WIS

PROJECT ID: 6260-02-74

WITH: N/A

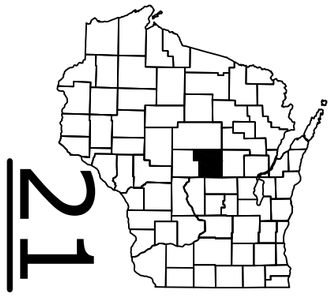
COUNTY: PORTAGE

SEPTEMBER 2026

ORDER OF SHEETS

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

TOTAL SHEETS = 130



DESIGN DESIGNATION

A.A.D.T.	(2027)	=	1,940
A.A.D.T.	(2047)	=	2,230
D.H.V.	(2047)	=	170
D.D.		=	50/50
T.		=	14.4%
DESIGN SPEED		=	60 MPH
ESALS		=	500,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'ER')
- 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

USH 10 - IOLA

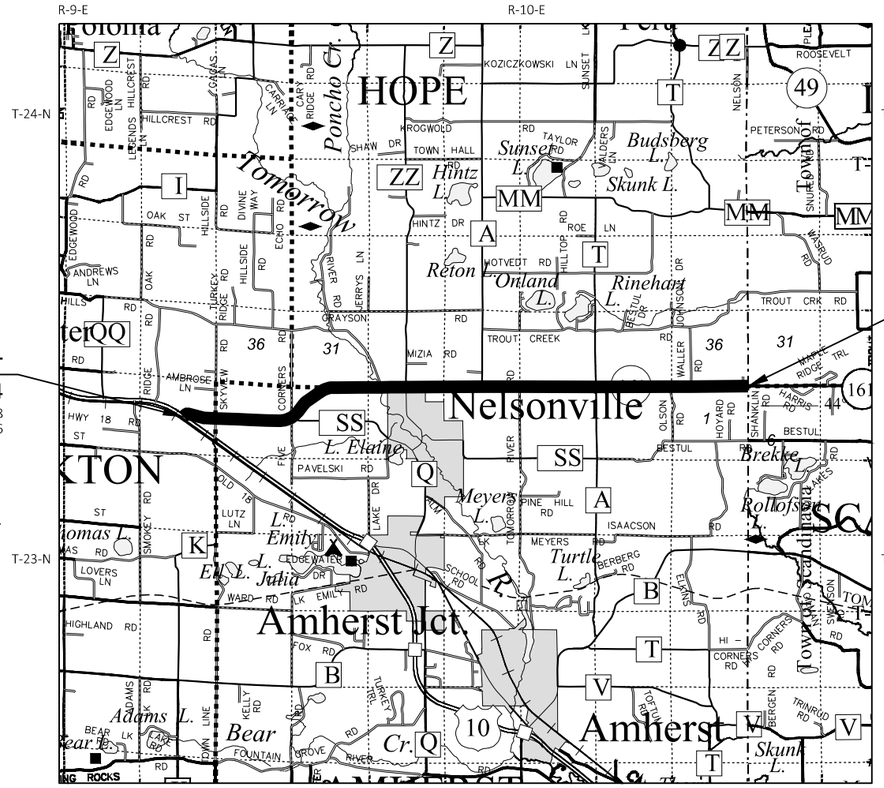
USH 10 TO WAUPACA COUNTY LINE

STH 161

PORTAGE COUNTY

STATE PROJECT NUMBER
6260-02-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6260-02-74		



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 7.610 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), PORTAGE 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 12B.

ORIGINAL PLANS PREPARED BY

cbs²

WISCONSIN
BRADLEY L BECKER
E-46067
EAU CLAIRE
WI
PROFESSIONAL ENGINEER

DATE: 04/29/2026 Bradley L. Becker
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT NC REGION
Designer	CBS SQUARED, INC.
Project Manager	WENDY ARNESON, PE
Regional Examiner	FRED SCHUNKE, PE
Regional Supervisor	KEVIN KUJAWA, PE

APPROVED FOR THE DEPARTMENT

Digitally signed by Wendy Arneson
Contact Info: WisDOT Project Manager
DATE: Date: 2026.04.29 16:56:52-05'00' Wendy Arneson
(Signature)

E

GENERAL NOTES

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

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

CURB AND GUTTER PLAN GRADES AND RADIUS DIMENSIONS ARE TO THE FLANGE LINE UNLESS OTHERWISE NOTED.

CONTROL POINTS				
POINT	Y COORDS	X COORDS	ELEVATION	DESCRIPTION
500	210513.943	271356.097	1012.08	NGS DJ4361
501	188245.703	273671.344	950.59	NGS DK5125
502	196344.276	253248.906	1123.55	NGS DK4966
503	179651.731	237062.185	1092.37	NGS DJ4369
504	217077.210	239275.671	1148.75	NGS DJ4372
505	198491.423	220168.837	1193.93	NGS DK4972
506	187089.977	204191.567	1170.54	NGS DK5126

PAVEMENT CORE TABLE						PAVEMENT CORE TABLE					
POINT	STATION	OFFSET	Y COORDS	X COORDS	ASPHALT THICKNESS (IN)	POINT	STATION	OFFSET	Y COORDS	X COORDS	ASPHALT THICKNESS (IN)
C-1	17+44	5.0' RT	194019.1	218426.6	4.875"	C-15	215+14	10.0' RT	195963.1	237359.7	3.125"
C-2	20+62	8.0' LT	193951.2	218737.3	4.875"	C-16	230+06	2.0' LT	195979.1	238851.6	3.625"
C-3	35+02	11.0' RT	193754.8	220157.4	5.00"	C-17	245+17	2.5' RT	195978.1	240362.6	4.125"
C-4	50+26	2.5' LT	193711.6	221680.8	5.375"	C-18	260+02	5.0' LT	195983.8	241847.6	3.375"
C-5	65+00	4.0' RT	193644.6	223153.3	5.00"	C-19	275+52	8.0' RT	195968.9	243397.6	3.25"
C-6	80+00	5.5' LT	193619.2	224652.4	5.50"	C-20	290+07	7.5' LT	195982.4	244852.6	3.50"
C-7	95+10	6.5' RT	194340.9	225919.3	7.00"	C-21	305+22	2.0' RT	195970.0	246367.6	3.75"
C-8	110+05	10.0' LT	195364.2	226987.7	5.125"	C-22	320+03	2.0' LT	195971.2	247848.6	3.125"
C-9	125+02	10.0' RT	195906.2	228348.0	4.50"	C-23	335+21	8.0' RT	195958.3	249366.6	3.125"
C-10	140+01	2.5' LT	195923.8	229846.9	4.625"	C-24	350+82	4.5' LT	195978.1	250927.6	3.50"
C-11	155+15	2.0' RT	195931.2	231360.9	4.00"	C-25	365+34	9.0' RT	195973.7	252379.6	3.75"
C-12	170+02	6.0' LT	195955.4	232847.8	4.75"	C-26	380+07	8.0' LT	195999.9	253852.5	4.00"
C-13	185+12	6.0' RT	195959.0	234357.7	4.50"	C-27	395+12	3.5' RT	195997.7	255357.5	3.50"
C-14	200+09	8.0' LT	195977.1	235854.6	3.00"	C-28	410+09	2.0' LT	196012.5	256854.5	3.125"

	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 = 112.66 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.36 ACRES

UTILITY CONTACTS

ALLIANT ENERGY - GAS/PETROLEUM
BILL BASTIAN
883 W SCOTT ST
FOND DU LAC, WI 54937
(920) 322-6716
WILLIAMBASTIAN@ALLIANTENERGY.COM

ALLIANT ENERGY - ELECTRICITY
BILL BASTIAN
883 W SCOTT ST
FOND DU LAC, WI 54937
(920) 322-6716
WILLIAMBASTIAN@ALLIANTENERGY.COM

ANR PIPELINE - GAS/PETROLEUM
DEVON SHUMAKER
N4956 OAKCREST DRIVE
BONDUEL, WI 54107
(269) 751-3140
DEVON_SHUMAKER@TCENERGY.COM

AMHERST TELEPHONE COMPANY - COMMUNICATION LINE
JACOB VAN DE VOORT
120 MILL STREET
AMHERST, WI 54406
(608) 450-3050
JVANDEVOORT@AMHERSTCOMM.NET

WPS - GAS/PETROLEUM
TYLER DAHLSTROM
1700 SHERMAN ST
WAUSAU, WI 54402
(715) 432-9212
TYLER.DAHLSTROM@WISCONSINPUBLICSERVICE.COM

TDS TELECOM - COMMUNICATION LINE
NICK PINGEL
N287 MILITARY RD
SHERWOOD, WI 54169
(920) 989-4027
NICK.PINGEL@TDSTELECOM.COM

WISDOT CONTACT

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NC REGION - WISCONSIN RAPIDS
1681 SECOND AVE SOUTH
WISCONSIN RAPIDS, WI 54495
(715) 421-7391
WENDY.ARNESON@DOT.WI.GOV

WISCONSIN DNR CONTACT

JAY SCHIEFELBEIN
DNR NORTHEAST REGIONAL HEADQUARTERS
2984 SHAWANO AVE
GREEN BAY, WI 54313
(920) 360-3784
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

DESIGNER

BRAD BECKER
770 TECHNOLOGY WAY, SUITE 1A
CHIPPEWA FALLS, WI 54729
(715) 563-8233
BBECKER@CBSSQUAREDINC.COM

ORDER OF DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
GUARDRAIL DETAILS
INTERSECTION DETAILS
EROSION CONTROL
PAVEMENT MARKING
TRAFFIC CONTROL

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



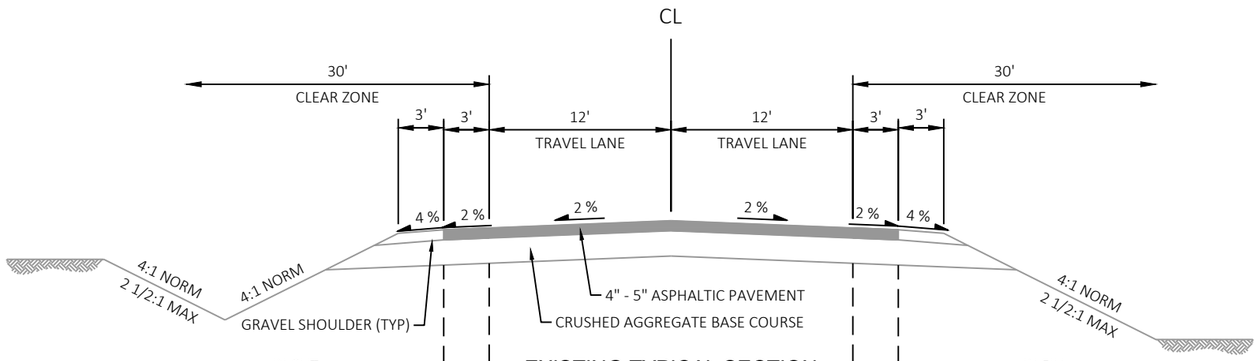
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\020201-PO.DWG
LAYOUT NAME - 01

PLOT DATE : 2/18/2026 11:47 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:1000 FT

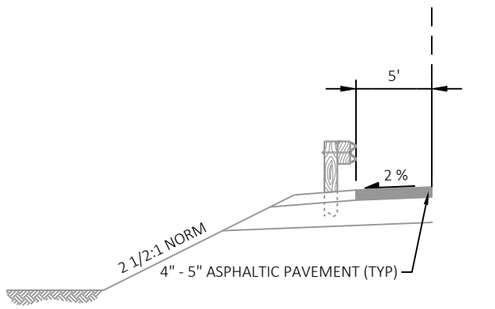
WISDOT/CADDS SHEET 42

2



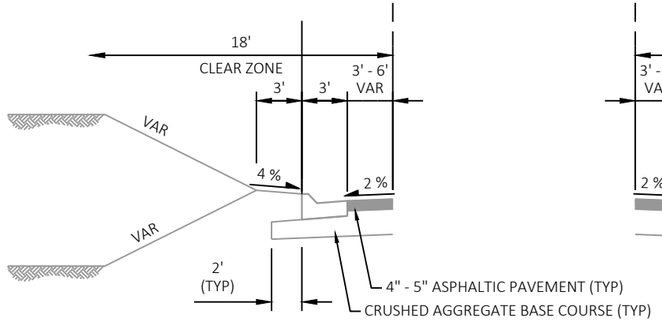
EXISTING TYPICAL SECTION

STA 12+32.44 - 187+47.53



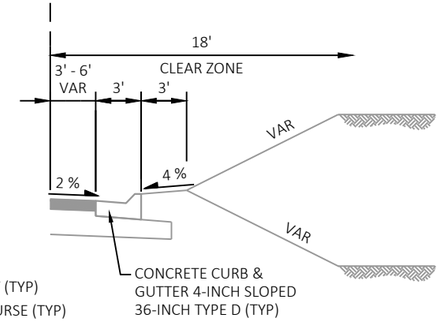
PARTIAL EXISTING TYPICAL SECTION

STA 153+00 - 155+28
STA 156+12 - 157+80



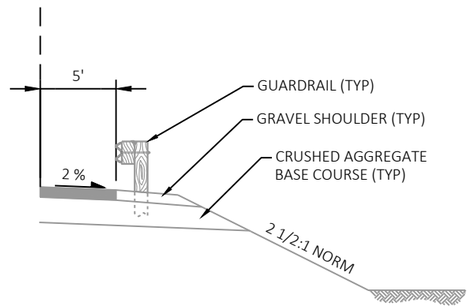
PARTIAL EXISTING TYPICAL SECTION

STA 54+00 - 56+00
STA 140+97 - 144+98
STA 158+73 - 161+10



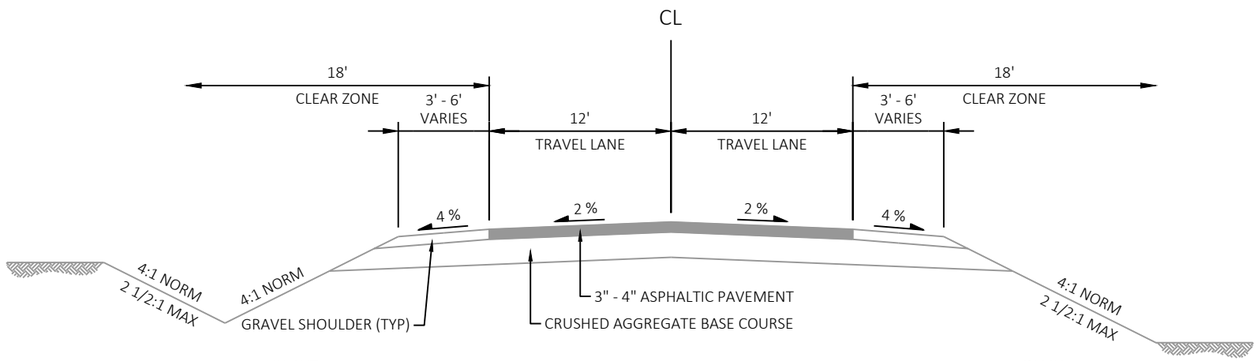
PARTIAL EXISTING TYPICAL SECTION

STA 47+74 - 50+01
STA 61+98 - 65+00
STA 140+97 - 146+99



PARTIAL EXISTING TYPICAL SECTION

STA 152+97 - 155+28
STA 156+12 - 157+27



EXISTING TYPICAL SECTION

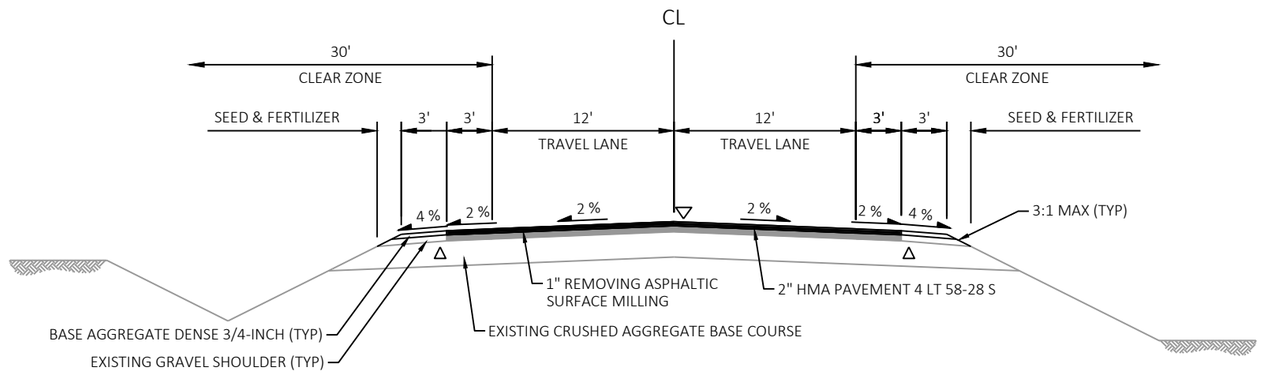
STA 187+47.53 - 414+12.60

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	TYPICAL SECTIONS	SHEET 4	E

NOTES:

△ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"

▽ ASPHALTIC RUMBLE STRIPS, CENTERLINE

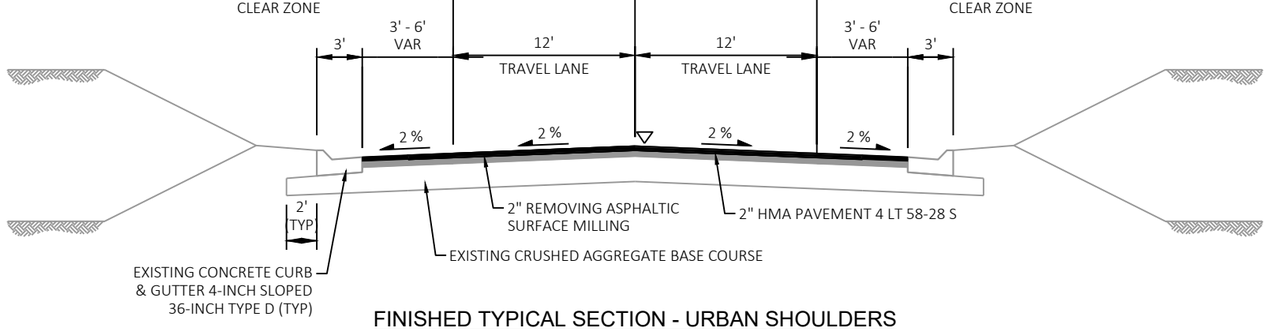


FINISHED TYPICAL SECTION - RURAL SHOULDERS

STA 12+32.44 - 187+47.53 *

* STA 56+00 - 62+00
REFER TO TYPICAL SECTION ON NEXT SHEET

STA 146+99 - 152+97
2" REMOVING ASPHALTIC SURFACE MILLING
2" HMA PAVEMENT 4 LT 58-28 S



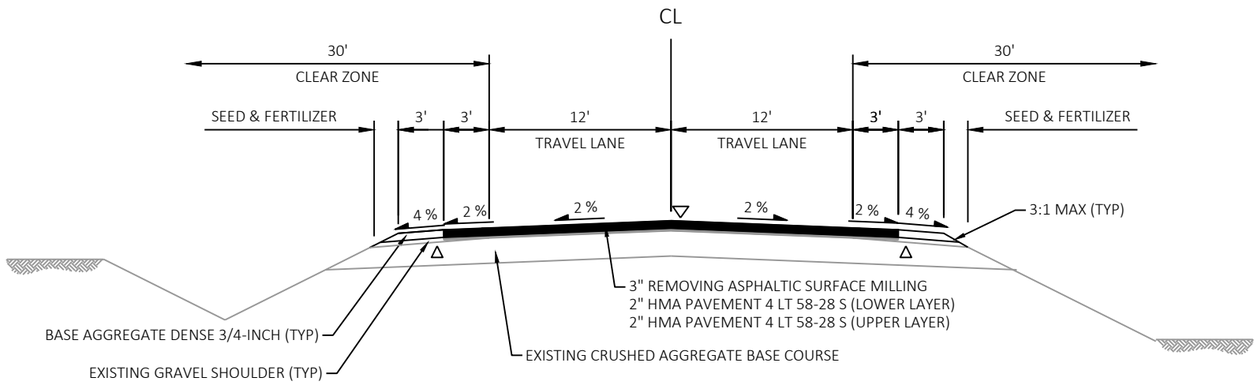
FINISHED TYPICAL SECTION - URBAN SHOULDERS

STA 47+74 - 65+00
STA 140+97 - 146+99
STA 158+73 - 161+10

NOTES:

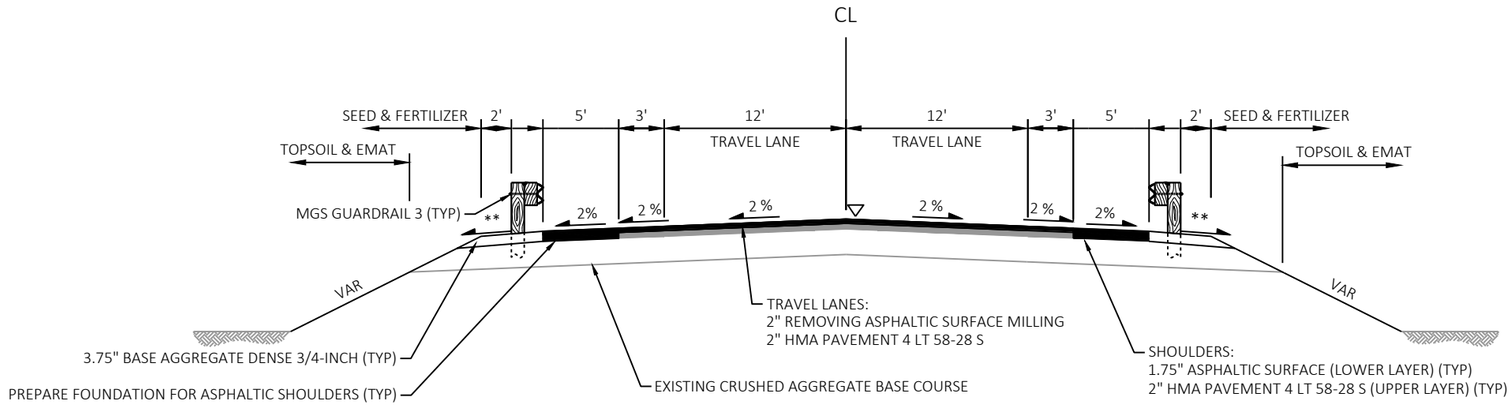
△ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"

▽ ASPHALTIC RUMBLE STRIPS, CENTERLINE



FINISHED TYPICAL SECTION - RURAL SHOULDERS

STA 56+00 - 62+00



** 4% NORM/10% MAX; REFER TO CROSS SECTIONS

FINISHED TYPICAL SECTION - GUARDRAIL

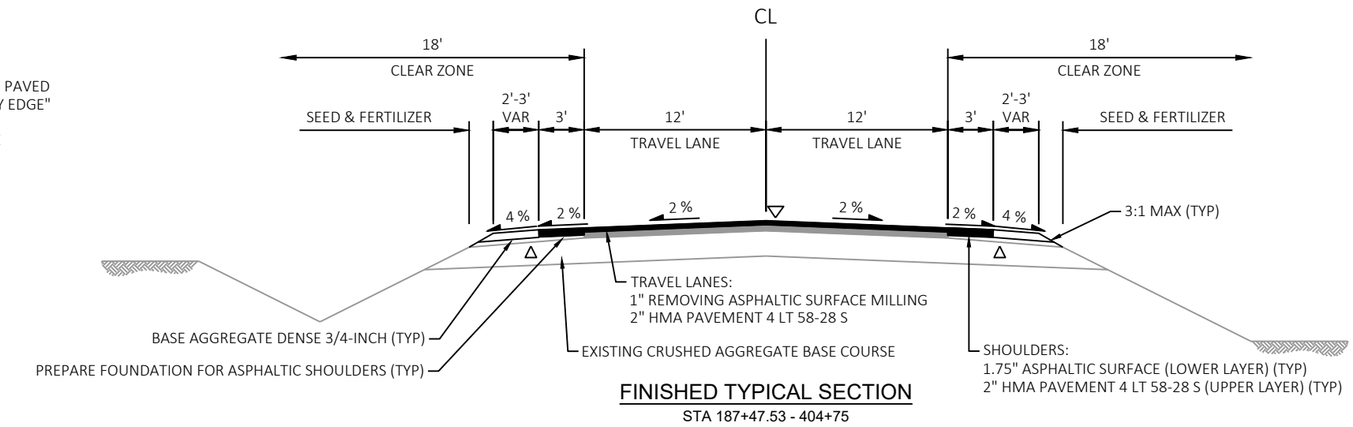
STA 152+97 - 155+28
STA 156+12 - 157+80

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	TYPICAL SECTIONS	SHEET 6	E

NOTES:

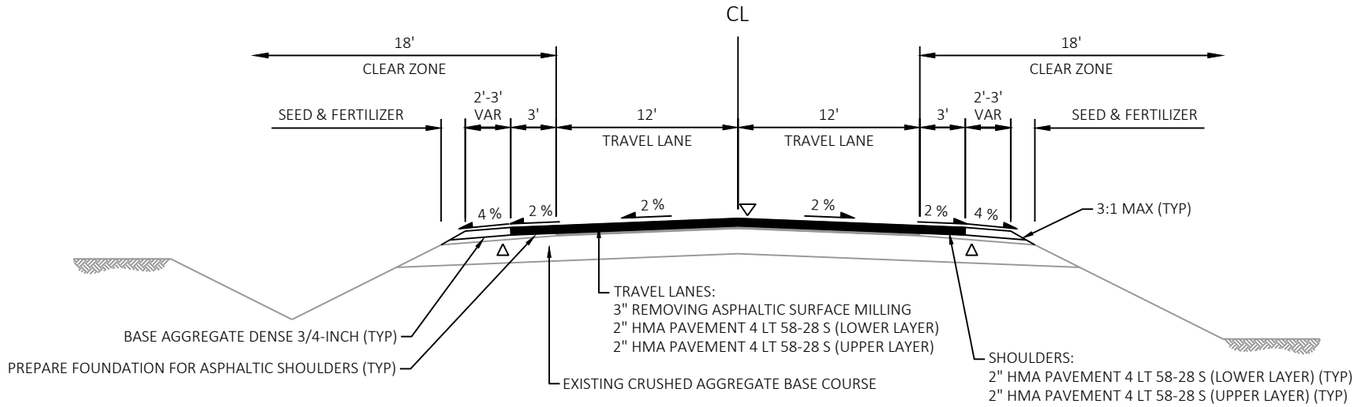
△ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"

▽ ASPHALTIC RUMBLE STRIPS, CENTERLINE



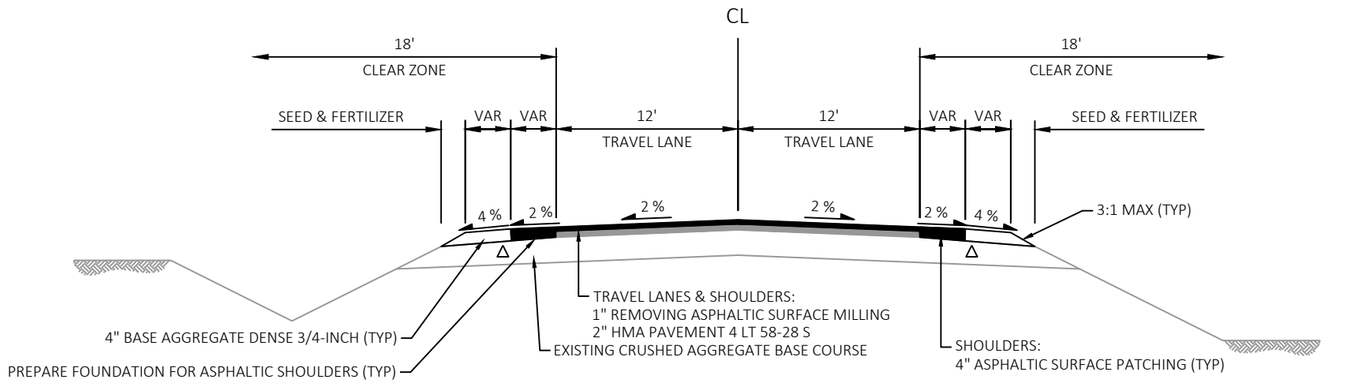
FINISHED TYPICAL SECTION

STA 187+47.53 - 404+75



FINISHED TYPICAL SECTION

STA 404+75 - 414+12.60

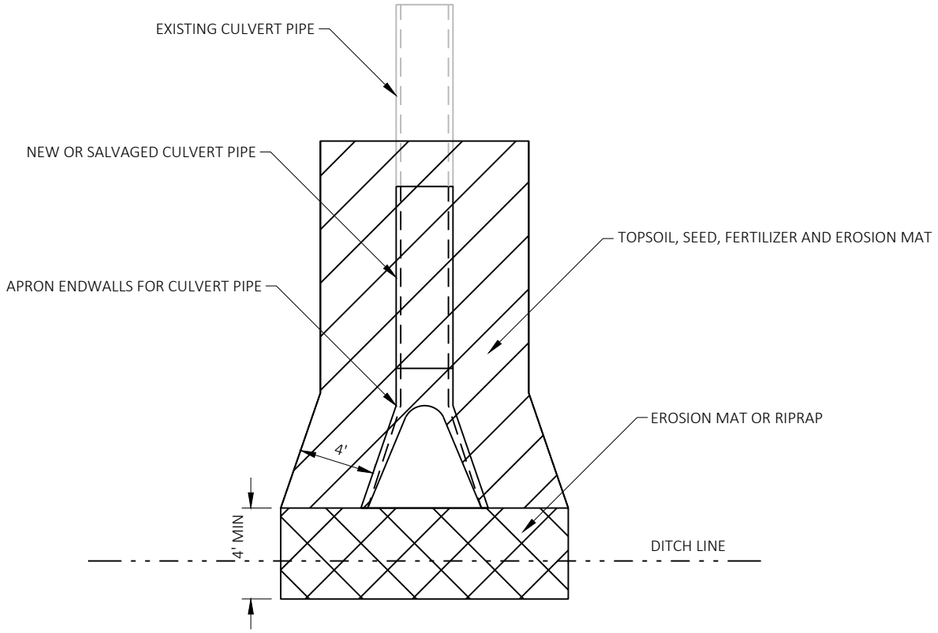


FINISHED TYPICAL SECTION - SIDEROAD

CTH A (NORTH)

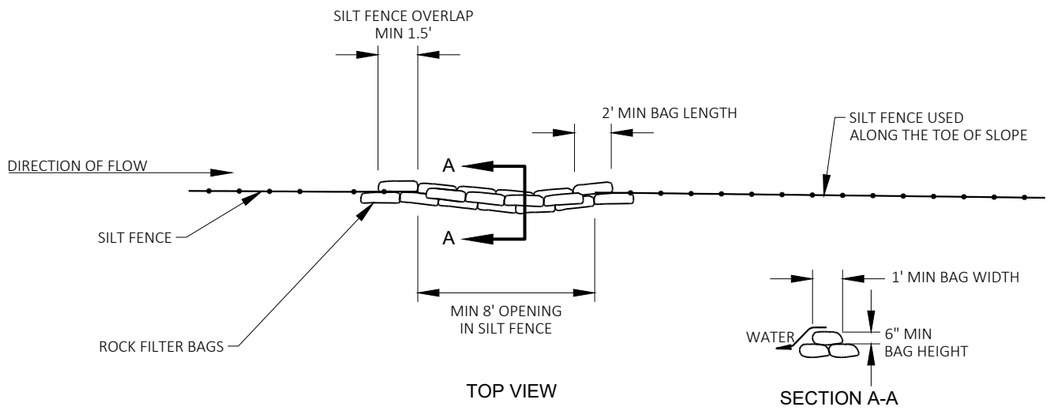
CTH T/CTH A (SOUTH)

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	TYPICAL SECTIONS	SHEET 7	E

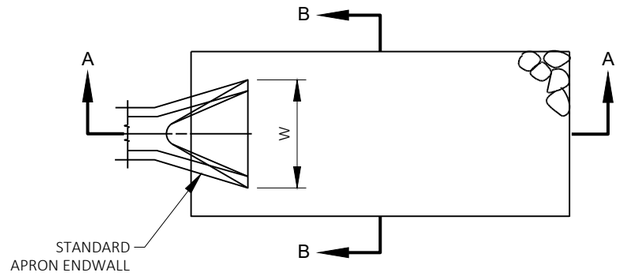


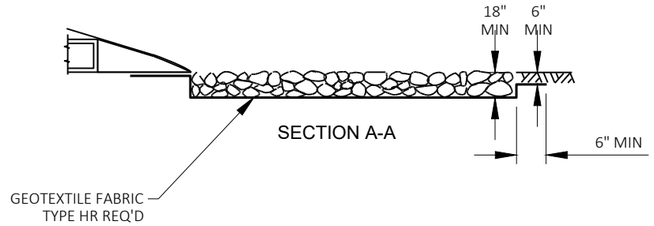
EROSION CONTROL FOR CROSS DRAIN RESTORATION

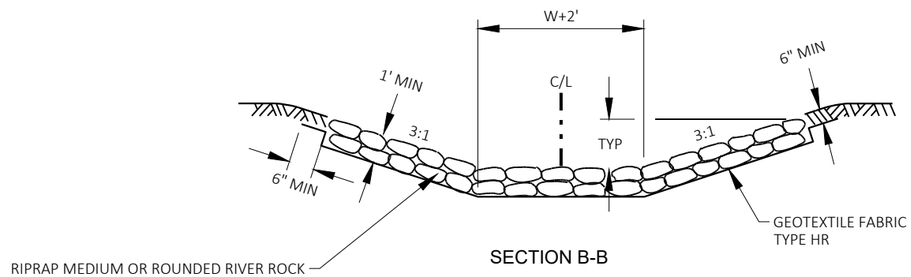
SEE EROSION CONTROL FOR LOCATIONS



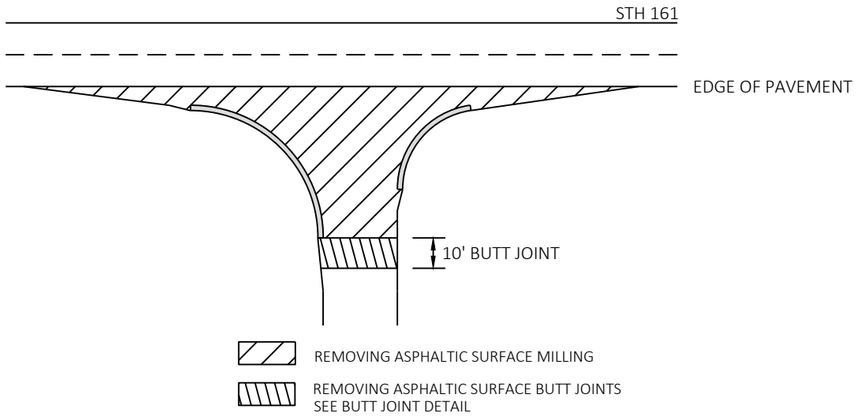
ROCK BAGS USED FOR SILT FENCE RELIEF







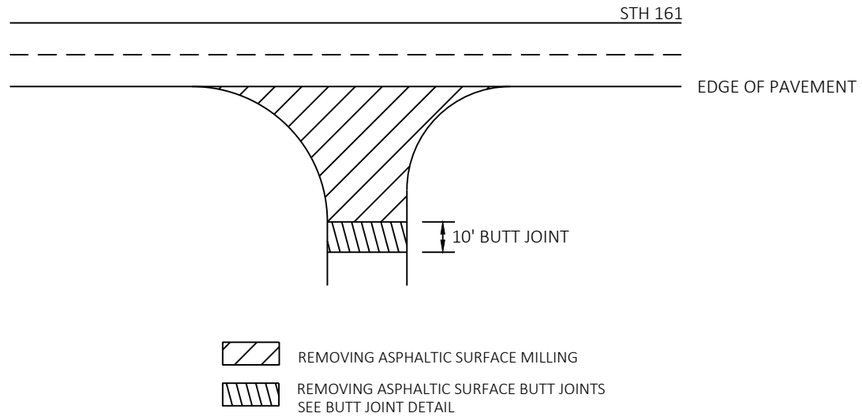
RIPRAP AND GEOTEXTILE



SIDE ROADS

WITH CURB AND GUTTER

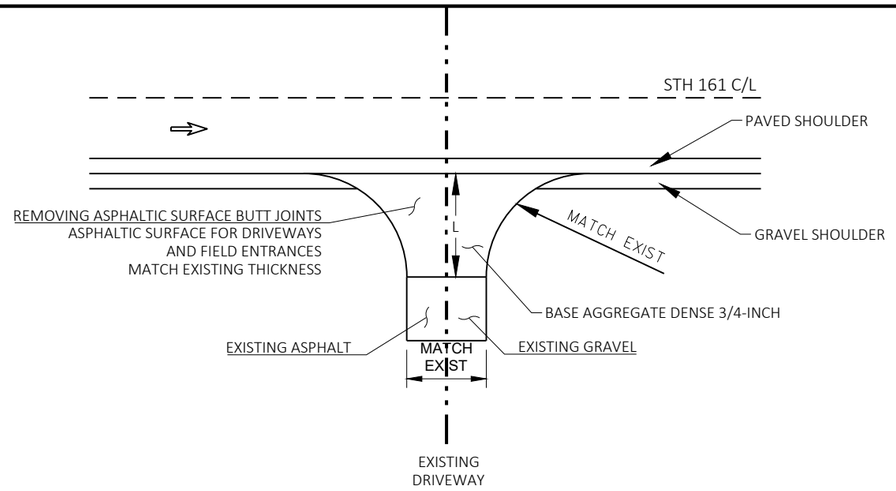
SKY VIEW RD
CTH SS / 5 CORNER RD
ROLLING HILLS RD
CTH Q / CTH ZZ
CTH A (NORTH)



SIDE ROADS

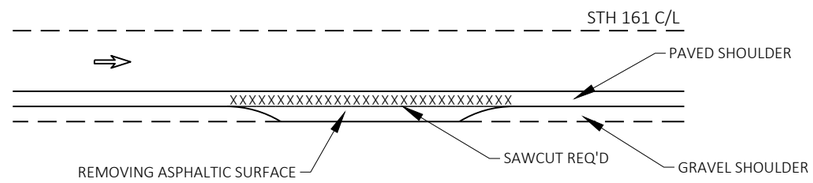
WITHOUT CURB AND GUTTER

TOMORROW RIVER RD
CTH A (SOUTH) / CTH T
OLSON RD
WALLER RD



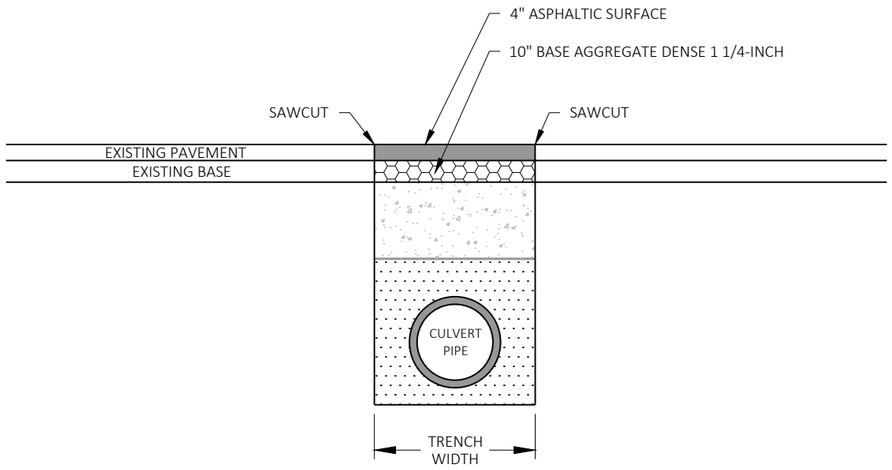
L = 10' TYPICAL WITH 15% MAX SLOPE, EXACT LENGTH
TO BE DETERMINED IN THE FIELD BY THE ENGINEER

DRIVEWAYS WITHIN PROFILE RAISE



REMOVING ASPHALT BUMPOUTS

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CONSTRUCTION DETAILS	SHEET 9	E



KEY

- PROPOSED SURFACE
- PROPOSED BASE
- TRENCH BACKFILL
- FOUNDATION BACKFILL

NOTES

EXCAVATE AND BACKFILL TRENCH ACCORDING TO STANDARD SPEC 520.
PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING.
CULVERT PARTIAL REPLACEMENTS NOT LISTED IN TABLE OCCUR OUTSIDE OF PAVEMENT.

CULVERT LOCATIONS

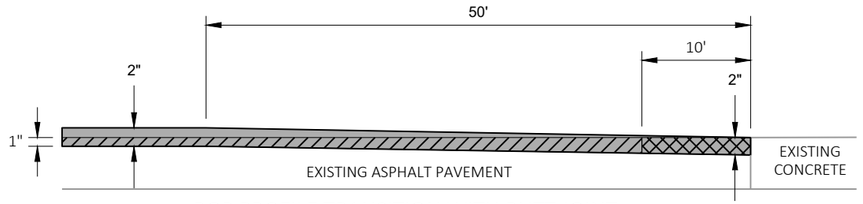
ROUTE	STA (CL)	PIPE ID	MAX TRENCH WIDTH (FT)	PIPE DIAM (IN)	REMARKS
STH 161	231+00	49161005744	6	30	BOTH SIDES
STH 161	277+98	49161005747	5	24	BOTH SIDES
STH 161	289+67	49161005748	5	24	LT SIDE
STH 161	320+86	49161005750	7	36	RT SIDE
STH 161	362+48	49161005751	7	36	LT SIDE

CULVERT PARTIAL REPLACEMENT UNDER STH 161 PAVEMENT

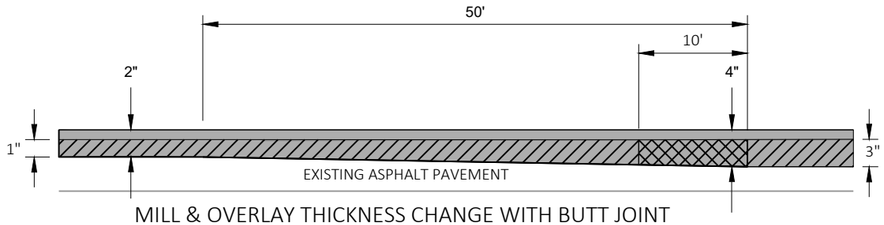
LEGEND

- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING ASPHALTIC SURFACE BUTT JOINTS
- HMA PAVEMENT

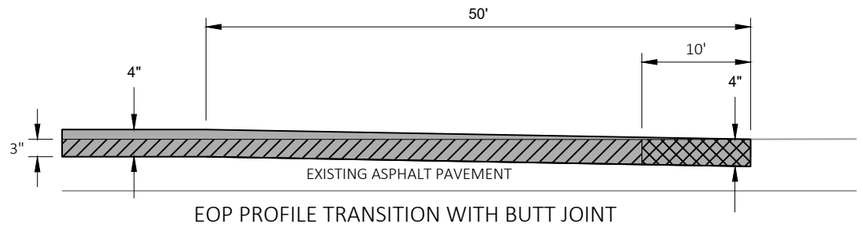
SEE PLAN SHEETS FOR LOCATIONS



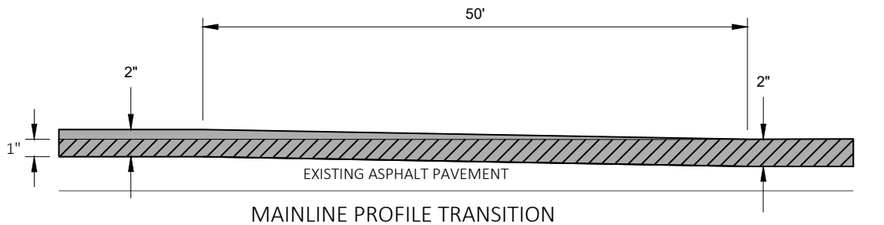
BOP PROFILE TRANSITION WITH BUTT JOINT



MILL & OVERLAY THICKNESS CHANGE WITH BUTT JOINT



EOP PROFILE TRANSITION WITH BUTT JOINT



MAINLINE PROFILE TRANSITION

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CONSTRUCTION DETAILS	SHEET 10	E

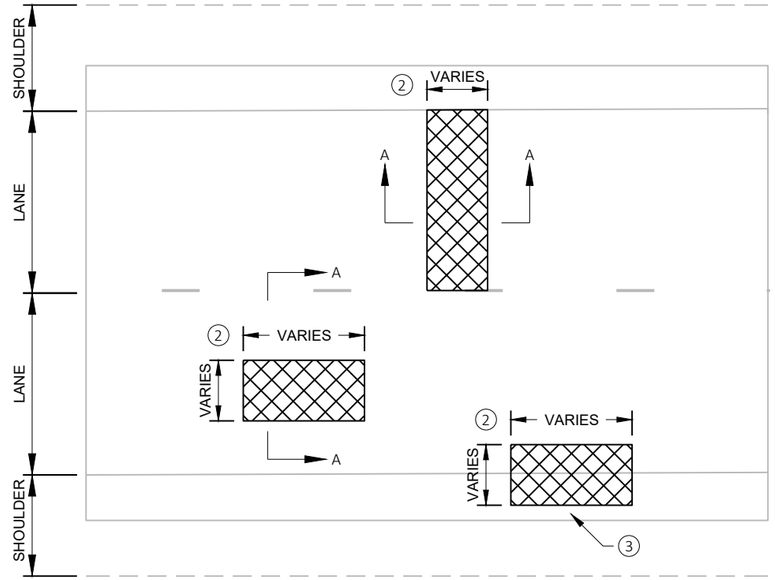
NOTES:

PERFORM REMOVING ASPHALTIC SURFACE MILLING PRIOR TO REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

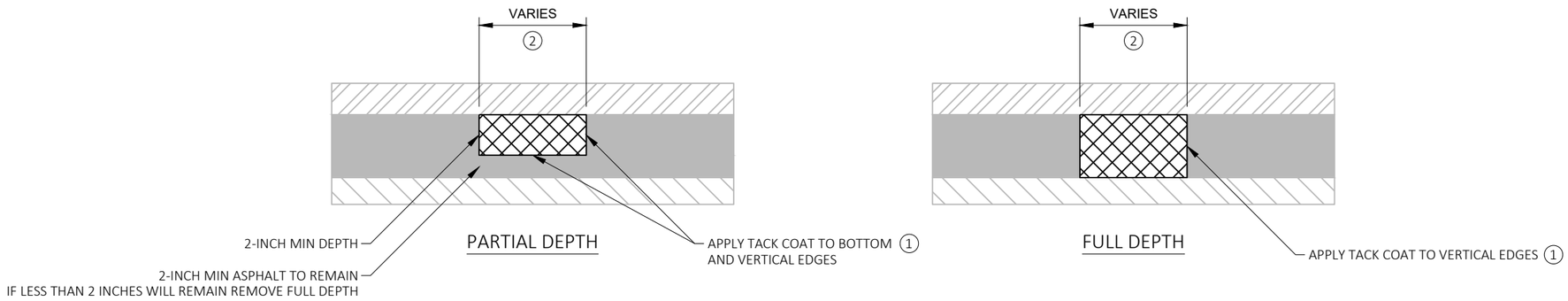
(1) MILLED VERTICAL EDGES ARE ACCEPTABLE, SAW CUTS ARE NOT REQUIRED.

(2) THE SMALLEST DIMENSION OF REMOVING DISTRESSED ASPHALTIC SURFACE MILLING IS 4 FEET IN ANY DIRECTION.

(3) WHEN THE DISTANCE FROM THE EDGE OF PAVEMENT TO EDGE OF REMOVING DISTRESSED ASPHALTIC SURFACE MILLING IS LESS THAN 1-FOOT, EXTEND THE REMOVING DISTRESSED ASPHALTIC SURFACE MILLING TO THE EDGE OF PAVEMENT.



PLAN VIEW



SECTION A-A

REMOVING ASPHALTIC SURFACE MILLING

REMOVING DISTRESSED ASPHALTIC SURFACE MILLING
ASPHALTIC SURFACE PATCHING

EXISTING ASPHALT

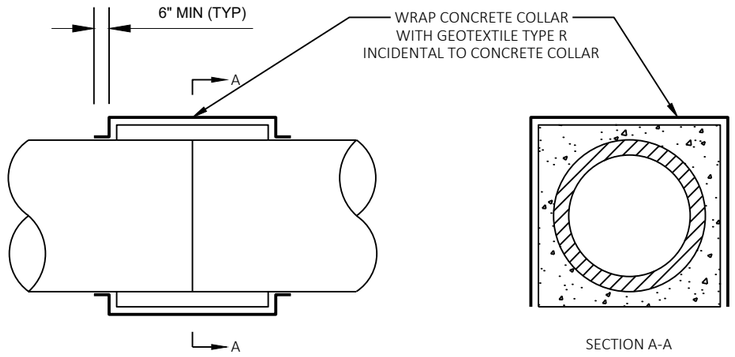
EXISTING BASE COURSE

REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

LOCATIONS AND LIMITS DETERMINED BY THE ENGINEER IN THE FIELD

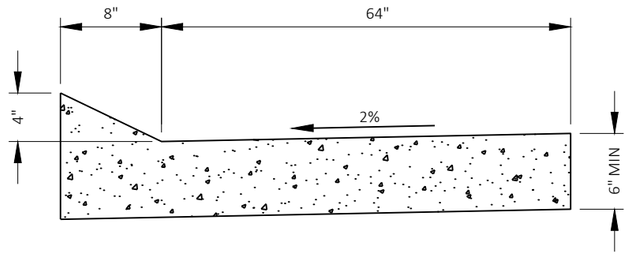
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CONSTRUCTION DETAILS	SHEET 11	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\021001-CD.DWG
LAYOUT NAME - 04
PLOT DATE : 2/18/2026 11:47 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1:10
WISDOT/CADDS SHEET 42



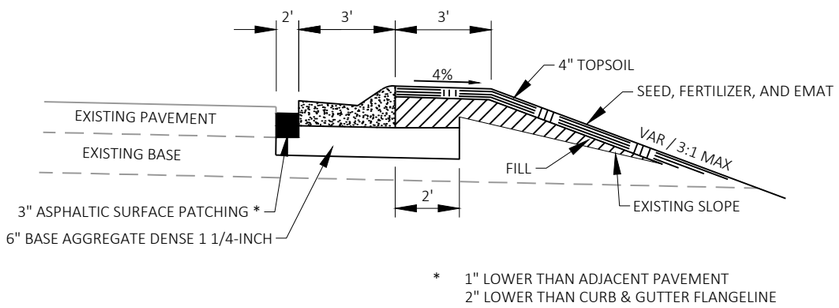
CONCRETE COLLAR

SEE SDD JOINT TIES FOR CONCRETE PIPE AND
CONCRETE PIPE COLLARS FOR DETAILS NOT SHOWN



CONCRETE CURB & GUTTER 4-INCH SLOPED 72-INCH TYPE TBT

STA 155+25.33 TO 155+28.29 LT & RT



* 1" LOWER THAN ADJACENT PAVEMENT
2" LOWER THAN CURB & GUTTER FLANGELINE

CURB & GUTTER INSTALLATION AT INTERSECTIONS

CTH A (NORTH)

2

53.09' MGS GUARDRAIL TERMINAL

137.50' MGS GUARDRAIL

39.40' MGS THRIE BEAM TRANSITION

TOMORROW RIVER

R-49-0014 NO WORK

STA 152+29.76 SAWCUT

RIPRAP

RIPRAP

151+00

152+00

153+00

STH 161

154+00

155+00

156+00

CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT

CONCRETE CURB & GUTTER 4-INCH SLOPED 72-INCH TYPE TBT

POST

SI (TYP)

RIPRAP

RIPRAP

53.09' MGS GUARDRAIL TERMINAL

137.50' MGS GUARDRAIL

39.40' MGS THRIE BEAM TRANSITION

B-49-0124 NO WORK

FO

OH

+23.01
-15.33' LT
EL 1070.47

REMOVE EXISTING FLUME
ASPHALT FLUME REQ'D

SHORT RADIUS TERMINAL

SI (TYP)

+81.55
-15.33' LT
EL 1070.89

GUARDRAIL MOW STRIP

MGS SHORT RADIUS
37' RADIUS
71.6' LENGTH

+74.58
-34.63' LT
EL 1071.16

+41.79
-17.54' LT
EL 1071.41

HINGE POINT

ROLLING HILLS RD

14+00

TOMORROW RIVER

B-49-0124 NO WORK

39.40' MGS THRIE BEAM TRANSITION

69.40' MGS GUARDRAIL

R-49-0014 NO WORK

GUARDRAIL MOW STRIP

RIPRAP

RIPRAP

BERM

INL

INL

CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT

155+00

156+00

157+00

158+00

STH 161

159+00

160+00

GUARDRAIL MOW STRIP

13:1 FLARE

BP: 10+00.00

RIPRAP

RIPRAP

39.40' MGS THRIE BEAM TRANSITION

25' MGS GUARDRAIL

53.12' MGS GUARDRAIL TERMINAL

STA 157+58.78 SAWCUT

2' OFFSET TO FACE OF RAIL REMOVED

POST

POST

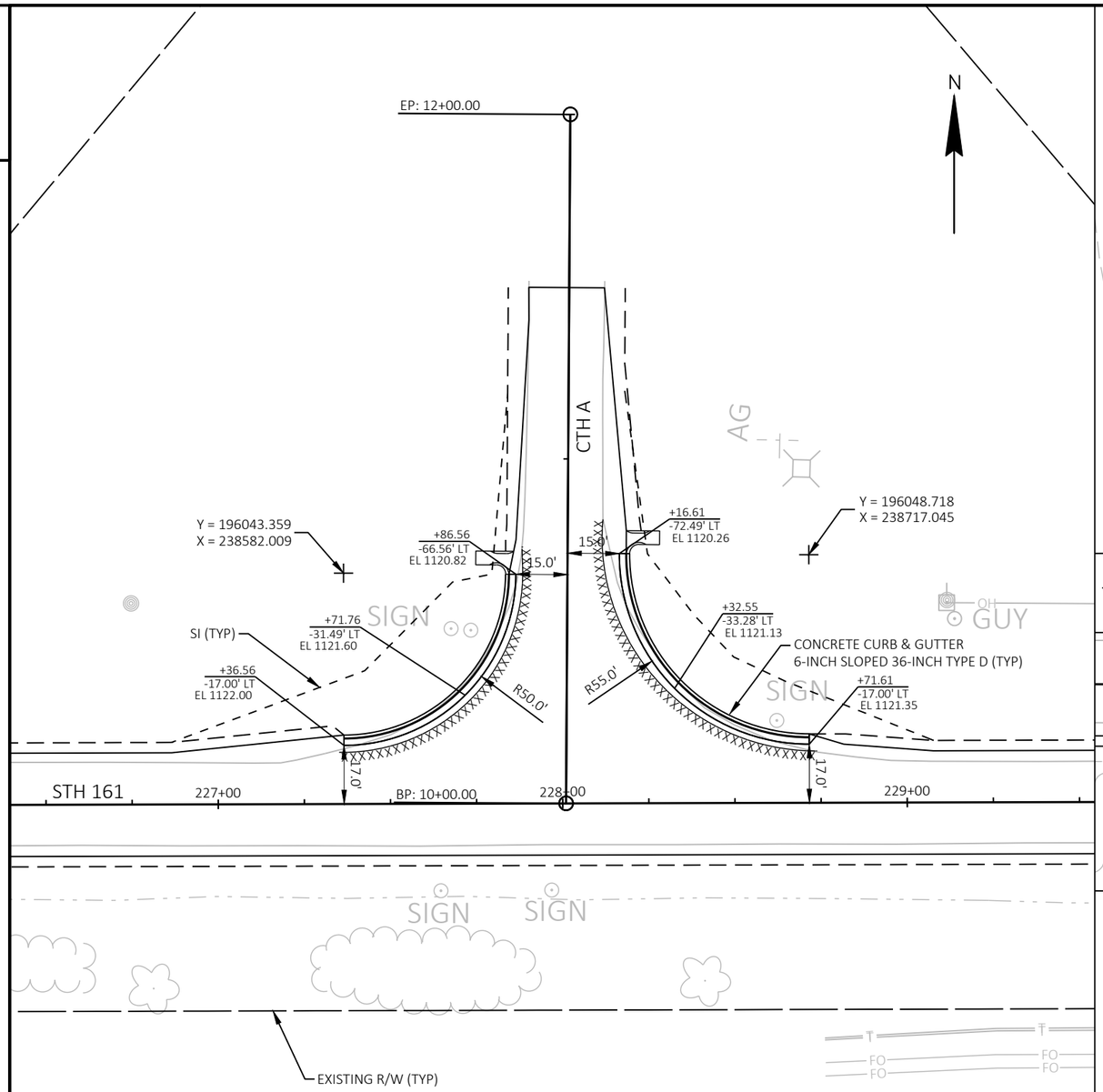
POST

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CONSTRUCTION DETAILS: GUARDRAIL DETAILS	SHEET 13	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\021001-CD-BG.DWG
LAYOUT NAME - BG DETAIL

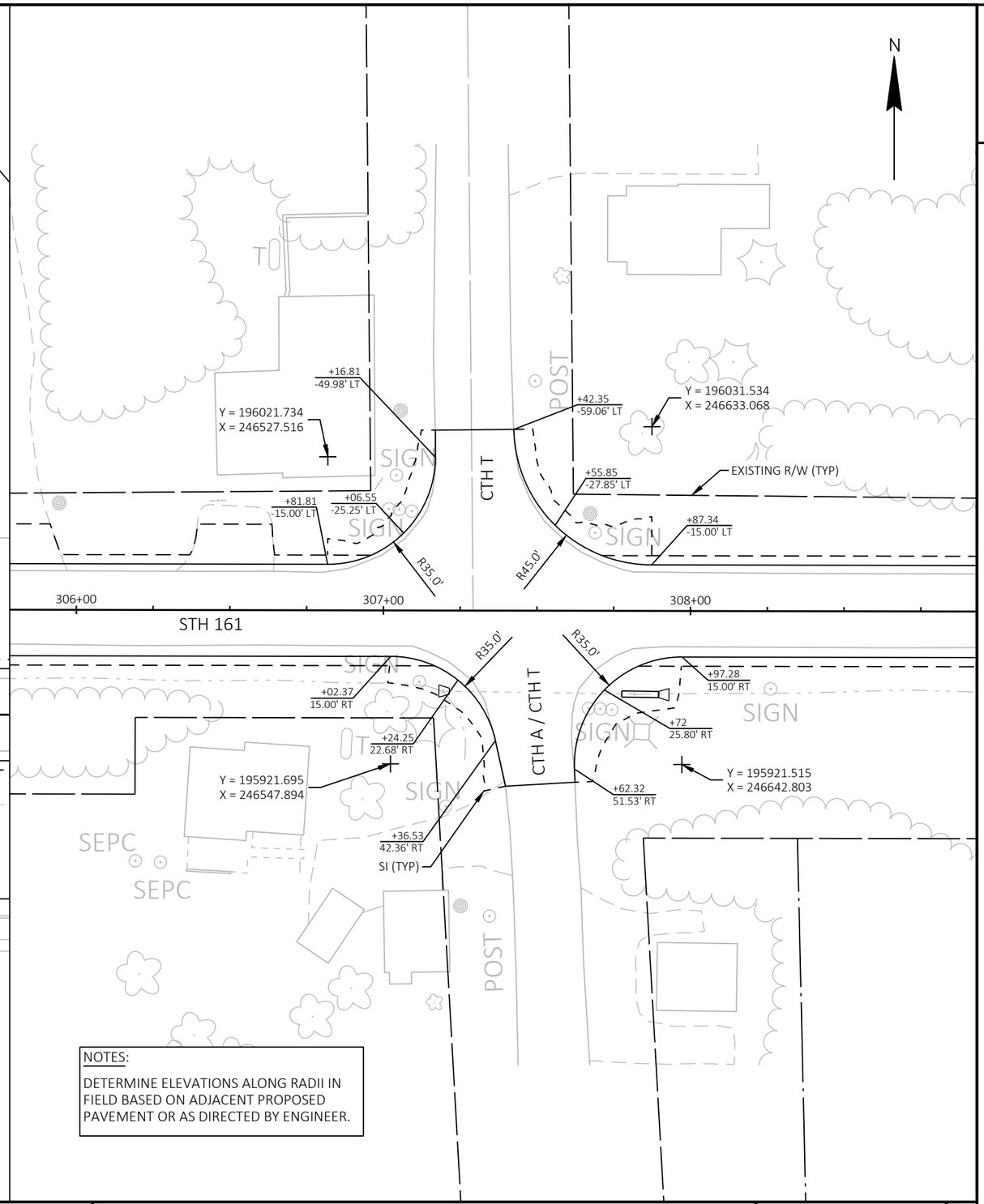
PLOT DATE : 2/18/2026 11:48 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44



NOTES:

REFER TO TYPE D INTERSECTION LAYOUT IN SDD AT-GRADE SIDE ROAD INTERSECTIONS FOR FURTHER INFORMATION.



NOTES:

DETERMINE ELEVATIONS ALONG RADII IN FIELD BASED ON ADJACENT PROPOSED PAVEMENT OR AS DIRECTED BY ENGINEER.

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	INTERSECTION DETAILS	SHEET 14	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\021101-ID.DWG
LAYOUT NAME - 01
PLOT DATE : 2/18/2026 11:49 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

EXISTING R/W (TYP)

TOMORROW

EXISTING STRUCTURE
B-49-0124

ROLLING HILLS RD

N

AEW

152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00

STH 161

RIVER

AEW

EXISTING R/W (TYP)

LEGEND

- INLET PROTECTION TYPE C
- APRON ENDWALL
- SILT FENCE
- SLOPE INTERCEPT
- RIPRAP MEDIUM
- EROSION MAT URBAN CLASS I TYPE B
- PIPE CHECK

EXISTING R/W (TYP)

N

EXISTING R/W (TYP)

CTH A

ASPHALT FLUME

6+00 227+00 228+00 229+00

STH 161

11+00

CTH T

EXISTING R/W (TYP)

N

306+00 307+00 308+00 309+00

STH 161

EXISTING R/W (TYP)

9+00

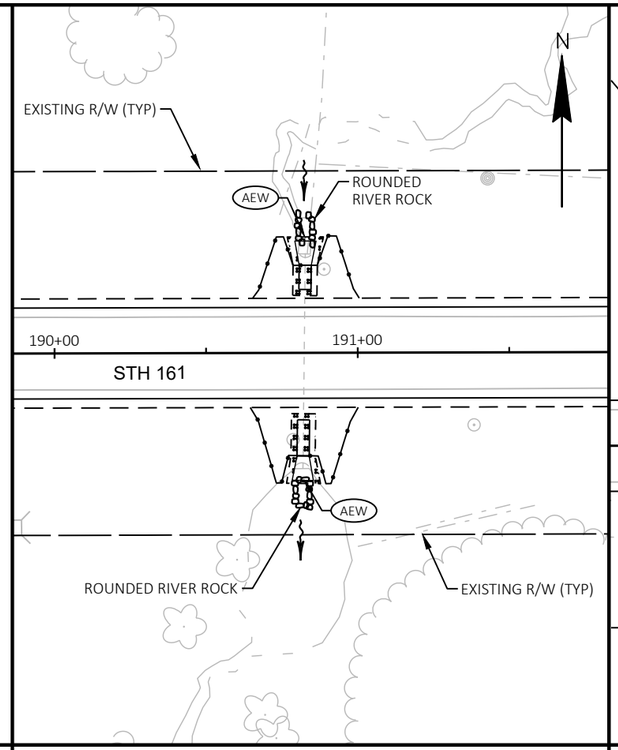
CTH A / CTH T

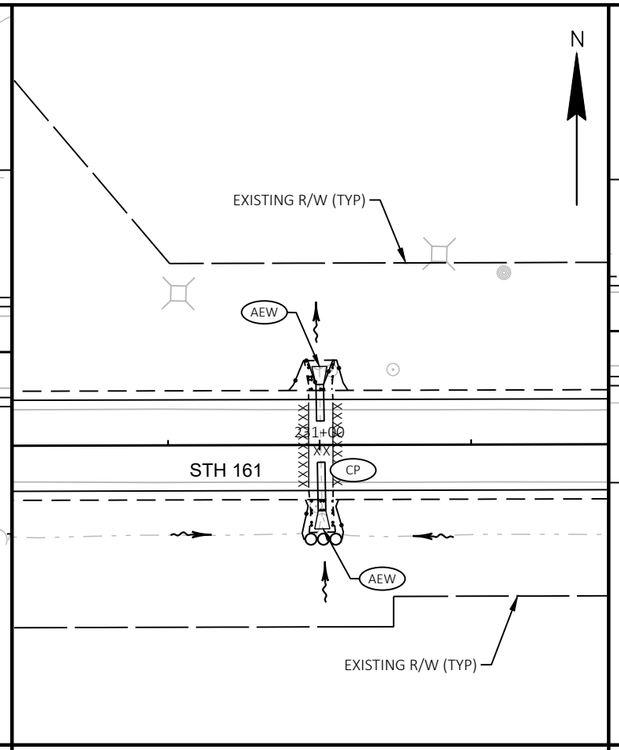
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	EROSION CONTROL	SHEET 15	E

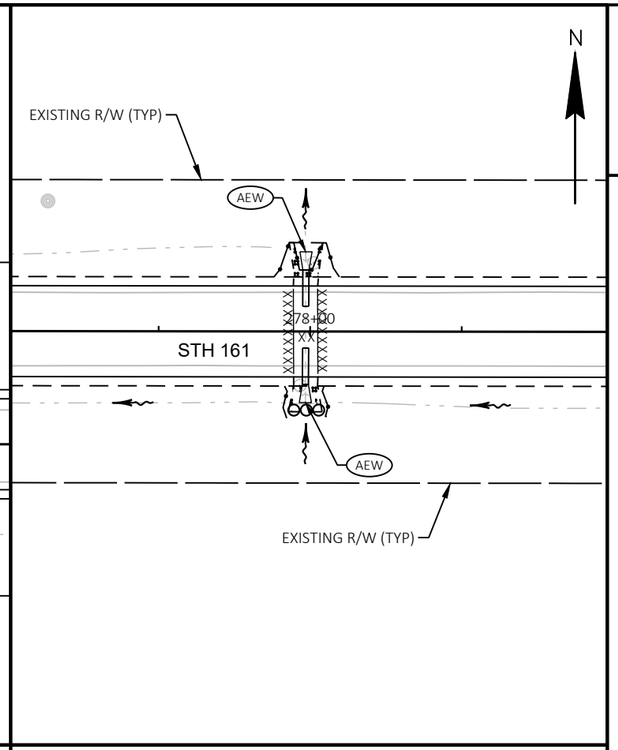
2

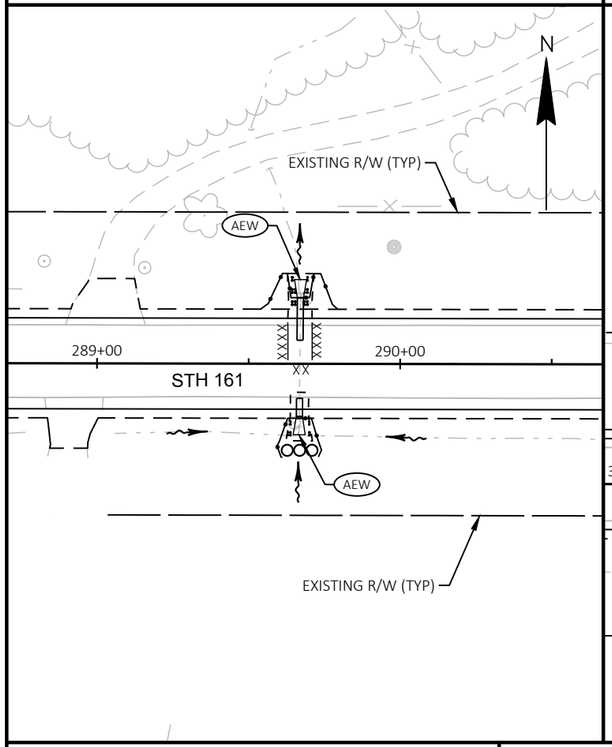
LEGEND

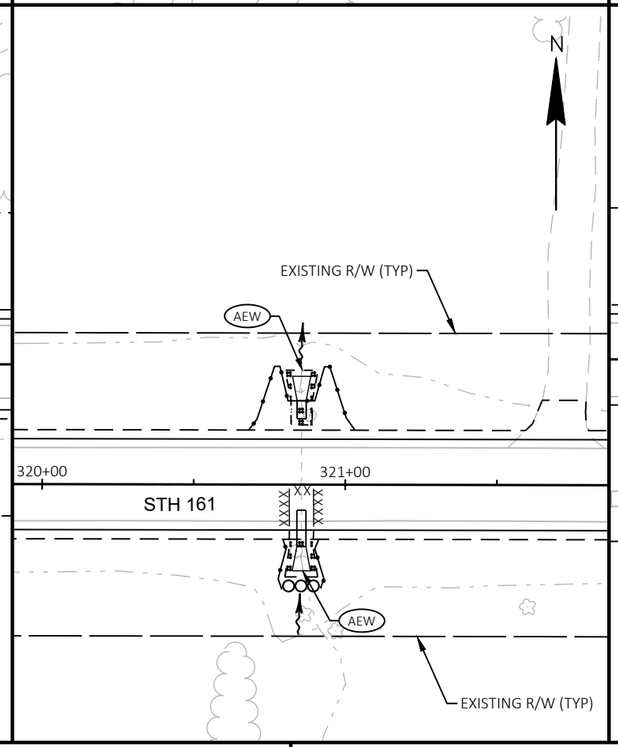
- INLET PROTECTION TYPE C
- SILT FENCE
- RIPRAP MEDIUM
- PIPE CHECK
- APRON ENDWALL (AEW)
- SLOPE INTERCEPT
- EROSION MAT URBAN CLASS I TYPE B

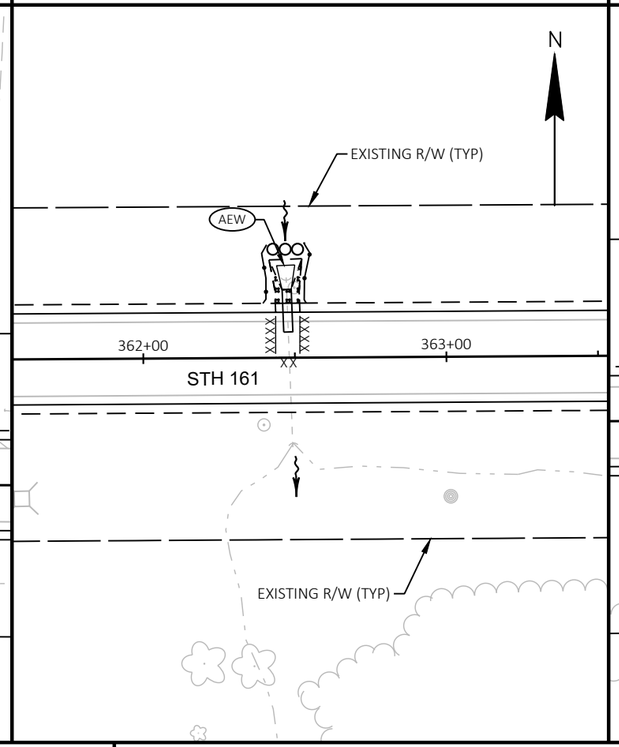


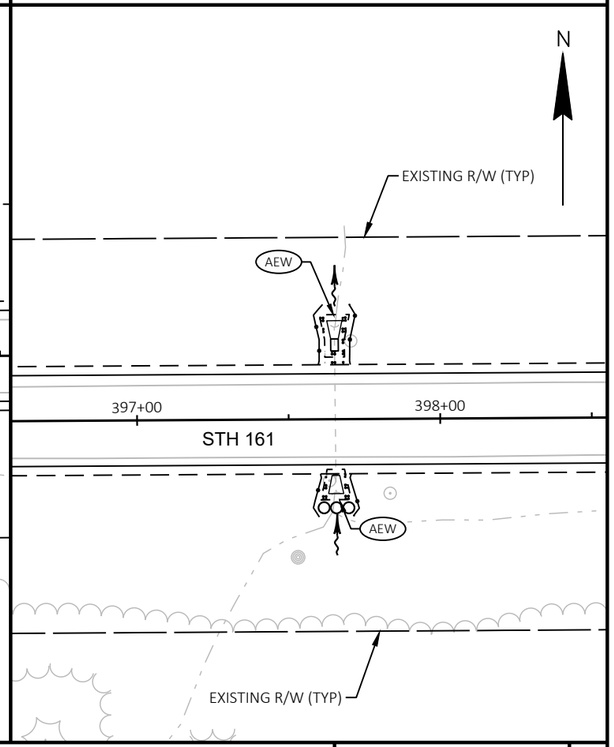










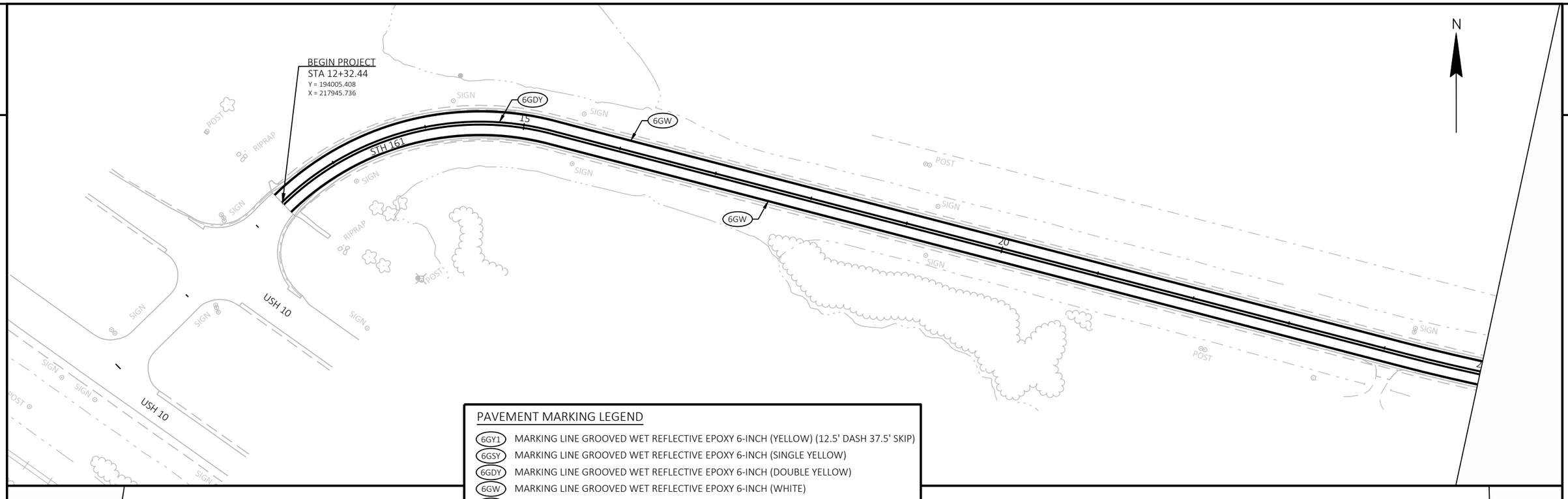


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	EROSION CONTROL	SHEET 16	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\022001-EC.DWG
LAYOUT NAME - 02

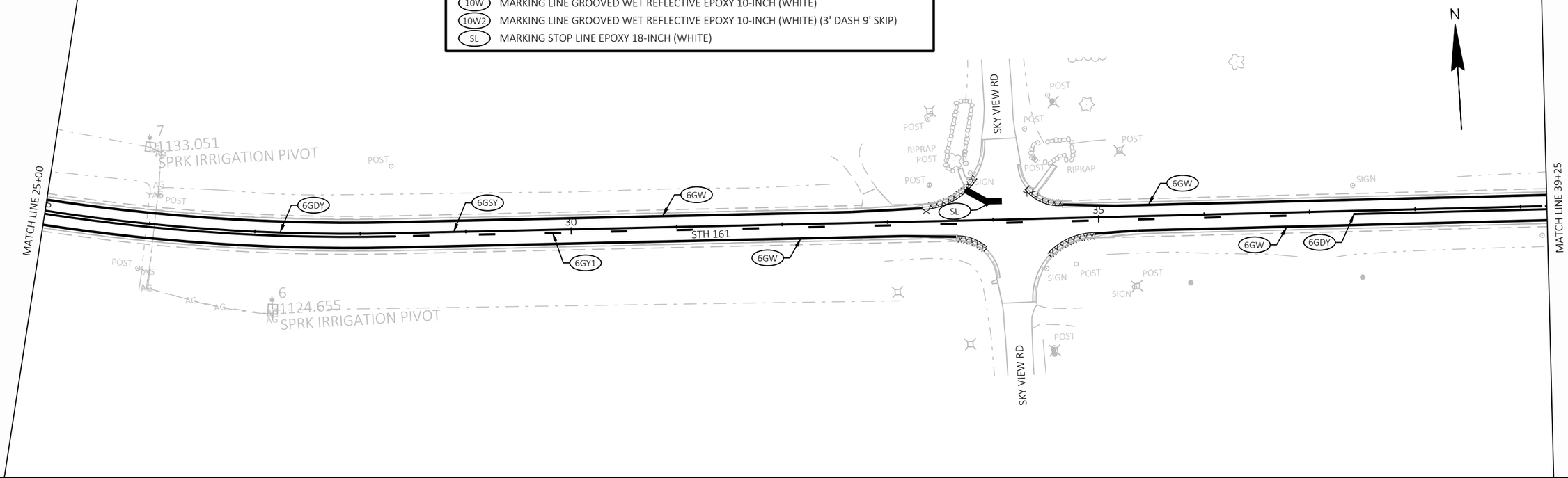
PLOT DATE : 2/18/2026 11:50 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

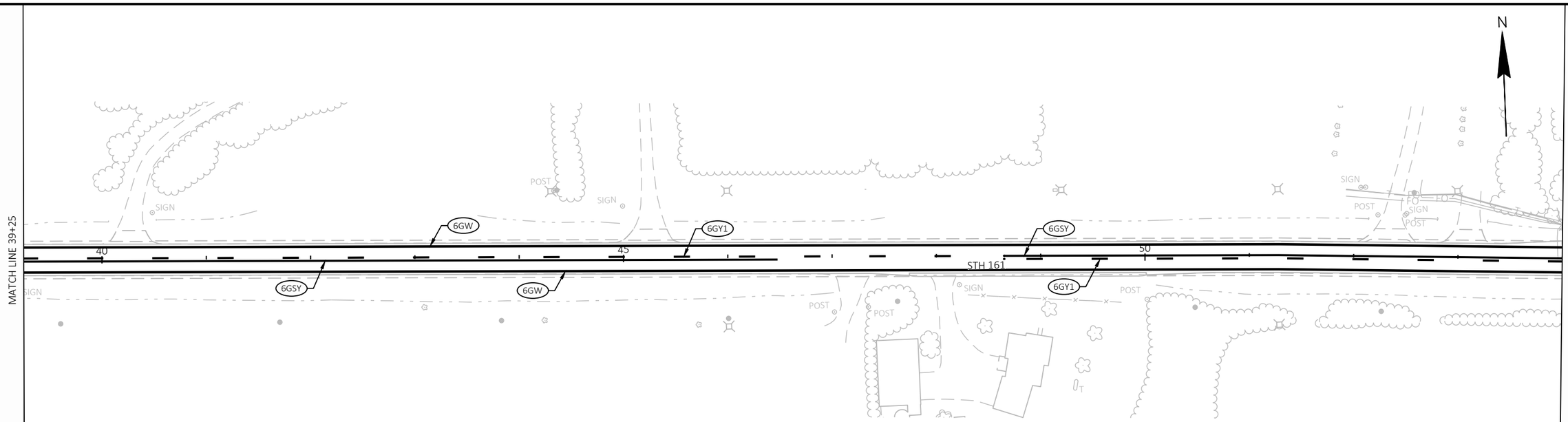


PAVEMENT MARKING LEGEND

6GY1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
6GDY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
6GW	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
6GW1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
10W	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)

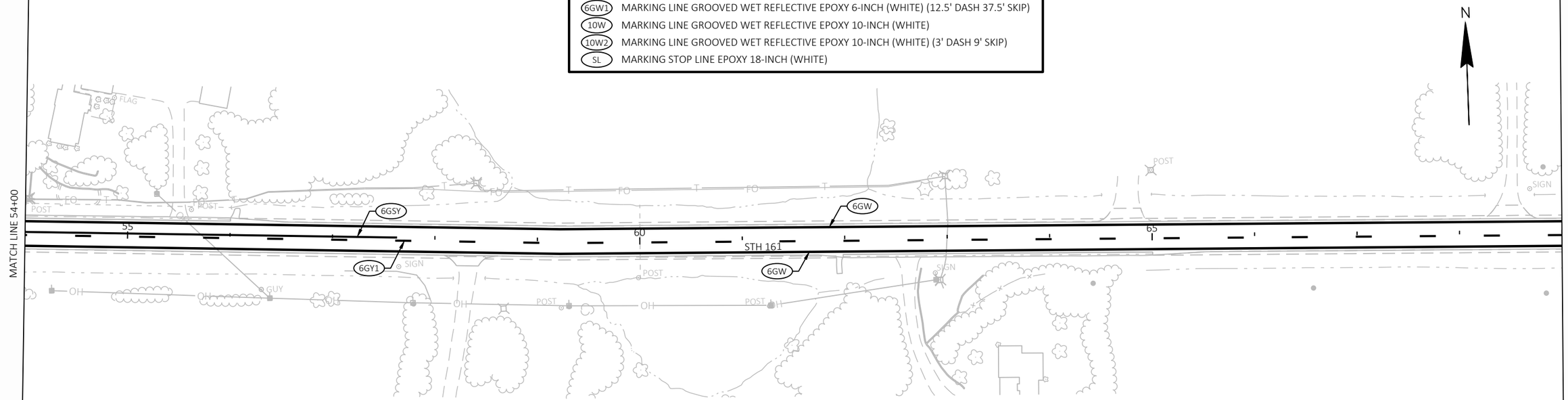


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 17	E



PAVEMENT MARKING LEGEND

- 6GY1 MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
- 6GSY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6GDY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 6GW MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6GW1 MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
- 10W MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
- 10W2 MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
- SL MARKING STOP LINE EPOXY 18-INCH (WHITE)

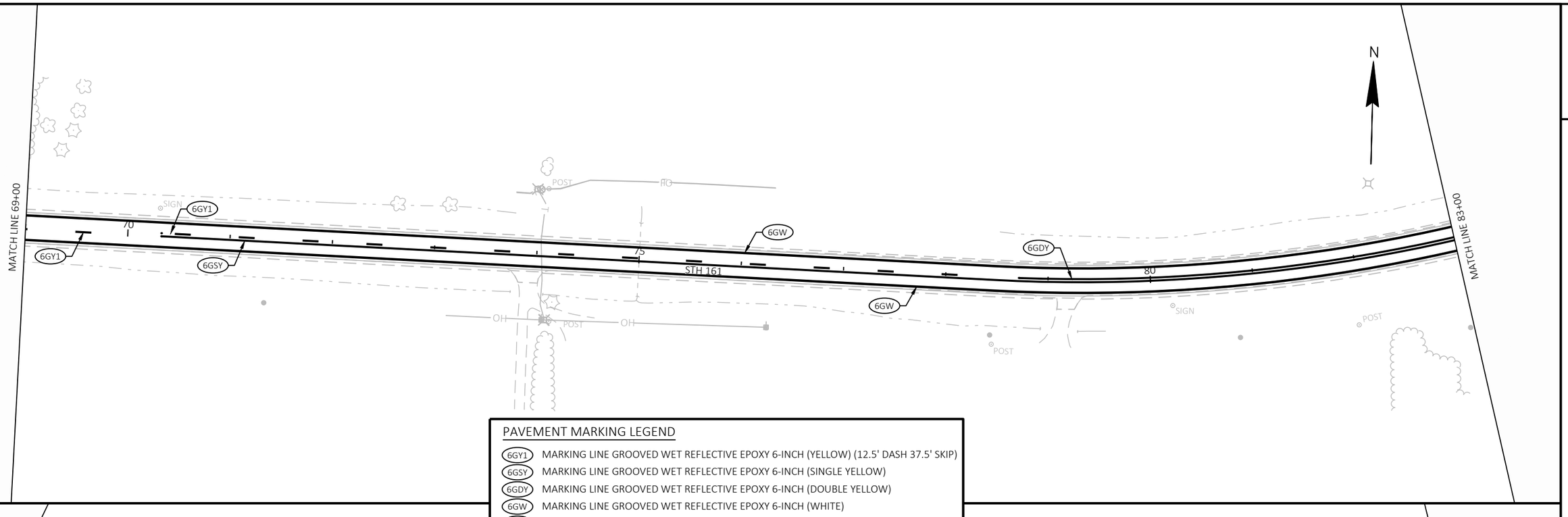


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 18	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\024501-PM.DWG
LAYOUT NAME - 02

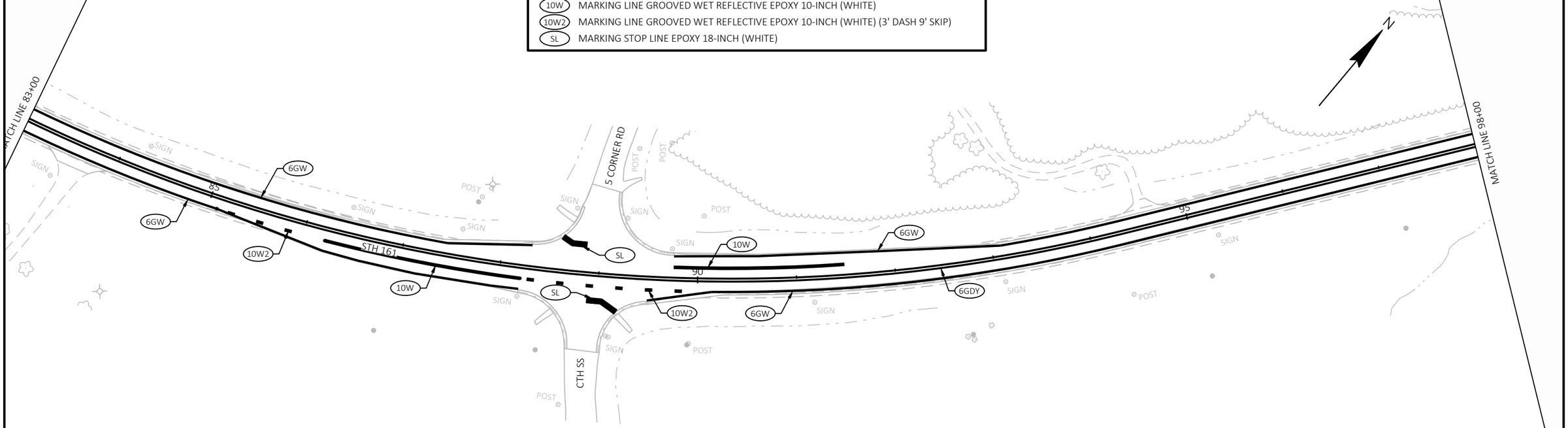
PLOT DATE : 2/18/2026 11:51 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



PAVEMENT MARKING LEGEND

- 6GY1 MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
- 6GSY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6GDY MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 6GW MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6GW1 MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
- 10W MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
- 10W2 MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
- SL MARKING STOP LINE EPOXY 18-INCH (WHITE)

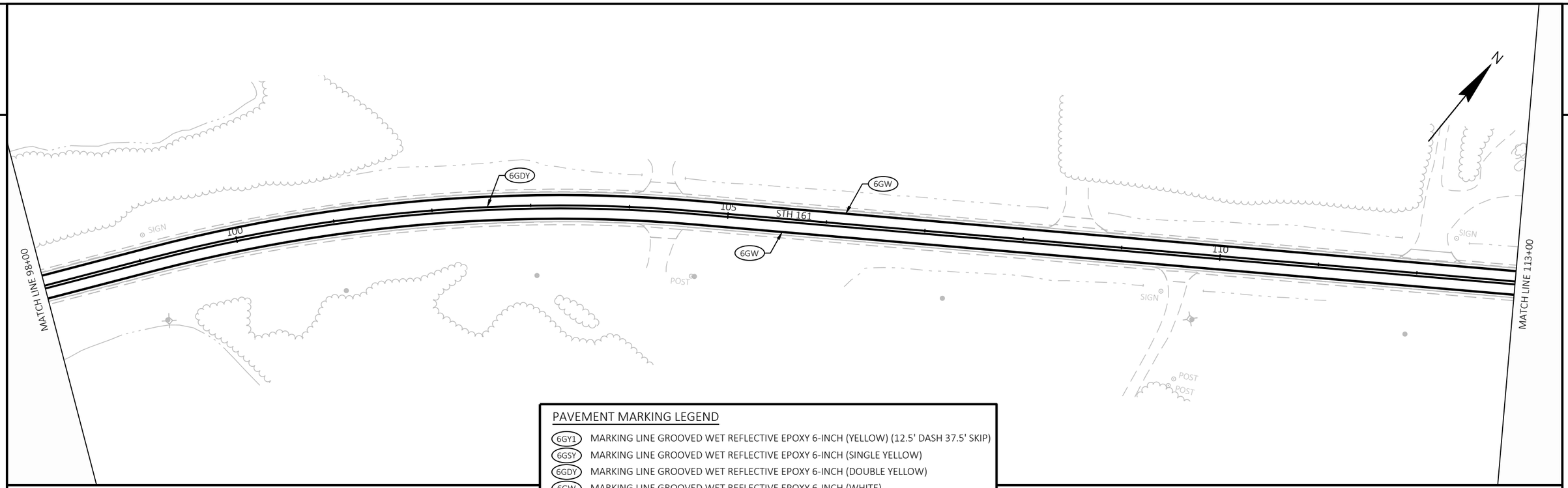


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 19	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\024501-PM.DWG
LAYOUT NAME - 03

PLOT DATE : 2/18/2026 11:51 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

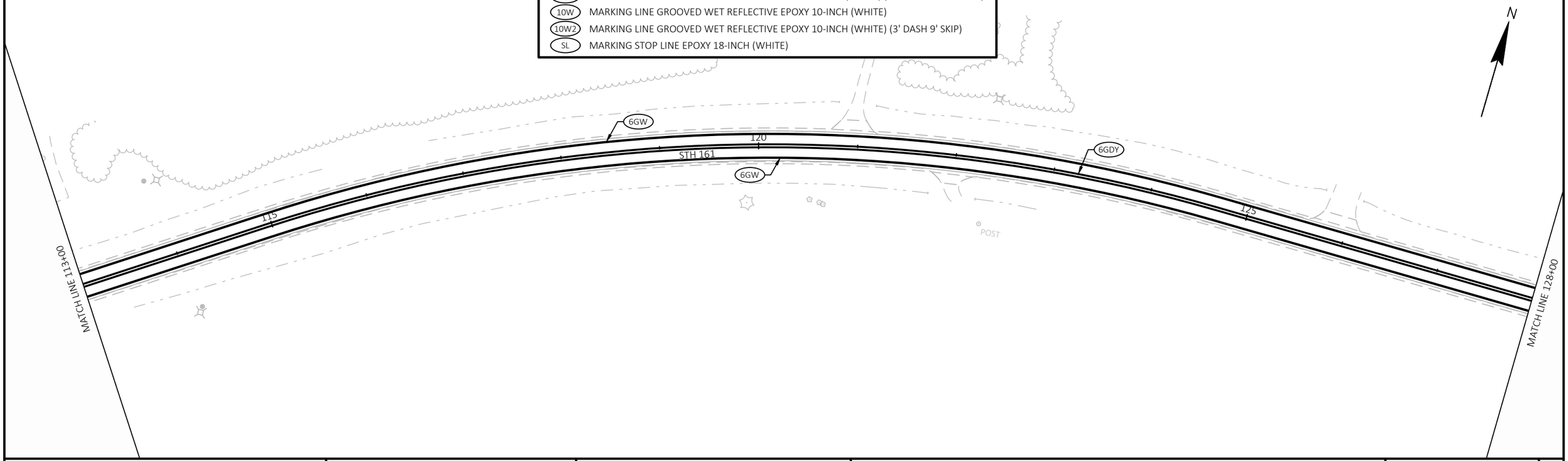
2



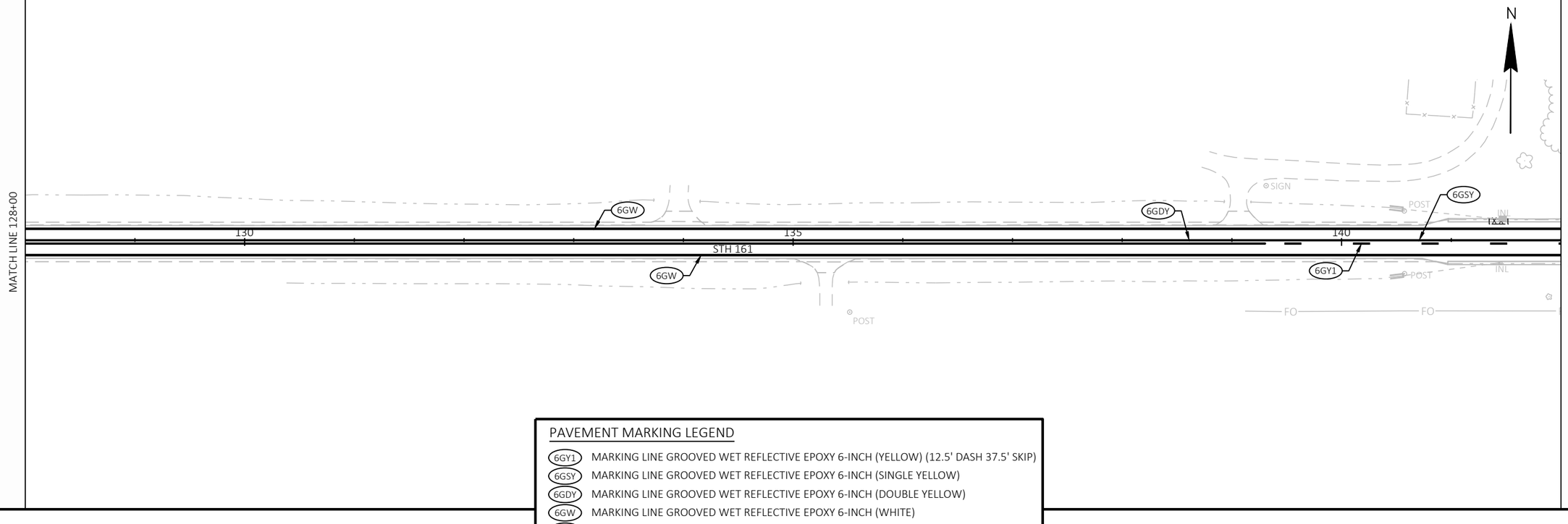
2

PAVEMENT MARKING LEGEND

6GY1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
6GDY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
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10W	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)

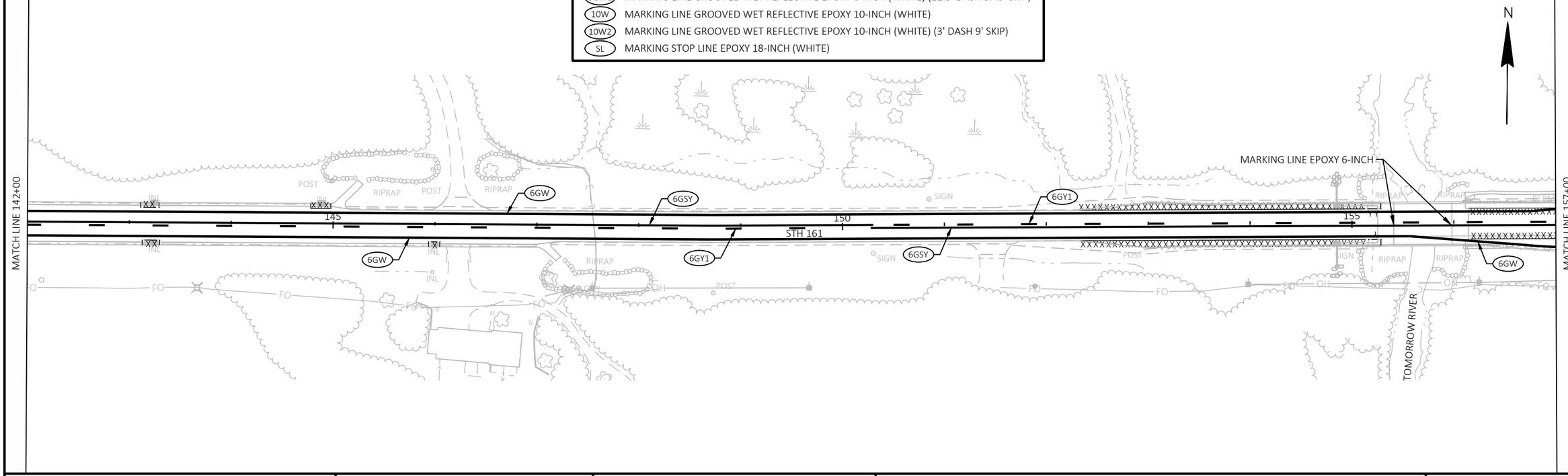


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 20	E

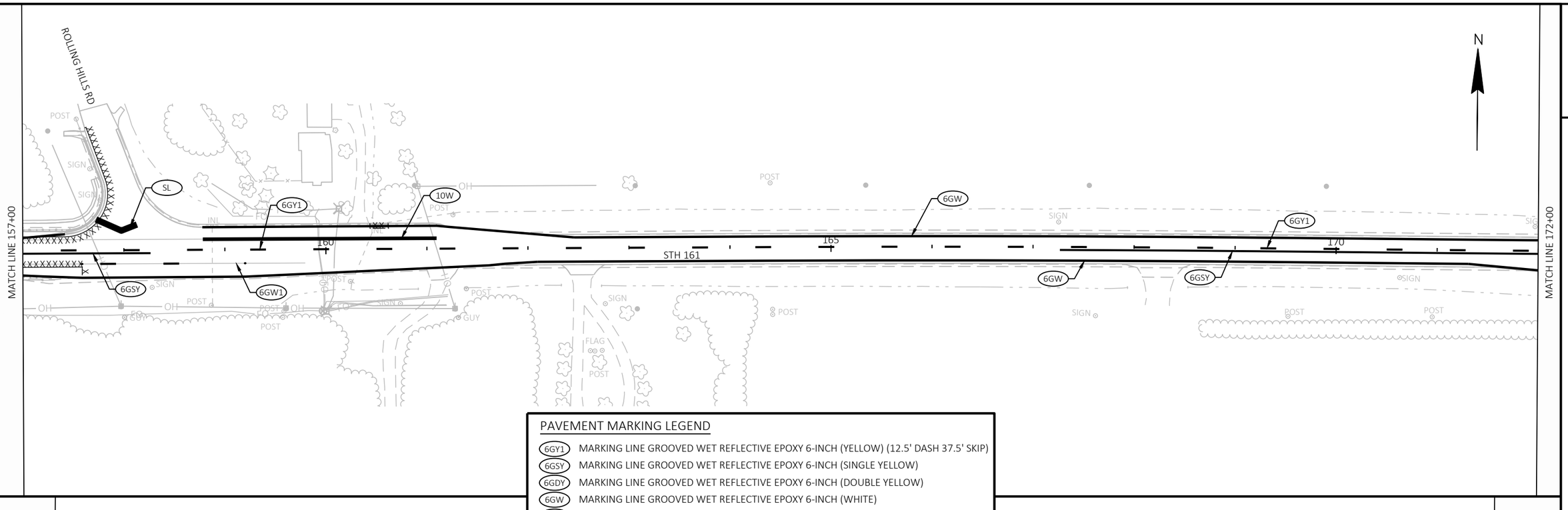


PAVEMENT MARKING LEGEND

6GY1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
6GDY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
6GW	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
6GW1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
10W	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)

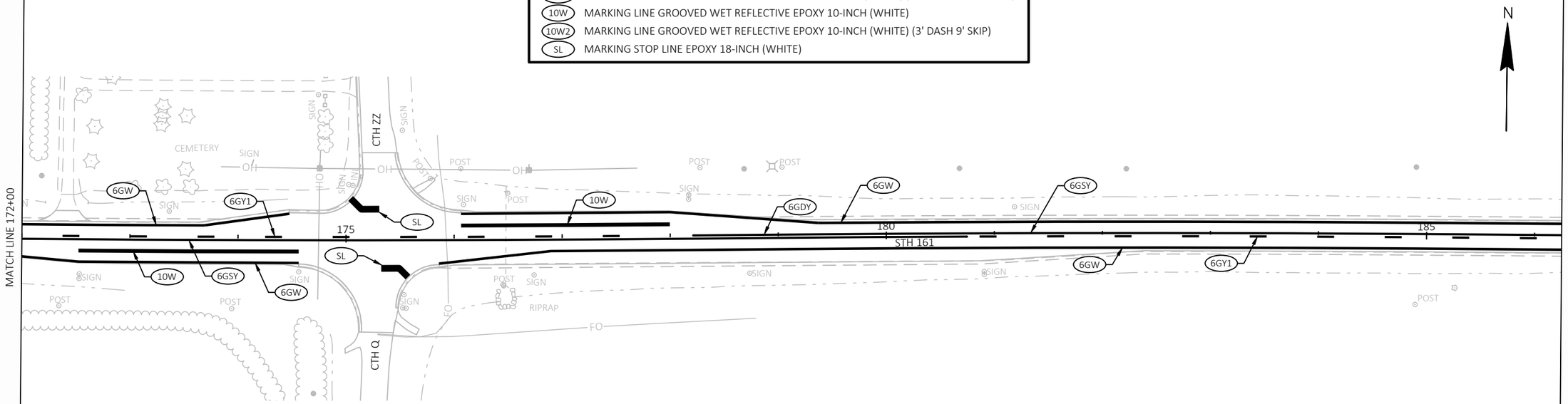


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 21	E

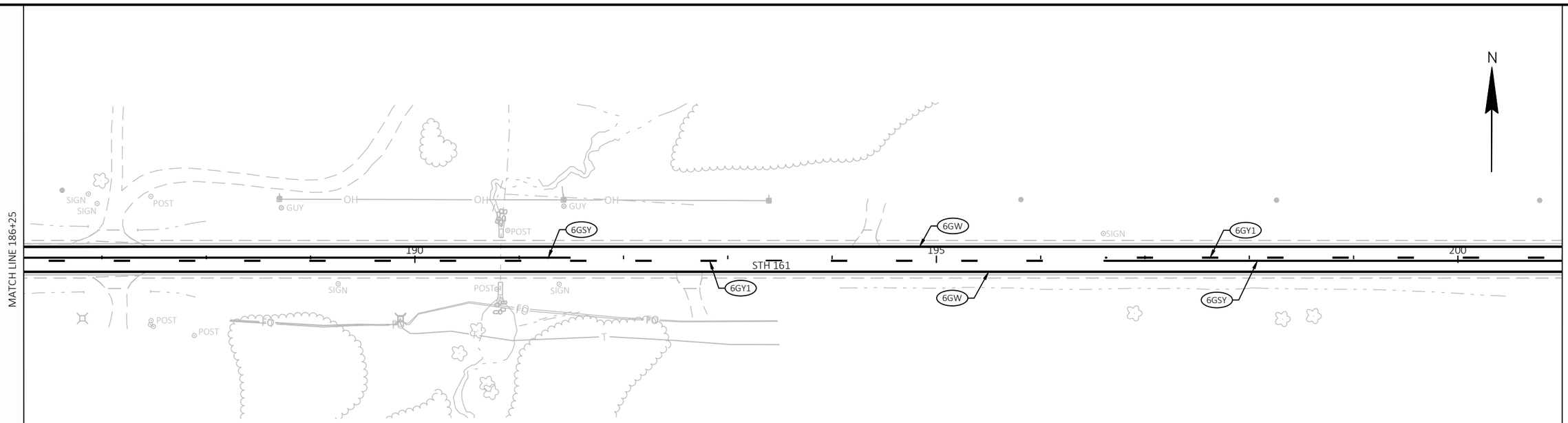


PAVEMENT MARKING LEGEND

- 6GY1 — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
- 6GSY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
- 6GDY — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
- 6GW — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
- 6GW1 — MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
- 10W — MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
- 10W2 — MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
- SL — MARKING STOP LINE EPOXY 18-INCH (WHITE)

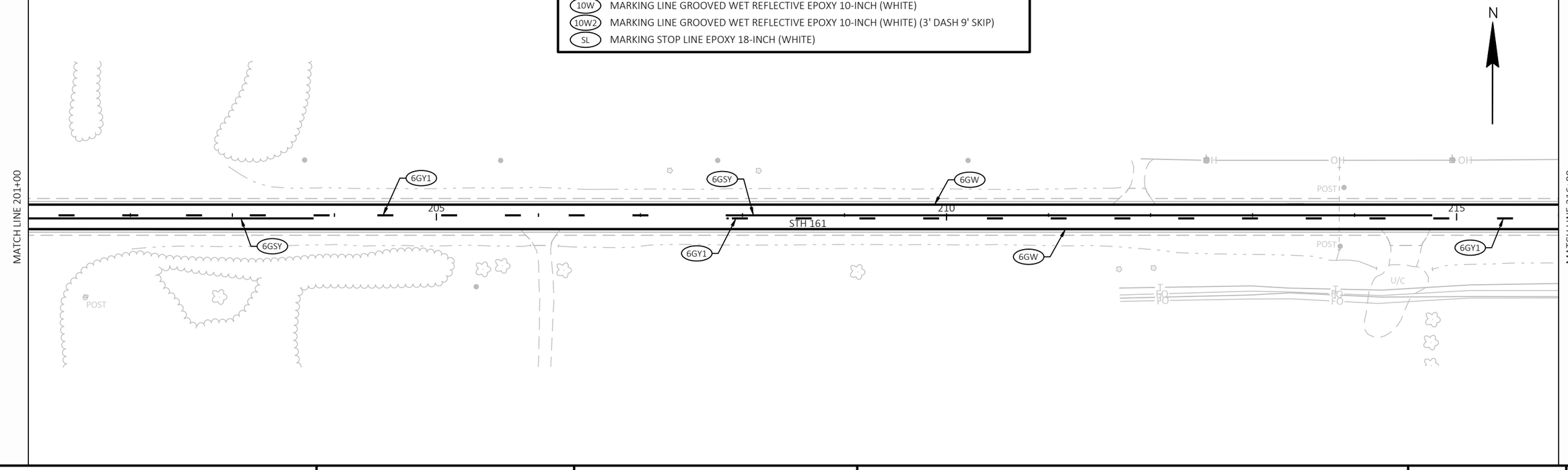


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 22	E



PAVEMENT MARKING LEGEND

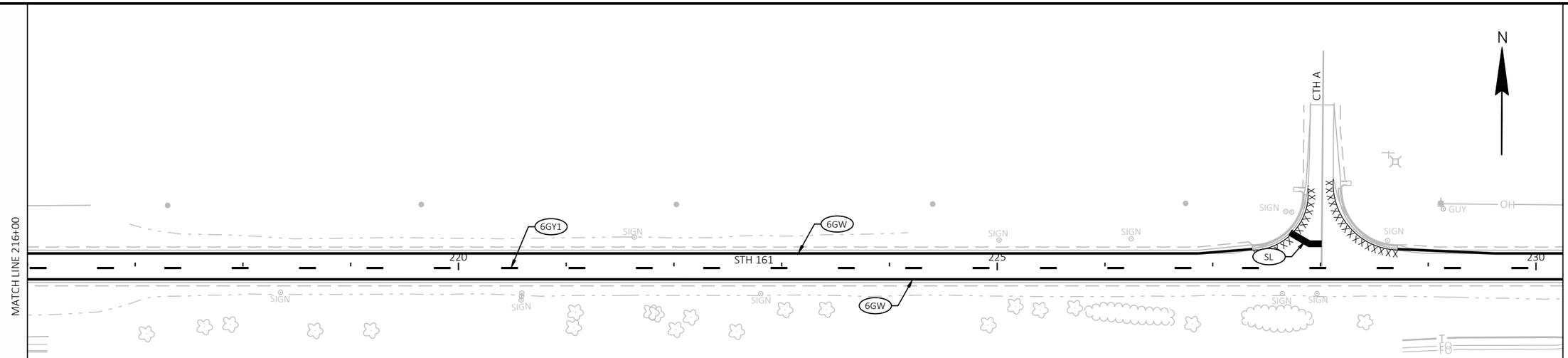
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SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)



PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 23	E

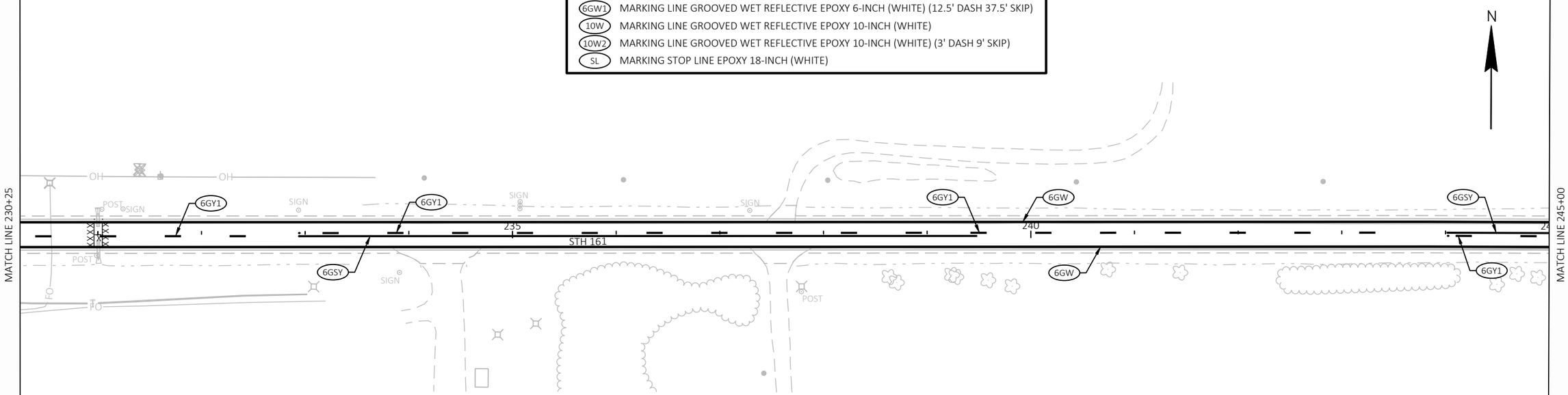
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LAYOUT NAME - 07

PLOT DATE : 2/18/2026 11:51 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT



PAVEMENT MARKING LEGEND

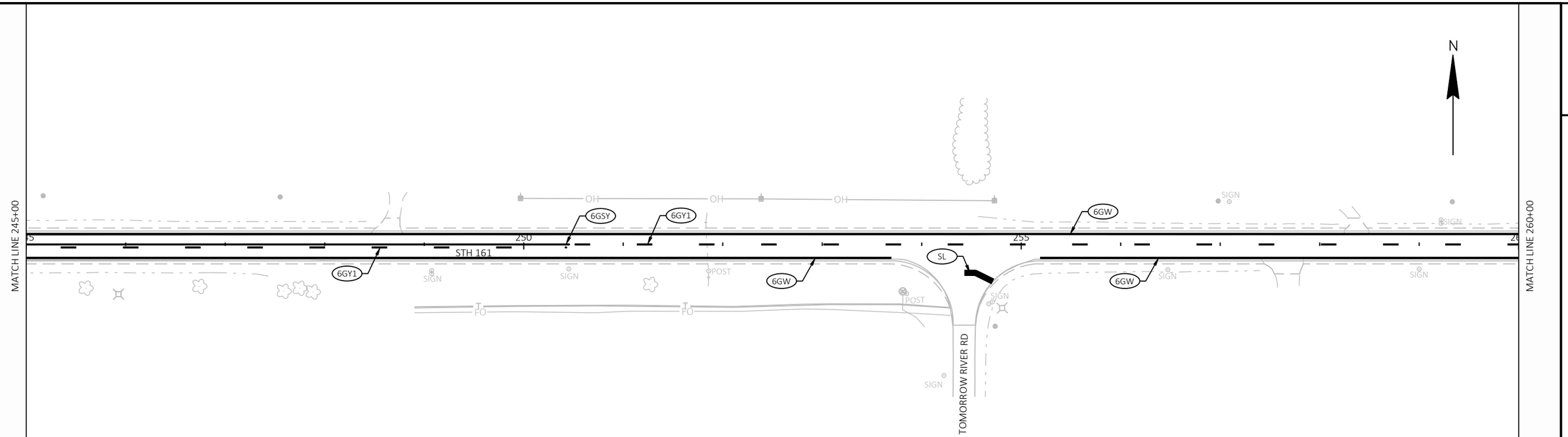
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6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
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6GW	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
6GW1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
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10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)



PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 24	E

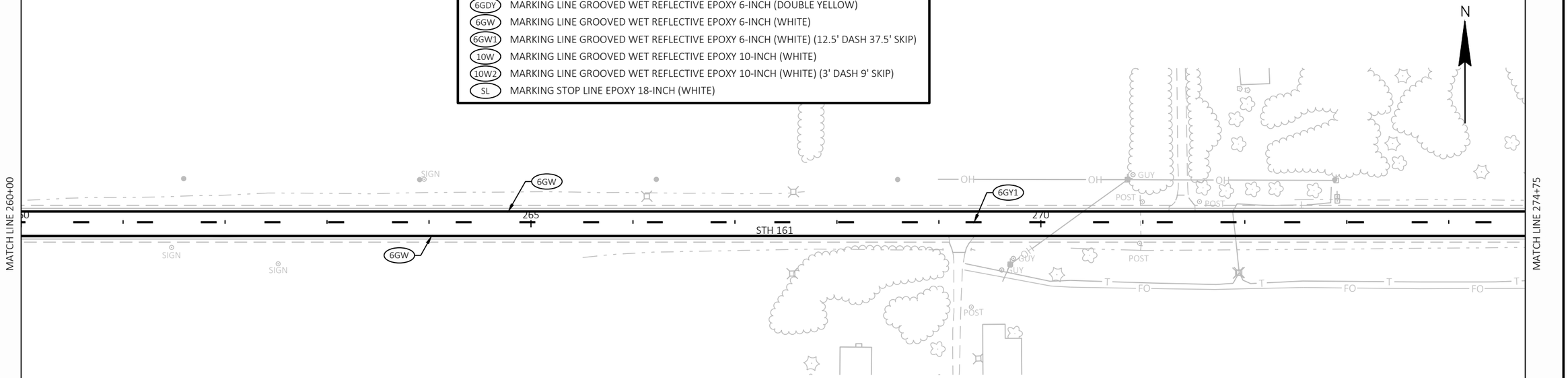
FILE NAME : O:\PDS\C3D\62600204\SHEETS\024501-PM.DWG
LAYOUT NAME - 08

PLOT DATE : 2/18/2026 11:51 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT



PAVEMENT MARKING LEGEND

6GY1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
6GDY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (DOUBLE YELLOW)
6GW	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE)
6GW1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
10W	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE)
10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)

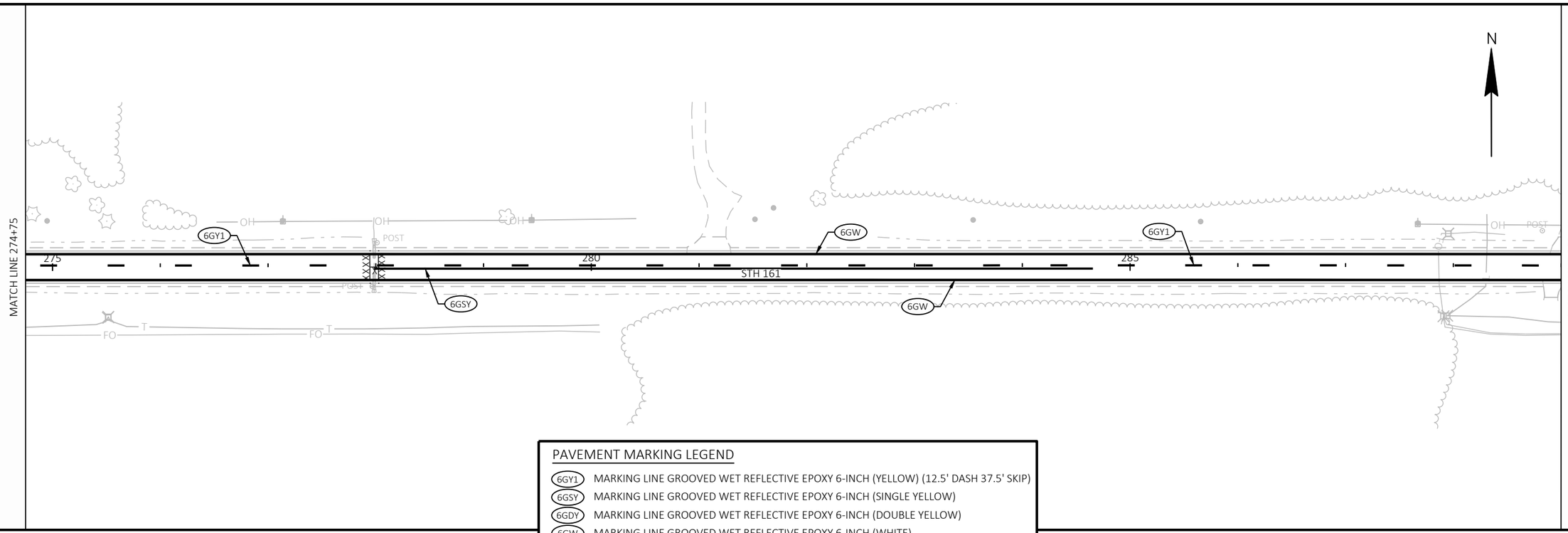


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 25	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\024501-PM.DWG
LAYOUT NAME - 09

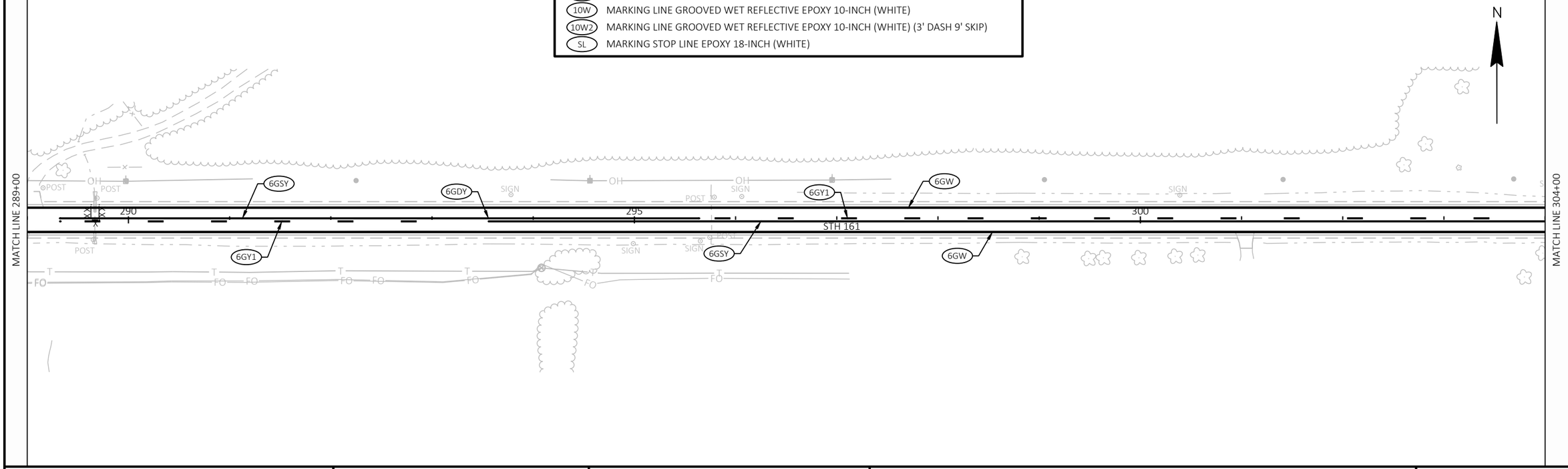
PLOT DATE : 2/18/2026 11:51 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

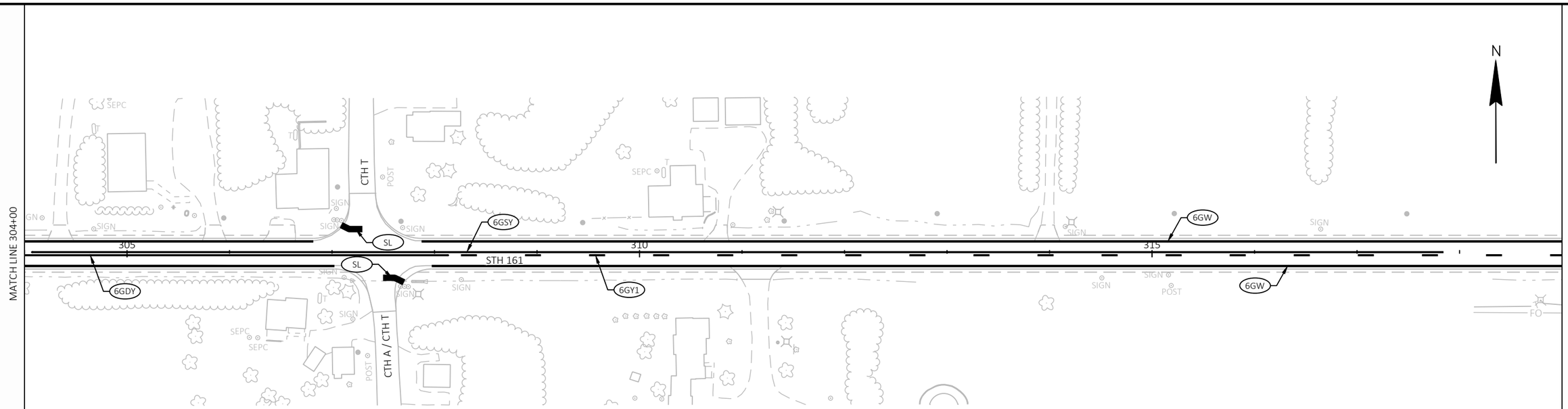
WISDOT/CADDS SHEET 44



PAVEMENT MARKING LEGEND

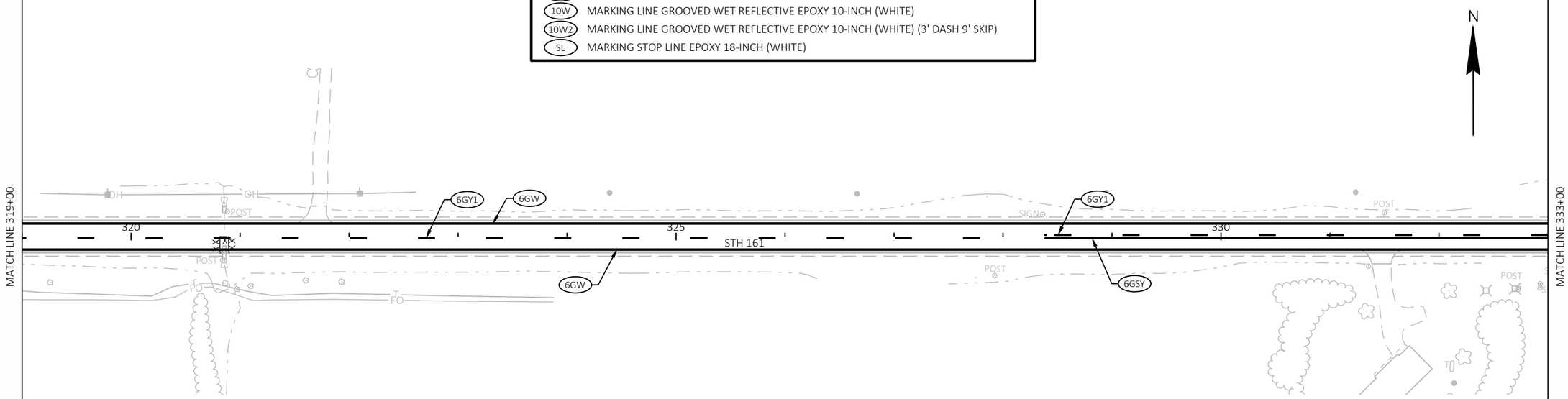
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6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
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6GW1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (WHITE) (12.5' DASH 37.5' SKIP)
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10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)



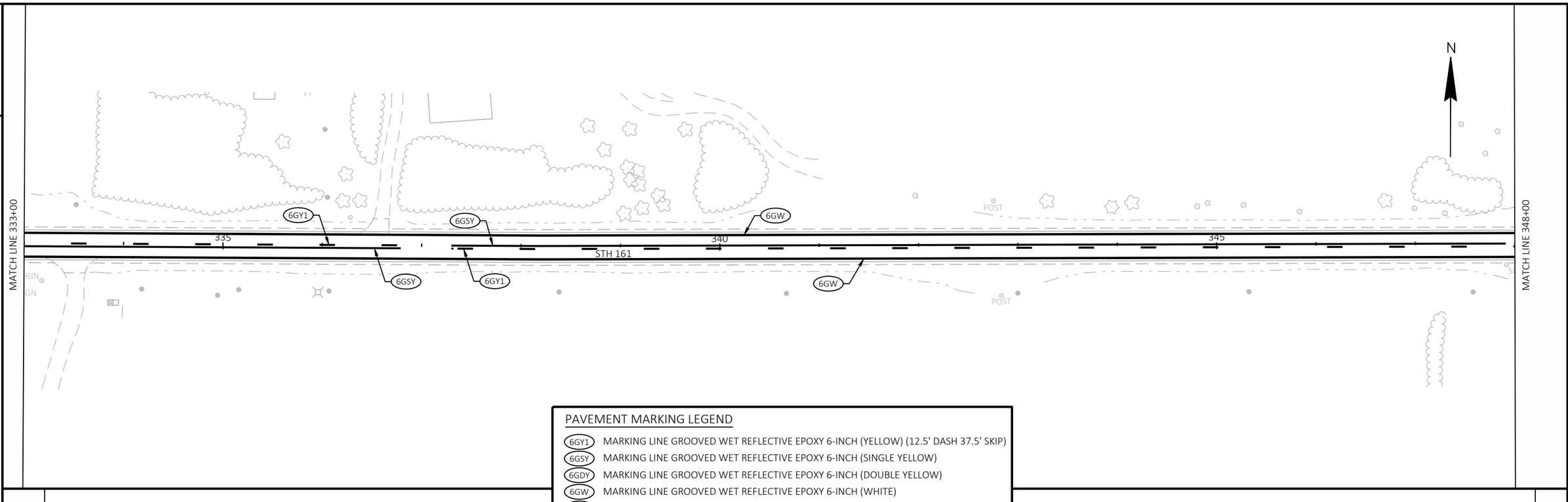


PAVEMENT MARKING LEGEND

- 6GY1 MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
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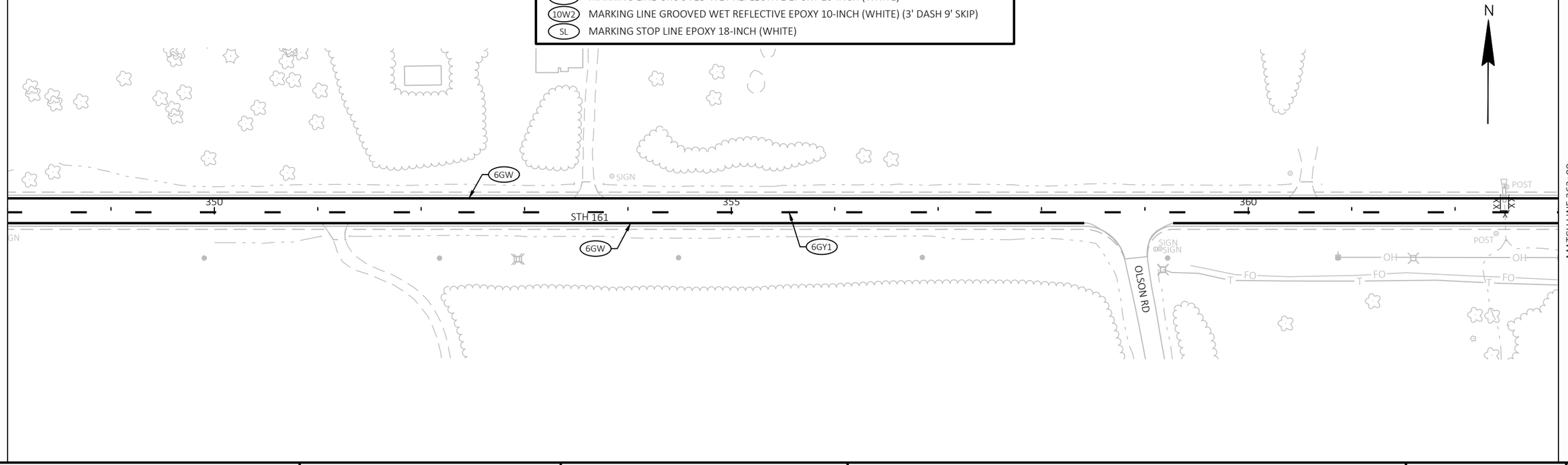


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 27	E



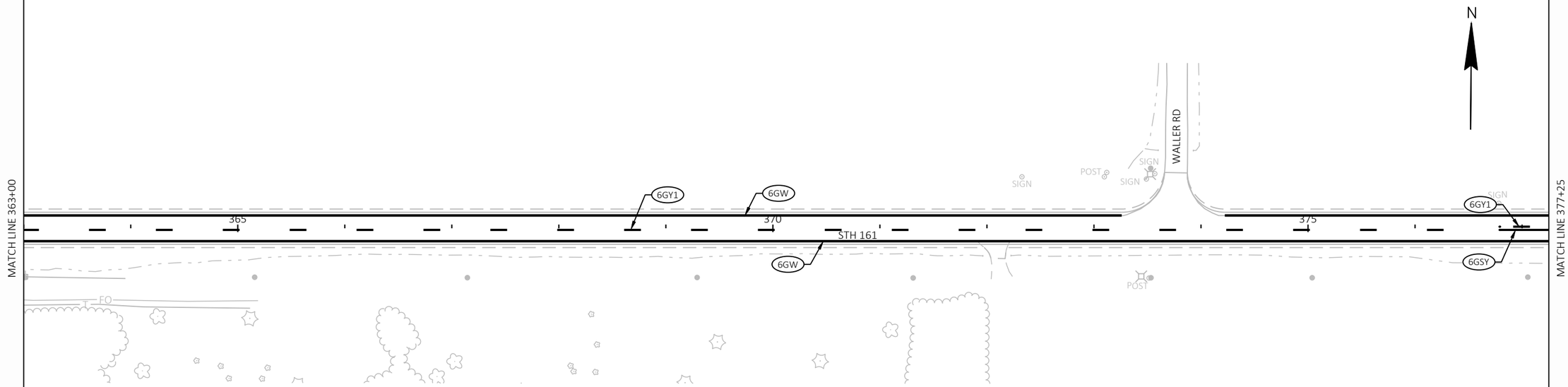
PAVEMENT MARKING LEGEND

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6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
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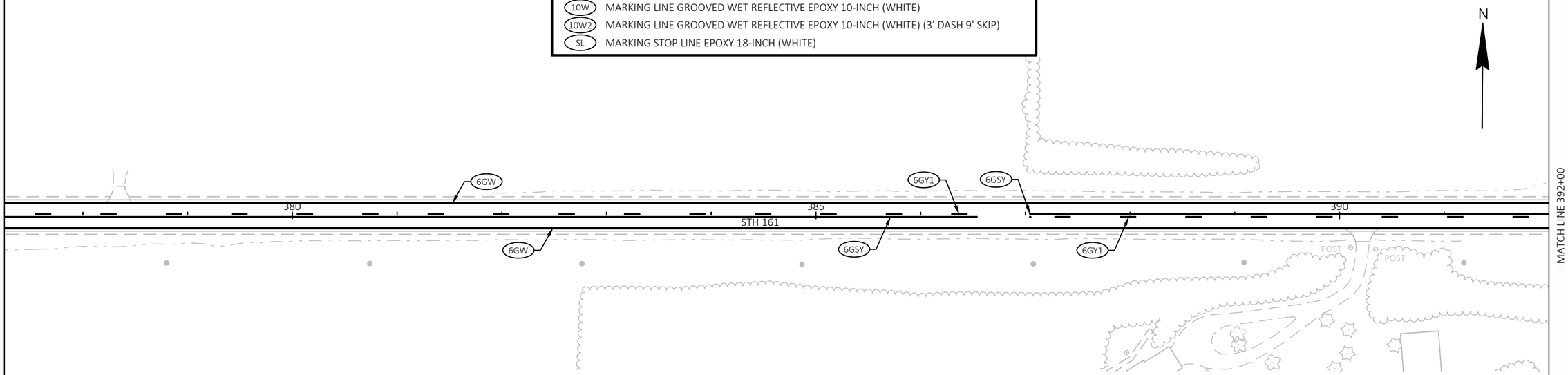
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 28 E

2



PAVEMENT MARKING LEGEND

6GY1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
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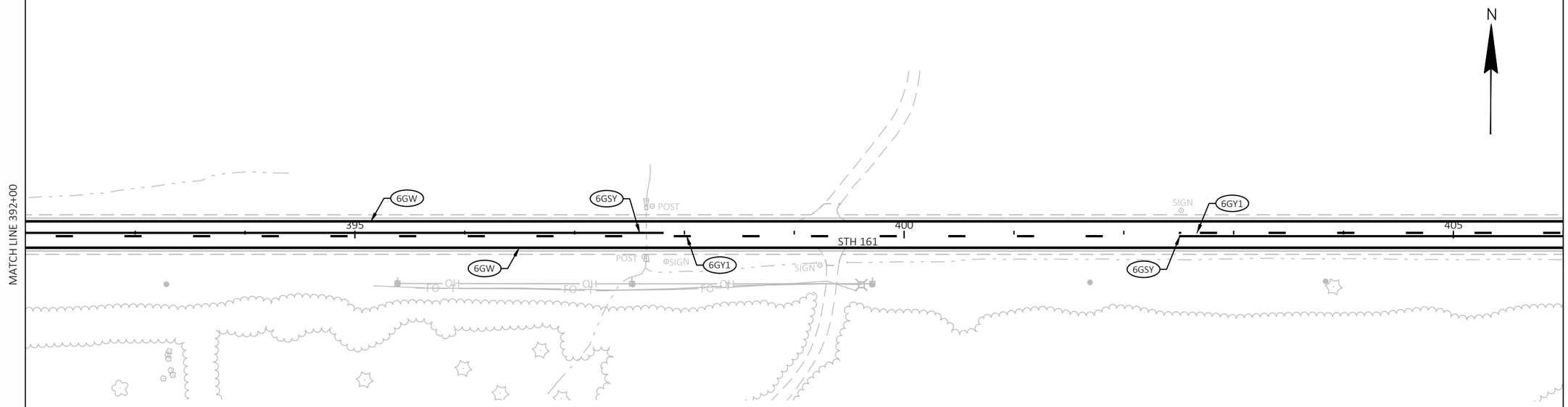


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PAVEMENT MARKING	SHEET 29 E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\024501-PM.DWG
LAYOUT NAME - 13

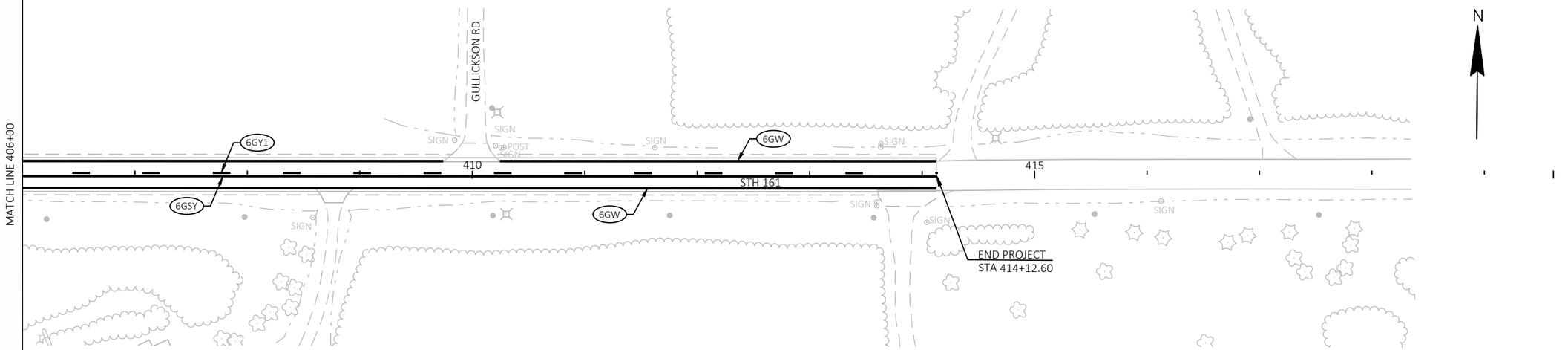
PLOT DATE : 2/18/2026 11:51 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



PAVEMENT MARKING LEGEND

6GY1	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (YELLOW) (12.5' DASH 37.5' SKIP)
6GSY	MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH (SINGLE YELLOW)
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10W2	MARKING LINE GROOVED WET REFLECTIVE EPOXY 10-INCH (WHITE) (3' DASH 9' SKIP)
SL	MARKING STOP LINE EPOXY 18-INCH (WHITE)



GENERAL NOTES:

DRAWING IS NOT TO SCALE.

ALL TRAFFIC CONTROL SIGNS AND DEVICES AND THEIR LOCATION SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD), THE PLANS, STANDARD SPECIFICATIONS, CONTRACT AND APPLICABLE STANDARD DETAIL DRAWINGS.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED IN STANDARD DETAIL DRAWINGS.

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

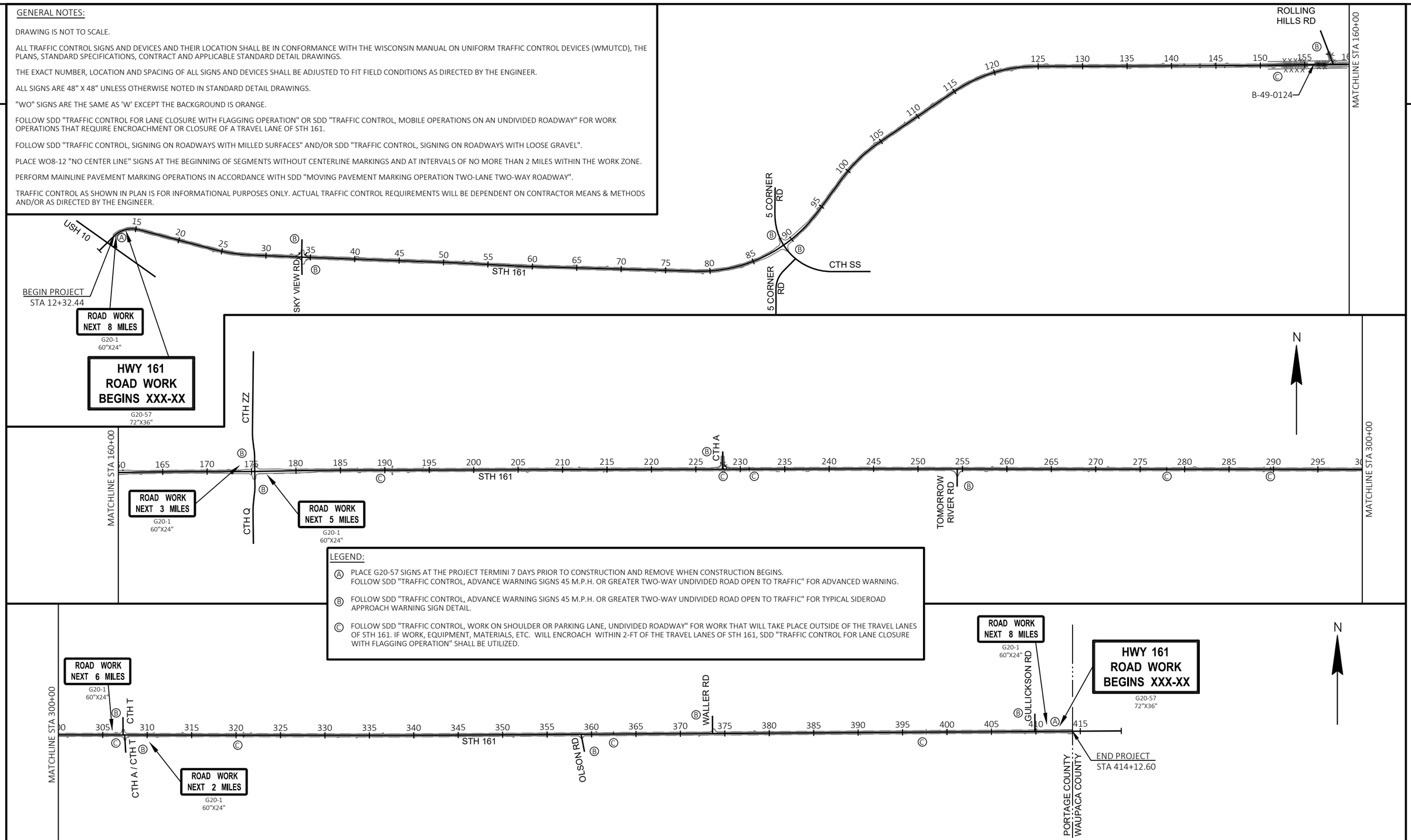
FOLLOW SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" OR SDD "TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY" FOR WORK OPERATIONS THAT REQUIRE ENCROACHMENT OR CLOSURE OF A TRAVEL LANE OF STH 161.

FOLLOW SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES" AND/OR SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL".

PLACE WO8-12 "NO CENTER LINE" SIGNS AT THE BEGINNING OF SEGMENTS WITHOUT CENTERLINE MARKINGS AND AT INTERVALS OF NO MORE THAN 2 MILES WITHIN THE WORK ZONE.

PERFORM MAINLINE PAVEMENT MARKING OPERATIONS IN ACCORDANCE WITH SDD "MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY".

TRAFFIC CONTROL AS SHOWN IN PLAN IS FOR INFORMATIONAL PURPOSES ONLY. ACTUAL TRAFFIC CONTROL REQUIREMENTS WILL BE DEPENDENT ON CONTRACTOR MEANS & METHODS AND/OR AS DIRECTED BY THE ENGINEER.



LEGEND:

Ⓐ PLACE G20-57 SIGNS AT THE PROJECT TERMINI 7 DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS. FOLLOW SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR ADVANCED WARNING.

Ⓑ FOLLOW SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC" FOR TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL.

Ⓒ FOLLOW SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" FOR WORK THAT WILL TAKE PLACE OUTSIDE OF THE TRAVEL LANES OF STH 161. IF WORK, EQUIPMENT, MATERIALS, ETC. WILL ENCROACH WITHIN 2-FT OF THE TRAVEL LANES OF STH 161, SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" SHALL BE UTILIZED.

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	TRAFFIC CONTROL OVERVIEW	SHEET 31	E

Estimate Of Quantities

6260-02-74

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	10.000	10.000
0004	204.0110	Removing Asphaltic Surface	SY	870.000	870.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	948.000	948.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	126,250.000	126,250.000
0010	204.0150	Removing Curb & Gutter	LF	410.000	410.000
0012	204.0165	Removing Guardrail	LF	855.000	855.000
0014	204.0220	Removing Inlets	EACH	2.000	2.000
0016	205.0100	Excavation Common	CY	199.000	199.000
0018	208.0100	Borrow	CY	42.000	42.000
0020	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6260-02-74	EACH	1.000	1.000
0022	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	471.000	471.000
0024	213.0100	Finishing Roadway (project) 01. 6260-02-74	EACH	1.000	1.000
0026	305.0110	Base Aggregate Dense 3/4-Inch	TON	5,211.000	5,211.000
0028	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	165.000	165.000
0030	455.0605	Tack Coat	GAL	10,233.000	10,233.000
0032	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0034	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0036	460.2000	Incentive Density HMA Pavement	DOL	350.000	350.000
0038	460.2005	Incentive Density PWL HMA Pavement	DOL	12,000.000	12,000.000
0040	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	8,040.000	8,040.000
0042	460.2010	Incentive Air Voids HMA Pavement	DOL	12,000.000	12,000.000
0044	460.5224	HMA Pavement 4 LT 58-28 S	TON	16,710.000	16,710.000
0046	465.0105	Asphaltic Surface	TON	1,629.000	1,629.000
0048	465.0110	Asphaltic Surface Patching	TON	14.000	14.000
0050	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	55.000	55.000
0052	465.0315	Asphaltic Flumes	SY	52.000	52.000
0054	465.0560	Asphaltic Rumble Strips, Centerline	LF	36,310.000	36,310.000
0056	520.8000	Concrete Collars for Pipe	EACH	13.000	13.000
0058	520.8700	Cleaning Culvert Pipes	EACH	8.000	8.000
0060	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	14.000	14.000
0062	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	8.000	8.000
0064	522.0148	Culvert Pipe Reinforced Concrete Class III 48-Inch	LF	12.000	12.000
0066	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	4.000	4.000
0068	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	4.000	4.000
0070	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	3.000	3.000
0072	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	2.000	2.000
0074	524.0124	Culvert Pipe Salvaged 24-Inch	LF	30.000	30.000
0076	524.0130	Culvert Pipe Salvaged 30-Inch	LF	28.000	28.000
0078	524.0136	Culvert Pipe Salvaged 36-Inch	LF	32.000	32.000
0080	524.0148	Culvert Pipe Salvaged 48-Inch	LF	8.000	8.000
0082	525.0124	Culvert Pipe Corrugated Aluminum 24-Inch	LF	12.000	12.000
0084	525.0312	Apron Endwalls for Culvert Pipe Aluminum 12-Inch	EACH	2.000	2.000
0086	525.0324	Apron Endwalls for Culvert Pipe Aluminum 24-Inch	EACH	2.000	2.000
0088	530.0112	Culvert Pipe Corrugated Polyethylene 12-Inch	LF	24.000	24.000
0090	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	429.000	429.000
0092	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	206.000	206.000
0094	606.0200	Riprap Medium	CY	4.000	4.000
0096	611.0430	Reconstructing Inlets	EACH	2.000	2.000
0098	611.0654	Inlet Covers Type V	EACH	2.000	2.000

Estimate Of Quantities

6260-02-74

Line	Item	Item Description	Unit	Total	Qty
0100	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0102	611.8115	Adjusting Inlet Covers	EACH	4.000	4.000
0104	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	181.000	181.000
0106	614.2300	MGS Guardrail 3	LF	425.000	425.000
0108	614.2350	MGS Guardrail Short Radius	LF	72.000	72.000
0110	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0112	614.2610	MGS Guardrail Terminal EAT	EACH	3.000	3.000
0114	614.2630	MGS Guardrail Short Radius Terminal	EACH	1.000	1.000
0116	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6260-02-74	EACH	1.000	1.000
0118	619.1000	Mobilization	EACH	1.000	1.000
0120	624.0100	Water	MGAL	57.000	57.000
0122	625.0100	Topsoil	SY	1,727.000	1,727.000
0124	628.1504	Silt Fence	LF	3,603.000	3,603.000
0126	628.1520	Silt Fence Maintenance	LF	3,603.000	3,603.000
0128	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0130	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0132	628.2008	Erosion Mat Urban Class I Type B	SY	1,727.000	1,727.000
0134	628.7005	Inlet Protection Type A	EACH	8.000	8.000
0136	628.7015	Inlet Protection Type C	EACH	8.000	8.000
0138	628.7555	Culvert Pipe Checks	EACH	23.000	23.000
0140	628.7570	Rock Bags	EACH	20.000	20.000
0142	629.0210	Fertilizer Type B	CWT	5.000	5.000
0144	630.0130	Seeding Mixture No. 30	LB	150.000	150.000
0146	630.0200	Seeding Temporary	LB	62.000	62.000
0148	630.0500	Seed Water	MGAL	110.000	110.000
0150	633.5200	Markers Culvert End	EACH	18.000	18.000
0152	638.2102	Moving Signs Type II	EACH	24.000	24.000
0154	638.4000	Moving Small Sign Supports	EACH	24.000	24.000
0156	642.5201	Field Office Type C	EACH	1.000	1.000
0158	643.0300	Traffic Control Drums	DAY	1,200.000	1,200.000
0160	643.0715	Traffic Control Warning Lights Type C	DAY	360.000	360.000
0162	643.0900	Traffic Control Signs	DAY	5,140.000	5,140.000
0164	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0166	643.3165	Temporary Marking Line Paint 6-Inch	LF	44,856.000	44,856.000
0168	643.5000	Traffic Control	EACH	1.000	1.000
0170	645.0120	Geotextile Type HR	SY	91.000	91.000
0172	646.2020	Marking Line Epoxy 6-Inch	LF	290.000	290.000
0174	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	120,380.000	120,380.000
0176	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	1,080.000	1,080.000
0178	646.6120	Marking Stop Line Epoxy 18-Inch	LF	246.000	246.000
0180	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	120,670.000	120,670.000
0182	648.0100	Locating No-Passing Zones	MI	8.000	8.000
0184	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	650.000	650.000
0186	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0188	650.8000	Construction Staking Resurfacing Reference	LF	40,190.000	40,190.000
0190	650.9911	Construction Staking Supplemental Control (project) 01. 6260-02-74	EACH	1.000	1.000
0192	650.9920	Construction Staking Slope Stakes	LF	590.000	590.000
0194	680.0100	Public Land Survey Monument Verify and Reset	EACH	11.000	11.000
0196	690.0150	Sawing Asphalt	LF	1,917.000	1,917.000

Estimate Of Quantities

6260-02-74

Line	Item	Item Description	Unit	Total	Qty
0198	690.0250	Sawing Concrete	LF	84.000	84.000
0200	740.0440	Incentive IRI Ride	DOL	30,440.000	30,440.000
0202	SPV.0035	Special 01. Rounded River Rock	CY	4.000	4.000
0204	SPV.0090	Special 01. Concrete Curb & Gutter 4-Inch Sloped 72-Inch Type TBT	LF	6.000	6.000
0206	SPV.0180	Special 01. Removing Distressed Asphaltic Surface Milling	SY	480.000	480.000
0208	SPV.0180	Special 02. Remove, Salvage, and Reinstall Riprap Heavy	SY	55.000	55.000

EXCAVATION

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	SALVAGED/UNUSABLE MATERIAL CY	AVAILABLE MATERIAL CY	UNEXPANDED FILL CY	EXPANDED FILL (1.3 FACTOR) CY	MASS ORDINATE +/-	WASTE CY	208.0100 BORROW CY	REMARKS
0010	151+50	-	155+28	STH 161, LT	31	**	31	53	69	-38	0	38	GUARDRAIL GRADING
0010	151+50	-	155+28	STH 161, RT	33	**	33	8	11	22	22	0	GUARDRAIL GRADING
0010	156+11	-	158+62	STH 161, RT	32	**	32	1	2	30	30	0	GUARDRAIL GRADING
0010	10+44	-	11+23	ROLLING HILL RD, LT	28	10	18	0	0	18	18	0	ROLLING HILL RD INTERSECTION - NW QUADRANT
0010	227+37	-	227+87	STH 161, LT	17	4	13	10	13	0	0	0	CTH A INTERSECTION - NW QUADRANT
0010	228+17	-	228+72	STH 161,LT	23	4	19	17	23	-4	0	4	CTH A INTERSECTION - NE QUADRANT
0010	306+82	-	307+17	STH 161,LT	9	0	9	0	1	8	8	0	CTH T INTERSECTION - NW QUADRANT
0010	307+42	-	307+87	STH 161,LT	10	0	10	3	4	6	6	0	CTH T INTERSECTION - NE QUADRANT
0010	307+07	-	307+40	STH 161,RT	7	0	7	2	3	4	4	0	CTH T INTERSECTION - SW QUADRANT
0010	307+61	-	307+91	STH 161,RT	9	0	9	5	7	2	2	0	CTH T INTERSECTION - SE QUADRANT
				TOTAL 0010	199	18	181	99	133	48	90	42	

BUTT JOINTS

CATEGORY	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
0010	BEGIN	39	
0010	SKY VIEW RD - NORTH	35	
0010	SKY VIEW RD - SOUTH	34	
0010	STA 56+00	35	4 - INCH OVERLAY AREA
0010	STA 62+00	35	4 - INCH OVERLAY AREA
0010	CTH SS	38	
0010	5 CORNER RD	33	
0010	B-49-0124 WEST APPROACH	33	
0010	B-49-0124 EAST APPROACH	33	
0010	ROLLING HILLS RD	32	
0010	CTH Q	34	
0010	CTH ZZ	35	
0010	CTH A	25	
0010	TOMORROW RIVER RD	25	
0010	CTH T - NORTH	28	
0010	CTH A/T - SOUTH	25	
0010	OLSON RD	24	
0010	WALLER RD	24	
0010	404+90	29	4 - INCH OVERLAY AREA
0010	END PROJECT	29	4 - INCH OVERLAY AREA
0010	DRIVEWAYS	323	WITHIN RAISED PROFILE AREAS
	TOTAL 0010	948	

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	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
0010	12+32	-	58+00	STH 161, SHOULDERS	350	-	4
0010	58+00	-	63+00	STH 161, SHOULDERS	82	-	1
0010	63+00	-	151+50	STH 161, SHOULDERS	658	-	7
0010	151+50	-	154+82	STH 161, LT BG GRADING	50	35	1
0010	151+50	-	158+62	STH 161, RT BG GRADING	74	15	1
0010	158+62	-	187+48	STH 161, SHOULDERS	186	-	2
0010	187+48	-	404+75	STH 161, SHOULDERS	3,618	-	37
0010	404+75	-	414+13	STH 161, SHOULDERS	171	-	2
0010				CTH A	16	44	1
0010				CULVERT REPLACEMENTS	6	71	1
				TOTAL 0010	5,211	165	57

HMA

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	465.0110 ASPHALTIC SURFACE PATCHING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0315 ASPHALTIC FLUMES SY	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED ASPHALTIC SURFACE MILLING) SY	REMARKS
0010	12+32	-	56+00	STH 161	66	15,980	-	1,118	1,789	-	5	-	26	-	
0010	56+00	-	62+00	STH 161	-	1,690	-	234	374	-	-	-	-	167	
0010	62+00	-	152+30	STH 161	19	32,340	-	2,224	3,559	-	3	-	-	-	
0010	152+30	-	155+25	STH 161	284	670	6	91	145	30	-	-	-	-	
0010	156+14	-	158+78	STH 161	345	600	6	82	132	20	-	-	-	-	
0010		-		ROLLING HILL RD	17	620	-	49	79	-	5	-	12	-	
0010	158+78	-	187+48	STH 161	4	12,110	-	812	1,298	-	1	-	-	-	
0010	187+48	-	231+00	STH 161	-	11,610	88	1,014	1,623	290	-	-	-	-	
0010		-		CTH A	-	540	2	45	71	-	-	-	14	-	
0010		231+00		STH 161	-	-	-	-	-	6	-	-	-	-	CULVERT REPLACEMENT
0010	231+00	-	277+98	STH 161	-	13,010	94	1,121	1,794	300	-	-	-	-	
0010		277+98		STH 161	-	-	-	-	-	6	-	-	-	-	CULVERT REPLACEMENT
0010	277+98	-	289+67	STH 161	-	3,130	24	273	437	76	-	-	-	-	
0010		289+67		STH 161, LT	-	-	-	-	-	3	-	-	-	-	CULVERT REPLACEMENT
0010	289+67	-	320+85	STH 161	-	8,720	63	754	1,210	210	-	-	-	-	
0010		320+85		STH 161, RT	-	-	-	-	-	3	-	-	-	-	CULVERT REPLACEMENT
0010	320+85	-	362+48	STH 161	-	11,240	84	980	1,568	271	-	-	-	-	
0010		362+48		STH 161, LT	-	-	-	-	-	3	-	-	-	-	CULVERT REPLACEMENT
0010	362+48	-	404+75	STH 161	-	11,510	85	998	1,600	270	-	-	-	-	
0010	404+75	-	414+13	STH 161	-	2,480	19	438	701	141	-	-	-	313	
0010				STH 161	-	-	-	-	330	-	-	-	-	-	SAFETY EDGE
0010				DRIVEWAYS	135	-	-	-	-	-	-	55	-	-	204.0110 IS FOR DRIVEWAY BUMPOUT REMOVAL
				TOTAL 0010	870	126,250	471	10,233	16,710	1,629	14	55	52	480	

CENTERLINE RUMBLE STRIPS

CATEGORY	STATION	TO	STATION	LOCATION	465.0560 ASPHALTIC RUMBLE STRIPS, CENTERLINE LF
0010	13+50	-	32+10	STH 161	1,860
0010	36+20	-	86+90	STH 161	5,070
0010	91+00	-	155+00	STH 161	6,400
0010	160+25	-	173+30	STH 161	1,310
0010	177+30	-	226+00	STH 161	4,870
0010	230+00	-	252+40	STH 161	2,240
0010	256+40	-	305+30	STH 161	4,890
0010	309+50	-	356+85	STH 161	4,740
0010	360+85	-	371+75	STH 161	1,090
0010	375+75	-	414+13	STH 161	3,840
				TOTAL 0010	36,310

CURB AND GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	SPV.0090.01 SPECIAL (01. CONCRETE CURB & GUTTER 4-INCH SLOPED 72-INCH TYPE TBT) LF
0010				SKY VIEW RD INT NW	57	57	-	-
0010				SKY VIEW RD INT SW	29	29	-	-
0010				SKY VIEW RD INT NE	36	36	-	-
0010				SKY VIEW RD INT SE	47	47	-	-
0010	141+47	-	144+88	STH 161, LT	55	55	-	-
0010	143+24	-	145+98	STH 161, RT	28	28	-	-
0010	155+16	-	155+29	STH 161, LT	13	-	46	3
0010	155+16	-	155+29	STH 161, RT	13	-	46	3
0010				ROLLING HILLS RD INT NW	114	-	114	-
0010	160+44	-	160+62	STH 161, LT	18	18	-	-
0010				CTH A INT NW	-	75	-	-
0010				CTH A INT NE	-	84	-	-
				TOTAL 0010	410	429	206	6

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CULVERT PIPES

CATEGORY	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	520.8000 CONCRETE COLLARS FOR PIPE EACH	520.8700 CLEANING CULVERT PIPES EACH	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	522.0148 CULVERT PIPE REINFORCED CONCRETE CLASS III 48-INCH LF	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH EACH
0010	154+85	STH 161, LT	1	-	-	-	-	-	-	-	-	-
0010	154+85	STH 161, RT	1	-	-	-	-	-	-	-	-	-
0010	190+82	CULVERT 49161005742	1	2	1	-	-	12	-	-	-	2
0010	231+00	CULVERT 49161005744	1	2	1	-	8	-	-	2	-	-
0010	277+98	CULVERT 49161005747	1	2	1	8	-	-	2	-	-	-
0010	289+67	CULVERT 49161005748	1	2	1	6	-	-	2	-	-	-
0010		CTH T	1	-	1	-	-	-	-	-	-	-
0010	320+86	CULVERT 49161005750	1	2	1	-	-	-	-	-	2	-
0010	362+48	CULVERT 49161005751	1	1	1	-	-	-	-	-	1	-
0010	397+65	CULVERT 49161005752	1	2	1	-	-	-	-	2	-	-
		TOTAL 0010	10	13	8	14	8	12	4	4	3	2

CULVERT PIPES CONTINUED

CATEGORY	STATION	LOCATION	524.0124 CULVERT PIPE SALVAGED 24-INCH LF	524.0130 CULVERT PIPE SALVAGED 30-INCH LF	524.0136 CULVERT PIPE SALVAGED 36-INCH LF	524.0148 CULVERT PIPE SALVAGED 48-INCH LF	525.0124 CULVERT PIPE CORRUGATED ALUMINUM 24-INCH LF	525.0312 APRON ENDWALLS FOR CULVERT PIPE ALUMINUM 12-INCH EACH	525.0324 APRON ENDWALLS FOR CULVERT PIPE ALUMINUM 24-INCH EACH	530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH LF	633.5200 MARKERS CULVERT END EACH
0010	154+85	STH 161, LT	-	-	-	-	-	1	-	12	1
0010	154+85	STH 161, RT	-	-	-	-	-	1	-	12	1
0010	190+82	CULVERT 49161005742	-	-	-	8	-	-	-	-	2
0010	231+00	CULVERT 49161005744	-	24	-	-	-	-	-	-	2
0010	277+98	CULVERT 49161005747	16	-	-	-	-	-	-	-	2
0010	289+67	CULVERT 49161005748	14	-	-	-	-	-	-	-	2
0010		CTH T	-	-	-	-	12	-	2	-	2
0010	320+86	CULVERT 49161005750	-	-	18	-	-	-	-	-	2
0010	362+48	CULVERT 49161005751	-	-	14	-	-	-	-	-	2
0010	397+65	CULVERT 49161005752	-	4	-	-	-	-	-	-	2
		TOTAL 0010	30	28	32	8	12	2	2	24	18

STORM SEWER STRUCTURES

CATEGORY	STATION	LOCATION	204.0220 REMOVING INLETS EACH	611.0430 RECONSTRUCTING INLETS EACH	611.0654 INLET COVERS TYPE V EACH	611.3220 INLETS 2X2-FT EACH	611.8115 ADJUSTING INLET COVERS EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH
0010	141+47	STH 161, LT	-	-	-	-	1	1	1
0010	143+25	STH 161, LT	-	-	-	-	1	1	1
0010	143+25	STH 161, RT	-	-	-	-	1	1	1
0010	144+88	STH 161, LT	-	1	-	-	-	1	1
0010	145+98	STH 161, RT	-	1	-	-	-	1	1
0010	154+85	STH 161, LT	-	-	1	1	-	1	1
0010	154+85	STH 161, RT	-	-	1	1	-	1	1
0010	155+20	STH 161, LT	1	-	-	-	-	-	-
0010	155+20	STH 161, RT	1	-	-	-	-	-	-
0010	160+49	STH 161, LT	-	-	-	-	1	1	1
		TOTAL 0010	2	2	2	2	4	8	8

GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH	REMARKS
0010	152+95	-	155+28	STH 161 LT	233	-	137.50	-	40	1	-	
0010	152+95	-	155+28	STH 161 RT	233	-	137.50	-	40	1	-	
0010	156+11	-	157+75	STH 161 LT	268	165	125.00	72	40	-	1	37' RADIUS MEASURED FROM BACK OF RAIL
0010	156+11	-	157+33	STH 161 RT	121	16	25.00	-	40	1	-	
				TOTAL 0010	855	181	425	72	160	3	1	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	REMARKS
0010		-		SKY VIEW RD INT	38	-	-	38	-	-	0.03	1	2	3	CG REPLACEMENT
0010	141+47		145+98	STH 161	19	-	-	19	-	-	0.02	1	1	2	CG REPLACEMENT
0010	151+25	-	155+28	STH 161, LT	352	359	359	352	-	-	0.23	7	10	20	BG GRADING
0010	151+25	-	155+28	STH 161, RT	194	353	353	194	-	-	0.13	4	6	11	BG GRADING
0010	156+11	-	158+62	STH 161, RT	151	276	276	151	-	-	0.10	3	5	9	BG GRADING
0010		-		ROLLING HILLS RD, RT	4	45	45	4	-	-	0.01	1	1	1	BG GRADING
0010	160+43	-	160+62	STH 161, LT	4	-	-	4	-	-	0.01	1	1	1	CG REPLACEMENT
0010		190+82		STH 161	42	162	162	42	-	-	0.03	1	2	3	CULVERT 49161005742
0010		-		CTH A	168	167	167	168	-	-	0.11	4	5	10	NW QUADRANT
0010		-		CTH A	141	159	159	141	-	-	0.09	3	4	8	NE QUADRANT
0010		231+00		STH 161	18	260	260	18	3	-	0.02	1	1	2	CULVERT 49161005744
0010		277+98		STH 161	19	267	267	19	3	-	0.02	1	1	2	CULVERT 49161005747
0010		289+67		STH 161	16	166	166	16	3	-	0.02	1	1	1	CULVERT 49161005748
0010		-		CTH T	31	63	63	31	-	-	0.02	1	1	2	NW QUADRANT
0010		-		CTH T	30	51	51	30	-	-	0.02	1	1	2	SWQUADRANT
0010		-		CTH T	45	76	76	45	-	-	0.03	1	2	3	NE QUADRANT
0010		-		CTH T	48	50	50	48	-	-	0.04	1	2	3	SE QUADRANT
0010		320+86		STH 161	28	216	216	28	3	-	0.02	1	1	2	CULVERT 49161005750
0010		362+48		STH 161	14	140	140	14	3	-	0.01	1	1	1	CULVERT 49161005751
0010		397+65		STH 161	19	72	72	19	3	-	0.02	1	1	2	CULVERT 49161005752
0010	12+34	-	414+13	STH 161, LT	-	-	-	-	-	-	1.41	41	-	-	SHOULDER FORESLOPE SEEDING
0010	12+34	-	414+13	STH 161, RT	-	-	-	-	-	-	1.41	41	-	-	SHOULDER FORESLOPE SEEDING
0010				UNDISTRIBUTED	346	721	721	346	5	20	1.20	32	13	22	ROCK BAGS FOR SILT FENCE RELIEF
				TOTAL 0010	1,727	3,603	3,603	1,727	23	20	5	150	62	110	

EROSION CONTROL MOBILIZATION

CATEGORY	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010		3	3
	TOTAL 0010	3	3

3

RIPRAP

CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	SPV.0035.01 SPECIAL (01. ROUNDED RIVER ROCK) CY	SPV.0180.02 SPECIAL (02. REMOVE, SALVAGE, AND REINSTALL RIPRAP HEAVY) SY
0010	154+85	RT	2	9	-	-
0010	154+85	LT	2	9	-	-
0010	155+20	RT	-	23	-	23
0010	155+20	LT	-	32	-	32
0010	190+82	RT	-	9	2	-
0010	190+83	LT	-	9	2	-
		TOTAL 0010	4	91	4	55

MOVING SIGNS

CATEGORY	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010		STH 161, RT	1	1	TOMORROW RIVER
0010		ROLLING HILLS RD, NW QUADRANT	1	1	STOP SIGN
0010		CTH A, NW QUDRANT	1	1	STOP SIGN
0010		CTH A, NW QUDRANT	1	1	CTH A [LA]/HWY 161 [LR]
0010		CTH A, NE QUADRANT	1	1	CTH A [LA]
0010	231+25	STH 161, LT	1	1	SUNSET COUNTY PARK
0010		CTH T, NE QUADRANT	1	1	STOP SIGN
0010		CTH T, NE QUADRANT	1	1	CTH A [RA]/HWY 161 [LR]
0010		CTH T, NE QUADRANT	1	1	CTH T [UA]
0010		CTH T, SE QUADRANT	1	1	STOP SIGN
0010		CTH T, SE QUADRANT	1	1	CTH A [LA]/HWY 161 [LR]
0010		CTH T, SE QUADRANT	1	1	CTH T [UA]
0010		UNDISTRIBUTED	12	12	NO PASSING SIGNS
		TOTAL 0010	24	24	

TEMPORARY MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF
0010	12+32	-	414+13	STH 161	41,780
0010	12+32	-	414+13	STH 161	3,076
				TOTAL 0010	44,856

TRAFFIC CONTROL

CATEGORY	LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	REMARKS
0010	BOP	-	-	650	18	
0010	EOP	-	-	650	18	
0010	BOP, EOP, SIDE ROADS	-	-	2,340	-	18 SIGNS @ 130 DAYS
0010	PROJECT	1,200	360	1,500	-	DRUMS/LIGHTS @ 60, SIGNS @30 DAYS
	TOTAL 0010	1,200	360	5,140	36	

PAVEMENT MARKINGS

CATEGORY	LOCATION	646.2020 MARKING LINE EPOXY 6-INCH YELLOW LF	646.2020 MARKING LINE EPOXY 6-INCH WHITE LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH YELLOW LF	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH WHITE LF	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.6466 COLD WEATHER MARKING EPOXY 6-INCH LF	648.0100 LOCATING NO-PASSING ZONES MI	REMARKS
0010	PROJECT	89	178	33,780	78,560	1,004	246	112,607	8	SOLID
0010	PROJECT	-	-	-	-	76	-	-	-	3' DASH 9' SKIP
0010	PROJECT	23	-	8,000	40	-	-	8,063	-	12.5' DASH 37.5 SKIP
	SUBTOTAL 0010	112	178	41,780	78,600					
	TOTAL 0010	290		120,380		1,080	246	120,670	8	

3

STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 6260-02-74) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	680.0100 PUBLIC LAND REFERENCE MONUMENT VERIFY AND RESET EACH
0010	12+32	-	414+13		-	-	40,190	1	-	-
0010		154+80		LT, RT	-	2	-	-	-	-
0010	152+99	-	157+28		-	-	-	-	590	-
0010		-		PROJECT	650	-	-	-	-	-
0010		34+00		STH 161 LT	-	-	-	-	-	1
0010		175+00		STH 161 LT	-	-	-	-	-	1
0010		201+70		STH 161 RT	-	-	-	-	-	1
0010		228+00		STH 161 LT	-	-	-	-	-	1
0010		254+40		STH 161 RT	-	-	-	-	-	1
0010		280+90		STH 161 RT	-	-	-	-	-	1
0010		307+20		STH 161 LT	-	-	-	-	-	1
0010		334+00		STH 161 LT	-	-	-	-	-	1
0010		360+20		STH 161 LT	-	-	-	-	-	1
0010		386+00		STH 161 LT	-	-	-	-	-	1
0010		413+60		STH 161 RT	-	-	-	-	-	1
				TOTAL 0010	650	2	40,190	1	590	11

SAWCUT

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	REMARKS
0010	33+33	-	34+96	STH 161	201	12	SKY VIEW RD INT CG
0010	141+35	-	146+05	STH 161	103	30	CG REPLACEMENT FOR INLET ADJUSTMENTS
0010	152+30	-	155+29	STH 161, RT	286	18	BG SHOULDER PAVEMENT
0010	152+30	-	155+29	STH 161, LT	286	18	BG SHOULDER PAVEMENT
0010	156+14	-	157+59	STH 161, RT	155	-	BG SHOULDER PAVEMENT
0010	156+14	-	157+85	STH 161, LT	265	-	BG SHOULDER PAVEMENT
0010	160+44	-	160+62	STH 161, LT	22	6	CG REPLACEMENT FOR INLET ADJUSTMENTS
0010	227+35	-	227+89	STH 161, LT	91	-	CTH A NW
0010	228+11	-	228+74	STH 161, LT	103	-	CTH A NE
0010		231+00		CULVERT 49161005744	56	-	
0010		277+98		CULVERT 49161005747	57	-	
0010		289+67		CULVERT 49161005748	33	-	
0010		320+86		CULVERT 49161005750	32	-	
0010		362+48		CULVERT 49161005751	32	-	
0010	12+32	-	187+48	STH 161	195	-	DRIVEWAY BUMPOUTS
				TOTAL 0010	1,917	84	

PWL TABLE

Location	Station	Mixture Use	Underlying Surface	Bid Item	Tons	Thickness	Quality Management Program to be used for: Mixture Acceptance	Quality Management Program to be used for: Density Acceptance
12-Ft Driving Lanes - STH 161	12+32 - 56+00 62+00 - 404+75	Upper Layer	Milled Existing HMA Surface	4 LT 58-28 S	11,541	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12-Ft Driving Lanes - STH 161	56+00 - 62+00 404+75 - 414+13	Upper Layer	4 LT 58-28 S	4 LT 58-28 S	459	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12-Ft Driving Lanes - STH 161	56+00 - 62+00 404+75 - 414+13	Lower Layer	Milled Existing HMA Surface	4 LT 58-28 S	459	2"	(SS 460)	Incentive Density HMA Pavement 460.2000
Shoulders, Bypass Lane, Turn Lane, & Side Roads - STH 161	12+32 - 414+13	Upper Layer	Milled Existing HMA Surface	4LT 58-28 S	4,710	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Department Acceptance (SS 460.3.3.2) *Not eligible for incentive
Shoulders - STH 161	152+97 - 414+13	Lower Layer	Base Aggregate	Asphaltic Surface	1,608	1.75"	(SS 465)	Ordinary Compaction (SS 450.3.2.6.2)
Project - Culvert Patches	12+32 - 414+13	Lower Layer	Base Aggregate	Asphaltic Surface	21	Varies	(SS 465)	Ordinary Compaction (SS 450.3.2.6.2)
Project	12+32 - 414+13	Patching	Base Aggregate	Asphaltic Surface Patching	14	Varies	(SS 465)	Ordinary Compaction (SS 450.3.2.6.2)
Project	12+32 - 414+13	Driveways	Base Aggregate	Asphaltic Surface Driveways	55	3"	(SS 465)	Ordinary Compaction (SS 450.3.2.6.2)

BEGIN PROJECT
STA 12+32.44
MATCH EXISTING
BUTT JOINT REQ'D
Y = 194005.408
X = 217945.736

PC: 12+32.44

PT: 15+28.79

STH 161

STH 161 R/L

N45°24'08"E

BP: 10+00.00

USH 10

USH 10

PI STA = 13+95.42
Y = 194119.836
X = 218061.782
DELTA = 59°16'11" RT
D = 20°00'00"
T = 162.97'
L = 296.35'
R = 286.48'
PC STA = 12+32.44
PT STA = 15+28.79
MATCH EXIST SE

S75°19'40"E

EXISTING R/W (TYP)

PC: 24+19.35

MATCHLINE STA 25+00

507

STA 24+06 RT
FE AGG

N

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
507	24+92.74	23.32 RT	193813.004	219147.265	1129.94	CP 507 3/4" REBAR W/ BLUE CAP

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
508	27+48.71	24.38 LT	193821.684	219407.213	1129.10	CP 508 3/4" REBAR W/ BLUE CAP

MATCHLINE STA 25+00

PT: 28+32.31

508

S87°43'00"E

STH 161

STH 161 R/L

PI STA = 26+26.63
Y = 193800.488
X = 219281.484
DELTA = 12°23'19" LT
D = 3°00'00"
T = 207.29'
L = 412.96'
R = 1909.86'
PC STA = 24+19.35
PT STA = 28+32.31
MATCH EXIST SE

REMOVING ASPHALTIC SURFACE
ASPHALT FLUME

STA 32+88 LT
FE AGG

SI (TYP)

SKY VIEW RD

PI: 34+11.59

BUTT JOINT REQ'D

EXISTING R/W (TYP)

CONCRETE C&G 6-INCH SLOPED 36-INCH TYPE D (TYP)

S87°52'08"E

MATCHLINE STA 39+25

STA 9+07 RT
FE AGG

REESTABLISH SECTION
CORNER MONUMENT

T 23 N
R 9 E
1

N

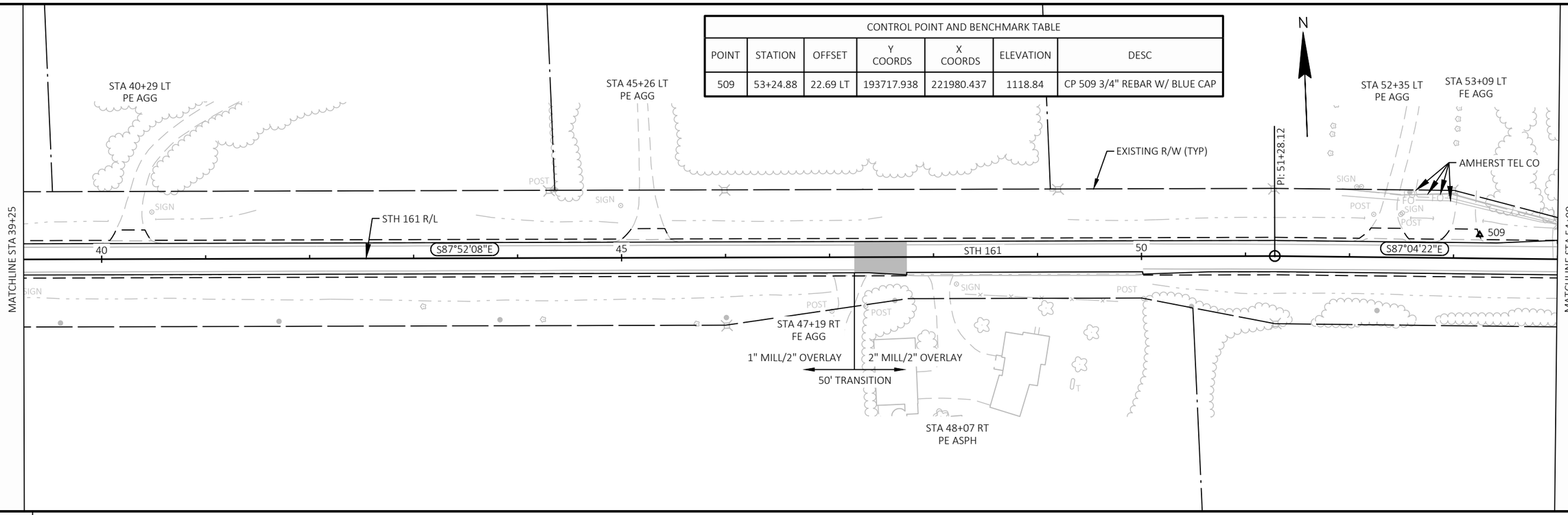
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LAYOUT NAME - 01

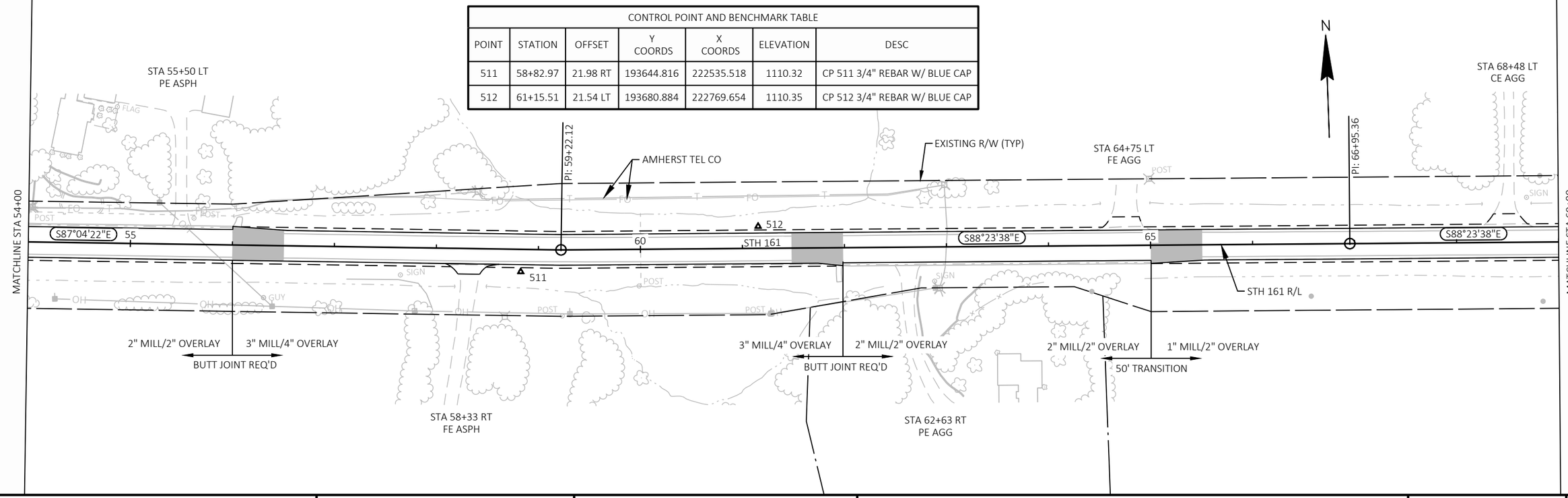
PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
509	53+24.88	22.69 LT	193717.938	221980.437	1118.84	CP 509 3/4" REBAR W/ BLUE CAP



CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
511	58+82.97	21.98 RT	193644.816	222535.518	1110.32	CP 511 3/4" REBAR W/ BLUE CAP
512	61+15.51	21.54 LT	193680.884	222769.654	1110.35	CP 512 3/4" REBAR W/ BLUE CAP



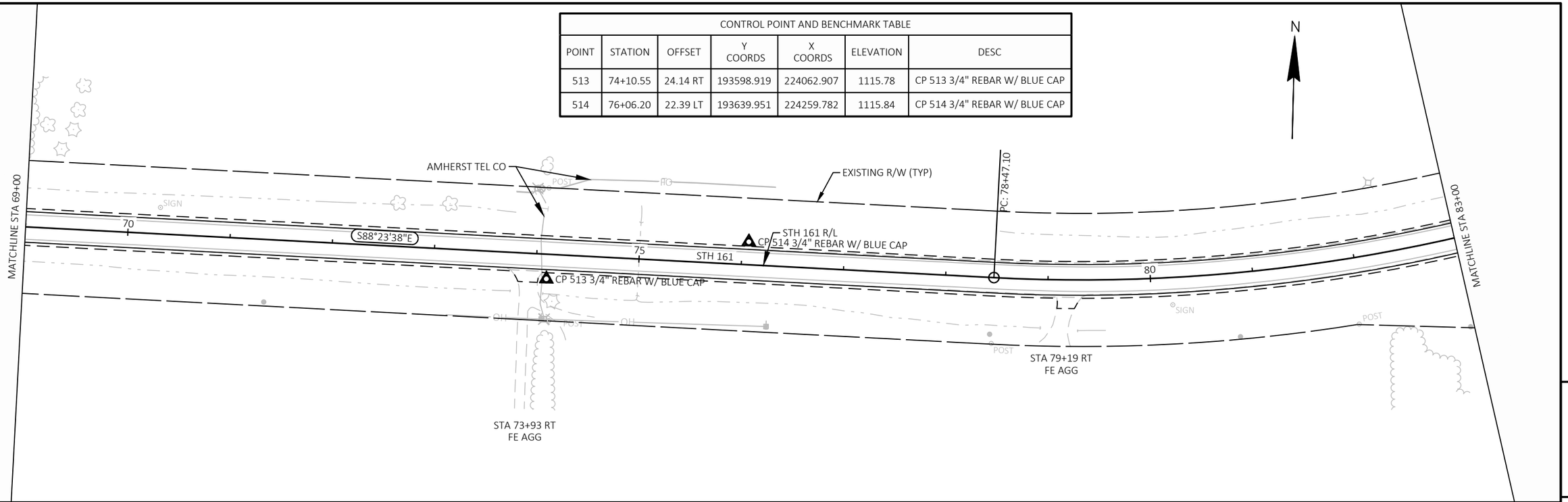
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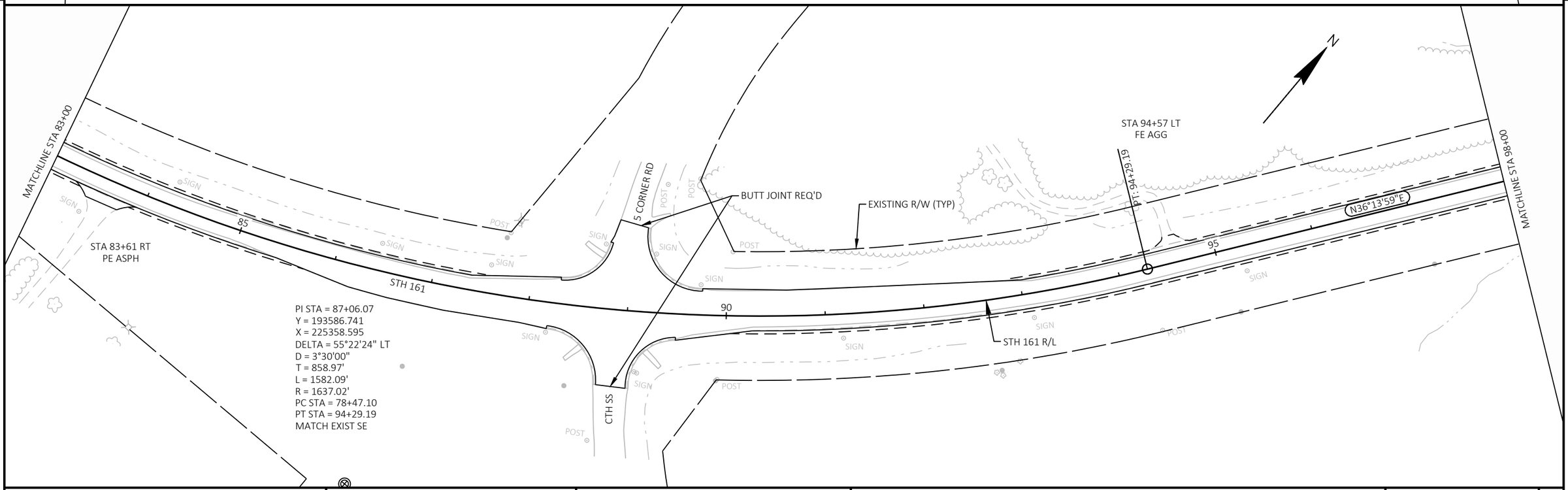
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LAYOUT NAME - 02

PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
513	74+10.55	24.14 RT	193598.919	224062.907	1115.78	CP 513 3/4" REBAR W/ BLUE CAP
514	76+06.20	22.39 LT	193639.951	224259.782	1115.84	CP 514 3/4" REBAR W/ BLUE CAP





PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 44	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\050201-PN.DWG
LAYOUT NAME - 03

PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

PI STA = 101+93.37
Y = 194896.003
X = 226317.987
DELTA = 19°30'38" RT
D = 3°30'00"
T = 281.45'
L = 557.44'
R = 1637.02'
PC STA = 99+11.92
PT STA = 104+69.37
MATCH EXIST SE

STA 104+32 LT
FE AGG

PT: 104+69.37

EXISTING R/W (TYP)

STA 108+51 LT
FE AGG

STA 112+14 LT
PE ASPH

PC: 99+11.92

SIGN

100

STH 161

105

STH 161 R/L

N36°13'59"E

N55°44'37"E

110

POST

STA 104+36 RT
FE AGG

SIGN

POST
POST

STA 109+61 RT
PE AGG

SIGN

MATCHLINE STA 98+00

MATCHLINE STA 113+00

5

5

N

STA 120+96 LT
FE AGG

EXISTING R/W (TYP)

PC: 114+95.60

STH 161

120

PT: 124+68.79

STA 125+90 LT
FE AGG

115

STH 161 R/L

125

N55°44'37"E

N89°48'19"E

PI STA = 119+97.06
Y = 195914.361
X = 227813.283
DELTA = 34°03'42" RT
D = 3°30'00"
T = 501.45'
L = 973.19'
R = 1637.02'
PC STA = 114+95.60
PT STA = 124+68.79
MATCH EXIST SE

STA 121+98 RT
FE AGG

MATCHLINE STA 113+00

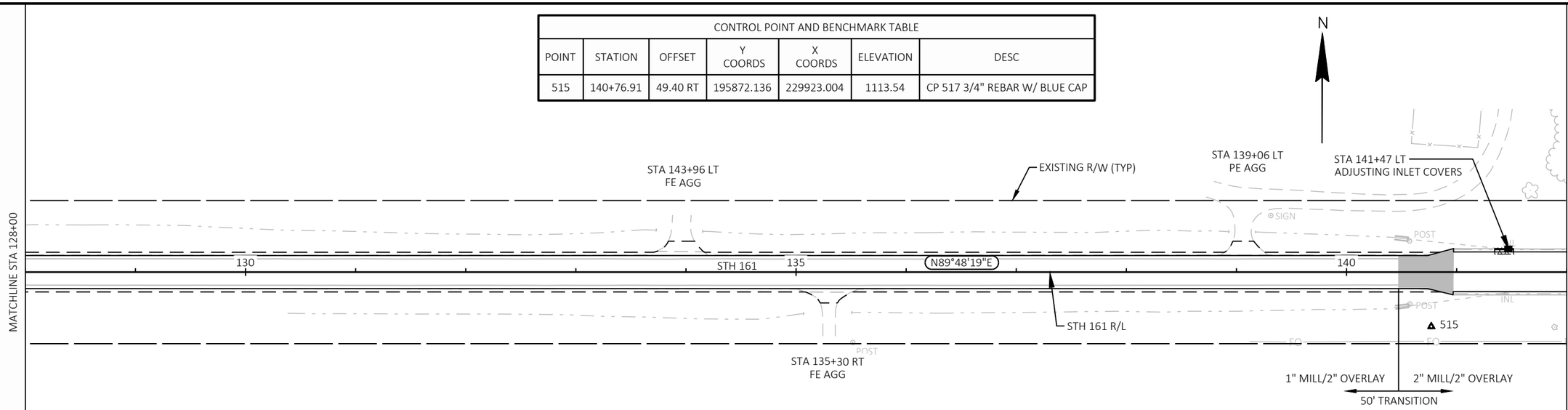
MATCHLINE STA 128+00

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 45	E

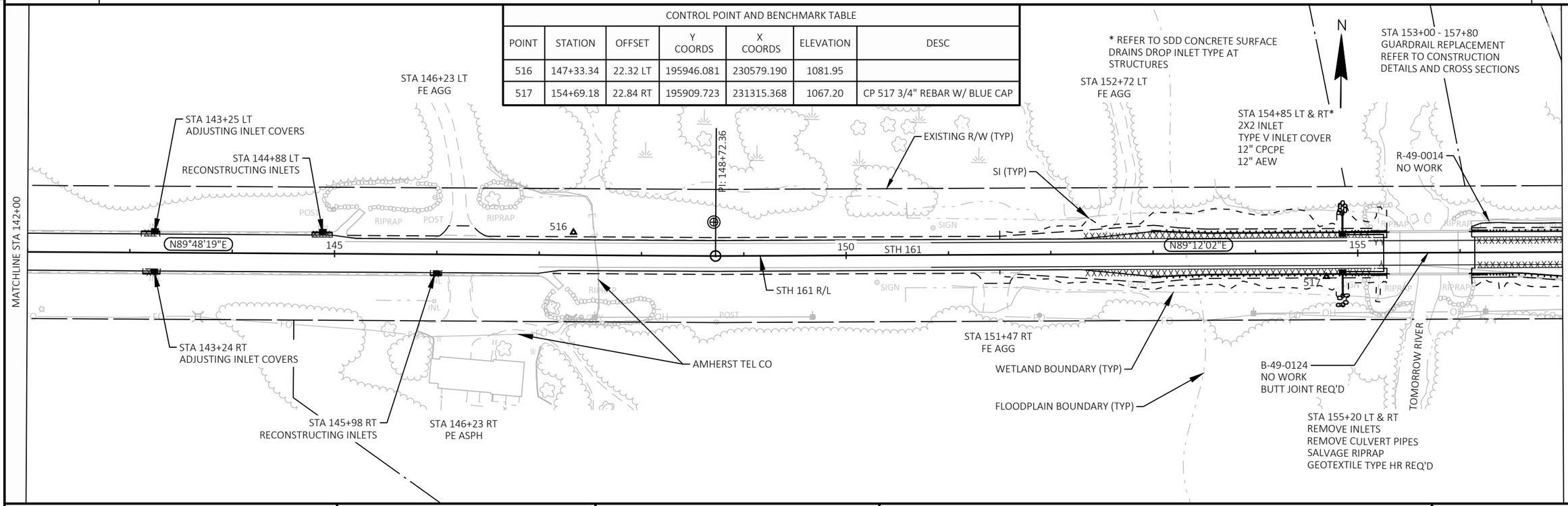
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LAYOUT NAME - 04

PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
515	140+76.91	49.40 RT	195872.136	229923.004	1113.54	CP 517 3/4" REBAR W/ BLUE CAP



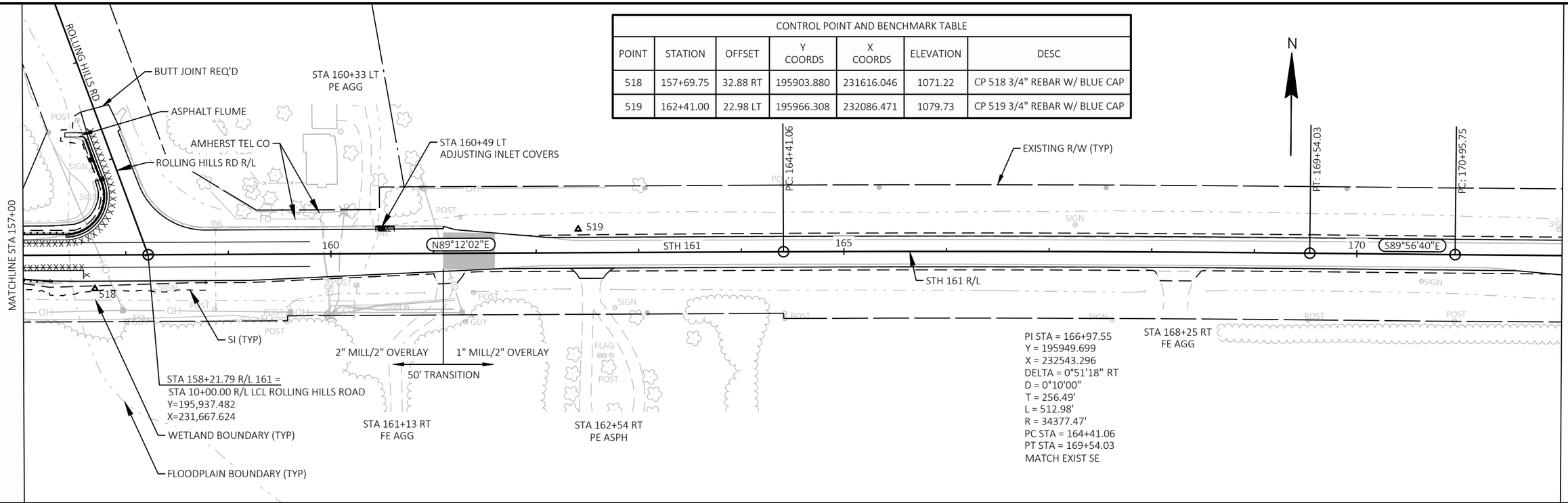
CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
516	147+33.34	22.32 LT	195946.081	230579.190	1081.95	
517	154+69.18	22.84 RT	195909.723	231315.368	1067.20	CP 517 3/4" REBAR W/ BLUE CAP



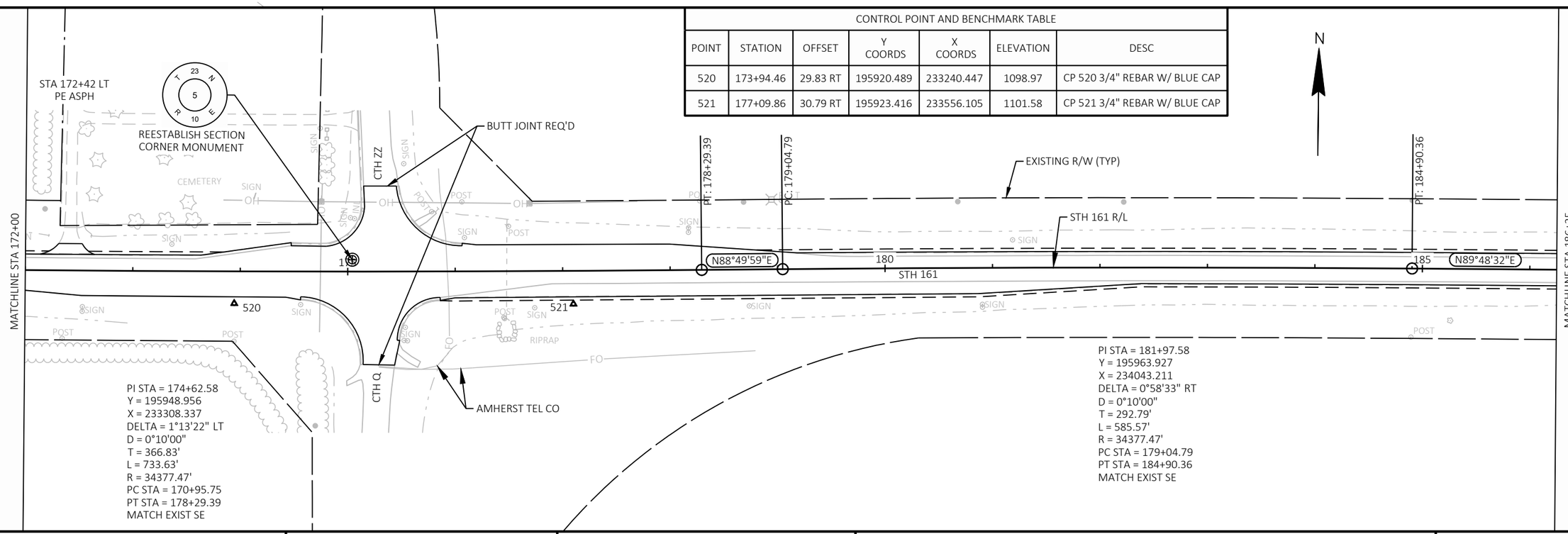
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LAYOUT NAME - 05
PLOT DATE : 2/18/2026 11:53 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
518	157+69.75	32.88 RT	195903.880	231616.046	1071.22	CP 518 3/4" REBAR W/ BLUE CAP
519	162+41.00	22.98 LT	195966.308	232086.471	1079.73	CP 519 3/4" REBAR W/ BLUE CAP



CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
520	173+94.46	29.83 RT	195920.489	233240.447	1098.97	CP 520 3/4" REBAR W/ BLUE CAP
521	177+09.86	30.79 RT	195923.416	233556.105	1101.58	CP 521 3/4" REBAR W/ BLUE CAP



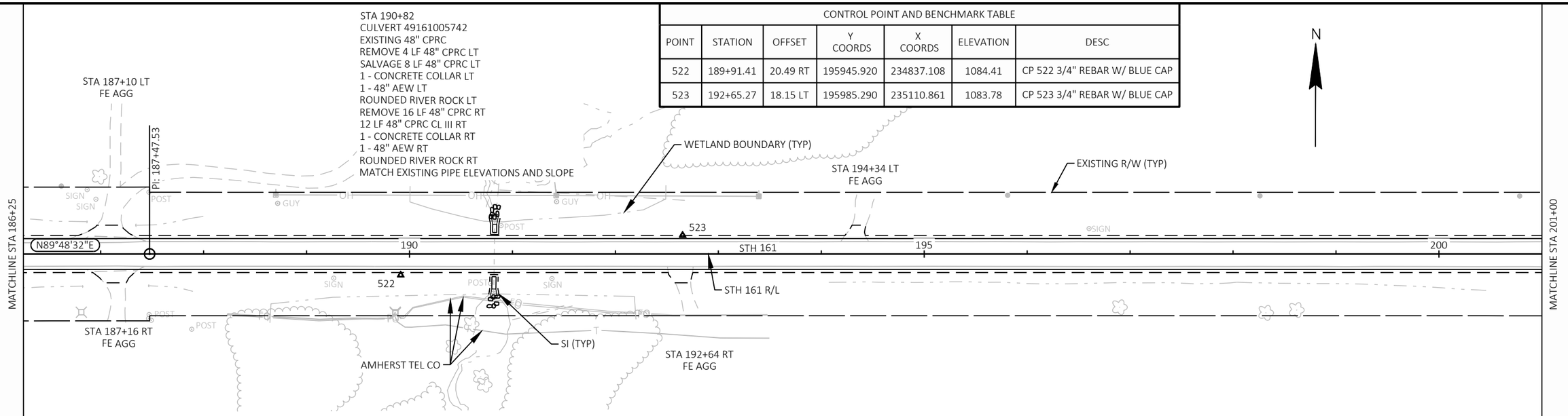
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LAYOUT NAME - 06

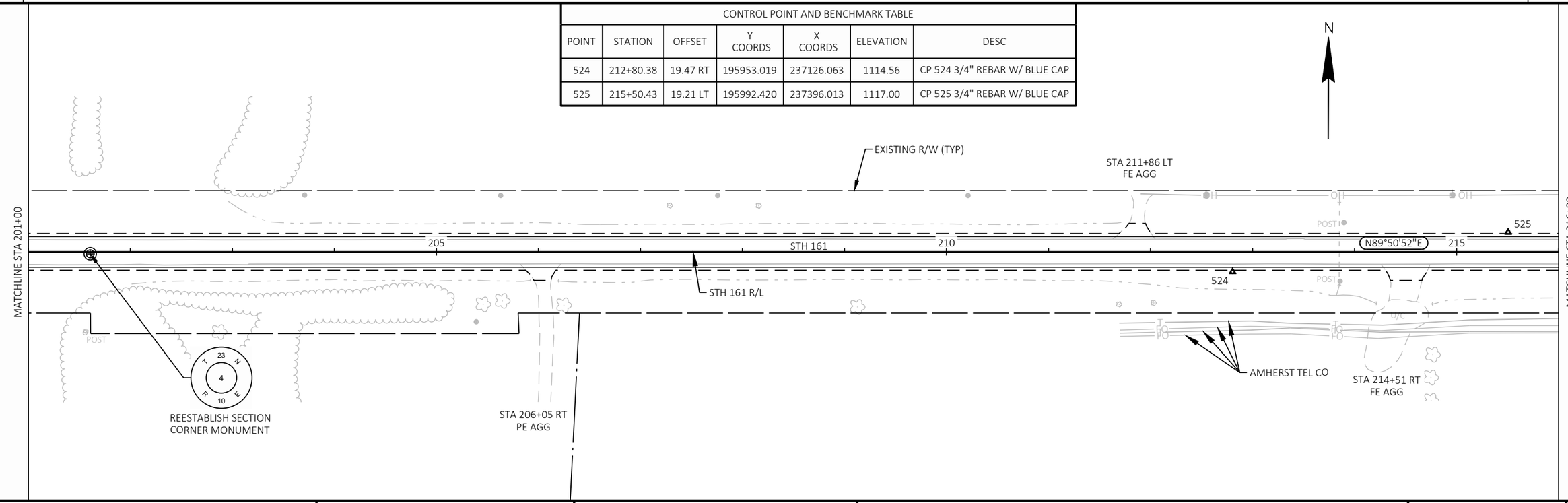
PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
522	189+91.41	20.49 RT	195945.920	234837.108	1084.41	CP 522 3/4" REBAR W/ BLUE CAP
523	192+65.27	18.15 LT	195985.290	235110.861	1083.78	CP 523 3/4" REBAR W/ BLUE CAP



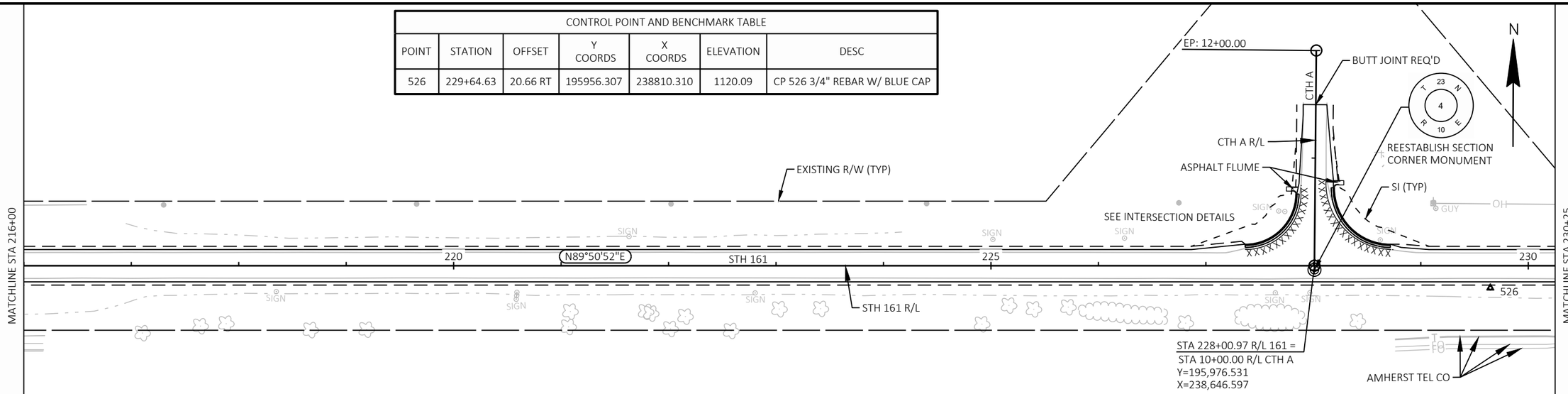
CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
524	212+80.38	19.47 RT	195953.019	237126.063	1114.56	CP 524 3/4" REBAR W/ BLUE CAP
525	215+50.43	19.21 LT	195992.420	237396.013	1117.00	CP 525 3/4" REBAR W/ BLUE CAP



PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 48	E

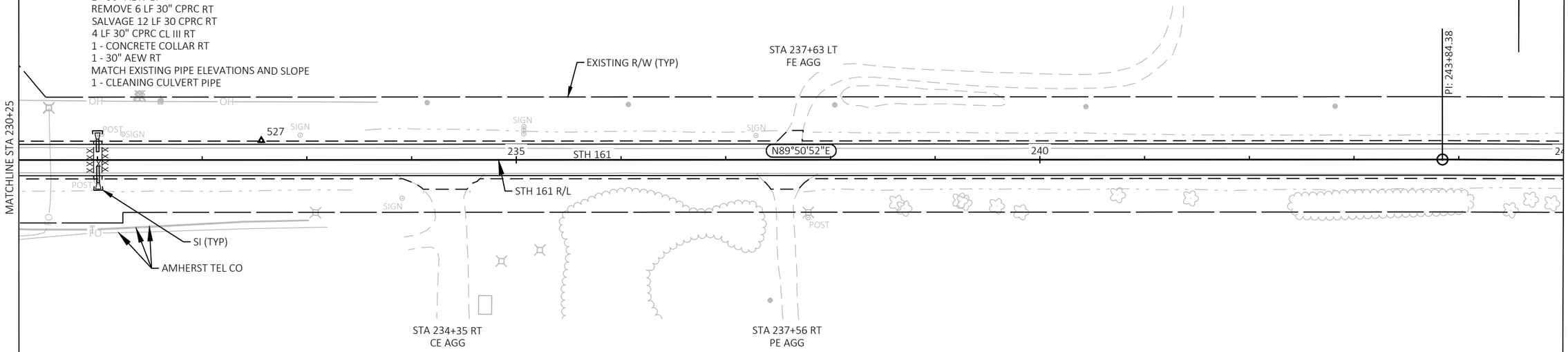
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LAYOUT NAME - 07
PLOT DATE : 2/18/2026 11:53 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
526	229+64.63	20.66 RT	195956.307	238810.310	1120.09	CP 526 3/4" REBAR W/ BLUE CAP



STA 231+00
CULVERT 49161005744
EXISTING 30" CPRC
REMOVE 6 LF 30" CPRC LT
SALVAGE 12 LF 30" CPRC LT
4 LF 30" CPRC CL III LT
1 - CONCRETE COLLAR LT
1 - 30" AEW LT
REMOVE 6 LF 30" CPRC RT
SALVAGE 12 LF 30 CPRC RT
4 LF 30" CPRC CL III RT
1 - CONCRETE COLLAR RT
1 - 30" AEW RT
MATCH EXISTING PIPE ELEVATIONS AND SLOPE
1 - CLEANING CULVERT PIPE

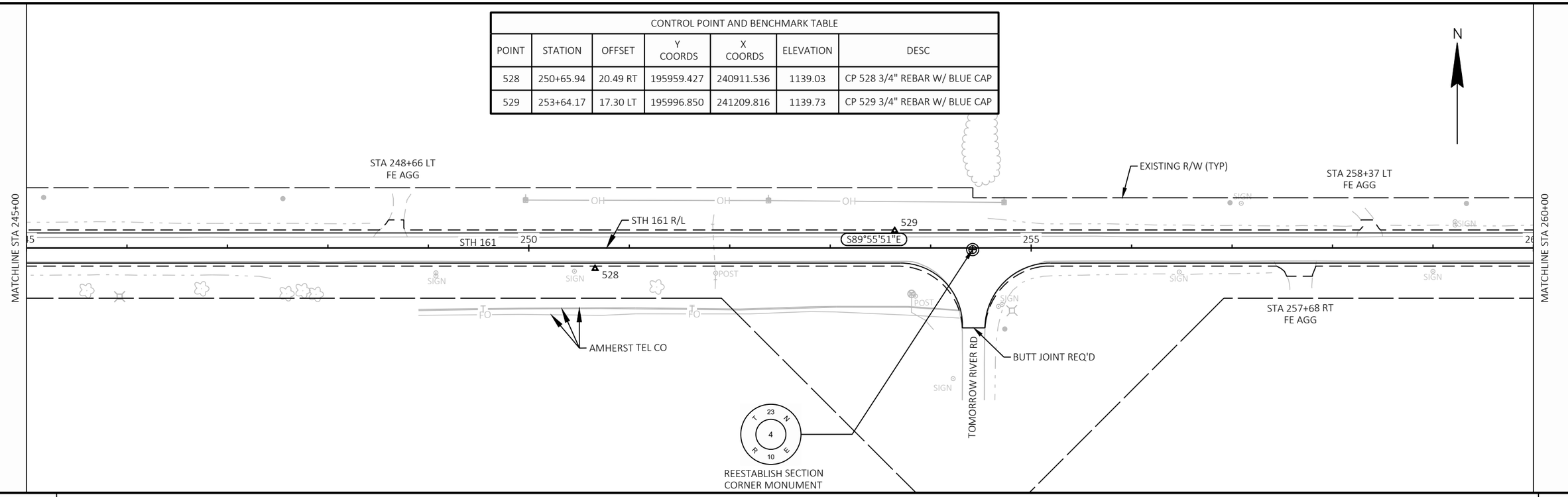
CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
527	232+56.45	18.62 LT	195996.357	239102.028	1120.93	CP 527 3/4" REBAR W/ BLUE CAP



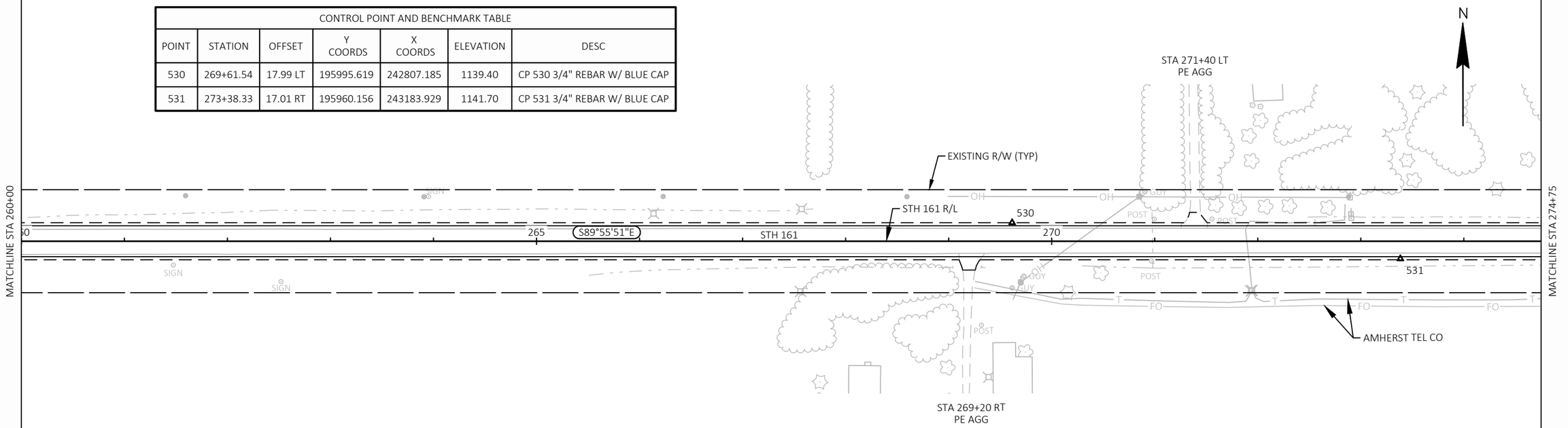
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 49	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\050201-PN.DWG
LAYOUT NAME - 08
PLOT DATE : 2/18/2026 11:53 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
528	250+65.94	20.49 RT	195959.427	240911.536	1139.03	CP 528 3/4" REBAR W/ BLUE CAP
529	253+64.17	17.30 LT	195996.850	241209.816	1139.73	CP 529 3/4" REBAR W/ BLUE CAP



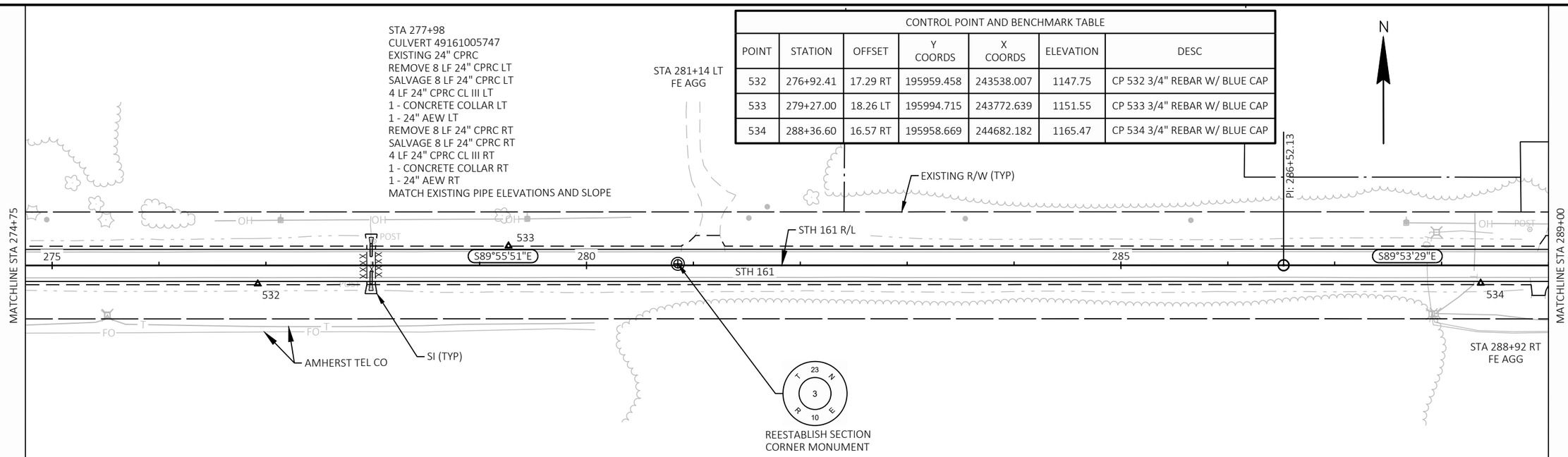
CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
530	269+61.54	17.99 LT	195995.619	242807.185	1139.40	CP 530 3/4" REBAR W/ BLUE CAP
531	273+38.33	17.01 RT	195960.156	243183.929	1141.70	CP 531 3/4" REBAR W/ BLUE CAP



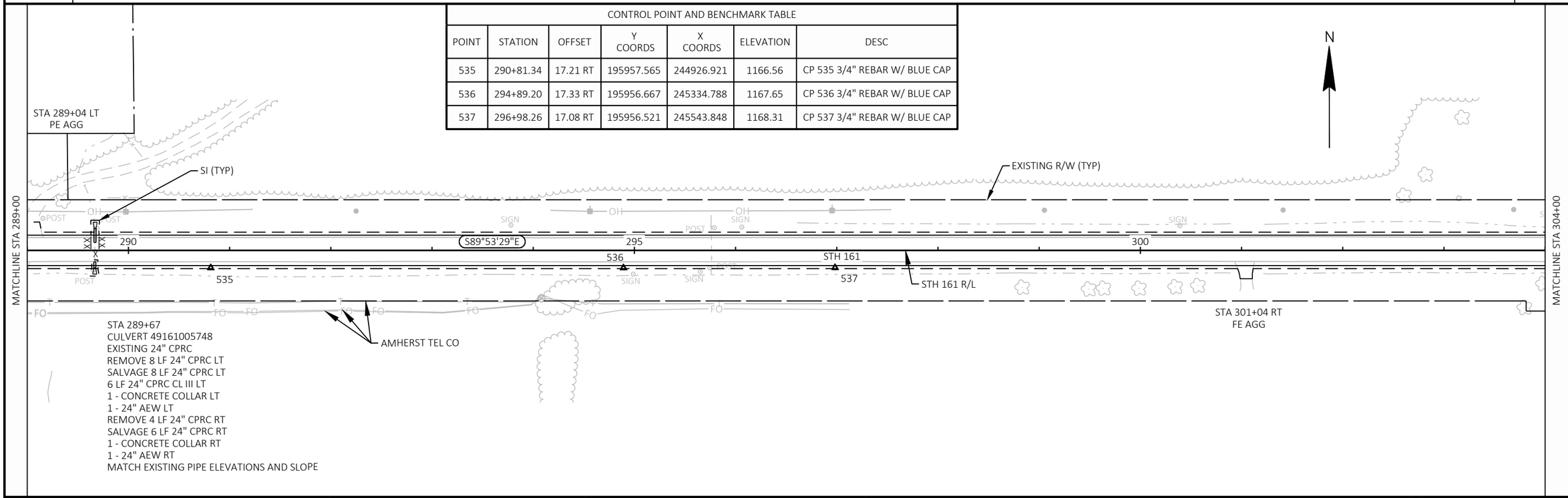
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 50	E

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LAYOUT NAME - 09
PLOT DATE : 2/18/2026 11:53 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
532	276+92.41	17.29 RT	195959.458	243538.007	1147.75	CP 532 3/4" REBAR W/ BLUE CAP
533	279+27.00	18.26 LT	195994.715	243772.639	1151.55	CP 533 3/4" REBAR W/ BLUE CAP
534	288+36.60	16.57 RT	195958.669	244682.182	1165.47	CP 534 3/4" REBAR W/ BLUE CAP

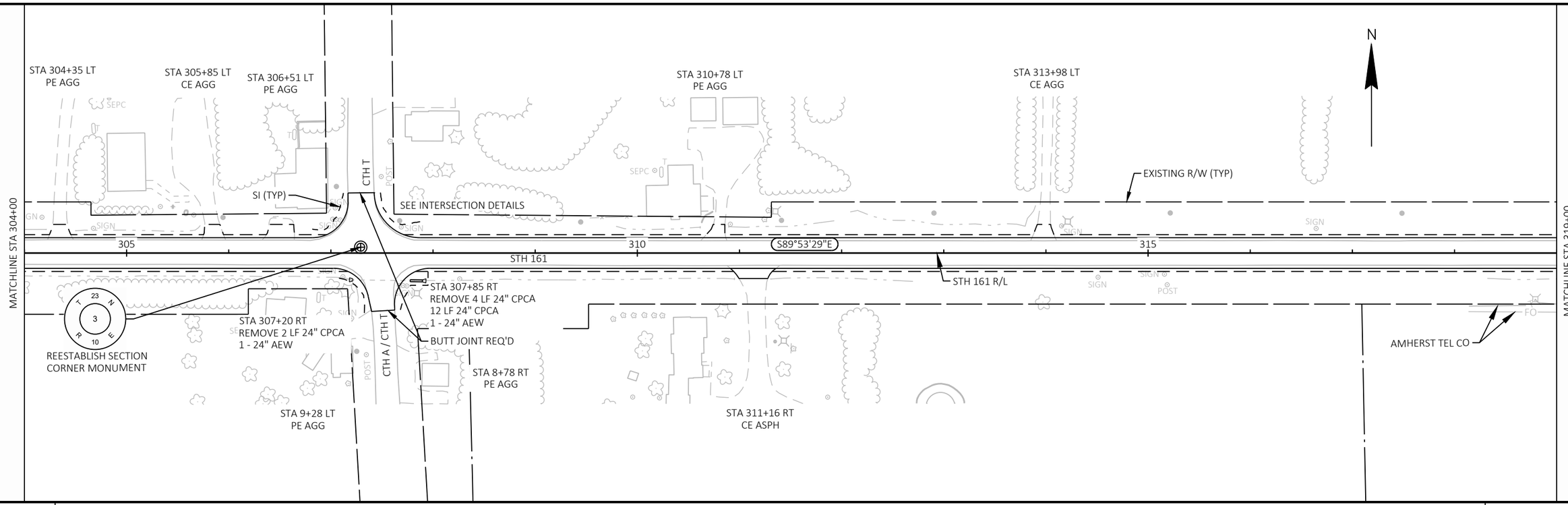


CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
535	290+81.34	17.21 RT	195957.565	244926.921	1166.56	CP 535 3/4" REBAR W/ BLUE CAP
536	294+89.20	17.33 RT	195956.667	245334.788	1167.65	CP 536 3/4" REBAR W/ BLUE CAP
537	296+98.26	17.08 RT	195956.521	245543.848	1168.31	CP 537 3/4" REBAR W/ BLUE CAP



PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 51 E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\050201-PN.DWG
LAYOUT NAME - 10
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PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



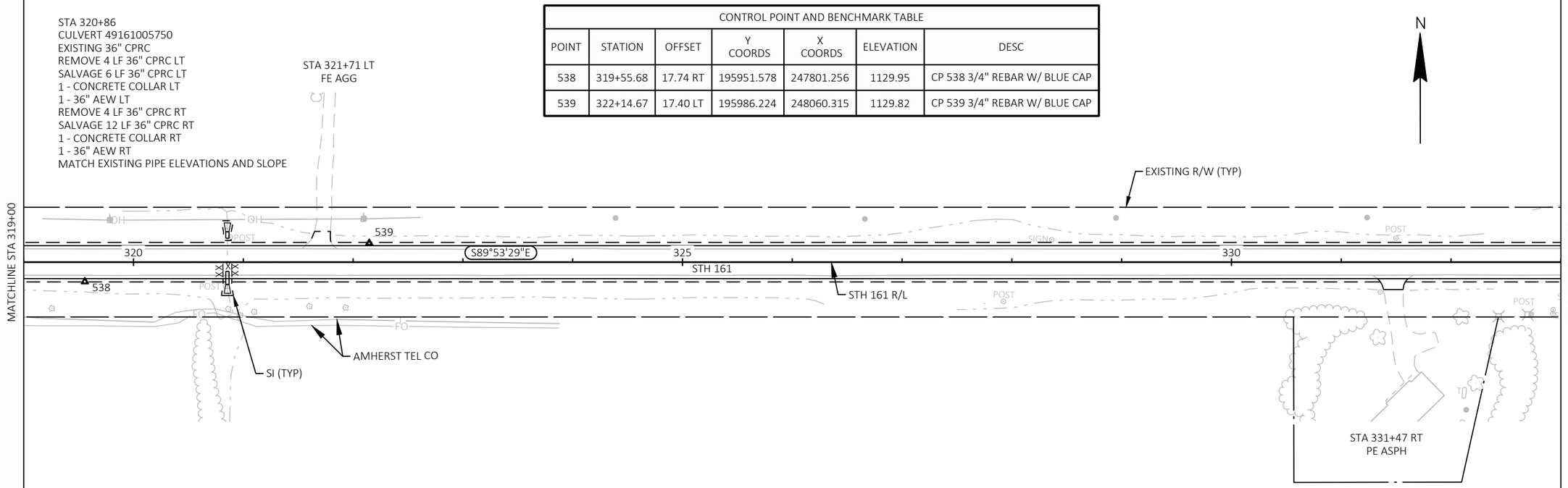
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5

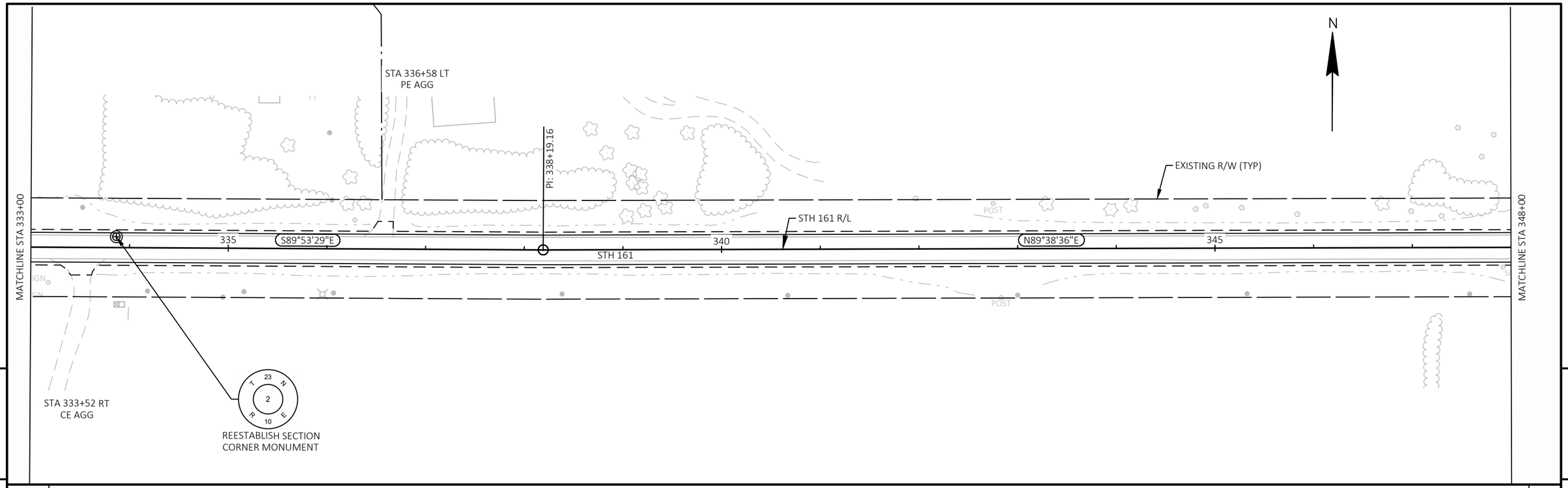
STA 320+86
CULVERT 49161005750
EXISTING 36" CPRC
REMOVE 4 LF 36" CPRC LT
SALVAGE 6 LF 36" CPRC LT
1 - CONCRETE COLLAR LT
1 - 36" AEW LT
REMOVE 4 LF 36" CPRC RT
SALVAGE 12 LF 36" CPRC RT
1 - CONCRETE COLLAR RT
1 - 36" AEW RT
MATCH EXISTING PIPE ELEVATIONS AND SLOPE

CONTROL POINT AND BENCHMARK TABLE

POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
538	319+55.68	17.74 RT	195951.578	247801.256	1129.95	CP 538 3/4" REBAR W/ BLUE CAP
539	322+14.67	17.40 LT	195986.224	248060.315	1129.82	CP 539 3/4" REBAR W/ BLUE CAP



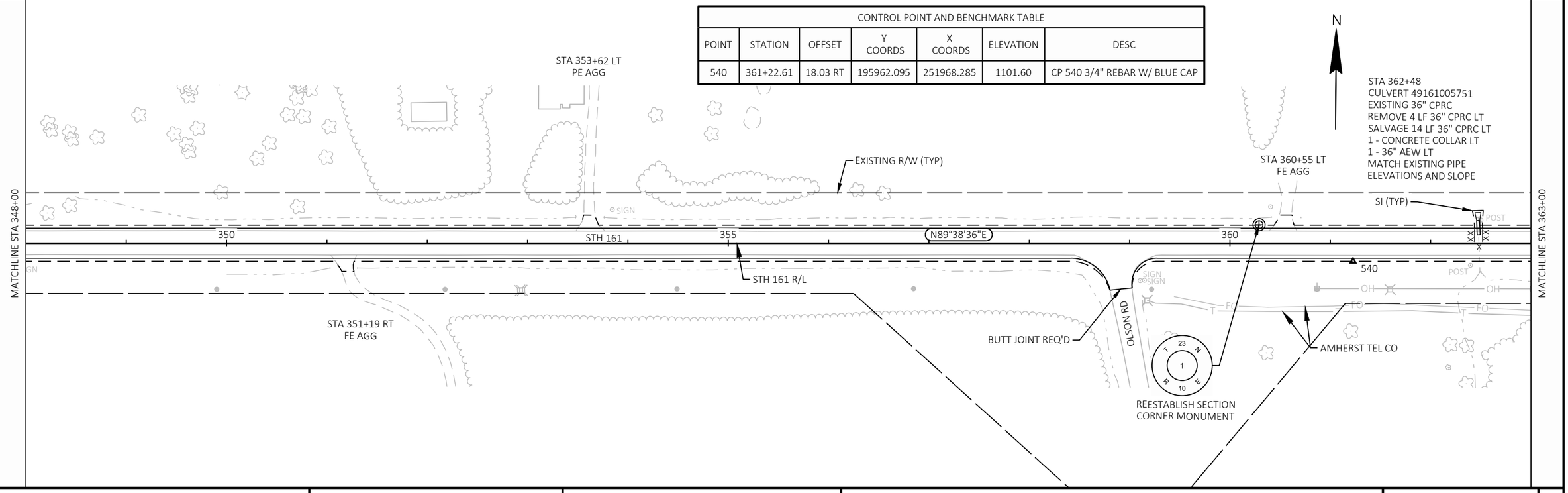
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 52	E



5

5

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
540	361+22.61	18.03 RT	195962.095	251968.285	1101.60	CP 540 3/4" REBAR W/ BLUE CAP



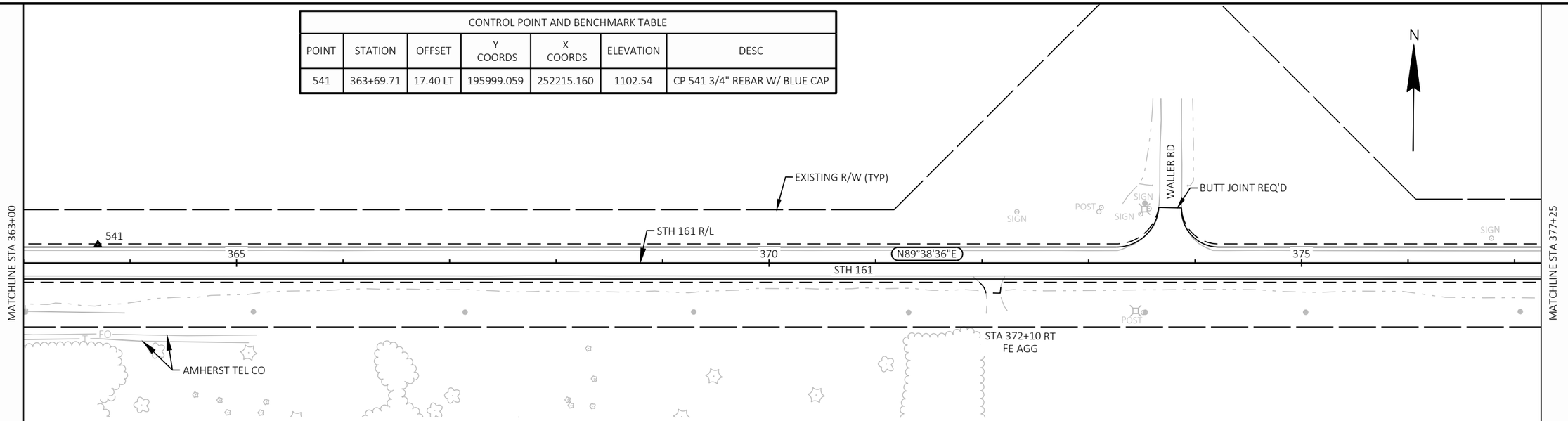
PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 53	E

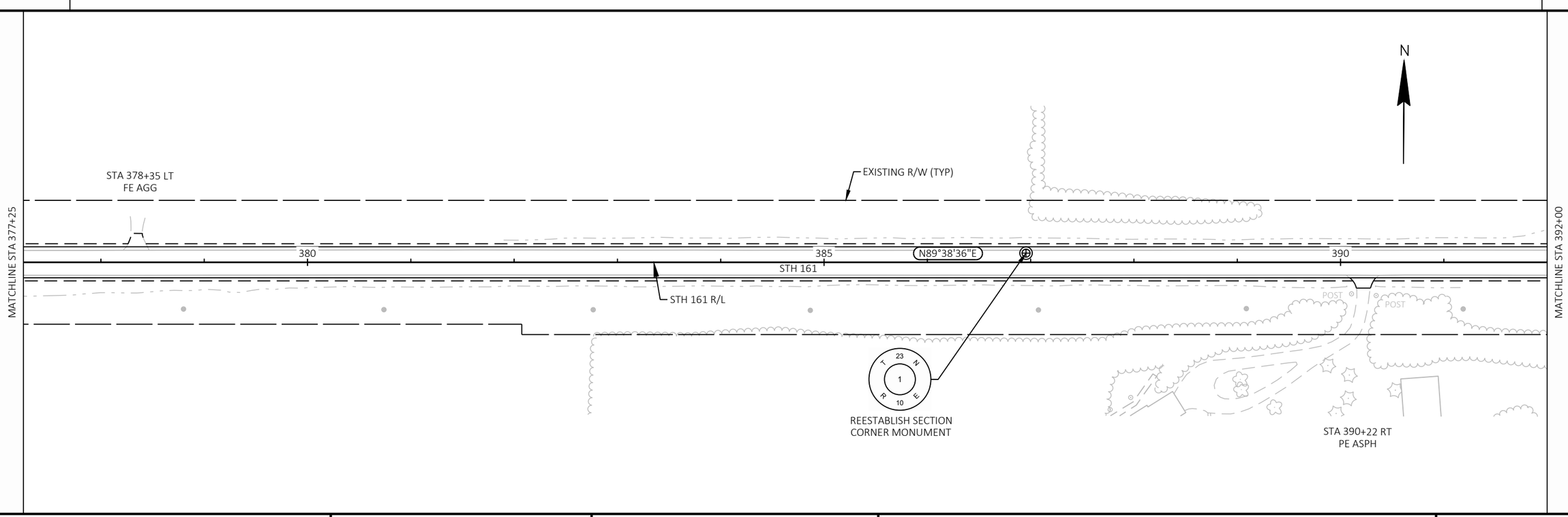
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LAYOUT NAME - 12

PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
541	363+69.71	17.40 LT	195999.059	252215.160	1102.54	CP 541 3/4" REBAR W/ BLUE CAP

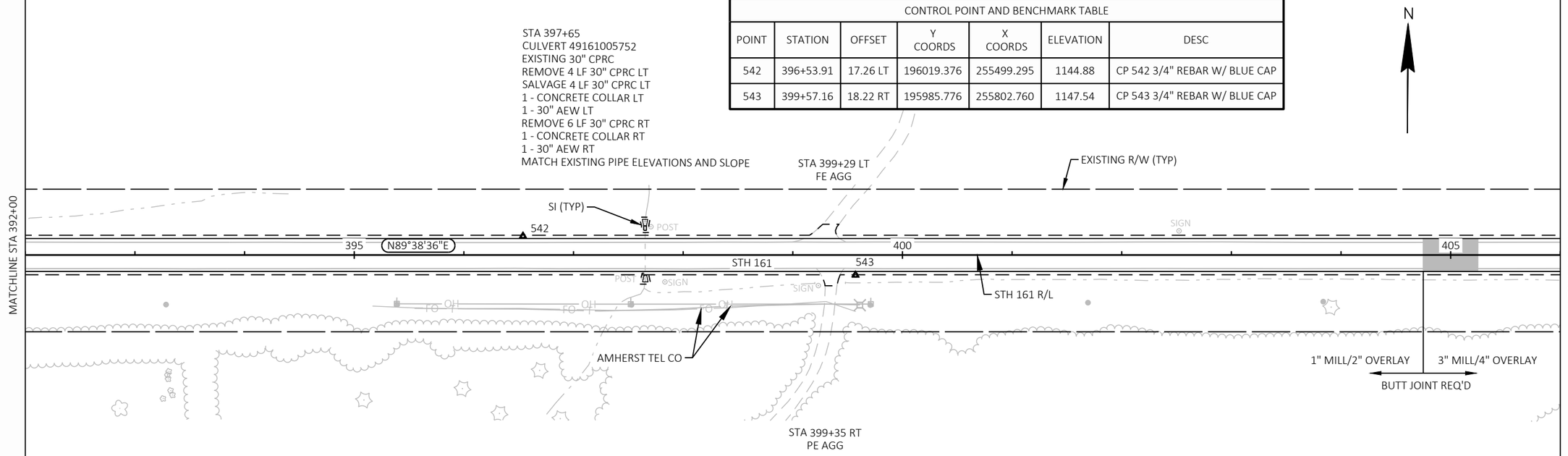


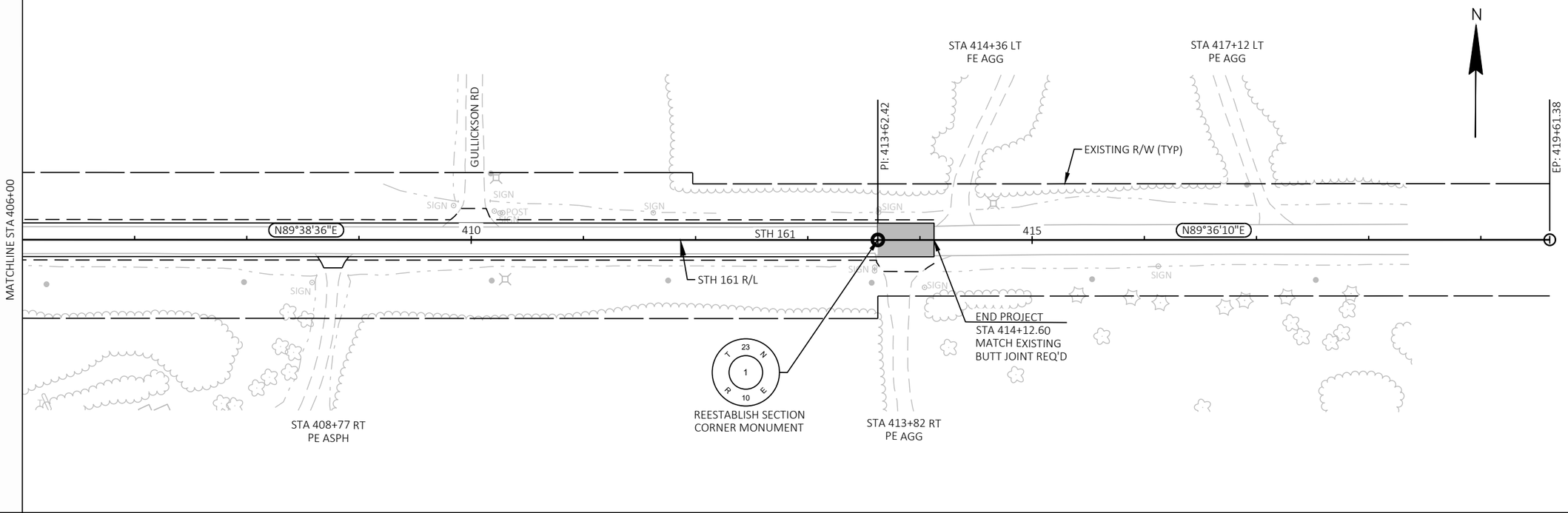


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 54	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\050201-PN.DWG
LAYOUT NAME - 13
PLOT DATE : 2/18/2026 11:53 AM
PLOT BY : BRAD BECKER
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

CONTROL POINT AND BENCHMARK TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESC
542	396+53.91	17.26 LT	196019.376	255499.295	1144.88	CP 542 3/4" REBAR W/ BLUE CAP
543	399+57.16	18.22 RT	195985.776	255802.760	1147.54	CP 543 3/4" REBAR W/ BLUE CAP





PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	PLAN	SHEET 55	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\050201-PN.DWG
LAYOUT NAME - 14

PLOT DATE : 2/18/2026 11:53 AM PLOT BY : BRAD BECKER PLOT NAME : PLOT SCALE : 1 IN:100 FT

Standard Detail Drawing List

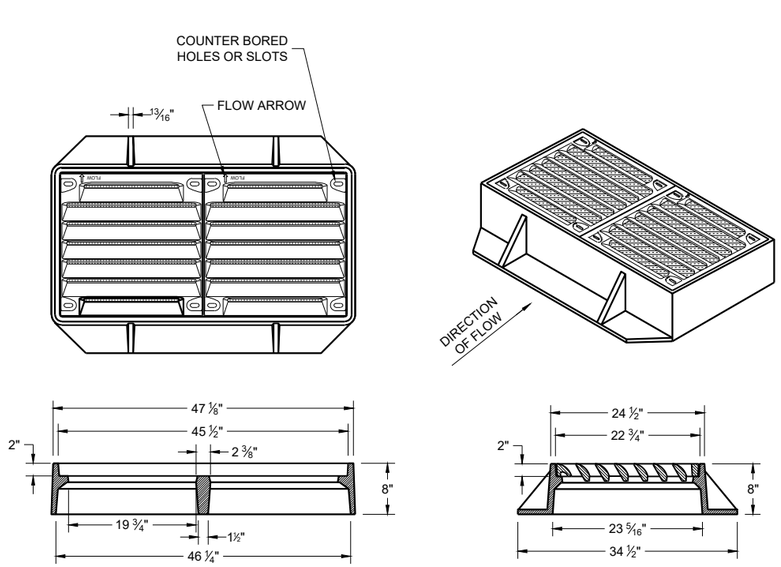
08A05-22D	INLET COVERS TYPE V, V-B, & VV-B
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D03-09A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-09B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
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
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
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)
14B53-03A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-03I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-24B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-11B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C19-11A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D28-05	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D39-03	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-02	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

6

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.

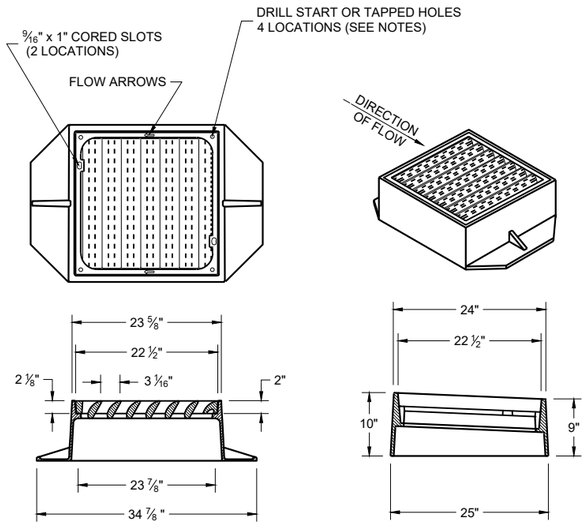
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

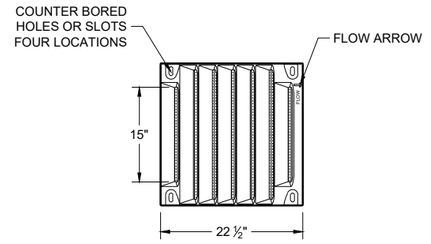
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
⅜" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
⅜" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

TAP ½" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - ½" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

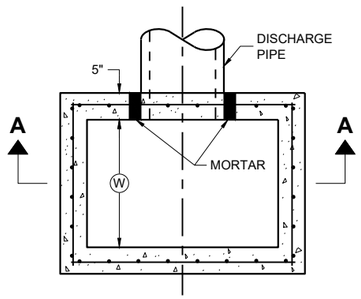
INLET COVERS
TYPES V, V-B, AND VV-B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

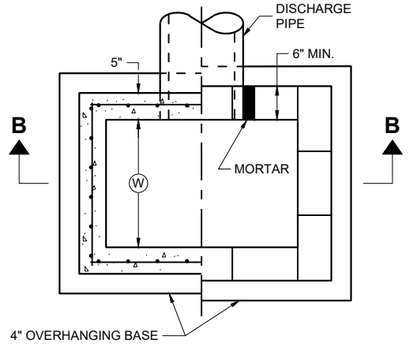
APPROVED
February 2025 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

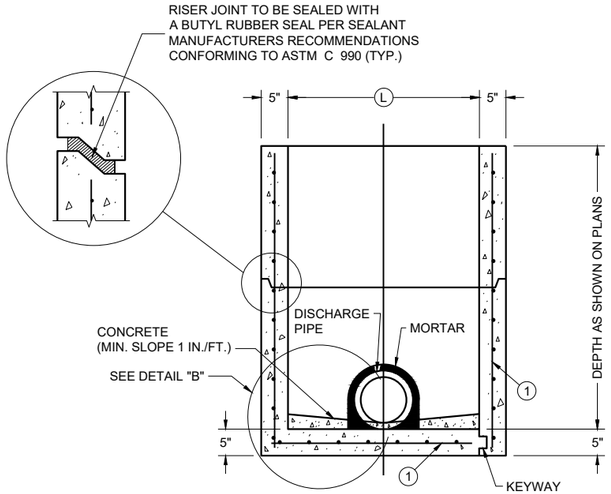
6
SDD 08A05-22d



PLAN VIEW



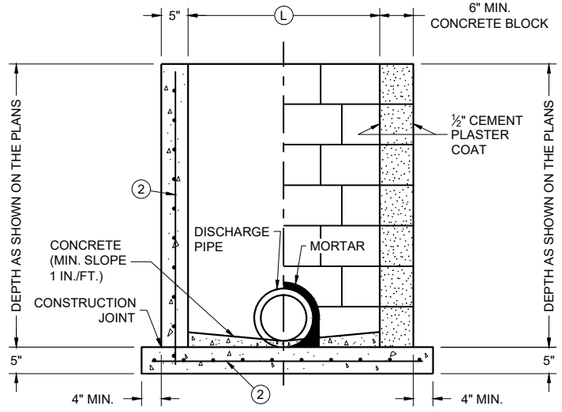
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

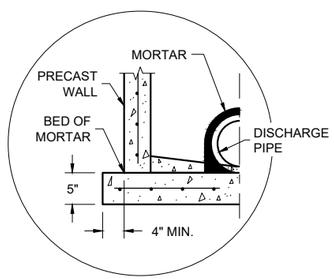
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

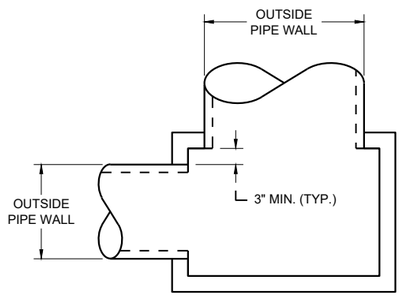
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)

SECTION B - B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

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 UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES 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 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.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

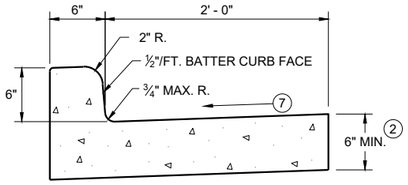
INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

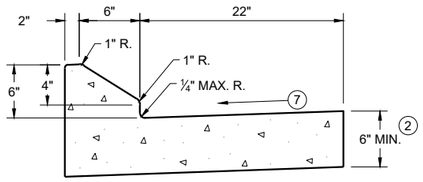
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

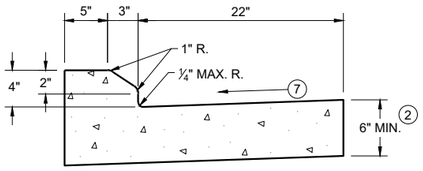
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SDD 08C07-03



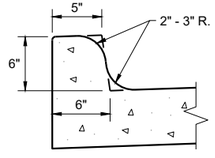
TYPES A (1) & D



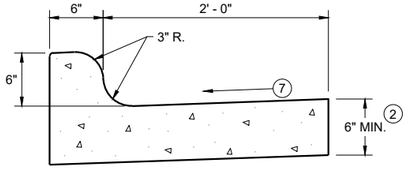
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

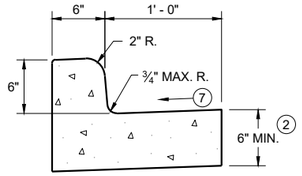


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



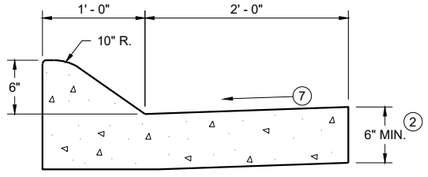
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

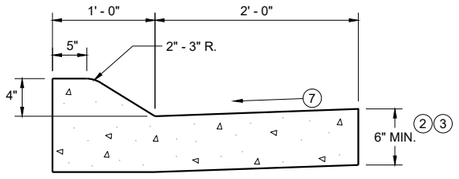


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

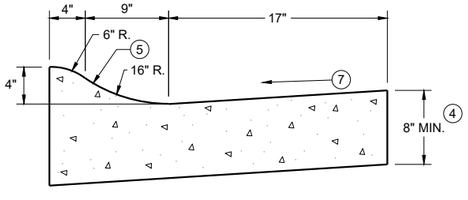


6" SLOPED CURB TYPES A (1) & D



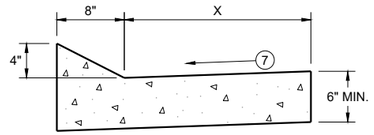
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T
CONCRETE CURB AND GUTTER 30"

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

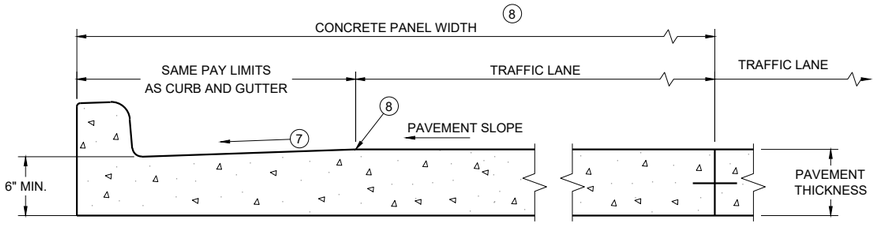


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

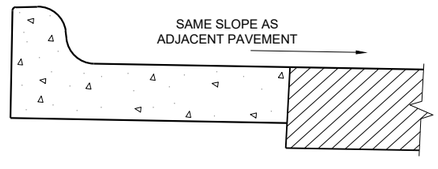
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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.

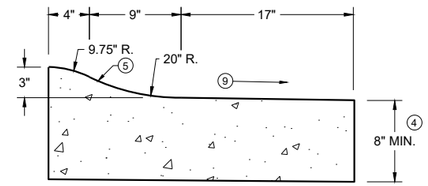
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(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.

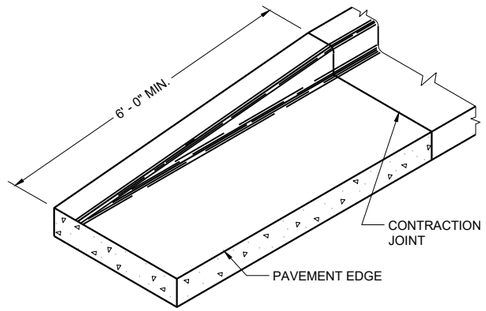
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



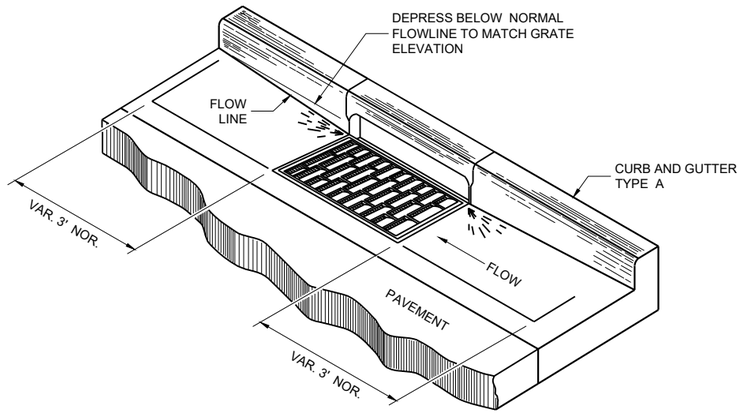
3" SLOPED CURB TYPES R (1) & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

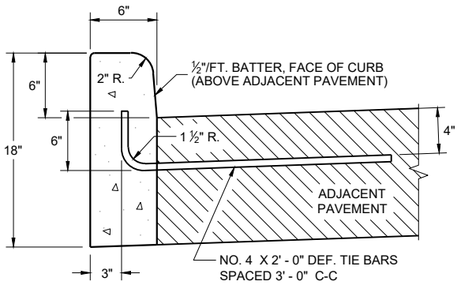
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

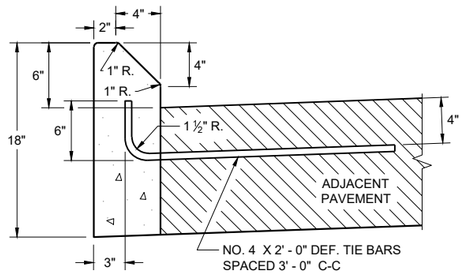
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

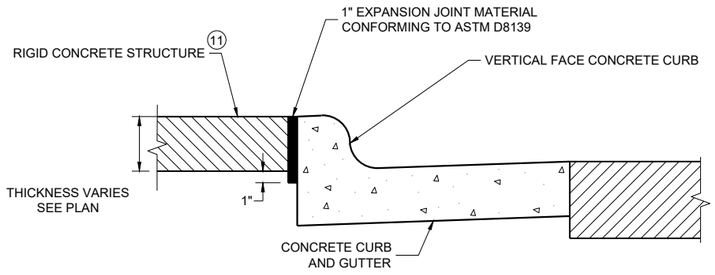


TYPES A (1) & D

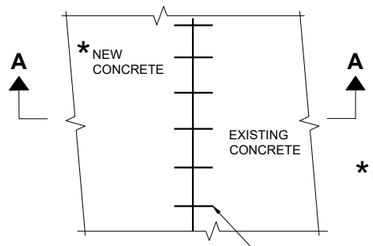


TYPES G (1) & J

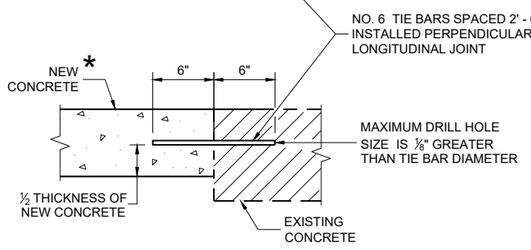
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)

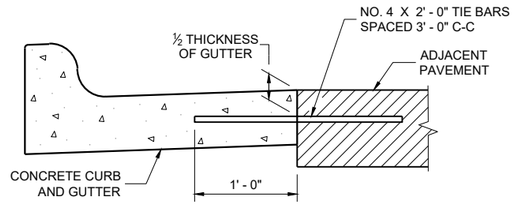


PLAN VIEW

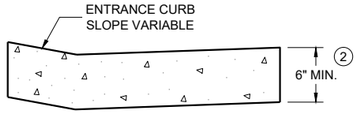


SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

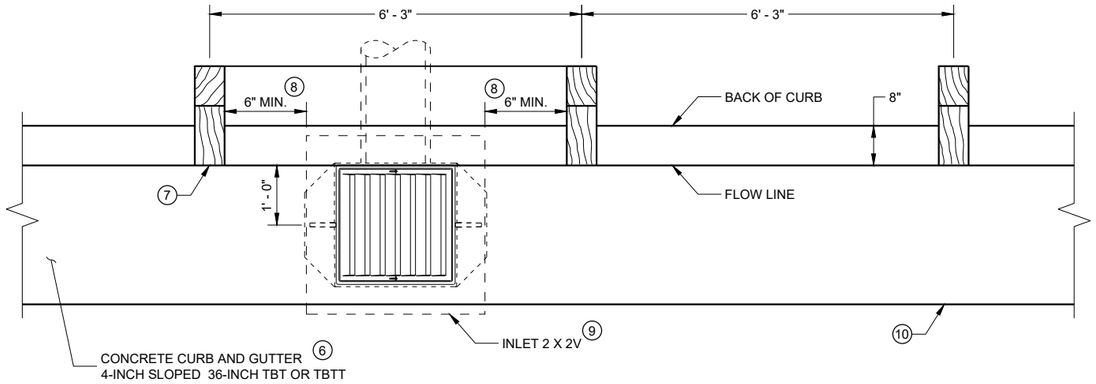
FHWA

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SDD 08D01-24b

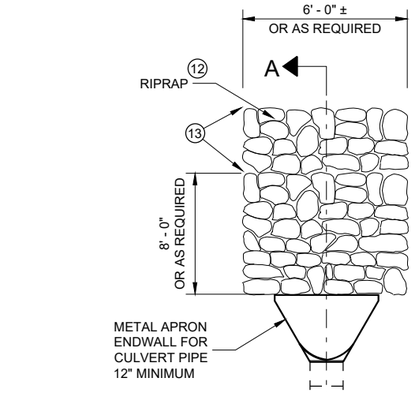
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SDD 08D01-24b



INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)



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 DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

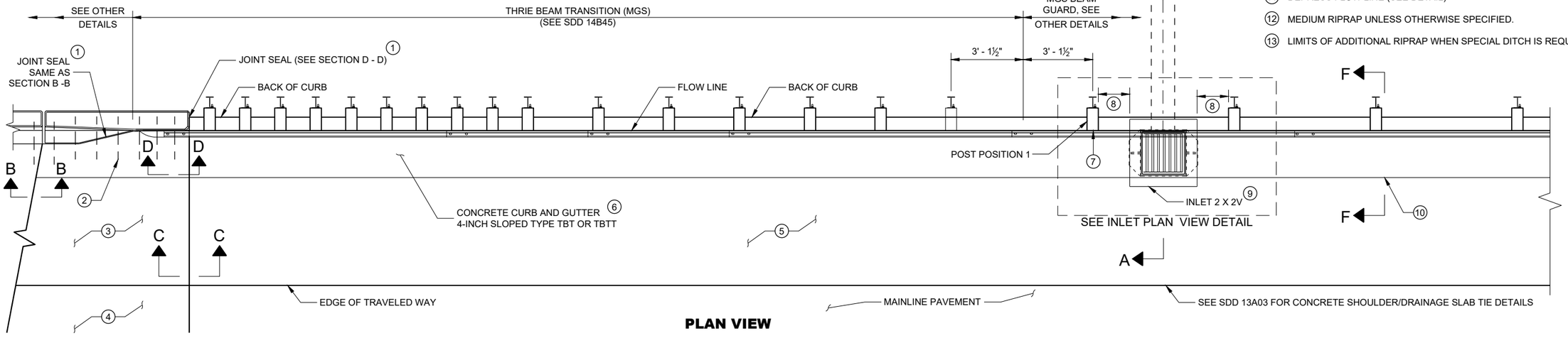
(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

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

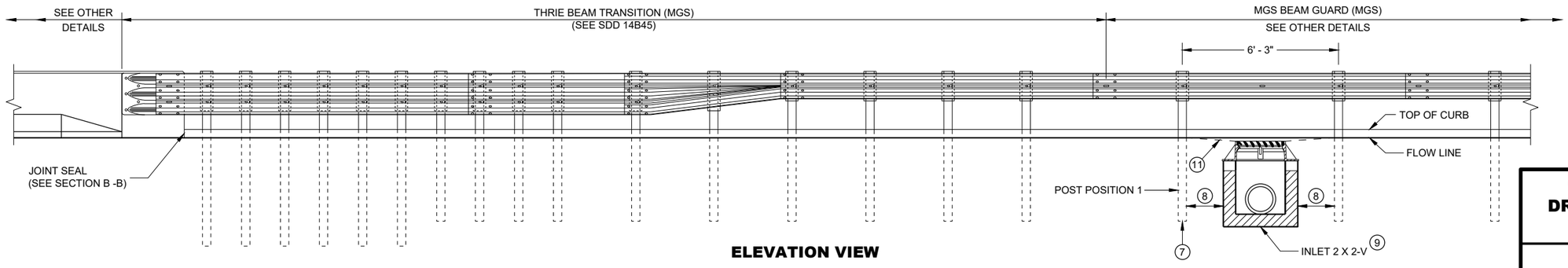
(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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



PLAN VIEW



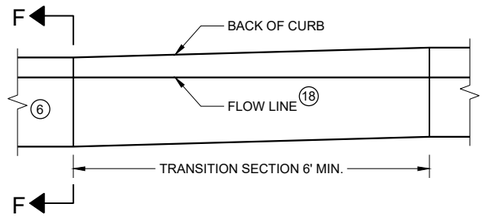
ELEVATION VIEW

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

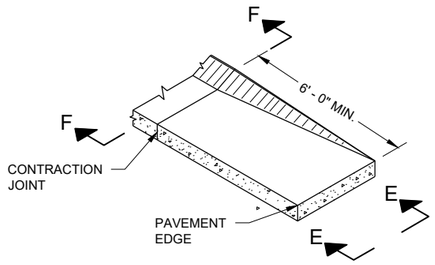
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

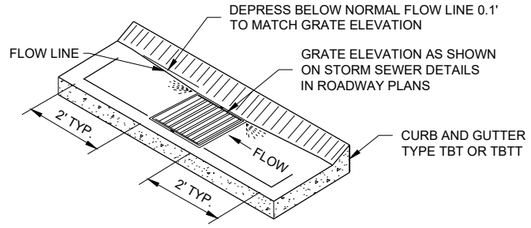
SDD08D03 - 09a



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 INLETS 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 DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

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

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(14) GEOTEXTILE TYPE HR.

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

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

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

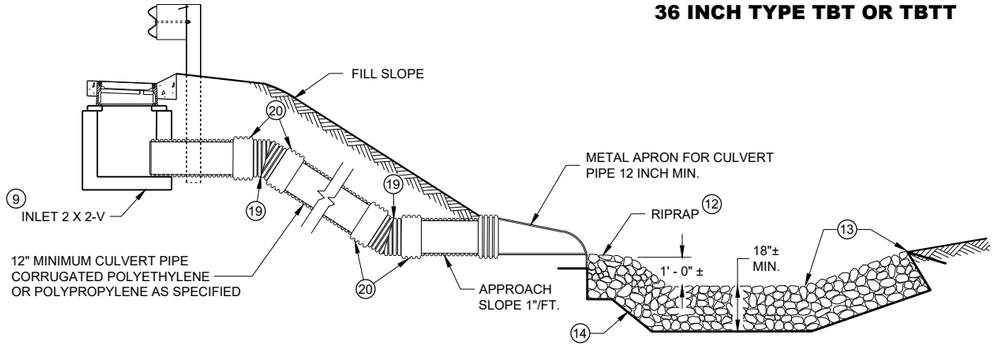
(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

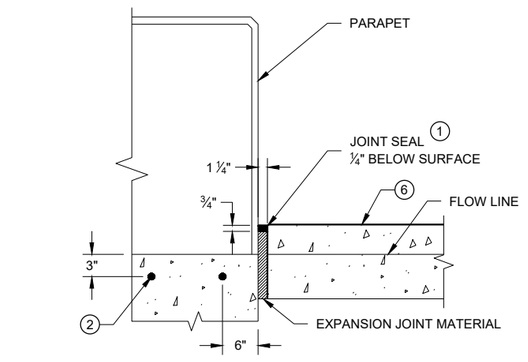
(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

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

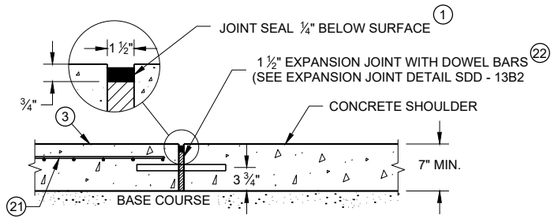
(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



SECTION A - A

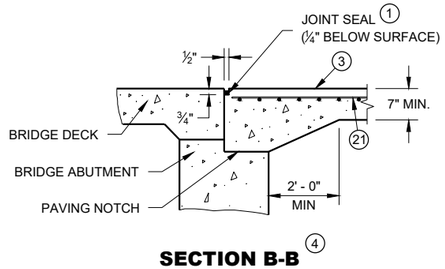


SECTION D - D

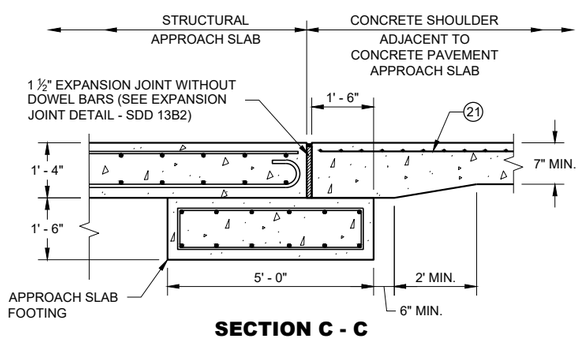


SECTION C - C

JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS

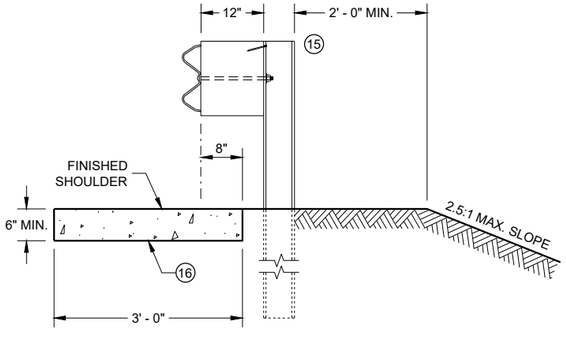


SECTION B-B 4

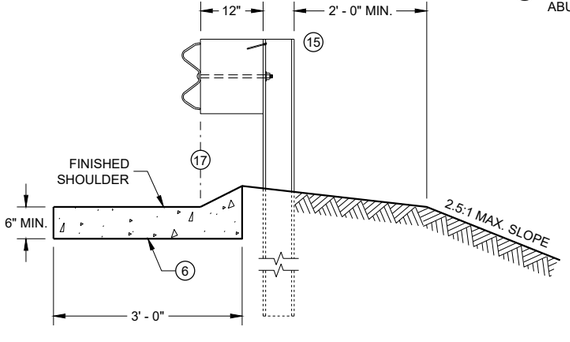


SECTION C - C

JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

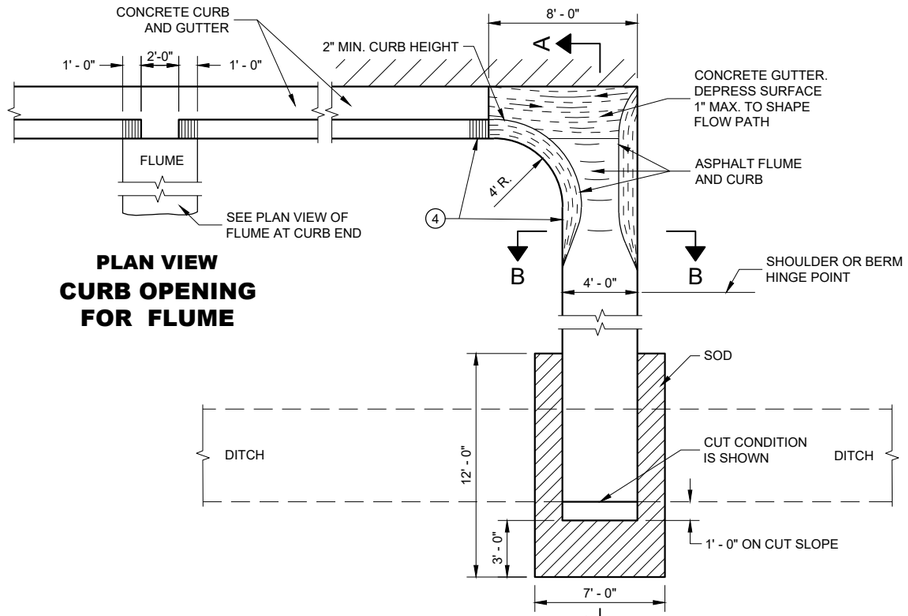
FHWA

6

SDD 08D03 - 09b

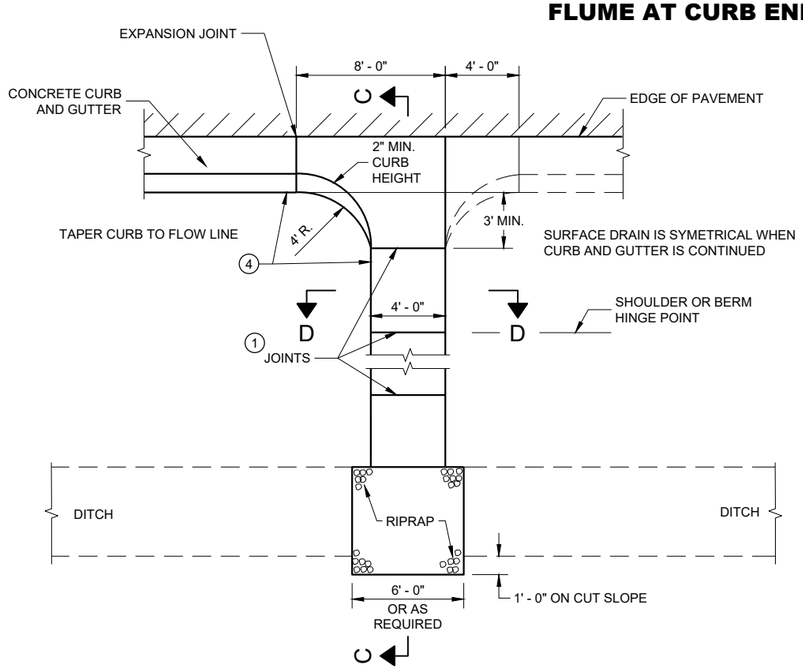
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



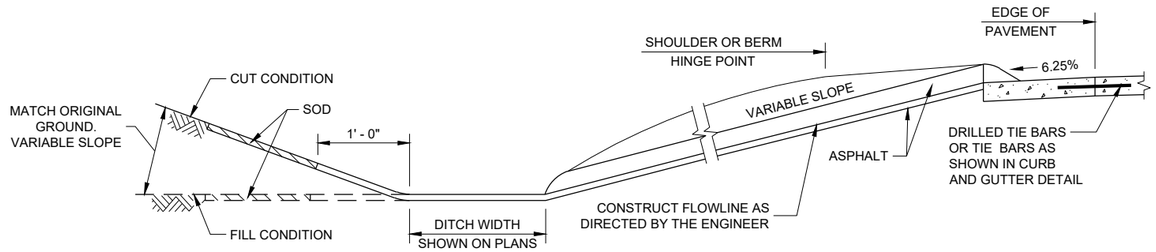
PLAN VIEW
CONCRETE SURFACE DRAIN

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.

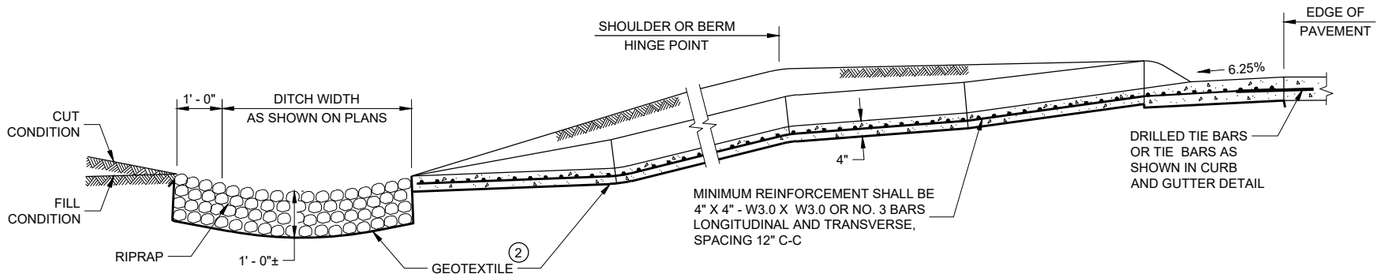
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

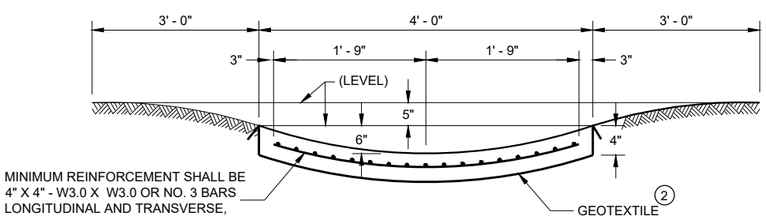


SECTION A - A

SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

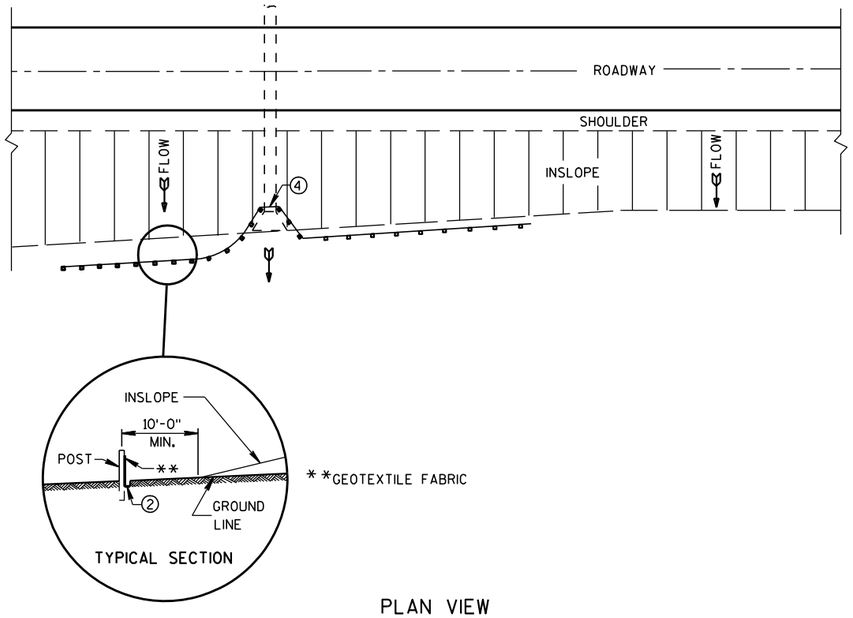
APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

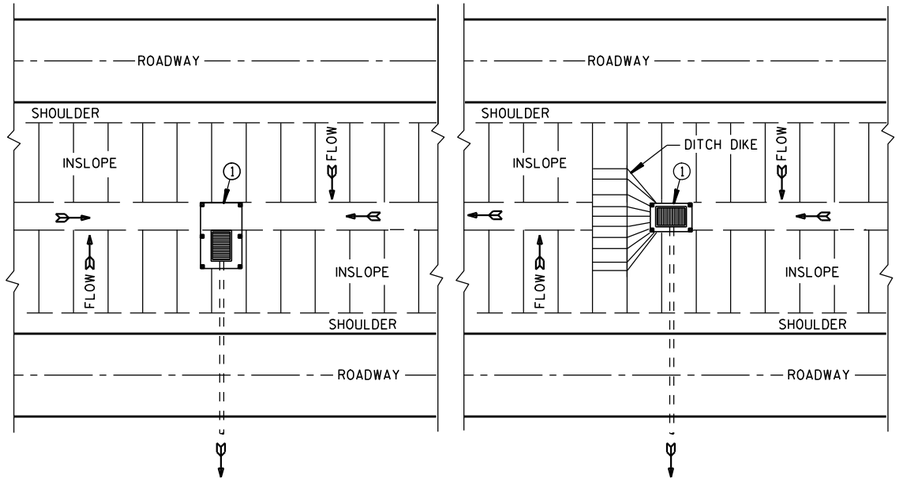
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SDD 08D04 - 07



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



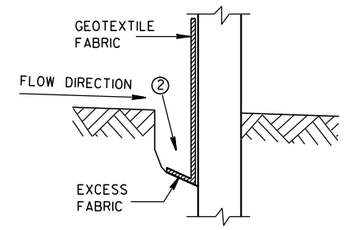
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

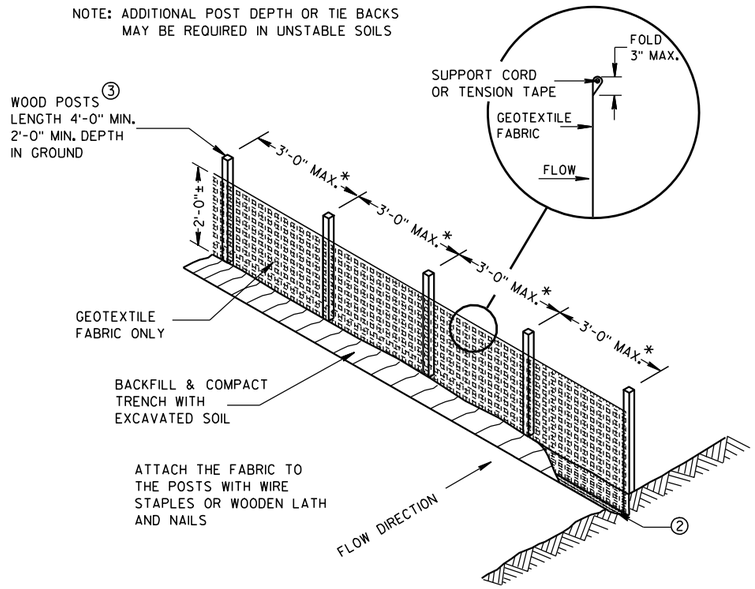
GENERAL NOTES

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.

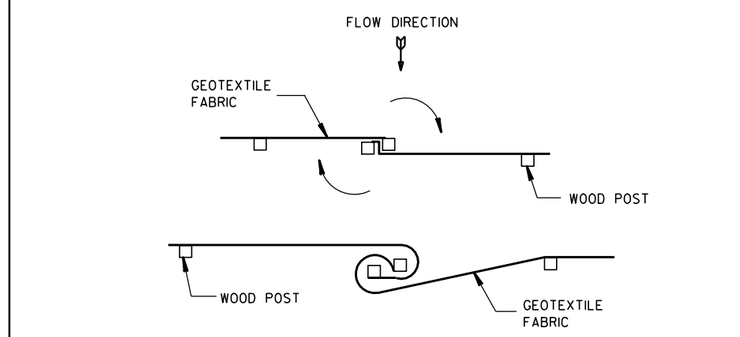


TRENCH DETAIL

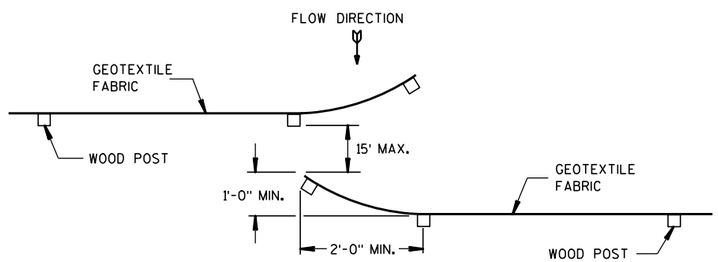


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

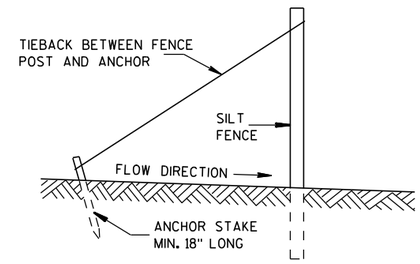


TWIST METHOD



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

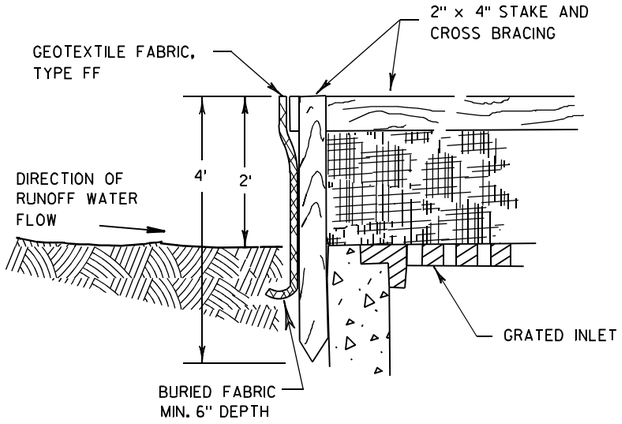
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

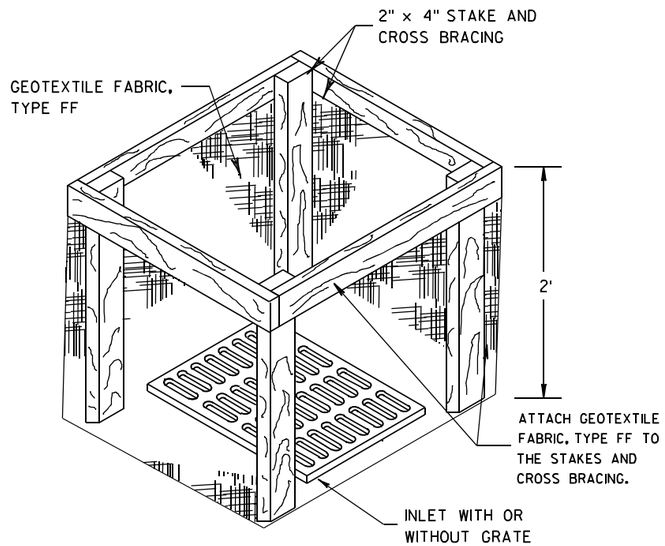
6

S.D.D. 8 E 9-6

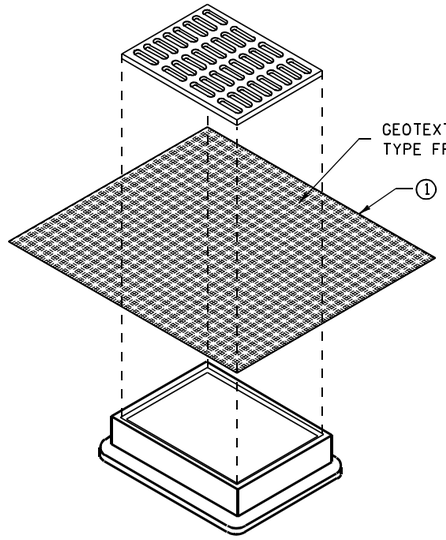
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S.D.D. 8 E 9-6



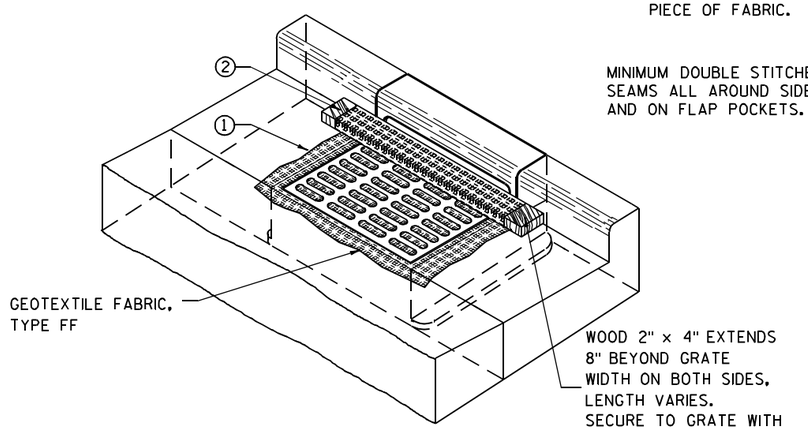


INLET PROTECTION, TYPE A

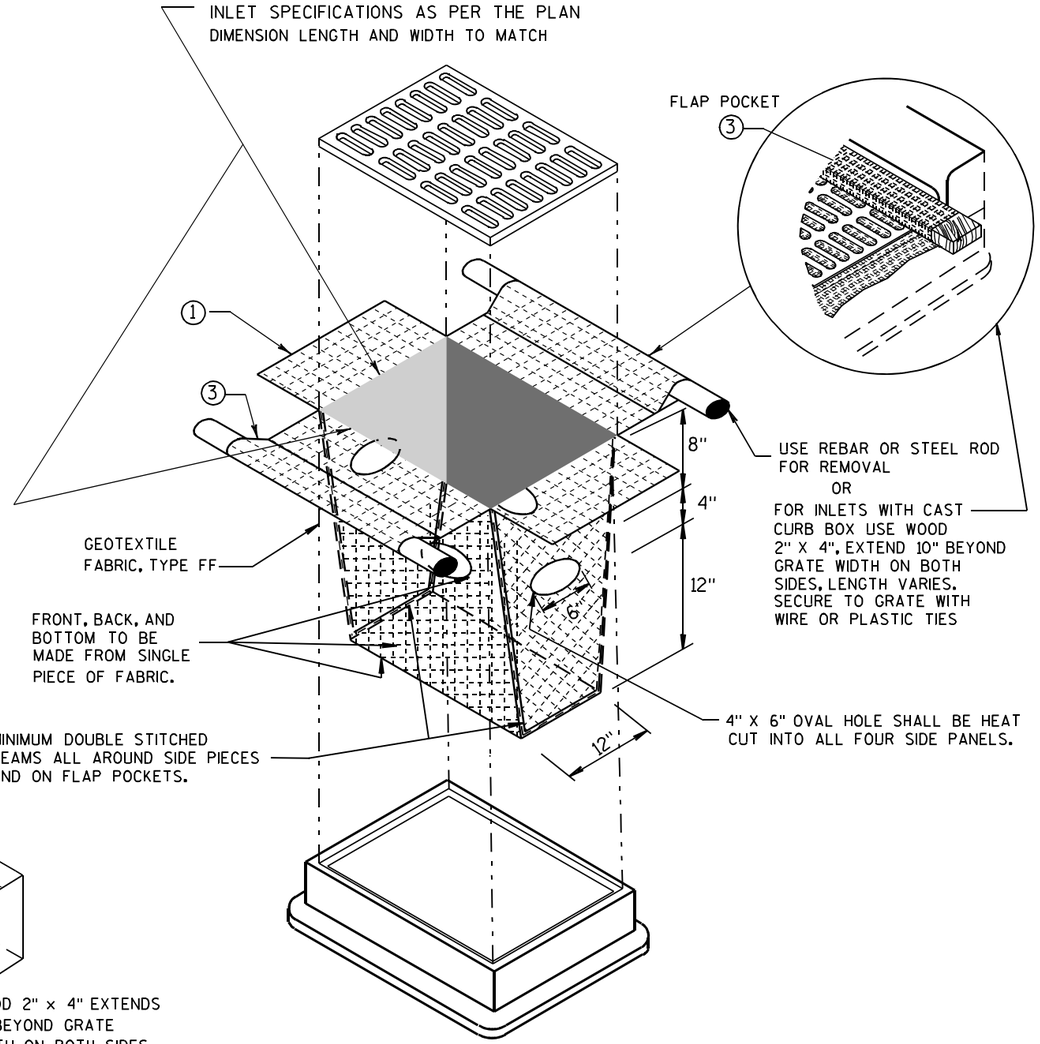


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(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

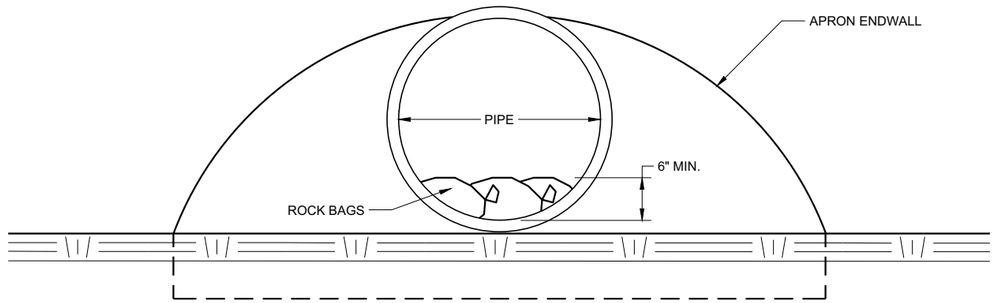
APPROVED

10/16/02
DATE

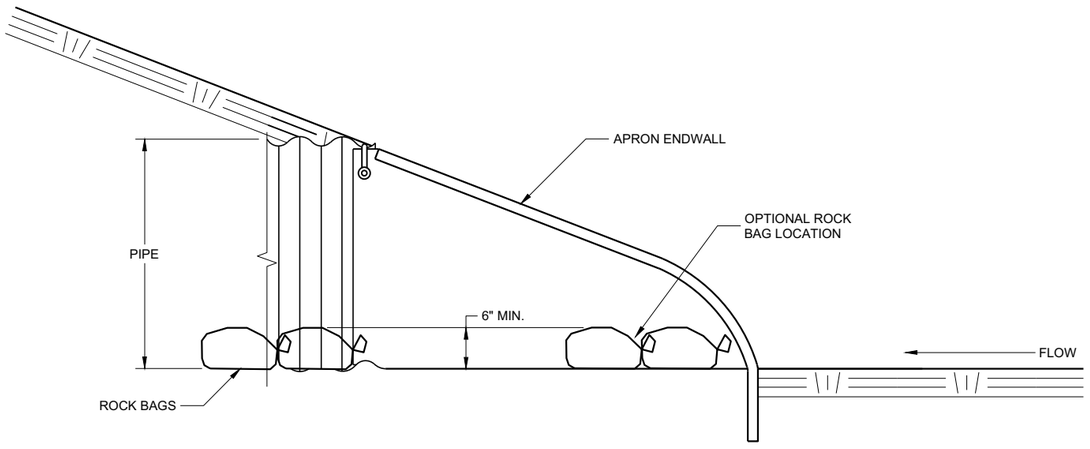
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

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	

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SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

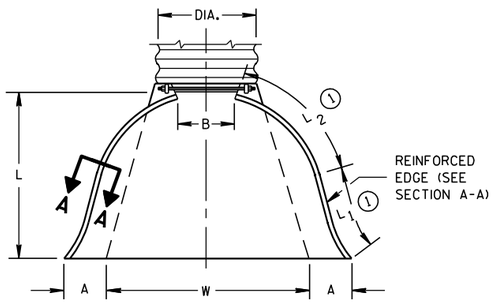
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

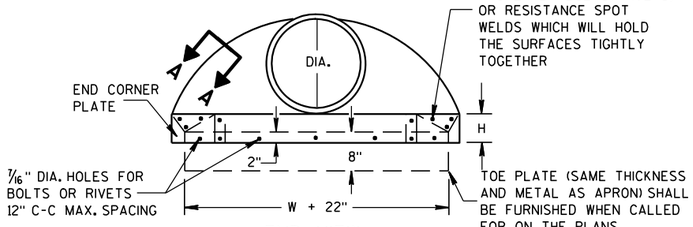
REINFORCED CONCRETE APRON ENDWALLS

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

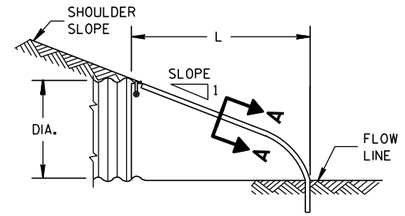
*MINIMUM
**MAXIMUM



PLAN VIEW

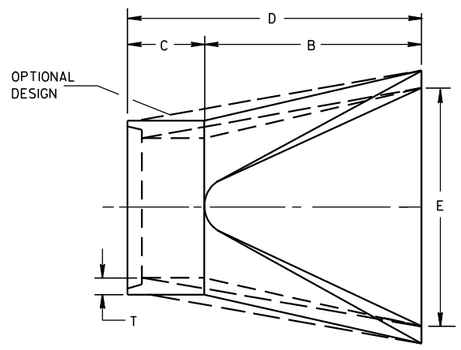


END VIEW

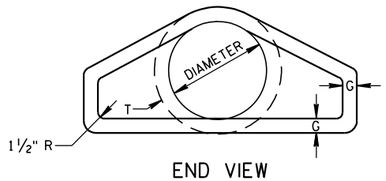


SIDE ELEVATION

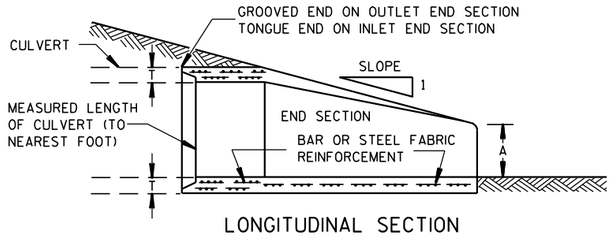
METAL ENDWALLS



PLAN

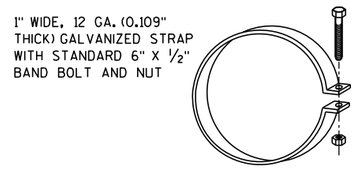


END VIEW



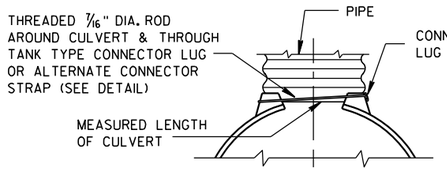
LONGITUDINAL SECTION

CONCRETE ENDWALLS

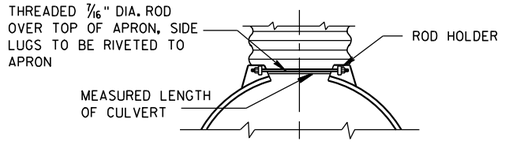


ALTERNATE FOR TYPE 1 CONNECTION

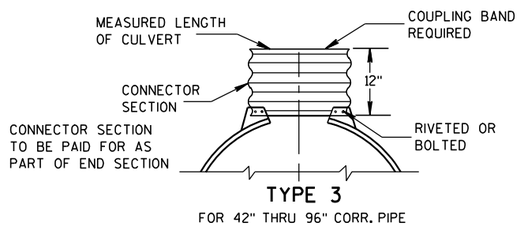
END SECTION CONNECTOR STRAP



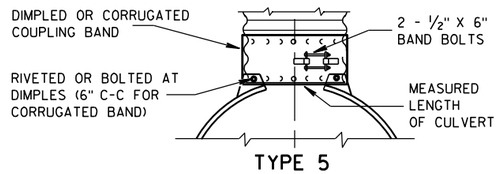
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

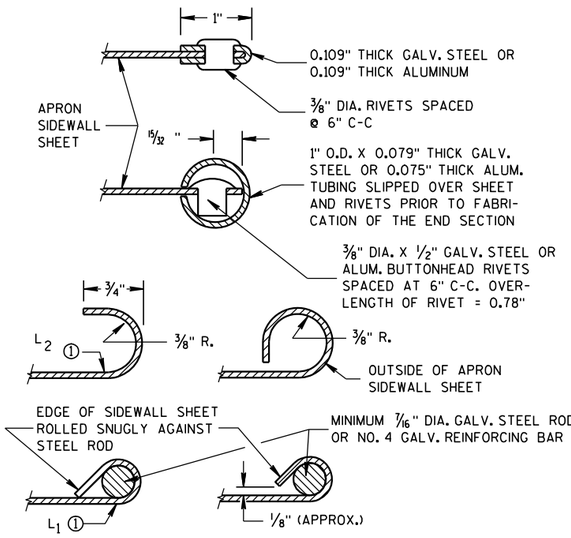
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

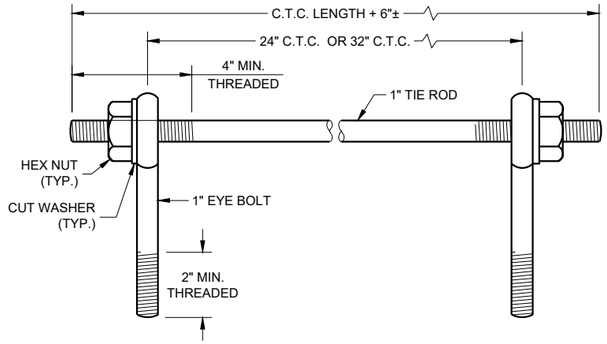
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

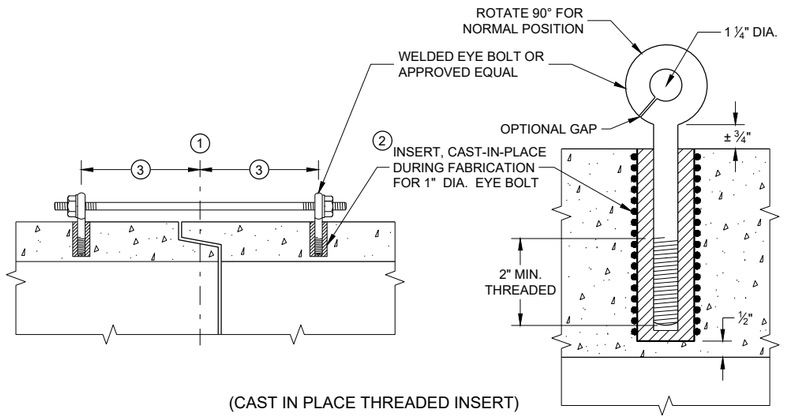
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP 67 NEER
FHWA

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 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 APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

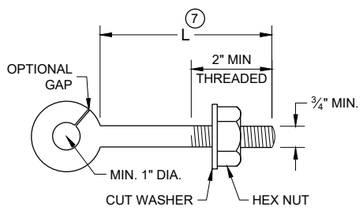
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

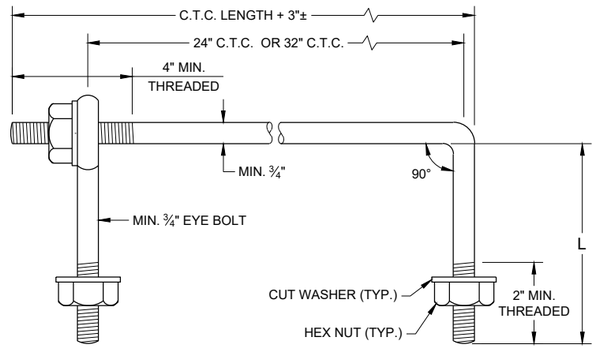
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

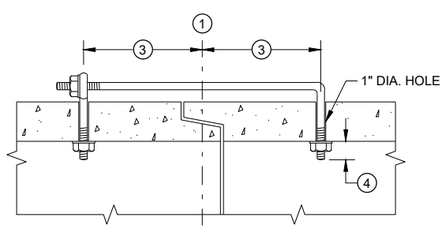


EYE BOLT (7)

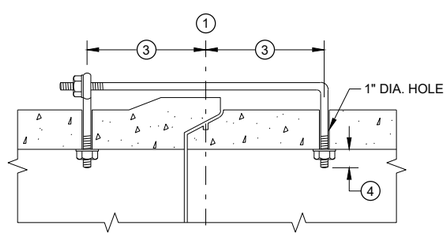
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

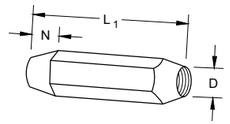
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

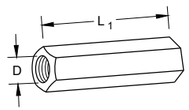
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



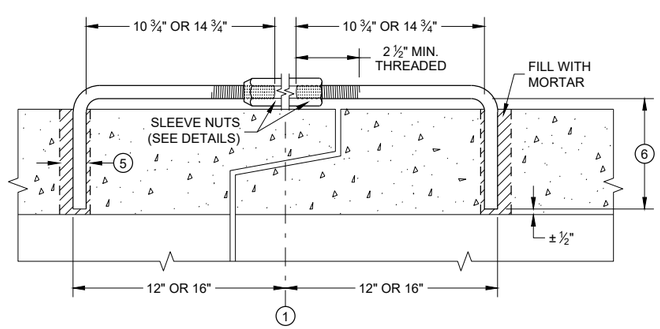
TAPERED



PLAIN

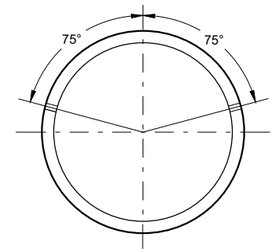
RIGHT AND LEFT THREADS

SLEEVE NUTS



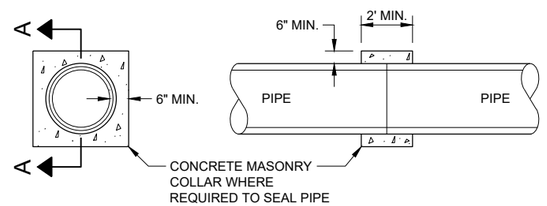
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

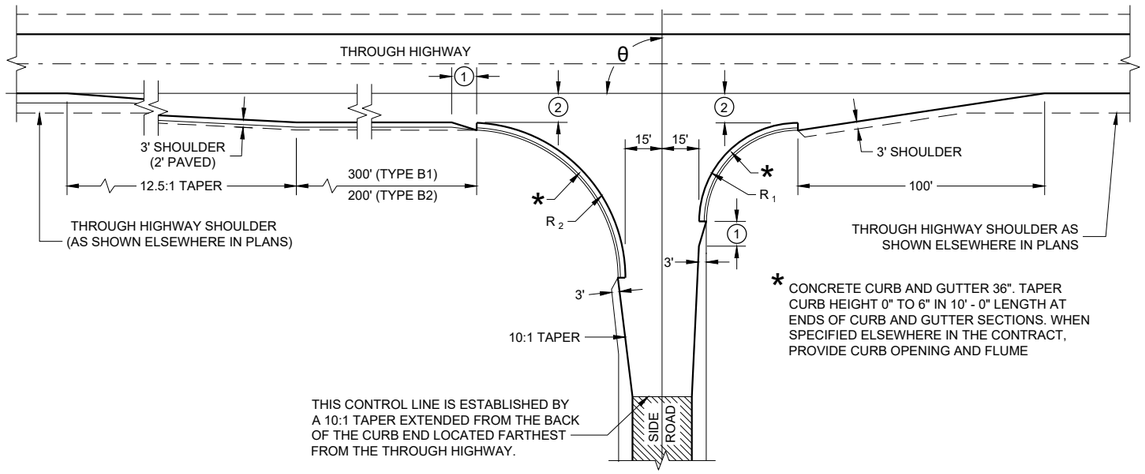
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

SDD 08F04 - 08

SDD 08F04 - 08



* CONCRETE CURB AND GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10' - 0" LENGTH AT ENDS OF CURB AND GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME

TYPE "B1" AND "B2"

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

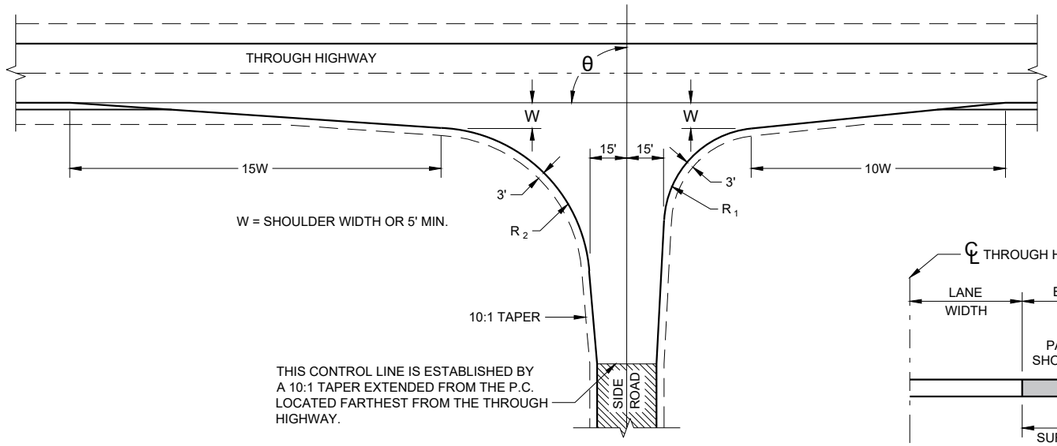
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

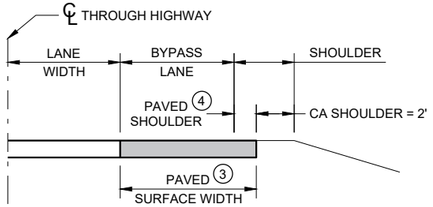
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH

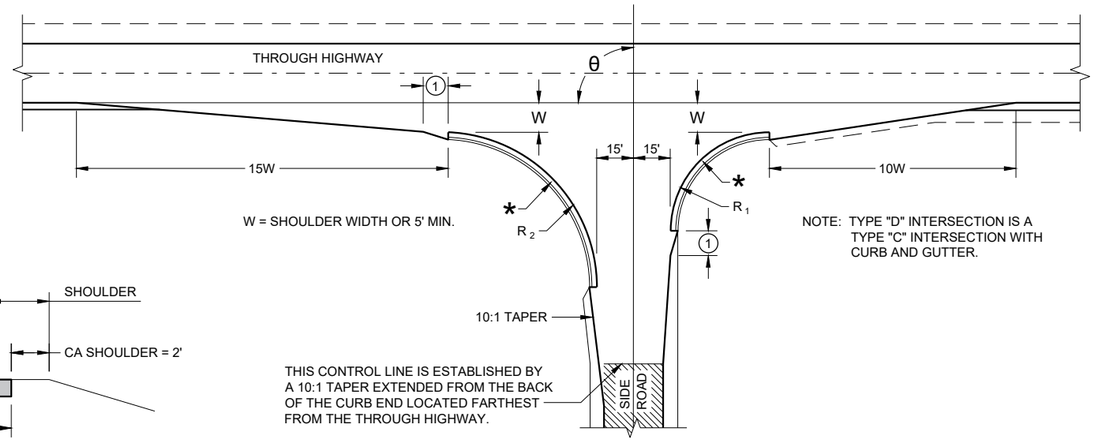
(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



TYPE "C"

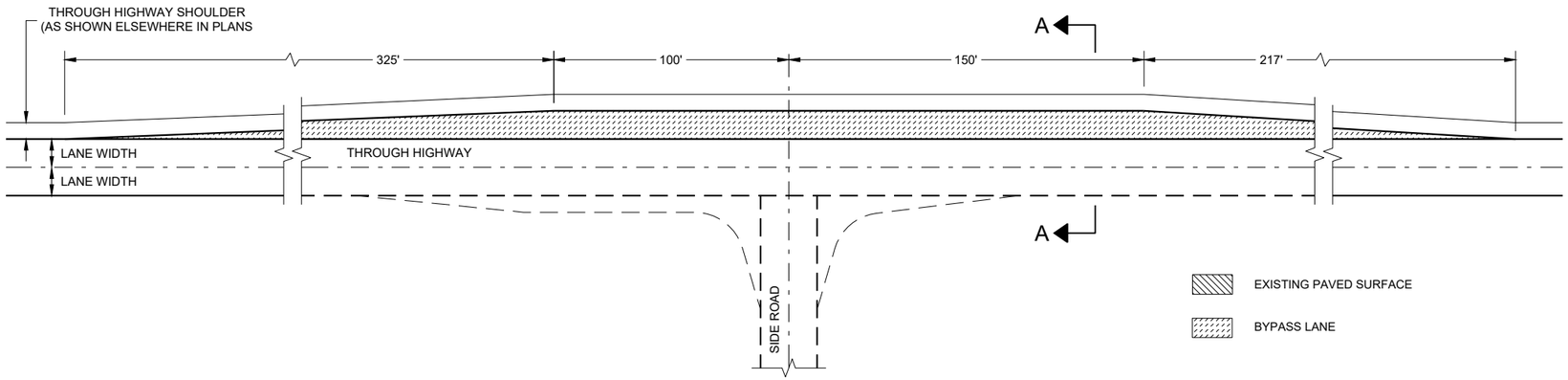


SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



NOTE: TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB AND GUTTER.

TYPE "D"



TEE INTERSECTION BYPASS LANE DETAIL

AT GRADE SIDE ROAD INTERSECTION TYPES "B1", "B2", "C", "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 09A01 - 14a

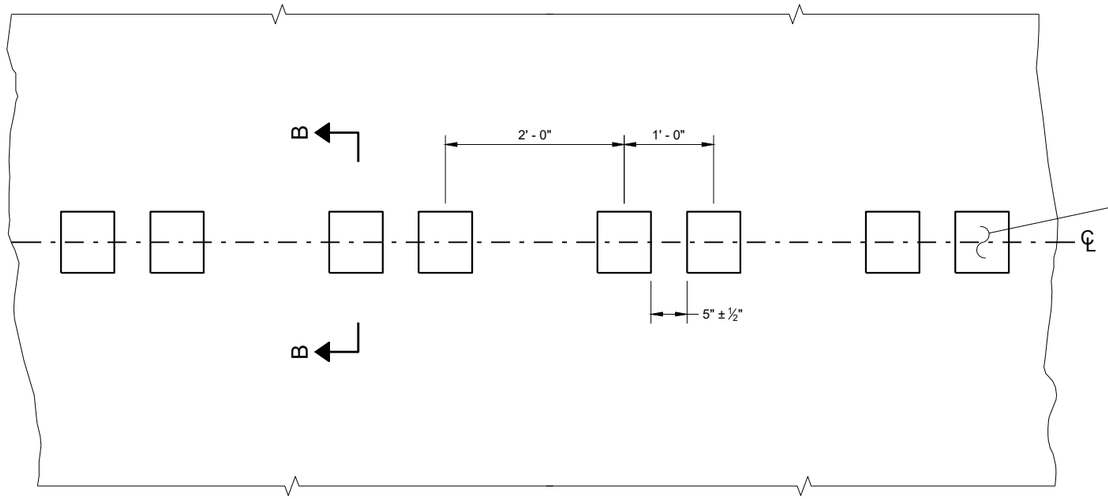
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SDD 09A01 - 14a

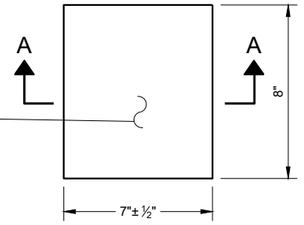
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

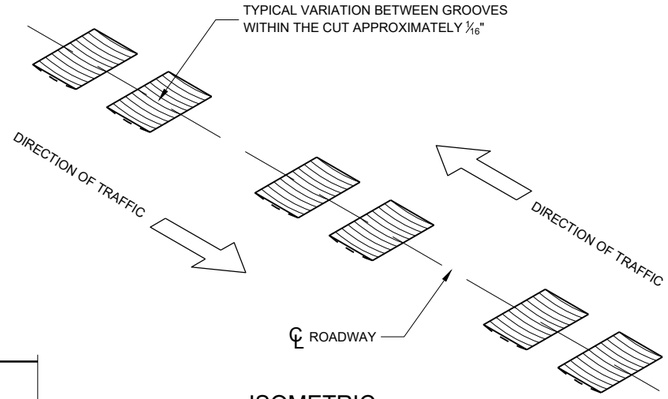
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



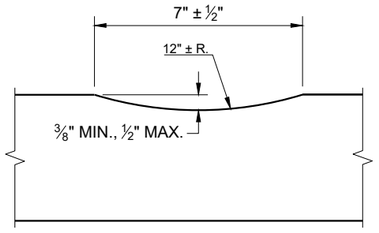
PLAN DETAIL VIEW



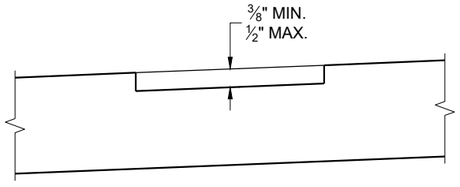
PLAN VIEW
(SINGLE GROOVE)



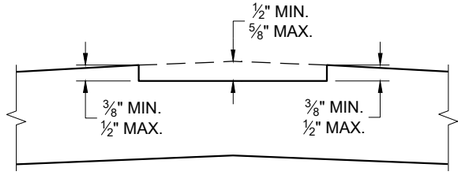
ISOMETRIC



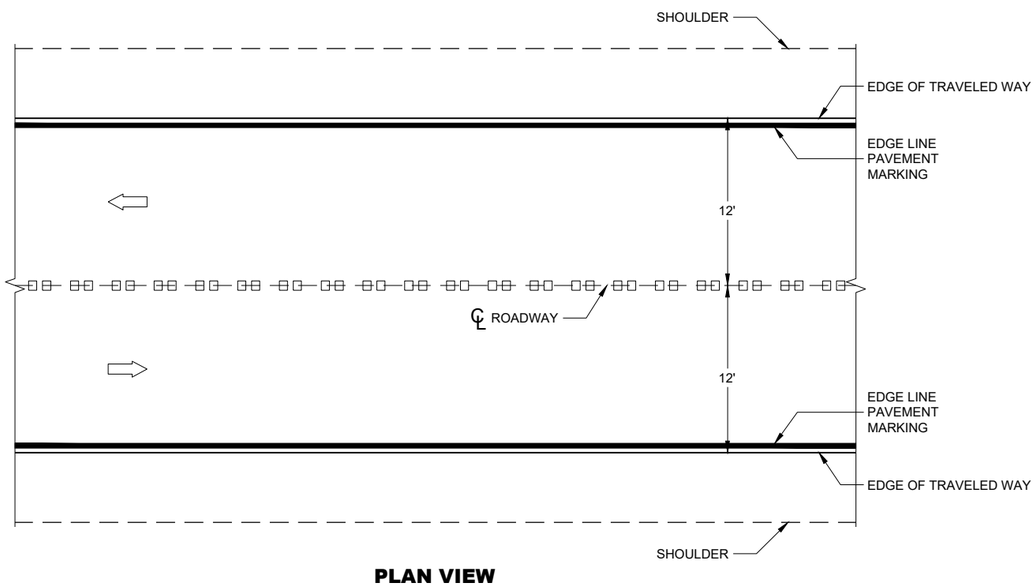
SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



PLAN VIEW

CENTERLINE RUMBLE STRIPS - ASPHALT

6

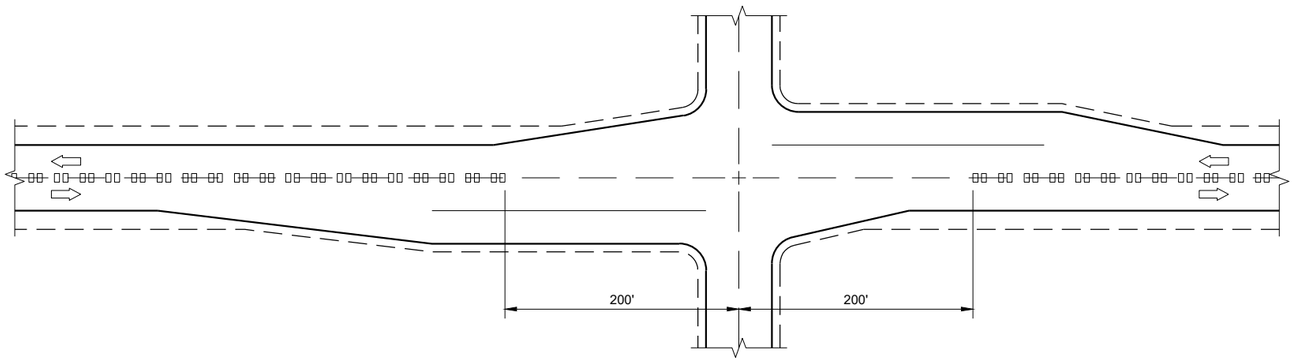
SDD 13A11 - 04a

CENTERLINE RUMBLE STRIPS - ASPHALT

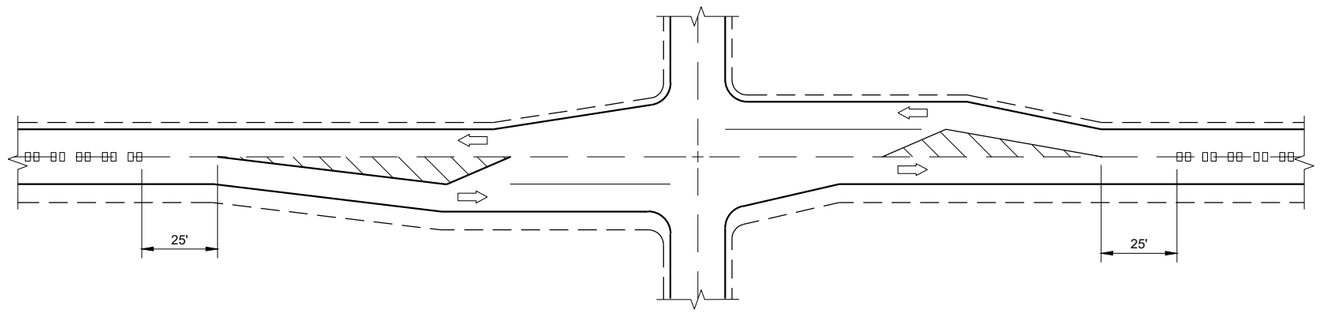
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

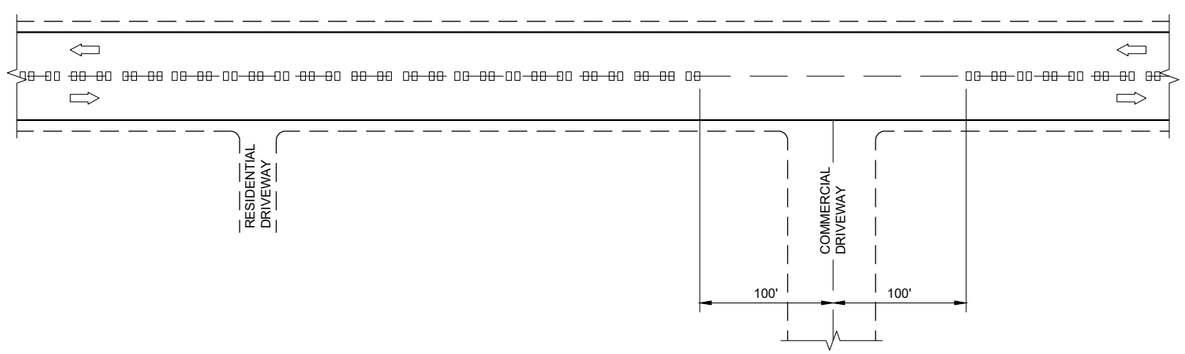
SDD13A11 - 04a



CENTERLINE GROOVES AT INTERSECTIONS



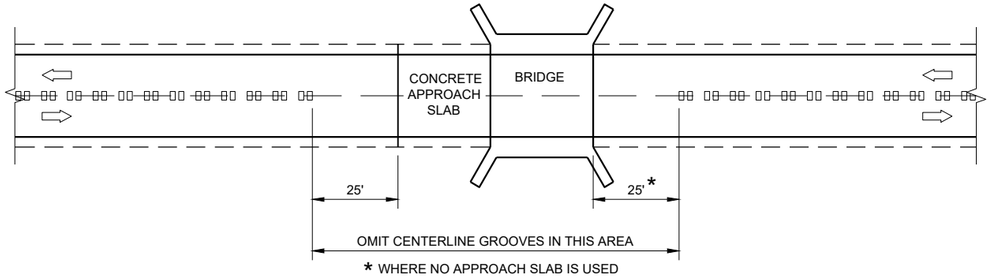
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



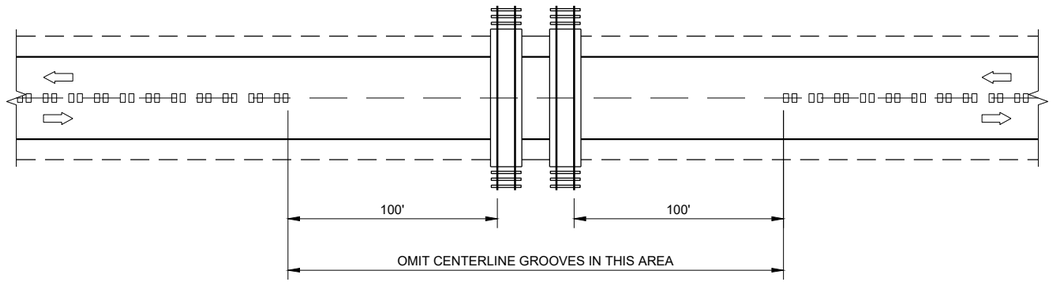
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

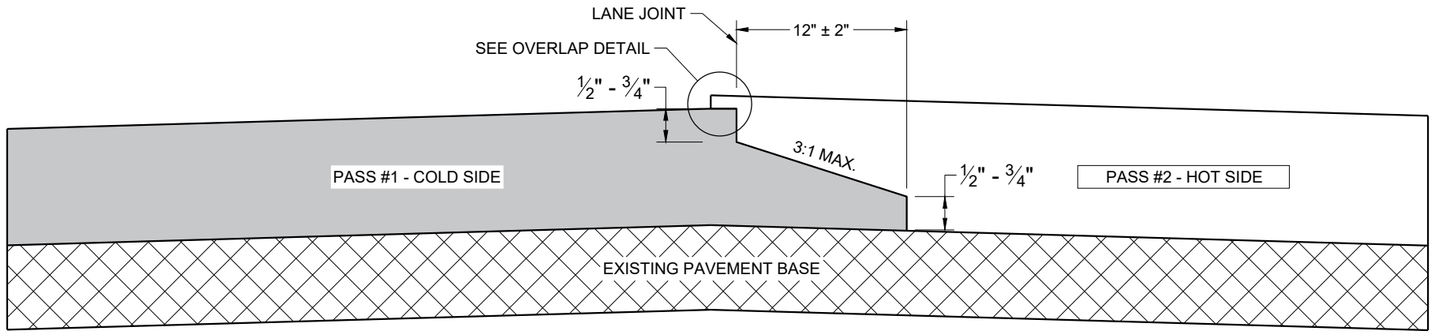
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

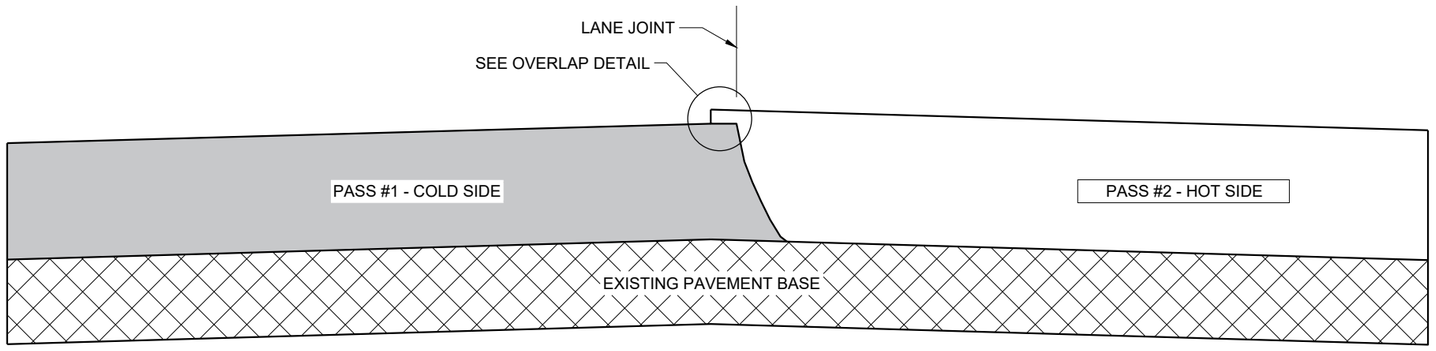
FHWA

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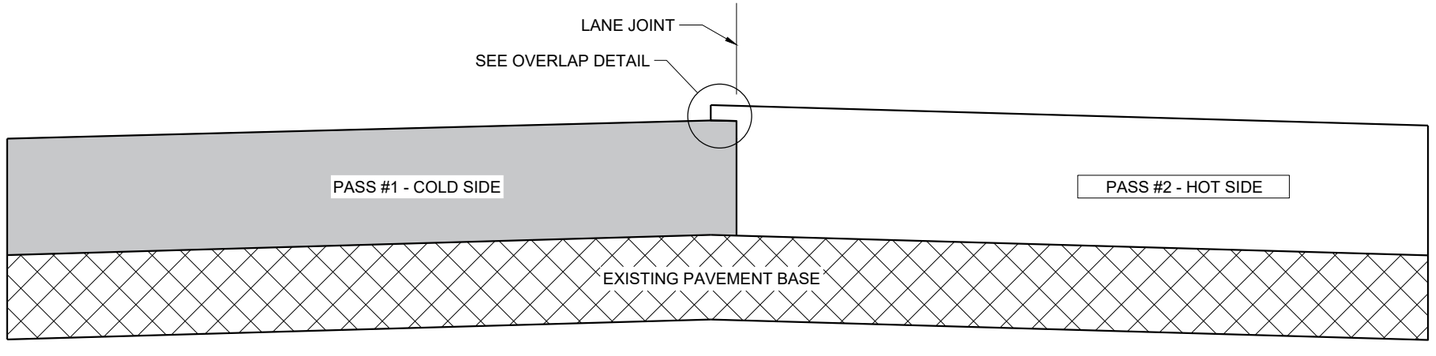
SDD 13A11 - 04d



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

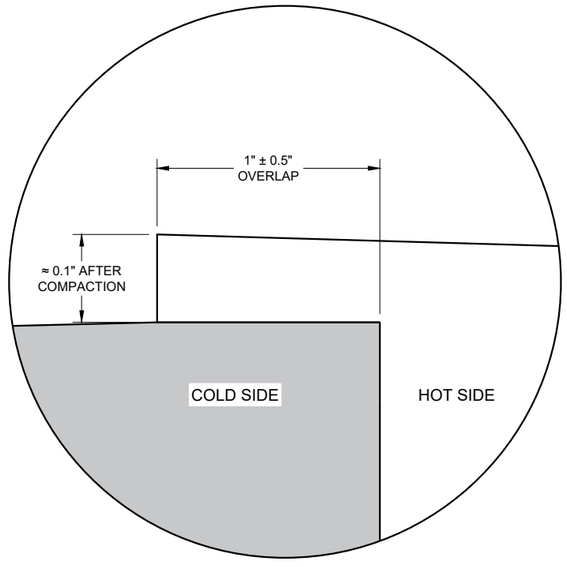
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

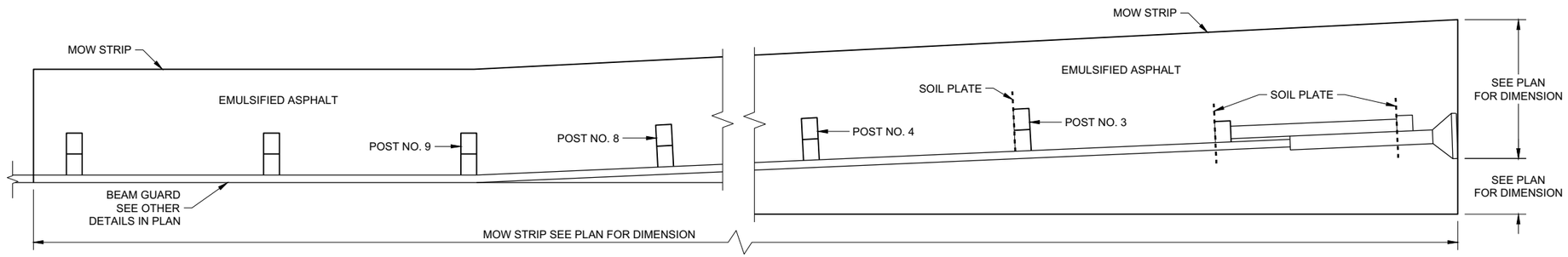
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

6

SDD 13C19 - 03



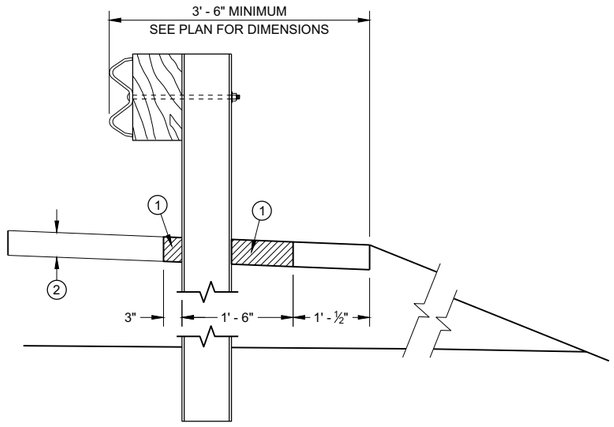
PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

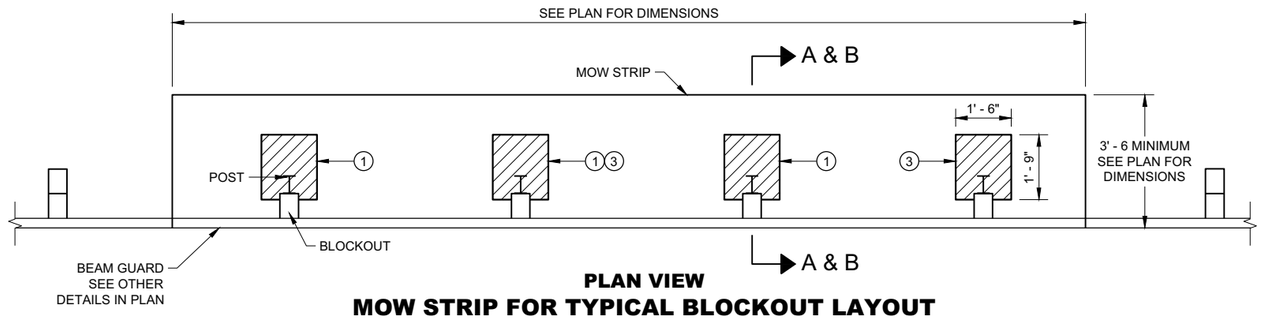
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)

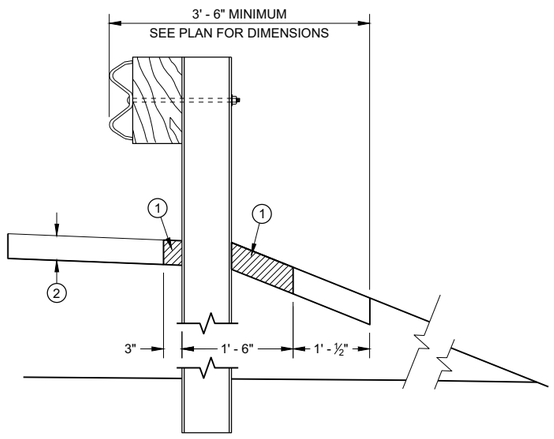


SECTION A - A

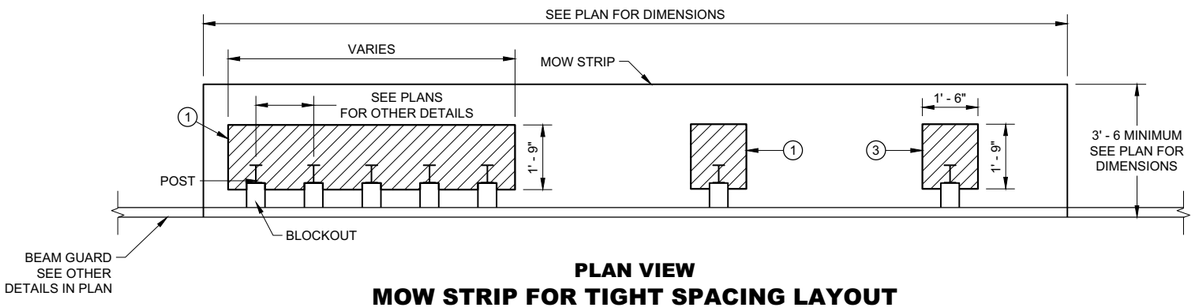


PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

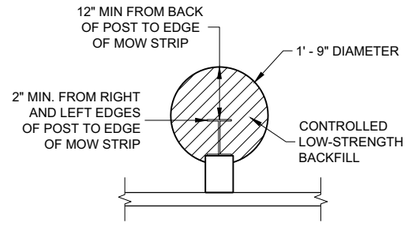


SECTION B - B

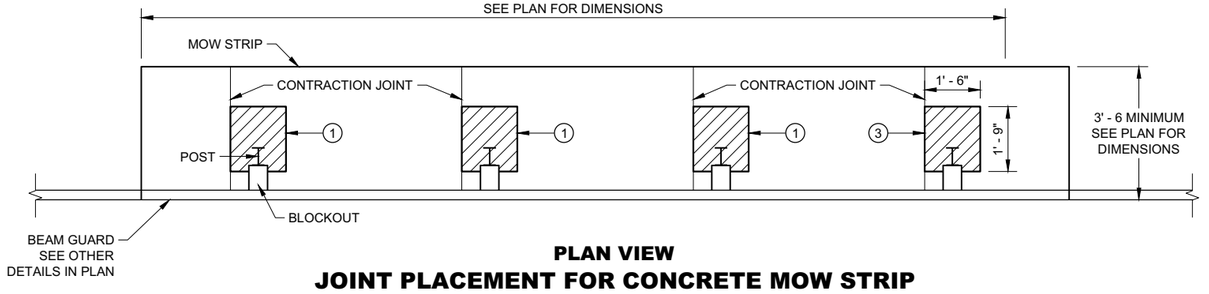


PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



ALTERNATIVE HMA MOW STRIP DESIGN



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B28 - 04a

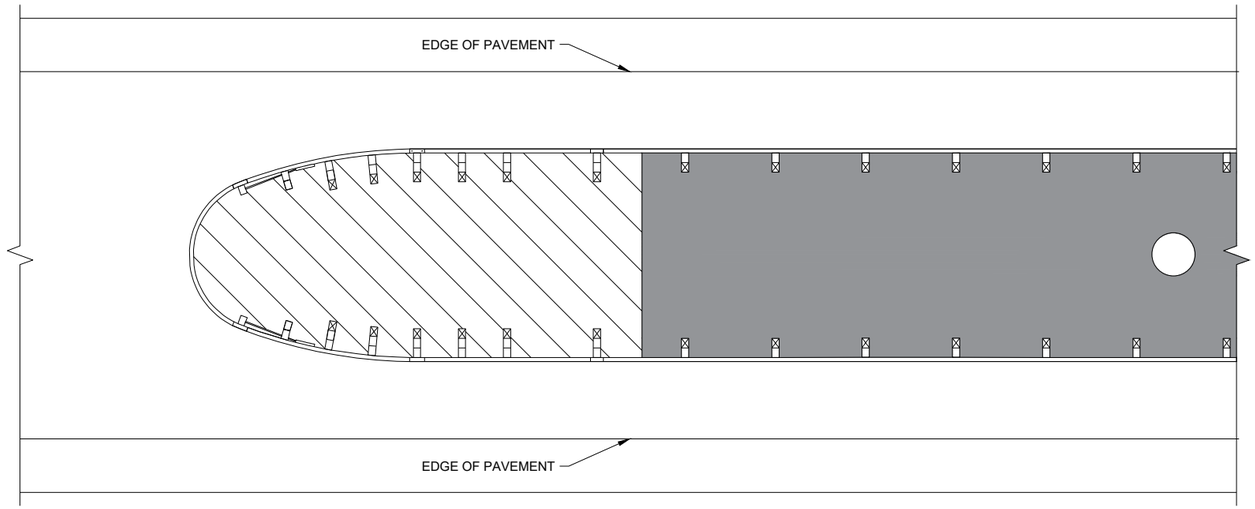
LEGEND

CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

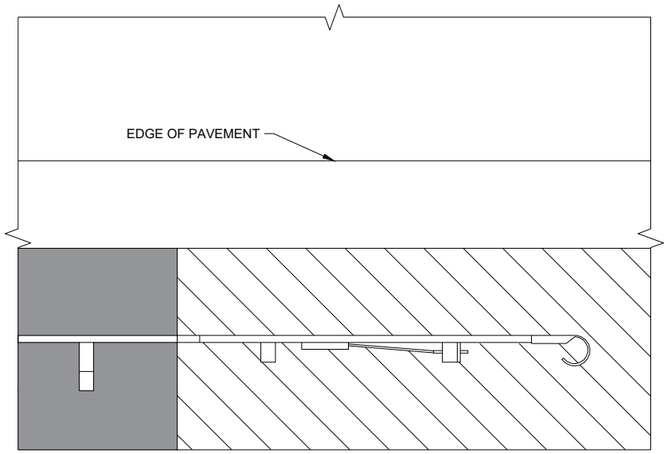
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

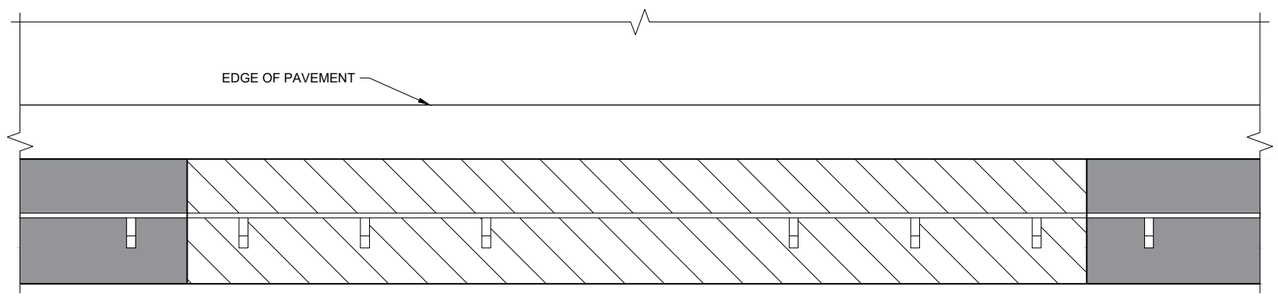
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



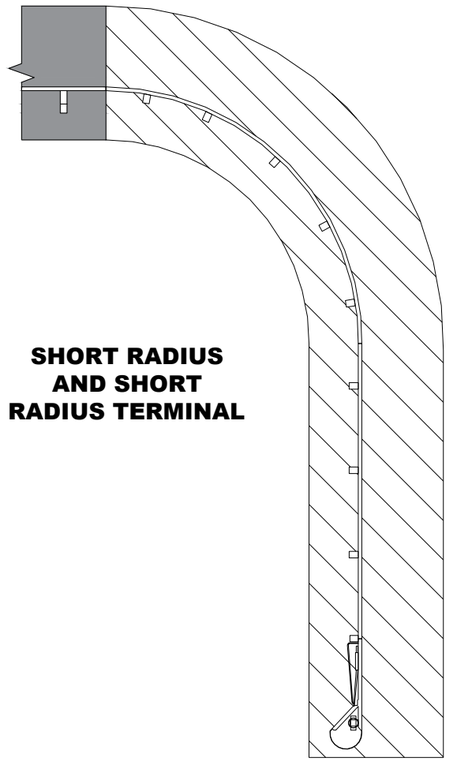
THRIE BEAM BULLNOSE



TYPE 2 TERMINAL



LONG - SPAN



SHORT RADIUS AND SHORT RADIUS TERMINAL

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

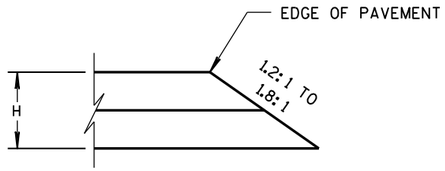
FHWA

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SDD 14B28 - 04b

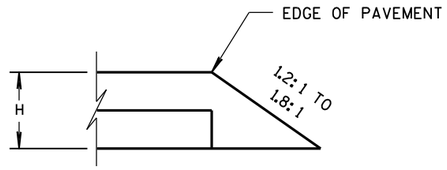
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SDD 14B28 - 04b



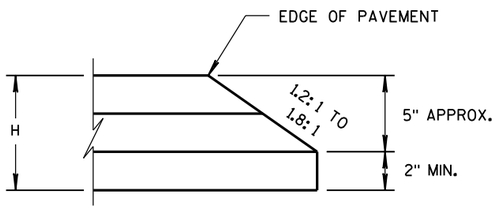
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



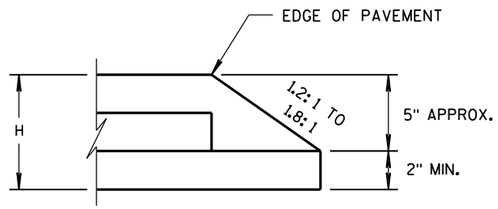
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

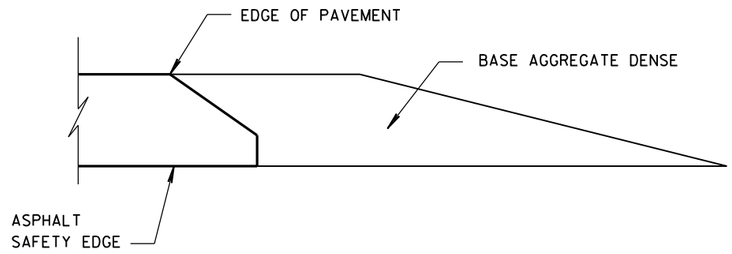
FOR H GREATER THAN 5"



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
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.

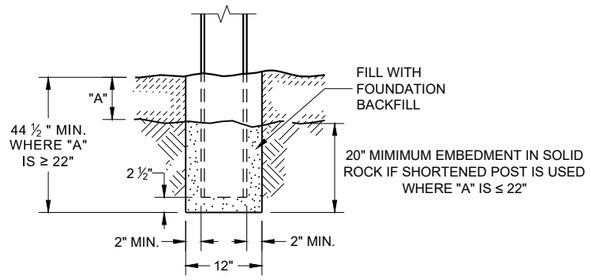
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

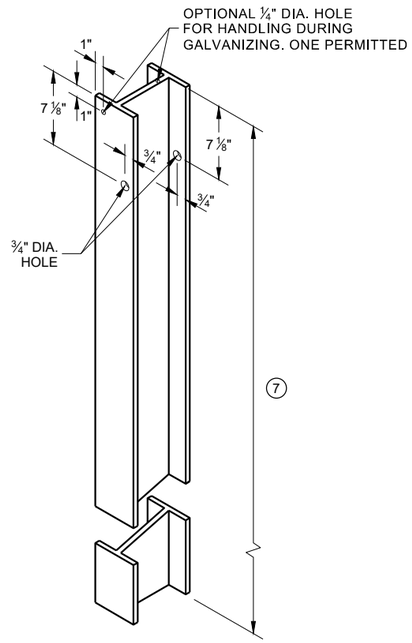
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

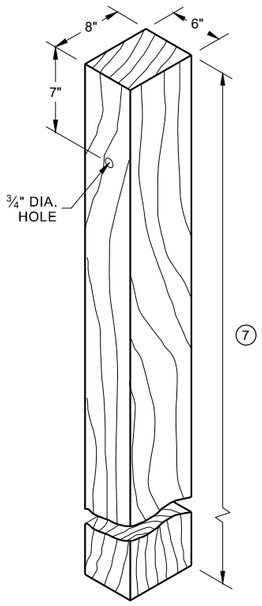
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



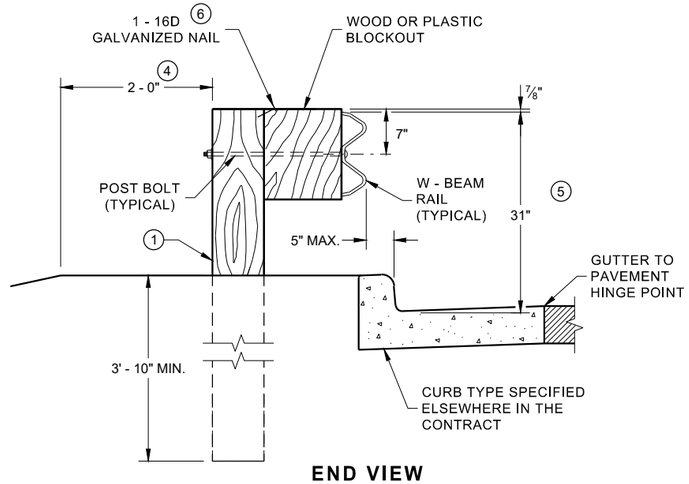
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



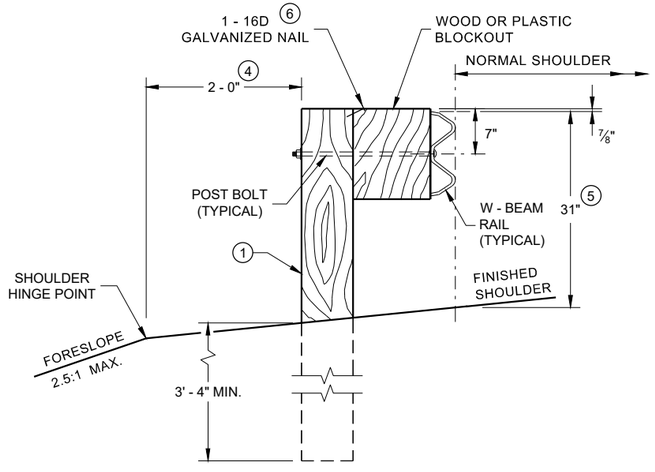
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



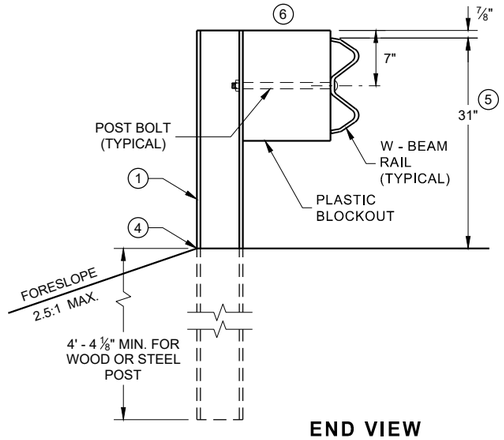
WOOD POST (6" X 8") NOMINAL (1)



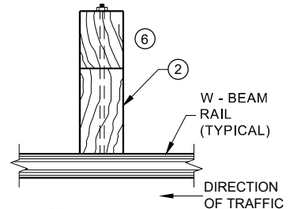
END VIEW
LOCATED ALONG A CURBED ROADWAY



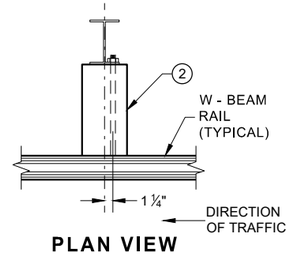
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



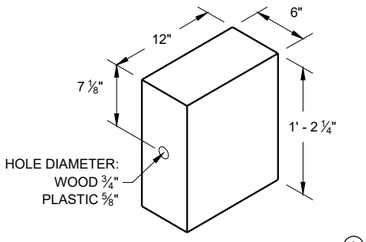
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

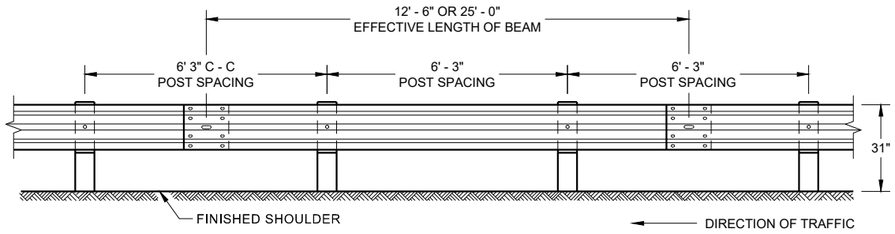


WOOD OR PLASTIC BLOCKOUT (2)

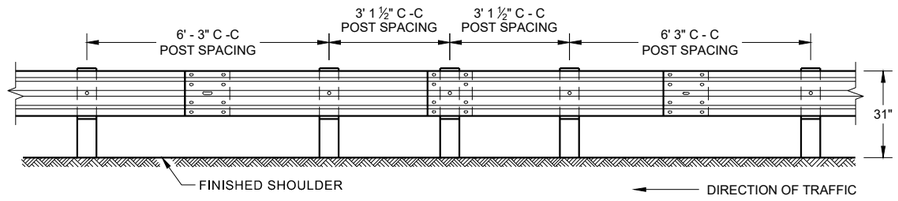
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

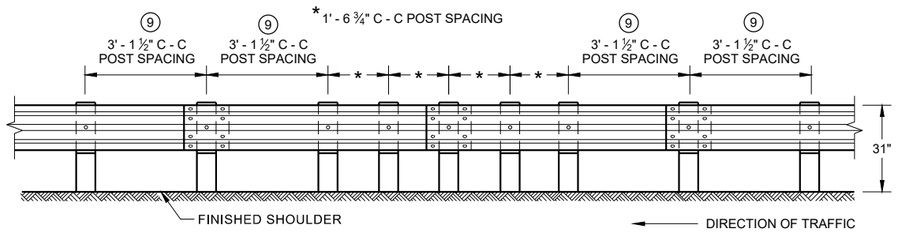
6
SDD 14B42 - 07a



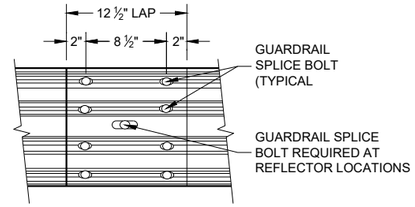
FRONT VIEW
POST SPACING STANDARD INSTALLATION



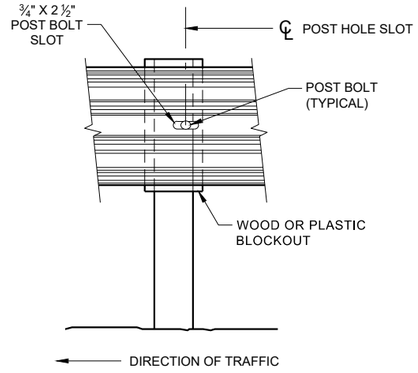
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



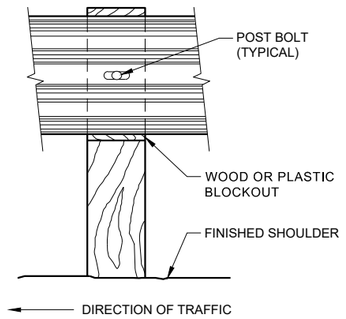
FRONT VIEW
QUARTER POST SPACING (QS)



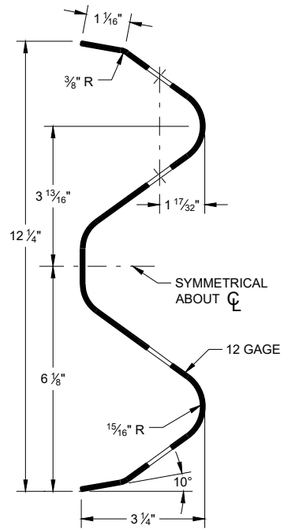
FRONT VIEW
MID-SPAN BEAM SPLICE



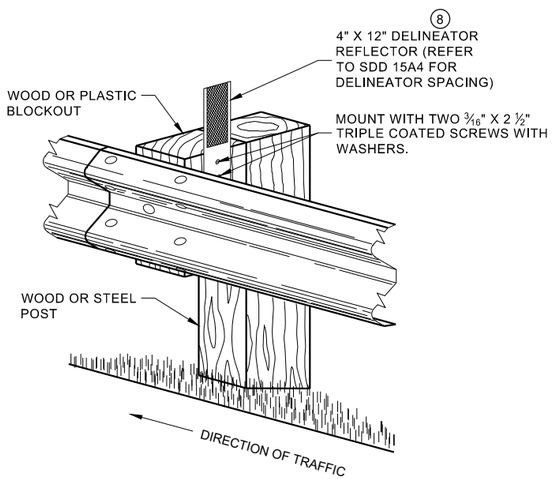
FRONT VIEW AT STEEL POST



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.

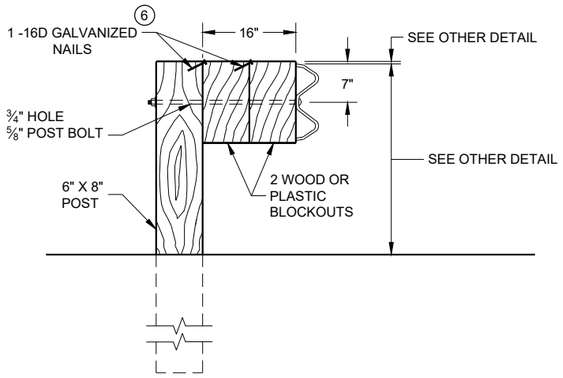
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07b

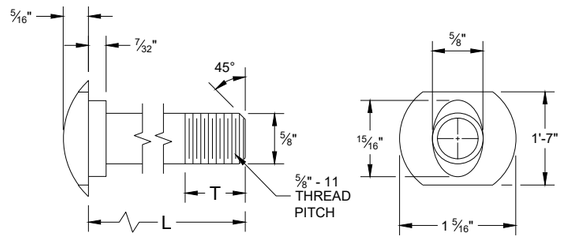


DETAIL FOR 16" BLOCKOUT DEPTH

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.

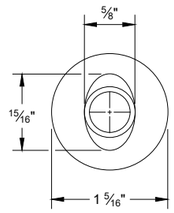
NOTE:

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.

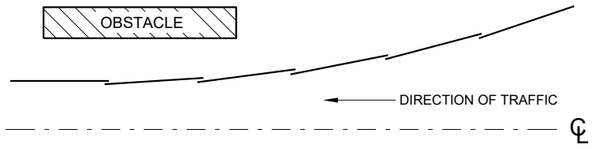


POST BOLT TABLE

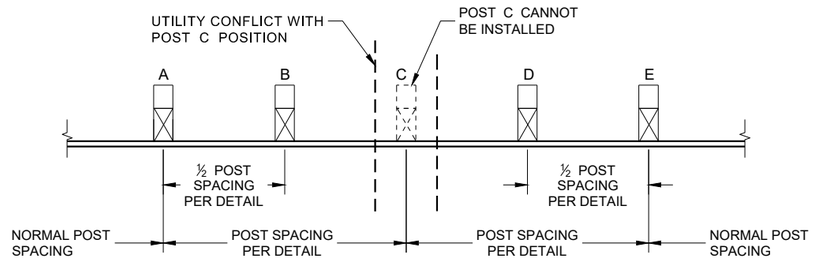
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



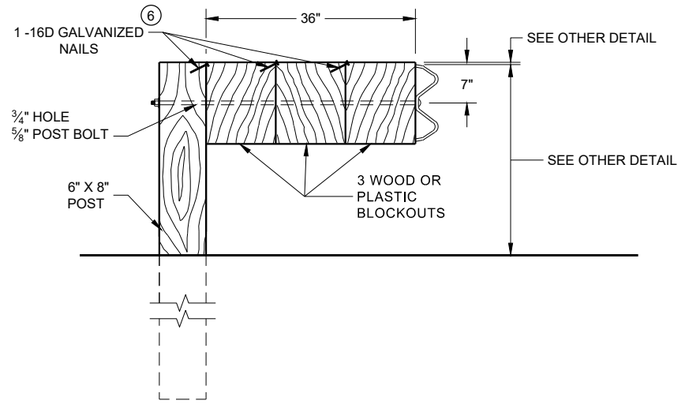
ALTERNATE BOLT HEAD



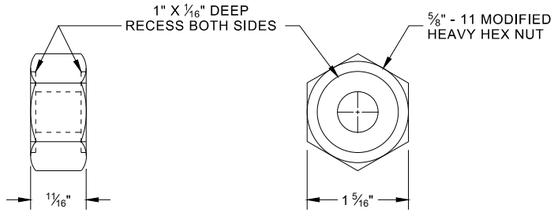
PLAN VIEW
BEAM LAPPING DETAIL



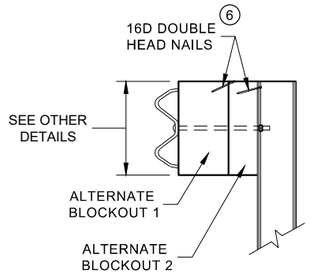
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



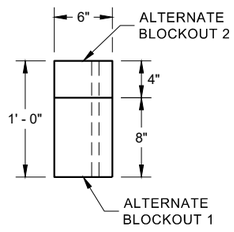
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

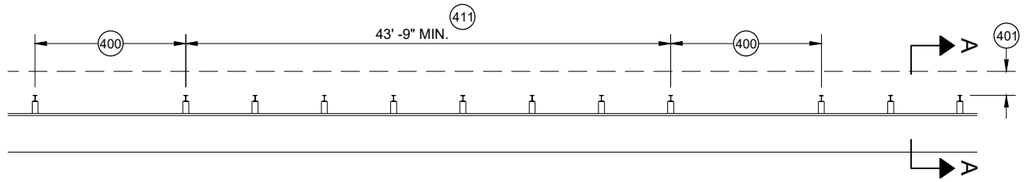
ALTERNATE WOOD BLOCKOUT DETAIL

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.

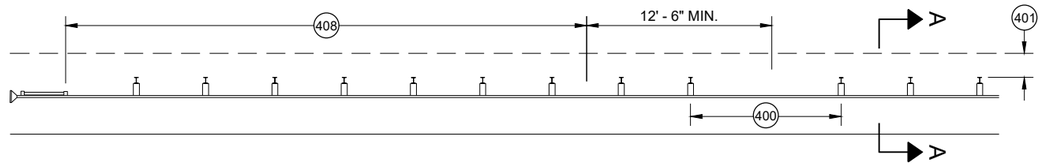
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(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.

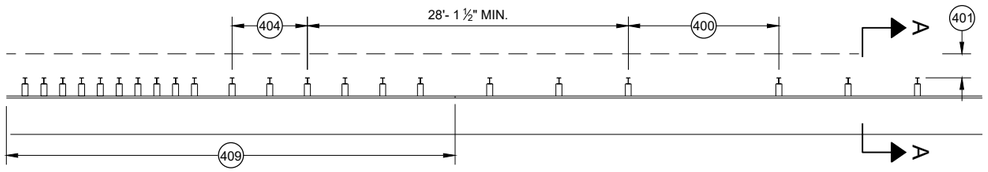
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



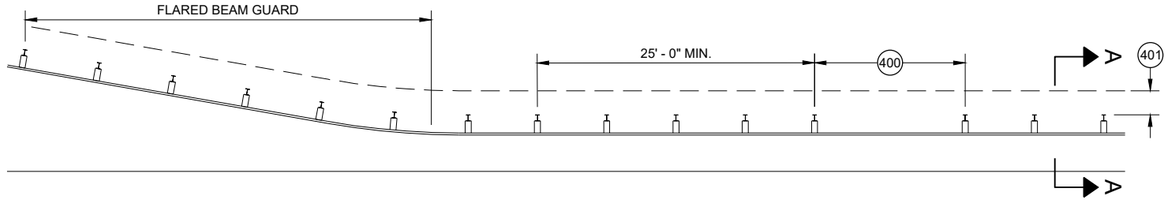
MISSING POST IN MGS GUARDRAIL



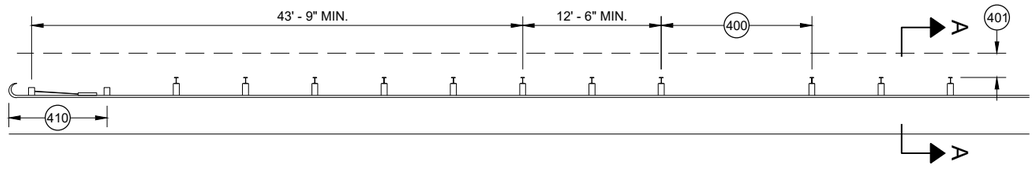
MISSING POST IN MGS GUARDRAIL NEAR EAT



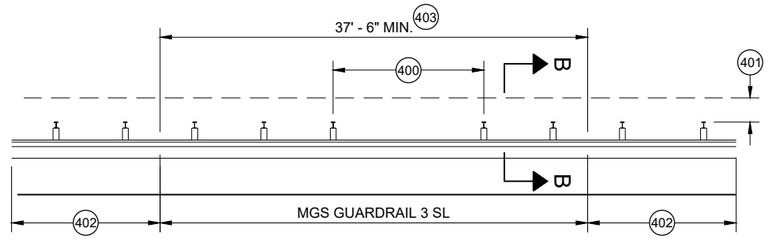
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

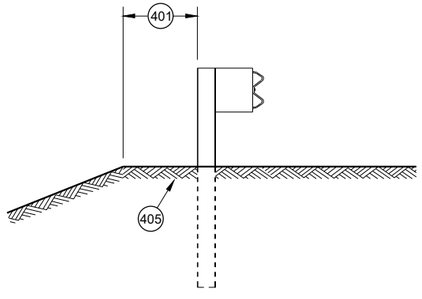


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

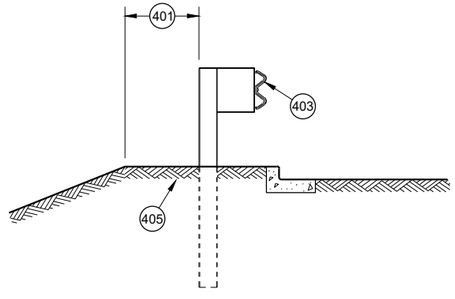


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(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

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.

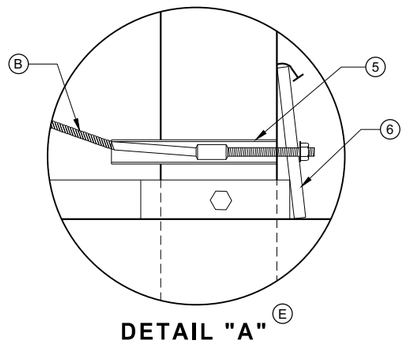
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

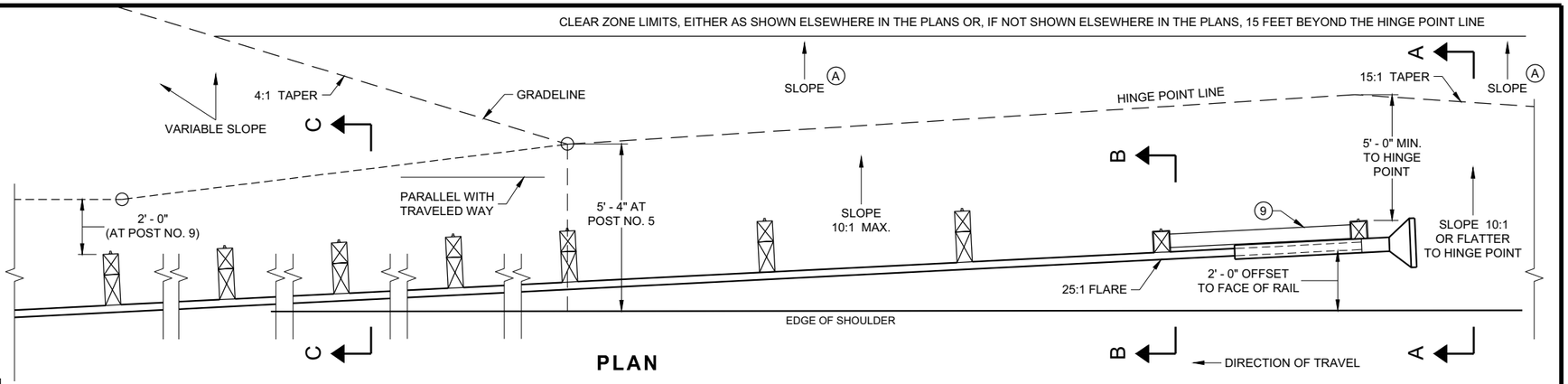
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

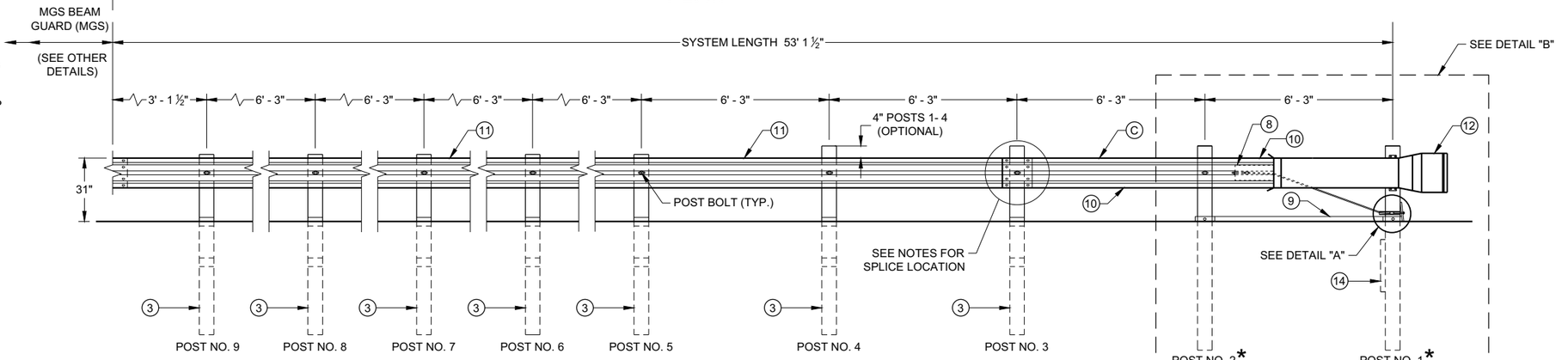
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

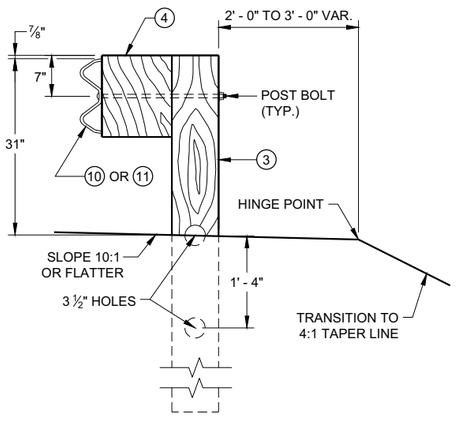
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



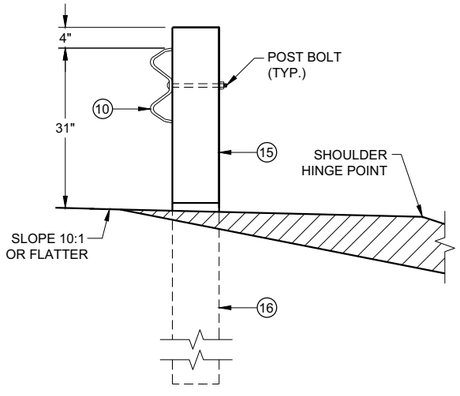
DETAIL "A" (E)



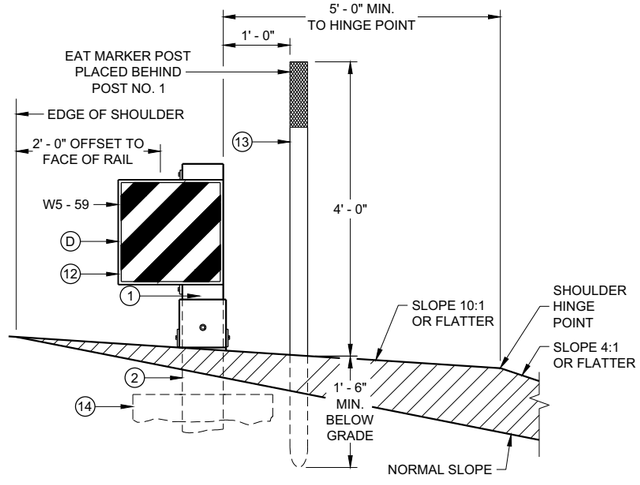




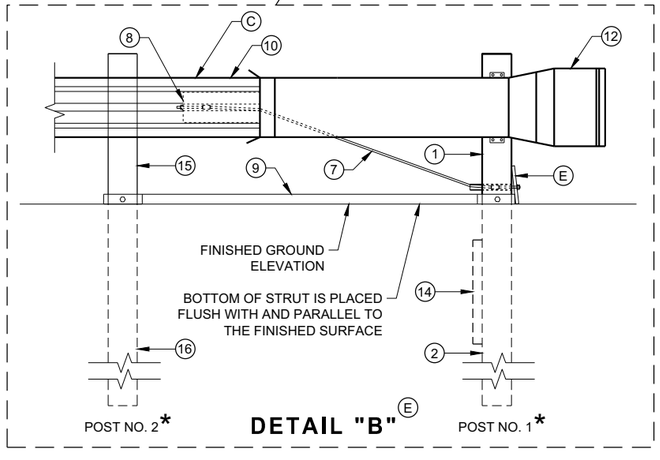
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



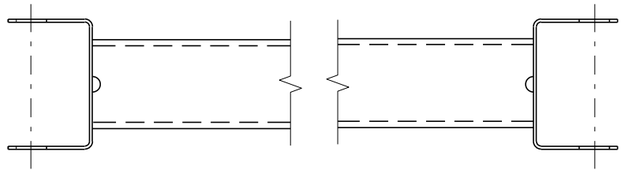
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

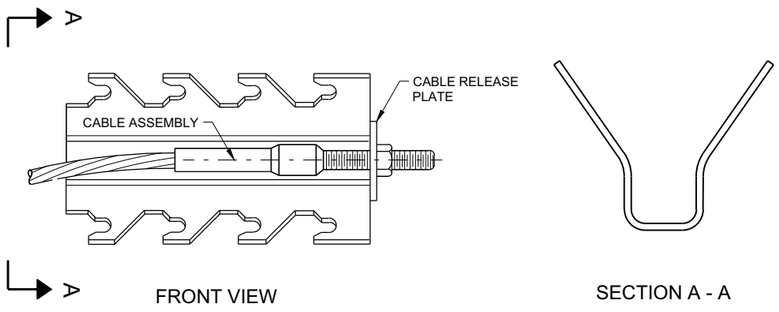
SDD 14B44 - 04a



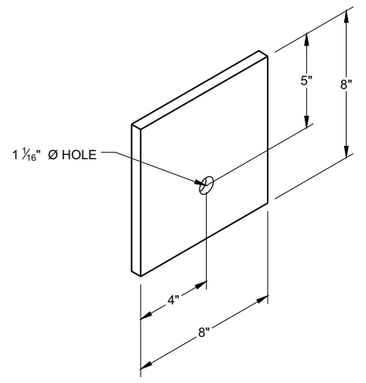
GENERIC GROUND STRUT ⑨ Ⓔ

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 Ⓔ



BEARING PLATE ⑥ Ⓔ

6

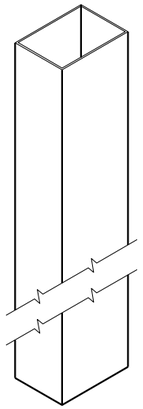
6

SDD 14B44 - 04b

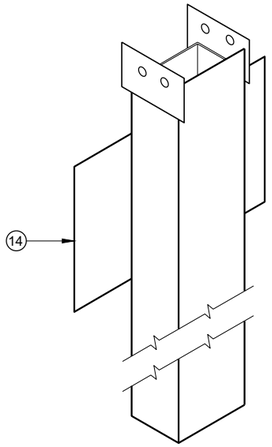
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

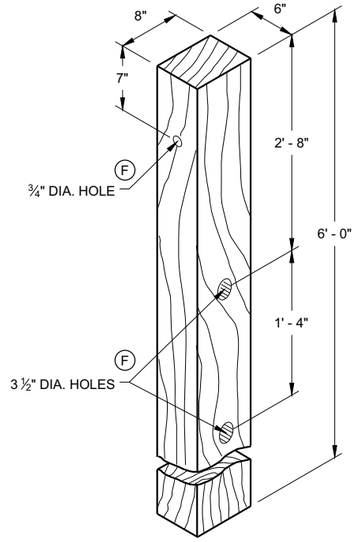
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



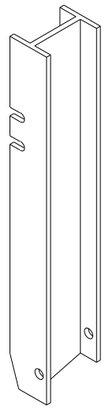
UPPER POST NO. 1 (1) (E)



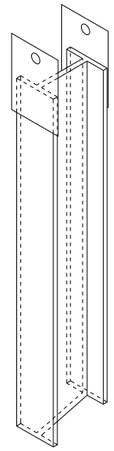
LOWER POST NO. 1 (2) (E)



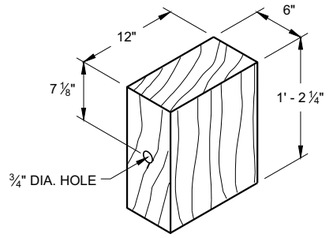
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



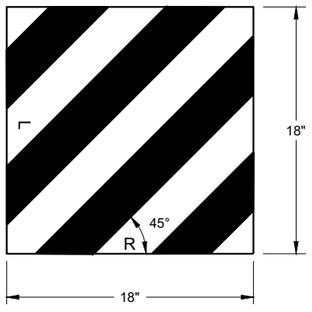
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

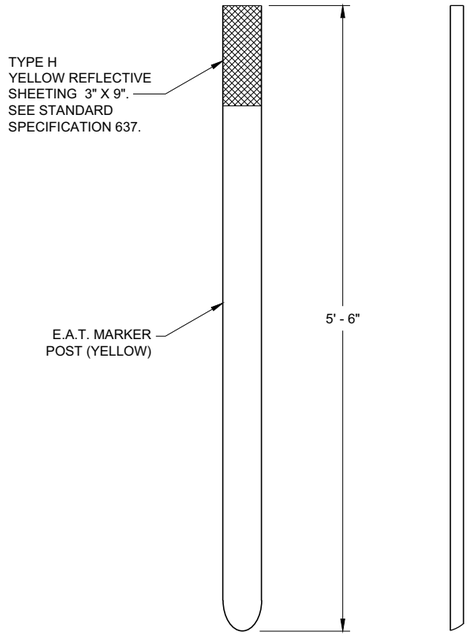


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



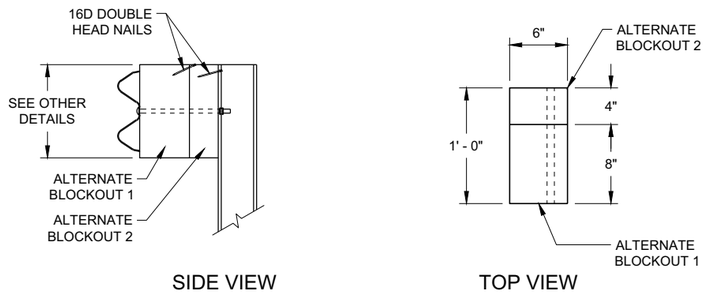
W5 - 59

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)

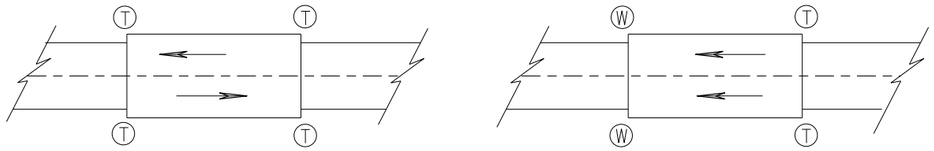
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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.

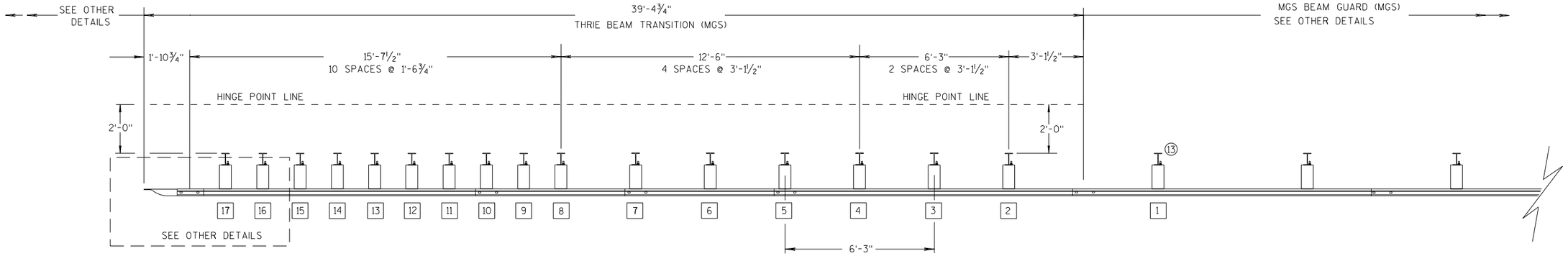
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

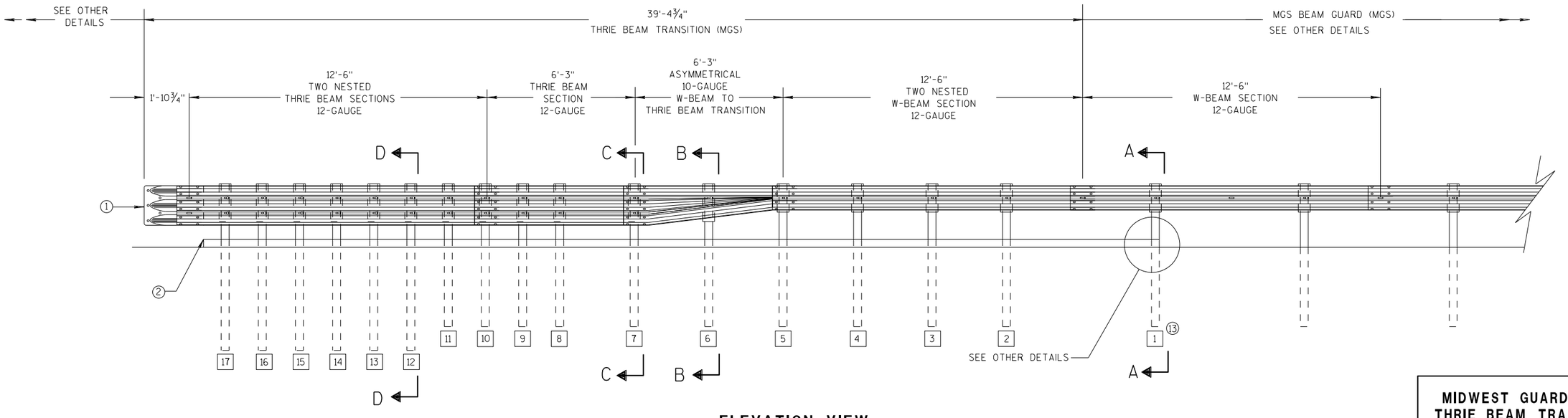
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(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

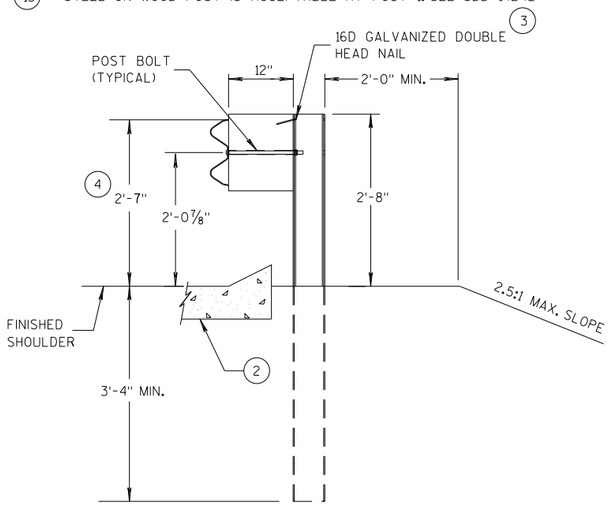
GENERAL NOTES

(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.

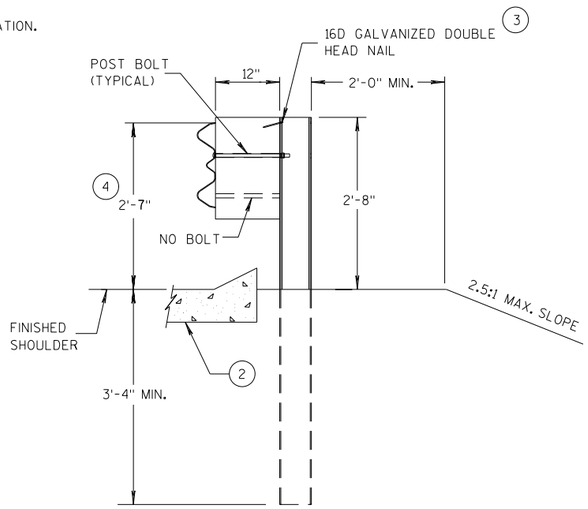
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



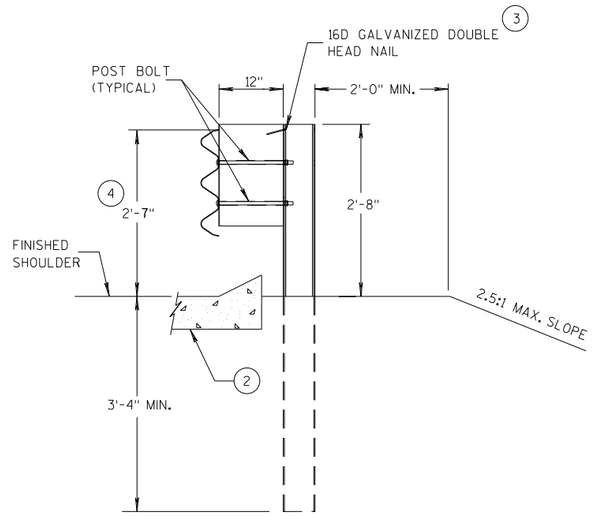
SECTION A-A (13)

POSTS 1-5



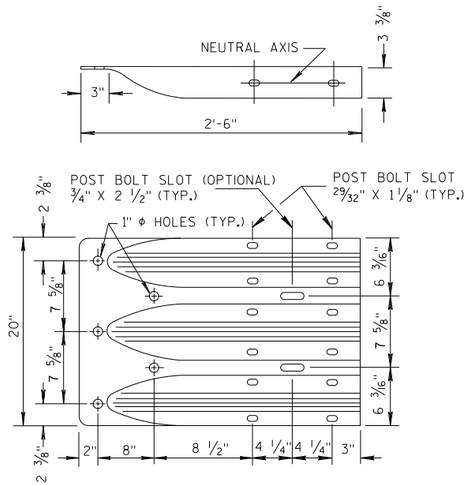
SECTION B-B

POST 6

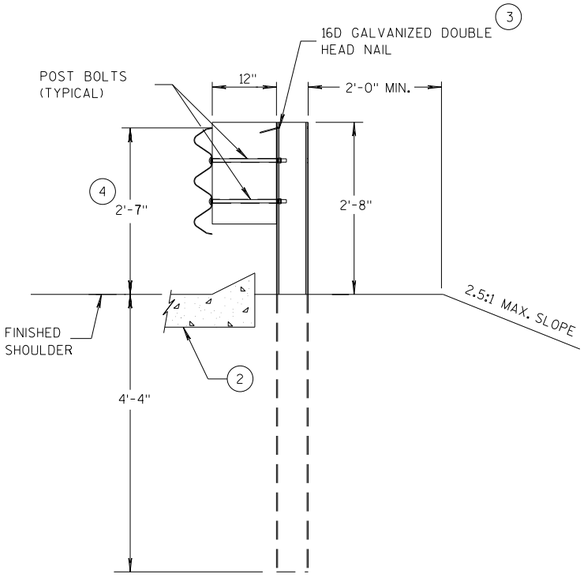


SECTION C-C

POSTS 7-11

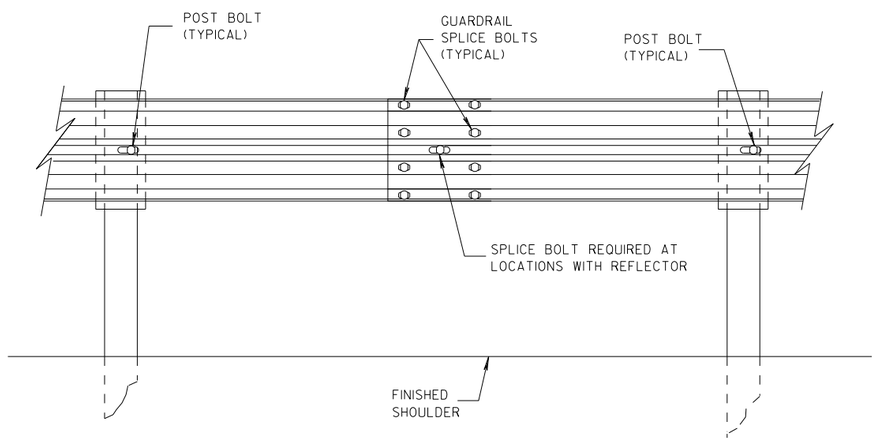


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

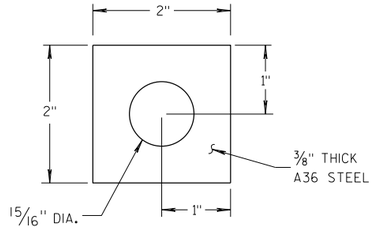
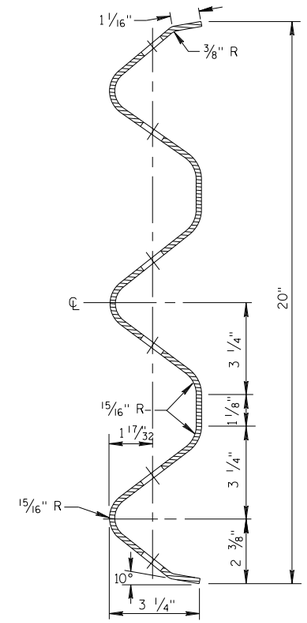


PLATE WASHER DETAIL



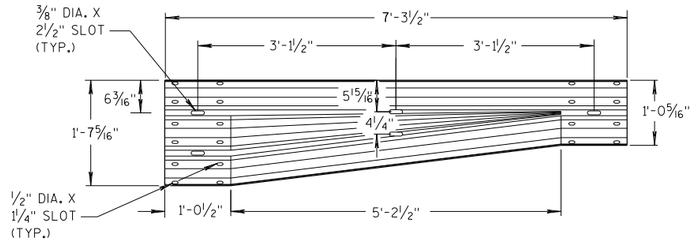
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

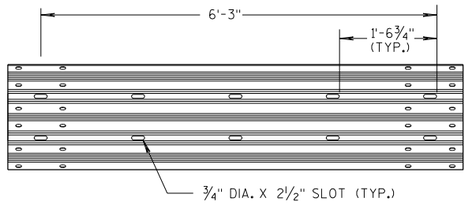
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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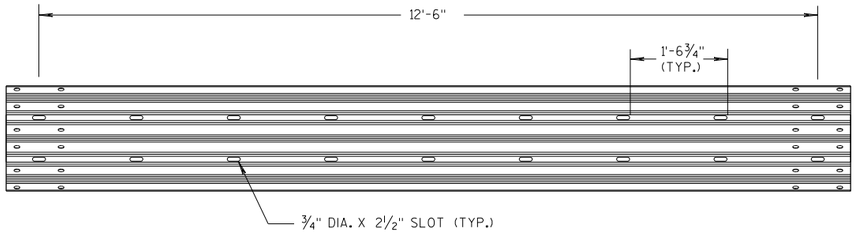
S.D.D. 14 B 45-5b



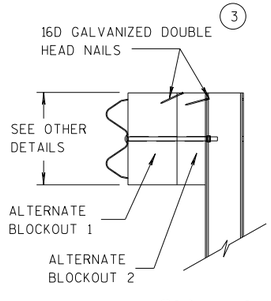
W-BEAM TO THRIE BEAM TRANSITION SECTION



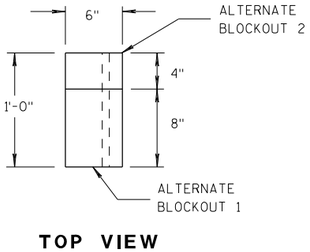
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

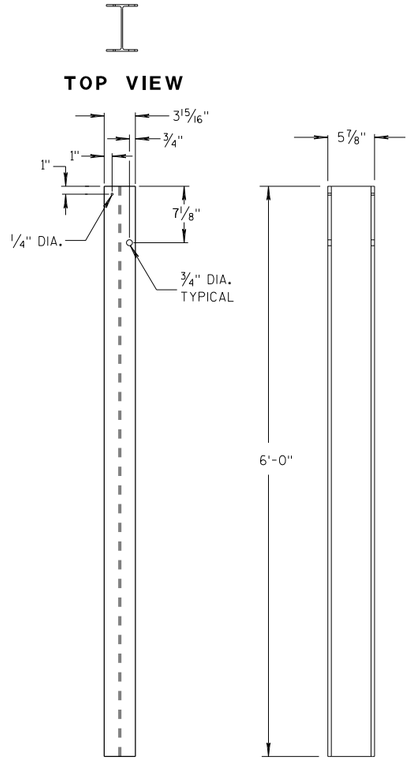


SIDE VIEW



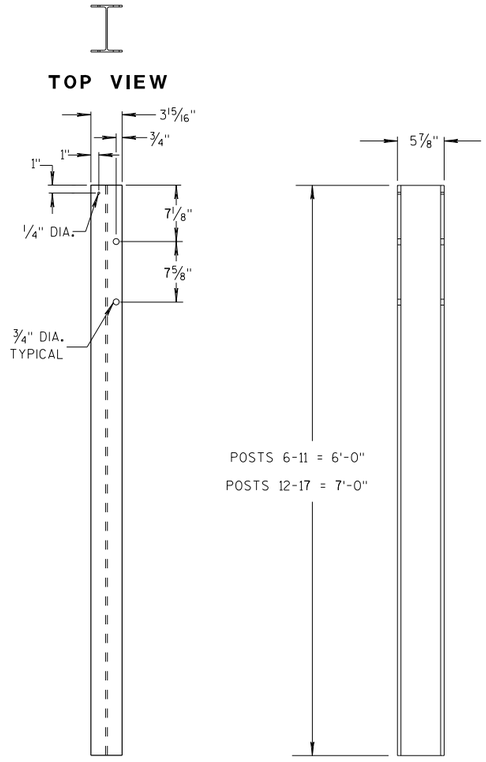
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



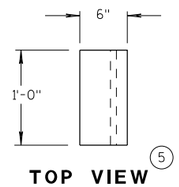
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

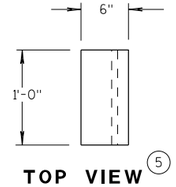


FRONT VIEW SIDE VIEW

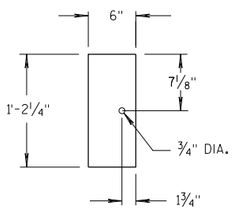
STEEL POSTS 6-17



TOP VIEW (5)

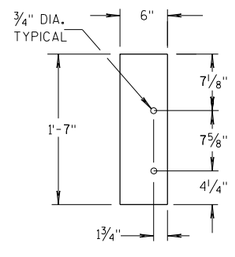


TOP VIEW (5)



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.

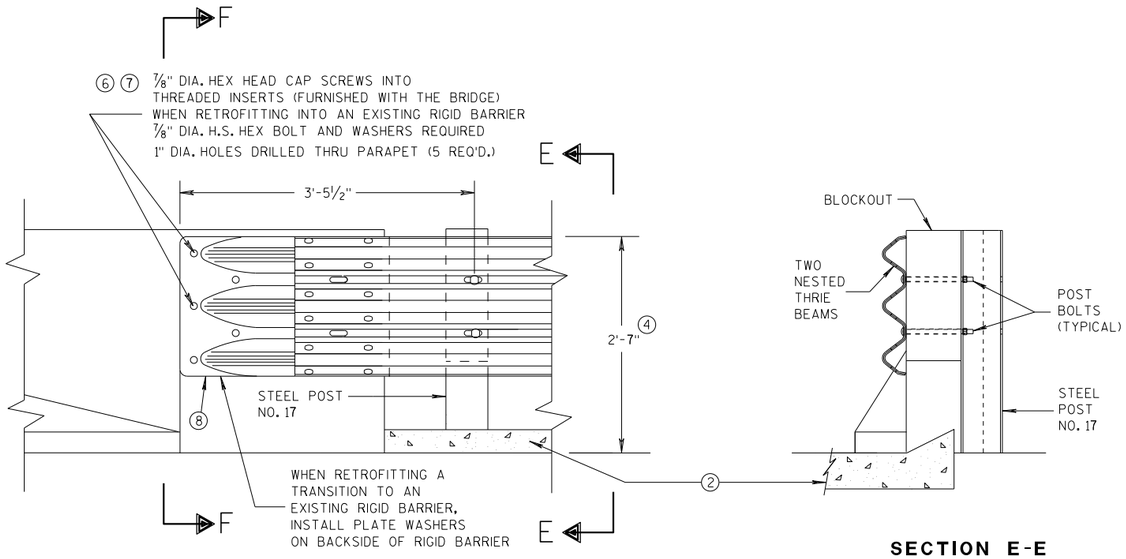
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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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.

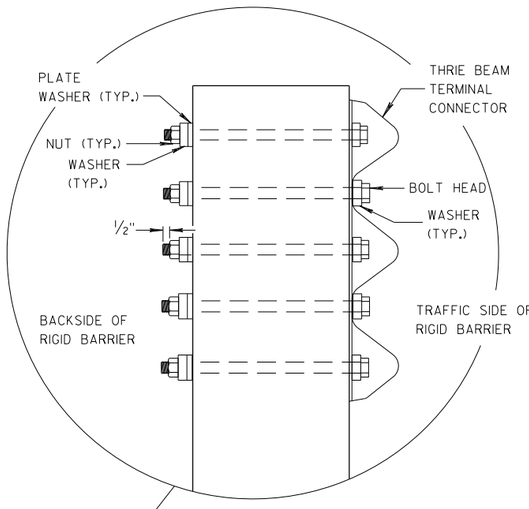
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

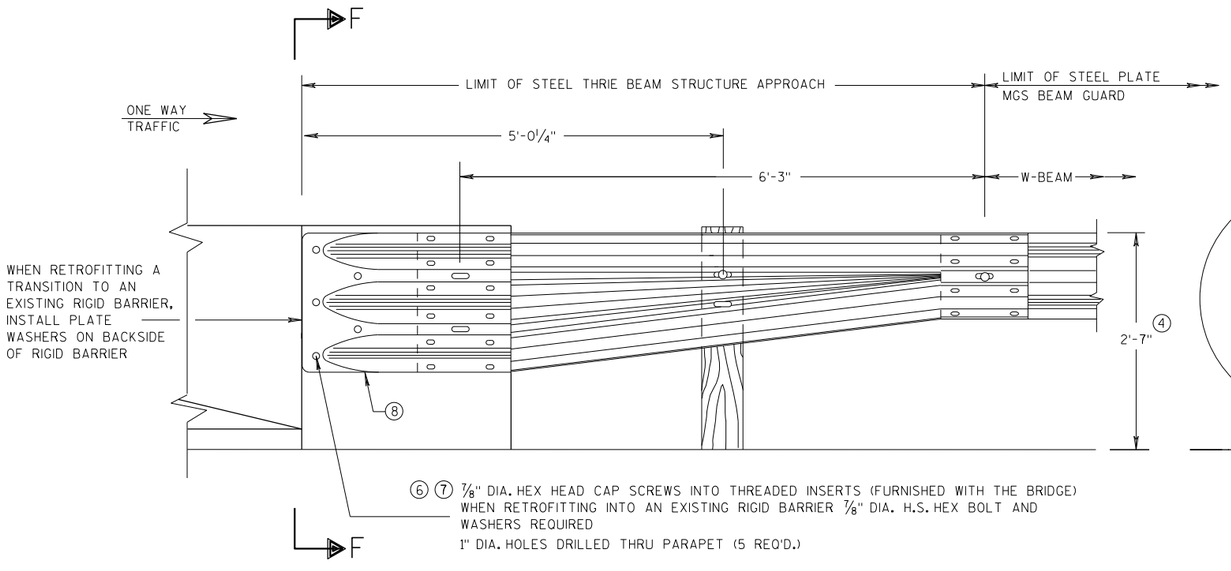
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

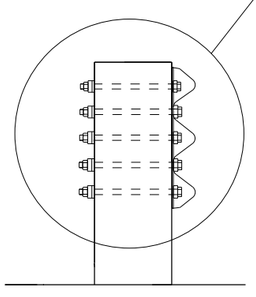
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

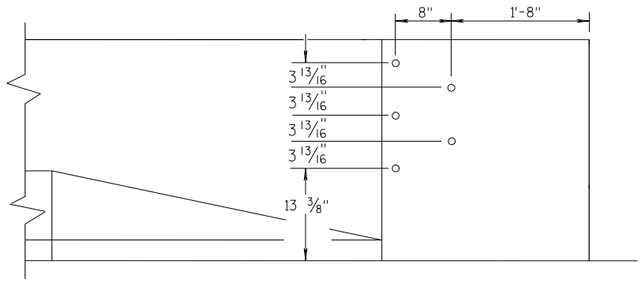




FRONT VIEW



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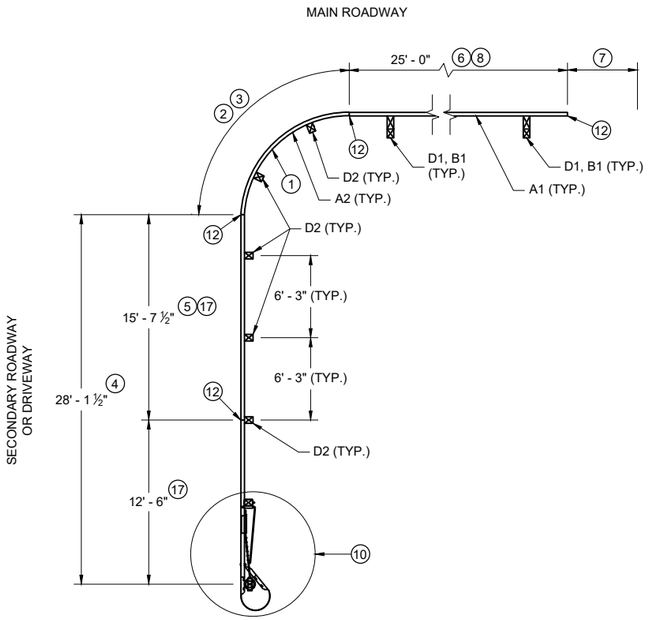
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[illegible] UNIT SUPERVIS[illegible]
[illegible]NT
FHWA

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

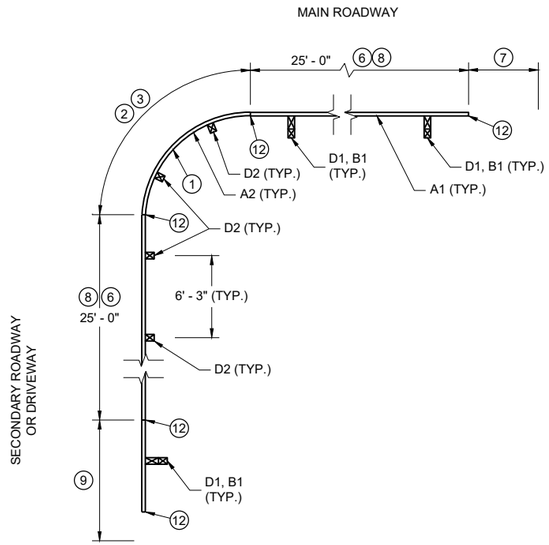
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S.D.D. 14 B 45-5d



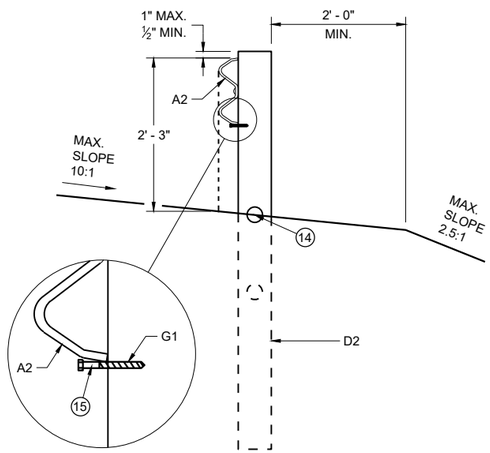
PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

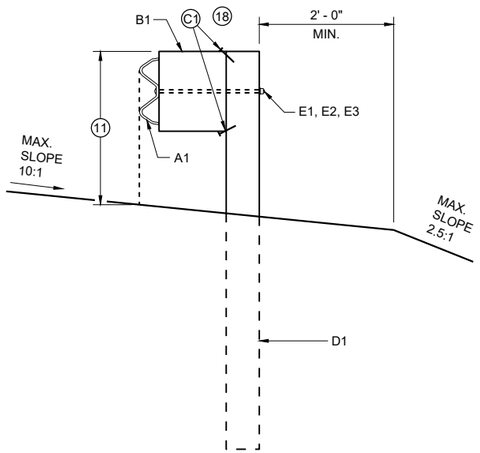


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY



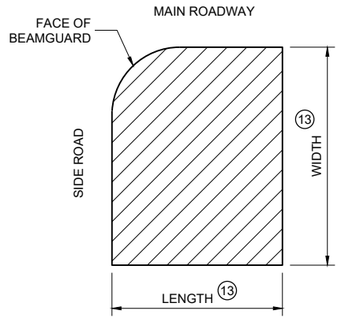
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



BEAM GUARD POSTS IN HEIGHT TRANSITION

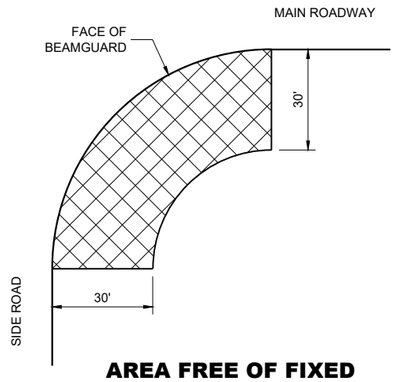
TABLE FOR RADIUS OF 32' AND LESS

RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30

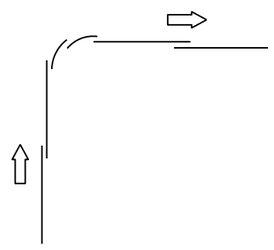


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AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

(1) RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.

(2) CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.

(3) WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.

(4) MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.

(5) ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.

(6) MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.

(7) BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.

(8) TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.

(9) ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.

(10) SHORT RADIUS TERMINAL (SEE OTHER DETAILS).

(11) HEIGHT VARIES. SEE NOTE (8) AND (17).

(12) BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.

(13) SEE TABLE FOR VALUES.

(14) MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾ " ABOVE FINISHED GROUND ±1".

(15) DRILL POST $^{15}/_{64}$ " DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.

(16) SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.

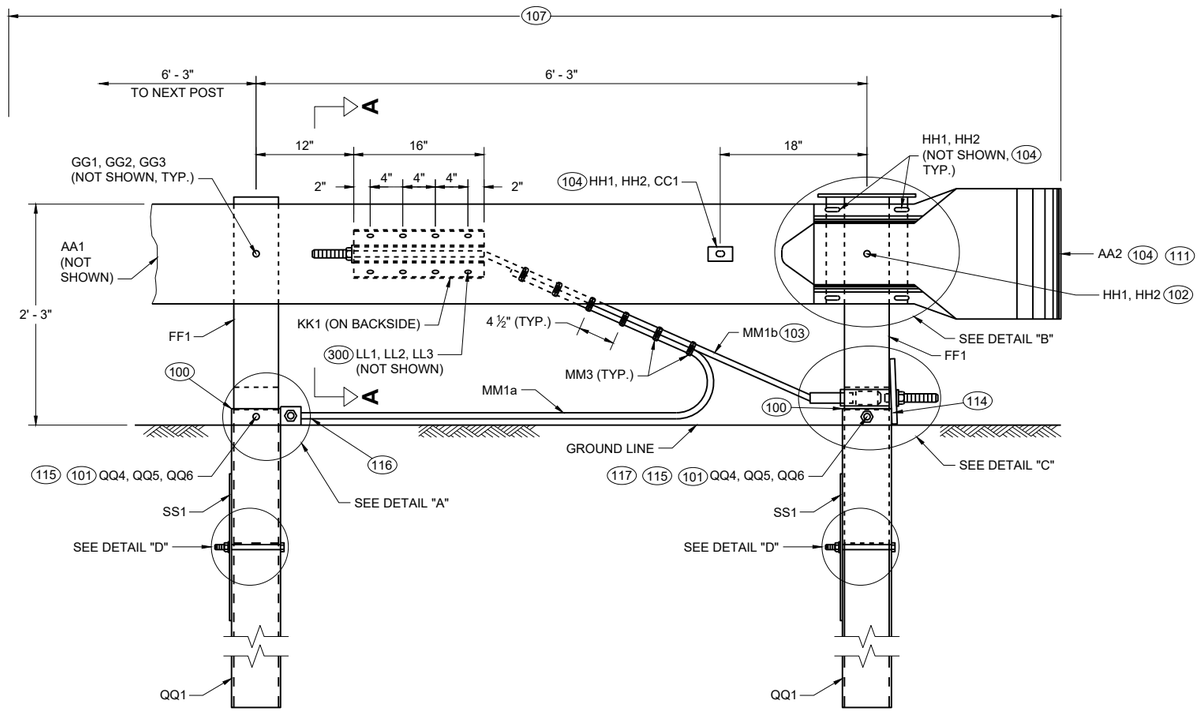
(17) TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).

(18) INITIAL 1 NAIL AT EACH CORNER OF THE BLOCK TO CONNECT BLOCKS.

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

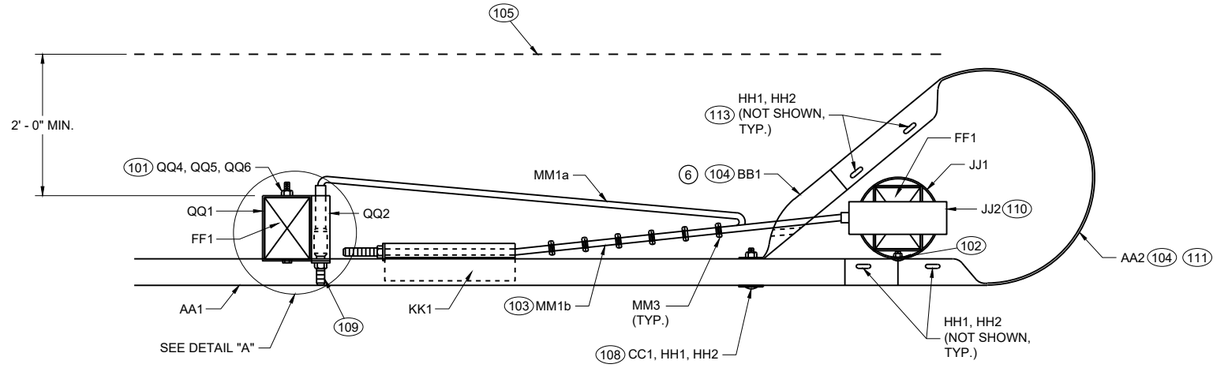
STATE OF WISCONSIN
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PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

(100) TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

(101) WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

(102) SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

(103) CABLE IS TAUT.

(104) ADJUST AA2 AND BB1 TO FIT.

(105) BREAK POINT OF SHOULDER.

(106) TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

(107) PAY LIMIT FOR BEAM GUARD.

(108) SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

(109) CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS 1/2" TOLERANCE). DEBURR AFTER CUTTING.

(110) SEE STEEL PIPE ASSEMBLY DETAILS.

(111) ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

(112) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

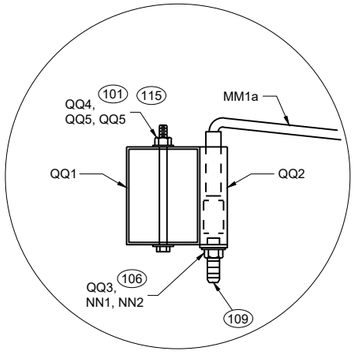
(113) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.

(114) NO MATERIAL IS TO BE PLACED AGAINST THE VERTICAL FACES OF BEARING PLATE.

(115) PREVENT OR REMOVE MATERIALS THAT BLOCK ACCESS TO BOLTS FOR POST AND SOIL TUBE.

(116) PREVENT OR REMOVE MATERIALS THAT BLOCK ACCESS TO BOLT. PLACE CABLE ON TOP OF MATERIAL.

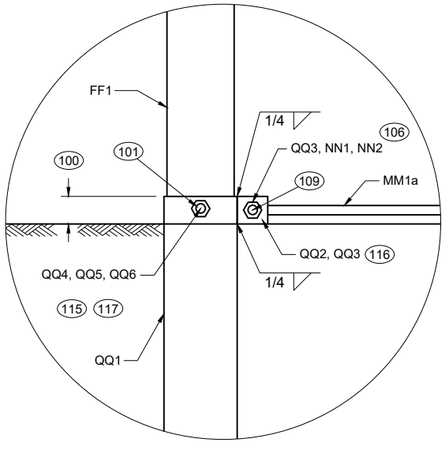
(117) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

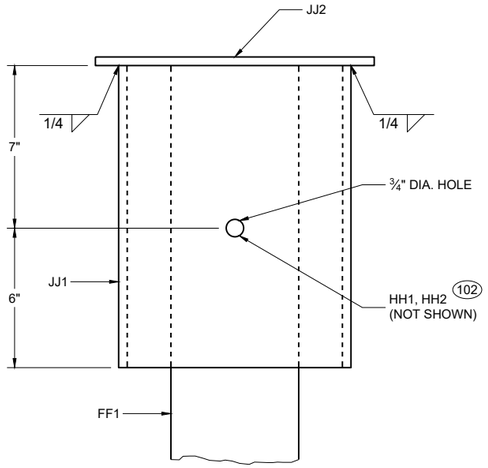
DETAIL "A"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

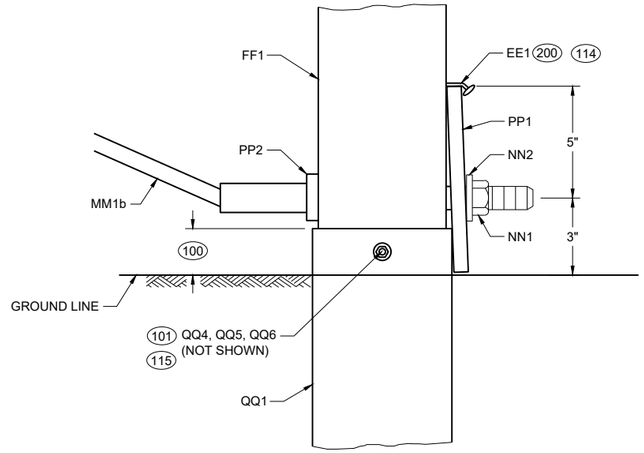
GENERAL NOTES

(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



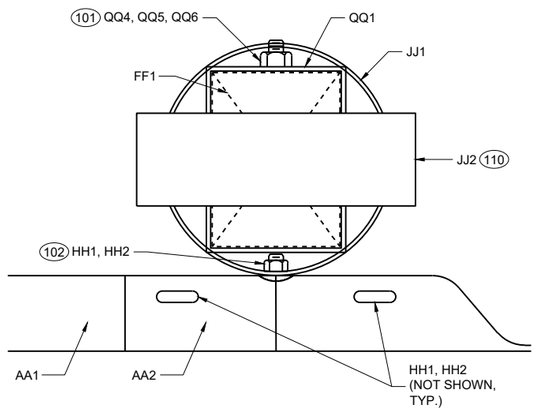
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



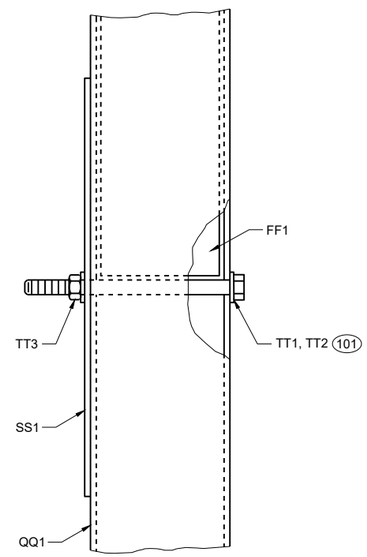
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

DETAIL "D"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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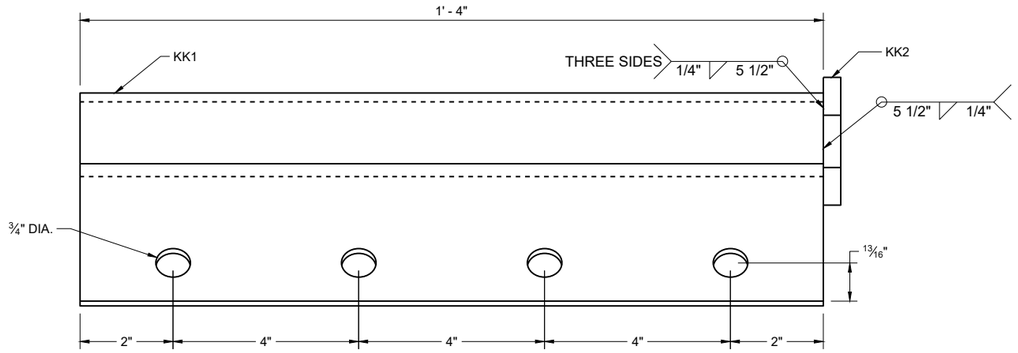
SDD 14B53-04c

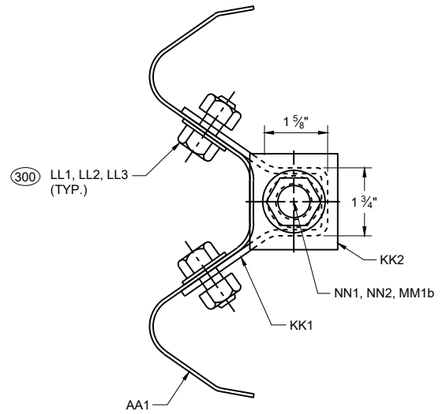
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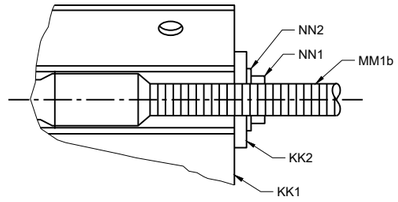
SDD 14B53-04c

GENERAL NOTES

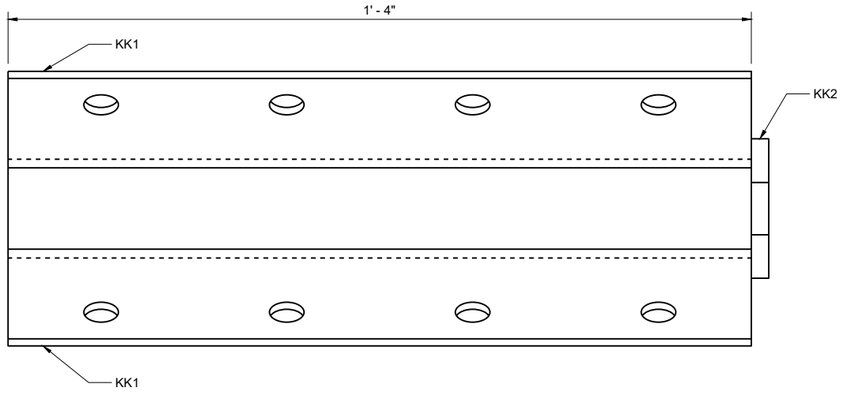
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

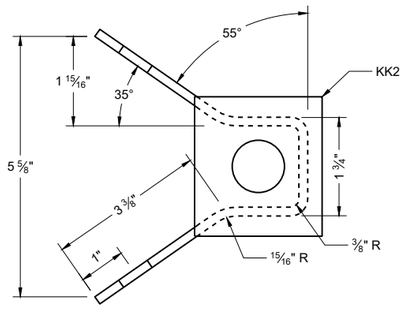




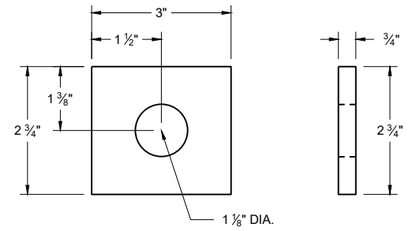


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

6

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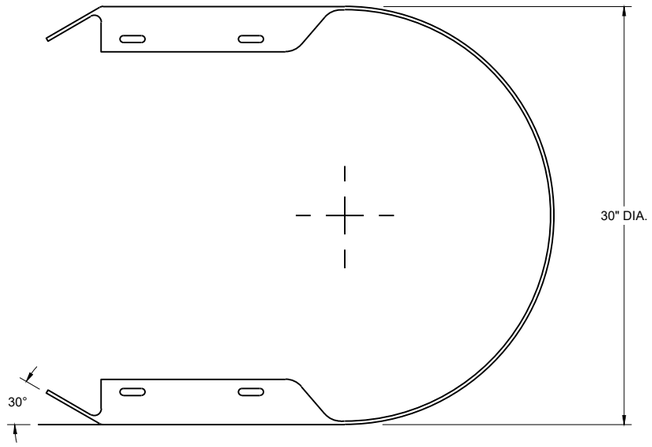
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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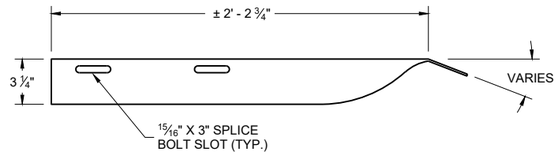
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

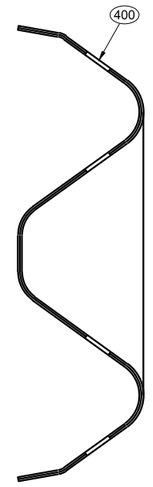
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



TOP VIEW



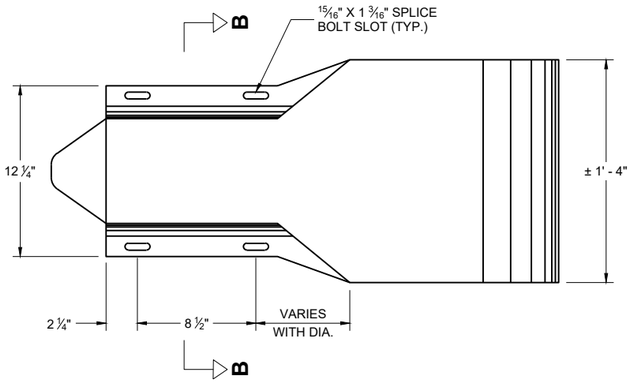
TOP VIEW



SECTION B -B

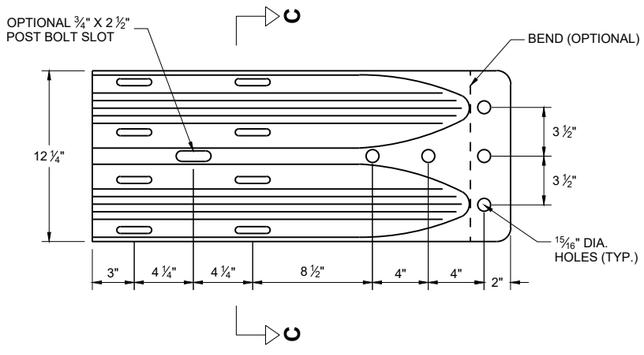


SECTION C -C



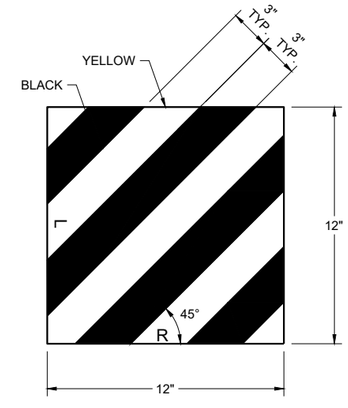
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)

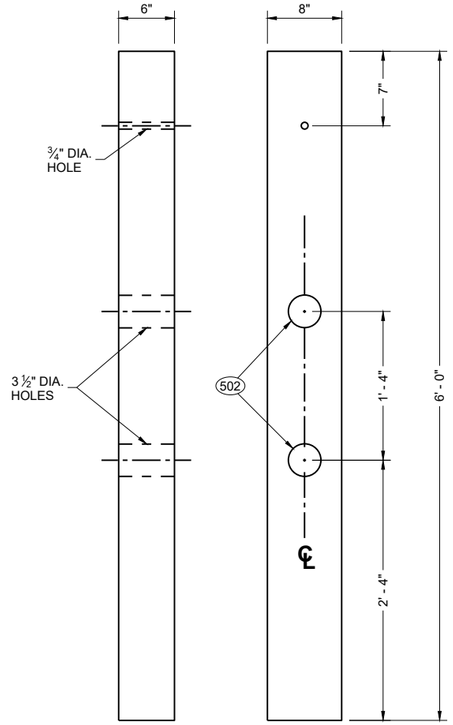


REFLECTIVE SHEETING (UU1, UU2)

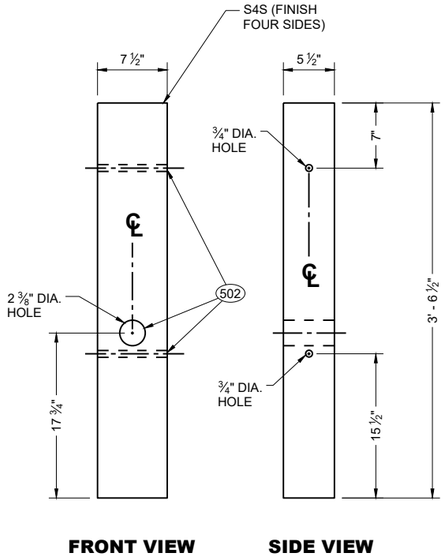
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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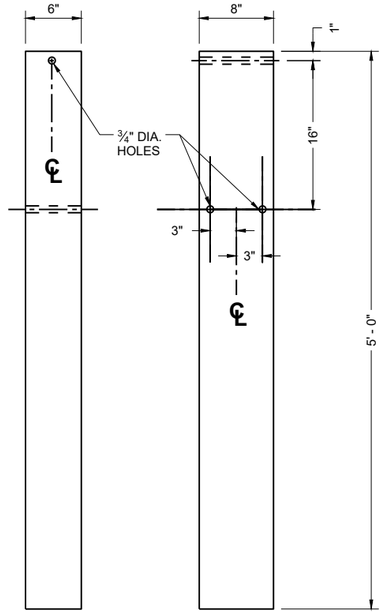
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CONTROLLED RELEASE POST (CRT) (DD2)



WOOD BREAKAWAY POST (FF1)



FOUNDATION TUBE (QQ1) (500)

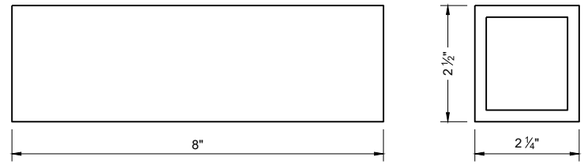
GENERAL NOTES

(500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

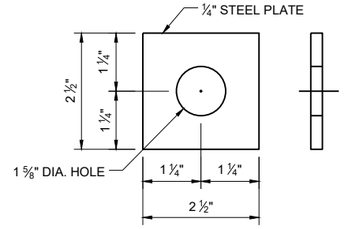
(501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

(502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

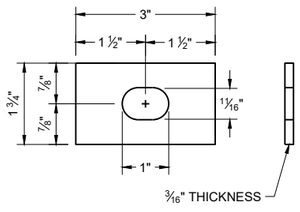
(503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109)



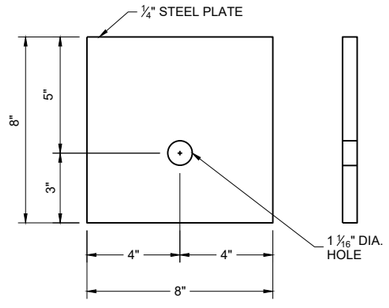
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



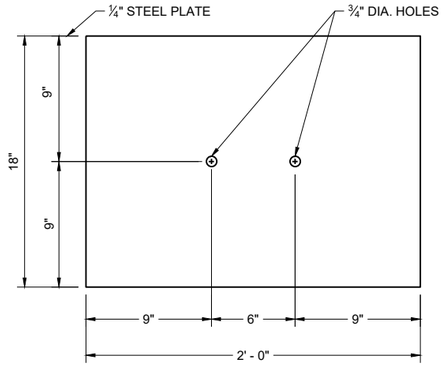
ANCHOR CABLE TUBE END PLATE (QQ3)



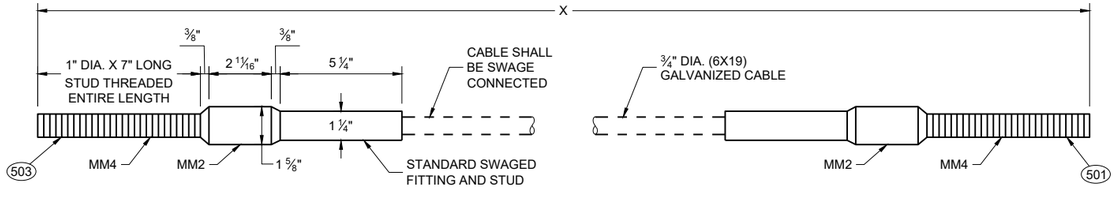
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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SDD 14B53-04g

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	3/8" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	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	DIMENSIONS 3/8" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	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	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	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	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	5/8" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	3/4"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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SDD 14B53-04h

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	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	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	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	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	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	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

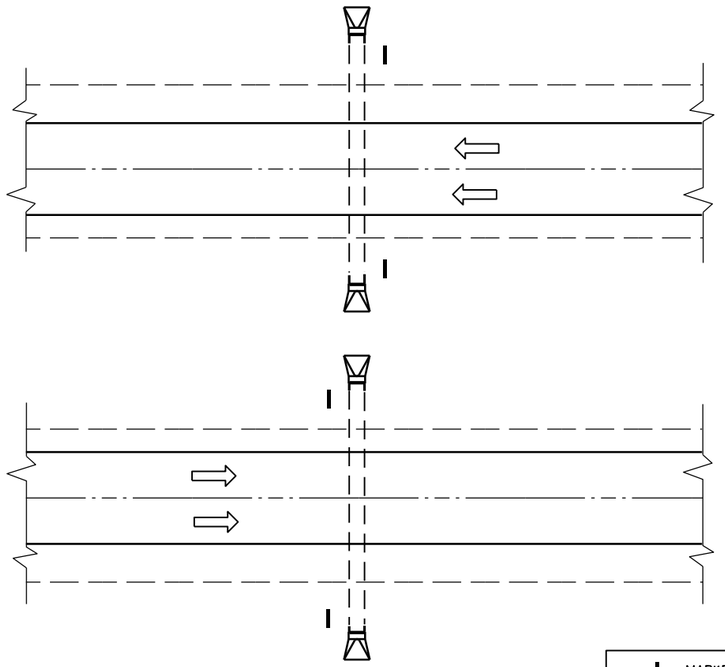
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER

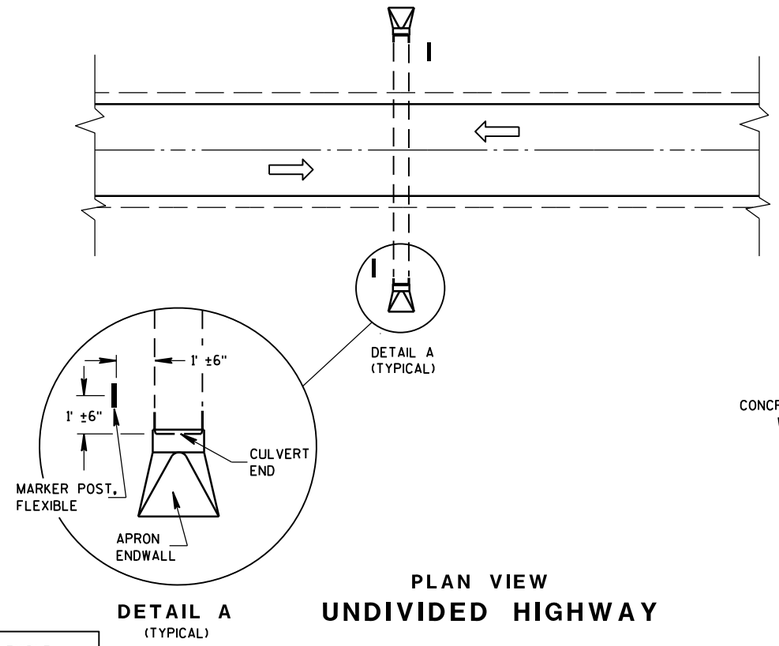
FHWA

6 SDD 14B53-04i



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

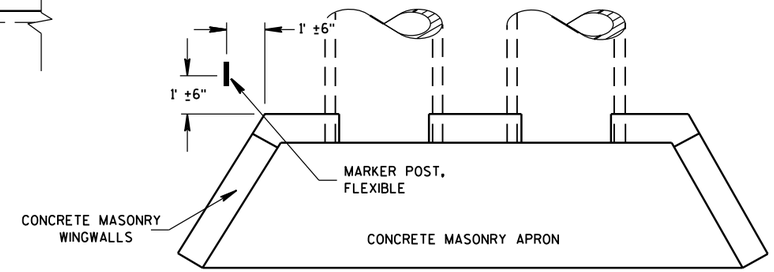
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

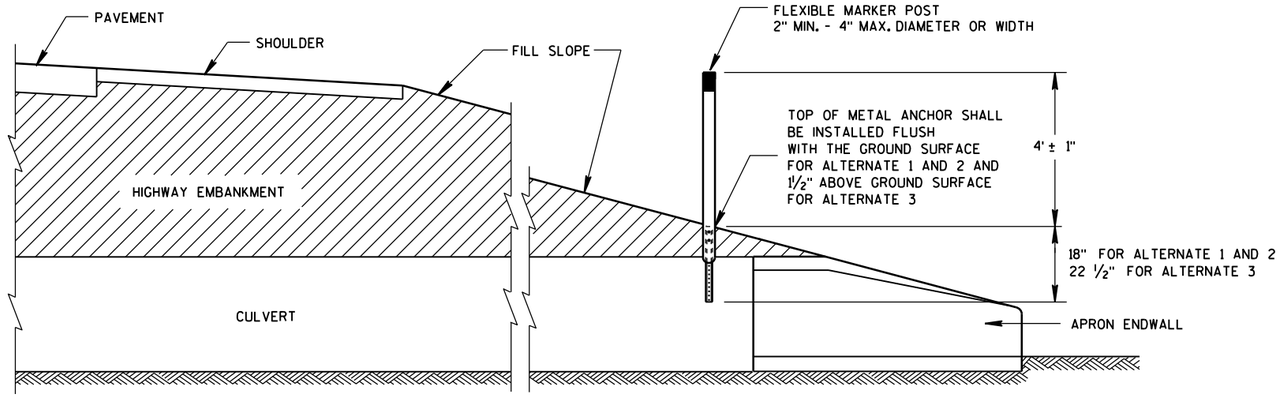
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

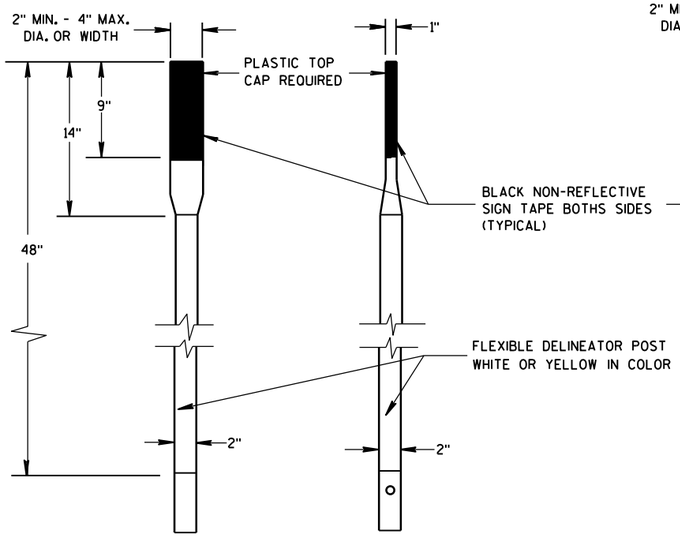
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

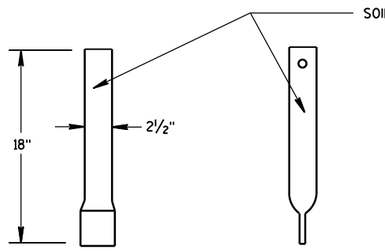
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S.D.D. 15 A 3-2a

6

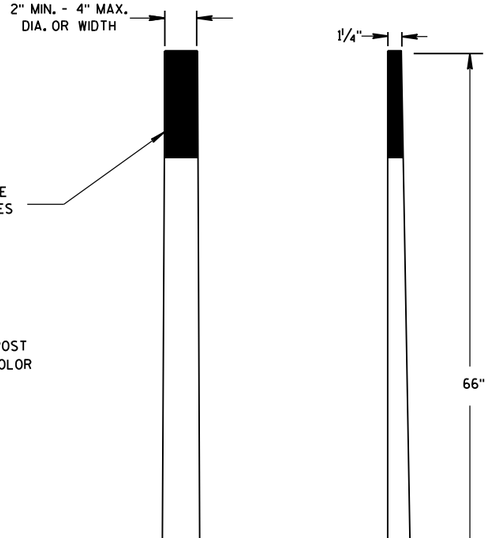
S.D.D. 15 A 3-2a





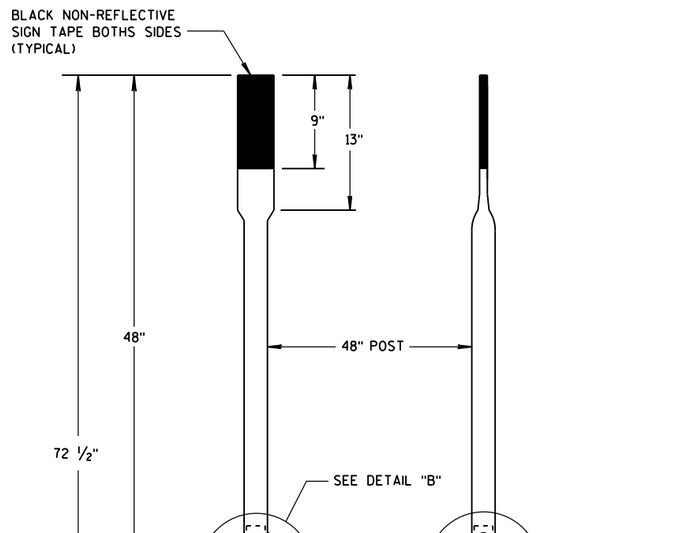
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

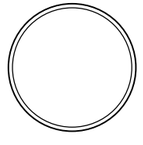
ALTERNATE 2



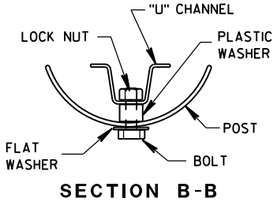
FRONT VIEW SIDE VIEW

ALTERNATE 3

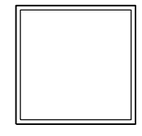
FLEXIBLE MARKER POSTS



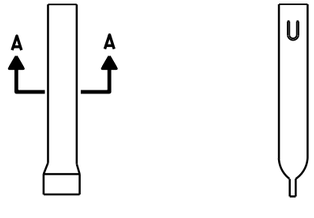
SECTION A-A



SECTION B-B

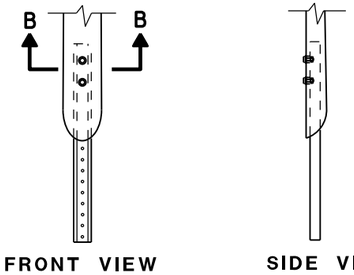


SECTION C-C



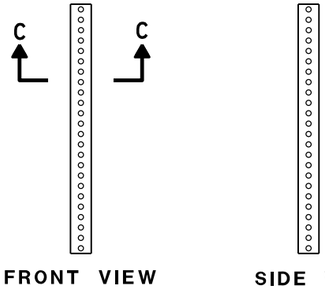
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

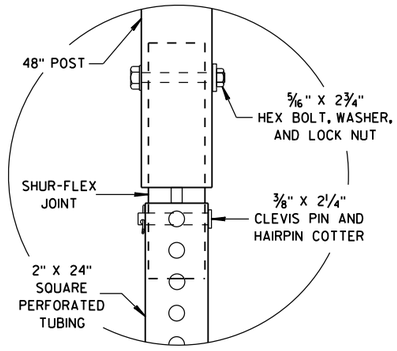
ALTERNATE 2



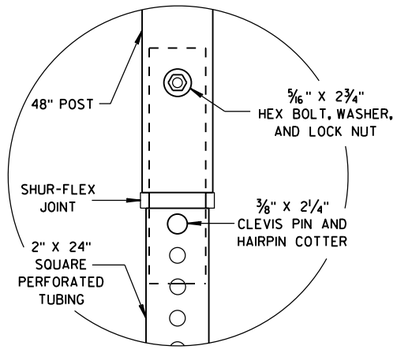
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

6

S.D.D. 15 A 3-2b

GENERAL NOTES

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

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

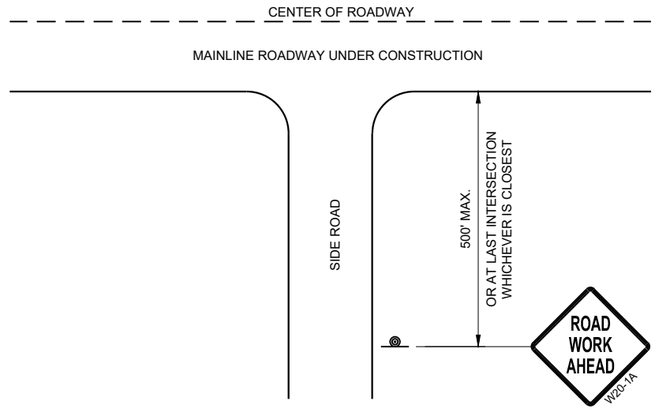
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



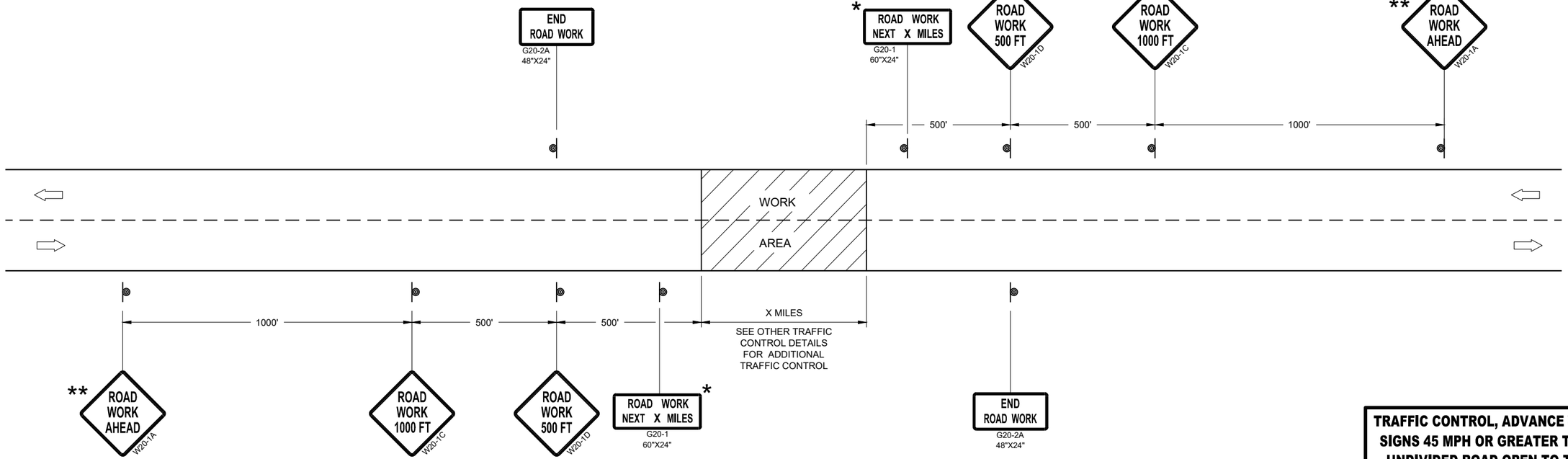
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05

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.

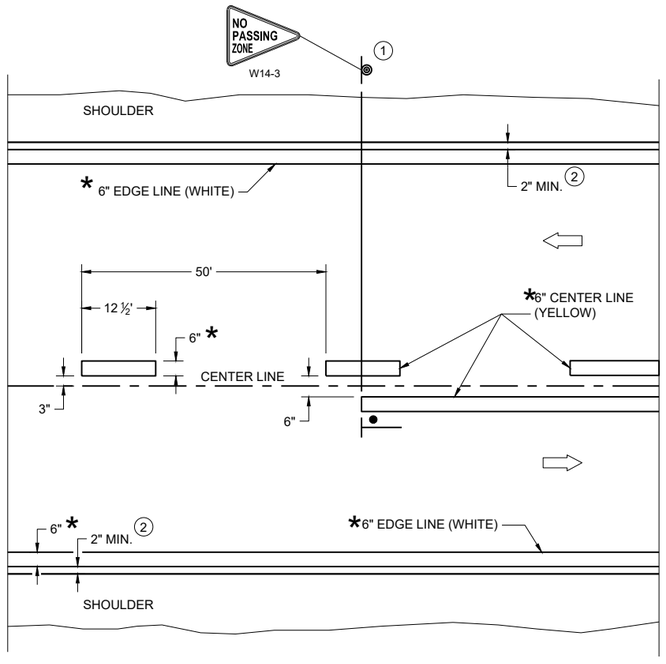
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

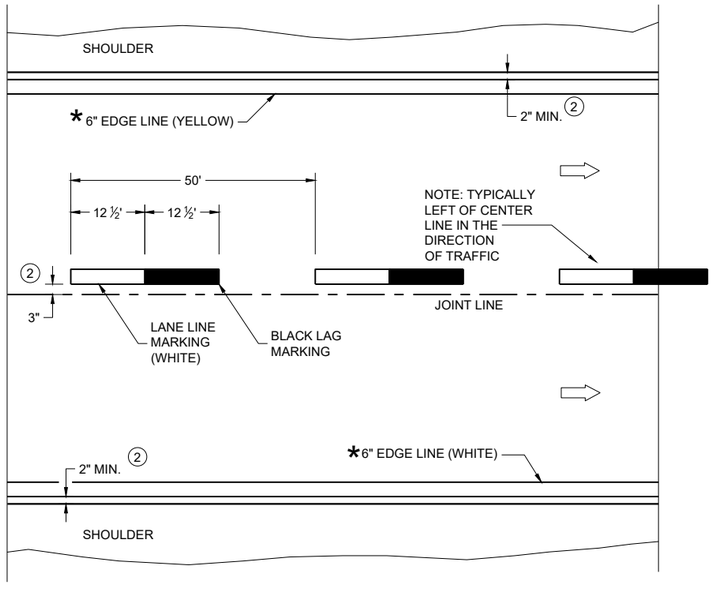
"T" MARKING

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
December 2024
DATE

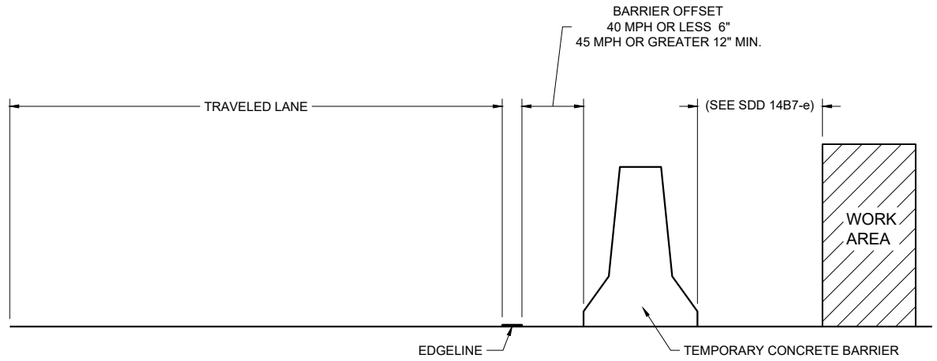
/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

6

SDD 15C08-24a

SDD 15C08-24a



TEMPORARY BARRIER OFFSET FROM EDGELINE

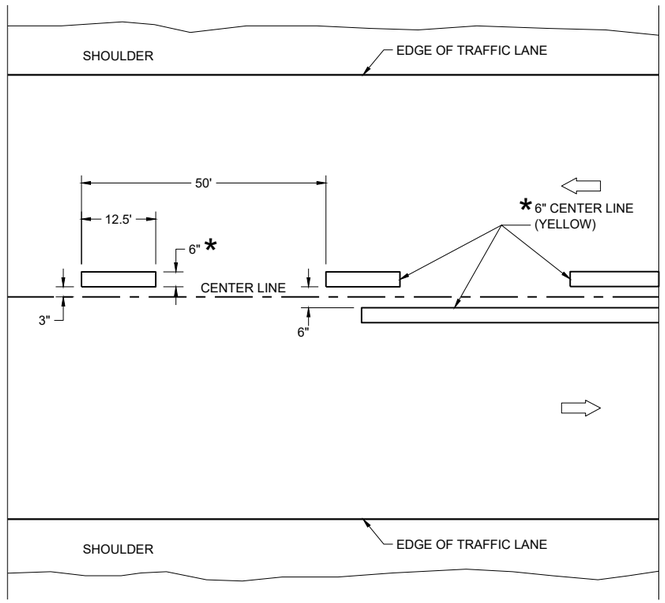
GENERAL NOTES

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

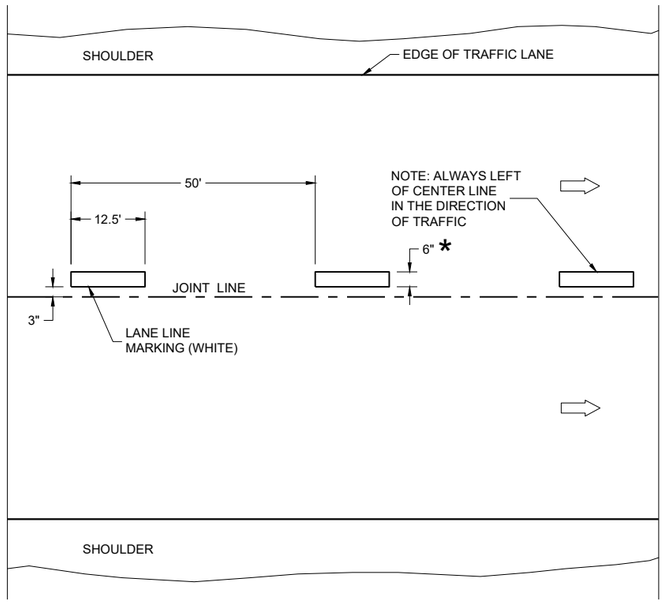
LEGEND

DIRECTION OF TRAFFIC

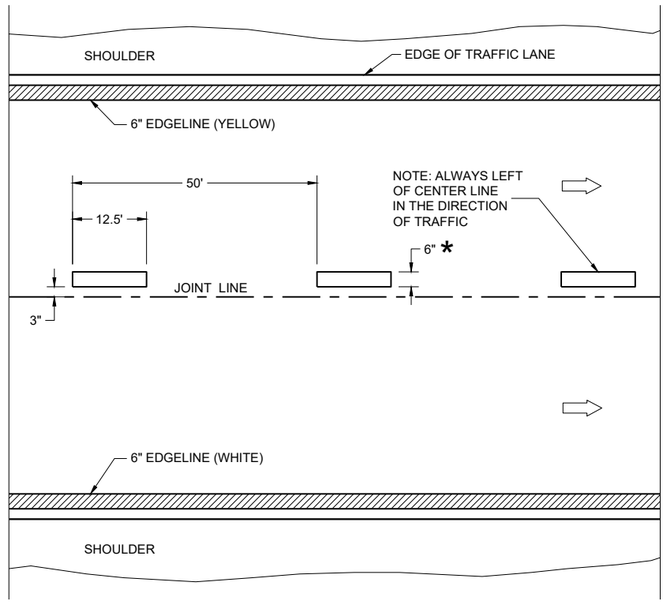
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6

SDD 15C08-24b

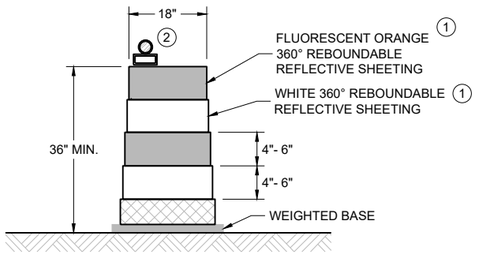
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SDD 15C08-24b

GENERAL NOTES

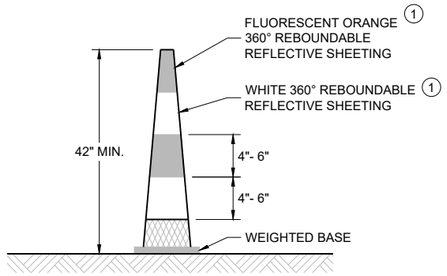
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

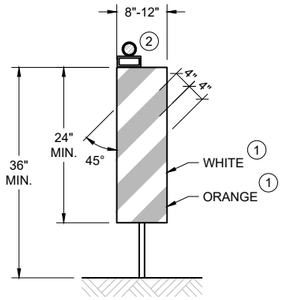
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

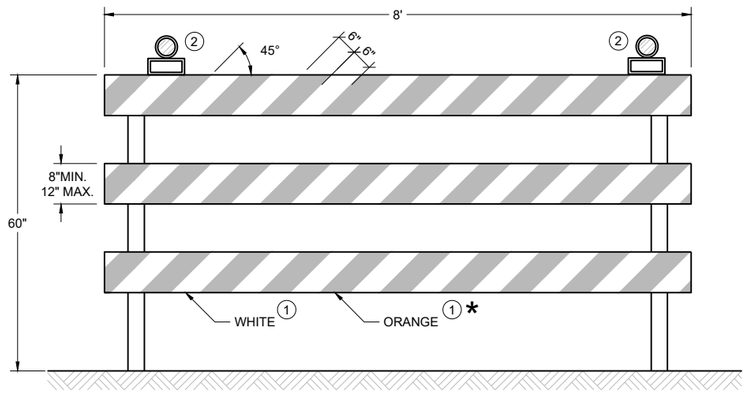
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



VERTICAL PANEL

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



TYPE 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
February 2026 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6
SDD 15C11-11b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR 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.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

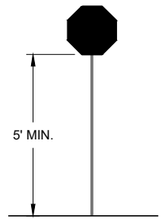
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



STOP/SLOW PADDLE ON SUPPORT STAFF

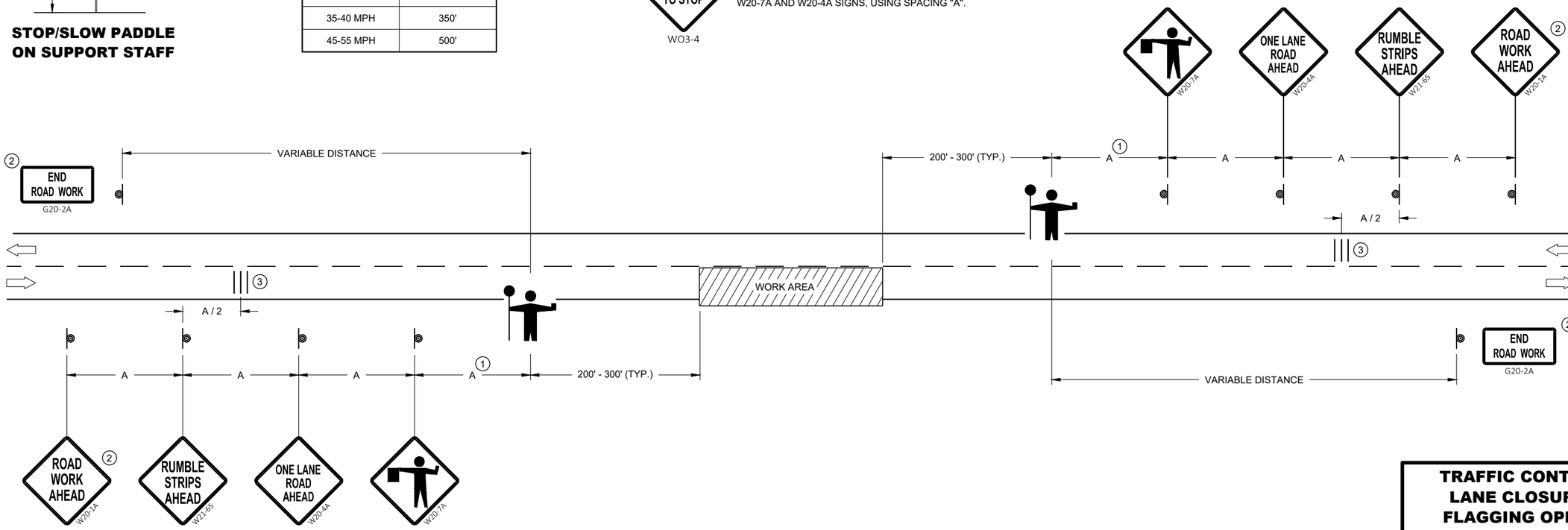
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

GENERAL NOTES

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL CONE 42-INCH

TRAFFIC CONTROL DRUM

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

AFAD — AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR 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.

FLAGGING

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

(1) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(2) IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

TEMPORARY PORTABLE RUMBLE STRIPS

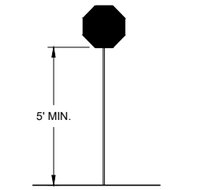
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

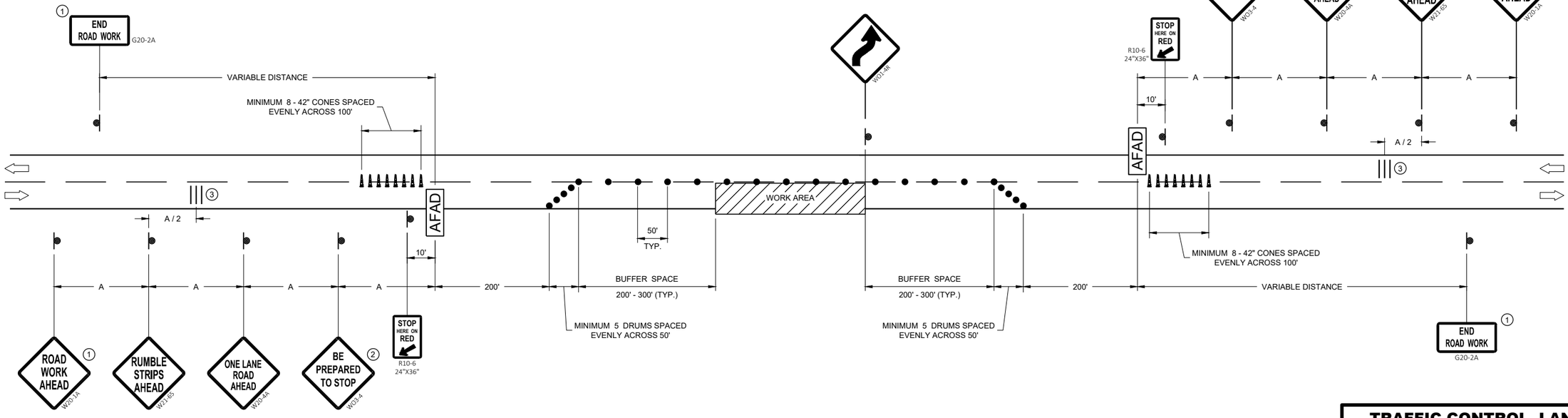
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C12 - 09b

6

SDD 15C12 - 09b

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

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 OPERATING IN CAUTION MODE. 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.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

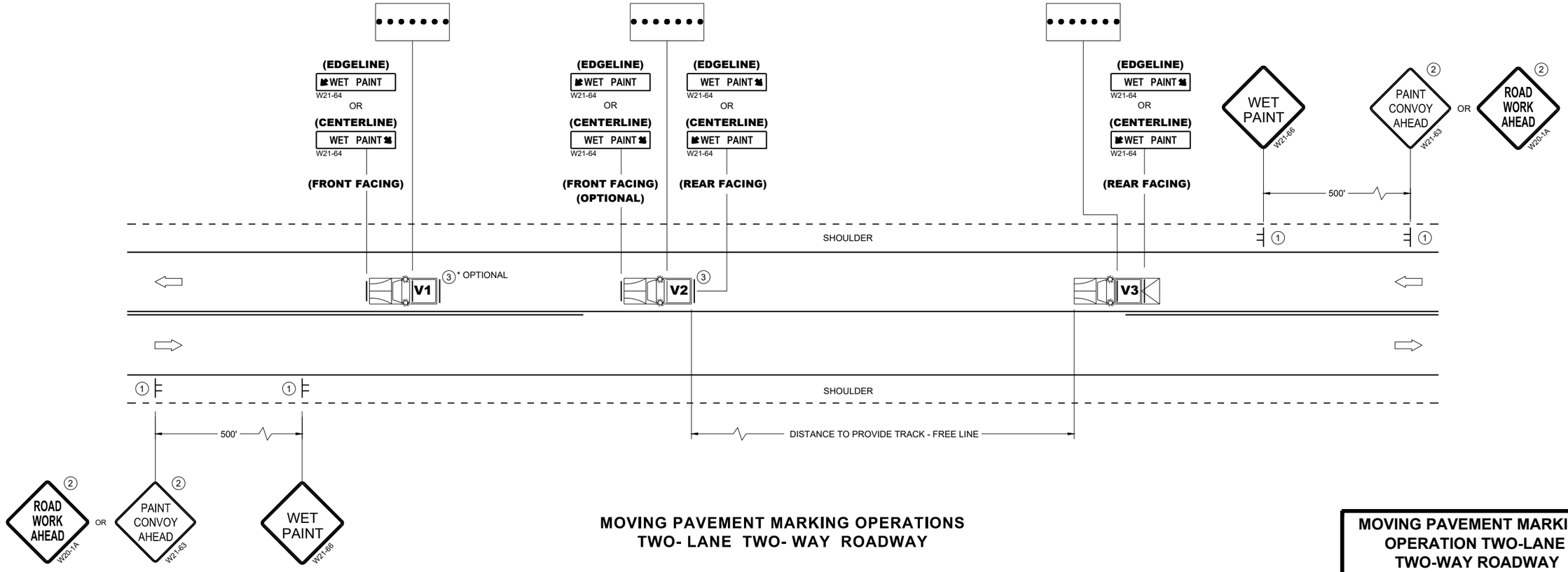
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.

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

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — STATE ELECTRICAL ENGINEER

FHWA

6

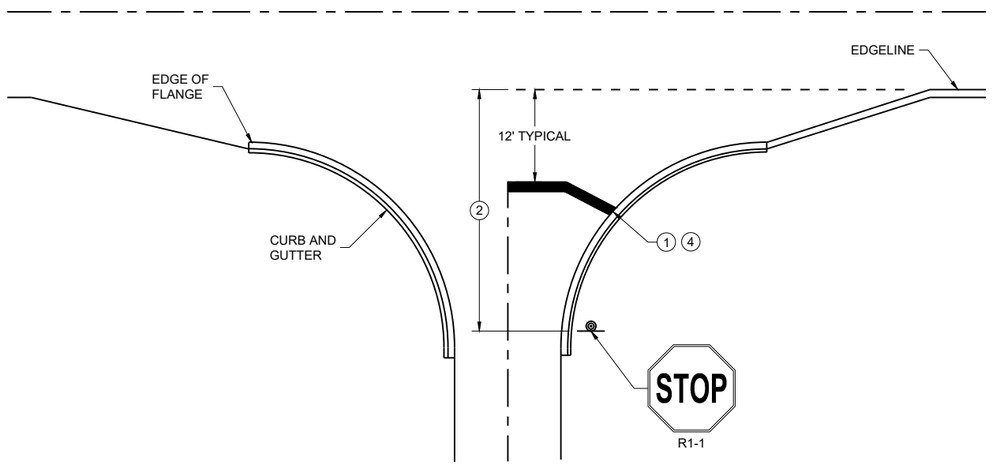
SDD 15C19-11a

SDD 15C19-11a

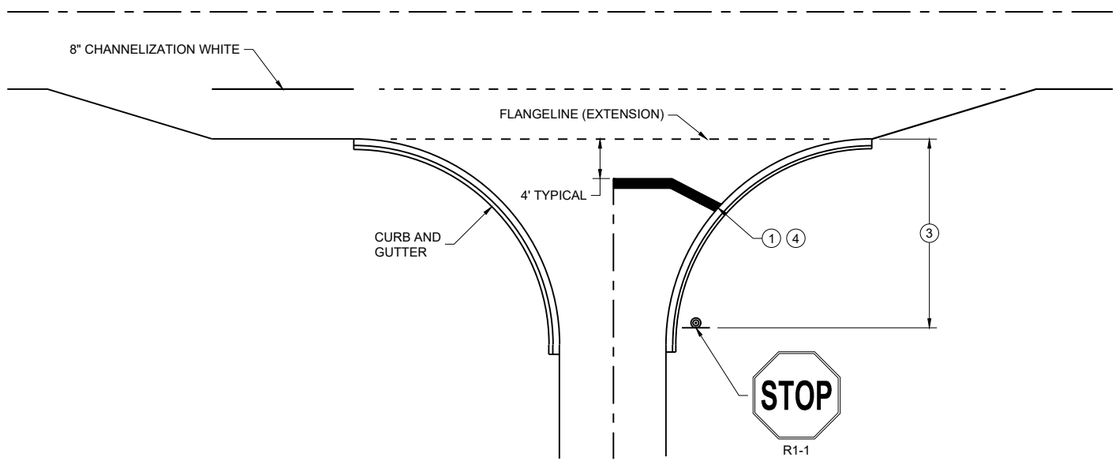
GENERAL NOTES

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

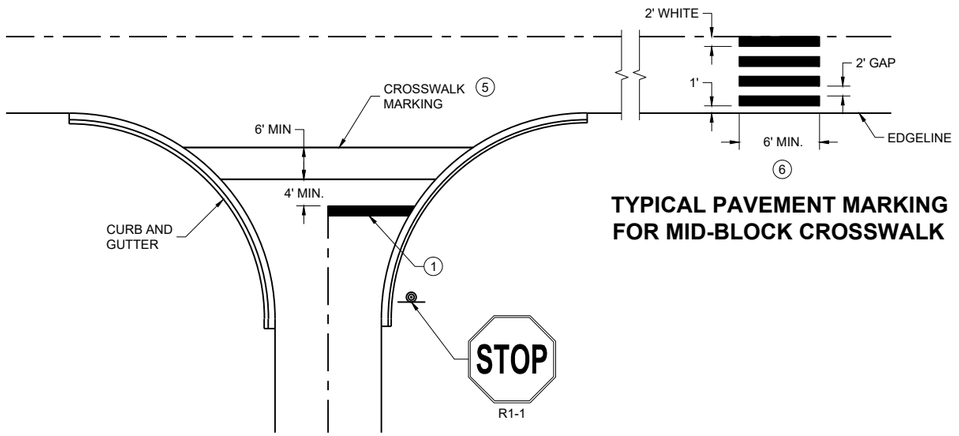
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE 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

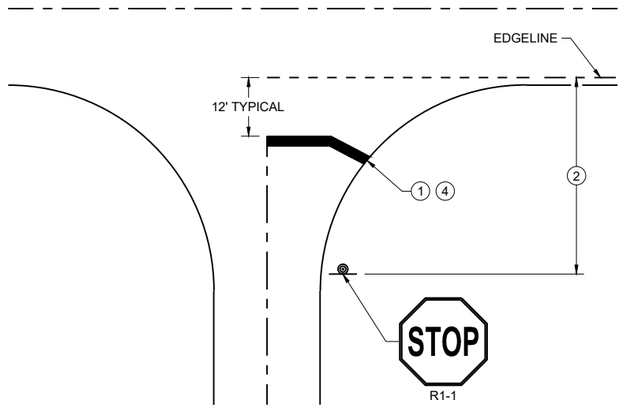


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



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

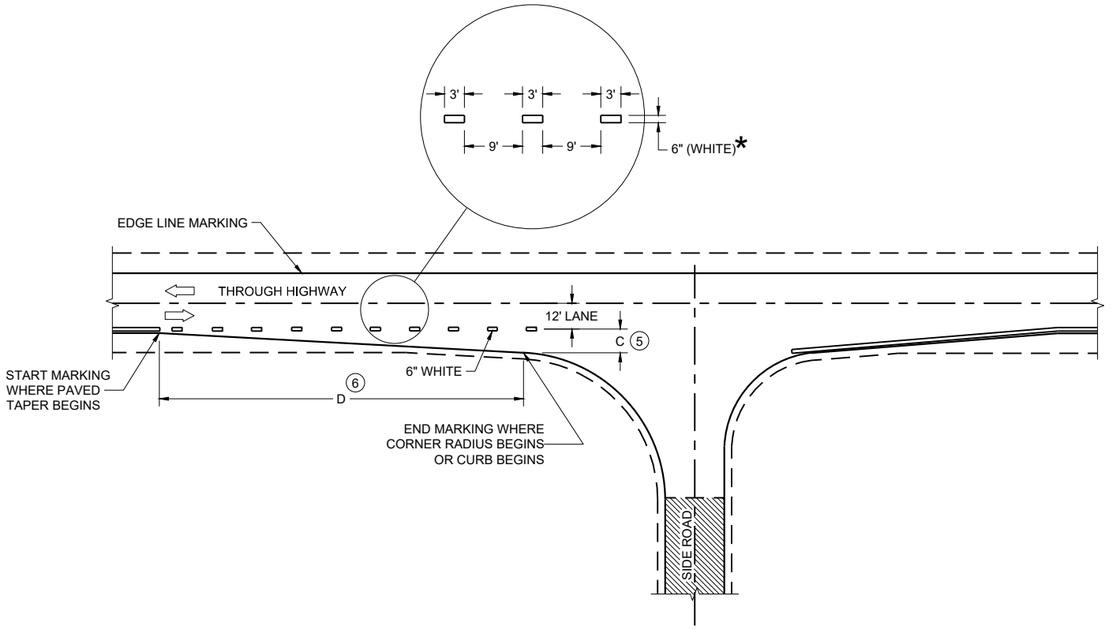
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

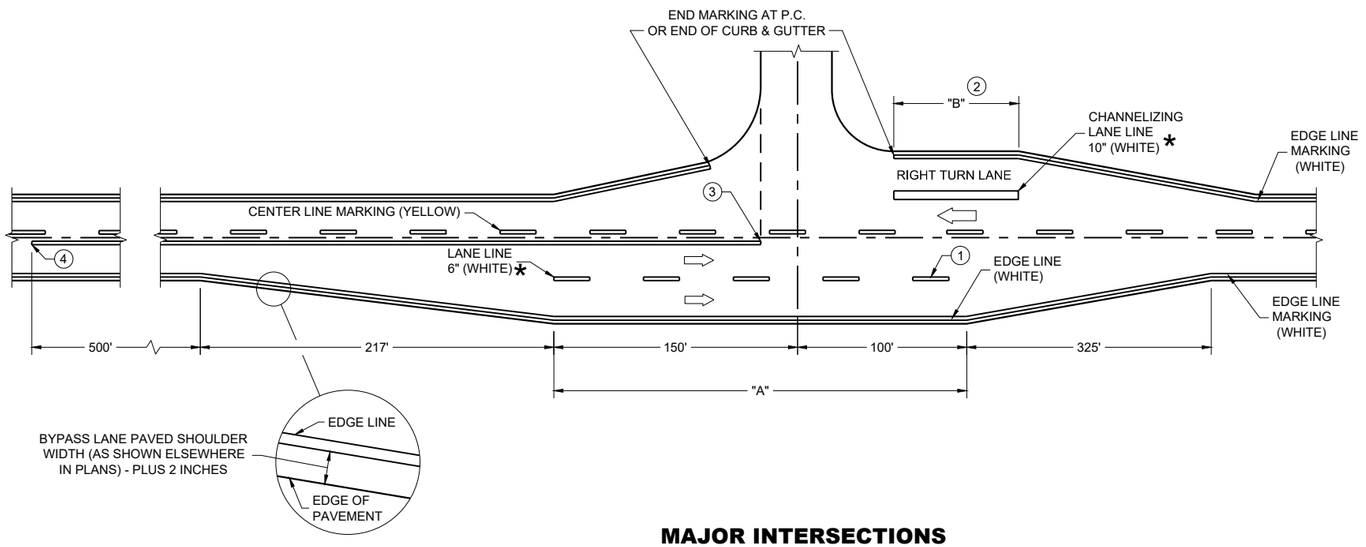
March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

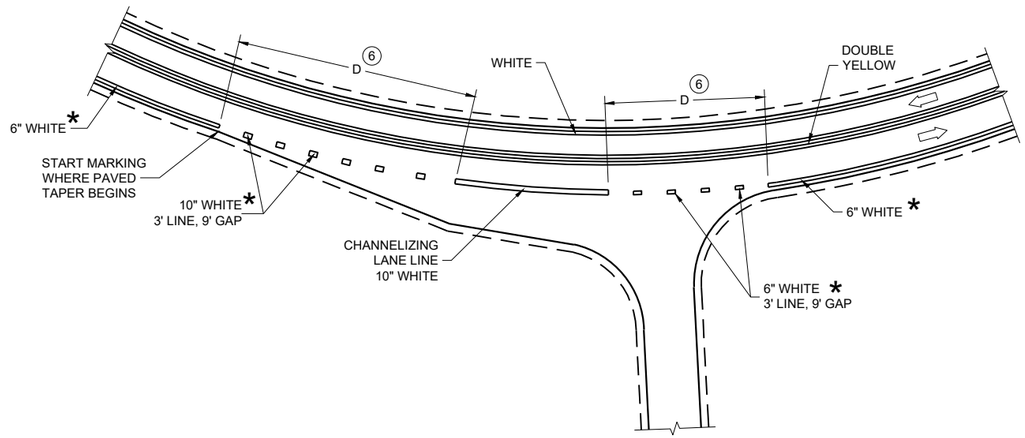
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

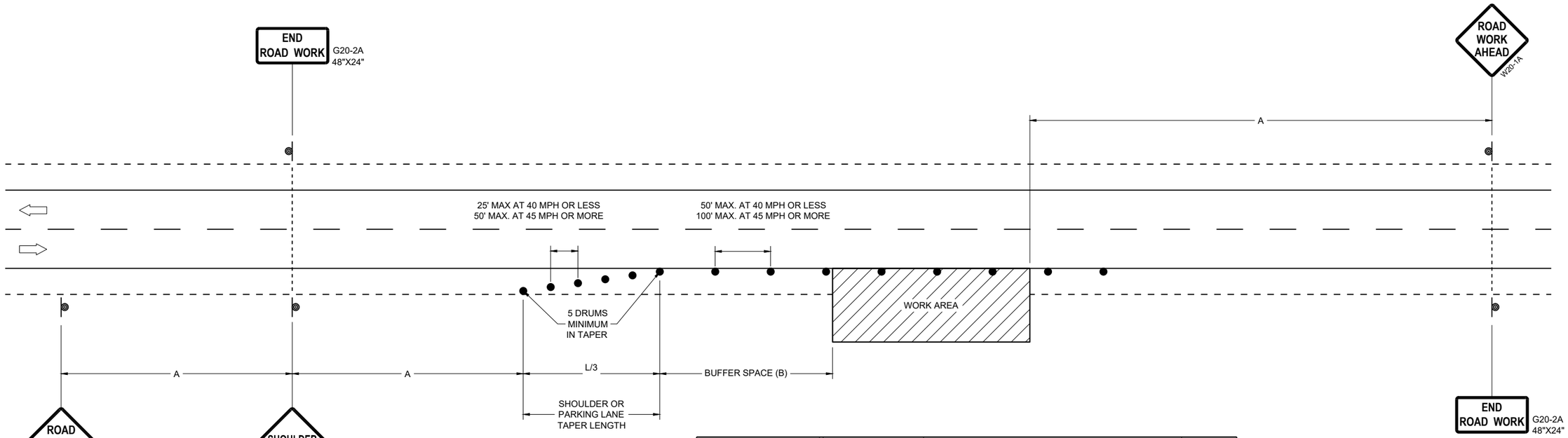
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	155
30	200'	15	20	25	30	35	40	200
35	350'	20	27	34	40	47	54	250
40	350'	26	35	44	53	62	70	305
45	500'	45	59	74	89	104	119	360
50	500'	50	66	83	99	116	132	425
55	500'	54	73	91	109	127	145	495

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

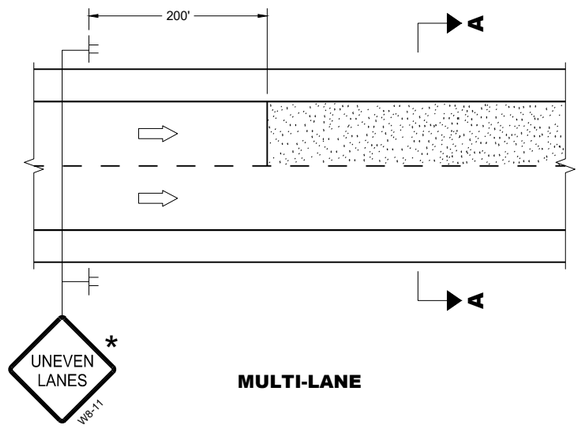
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025
DATE

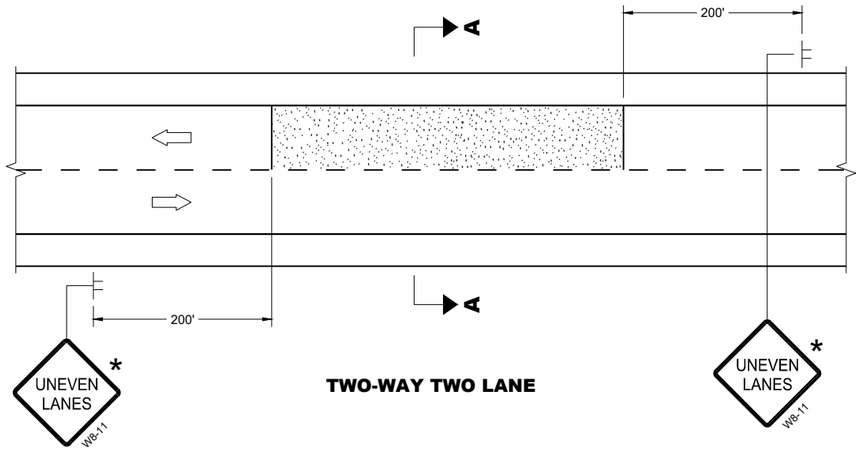
/S/ ANDREW HEIDTKE
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

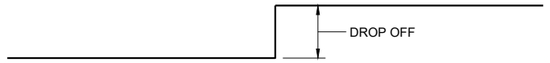
6
SDD 15D28-05



MULTI-LANE

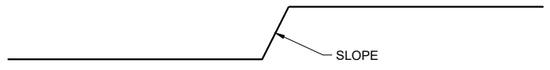


TWO-WAY TWO LANE

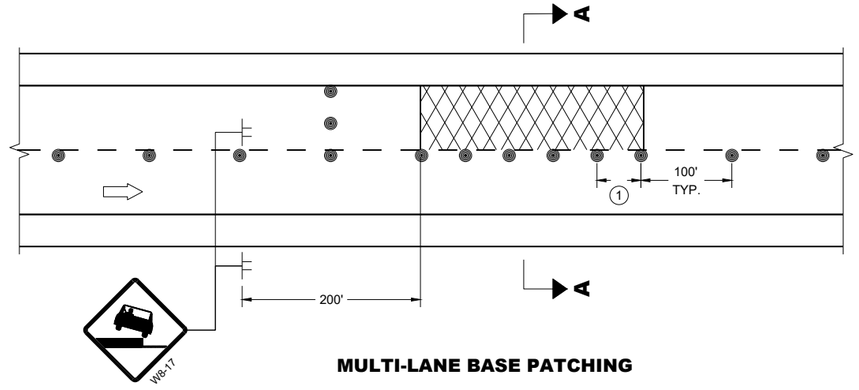


SECTION A - A

OR



SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

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.

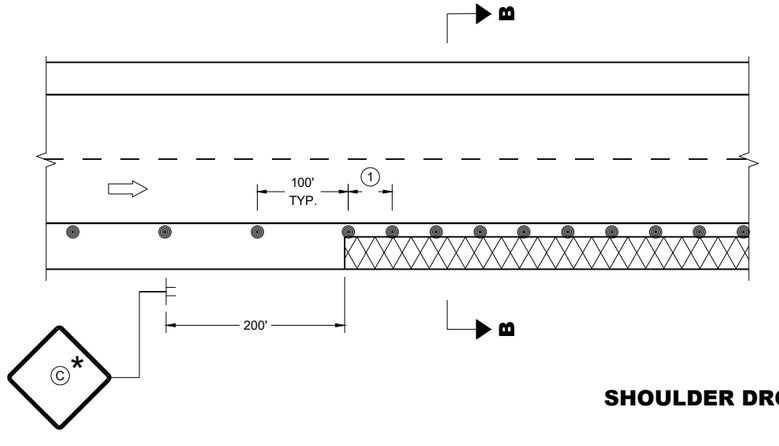
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

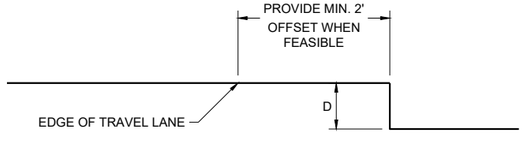
(1) USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

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



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
February 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6
SDD 15D39-03

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

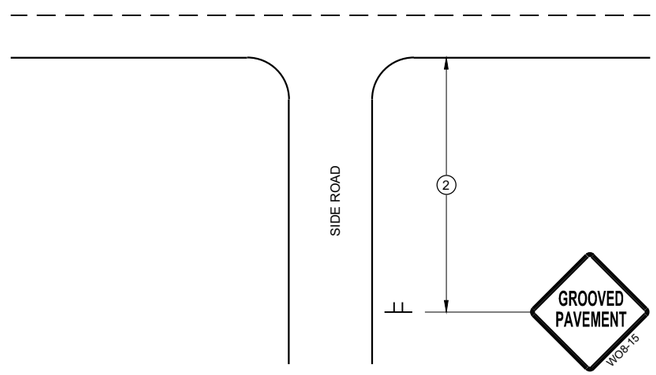
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

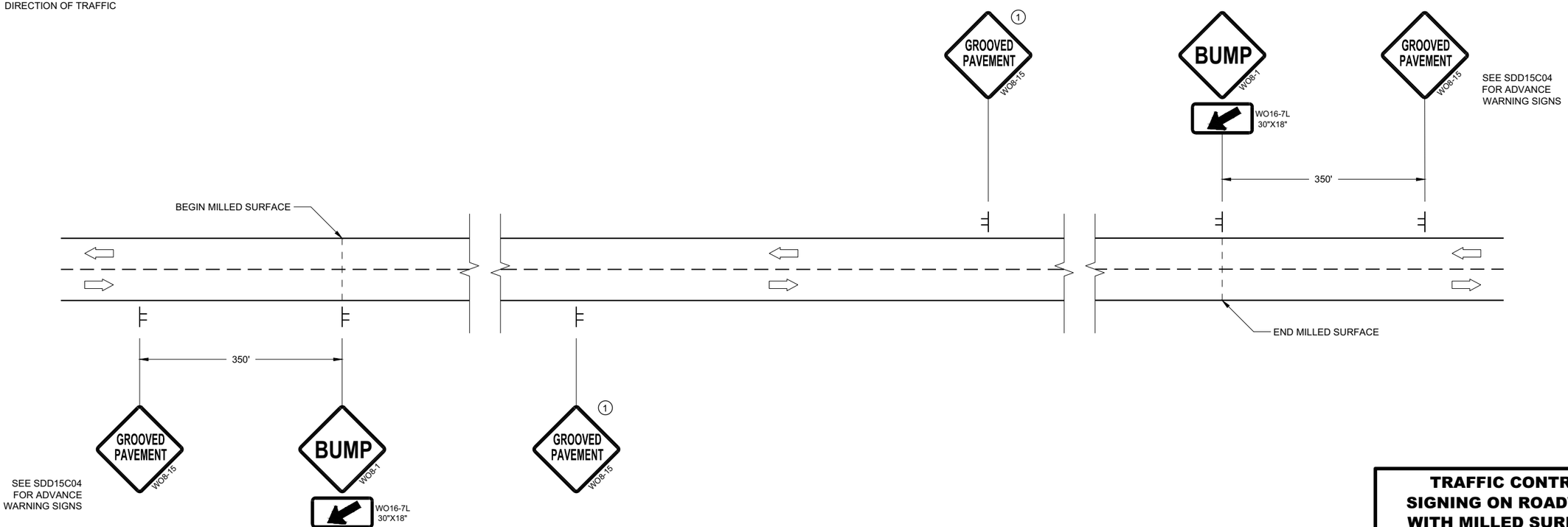
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D44 - 02

SDD 15D44 - 02

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

(1) PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

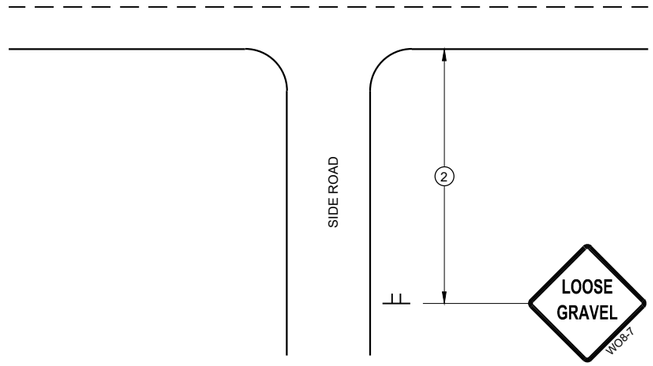
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

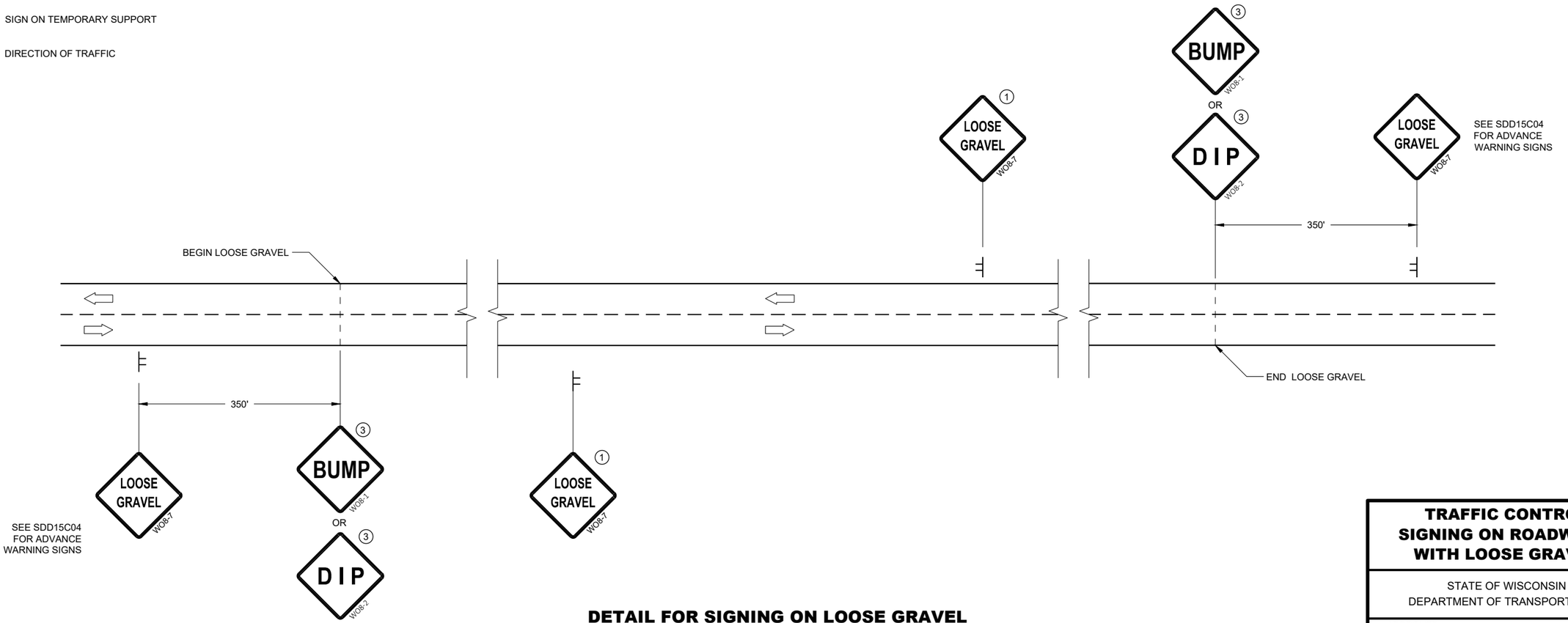
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D45 - 03

LEGEND

V1 WORK VEHICLE

V2 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW PANEL (CAUTION)

WORK AREA

DIRECTION OF TRAFFIC

POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

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

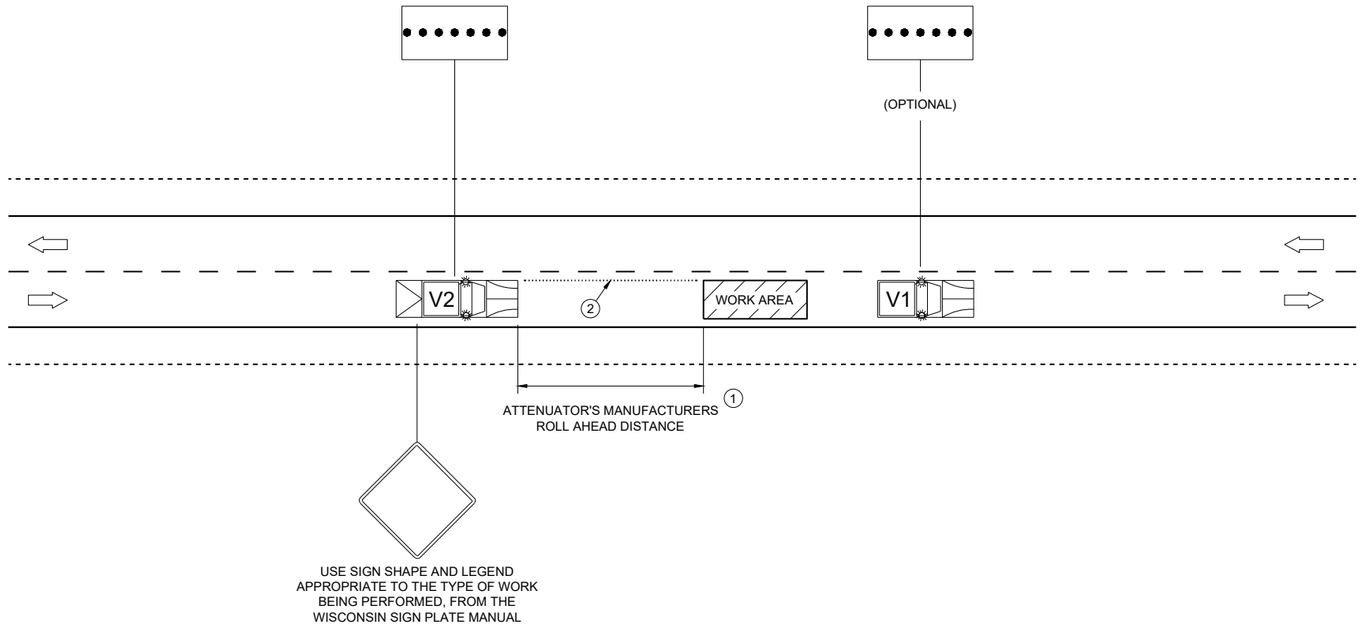
ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

(1) DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, 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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

(2) ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

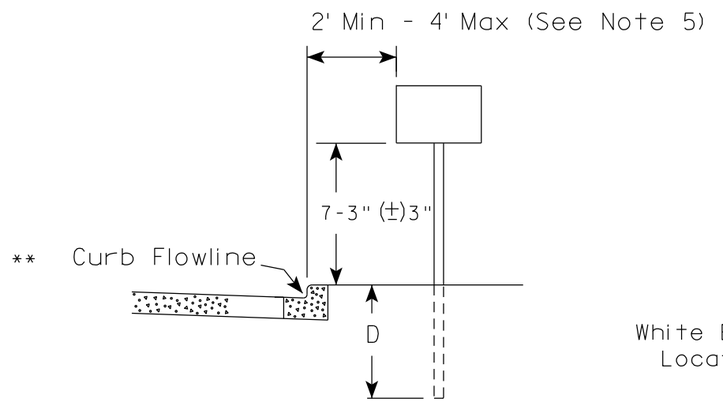
APPROVED

November 2025 — DATE

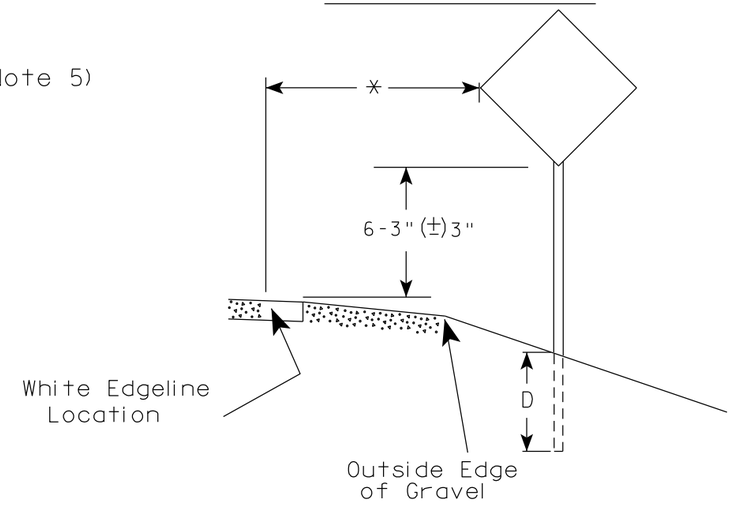
/S/ Andrew Heidtke — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

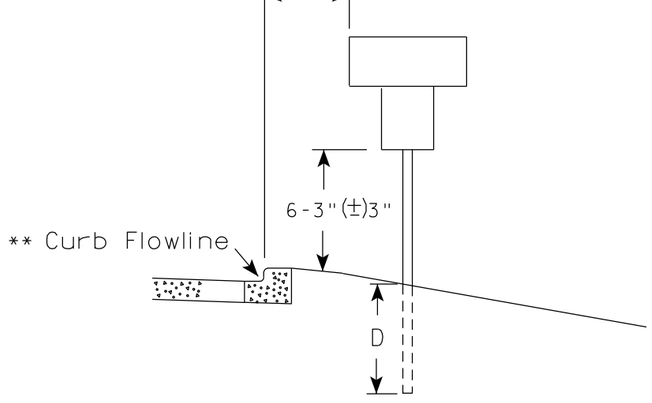
FHWA

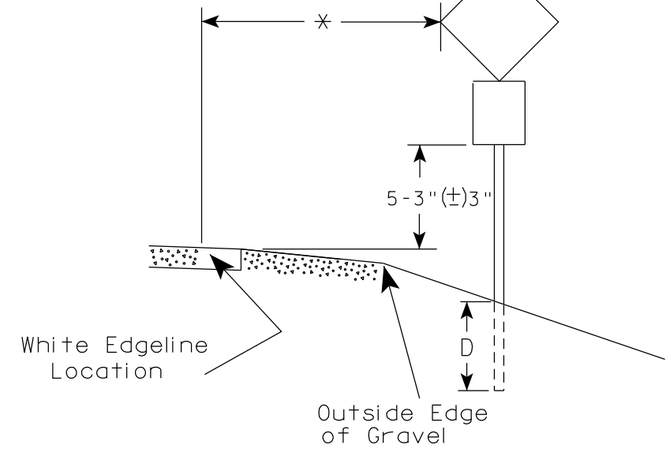
URBAN AREA



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.

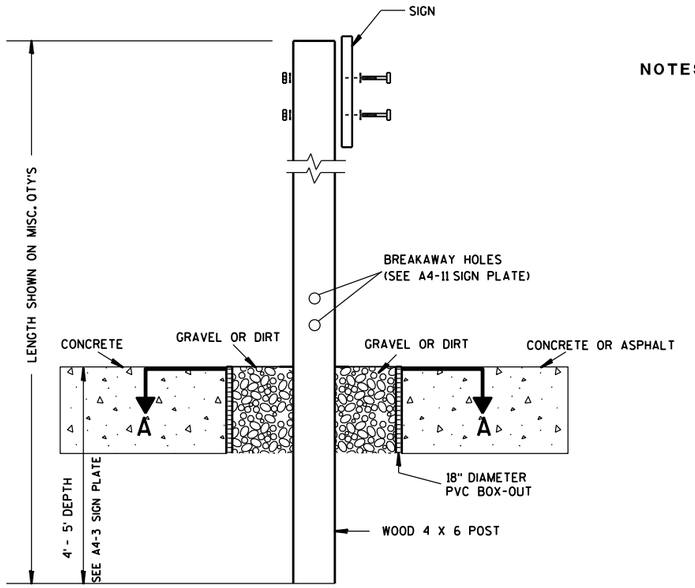
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

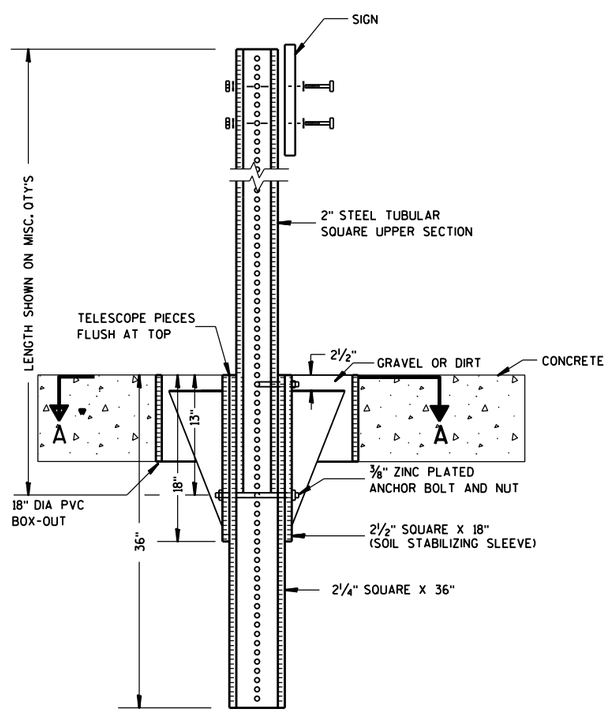
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 112	E



ELEVATION VIEW

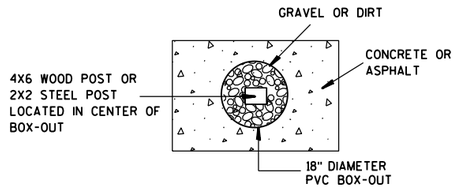
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

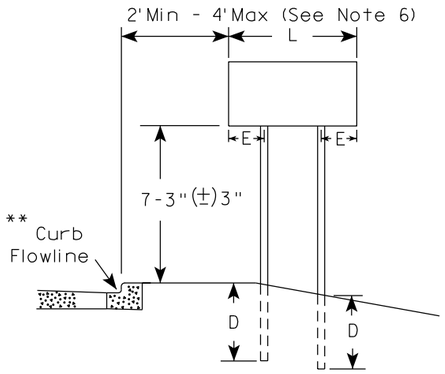
APPROVED Matthew R Rauch
for State Traffic Engineer

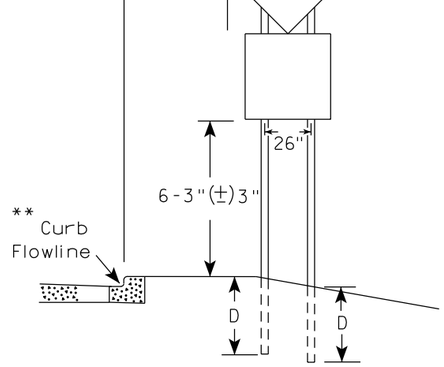
DATE 1/27/14 PLATE NO. A4-3B.1

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

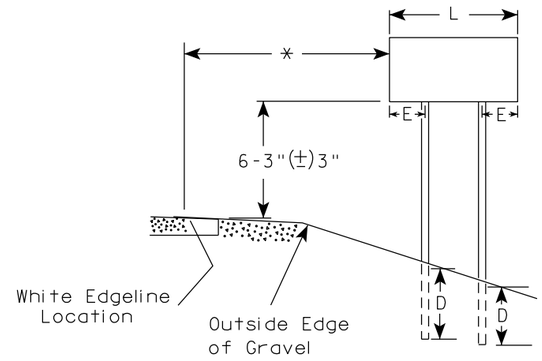
URBAN AREA

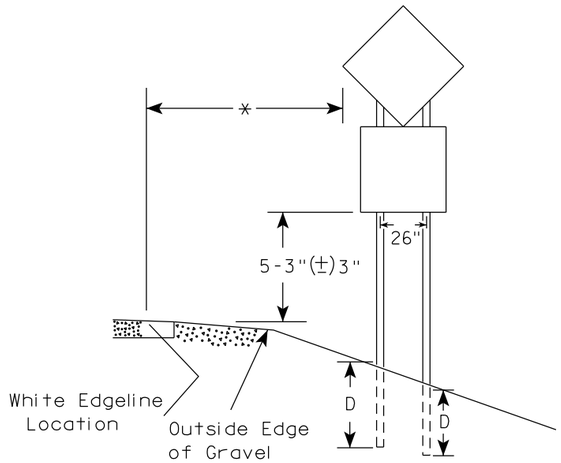




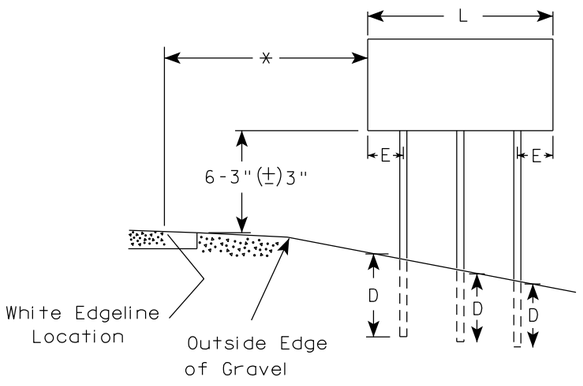
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





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'

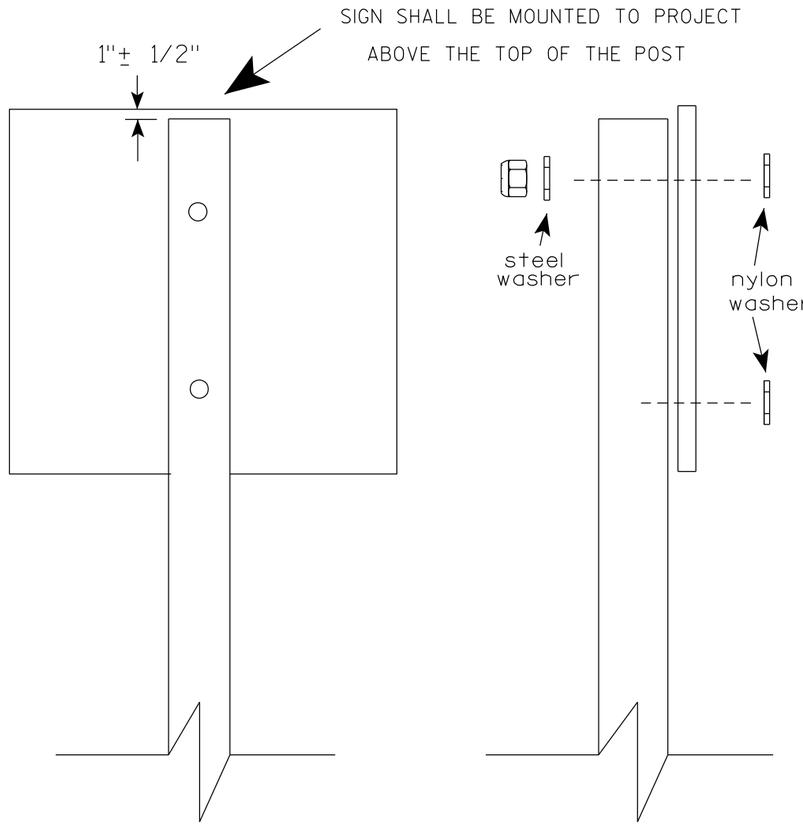
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

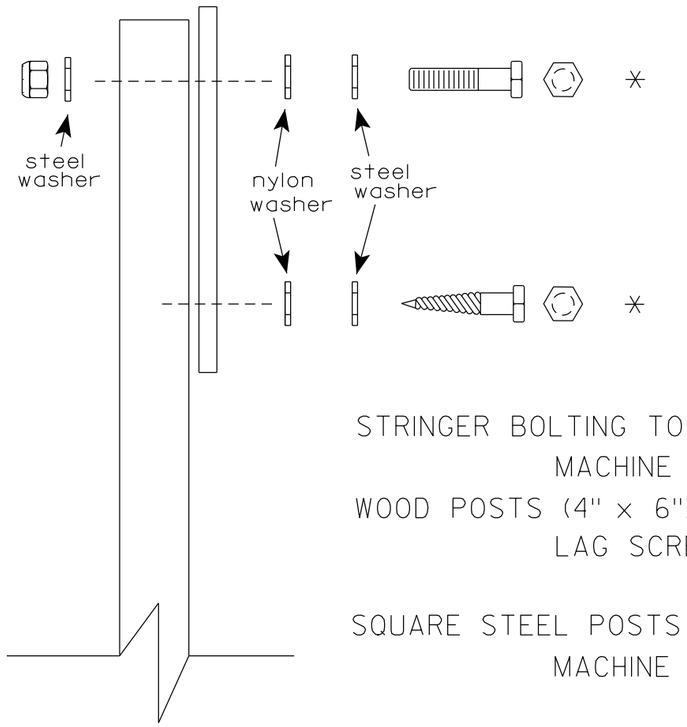
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 114	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

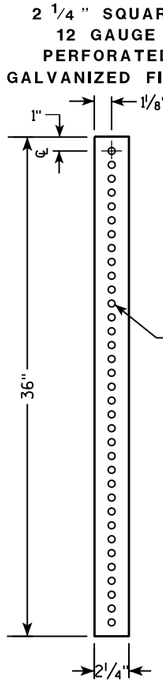
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

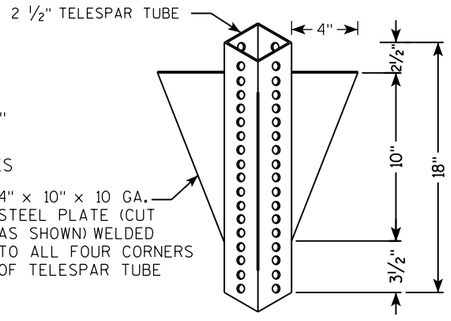
SHEET NO: 115 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

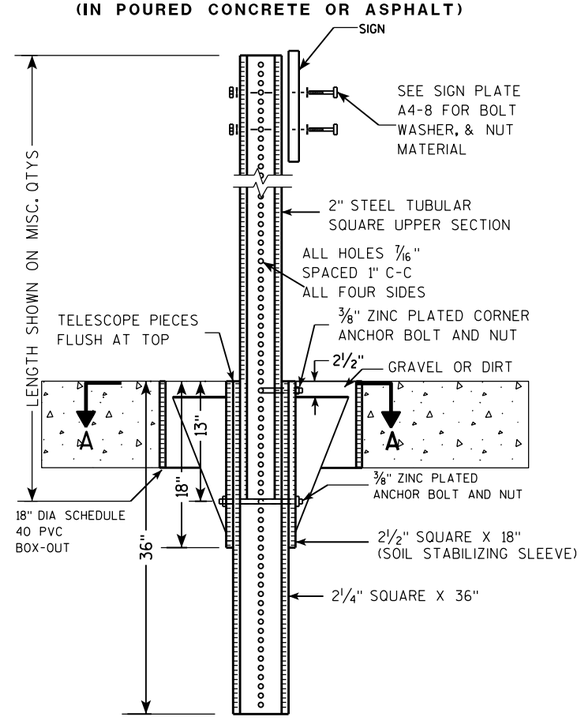
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



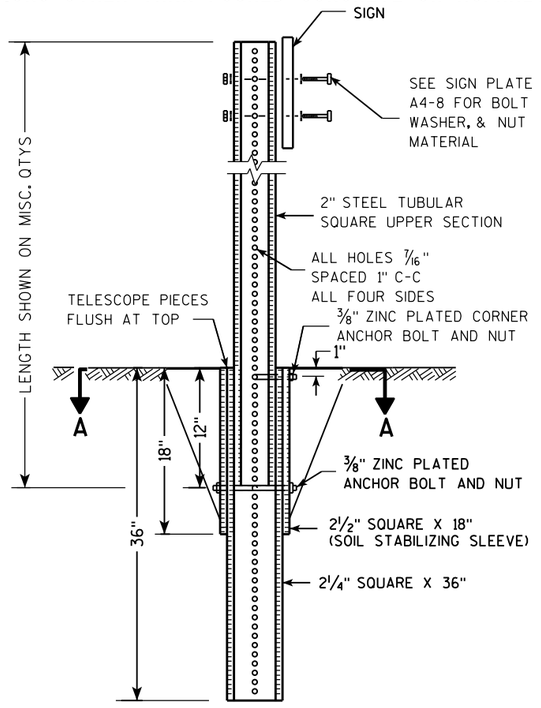
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

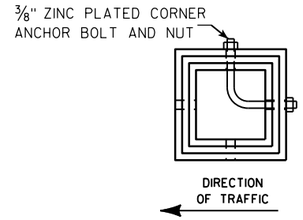


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

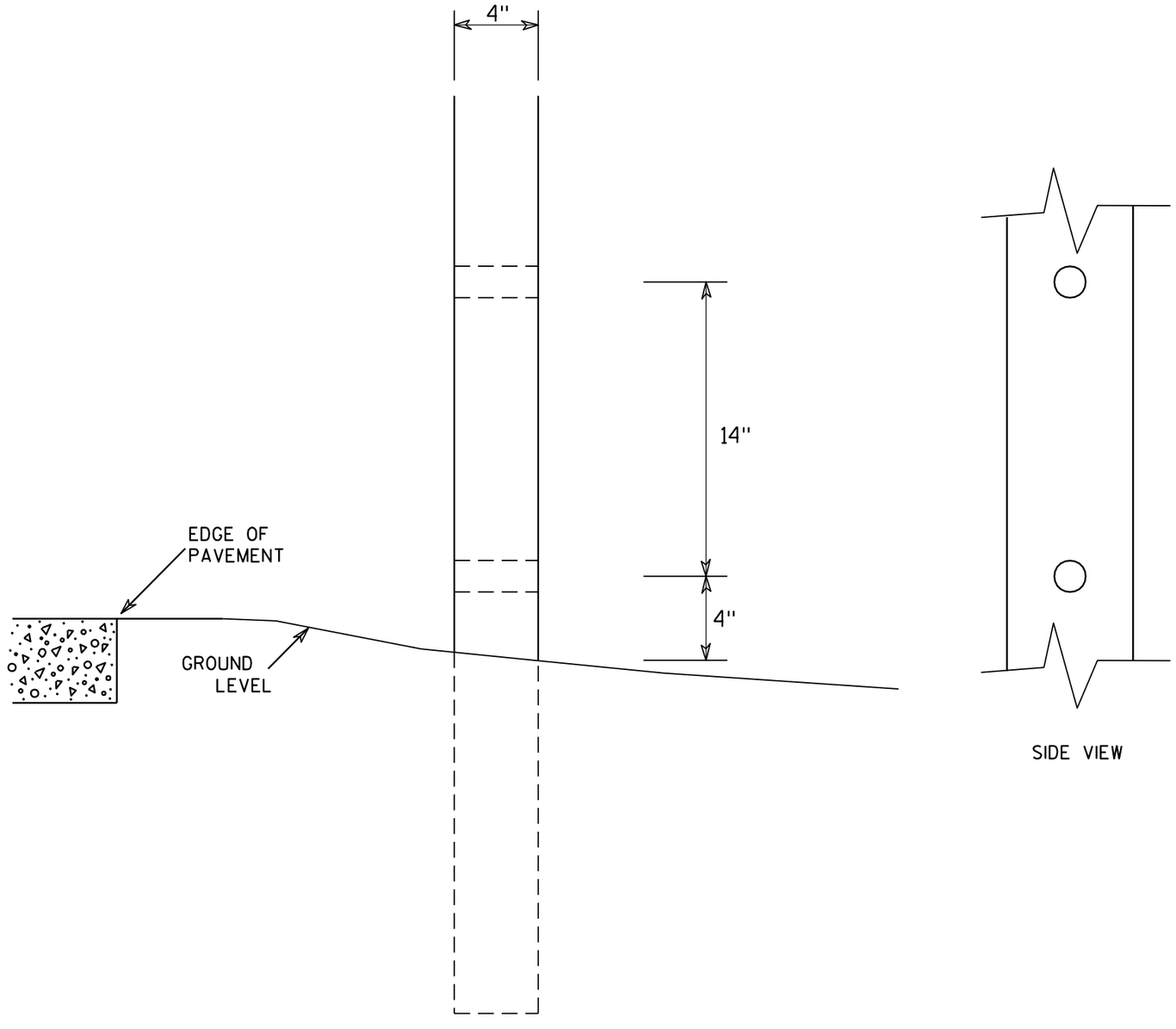
WISCONSIN DEPT OF TRANSPORTATION

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

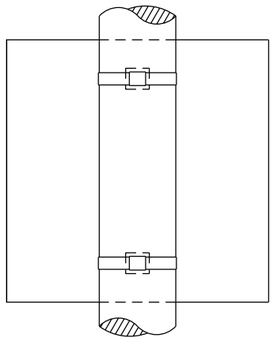
APPROVED Chester J Spang for State Traffic Engineer

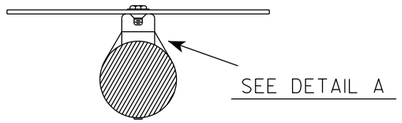
DATE 3/27/97 PLATE NO. A4-11.2

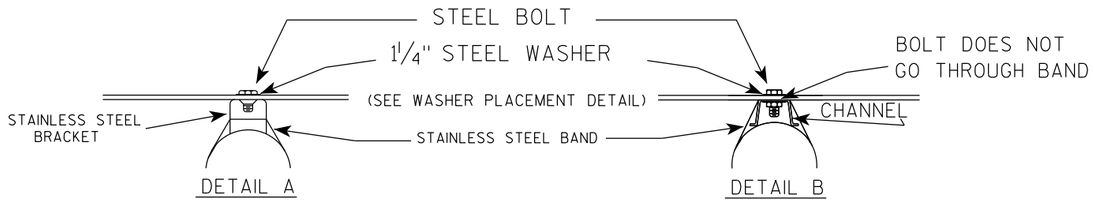
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 117	E

BANDING

SINGLE SIGN



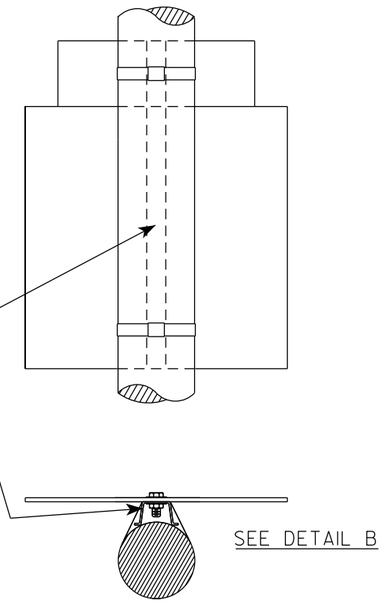




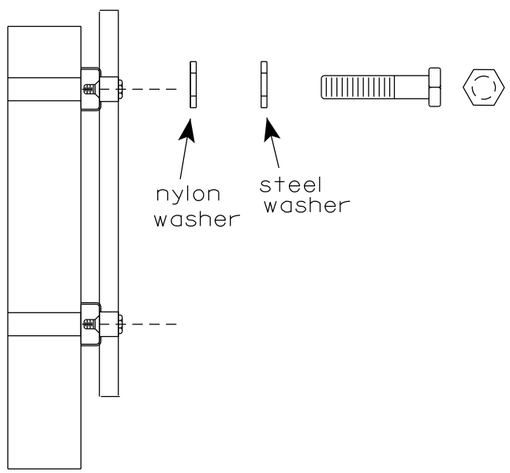
GENERAL NOTES

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

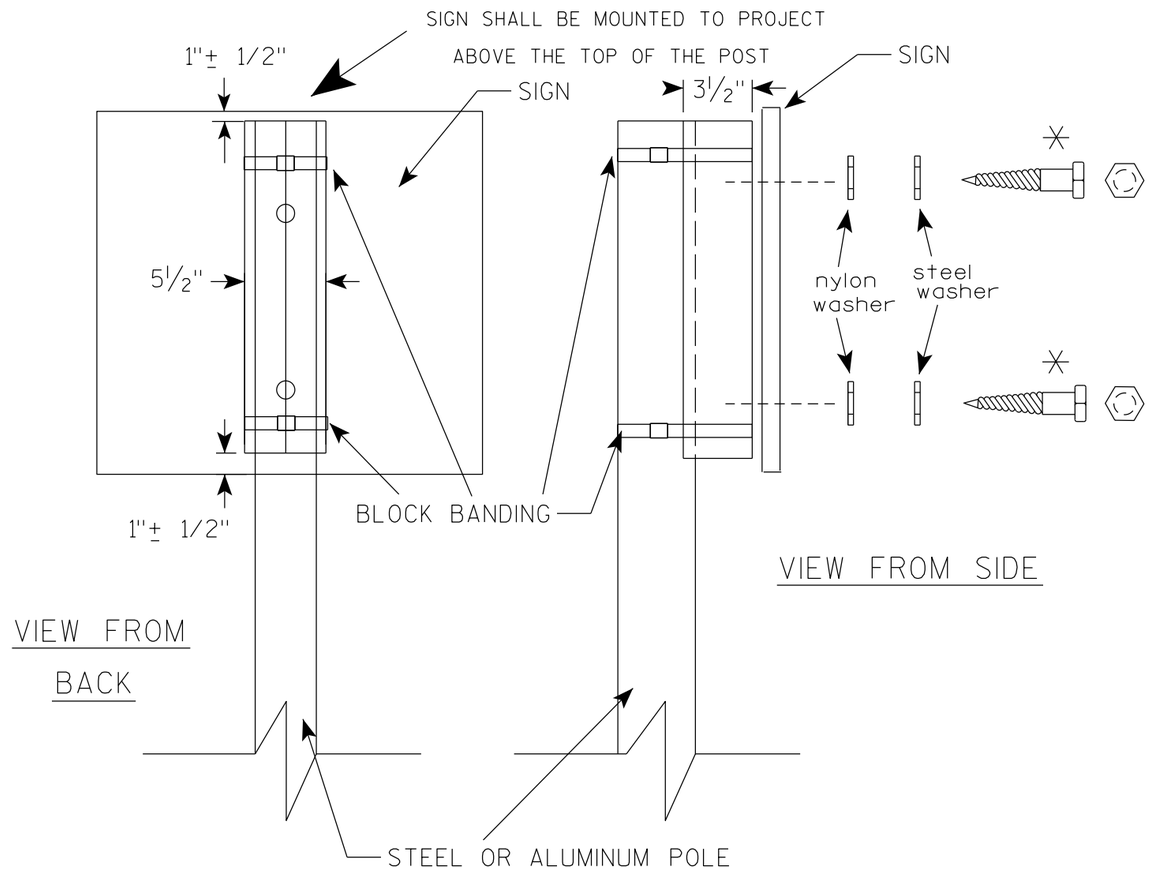
DATE 6/10/19 PLATE NO. A5-9.4

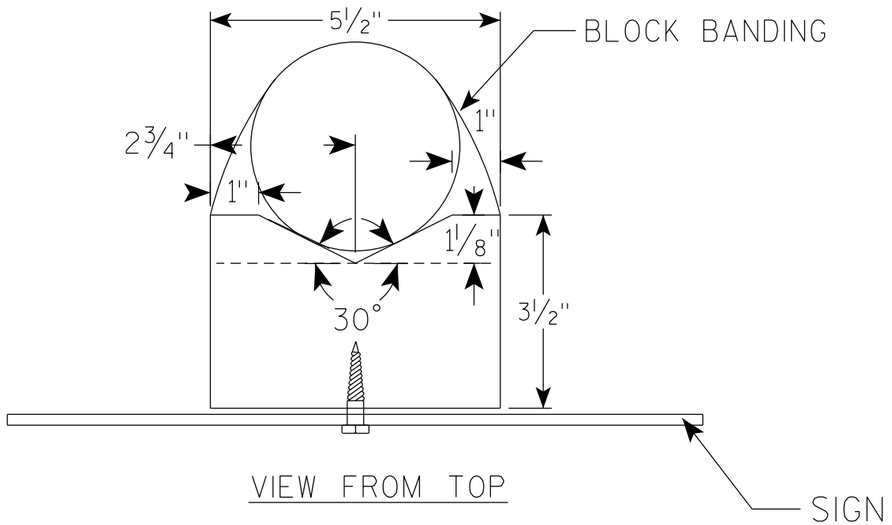
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 118	E

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)

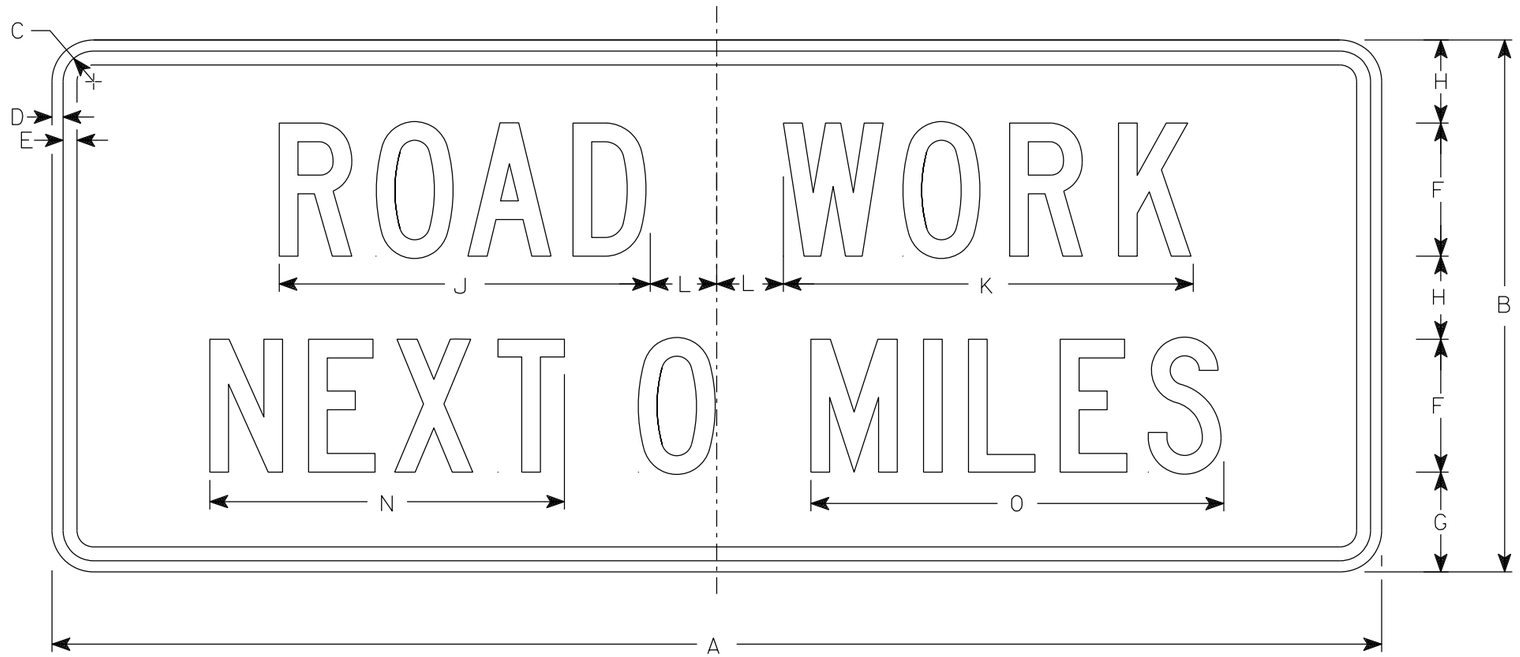
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 119 E



G20-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
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. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing 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																											
2S	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
2M	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
3	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
4	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0
5	60	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4		16 3/4	18 1/2	3		16	18 5/8												10.0

STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

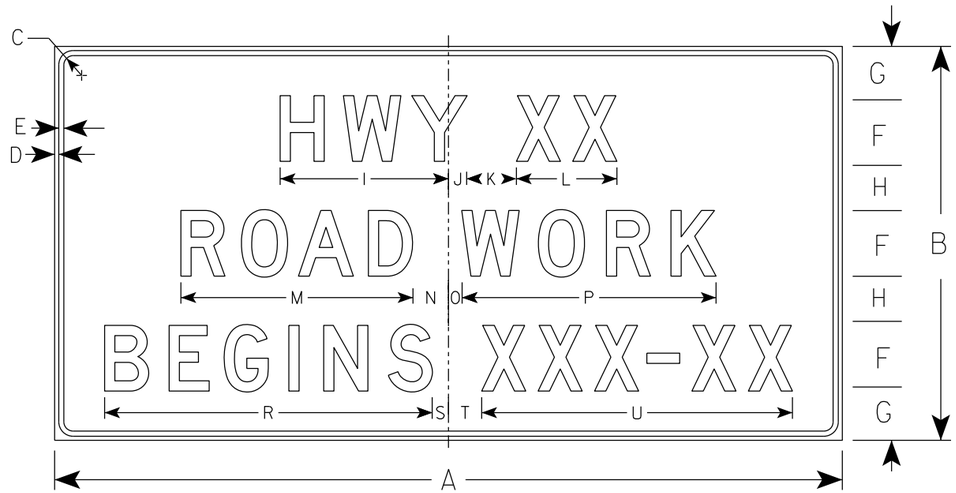
DATE 1/26/2023 PLATE NO. G20-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 120	E

7

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

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	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

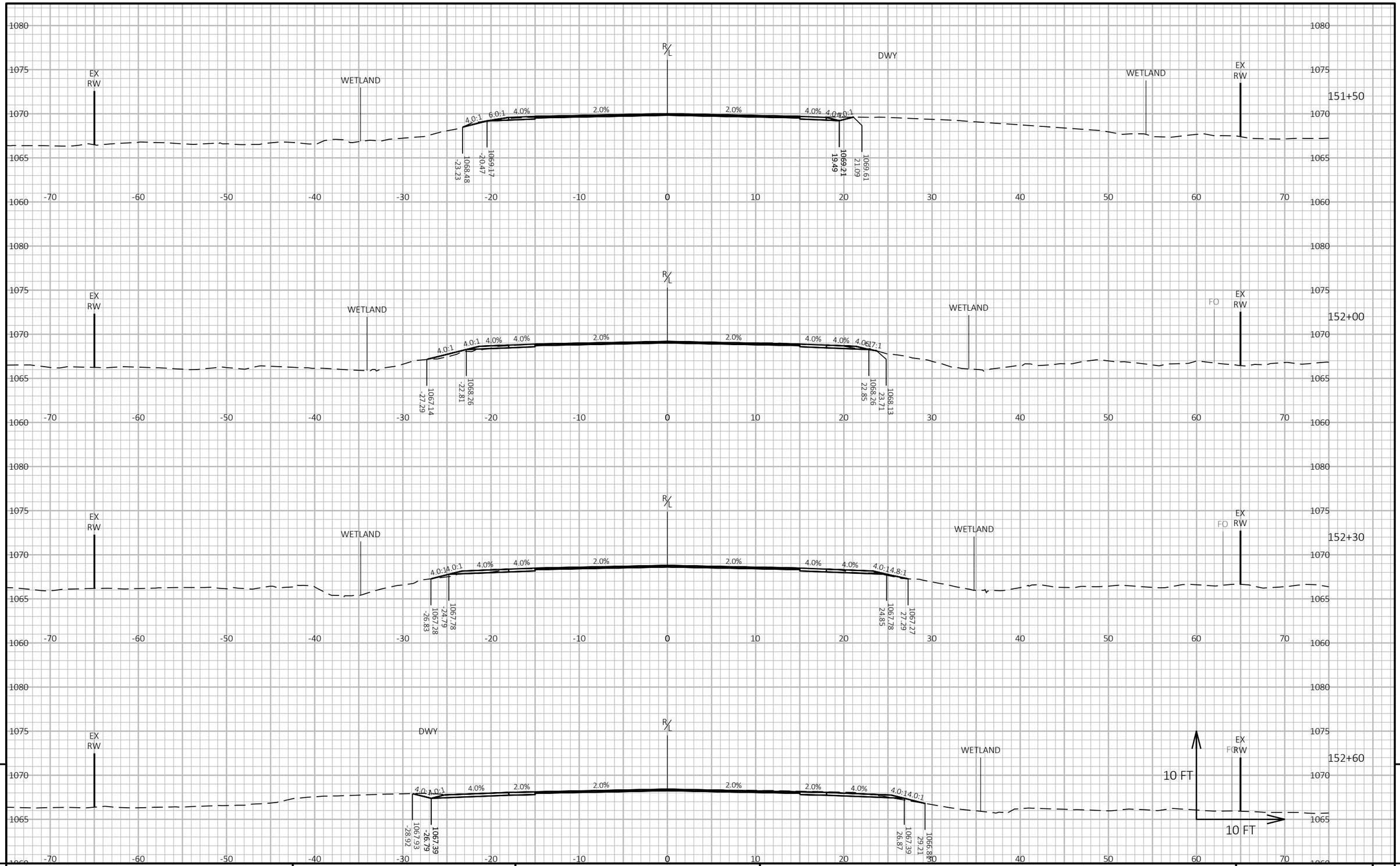
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 121 | E

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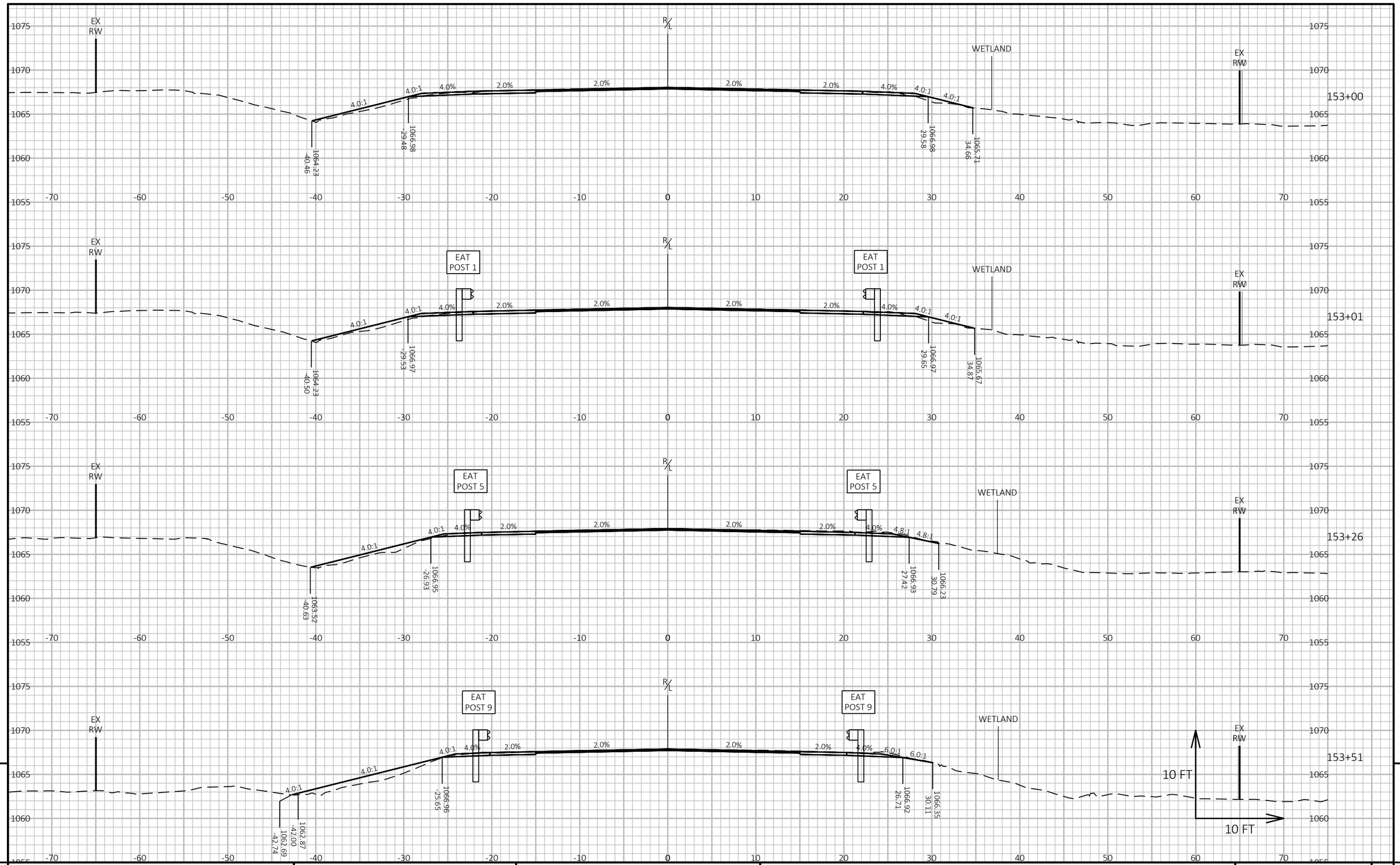
9 9

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 122	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 2/26/2026 10:31 AM PLOT BY : MATT PAYNE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

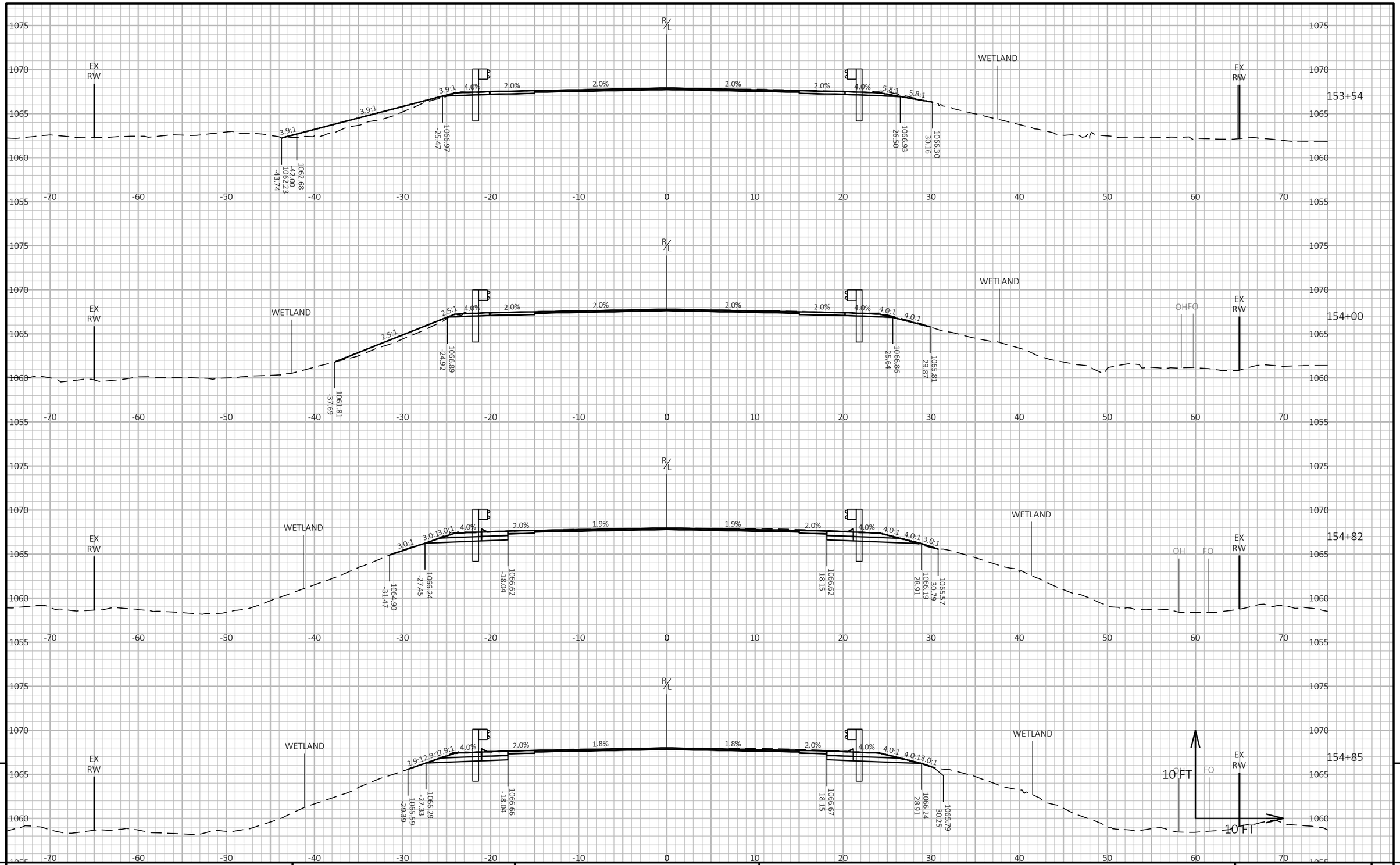


PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 123	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 02

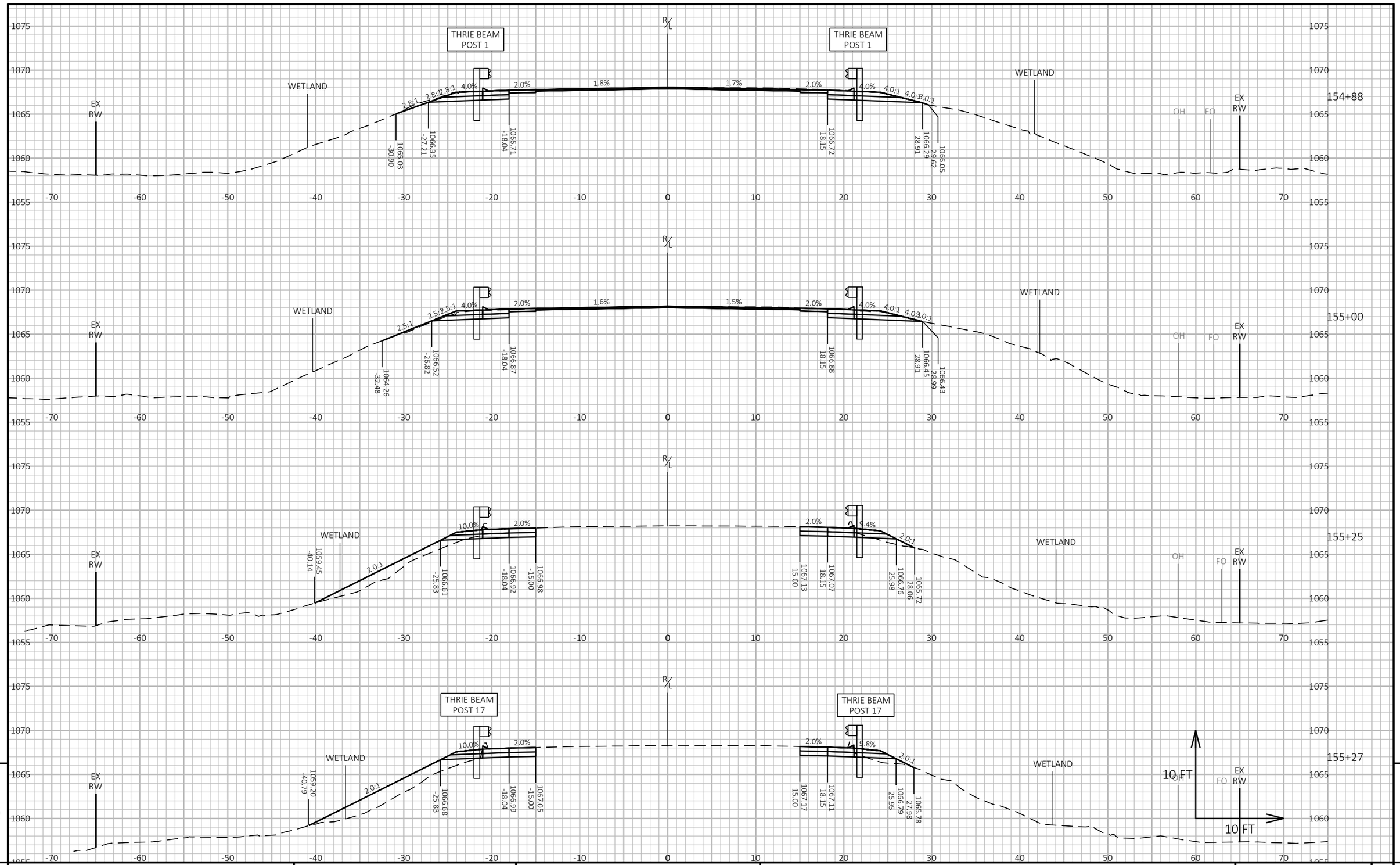
PLOT DATE : 2/26/2026 10:32 AM PLOT BY : MATT PAYNE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 124	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 03
PLOT DATE : 2/26/2026 10:32 AM
PLOT BY : MATT PAYNE
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 125	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 04

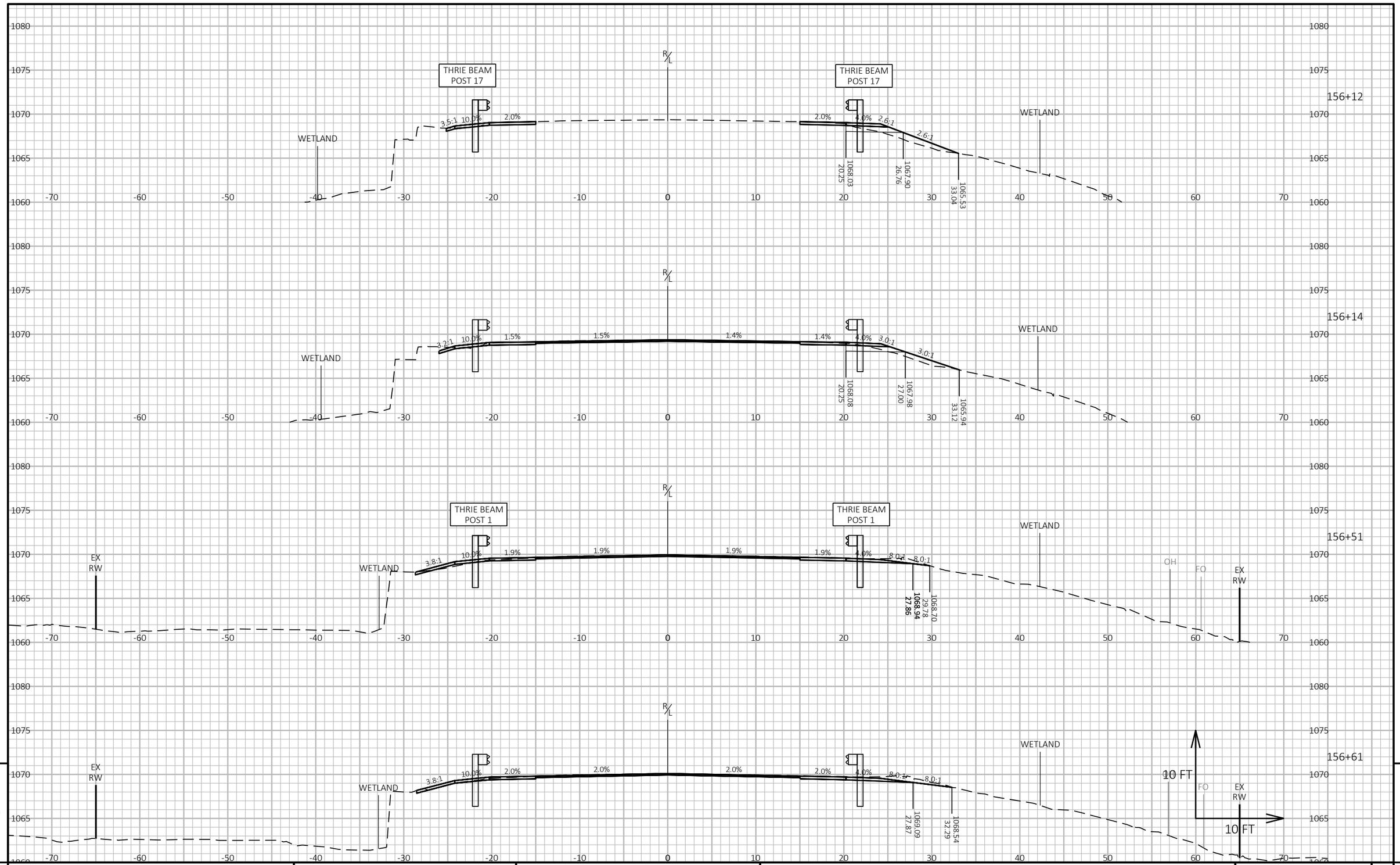
PLOT DATE : 2/26/2026 10:32 AM

PLOT BY : MATT PAYNE

PLOT NAME :

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

WISDOT/CADDS SHEET 49



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PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 126	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 05

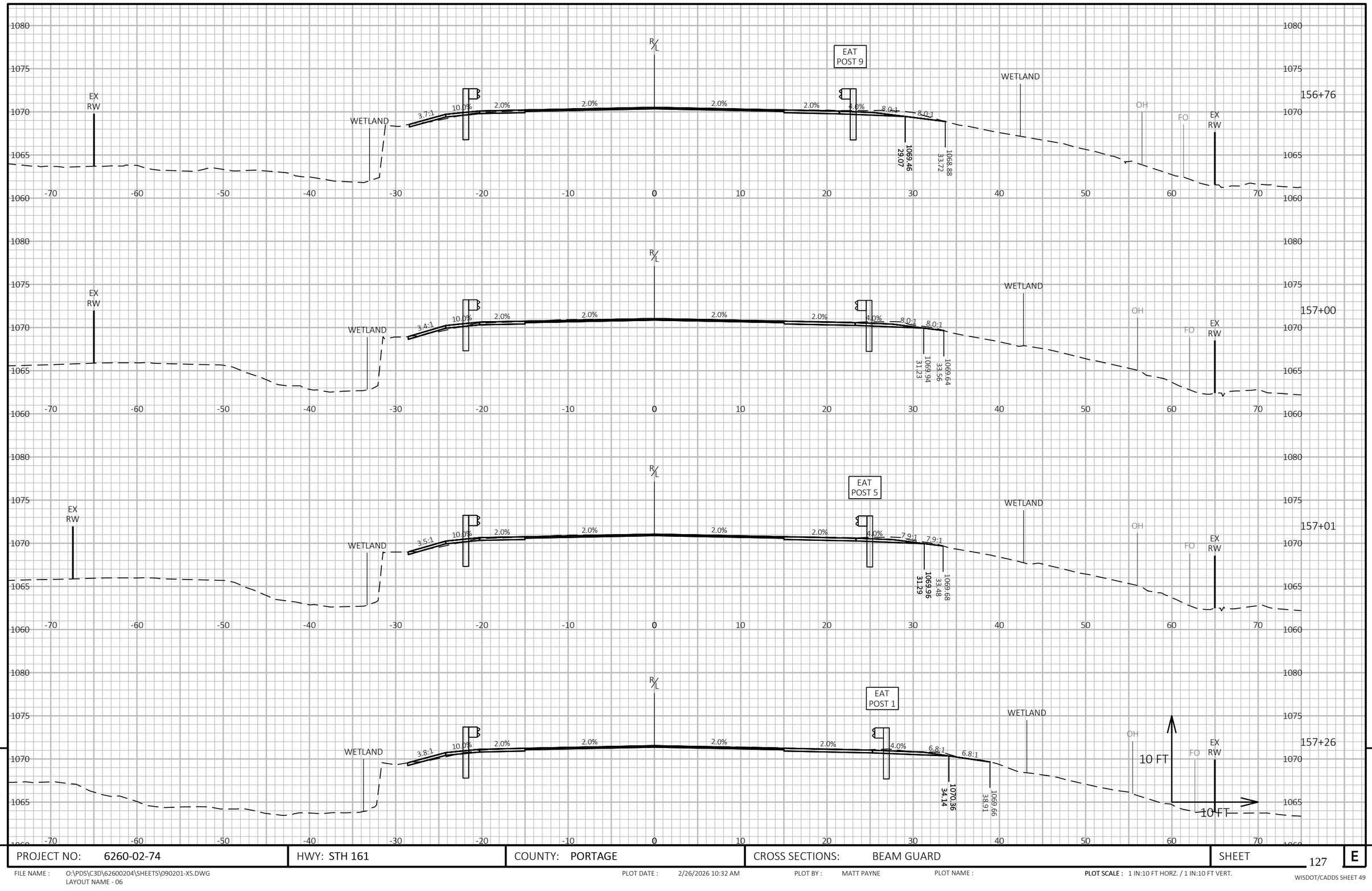
PLOT DATE : 2/26/2026 10:32 AM

PLOT BY : MATT PAYNE

PLOT NAME :

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

WISDOT/CADDS SHEET 49



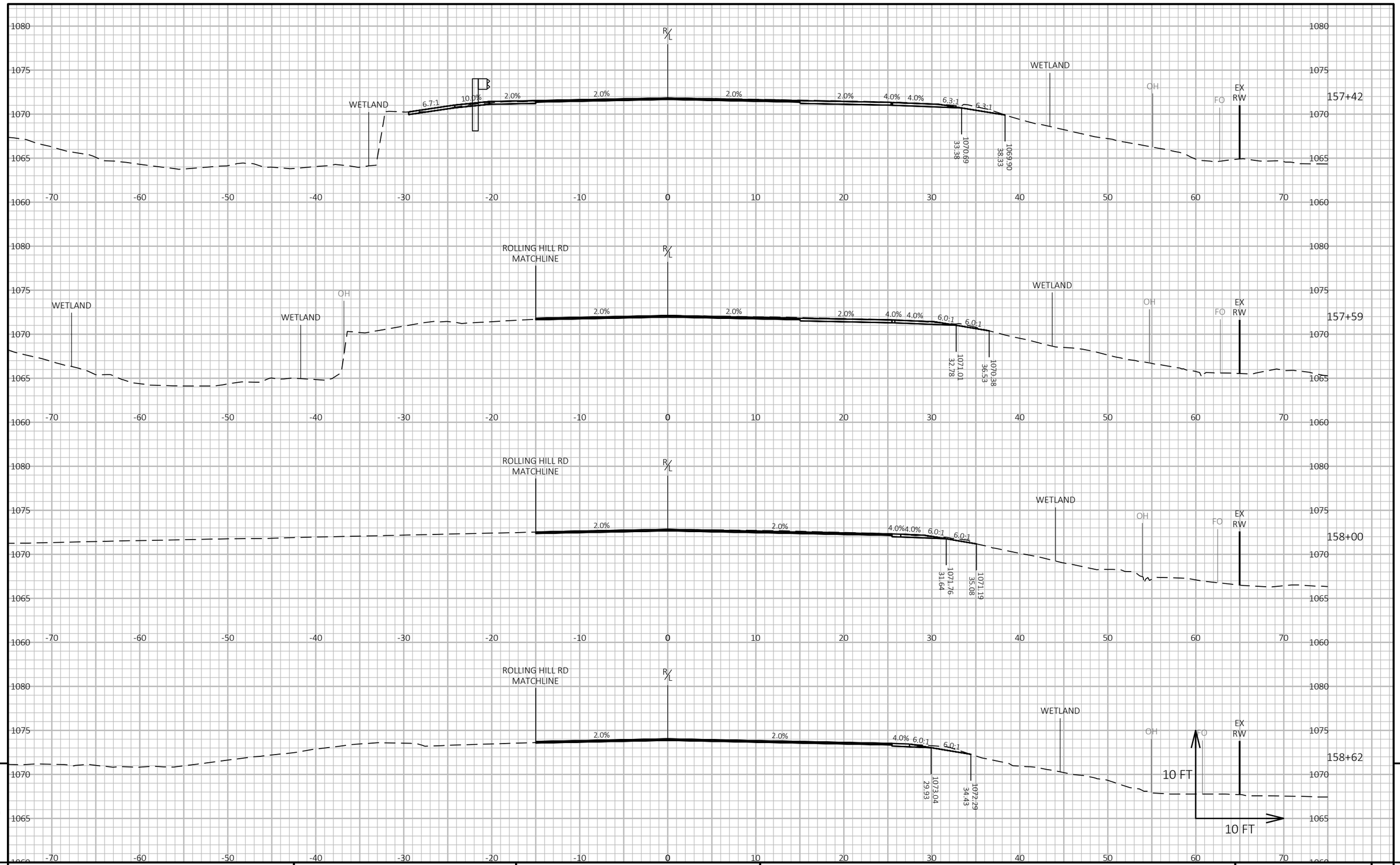
9 9

PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 127	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 2/26/2026 10:32 AM PLOT BY : MATT PAYNE PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 6260-02-74	HWY: STH 161	COUNTY: PORTAGE	CROSS SECTIONS: BEAM GUARD	SHEET 128	E

FILE NAME : O:\PDS\C3D\62600204\SHEETS\090201-XS.DWG
LAYOUT NAME - 07

PLOT DATE : 2/26/2026 10:32 AM PLOT BY : MATT PAYNE PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov