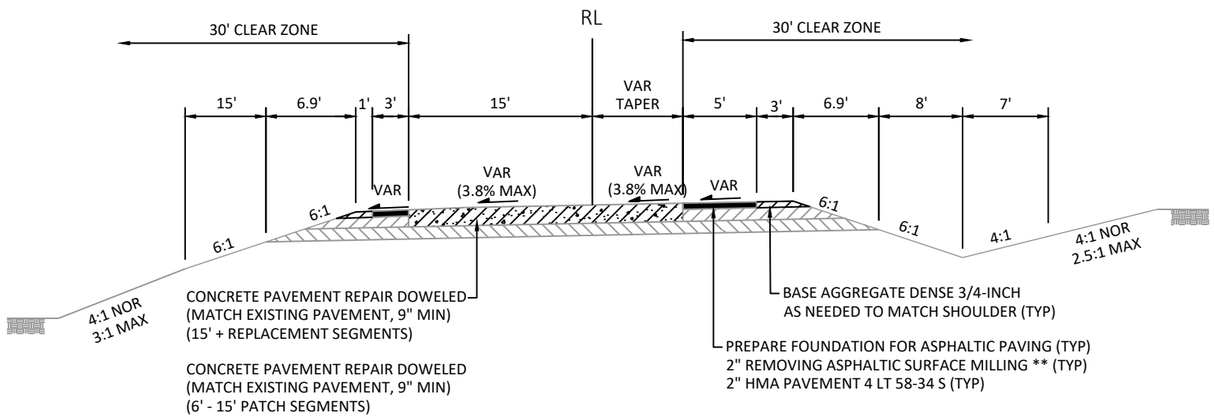
110TH ST RAMP O
STA 810+22'O' - 816+35'O'
110TH ST RAMP P
STA 789+40'P' - 800+12'P'

2" REMOVING ASPHALTIC SURFACE MILLING TO BE MEASURED FROM TOP OF ADJACENT CONCRETE PAVEMENT



FINISHED TYPICAL SECTION

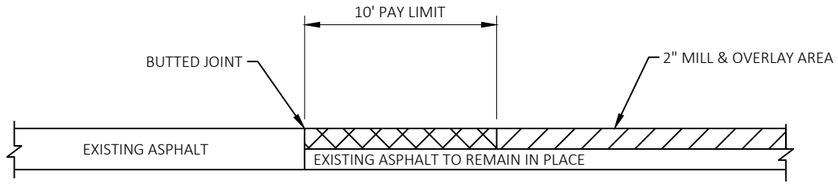
110TH ST RAMP N
STA 804+00'N' - 811+75'N'



FINISHED TYPICAL SECTION

110TH ST RAMP O
STA 804+65'O' - 810+22'O'
STA 816+35'O' - 821+00'O'
110TH ST RAMP P
STA 800+12'P' - 804+82'P'

2

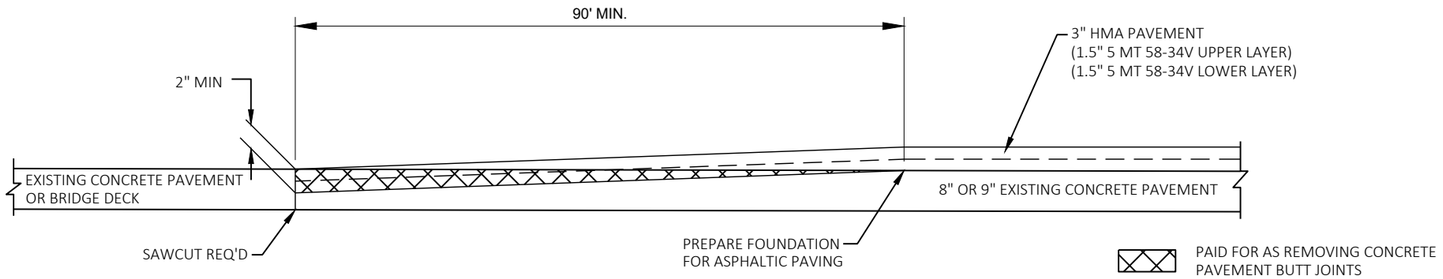


PAID FOR AS REMOVING ASPHALTIC SURFACE BUTT JOINTS

PAID FOR AS REMOVING ASPHALTIC SURFACE MILLING

NOTE:
ANY SAWCUT USED WILL BE CONSIDERED INCIDENTAL TO THE ITEM "REMOVING ASPHALTIC SURFACE BUTT JOINTS"

SHOULDER BUTT JOINT DETAIL

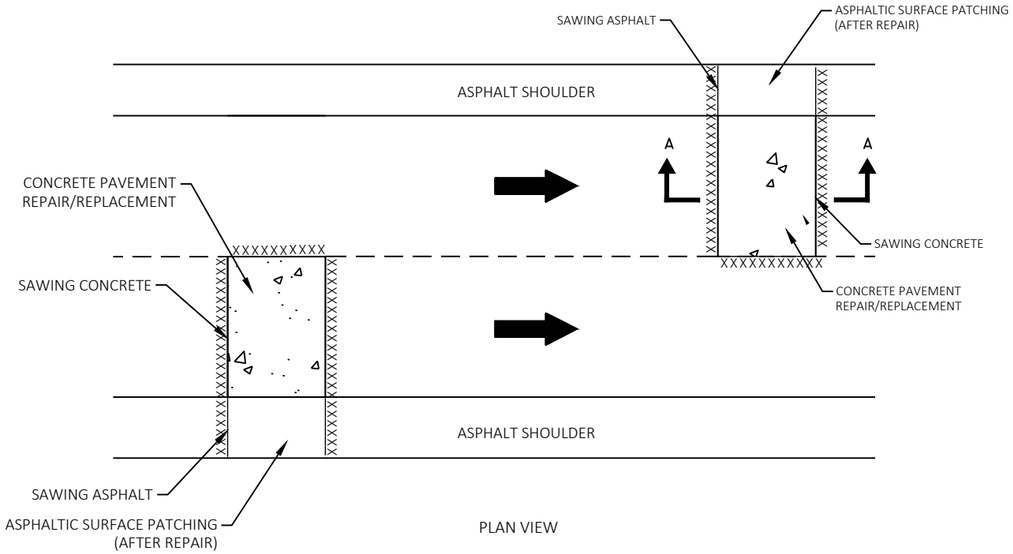


PAID FOR AS REMOVING CONCRETE PAVEMENT BUTT JOINTS

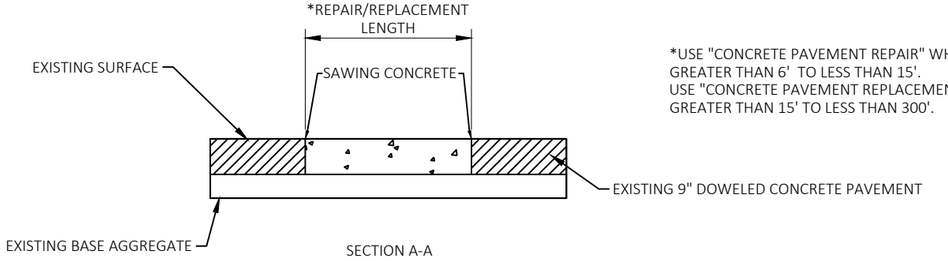
NOTE:
ANY SAWCUT USED WILL BE CONSIDERED INCIDENTAL TO THE ITEM "REMOVING CONCRETE PAVEMENT BUTT JOINTS"

MAINLINE HMA PAVEMENT OVERLAY BUTT JOINT DETAIL

STA 647+50'WB' - STA 648+40'WB'
STA 706+28'WB' - STA 707+18'WB'
STA 790+22'WB' - STA 791+12'WB'
STA 789+89'P' - STA 790+79'P'
STA 801+77'M' - STA 802+67'M'



PLAN VIEW



SECTION A-A

*USE "CONCRETE PAVEMENT REPAIR" WHEN LENGTH IS GREATER THAN 6' TO LESS THAN 15'.
USE "CONCRETE PAVEMENT REPLACEMENT" WHEN LENGTH IS GREATER THAN 15' TO LESS THAN 300'.

NOTES:
THICKNESS OF CONCRETE REPAIR/REPLACEMENT MAY VARY. 9" AVERAGE THICKNESS IS EXPECTED.

PROVIDE A 6' MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR TO ADJACENT TRANSVERSE JOINT OR CRACK.

DAMAGE TO EITHER EXISTING PAVEMENT OR EXISTING SHOULDERS OUTSIDE OF REPAIR LIMITS SHALL BE PREPARED AS DIRECTED BY THE ENGINEER AND WILL BE INCIDENTAL TO THE ITEMS OF "CONCRETE REPAIR" AND "CONCRETE REPLACEMENT".

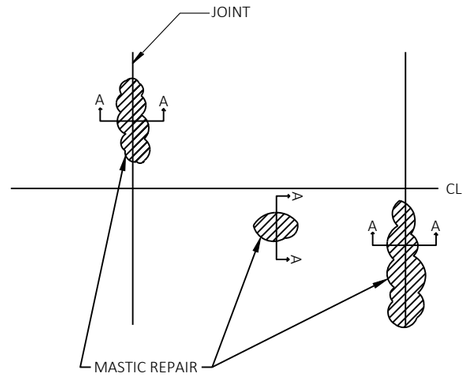
SALVAGE AND REUSE EXISTING BASE AGGREGATE

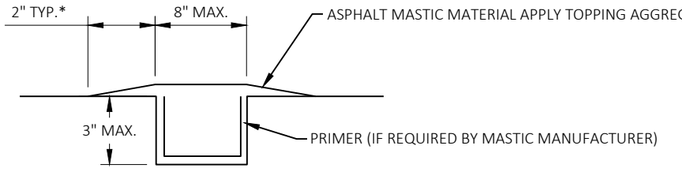
SAW CUTS TO BE PAID FOR UNDER STANDARD SAWING BID ITEMS.

SEE SDD "CONCRETE PAVEMENT REPAIR AND REPLACEMENT" FOR ADDITIONAL INFORMATION.

CONCRETE PAVEMENT REPAIR/REPLACMENT

LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.





SECTION A-A

*OR AS RECOMMENDED BY THE MANUFACTURER

NOTE:
CLEAN JOINTS WITHOUT ROUTING.

REMOVE ONLY LOOSE, DE-BONDED, AND FAILED GROUT AND OTHER DELETERIOUS MATERIAL.

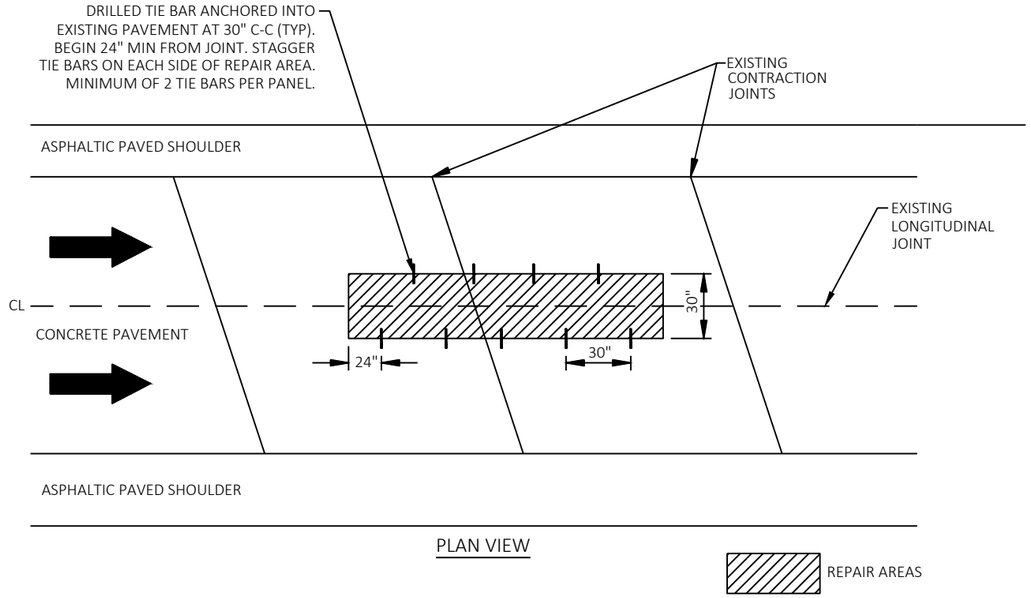
EXISTING GROUT THAT IS WELL BONDED SHOULD REMAIN.

CONTRACTOR SHOULD REMOVE MATERIAL WITH A HIGH PRESSURE AIR NOZZLE TO THE MAXIMUM EXTENT POSSIBLE. JACK HAMMERING IS TO BE USED WITH THE APPROVAL OF THE ENGINEER.

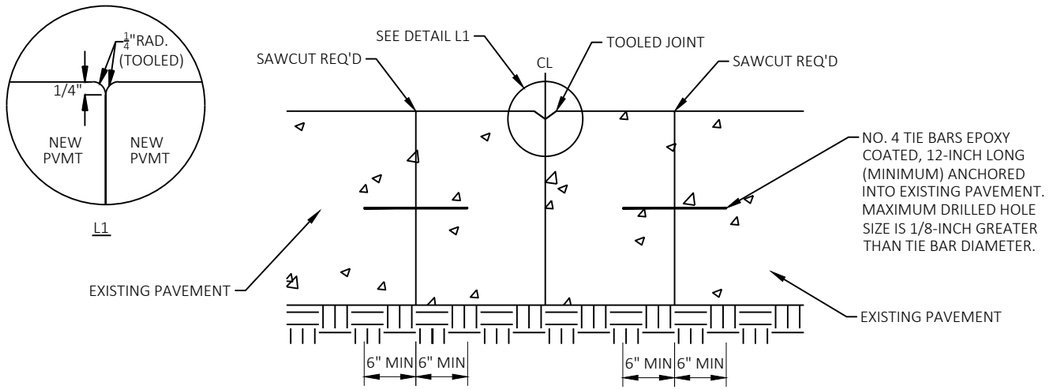
REPAIR LIMITS WILL BE DETERMINED BY THE ENGINEER.

ASPHALT MASTIC JOINT SEALING DETAIL

LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.



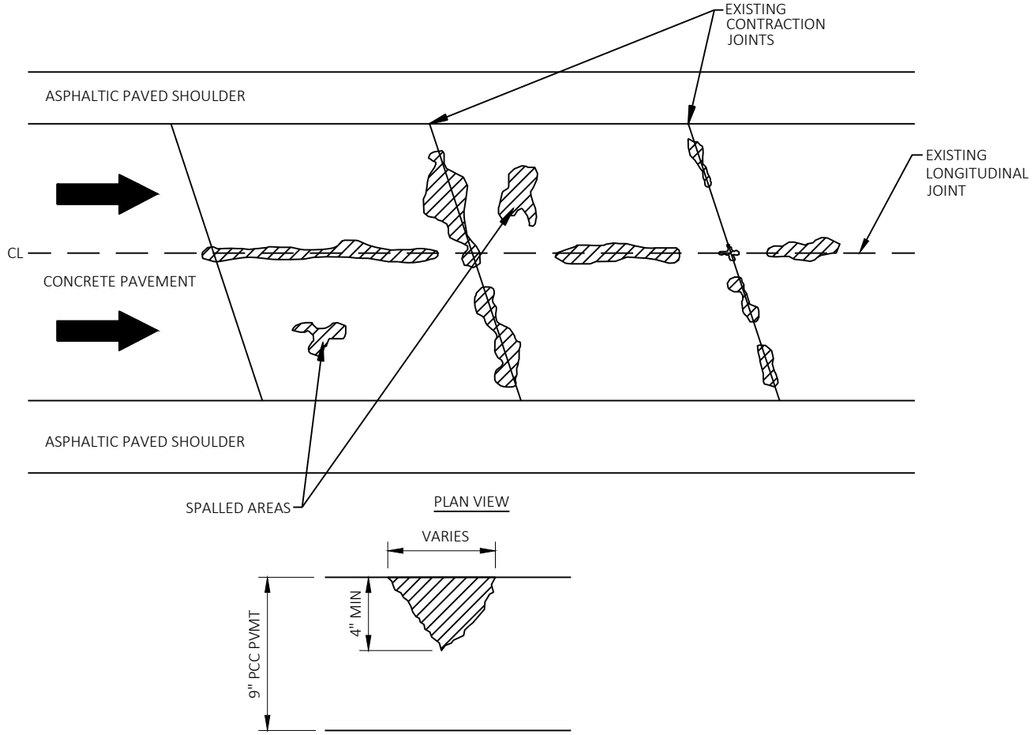
PLAN VIEW



SECTION VIEW

CONCRETE PAVEMENT CENTERLINE JOINT REPAIR

LOCATIONS DETERMINED IN THE FIELD BY THE ENGINEER.



PLAN VIEW

REPAIR AREAS

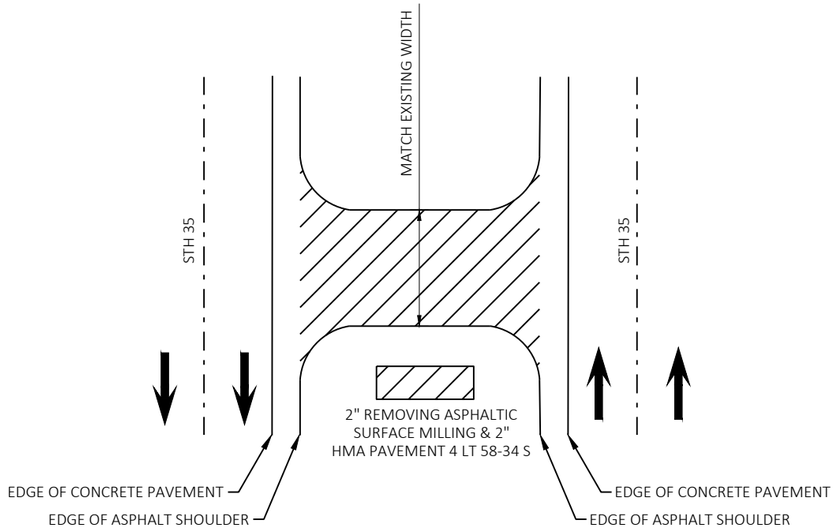
NOTES:
REMOVE ALL CONCRETE, ASPHALT, AND ANY UNSOUND MATERIAL FROM TRAVERSE AND LONGITUDINAL CRACKS AS WELL AS ANY RANDOM CRACKS. LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ASPHALTIC SURFACE SHALL BE PLACED IN THE JOINT REPAIR AREA. PATCHING SHALL BE COMPACTED IN LIFTS (2 LIFT MINIMUM) UNTIL FLUSH WITH THE SURFACE OF THE CONCRETE. ASPHALTIC SURFACE PAID SEPARATELY FROM THIS ITEM.

DEPTH VARIES A MINIMUM DEPTH OF 4 INCHES TO A FULL DEPTH JOINT AS CONDITIONS DICTATE.

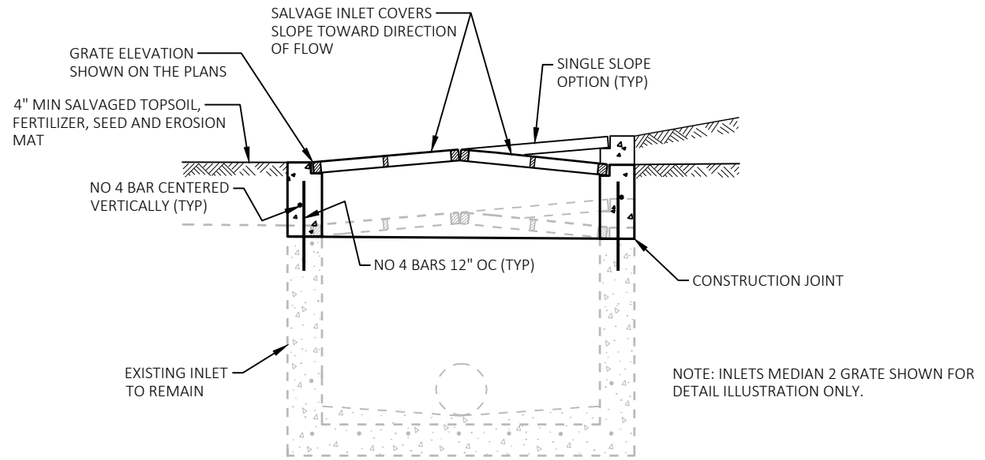
PREPARE FOUNDATION FOR ASPHALTIC PAVING

STH 64 OVERLAY
STA 618+74'WB' - STA 648+40'WB'
STA 706+28'EB' - STA 791+12'EB'
STA 785+85'P' - STA 791+12'P'
STA 790+94'M' - STA 8002+67'M'



SIDEROAD MEDIAN AND MAINTENANCE CROSSOVER DETAIL

STA 657+85'EB'
STA 776+46'EB'
STA 830+17'EB'

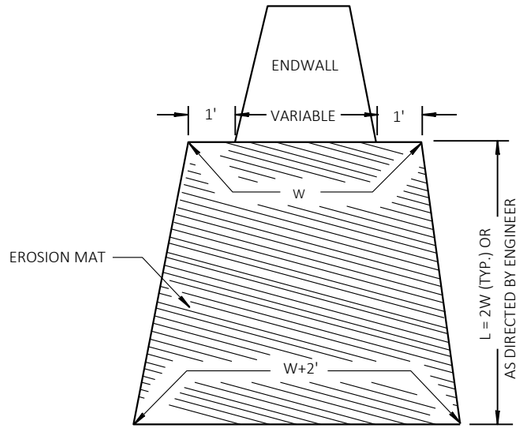


NOTE:
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

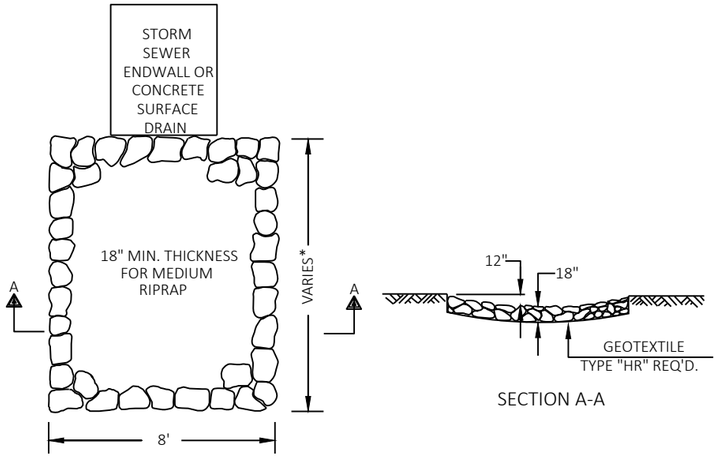
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

SEE S.D.D. "INLETS MEDIAN 1 & 2 GRATE" FOR MORE INFORMATION.

RECONSTRUCTION INLETS MEDIAN 2 GRATE

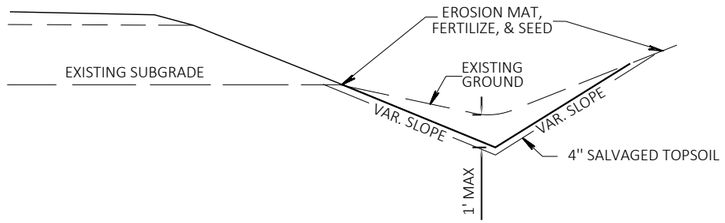


EROSION MAT TREATMENT AT CULVERTS

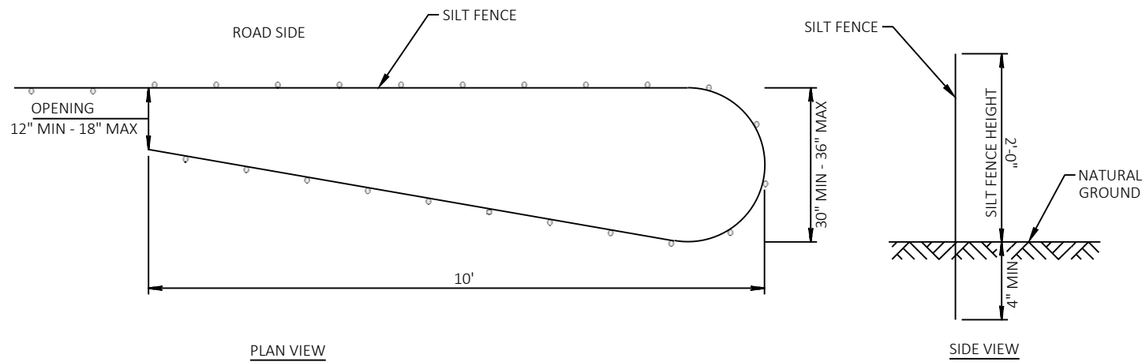


RIPRAP MEDIUM TREATMENT DETAIL

NOTE:
SEE PLAN DETAILS FOR LENGTH OF RIPRAP



CLEANING DITCH DETAIL



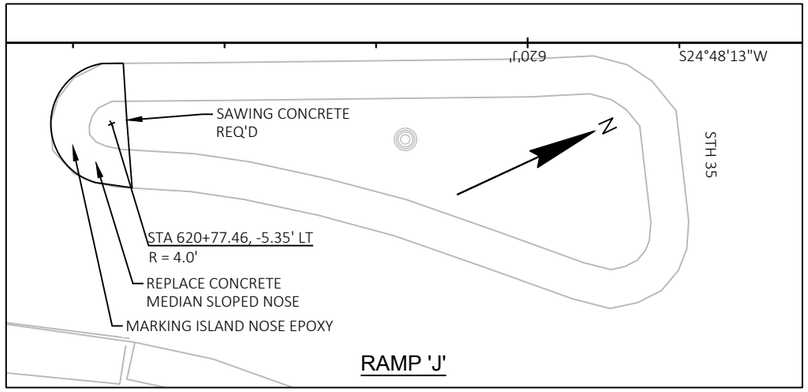
SILT FENCE TURN-AROUND DETAIL

NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS

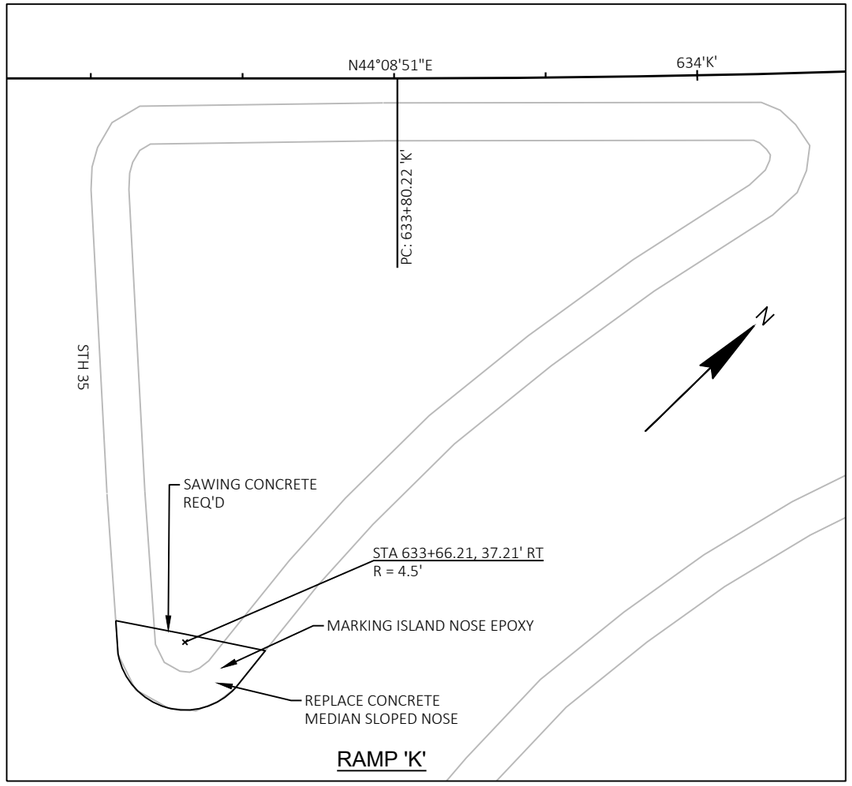
SEE PLAN SHEET FOR LOCATIONS

NOTES:
PROPOSED GRADES ARE INTENDED TO BE REPLACE "IN-KIND". ADJUSTMENTS MAY BE REQUIRED IN THE FIELD TO MEET EXISTING CONDITIONS.

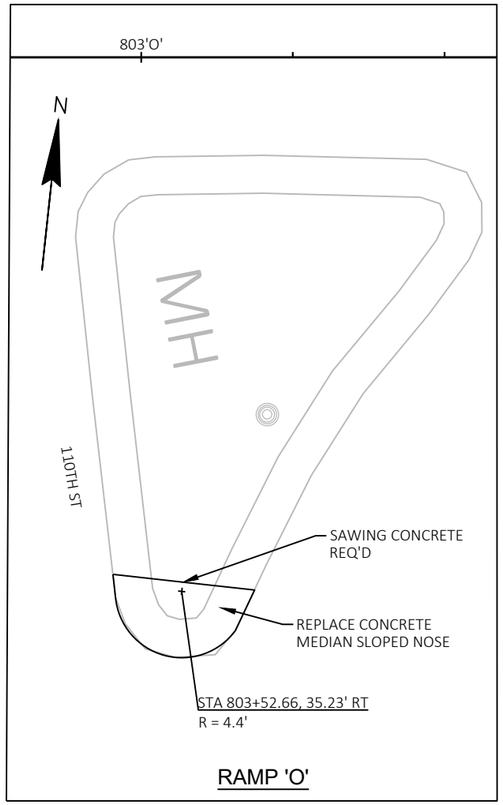
ENGINEER IN FIELD MAY ADJUST SAWCUT LIMITS BASED ON FIELD CONDITIONS.



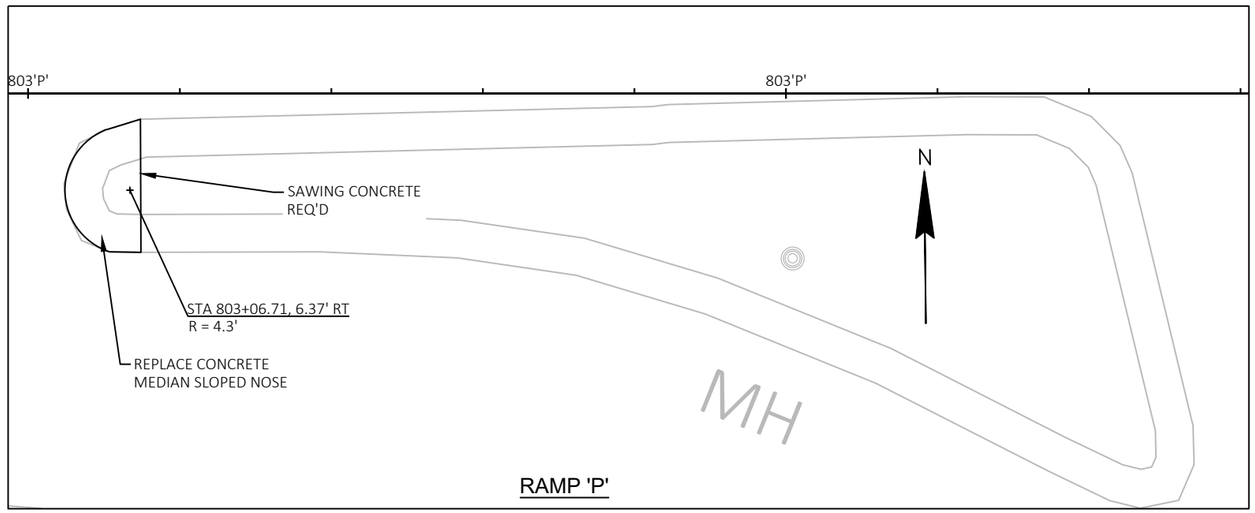
RAMP 'J'



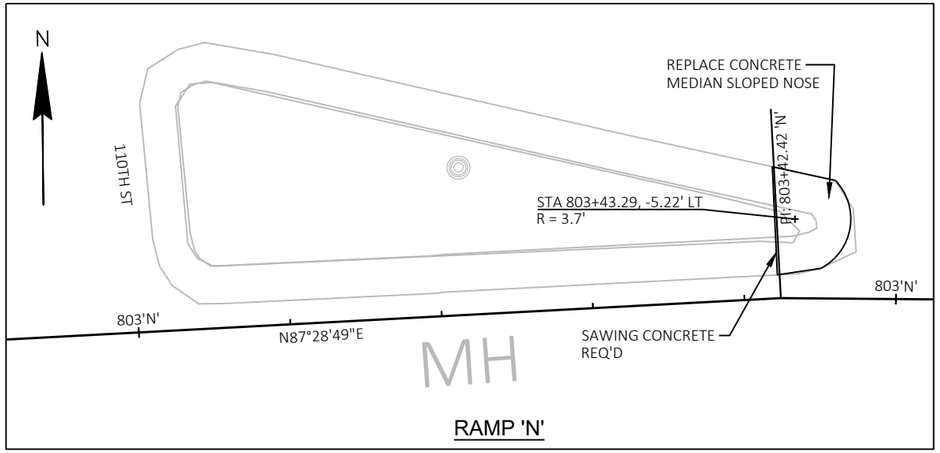
RAMP 'K'



RAMP 'O'

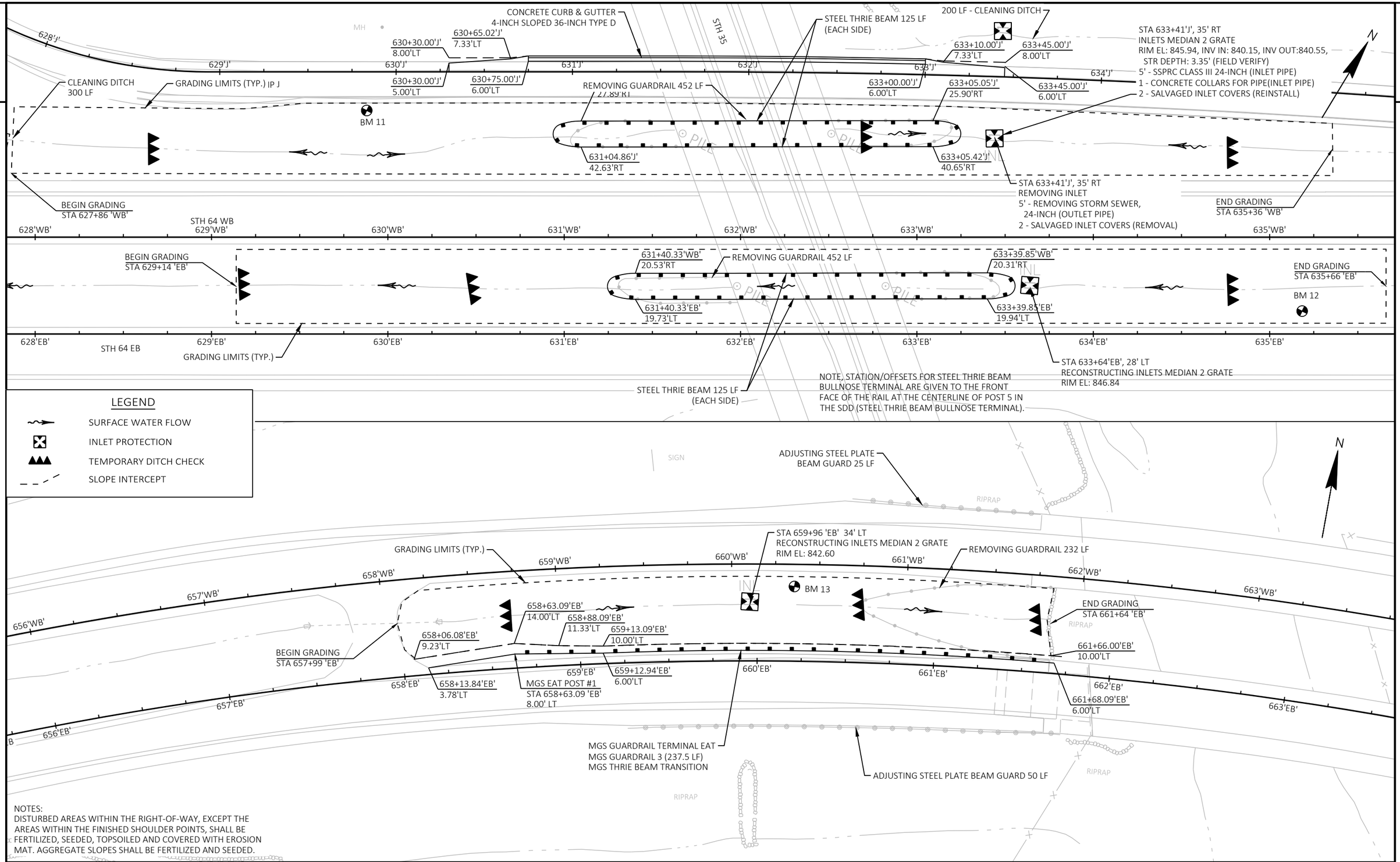


RAMP 'P'



RAMP 'N'

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CONSTRUCTION DETAILS - ISLAND REPAIR DETAIL	SHEET 28	E



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 29	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\021002 CD.DWG
LAYOUT NAME - 11
PLOT DATE : 6/4/2025 9:12 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : ##########

2

STA 670+82'WB'
CONCRETE SURFACE DRAIN
6'X8' RIPRAP MEDIUM

ADJUSTING STEEL PLATE BEAM GUARD 50 LF

STA 669+36'WB' - STA 670+92'WB'
CONCRETE CURB & GUTTER
4-INCH SLOPED 36-INCH TYPE TBTT
6-INCH CONCRETE PAVEMENT
SAWCUT REQ'D

670+92.41'WB'
4.00'RT

MGS GUARDRAIL TERMINAL EAT
MGS GUARDRAIL 3 (412.5 LF)
MGS THRIE BEAM TRANSITION

670+94.43'WB'
0.00'

STA 672+37'WB' 24' RT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 835.68

670+36.62'WB'
6.00'RT

674+91.62'WB'
6.00'RT

MGS EAT POST #1
STA 675+41.62'WB'
8.00RT

676+16.62'WB'
3.00'RT

676+61.62'WB'
6.00'RT

670'WB' 671'WB' 672'WB' 673'WB' 674'WB' 675'WB' 676'WB' 677'WB'

REMOVING SURFACE DRAIN

674+91.62'WB'
10.00'RT

675+41.62'WB'
14.00'RT

BEGIN GRADING
STA 669+32 'EB'

669+31.64'EB'
10.00'LT

670+82.40'WB'
19.32'RT

672+21.04'EB'
10.00'LT

672+66.04'EB'
3.00'LT

675+16.62'WB'
11.33'RT

669'EB' 670'EB' 671'EB' 672'EB' 673'EB' 674'EB' 675'EB' 676'EB'

669+31.64'EB'
6.00'LT

REMOVING GUARDRAIL 289 LF

SALVAGE AND SHAPE EXISTING RIPRAP

MGS GRT TYPE 2 POST #1
STA 672+21.04 'EB'
6.00' LT

672+81.04'EB'
6.00'LT

GRADING LIMITS (TYP.)

END GRADING
STA 676+20 'EB'

Upland 1

Wetland 1 Shrub Scrub (SS)

ADJUSTING STEEL PLATE BEAM GUARD 25 LF

MGS GUARDRAIL TERMINAL TYPE 2
MGS GUARDRAIL 3 (250 LF)
MGS THRIE BEAM TRANSITION

LEGEND

- SURFACE WATER FLOW
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SLOPE INTERCEPT

ADJUSTING STEEL PLATE BEAM GUARD 50 LF

679'WB' 680'WB' 681'WB' 682'WB' 683'WB' 684'WB' 685'WB' 686'WB'

GRADING LIMITS (TYP.)

REMOVING GUARDRAIL 191 LF

BEGIN GRADING
STA 680+55 'EB'

BM15

END GRADING
STA 684+52 'EB'

681+74.68'EB'
14.00'LT

681+99.68'EB'
11.33'LT

682+24.68'EB'
10.00'LT

684+59.10'EB'
10.00'LT

679'EB' 680'EB' 681'EB' 682'EB' 683'EB' 684'EB' 685'EB' 686'EB'

680+54.68'EB'
6.00'LT

680+99.68'EB'
3.00'LT

MGS EAT POST #1
STA 681+74.68 'EB'
8.00' LT

682+24.68'EB'
6.00'LT

684+54.68'EB'
6.00'LT

MGS GUARDRAIL TERMINAL EAT
MGS GUARDRAIL 3 (237.5 LF)
MGS THRIE BEAM TRANSITION

ADJUSTING STEEL PLATE
BEAM GUARD 25 LF

NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 30	E

2

STA BACK = 688+25.95
STA AHEAD = 688+00.00

688'WB' 688'WB' 689'WB' 690'WB' 691'WB' 692'WB' 693'WB' 694'WB' 695'WB'

STA 690+96'WB', 28' RT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 851.63

ADJUSTING STEEL PLATE BEAM GUARD 50 LF

MGS GUARDRAIL TERMINAL EAT
MGS GUARDRAIL 3 (237.5 LF)
MGS THRIE BEAM TRANSITION

689+68.50'WB'
6.00'RT

MGS EAT POST #1
STA 692+48.50'WB'
8.00RT

693+23.50'WB'
3.00'RT

693+68.50'WB'
6.00'RT

689+68.50'WB'
10.00'RT

691+98.50'WB'
10.00'RT

692+48.50'WB'
14.00'RT

BEGIN GRADING
STA 689+67 'EB'

692+23.50'WB'
11.33'RT

END GRADING
STA 693+68 'EB'

688'EB' 689'EB' 690'EB' 691'EB' 692'EB' 693'EB' 694'EB' 695'EB'

REMOVING GUARDRAIL 231

GRADING LIMITS (TYP.)

ADJUSTING STEEL PLATE BEAM GUARD 25 LF

RIPRAP
SIGN
OHP
INL
N

2

LEGEND

- SURFACE WATER FLOW
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SLOPE INTERCEPT

BM 18

STA 801+46'EB', 28' LT
RECONSTRUCTING INLETS MEDIAN 2 GRATE
RIM EL: 1002.31

STEEL THRIE BEAM 125 LF
(EACH SIDE)

REMOVING GUARDRAIL 478 LF

STH 64 WB

800'WB' 801'WB' 802'WB' 803'WB' 804'WB' 805'WB' 806'WB' 807'WB'

802+29.85'WB'
19.91'RT

804+29.38'WB'
20.31'RT

PILE
PILE

BEGIN GRADING
STA 800+02 'EB'

BM 17

802+30.29'EB'
19.87'LT

804+29.82'EB'
19.50'LT

INL
RIPRAP

800'EB' 801'EB' 802'EB' 803'EB' 804'EB' 805'EB' 806'EB' 807'EB'

GRADING LIMITS (TYP.)

STH 64 EB

END GRADING
STA 806+56 'EB'

110TH ST

NOTE, STATION/OFFSETS FOR STEEL THRIE BEAM BULLNOSE TERMINAL ARE GIVEN TO THE FRONT FACE OF THE RAIL AT THE CENTERLINE OF POST 5 IN THE SDD (STEEL THRIE BEAM BULLNOSE TERMINAL).

Wet 5 Continued
(M)

RIPRAP

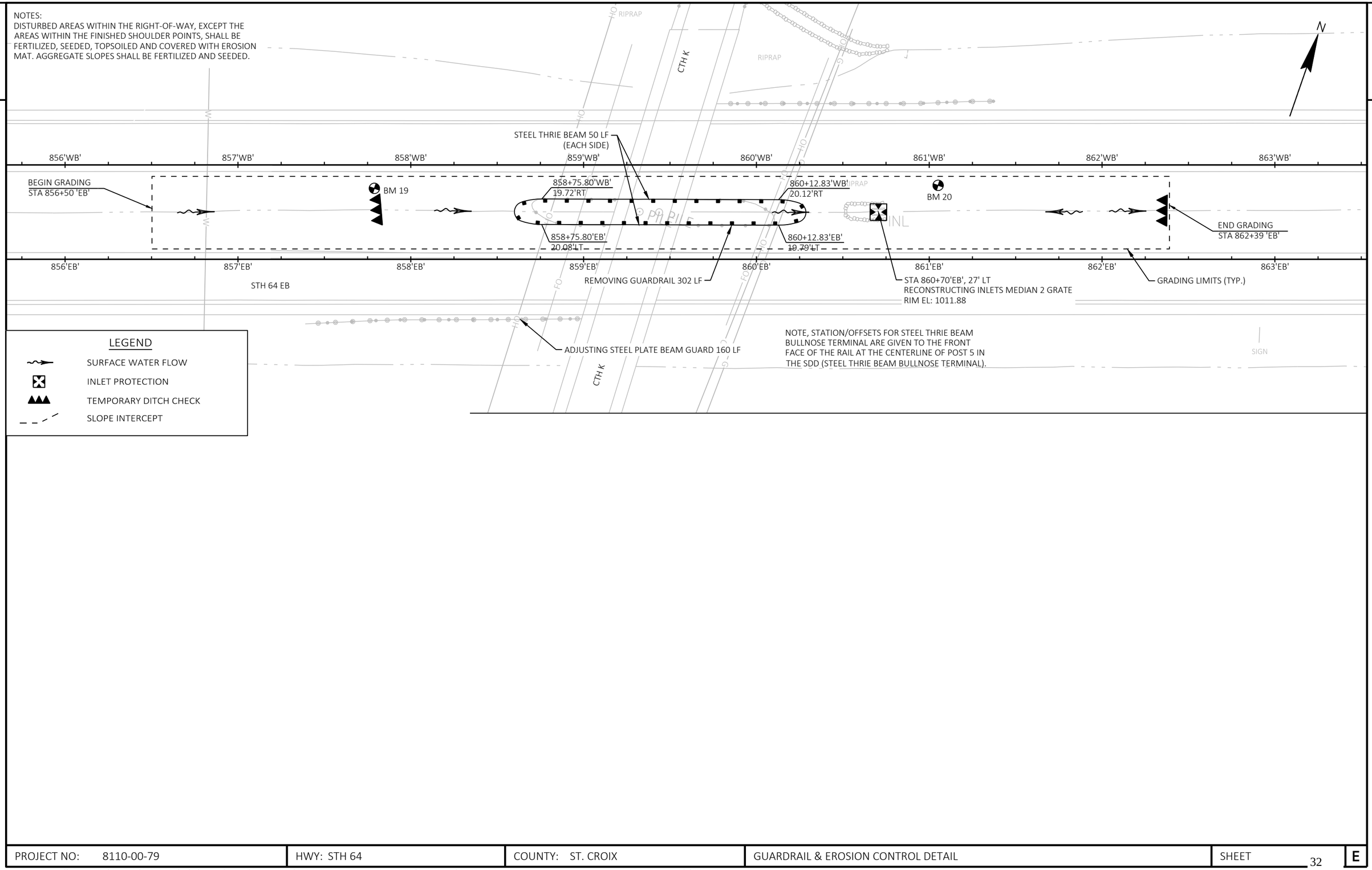
N

NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 31	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\021002 CD.DWG
LAYOUT NAME - 13
PLOT DATE : 6/4/2025 9:13 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : ##########

NOTES:
DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT. AGGREGATE SLOPES SHALL BE FERTILIZED AND SEEDED.



LEGEND

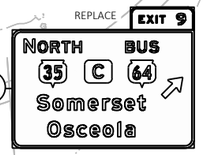
- SURFACE WATER FLOW
- INLET PROTECTION
- TEMPORARY DITCH CHECK
- SLOPE INTERCEPT

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	GUARDRAIL & EROSION CONTROL DETAIL	SHEET 32	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\021002 CD.DWG
LAYOUT NAME - 14
PLOT DATE : 6/4/2025 9:13 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS

REPLACE



8-1

E1-5P
E4-1A

650'WB'
645'WB'
655'WB'
660'WB'
665'WB'
670'WB'
645'EB'
650'EB'
655'EB'
660'EB'
665'EB'
670'EB'

MATCH LINE 671+00

MATCH LINE 671+00

REPLACE



8-2

E3-1

675'WB'
675'EB'
680'WB'
680'EB'
685'WB'
685'EB'
690'WB'
690'EB'
695'WB'
695'EB'

REPLACE



8-3

E1-5P
E1-1A

REPLACE



8-4

E9-1

REPLACE



8-5

D2-1

MATCH LINE 698+00

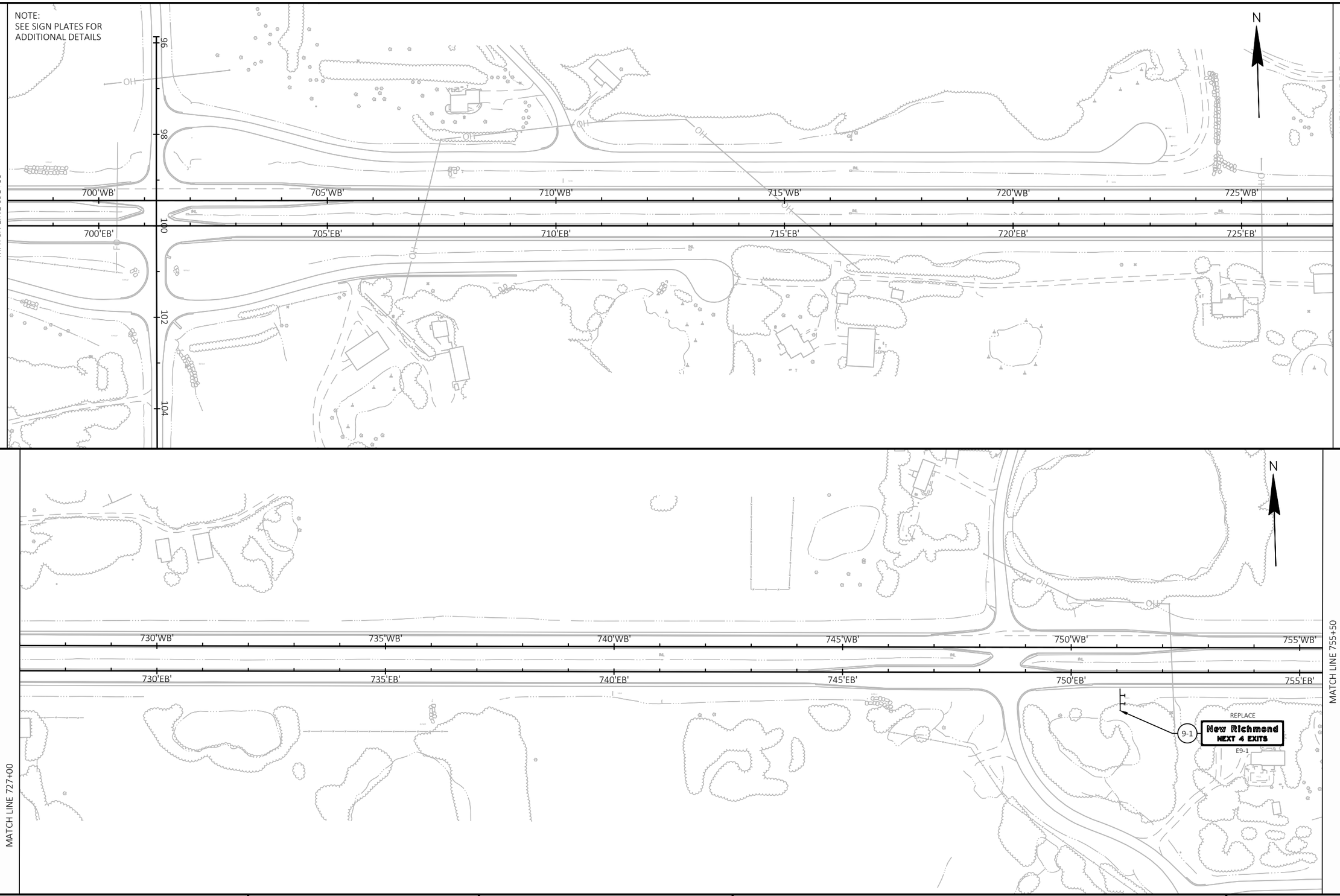
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 33	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023202_PS.DWG
LAYOUT NAME - 08

PLOT DATE : 6/4/2025 9:17 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

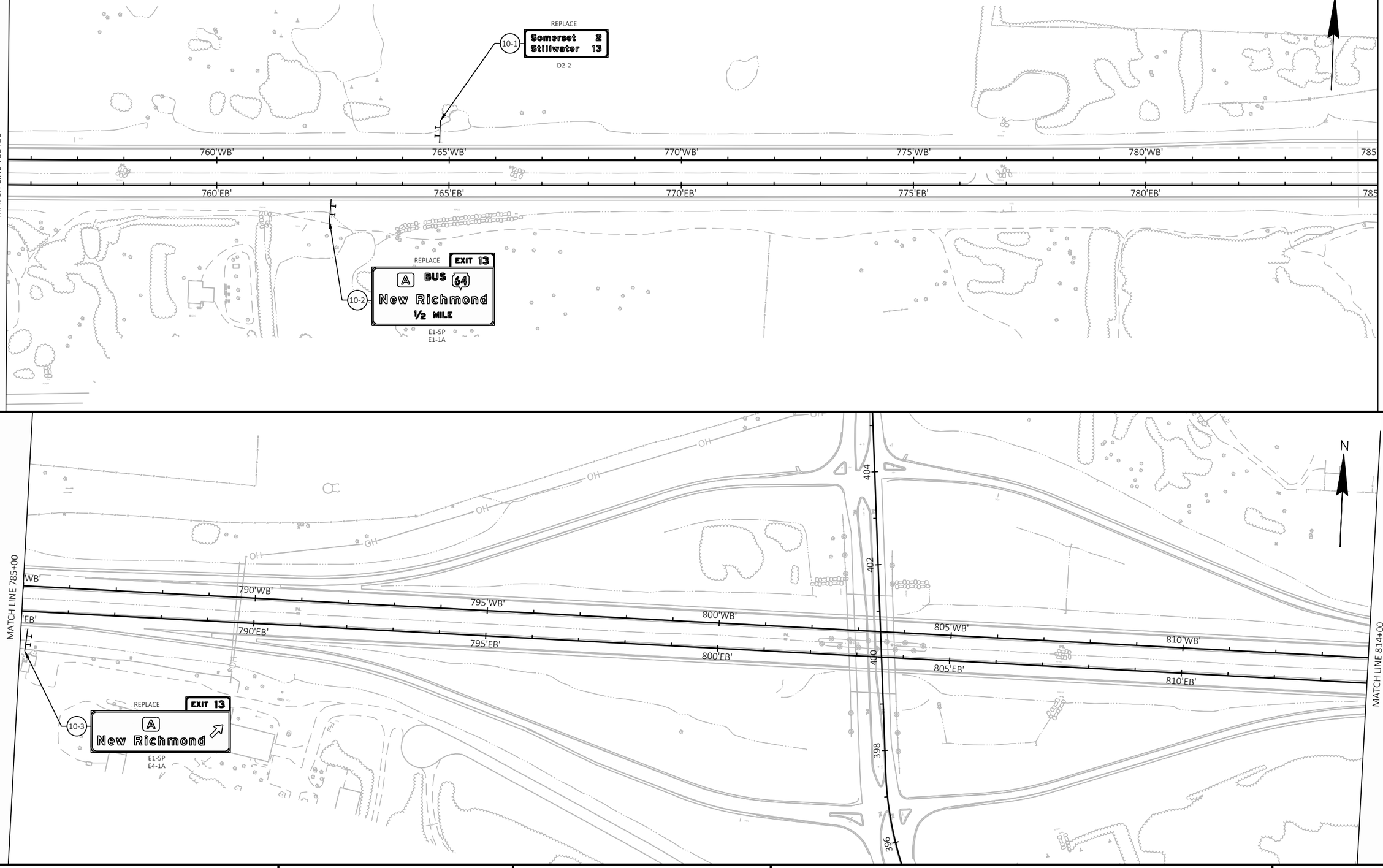
NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 34	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023202_PS.DWG
LAYOUT NAME - 09
PLOT DATE : 6/4/2025 9:19 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:200 FT

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 35	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023202_PS.DWG
LAYOUT NAME - 10
PLOT DATE : 6/4/2025 9:20 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 44

NOTE:
SEE SIGN PLATES FOR
ADDITIONAL DETAILS

2

2

MATCH LINE 814+00

MATCH LINE 843+60

REPLACE

EXIT 13

A BUS 64

New Richmond

11-1

E1-5P
E4-1A

815'WB'
815'EB'
820'WB'
820'EB'
825'WB'
825'EB'
830'WB'
830'EB'
835'WB'
835'EB'
840'WB'
840'EB'

CANADIAN NATIONAL

MATCH LINE 843+60

MATCH LINE 873+00

845'WB'
845'EB'
850'WB'
850'EB'
855'WB'
855'EB'
860'WB'
860'EB'
865'WB'
865'EB'
870'WB'
870'EB'

REPLACE

EXIT 13

A

New Richmond

1 MILE

11-2

E1-5P
E1-1A

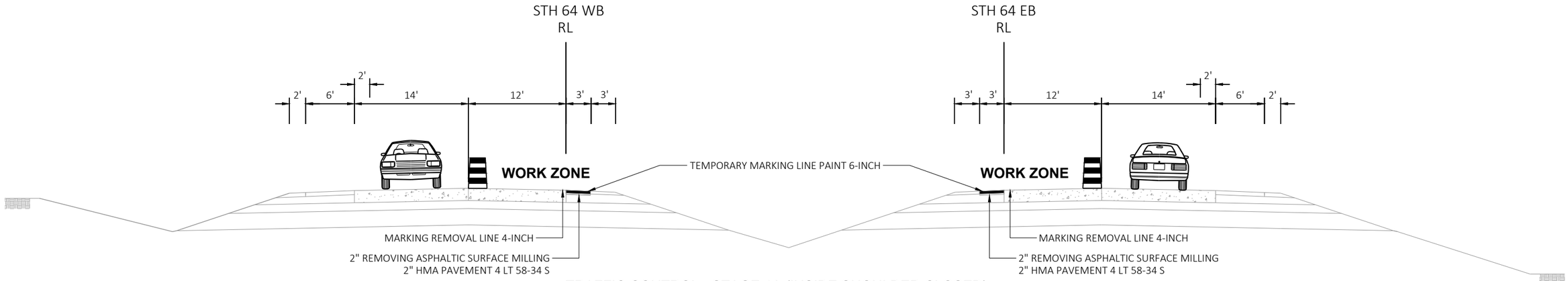
CANADIAN NATIONAL

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	PERMANENT SIGNING	SHEET 36	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\023202_PS.DWG
LAYOUT NAME - 11

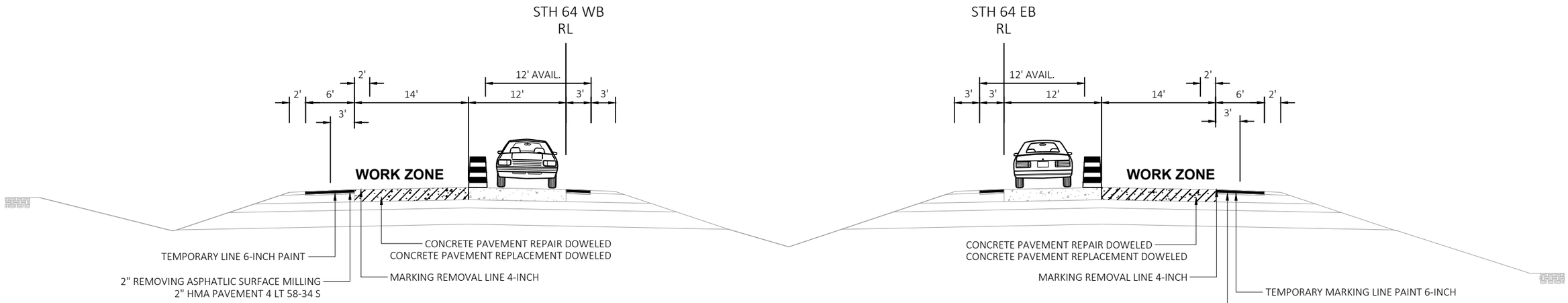
PLOT DATE : 6/4/2025 9:21 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44



TRAFFIC CONTROL - STAGE 1A (INSIDE SHOULDER CLOSED)

STH 64



TRAFFIC CONTROL - STAGE 1B (OUTSIDE LANE CLOSED)

STH 64

GENERAL NOTES:

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL IN UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

DRUMS IN TAPERS SHALL BE EQUIPPED WITH THE TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

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

INTERSECTION STAGING SHALL BE DETERMINED BY CONTRACTOR MEANS AND METHODS. INTERSECTION STAGING SHALL BE APPROVED BY THE ENGINEER PRIOR TO DEPLOYMENT.

DROP OFF CANNOT EXIST FOR MORE THAN 48 HOURS WHEN GREATER THAN 4". MAKE NOTE THAT CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE PAVEMENT WITHIN THAT TIMEFRAME.

EB LANES WILL USE TRAFFIC QUEUE WARNING SYSTEM, WITH ADVANCED WARNING AREA OUT 4 MILES, PLACE FIRST PCMS 4 MILES AHEAD OF CLOSURE.

SINGLE LANE CLOSURES SHALL NOT EXCEED 2 MILES IN LENGTH.

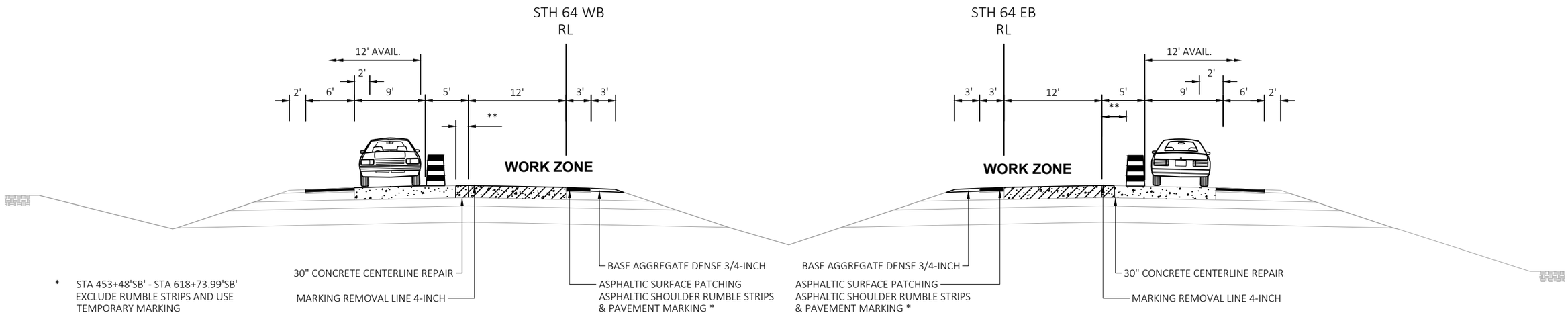
USE ASPHALTIC SURFACE PATCHING ON INSIDE LANE SHOULDER CONCRETE REPAIR AREAS.

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM"
- SDD "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION"
- SDD "TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE"
- SDD "TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE"
- SDD "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE"
- SDD "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE"
- SDD "TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE"
- SDD "TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE"
- SDD "TRAFFIC CONTROL, DROP-OFF SIGNING"
- SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH"

2



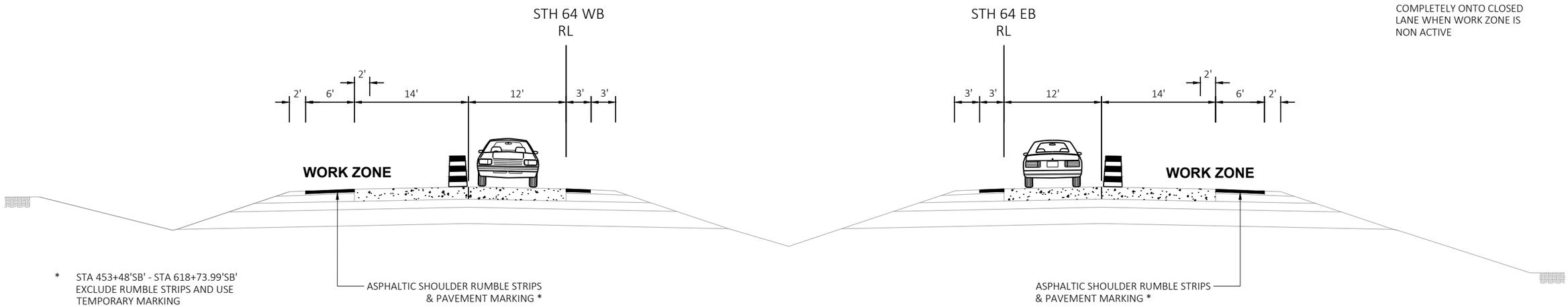
* STA 453+48'SB' - STA 618+73.99'SB'
EXCLUDE RUMBLE STRIPS AND USE
TEMPORARY MARKING

** 0' TYP, 3' MAX FOR CENTERLINE JOINT REPAIR

TRAFFIC CONTROL - STAGE 2A (INSIDE CLOSED)

STH 64

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE

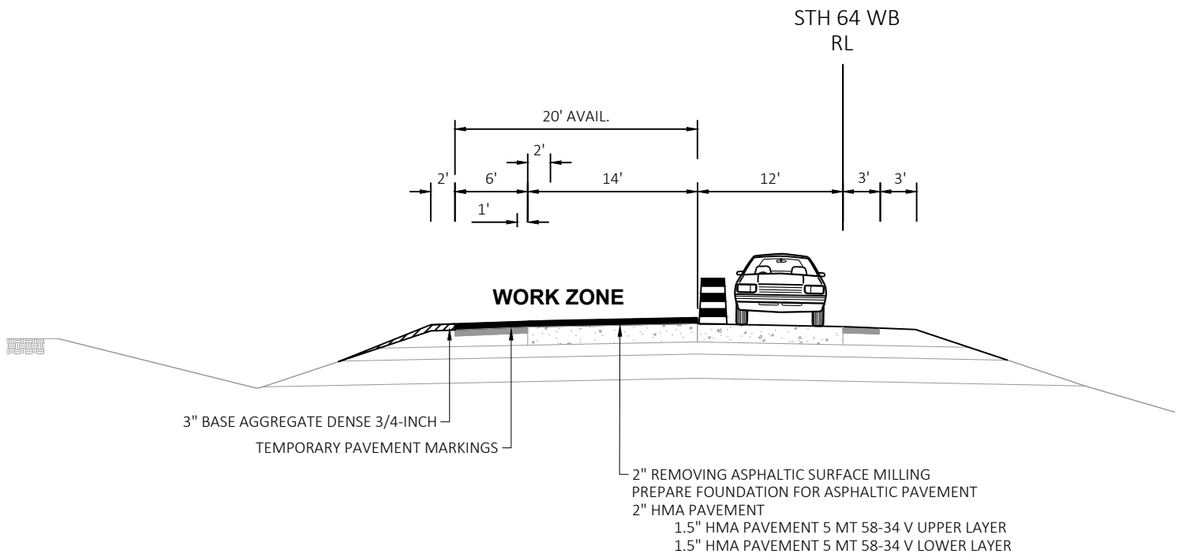


* STA 453+48'SB' - STA 618+73.99'SB'
EXCLUDE RUMBLE STRIPS AND USE
TEMPORARY MARKING

TRAFFIC CONTROL - STAGE 2B (OUTSIDE LANE SHOULDER WORK)

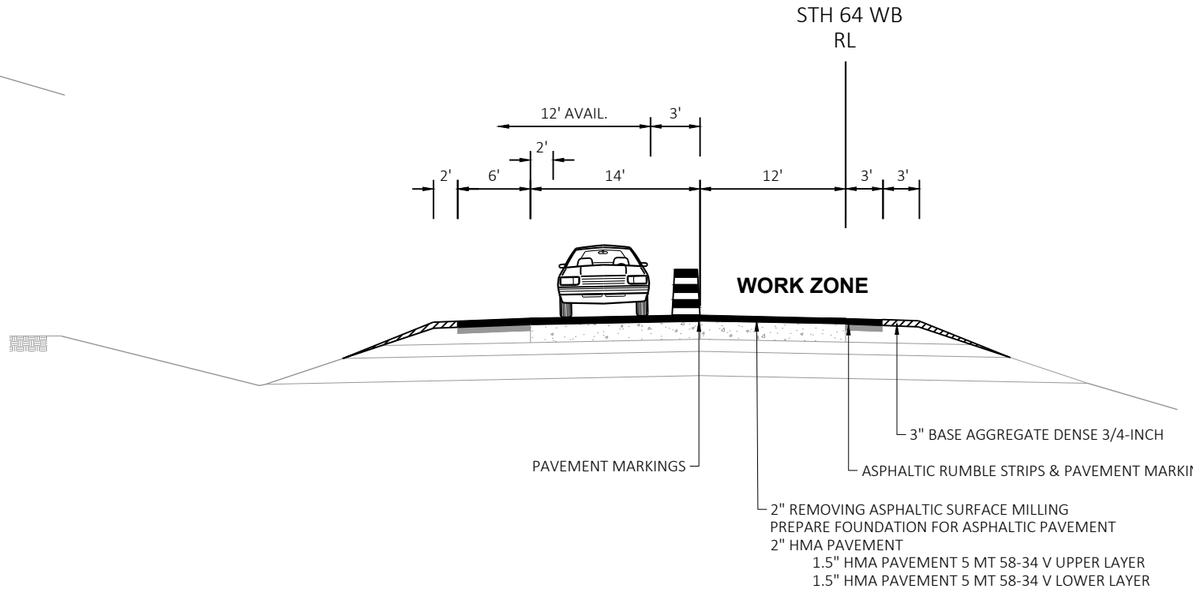
STH 64

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 38	E



TRAFFIC CONTROL - STAGE 3 (OUTSIDE LANE CLOSED)

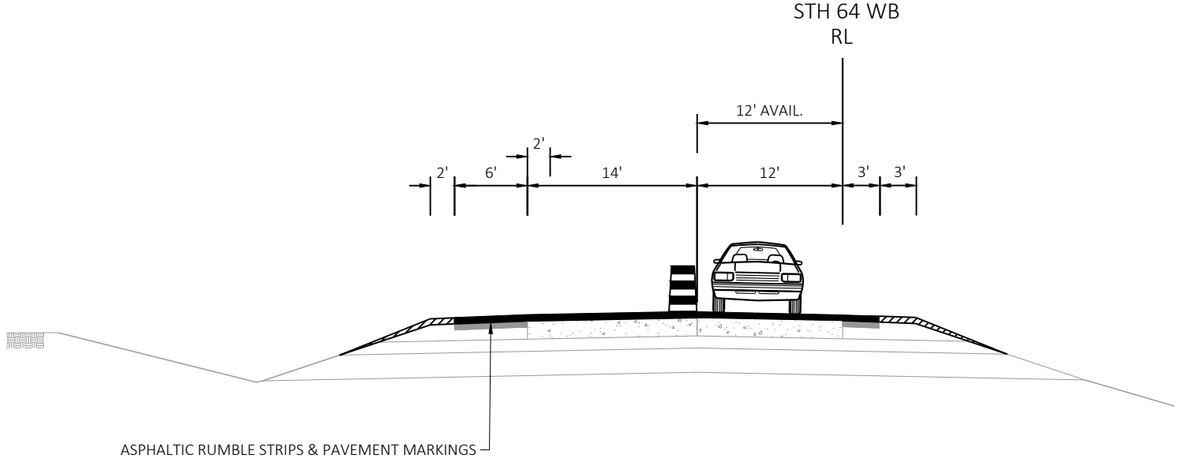
STH 64 WB
STA 618+73.99 - STA 648+40



TRAFFIC CONTROL - STAGE 4A (INSIDE LANE CLOSED)

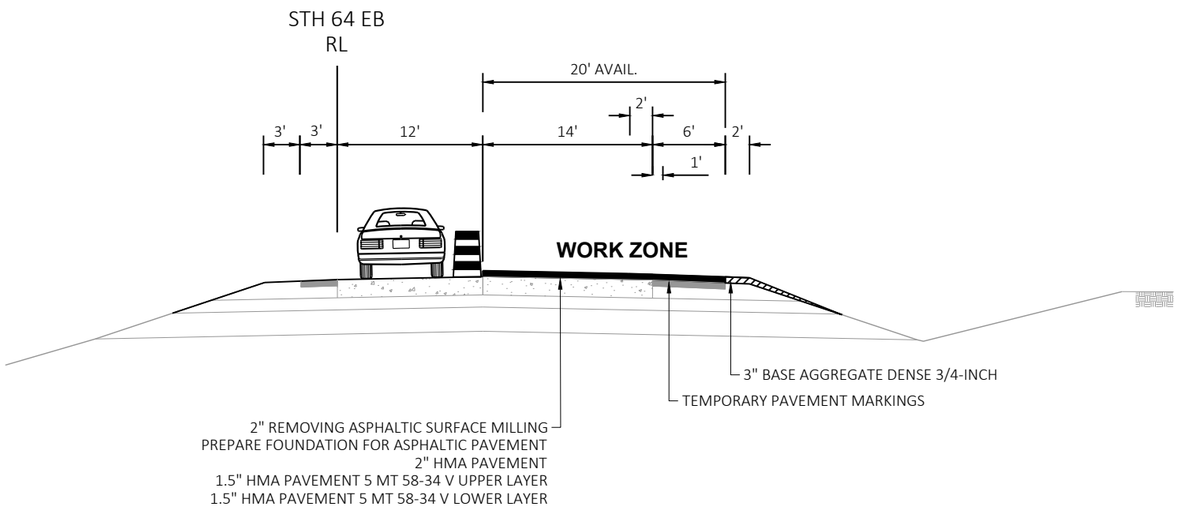
STH 64 WB
STA 618+73.99 - STA 648+40

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE



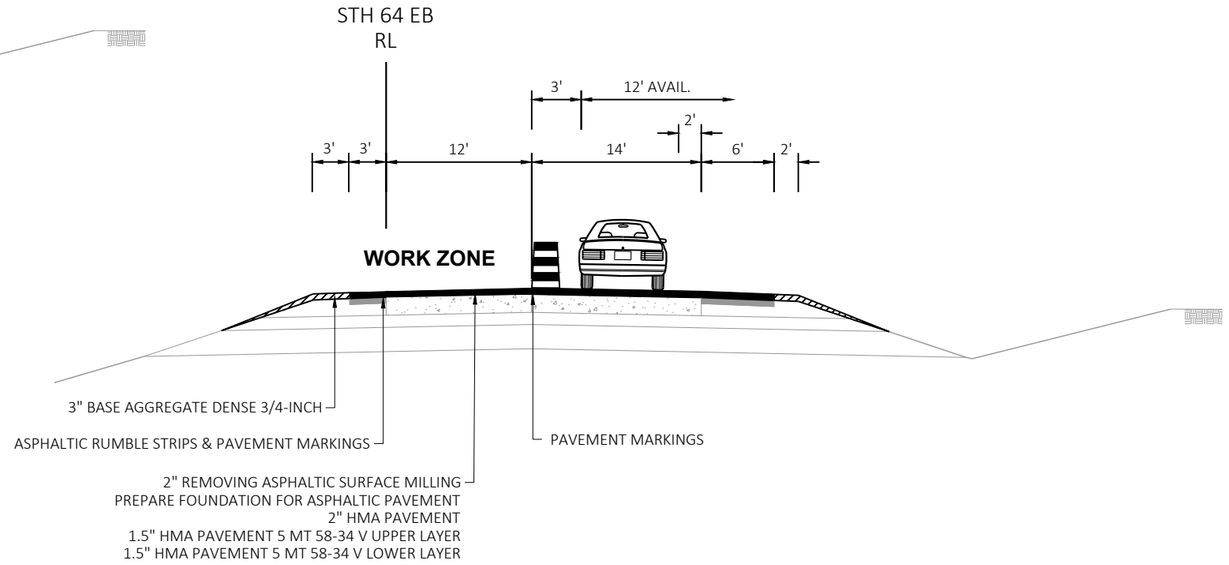
TRAFFIC CONTROL - STAGE 4B (OUTSIDE LANE CLOSED)

STH 64 WB
STA 618+73.99 - STA 648+40



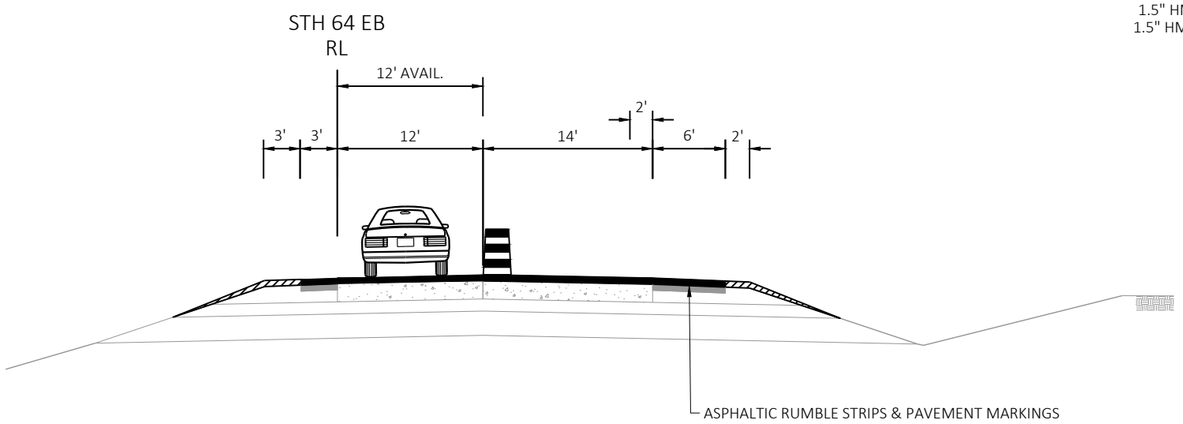
TRAFFIC CONTROL - STAGE 3 (OUTSIDE LANE CLOSED)

STH 64 EB
STA 706+28 - STA 791+12



TRAFFIC CONTROL - STAGE 4A (INSIDE LANE CLOSED)

STH 64 EB
STA 706+28 - STA 791+12



TRAFFIC CONTROL - STAGE 4B (OUTSIDE LANE CLOSED)

STH 64 EB
STA 706+28 - STA 791+12

NOTE: TRAFFIC CONTROL DRUMS SHALL BE SHIFTED OVER COMPLETELY ONTO CLOSED LANE WHEN WORK ZONE IS NON ACTIVE

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION, ON RAMP LANE CLOSURE (SHEET D)"

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

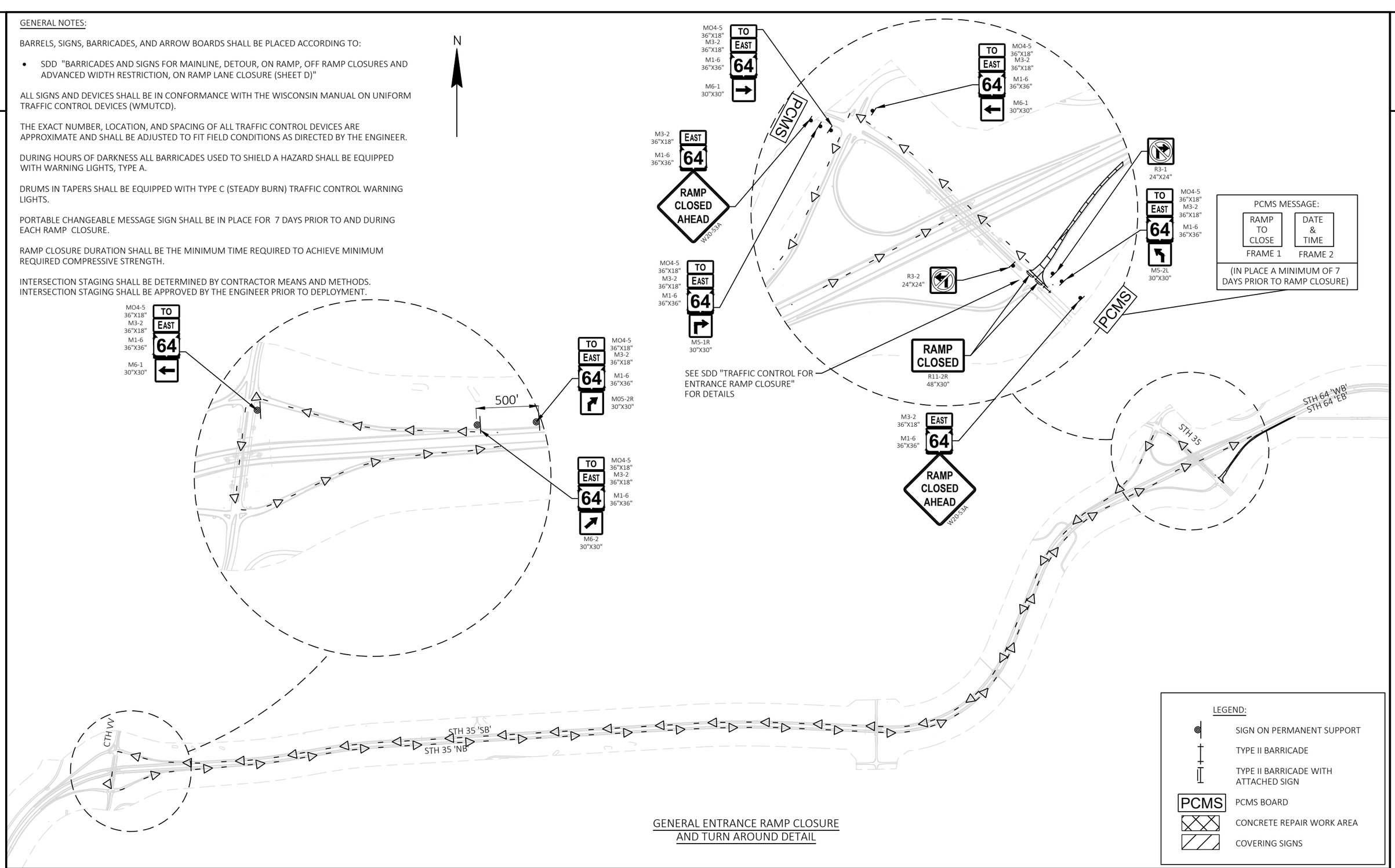
DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM REQUIRED COMPRESSIVE STRENGTH.

INTERSECTION STAGING SHALL BE DETERMINED BY CONTRACTOR MEANS AND METHODS. INTERSECTION STAGING SHALL BE APPROVED BY THE ENGINEER PRIOR TO DEPLOYMENT.



GENERAL ENTRANCE RAMP CLOSURE AND TURN AROUND DETAIL

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 41	E

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

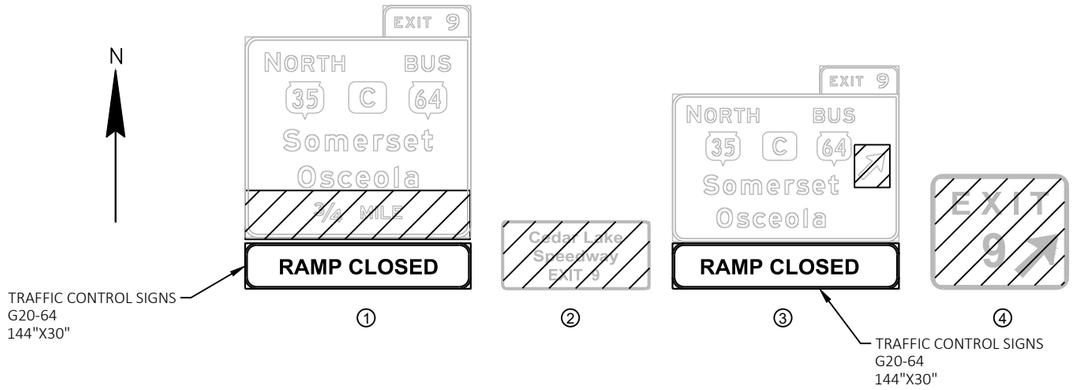
DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

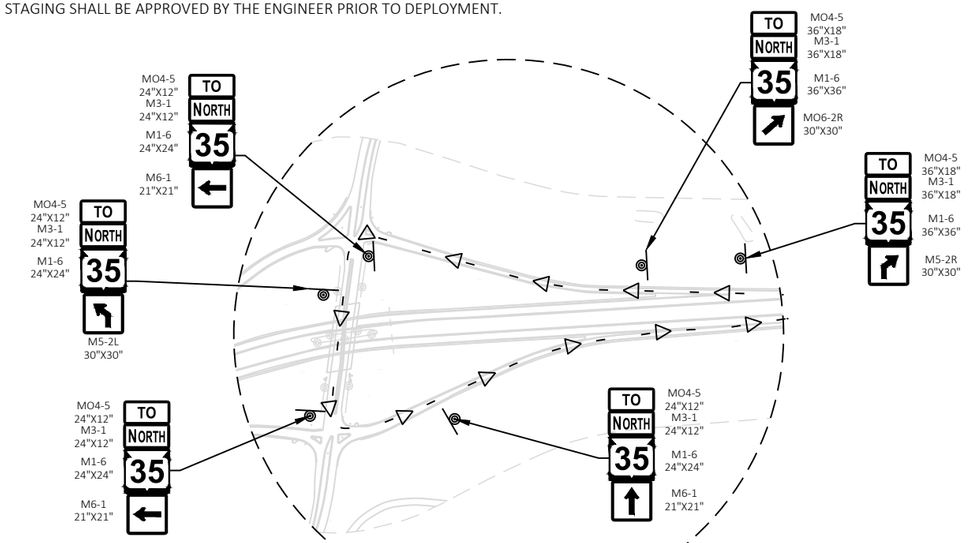
DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

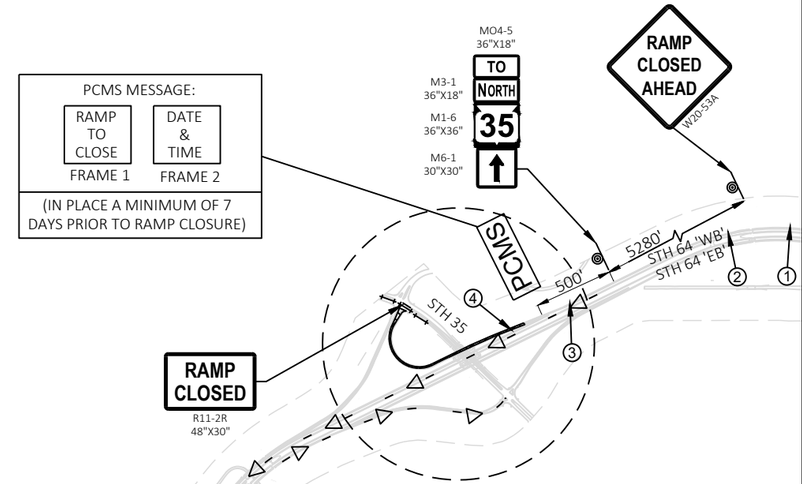
PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

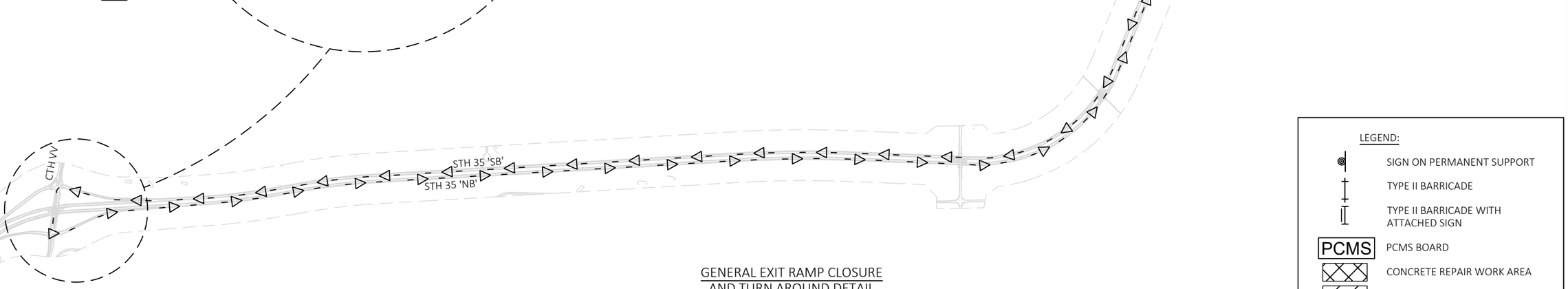
RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM REQUIRED COMPRESSIVE STRENGTH.

INTERSECTION STAGING SHALL BE DETERMINED BY CONTRACTOR MEANS AND METHODS. INTERSECTION STAGING SHALL BE APPROVED BY THE ENGINEER PRIOR TO DEPLOYMENT.









GENERAL EXIT RAMP CLOSURE
AND TURN AROUND DETAIL

LEGEND:

- SIGN ON PERMANENT SUPPORT
- TYPE II BARRICADE
- TYPE II BARRICADE WITH ATTACHED SIGN
- PCMS — PCMS BOARD
- CONCRETE REPAIR WORK AREA
- COVERING SIGNS

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	TRAFFIC CONTROL	SHEET 42	E

2

LEGEND

SIGN ON PERMANENT SUPPORT

WB STH 64

WORK ZONE

COVERING SIGNS

N

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCED WIDTH RESTRICTION, ON RAMP LANE CLOSURE (SHEET D)"

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO ACHIEVE MINIMUM TIME REQUIRED TO COMPLETE HMA OVERLAY.

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XX/DAY XX XX XX

PCMS

WEST 64 — MO3-4 24"X12" — M1-6 24"X24"
RAMP CLOSED AHEAD — W20-53A

TO WEST 64 — MO4-5 24"X12" — MO6-1 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — MO6-1 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24"

WEST 64 — MO3-4 24"X12" — M1-6 24"X24"
RAMP CLOSED AHEAD — W20-53A

WEST 64 — MO3-4 24"X12" — M1-6 24"X24"
RAMP CLOSED AHEAD — W20-53A

M4-8A 30"X24" — END DETOUR WEST 64 — MO3-4 36"X18" — M1-6 36"X36"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — MO6-1 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — M5-1L 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — MO6-1 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — M5-1L 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — MO6-1 21"X21"

TO WEST 64 — MO4-5 24"X12" — MO3-4 24"X12" — M1-6 24"X24" — M5-1R 21"X21"

STH 64 WB

STH 64 EB

STH 64

CANADIAN NATIONAL

CTH K

CTH A

STH 65

800+00 'WB'
800+00 'EB'
820+00 'WB'
820+00 'EB'
840+00 'WB'
840+00 'EB'
860+00 'WB'
860+00 'EB'
880+00 'WB'
880+00 'EB'
900+00 'WB'
900+00 'EB'
920+00 'WB'
920+00 'EB'
940+00 'WB'
940+00 'EB'
960+00 'WB'
960+00 'EB'

2

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	DETOUR - WB STH 64 ENTRANCE RAMP M	SHEET 43	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 01

PLOT DATE : 6/4/2025 9:15 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : ############

2

LEGEND

- SIGN ON PERMANENT SUPPORT
- WB STH 64
- WORK ZONE
- COVERING SIGNS

N

GENERAL NOTES:

BARRELS, SIGNS, BARRICADES, AND ARROW BOARDS SHALL BE PLACED ACCORDING TO:

- SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE"

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL DEVICES ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C (STEADY BURN) TRAFFIC CONTROL WARNING LIGHTS.

PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE IN PLACE FOR 7 DAYS PRIOR TO AND DURING EACH RAMP CLOSURE.

RAMP CLOSURE DURATION SHALL BE THE MINIMUM TIME REQUIRED TO COMPLETE HMA OVERLAY.

BUSINESS 64 M4-3 36"X18" M1-6 36"X36"
RAMP CLOSED AHEAD W20-5SA

TO BUSINESS 64 MO4-5 36"X18" M4-3 36"X18" M1-6 36"X36" MO6-1 30"X30"

END DETOUR BUSINESS 64 M4-8A 24"X18" M4-3 24"X12" M1-6 24"X24"

TO BUSINESS 64 MO4-5 36"X18" M4-3 36"X18" M1-6 36"X36"

TO BUSINESS 64 MO4-5 24"X12" M4-3 24"X12" M1-6 24"X24"

TO BUSINESS 64 MO4-5 36"X18" M4-3 36"X18" M1-6 36"X36" MO5-1R 30"X30"

TO BUSINESS 64 MO4-5 36"X18" M4-3 36"X18" M1-6 36"X36" MO6-1 30"X30"

TO BUSINESS 64 MO4-5 24"X12" M4-3 24"X12" M1-6 24"X24" MO5-1R 30"X30"

TO BUSINESS 64 MO4-5 24"X12" M4-3 24"X12" M1-6 24"X24" MO6-1 30"X30"

TO BUSINESS 64 MO4-5 24"X12" M4-3 24"X12" M1-6 24"X24"

780+00 'WB'
780+00 'EB'
800+00 'WB'
800+00 'EB'
820+00 'WB'
820+00 'EB'
840+00 'WB'
840+00 'EB'
860+00 'WB'
860+00 'EB'
880+00 'WB'
880+00 'EB'
900+00 'WB'
900+00 'EB'
920+00 'WB'
920+00 'EB'
940+00 'WB'
940+00 'EB'
960+00

STH 64 WB
STH 64 EB
CANADIAN NATIONAL
STH 64
CTH K
CTH A
STH 65

PCMS

PCMS MESSAGING	
FRAME 1	FRAME 2
RAMP TO CLOSE	XX/DAY XX XX XX

① EXIT 13 A BUS 64 New Richmond ½ MILE — RAMP CLOSED

② EXIT 13 EAS ATTRACTION

③ HOSPITAL EXIT 13

④ EXIT 13 A BUS 64 New Richmond — RAMP CLOSED

⑤ EXIT 13

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	DETOUR - STH 64 EB EXIT RAMP P	SHEET 44	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 02
PLOT DATE : 6/4/2025 9:15 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : ############

8110-00-79

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	204.0100	Removing Concrete Pavement	SY	31.000	31.000
0006	204.0105	Removing Concrete Pavement Butt Joints	SY	1,230.000	1,230.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	757.000	757.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	50,818.000	50,818.000
0012	204.0165	Removing Guardrail	LF	2,627.000	2,627.000
0014	204.0190	Removing Surface Drains	EACH	1.000	1.000
0016	204.0220	Removing Inlets	EACH	1.000	1.000
0018	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	5.000	5.000
0020	205.0100	Excavation Common	CY	622.000	622.000
0022	208.0100	Borrow	CY	1,191.000	1,191.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 02. 8110-00-79	EACH	1.000	1.000
0030	213.0100	Finishing Roadway (project) 02. 8110-00-79	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	6,258.000	6,258.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	630.000	630.000
0036	415.0060	Concrete Pavement 6-Inch	SY	25.000	25.000
0038	416.0610	Drilled Tie Bars	EACH	4,720.000	4,720.000
0040	416.0620	Drilled Dowel Bars	EACH	1,552.000	1,552.000
0042	455.0605	Tack Coat	GAL	10,076.000	10,076.000
0048	460.2000	Incentive Density HMA Pavement	DOL	5,200.000	5,200.000
0050	460.2005	Incentive Density PWL HMA Pavement	DOL	5,560.000	5,560.000
0052	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	4,580.000	4,580.000
0054	460.2010	Incentive Air Voids HMA Pavement	DOL	5,940.000	5,940.000
0056	460.5244	HMA Pavement 4 LT 58-34 S	TON	8,130.000	8,130.000
0058	460.6645	HMA Pavement 5 MT 58-34 V	TON	5,936.000	5,936.000
0060	460.9000.S	Material Transfer Vehicle	EACH	0.500	0.500
0062	465.0110	Asphaltic Surface Patching	TON	594.000	594.000
0064	465.0520	Asphaltic Rumble Strips, Shoulder	LF	118,782.000	118,782.000
0066	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0068	520.8700	Cleaning Culvert Pipes	EACH	4.000	4.000
0072	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	185.000	185.000
0074	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	56.000	56.000
0076	602.3010	Concrete Surface Drains	CY	1.400	1.400
0080	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	5.000	5.000
0082	611.3902	Inlets Median 2 Grate	EACH	1.000	1.000
0084	611.9710	Salvaged Inlet Covers	EACH	2.000	2.000
0086	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	8.000	8.000
0088	614.0230	Steel Thrie Beam	LF	875.000	875.000
0090	614.0400	Adjusting Steel Plate Beam Guard	LF	460.000	460.000
0092	614.2300	MGS Guardrail 3	LF	1,250.000	1,250.000
0094	614.2500	MGS Thrie Beam Transition	LF	197.000	197.000
0096	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0098	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000
0102	618.0100	Maintenance and Repair of Haul Roads (project) 02. 8110-00-79	EACH	1.000	1.000
0104	619.1000	Mobilization	EACH	0.400	0.400
0108	620.0300	Concrete Median Sloped Nose	SF	200.000	200.000
0110	624.0100	Water	MGAL	68.900	68.900
0112	625.0500	Salvaged Topsoil	SY	27,400.000	27,400.000
0114	628.1504	Silt Fence	LF	800.000	800.000

8110-00-79

Line	Item	Item Description	Unit	Total	Qty
0116	628.1520	Silt Fence Maintenance	LF	800.000	800.000
0118	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0120	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0122	628.2008	Erosion Mat Urban Class I Type B	SY	27,400.000	27,400.000
0124	628.7005	Inlet Protection Type A	EACH	14.000	14.000
0126	628.7504	Temporary Ditch Checks	LF	460.000	460.000
0128	629.0210	Fertilizer Type B	CWT	17.290	17.290
0130	630.0130	Seeding Mixture No. 30	LB	1,230.000	1,230.000
0132	630.0200	Seeding Temporary	LB	615.000	615.000
0134	630.0500	Seed Water	MGAL	615.000	615.000
0136	635.0300	Sign Supports Replacing Base Connection Bolts	EACH	11.000	11.000
0138	637.1220	Signs Type I Reflective SH	SF	1,796.500	1,796.500
0140	638.2601	Removing Signs Type I	EACH	17.000	17.000
0142	642.5001	Field Office Type B	EACH	0.400	0.400
0144	643.0300	Traffic Control Drums	DAY	165,413.000	165,413.000
0146	643.0370.S	Digital Speed Reduction System (DSRS)	DAY	159.000	159.000
0148	643.0420	Traffic Control Barricades Type III	DAY	382.000	382.000
0150	643.0705	Traffic Control Warning Lights Type A	DAY	700.000	700.000
0152	643.0715	Traffic Control Warning Lights Type C	DAY	2,100.000	2,100.000
0154	643.0810.S	Connected Arrow Board	DAY	318.000	318.000
0156	643.0900	Traffic Control Signs	DAY	4,302.000	4,302.000
0158	643.0910	Traffic Control Covering Signs Type I	EACH	7.000	7.000
0160	643.0920	Traffic Control Covering Signs Type II	EACH	9.000	9.000
0162	643.1050	Traffic Control Signs PCMS	DAY	158.000	158.000
0164	643.1200.S	Portable Automated Real-Time Traffic Queue Warning System	DAY	159.000	159.000
0166	643.1220.S	Connected Work Zone Start and End Location Markers	DAY	636.000	636.000
0168	643.3165	Temporary Marking Line Paint 6-Inch	LF	103,800.000	103,800.000
0170	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	2,640.000	2,640.000
0172	643.5000	Traffic Control	EACH	0.500	0.500
0176	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	18,298.000	18,298.000
0178	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	182,365.000	182,365.000
0180	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	8,415.000	8,415.000
0182	646.5220	Marking Symbol Epoxy	EACH	10.000	10.000
0186	646.6120	Marking Stop Line Epoxy 18-Inch	LF	164.000	164.000
0190	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000
0192	646.9000	Marking Removal Line 4-Inch	LF	182,365.000	182,365.000
0194	646.9100	Marking Removal Line 8-Inch	LF	4,259.000	4,259.000
0196	650.4000	Construction Staking Storm Sewer	EACH	7.000	7.000
0198	650.5000	Construction Staking Base	LF	185.000	185.000
0200	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	185.000	185.000
0202	650.8000	Construction Staking Resurfacing Reference	LF	39,737.000	39,737.000
0206	650.9911	Construction Staking Supplemental Control (project) 02. 8110-00-79	EACH	1.000	1.000
0208	650.9920	Construction Staking Slope Stakes	LF	4,384.000	4,384.000
0210	690.0150	Sawing Asphalt	LF	2,804.000	2,804.000
0212	690.0250	Sawing Concrete	LF	14,295.000	14,295.000
0214	740.0440	Incentive IRI Ride	DOL	8,700.000	8,700.000
0216	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0218	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,000.000	1,000.000
0220	SPV.0060	Special 01. Fill Erosion	EACH	1.000	1.000

8110-00-79

Line	Item	Item Description	Unit	Total	Qty
0222	SPV.0060	Special 02. Reconstructing Inlets Median 2 Grate	EACH	6.000	6.000
0224	SPV.0090	Special 01. Asphaltic Mastic Joint Sealing	LF	19,078.000	19,078.000
0226	SPV.0090	Special 02. Cleaning Ditch	LF	750.000	750.000
0228	SPV.0180	Special 01. Concrete Pavement Repair Doweled	SY	915.000	915.000
0230	SPV.0180	Special 02. Concrete Pavement Replacement Doweled	SY	3,910.000	3,910.000
0232	SPV.0180	Special 03. 30" Concrete Centerline Repair	SY	1,194.000	1,194.000
0234	SPV.0180	Special 04. Salvage and Shape Riprap	SY	204.000	204.000

3

CLEARING

STATION	LOCATION	201.0105 STA	REMARKS
STH 64			
891+44	WB LT	1	CULVERT LT
PROJECT TOTALS		1	

REMOVING GUARDRAIL

STATION	LOCATION	204.0165 LF
STH 64		
631+25 - 633+55	MEDIAN	452
630+95 - 633+25	MEDIAN	452
660+57 - 661+68	EB LT	232
669+30 - 671+02	EB & WB	289
683+62 - 684+54	EB LT	191
689+64 - 690+77	WB RT	231
802+17 - 804+48	MEDIAN	478
858+72 - 860+12	MEDIAN	302
PROJECT TOTALS		2627

CONCRETE REMOVAL ITEMS

STAGE	STATION	LOCATION	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0105 REMOVING CONCRETE PAVEMENT BUTT JOINTS SY	204.0190 REMOVING SURFACE DRAINS EACH	*690.0250 SAWING CONCRETE LF
	STH 64					
1B	VARIOUS	RAMPS	21	-	-	100
	STAGE 1B ITEM TOTALS		21	0	0	100
3	648+50	WB	-	140	-	-
	706+28 - 791+12	EB	-	280	-	-
	789+00 - 790+79	RAMP M	-	150	-	-
	790+94 - 802+67	RAMP M	-	300	-	-
	STAGE 3 ITEM TOTALS		0	870	0	0
4A	648+50	WB	-	120	-	-
	670+40	WB	10	-	1	22
	706+28 - 791+12	EB	-	240	-	-
	STAGE 4A ITEM TOTALS		10	360	1	22
	PROJECT TOTALS		31	1230	1	122

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVING ASPHALTIC SURFACE ITEMS

STAGE	STATION	LOCATION	204.0115 BUTT JOINTS SY	204.0120 MILLING SY
	STH 64			
1A	618+74 -706+28	EB	13	2483
	648+40 -706+28	WB	13	1494
	706+28 -791+12	WB	-	2828
	791+12 -878+00	EB	3	2896
	791+12 -878+00	WB	3	2896
	976+00-989+11	EB	42	2072
	STAGE 1A ITEM TOTALS		76	14670
1B	618+74 -706+28	EB	27	4966
	648+40 -706+28	WB	87	2989
	706+28 -791+12	WB	-	5656
	791+12 -915+00	EB	7	8259
	791+12 -915+00	WB	7	8259
	620+39-638+50	RAMP J	9	1325
	633+56-644+85	RAMP K	9	1004
	790+79-803+75	RAMP P	9	1152
	803+42-817+00	RAMP O	9	1207
	803+00-818+00	RAMP N	9	1333
	STAGE 1B ITEM TOTALS		171	36149
3	647+50-648+40	WB	60	-
	706+28 -791+12	EB	120	-
	790+94-802+67	RAMP M	160	-
	789+00-790+79	RAMP P	80	-
	STAGE 3 ITEM TOTALS		420	0
4A	647+50-648+40	WB	30	-
	706+28 -791+12	EB	60	-
	STAGE 4A ITEM TOTALS		90	0
	PROJECT TOTALS		757	50818

EARTHWORK SUMMARY (PROJECT ID 8110-00-79)

CATEGORY 0010

FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1) CUT (2)	SALVAGED / UNUSABLE PAVEMENT MATERIAL (3)	AVAILABLE MATERIAL (4)	UNEXPANDED FILL	EXPANDED FILL (5) FACTOR 1.25	MASS ORDINATE +/- (6)	WASTE	208.0100 BORROW	COMMENT:
628+84'J' - 637+19'J'	RAMP/MEDIAN	281	0	281	360	450	-169			
629+15'EB' - 635+66'EB'	MEDIAN	44	0	44	187	234	-190			
658+50'EB' - 661+66'EB'	MEDIAN	29	0	29	116	145	-116			
669+71'EB' - 676+62'EB'	MEDIAN	114	0	114	323	404	-290			
680+55'EB' - 684+52'EB'	MEDIAN	144	0	144	174	218	-74			
689+69'EB' - 693+69'EB'	MEDIAN	10	0	10	290	363	-353			
PROJECT TOTALS		622					-1,191		1,191	

NOTES:

(1) COMMON EXCAVATION IS THE SUM OF THE CUT . ITEM NUMBER 205.0100

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

(3) SALVAGED/UNUSABLE PAVEMENT MATERIAL

(4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL

(5) EXPANDED FILL FACTOR = 1.25

DEPENDING ON SELECTIONS:

(6) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE STAGE. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE STAGE. MINUS INDICATES A SHORTAGE OF MATERIAL.

PREPARE FOUNDATION FOR ASPHALTIC PAVING (8110-00-79)

STATION	LOCATION	211.0101.02 EACH
STH 64		
PROJECT	EB & WB	1
PROJECT TOTALS		1

FINISHING ROADWAY (8110-00-79)

STATION	213.0100.02 EACH
STH 64	
PROJECT	1
PROJECT TOTALS	1

BASE AGGREGATE DENSE ITEMS

STAGE	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
	STH 64				
1A	618+74 -706+28	EB	354	-	3.5
	648+40 -706+28	WB	213	-	2.1
	706+28 -791+12	WB	403	-	4.0
	791+12 -878+00	EB	413	-	4.1
	791+12 -878+00	WB	413	-	4.1
	CONCRETE REPAIRS		-	250	2.5
	STAGE 1A ITEM TOTALS		1796	250	20.5
1B	618+74 -706+28	EB	257	-	2.6
	648+40 -706+28	WB	154	-	1.5
	706+28 -791+12	WB	292	-	2.9
	791+12 -915+00	EB	427	-	4.3
	791+12 -915+00	WB	427	-	4.3
	620+39-638+50	RAMP J	118	130	2.5
	633+56-644+85	RAMP K	78	-	0.8
	790+79-803+75	RAMP P	89	-	0.9
	803+42-817+00	RAMP O	94	-	0.9
	803+00-818+00	RAMP N	103	-	1.0
	CONCRETE REPAIRS		-	250	2.5
	STAGE 1B ITEM TOTALS		2040	380	24.2
3	647+50-648+40	WB	10	-	0.1
	706+28 -791+12	EB	940	-	9.4
	790+94-802+67	RAMP M	286	-	2.9
	789+00-790+79	RAMP P	44	-	0.4
	STAGE 3 ITEM TOTALS		1280	0	12.8
4A	647+50-648+40	WB	12	-	0.1
	706+28 -791+12	EB	1130	-	11.3
	STAGE 4A ITEM TOTALS		1142	0	11.4
	PROJECT TOTALS		6258	630	68.9

PWL MIXTURE USE TABLE

LOCATION	STATION - STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
26-FOOT DRIVING LANE	618+74 - 648+40 'WB'	UPPER LAYER	5 MT 58-34 V	5 MT 58-34 V	720	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT460.2005
26-FOOT DRIVING LANE	618+74 - 648+40 'WB'	LOWER LAYER	CONCRETE PAVEMENT	5 MT 58-34 V	720	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT460.2005
26-FOOT DRIVING LANE	706+28 - 791+12 'EB'	UPPER LAYER	5 MT 58-34 V	5 MT 58-34 V	2059	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT460.2005
26-FOOT DRIVING LANE	706+28 - 791+12 'EB'	UPPER LAYER	CONCRETE PAVEMENT	5 MT 58-34 V	2059	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT460.2005
15-FOOT DRIVING LANE	790+94 - 802+67 'M' 789+00 - 790+79 'P'	UPPER LAYER	5 MT 58-34 V	5 MT 58-34 V	189	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELGIBLE FOR INCENTIVE
15-FOOT DRIVING LANE	790+94 - 802+67 'M' 789+00 - 790+79 'P'	LOWER LAYER	CONCRETE PAVEMENT	5 MT 58-34 V	189	1.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELGIBLE FOR INCENTIVE
3, 6-FOOT SHOULDERS	618+74 - 648+40 'WB'	UPPER LAYER	4 LT 58-34 S	4 LT 58-34 S	249	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 6-FOOT SHOULDERS	618+74 - 648+40 'WB'	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	249	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 6-FOOT SHOULDERS	706+28 - 791+12 'EB'	UPPER LAYER	4 LT 58-34 S	4 LT 58-34 S	712	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 6-FOOT SHOULDERS	706+28 - 791+12 'EB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	712	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 5-FOOT SHOULDERS	790+94 - 802+67 'M' 789+00 - 790+79 'P'	UPPER LAYER	4 LT 58-34 S	4 LT 58-34 S	101	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3, 5-FOOT SHOULDERS	790+94 - 802+67 'M' 789+00 - 790+79 'P'	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	101	1.5"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3-FOOT INSIDE SHOULDER	648+40 - 662+00 'WB' 670+20 - 685+01 'WB' 689+47 - 878+02 'WB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	855	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
6-10-FOOT OUTSIDE SHOULDER	648+40 - 662+00 'WB' 670+20 - 685+01 'WB' 689+47 - 915+10 'WB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	1993	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
3-FOOT INSIDE SHOULDER	618+74 - 661+89 'EB' 669+16 - 684+74 'EB' 689+45 - 706+28 'EB' 791+12 - 877+92 'EB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	669	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
6-10-FOOT OUTSIDE SHOULDER	618+74 - 661+89 'EB' 669+16 - 684+74 'EB' 689+45 - 706+28 'EB' 791+12 - 914+86 'EB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	1561	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
TURN LANE/MEDIAN	977+10 - 989+11 'EB'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	232	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000
RAMP SHOULDERS	RAMP J, K, N, O 790+79 - 803+75 'P'	UPPER LAYER	MILLED EXISTING HMA SURFACE	4 LT 58-34 S	695	2"	QMP (SS 460.2.8)	INCENTIVE DENSITY HMA PAVMENT 460.2000

ASPHALTIC PAVEMENT ITEMS

STAGE	STATION	LOCATION	455.0605 TACK COAT GAL	460.5244 HMA PAVEMENT 4 LT 58-34 S TON	460.6645 HMA PAVEMENT 5 MT 58-34 V TON	465.0110 ASPHALTIC SURFACE PATCHING TON
	STH 64					
1A	618+74 -706+28	EB	204	327	-	33
	648+40 -706+28	WB	135	216	-	22
	706+28 -791+12	WB	198	317	-	32
	791+12 -878+00	EB	203	324	-	32
	791+12 -878+00	WB	203	324	-	32
	976+00-989+11	EB	145	232	-	23
	STAGE 1A ITEM TOTALS		1088	1740	0	174
1B	618+74 -706+28	EB	409	654	-	22
	648+40 -706+28	WB	270	432	-	14
	706+28 -791+12	WB	396	633	-	21
	791+12 -915+00	EB	578	925	-	31
	791+12 -915+00	WB	578	925	-	31
	620+39-638+50	RAMP J	106	169	-	34
	633+56-644+85	RAMP K	70	112	-	11
	790+79-803+75	RAMP P	81	129	-	13
	803+42-817+00	RAMP O	84	135	-	14
	803+00-818+00	RAMP N	93	149	-	15
	STAGE 1B ITEM TOTALS		2665	4264	0	205
3	618+74-648+40	WB	791	332	775	22
	706+28 -791+12	EB	2262	950	2217	123
	790+94-802+67	RAMP M	360	175	328	35
	789+00-790+79	RAMP P	55	27	50	5
	STAGE 3 ITEM TOTALS		3468	1484	3371	186
4A	618+74-648+40	WB	593	166	664	7
	706+28 -791+12	EB	2262	475	1900	21
	STAGE 4A ITEM TOTALS		2856	641	2565	28
	PROJECT TOTALS		10076	8130	5936	594

ASPHALTIC RUMBLE STRIPS

STAGE	STATION	LOCATION	465.0520 ASPHALTIC RUMBLE STRIPS SHOULDER LF
	STH 64		
2A	618+74 -706+28	EB	7449
	648+40 -706+28	WB	4483
	706+28 -791+12	WB	8484
	791+12 -878+00	EB	8688
	791+12 -878+00	WB	8688
	976+00-989+11	EB	18650
	STAGE 2A ITEM TOTALS		56442
2B	618+74 -706+28	EB	7449
	648+40 -706+28	WB	4483
	706+28 -791+12	WB	8484
	791+12 -915+00	EB	12388
	791+12 -915+00	WB	12388
	STAGE 2B ITEM TOTALS		45192
4A	647+50-648+40	WB	90
	706+28 -791+12	EB	8484
	STAGE 4A ITEM TOTALS		8574
4B	647+50-648+40	WB	90
	706+28 -791+12	EB	8484
	STAGE 4B ITEM TOTALS		8574
	PROJECT TOTALS		118782

CLEANING CULVERT PIPES

STATION	LOCATION	520.8700 EACH
STH 64		
895+86	EB RT	1
908+95	EB RT	1
911+95	EB RT	1
940+08	WB LT	1
PROJECT TOTALS		4

INLETS AND STORM SEWER

STATION	LOCATION	204.0220 REMOVING INLETS EACH	204.0245 REMOVING STORM SEWER 24-INCH LF	520.8000 CONCRETE COLLARS FOR PIPE EACH	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	611.3902 INLETS MEDIAN 2 GRATE EACH	611.9710 SALVAGED INLET COVERS EACH	SPV.0060.02 RECONSTRUCTING INLETS MEDIAN 2 GRATE EACH	EXISTING RIM ELEVATION	PROPOSED RIM ELEVATION	ELEVATION CHANGE
STH 64											
633+64'EB'	27.6' LT	-	-	-	-	-	-	1	845.71	846.84	1.13
633+44'WB'	56.4' LT	1	5	1	5	1	2	-	-	845.94	-
659+96'EB'	31.9' LT	-	-	-	-	-	-	1	842.06	842.60	0.54
672+37'WB'	25.6' RT	-	-	-	-	-	-	1	835.29	835.68	0.39
690+96'WB'	29.4' RT	-	-	-	-	-	-	1	850.96	851.63	0.67
801+45'EB'	27.6' LT	-	-	-	-	-	-	1	1000.92	1002.31	1.39
860+71'EB'	27.3' LT	-	-	-	-	-	-	1	1010.71	1011.88	1.17
PROJECT TOTALS		1	5	1	5	1	2	6			

CONCRETE ITEMS

STATION	LOCATION	415.0060 CONCRETE PAVEMENT 6-INCH SY	601.0553 CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D LF	601.0590 CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	602.3010 CONCRETE SURFACE DRAINS CY	620.0300 CONCRETE SLOPED NOSE SF
STH 64						
630+30 - 633+05	RAMP J	-	185	-	-	-
669+96 - 670+50	WB	25	-	56	1.4	-
628+41	RAMP J	-	-	-	-	40
634+56	RAMP K	-	-	-	-	40
802+63	RAMP P	-	-	-	-	40
803+80	RAMP N	-	-	-	-	40
804+18	RAMP O	-	-	-	-	40
PROJECT TOTALS		25	185	56	1.4	200

GUARDRAIL ITEMS

STATION	LOCATION	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH
STH 64								
630+95 - 633+25	EB & WB	2	250	-	-	-	-	-
631+25 - 633+55	EB & WB	2	250	-	-	-	-	-
658+50 - 661+75	EB & WB	-	-	75	212.5	39.4	1	-
669+31 - 672+21	EB	-	-	25	250.0	39.4	-	1
669+96 - 674+99	WB	-	-	50	412.5	39.4	1	-
681+74 - 684+54	EB & WB	-	-	75	187.5	39.4	1	-
689+68 - 692+48	EB & WB	-	-	75	187.5	39.4	1	-
802+15 - 804+45	EB & WB	2	250	-	-	-	-	-
858+60 - 860+30	EB & WB	2	125	160	-	-	-	-
PROJECT TOTALS		8	875	460	1250	197.0	4	1

3

RESTORATION ITEMS

STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
STH 64						
624+86 - 627+86	WB LT	362	0.23	16	8	8
627+86 - 635+36	WB LT	3463	2.18	156	78	78
629+14 - 635+66	MEDIAN	3347	2.11	151	75	75
657+98 - 661+66	EB LT	1686	1.06	76	38	38
669+32 - 676+20	EB & WB	2679	1.69	121	60	60
680+55 - 684+52	EB LT	1761	1.11	79	40	40
689+67 - 693+69	WB RT	1876	1.18	84	42	42
800+02 - 807+44	MEDIAN	3357	2.11	151	76	75
856+50 - 862+39	MEDIAN	3022	1.90	136	68	68
891+44 - 911+95	EB & WB	244	0.15	11	6	5
940+08	WB LT	61	0.10	3	1	1
UNDISTRIBUTED (25%)	EB & WB	5542	3.46	246	123	125
PROJECT TOTALS		27400	17.29	1230	615	615

MOBILIZATIONS EROSION CONTROL

STATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
PROJECT	4	4
PROJECT TOTALS	4	4

3

EROSION CONTROL ITEMS

STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7005 INLET PROTECTION TYPE A EACH	628.7504 TEMPORARY DITCH CHECKS LF	SPV.0060.01 FILL EROSION EACH	SPV.0090.02 CLEANING DITCH LF	SPV.0180.04 SALVAGE AND SHAPE RIPRAP SY
STH 64									
624+86 - 627+86	WB LT	-	-	362	-	32	-	300	-
627+86 - 635+36	WB LT	-	-	3463	2	48	-	200	-
629+14 - 635+66	MEDIAN	-	-	3347	2	48	-	-	-
657+98 - 661+66	EB LT	-	-	1686	1	48	-	-	-
669+32 - 676+20	EB & WB	-	-	2679	1	48	-	-	204
678+93 - 684+52	EB LT	-	-	1761	1	48	-	-	-
689+67 - 693+69	WB RT	-	-	1876	1	32	-	-	-
800+02 - 807+44	MEDIAN	-	-	3357	2	32	-	-	-
856+50 - 862+39	MEDIAN	-	-	3022	1	32	-	-	-
891+44 - 911+95	EB & WB	-	-	244	-	-	1	200	-
956+90 - 961+45	WB LT	587	587	-	-	-	-		-
940+08	WB LT	-	-	61	-	-	-	50	-
UNDISTRIBUTED (25%)	EB & WB	213	213	5542	3	92	-	-	-
PROJECT TOTALS		800	800	27400	14	460	1	750	204

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PERMANENT SIGNING ITEMS

SIGN NUMBER	LOCATION	MILE MARKER	SIGN CODE	MESSAGE	TYPE I SIZE	635.0300 SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS EACH	637.1220 SIGNS TYPE I REFLECTIVE SH SF	638.2601 REMOVING SIGNS TYPE I EACH	REMARKS
8-1	WB	127.23	E1-5P	EXIT 9	84"X 30"	-	17.50	1	REPLACE
8-1	WB	127.23	E4-1A	NORTH BUS 35 C 64 SOMERSET [TR] OSCEOLA	240"X 156"	1	260.00	1	REPLACE
8-2	MEDIAN	126.61	E3-1	SOUTH 35 AHEAD	156"X 84"	1	91.00	1	REPLACE
8-3	WB	126.45	E1-5P	EXIT 9	84"X 30"	-	17.50	1	REPLACE
8-3	WB	126.45	E1-1A	NORTH BUS 35 C 64 SOMERSET OSCEOLA 3/4 MILE	216"X 192"	1	288.00	1	REPLACE
8-4	WB	126.30	E9-1	SOMERSET NEXT 2 EXITS	132"X 54"	1	49.50	1	REPLACE
8-5	EB	1.80	D2-1	NEW RICHMOND 2	216"X 36"	1	54.00	1	REPLACE
9-1	EB	3.27	E9-1	NEW RICHMOND NEXT 4 EXITS	180"X 54"	1	67.50	1	REPLACE
10-1	WB	124.93	D2-2	SOMERSET 3 STILLWATER 13	180"X 60"	1	75.00	1	REPLACE
10-2	EB	3.48	E1-5P	EXIT 13	96"X 30"	-	20.00	1	REPLACE
10-2	EB	3.48	E1-1A	A BUS 64 64 A NEW RICHMOND 1/2 MILE	216"X 126"	1	189.00	1	REPLACE
10-3	EB	3.91	E1-5P	EXIT 13	96"X 30"	-	20.00	1	REPLACE
10-3	EB	3.91	E4-1A	A BUS 64 NEW RICHMOND [TR]	300"X 96"	1	200.00	1	REPLACE
11-1	WB	123.86	E1-5P	EXIT 13	96"X 30"	-	20.00	1	REPLACE
11-1	WB	123.86	E4-1A	A NEW RICHMOND [RA]	300"X 90"	1	187.50	1	REPLACE
11-2	WB	122.96	E1-5P	EXIT 13	96"X 30"	-	20.00	1	REPLACE
11-2	WB	122.96	E1-1A	A NEW RICHMOND 1 MILE	264"X 120"	1	220.00	1	REPLACE
PROJECT TOTALS						11	1796.50	17	

DIGITAL SPEED REDUCTION SYSTEM

STATION	LOCATION	DIGITAL SPEED LIMIT TRAILERS (DSLT)	643.0370.S DIGITAL SPEED REDUCTION SYSTEM DAY
STH 64			
STAGE 1	EB	5	79
STAGE 2	EB	5	23
STAGE 3	EB	5	32
STAGE 4	EB	5	25
PROJECT TOTALS			159

NOTE: PLACE DSLT IN ADVANCED WARNING AREA AND EVERY 1 MILE THEREAFTER

PORTABLE AUTOMATED REAL-TIME TRAFFIC QUEUE WARNING SYSTEM

STATION	LOCATION	PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)	PORTABLE TRAFFIC SENSORS (PTS)	643.1200.S QUEUE WARNING SYSTEM DAY
STH 64				
STAGE 1	EB	4	4	79
STAGE 2	EB	4	4	23
STAGE 3	EB	4	4	32
STAGE 4	EB	4	4	25
PROJECT TOTALS				159

NOTE: PLACE PCMS TO 4 MILES UPSTREAM OF LANE CLOSURE TAPER. PLACE PTS TO 3 MILES UPSTREAM OF LANE CLOSURE

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TRAFFIC CONTROL

STAGE	LOCATION	643.0030 DRUMS EACH	643.0030 DRUMS DAY	643.0420 BARRICADES TYPE III EACH	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A EACH	643.0705 WARNING LIGHTS TYPE A DAY	643.0715 WARNING LIGHTS TYPE C EACH	643.0715 WARNING LIGHTS TYPE C DAY	643.0810.S CONNECTED ARROW BOARD EACH	643.0810.S CONNECTED ARROW BOARD DAY	643.0900 SIGNS EACH	643.0900 SIGNS DAY	643.1050 SIGNS PCMS EACH	643.1050 SIGNS PCMS DAY	643.1220 CONNECTED WORK ZONE START AND END LOCATION MARKERS EACH	643.1220 CONNECTED WORK ZONE START AND END LOCATION MARKERS DAY	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	643.3180 TEMPORARY MARKING LINE REMOVEABLE TAPE 6-INCH LF	643.5000 TRAFFIC CONTROL EACH	CALENDAR DAYS
STH 64	PROJECT	-	-	-	-	-	-	-	-	-	-	-	-	2	14	-	-	-	-	0.5	7
STAGE 1A	EB & WB	1035	40377	2	78	4	156	12	468	2	78	18	702	-	-	4	156	51900	660	-	39
STAGE 1B	EB & WB	1035	41412	2	80	4	160	12	480	2	80	18	720	-	-	4	160	43416	660	-	40
STAGE 2	EB & WB	1035	23812	2	46	4	92	12	276	2	46	18	414	-	-	4	92	-	1320	-	23
STAGE 3	EB & WB	1035	33130	2	64	4	128	12	384	2	64	18	576	-	-	4	128	8484	-	-	32
STAGE 4	EB & WB	1035	25883	2	50	4	100	12	300	2	50	18	450	-	-	4	100	-	-	-	25
RAMP CLOSURES		50	800	4	64	4	64	12	192	-	-	90	1440	6	144	-	-	-	-	-	16
																					1
PROJECT TOTALS			165413		382		700		2100		318		4302		158		636	103800	2640	0.5	

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TRAFFIC CONTROL - COVERING SIGNS

STAGE	LOCATION	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I SIGN MESSAGE	NUMBER OF CYCLES	NUMBER OF SIGNS	EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II SIGN MESSAGE	NUMBER OF CYCLES	NUMBER OF SIGNS	EACH
STH 64									
1B	RAMP J, EXIT	3/4 MILE, ARROW, 35 SOUTH, CEDAR LAKE	1	3	3	EXIT/ARROW	1	1	1
	RAMP K, ENTRANCE		-	-	-	NEW RICHMOND	1	2	2
	RAMP P, EXIT	1/2 MILE, ARROW	1	2	2	EXIT/ARROW	1	1	1
	RAMP N, EXIT	1 MILE, ARROW	1	2	2	EXIT/ARROW	1	1	1
	RAMP O, ENTRANCE		-	-	-	NEW RICHMOND	1	2	2
	RAMP M, ENTRANCE		-	-	-	SOMERSET	1	2	2
PROJECT TOTALS					7				9

PERMANENT PAVEMENT MARKING ITEMS

STATION	LOCATION	646.2025 GROOVED BLACK EPOXY 6-INCH LF	646.2040 GROOVED WET REF EPOXY 6-INCH EDGE LINE WHITE LF	646.2040 GROOVED WET REF EPOXY 6-INCH EDGE LINE YELLOW LF	646.4040 GROOVED WET REF EPOXY 10-INCH WHITE LF	646.5220 MARKING SYMBOL EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.8220 MARKING ISLAND NOSE EPOXY EACH	646.9000 MARKING REMOVAL LINE 4-INCH LF	646.9100 MARKING REMOVAL LINE 8-INCH LF
STH 64										
618+74 - 989+11	EB	9149	34063	46364	2182	10	24	-	80427	24
618+74 - 989+11	WB	9149	35278	46364	2022	-	24	-	81642	24
618+74 - 989+11	EB RAMPS	-	7389	3133	3023	-	40	1	10522	3023
618+74 - 989+11	WB RAMPS	-	5996	3778	1188	-	76	1	9774	1188
PROJECT TOTALS		18298	82726	99639	8415	10	164	2	182365	4259
			182365							

*EXISTING EPOXY EDGELINES TO BE REMOVED. PAID FOR AS MARKING REMOVAL LINE 4-INCH

3

CONSTRUCTION STAKING ITEMS

STATION	LOCATION	650.4000 STORM SEWER EACH	650.5000 BASE LF	650.5500 CURB GUTTER AND CURB & GUTTER LF	650.8000 RESURFACING REFERENCE LF	650.9911.02 SUPPLEMENTAL CONTROL (8110-00-79) EACH	650.9920 SLOPE STAKES LF
STH 64							
STH 35 - 85TH ST	EB & WB	5	185	185	8252	1	3141
85TH ST - 100TH ST	EB & WB	-	-	-	4734	-	-
100TH ST - 110TH ST	EB & WB	1	-	-	5493	-	654
110TH ST - 120TH ST	EB & WB	-	-	-	5576	-	589
120TH ST - N 4TH ST	EB & WB	1	-	-	3746	-	-
N 4TH ST - CTH CC	EB & WB	-	-	-	2109	-	-
CTH CC - STH 65	EB & WB	-	-	-	4128	-	-
STH 65 - JOHNSON DR	EB & WB	-	-	-	1443	-	-
JOHNSON DR - 142ND ST	EB & WB	-	-	-	1203	-	-
142ND ST - END PROJECT	EB & WB	-	-	-	3053	-	-
PROJECT TOTALS		7	185	185	39737	1	4384

ASPHALTIC MASTIC JOINT SEALING

LOCATION	SPV.0090.01 (LF)
STH 64 EB	
630+73 - 631+69	192
636+30 - 644+65	835
649+15 - 650+43	128
SUBTOTAL	1155
STH 64 WB	
706+48 - 795+08	17720
808+83 - 810+86	203
SUBTOTAL	17923
PROJECT TOTALS	19078

SAWING ITEMS

LOCATION	690.0150 SAWING ASPHALT LF
STH 64 - EB	
STH 35 OFF RAMP	24
STH 35 - 85TH ST	60
85TH ST - 100TH ST	90
100TH ST - 110TH ST	96
110TH ST ON RAMP	6
110TH ST OFF RAMP	60
110TH ST - 120TH ST	-
120TH ST - N 4TH ST	-
N 4TH ST - CTH CC	18
CTH CC - STH 65	30
STH 65 - JOHNSON DR	54
JOHNSON DR - 142ND ST	216
142ND ST - END PROJECT	78
UNDISTRIBUTED	790
EB SUBTOTAL	1522
STH 64 - WB	
STH 35 ON RAMP	-
STH 35 - 85TH ST	90
85TH ST - 100TH ST	78
100TH ST - 110TH ST	78
110TH ST OFF RAMP	78
110TH ST ON RAMP	36
110TH ST - 120TH ST	12
120TH ST - N 4TH ST	-
N 4TH ST - CTH CC	114
CTH CC - STH 65	6
STH 65 - JOHNSON DR	-
JOHNSON DR - 142ND ST	-
142ND ST - END PROJECT	-
UNDISTRIBUTED	790
WB SUBTOTAL	1282
PROJECT TOTALS	2804

3

3

CONCRETE REPAIR AND REPLACEMENT ITEMS

STAGE	STATION	LOCATION	SPV.0180.01 CONCRETE PAVEMENT REPAIR DOWELED 6'-15' SY	SPV.0180.02 CONCRETE PAVEMENT REPLACEMENT DOWELED (SY) >15' LT	SPV.0180.03 30" CONCRETE CENTERLINE REPAIR SY	415.9700 DRILLED DOWEL BARS EACH	416.0160 DRILLED TIE BARS EACH	*690.0250 SAWING CONCRETE LF
	STH 64 EB							
1B	648+40 -706+28	STH 35 - 85TH ST	87	501	-	180	151	658
	791+12 -878+00	110TH ST - N 4TH ST	218	249	-	252	120	692
	STH 64 WB							
	648+40 -706+28	STH 35 - 85TH ST	44	339	-	90	98	386
	706+28 -791+12	85TH ST - 110TH ST	87	263	-	126	90	421
	789+69-790+94	RAMP M	-	207	-	20	-	30
	791+12 -878+00	110TH ST - N 4TH ST	87	579	-	180	171	708
	STAGE 1B ITEM TOTALS		523	2137	0	848	631	2895
	STH 64 EB							
2A	648+40 -706+28	STH 35 - 85TH ST	19	429	161	96	597	1638
	791+12 -878+00	110TH ST - N 4TH ST	187	213	241	224	815	2374
	878+00-989+11	N 4TH ST - NOBLE RD	-	-	154	-	444	1111
	STH 64 WB							
	648+40 -706+28	STH 35 - 85TH ST	37	291	161	80	561	1524
	706+28 -791+12	85TH ST - 110TH ST	75	401	236	144	822	2270
	791+12 -878+00	110TH ST - N 4TH ST	75	439	241	160	849	2363
	878+00-989+11	N 4TH ST - NOBLE RD	-	-	154	-	444	1111
	618+74-648+40	STH 35 - APPLE RIVER	-	-	82	-	237	593
	706+28 -791+12	85TH ST - 110TH ST	-	-	236	-	679	1697
	STAGE 2A ITEM TOTALS		392	1773	1194	704	4089	11278
	PROJECT TOTALS		915	3910	1194	1552	4720	14173

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

NHMARK TAL			
PONT	STATONOST	SRPTON	LATON
M 11	201" 12LT	3 SPK	150
M 12	3513" 1302LT	3 SPK	20

LN
ASPHALT MAST JONT SALN
HMA ORLA
ONRT RPAR ARA

NOTĀĀ
LMTS O ASPHALT MAST JONT SALN
ONRT RPAR AN RPLAMNT AN
HMA ORLA MA AJST N TH L
AN SHALL R TH NNR N
TH L

P STA 2135 "
3510502
533520
LTA 31'2 LT
513'25
T 3321'
L 51'
R 10'
P STA 10553 "
PT STA 21 "

P STA 205 'J'
35123
53121
LTA 101'0 LT
205'15
T 555'
L 3'
R 2300'
P STA 222503 'J'
PT STA 233 'J'

P STA 330 'J'
35035
535331
LTA 3'25 RT
100'00
T 221'
L 53'
R 523'
P STA 31203 'J'
PT STA 311 'J'

P STA 250351 'L'
350512
53323
LTA 225' RT
512'31
T 2'
L 551'
R 110000'
P STA 222 'L'
PT STA 20 'L'

P STA 3255 'L'
3500022
53232
LTA 523'0 LT
105'55
T 1'
L 20'
R 30000'
P STA 31320 'L'
PT STA 31323 'L'

P 315 "
3002
5301
TH
N ONSTRTON
STA 310"
RPLA ONRT
MAN SLOP NOS
30"
52'13
20'
P 102 'J'
303
5323
N ONSTRTON
STA 203'J'
P 21001 'J'
35535
530
P 222503 'J'
PT 21 "
STH 35 RAMP
N20'02
25'
STH 35
25'
STN LOOP TTOR N
AS A TO RMAN
STH RAMP J
PT 233 'J'
P 31203 'J'
STA 300 STA 3305
R TTR NH
SLOP 3NH TP
STA 32 STA 3
LANN TH
NLTS MAN 2 RAT
S ARRAL TAL SHT
PT 311 'J'
SOMRST LLA
O TLTS
P 220 'J'
30303
533525
'S'
STA AHA 10000 'S'
STA AK 13'S'
'S'
P 10553 "
20"
N523'30
N HMA ORLA
STA 1'S'
N HMA ORLA
STA 1"
STA 2 STA 2
LANN TH
30'J'
N3'35
35'J'
N1'00
0'J'
M11
STH
STH
20"
25"
30"
35"
0"
N3'5
M12
MATH LN 350
1'
1'L
20"
STH
25"
N3'5
30"
35"
STH
0"
20'L
N2'11
25'L
STH 35 RAMP L
N PROJT 0005
STA 13'N'
N PROJT 11000
STA 13"
P 115 'L'
303
531025
P 222 'L'
S3003
30"
PT 20 'L'
STA 303'N'
RMO RPLA LLNOS
S ARRAL TAL SHT
STA 31'N'
STH 35
RONSTRTN NLTS MAN 2 RAT
S ARRAL TAL SHT
STA 330'N'
P 3335 'K'
35302
530
N0'11
3'K'
35'K'
STH RAMP K
N32'05
0'K'
P 3132 'K'
35'L'
N0'
PT 3513 'K'
P 31320 'L'
N ONSTRTON
STA 35'L'
PT 31323 'L'
P 3335 'L'
35132
531
STH 35
P 3302 'K'
N ONSTRTON
STA 335'K'
RPLA ONRT
MAN SLOP NOS

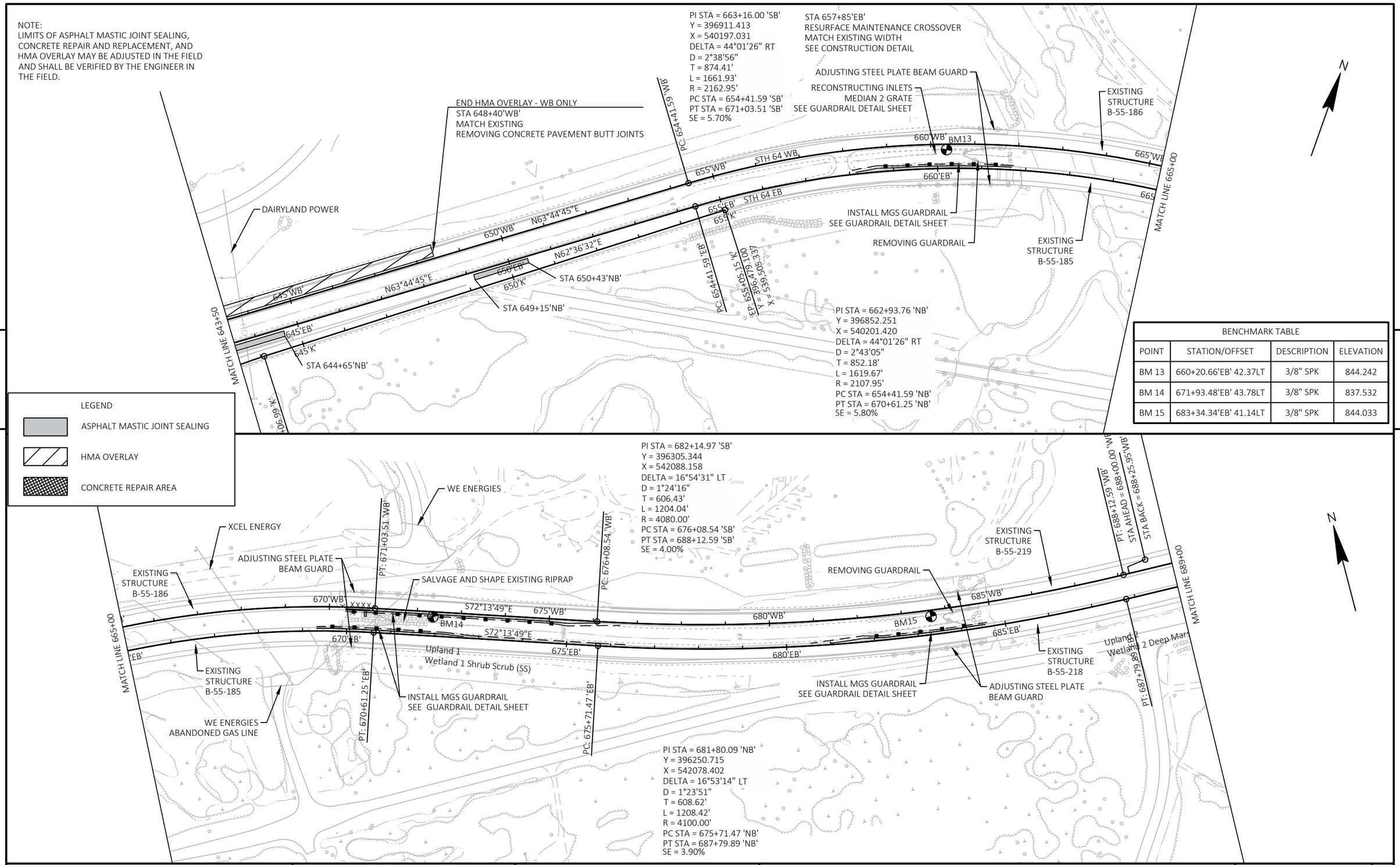
P STA 32 'K'
352130
53135
LTA 2' LT
53'
T 1'
L 131'
R 100000'
P STA 33022 'K'
PT STA 3513 'K'

P STA 1 'K'
35530
533035
LTA 210'2 RT
51'1
T 2510'
L 33'
R 10000'
P STA 3132 'K'
PT STA 0 'K'

PROJT NO 11000	H STH ĀĀ	ONT ST RO	PLAN	SHT 58	E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 10
PLOT AT 52025 5 AM PLOT AR LLAS PLOT NAM ` PLOT SAL ..... SOTAS SHT

NOTE:
LIMITS OF ASPHALT MASTIC JOINT SEALING, CONCRETE REPAIR AND REPLACEMENT, AND HMA OVERLAY MAY BE ADJUSTED IN THE FIELD AND SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD.



BENCHMARK TABLE			
POINT	STATION/OFFSET	DESCRIPTION	ELEVATION
BM 13	660+20.66'EB' 42.37LT	3/8" SPK	844.242
BM 14	671+93.48'EB' 43.78LT	3/8" SPK	837.532
BM 15	683+34.34'EB' 41.14LT	3/8" SPK	844.033

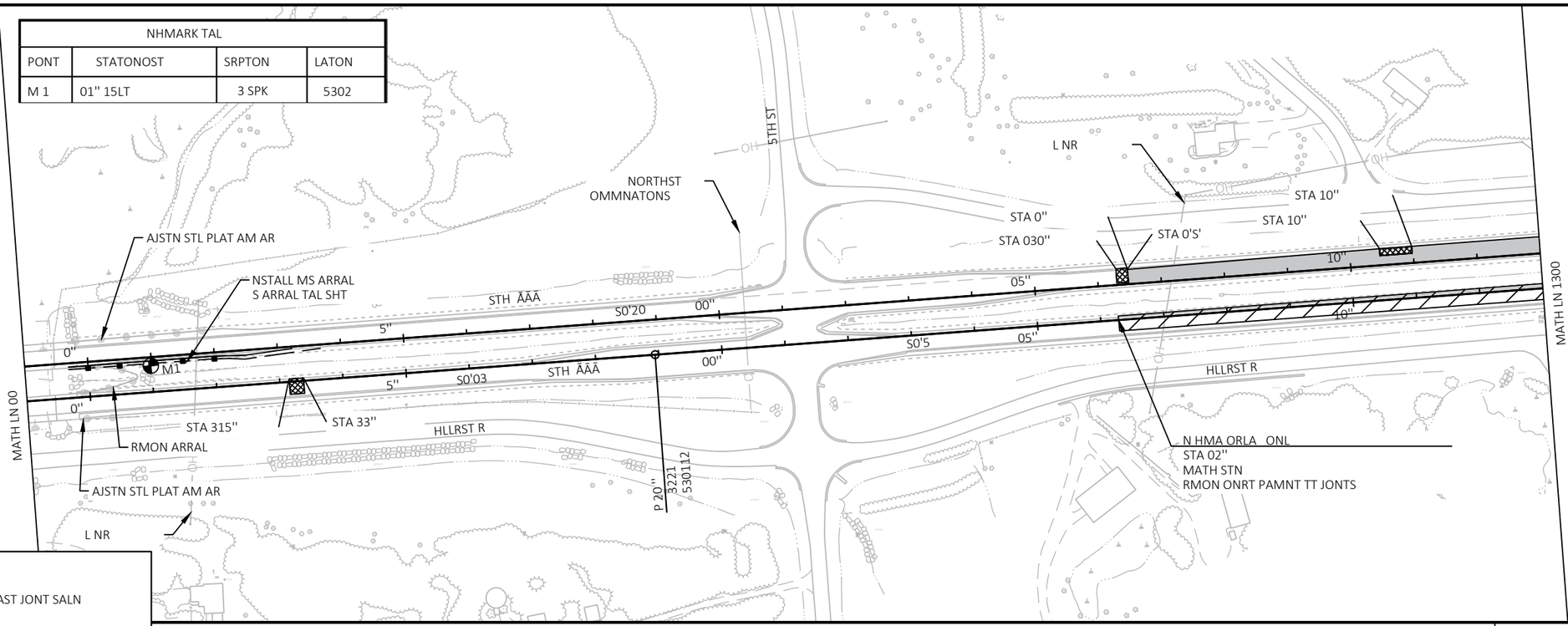
LEGEND

- ASPHALT MASTIC JOINT SEALING
- HMA OVERLAY
- CONCRETE REPAIR AREA

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	PLAN	SHEET 59	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\050201_PN(200 SC).DWG
LAYOUT NAME - 11
PLOT DATE : 6/5/2025 10:10 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:200 FT

NHMARK TAL			
PONT	STATONOST	SRPTON	LATON
M 1	01'' 15LT	3 SPK	5302



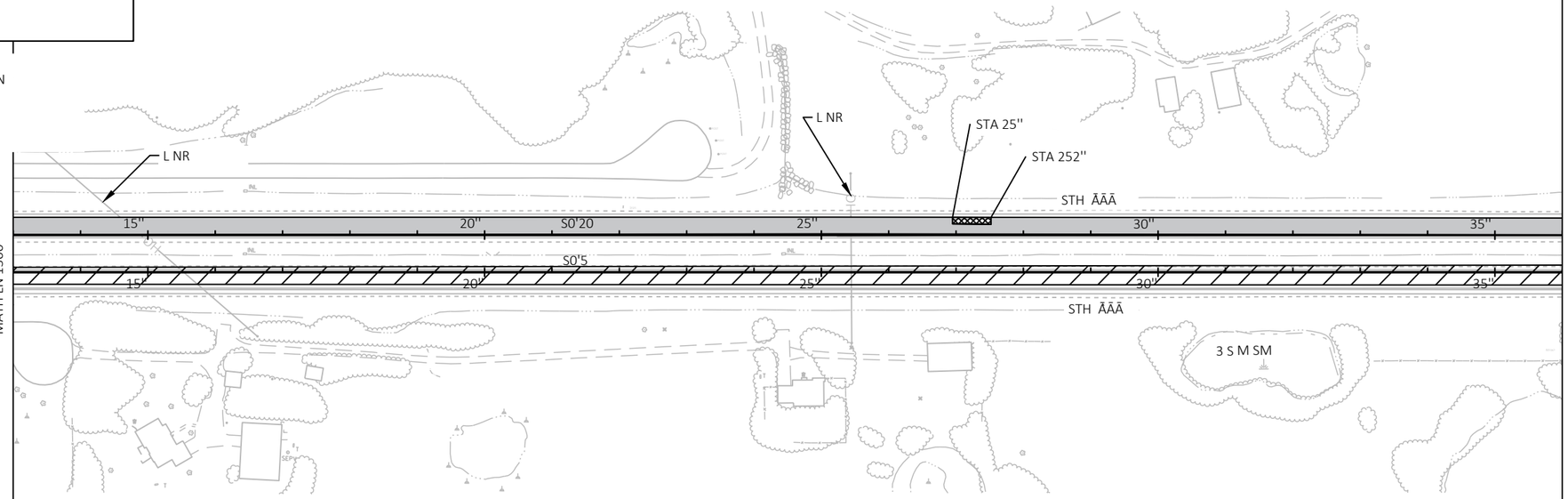
LN

ASPHALT MAST JONT SALN

HMA ORLA

ONRT RPAR ARA

NOTĀĀ
LMTS O ASPHALT MAST JONT SALN
ONRT RPAR AN RPLAMNT AN
HMA ORLA MA AJST N TH L
AN SHALL R TH NNR N
TH L



PROJT NO 11000	HĀĀĀ STH ĀĀ	ONT ST RO	PLAN	SHT 60	E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 12
PLOT AT ĀĀ 52025 1000 AM
PLOT ĀĀ AR LLAS
PLOT NAM `
PLOT SAL ĀĀ 1 N200 T
SOTAS SHT

5

5

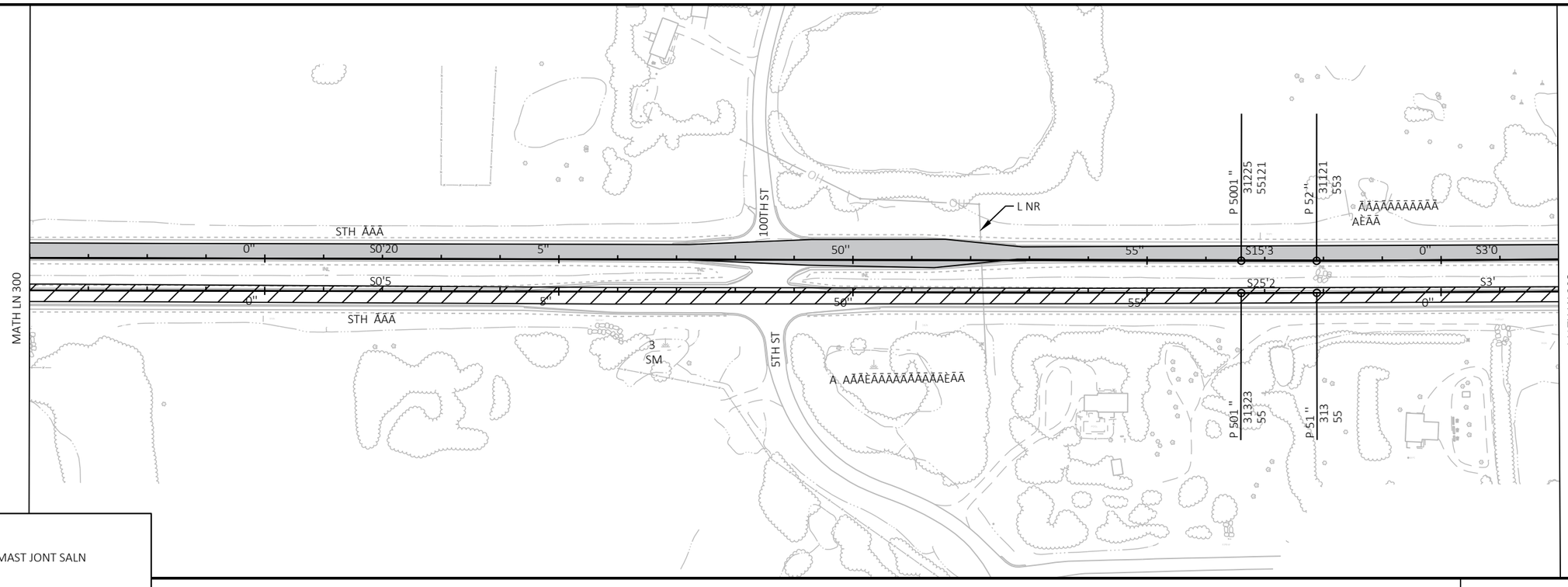
LN

ASPHALT MAST JONT SALN

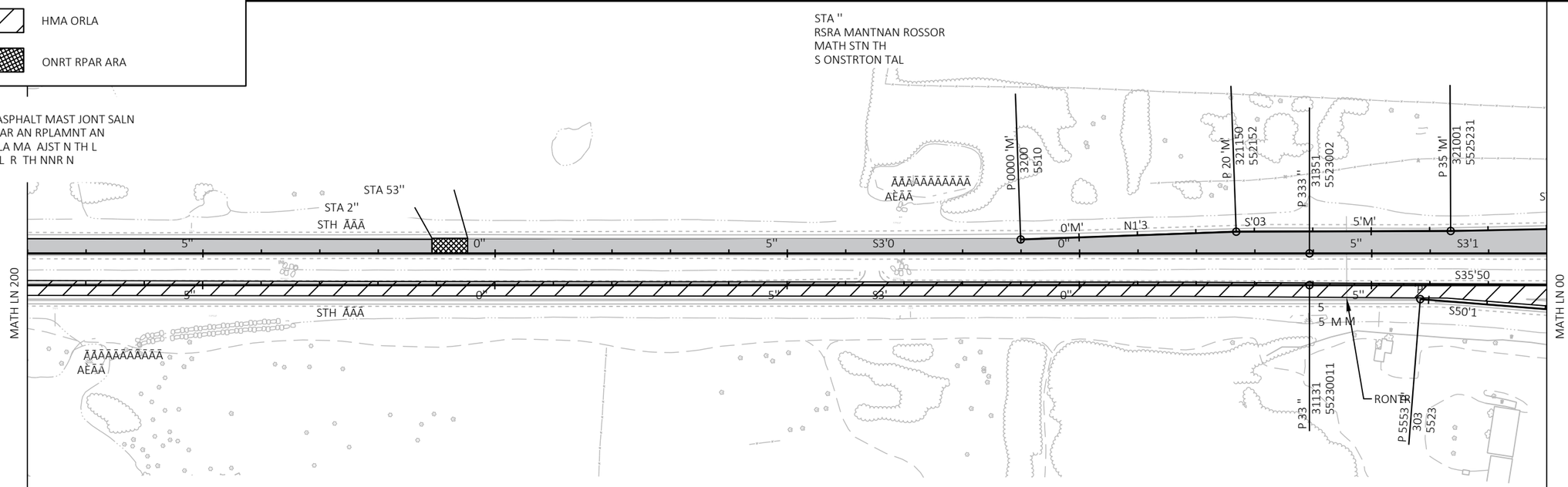
HMA ORLA

ONRT RPAR ARA

NOTĀĀ
LMTS O ASPHALT MAST JONT SALN
ONRT RPAR AN RPLAMNT AN
HMA ORLA MA AJST N TH L
AN SHALL R TH NNR N
TH L



STA ''
RSRA MANTNAN ROSSOR
MATH STN TH
S ONSTRTON TAL



PROJT NO 11000	HĀĀĀ STH ĀĀ	ONT ST RO	PLAN	SHT 61	E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 13
PLOT AT ĀĀ 52025 1001 AM
PLOT ĀĀ AR LLAS
PLOT NAM `
PLOT SAL ĀĀ 1 N200 T
SOTAS SHT

NHMARK TAL			
PONT	STATONOST	SRPTON	LATON
M 1	0102'' 123LT	3 SPK	100333
M 1	05100'' 05LT	3 SPK	10020

LN
ASPHALT MAST JONT SALN
HMA ORLA
ONRT RPAR ARA

NOTĀĀ
LMTS O ASPHALT MAST JONT SALN
ONRT RPAR AN RPLAMNT AN
HMA ORLA MA AJST N TH L
AN SHALL R TH NNR N
TH L

N

P STA 231 'M'
321351
55312
LTA 135'5 LT
51'0
T 1'
L 320'
R 10'
P STA 05 'M'
PT STA 0 'M'

P STA 105 'M'
3123
553531
LTA 150'0 RT
1'3
T 1'
L 12'
R 225'
P STA 1 'M'
PT STA 0015 'M'

N HMA ORLA
STA 02'M'
MATH STN
RMON ONRT
PAMNT TT JONTS

N HMA ORLA
STA 0'M'
MATH STN
RMON ONRT
PAMNT TT JONTS

P STA 0535 'N'
350355
55502
LTA 101'5 RT
51'
T 1035'
L 210'
R '
P STA 0550 'N'
PT STA 0031 'N'

P STA 1315 'N'
32331
555213
LTA 1512'3 LT
1'3
T 102'
L 353'
R 135000'
P STA 1113 'N'
PT STA 1510 'N'

N ONSTRTON
STA 0300'N'

RPLA ONRT
MAN SLP NOS

N ONSTRTON
STA 0305'M'

110TH ST RAMP M
110TH ST RAMP N
110TH ST
MATH LN 00
MATH LN 100

RONSTRTN NLTS MAN 2 RAT
S ARRAL TAL SHT

RMO RPLA LLNOS
S ARRAL TAL SHT

110TH ST RAMP P
110TH ST RAMP O

N HMA ORLA ONL
STA 112''
MATH STN
RMON ONRT
PAMNT TT JONTS

N HMA ORLA
STA 0'P'
MATH STN
RMON ONRT
PAMNT TT JONTS

N ONSTRTON
STA 035'P'

N ONSTRTON
STA 032'O'

P STA 251 'P'
303323
55310
LTA 1333'5 RT
501'2
T 1353'
L 2'
R 1102'
P STA 1055 'P'
PT STA 353 'P'

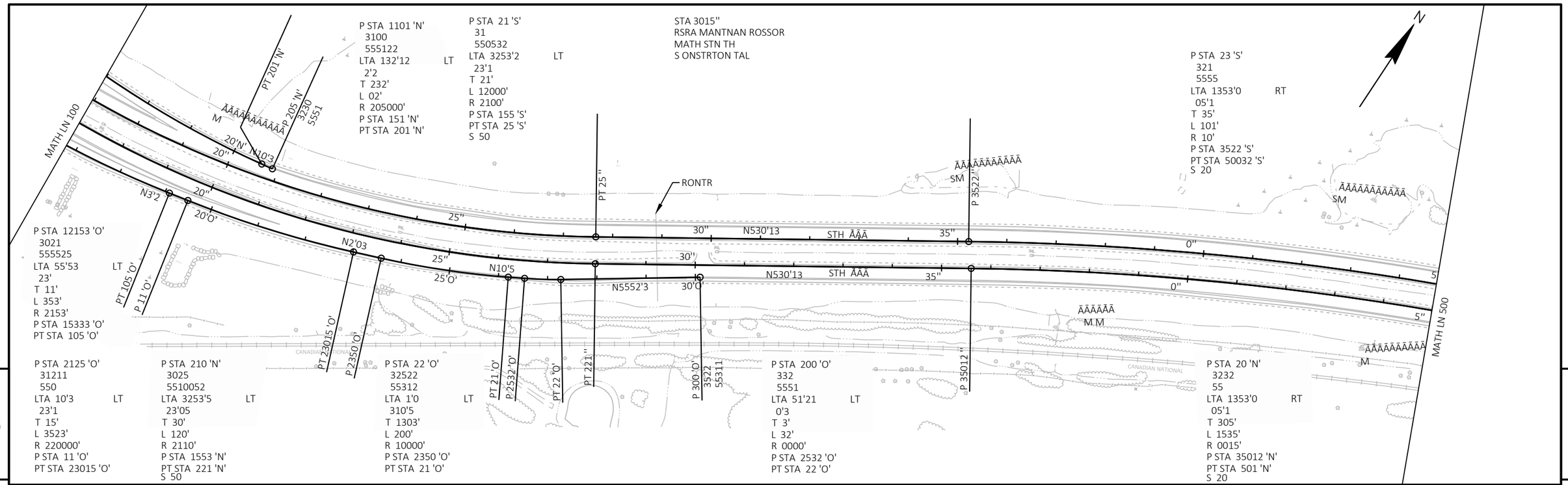
P STA 005 'P'
3502
55335
LTA 15'53 LT
5'35
T 1000'
L 15'
R 330'
P STA 35 'P'
PT STA 0130 'P'

P STA 010 'O'
35150
555501
LTA 130'00 LT
20'00
T 15'
L 150'
R 5'
P STA 05312 'O'
PT STA 032 'O'

P STA 12 'O'
30330
555150
LTA 15'1 RT
10'21
T 211'
L 300'
R 1331'
P STA 10501 'O'
PT STA 1023 'O'

PROJT NO 11000	HĀĀĀ STH ĀĀ	ONT ST RO	PLAN	SHT 62	E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 1Ā
PLOT AT ĀĀ 52025 1001 AM
PLOT ĀĀ AR LLAS
PLOT NAM `
PLOT SAL ĀĀ 1 N200 T
SOTAS SHT



PROJT NO 11000	HĀĀĀ STH ĀĀ	ONT ST RO	PLAN

SHT 63 E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 15
PLOT AT ĀĀ 52025 1002 AM
PLOT ĀĀ AR LLAS
PLOT NAM `
PLOT SAL ĀĀ 1 N200 T
SOTAS SHT

5

5

LN

ASPHALT MAST JONT SALN

HMA ORLA

ONRT RPAR ARA

NOTĀĀ
LMTS O ASPHALT MAST JONT SALN
ONRT RPAR AN RPLAMNT AN
HMA ORLA MA AJST N TH L
AN SHALL R TH NNR N
TH L

MATH LN 200

MATH LN 100

PT 512 ''

P 020 ''

323035
512512

P 130 ''

5''

N20'3

N1'3

0''

5''

N011'5

N010'0

0''

PT 350 ''

P 32 ''

32212
512132

P 135 ''

CANADIAN NATIONAL

P STA 522 'S'
3320
51510
LTA 310'55 LT
35'10
T 1130'
L 0153'
R 153'
P STA 130 'S'
PT STA 3250 'S'
S 00

M

STH ĀĀĀ

5''

STH ĀĀĀ 5''

PT 3250 ''

STA AK 1''

STA AHA 00000 ''

N500'3

0''

0''

N5011'50

PT 31 ''

P STA 55 'N'
33525
5201322
LTA 25'1 LT
352'0
T 33'
L 0'
R 103'
P STA 135 'N'
PT STA 31 'N'
S 00

N

T O N RHMON

ĀĀĀĀĀĀĀĀĀĀĀ

M

MO

T O N RHMON

P 0211 ''

ĀĀĀĀĀĀĀĀĀĀĀ

M

P STA 053 'S'
3501
53115
LTA 351' RT
251'3
T 32'
L 1233'
R 20020'
P STA 0211 'S'
PT STA 1505 'S'
S 50

STH ĀĀĀ

05''

STH ĀĀĀ

05''

N500'3

00''

N5011'50

00''

10''

10''

RONTR

3''

CAUTION

5''

MATH LN 100

N TH ST

ĀĀĀĀĀĀĀ

M

P 0233 ''

ĀĀĀĀĀĀĀĀĀĀĀ

M

MATH LN 1300

L NR

L NR

M

000 A TP M
TLAN MPATS

P STA 03 'N'
3253
53110
LTA 3522'0 RT
25'0
T 153'
L 1115'
R 1301'
P STA 0233 'N'
PT STA 1253 'N'
S 50

STA 1''
LANN TH R' AT LT A
LL ROSON R' AT NLT
LARN R' AT LT A

STA 5''
LANN TH R' AT RT A
LANN LRT PPS R' RT

STA 05''
LANN TH R' AT RT A
LANN LRT PPS R' RT

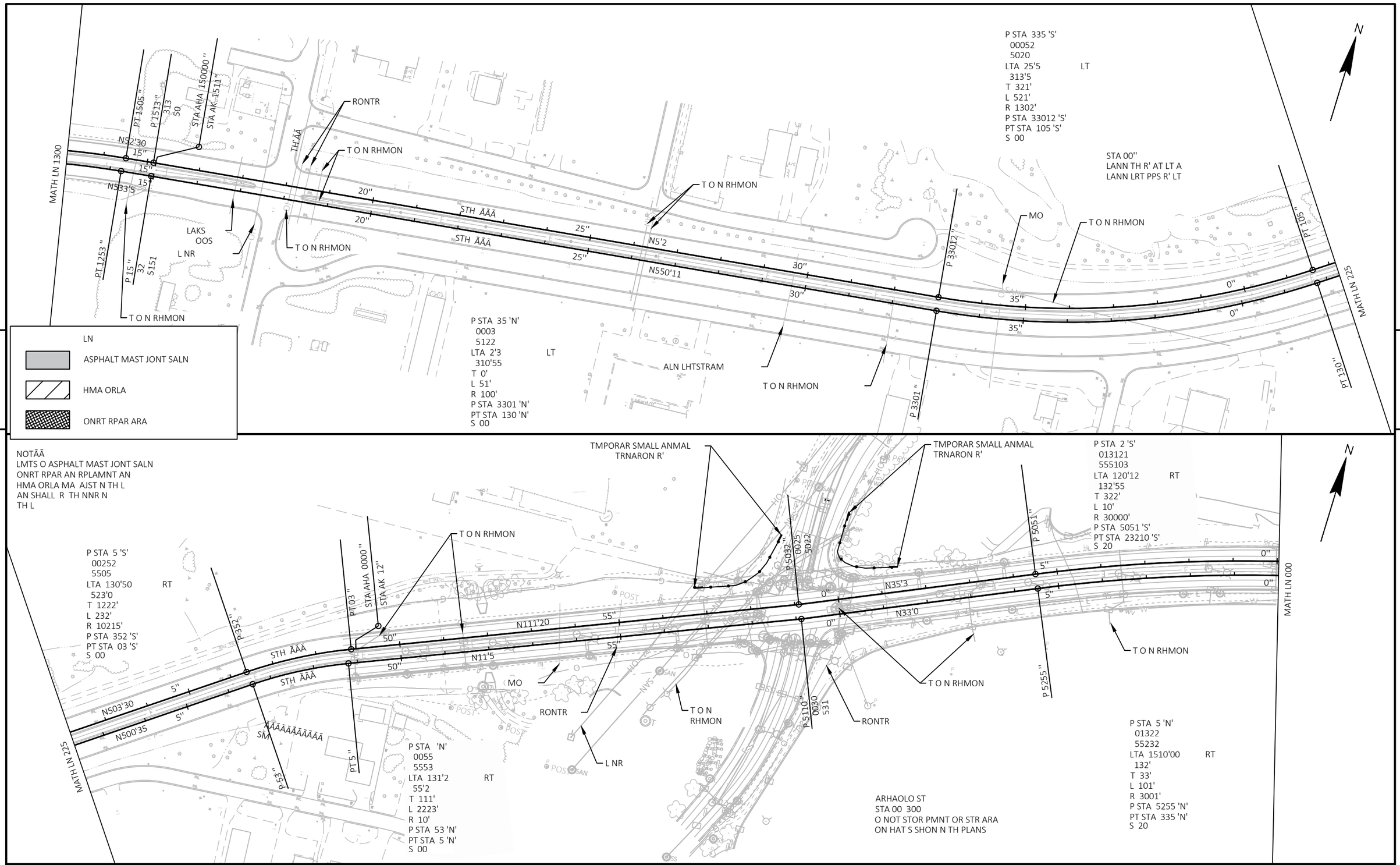
STA 115''
LANN TH R' AT RT A
LANN LRT PPS R' RT

PROJT NO 11000	HĀĀĀ STH ĀĀ	ONT ST RO	PLAN	SHT 64	E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 1Ā

PLOT AT ĀĀ 52025 1003 AM PLOT ĀĀ AR LLAS PLOT NAM ` PLOT SAL ĀĀ 1 N200 T

SOTAS SHT

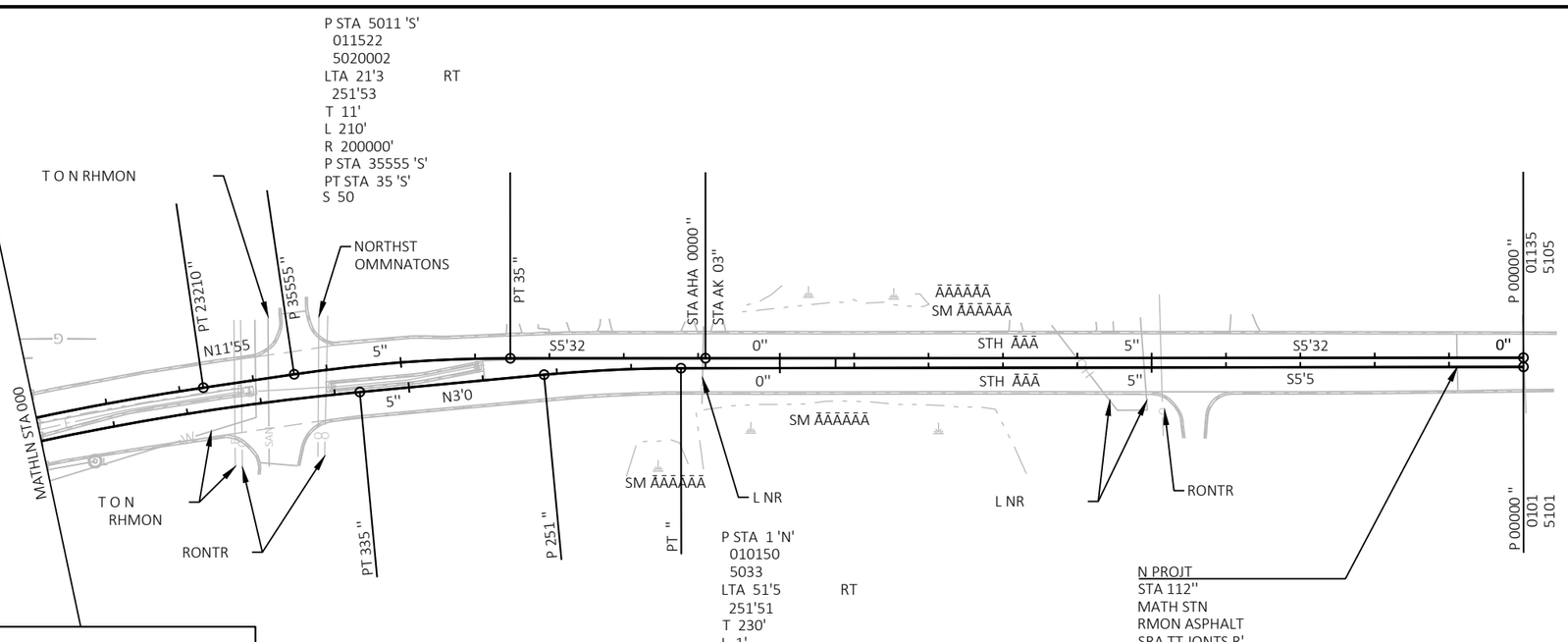


PROJT NO 11000	HÂÂÂ STH ÂÂ	ONT ST RO	PLAN	SHT 65	E

L NAM SHNOMPANRAPPROJTSTN11535NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ÂÂ 1Â

PLOT AT ÂÂ 52025 100 AM PLOT ÂÂ AR LLAS PLOT NAM ` PLOT SAL ÂÂ 1 N200 T

SOTAS SHT



5

5

LN

ASPHALT MAST JONT SALN

HMA ORLA

ONRT RPAR ARA

NOTĀĀ
LMTS O ASPHALT MAST JONT SALN
ONRT RPAR AN RPLAMNT AN
HMA ORLA MA AJST N TH L
AN SHALL R TH NNR N
TH L

THIS PANEL INTENTIONALLY BLANK

PROJT NO 11000	HĀĀĀ STH ĀĀ	ONT ST RO	PLAN	SHT 66	E

L NAM SHNOMPANRAPPROJTSTN11S35NALSN300005STH 35STH 32020SHTSPLAN050201PN200 S
LAOT NAM ĀĀ 1Ā

PLOT AT ĀĀ 52025 1005 AM PLOT ĀĀ AR LLAS PLOT NAM ` PLOT SAL ĀĀ 1 N200 T

SOTAS SHT

Standard Detail Drawing List

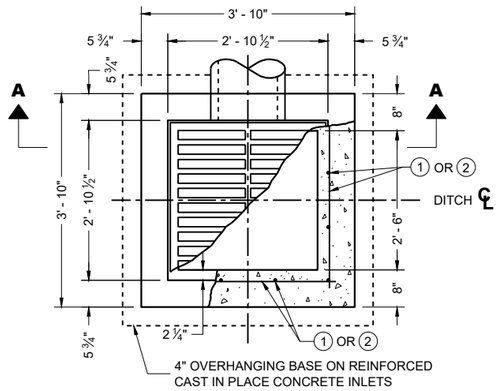
08C08-03	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D16-11	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
11A01-06	MAINTENANCE CROSSOVER FOR FREEWAYS
11B02-02	CONCRETE MEDIAN NOSE
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A07-02	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-17A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B26-05A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09D	ON RAMP LANE CLOSURE
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C14-04	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C18-09B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C19-09C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-08A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-08C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-14A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

6

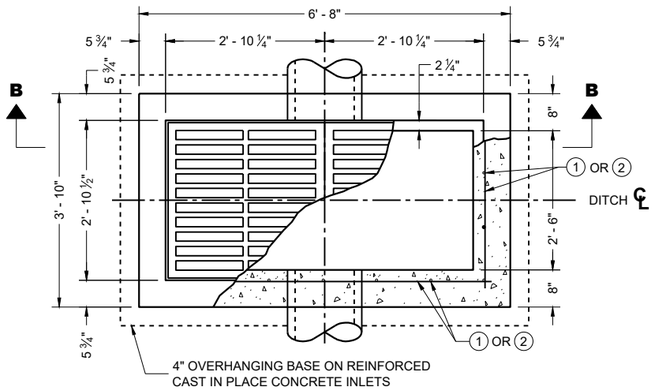
Standard Detail Drawing List

15D12-14B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D12-14E	TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE
15D12-14G	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D15-07A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07B	TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D21-07A	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D50-03A	TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT
15D50-03B	TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

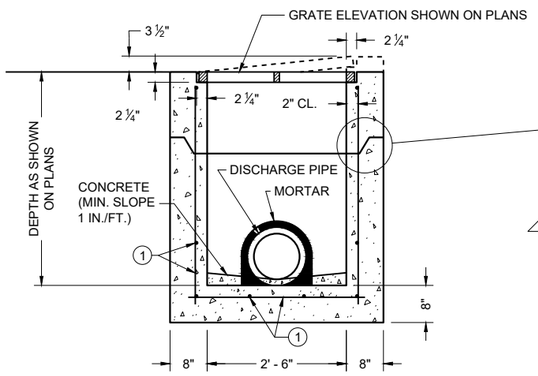
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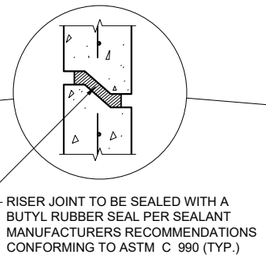
PLAN VIEW

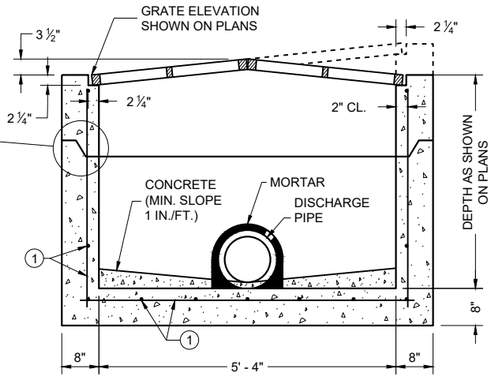


PLAN VIEW

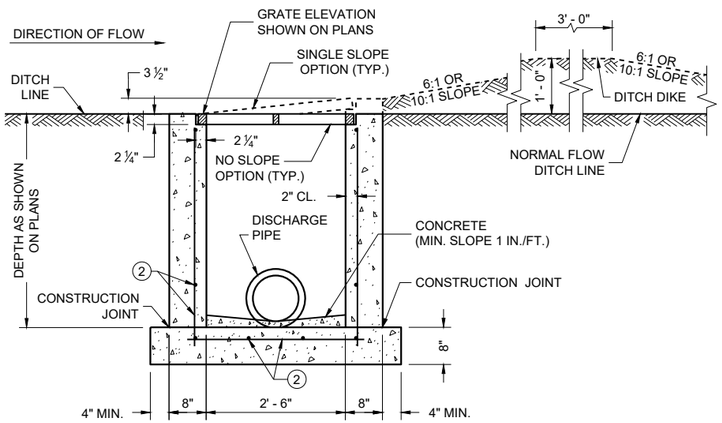


PRECAST REINFORCED CONCRETE SECTION A - A



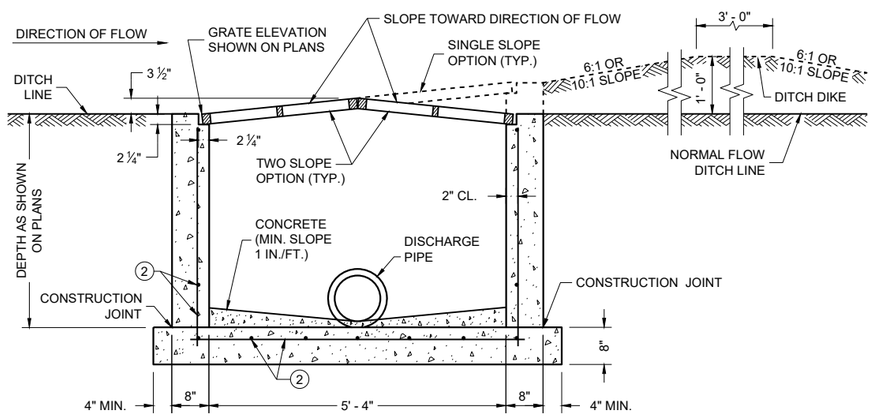


PRECAST REINFORCED CONCRETE SECTION B - B



REINFORCED CAST IN PLACE CONCRETE SECTION A - A

INLETS MEDIAN 1 GRATE



REINFORCED CAST IN PLACE CONCRETE SECTION B - B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

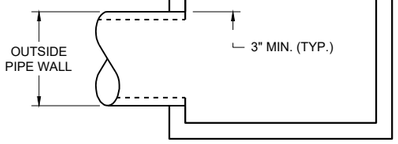
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

(2) CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.



DETAIL "A"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

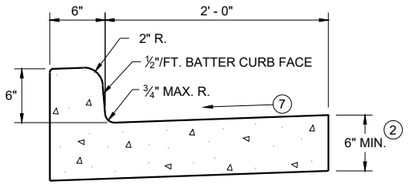
INLETS
MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

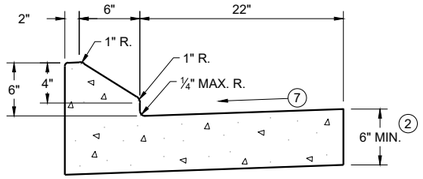
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

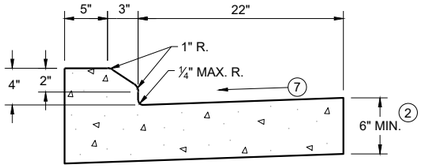
6
SDD 08C08-03



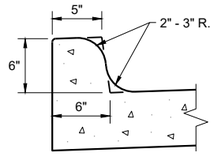
TYPES A (1) & D



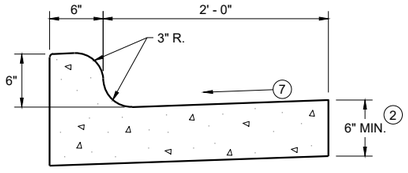
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

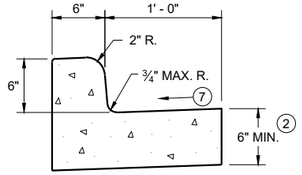


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



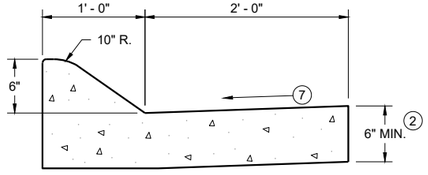
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

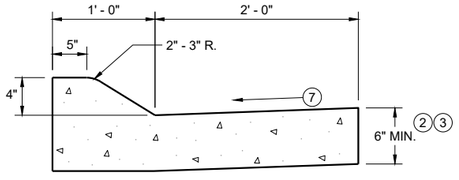


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

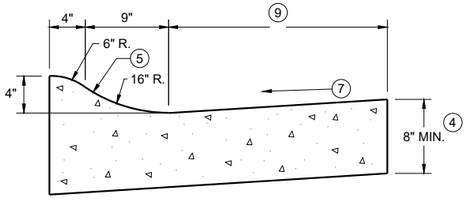


6" SLOPED CURB TYPES A (1) & D



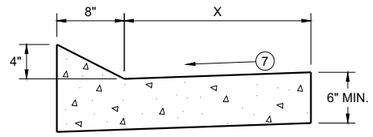
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

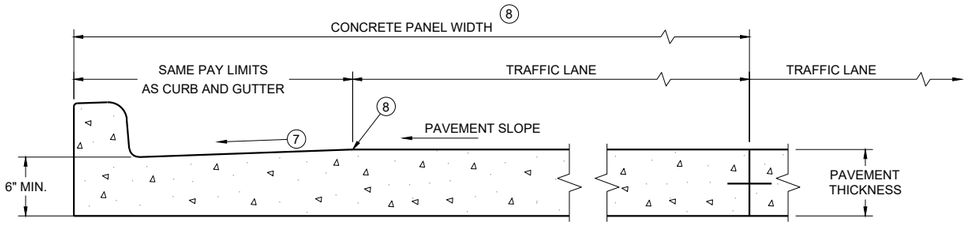


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

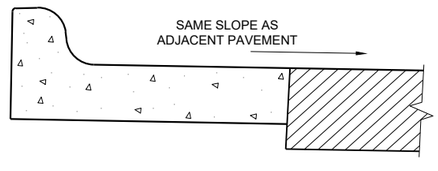
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

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

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

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

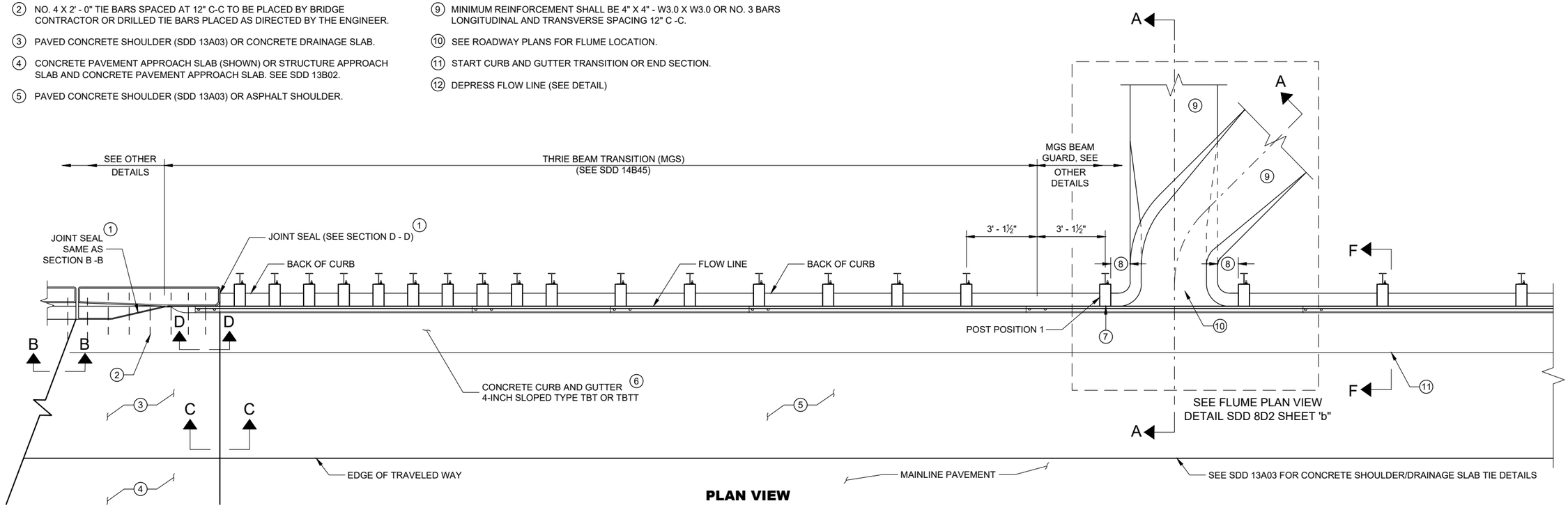
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

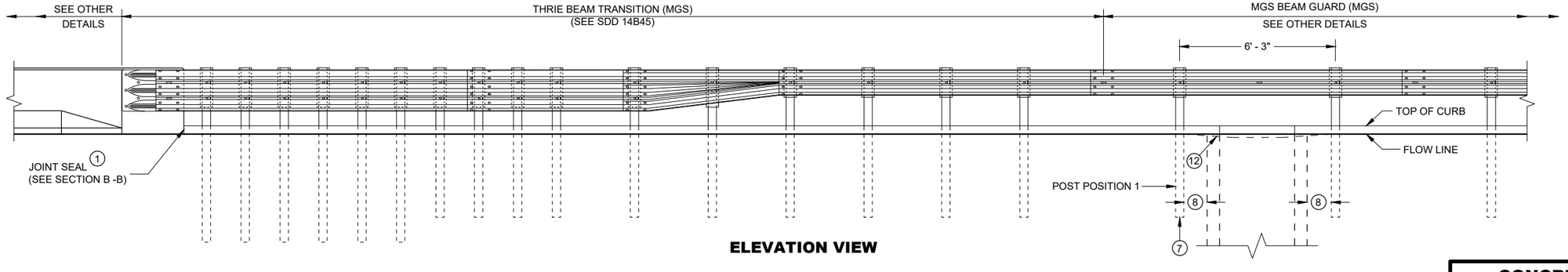
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



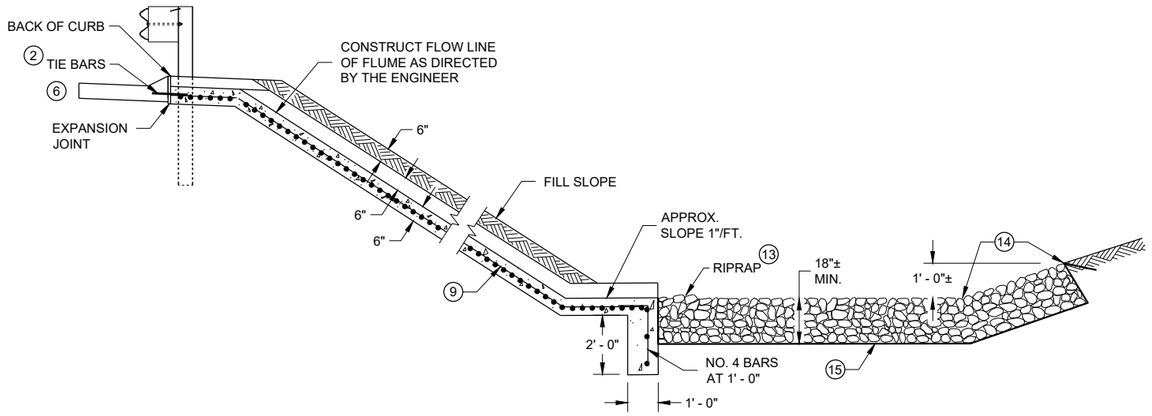
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

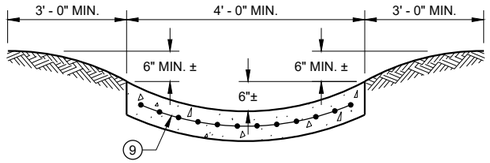
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 08a

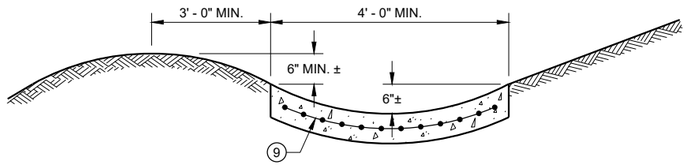
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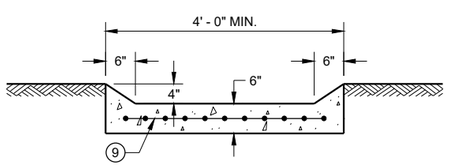
SECTION A - A



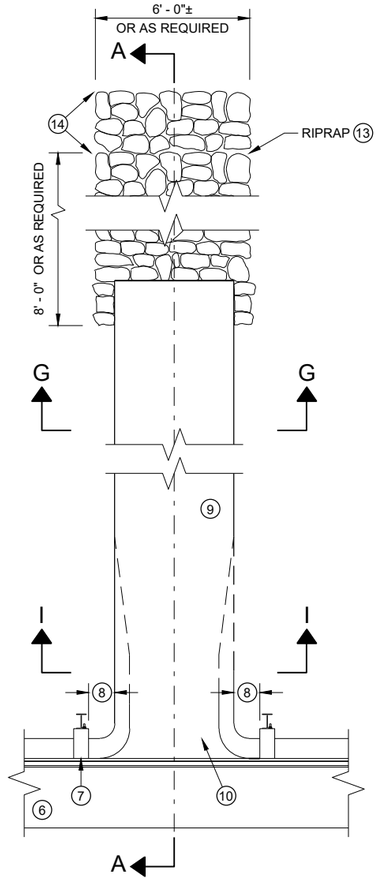
SECTION G - G



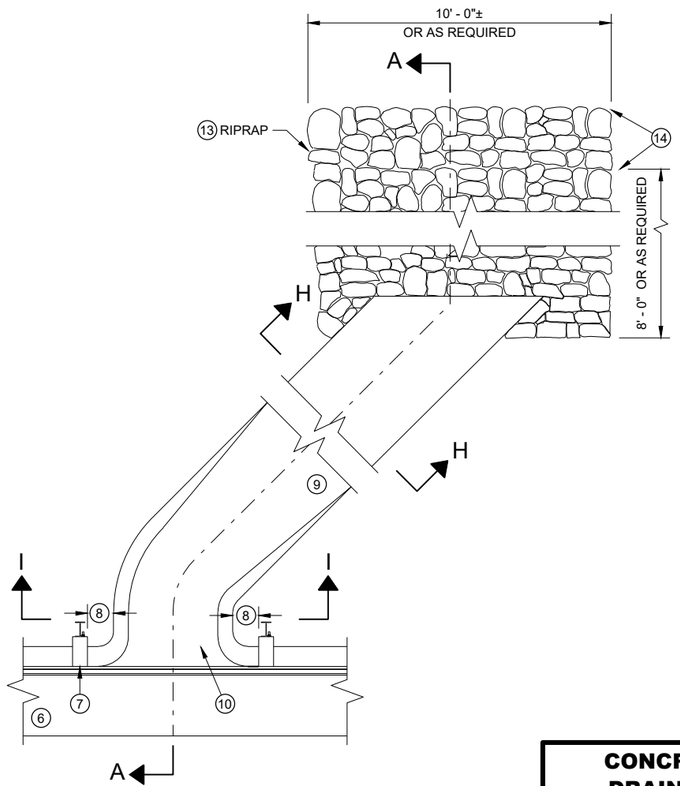
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

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

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

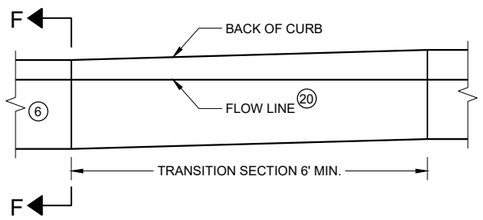
1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

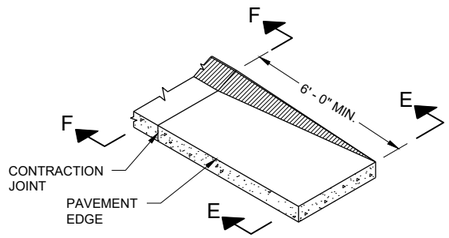
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

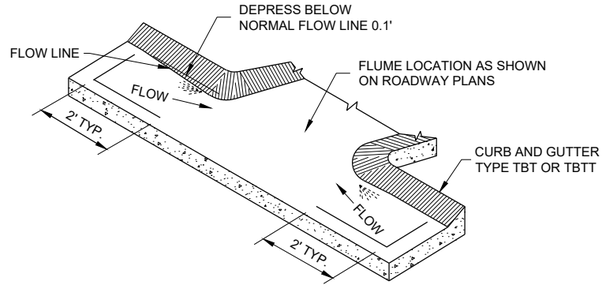
SDD 08D02 - 08b



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



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



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

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

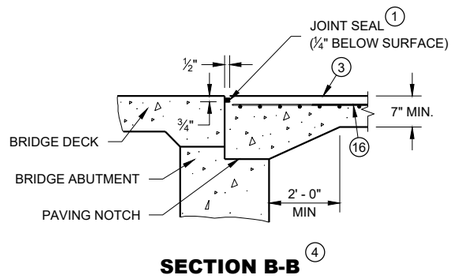
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

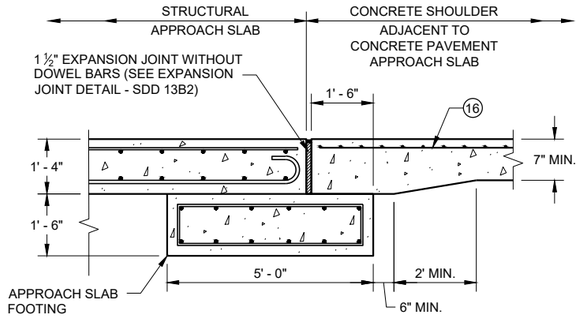
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

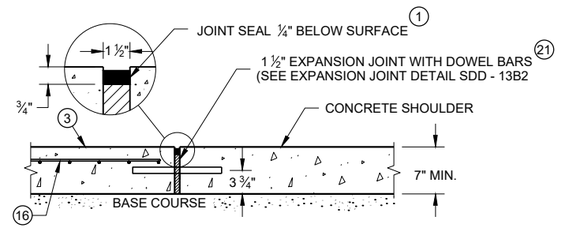
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



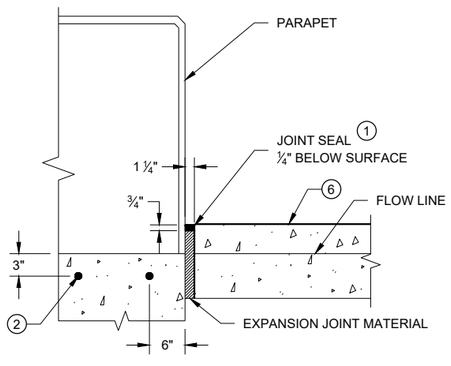
SECTION B-B (4)



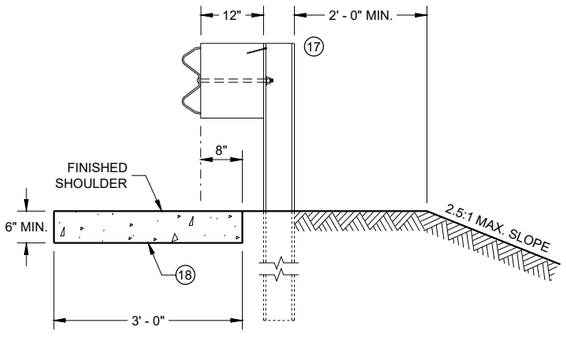
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



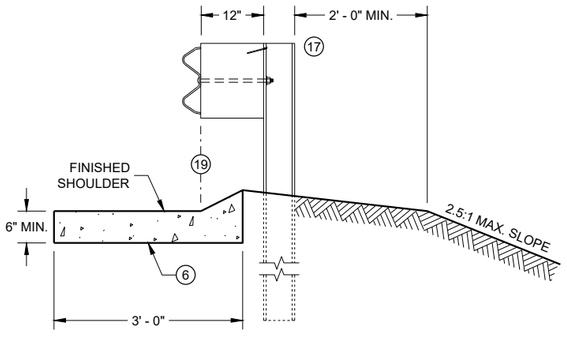
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

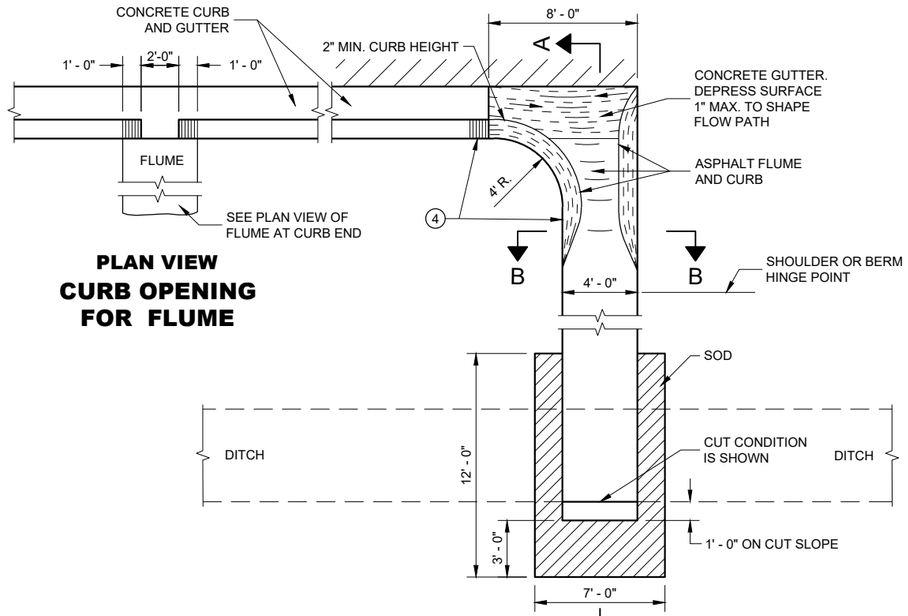
SDD 08D02 - 08c

6

SDD 08D02 - 08c

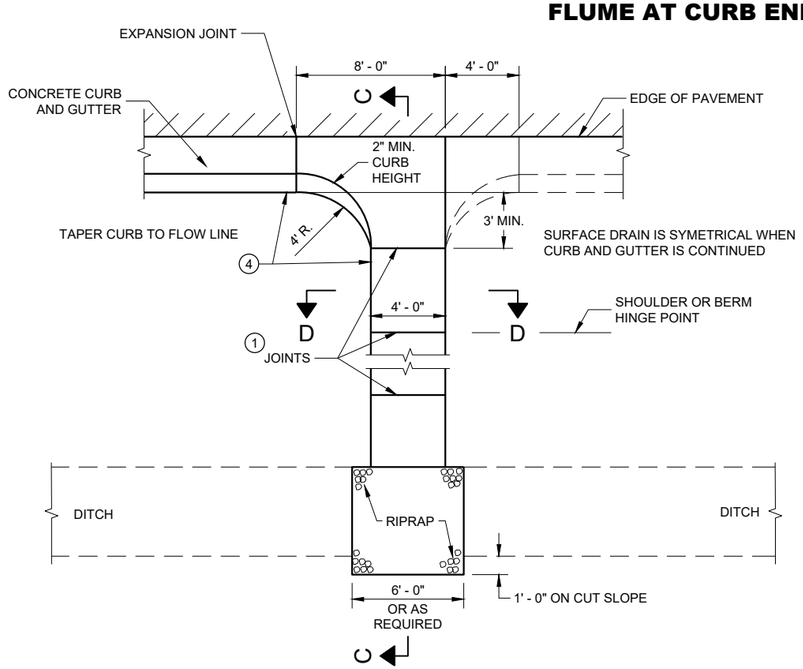
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



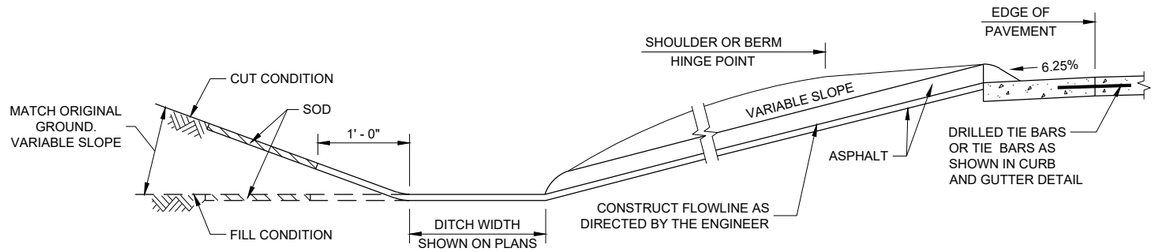
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

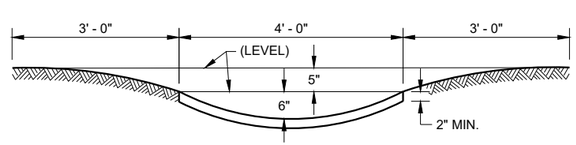
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

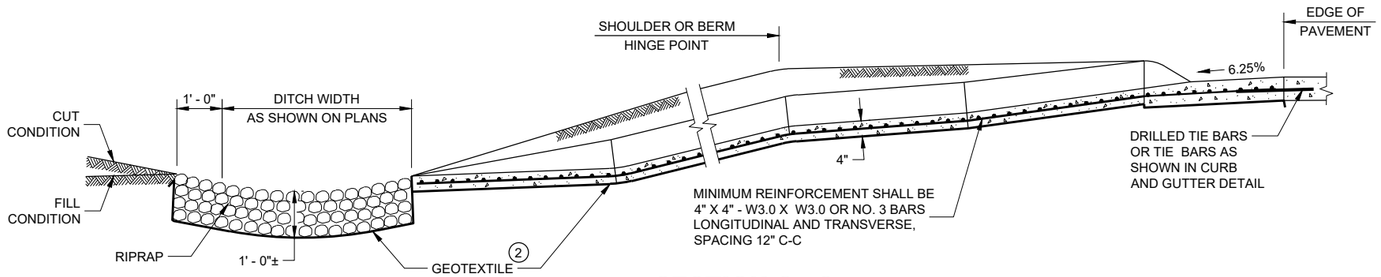
1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



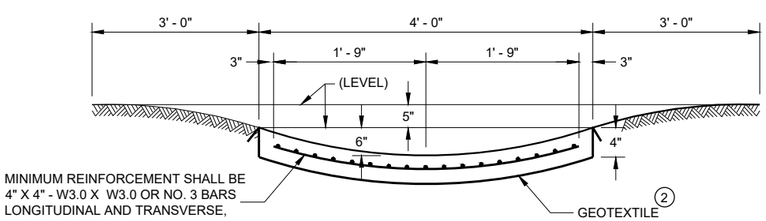
SECTION A - A



SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

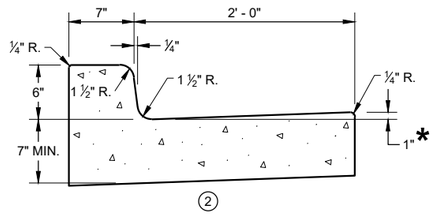
FHWA

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SDD 08D04 - 07

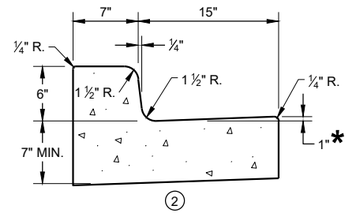
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SDD 08D04 - 07

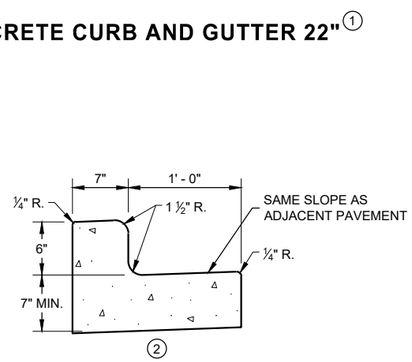


CONCRETE CURB AND GUTTER 31" ①

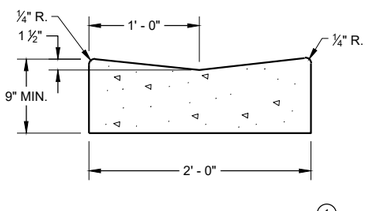
*TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



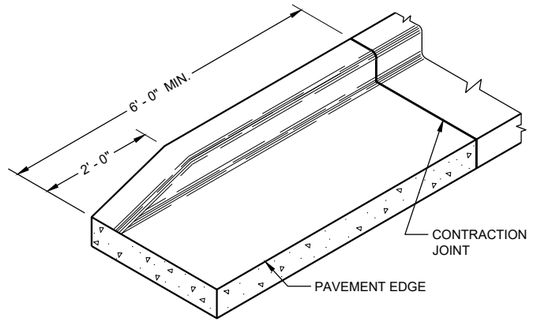
CONCRETE CURB AND GUTTER 22" ①



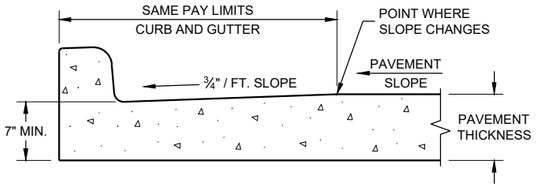
CONCRETE CURB AND GUTTER 19" ①



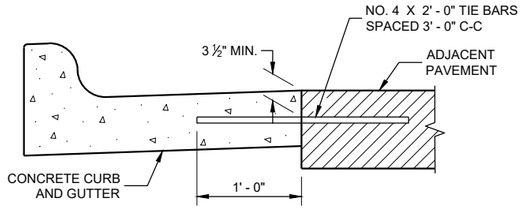
CONCRETE GUTTER 24" ①



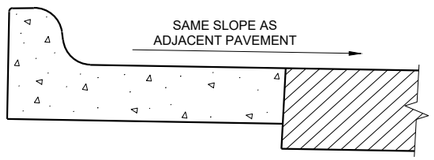
END SECTIONCURB AND GUTTER



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER



TYPICAL TIE BAR LOCATION ①



HIGH SIDE SECTION ③

(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

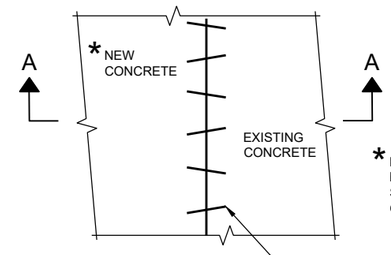
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUITED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

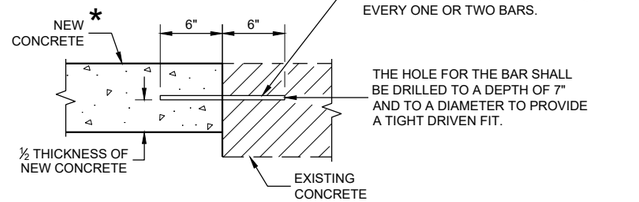
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLANS



PLAN VIEW

*EXISTING AND NEW CONCRETE MAY BE CURB AND GUTTER, SURFACE DRAINS, PAVEMENT OR OTHER CONCRETE STRUCTURE.



SECTION A - A

PAVEMENT TIES

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

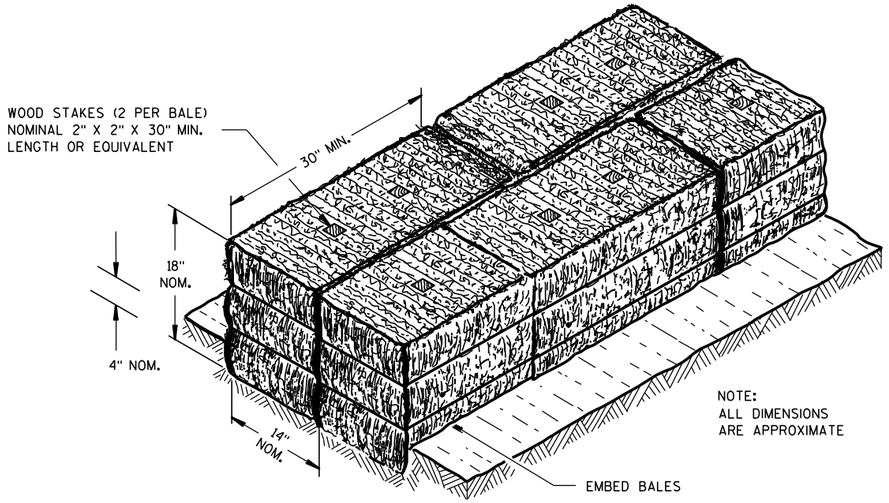
(For Optional use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

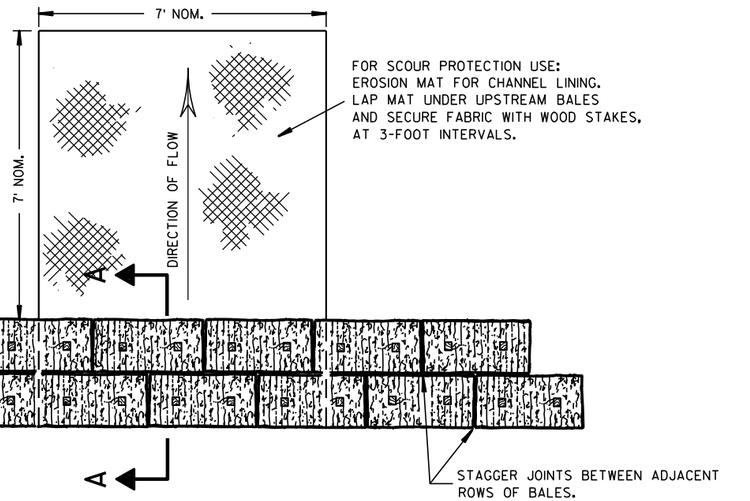
APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6

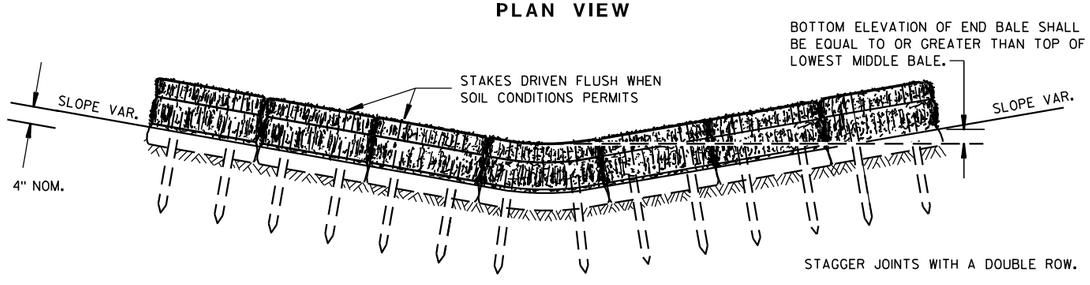
SDD 08D16 - 11
SDD 08D16 - 11



SECTION A-A



PLAN VIEW



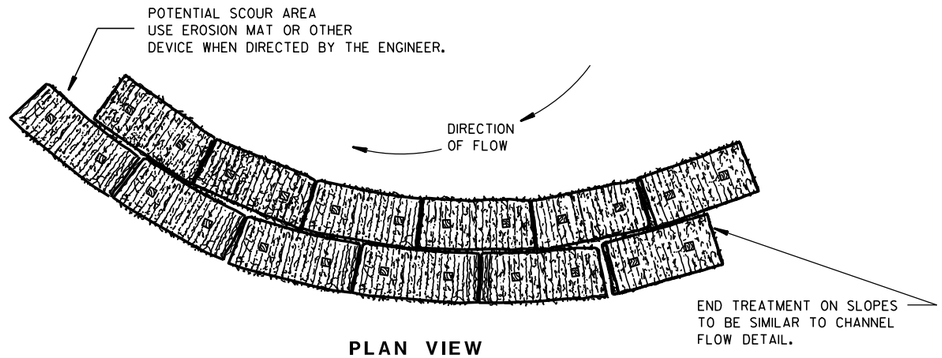
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

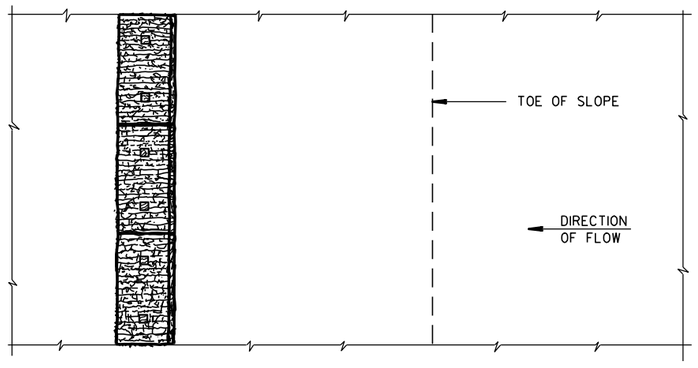
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

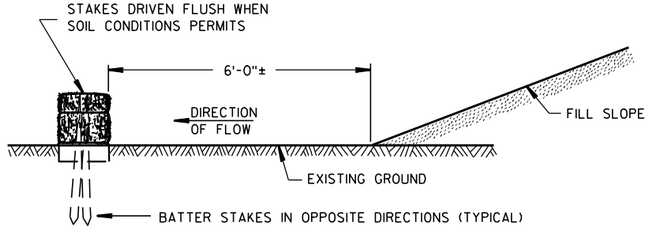


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

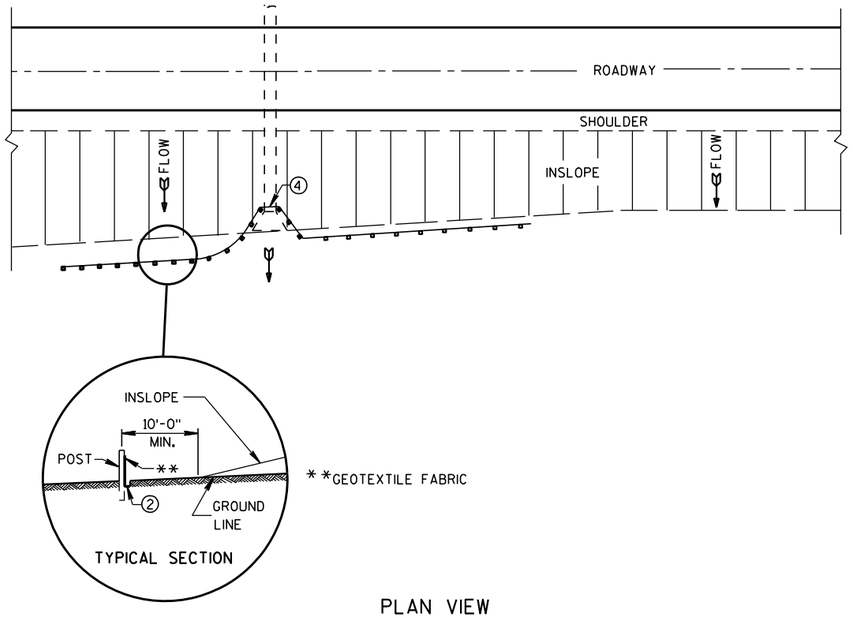
6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

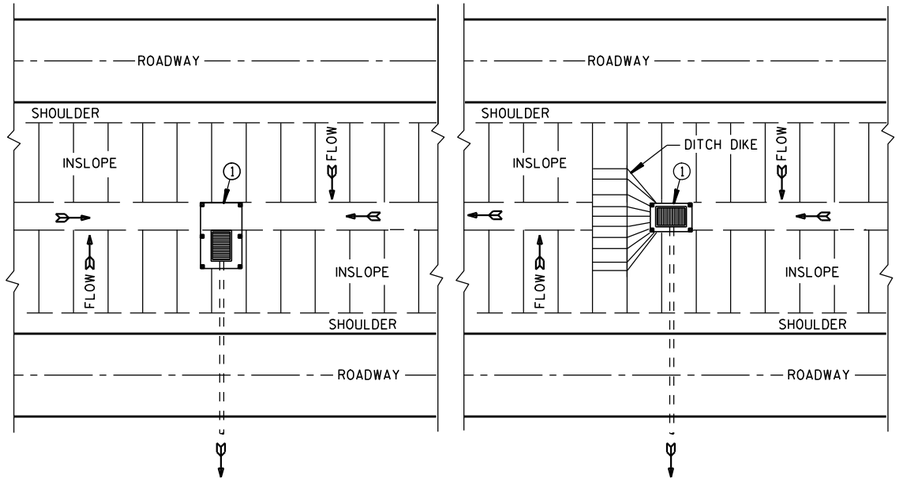
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



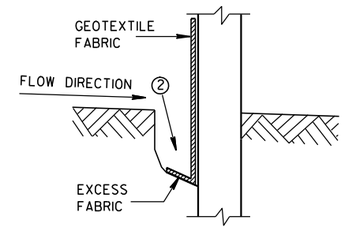
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

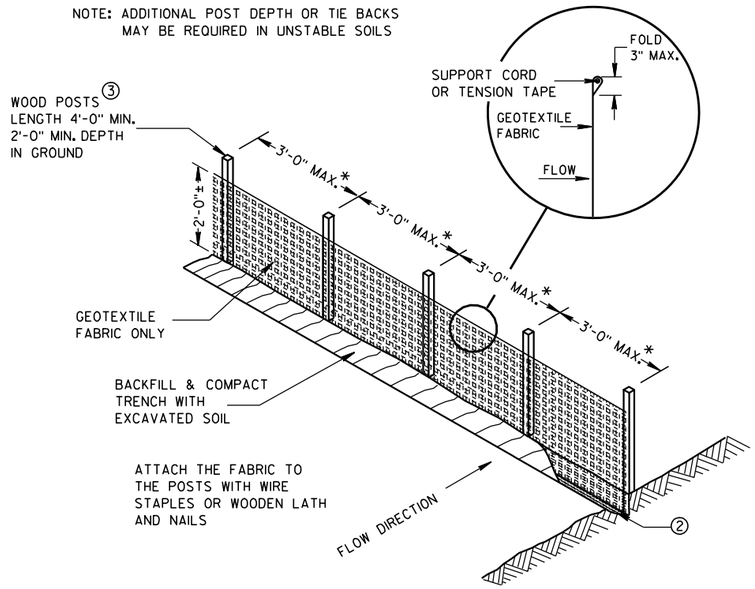
GENERAL NOTES

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

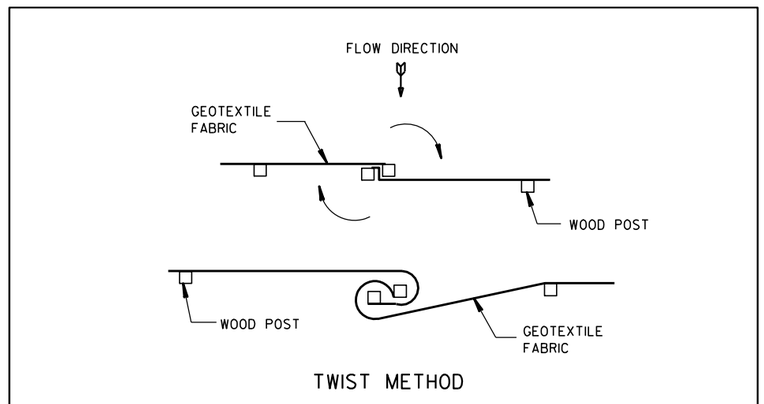
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



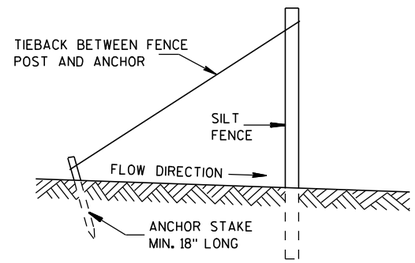
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

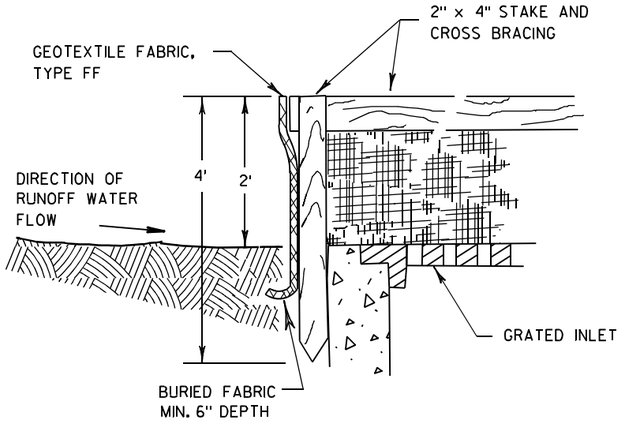
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

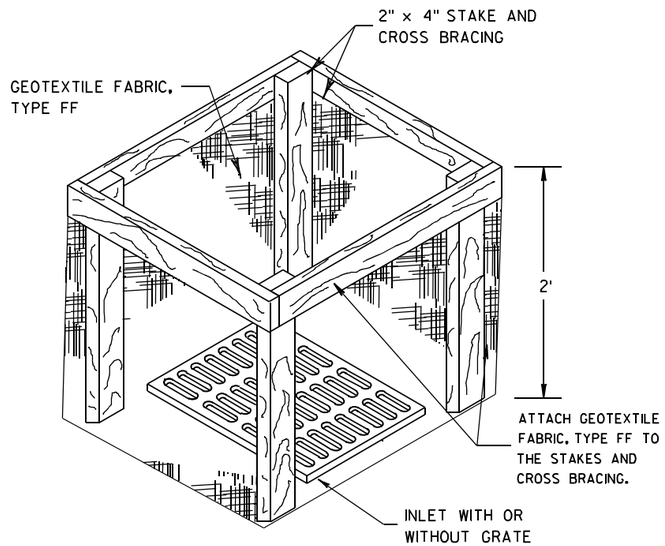
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S.D.D. 8 E 9-6

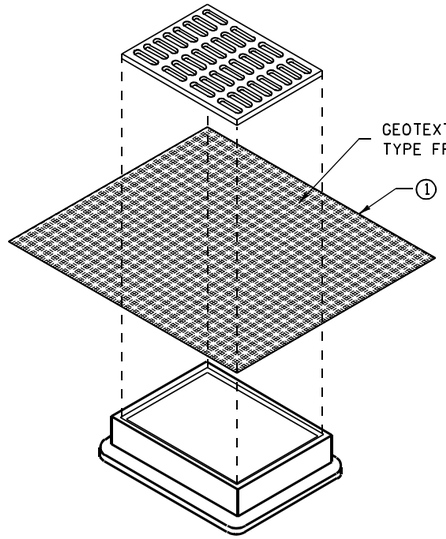
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S.D.D. 8 E 9-6



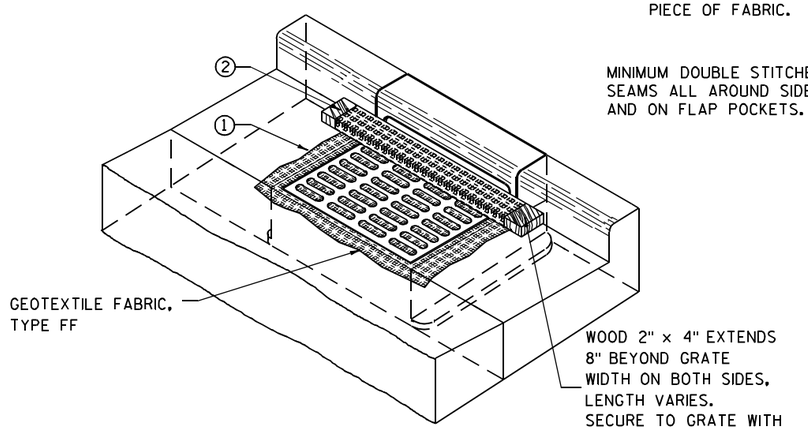


INLET PROTECTION, TYPE A

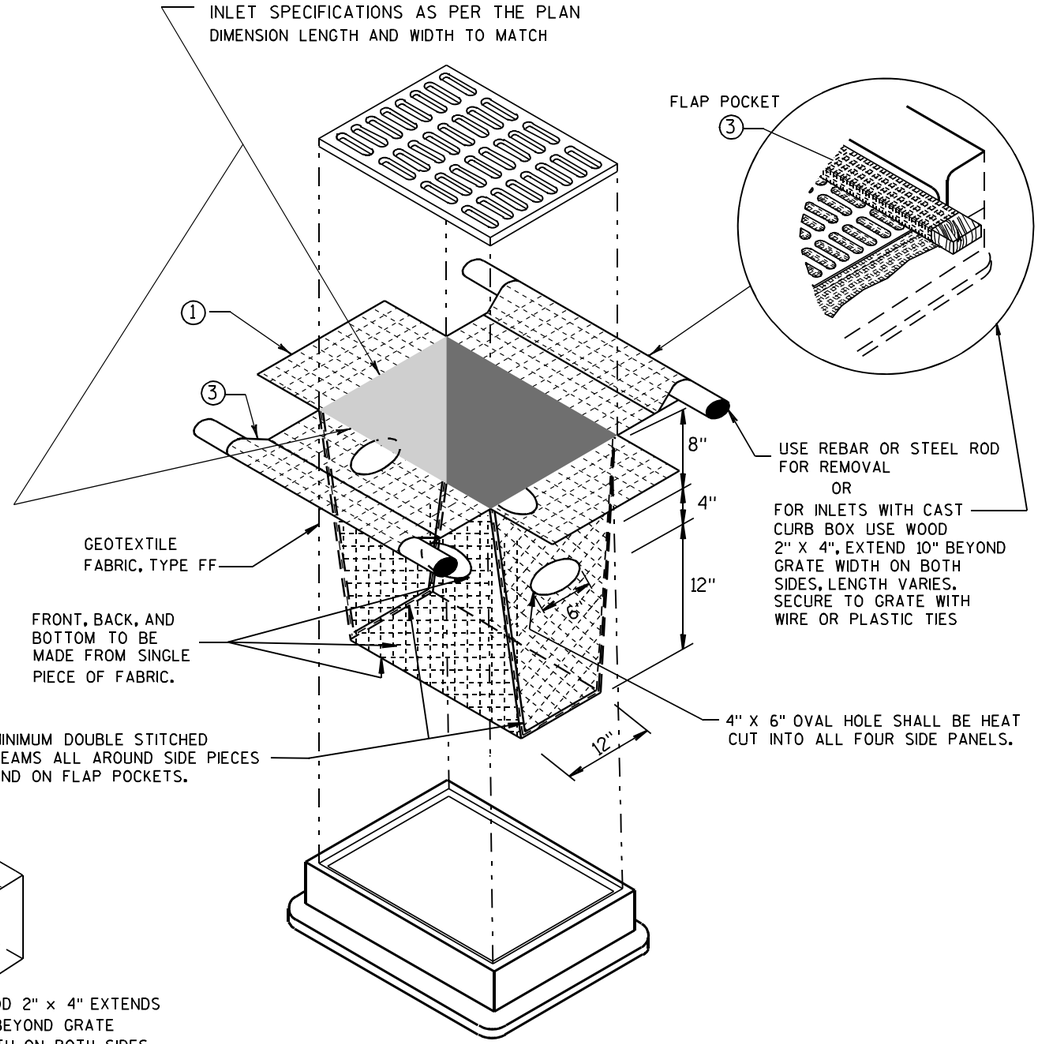


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

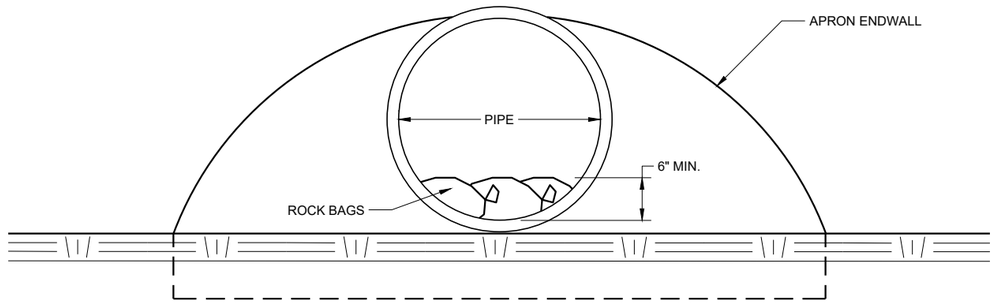
APPROVED

10/16/02
DATE

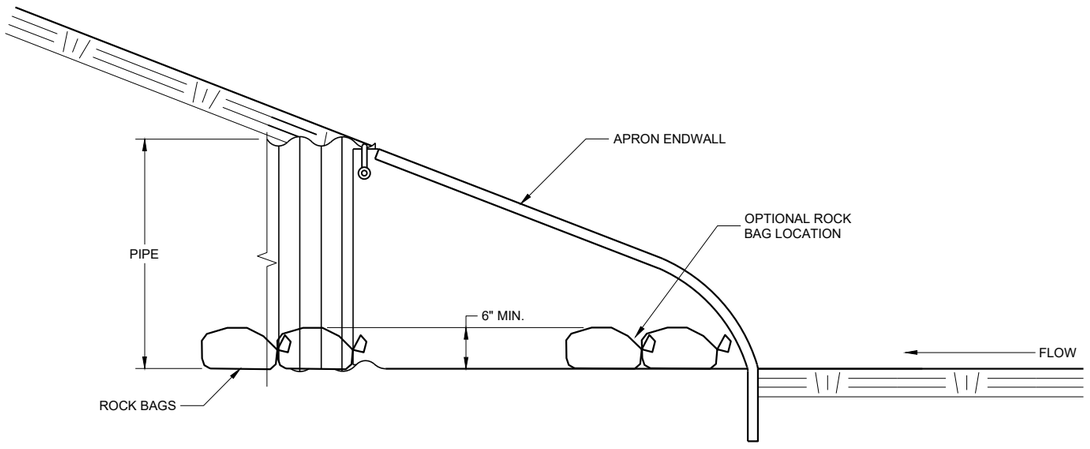
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6
S.D.D. 8 E 10-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

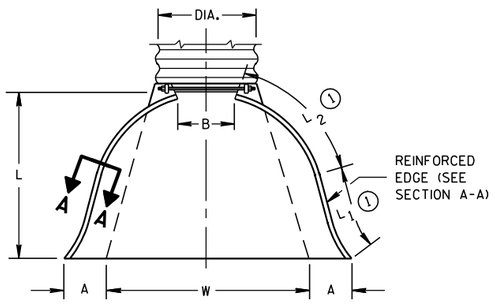
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

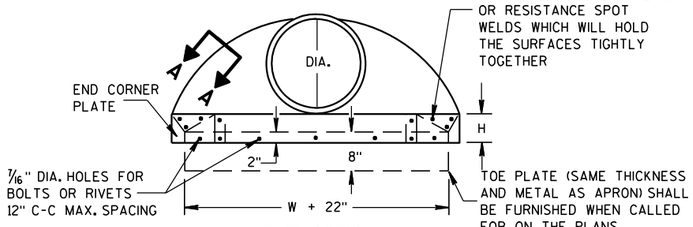
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	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 2/5 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

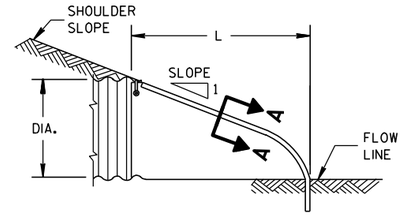
*MINIMUM
**MAXIMUM



PLAN VIEW

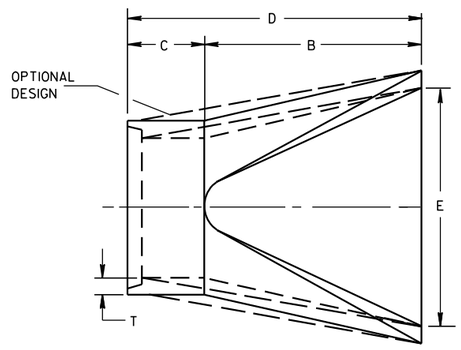


END VIEW

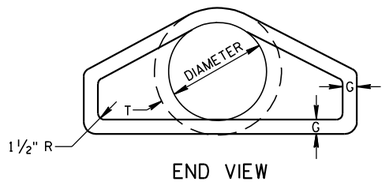


SIDE ELEVATION

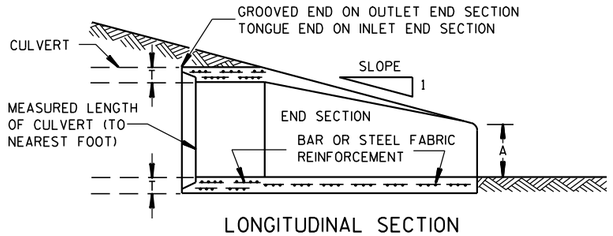
METAL ENDWALLS



PLAN

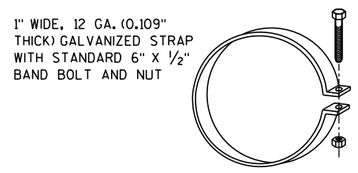


END VIEW



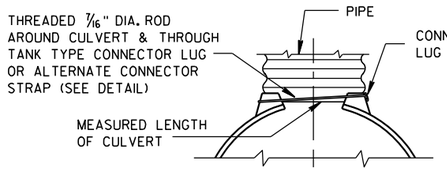
LONGITUDINAL SECTION

CONCRETE ENDWALLS

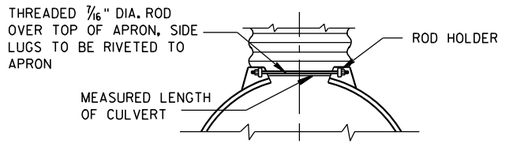


ALTERNATE FOR TYPE 1 CONNECTION

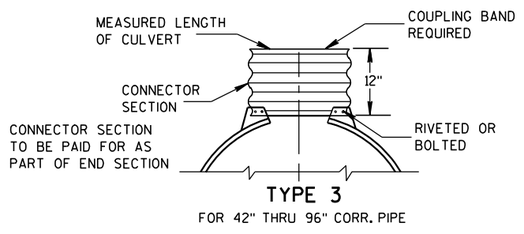
END SECTION CONNECTOR STRAP



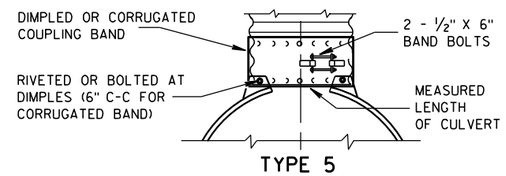
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

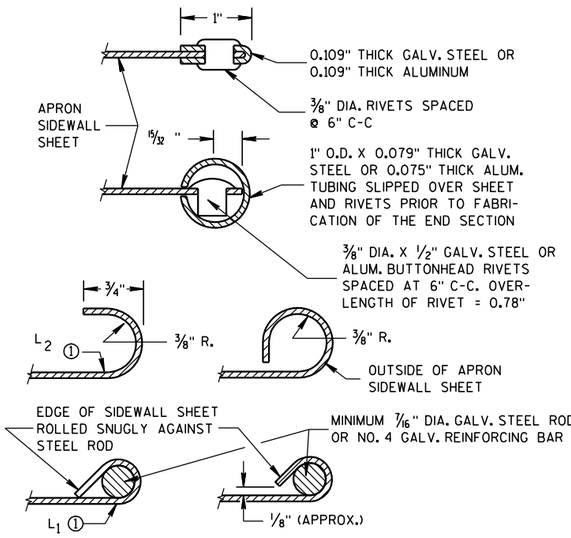
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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



SECTION A-A

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.

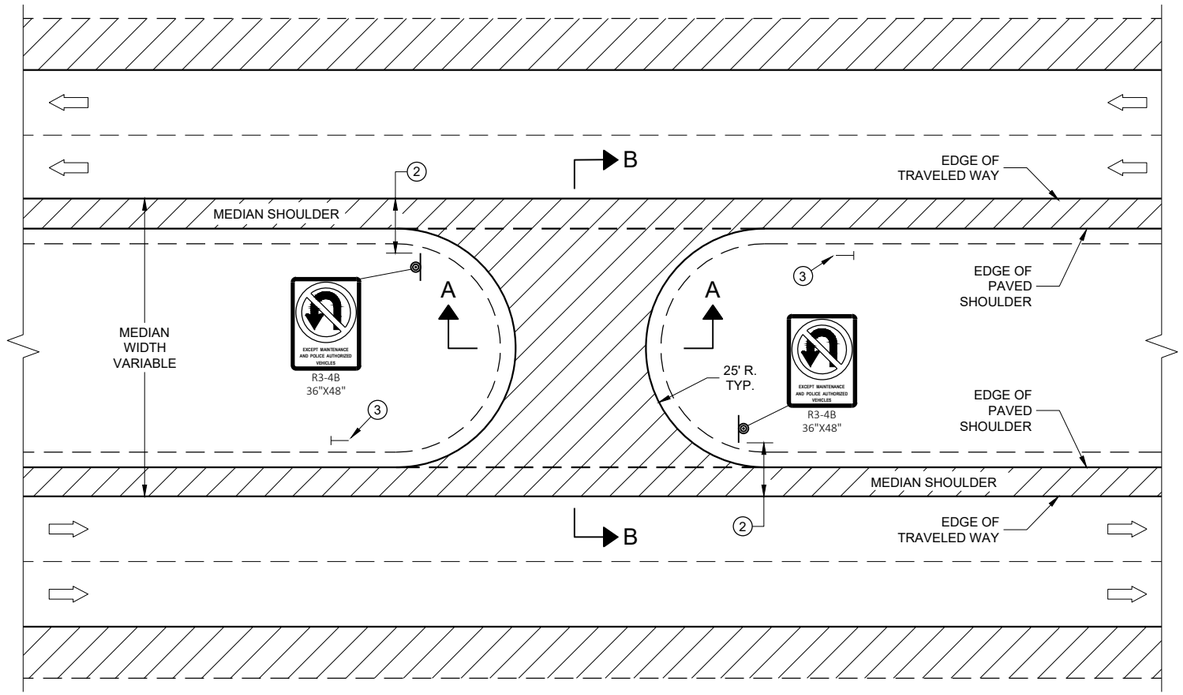
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

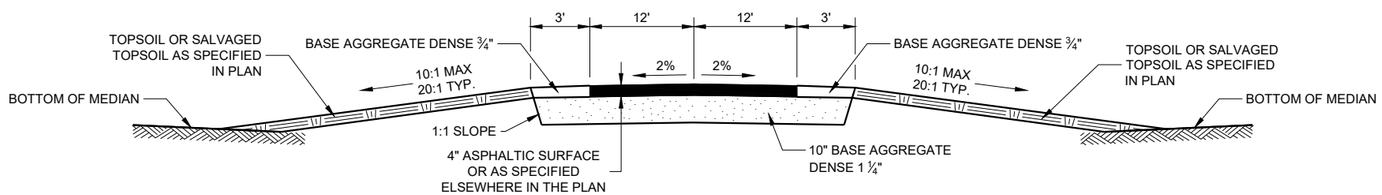
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

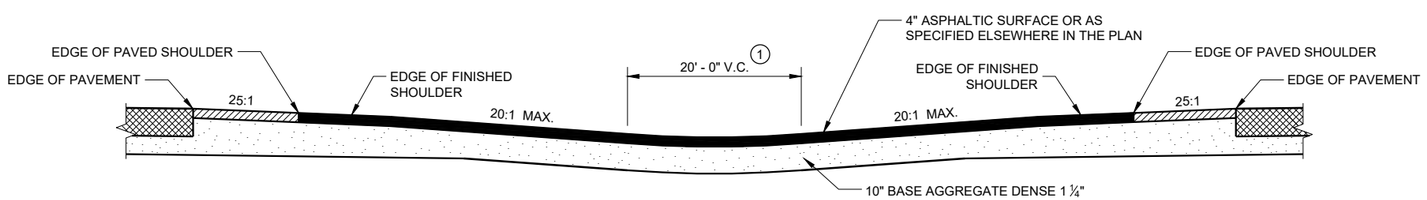
6
S.D.D. 8 F 1-11



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES

1. ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.
2. SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.
3. INSTALL DELINEATOR. SEE STANDARD DETAIL DRAWING 15A4.

LEGEND

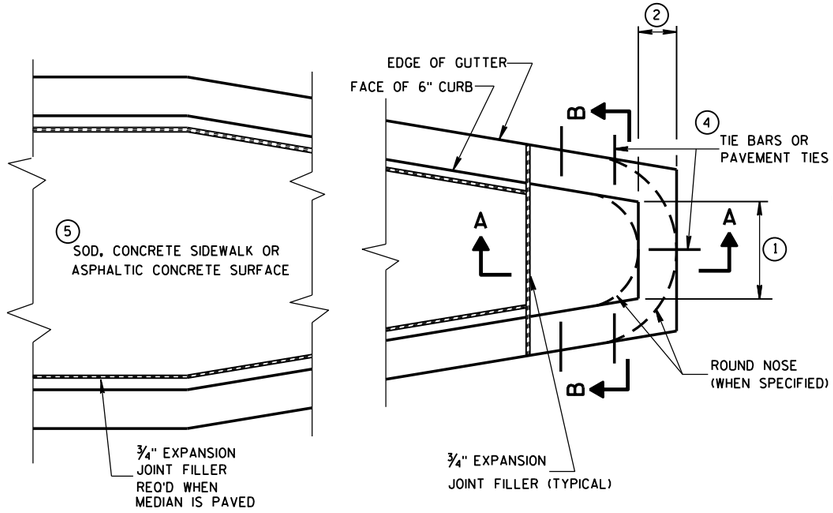
- SIGN ON PERMANENT SUPPORT
- DELINEATOR
- DIRECTION OF TRAFFIC

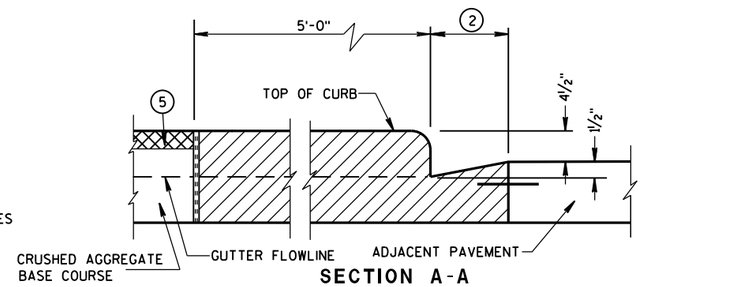
MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

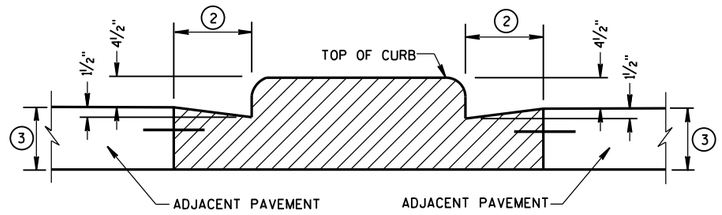
APPROVED
November 2019 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6
SDD 11A01 - 06





SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

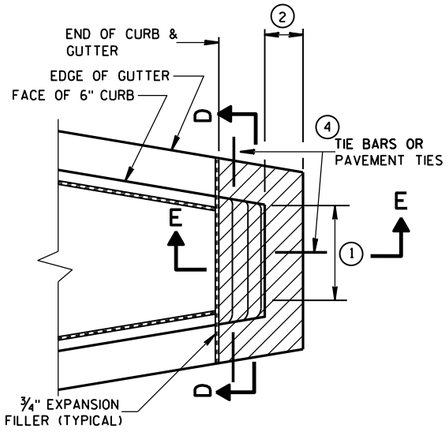
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

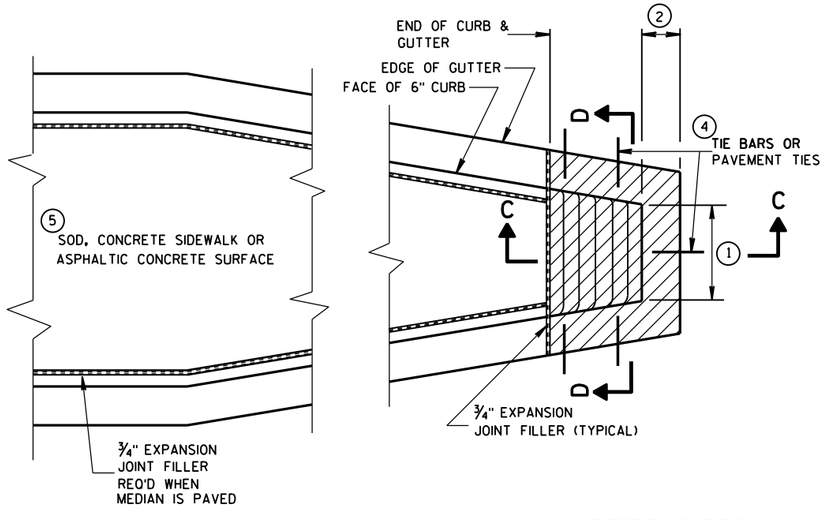
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

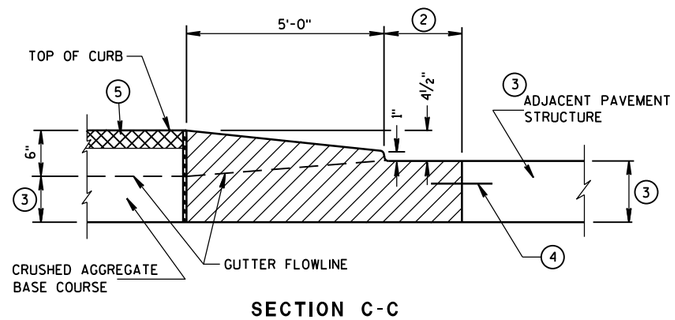
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

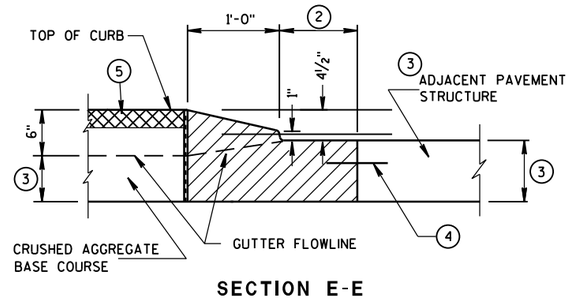




CONCRETE MEDIAN SLOPED NOSE TYPE 1

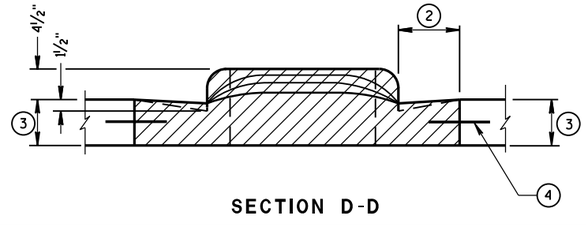


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

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S.D.D. 11 B 2-2

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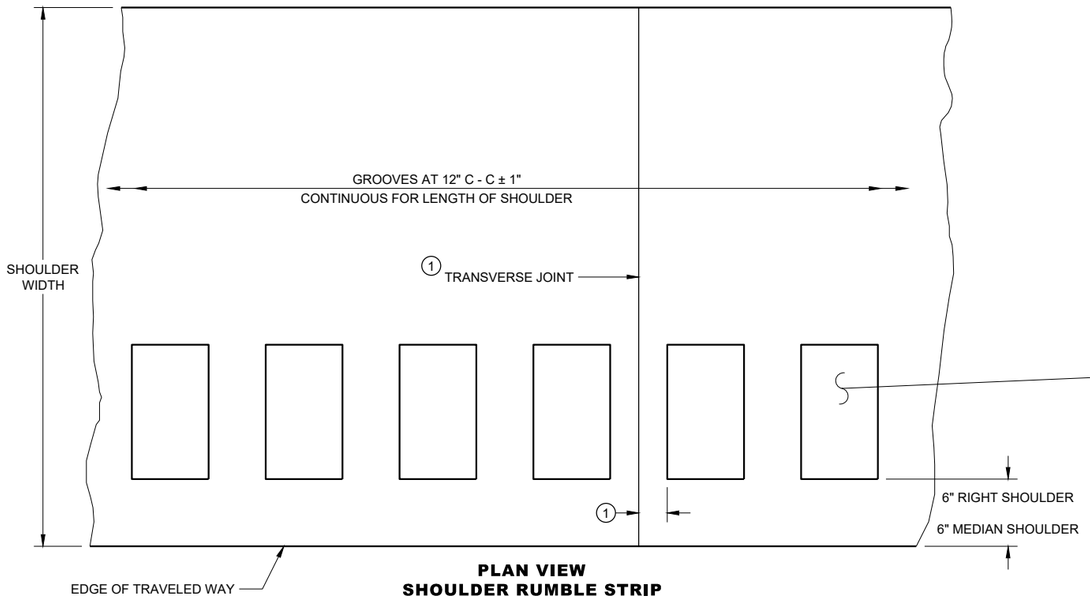
S.D.D. 11 B 2-2

GENERAL NOTES

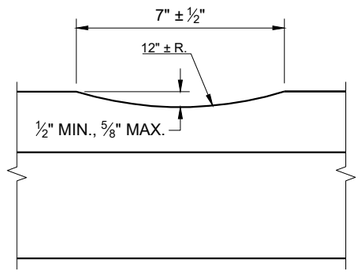
SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

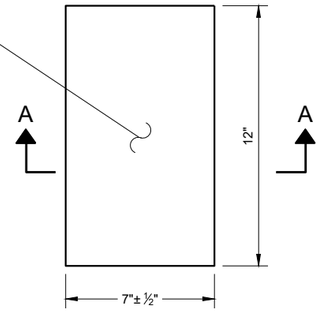
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.



PLAN VIEW
SHOULDER RUMBLE STRIP

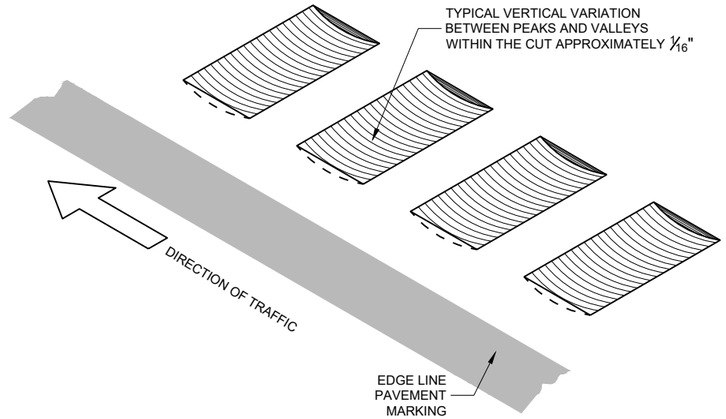


SECTION A - A

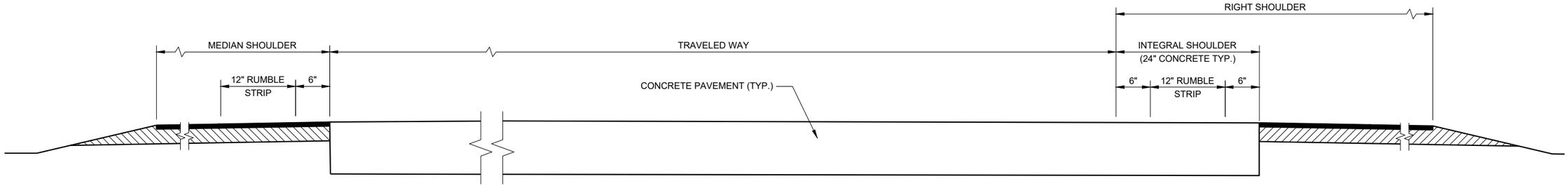


PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR RUMBLE STRIP



ISOMETRIC



SECTION VIEW

TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)

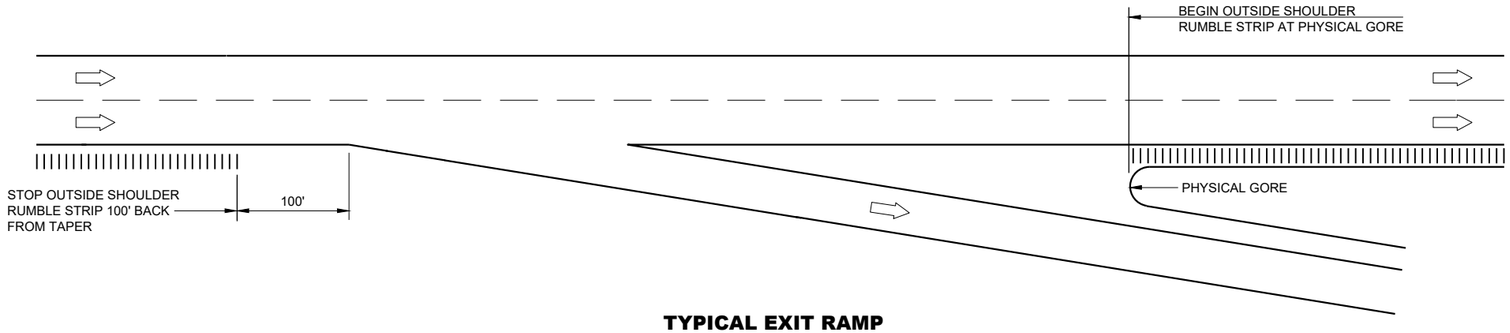
SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 13A05-06a

SDD 13A05-06a



TYPICAL EXIT RAMP

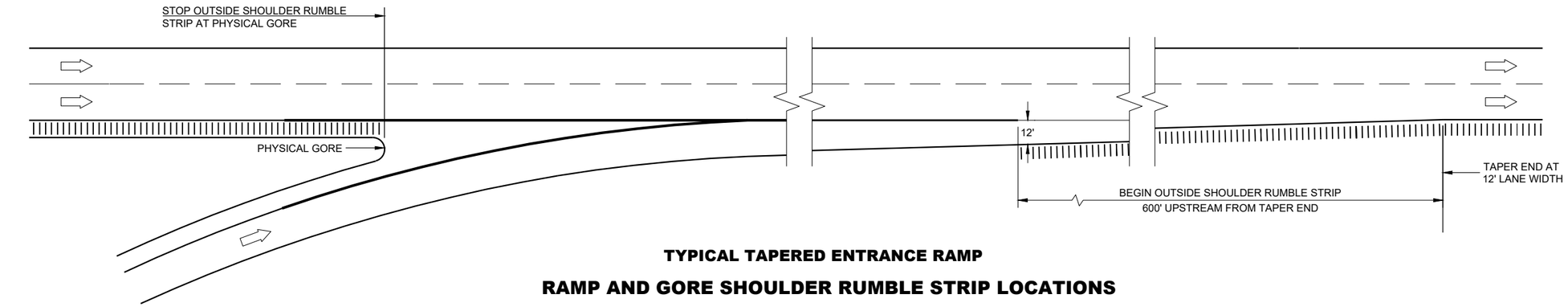
GENERAL NOTES

NO RUMBLE STRIP ON EXIT, DIRECTIONAL OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIALAND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

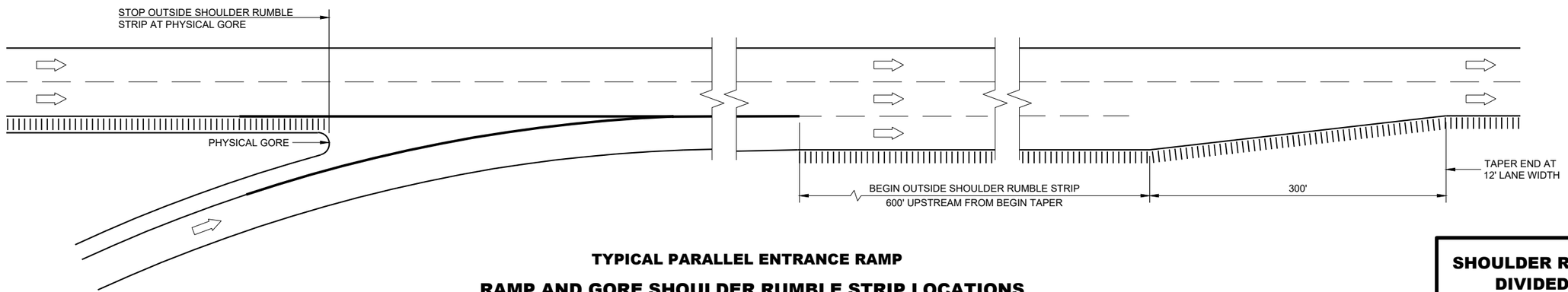
LEGEND

DIRECTION OF TRAFFIC



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

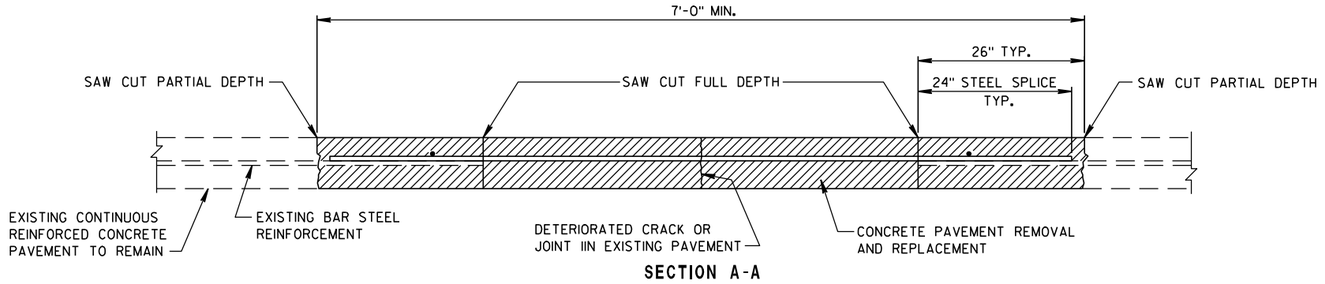
APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY DESIGN STANDARDS UNIT SUPERVISOR
FHWA

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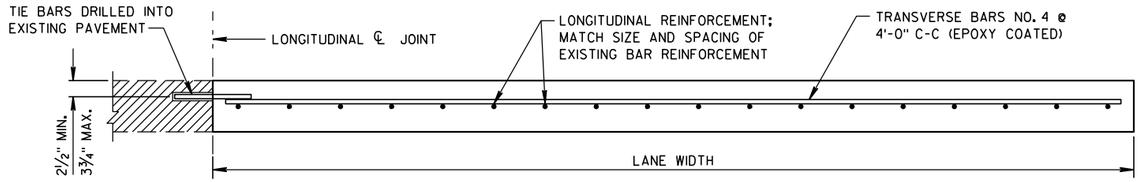
SDD 13A05-06b

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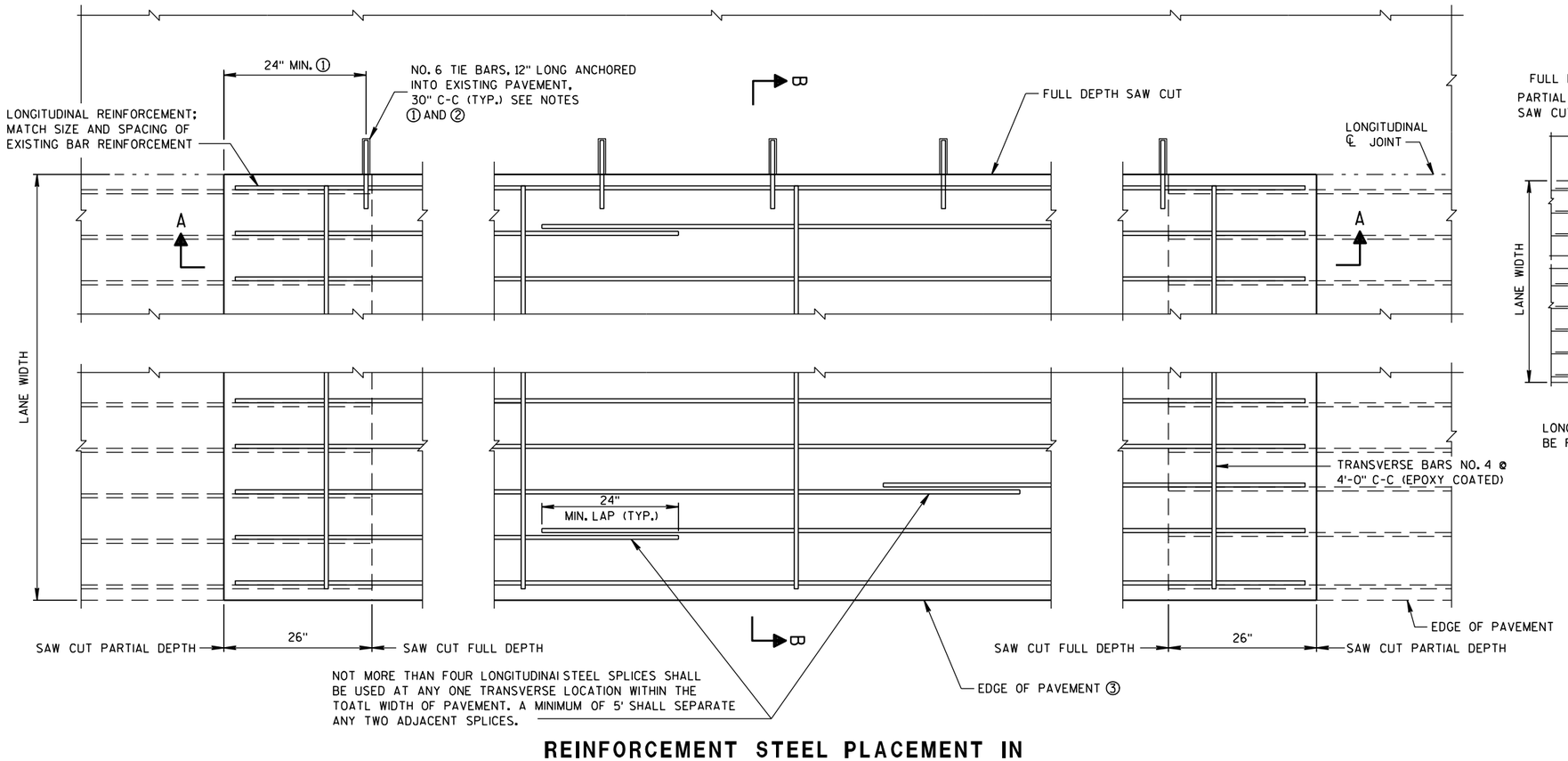
SDD 13A05-06b



SECTION A-A



SECTION B-B



REINFORCEMENT STEEL PLACEMENT IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPLACEMENT

GENERAL NOTES

PLACE ALL BAR STEEL REINFORCEMENT AT MID PAVEMENT DEPTH UNLESS OTHERWISE NOTED.

PAY FOR THE TRANSVERSE AND LONGITUDINAL JOINT SAW CUT AS LINEAR FEET OF "SAWING CONCRETE".

WHEN THE PASSING AND TRAVELING LANES ARE TO BE REPLACED, REPLACE THE PASSING LANE FIRST.

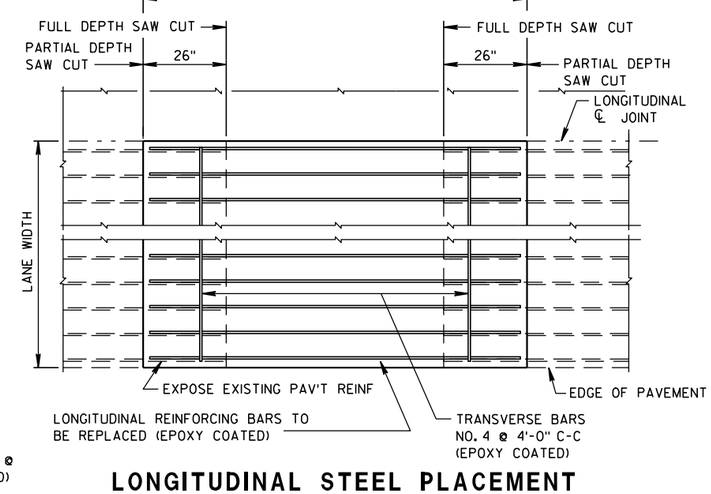
ADD TRANSVERSE STEEL BARS TO REPAIRS GREATER THAN 6'IN LENGTH, USE NO. 4 BARS PLACED TRANSVERSELY AND SPACED 4'C-C. PAYMENT SHALL BE INCIDENTAL TO "CONCRETE PAVEMENT CONTINUOUS REINFORCEMENT".

TIE ALL CONCRETE PAVEMENT REPAIRS WHICH ARE GREATER THAN 15'IN LENGTH, AND ARE ADJACENT TO EXISING CONCRETE PAVEMENT, TO THE EXISTING PAVEMENT USING TIE BARS. DETAILS FOR TIE BAR CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS AND STANDARD DETAIL DRAWINGS.

① PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

② ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

③ SAW CUT THE LONGITUDINAL EDGE JOINT IF THE ADJACENT SHOULDER IS CONCRETE.



LONGITUDINAL STEEL PLACEMENT IN CRCP REPAIRS

PLAN VIEW

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT REPAIR AND REPLACEMENT

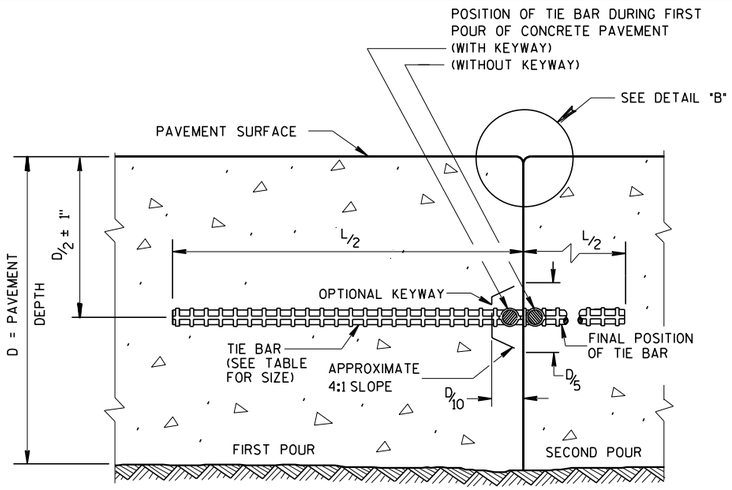
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

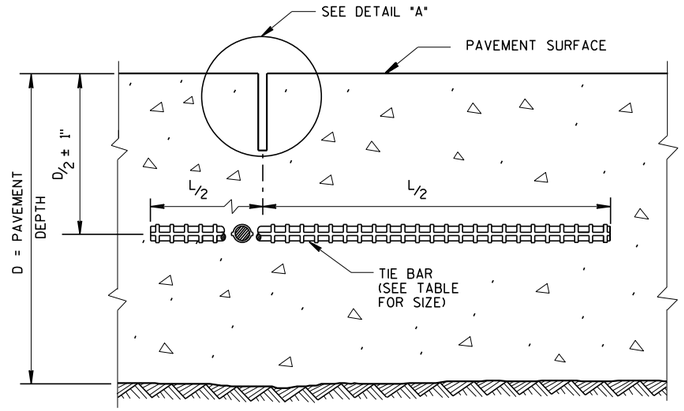
11/1/2011 — DATE

/S/ Deb Bischoff — PAVEMENT POLICY & DE — NEER

FHWA



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

TIE BAR TABLE

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

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

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

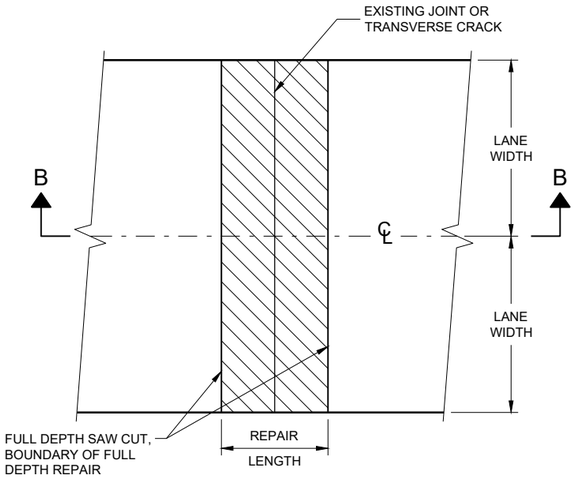
PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

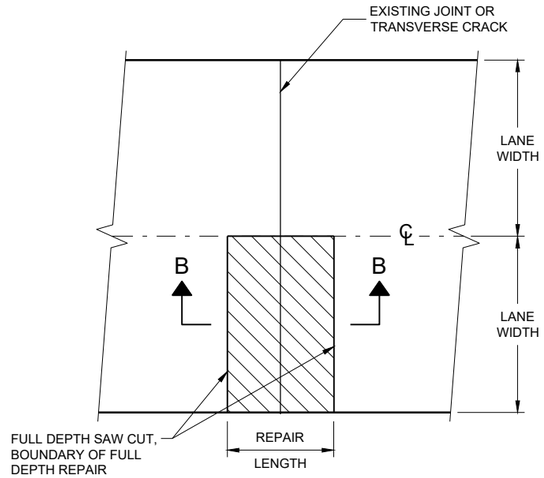
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE
/S/ Peter Kerr, P.E.
PAVEMENT SUPE
FHWA

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S.D.D. 13 C 1-19



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

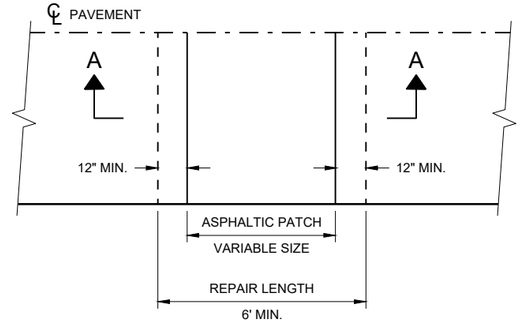
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

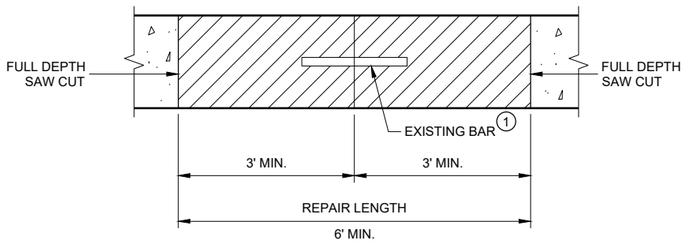
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.



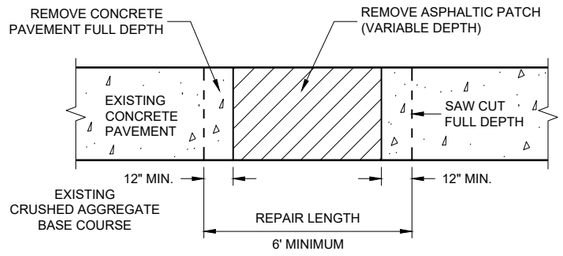
PLAN VIEW

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION B - B

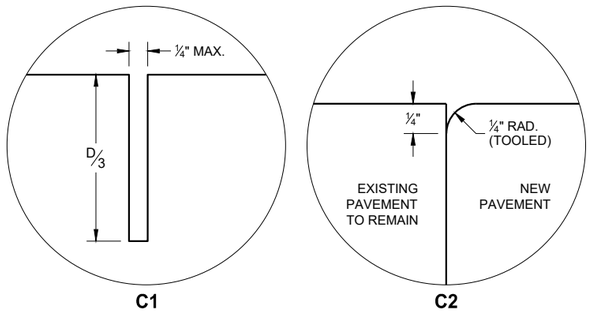
CONCRETE REMOVAL



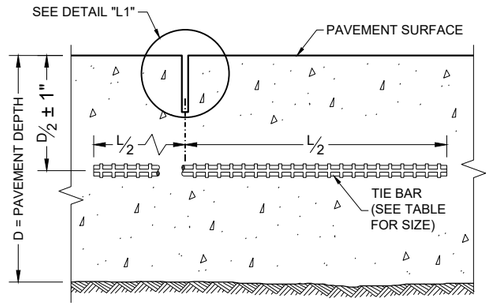
SECTION A - A

HMA PATCH REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

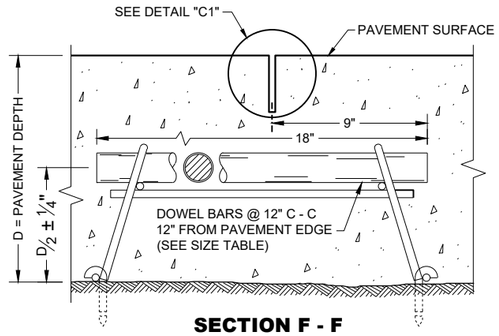


TRANSVERSE JOINTS



SECTION C - C

SAWED LONGITUDINAL JOINT



SECTION F - F

DOWELED CONTRACTION JOINT

GENERAL NOTES

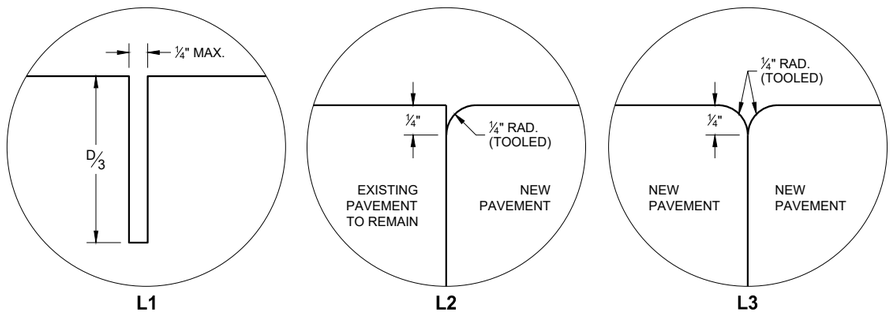
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

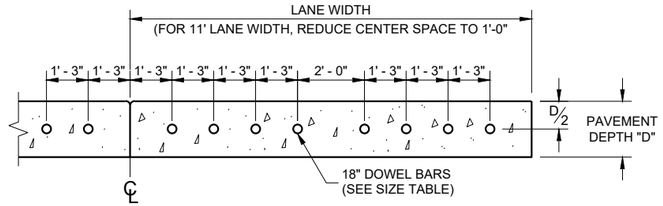
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

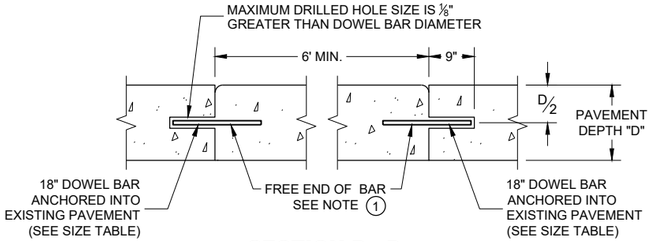


LONGITUDINAL JOINTS



SECTION E - E

DRILLED DOWEL BAR CONSTRUCTION JOINT



SECTION D - D

TIE BAR TABLE

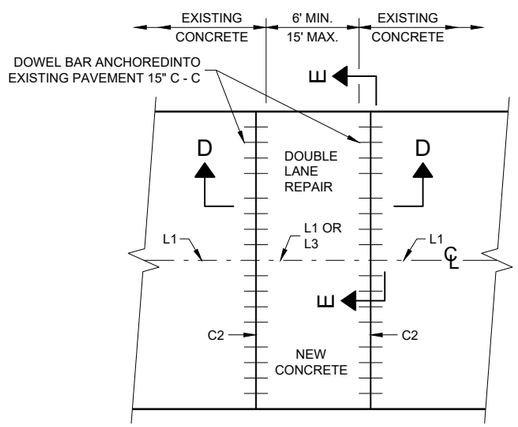
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

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

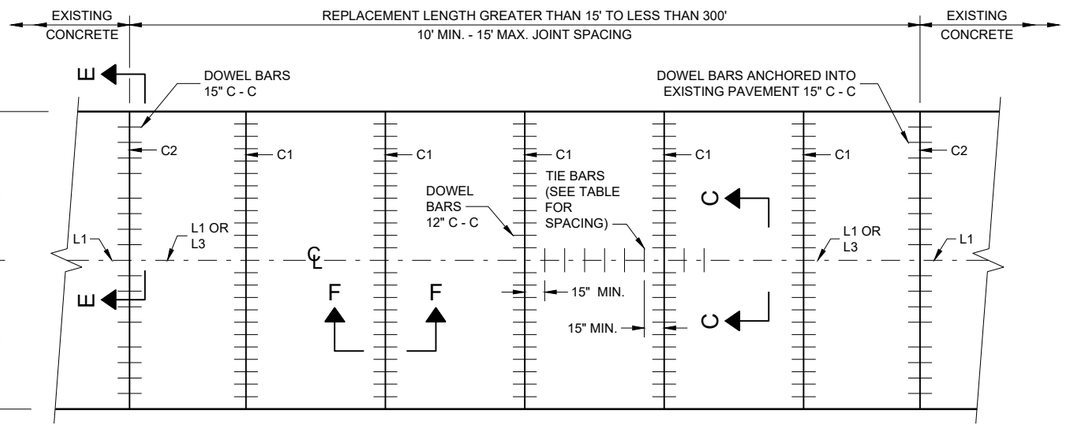
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	NONE	12'
7", 7 ½"	1"	1"	14'
8" & ABOVE	1 ¼"	1 ¼"	15'



PLAN VIEW

MULTILANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

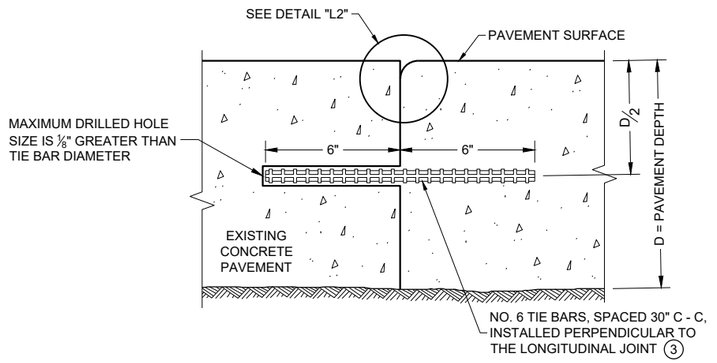
MULTILANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C09 - 17b

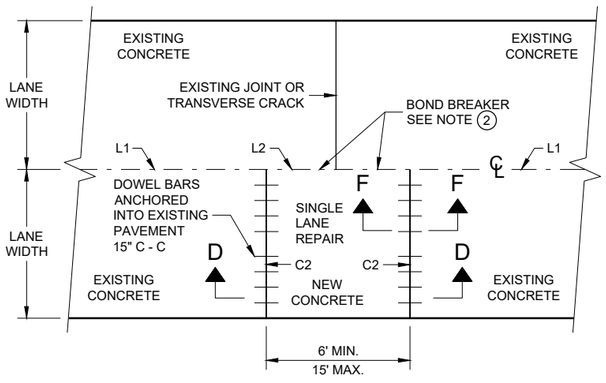


SECTION G - G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

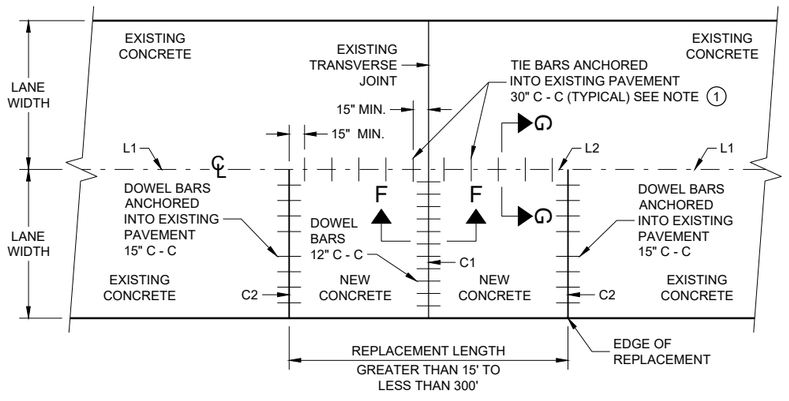
GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE REPAIR AND REPLACEMENT

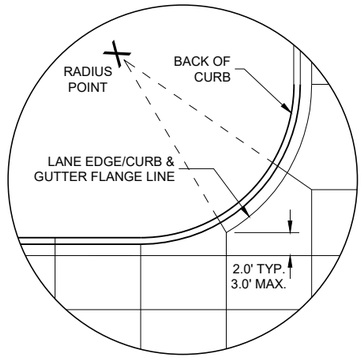
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

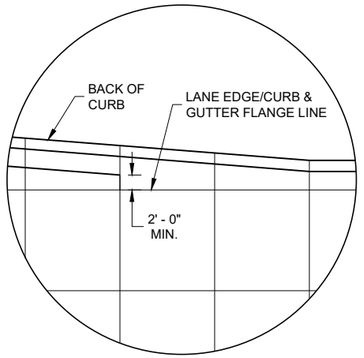
FHWA

6

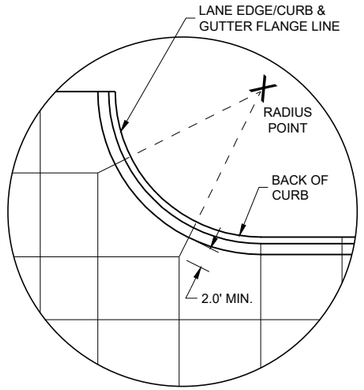
SDD 13C09 - 17c



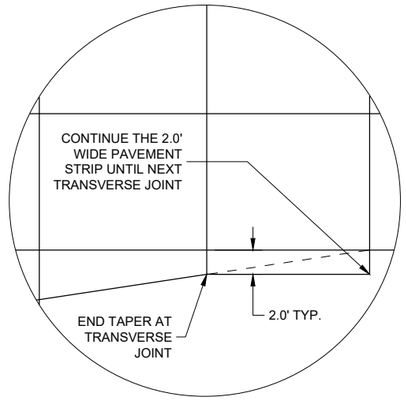
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

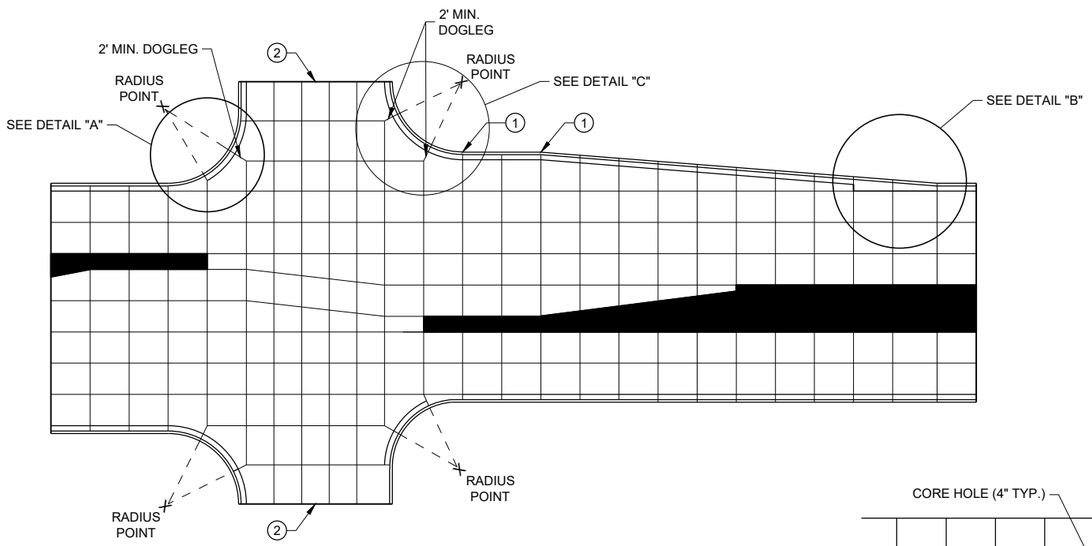
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.

(2) CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.

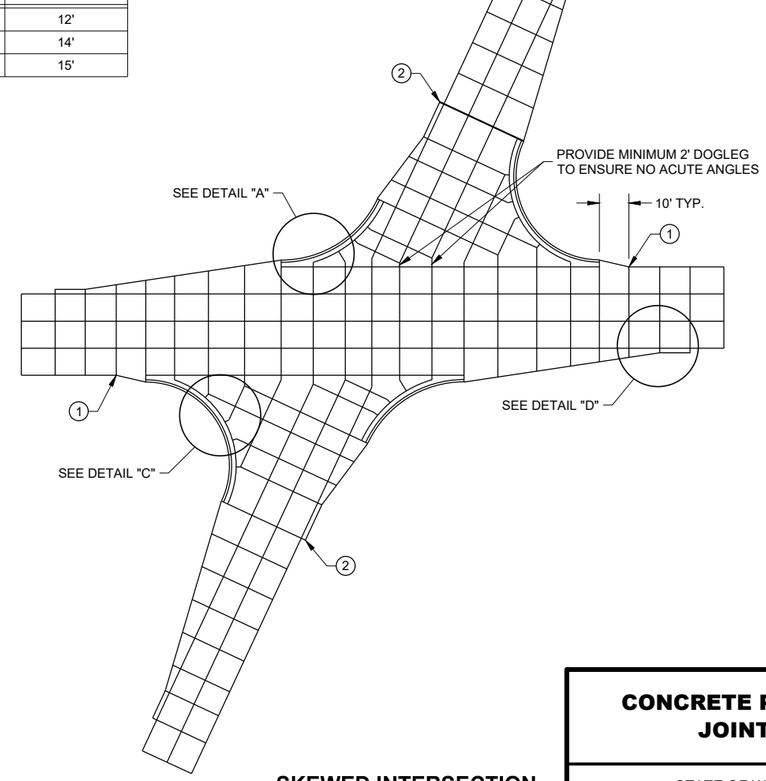
(3) THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



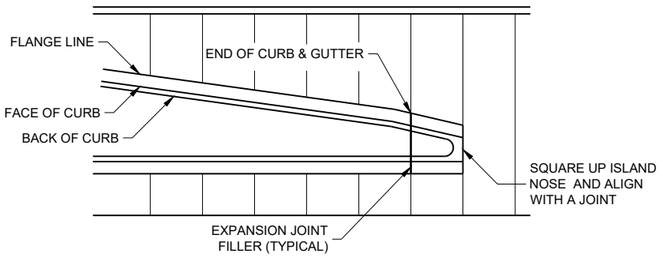
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

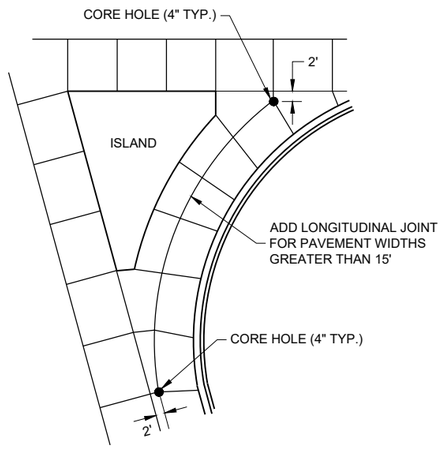
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 ½"	12'
7", 7 ½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 13C18 - 08a

6

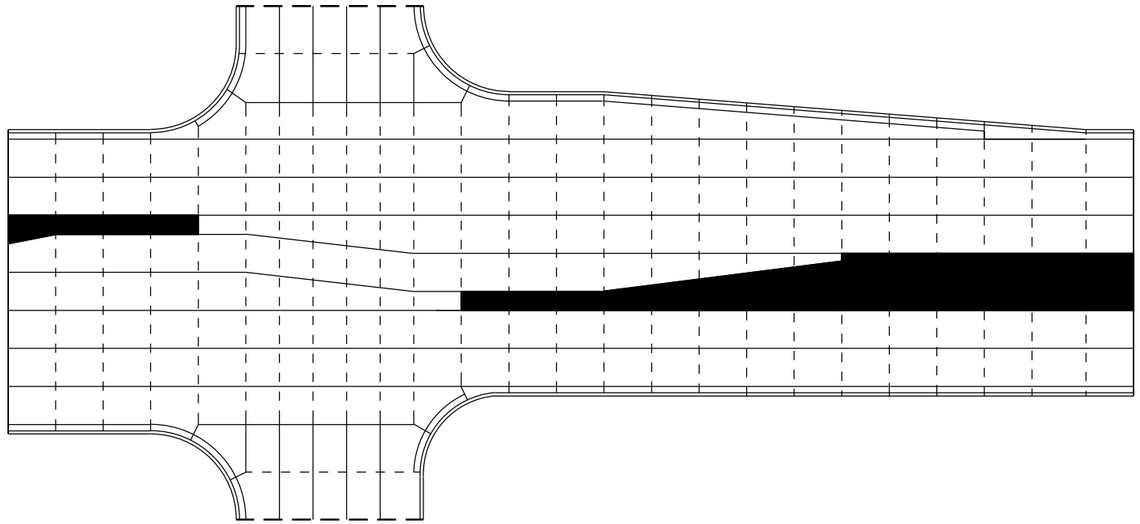
SDD 13C18 - 08a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

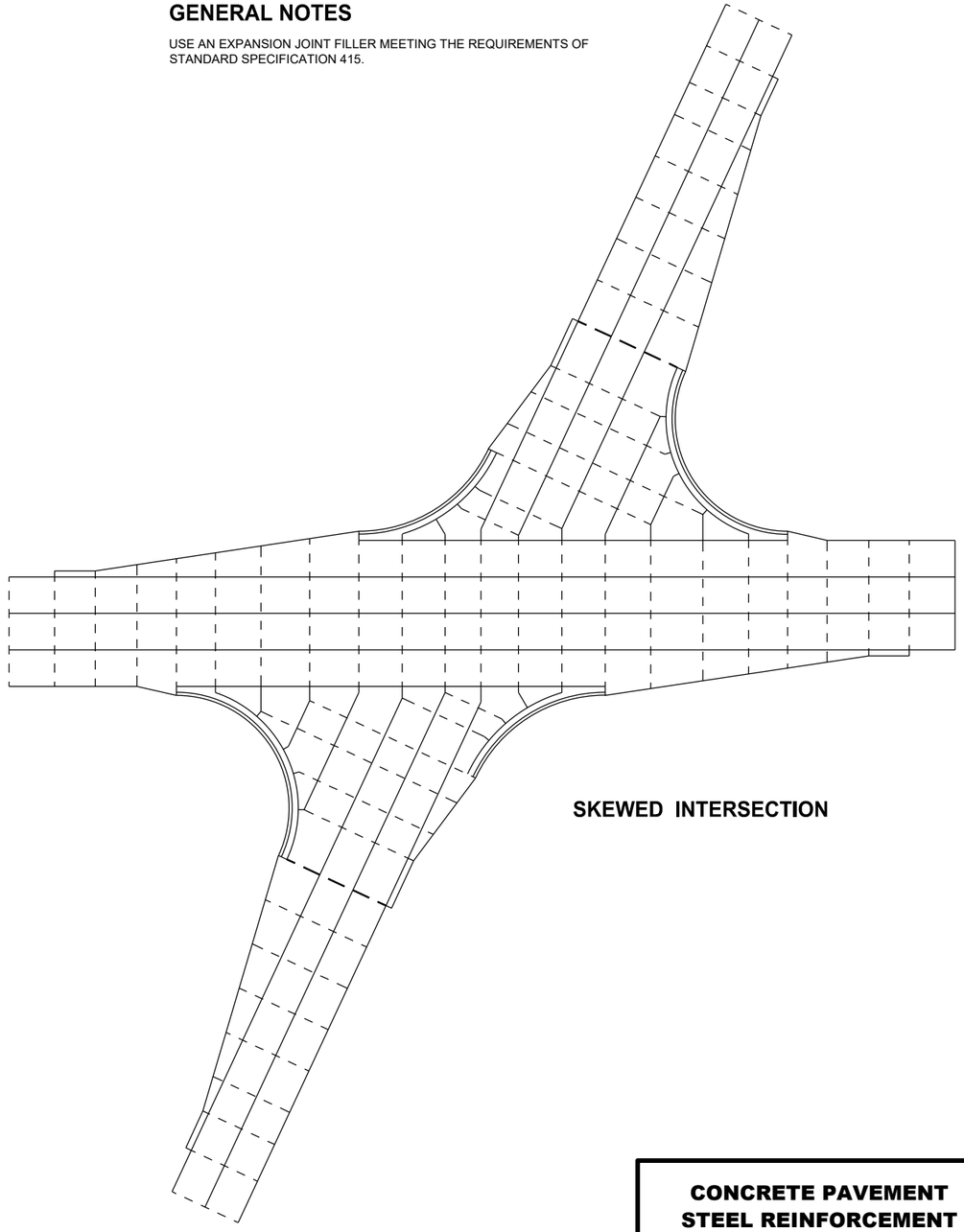
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

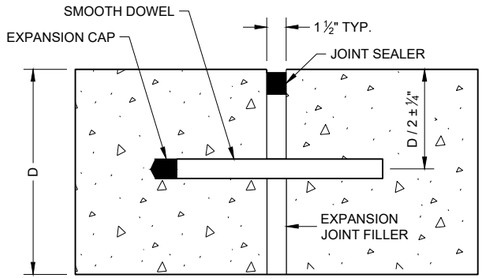
SDD 13C18 - 08b

CONCRETE PAVEMENT STEEL REINFORCEMENT

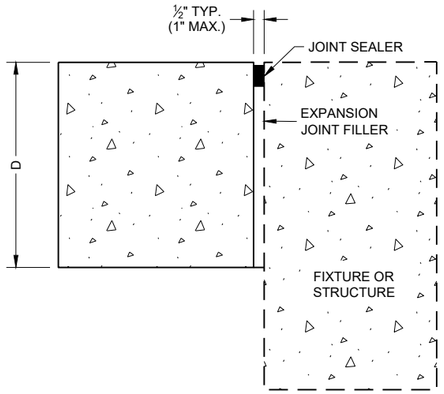
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 13C18 - 08b



DOWELED TRANSVERSE (1)



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

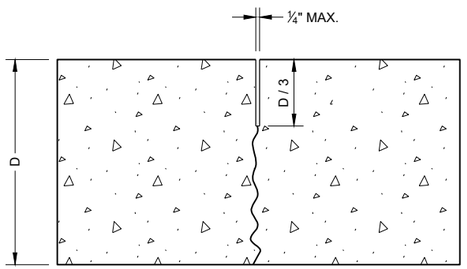
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

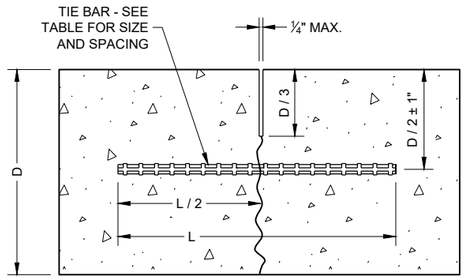
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

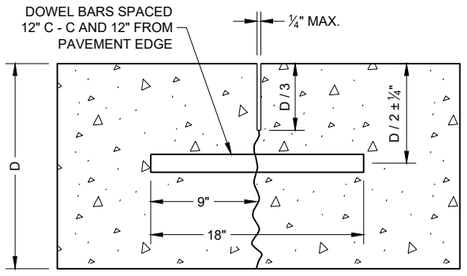
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATETHE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A ¼" RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



UNDOWELED TRANSVERSE

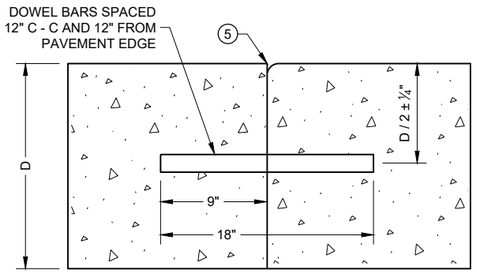


TIED LONGITUDINAL

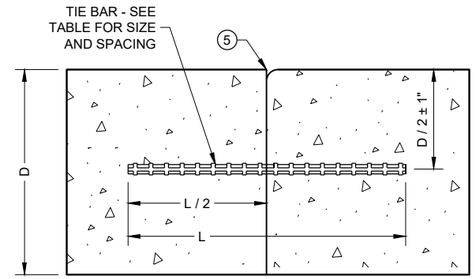


DOWELED TRANSVERSE

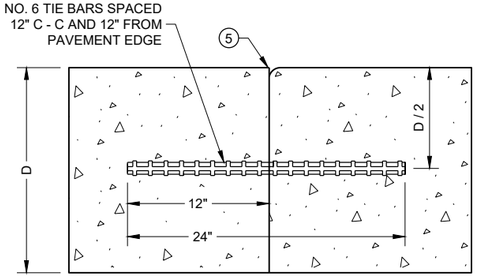
CONTRACTION JOINTS (2)



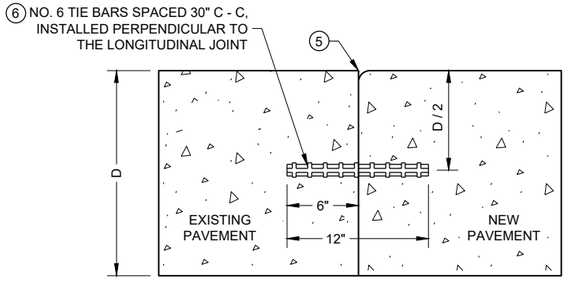
DOWELED TRANSVERSE (3)



TIED LONGITUDINAL



TIED TRANSVERSE (3)
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

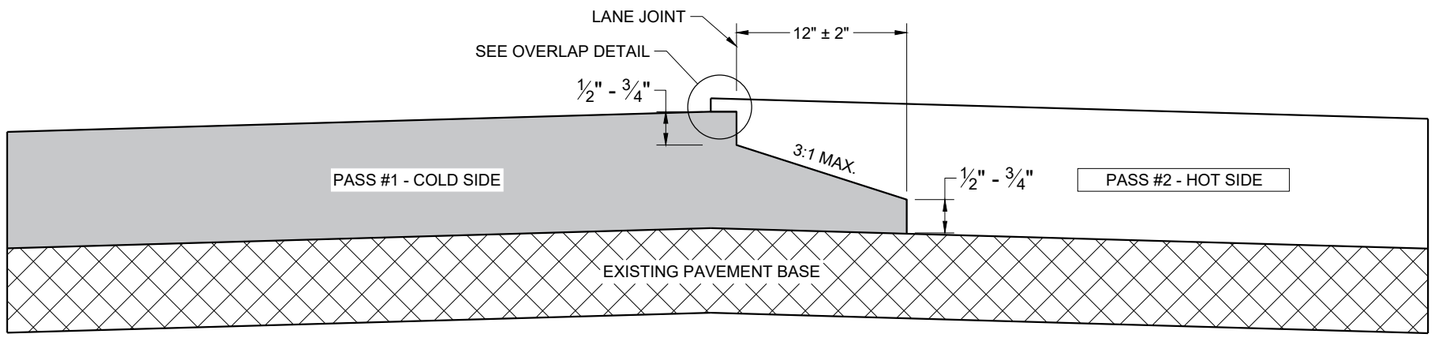
CONSTRUCTION JOINTS (4)

CONCRETE PAVEMENT JOINT TYPES

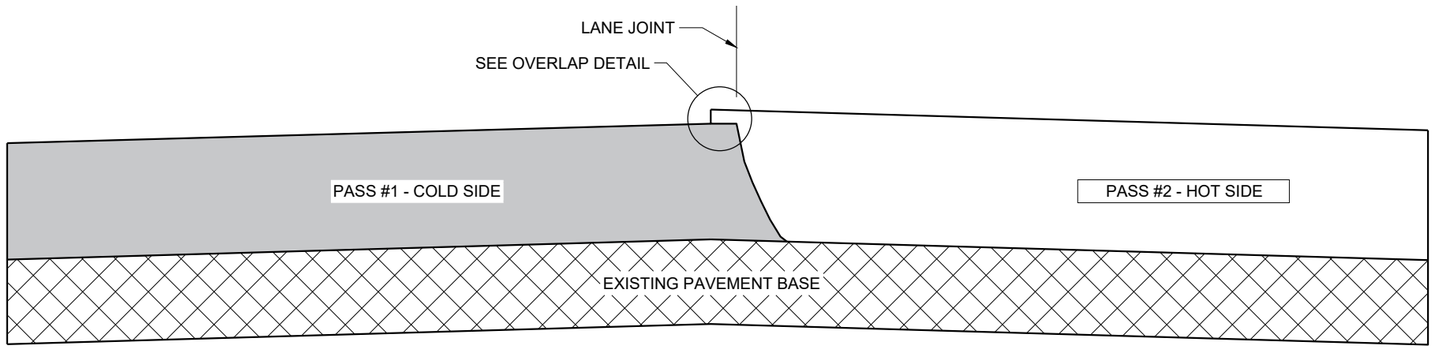
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

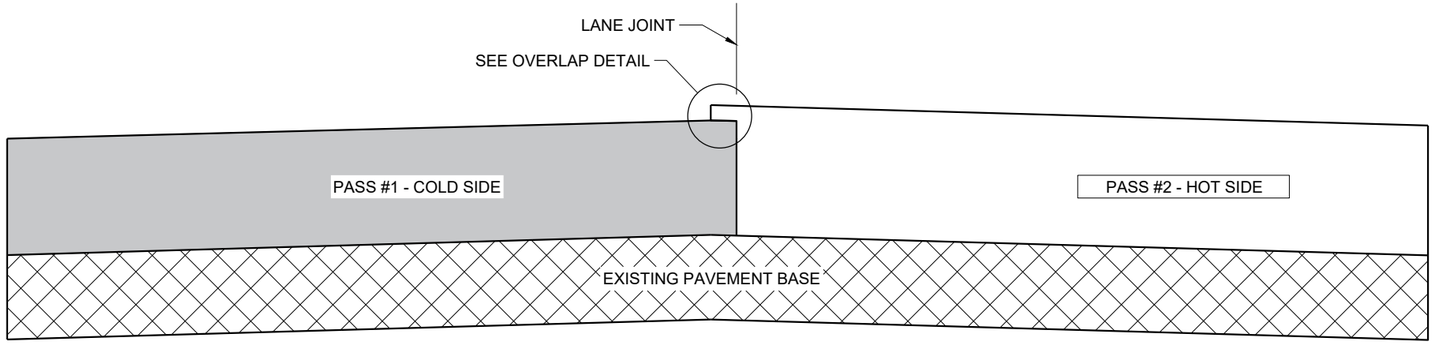
SDD 13C18 - 08c



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

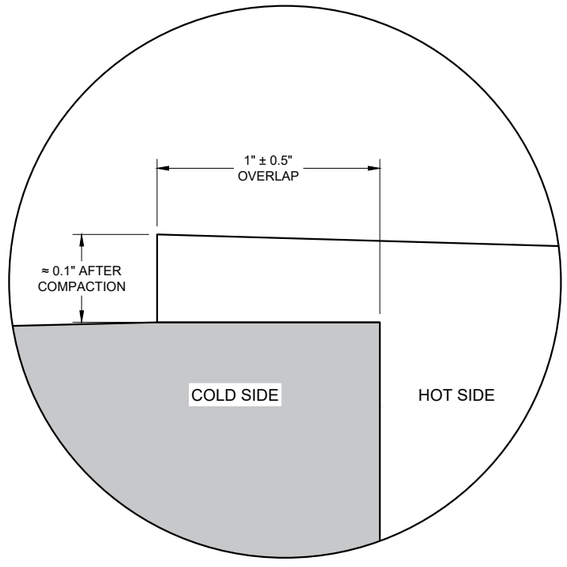
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"X8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.

2. USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGE SPELTER COATING ON GALVANIZED POSTS.

3. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

4. USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

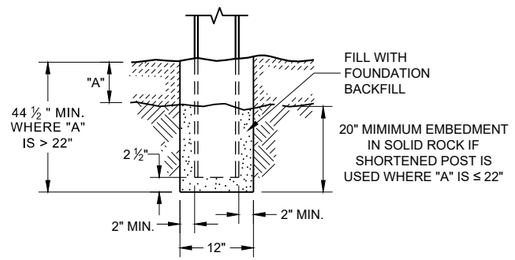
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.

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

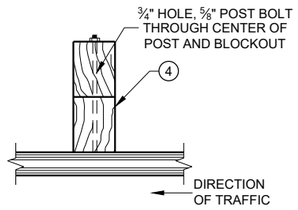
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



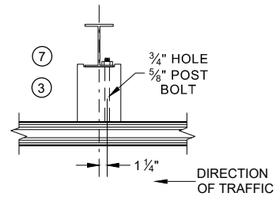
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (6)



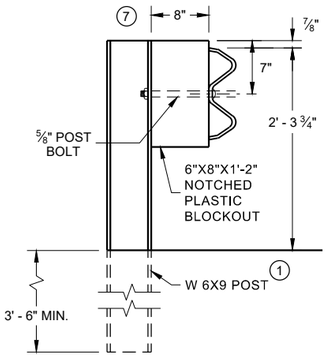
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



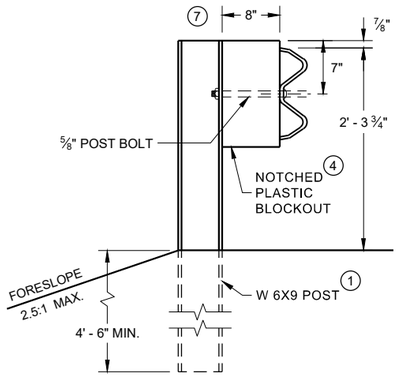
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



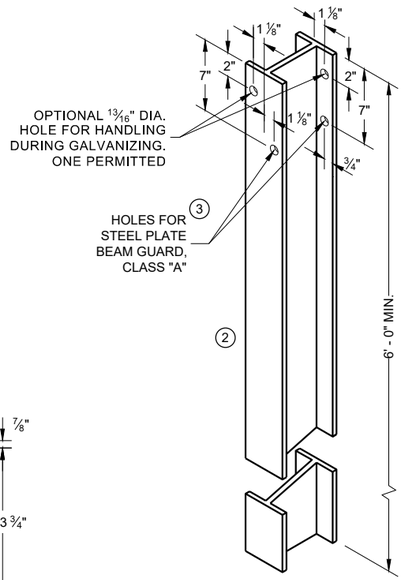
END VIEW

STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



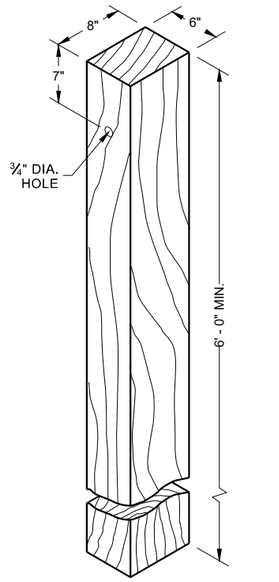
END VIEW

LONGER POST AT HALF POST SPACING W BEAM (LHW)

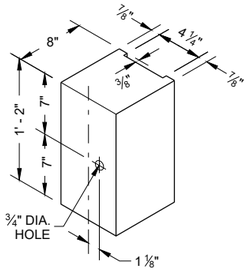


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

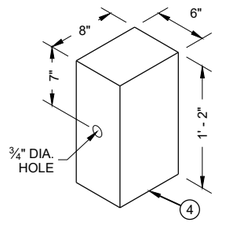
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



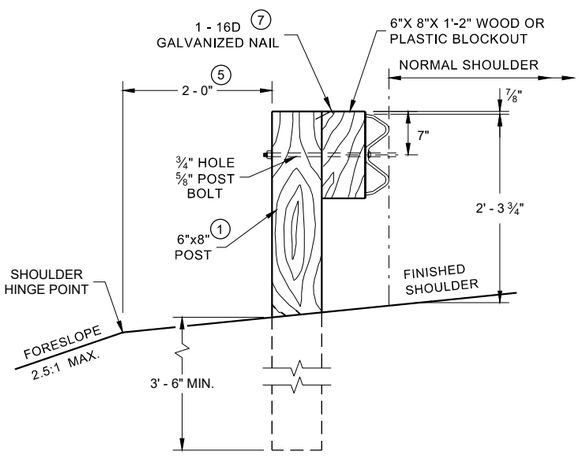
WOOD POST (6" X 8") NOMINAL (1)



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS

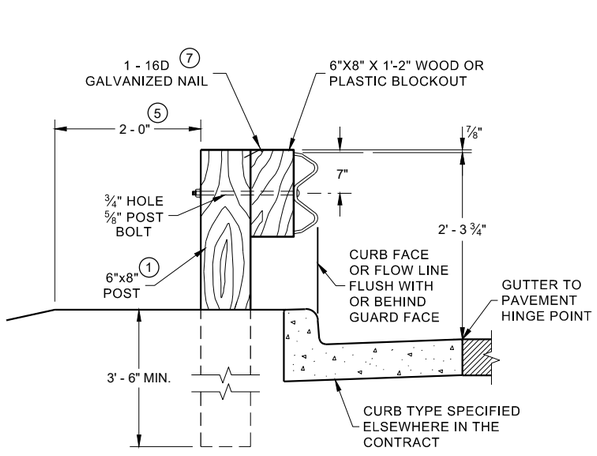


WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



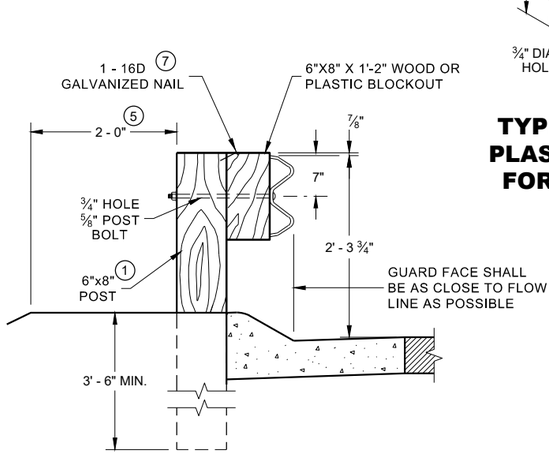
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW

LOCATED ALONG A CURBED ROADWAY



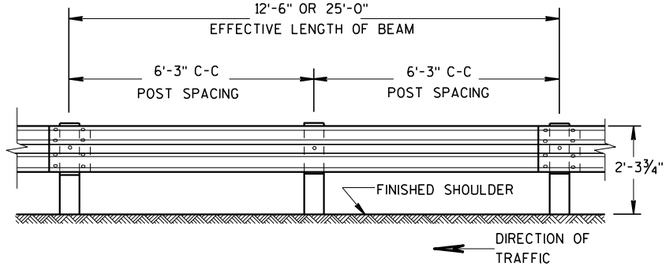
END VIEW

LOCATED ALONG A MOUNTABLE CURBED ROADWAY

STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION AND ELEMENTS

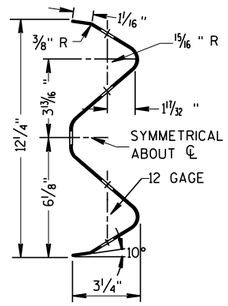
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B15 -11a

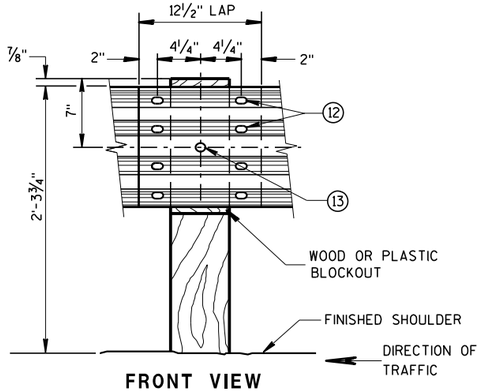


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

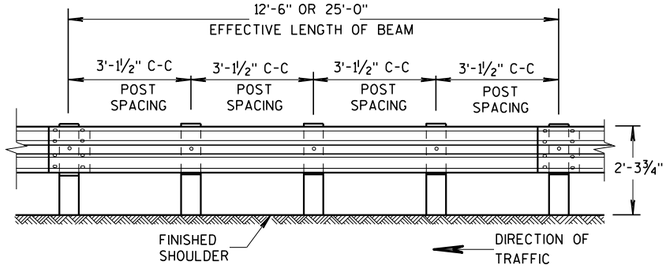
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

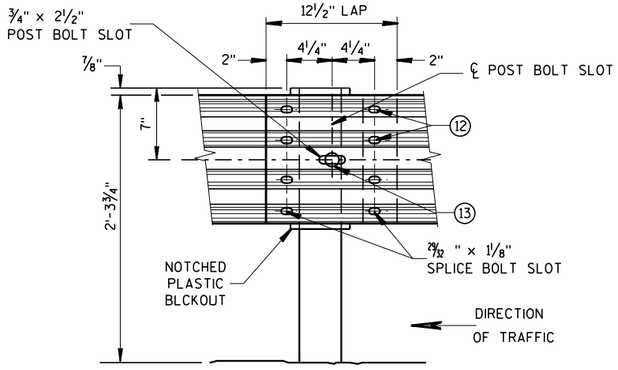
(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

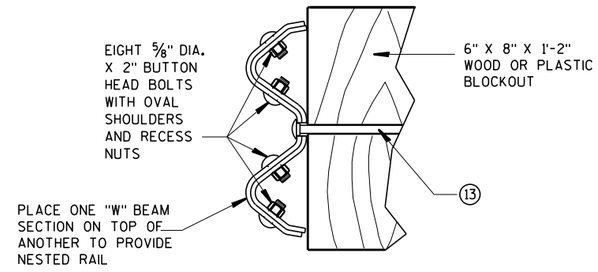
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

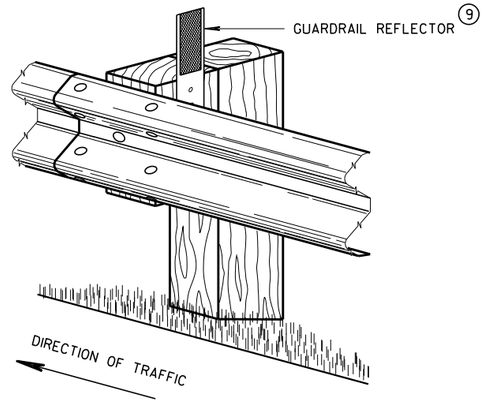
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



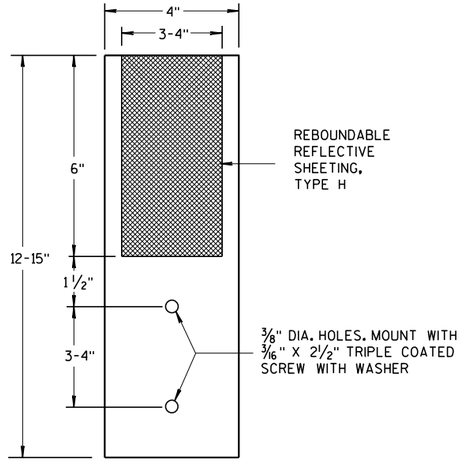
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

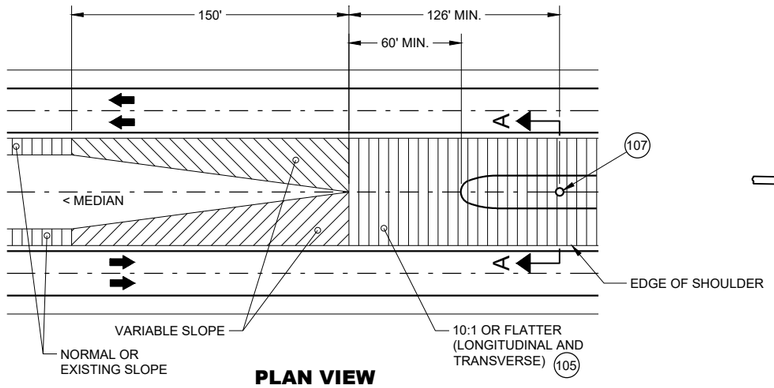
STATE OF WISCO 95
DEPARTMENT OF TRANSPORTATION

6

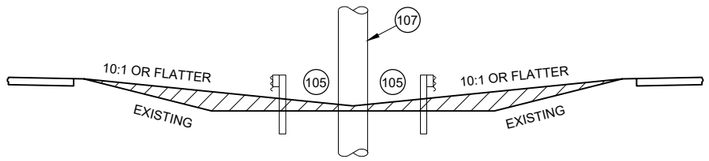
S.D.D. 14 B 15-11b

6

S.D.D. 14 B 15-11b



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

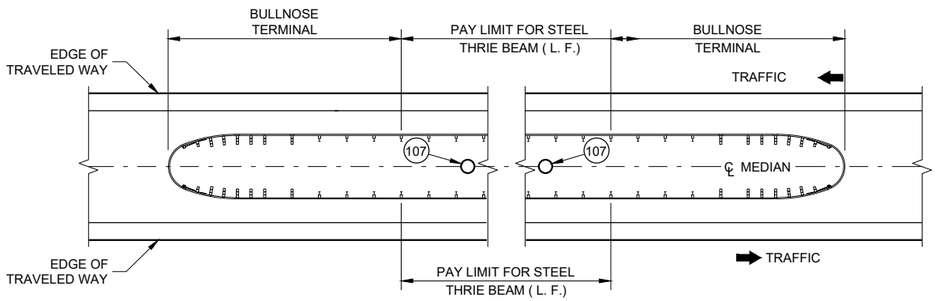
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

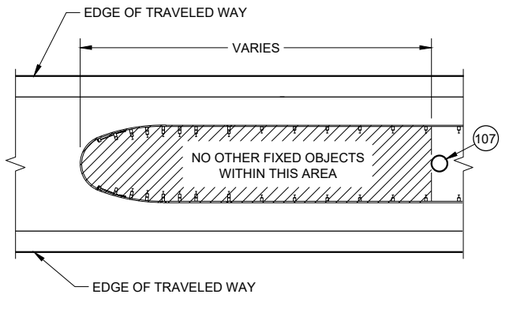
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

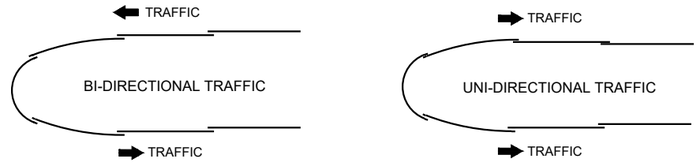
- E1 UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
- E2 SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
- E3 SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
- E4 SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
- (100) DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- (101) U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- (102) NOSE CABLE WITH SWAGGED END BUTTONS.
- (103) NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- (104) THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- (105) MINIMUM WORKING WIDTH 4' - 2".
- (106) MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
- (107) FIXED OBJECT OR OTHER HAZARD.
- (108) PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



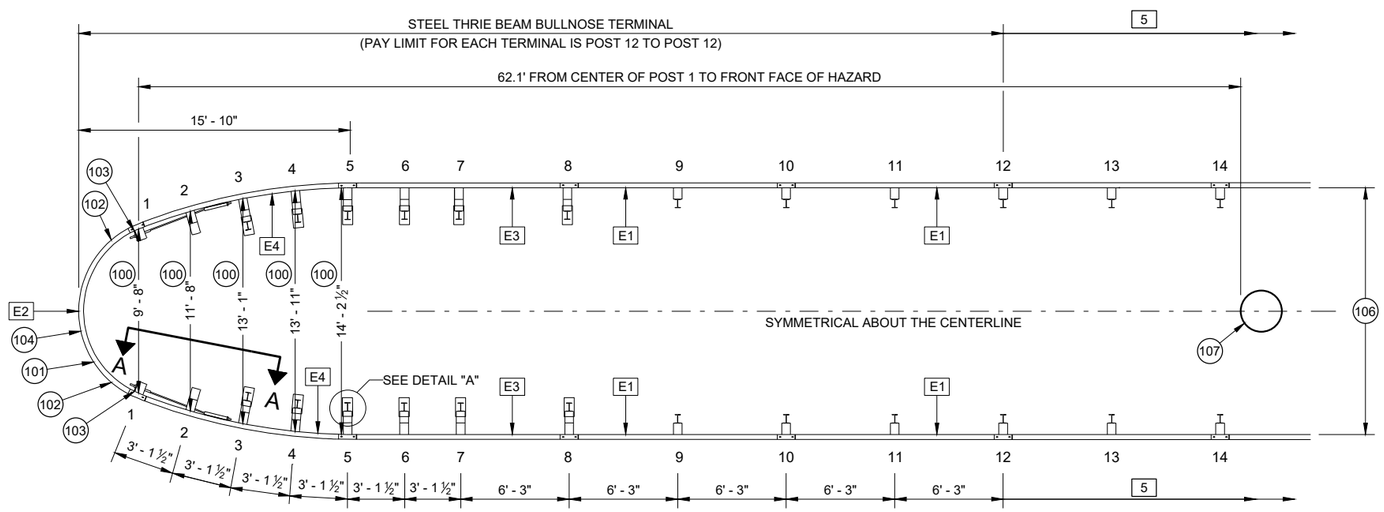
MEDIAN HAZARD PROTECTION PAY LIMITS



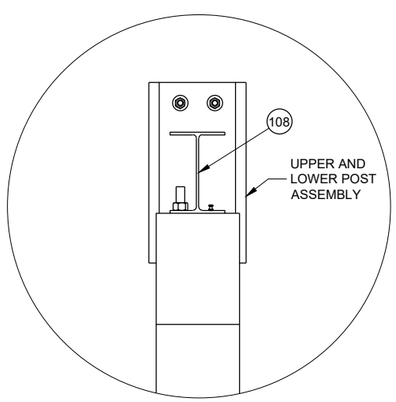
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



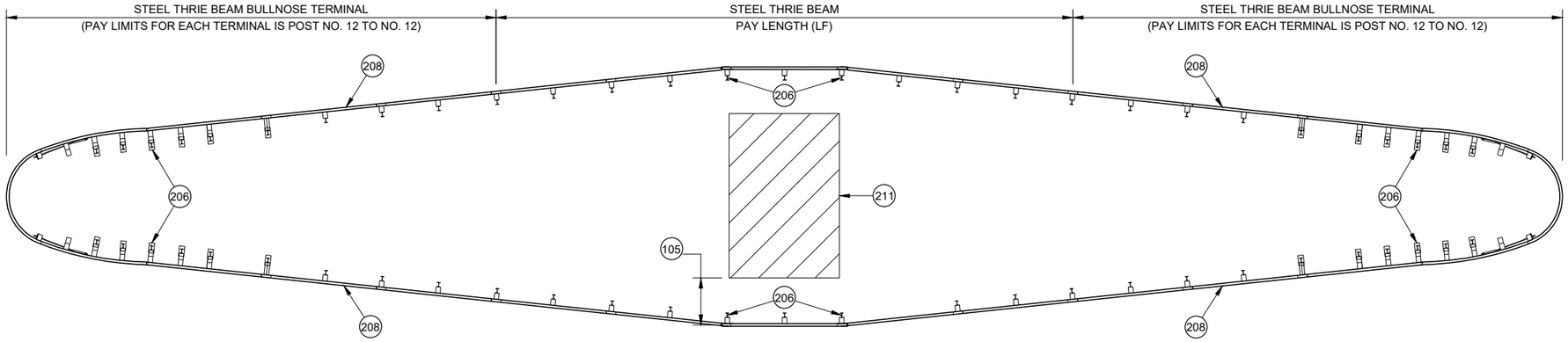
DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B26 - 05a

SDD 14B26 - 05a



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

200 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

201 W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

202 SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

203 SEE SDD 14B42 FOR INSTALLATION INFORMATION.

204 SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

205 CONCRETE BARRIER OR BRIDGE RAIL.

206 SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

207 SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

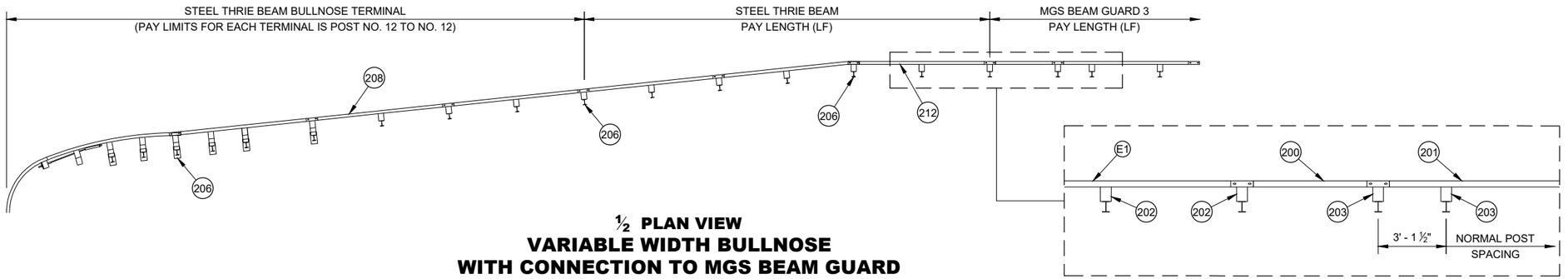
208 SEE PLAN FOR FLARE RATE.

209 A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

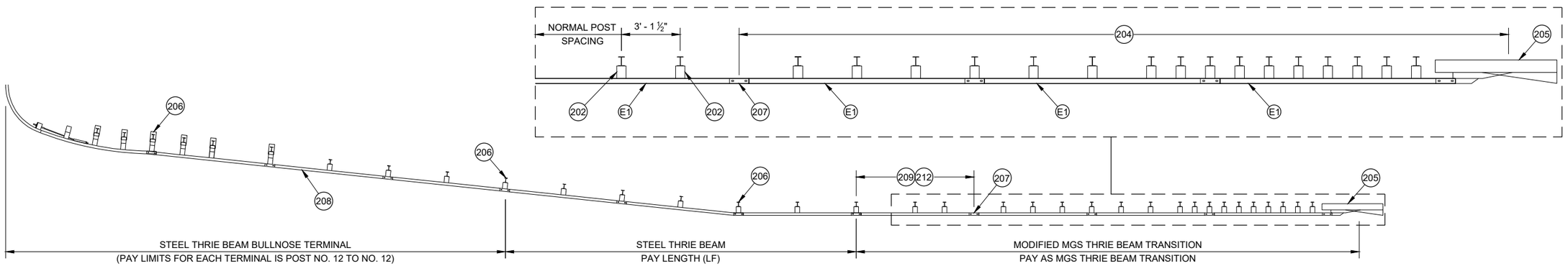
210 NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

211 WIDER HAZARD TO BE SHIELDED.

212 TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO MGS BEAM GUARD



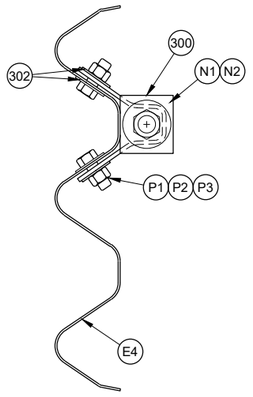
½ PLAN VIEW
VARIABLE WIDTH BULLNOSE
WITH CONNECTION TO RIGID BARRIER

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

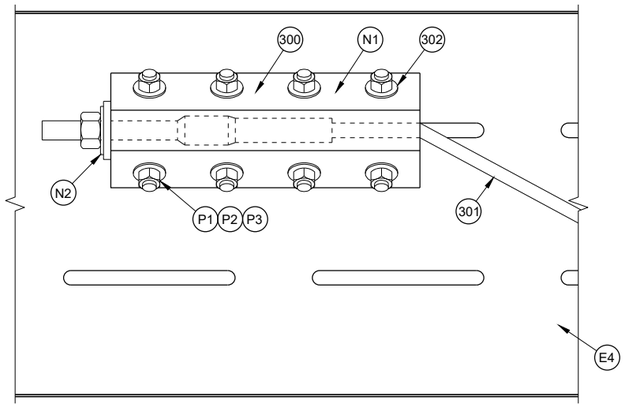
6

SDD 14B26 - 05b

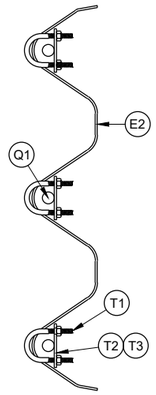


PROFILE VIEW

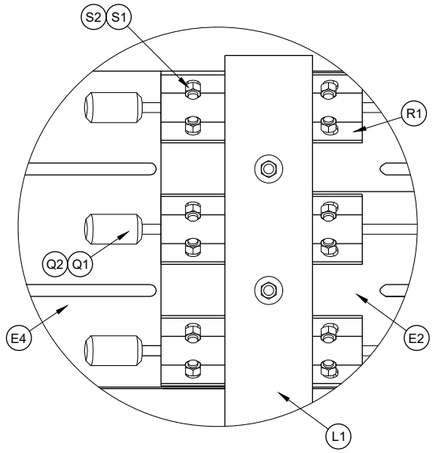
CABLE ANCHOR ASSEMBLY CONNECTION



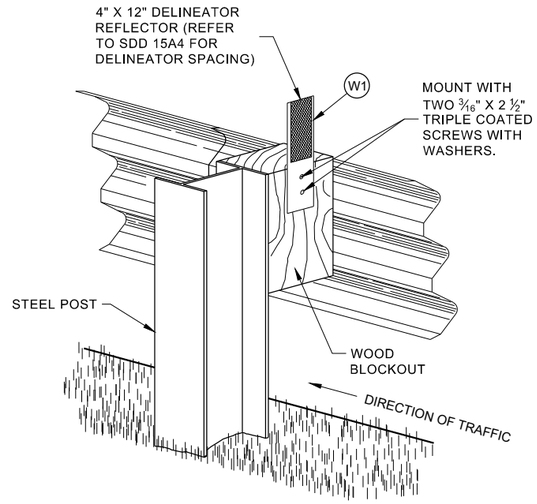
CABLE ANCHOR ASSEMBLY



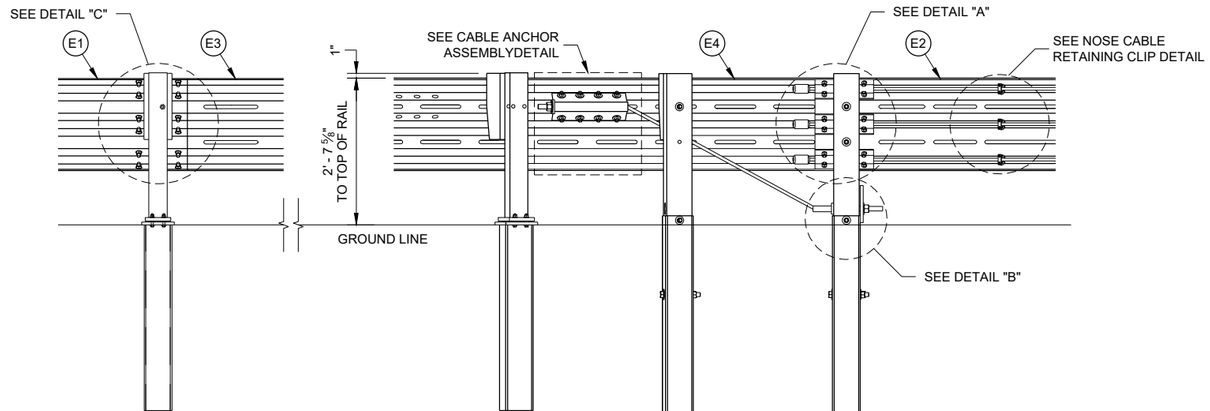
NOSE CABLE RETAINING CLIP



DETAIL "A"

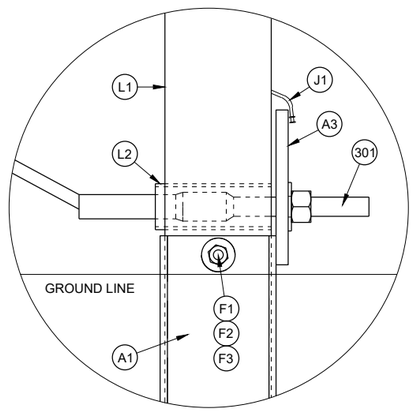


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

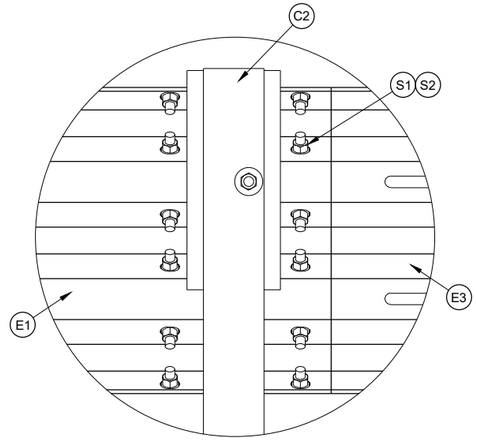


POST 8 **POST 3** **POST 2** **POST 1**

CROSS SECTION A - A



DETAIL "B"



DETAIL "C" THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

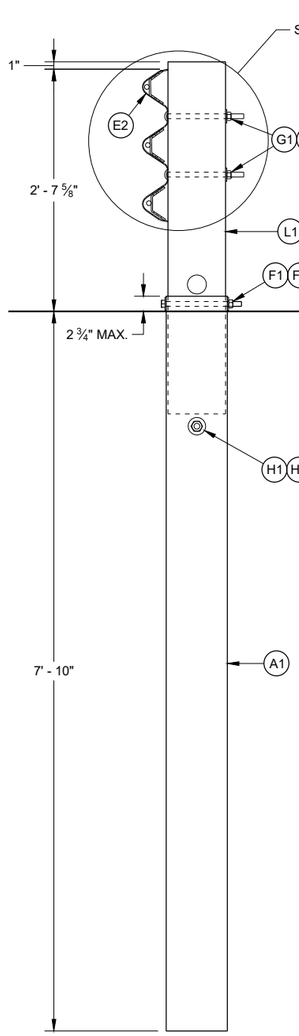
(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

STEEL THRIE BEAM BULLNOSE TERMINAL

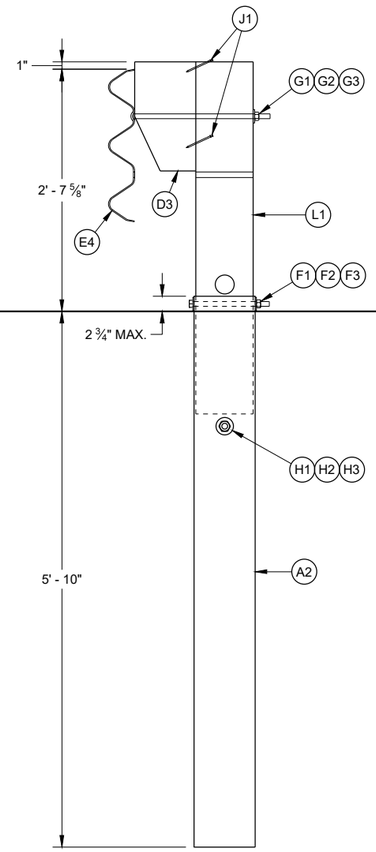
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

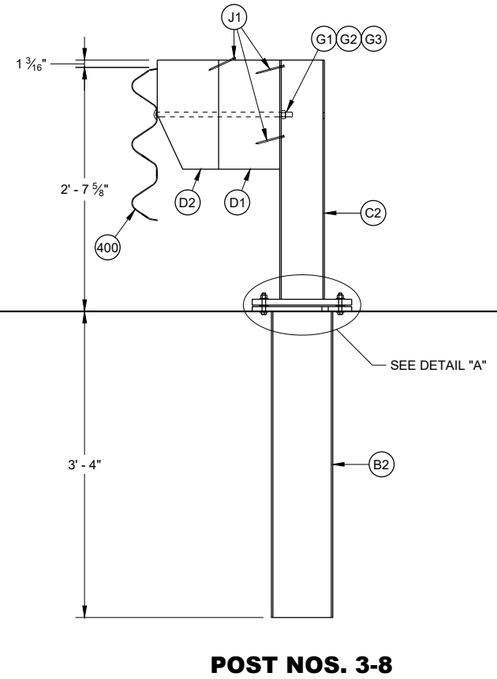
SDD 14B26 - 05c



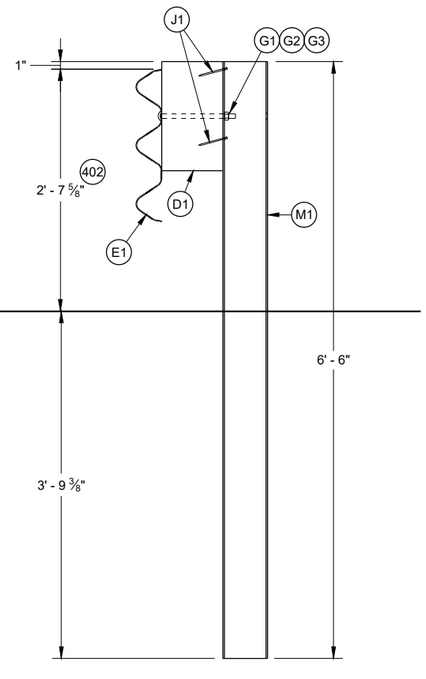
POST NO. 1



POST NO. 2



POST NOS. 3-8



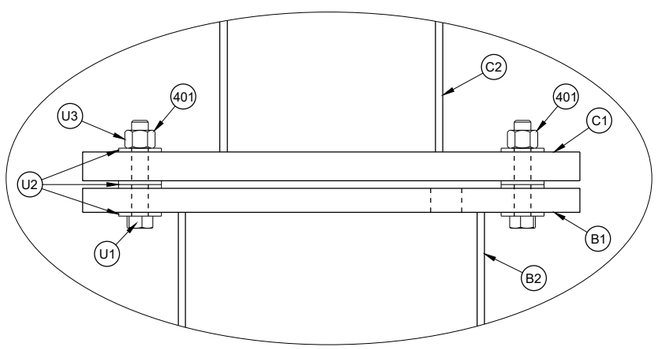
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

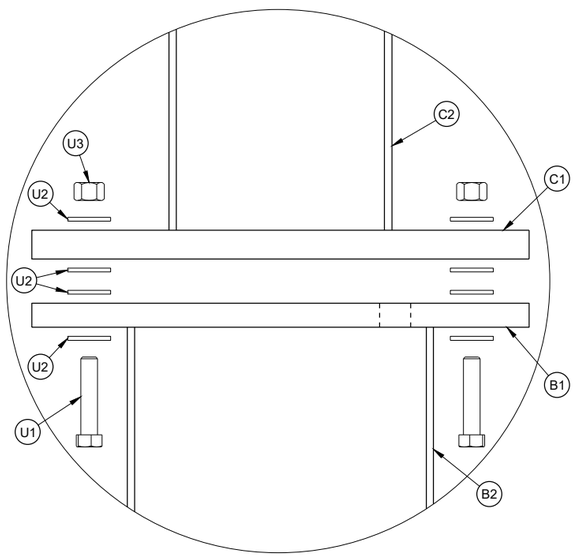
(400) RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

(401) TORQUE BOLD BETWEEN 60-75 FT-LB

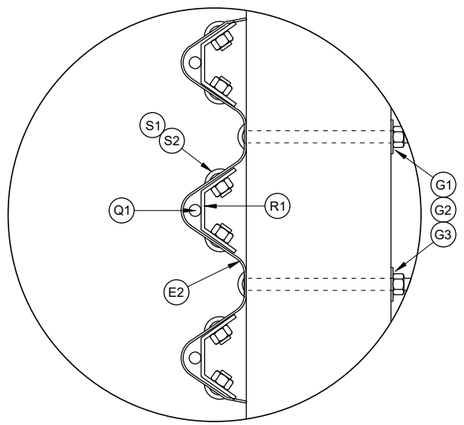
(402) HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



EXPLODED VIEW
DETAIL "A"



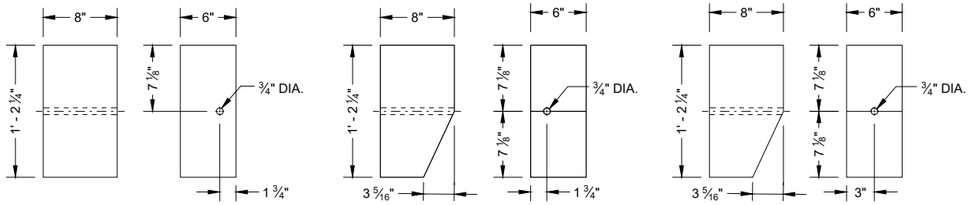
DETAIL "B"

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

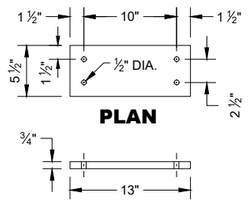
SDD 14B26 - 05d



ELEVATION PROFILE
BLOCKOUT (D1)

ELEVATION PROFILE
BLOCKOUT (D2)

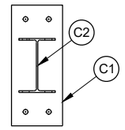
ELEVATION PROFILE
BLOCKOUT (D3)



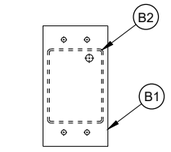
PLAN

PROFILE

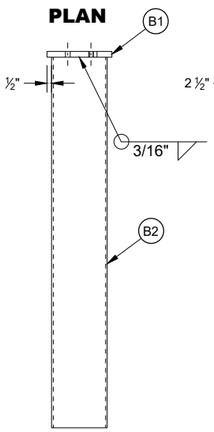
UPPER SHEAR PLATE (C1)

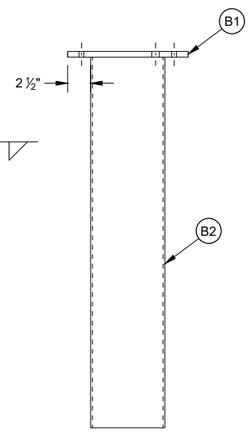


PLAN

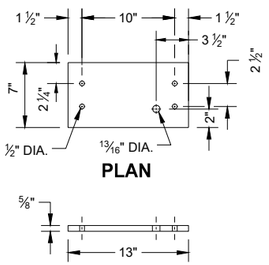


PLAN





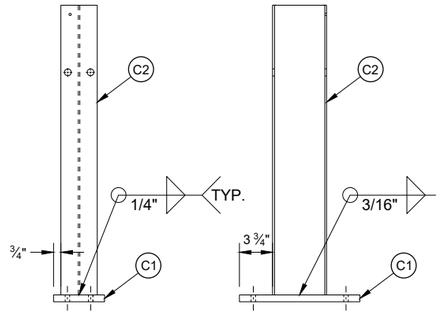
ELEVATION PROFILE
LOWER POST ASSEMBLY



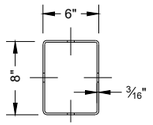
PLAN

PROFILE

LOWER SHEAR PLATE (B1)

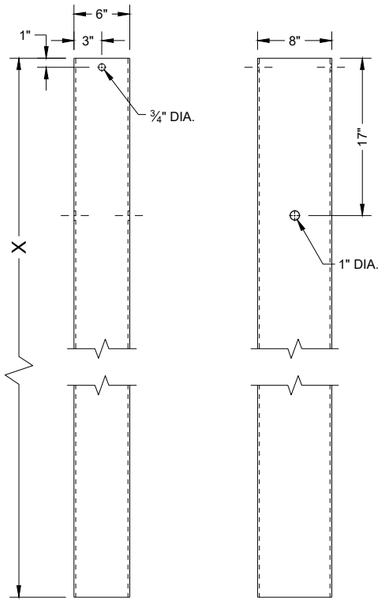


ELEVATION PROFILE
UPPER POST ASSEMBLY

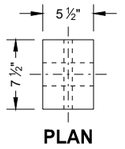


PLAN

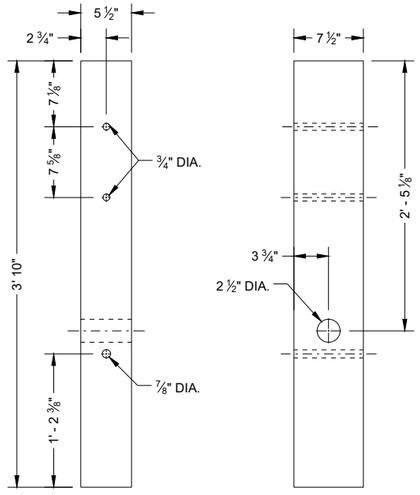
PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"



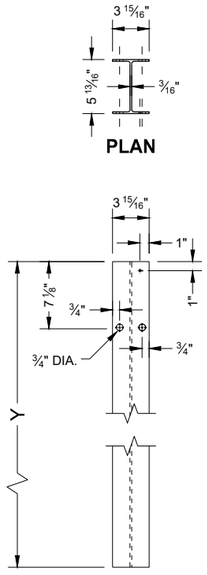
ELEVATION PROFILE
FOUNDATION TUBE



PLAN



ELEVATION PROFILE
BCT POST (L1)



ELEVATION
POST

PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

STEEL THRIE BEAM BULLNOSE TERMINAL

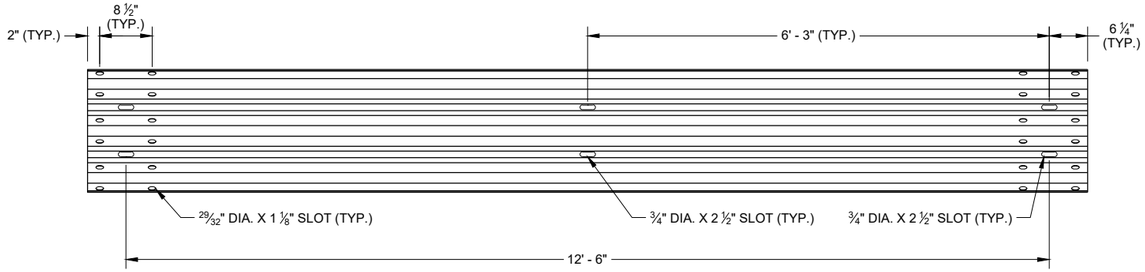
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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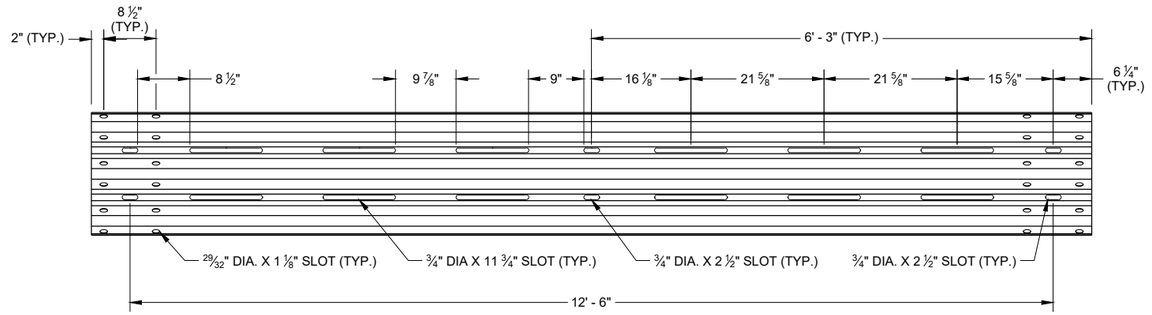
SDD 14B26 - 05e

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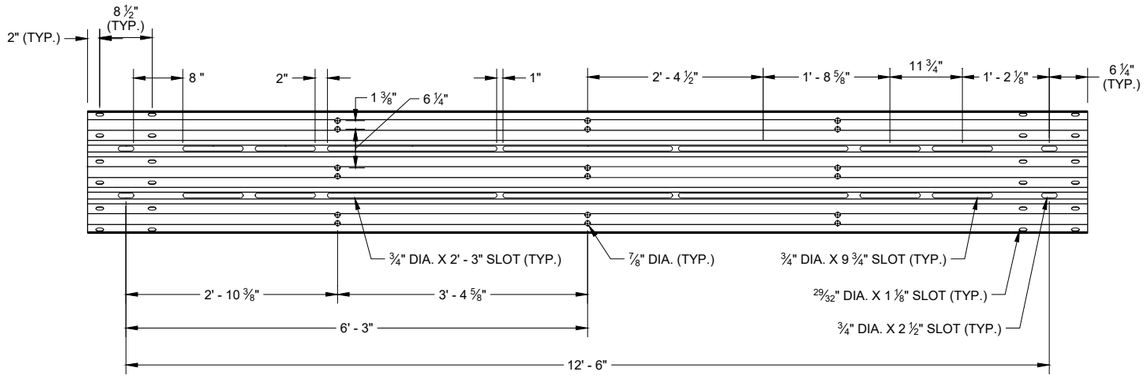
SDD 14B26 - 05e



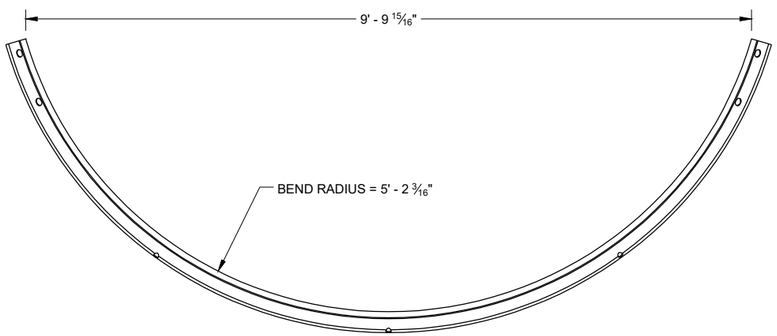
SLOTTED THRIE BEAM RAIL E1



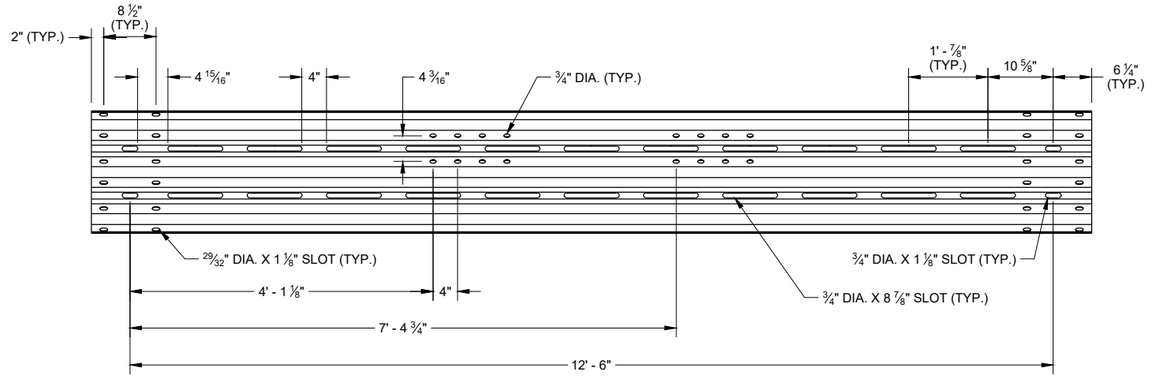
SLOTTED THRIE BEAM RAIL E3



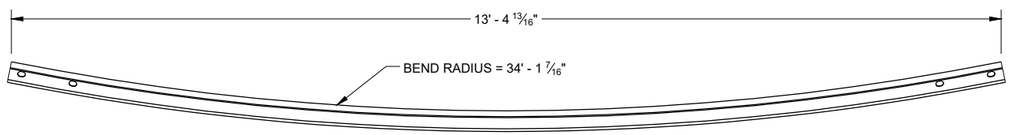
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4

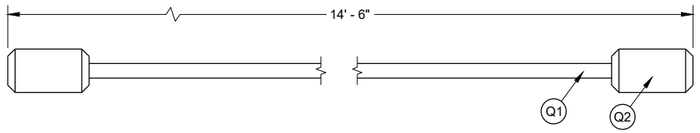


PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

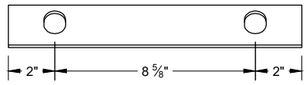
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
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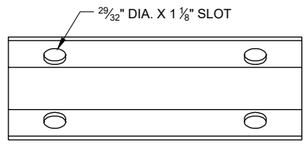
6
SDD 14B26 - 05f



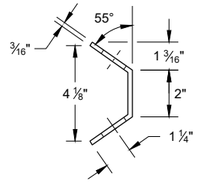
NOSE CABLE AND SWAGE BUTTON



PLAN VIEW

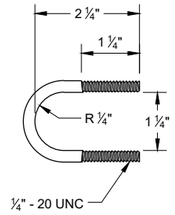


ELEVATION VIEW

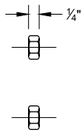


PROFILE VIEW

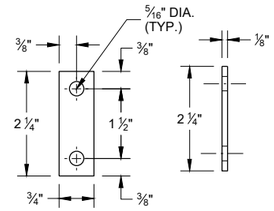
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)

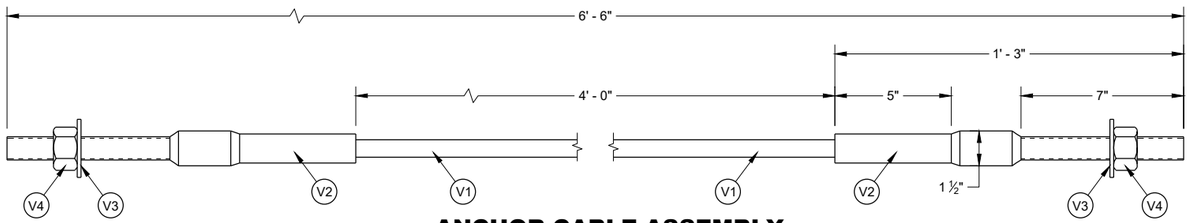


U - BOLT NUT (T3)

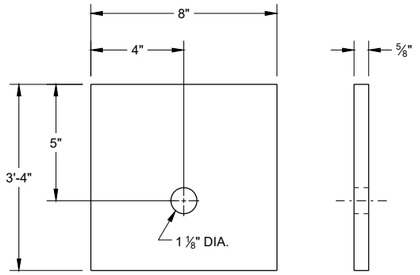


ELEVATION VIEW **PROFILE VIEW**

U - BOLT PLATE WASHER (T2)

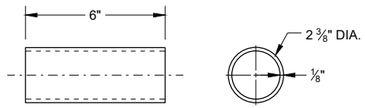


ANCHOR CABLE ASSEMBLY



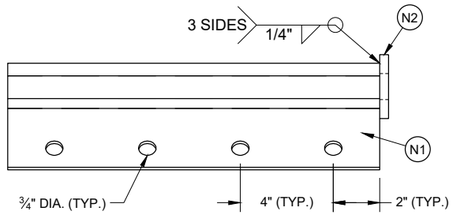
ELEVATION VIEW **PROFILE VIEW**

BCT BEARING PLATE (A3)

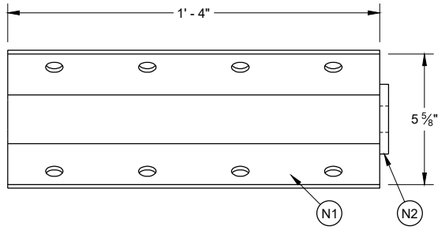


ELEVATION VIEW **PROFILE VIEW**

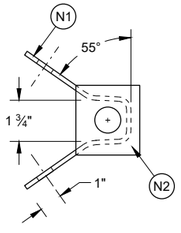
BCT POST SLEEVE (L2)



PLAN VIEW

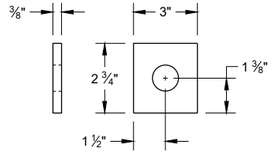


ELEVATION VIEW



PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B26 - 05g

BILL OF MATERIALS LIST

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT POST	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B1	LOWER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
F2	5/8" DIA. GROUND STRUT AND YOKE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
F3	GROUND STRUT AND YOKE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
G1	5/8 " DIA. POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	POST BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	POST BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
H1	7/8" DIA. SOIL TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
M2	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N1	ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N2	ANCHOR BRACKET - BEARING PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	¾" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

6

SDD 14B26 - 05h

6

SDD 14B26 - 05h

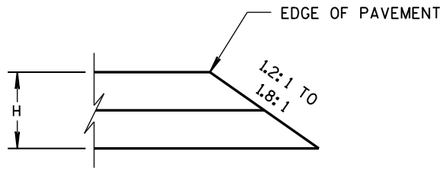
STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

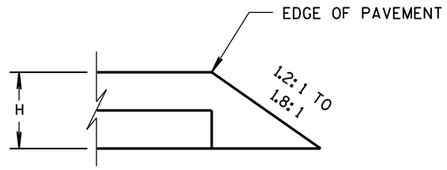
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



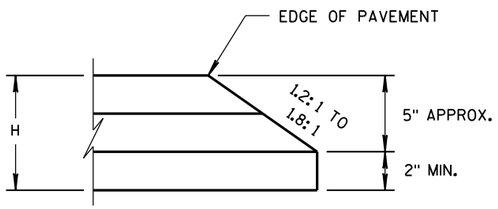
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



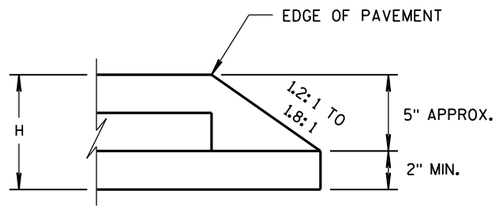
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

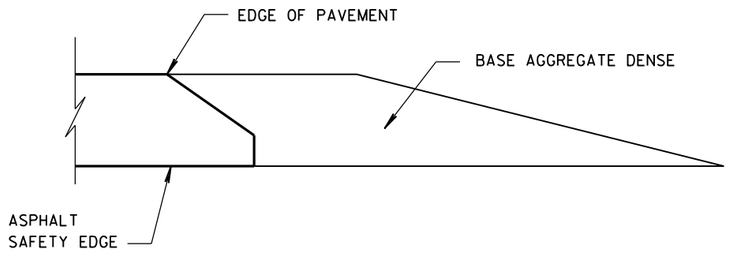
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
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APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

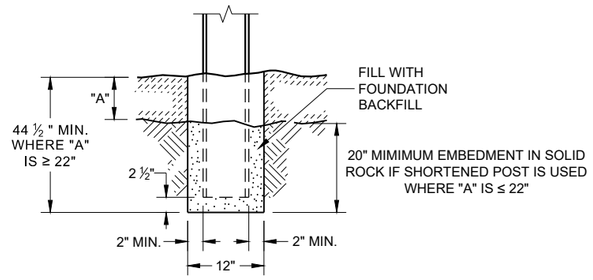
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

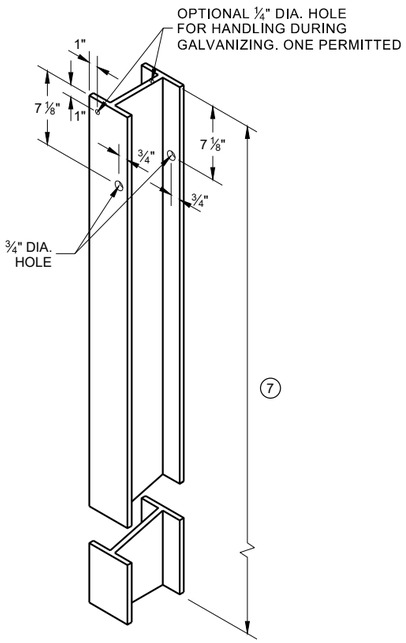
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

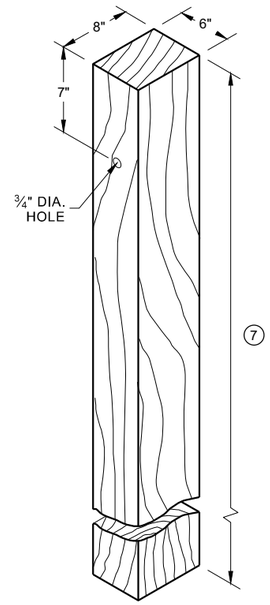
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



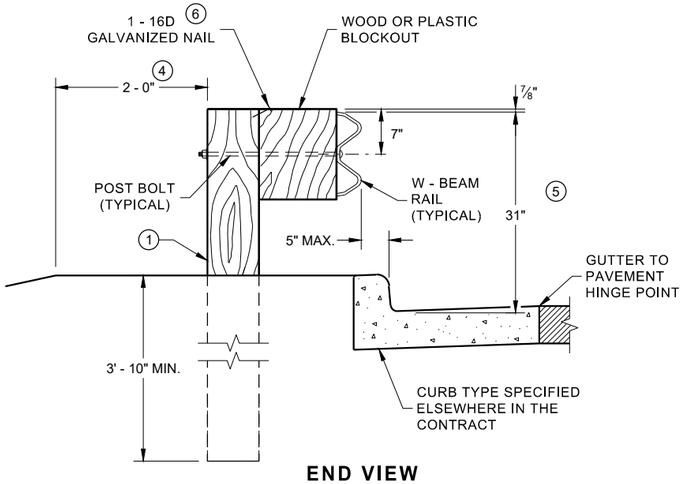
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



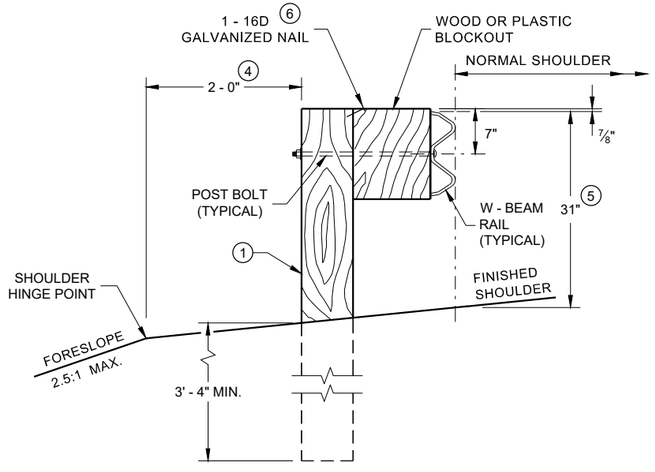
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



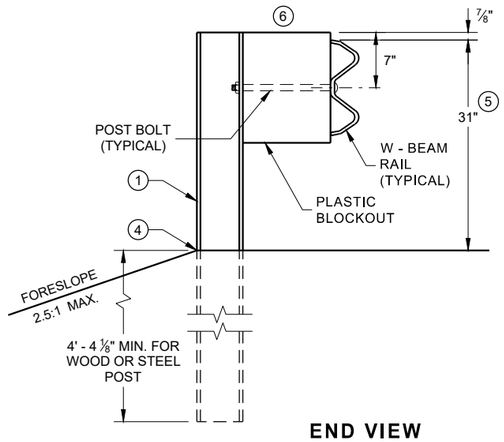
WOOD POST (6" X 8") NOMINAL (1)



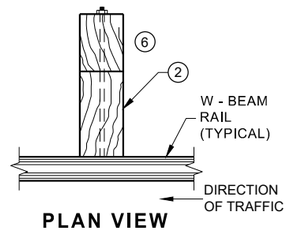
END VIEW
LOCATED ALONG A CURBED ROADWAY



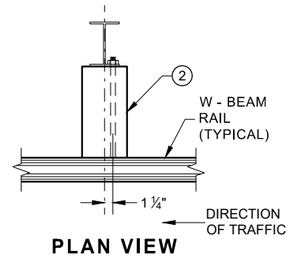
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



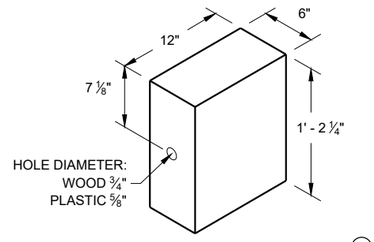
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



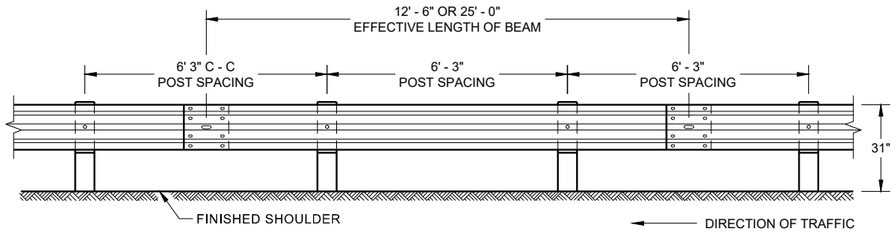
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

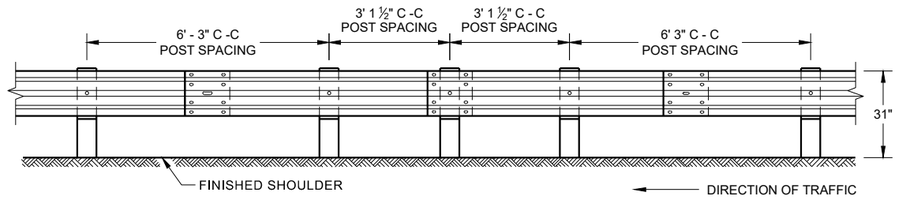
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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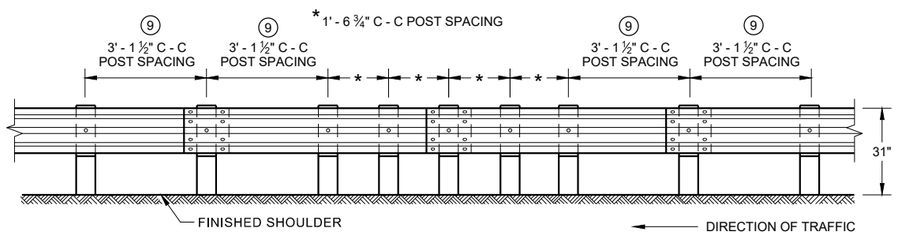
SDD 14B42 - 07a



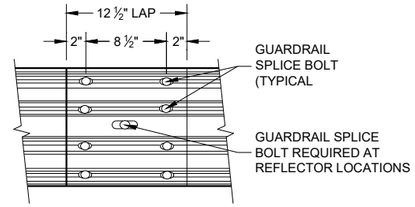
FRONT VIEW
POST SPACING STANDARD INSTALLATION



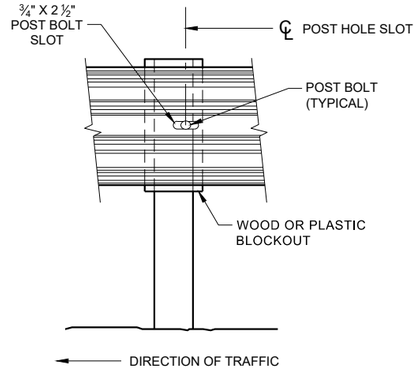
FRONT VIEW
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



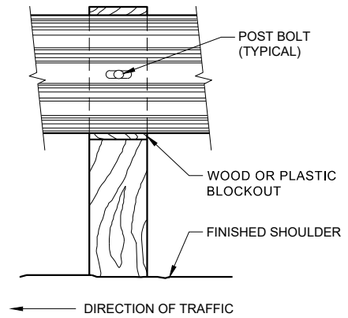
FRONT VIEW
QUARTER POST SPACING (QS)



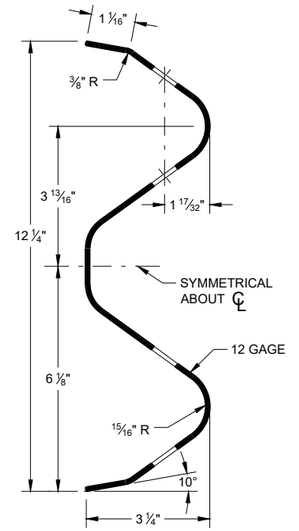
FRONT VIEW
MID-SPAN BEAM SPLICE



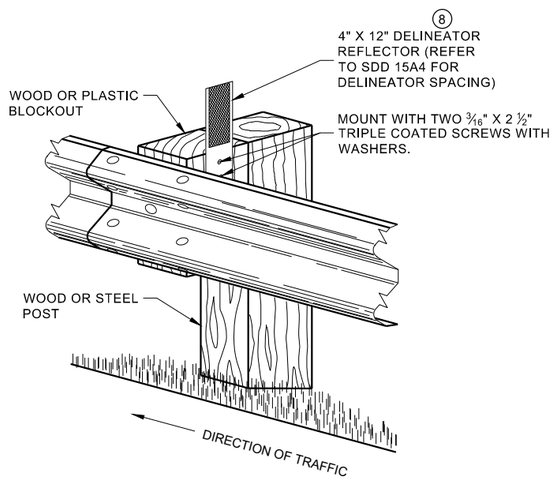
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

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

(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

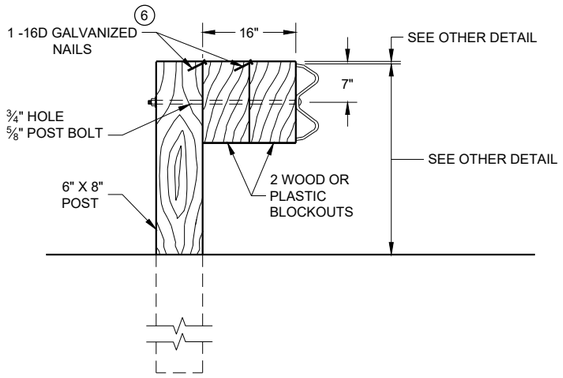
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07b

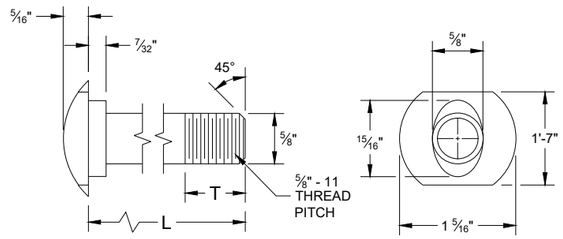


DETAIL FOR 16" BLOCKOUT DEPTH

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

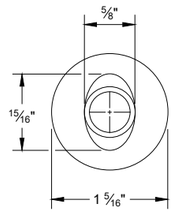
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

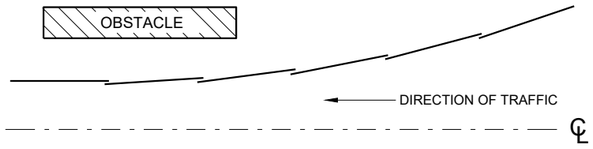


POST BOLT TABLE

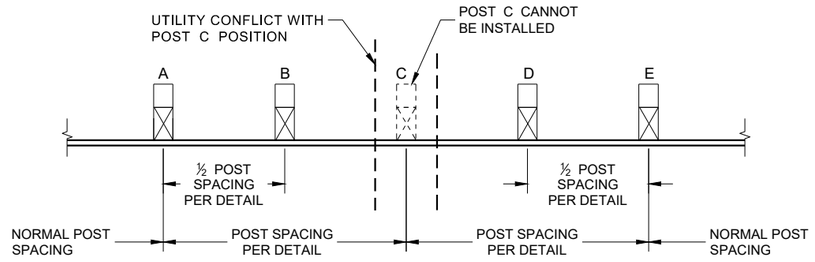
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



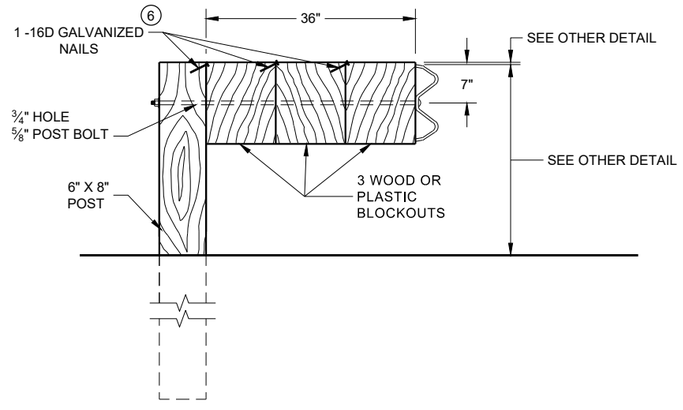
ALTERNATE BOLT HEAD



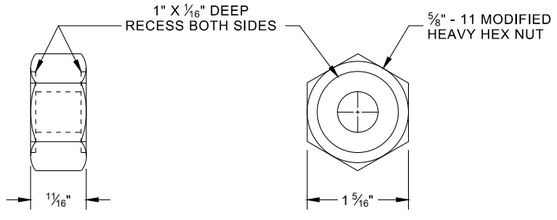
PLAN VIEW
BEAM LAPPING DETAIL



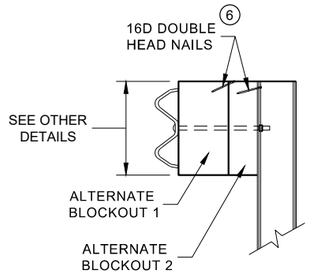
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



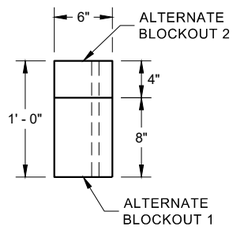
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

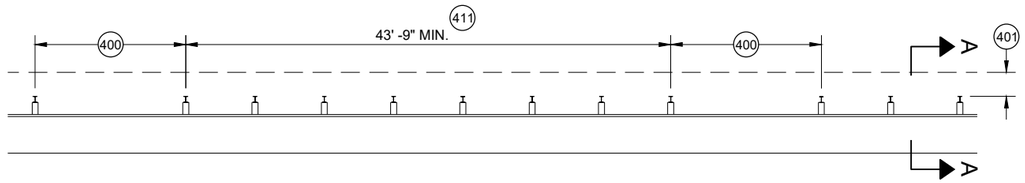
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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.

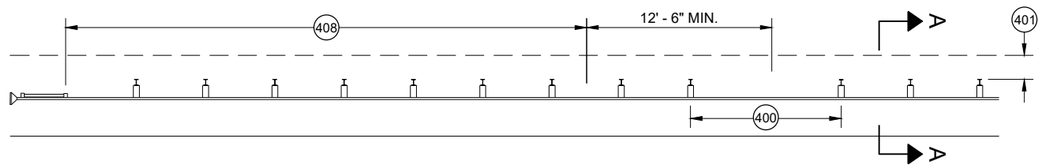
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

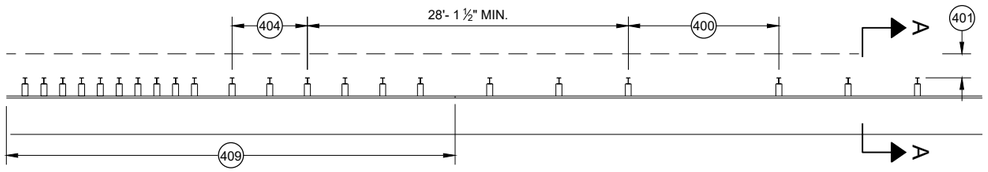
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SDD 14B42 - 07c



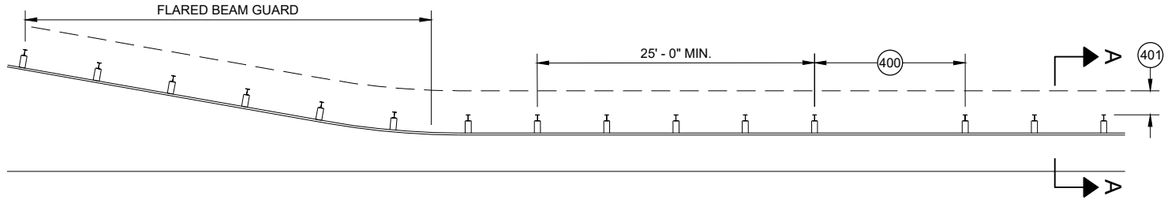
MISSING POST IN MGS GUARDRAIL



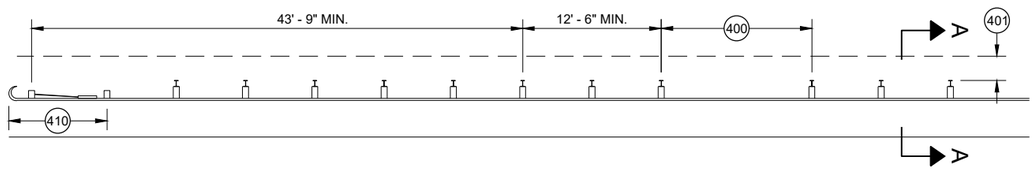
MISSING POST IN MGS GUARDRAIL NEAR EAT



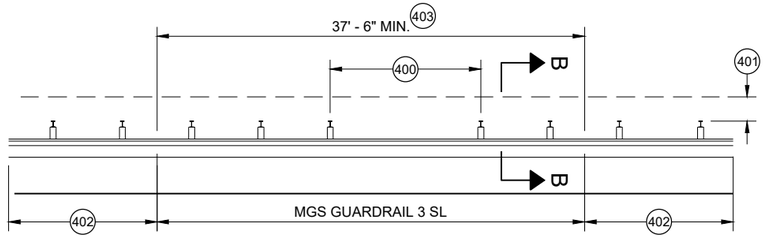
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

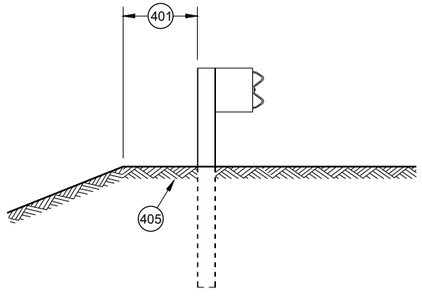


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

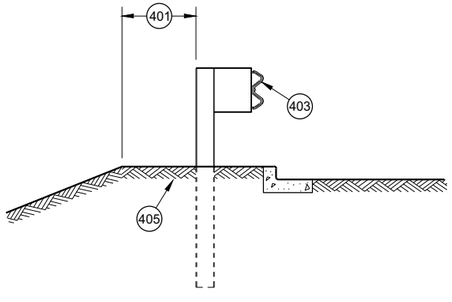


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

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SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

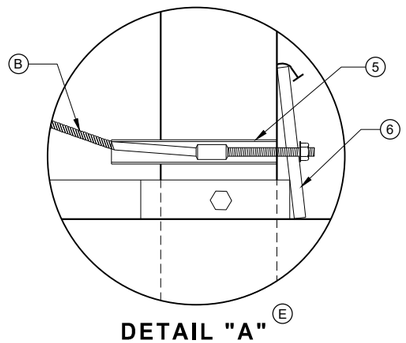
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

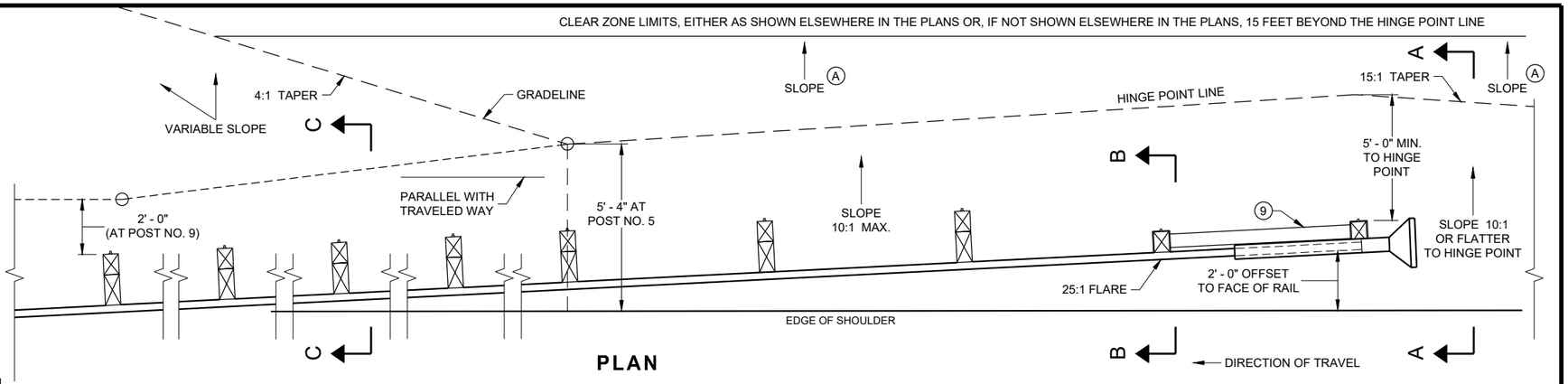
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

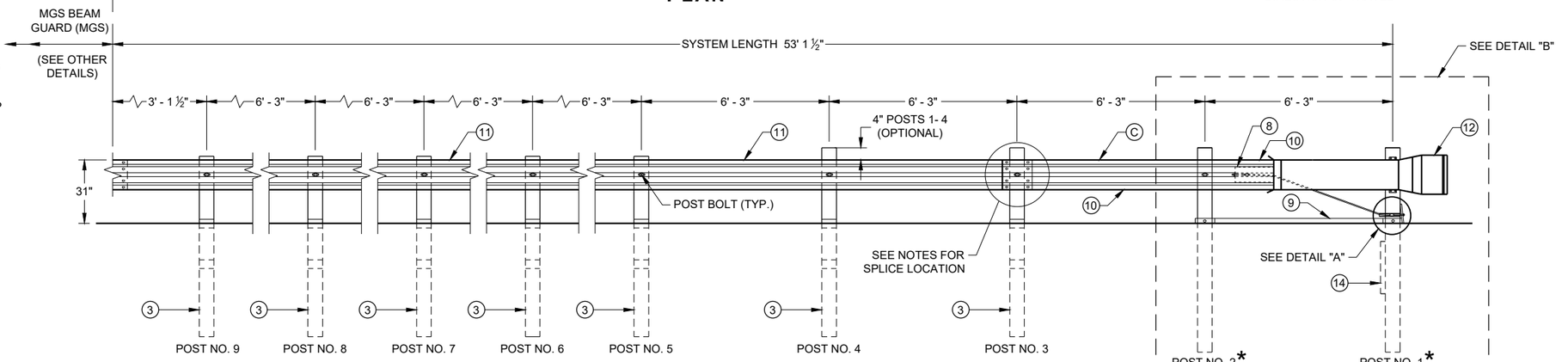
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



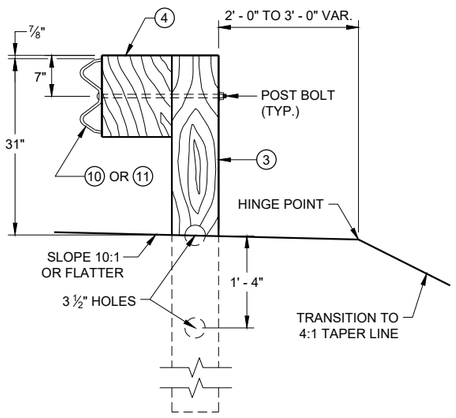
DETAIL "A" (E)



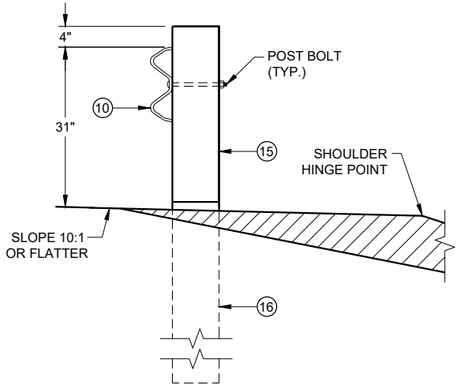
PLAN



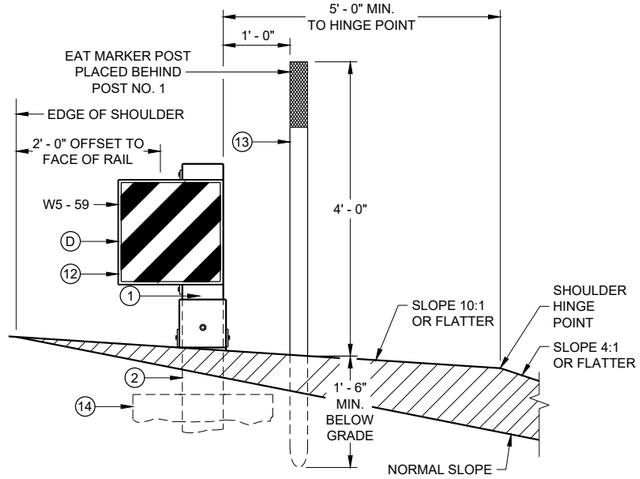
ELEVATION



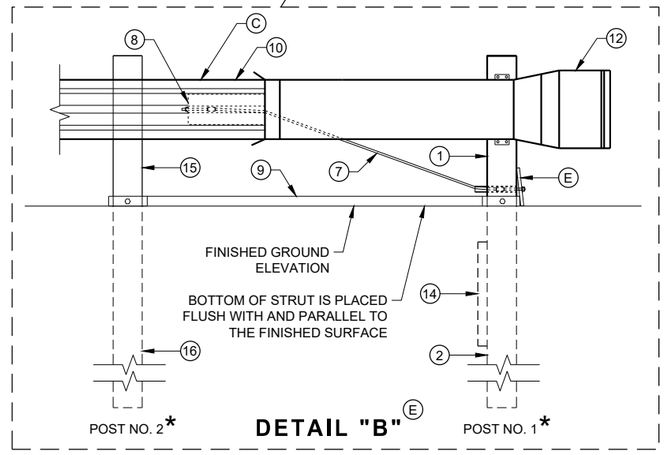
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



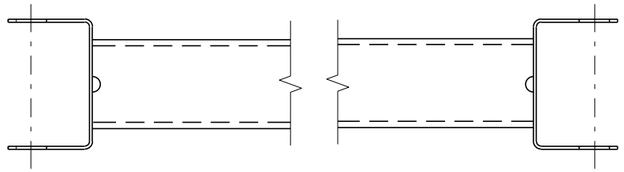
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

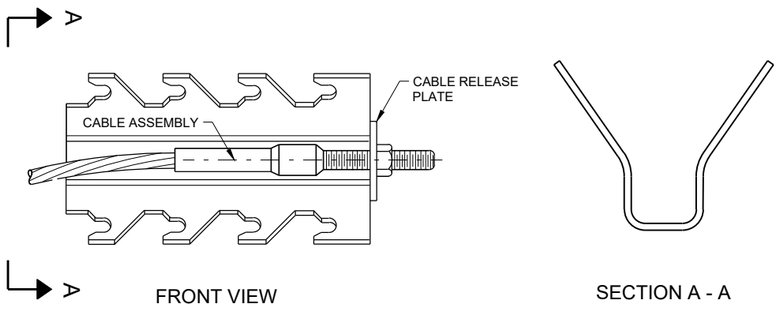
SDD 14B44 - 04a



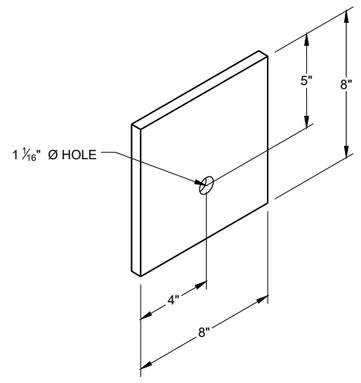
GENERIC GROUND STRUT (9) (E)

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX (9) (E)



BEARING PLATE (6) (E)

6

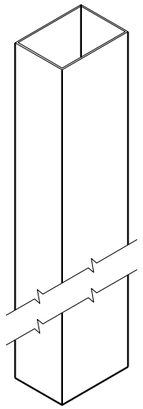
6

SDD 14B44 - 04b

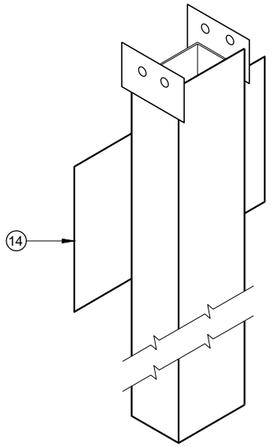
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

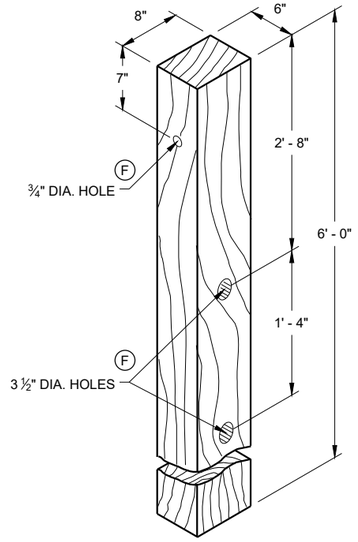
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



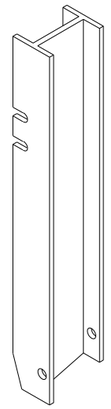
UPPER POST NO. 1 (1) (E)



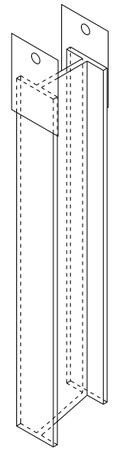
LOWER POST NO. 1 (2) (E)



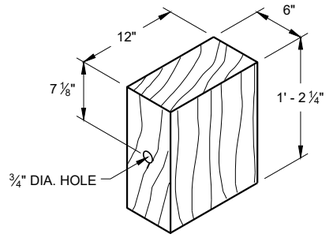
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



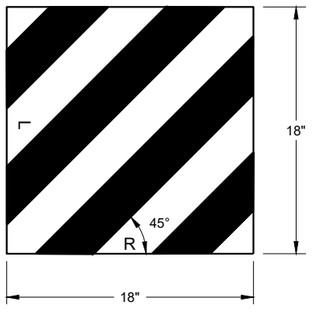
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

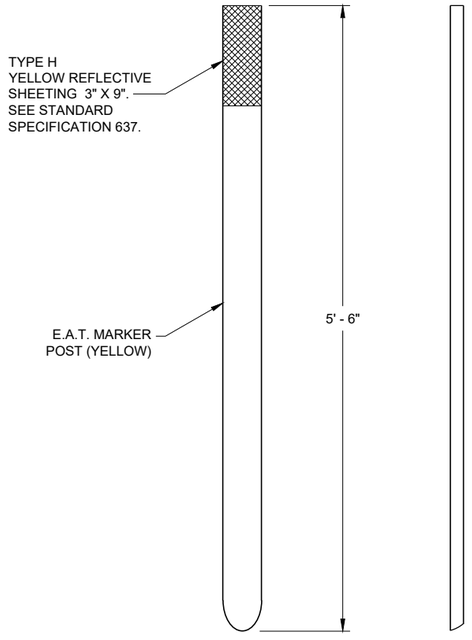


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



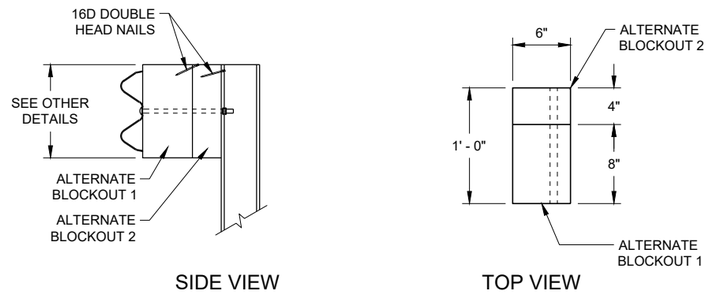
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

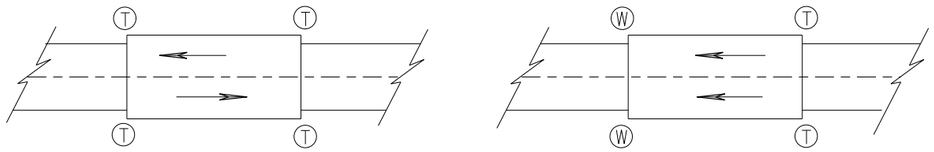
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

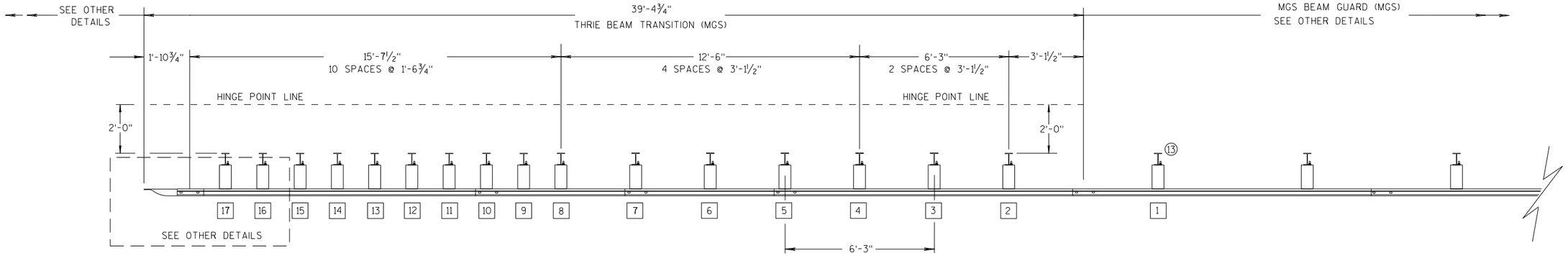
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

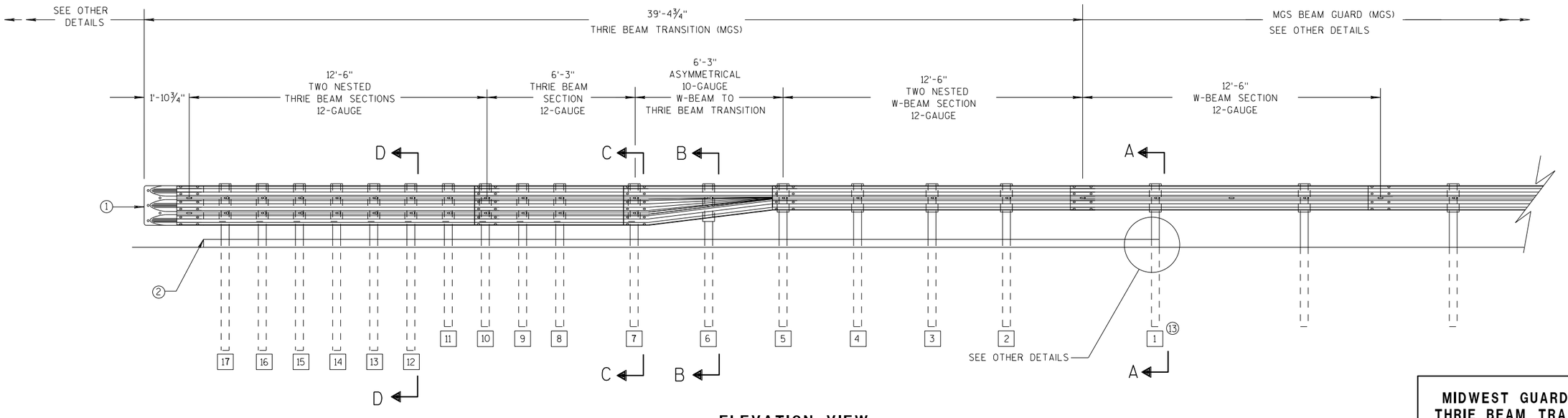
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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

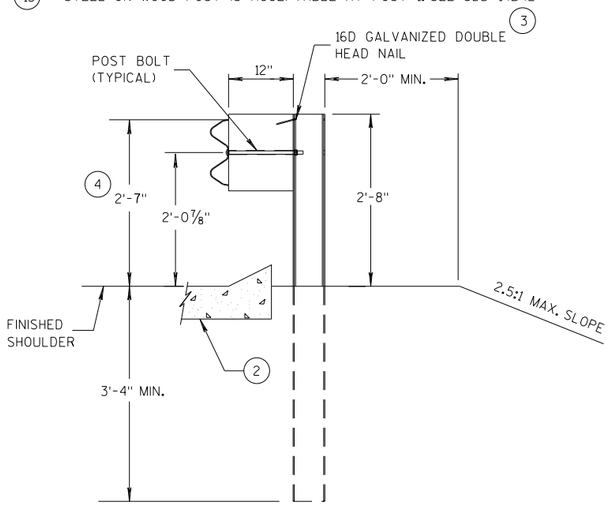
GENERAL NOTES

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

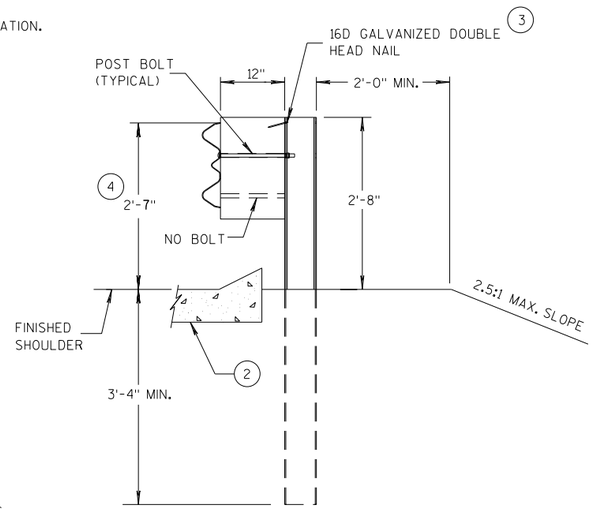
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



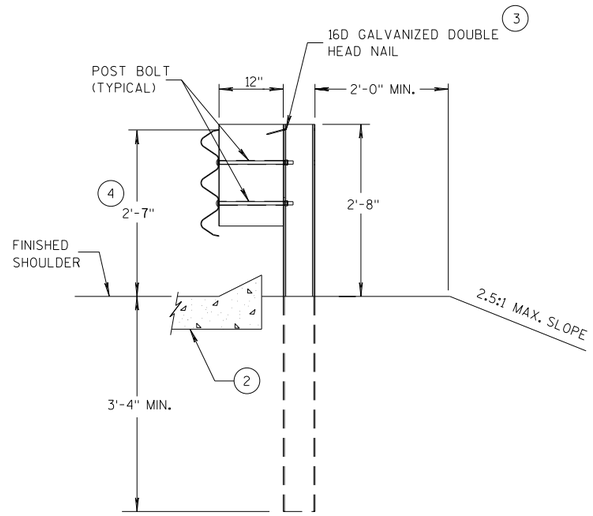
SECTION A-A (13)

POSTS 1-5



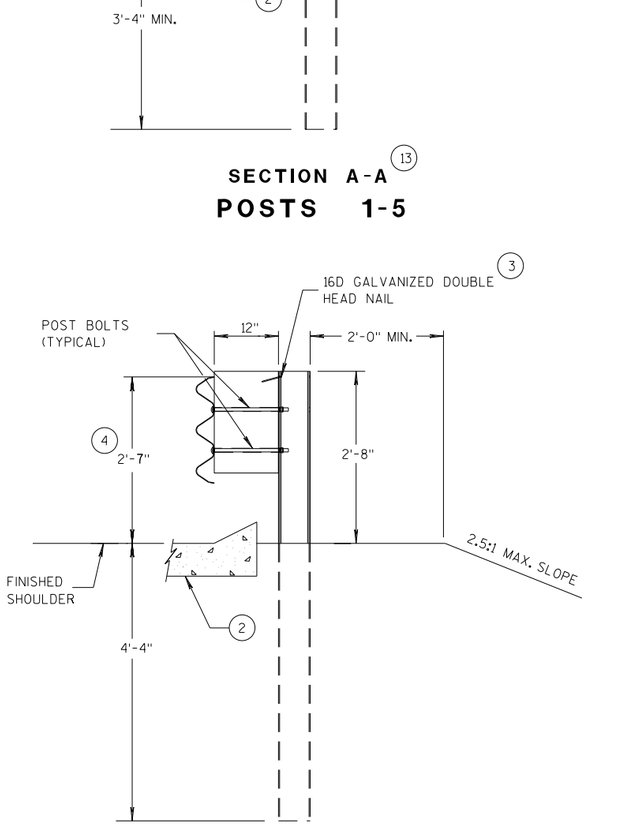
SECTION B-B

POST 6



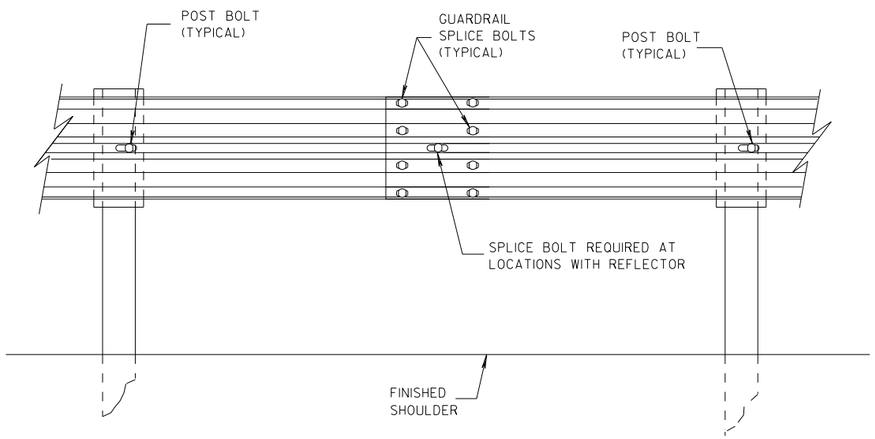
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



SPLICE DETAIL

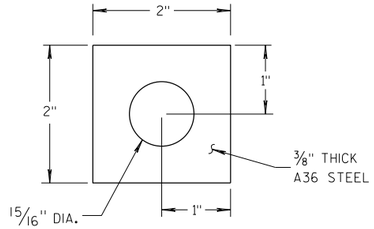
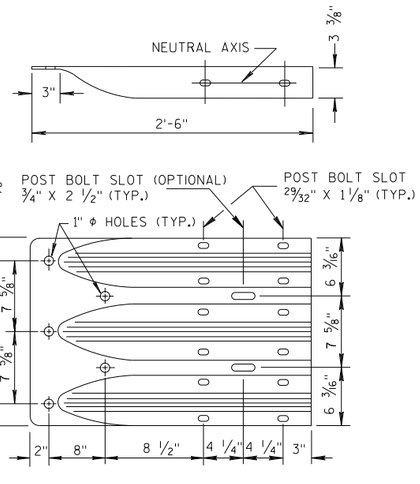
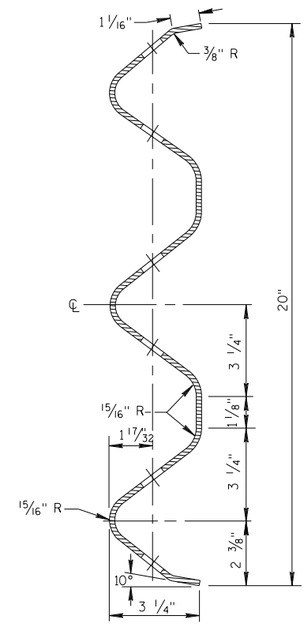


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



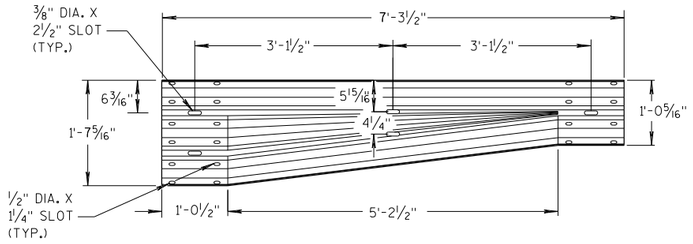
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

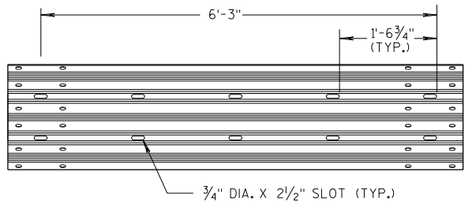
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

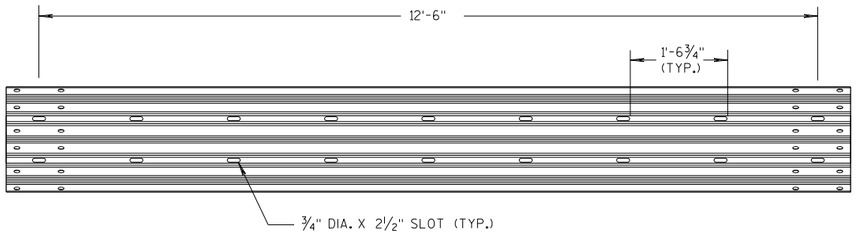
S.D.D. 14 B 45-5b



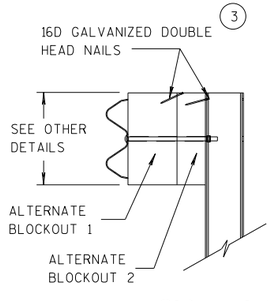
W-BEAM TO THRIE BEAM TRANSITION SECTION



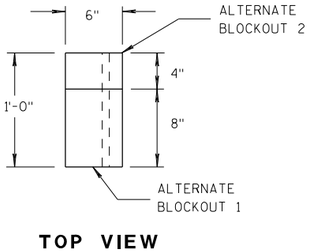
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

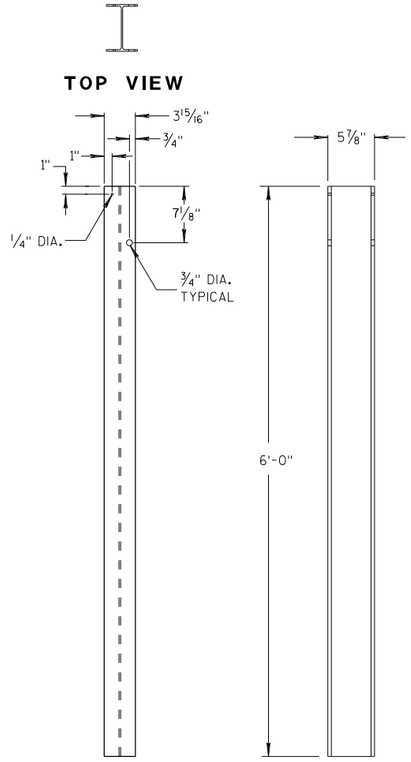


SIDE VIEW



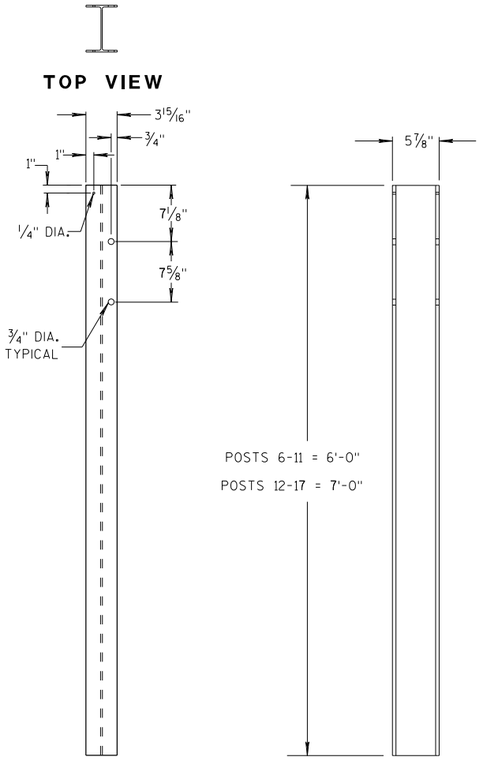
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



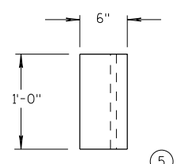
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

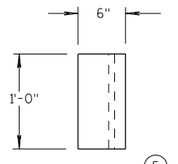


FRONT VIEW SIDE VIEW

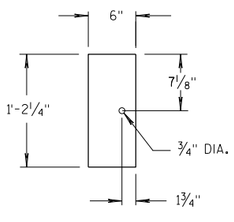
STEEL POSTS 6-17



TOP VIEW (5)

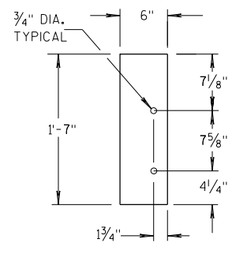


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

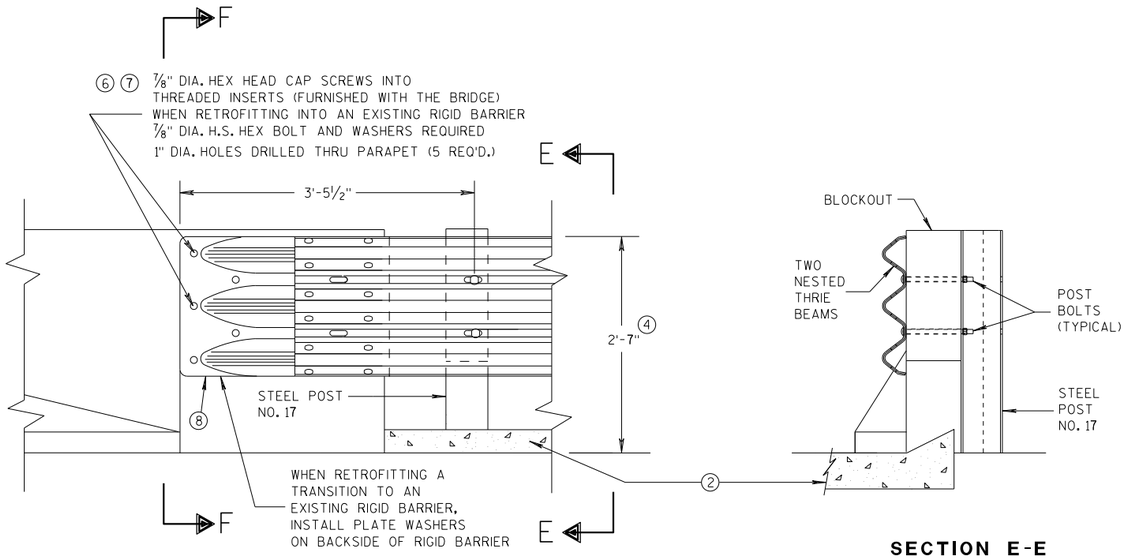
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

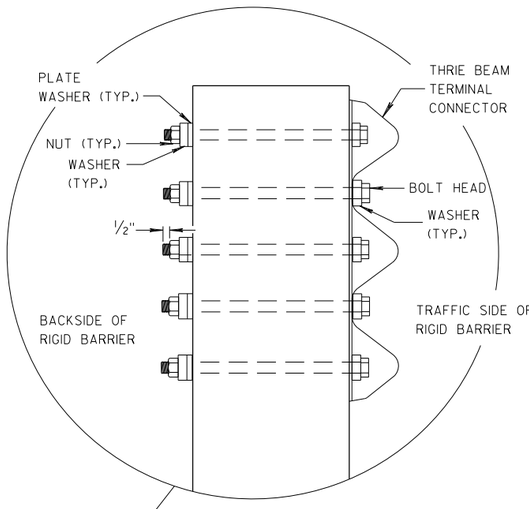
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

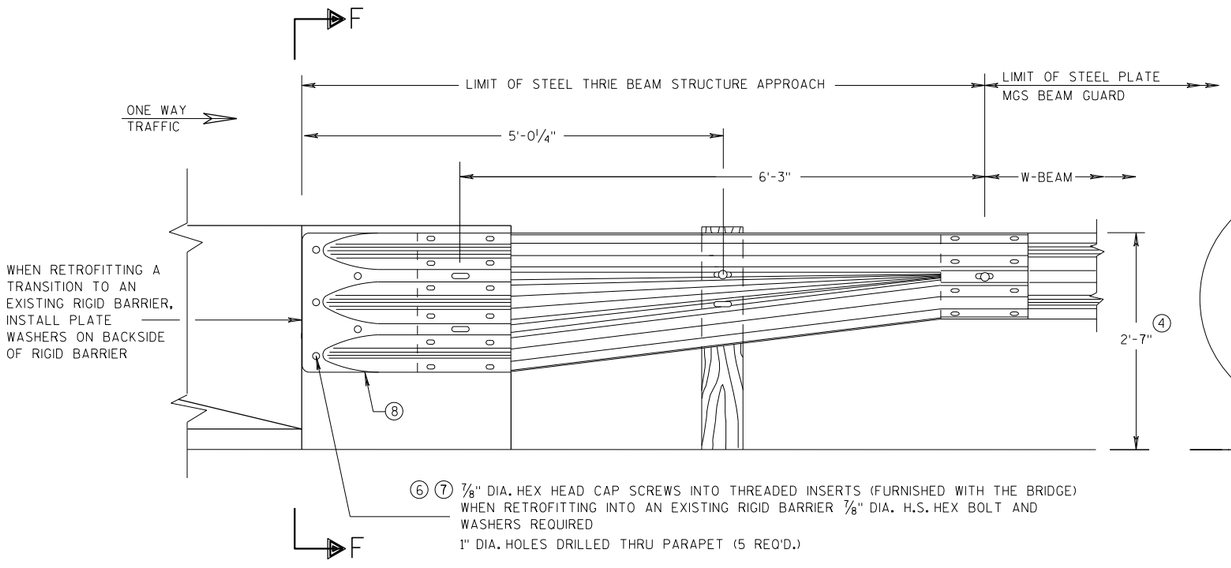
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

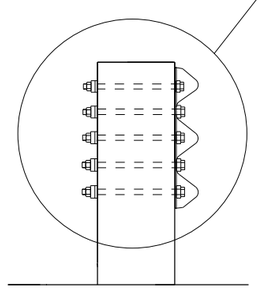
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⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

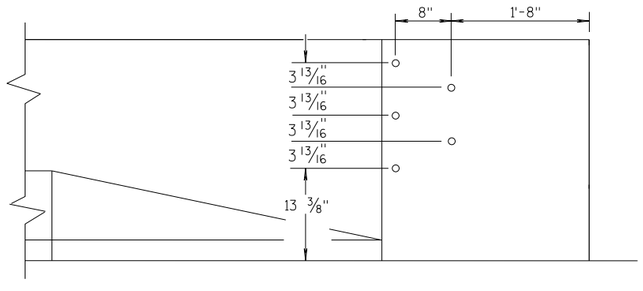




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]
FHWA

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

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

GENERAL NOTES

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

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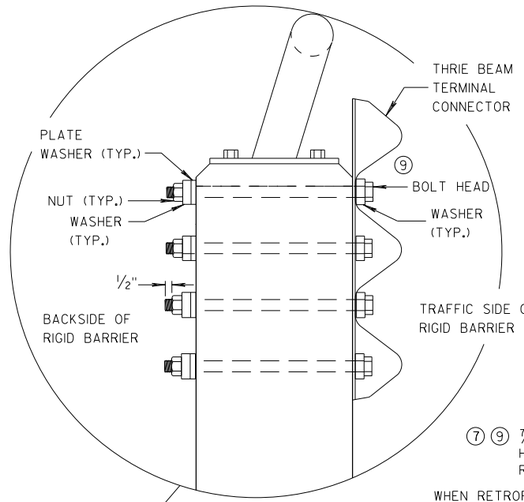
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

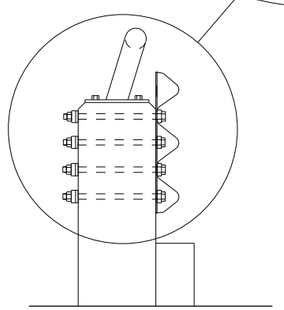
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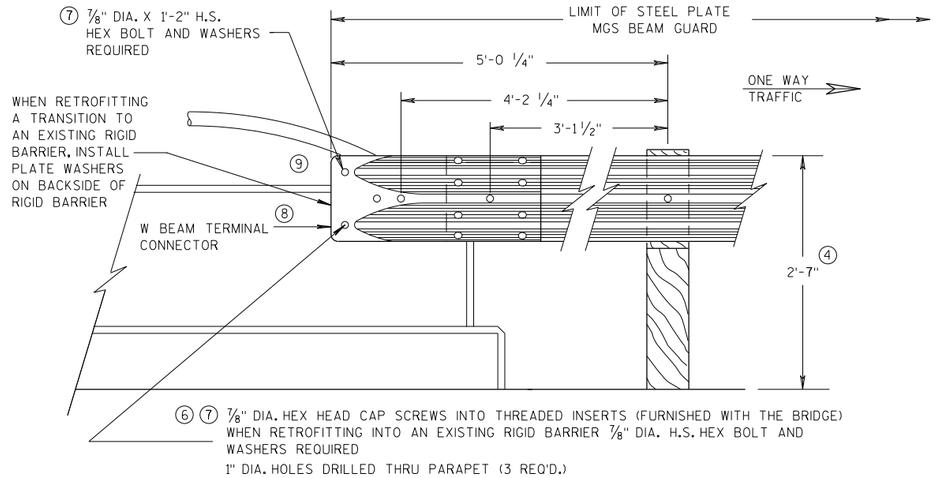
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(9) 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.





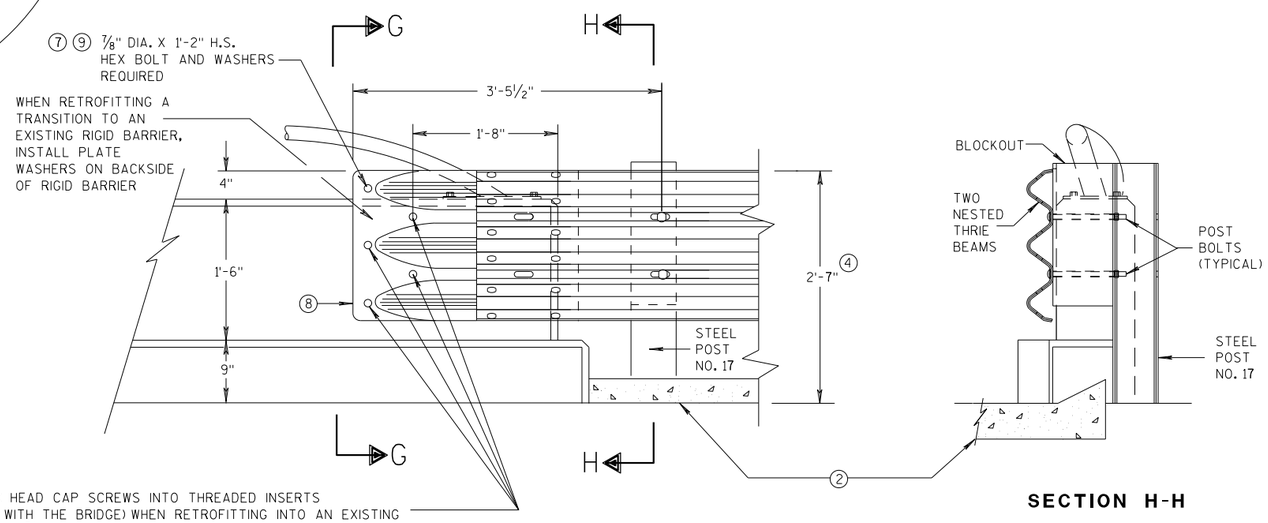
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

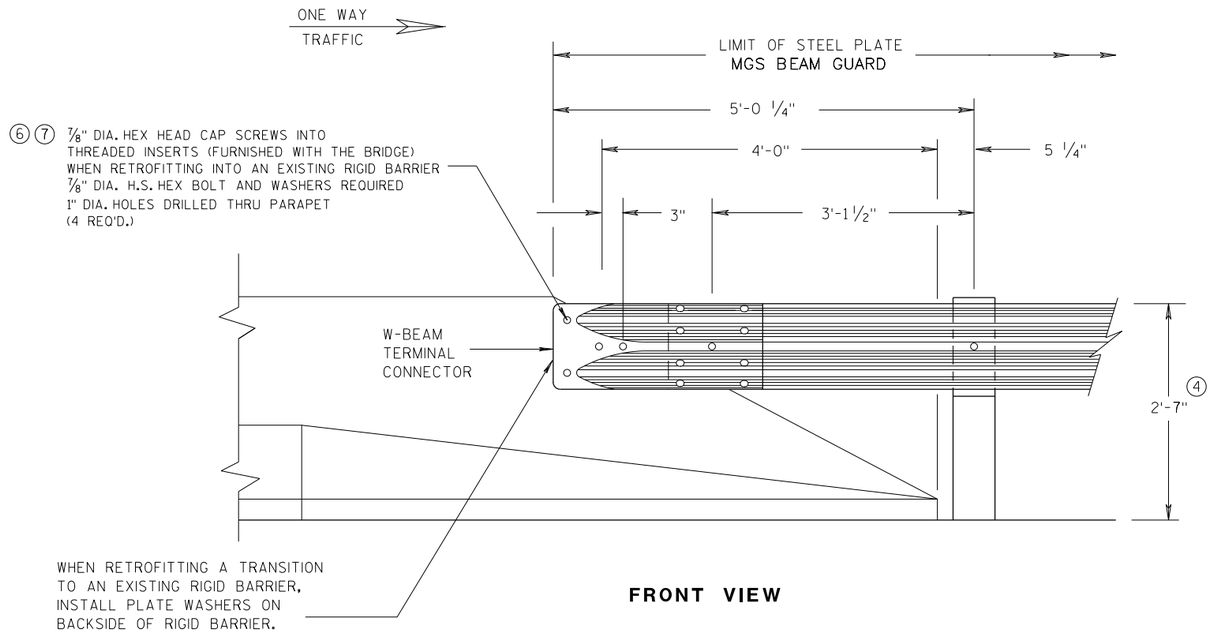
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S.D.D. 14 B 45-5e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

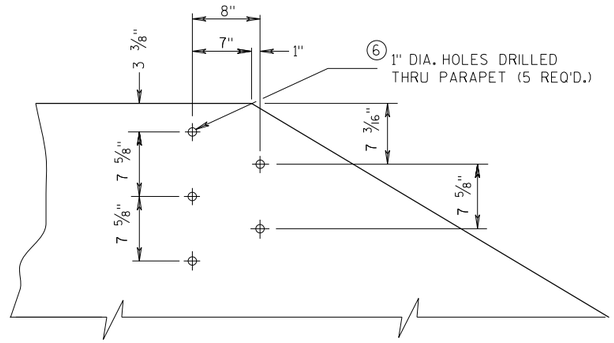
GENERAL NOTES

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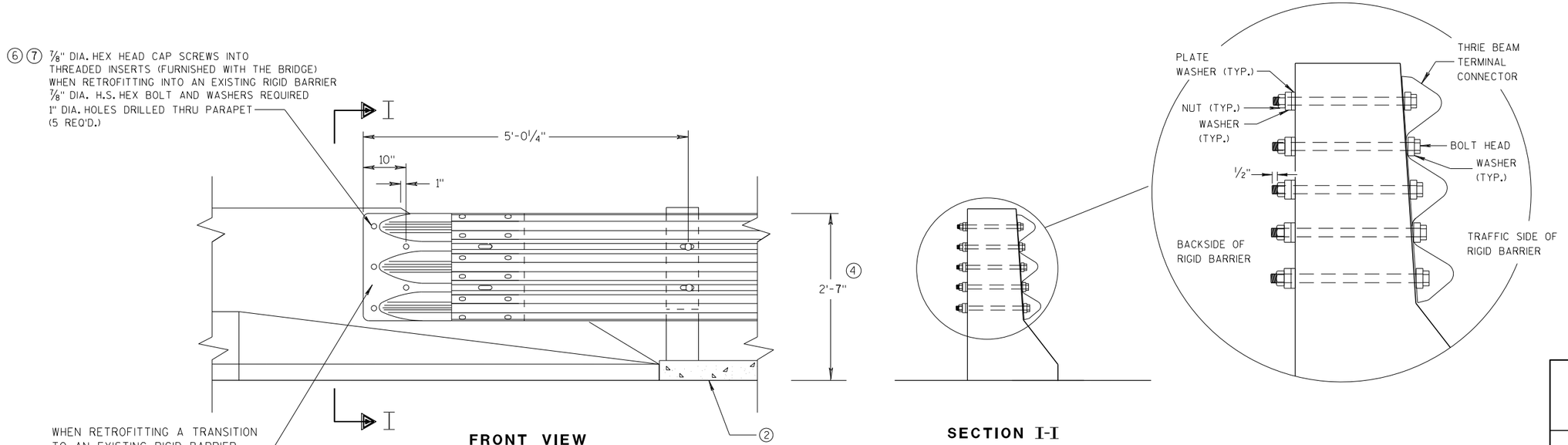
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DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW

SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

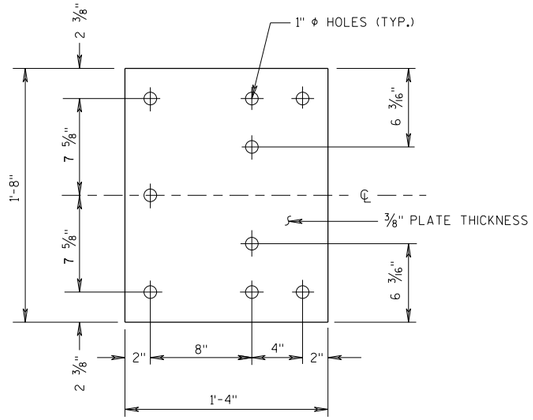
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07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS I[illegible]ENT UNIT SUPERVI
FHWA

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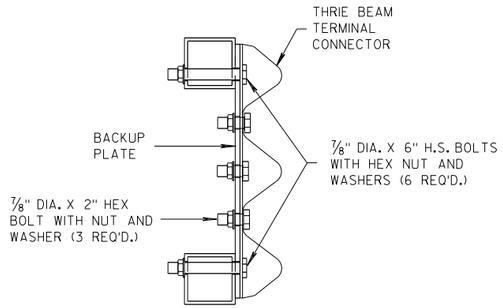
S.D.D. 14 B 45-5f

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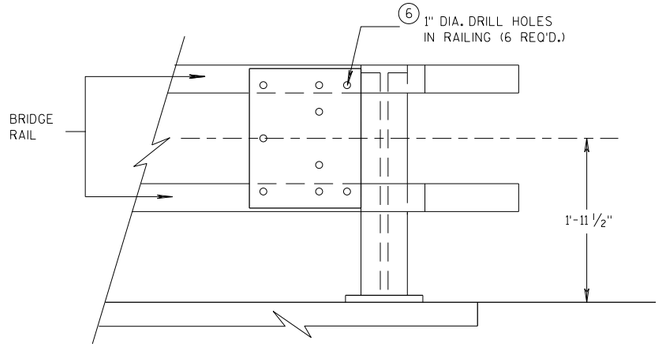
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BACK-UP PLATE DETAIL



SECTION J-J

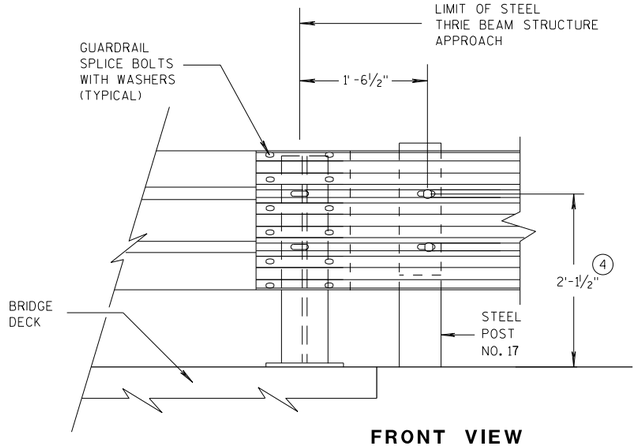


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

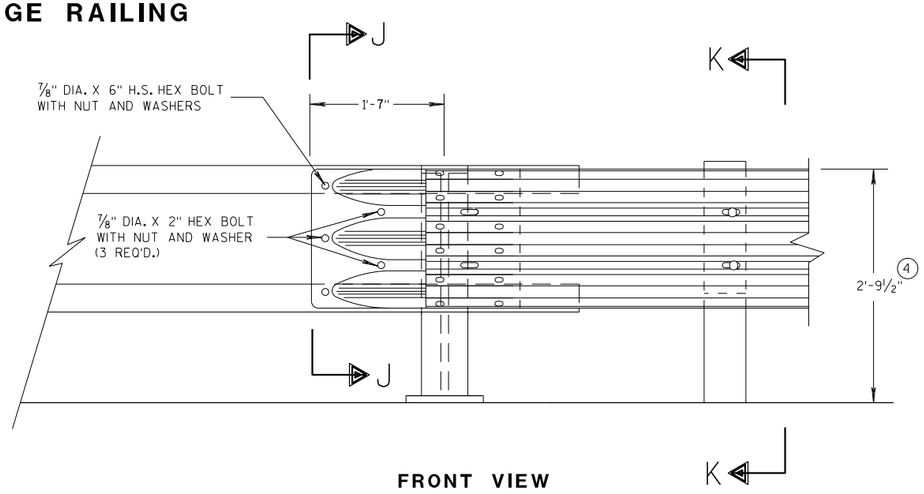
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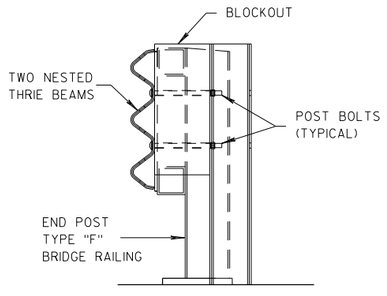


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

/S/ Rodney Taylor 118
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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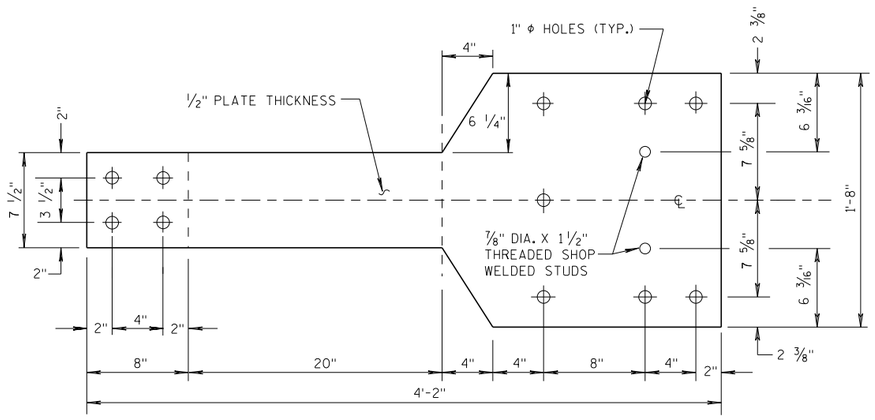
S.D.D. 14 B 45-5g

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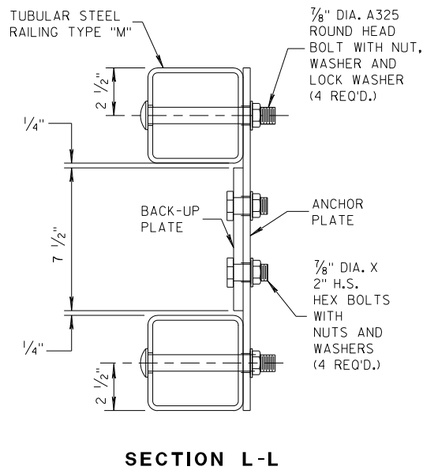
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GENERAL NOTES

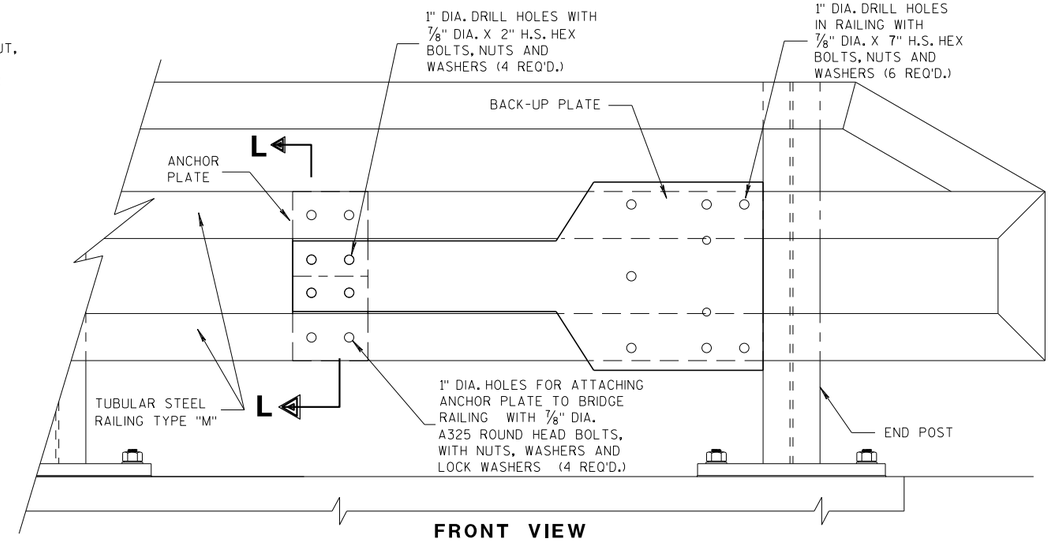
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



FRONT VIEW

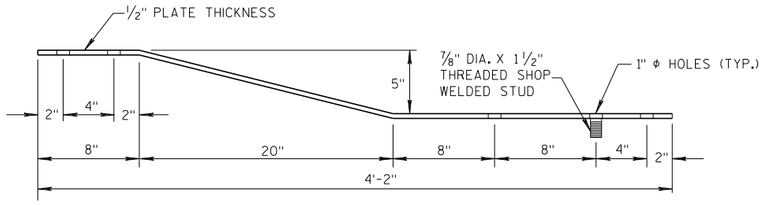


SECTION L-L



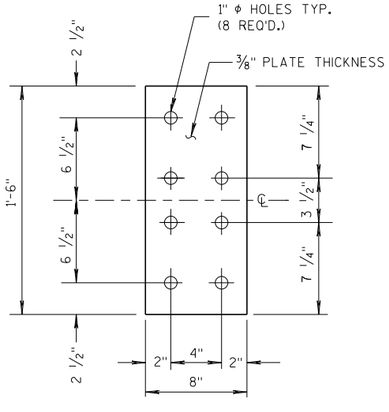
FRONT VIEW

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



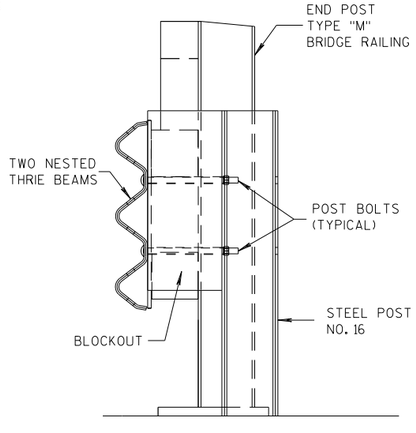
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

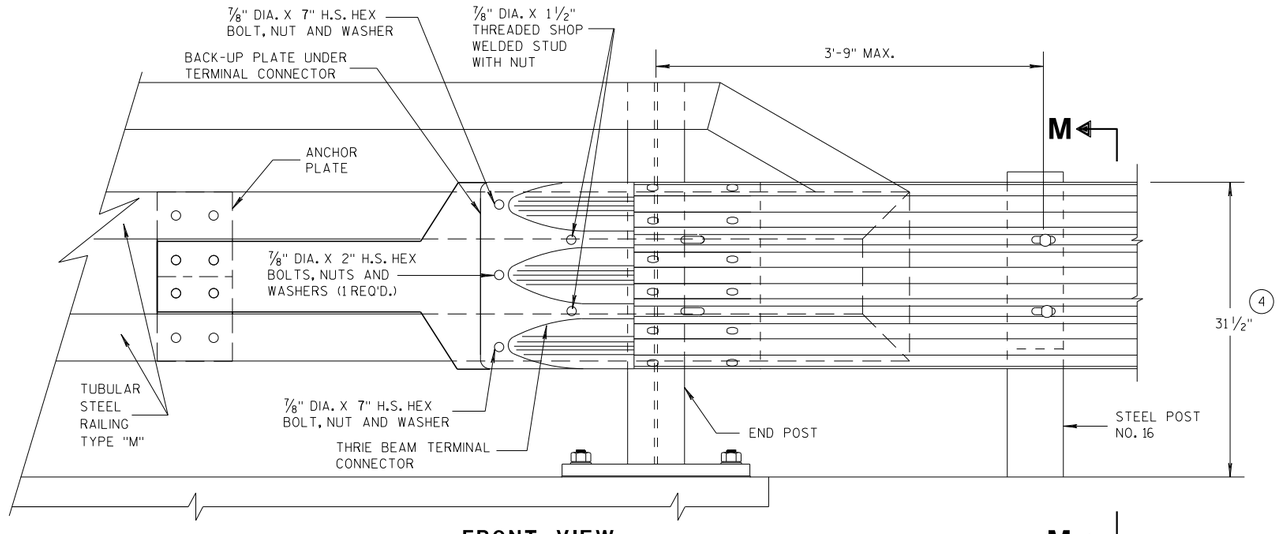


FRONT VIEW

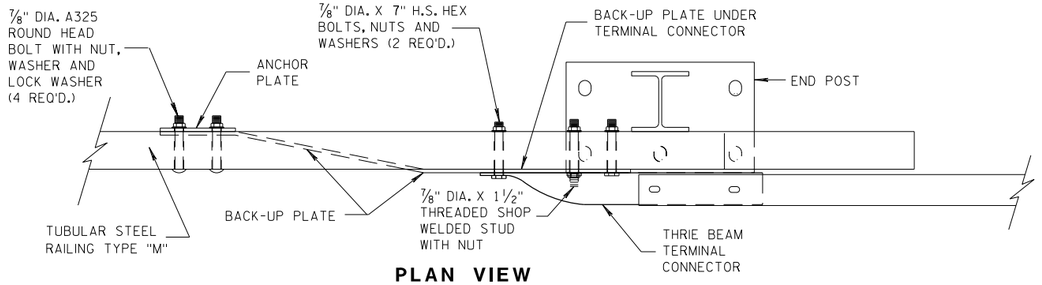
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
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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.

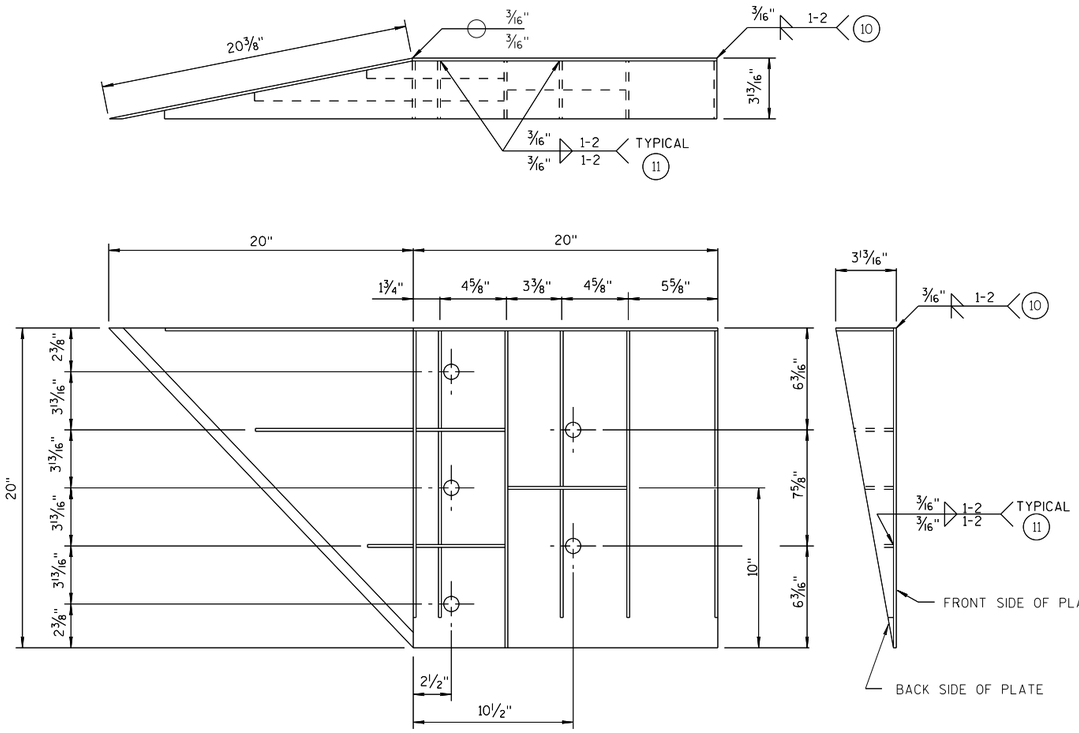
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) 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.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

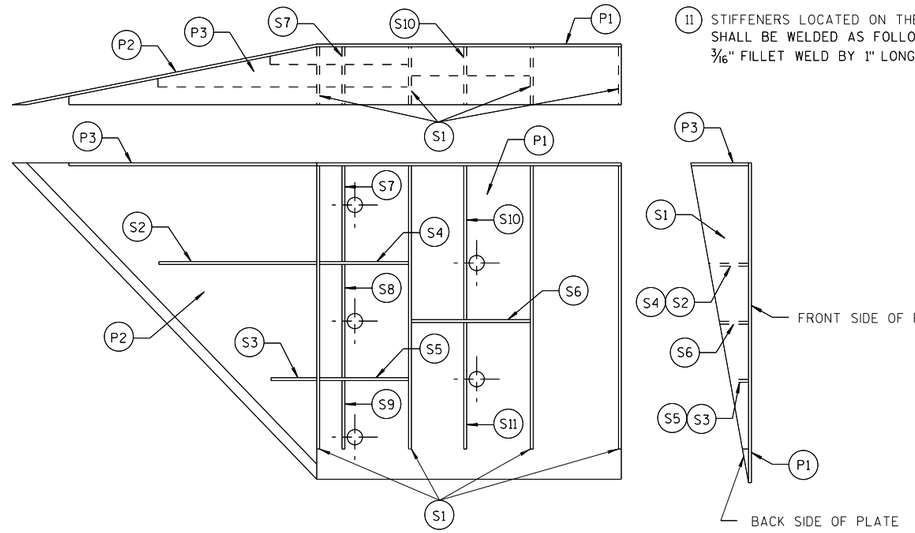


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF 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 9/16"	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 7/16"	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 5/32" 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 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

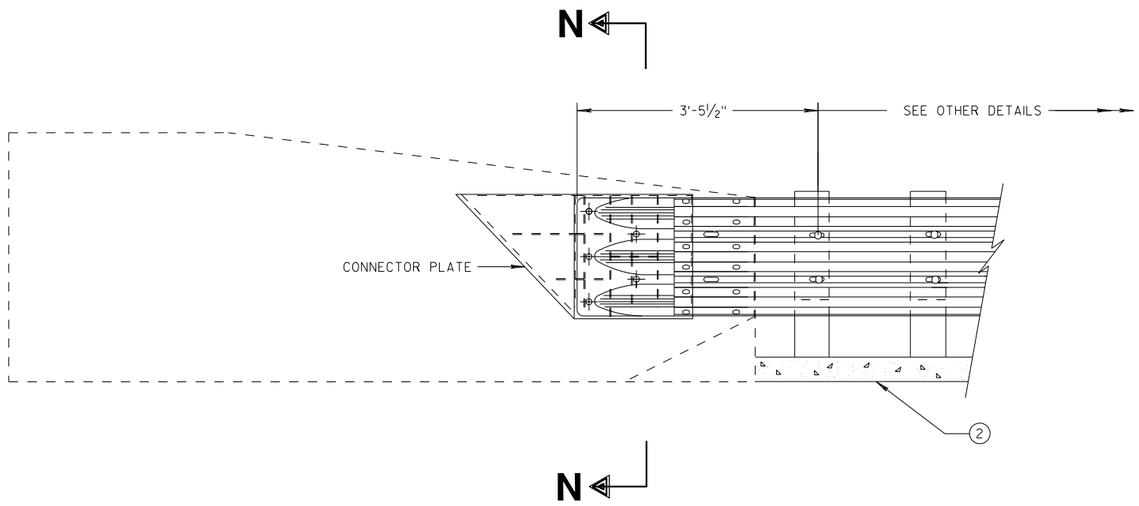
STATE OF WISCONSIN
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7/2018
DATE
FHWA

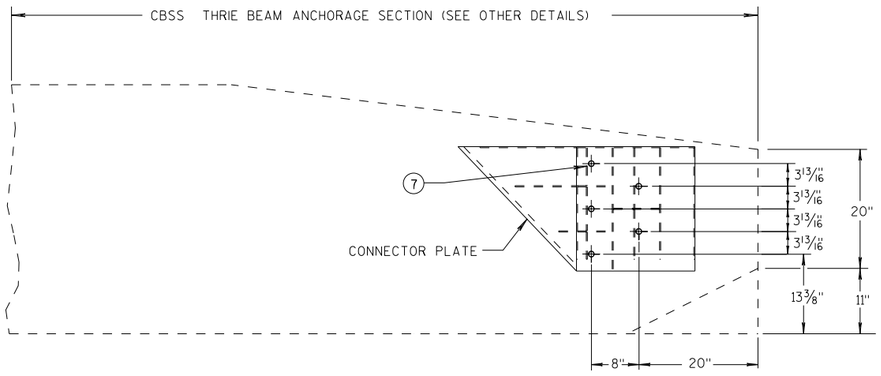
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THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



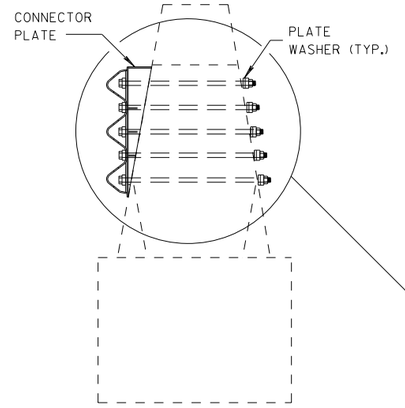
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

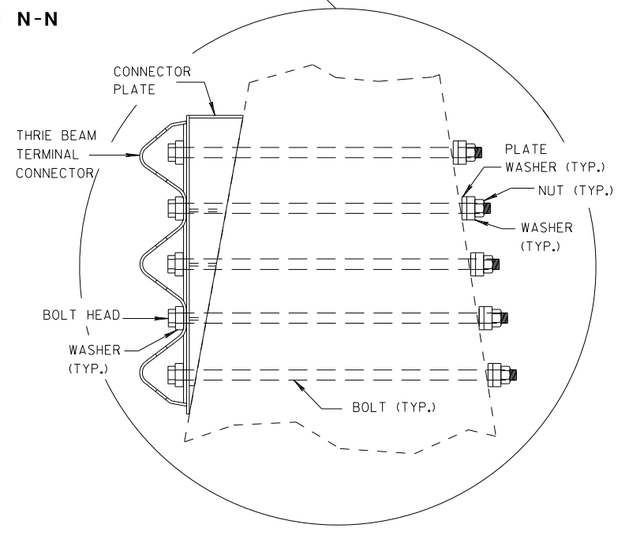
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SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

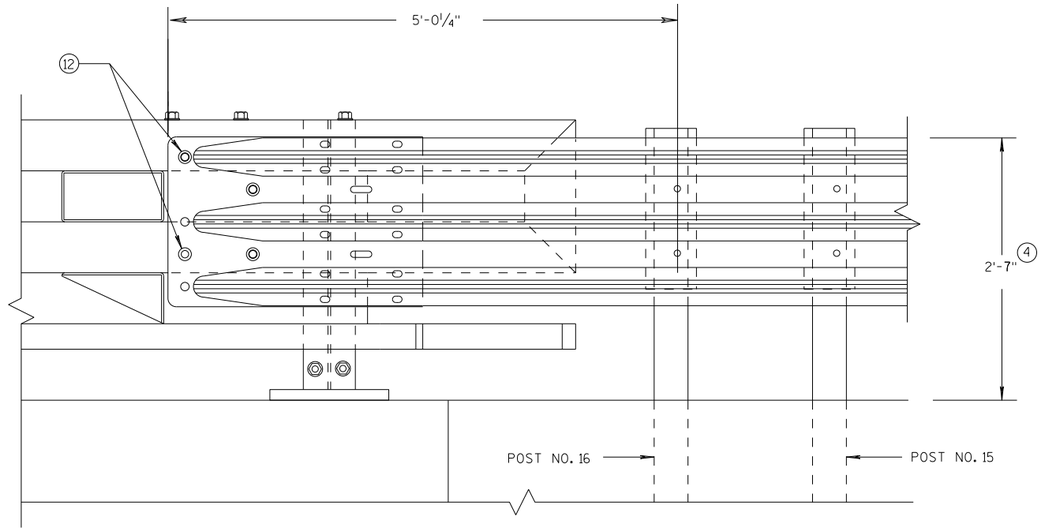
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7/2018
DATE
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S.D.D. 14 B 45-5j

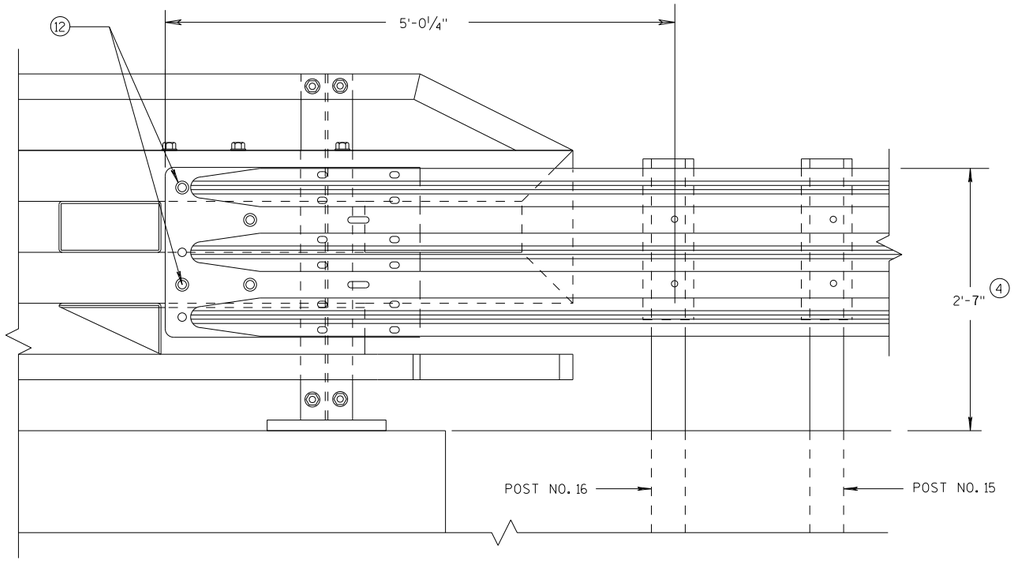
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S.D.D. 14 B 45-5j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

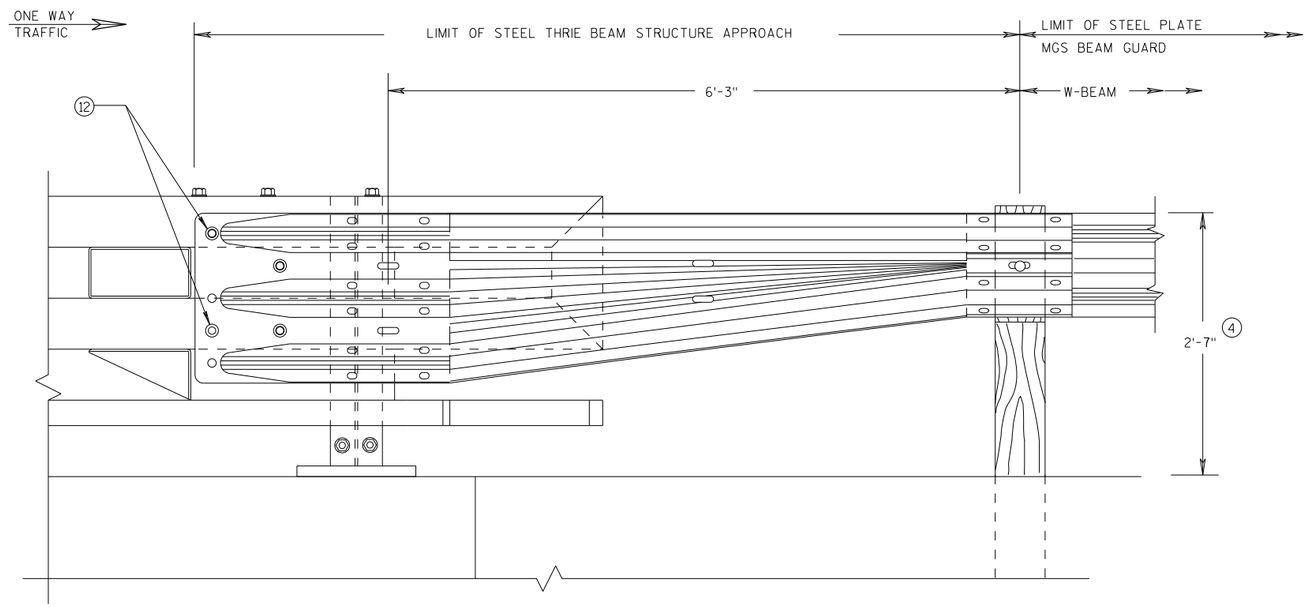
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S.D.D. 14 B 45-5k

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



FRONT VIEW

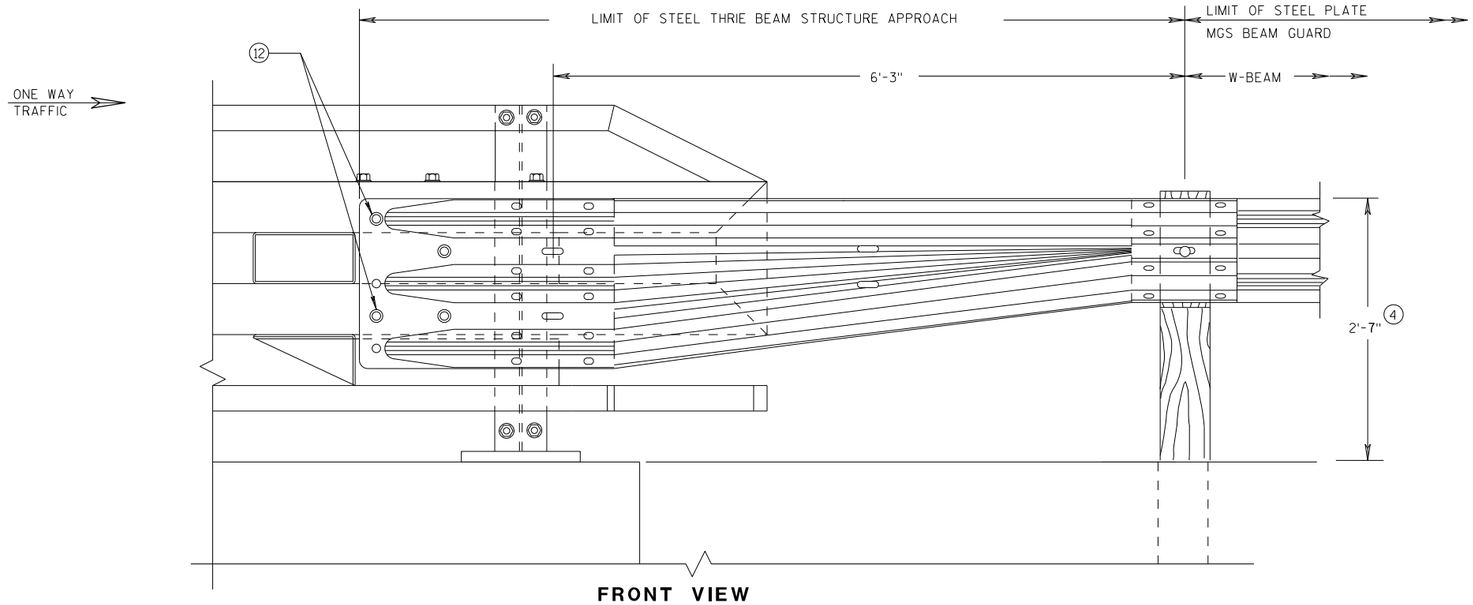
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

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

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

123

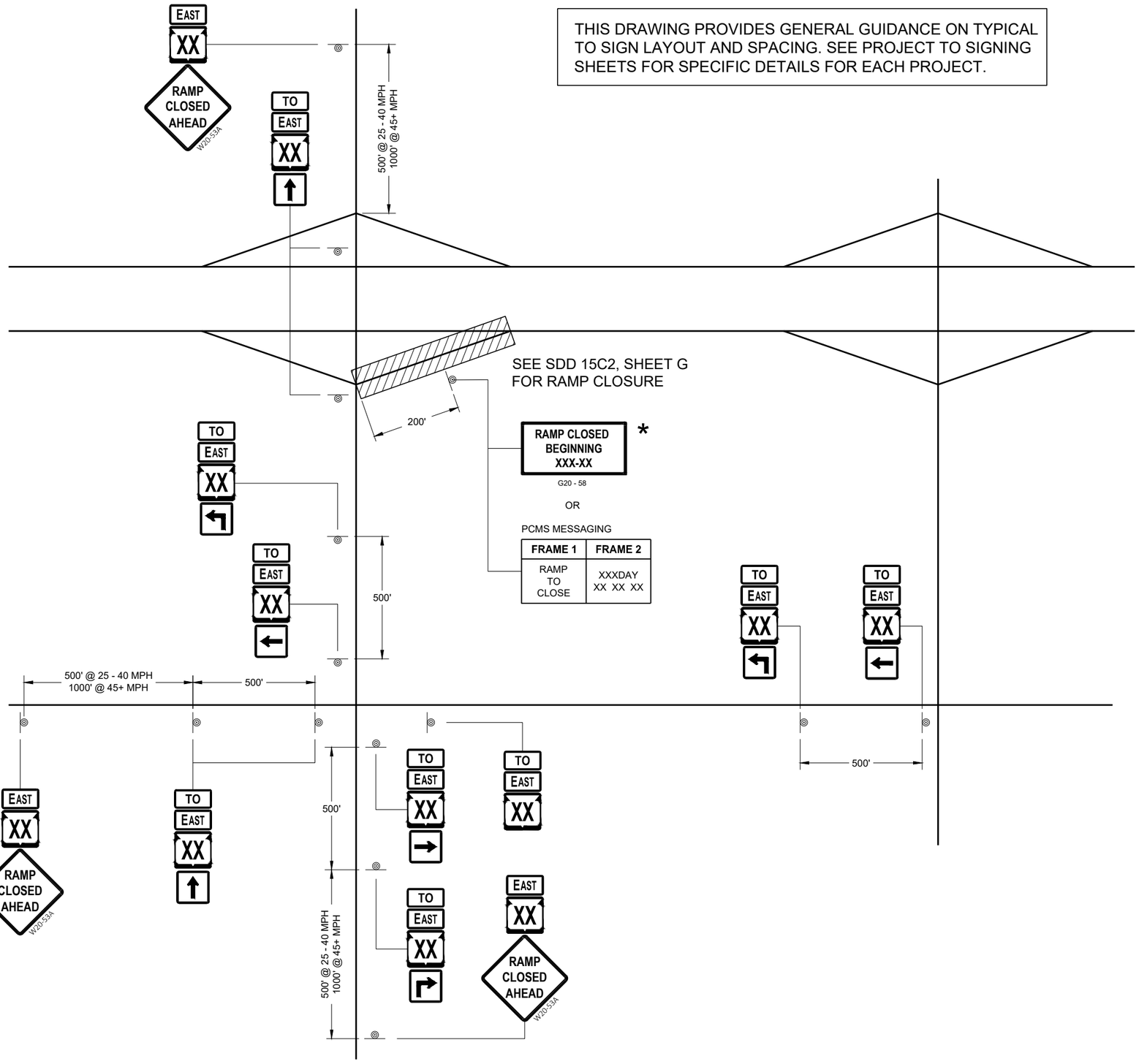
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S.D.D. 14 B 45-5L

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



THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL TO SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

LEGEND

SIGN ON PERMANENT SUPPORT

TO EAST — MO4 - 5, M3 - X

XX M1 - 6 OR XX M1 - 4 OR INTERSTATE XX M1 - 1

M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).
- W20 - 53A SHALL BE 48" X 48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

ON RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

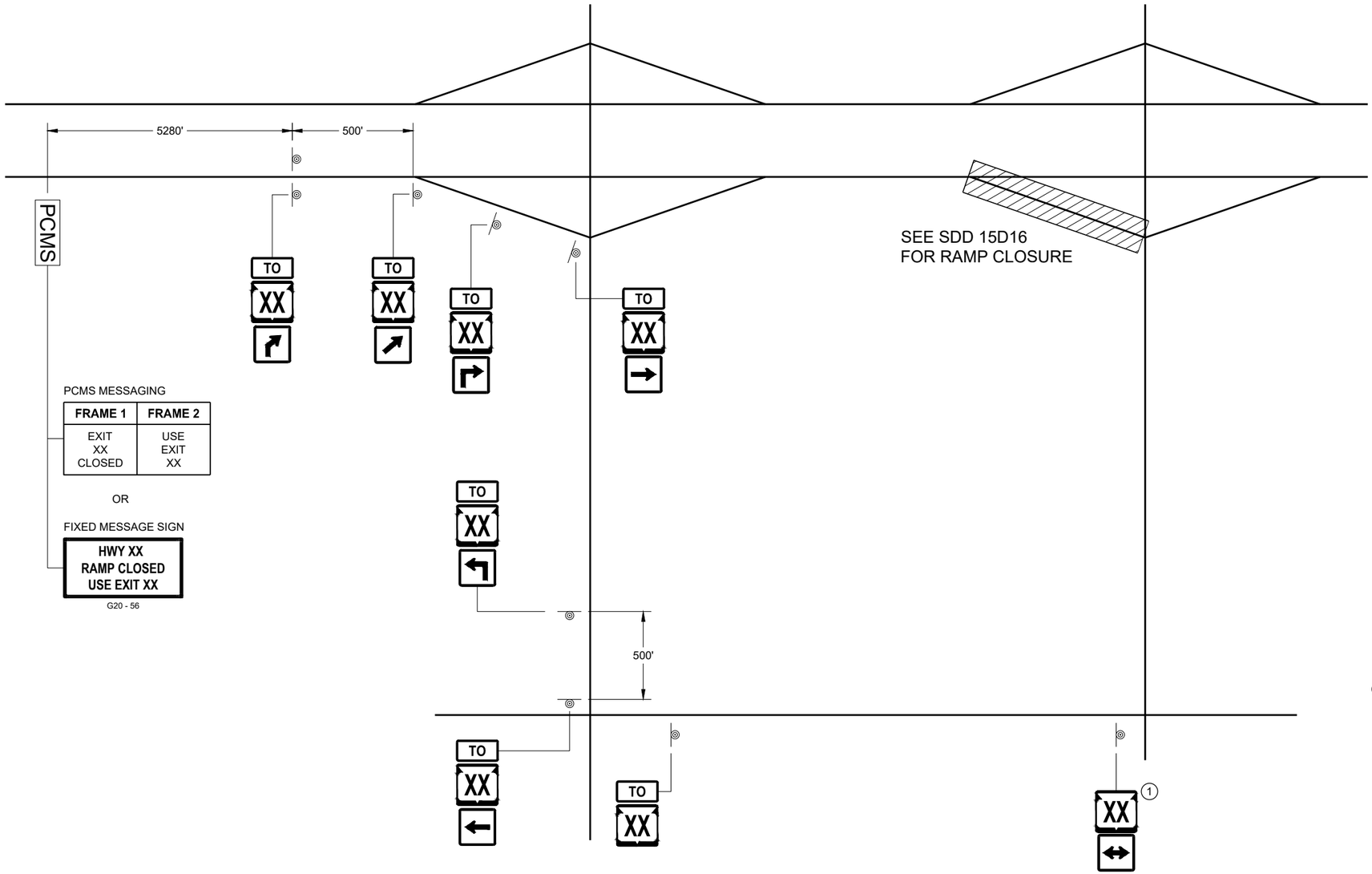
FHWA

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SDD 15C02 - 09d

SDD 15C02 - 09d

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX
RAMP CLOSED
USE EXIT XX

G20 - 56

LEGEND

SIGN ON PERMANENT SUPPORT

PCMS PORTABLE CHANGEABLE MESSAGE SIGN

TO MO4 - 5

XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A

M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

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

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

SIGN SIZES SHALL BE AS FOLLOW:
- MO4 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).
- M1 - 4, M1 - 5A, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).
- MO5 - 1, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

(1) ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

OFF RAMP
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

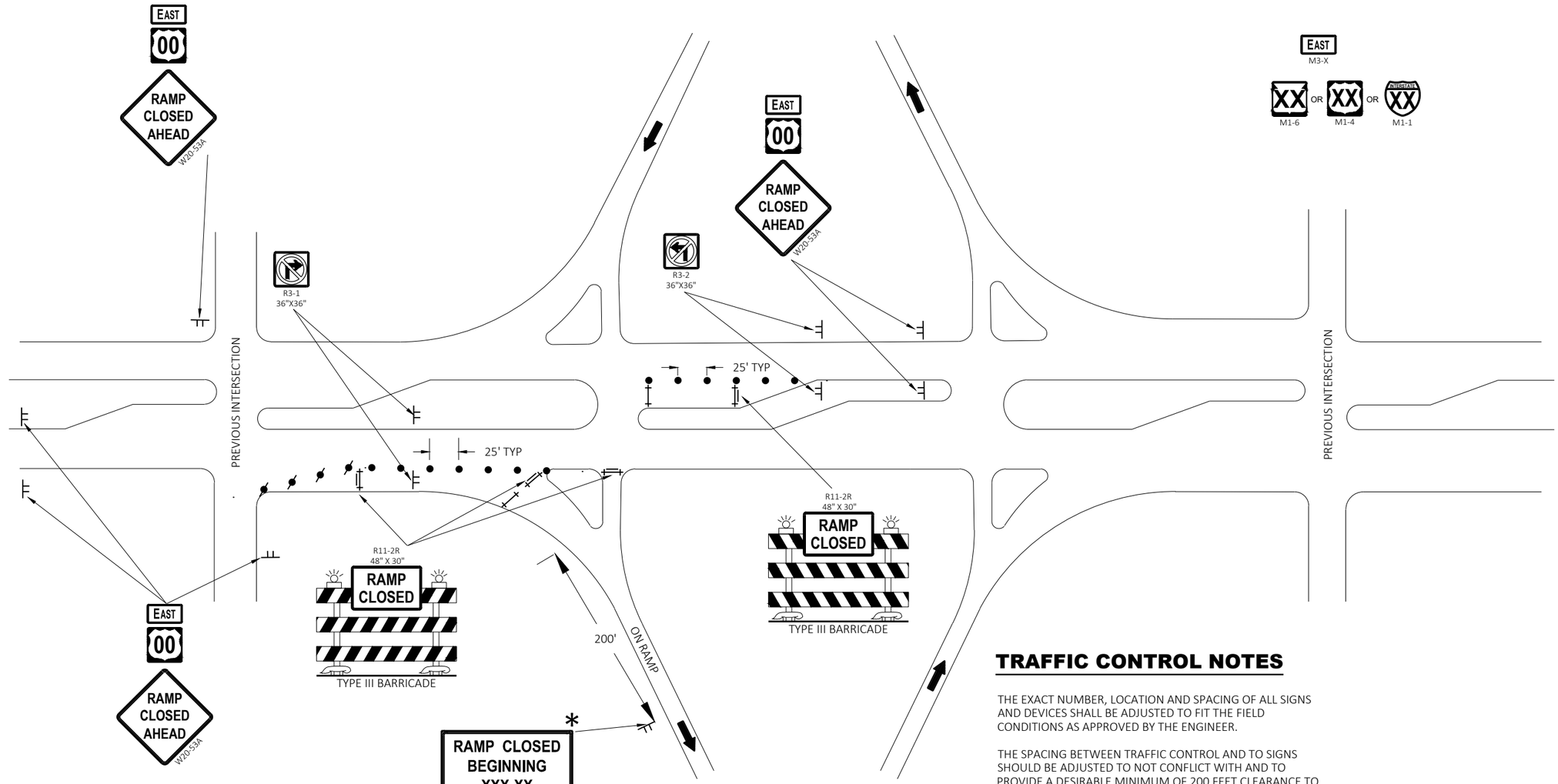
FHWA

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SDD 15C02 - 09e

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SDD 15C02 - 09e



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL NOTES

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24"x24" (36" x18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-1, M1-4, AND M1-6 SHALL BE 24"x24" (36"x36" IF NEEDED TO MATCH EXISTING SIGNS)
- W20-53A SHALL BE 48"X48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE

FHWA

6

SDD 15C02-09g

6

SDD 15C02-09g

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

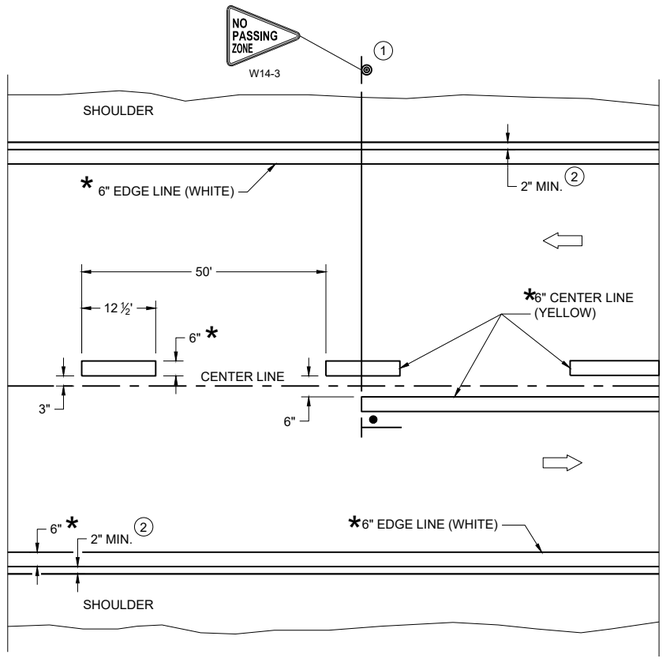
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

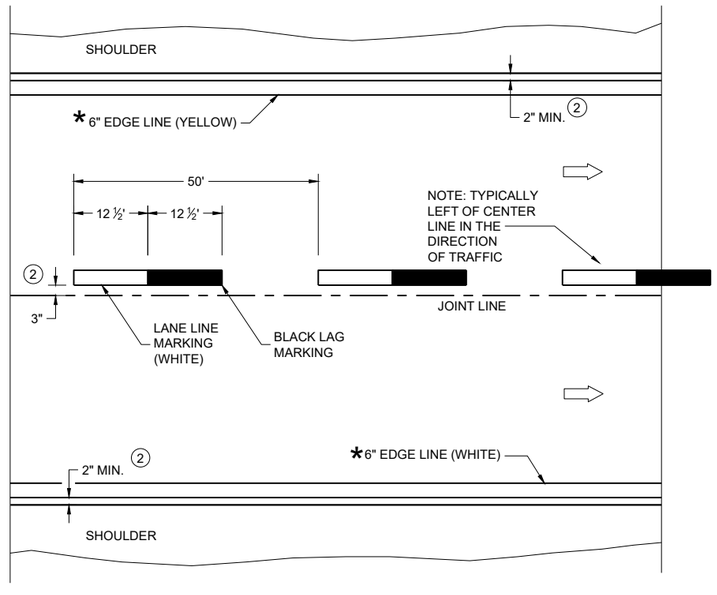
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	

6

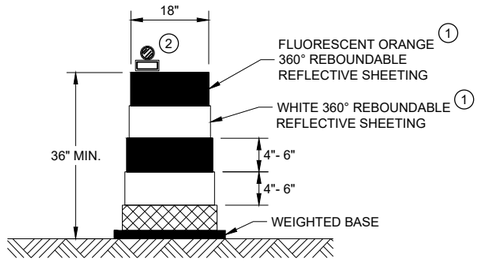
SDD 15C08-23a

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SDD 15C08-23a

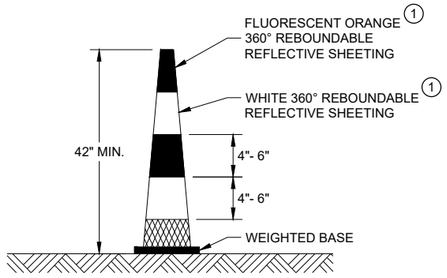
GENERAL NOTES

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



DRUM

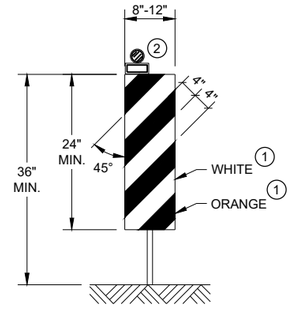
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

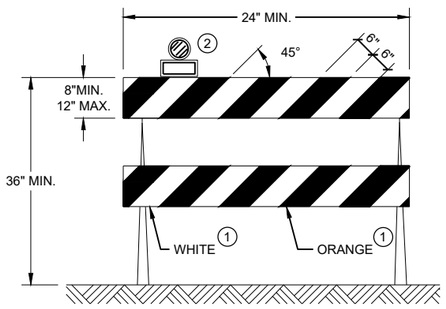
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



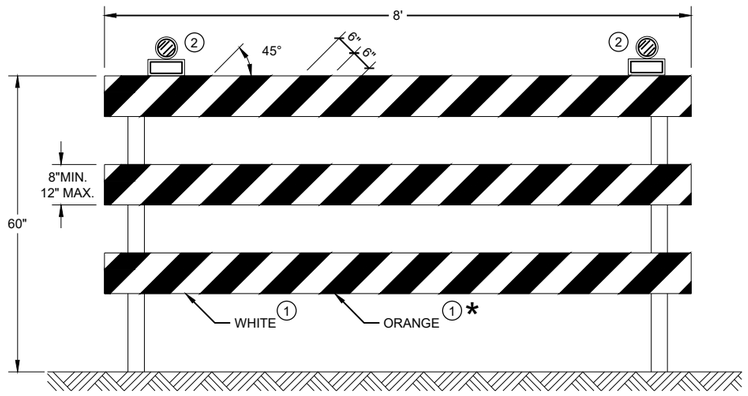
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15C11 - 10b

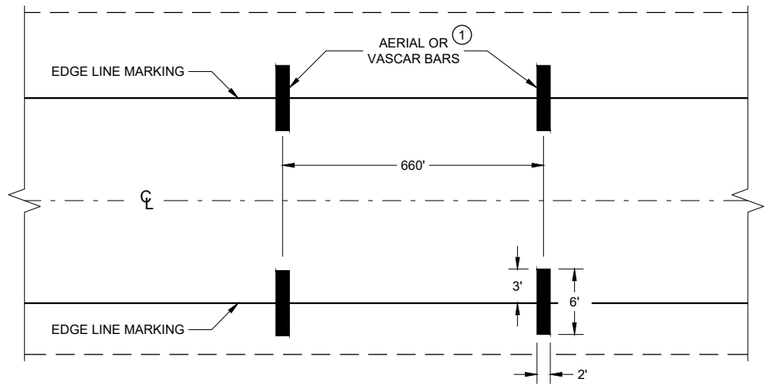
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SDD 15C11 - 10b

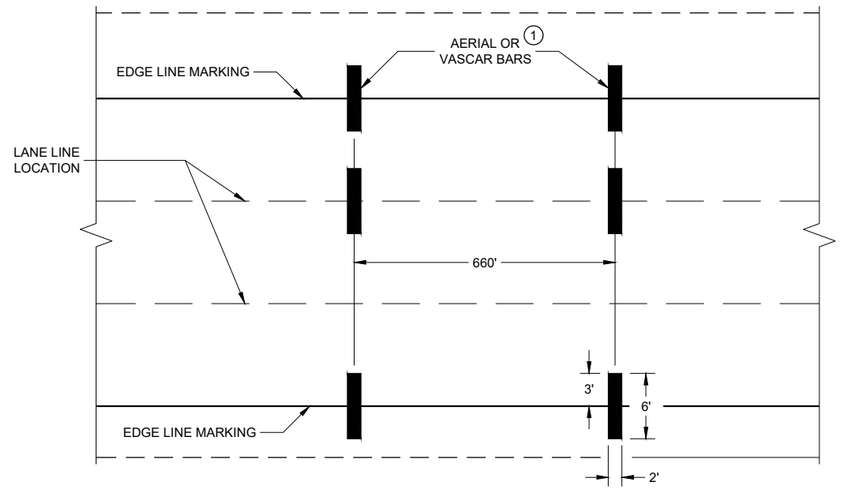
GENERAL NOTES

(1) PLACE TWO TO FIVE AERIAL OR VASCAR BARS AT 660 FOOT SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

February 2021
DATE

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

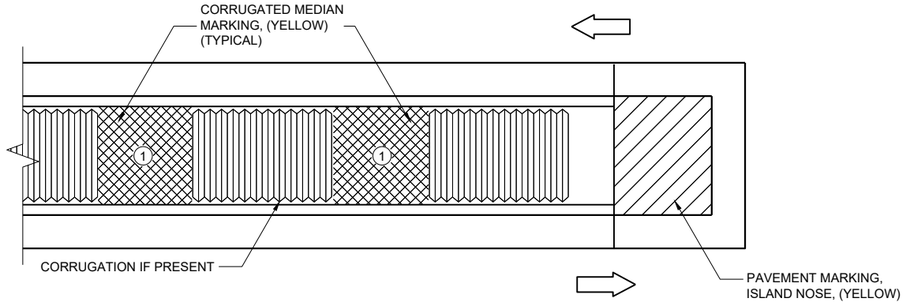
FHWA

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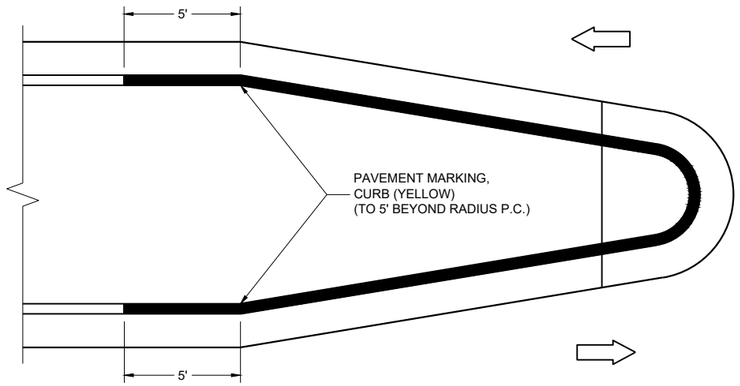
SDD 15C14 - 04

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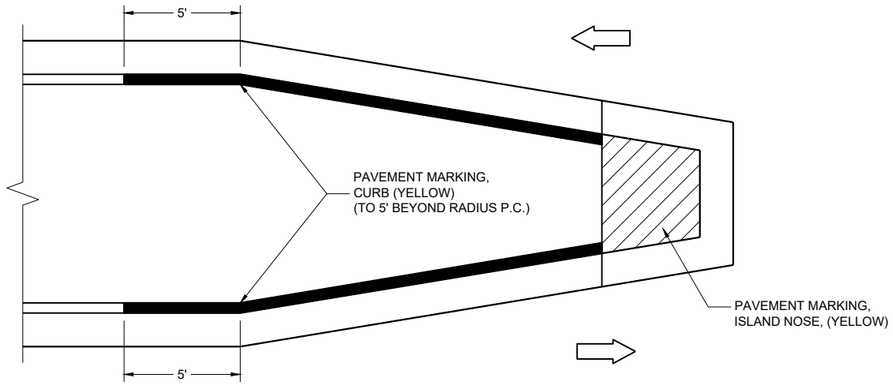
SDD 15C14 - 04



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

**TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS**

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

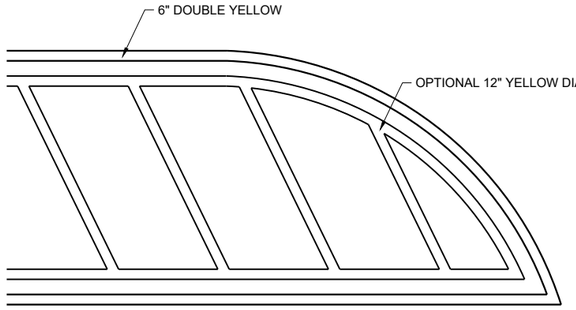
(1) APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL



FLUSH MEDIAN ISLAND NOSE

**PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

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SDD 15C18-09b

LEGEND

V1 MARKING VEHICLE

V2 SHADOW VEHICLE

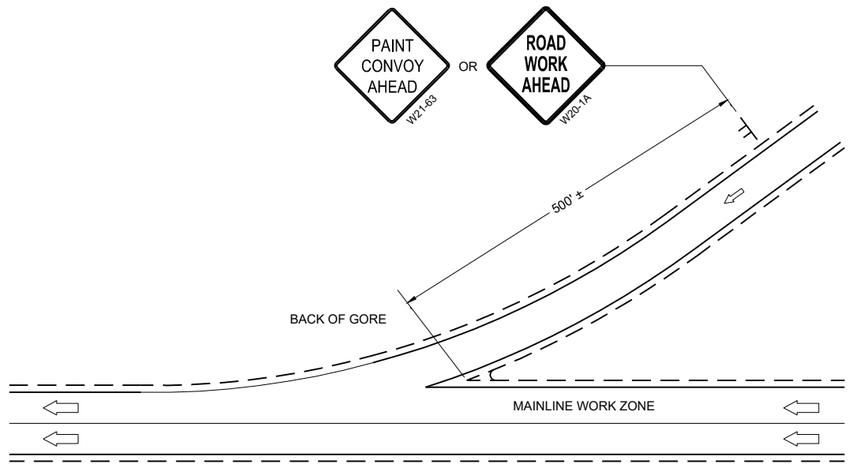
V3 TRAIL VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (MERGE)



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

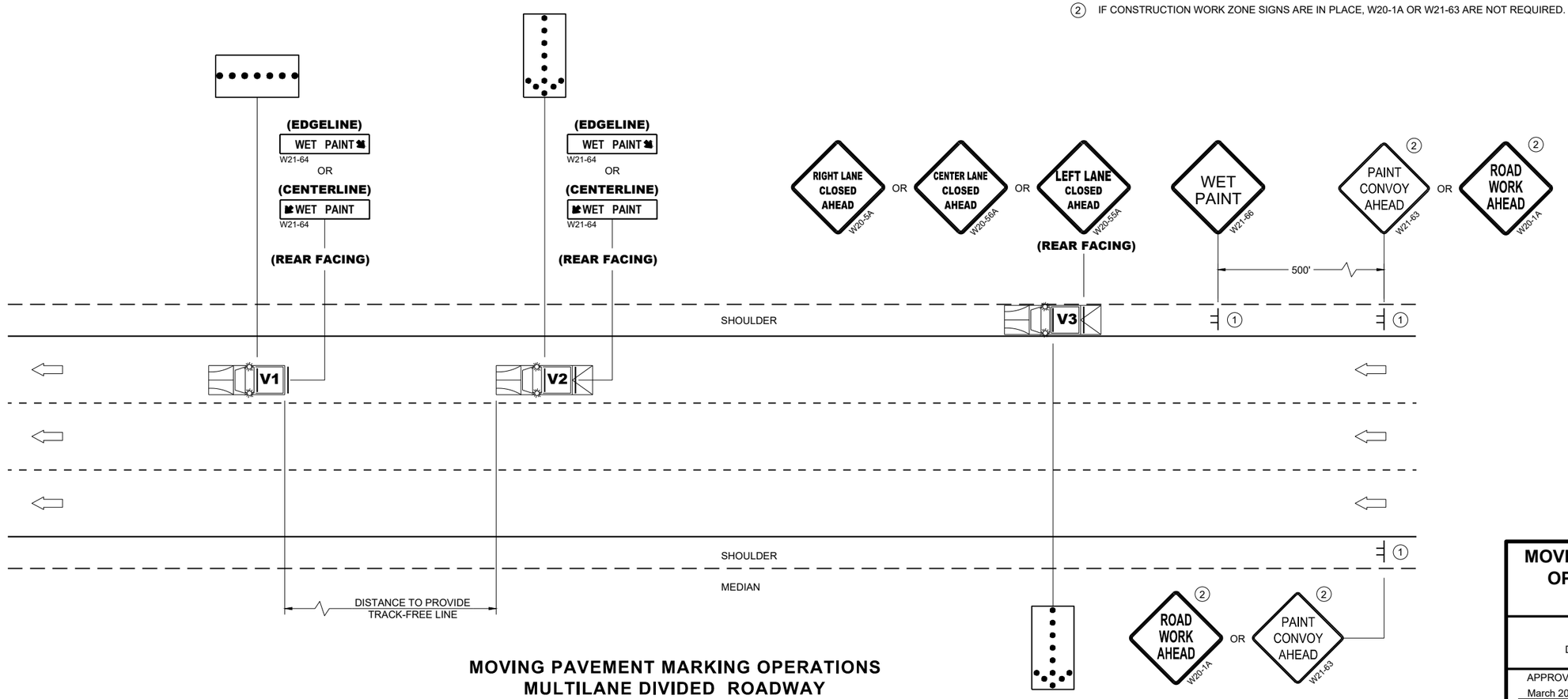
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

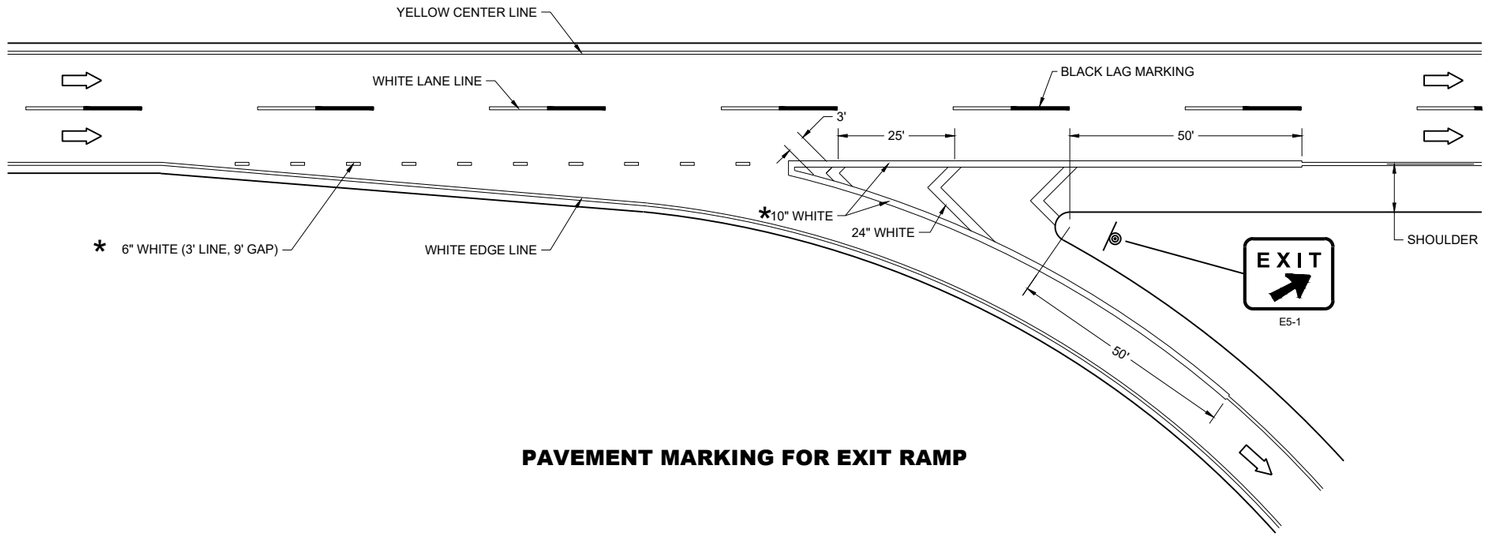
FHWA

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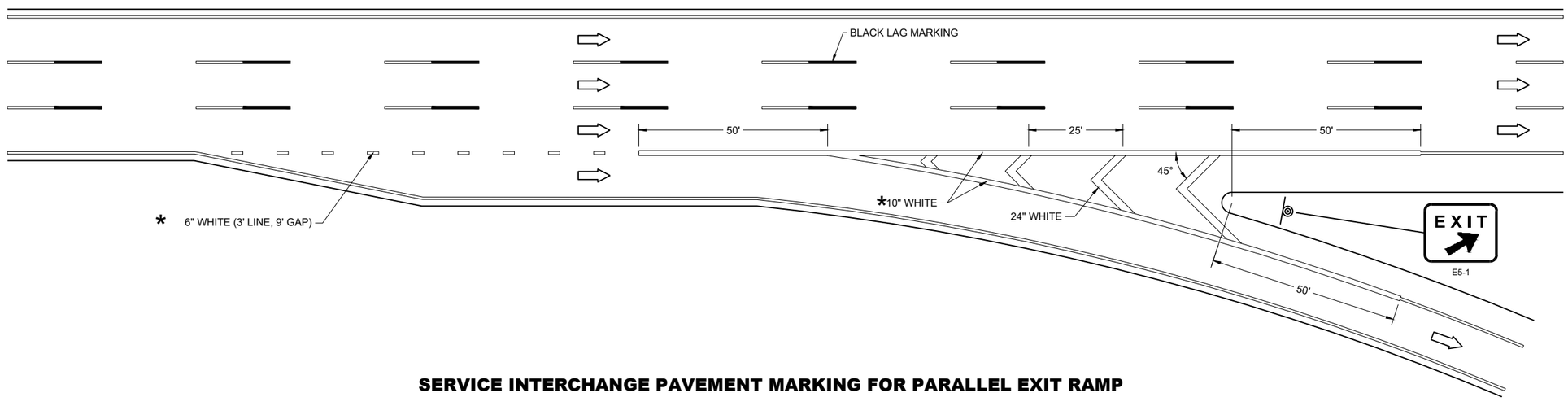
SDD 15C19-9c

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SDD 15C19-9c



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

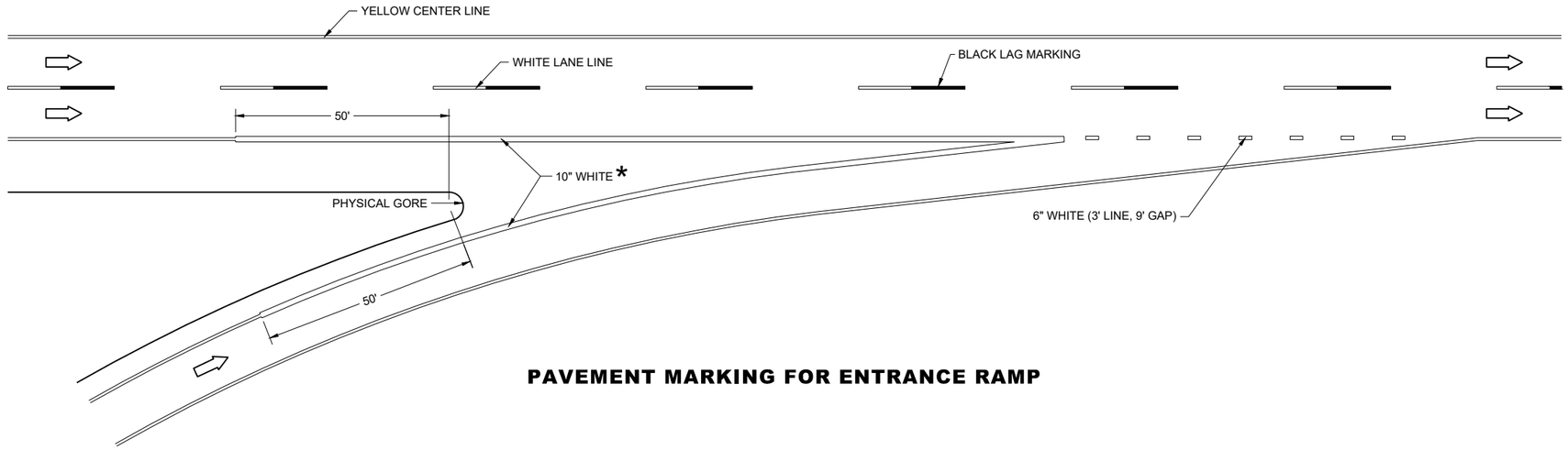
PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 15C31-08a

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

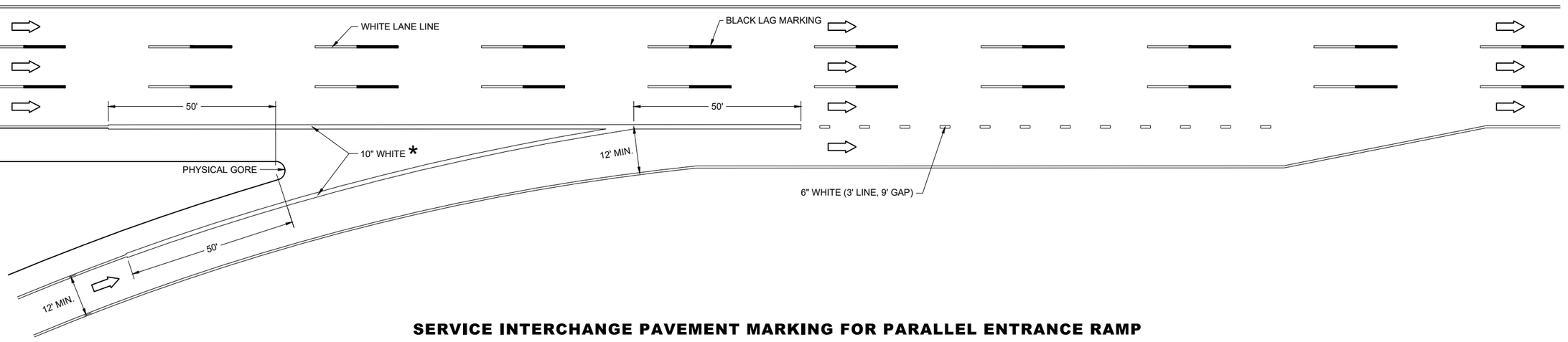


PAVEMENT MARKING FOR ENTRANCE RAMP

LEGEND

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

6

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SDD 15C31-08c

SDD 15C31-08c

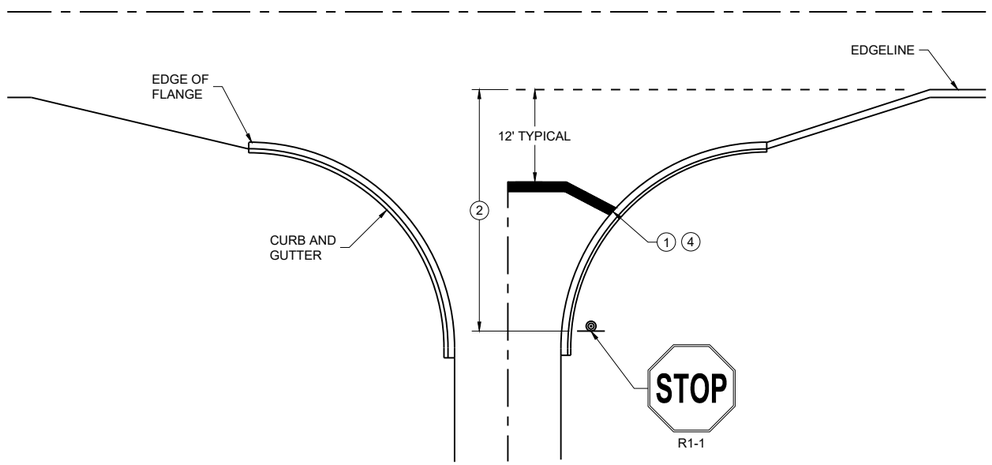
PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

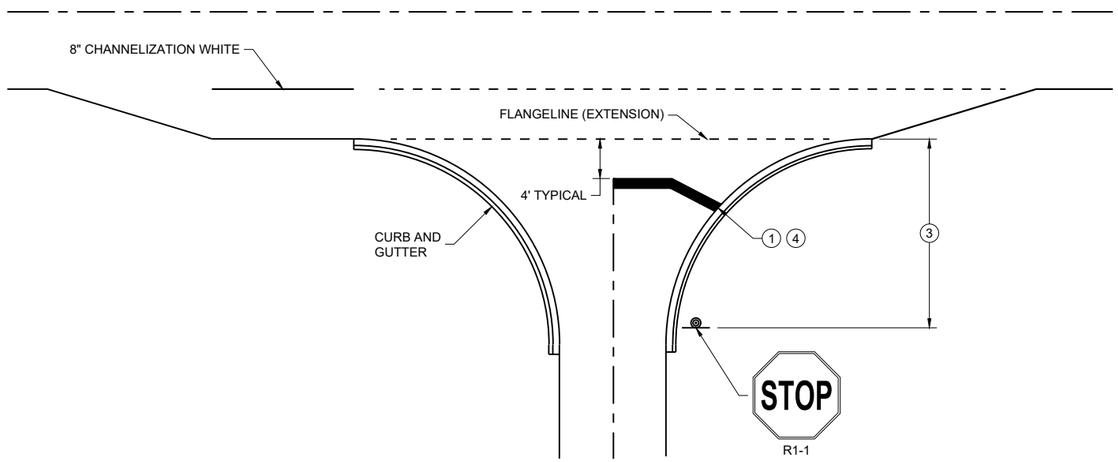
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

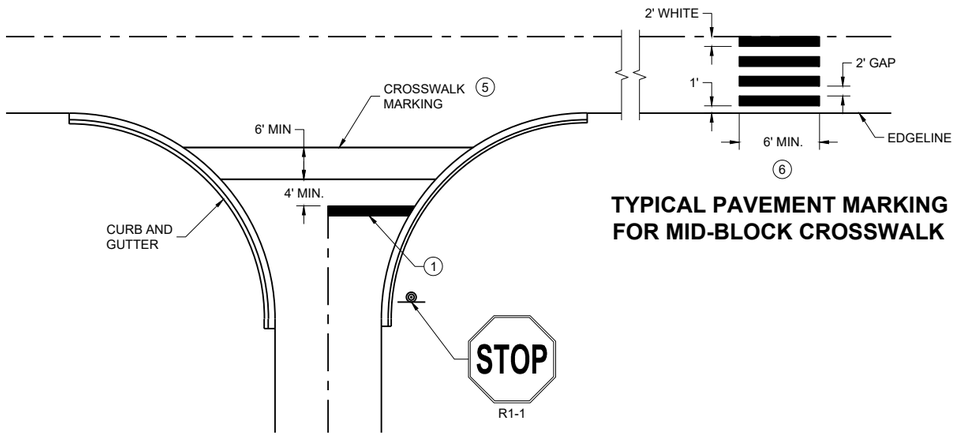
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

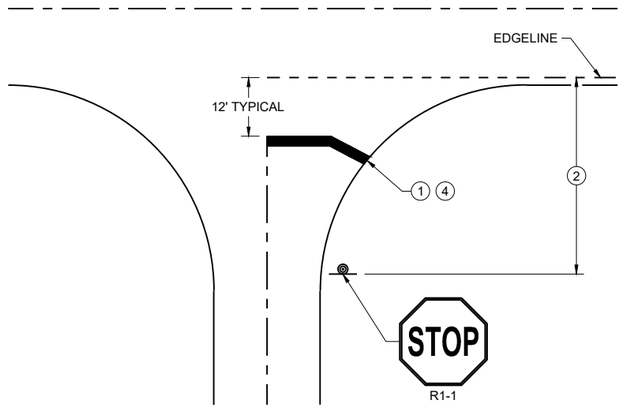


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK (5)

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

6

SDD 15C33-05

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

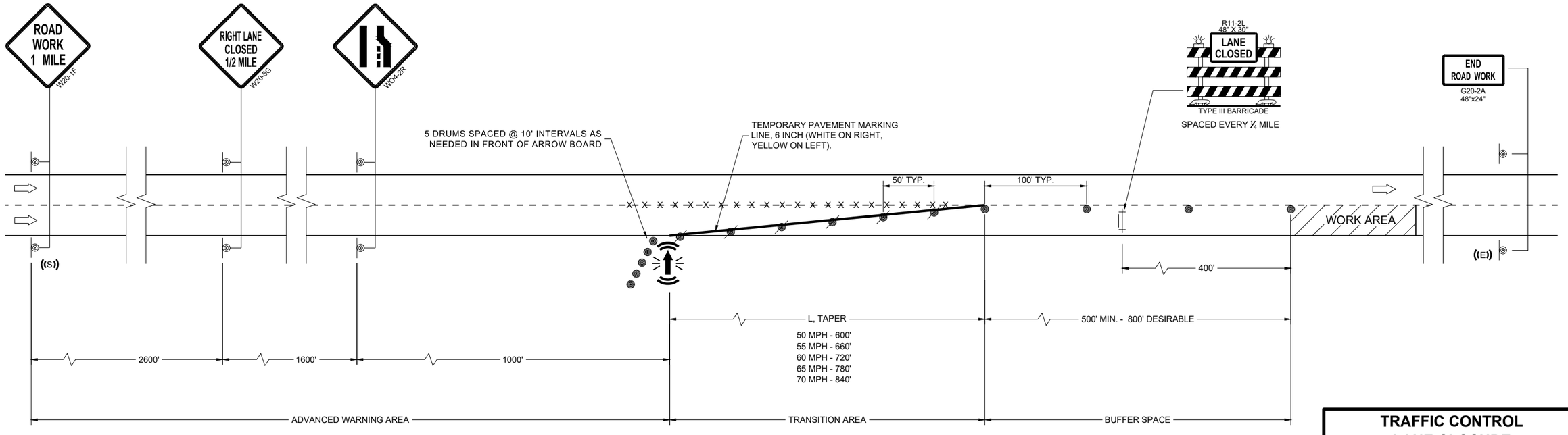
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER



TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6

SDD 15D12-14a

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SDD 15D12-14a

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

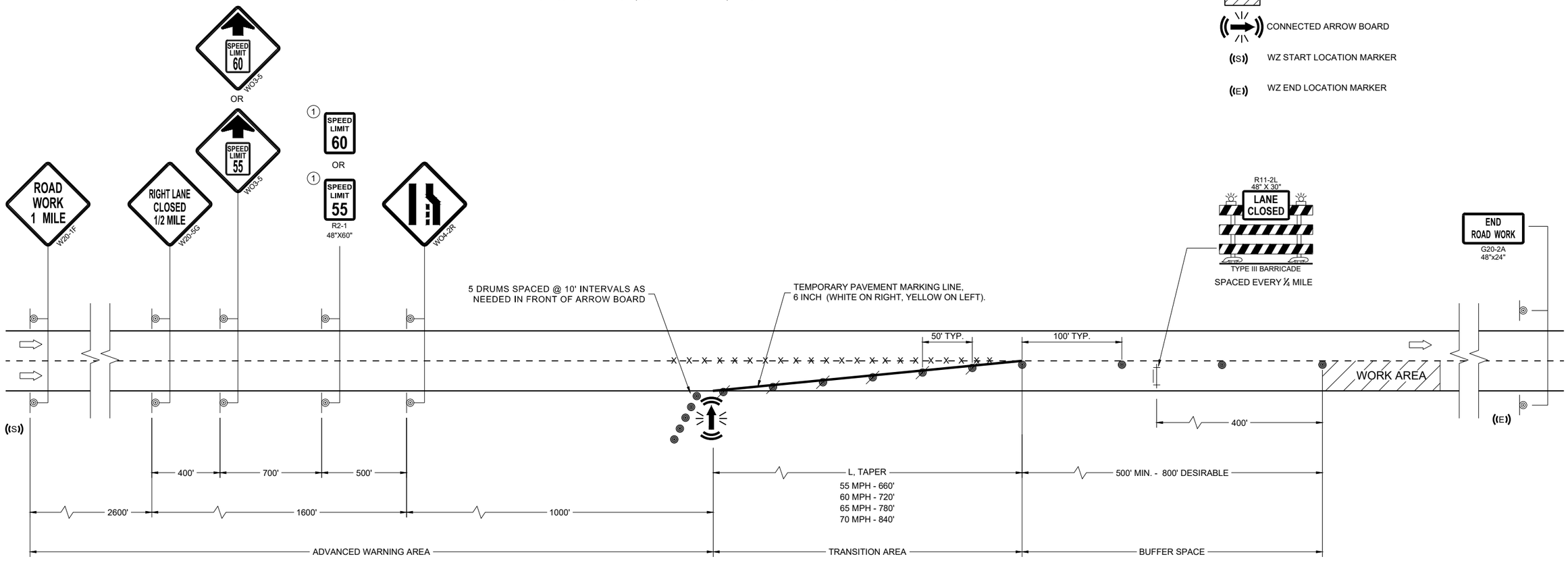
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

(1) A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- (S) WZ START LOCATION MARKER
- (E) WZ END LOCATION MARKER



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

6
SDD 15D12-14b

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- (S) — PORTABLE TRAFFIC SENSOR (PTS)
- (S) — WZ START LOCATION MARKER
- (E) — WZ END LOCATION MARKER

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED SIGNS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

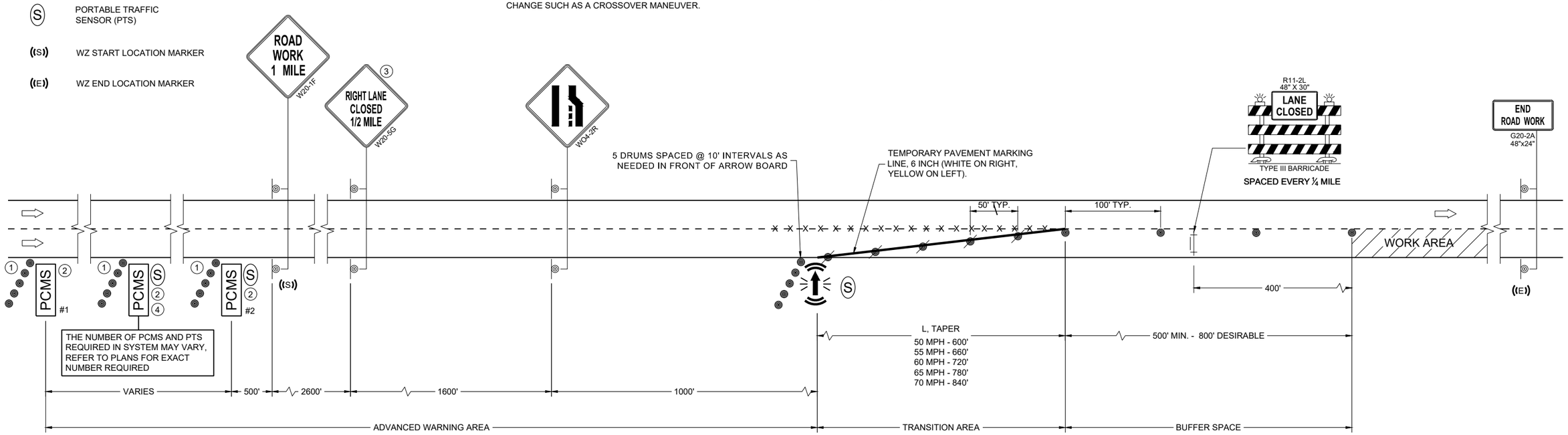
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CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON PCMS, ARROW BOARD OR OTHER TRAILER DEVICES.

1. 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
2. IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE PCMS ON BOTH SIDES OF THE ROADWAY.
3. IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A "RESUME SPEED LIMIT" SIGN 200 FEET MINIMUM (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.
4. PLACE PCMS EVERY ONE MILE BETWEEN PCMS #1 AND PCMS #2, OR AS THE ENGINEER DIRECTS. THE NUMBER OF PCMS MAY BE MORE THAN SHOWN ON THIS DETAIL.
5. PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE OR ARROW MERGE MODE.



⑤ PCMS MESSAGING

SPEEDS 0 MPH TO 19 MPH		SPEEDS 20 MPH TO 39 MPH		SPEEDS 40 MPH AND GREATER
FRAME 1	FRAME 2	FRAME 1	FRAME 2	
STOPPED TRAFFIC AHEAD	EXPECT DELAYS	SLOW TRAFFIC AHEAD	PREPARE TO STOP	(FLASHING CAUTION MODE)

TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Erin Schwark — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

SDD 15D12-14e

SDD 15D12-14e

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.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

IF THE SPEED LIMIT WILL CHANGE BASED ON THE PRESENCE OF WORKERS, USE THE TAPER LENGTH THAT MATCHES THE HIGHER OF THE TWO SPEEDS FOR A CONTINUOUS LANE CLOSURE.

(1) EXISTING POST MOUNTED SPEED LIMIT SIGNS SHOULD BE COVERED OR REMOVED.

(2) PLACE DSLT IN ADVANCE WARNING AREA AND THROUGHOUT PROJECT LIMITS. IF THE LANE CLOSURE MOVES DOWNSTREAM, LEAVE DSLT IN PLACE.

(3) AT EXISTING POST MOUNTED SPEED LIMIT SIGN AFTER THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. IF THERE IS NOT AN EXISTING SIGN, PLACE 1,500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP

(4) IF WORK AREA STARTS LESS THAN 1,000 FEET FROM END OF LANE CLOSURE TAPER, OMIT DIGITAL SPEED LIMIT TRAILER AT THAT LOCATION.

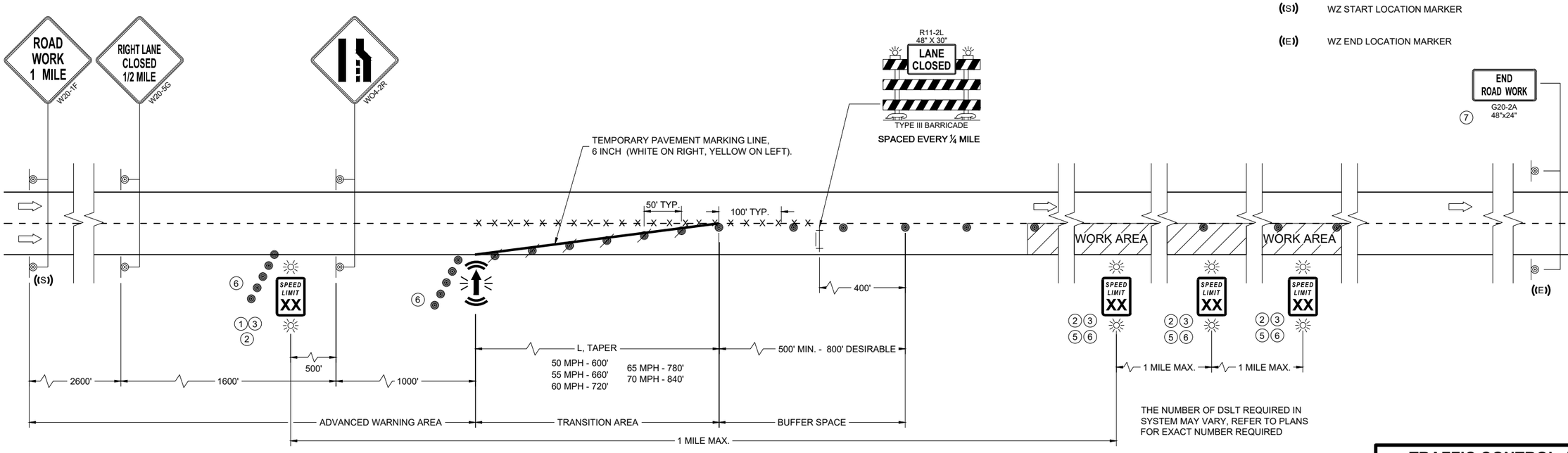
(5) PLACE A DIGITAL SPEED LIMIT TRAILER A MINIMUM OF EVERY ONE MILE. MODIFY PLACEMENT AS DIRECTED BY ENGINEER WHEN DIGITAL SPEED LIMIT TRAILER IS LOCATED IN CLOSE PROXIMITY TO AN ACCELERATION LANE OF AN ENTRANCE RAMP.

(6) 5 DRUMS SPACED @ 10' INTERVALS AS NEEDED.

(7) INCLUDE NON-DIGITAL R2-1 RESUME SPEED LIMIT SIGNS 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END ROAD WORK" SIGN.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- DIGITAL SPEED LIMIT TRAILER (DSLT)
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER



TRAFFIC CONTROL, LANE CLOSURE, DIGITAL SPEED REDUCTION SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 — DATE
/S/ Andrew Heidtke — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6 SDD 15D12-14g

6 SDD 15D12-14g

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

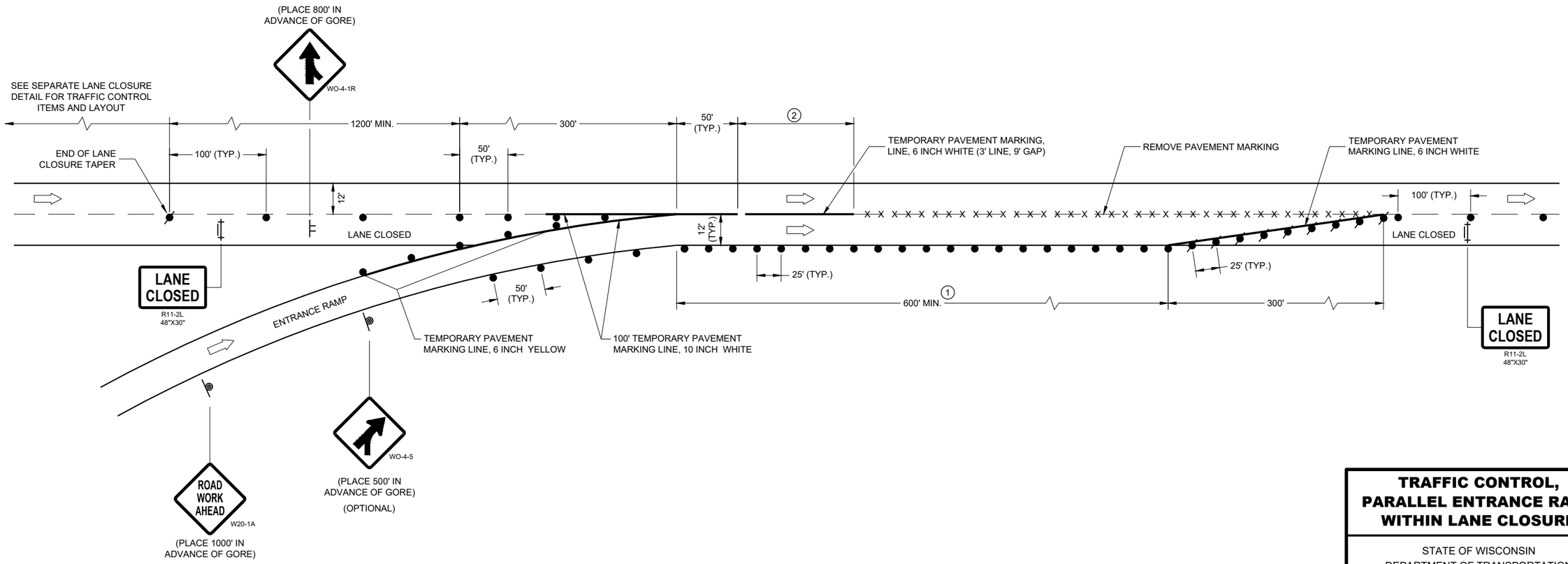
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D15-07a

6

SDD 15D15-07a

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS /OR DRUMS IN THE GORE BETWEEN THE EXIT RAMP AND MAINLINE TRAFFIC.

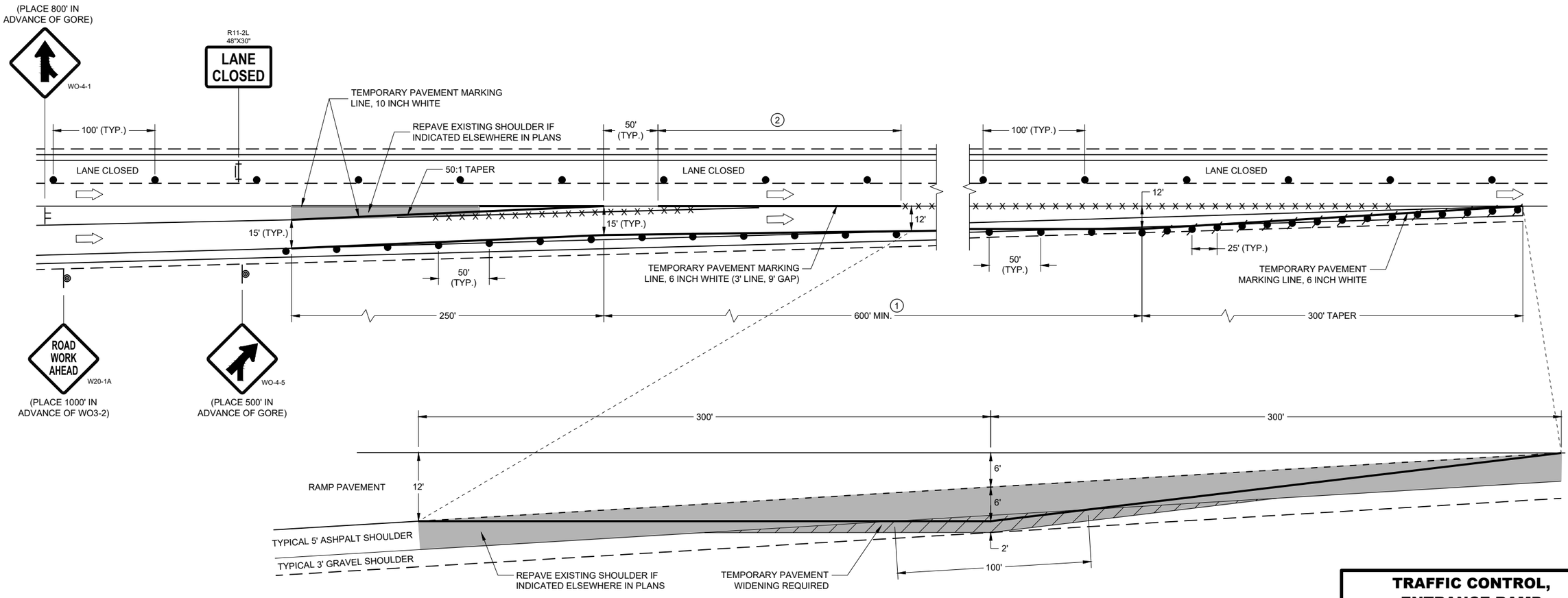
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) EXTEND THE LENGTH OF THE MERGE AREA IF THE ENTERING (DESIGN) SPEED OF THE RAMP IS LESS THAN 50 MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.

(2) END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



TEMPORARY PAVEMENT DETAIL

(EXISTING RAMP DIMENSIONS MAY VARY, ADJUST TEMPORARY PAVEMENT ACCORDINGLY)

TRAFFIC CONTROL, ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D15-07b

6

SDD 15D15-07b

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

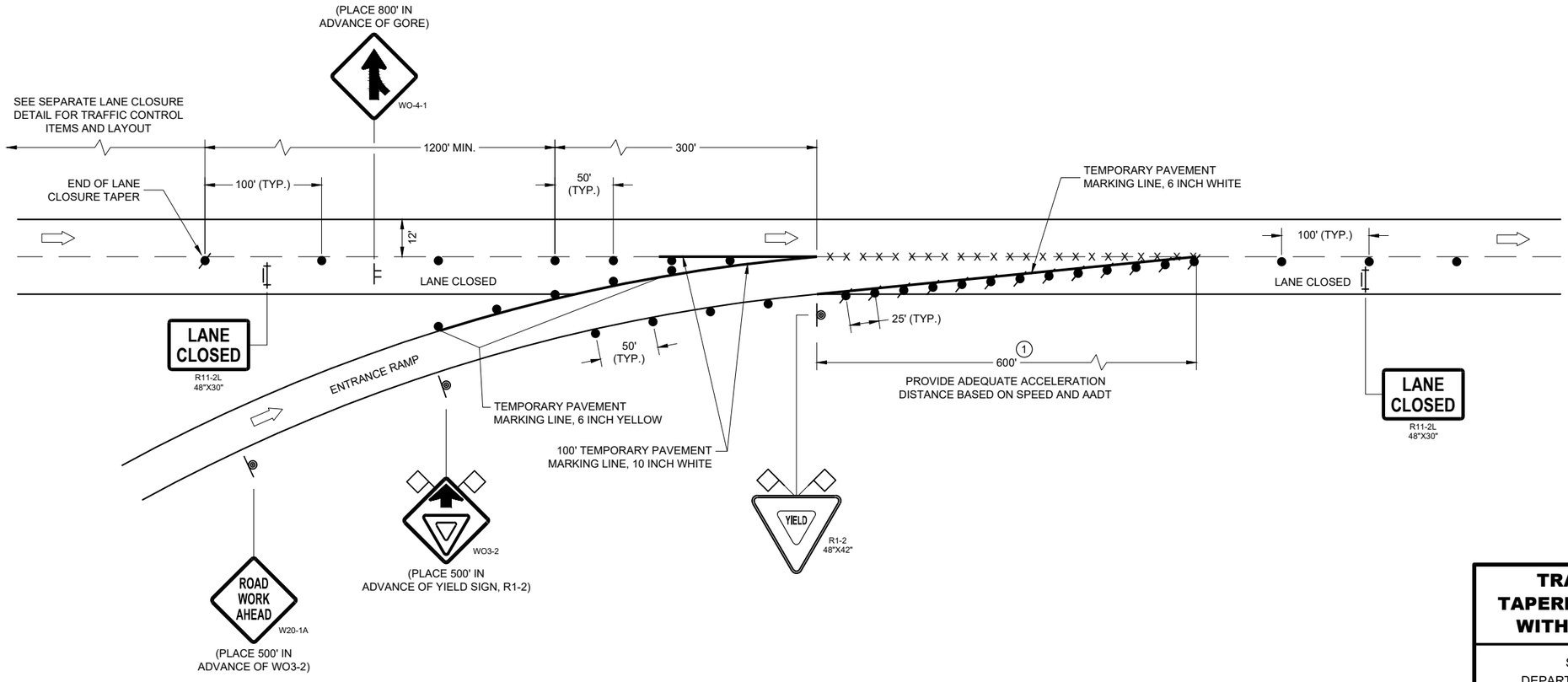
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 15D15-07c

6

SDD 15D15-07c

LEGEND

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE III BARRICADE WITH ATTACHED SIGN

FLAGS, 16" X 16" MIN., ORANGE

DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

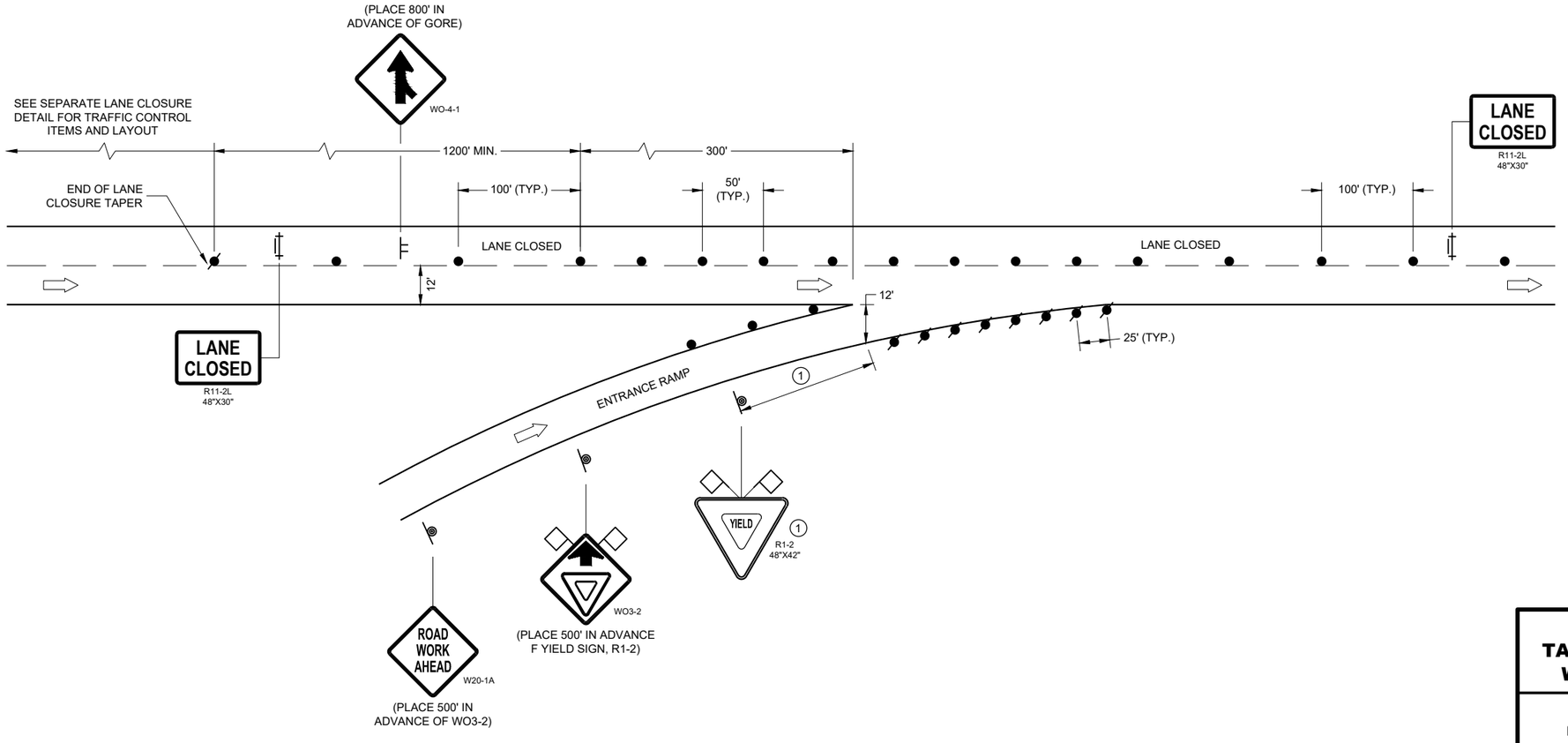
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IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

(1) PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 15D15-07d

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SDD 15D15-07d

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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" X 48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

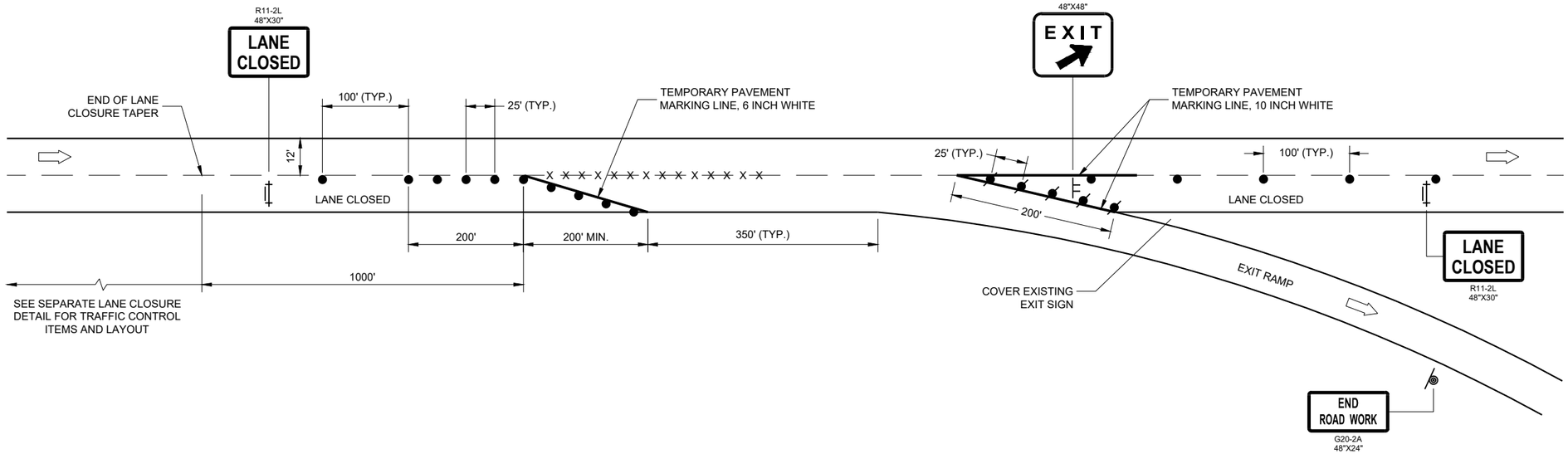
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ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.



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SDD 15D15-07e

TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

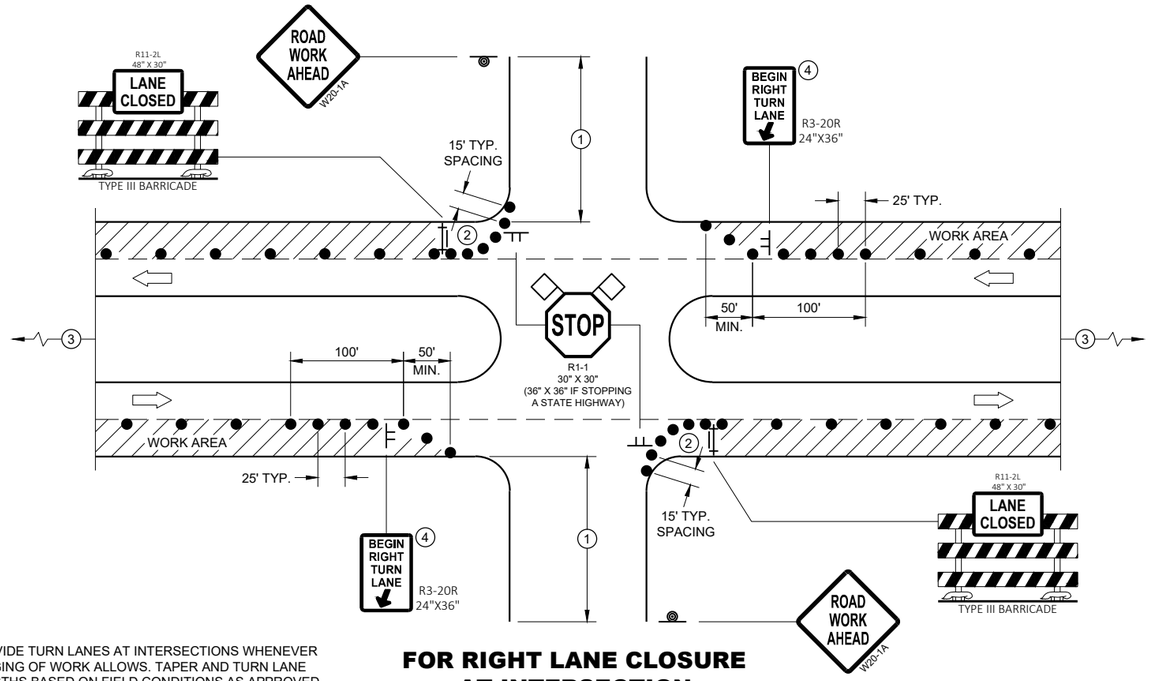
APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

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SDD 15D15-07e



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

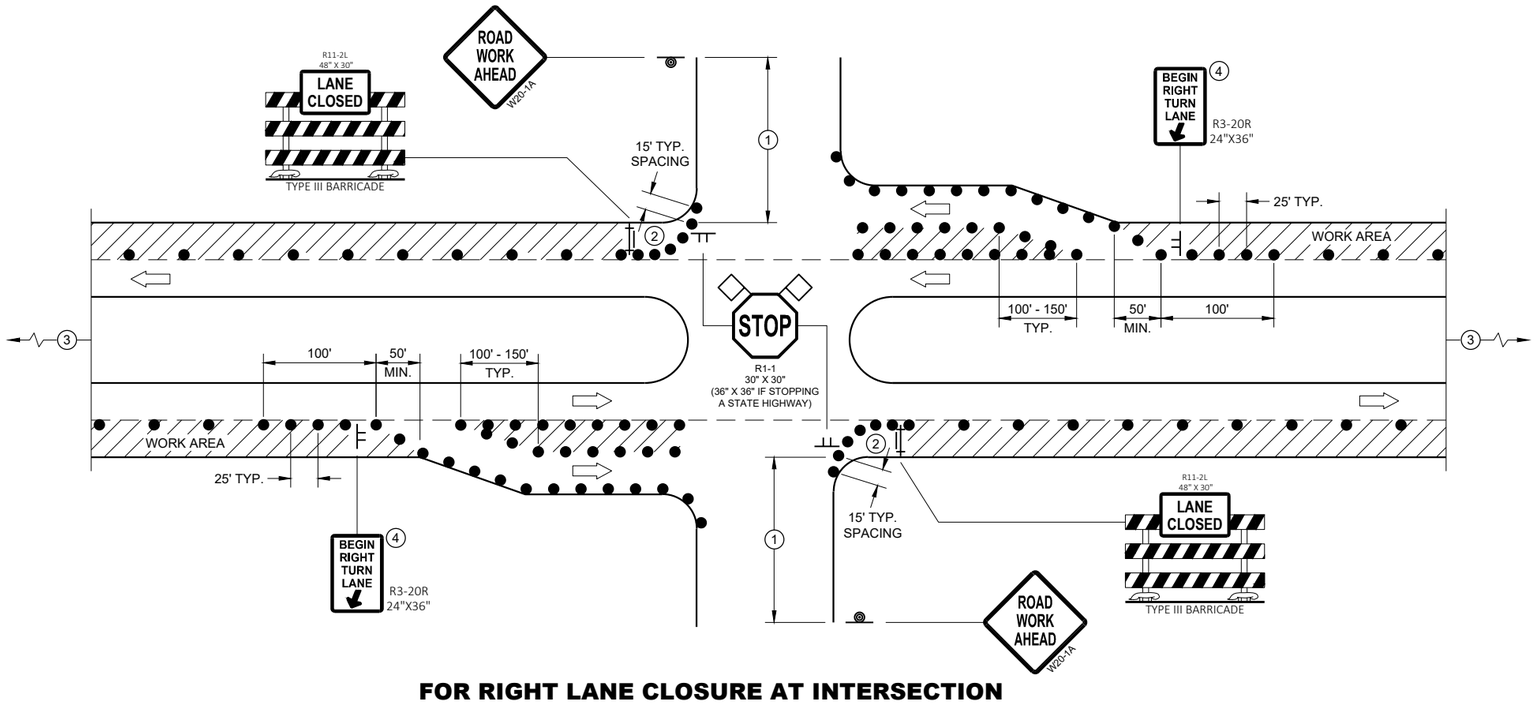
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

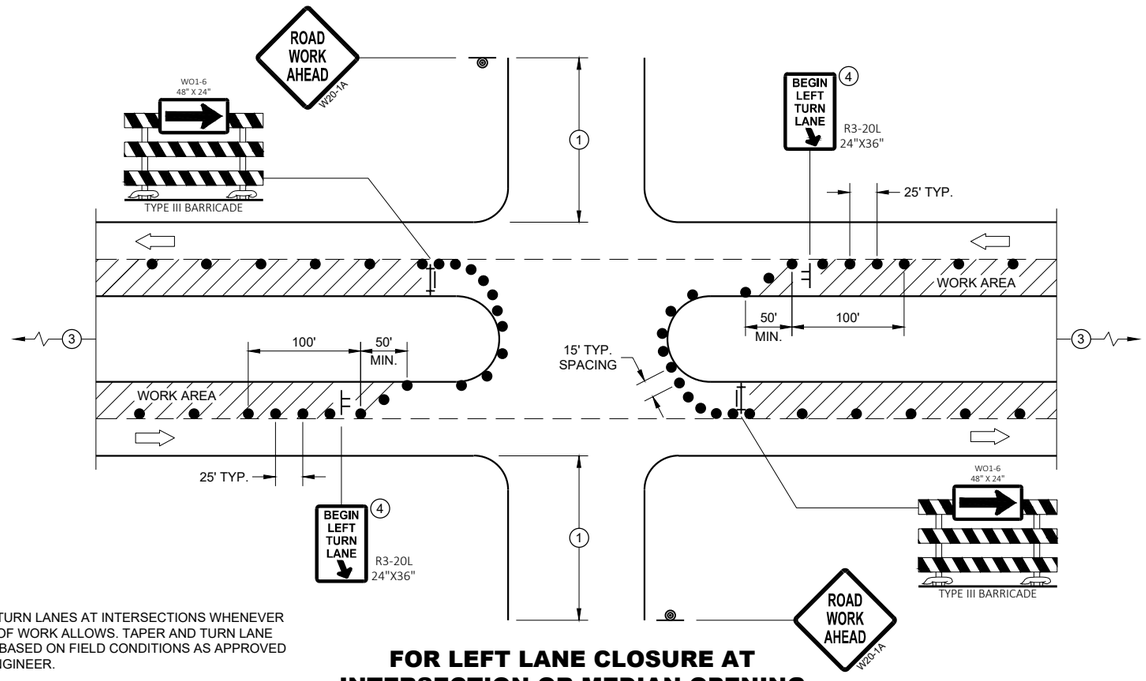
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 15D21 - 07a

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SDD 15D21 - 07a



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

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

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

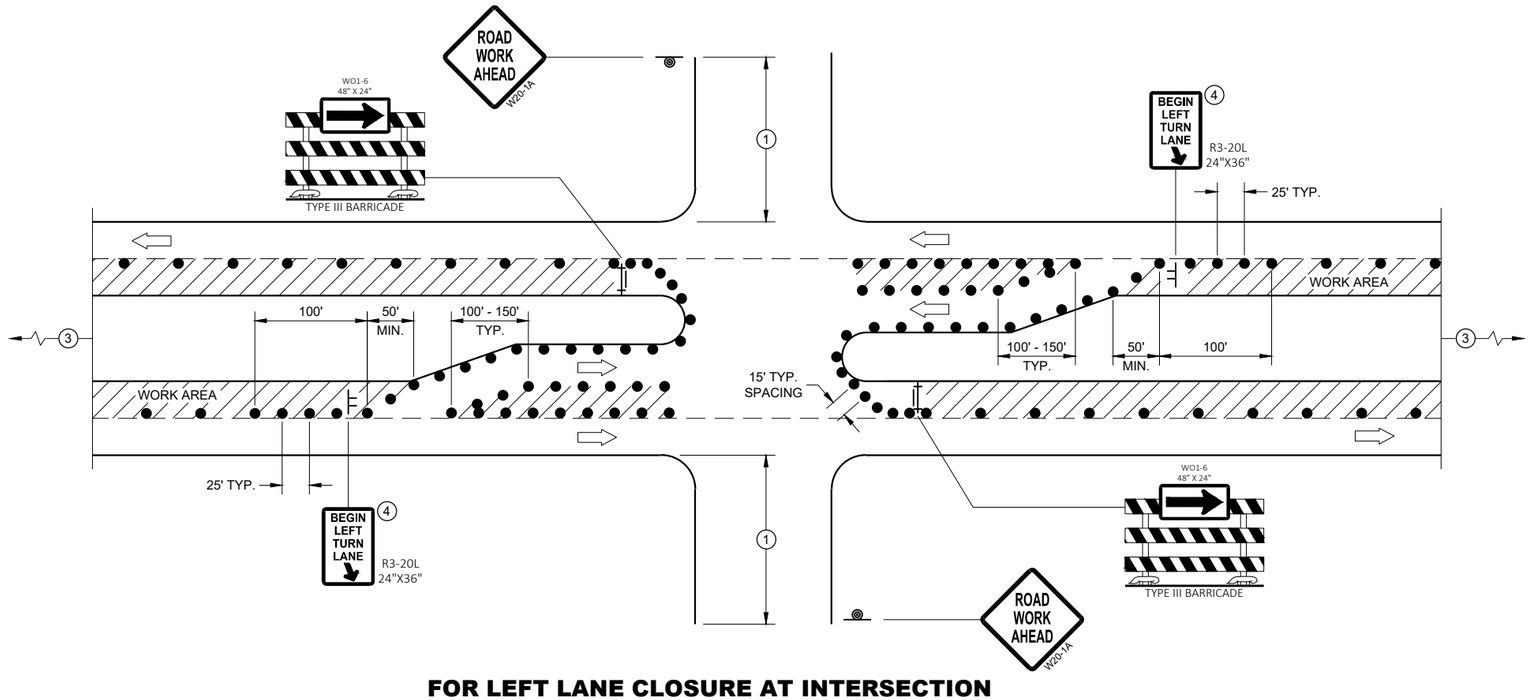
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

(1) 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

(2) ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

(3) SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

(4) MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D21 - 07b

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SDD 15D21 - 07b

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

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

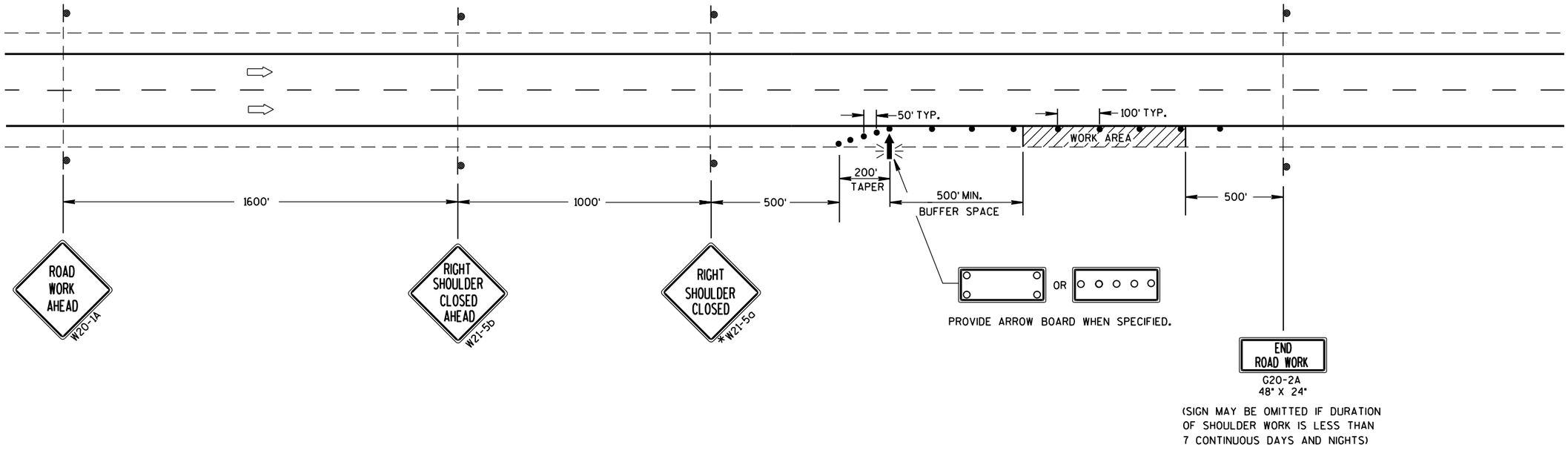
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

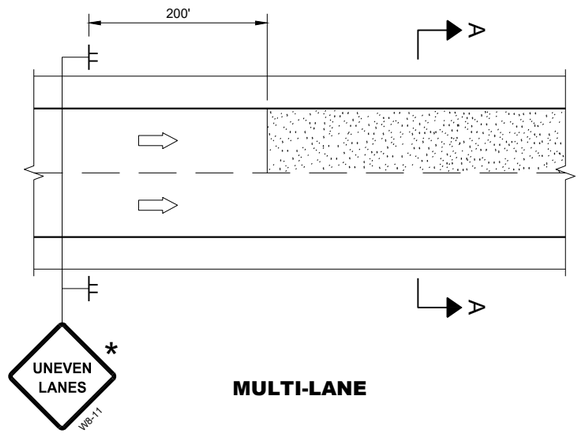
June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible]IC SAFETY ENGI[illegible]

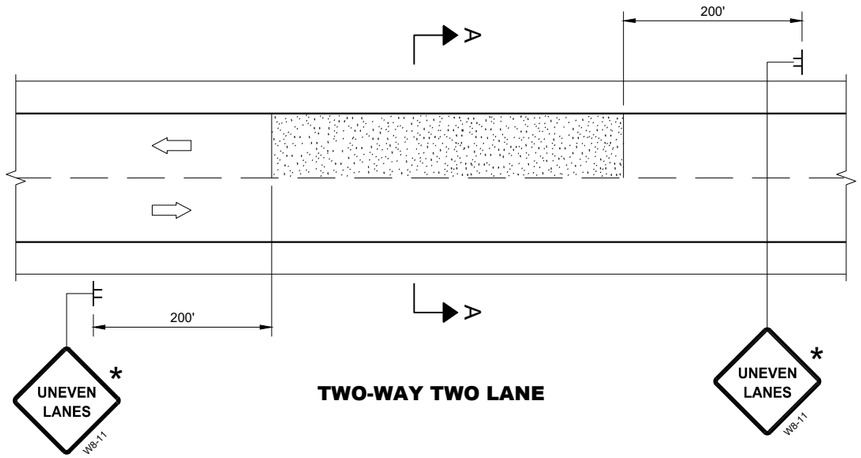
FHWA

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S.D.D. 15 D 27-3



MULTI-LANE



TWO-WAY TWO LANE

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

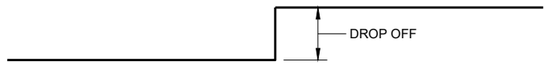
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

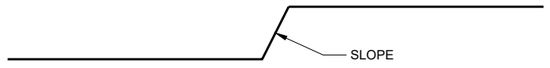
LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

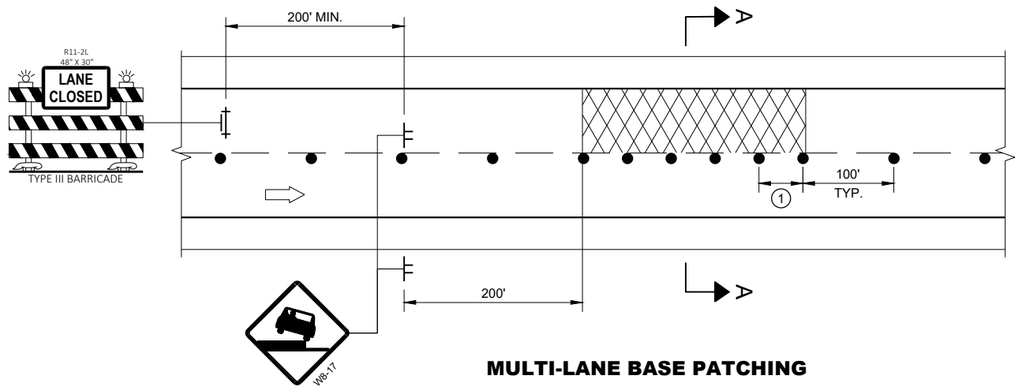


SECTION A - A

OR

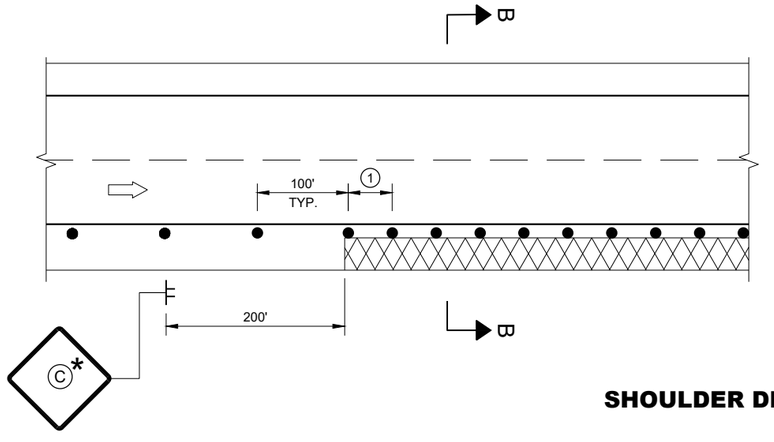


SECTION A - A

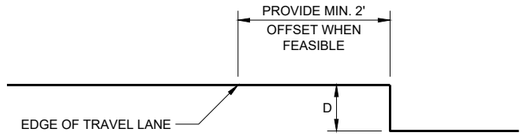


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

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LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER L/2 W, LATERAL OFFSET (FT)					
		3	4	5	6	7	8
25	200	10	14	17	21	24	28
30	200	15	20	25	30	35	40
35	350	20	27	34	40	47	54
40	350	26	35	44	53	62	70
45	500	45	59	74	89	104	119
50	500	50	66	83	99	116	132
55	500	54	73	91	109	127	145

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"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

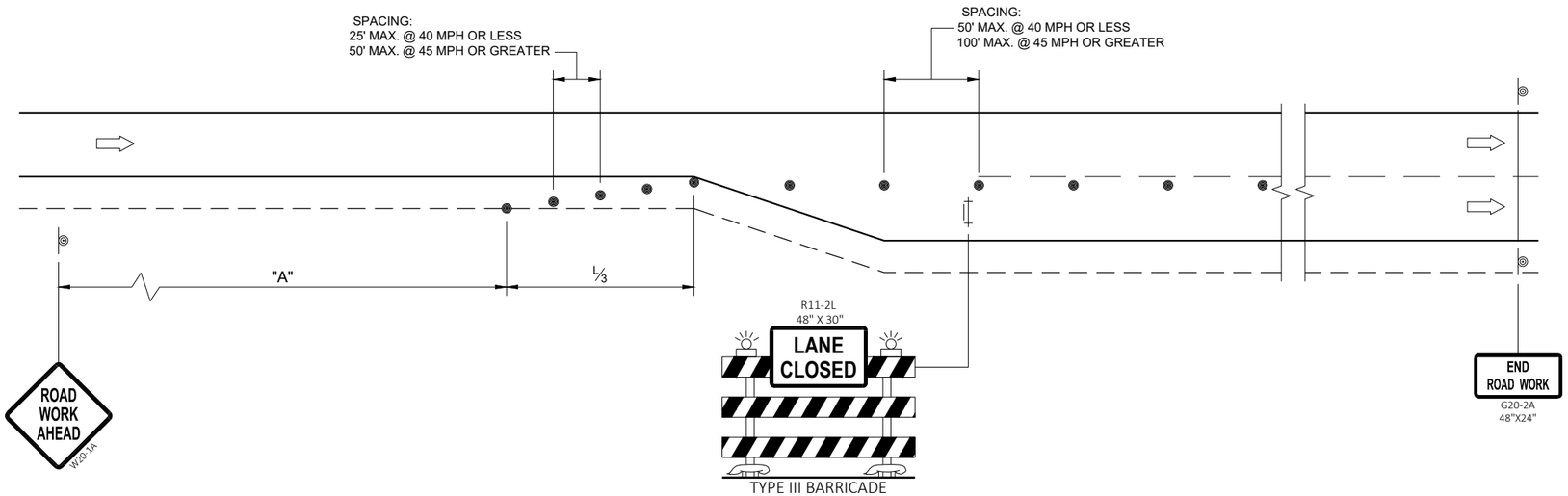
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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.

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

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

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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



PLACE BARRICADE AND SIGN APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE

TRAFFIC CONTROL
ADDED LANE CLOSURE
WITHOUT LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6
SDD 15D50-03a

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHIFTING TAPER (L/2) FEET
25	200	60
30	200	90
35	350	120
40	350	160
45	500	270
50	500	300
55	500	330

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"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

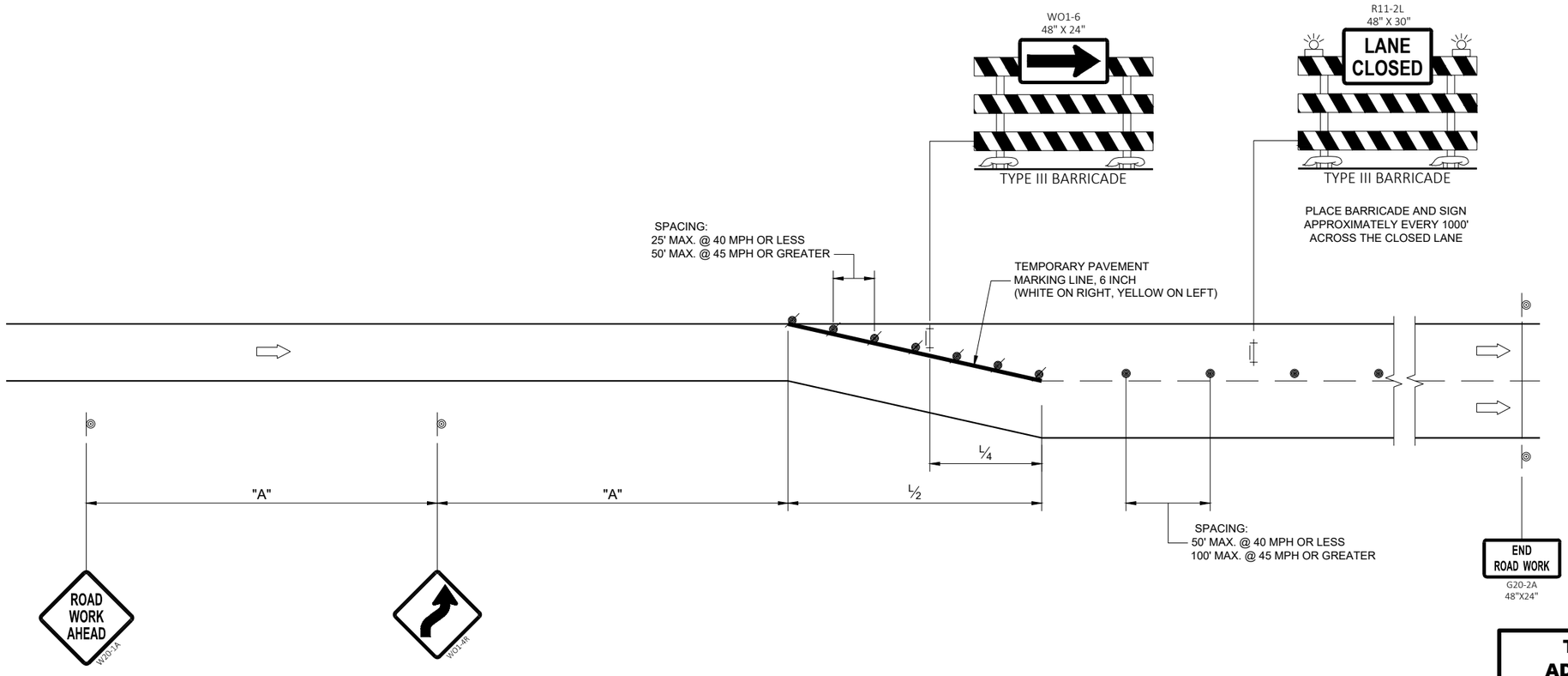
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

PLACE TEMPORARY PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

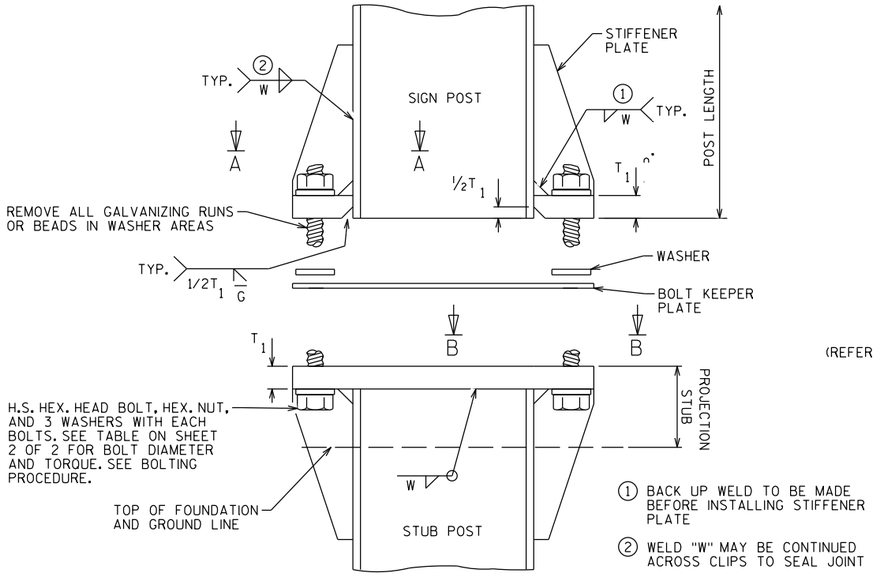


TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

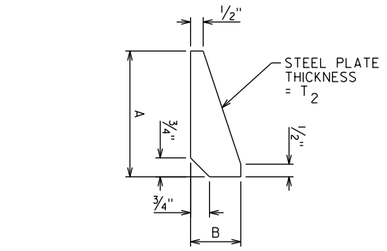
6
SDD 15D50-03b



① BACK UP WELD TO BE MADE BEFORE INSTALLING STIFFENER PLATE

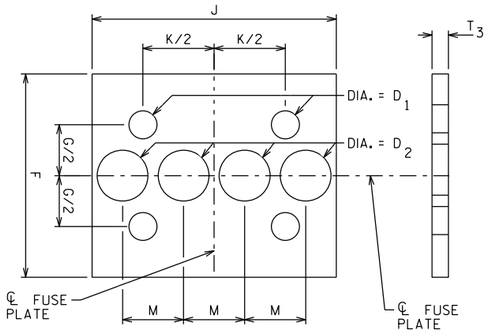
② WELD "W" MAY BE CONTINUED ACROSS CLIPS TO SEAL JOINT

SIGN POST & STUB POST ELEVATION



STIFFENER PLATE DETAIL

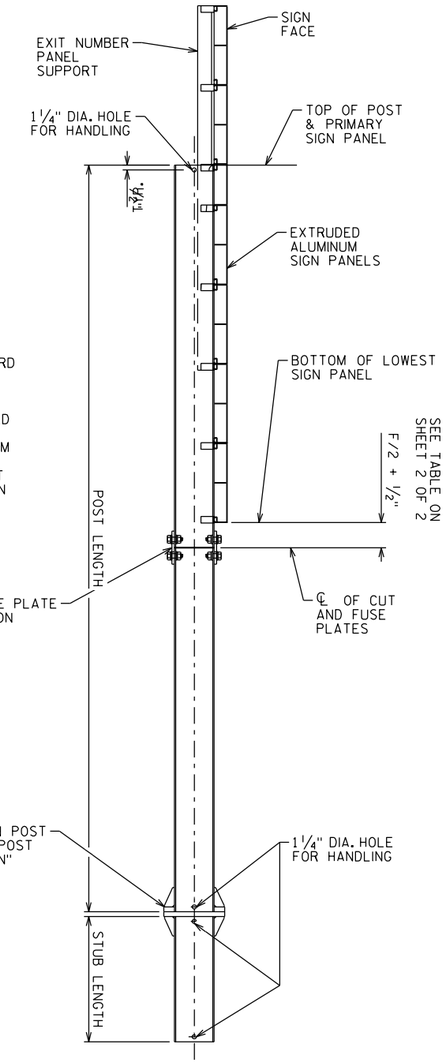
(REFER TO TABLE ON SHEET 2 OF 2 FOR DIMENSIONS)



PERFORATED FUSE PLATE DETAIL

USE H.S. HEX HEAD BOLTS, HEX HEAD NUT AND FLAT WASHER UNDER NUT. INSTALL BOLTS PER THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION SECTION 506.3.12.3.

ALL HOLES SHALL BE DRILLED, SUB-PUNCHED AND REAMED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER, FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. ASTM A572 GRADE 50 OR ASTM A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. MILL TEST REPORTS SHALL BE SUBMITTED FOR FUSE PLATES. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.



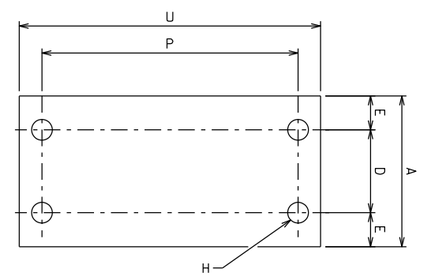
POST DETAIL

☆ WELD THICKNESS = FLANGE THICKNESS - 1/16"

SECTION A-A

SECTION B-B

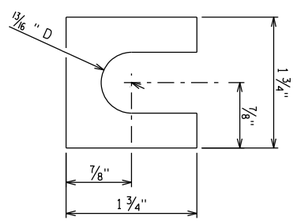
FUSE PLATE CONNECTION DETAIL



H = BOLT DIA. + 1/8"

BOLT KEEPER PLATE DETAIL

30 GA GALVANIZED SHEET STEEL



SHIM DETAIL

FURNISH TWO .012"± THICK AND TWO .032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.

BOLTING PROCEDURE FOR BASE CONNECTION

1. ASSEMBLE SIGN POST, BOLT KEEPER PLATE, AND STUB POST WITH BOLTS AND THREE FLAT WASHERS PER BOLT AS SHOWN.
2. SHIM AS REQUIRED TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING, LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS.
5. LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PERSCRIBED TORQUE. (SEE TABLE FOR PERSCRIBED TORQUE). DO NOT OVER-TIGHTEN.
6. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY | PLANS CK'D.

CONNECTION & FOUNDATION DETAILS 1 OF 2

SHEET A3-1.20

150

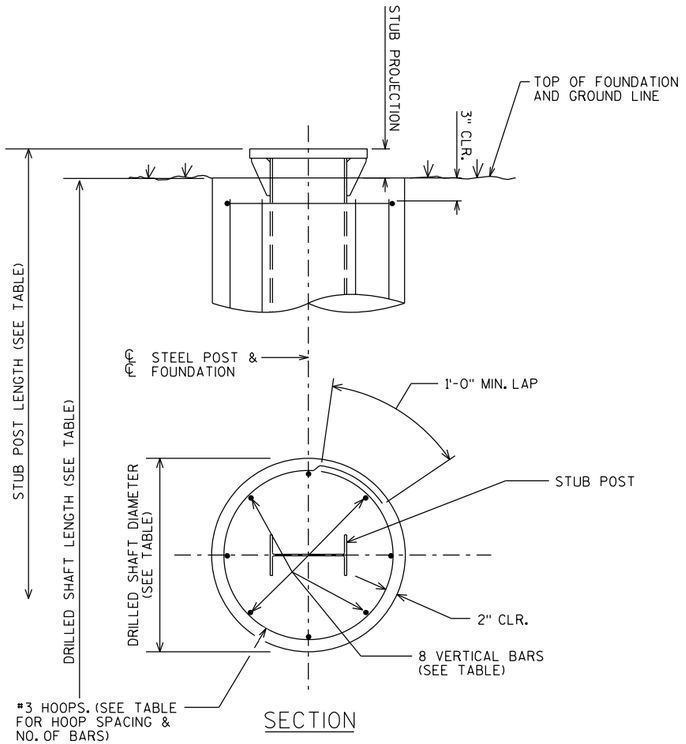
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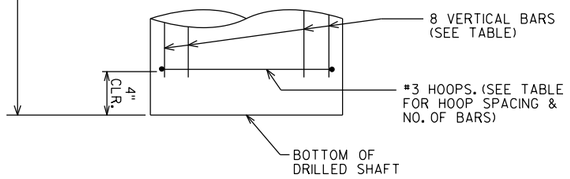
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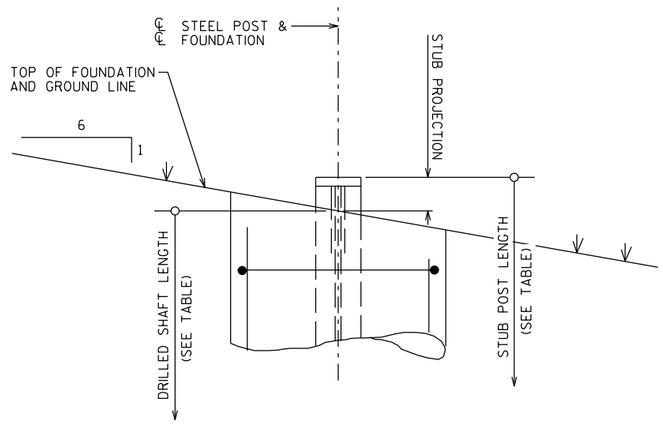
PLOT BY : dotc4c



SECTION



FOUNDATION DETAIL



SHAFT PLACEMENT

FOUNDATION DATA TABLE

POST SHAPE	STUB LENGTH	STUB PROJECTION	DRILLED SHAFT DIAMETER	DRILLED SHAFT LENGTH	VERTICAL BARS		HOOPS		CONCRETE VOLUME ◆	TOTAL REINF. WEIGHT ◆
					SIZE	LENGTH	MAX SPA.	NO.		
W6X15	2'-6"	3"	24"	6'-6"	#5	5'-11"	10"	9	0.8 CY	71 LB
W8X18	2'-6"	3"	24"	7'-6"	#6	6'-11"	12"	8	0.9 CY	102 LB
W8X21	3'-0"	2½"	24"	8'-0"	#6	7'-5"	12"	9	1.0 CY	110 LB
W10X22	3'-0"	2½"	24"	8'-6"	#7	7'-11"	12"	9	1.0 CY	151 LB
W12X26	3'-0"	2½"	24"	10'-0"	#7	9'-5"	12"	11	1.2 CY	180 LB

◆ QUANTITIES SHOWN ARE FOR ONE DRILLED SHAFT

BASE CONNECTION & FUSE PLATE DATA TABLE

POST SHAPE	WEIGHT PER FOOT	BASE CONNECTION DATA: BOLT SIZE & TORQUE	A	B	C	D	E	T1	T2	W	R	BOLT KEEPER PLATE DATA: P	U	PERFORATED FUSE PLATE DATA: F	G	J	K	M	D1	D2	T3	BOLT DIA.	WGT. EA. LBS	BOLT LENGTH	V ◪
W6X15	15 LB	⅝" DIA. X 4" 36 TO 38 FT-LB	5"	2"	1¼"	2¾"	1⅛"	1¼"	½"	¼"	11/32"	8½"	10"	5"	2½"	6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"	2.4	2	73.0 LB
W8X18	18 LB											10⅝"	12⅛"	5"	2½"	5¼"	2¾"	1¼"	11/16"	1 1/16"	⅜"	⅝"	2.0	2	83.0 LB
W8X21	21 LB	¾" DIA. X 4¾" 62 TO 63 FT-LB	6"	2¼"	1⅜"	3½"	1¼"	1½"	¾"	5/16"	13/32"	11"	12¾"	5½"	2½"	5¼"	2¾"	1¼"	13/16"	1"	½"	¾"	3.1	2¼"	124.0 LB
W10X22	22 LB											12⅞"	14⅝"	6"	3"	5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾"	3.9	2¼"	134.0 LB
W12X26	26 LB											15"	16¾"	6"	3"	6½"	3½"	1⅝"	13/16"	1 5/16"	½"	¾"	4.5	2¼"	152.0 LB

◪ TOTAL STRUCTURAL CARBON STEEL WEIGHT FOR ONE POST = V + (POST LENGTH X POST WEIGHT PER FOOT)

"V" INCLUDES STUB POST, BASE PLATES, STIFFENER PLATES, PERFORATED FUSE PLATES, BOLTS, NUTS, AND WASHERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

MATERIALS SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506, UNLESS NOTED OTHERWISE.

FABRICATION SHALL CONFORM TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 506.

ALL POST, POST STUBS & ATTACHMENTS SHALL BE ASTM A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.

THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST, FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.

H.S. BOLTS, WASHERS, & NUTS SHALL BE A325 GALVANIZED.

FOUNDATION MATERIAL PROPERTIES

CONCRETE MASONRY	F'C = 3,500 P.S.I.
BAR STEEL REINFORCEMENT (UNCOATED), GRADE 60	FY = 60,000 P.S.I.

DESIGN DATA

DESIGN CONFORMS TO AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS 1ST EDITION 2015 (WITH 2017 & 2018 INTERIM REVISIONS).

DEAD LOADS (DL):

- STEEL POST SELF WEIGHT
- SIGN PANEL WEIGHT = 3 PSF

WIND LOADS (WL):

WIND LOADS WERE APPLIED TO THE PROJECTED AREAS OF THE SIGN PANELS AND THE STEEL SIGN POSTS.

- BASIC WIND SPEED = 76 MPH
- MEAN RECURRANCE INTERVAL (MRI) = 10 YEARS
- HEIGHT & EXPOSURE FACTOR = 1.00
- DIRECTIONALITY FACTOR = 0.85
- GUST EFFECT FACTOR = 1.14

WIND LOAD CASES:

- WL CASE 1: 1.0 X NORMAL WIND
- WL CASE 2: 1.0 X TRANSVERSE WIND
- WL CASE 3: 0.75 X NORMAL WIND + 0.75 X TRANSVERSE WIND

LOAD COMBINATIONS:

LOAD COMBINATION	TYPE	DL FACTOR	WL FACTOR
STRENGTH I	GRAVITY	1.25	-
EXTREME I	WIND	1.10	1.0
		0.9	1.0
SERVICE I	DEFLECTION	1.0	1.0

FOUNDATION DESIGN DATA

THE FOUNDATION DESIGN ASSUMED COHESIONLESS SOILS (LOOSE SAND) ABOVE THE WATER TABLE WITH THE FOLLOWING PROPERTIES:

- SOIL UNIT WEIGHT = 115 PCF
- ANGLE OF INTERNAL FRICTION = 24 DEGREES
- SOIL MODULUS PARAMETER = 25 LB/IN3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

DRAWN BY | PLANS CK'D.

CONNECTION & FOUNDATION DETAILS 2 OF 2

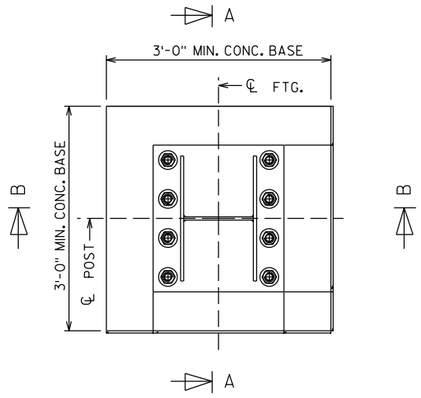
SHEET A3-1.20

151

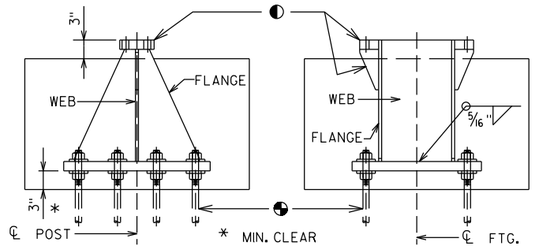
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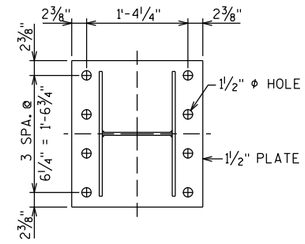
STUB AND ADHESIVE ANCHOR DETAILS



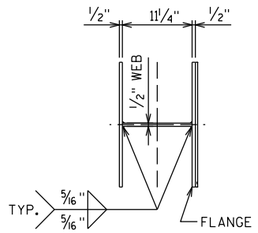
STUB SECTION



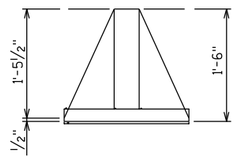
SECTION A-A SECTION B-B



BASE PLATE



STUB



FLANGE

◐ SEE BASE CONNECTION DETAILS ON "CONNECTIONS & FOUNDATION DETAILS" SHEETS.

◔ ADHESIVE ANCHORS 1¼-INCHES. ALLOWABLE PULL OUT CAPACITY = 15 KIPS. EMBED 1'-3" INTO ROCK.

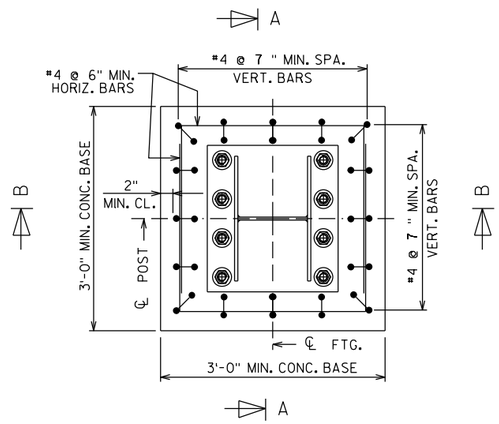
GENERAL NOTES:

QUANTITIES PER BASE:
REINFORCING STEEL = 62 LB
CONCRETE = 0.6 CY
STRUCTURAL STEEL = 335 LB

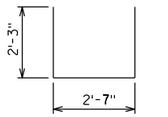
ALL MATERIALS, EXCEPT FOR ANCHOR ROD, NUTS, AND WASHERS, SHALL BE ASTM A709 GRADE 50. ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.

IF ROCK IS ENCOUNTERED PRIOR TO REACHING THE MINIMUM DRILLED SHAFT EMBEDMENT DEPTH DEFINED ON THE FOUNDATION DATA TABLE OF THE "CONNECTIONS & FOUNDATION DETAILS 2 OF 2" SHEET, THE CONTRACTOR SHALL INSTALL A TEST ADHESIVE ANCHOR AND DETERMINE THE PULL-OUT CAPACITY. IF THE FIELD TEST RESULTS IN A PULL-OUT CAPACITY GREATER THAN OR EQUAL TO 15 KIPS, THE CONTRACTOR MAY INSTALL THE ALTERNATE CONCRETE BASE AND BREAK-WAY STUB PER THE DETAILS ON THIS SHEET.

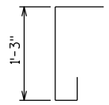
CONCRETE BASE DETAILS



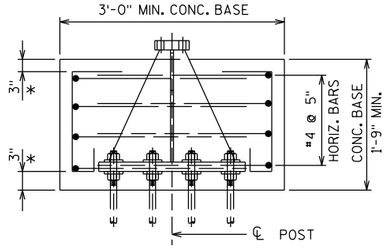
CONCRETE BASE PLAN



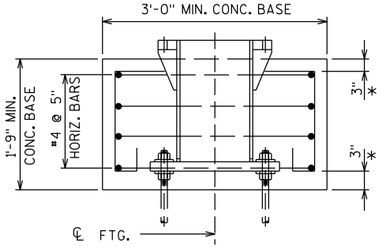
HORIZONTAL BAR
8 BARS @ 6'-11" LENGTH



VERTICAL BARS
16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A-A



SECTION B-B

* MIN. CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE BTO TYPE I SIGNS

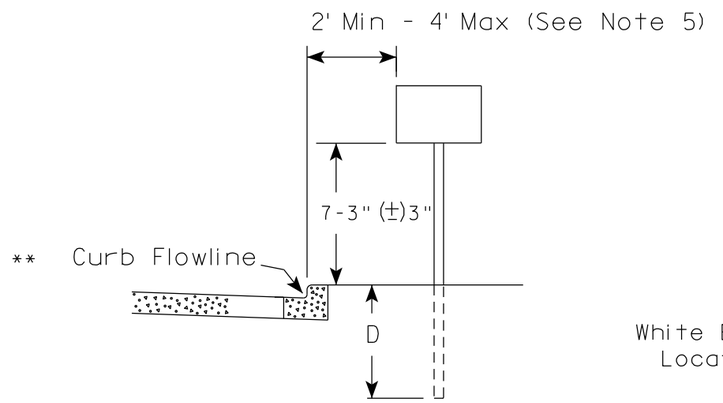
DRAWN BY	PLANS CK'D.

ALTERNATE BREAK-AWAY BASE ON ROCK

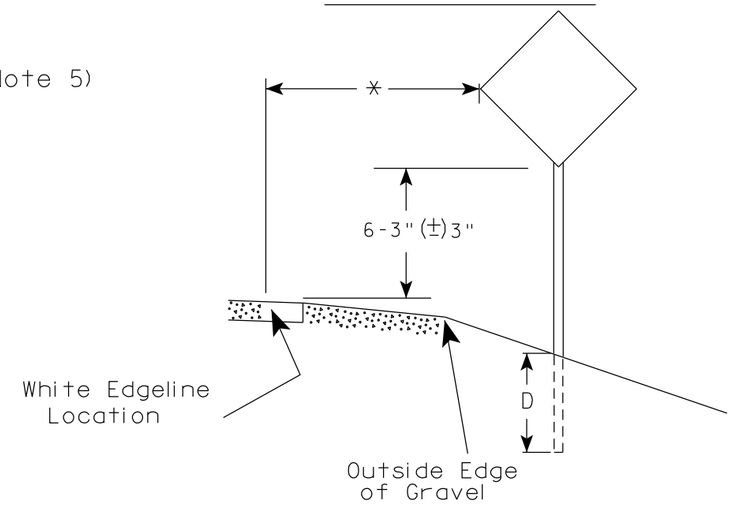
SHEET A3-1M.2

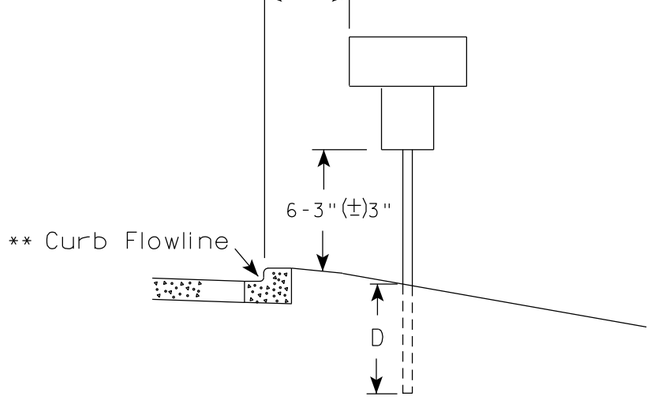
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PLOT BY : dotc4c

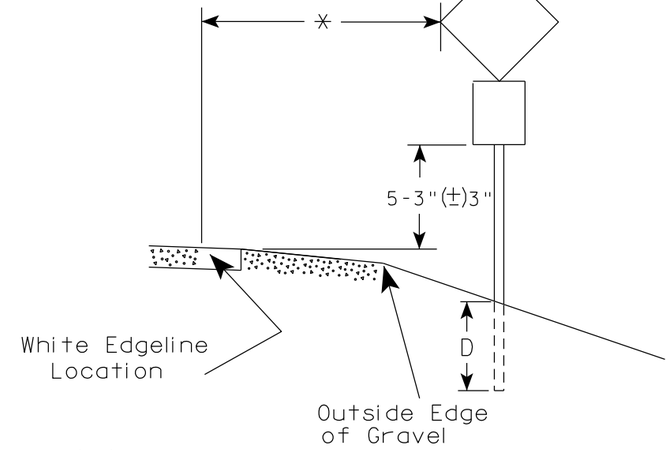
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

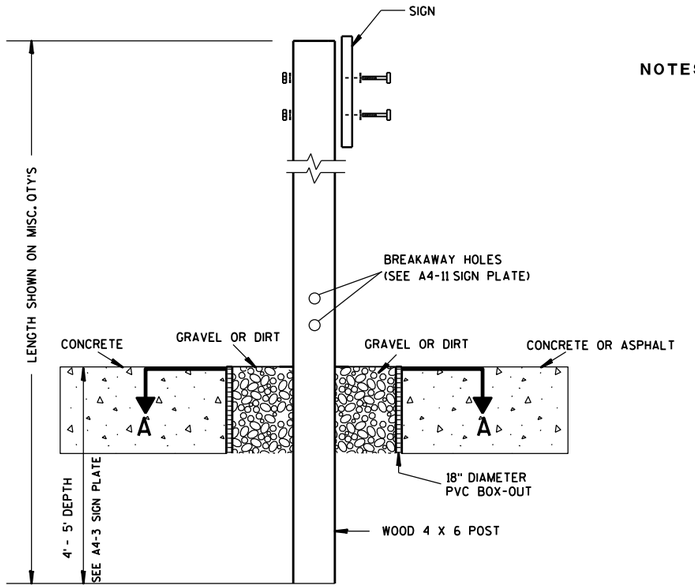
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

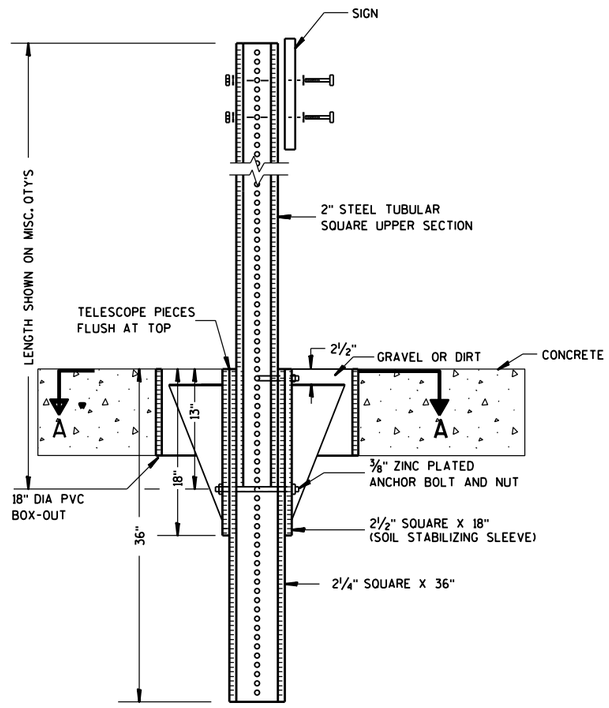
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 153	E



ELEVATION VIEW

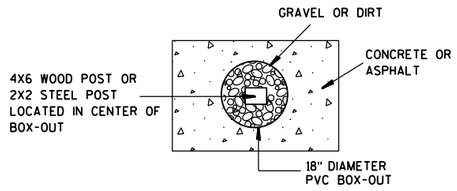
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

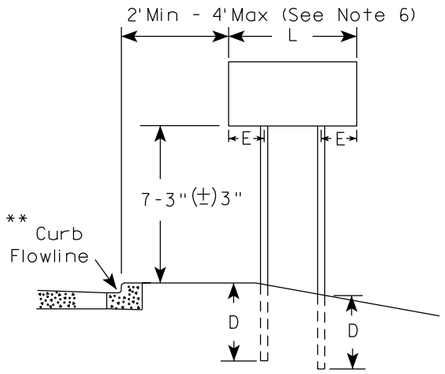
APPROVED Matthew R Rauch
for State Traffic Engineer

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

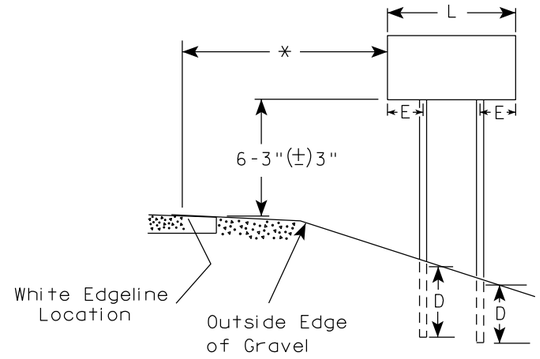
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

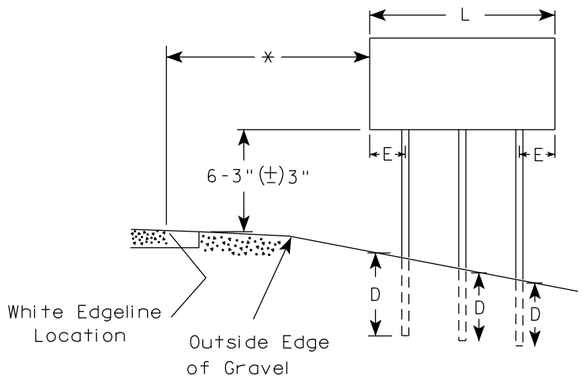
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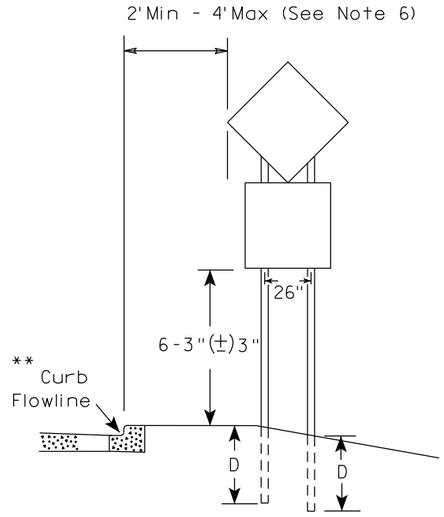
URBAN AREA



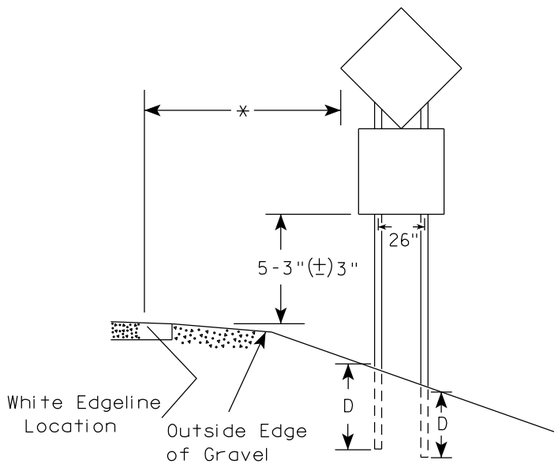
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 3".

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

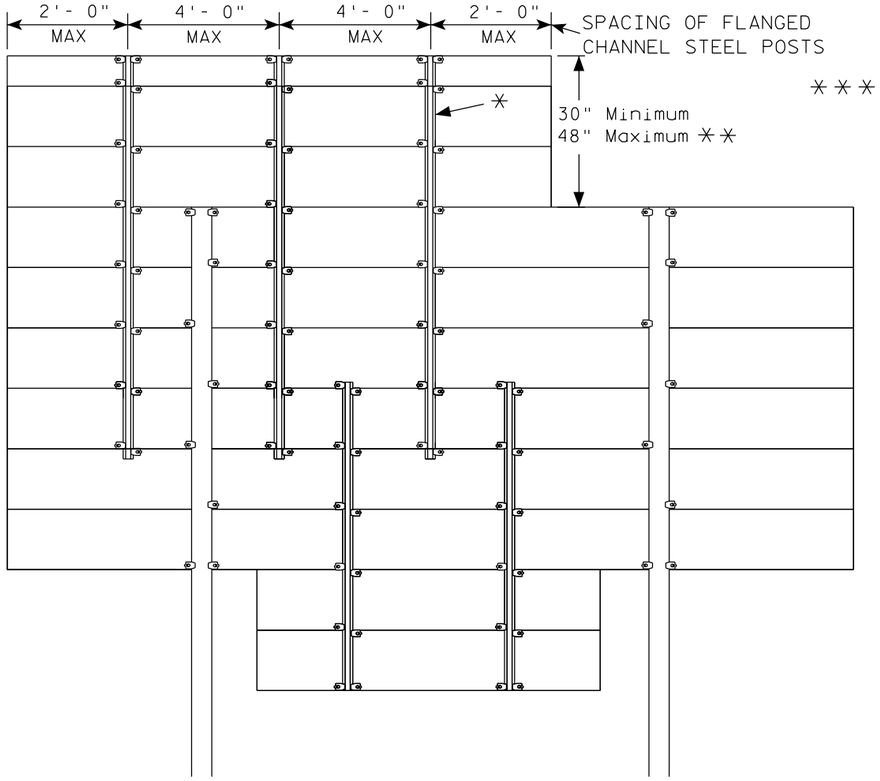
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 155	E

GROUND MOUNTED SIGN



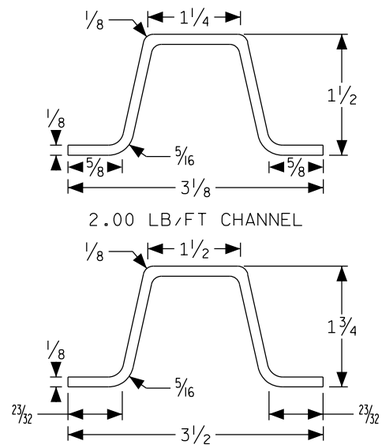
✳=2.00 lb/ft AND 4.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

✳✳=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

✳✳✳ THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 15 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 15 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAILS

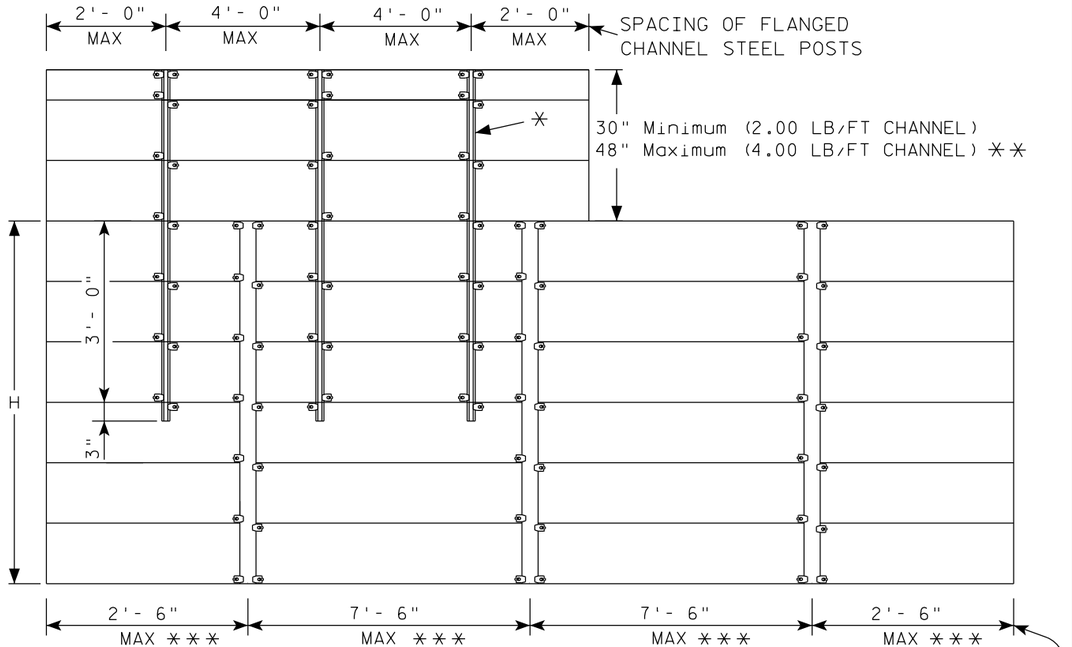
NOT TO SCALE



2.00 LB/FT CHANNEL

4.00 LB/FT CHANNEL

SIGN BRIDGE MOUNTED SIGN



SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

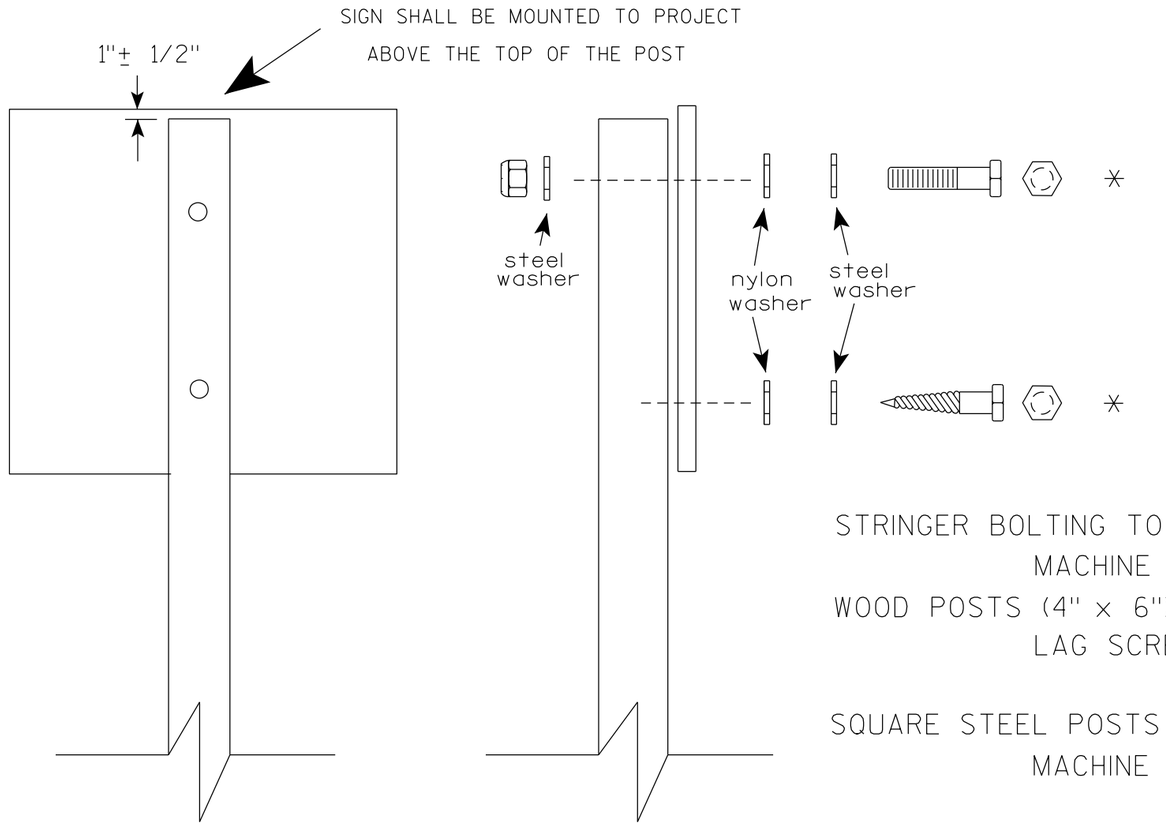
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/07/20 PLATE NO. A4-6.12

PROJECT NO:				SHEET NO: 156	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

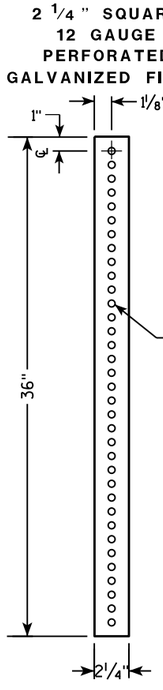
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

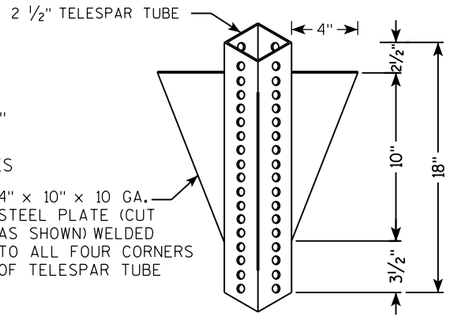
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

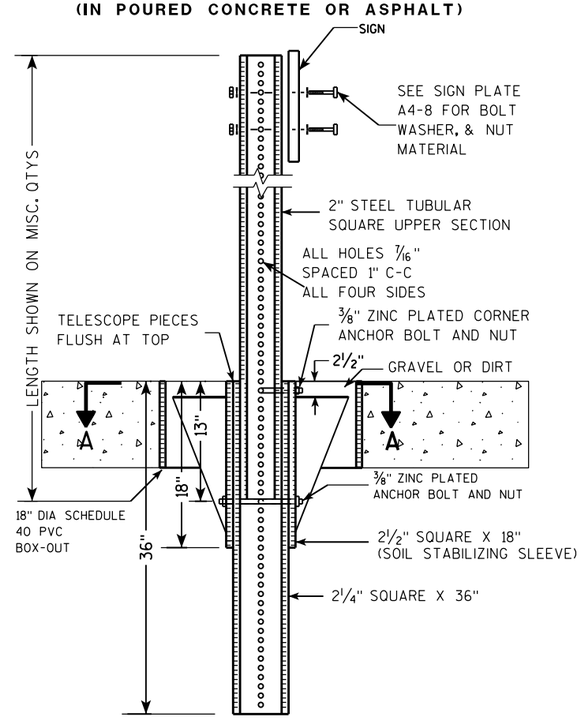
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



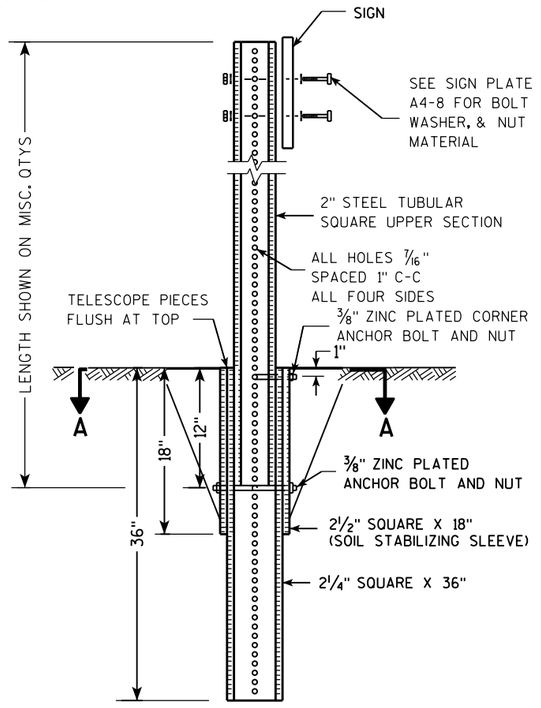
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

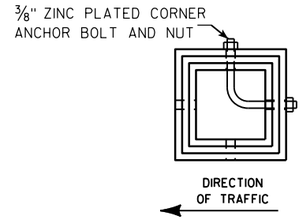


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

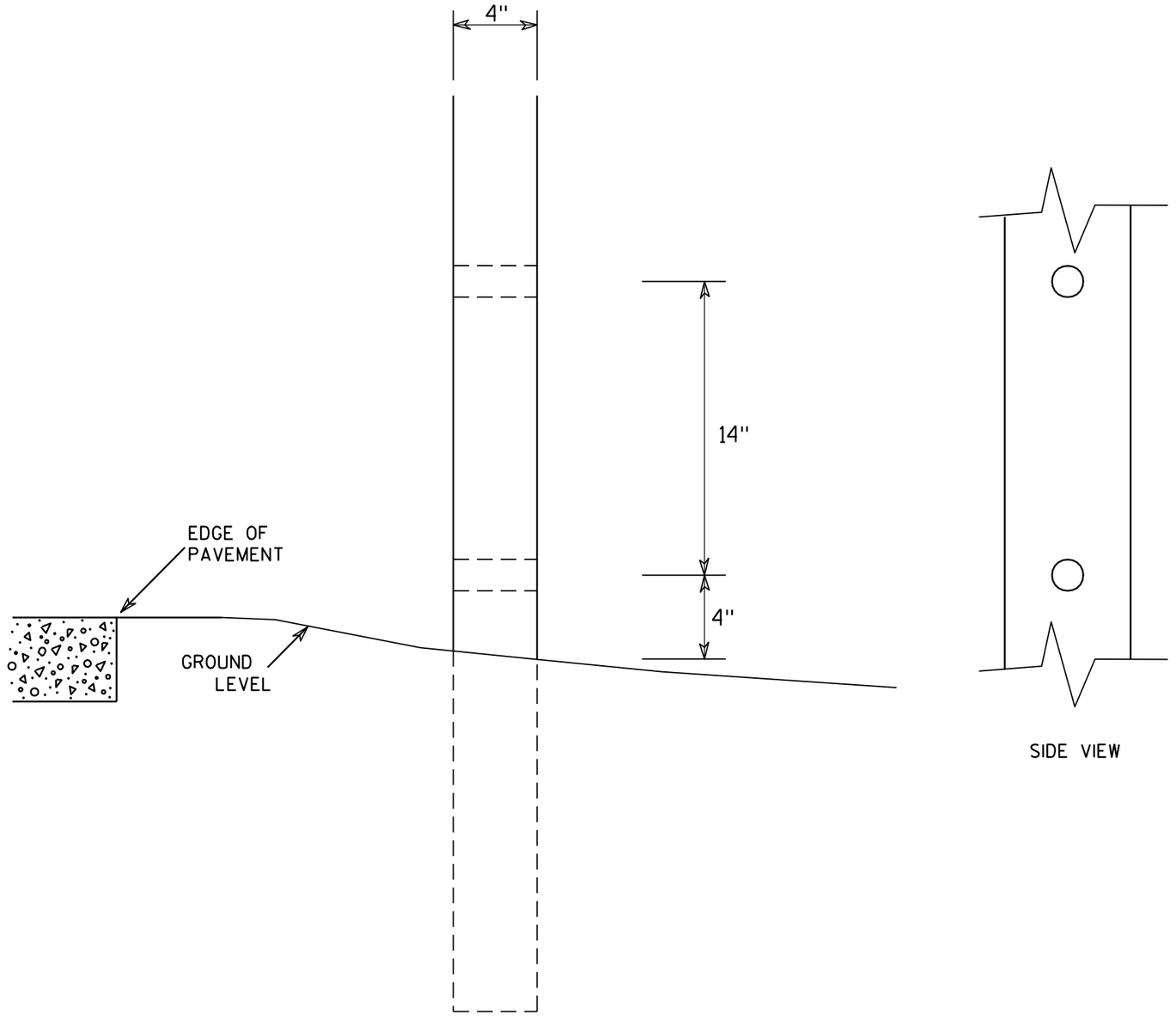
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

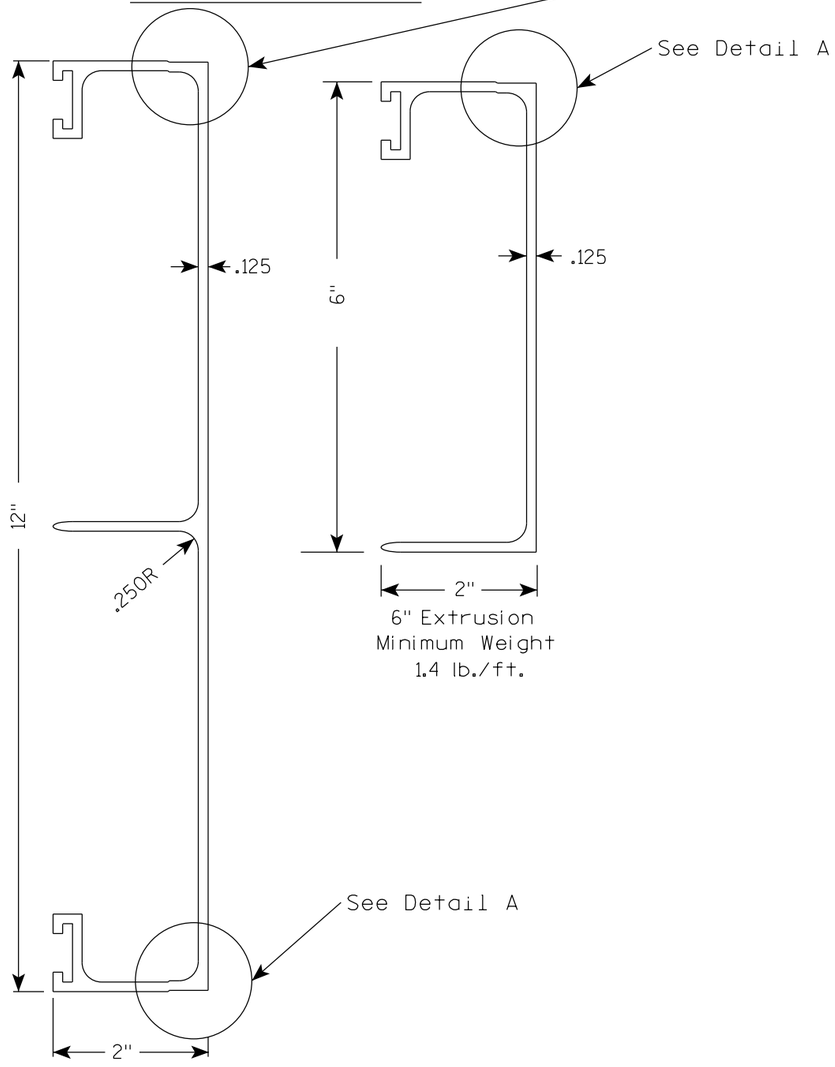
WISCONSIN DEPT OF TRANSPORTATION

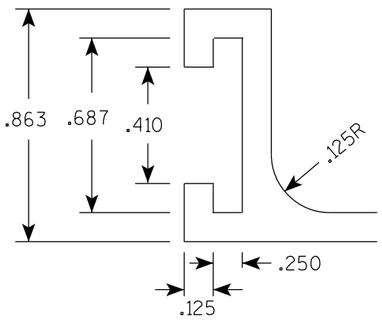
APPROVED Chester J Spang for State Traffic Engineer

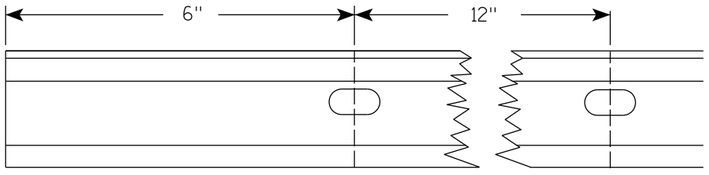
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 159	E

Extruded Shape







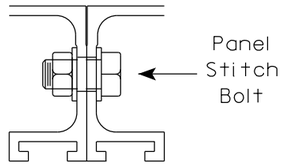
Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

Hardware

STITCH BOLT, WASHER & NUT

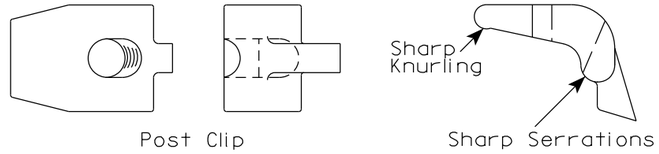
The hardware includes:

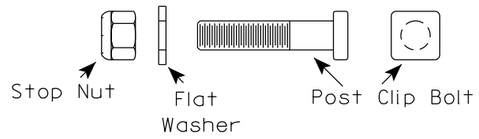
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

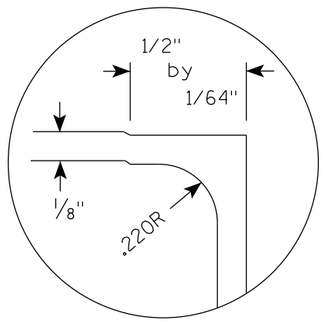
Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



DETAIL A (EDGE WRAP JOINT)

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

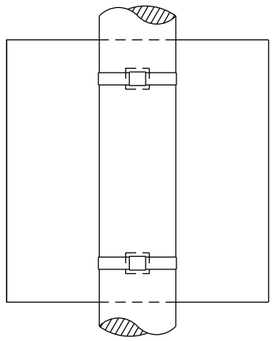
DATE 1/07/20 PLATE NO. A5-2.10

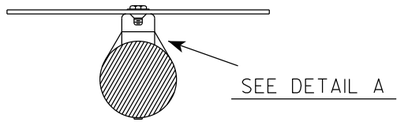
PROJECT NO:

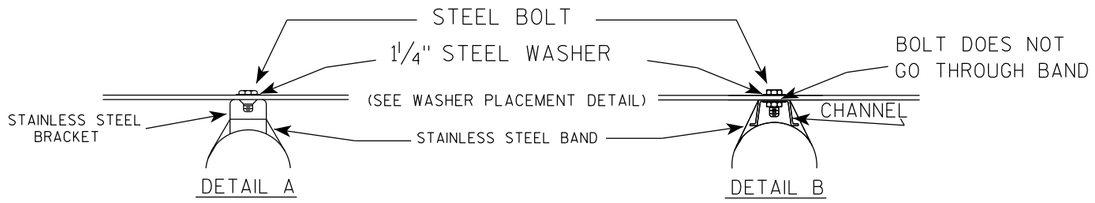
SHEET NO: 160 E

BANDING

SINGLE SIGN



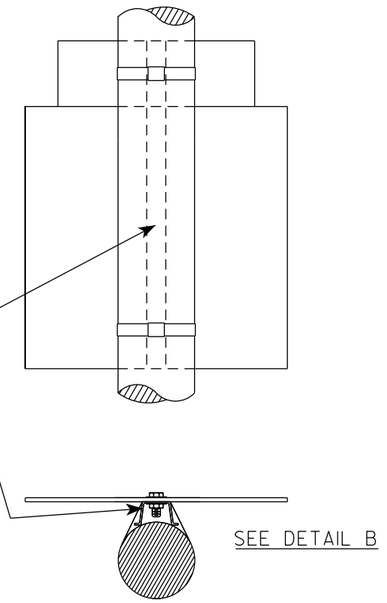




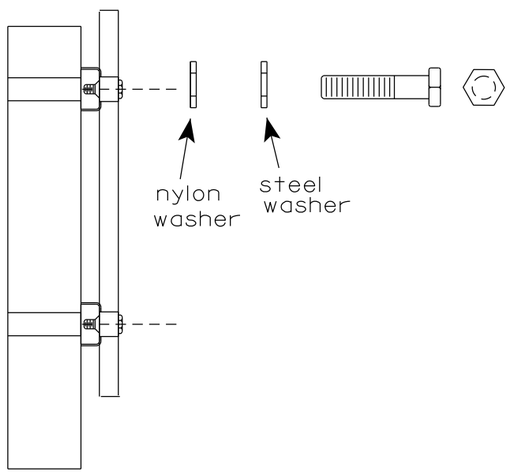
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X ⅜" I.D. X 1/16" STEEL
1-1/4" O.D. X ⅜" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

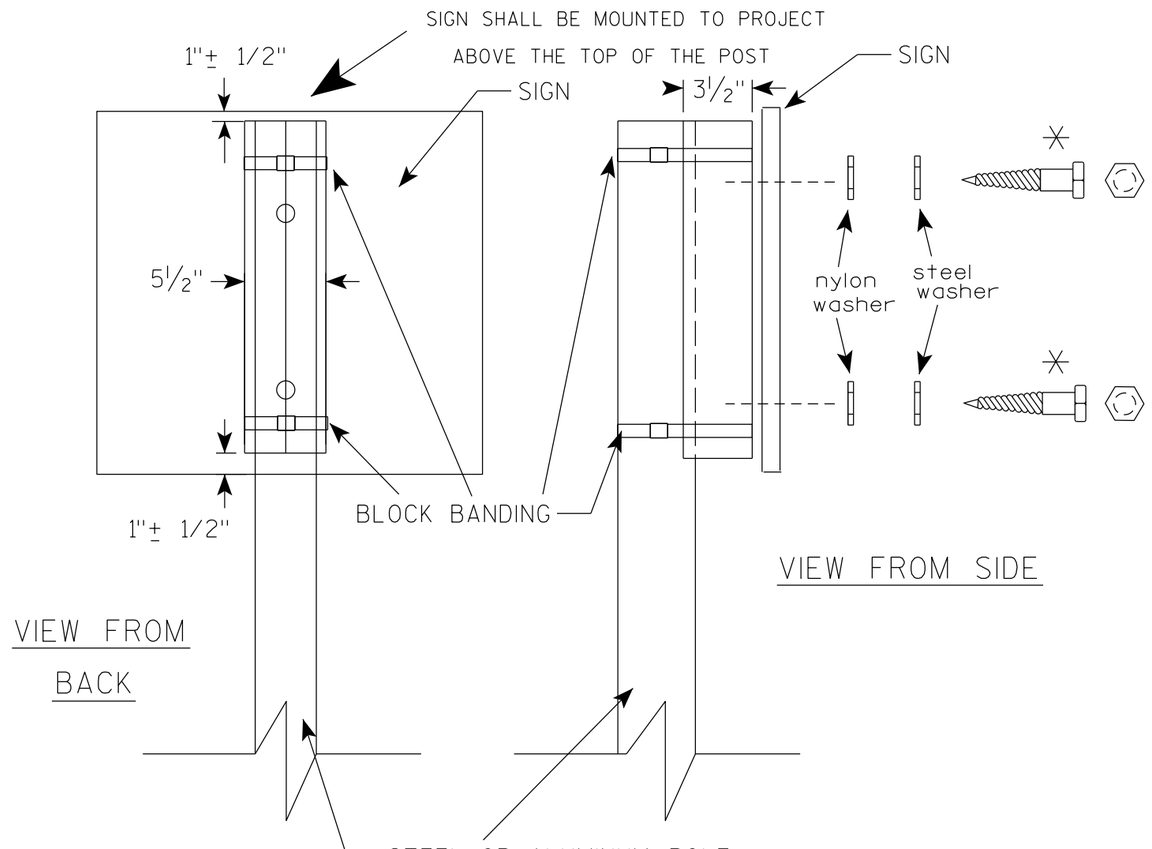
DATE 6/10/19 PLATE NO. A5-9.4

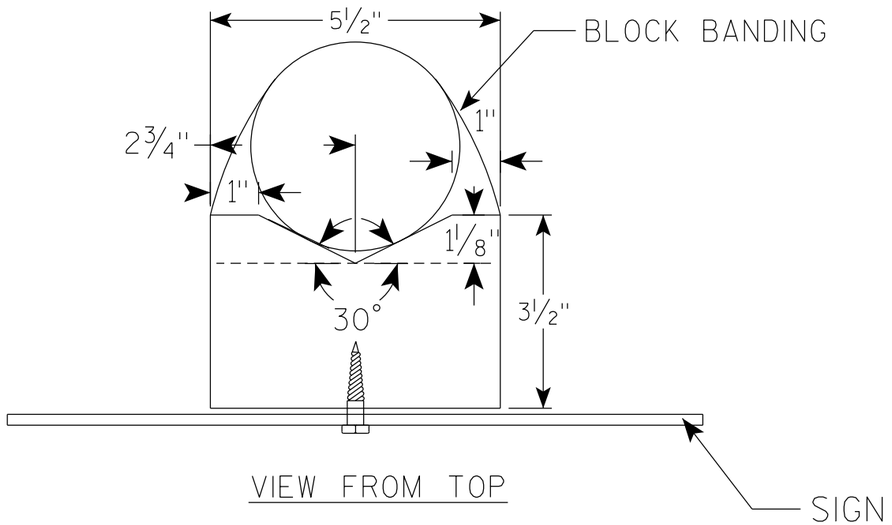
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 161	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

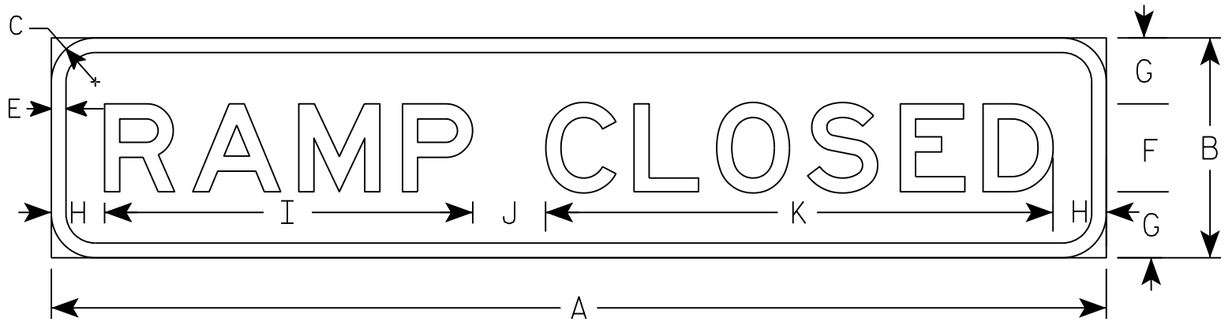
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 162 E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E



G20-64

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	144	30	6		2	12	9	7 1/4	50 1/4	10	69 1/4																30.0
5																											

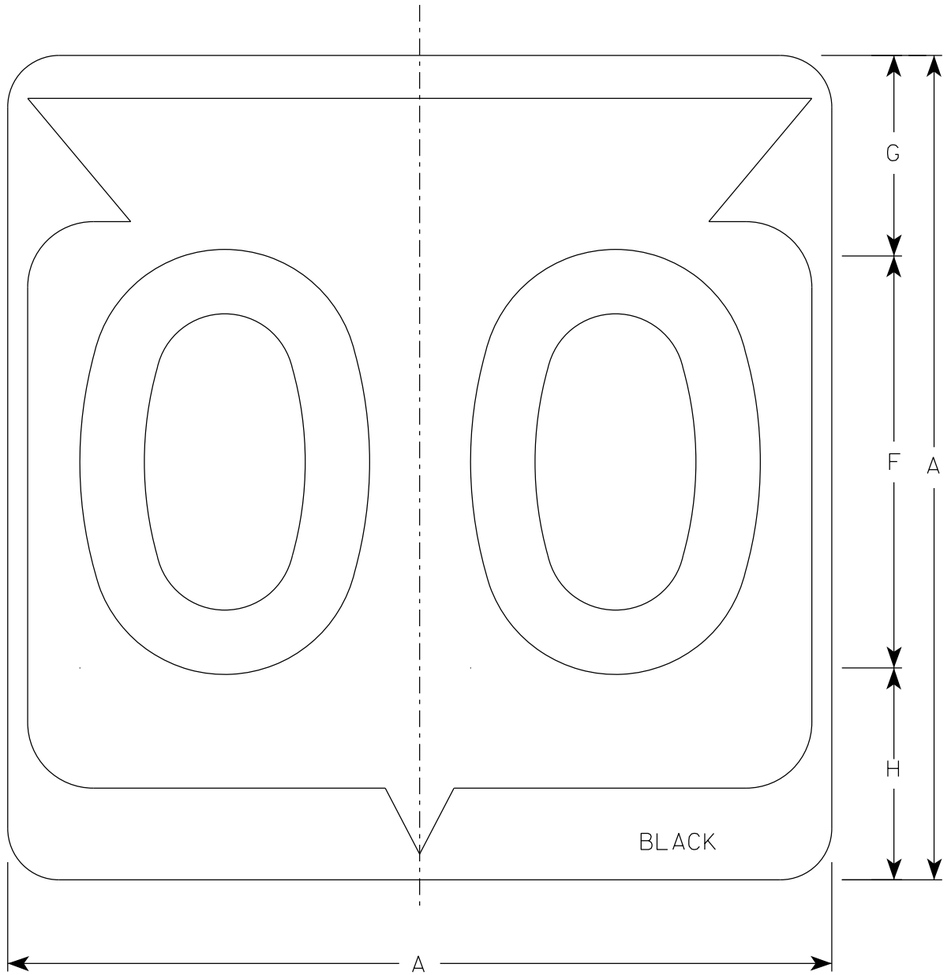
STANDARD SIGN
G20-64

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/18 PLATE NO. G20-64.1

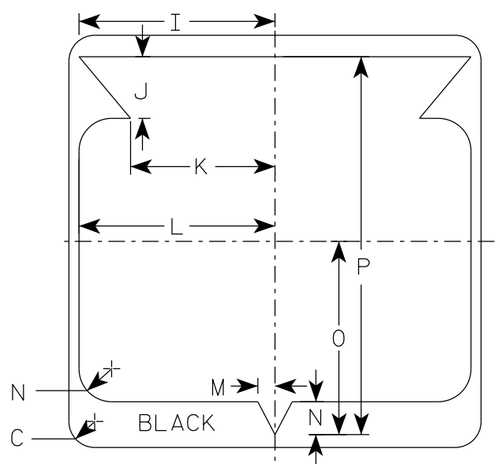
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 163 E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

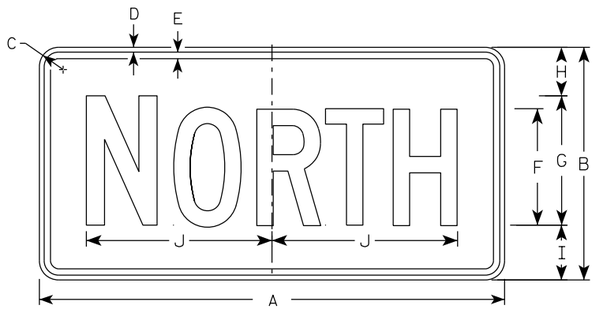
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

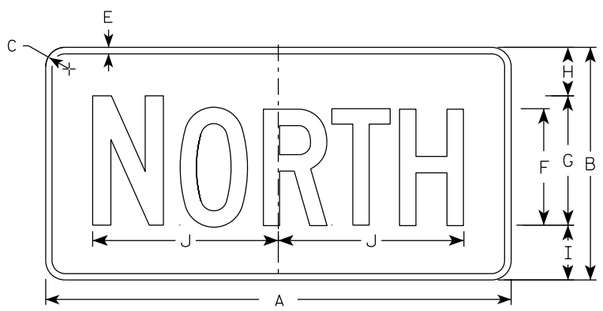
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

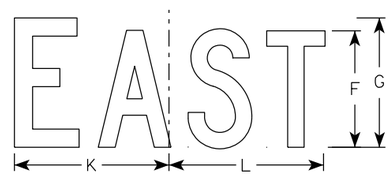
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 164	E



M3-1
MM3-1
MP3-1



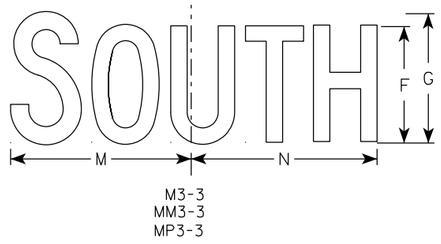
MB3-1
MK3-1
MN3-1



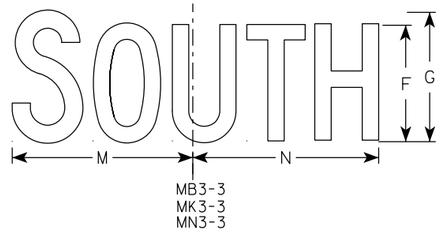
M3-2
MM3-2
MP3-2



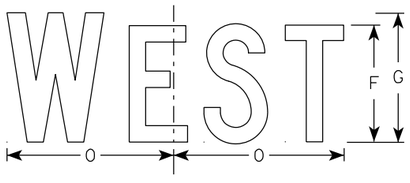
MB3-2
MK3-2
MN3-2



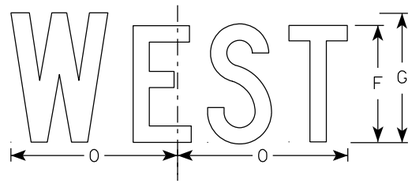
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
2M	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

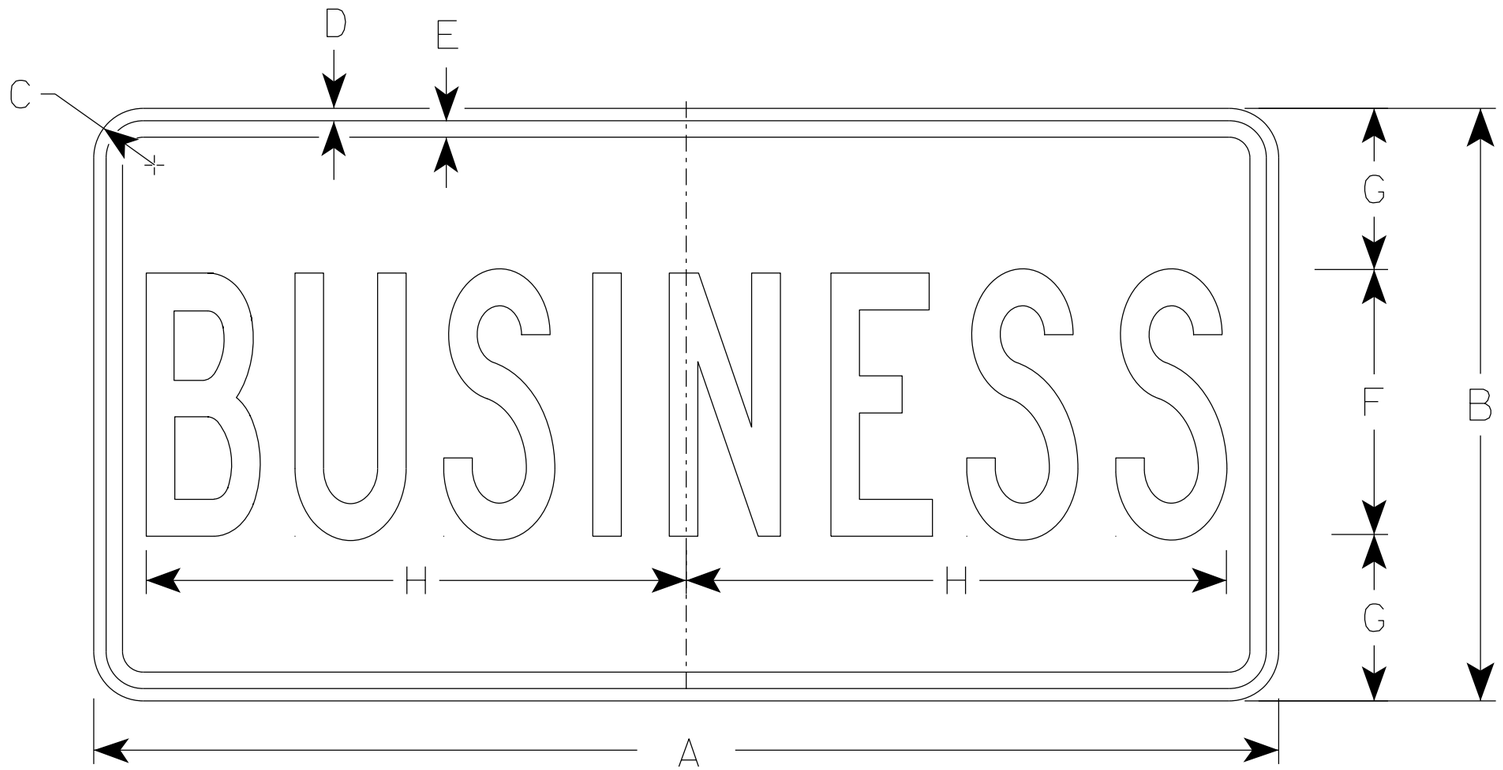
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 165 | E



M4-3

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	5	3 1/2	9 5/8																			2.0
2M	24	12	1 1/2	3/8	3/8	5	3 1/2	9 5/8																			2.0
3	36	18	1 1/2	3/8	1/2	8	5	16 3/8																			4.5
4	36	18	1 1/2	3/8	1/2	8	5	16 3/8																			4.5
5	36	18	1 1/2	3/8	1/2	8	5	16 3/8																			4.5

STANDARD SIGN

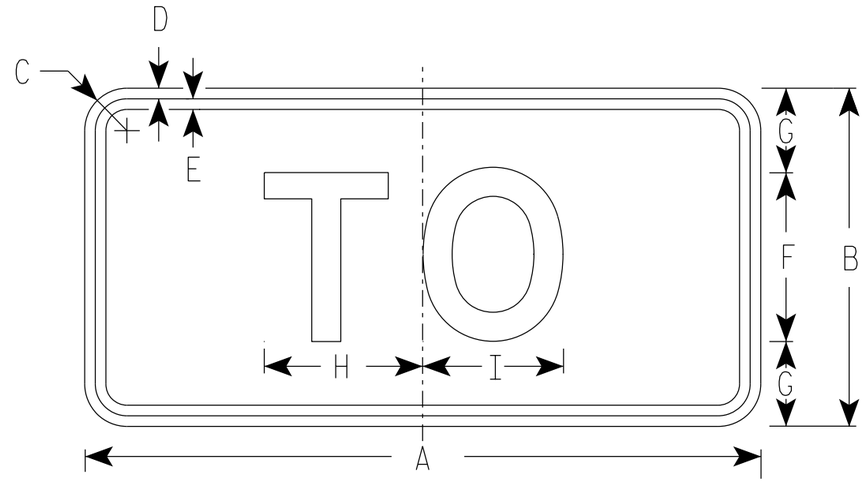
M4-3

WISCONSIN DEPT OF TRANSPORTATION

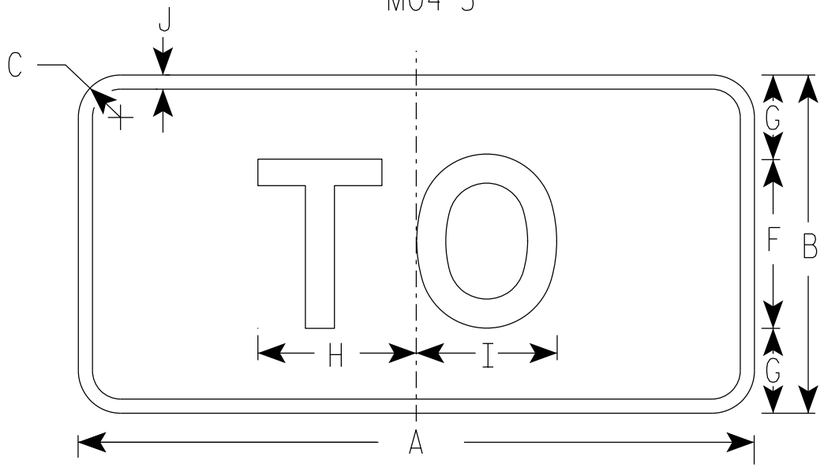
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/8/2023 PLATE NO. M4-3.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

   M04-5 Background - Orange Type F Reflective
   Message - Black

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 ½	⅜	⅜	6	3	5 ⅜	5 ¼	½																	2.00
2M	24	12	1 ½	⅜	⅜	6	3	5 ⅜	5 ¼	½																	2.00
3	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5
4	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5
5	36	18	1 ½	⅜	½	9	4 ½	8 ¼	8 ⅜	½																	4.5

STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

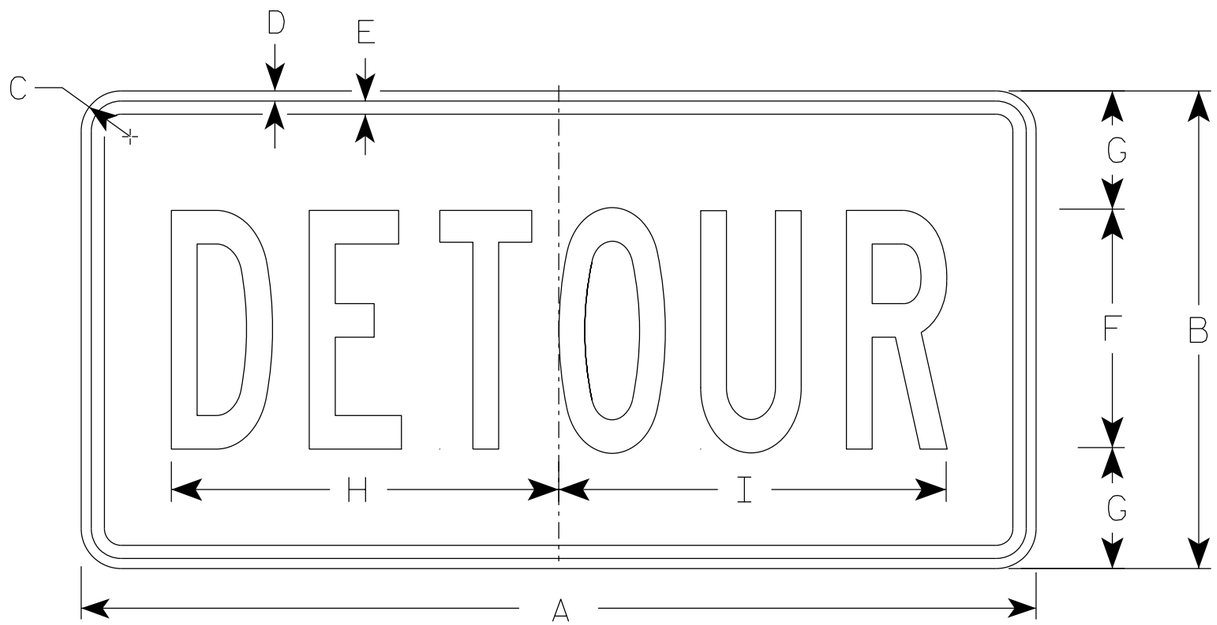
DATE 2/8/2023 PLATE NO. M4-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 167 E

7

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN
M4-8

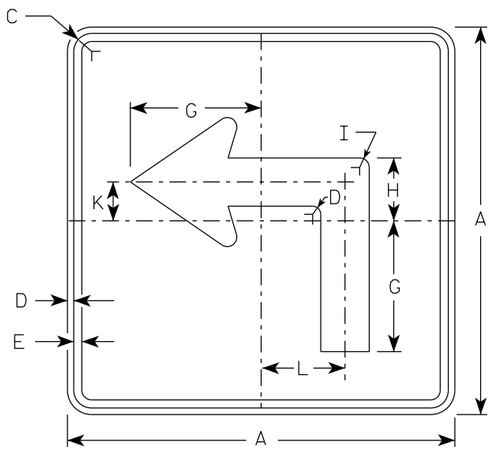
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

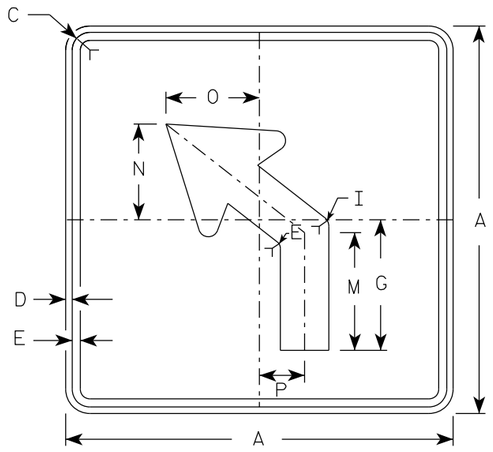
DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

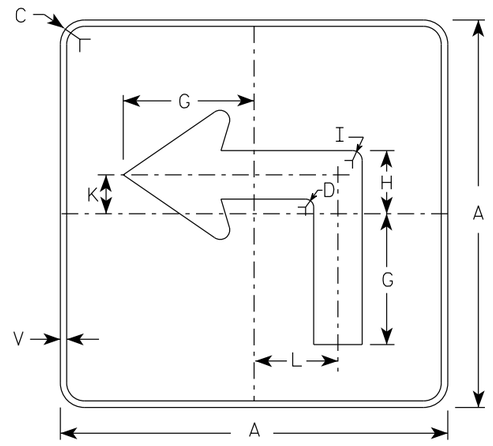
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M48.dgn PLOT DATE : 9-FEB 2023 7:38 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



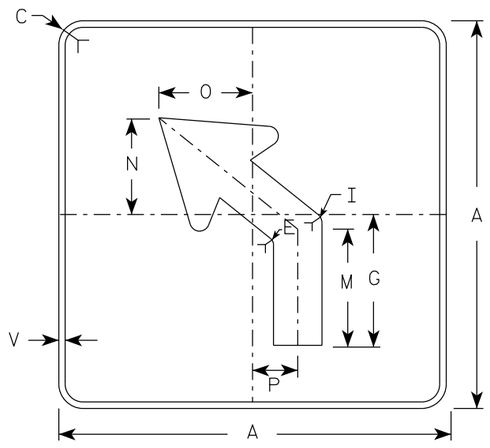
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L

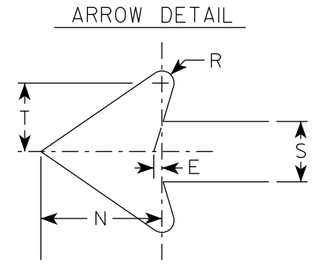


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

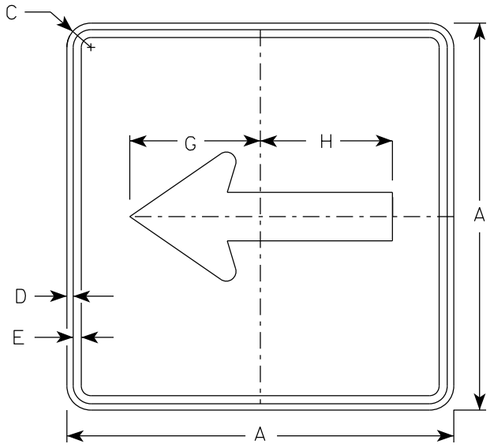
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

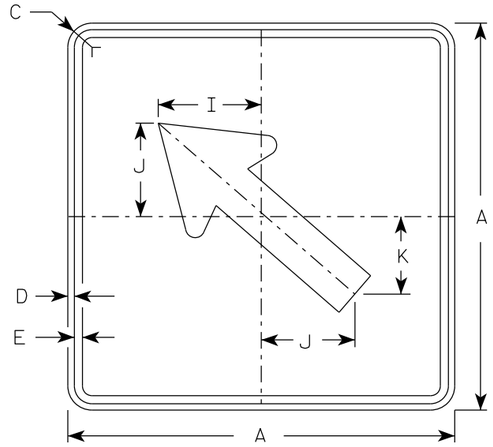
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

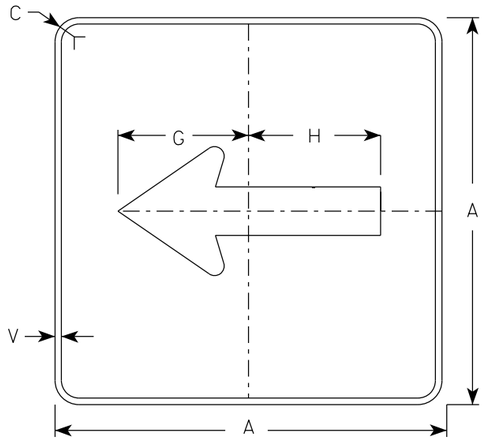
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 169 | E



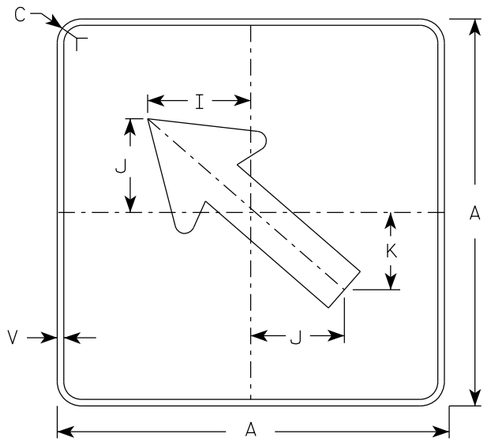
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

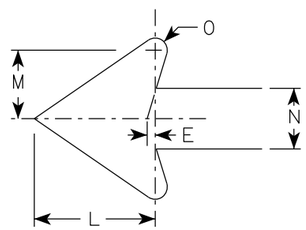


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

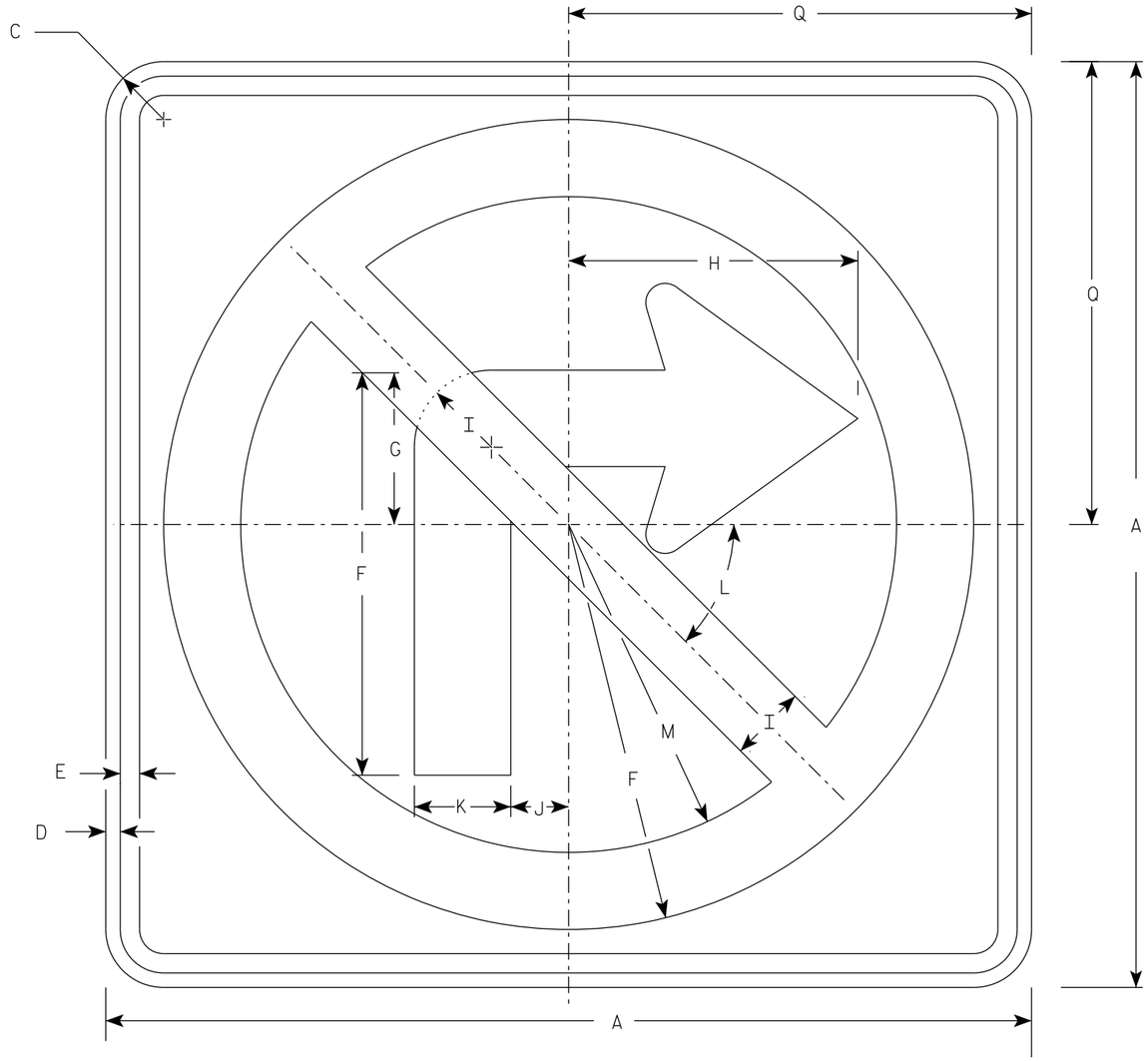
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

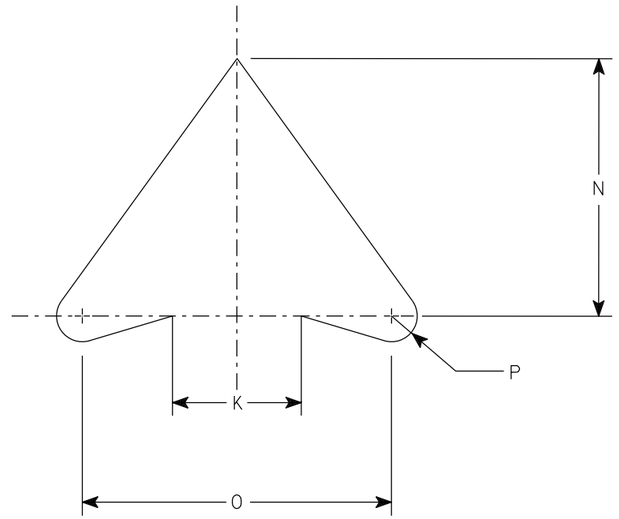
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 170 | E



R3-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 ½	⅜	½	10 ½	4	7 ½	2	1 ½	2 ½	45	8 ½	5	6	½	12										4.0
2S	24		1 ½	⅜	½	10 ½	4	7 ½	2	1 ½	2 ½	45°	8 ½	5	6	½	12										4.0
2M	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45	12 ¾	7 ½	9	¾	18										9.0
3	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45	12 ¾	7 ½	9	¾	18										9.0
4	36		2 ¼	⅝	¾	15 ¾	6	11 ¼	3	2 ¼	3 ¾	45°	12 ¾	7 ½	9	¾	18										9.0
5	48		2 ¼	¾	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

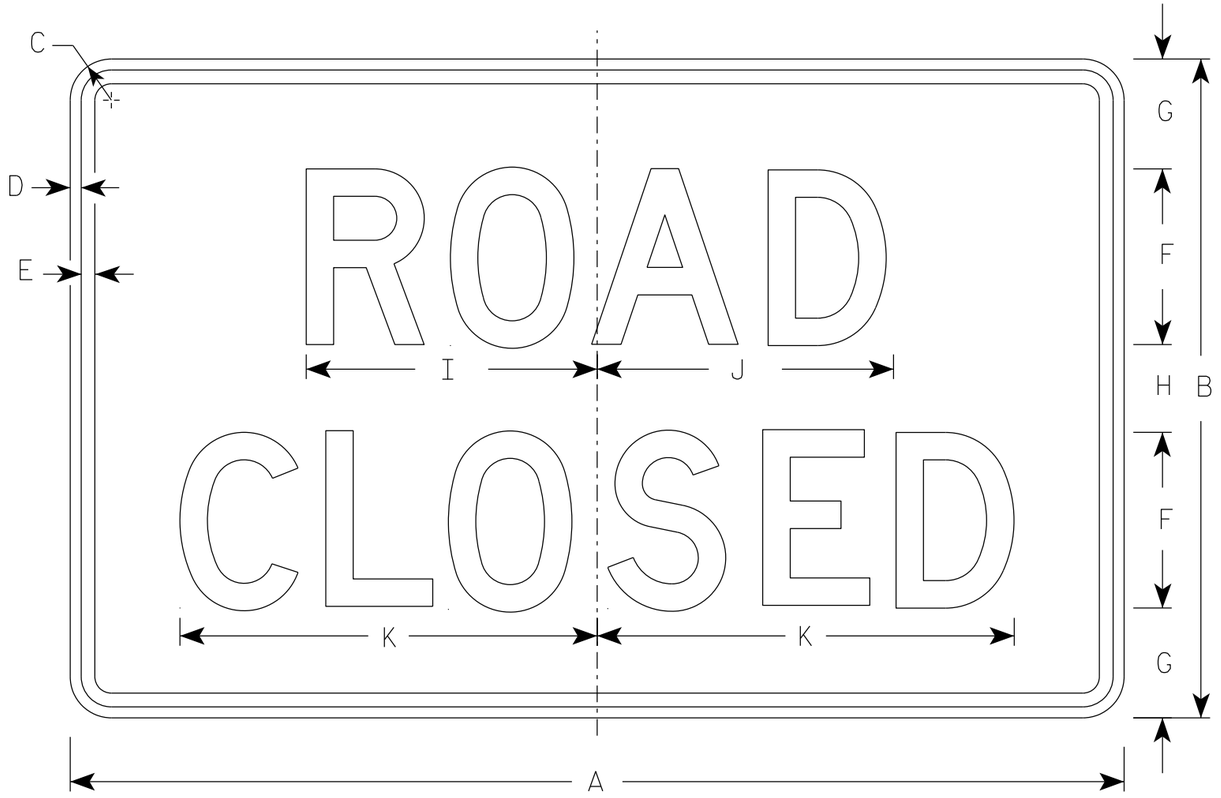
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/2/23 PLATE NO. R3-1.6

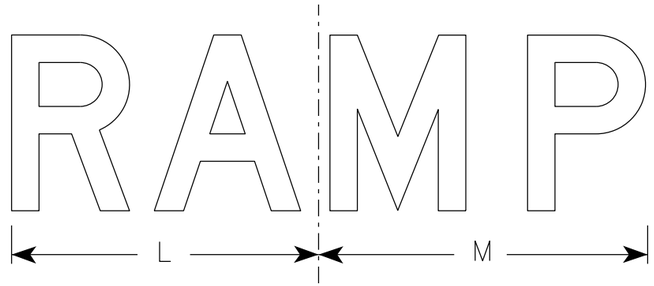
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 171 | E



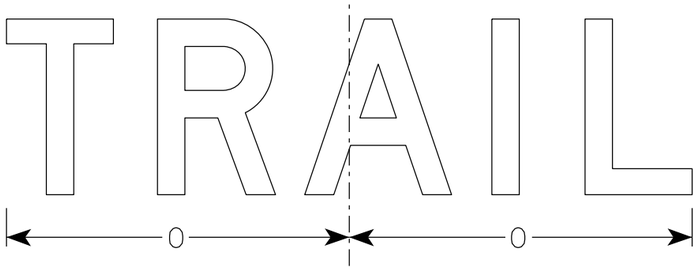
R11-2

NOTES

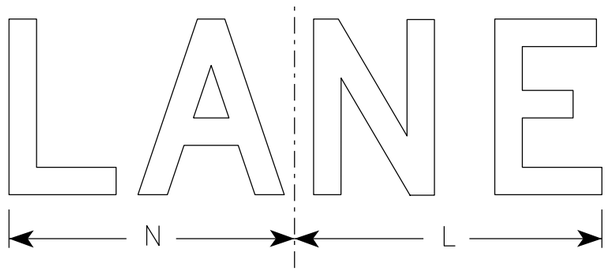
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

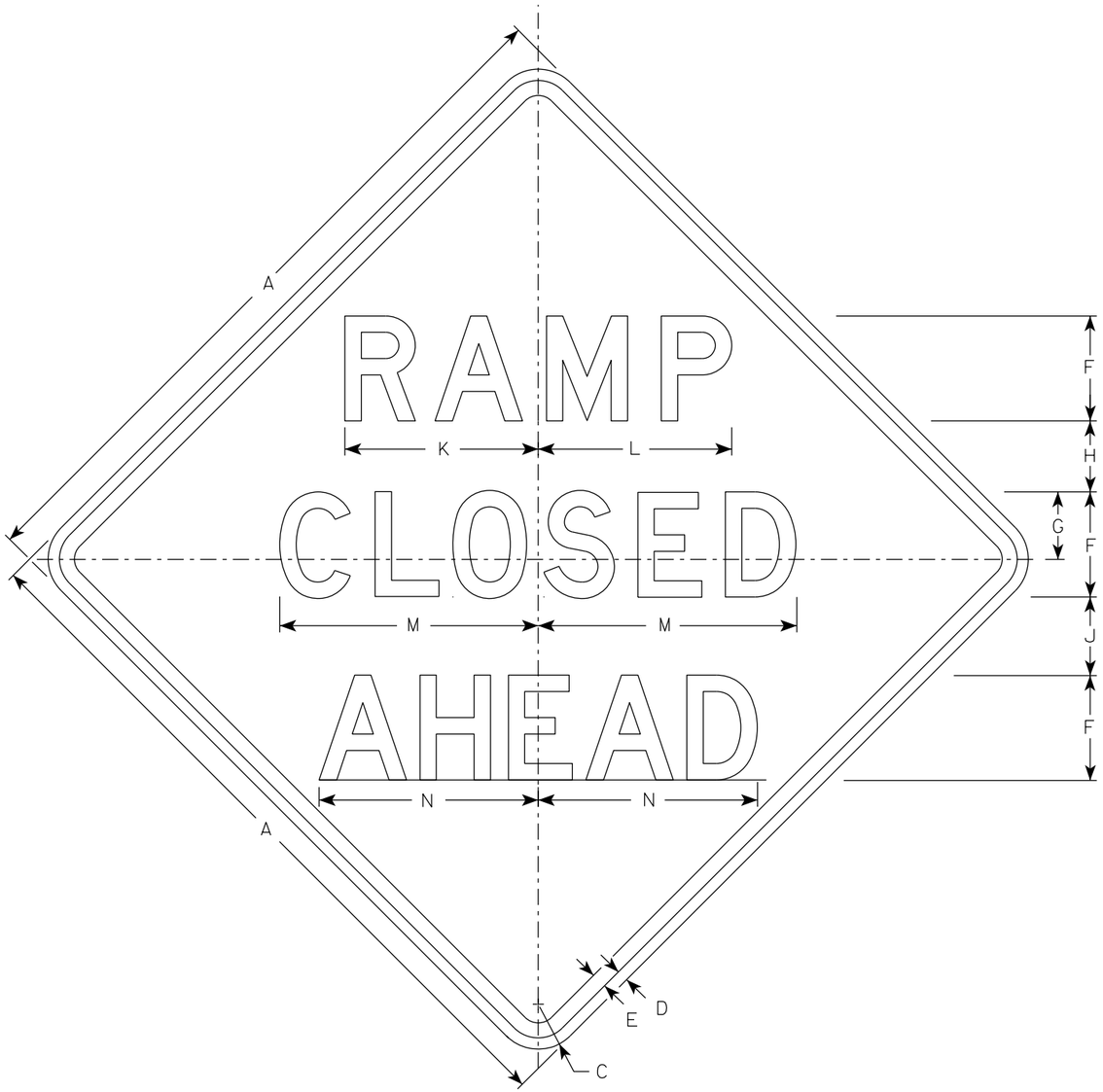
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

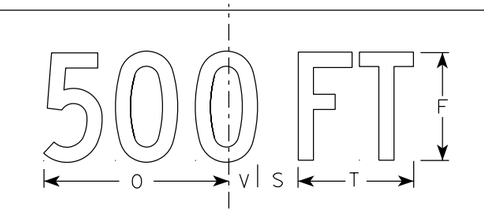
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.dgn PLOT DATE : 5-FEB 2024 2:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

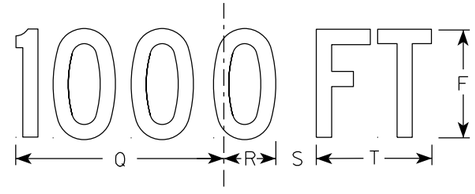
7



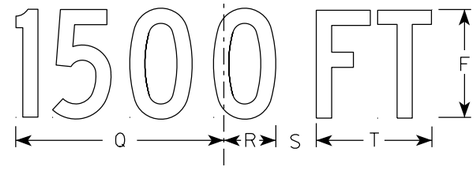
W20-53A



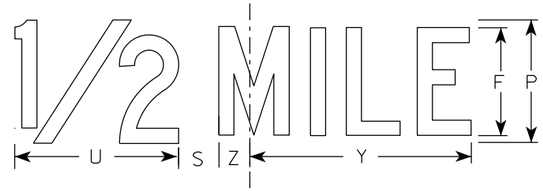
W20-53D



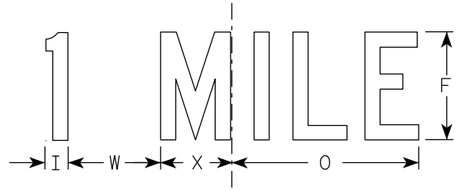
W20-53C



W20-53B



W20-53G



W20-53F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

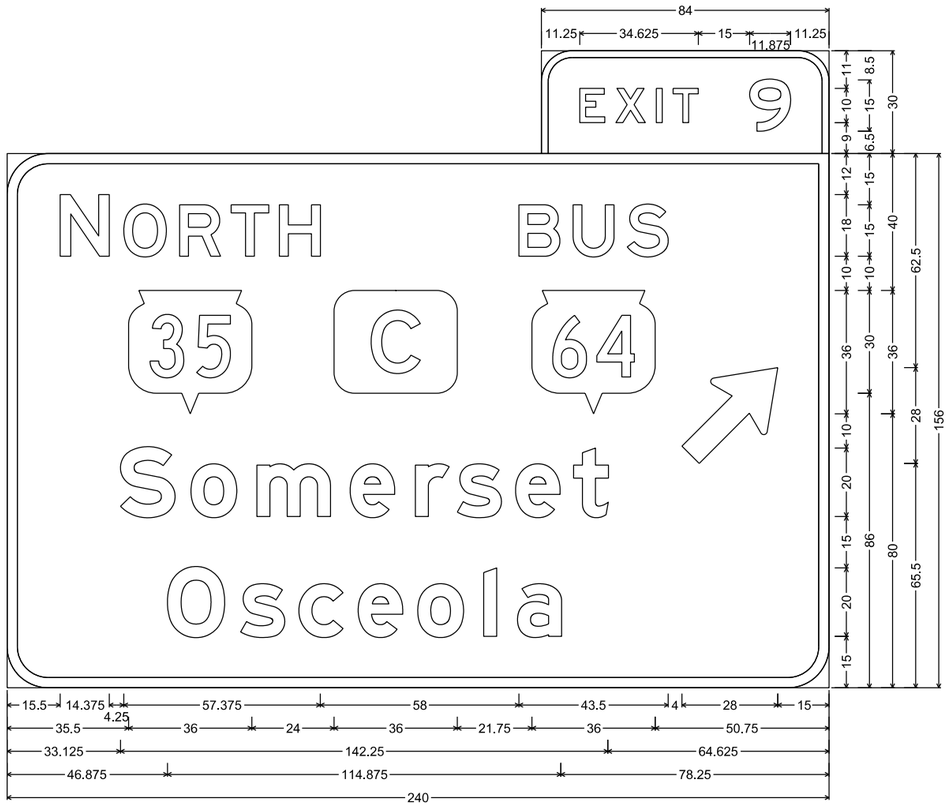
STANDARD SIGN
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-53.2

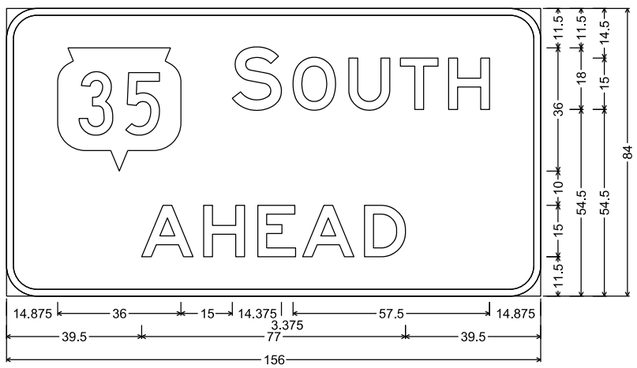
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



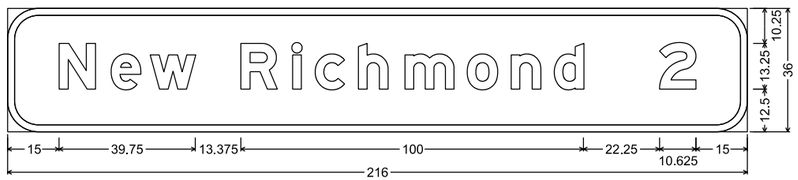
E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border

NOTES

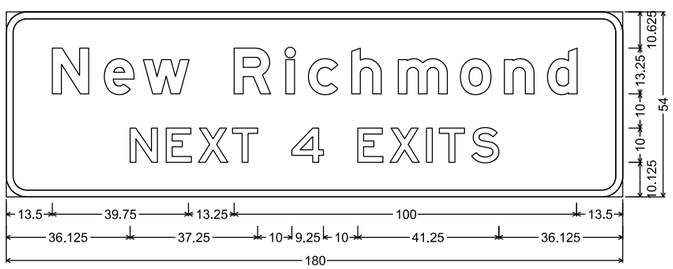
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



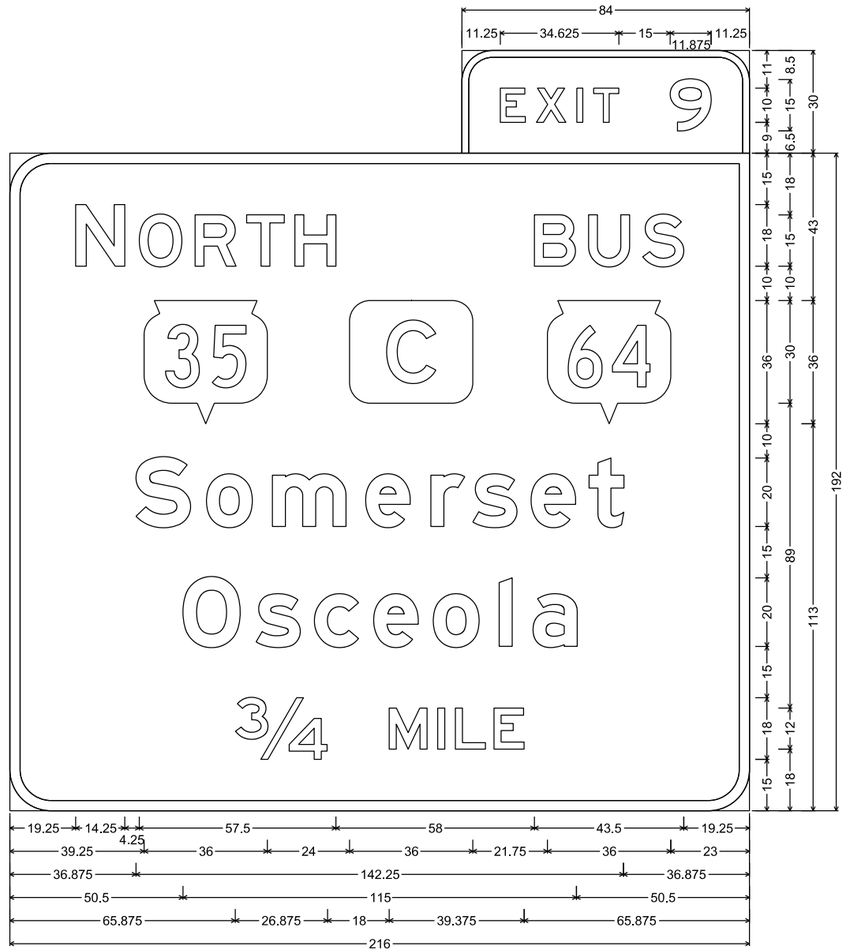
E3-1; 9.000" Radius, 2.000" Border



D2-1; 9.000" Radius, 2.000" Border



E9-1; 6.000" Radius, 2.000" Border

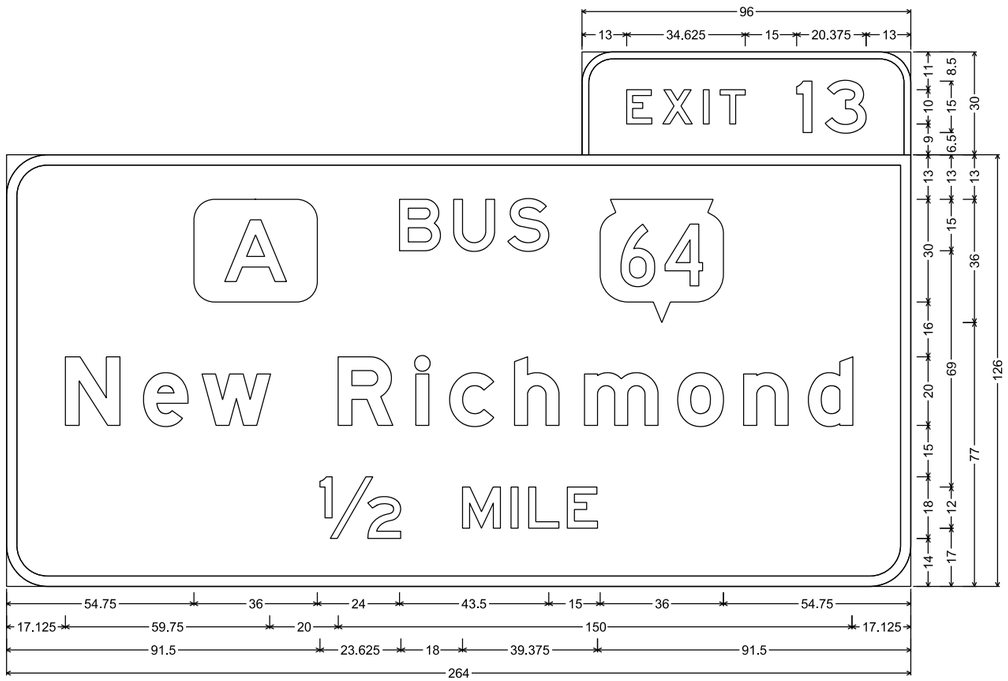


E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border

7

7

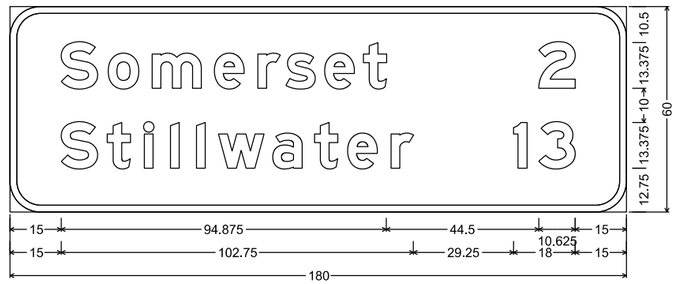
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST CROIX	PERMANENT SIGNING	SHEET NO: 174	E



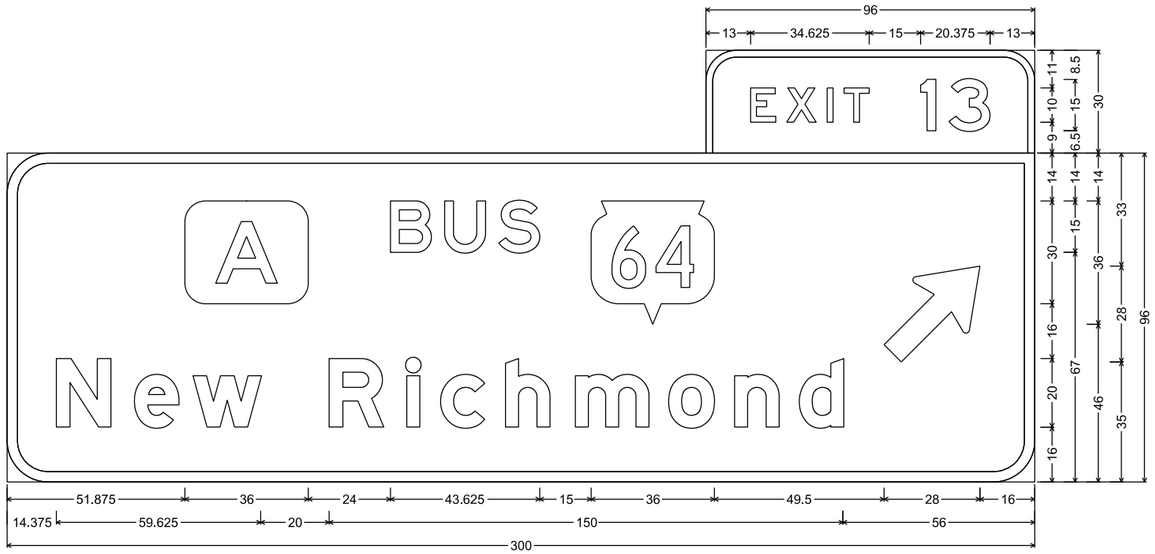
E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border

NOTES

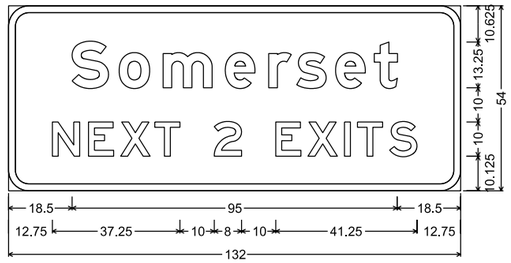
1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



D2-2; 9.000" Radius, 2.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border



E9-1; 6.000" Radius, 2.000" Border

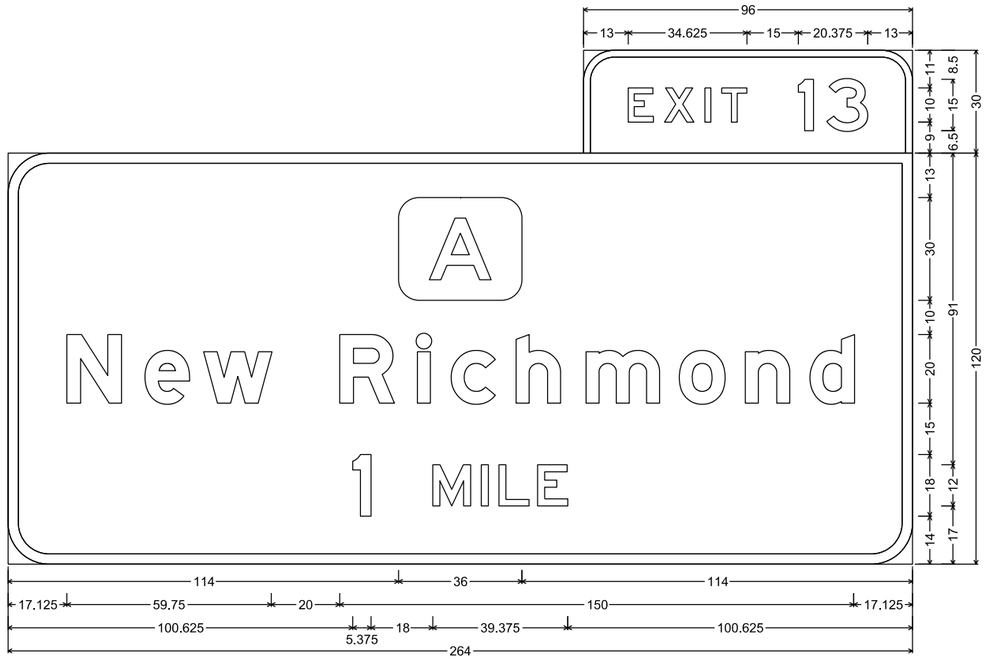
7

7

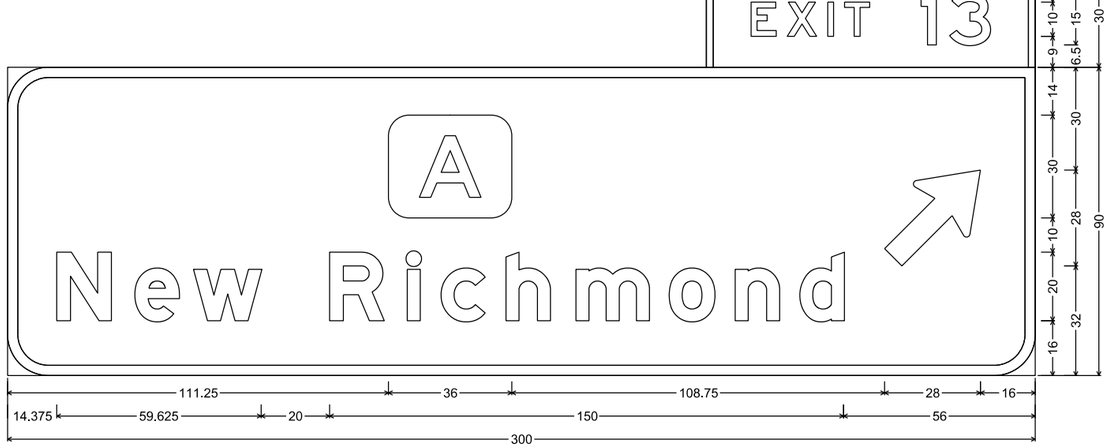
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST CROIX	PERMANENT SIGNING	SHEET NO: 175	E

NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



E1-5P; 9.000" Radius, 2.000" Border,
E1-1A; 12.000" Radius, 3.000" Border



E1-5P; 9.000" Radius, 2.000" Border,
E4-1A; 12.000" Radius, 3.000" Border

7

7

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST CROIX	PERMANENT SIGNING	SHEET NO: 176	E

PROJECT ID 8110-00-79

STH 64 RAMP 'J'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	628+84	62884	0	11.03	0.10	0	0	0	0	0
	629+00	62900	16	12.15	0.07	7	0	7	0	7
	629+50	62950	50	15.93	0.07	26	0	33	0	33
	630+00	63000	50	6.29	1.53	21	2	54	2	52
	630+34	63034	34	0.00	12.76	4	9	57	13	44
	630+50	63050	16	0.00	21.31	0	10	57	26	31
	630+98	63098	48	17.32	23.74	15	40	73	76	-3
	631+00	63100	2	17.46	23.24	2	2	74	78	-4
	631+09	63109	9	19.44	19.66	6	7	81	88	7
	631+50	63150	41	17.35	19.14	28	29	108	124	-16
	632+00	63200	50	15.87	25.11	31	41	139	175	-36
	632+50	63250	50	14.71	21.27	28	43	167	229	62
	633+00	63300	50	15.01	8.19	28	27	195	263	-68
	633+10	63310	10	4.60	7.10	3	3	198	267	-68
	633+21	63321	12	4.75	16.43	2	5	201	273	-72
	633+45	63345	23	3.23	31.48	3	21	204	299	-95
	633+50	63350	5	6.17	34.37	1	7	205	307	102
	633+86	63386	36	8.55	27.15	10	40	215	357	-143
	634+00	63400	14	5.61	22.10	4	13	218	374	-156
	634+50	63450	50	1.80	14.19	7	34	225	416	-191
	635+00	63500	50	5.56	3.07	7	16	232	436	-204
	635+37	63537	37	9.95	1.08	11	3	243	439	197
	635+50	63550	13	8.29	0.89	5	0	247	440	-193
	636+00	63600	50	5.86	1.78	13	2	260	443	-183
	636+50	63650	50	5.10	1.05	10	3	270	446	-176
	637+00	63700	50	3.72	1.13	8	2	279	449	-170
	637+19	63719	19	3.44	1.57	3	1	281	450	169
						281	360			

PROJECT ID 8110-00-79

STH 64 'EB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	629+15	62915	0	6.51	0.23	0	0	0	0	0
	630+64	63064	150	1.42	2.65	22	8	22	10	12
	631+31	63131	67	1.51	3.17	4	7	26	19	7
	631+40	63140	9	1.43	3.34	0	1	26	20	6
	631+98	63198	58	0.00	5.33	2	9	28	32	-4
	632+82	63282	84	0.00	9.20	0	23	28	60	-33
	633+40	63340	58	8.25	5.41	9	16	37	80	-43
	633+52	63352	12	4.66	8.28	3	3	39	84	-44
	633+64	63364	12	2.02	14.53	1	5	41	90	-49
	634+16	63416	52	0.00	24.44	2	38	43	137	-94
	635+66	63566	150	0.42	3.53	1	78	44	234	-190
						44	187			

PROJECT ID 8110-00-79

STH 64 'EB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	658+50	65850	0	5.97	4.44	0	0	0	0	0
	658+63	65863	13	3.32	7.82	2	3	2	4	-1
	658+88	65888	25	1.04	4.21	2	6	4	11	-6
	659+13	65913	25	3.95	1.94	2	3	7	14	-8
	659+96	65996	83	0.47	12.83	7	23	13	43	-29
	660+80	66080	84	3.84	4.58	7	27	20	76	-56
	661+66	66166	86	1.58	29.74	9	54	29	144	-116
						29	116			

PROJECT ID 8110-00-79

STH 64 'EB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	669+71	66971	0	0.00	7.77	0	0	0	0	0
	670+37	67037	66	7.95	26.53	10	42	10	52	-43
	670+82	67082	46	6.33	7.82	12	29	22	89	-67
	671+50	67150	68	2.05	19.24	10	34	32	131	-99
	672+13	67213	63	0.90	19.22	3	45	36	188	-152
	672+38	67238	25	0.98	20.33	1	18	37	210	-174
	672+63	67263	25	0.45	20.69	1	19	37	234	-197
	673+08	67308	45	5.17	9.59	5	25	42	266	-224
	673+23	67323	15	6.94	7.92	3	5	45	272	-226
	674+00	67400	77	4.91	8.15	17	23	62	300	-238
	674+92	67492	92	0.98	8.73	10	29	72	336	-264
	675+17	67517	25	0.44	12.96	1	10	73	349	-276
	675+42	67542	25	0.80	18.85	1	15	73	367	-294
	676+17	67617	75	6.84	1.51	11	28	84	402	-318
	676+62	67662	45	29.03	0.20	30	1	114	404	-290
						114	323			

9

9

PROJECT NO: 8110-00-79 | HWY: STH 64 | COUNTY: ST. CROIX | EARTHWORK DATA | SHEET 177 | E

PROJECT ID 8110-00-79

STH 64 'EB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	680+55	68055	0	3.16	4.52	0	0	0	0	0
	681+00	68100	45	7.99	10.96	9	13	9	16	-7
	681+75	68175	75	8.68	16.93	23	39	32	65	-32
	682+00	68200	25	8.00	14.02	8	14	40	82	-42
	682+25	68225	25	8.12	11.24	7	12	48	97	-49
	682+50	68250	25	9.22	9.88	8	10	56	109	-54
	683+00	68300	50	12.91	7.79	20	16	76	130	-54
	683+50	68350	50	15.05	4.77	26	12	102	144	-42
	684+00	68400	50	14.61	2.84	27	7	130	153	-24
	684+52	68452	52	0.53	50.33	15	51	144	217	-73
						144	174			

PROJECT ID 8110-00-79

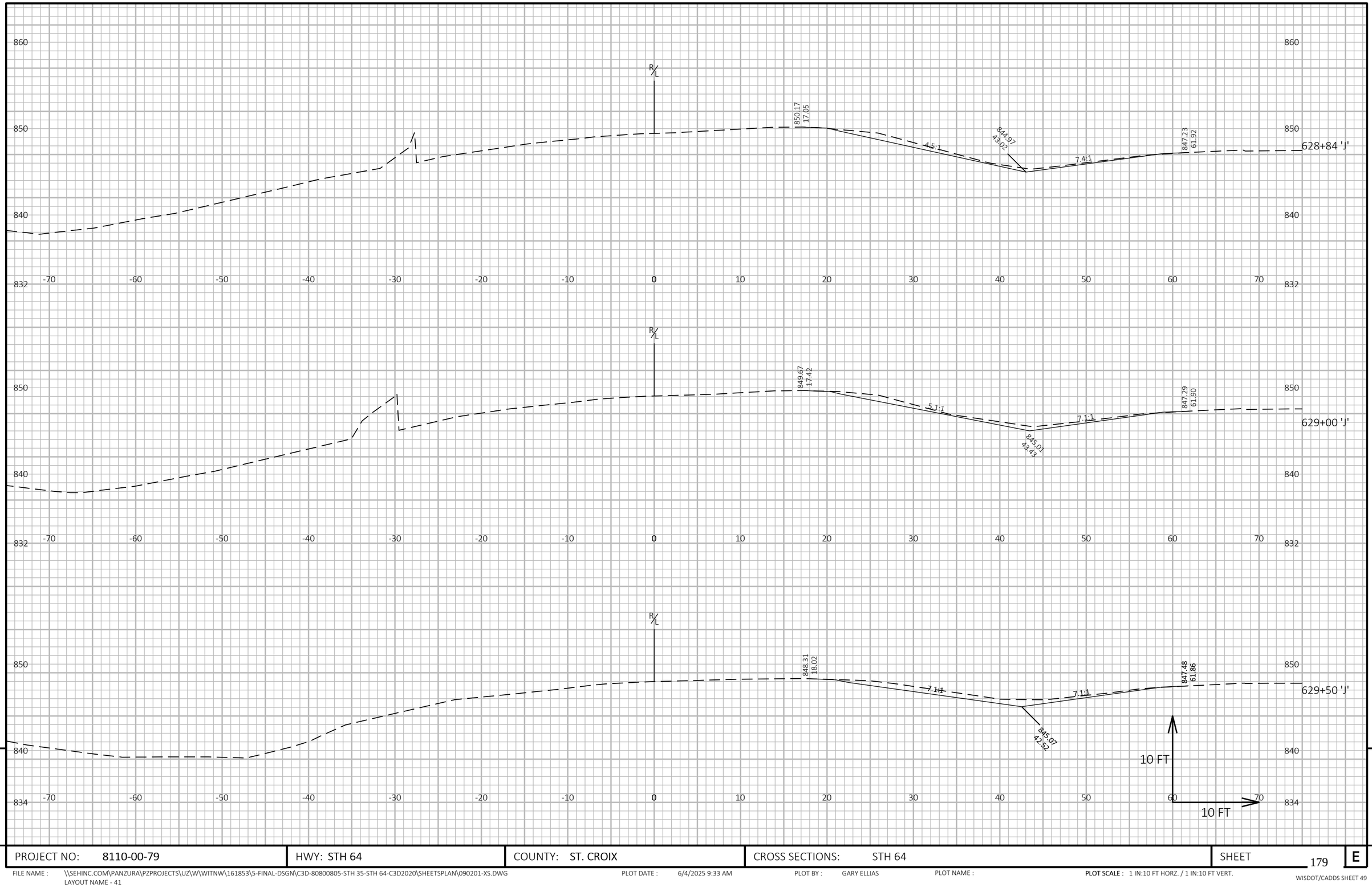
STH 64 'EB'

CATEGORY	STATION	REAL STATION	DISTANCE	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOL (CY) CUT	INCREMENTAL VOL (CY) FILL	CUMULATIVE VOL (CY) CUT 1.00	CUMULATIVE VOL (CY) EXPANDED FILL 1.25	CUMULATIVE VOL (CY) MASS ORDINATE
0010	689+69	68969	0	2.18	18.21	0	0	0	0	0
	690+96	69096	127	0.05	16.93	5	82	5	103	-98
	691+99	69199	103	0.76	20.17	2	71	7	191	-185
	692+24	69224	25	0.46	25.78	1	21	7	218	-211
	692+49	69249	25	0.16	33.07	0	27	8	252	-244
	693+24	69324	75	0.22	15.95	1	68	8	337	-329
	693+69	69369	45	1.47	7.83	1	20	10	362	-352
						10	290			

9

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PROJECT NO: 8110-00-79 | HWY: STH 64 | COUNTY: ST. CROIX | EARTHWORK DATA | SHEET 178 | E



9

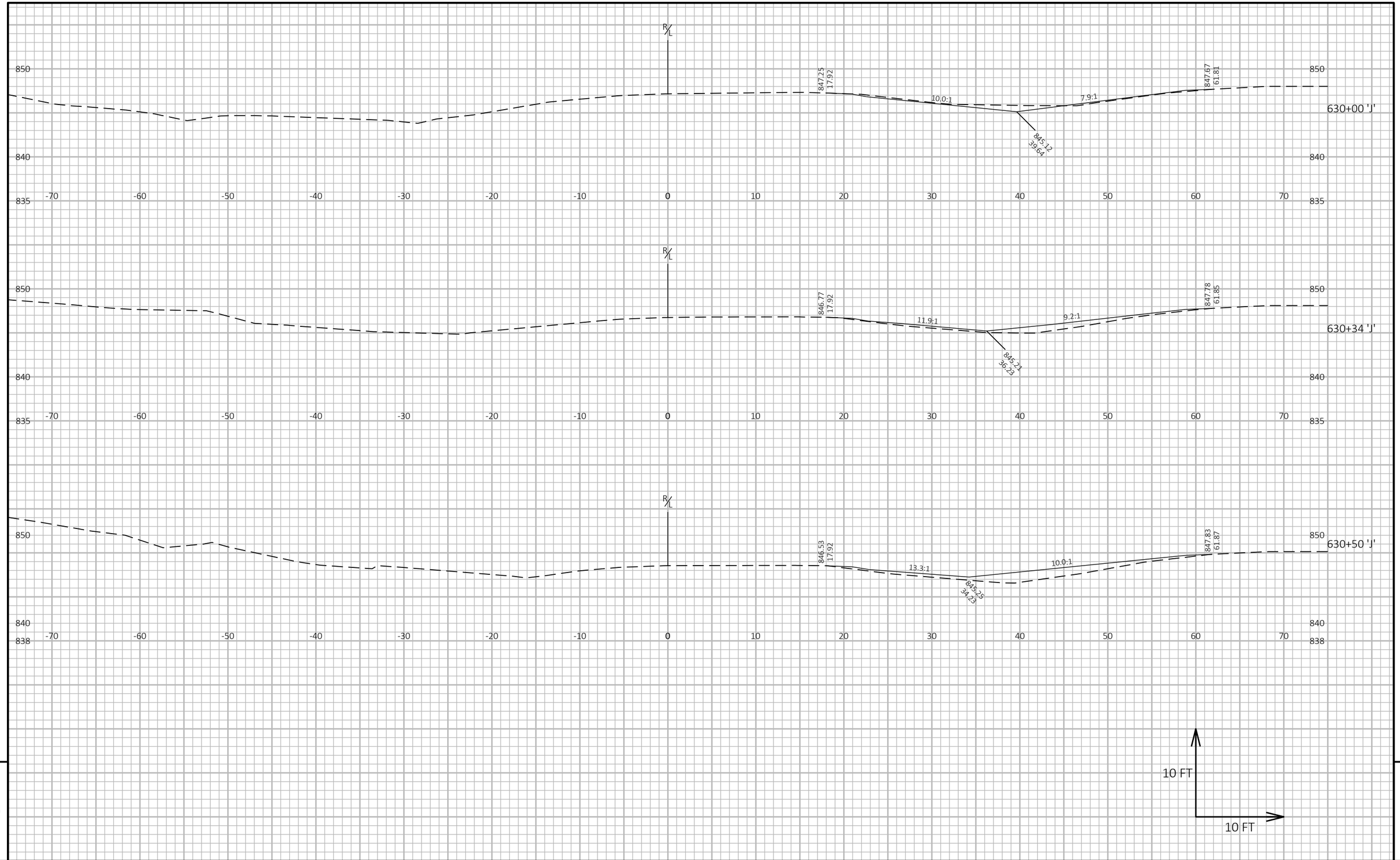
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 179	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 41

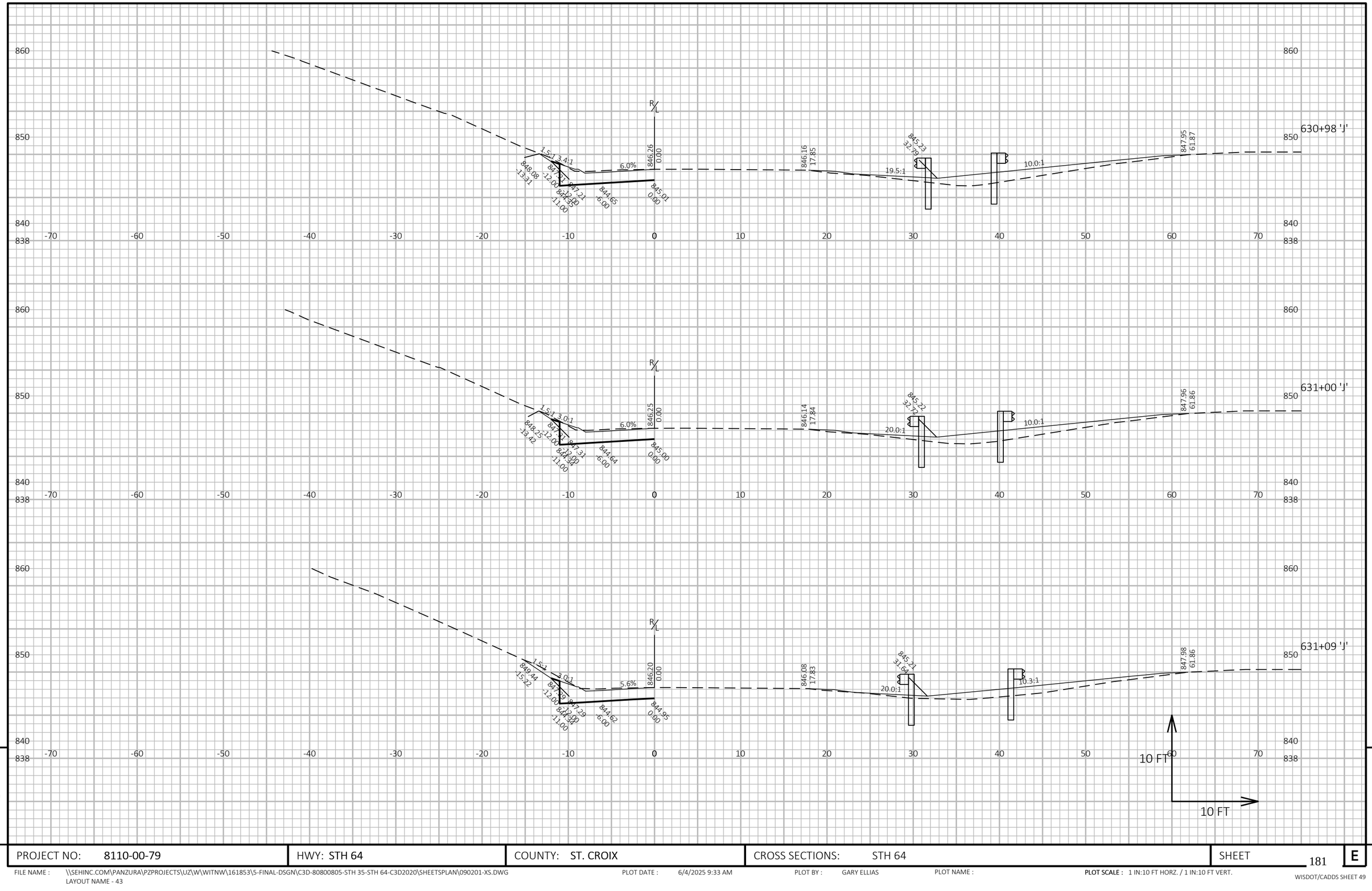
PLOT DATE : 6/4/2025 9:33 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 180	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 42
PLOT DATE : 6/4/2025 9:33 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



9

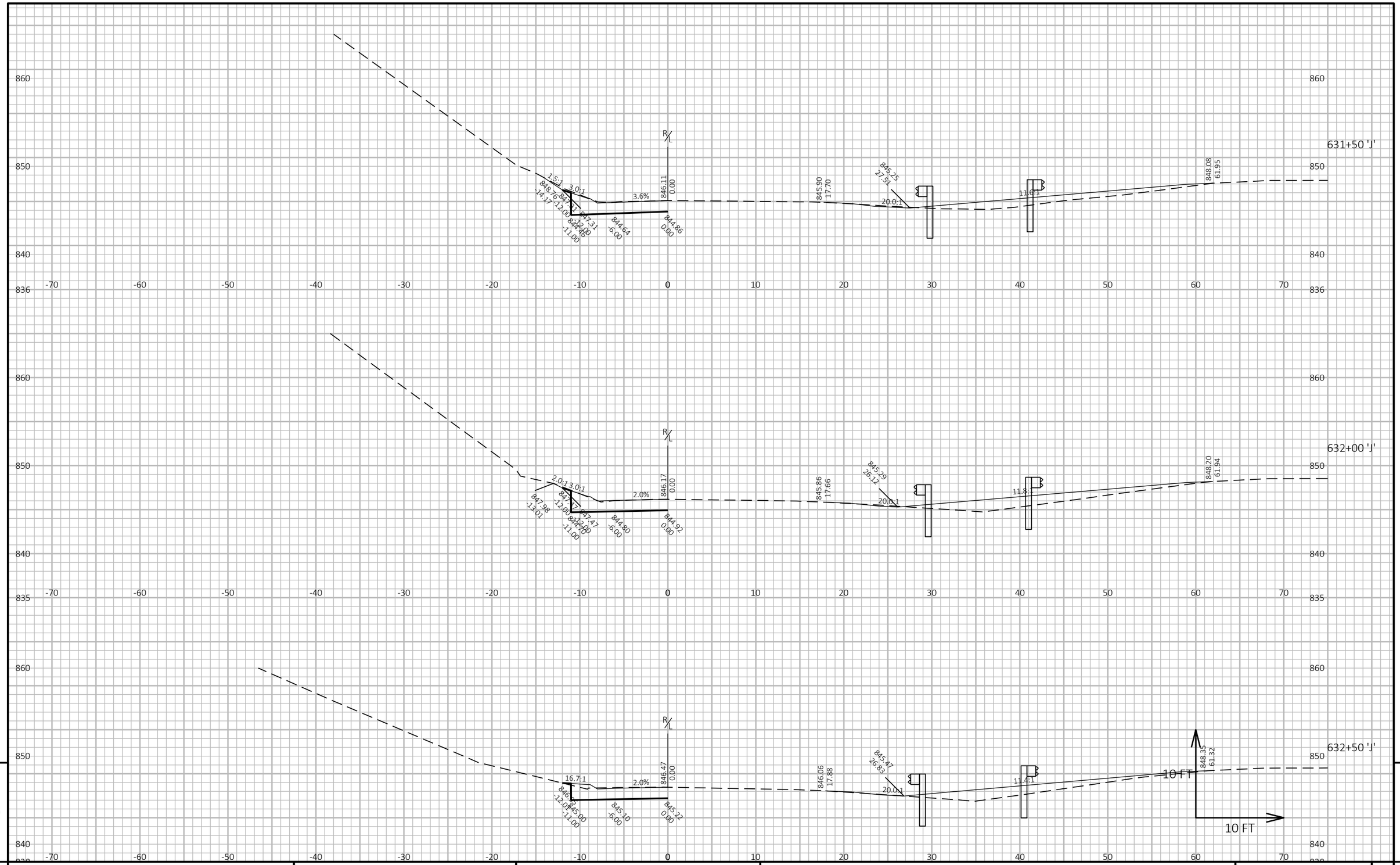
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 181	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 43

PLOT DATE : 6/4/2025 9:33 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 182	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 44

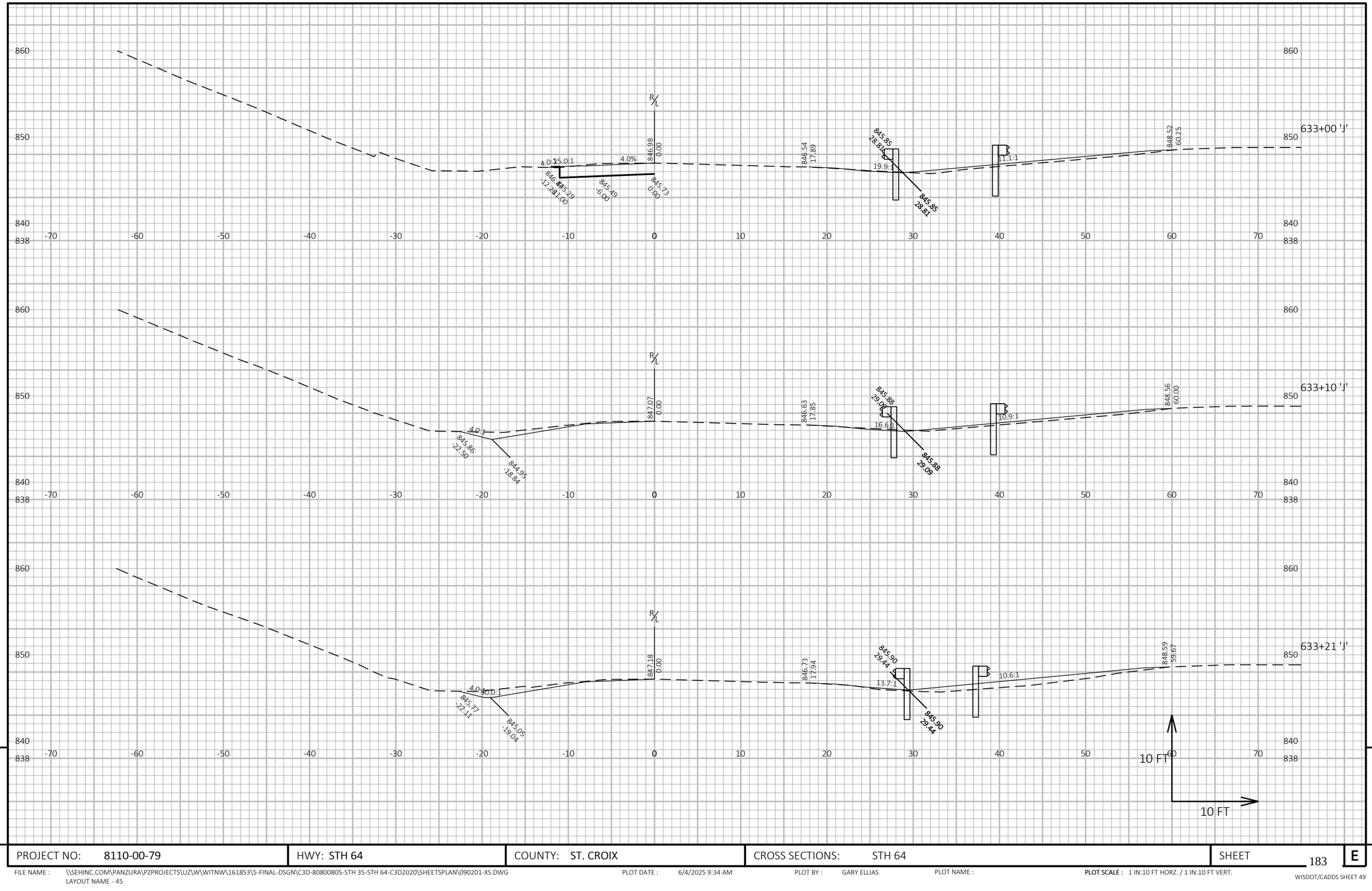
PLOT DATE : 6/4/2025 9:34 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

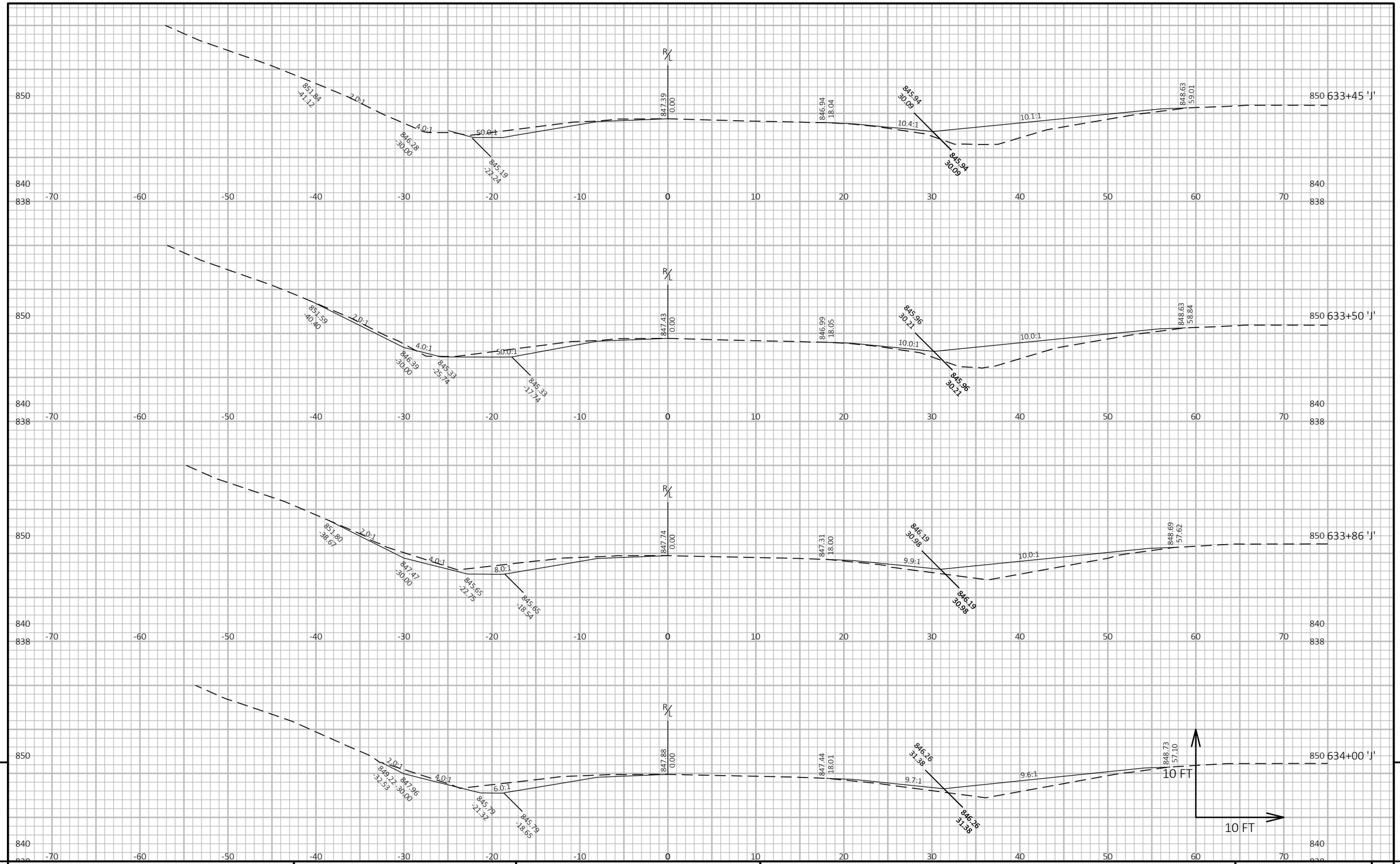
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 183	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 45

PLOT DATE : 6/4/2025 9:34 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 184	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 46

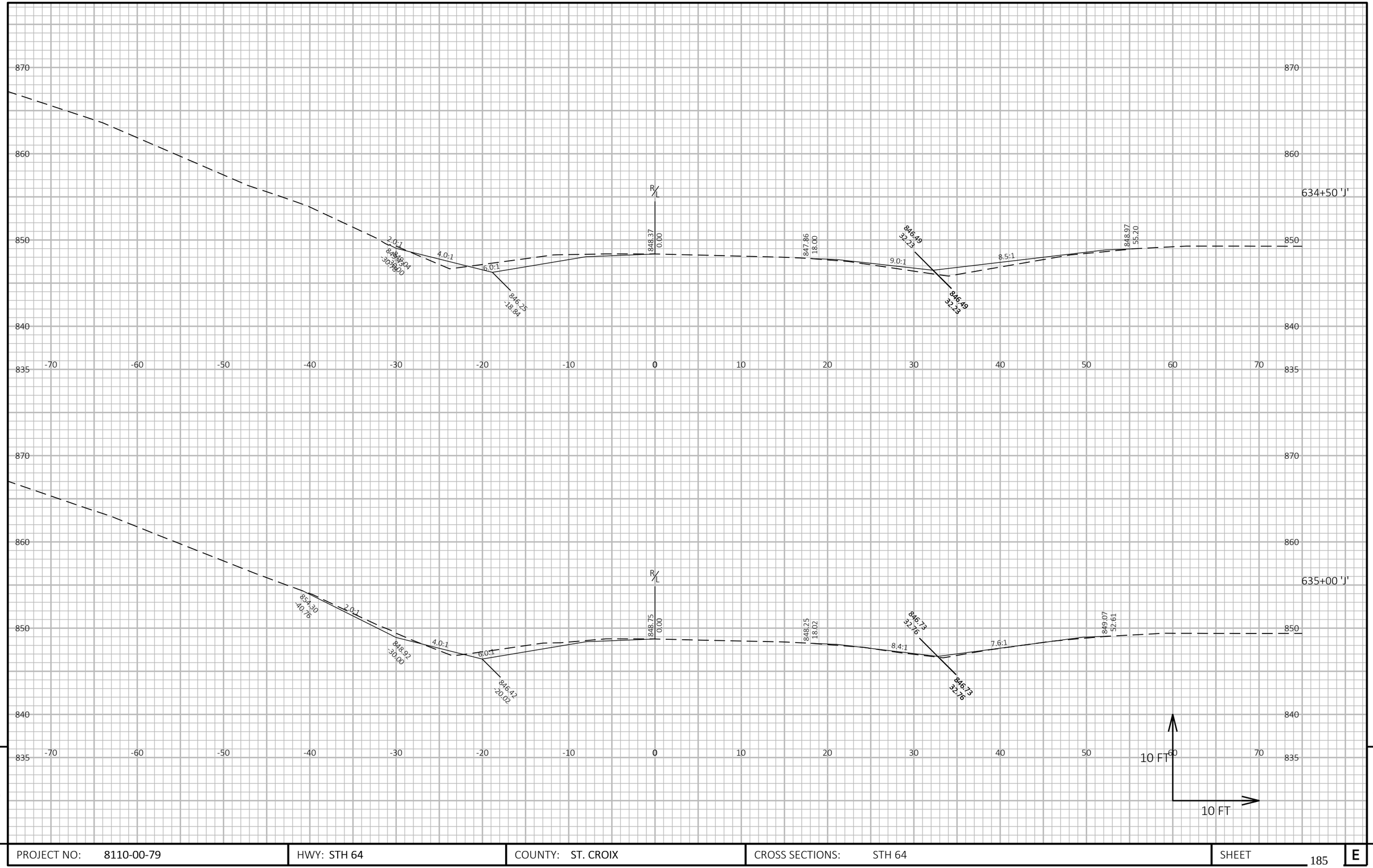
PLOT DATE : 6/4/2025 9:34 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49

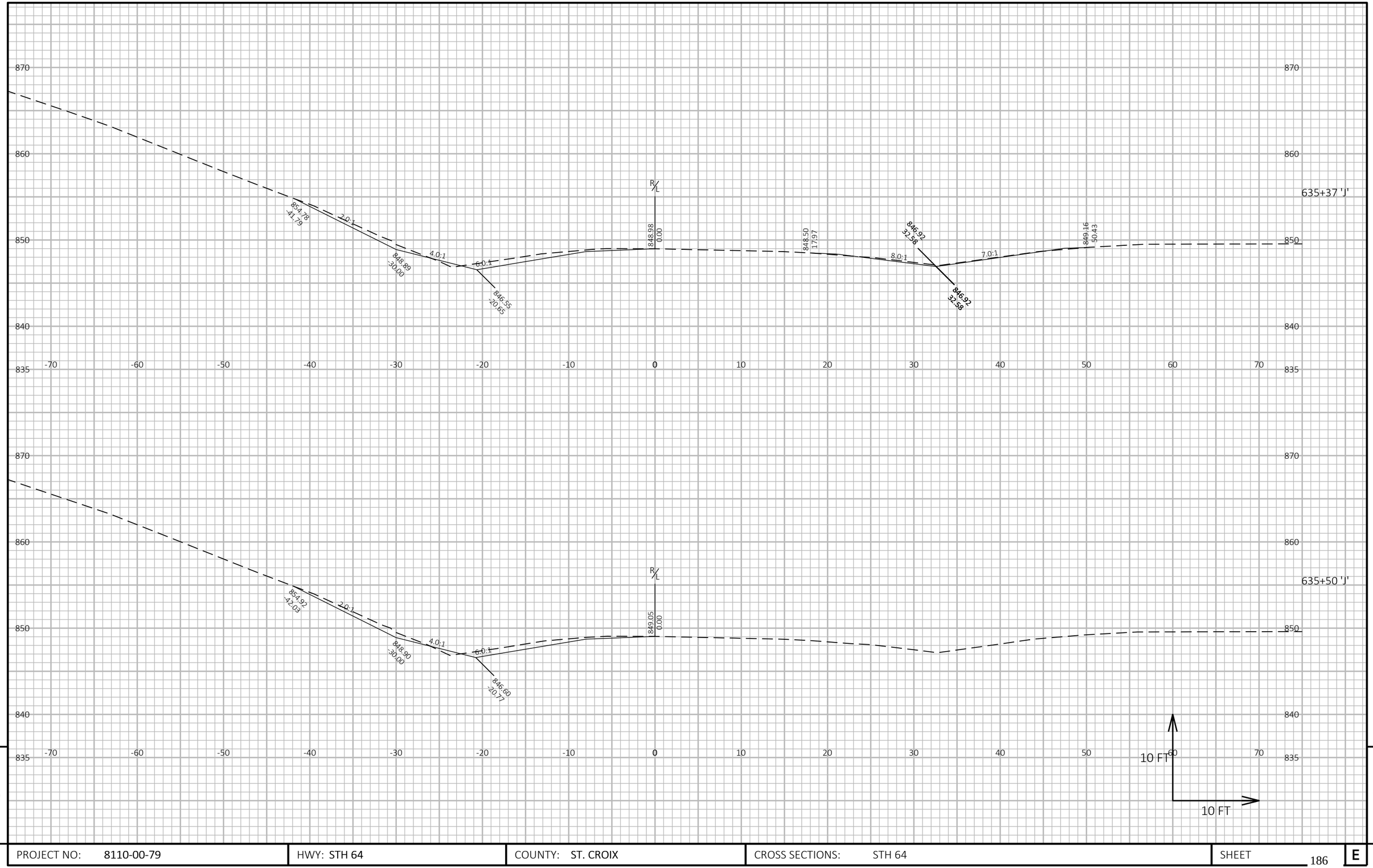


PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 185	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 47

PLOT DATE : 6/4/2025 9:35 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

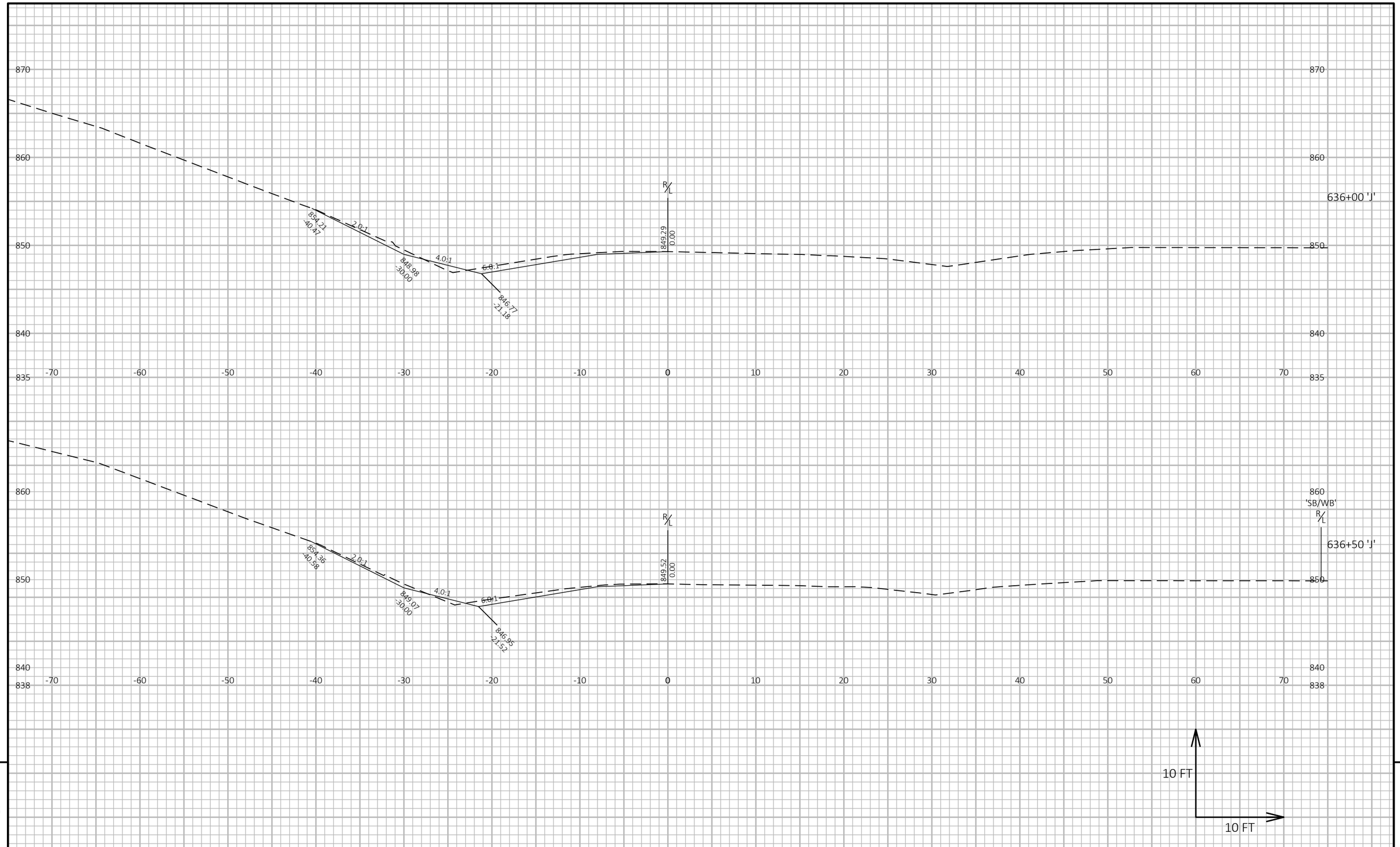


PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 186 E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 48

PLOT DATE : 6/4/2025 9:35 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 187	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 49

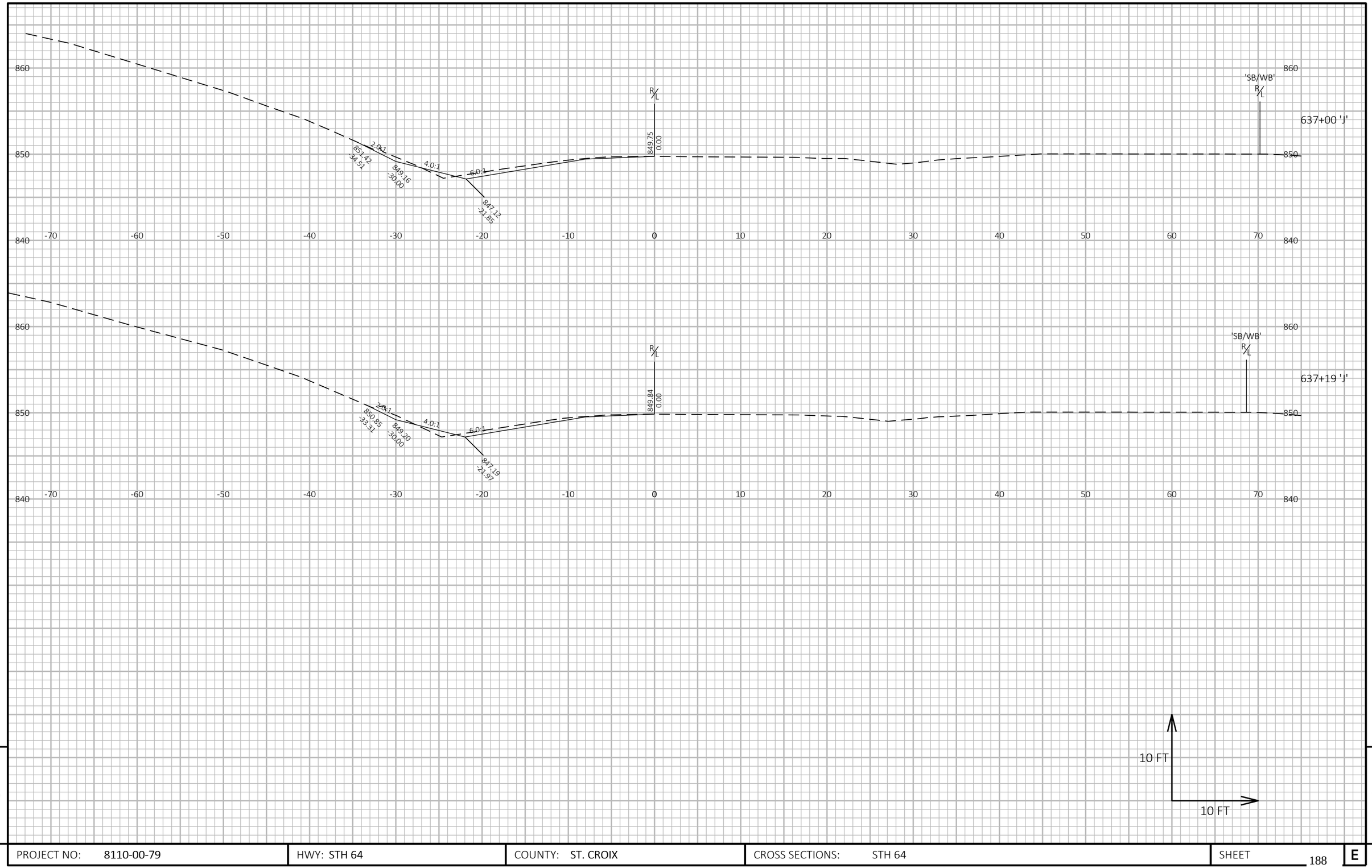
PLOT DATE : 6/4/2025 9:35 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

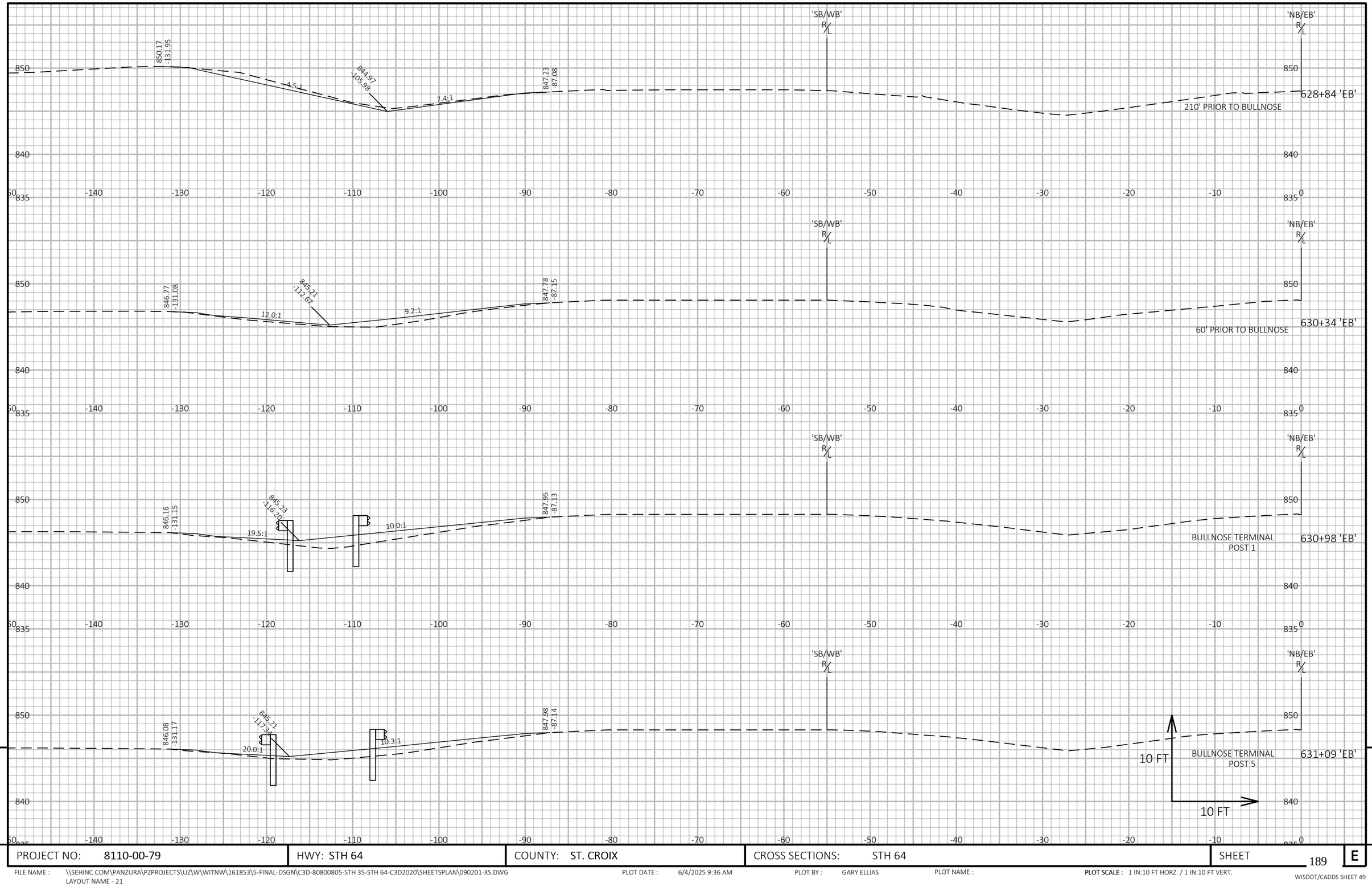
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 188	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 50

PLOT DATE : 6/4/2025 9:35 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 189	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 21

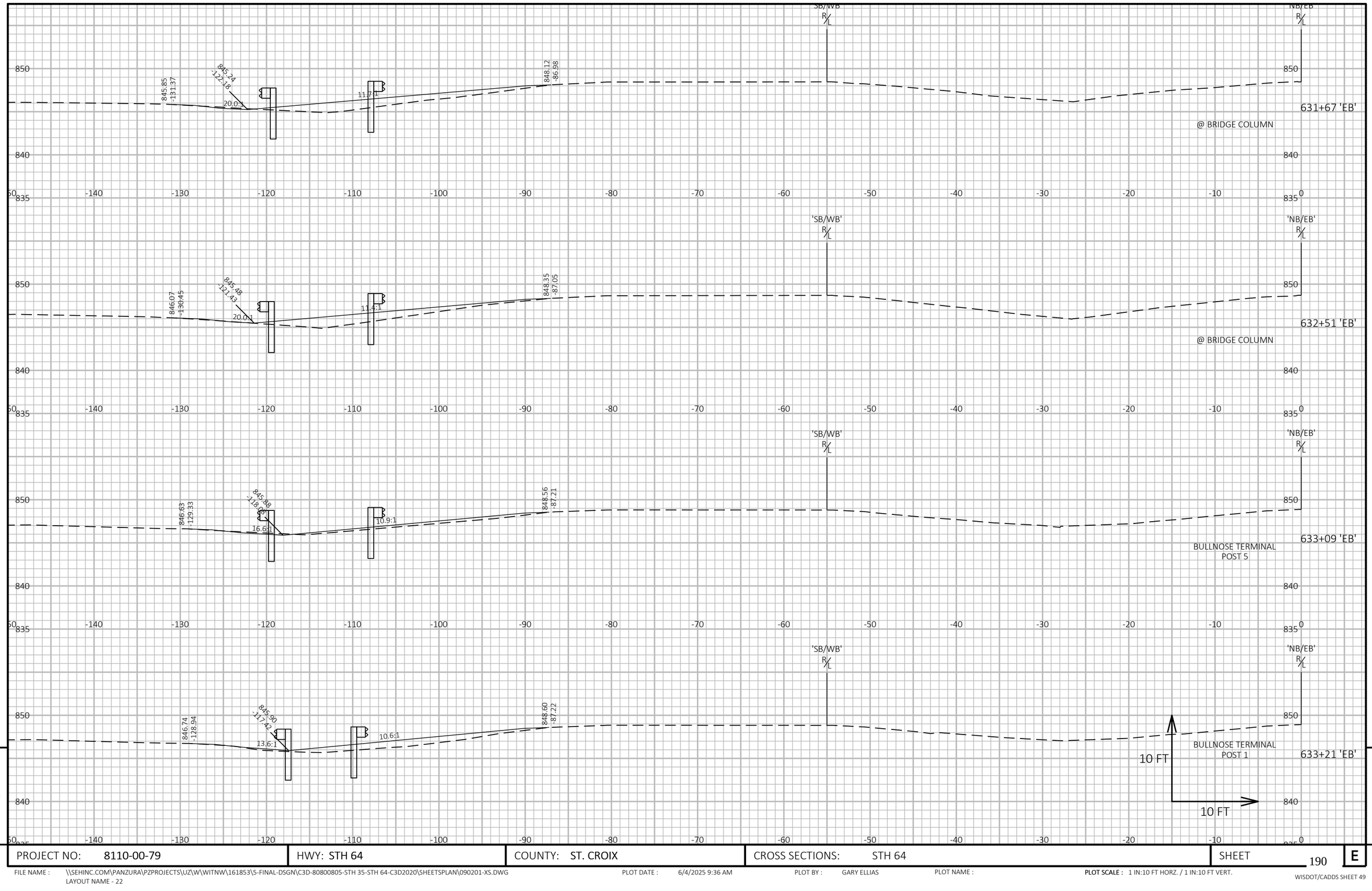
PLOT DATE : 6/4/2025 9:36 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



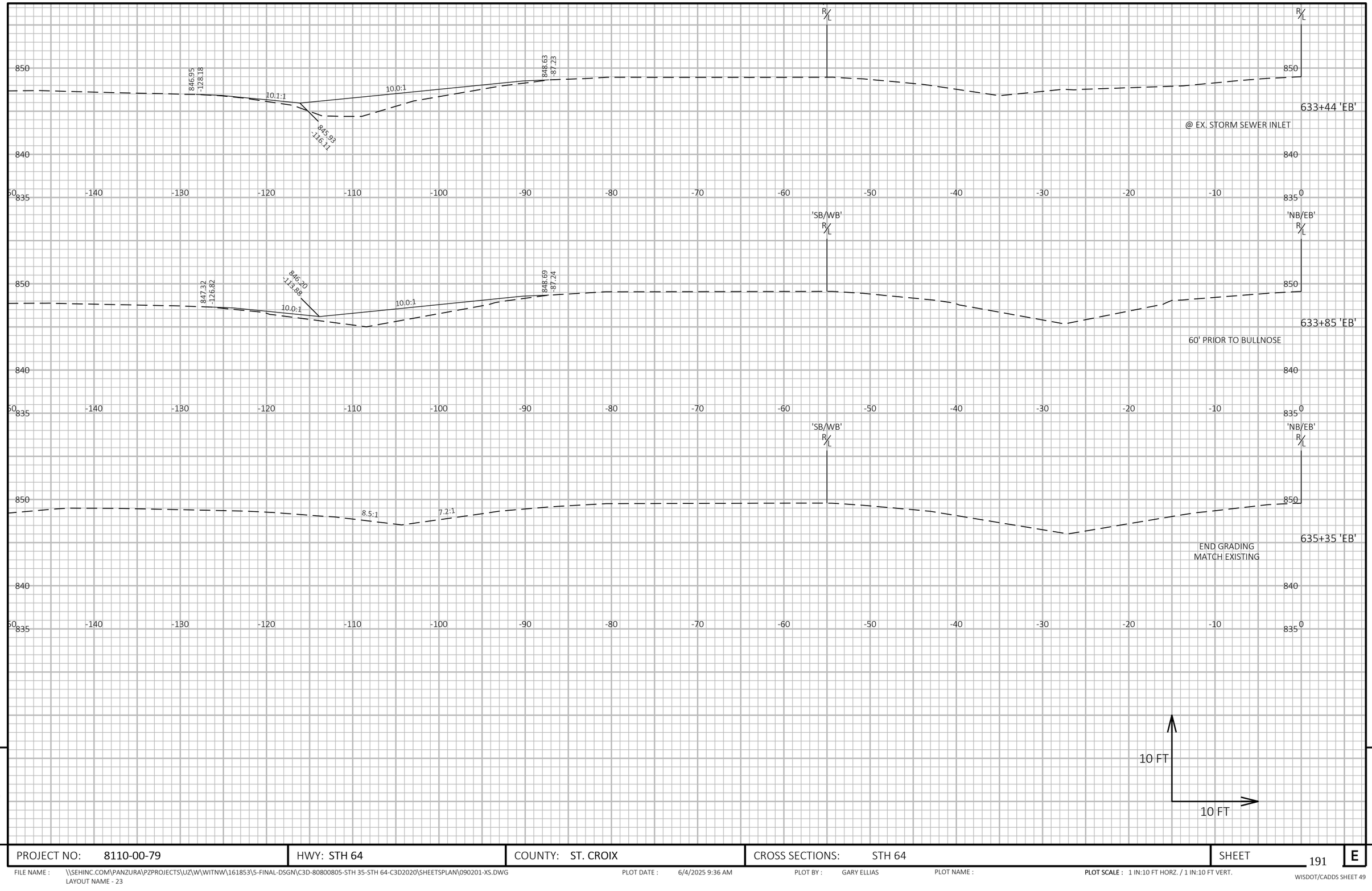
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 190	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 22

PLOT DATE : 6/4/2025 9:36 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

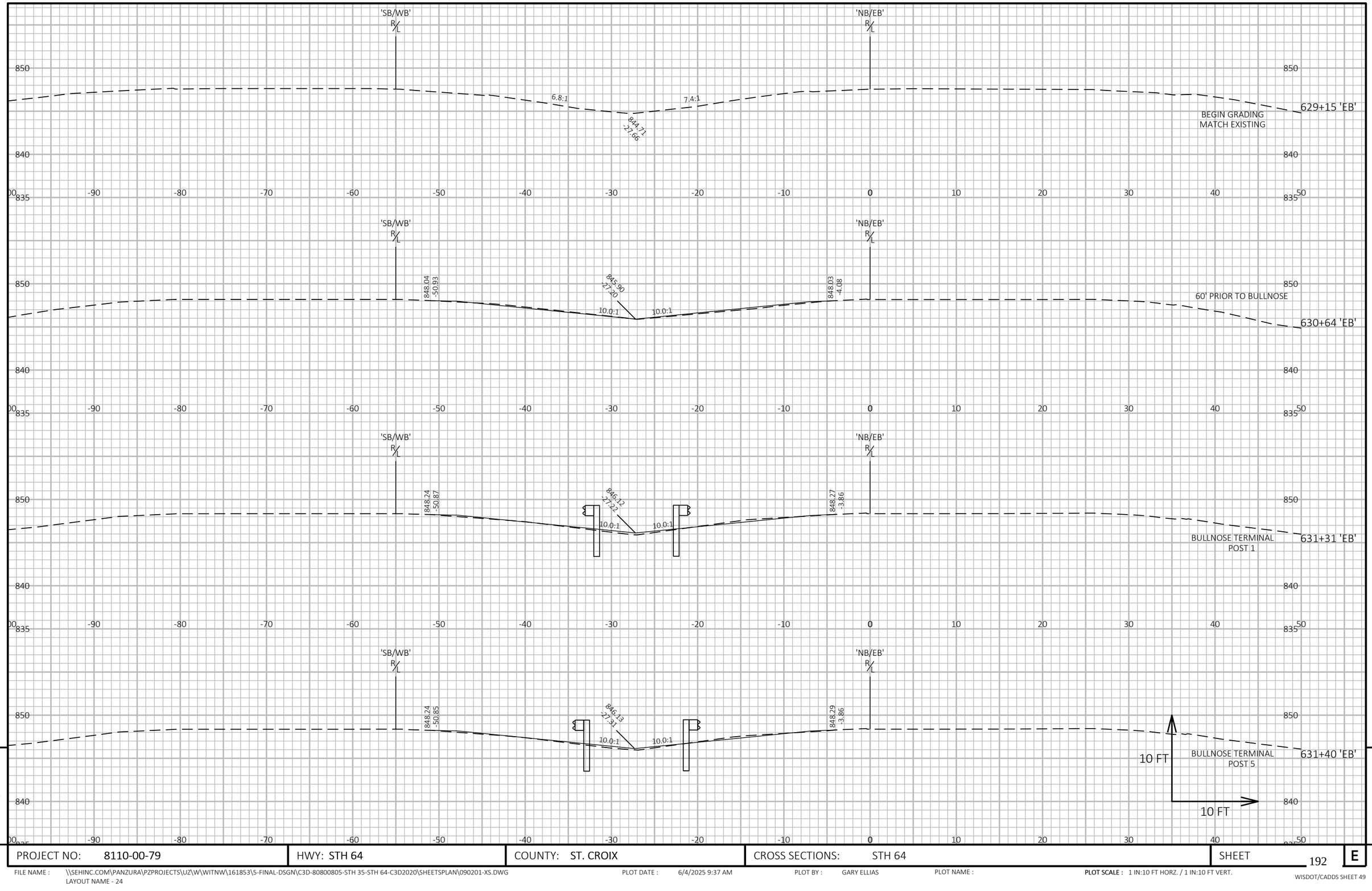
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 191	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 23

PLOT DATE : 6/4/2025 9:36 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 192	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 24

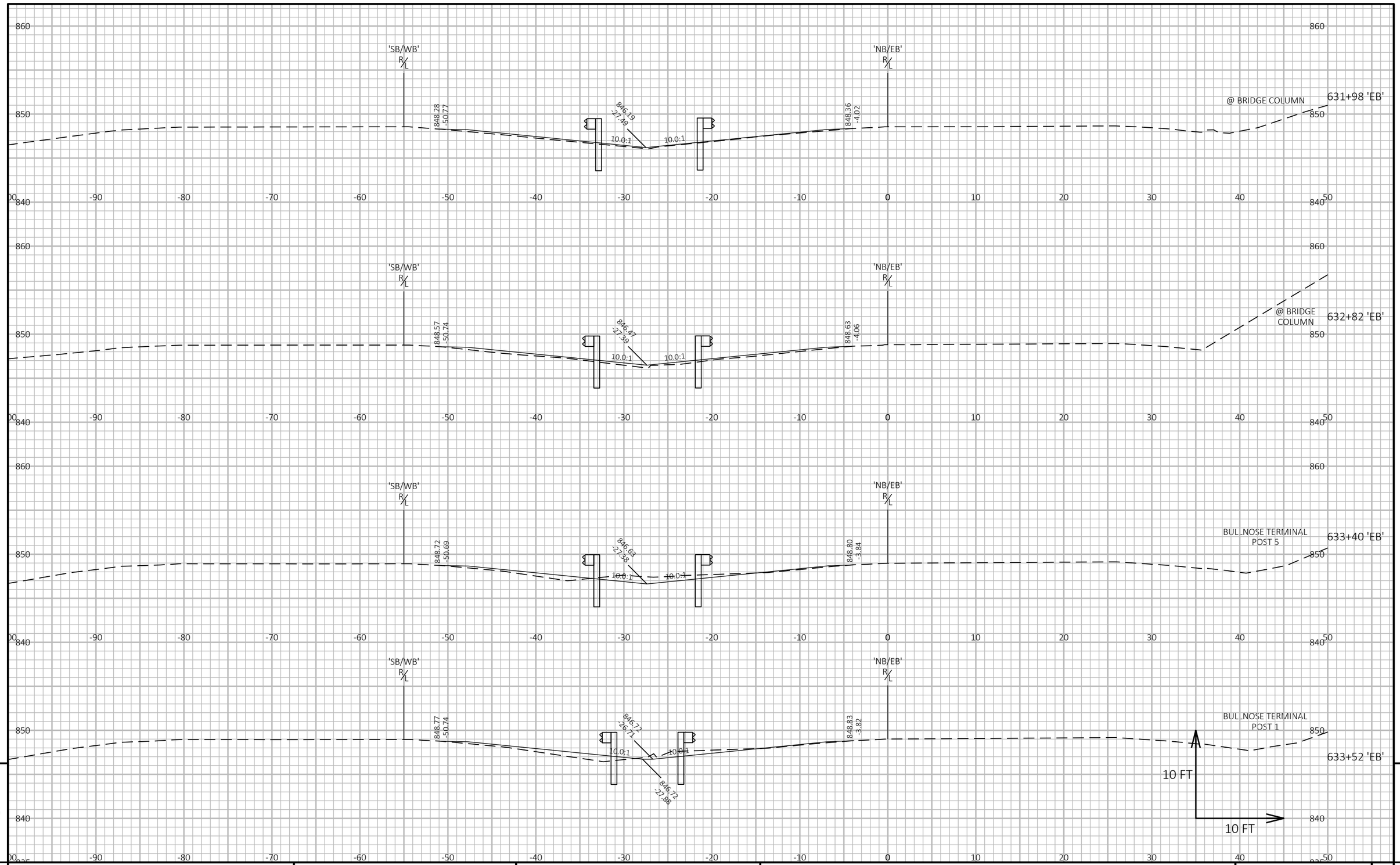
PLOT DATE : 6/4/2025 9:37 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET E

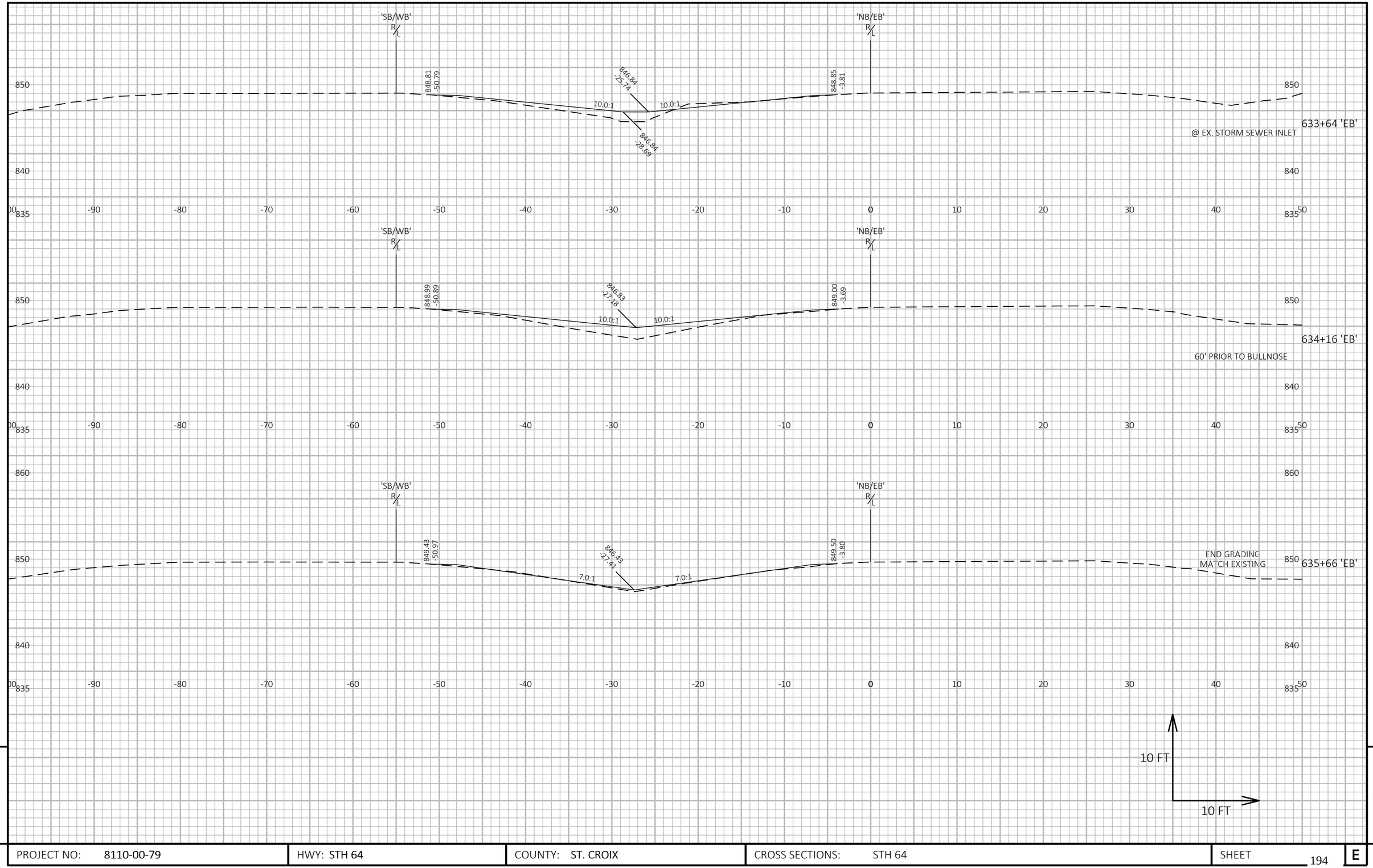
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LAYOUT NAME - 25

PLOT DATE : 6/4/2025 9:37 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 194	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 26

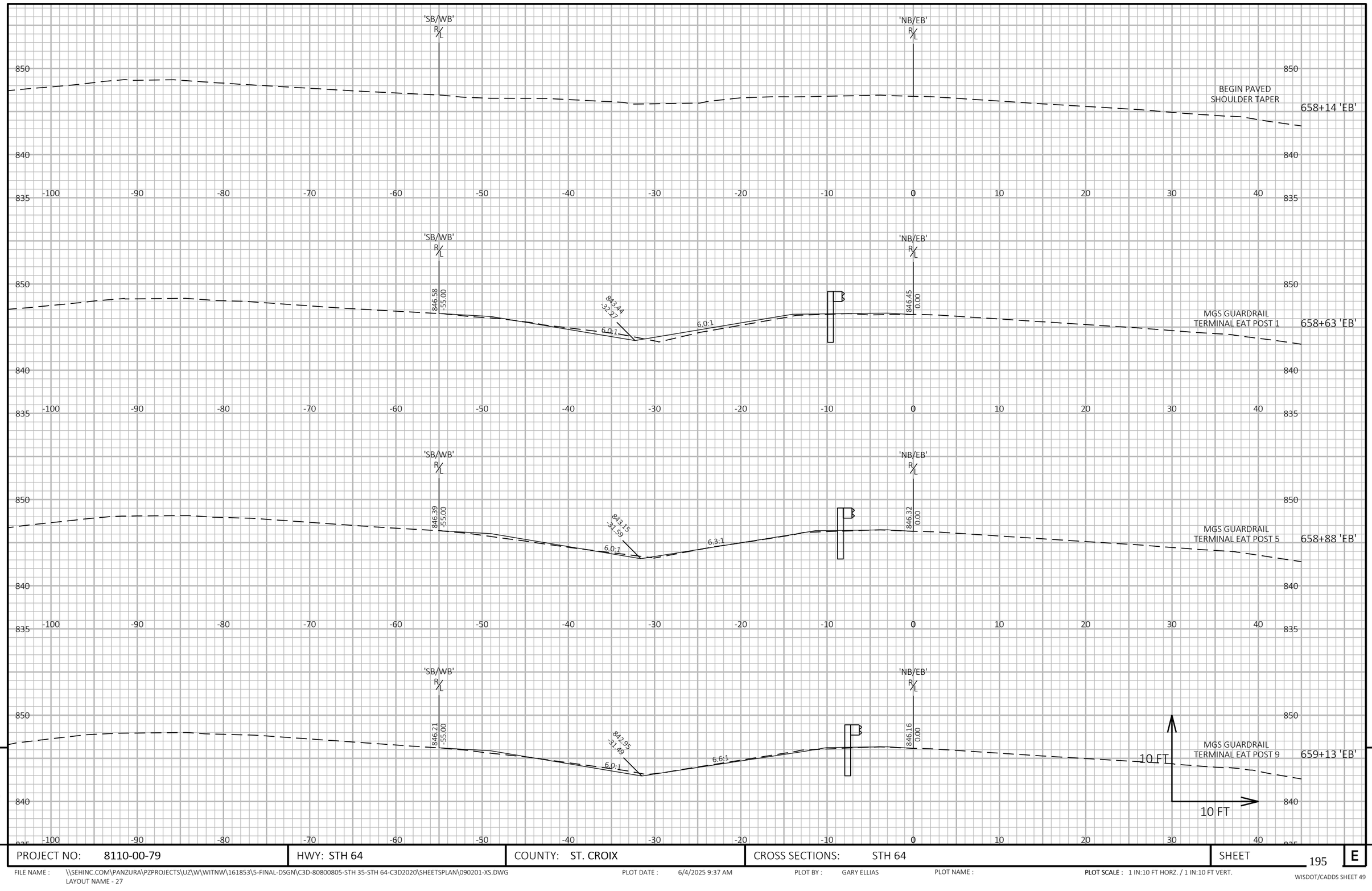
PLOT DATE : 6/4/2025 9:37 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

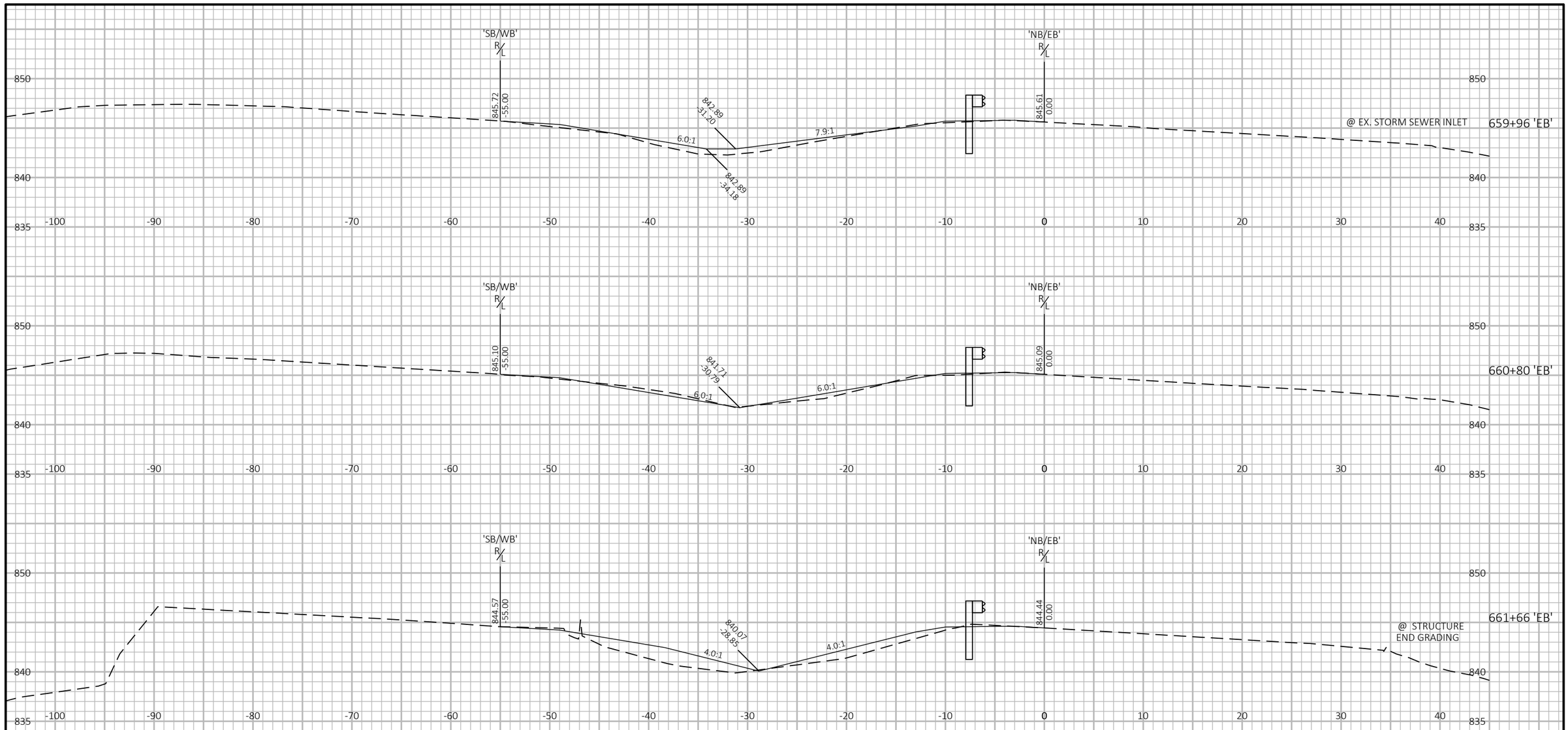
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 195	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 27

PLOT DATE : 6/4/2025 9:37 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 196	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 28

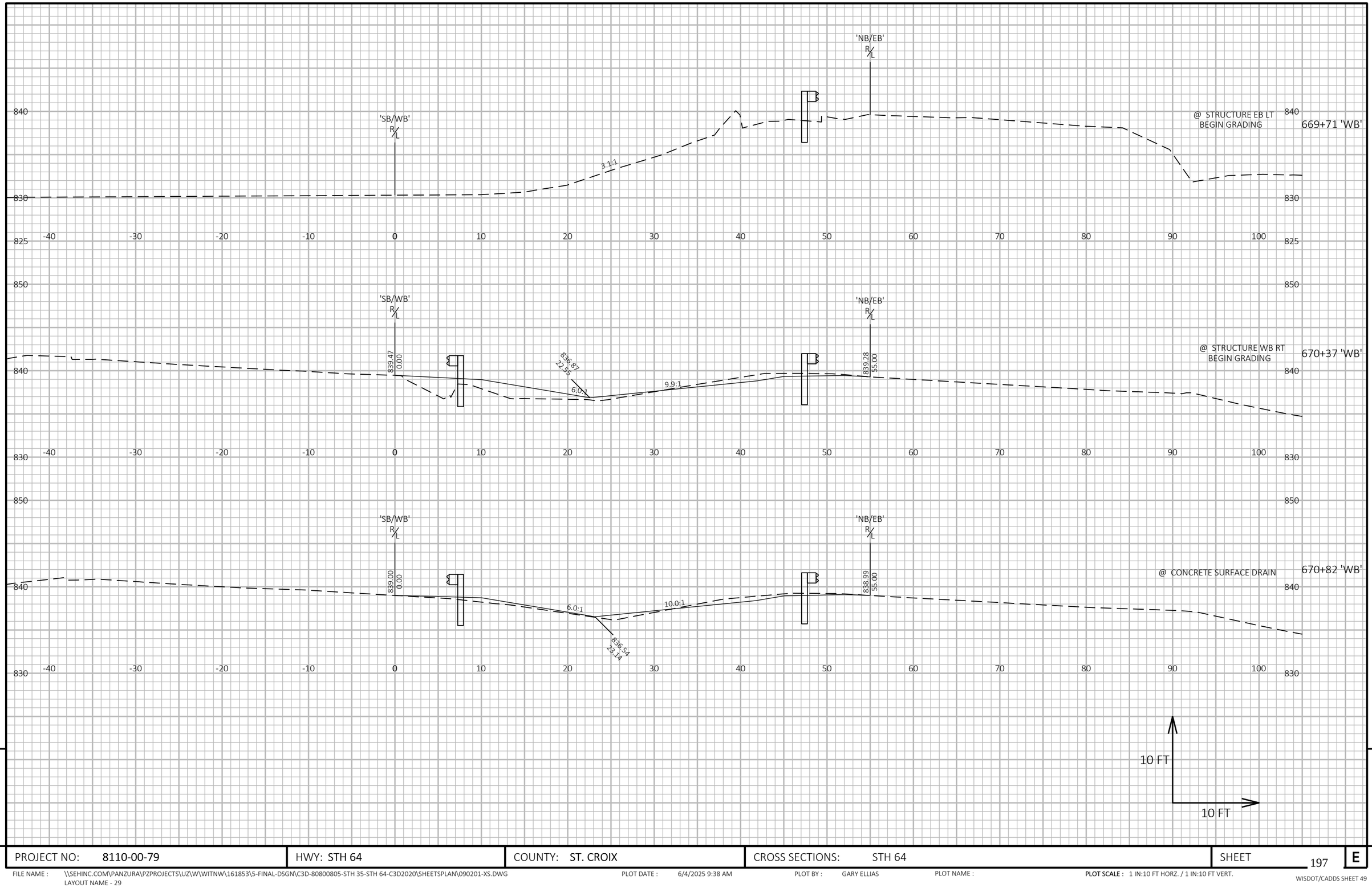
PLOT DATE : 6/4/2025 9:38 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

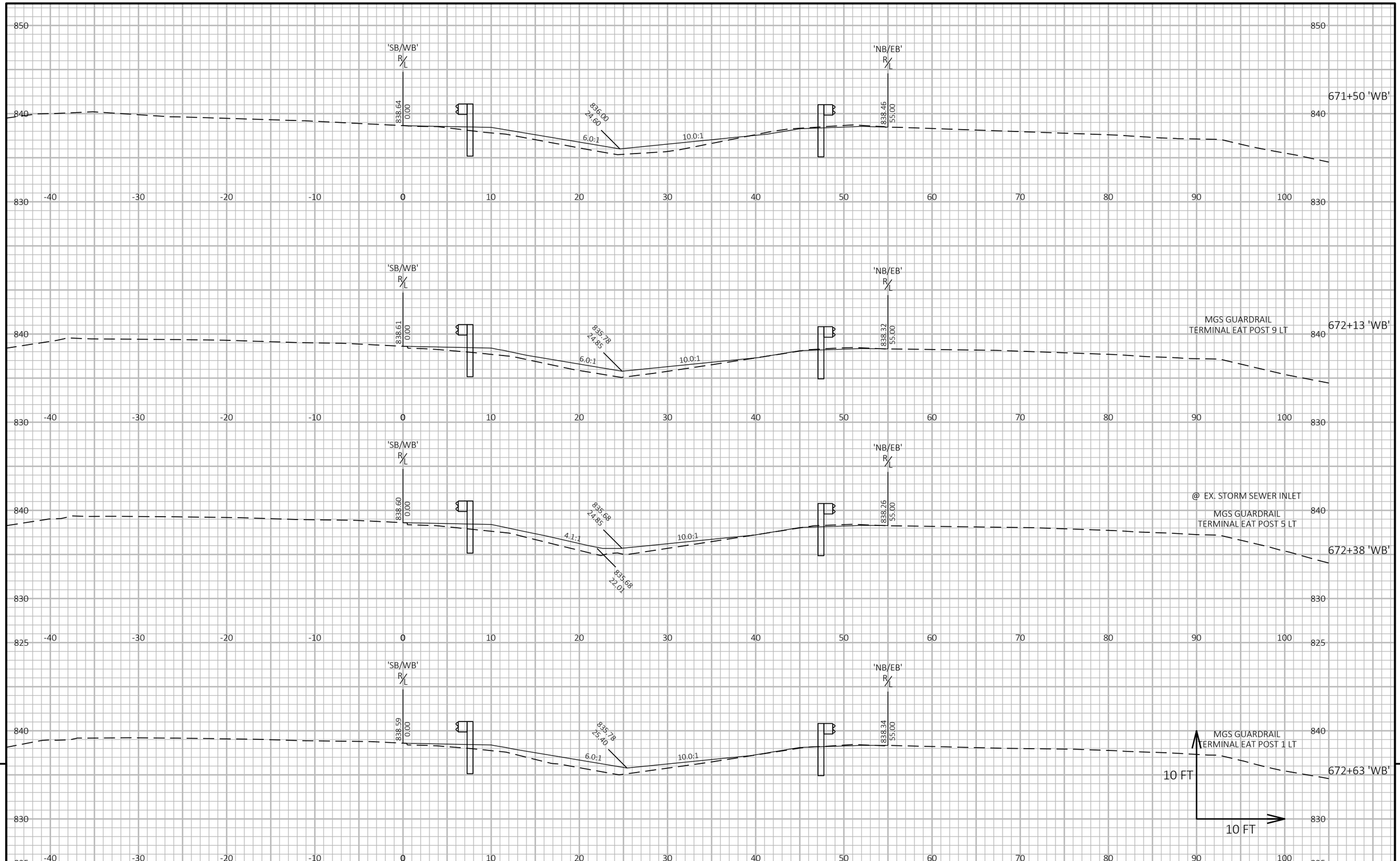
9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 197	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 29

PLOT DATE : 6/4/2025 9:38 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

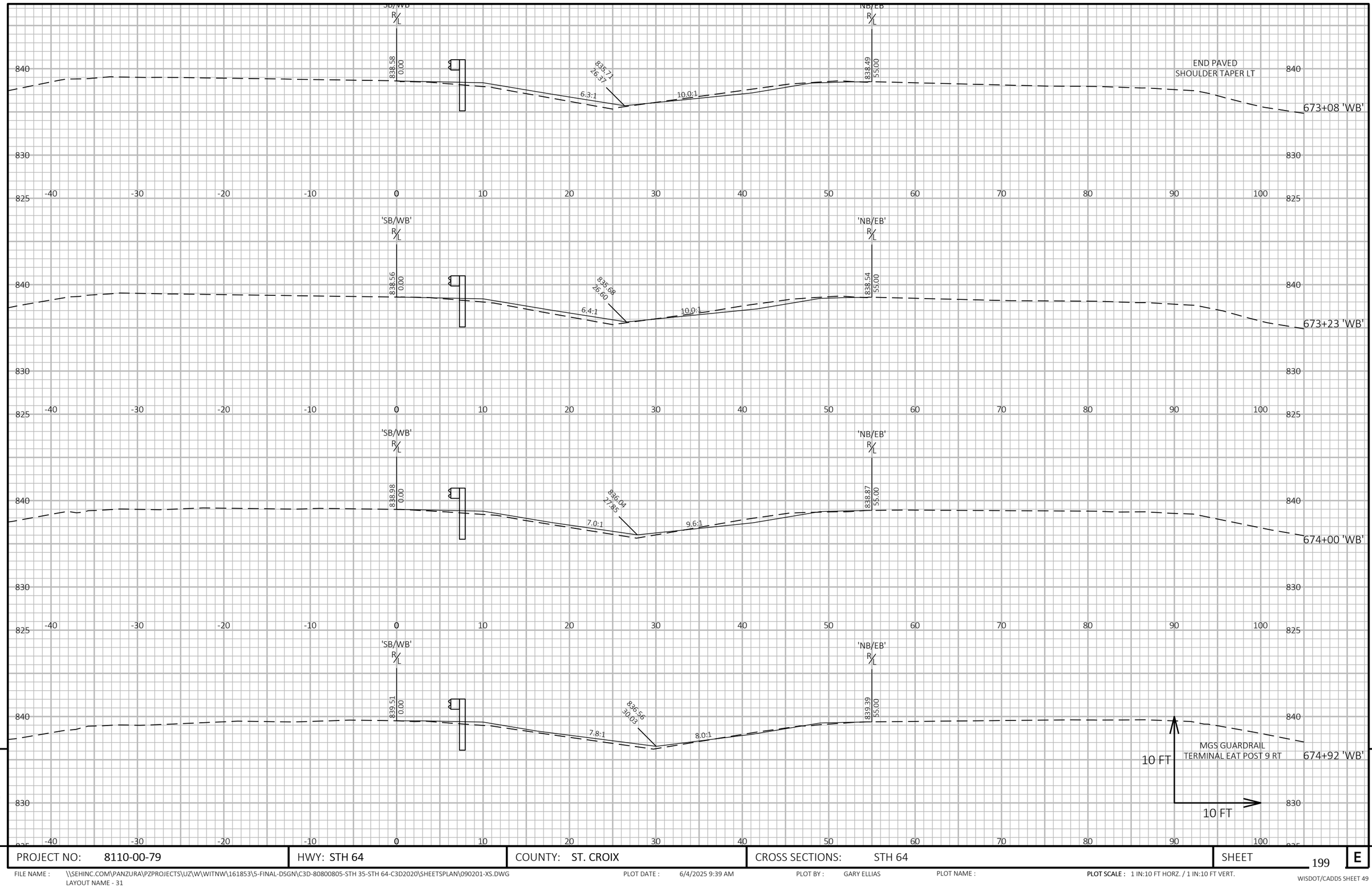


PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 198	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 30

PLOT DATE : 6/4/2025 9:38 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

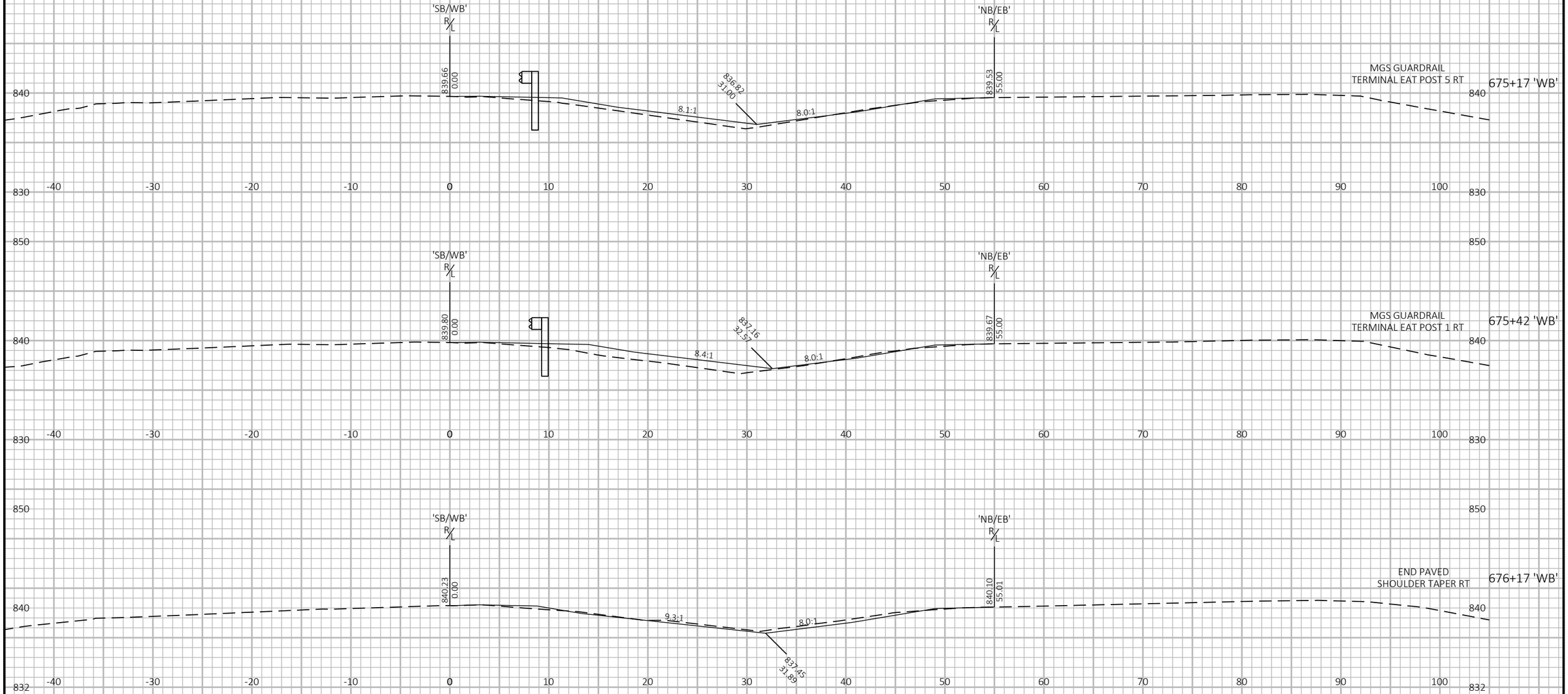
9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 199	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 31

PLOT DATE : 6/4/2025 9:39 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

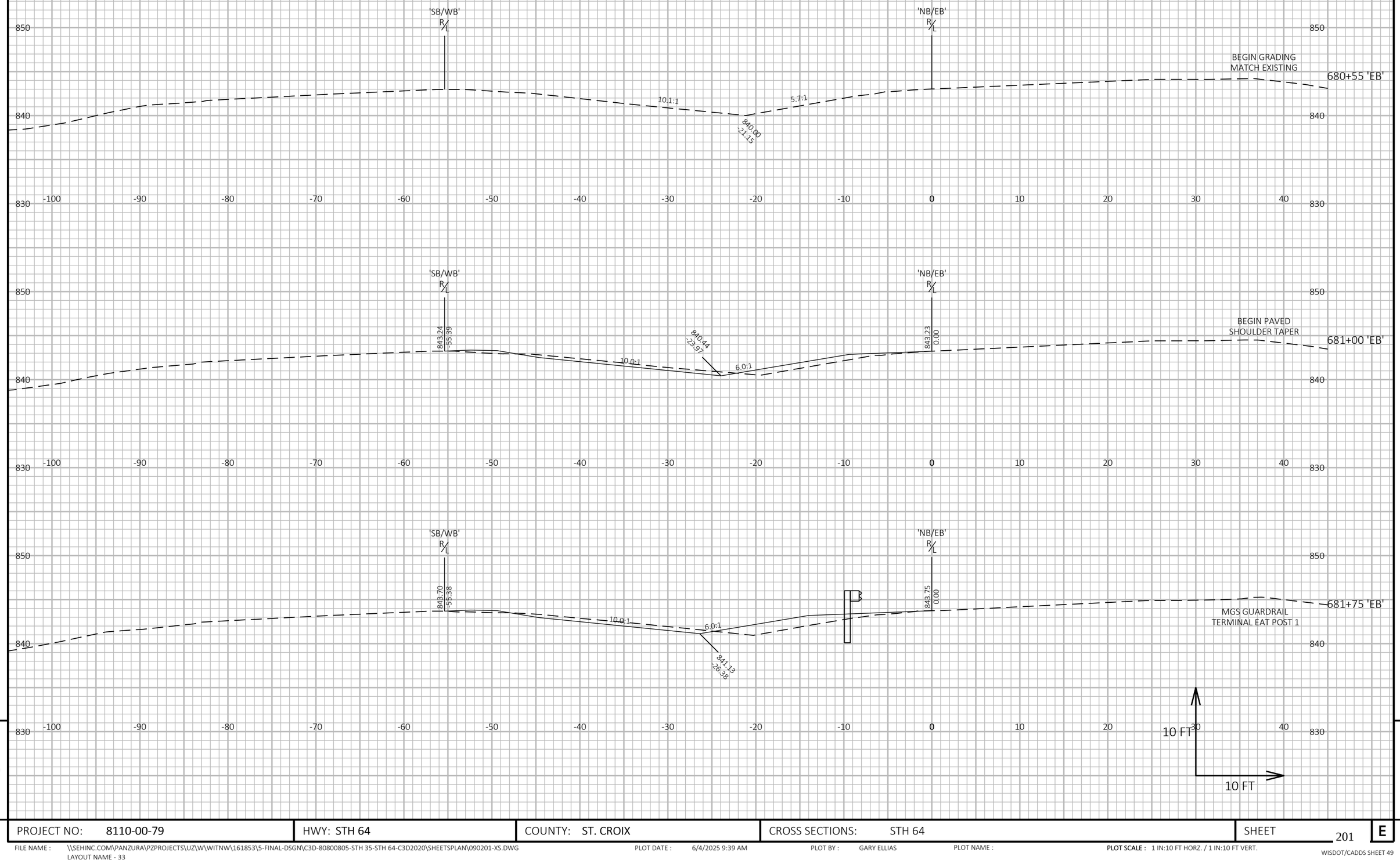


PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 200	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 32

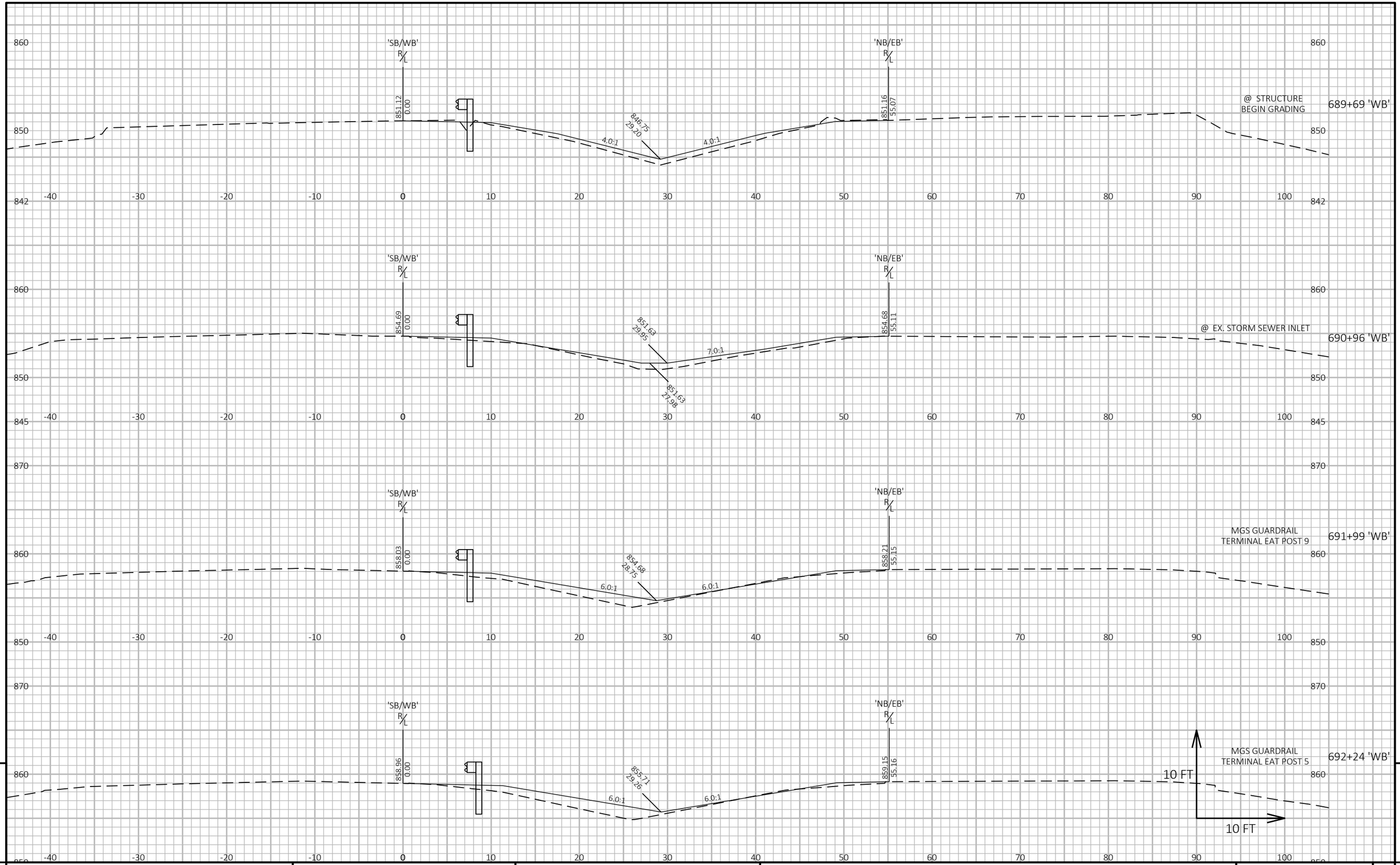
PLOT DATE : 6/4/2025 9:39 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 201	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 33
PLOT DATE : 6/4/2025 9:39 AM
PLOT BY : GARY ELLIAS
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 202	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 34

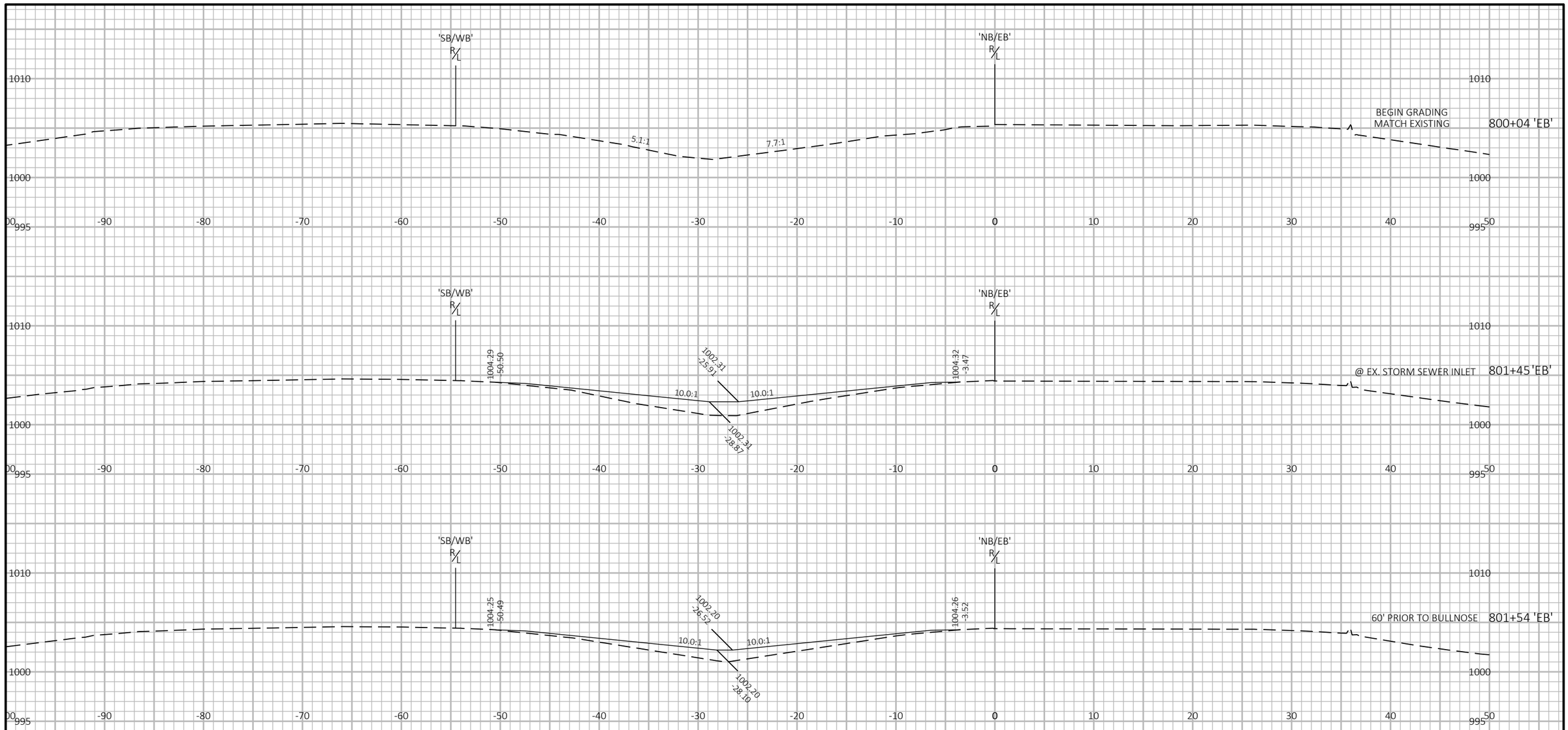
PLOT DATE : 6/4/2025 9:39 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 203	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 35

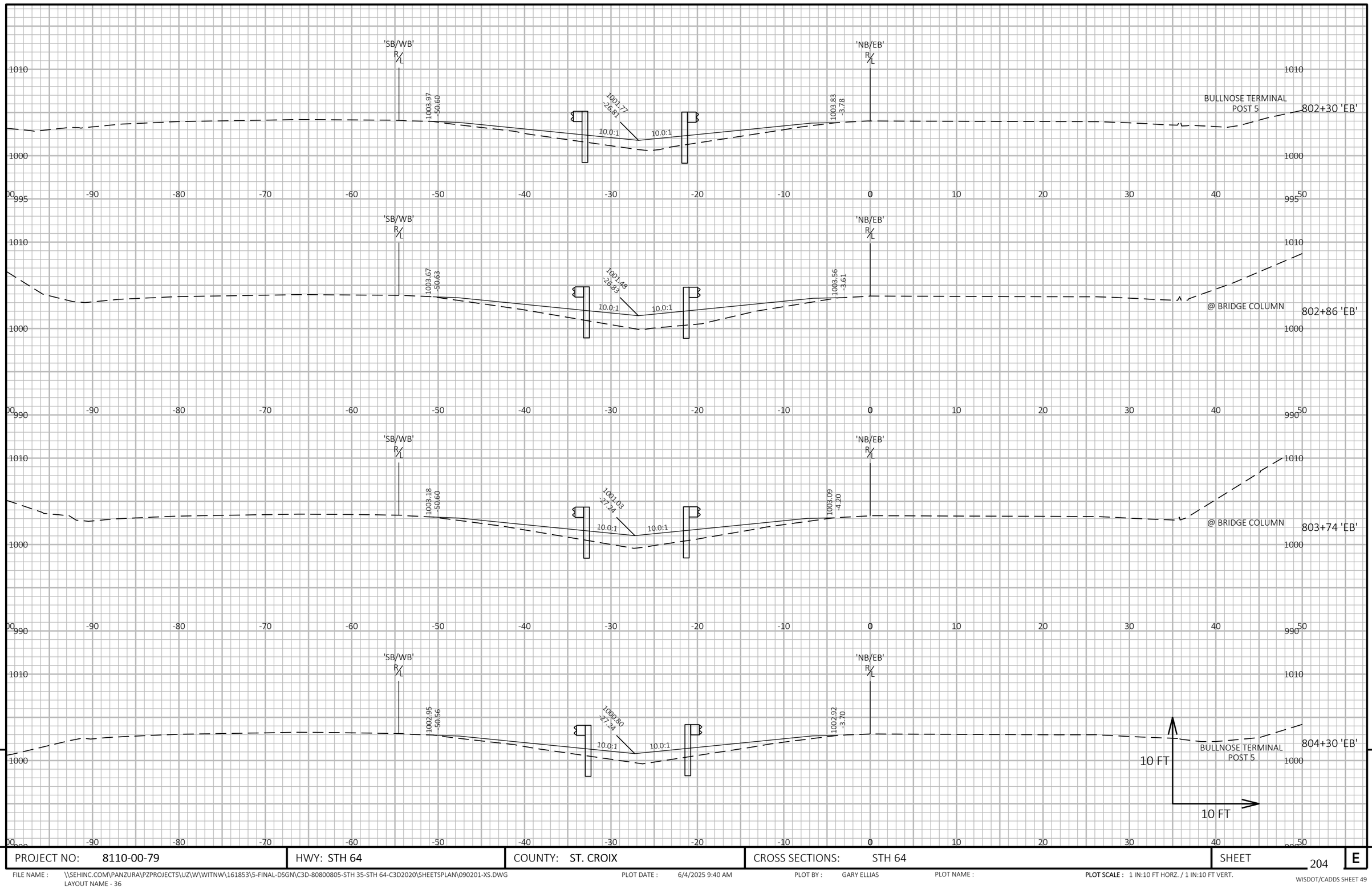
PLOT DATE : 6/4/2025 9:40 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 204	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 36

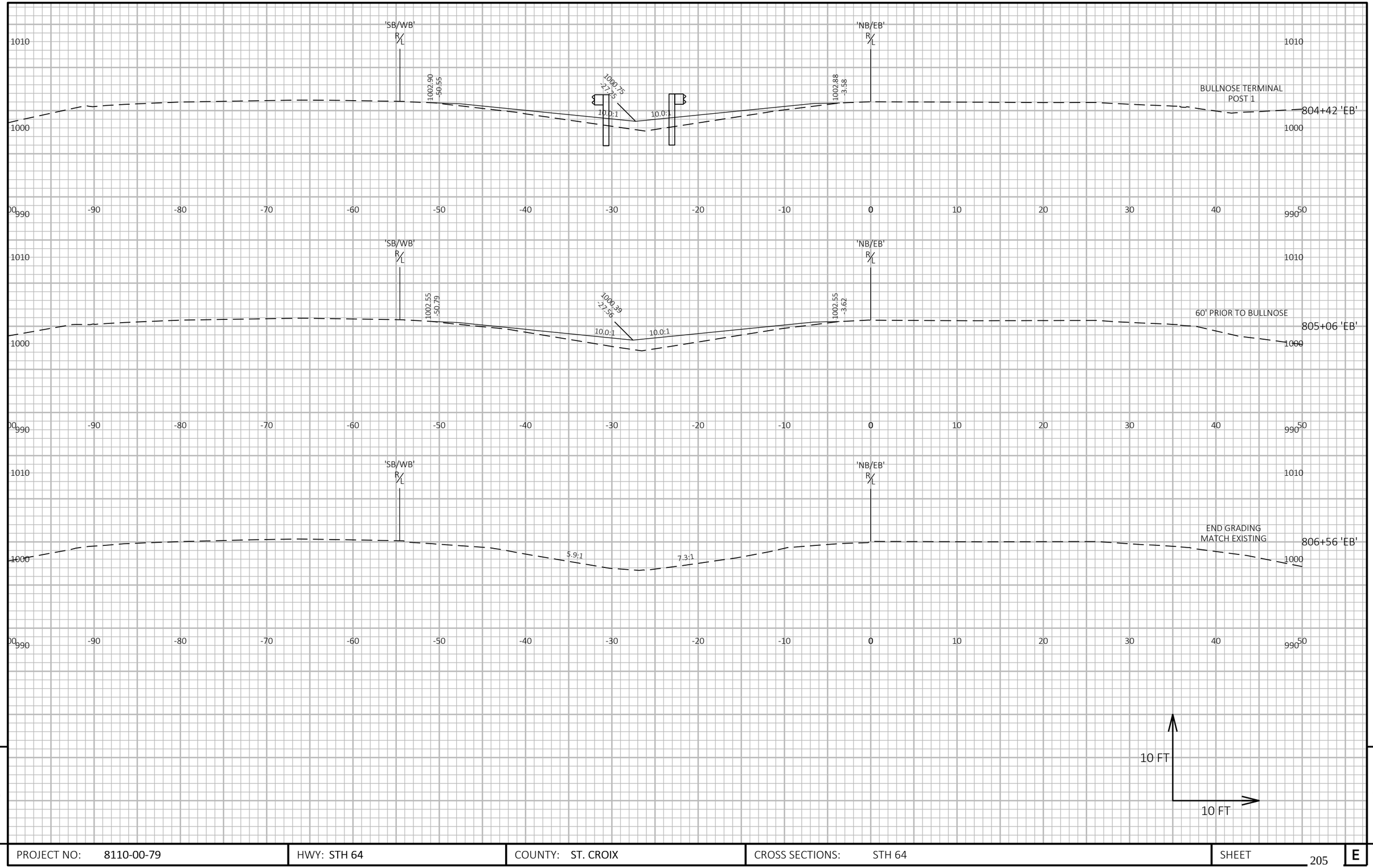
PLOT DATE : 6/4/2025 9:40 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

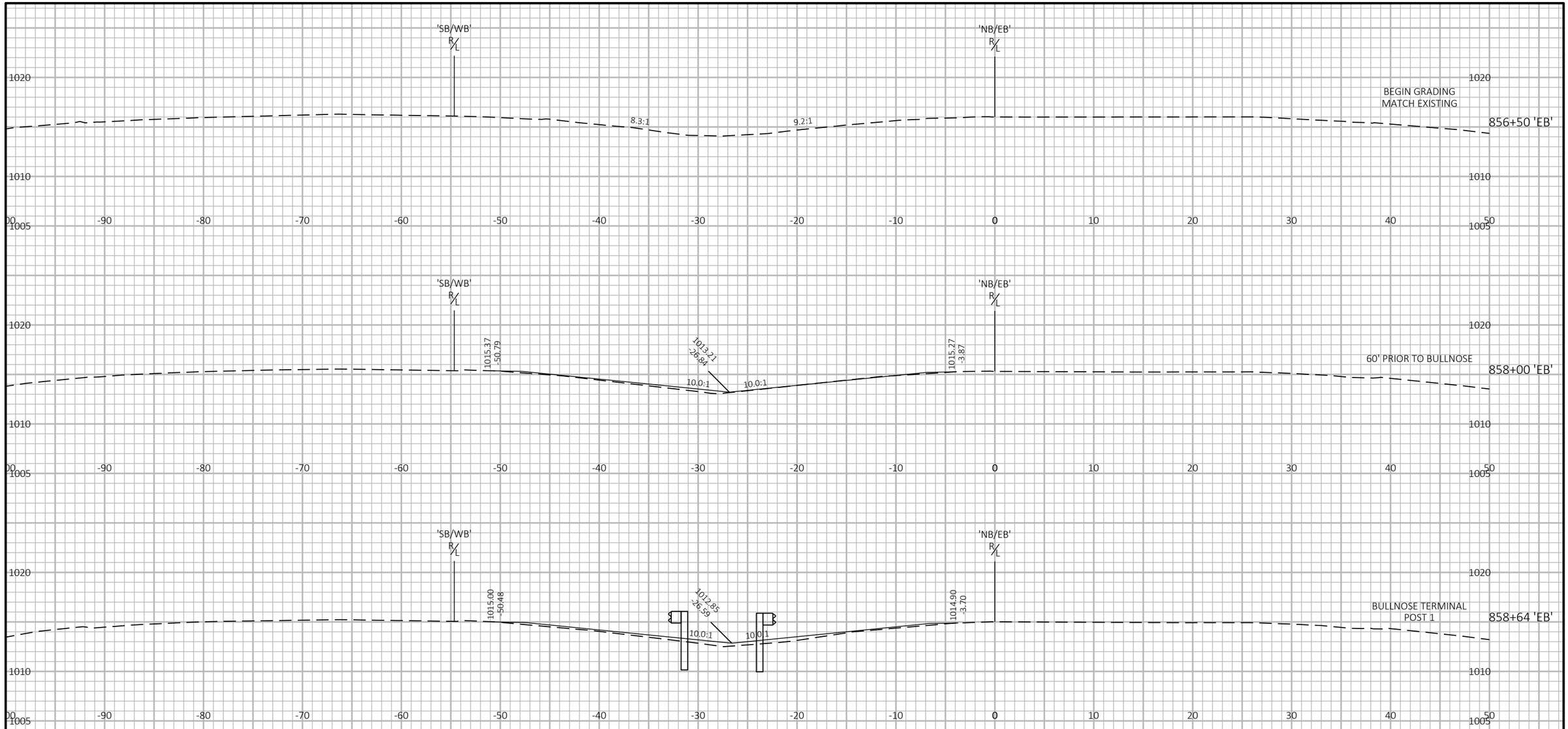
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 205	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 37

PLOT DATE : 6/4/2025 9:40 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

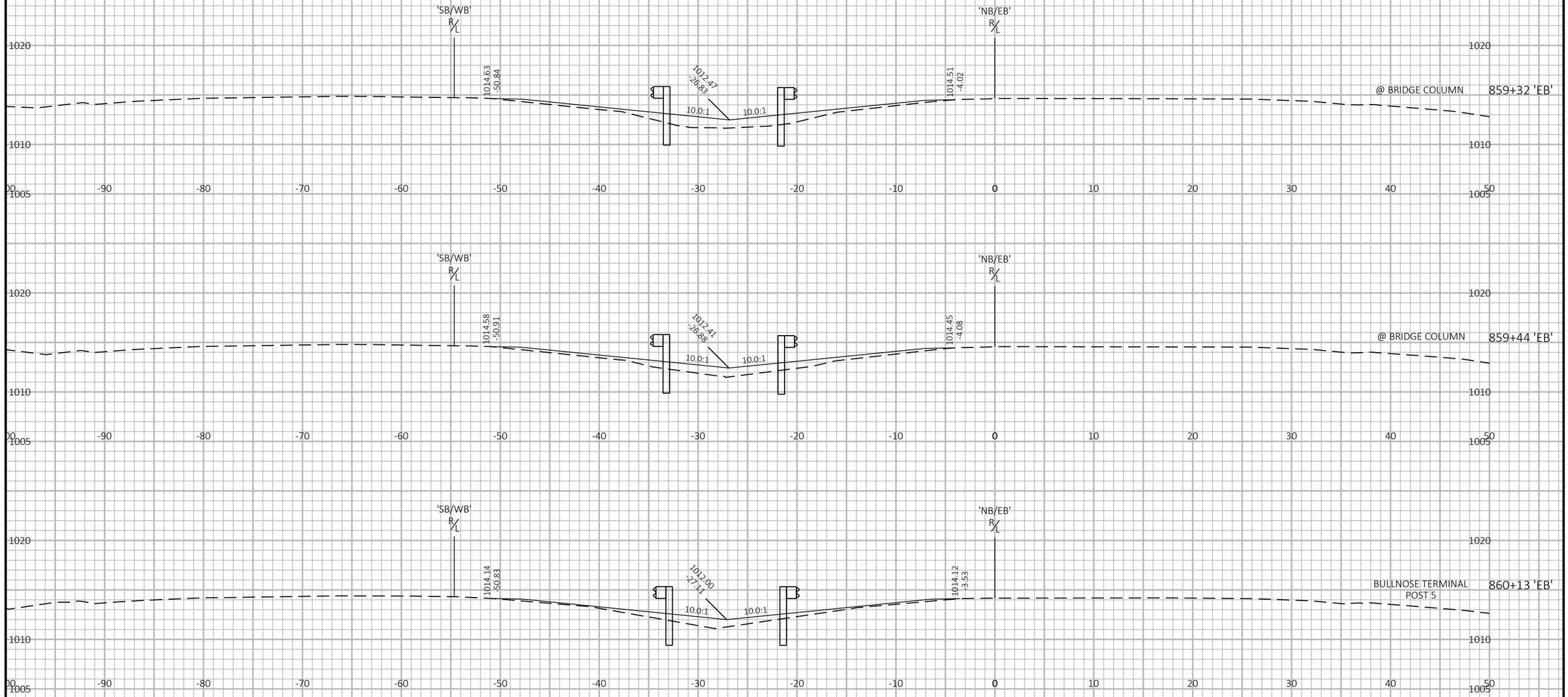
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 206	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 38

PLOT DATE : 6/4/2025 9:41 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 207	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 39

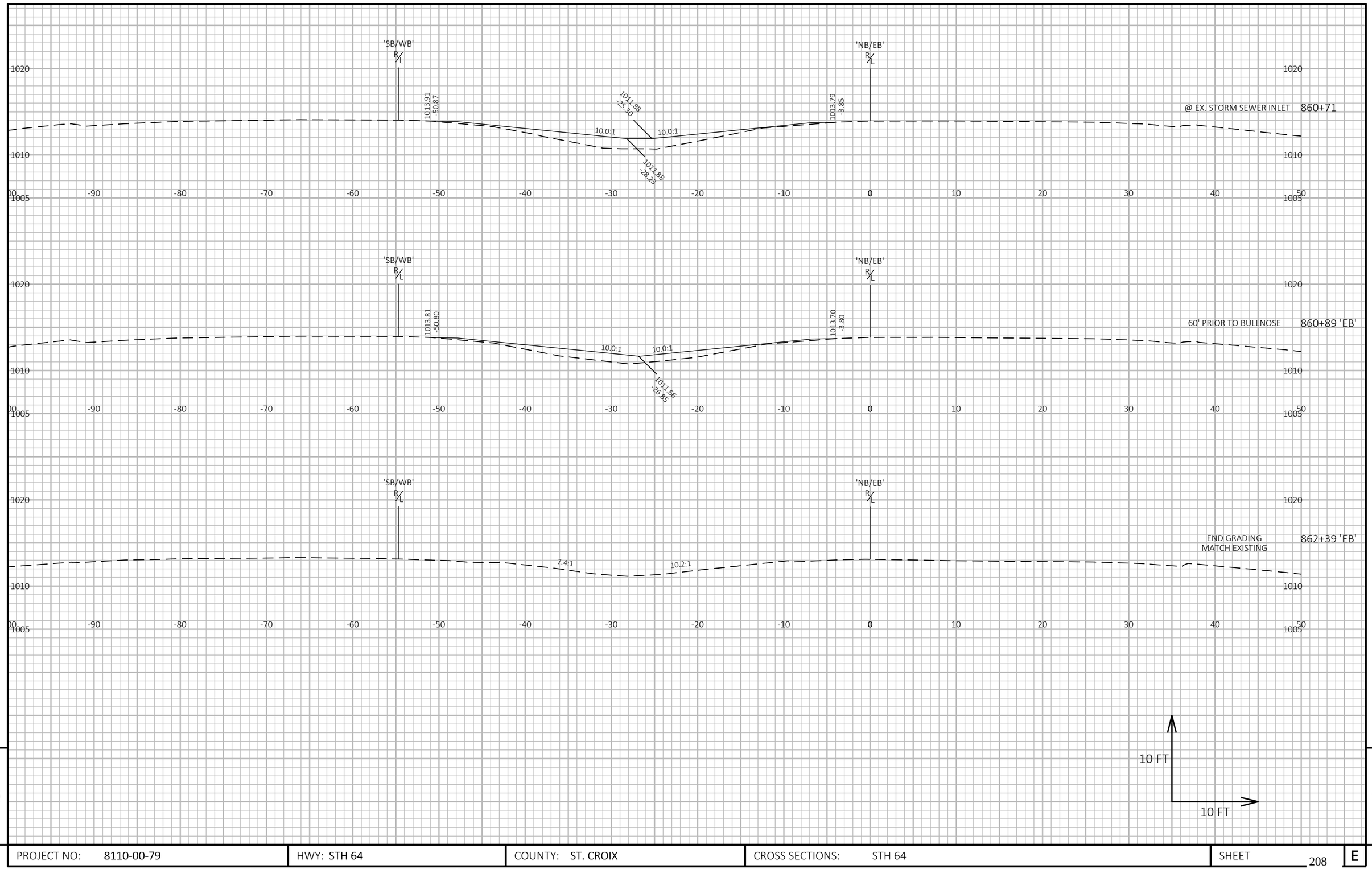
PLOT DATE : 6/4/2025 9:41 AM

PLOT BY : GARY ELLIAS

PLOT NAME :

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

WISDOT/CADDS SHEET 49



9

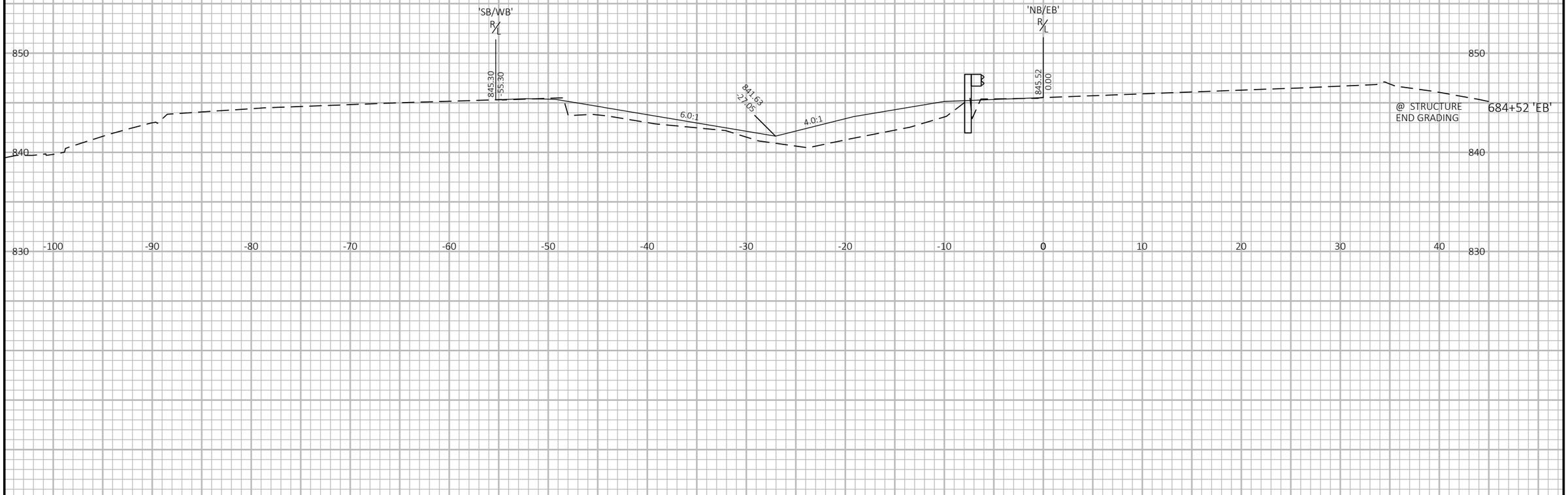
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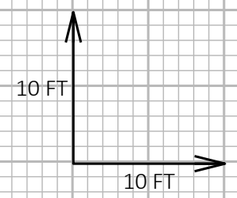
PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 208	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 40

PLOT DATE : 6/4/2025 9:41 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49





9

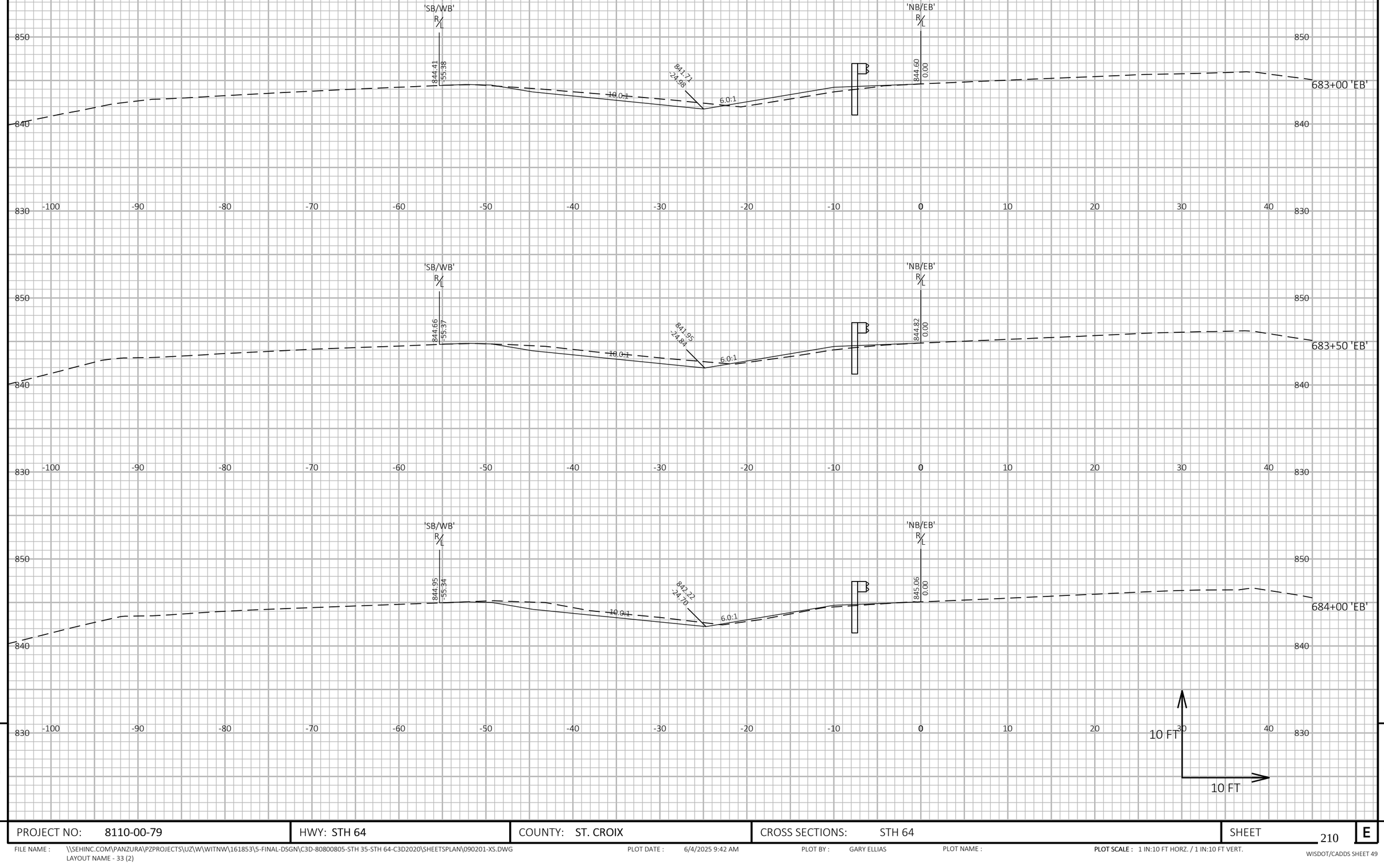
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 209	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 33 (3)

PLOT DATE : 6/4/2025 9:42 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

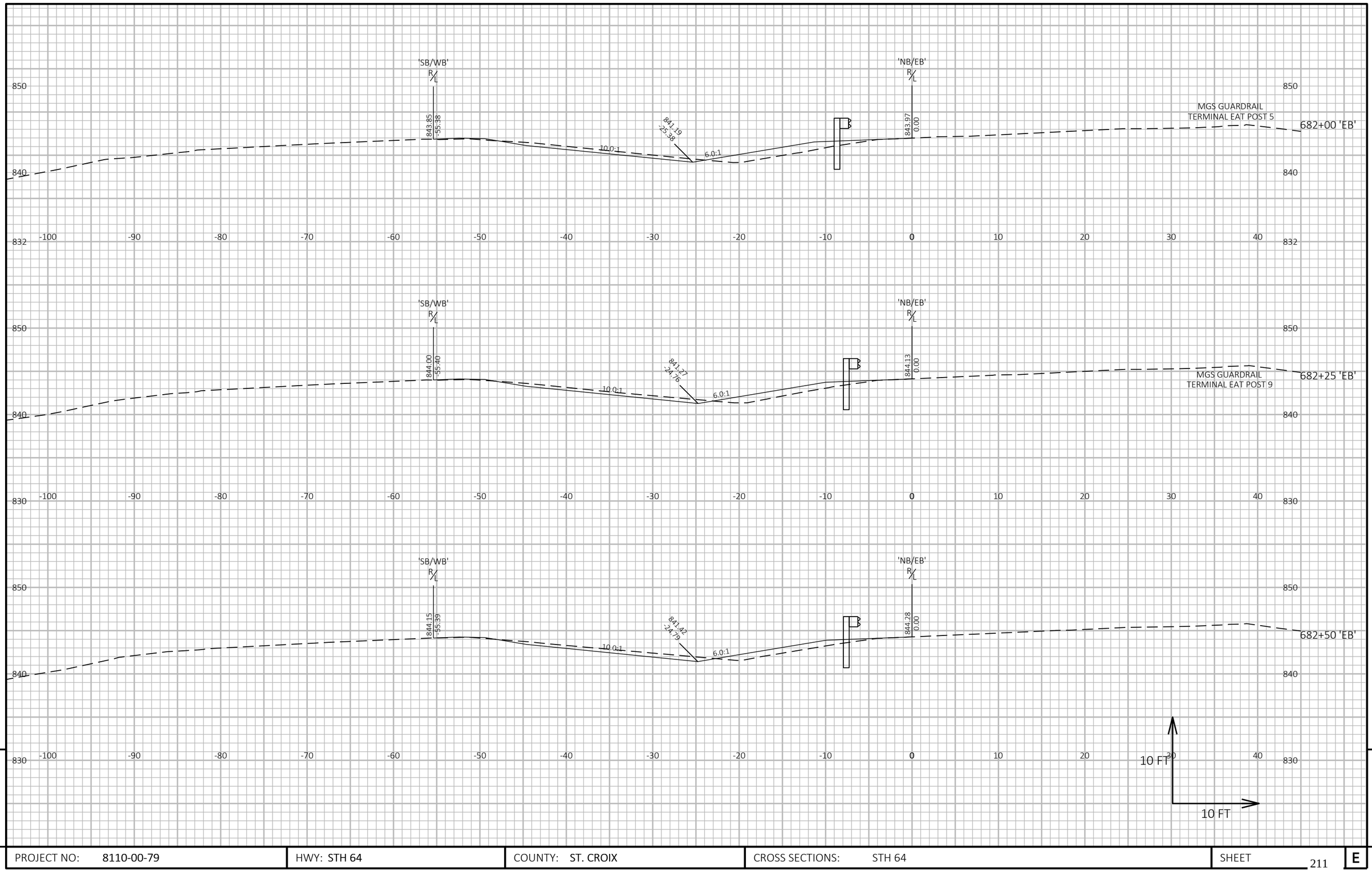
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PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 210	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 33 (2)

PLOT DATE : 6/4/2025 9:42 AM PLOT BY : GARY ELLIAS PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8110-00-79	HWY: STH 64	COUNTY: ST. CROIX	CROSS SECTIONS: STH 64	SHEET 211	E

FILE NAME : \\SEHINC.COM\PANZURA\PZPROJECTS\UZ\W\WITNW\161853\5-FINAL-DSGN\C3D-80800805-STH 35-STH 64-C3D2020\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 33 (1)

PLOT DATE : 6/4/2025 9:42 AM PLOT BY : GARY ELLIAS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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through innovation and exceptional service.

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