

RHI

PROJECT ID: 9070-03-74

WITH: N/A

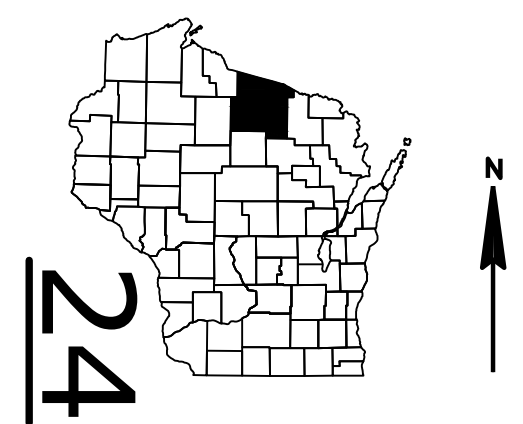
COUNTIES: ONEIDA & VILAS

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 = 94



DESIGN DESIGNATION			
A.A.D.T.	2028	=	2,780
A.A.D.T.	2048	=	3,020
D.H.V.		=	411
D.D.		=	61/39
T.		=	10.9%
DESIGN SPEED		=	55 MPH
ESALS		=	680,000

CONVENTIONAL SYMBOLS

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

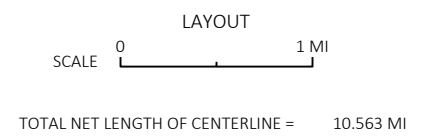
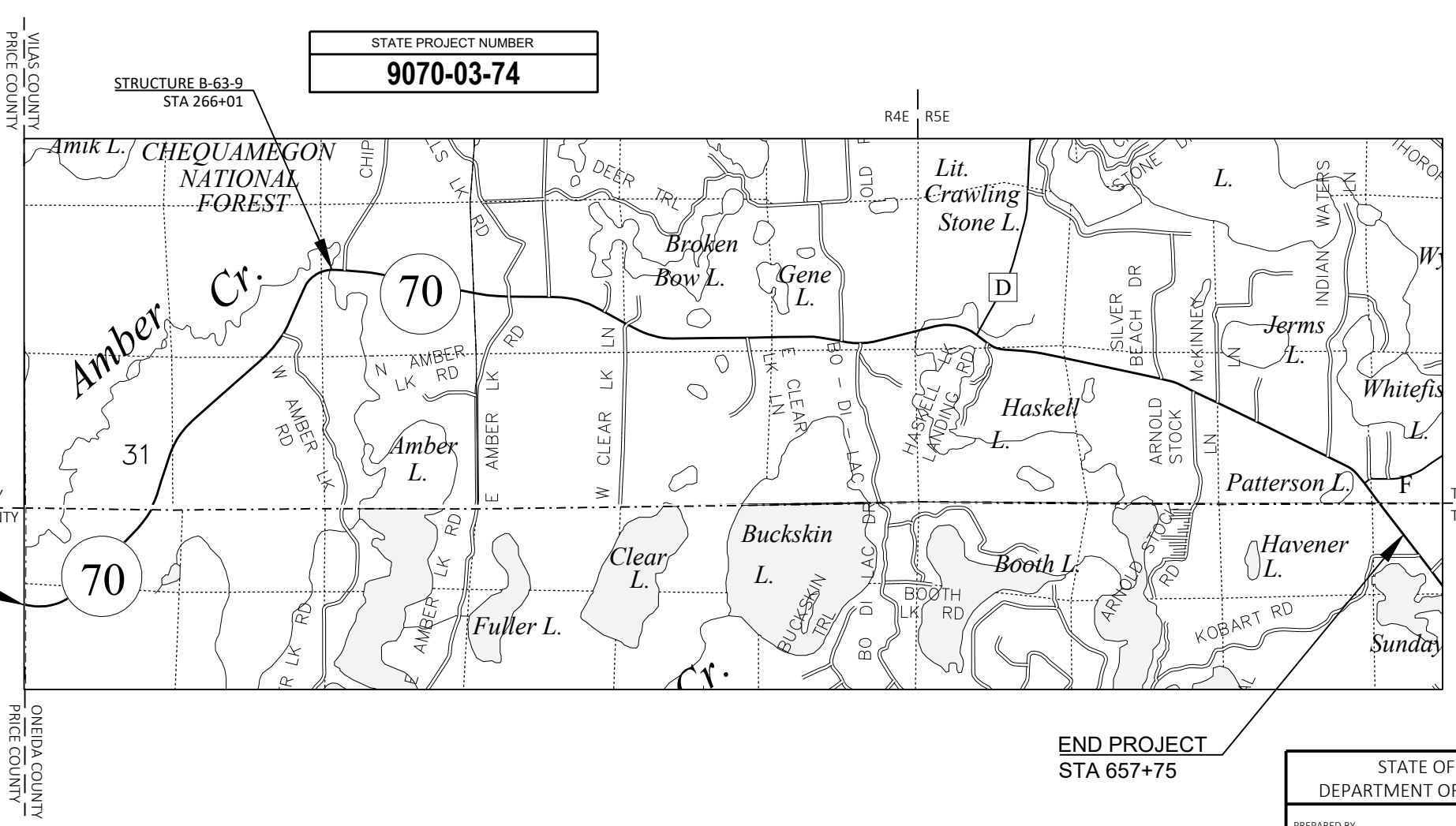
BEGIN PROJECT

STA 100+00

X = 299737.9188

Y = 96368.7272

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



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

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9070-03-74	WISC 2026426	1

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	REI
Surveyor	BARBARA HETH
Designer	MICHELLE M GUOIN
Project Manager	FRED SCHUNKE
Regional Examiner	DANIEL ERVA
Regional Supervisor	
APPROVED FOR THE DEPARTMENT	
DATE: 4/7/2026	
	(Signature)

GENERAL NOTES

STH 70 CENTERLINE ALIGNMENT IS A BEST FIT OF THE EXISTING CENTERLINE.

FOLLOW EXISTING SUPER ELEVATION RATES.

THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT THAT ARE NOT SHOWN.

RADII ARE MEASURED TO THE EDGE OF PAVEMENT.

GUARDRAIL STATIONING IS REFERENCED TO STH 70 CENTERLINE. GUARDRAIL OFFSETS ARE MEASURED FROM STH 70 CENTERLINE TO FACE OF RAIL.

EXISTING CULVERT PIPES ARE SHOWN FOR REFERENCE ONLY. NO CULVERT WORK IS REQUIRED.

RUNOFF COEFFICIENT TABLE

A	HYDROLOGIC SOIL GROUP											
	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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE: TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT						.70 - .95						
CONCRETE						.80 - .95						
BRICK						.70 - .80						
DRIVES, WALKS						.75 - .85						
ROOFS						.75 - .95						
GRAVEL ROADS, SHOULDERS						.40 - .60						

TOTAL PROJECT AREA = 221.2 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.26 ACRES

UTILITY CONTACTS

FRONTIER COMMUNICATIONS OF WI LLC – COMMUNICATION LINE
154 E 2nd STREET
NEW RICHMOND, WI 54017
Jeremy Zehm
715–243–9243
jeremy.zehm@ftr.com

LAC DU FLAMBEAU TRIBE – COMMUNICATION LINE
2644 THOROFARE ROAD
LAC DU FLAMBEAU, WI 54538
Gerrit Steffek
715–388–0876
303–358–9778 cell
gsteffek@8thfirecommunications.com

PRICE ELECTRIC COOPERATIVE INC – ELECTRICITY
W6803 SPRINGS DRIVE
PHILLIPS, WI 54555
Ben Orysen
715–339–2155
715–360–2264 cell
borysen@priceelectric.coop

SPECTRUM – COMMUNICATION LINE
5024 HEFFRON STREET
STEVENS POINT, WI 54481
Jay Hall
715–204–8801 cell
jay.hall@charter.com

WISCONSIN PUBLIC SERVICE CORPORATION – ELECTRICITY
2027 NAVAJO STREET
RHINELANDER, WI 54501
Scott Kolinski
715–369–7148
715–499–2577 cell
Scott.kolinski@wisconsinpublicservice.com

WISCONSIN PUBLIC SERVICE CORPORATION – GAS/PETROLEUM
2027 NAVAJO STREET
RHINELANDER, WI 54501
Mathew Ellman
715–369–7113
715–525–9691 cell
Mathew.Ellman@wisconsinpublicservice.com

OTHER CONTACTS

WISCONSIN DEPT OF NATURAL RESOURCES
107 SUTLIFF AVE
RHINELANDER, WI 54501–0818
Jon Simonsen
715–367–1936
jonathan.simonsen@wisconsin.gov

TRIBAL HISTORIC PRESERVATION OFFICE
PO BOX 67
LAC DU FLAMBEAU, WI 54538
Sarah Thompson
715–588–4381
sarah.thompson@dftribe.com

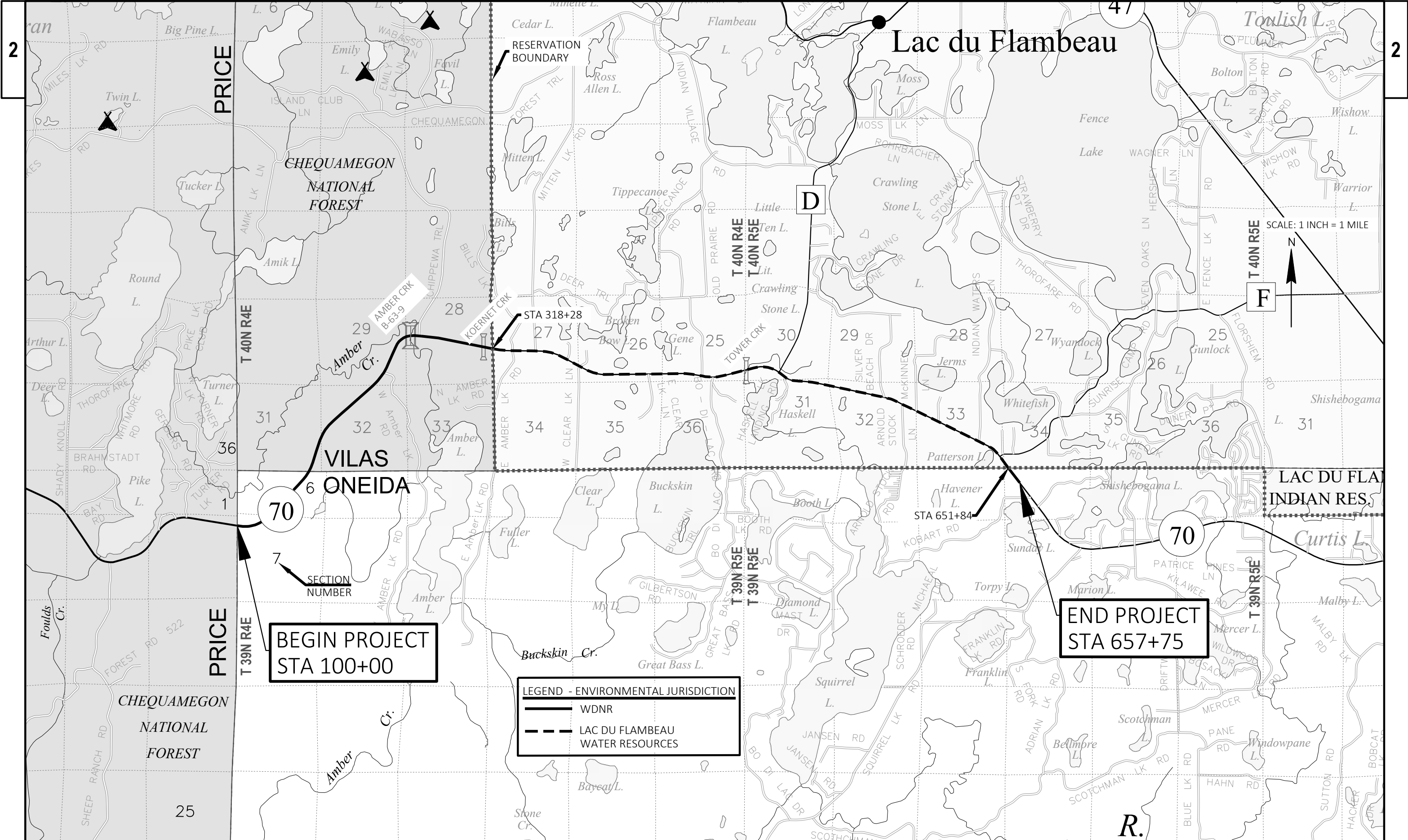
LAC DU FLAMBEAU WATER RESOURCES
PO BOX 67
LAC DU FLAMBEAU, WI 54538
Jason De Vries
715–892–1965
JDeVries@dftribe.com

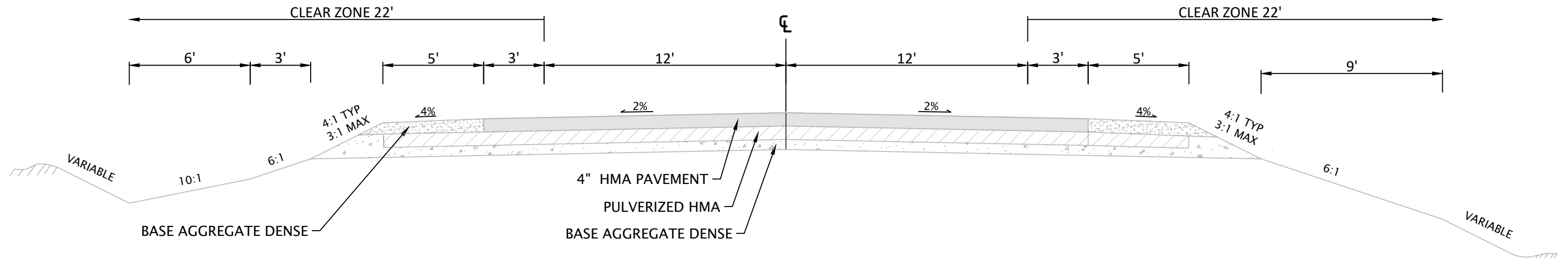
WisDOT NORTH CENTRAL REGION – RHINELANDER
510 NORTH HANSON LAKE ROAD
RHINELANDER, WI 54501
Michelle M Guoin
715–365–5792
715–401–9415 cell
michellem.guoin@dot.wi.gov

DIGGERSHOTLINE

Dial 811 or (800)242-8511

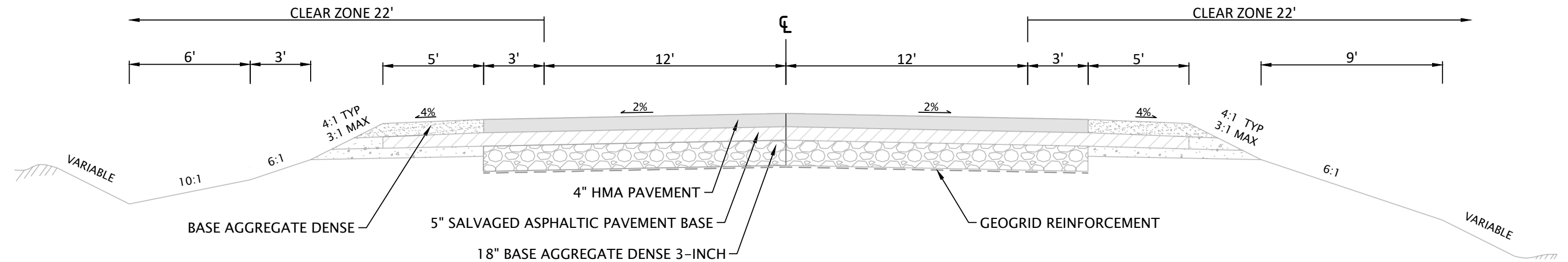
www.DiggersHotline.com





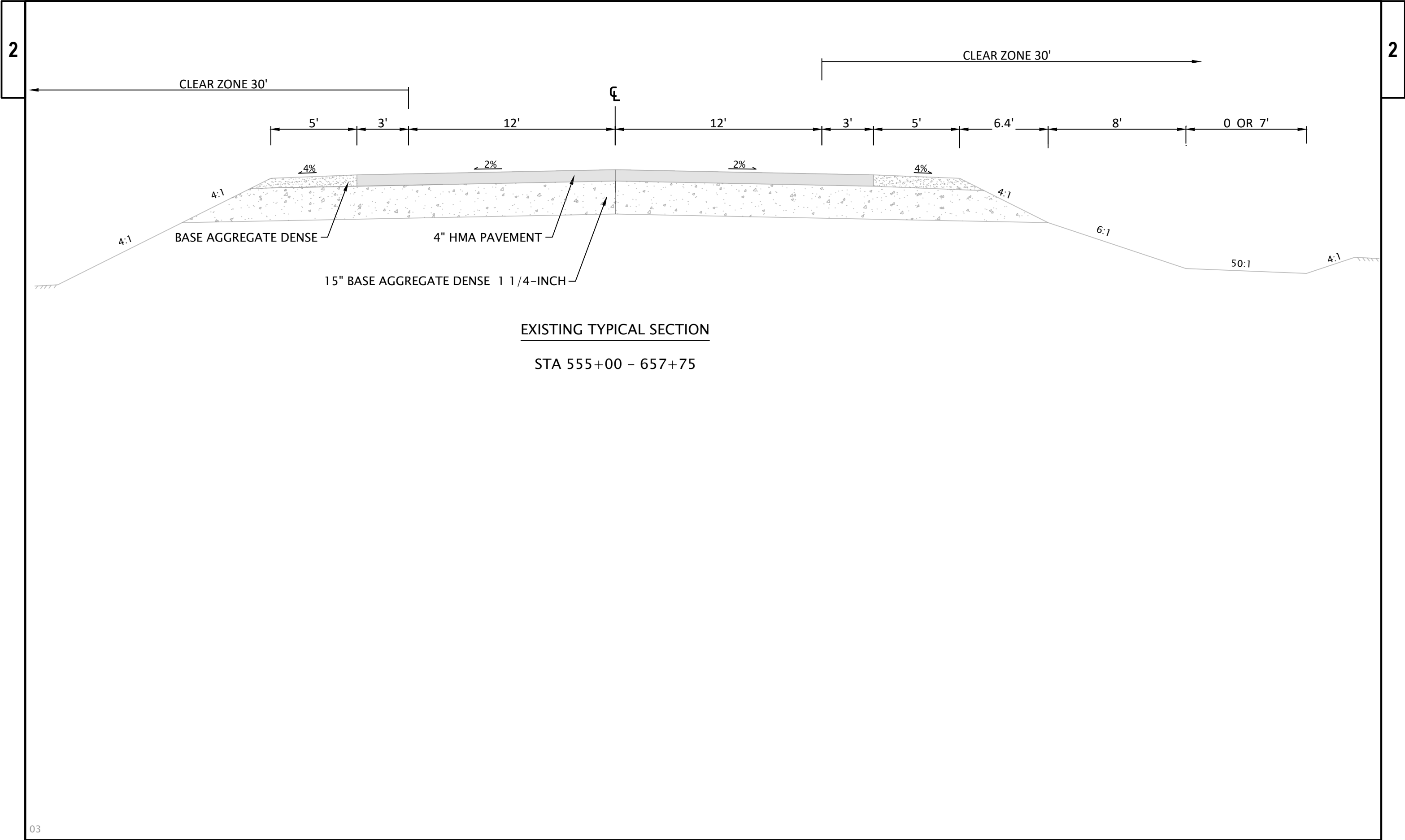
EXISTING TYPICAL SECTION

STA 100+00 - 476+00
STA 484+00 - 493+00
STA 503+50 - 530+85
STA 536+00 - 555+00

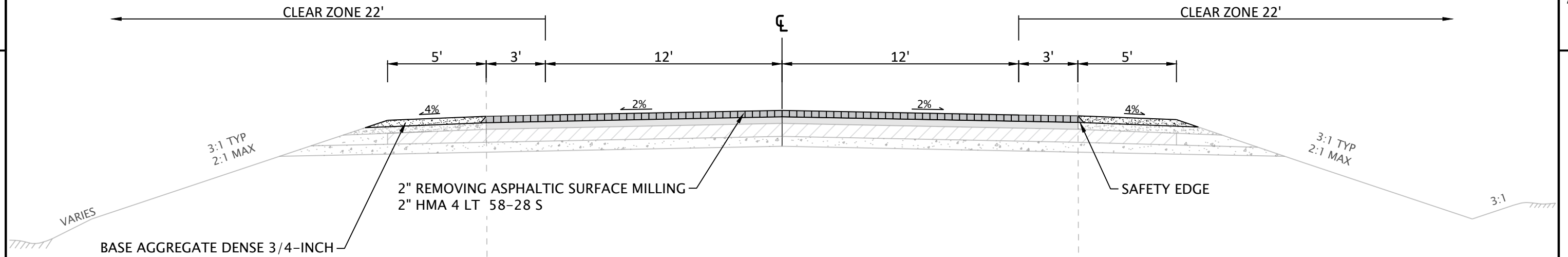


EXISTING TYPICAL SECTION

STA 476+00 - 484+00

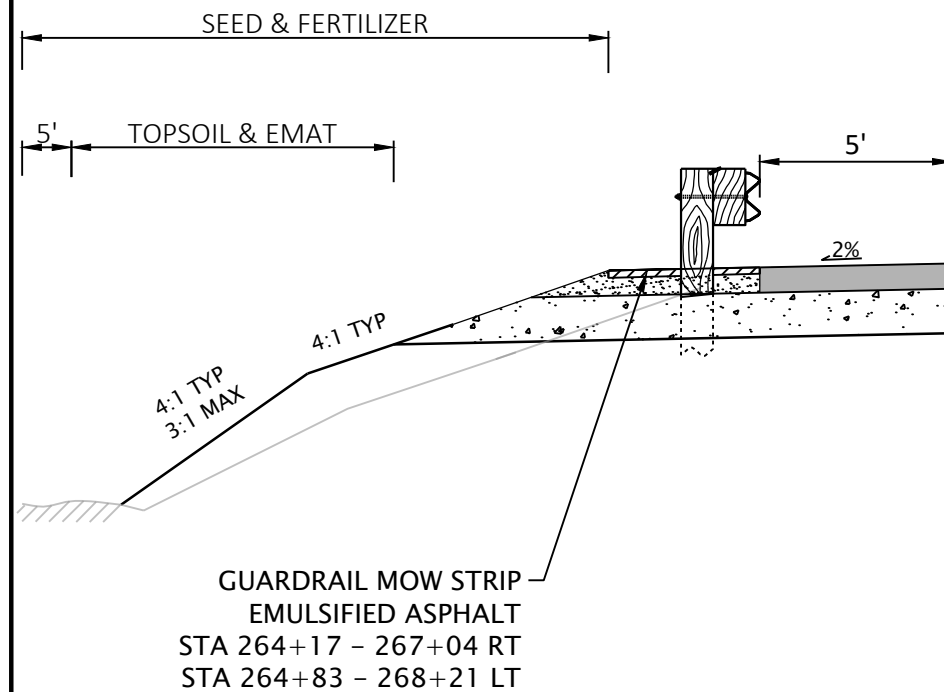


03

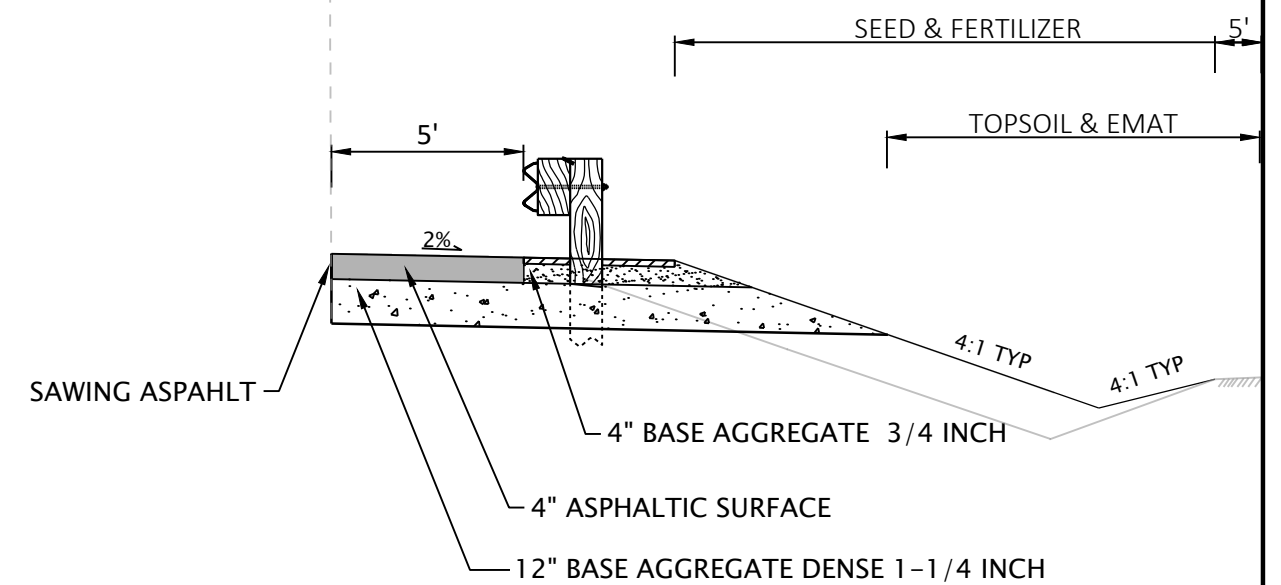


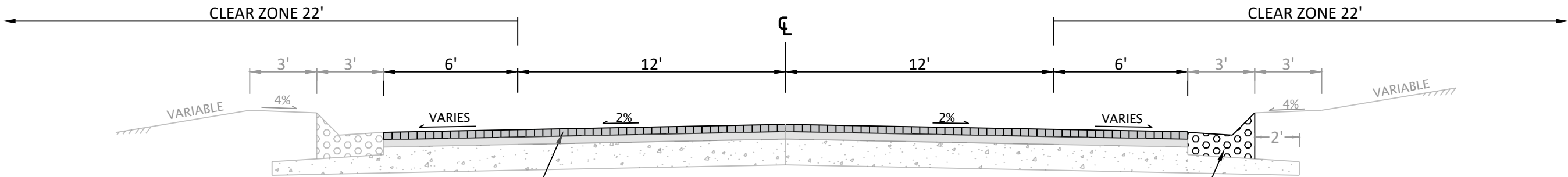
FINISHED TYPICAL SECTION

STA 100+00 - 493+00
STA 503+50 - 530+85
STA 536+00 - 555+00



STA 263+00 - 269+00
SEE CROSS SECTIONS

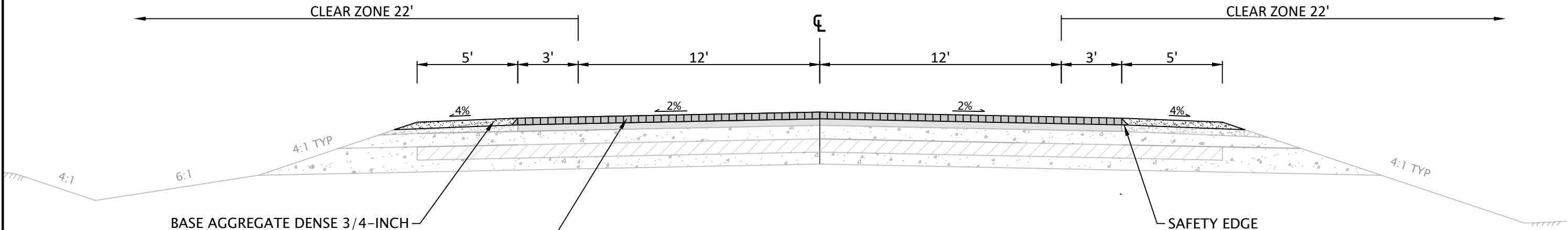




2" REMOVING ASPHALTIC SURFACE MILLING
2" HMA 4 LT 58-28 S

CONCRETE CURB & GUTTER 6-INCH SLOPED 36" TYPE D
STA 496+29 - 496+39 RT
STA 499+29 - 499+39 LT
STA 501+90 - 502+00 LT
SEE CONSTRUCTION DETAILS

FINISHED TYPICAL SECTION
STA 493+00 - 503+50

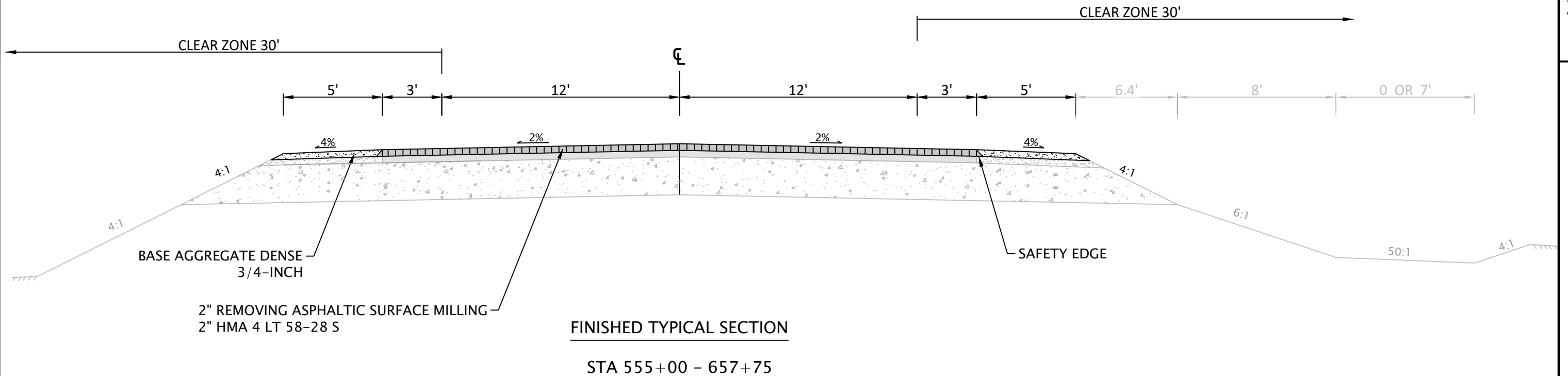


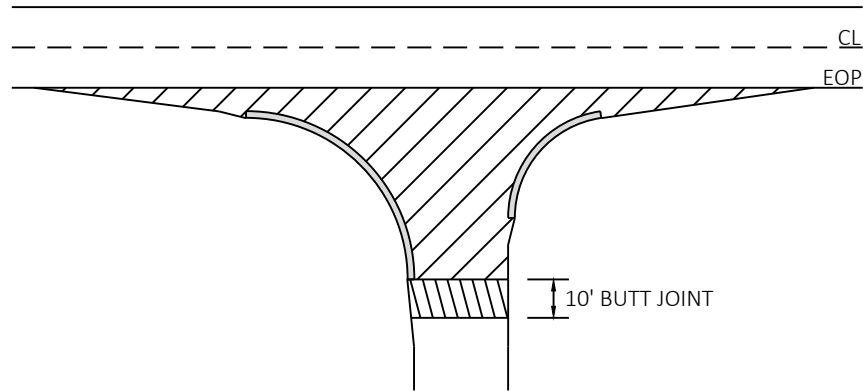
BASE AGGREGATE DENSE 3/4-INCH

SAFETY EDGE

2" REMOVING ASPHALTIC SURFACE MILLING
2" HMA 4 LT 58-28 S

FINISHED TYPICAL SECTION
STA 530+85 - 536+00



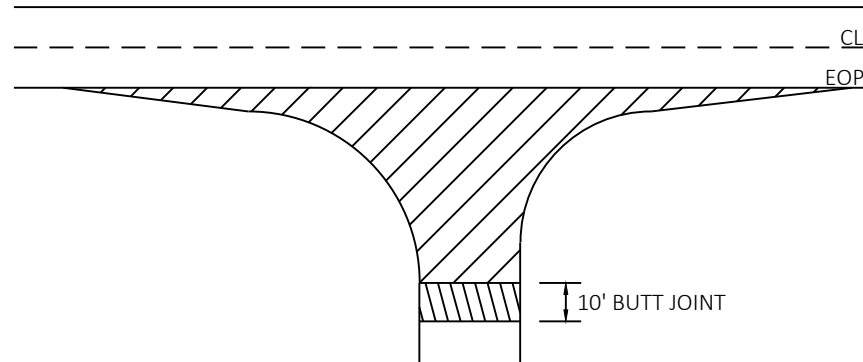


-  REMOVING ASPHALTIC SURFACE MILLING
-  REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: WHEN MATCHING TO AN UNPAVED SURFACE
BUTT JOINT IS NOT REQUIRED

SIDE ROADS - WITH CURB & GUTTER

CTH D
HASKELL LAKE LANDING RD
CTH F



-  REMOVING ASPHALTIC SURFACE MILLING
-  REMOVING ASPHALTIC SURFACE BUTT JOINTS
SEE BUTT JOINT DETAIL

NOTE: BUTT JOINT IS NOT REQUIRE WHEN MATCHING INTO
AN UNPAVED SURFACE

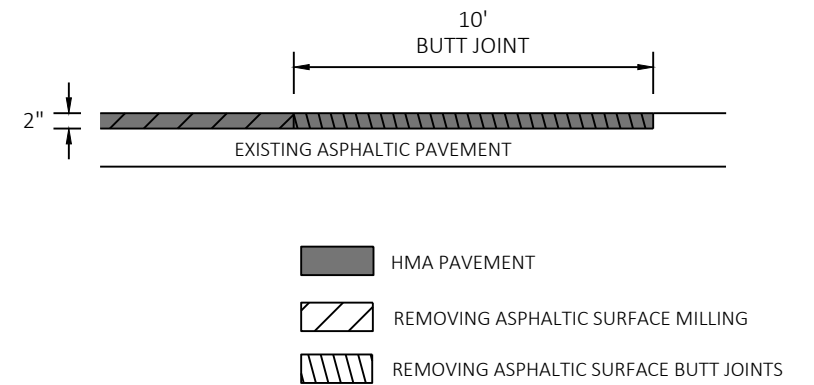
SIDE ROADS - WITHOUT CURB & GUTTER

W AMBER LAKE RD	BO-DI-LAC RD
CHIPPEWA TRAIL RD	TOWN RD RT
BILLS LAKE RD	SILVER BEACH DR
E AMBER LAKE RD	ARNOLD STOCK RD
MITTEN LAKE RD	McKINNEY LN
TRAILS END RD	SPRING LAKE LN
BROKEN BOW LN	INDIAN WATERS LN
W CLEAR LAKE LN	
E CLEAR LAKE LN	
OLD PRAIRIE RD	

PRIVATE DRIVES

REMOVING ASPHALTIC SURFACE MILLING - NOT REQUIRED
ASPHALTIC RUMBLE STRIPS, CENTERLINE (STH 70) - NOT REQUIRED

290+52 RT WHISPERING PINE LN
311+72 LT KOERNET CREEK LN
411+10 LT MITERWALD LN
524+43 RT BLUE SKY LN
592+62 LT MAPLE LN/OAK LN
630+99 RT PATTERSON LAKE LN
644+24 LT CATHER COVE LN



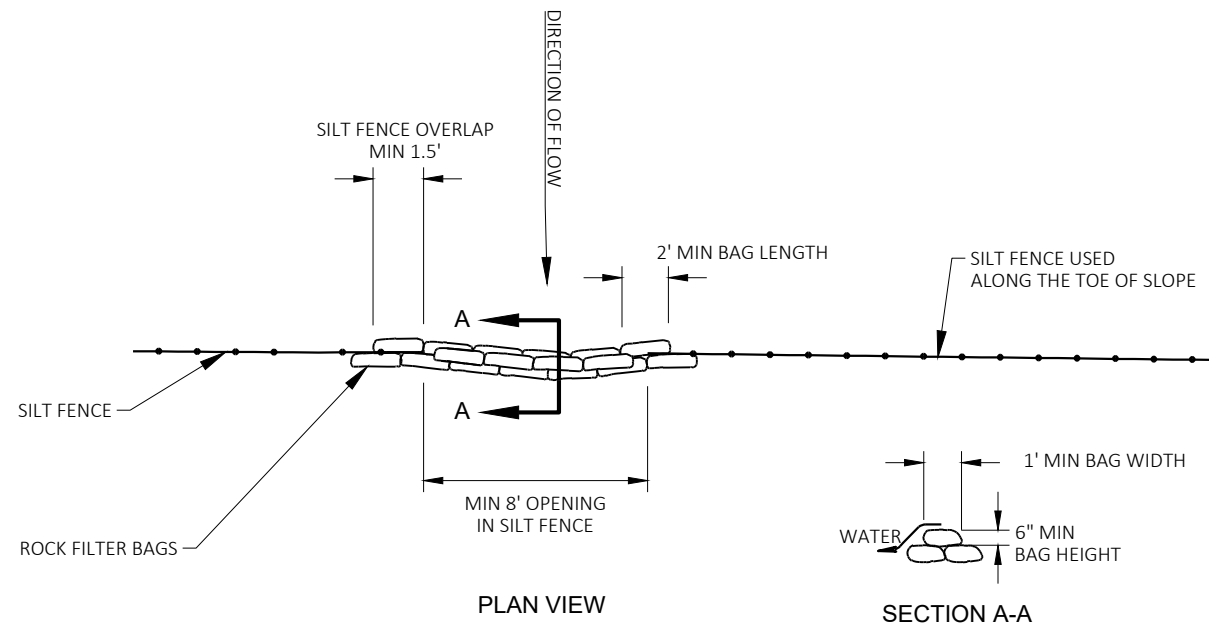
-  HMA PAVEMENT
-  REMOVING ASPHALTIC SURFACE MILLING
-  REMOVING ASPHALTIC SURFACE BUTT JOINTS

BUTT JOINT

MAINLINE AND SIDE ROADS

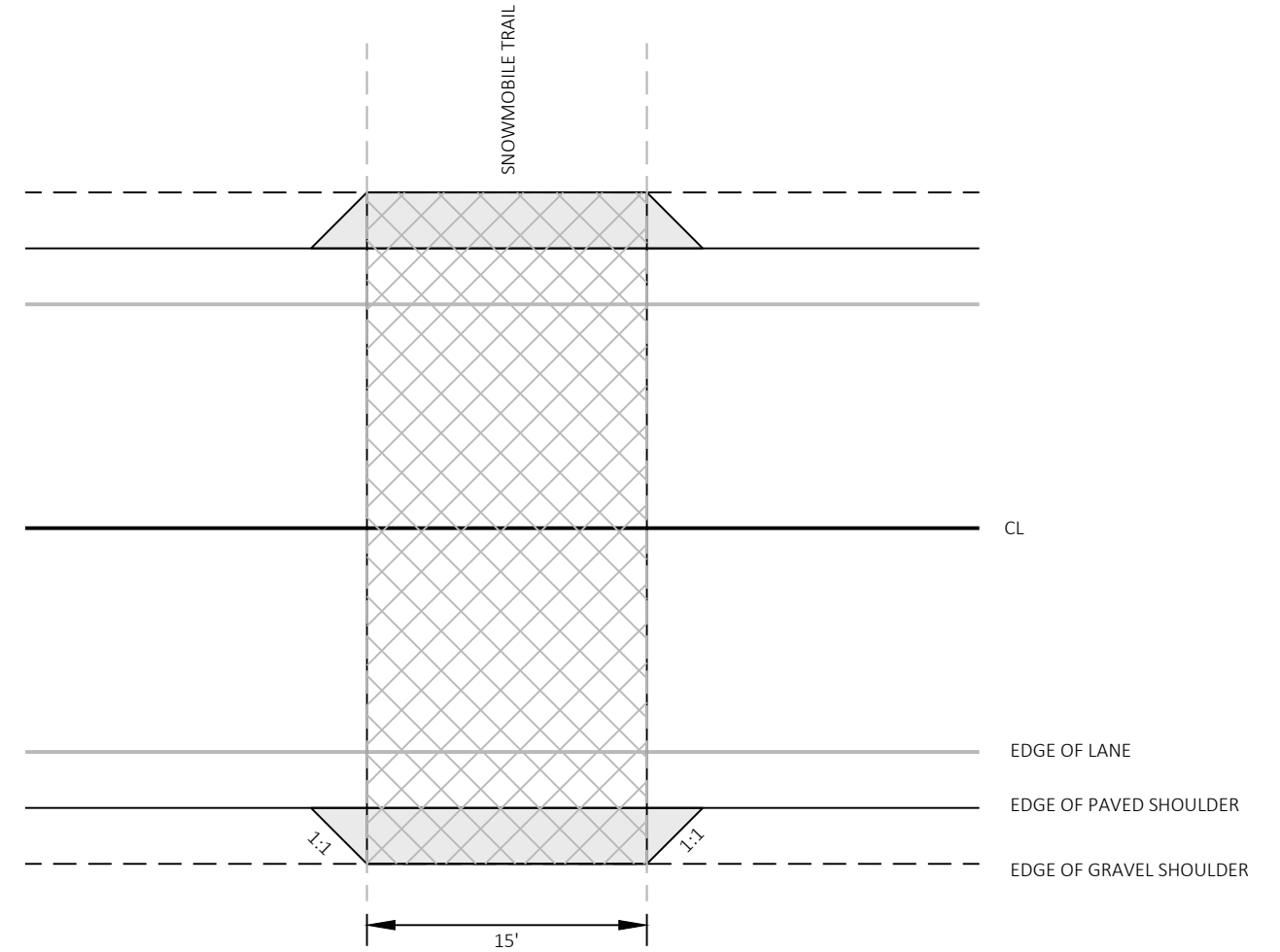


STA 496+29 - 496+40 RT
STA 499+30 - 499+42 LT
STA 501+90 - 502+00 LT



ROCK BAGS USED FOR SILT FENCE RELIEF

264+00 - 268+00 B-63-9 AMBER CREEK



PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSINGS

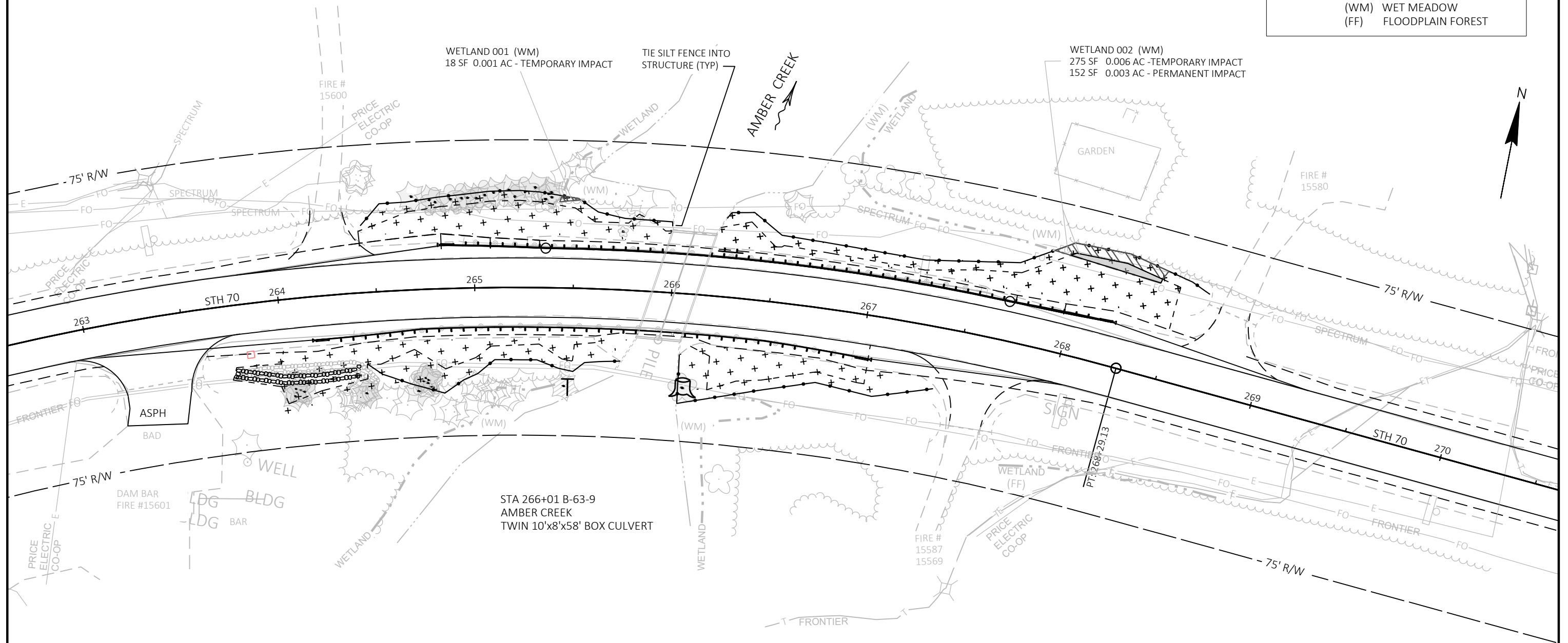


HMA PAVEMENT WIDENING
DEPTH = 4 INCHES

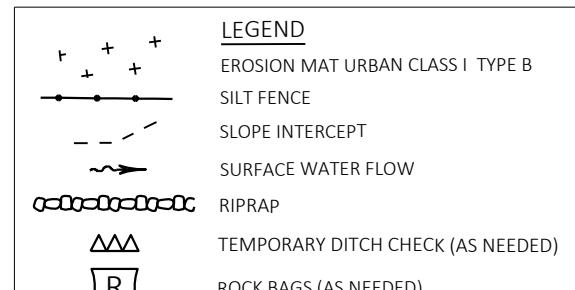
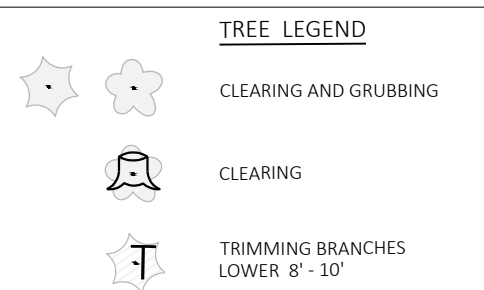
NOTE: PREPARATION FOR PAVEMENT WIDENING IS INCLUDED IN
PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

PROTECTIVE THERMOPLASTIC COATING
AT SNOWMOBILE TRAIL CROSSINGS

STA 653+24

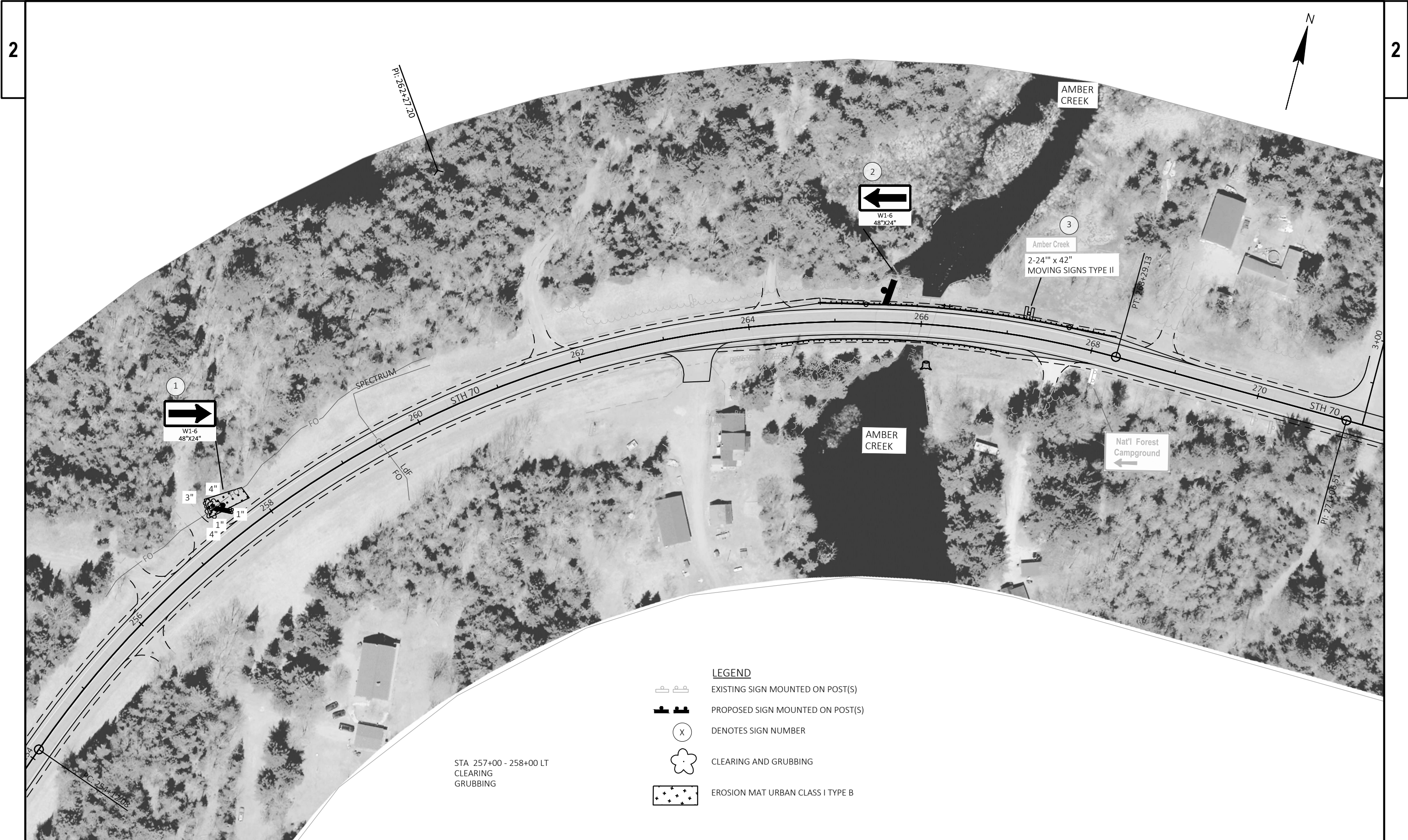


STA 264+00 - 267+00 LT & RT
CLEARING
GRUBBING
SEE MISC QUANTITIES FOR TREE REMOVAL INFORMATION



STA 264+17 - 267+04 RT
STA 264+83 - 268+21 LT
GUARDRAIL MOW STRIP EMULSIFIED ASPHALT

STA 263+75 - 264+37 RT
RIPRAP MEDIUM



STA 257+00 - 258+00 LT
CLEARING
GRUBBING

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- DENOTES SIGN NUMBER
- CLEARING AND GRUBBING
- EROSION MAT URBAN CLASS I TYPE B

PROJECT NO: 9070-03-74

HWY: STH 70

COUNTY: ONEIDA & VILAS

PERMANENT SIGNING

SHEET

14

E

FILE NAME : N:\PDS\C3D\90700304\SHEETS\023201-PS.DWG
LAYOUT NAME - 023201-ps

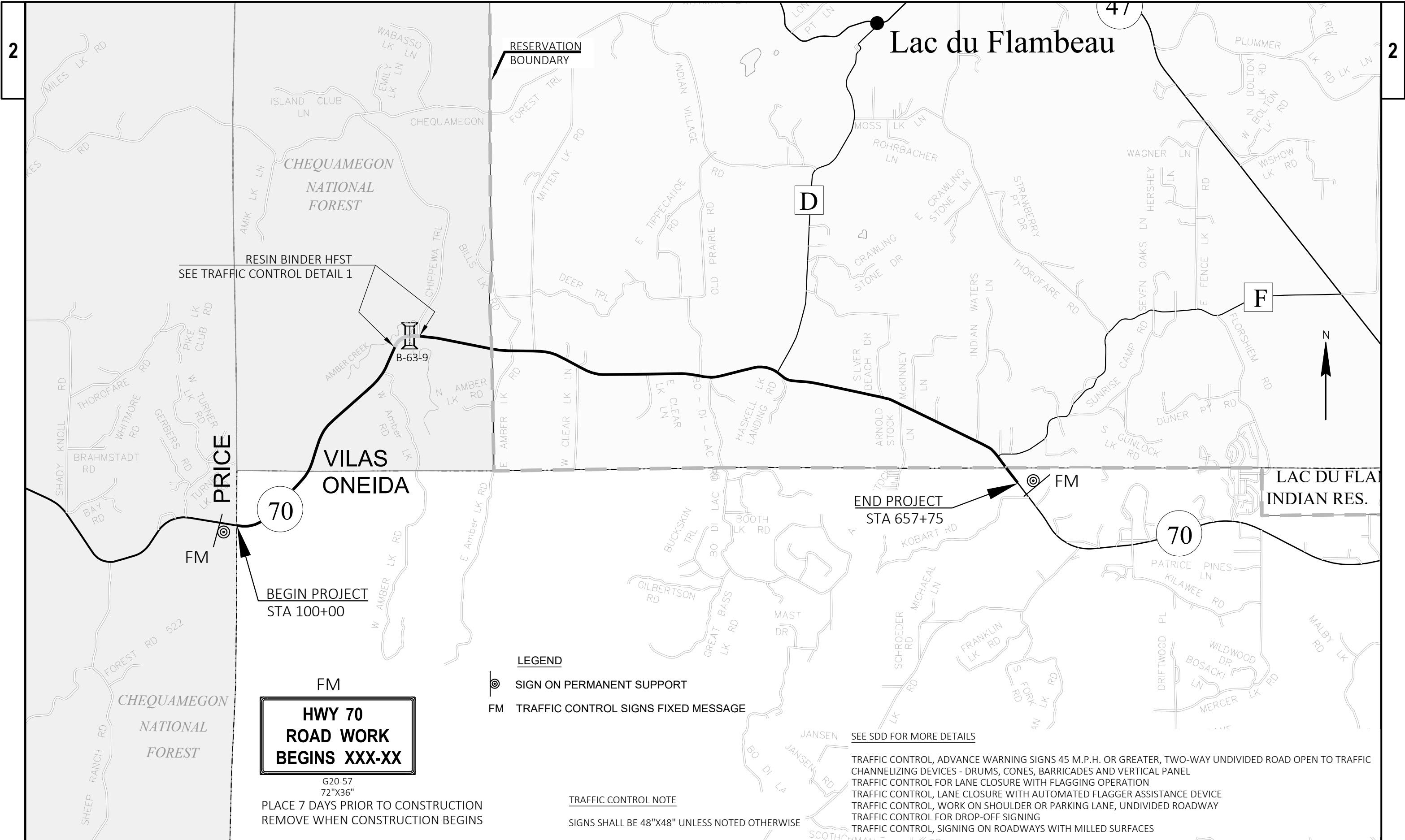
PLOT DATE : 4/21/2026 11:11 AM

PLOT BY : HETH, BARBARA L

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

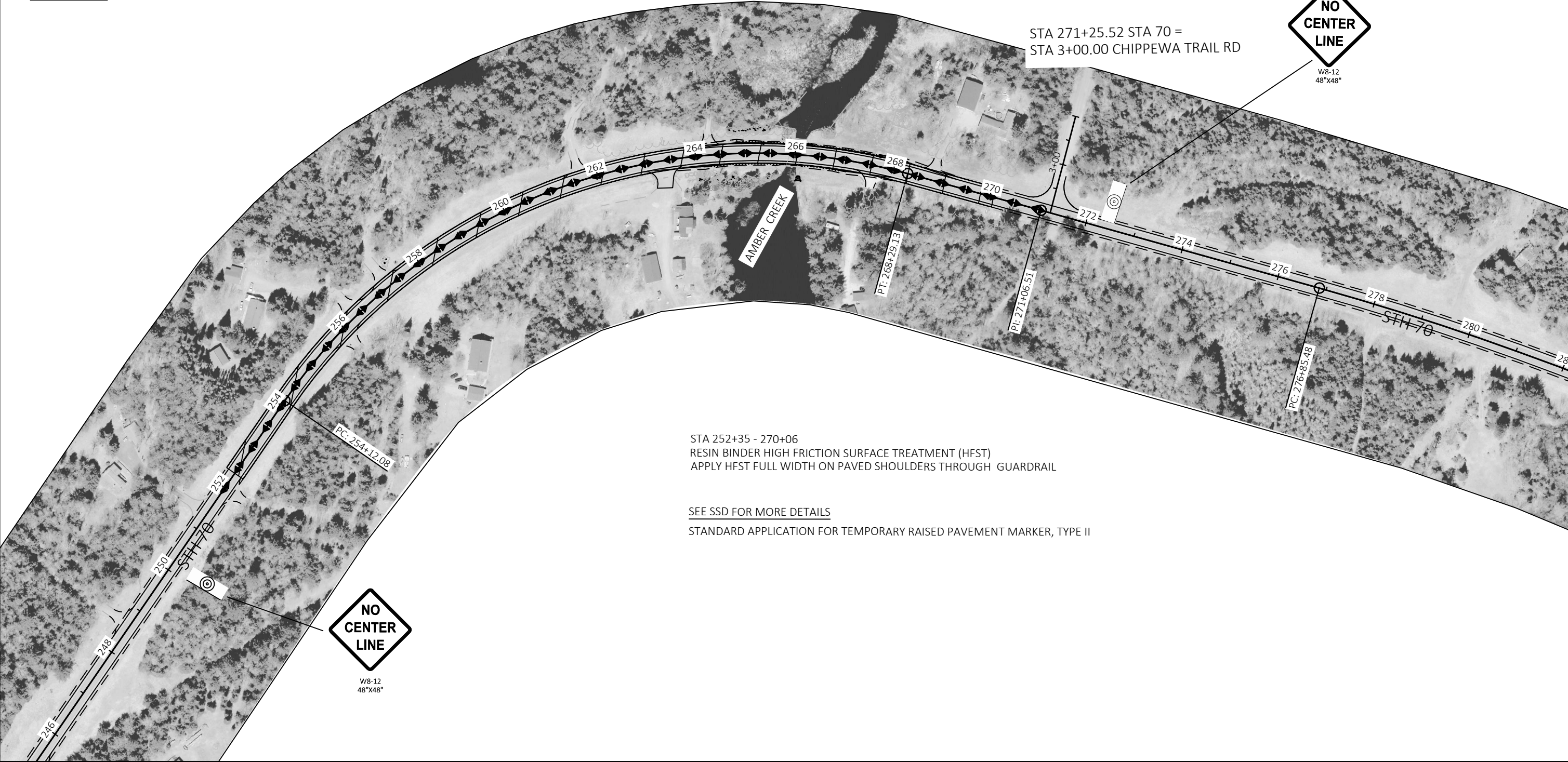
WISDOT/CADDs SHEET 42



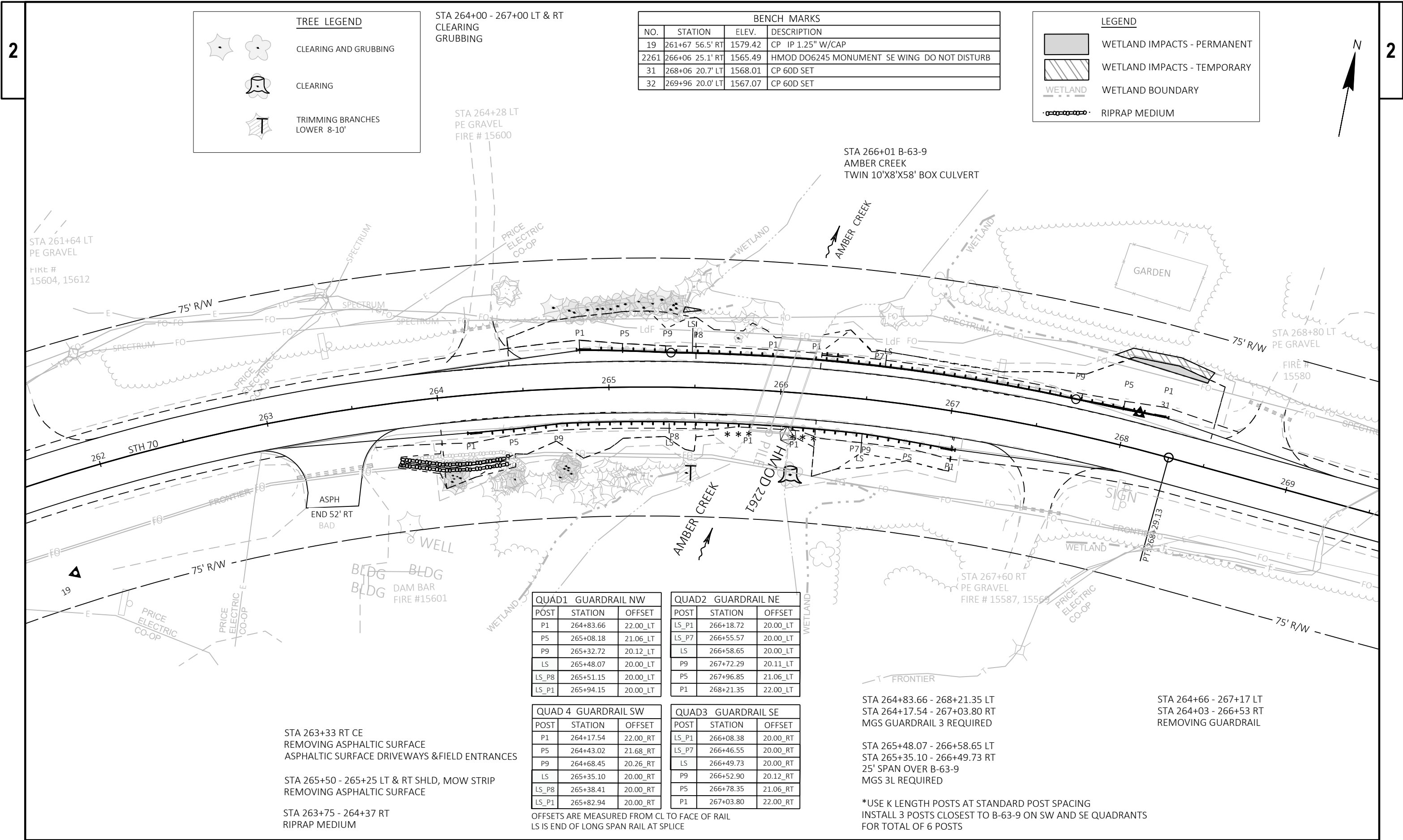
LEGEND

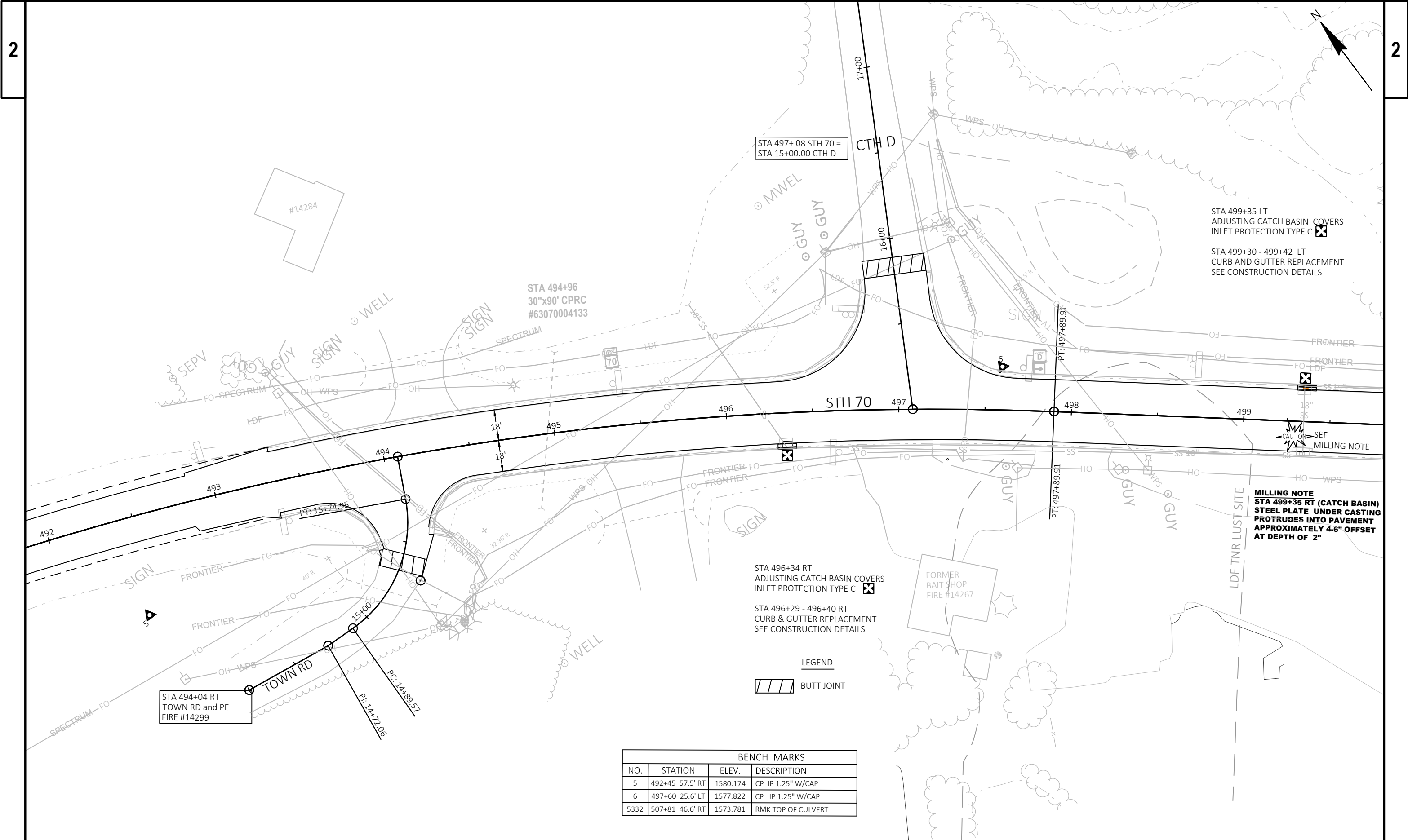
-  SIGN ON PERMANENT SUPPORT
-  TEMPORARY RAISED PAVEMENT MARKER AT 50' SPACING

 HFST WORK AREA



PROJECT NO: 9070-03-74	HWY: STH 70	COUNTY: ONEIDA & VILAS	TRAFFIC CONTROL DETAIL 1 RESIN BINDER HFST	SHEET 16	E
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STA 494+04 RT
TOWN RD and PE
FIRE #14299

STA 494+96
30"x90' CPRC
#63070004133

STA 497+08 STH 70 =
STA 15+00.00 CTH D

STA 496+34 RT
ADJUSTING CATCH BASIN COVERS
INLET PROTECTION TYPE C

STA 496+29 - 496+40 RT
CURB & GUTTER REPLACEMENT
SEE CONSTRUCTION DETAILS

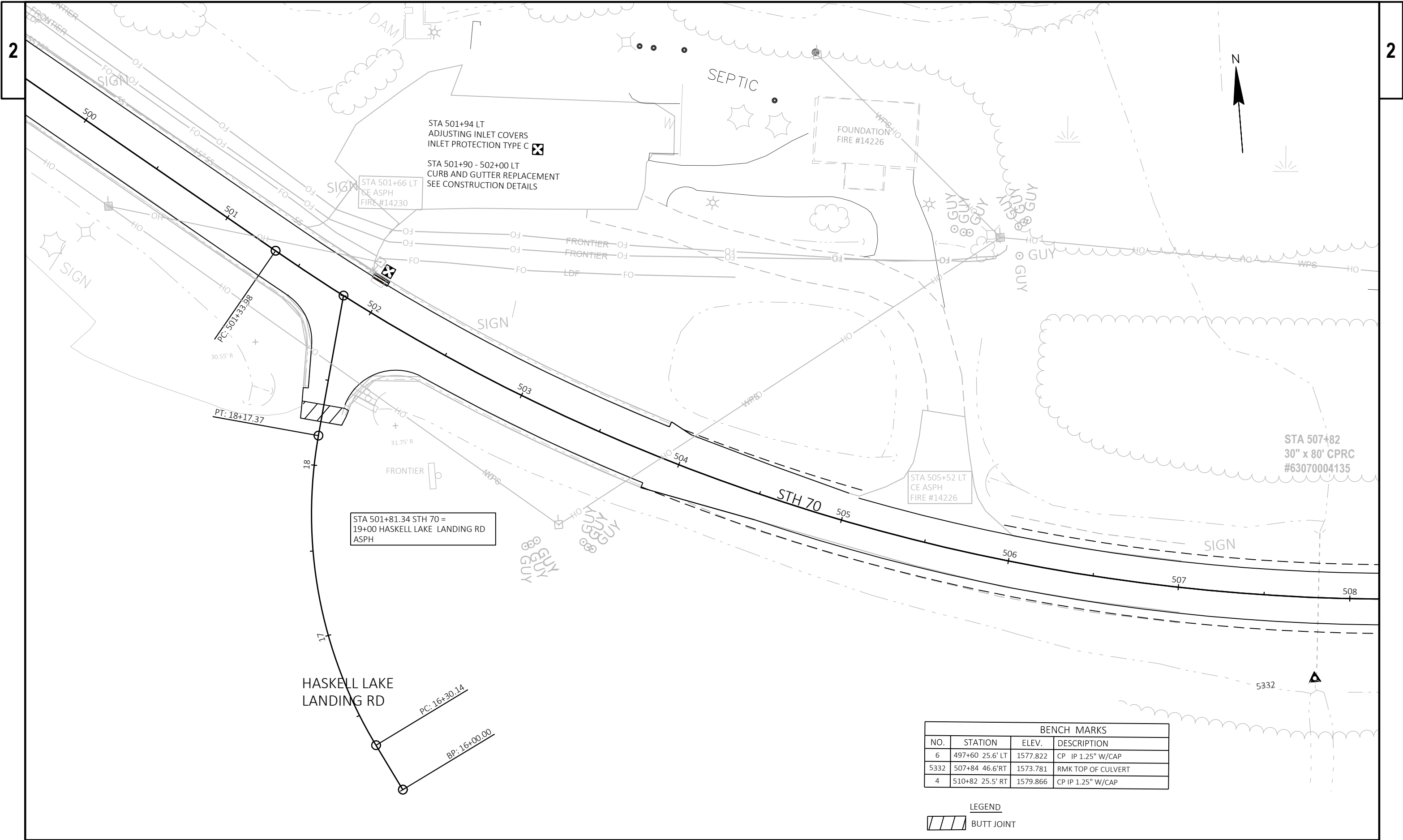
STA 499+35 LT
ADJUSTING CATCH BASIN COVERS
INLET PROTECTION TYPE C

STA 499+30 - 499+42 LT
CURB AND GUTTER REPLACEMENT
SEE CONSTRUCTION DETAILS

MILLING NOTE
STA 499+35 RT (CATCH BASIN)
STEEL PLATE UNDER CASTING
PROTRUDES INTO PAVEMENT
APPROXIMATELY 4-6" OFFSET
AT DEPTH OF 2"

LEGEND
BUTT JOINT

BENCH MARKS				
NO.	STATION	ELEV.	DESCRIPTION	
5	492+45 57.5' RT	1580.174	CP IP 1.25" W/CAP	
6	497+60 25.6' LT	1577.822	CP IP 1.25" W/CAP	
5332	507+81 46.6' RT	1573.781	RMK TOP OF CULVERT	



Estimate Of Quantities

9070-03-74					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	204.0110	Removing Asphaltic Surface	SY	350.000	350.000
0008	204.0115	Removing Asphaltic Surface Butt Joints	SY	670.000	670.000
0010	204.0120	Removing Asphaltic Surface Milling	SY	194,700.000	194,700.000
0012	204.0150	Removing Curb & Gutter	LF	33.000	33.000
0014	204.0165	Removing Guardrail	LF	513.000	513.000
0016	205.0100	Excavation Common	CY	350.000	350.000
0018	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 9070-03-74	EACH	1.000	1.000
0020	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	14.000	14.000
0022	213.0100	Finishing Roadway (project) 01. 9070-03-74	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	14,900.000	14,900.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	500.000	500.000
0028	450.4000	HMA Cold Weather Paving	TON	5,500.000	5,500.000
0030	455.0605	Tack Coat	GAL	6,420.000	6,420.000
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	460.2005	Incentive Density PWL HMA Pavement	DOL	10,670.000	10,670.000
0038	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	11,150.000	11,150.000
0040	460.2010	Incentive Air Voids HMA Pavement	DOL	14,090.000	14,090.000
0042	460.5224	HMA Pavement 4 LT 58-28 S	TON	22,010.000	22,010.000
0044	465.0105	Asphaltic Surface	TON	125.000	125.000
0046	465.0110	Asphaltic Surface Patching	TON	2.000	2.000
0048	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	30.000	30.000
0050	465.0560	Asphaltic Rumble Strips, Centerline	LF	42,600.000	42,600.000
0052	490.0100.S	Resin Binder High Friction Surface Treatment	SY	6,520.000	6,520.000
0054	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	33.000	33.000
0056	606.0200	Riprap Medium	CY	14.000	14.000
0058	611.8105	Adjusting Catch Basin Covers	EACH	2.000	2.000
0060	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0062	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	278.000	278.000
0064	614.2300	MGS Guardrail 3	LF	188.000	188.000
0066	614.2340	MGS Guardrail 3 L	LF	225.000	225.000
0068	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0070	618.0100	Maintenance and Repair of Haul Roads (project) 01. 9070-03-74	EACH	1.000	1.000
0072	619.1000	Mobilization	EACH	1.000	1.000
0074	624.0100	Water	MGAL	300.000	300.000
0076	625.0100	Topsoil	SY	1,600.000	1,600.000
0078	628.1504	Silt Fence	LF	900.000	900.000
0080	628.1520	Silt Fence Maintenance	LF	900.000	900.000
0082	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0084	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0086	628.2008	Erosion Mat Urban Class I Type B	SY	1,600.000	1,600.000
0088	628.7015	Inlet Protection Type C	EACH	3.000	3.000
0090	628.7504	Temporary Ditch Checks	LF	60.000	60.000
0092	628.7570	Rock Bags	EACH	75.000	75.000
0094	629.0210	Fertilizer Type B	CWT	1.000	1.000
0096	630.0120	Seeding Mixture No. 20	LB	73.000	73.000
0098	630.0500	Seed Water	MGAL	54.000	54.000

Estimate Of Quantities

9070-03-74

Line	Item	Item Description	Unit	Total	Qty
0100	633.5200	Markers Culvert End	EACH	4.000	4.000
0102	634.0618	Posts Wood 4x6-Inch x 18-FT	EACH	2.000	2.000
0104	637.2210	Signs Type II Reflective H	SF	16.000	16.000
0106	638.2102	Moving Signs Type II	EACH	2.000	2.000
0108	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
0110	642.5201	Field Office Type C	EACH	1.000	1.000
0112	643.0300	Traffic Control Drums	DAY	630.000	630.000
0114	643.0420	Traffic Control Barricades Type III	DAY	30.000	30.000
0116	643.0705	Traffic Control Warning Lights Type A	DAY	40.000	40.000
0118	643.0715	Traffic Control Warning Lights Type C	DAY	35.000	35.000
0120	643.0900	Traffic Control Signs	DAY	3,180.000	3,180.000
0122	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0124	643.3165	Temporary Marking Line Paint 6-Inch	LF	145,000.000	145,000.000
0126	643.3770	Temporary Marking Raised Pavement Marker Type II	EACH	80.000	80.000
0128	643.5000	Traffic Control	EACH	1.000	1.000
0130	645.0120	Geotextile Type HR	SY	42.000	42.000
0132	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	182,300.000	182,300.000
0134	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	200.000	200.000
0136	650.4500	Construction Staking Subgrade	LF	500.000	500.000
0138	650.5000	Construction Staking Base	LF	500.000	500.000
0140	650.8000	Construction Staking Resurfacing Reference	LF	55,275.000	55,275.000
0142	650.9911	Construction Staking Supplemental Control (project) 01. 9070-03-74	EACH	1.000	1.000
0144	650.9920	Construction Staking Slope Stakes	LF	500.000	500.000
0146	690.0150	Sawing Asphalt	LF	990.000	990.000
0148	690.0250	Sawing Concrete	LF	18.000	18.000
0150	740.0440	Incentive IRI Ride	DOL	42,250.000	42,250.000
0152	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,400.000	2,400.000
0154	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,980.000	1,980.000
0156	SPV.0180	Special 01. Protective Thermoplastic Coating at Snowmobile Crossings	SY	72.000	72.000
0158	SPV.0195	Special 01. Disintegrated Granite	TON	5.000	5.000

3

ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (1)		SALVAGED/UNUSABLE PAVEMENT/ASPHALT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE	208.0100 BORROW
			CUT (2)	EBS EXCAVATION (3)				FACTOR			
								1.30			
DIVISION 1											
AMBER	263+75.00/268+50.00	AMBER CRK GUARDRAIL	350	0	70	280	90	117	162		
DIVISION 1 SUBTOTAL			350	0	70	280	90	117	162	162	0
GRAND TOTAL			350	0	70	280	90	117	162	162	0
TOTAL COMMON EXC			350								
NOTES:											
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100											
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.											
(4) SALVAGED/UNUSABLE PAVEMENT/ASPHALT MATERIAL											
(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL											
(13) EXPANDED FILL FACTOR = 1.30											
EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED EBS) * FILL FACTOR											
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.											
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.											

3

TREE REMOVAL AT AMBER CREEK - INFORMATION ONLY

TREE DIAMETER (INCHES) LT			TREE DIAMETER (INCHES) RT				
LOCATION	OFFSET	CLEARING & GRUBBING	LOCATION	OFFSET	CLEARING & GRUBBING	CLEARING	TRIMMING*
264+69.8	42.2 LT	11	264+03.7	49.5 RT	5		
264+78.6	45.2 LT	7	264+04.4	45.8 RT	24		
264+81.4	44.0 LT	4	264+04.8	47.8 RT	3		
264+88.9	45.3 LT	17	264+06.9	46.6 RT	36		
264+94.4	45.6 LT	4	264+08.8	47.7 RT	5		
264+97.4	45.8 LT	6					
265+01.7	45.4 LT	3	264+41.8	51.2 RT	DEAD 20		
265+03.8	47.1 LT	9					
265+10.0	48.3 LT	6	264+69.5	51.5 RT	2		
265+17.6	49.5 LT	3	264+72.1	46.7 RT	5		
265+20.4	46.1 LT	8	264+73.3	45.0 RT	8		
265+25.3	48.5 LT	2	264+74.6	46.1 RT	5		
265+30.5	50.8 LT	2	264+74.4	47.6 RT	5		
265+35.3	50'.0 LT	3	264+76.2	49.7 RT	5		
265+37.0	47.6 LT	2	265+46.2	49.8 RT			10
265+38.3	48.5 LT	3					
265+74.0	37.8 LT	1	266+09.0	47.8 RT	—	12, 32, 2-12	—
TOTAL		91	TOTAL		123	68	10

*TRIM LOWER BRANCHES 8' - 10'

				ITEMS IN CATEGORY 0010 UNLESS NOTED OTHERWISE																			
CLEARING GRUBBING LOCATION* 201.0105 CLEARING STA 201.0205 GRUBBING STA 257+00 - 258+00 LT - SIGN**11 264+00 - 267+00 LT & RT***32 TOTAL43 *SPECIFIC TREES WILL BE MARKED BY ENGINEER **SEE SHEET PERMANENT SIGNING ***SEE PREVIOUS MISC QUANTITIES SHEET				REMOVING CURB AND GUTTER LOCATION 204.0150 LF 496+29 - 496+40 RT CB11 499+30 - 499+42 LT CB12 501+90 - 502+00 LT INL10 TOTAL33				HMA COLD WEATHER PAVING TACK COAT HMA PAVEMENT 4 LT 58-28 S LOCATION 450.4000 COLD WEATHER TON 455.0605 TACK COAT GAL 460.5224 HMA 4 LT 58-28 S TON 100+00 - 657+75SIDEROADS (20)UNDISTRIBUTED--2005,500 TOTAL5,5006,42022,010															
REMOVING ASPHALTIC SURFACE LOCATION 204.0110 SY 263+33 RT CE171 265+50 - 266+25 LT SHLD, MOW STRIP86 265+50 - 266+25 RT SHLD, MOW STRIP86 496+29 - 496+40 RT CB3 499+30 - 499+42 LT CB2 501+90 - 502+00 LT INL2 TOTAL350				REMOVING GUARDRAIL LOCATION MASONRY ANCHORS EACH 204.0165 LF 264+03 - 266+53 RT AMBER CRK *4250 264+66 - 267+17 LT AMBER CRK *4263 TOTAL8513 *WORK INCIDENTAL TO ITEM: CUTOFF/GRIND AND GALVANIZE MASONRY ANCHORS MOUNTED ON B-63-9 TOP SLAB				ASPHALTIC SURFACE LOCATION 465.0105 TON 263+00 - 269+00 LT & RT SHLDS125				ASPHALTIC SURFACE PATCHING LOCATION 465.0110 TON INL/CB (3)2 496+34 RT CB-- 499+35 LT CB-- 501+94 LT INL-- TOTAL2											
REMOVING ASPHALTIC SURFACE BUTT JOINTS REMOVING ASPHALTIC SURFACE MILLING LOCATION BUTT JOINTS DIMENSIONS LF x LF 204.0115 SY 204.0120 MILLING SY 100+00 BEGIN PROJECT10 x 30330 657+60 END PROJECT10 x 30330 100+10 - 657+6000187,270 236+81 RT W AMBER LAKE RD10 x 2225307 271+26 LT CHIPPEWA TRAIL RD10 x 2528331 329+13 RT E AMBER LAKE RD10 x 2427327 329+33 LT BILLS LAKE RD10 x 2427331 343+26 LT MITTEN LAKE RD10 x 2427316 363+35 LT TRAILS END LN10 x 2427361 373+21 LT BROKEN BOW LN10 x 2427410 372+57 RT W CLEAR LAKE RD10 x 2427329 415+34 RT E CLEAR LAKE LN10 x 2427301 448+34 LT OLD PRARIE RD10 x 3027359 455+12 RT BO-DI-LAC RD24 x 3027405 461+14 LT OLD 70 RD (PE)000 494+08 RT TOWN RD10 x 2629163 497+08 LT CTH D10 x 3640383 501+81 RT HASKELL LAKE LANDING RD10 x 2629182 564+09 LT SILVER BEACH DR10 x 3033469 575+95 RT ARNOLD STOCK LN10 x 3033461 585+44 LT MCKINNEY LN10 x 2730368 600+36 LT SPRING LAKE LN10 x 3033390 628+03 LT INDIAN WATERS10 x 3033436 644+11 LT CTH F10 x 3946801 TOTAL670194,700				PREPARE FOUNDATION FOR ASPHALTIC PAVING PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS LOCATION ASPHALTIC PAVING 211.0101 EACH ASPHALTIC SHOULDERS 211.0400 STA PROJECT 9070-03-741 263+00 - 269+00 GUARDRAIL LT & RT653+24 TRAIL CROSSING LT & RT--2 TOTAL114				ASPHALTIC RUMBLE STRIPS, CENTERLINE LOCATION 465.0560 LF PROJECT100+00 - 493+00 BEGIN - CTH D507+00 - 642+00 CTH D - CTH F42,600 ASPHALTIC RUMBLE STRIPS, CENTERLINE NOT REQUIRED: PRIVATE DRIVES (7) - SEE CONSTRUCTION DETAILS				ASPHALTIC SURFACE DRIVEWAYS & FIELD ENTRANCES LOCATION 465.0120 TONS 263+33 RT CE30											
PROJECT NO: 9070-03-74				HWY: STH 70				COUNTY: ONEIDA & VILAS				MISCELLANEOUS QUANTITIES				SHEET: 23				E			

PWL MIXTURE USE TABLE - ACCEPTANCE CRITERIA								
LOCATION	STA	MIXTURE USE LAYER	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS INCHES	QUALITY MANAGEMENT PROGRAMS TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 FOOT DRIVING LANES	100+00 - 657+75	UPPER	MILLED SURFACE	4 LT 58-28 S	16,660	2	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVMENT 460.2005
SHOULDERS	100+00 - 657+75	UPPER	MILLED SURFACE	4 LT 58-28 S	4,520	2	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY WisDOT; INELIGIBLE FOR INCENTIVE
SIDEROADS (20)	100+00 - 657+75	UPPER	MILLED SURFACE	4 LT 58-28 S	<u>830</u>	2	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY WisDOT; INELIGIBLE FOR INCENTIVE
				TOTAL	22,010			

3

<u>CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D</u>			
<u>ADJUSTING CATCH BASIN COVERS</u>			
<u>ADJUSTING INLET COVERS</u>			
	601.0557	611.8105	611.8115
	CURB	ADJUSTING	ADJUSTING
	& GUTTER	CATCH BASIN	INLETS
		COVERS	COVERS
<u>LOCATION</u>	<u>LF</u>	<u>EACH</u>	<u>EACH</u>
496+29 - 496+40 RT CB	11	1	--
499+30 - 499+42 LT CB	12	1	--
501+90 - 502+00 LT INL	<u>10</u>	=	<u>1</u>
TOTAL	33	2	1

<u>RIPRAP MEDIUM</u>		
<u>GEOTEXTILE TYPE HR</u>		
	606.0200	645.0120
	RIPRAP	GEOTEXTILE
<u>LOCATION</u>	<u>CY</u>	<u>SY</u>
263+75 - 264+37* RT DITCH	14	42

<u>GUARDRAIL MOW STRIP EMULSIFIED ASPHALT</u>		
	EMULSIFIED ASPHALT	
	MOW STRIP	
	614.0397	DIMENSIONS
<u>LOCATION</u>	<u>SY</u>	<u>LF x LF</u>
264+17 - 267+04 RT B-63-9	128	287 x 4
264+83 - 268+21 LT B-63-9	<u>150</u>	338 x 4
TOTAL	278	

<u>MGS GUARDRAIL</u>	614.2300	614.2340	614.2610	
	MGS	MGS	MGS	
	GUARDRAIL 3	GUARDRAIL 3 L	GUARDRAIL	
			TERMINAL EAT	
<u>LOCATION</u>	<u>LF</u>	<u>EACH</u>	<u>EACH</u>	<u>COMMENTS</u>
264+17.54 - 267+03.80 RT AMBER CRK*	63.00	112.5	2	TWIN 10' x 8' BOX CULV
264+83.66 - 268+21.35 LT AMBER CRK	<u>125.00</u>	<u>112.5</u>	<u>2</u>	SPAN LENGTH = 25'
TOTAL	188.00	225.0	4	
* USE K LENGTH POST AT STANDARD POST SPACING				
INSTALL 3 POSTS CLOSEST TO B-63-9 ON SW AND SE QUADRANTS				
FOR TOTAL OF 6 POSTS				

<u>WATER</u>	
	624.0100
<u>LOCATION</u>	<u>MGAL</u>
UNDISTRIBUTED	300

ITEMS IN CATEGORY 0010 UNLESS NOTED OTHERWISE								
LANDSCAPING SILT FENCE		625.0100	628.1504	628.1520	628.2008	629.0210	630.0120	630.0500
		TOPSOIL	SILT FENCE	SILT FENCE MAINTENANCE	EMAT URBAN CLASS I TYPE B	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SEED WATER
LOCATION		SY	LF	LF	SY	CWT	LB	MGAL
257+70 LT - SIGN		100	0	0	100	0.06	4.8	3.50
264+44 - 265+98 LT AMBER NW		265	170	170	265	0.17	12.0	9.00
266+24 - 268+56 LT AMBER NE		390	255	255	390	0.25	17.5	13.15
266+06 - 267+40 RT AMBER SE		220	125	125	220	0.14	10.0	7.50
263+75 - 265+78 RT AMBER SW		370	205	205	370	0.23	17.0	12.50
CURB & GUTTER REPLACEMENT (3)		10	0	0	10	0.01	0.7	0.35
496+29 - 496+40 RT CB		--	0	0	--	--	--	--
499+30 - 499+42 LT CB		--	0	0	--	--	--	--
501+90 - 502+00 LT INL		--			--	--	--	--
UNDISTRIBUTED		245	145	145	245	0.14	11.0	8.00
TOTAL		1,600	900	900	1,600	1.00	73.0	54.00

<u>MOBILIZATIONS EROSION CONTROL</u> <u>MOBILIZATIONS EMERGENCY EROSION CONTROL</u>			<u>ROCK BAGS</u>	
	628.1905	628.1910	628.7570	
	MOB	EMERGENCY	EACH	
LOCATION	EACH	EACH	LOCATION*	
PROJECT	3	2	264+00 - 268+00 LT & RT (5) 75	
			*USE FOR SILT FENCE RELIEF DETERMINE LOCATIONS IN THE FIELD ESTIMATE 15 ROCK BAGS FOR EACH LOCATION	

<u>INLET PROTECTION TYPE C</u>			<u>MARKERS CULVERT END</u>	
	628.7015		633.5200	
LOCATION*	EACH		EACH	
496+34 RT	1		266+01 LT & RT B-63-9 4	
499+35 LT	1			
501+94 LT	1			
TOTAL	3			
*SEE PLAN DETAILS CTH D SHEET				

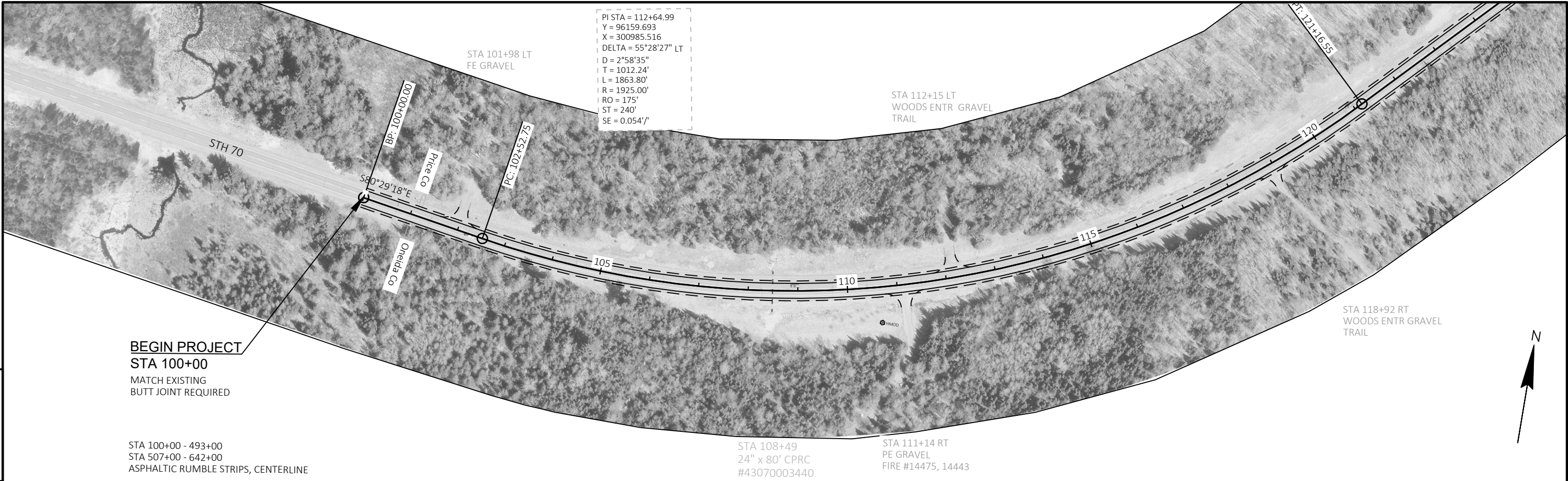
<u>TEMPORARY DITCH CHECKS</u>		
	628.7504	
LOCATION	LF	
UNDISTRIBUTED	60	

3

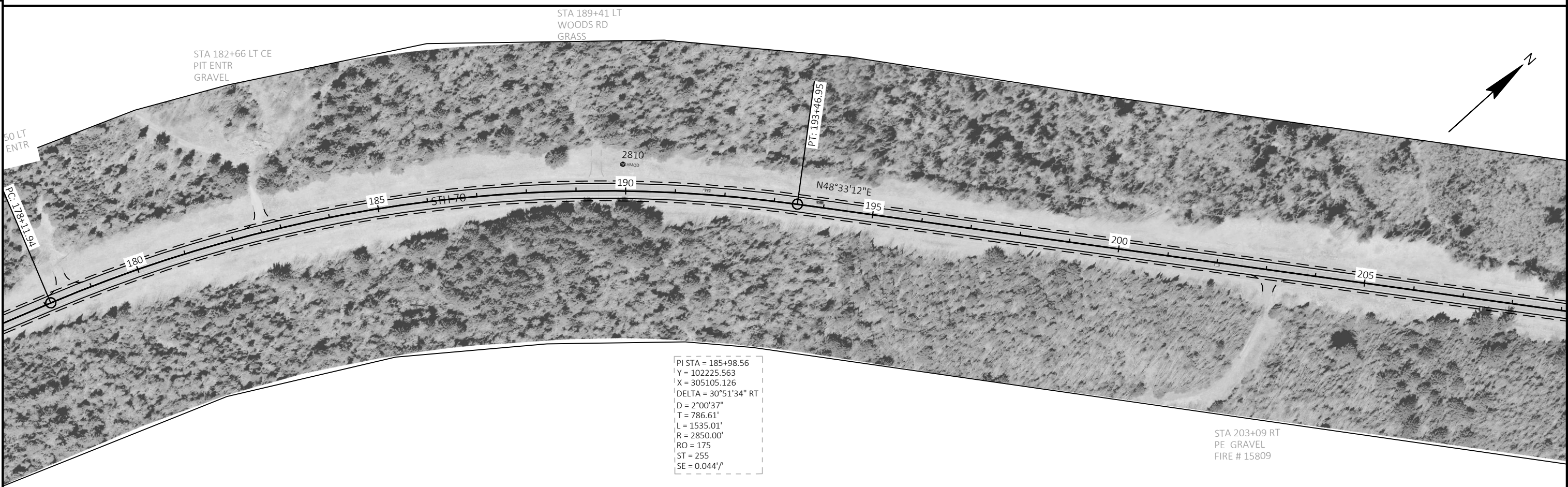
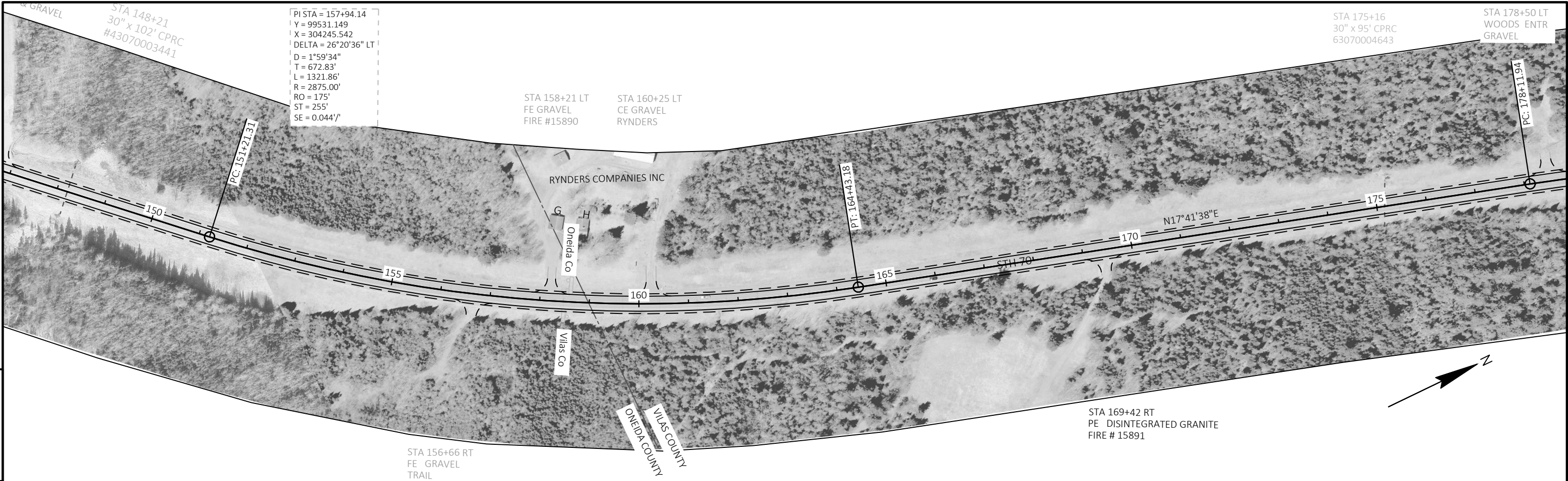
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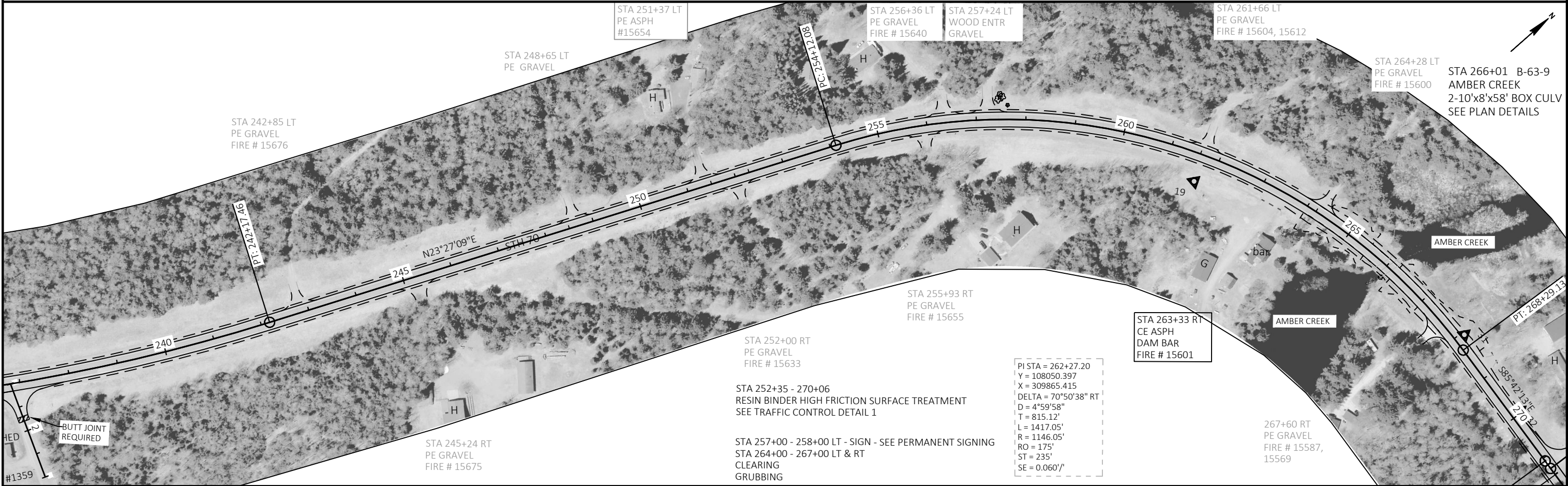
PERMANENT SIGNING										ITEMS IN CATEGORY 0010 UNLESS NOTED OTHERWISE										
CATEGORY 0020										SAWING ASPHALT SAWING CONCRETE										
				634.0618	637.2210			638.2102	638.4000											
				POSTS	SIGNS			MOVING	MOVING											
				WOOD	TYPE II			SIGNS	SMALL SIGN											
				4x6-INCH x 18-FT	REFLECTIVE H			TYPE II	SUPPORTS											
				EACH	SF			EACH	EACH											
SIGN	DIRECTION	SIGN									ASPHALT	CONCRETE								
NUMBER	LOCATION	LT	CODE	DESCRIPTION			SIGN SIZE				690.0150	690.0250								
							IN	IN			LF	LF								
1	257+60 39' LT	E	W1-6	NIGHT ARROW (SINGLE)	1	8.00	48	24	--	--	500	0								
2	265+56 37' LT	W	W1-6	NIGHT ARROW (SINGLE)	1	8.00	48	24	--	--	450	0								
3	267+21 LT	W, E	--	AMBER CREEK	=	=	42	24	2	1	14	6								
TOTAL					2	16.00			2	1	13	6								
											501+90 - 502+00 LT INL	6								
											TOTAL	18								
											990									
TRAFFIC CONTROL										PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBLIE TRAIL CROSSINGS										
				643.0300	643.0420	643.0705	643.0715	643.0900	643.1000	643.3770										
					BARRICADES	flashing	steady			TEMPORARY										
					TYPE III	WARNING	WARNING			MARKING										
						LIGHTS	LIGHTS			RAISED PAVEMENT										
						TYPE A	TYPE C			MARKER TYPE II										
LOCATION		# DRUMS @	DRUMS					SIGNS	SIGNS		SPV.0180.01									
		# DAYS	DAY	DAY	DAY	DAY	DAY	DAY	FIXED MESSAGE		SY									
									SF	EACH										
PROJECT		--	--	--	--	--	--	3,164	36	--										
CLEARING (ADVANCED WARNING SIGNS)								16												
GRADING, GUARDRAIL - AMBER CREEK		20 @ 10	200	20	20	--	--	--	--	--										
496+00 - 502+00 CB/INL		14 @ 10	140		--	14	--	--	--	--										
252+00 - 270+00 HFST CL (2 STAGES)					--				--	80										
UNDISTRIBUTED		15 @ 19	290	10	20	21	--	--	--	--										
TOTAL			630	30	40	35	3,180	36		80										
MARKING LINE										BASE AGGREGATE DISINTEGRATED GRANITE										
		643.3165	646.2040	646.4040																
		TEMPORARY PAINT	GROOVED	GROOVED																
		6-INCH	WET REF	WET REF																
			EPOXY 6-INCH	EPOXY 10-INCH																
LOCATION		LF	LF	LF																
100+00 - 657+75																				
YELLOW CENTERLINE	72,500 x 2	72,500	0																	
WHITE EDGELINE	0	109,800	0																	
644+83 - 646+83 LT CTH F	0	0	200																	
TOTAL	145,000	182,300	200																	
LAYER	UPPER	UPPER	UPPER																	
LOCATION	CL	edgeline & CL	channelizing																	
				2 applications	after rumble strips															
				after milling first lane																
				after paving second lane																
CONSTRUCTION STAKING																				
		650.4500	650.5000	650.8000	650.9920															
		SUBGRADE	BASE	RESURFACING	SLOPE															
				REFERENCE	STAKES															
		LF	LF	LF	LF															
100+00 - 657+75		0	0	55,275	0															
263+75 - 268+75 GUARDRAIL AMBER		500	500	0	500															
TOTALS		500	500	55,275	500															
PROJECT NO: 9070-03-74				HWY: STH 70				COUNTY: ONEIDA & VILAS				MISCELLANEOUS QUANTITIES								
												SHEET: 26								
												E								
								FILE NAME : 15803000-mq-ppt				PLOT DATE 04/21/26								
												PLOT BY : dotbyh								
												PLOT NAME :								
												PLOT SCALE : 1:1								

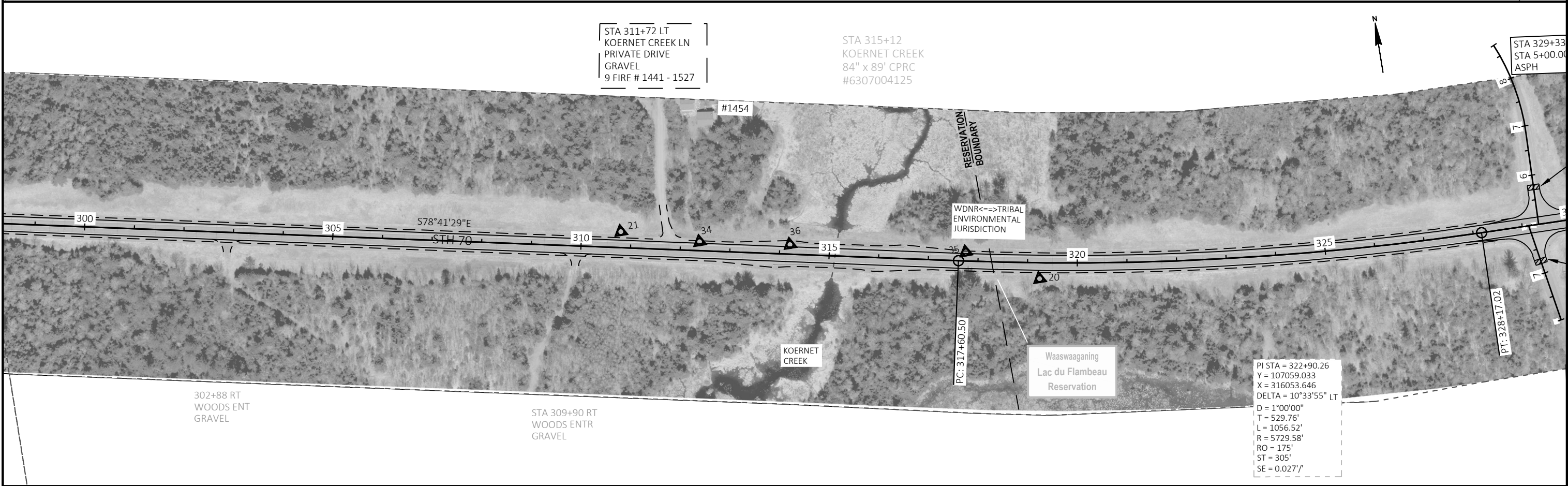
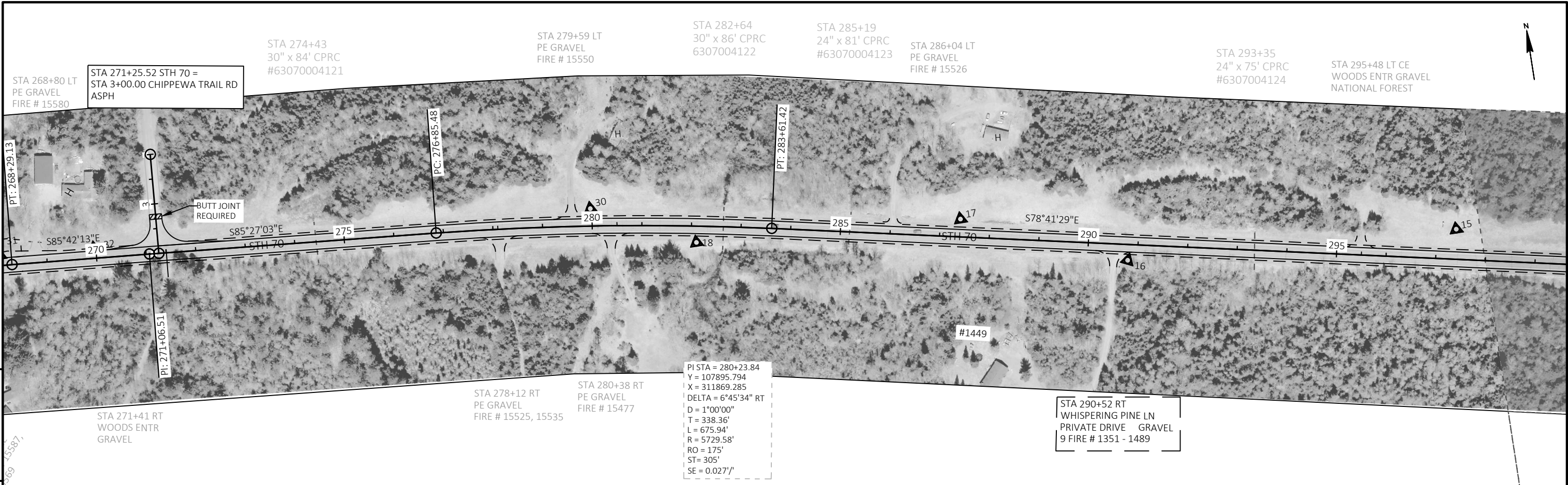
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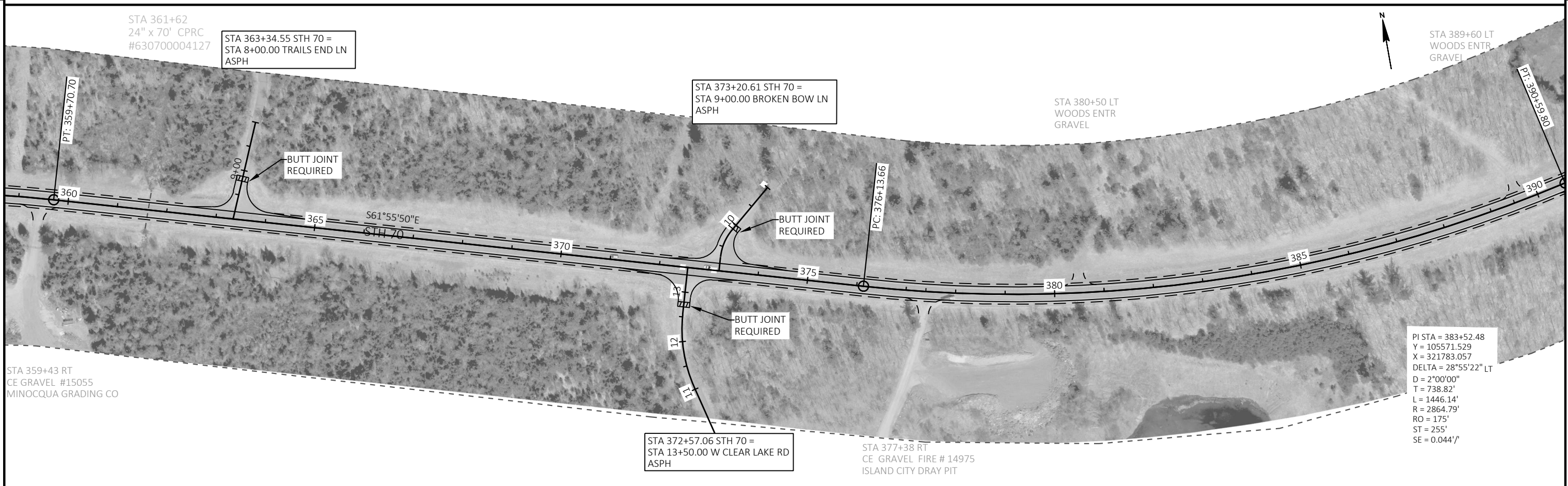
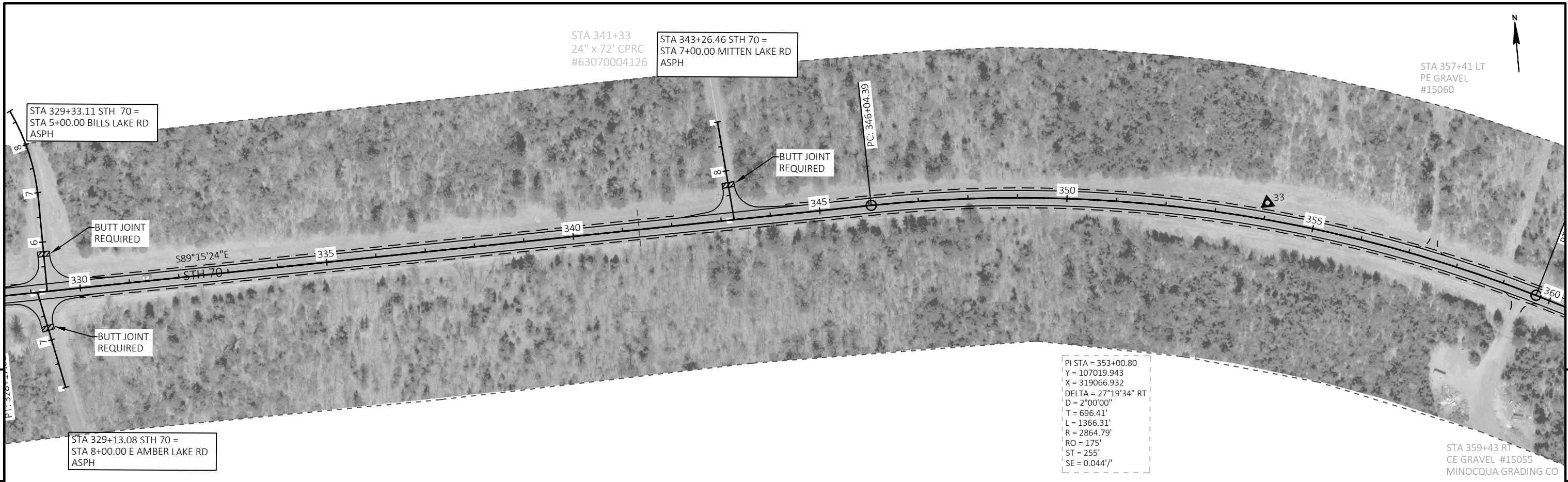
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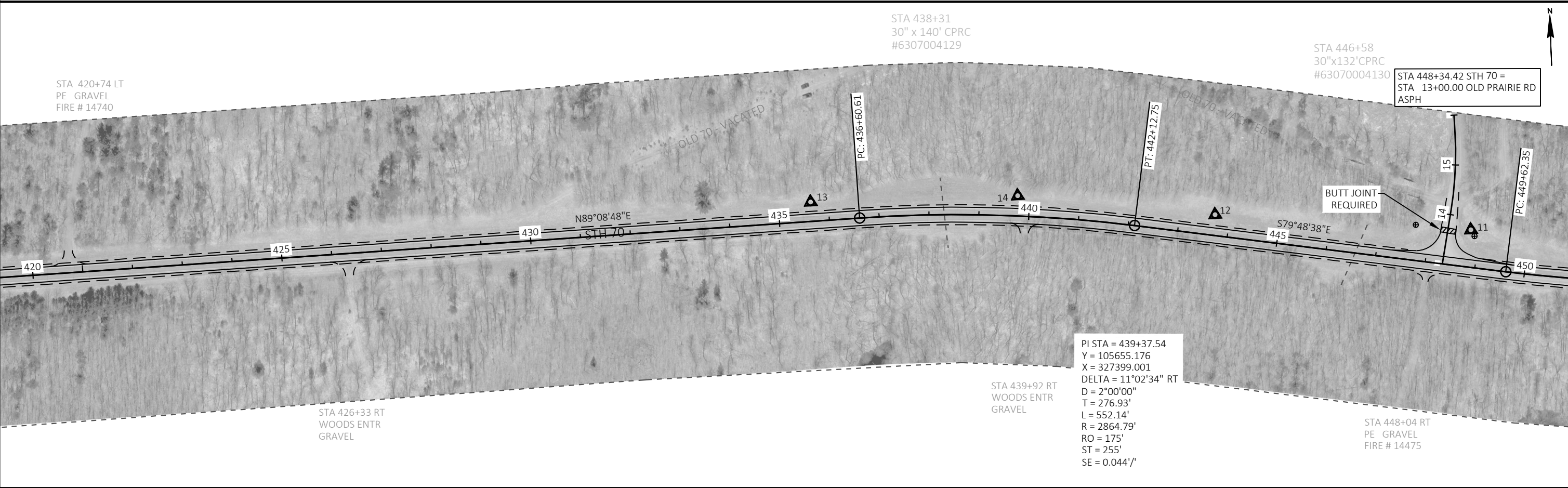
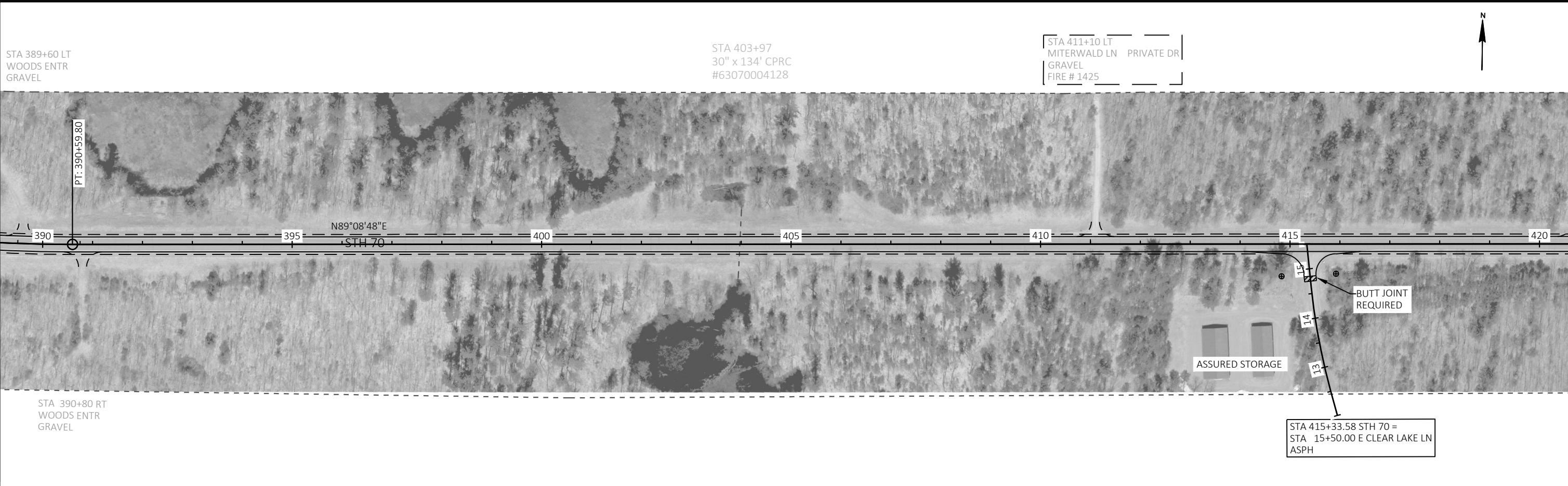


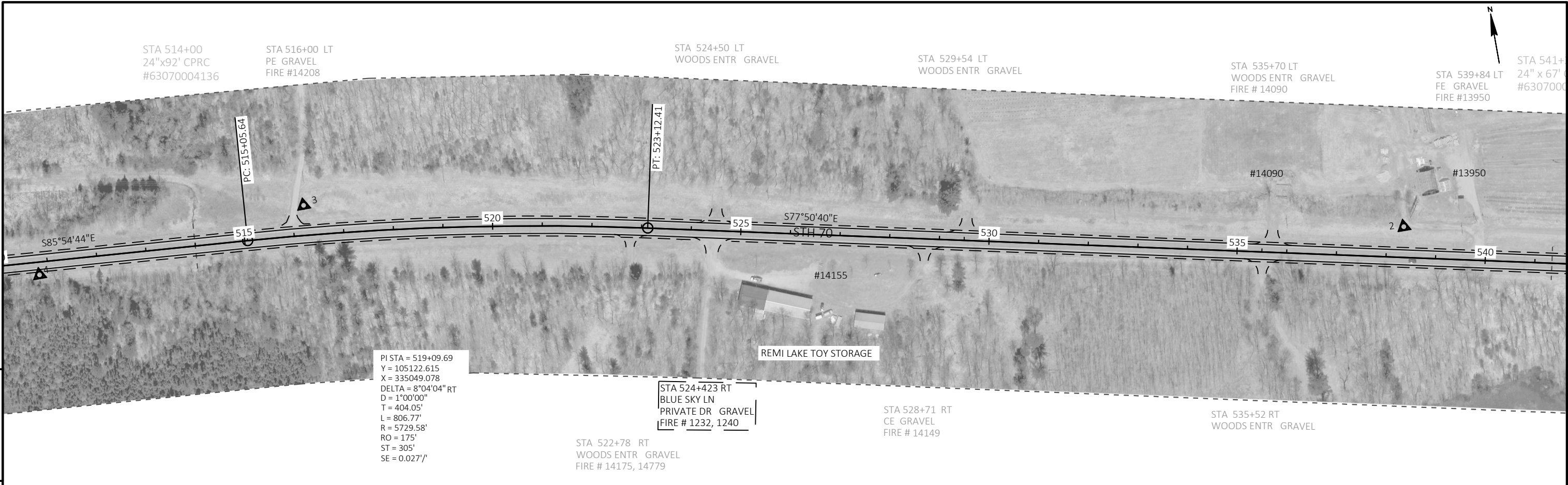


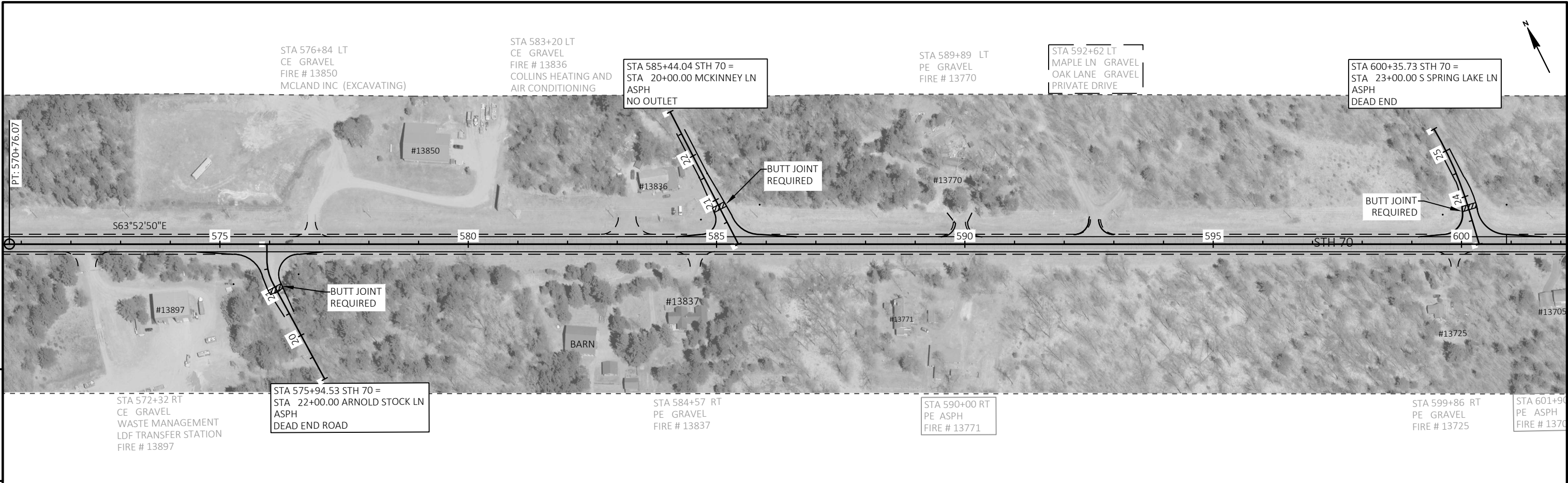
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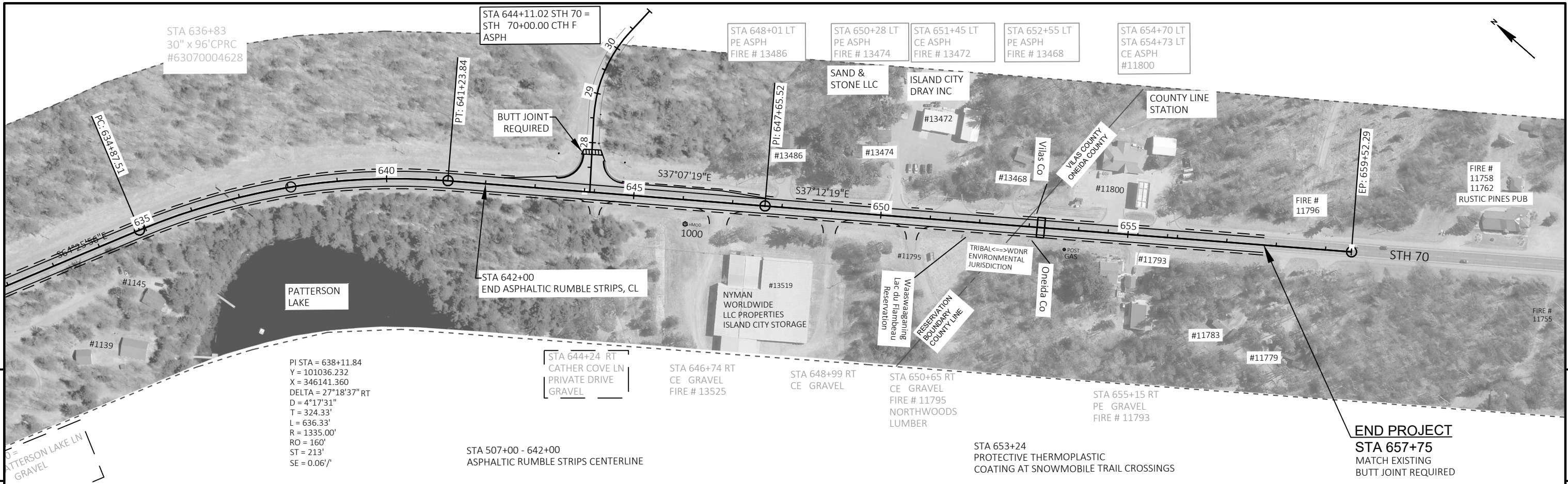
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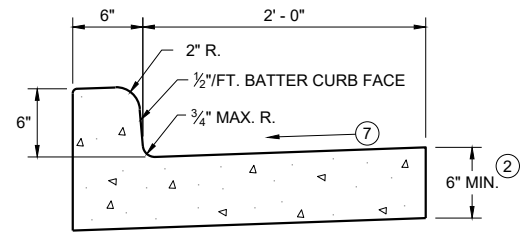


PROJECT NO: 9070-03-74	HWY: STH 70	COUNTY: ONEIDA & VILAS	PLAN	SHEET 35	E
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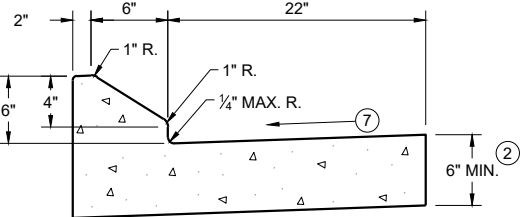


Standard Detail Drawing List

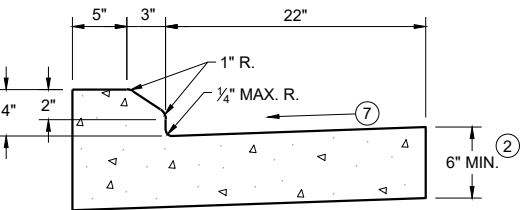
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE 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
14B43-04A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-04C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
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)
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
15C34-06	STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKER, TYPE II
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
15D51-02	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY



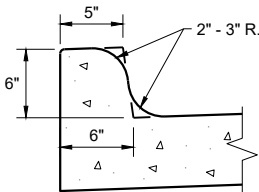
TYPES A^① & D



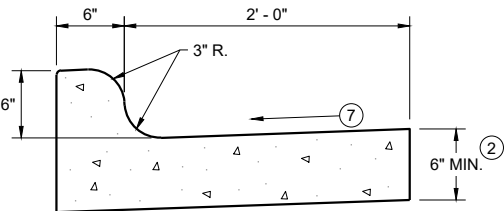
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

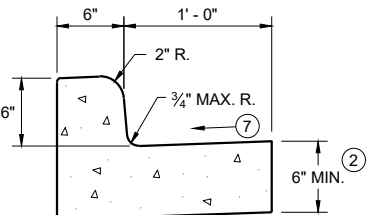


TYPES K^① & L
(OPTIONAL CURB SHAPE)



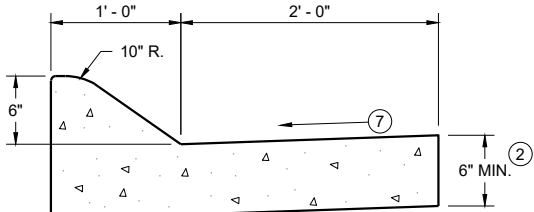
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

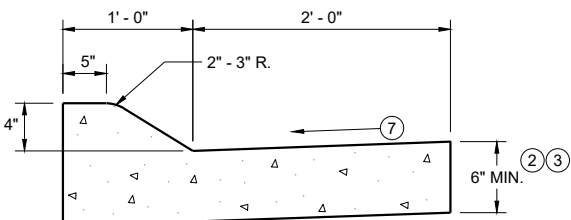


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

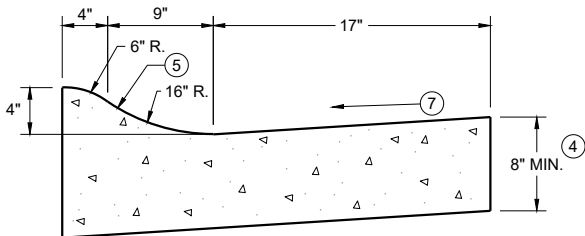


6" SLOPED CURB TYPES A^① & D



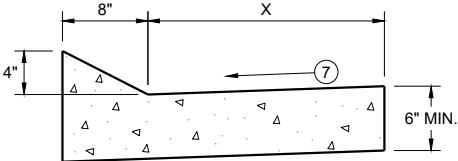
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



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

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

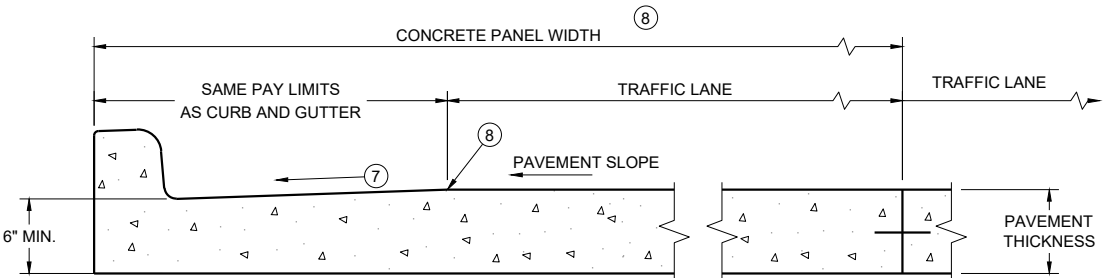


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

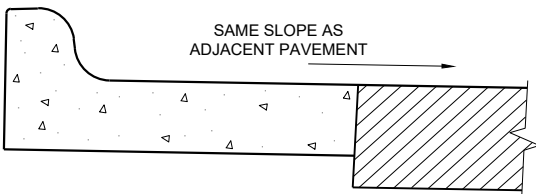
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

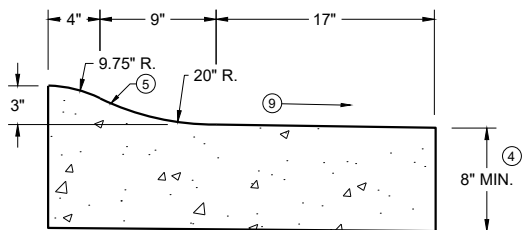


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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



3" SLOPED CURB TYPES R^① & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

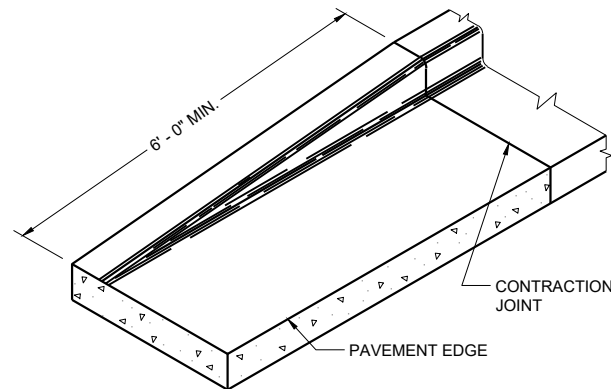
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

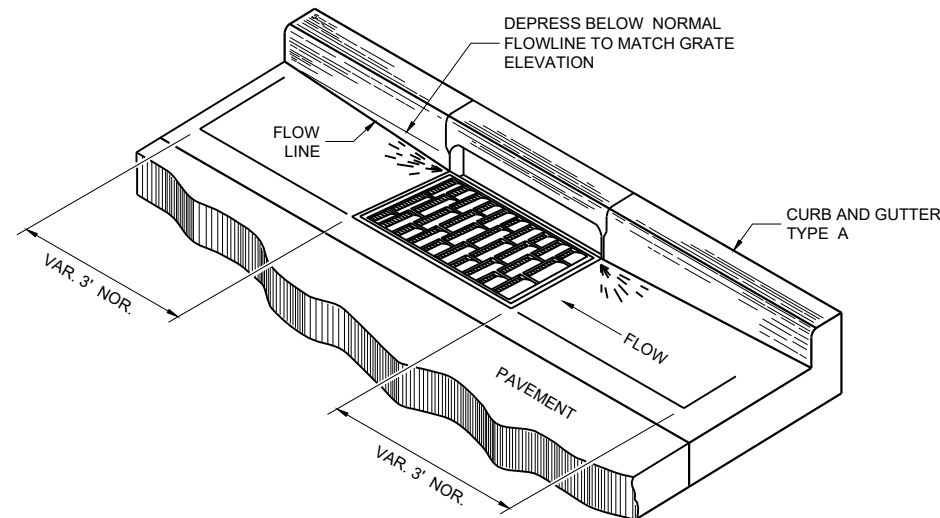
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

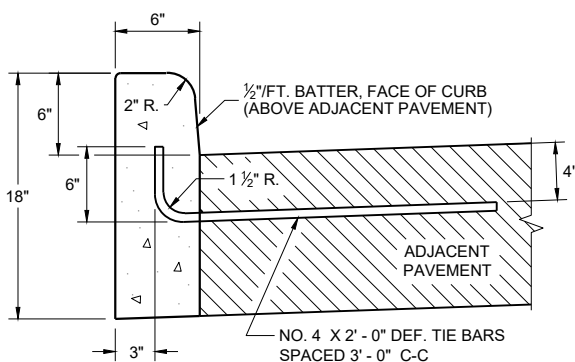


END SECTION CURB AND GUTTER

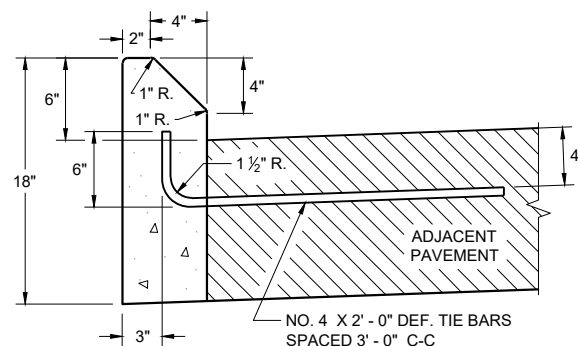


DETAIL OF CURB AND GUTTER AT INLETS

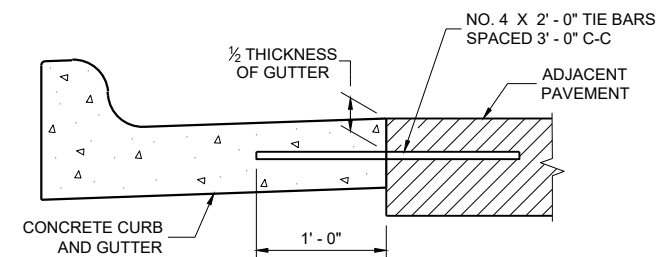
(TYPICAL H INLET COVER SHOWN)



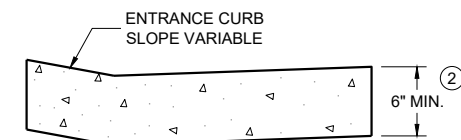
TYPES A^① & D



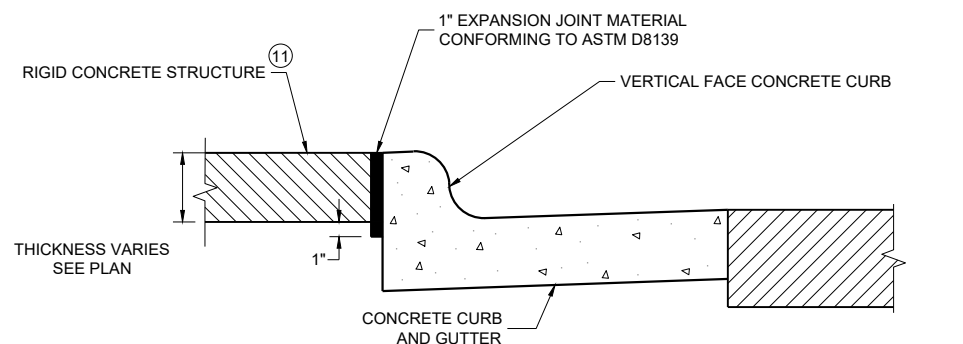
**TYPES G^① & J
CONCRETE CURB**



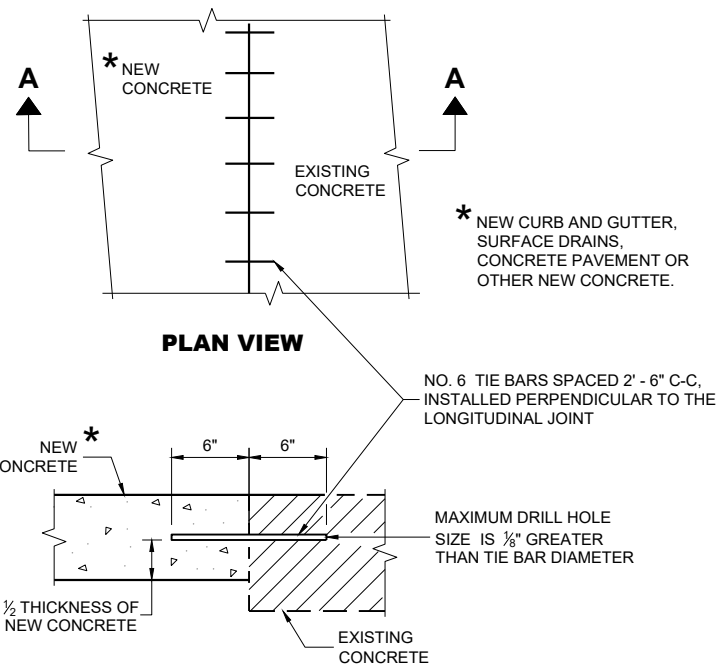
TYPICAL TIE BAR LOCATION^①



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



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



**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

GENERAL NOTES

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

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

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

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

6

SDD 08D01-24b

6

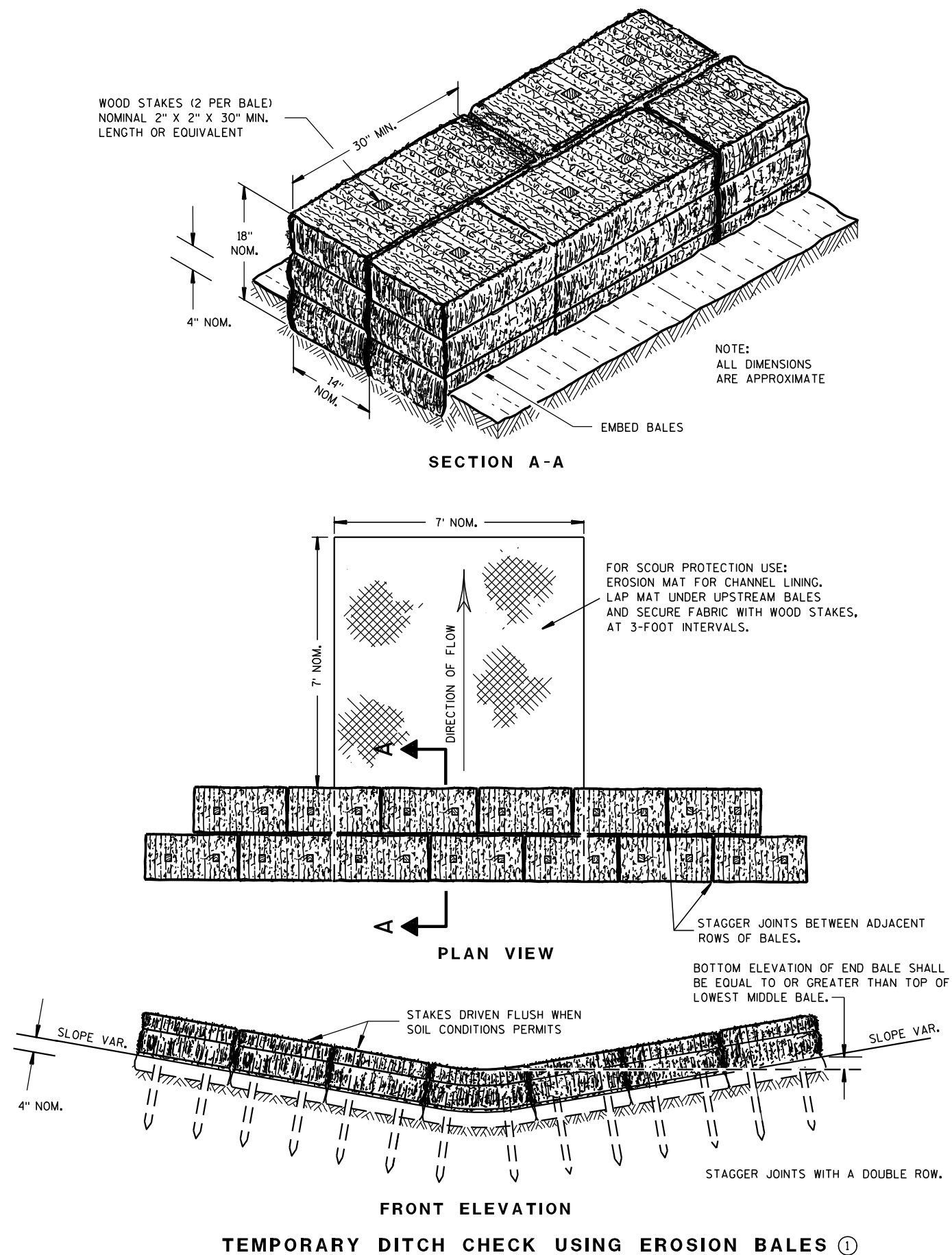
SDD 08D01-24b

**CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

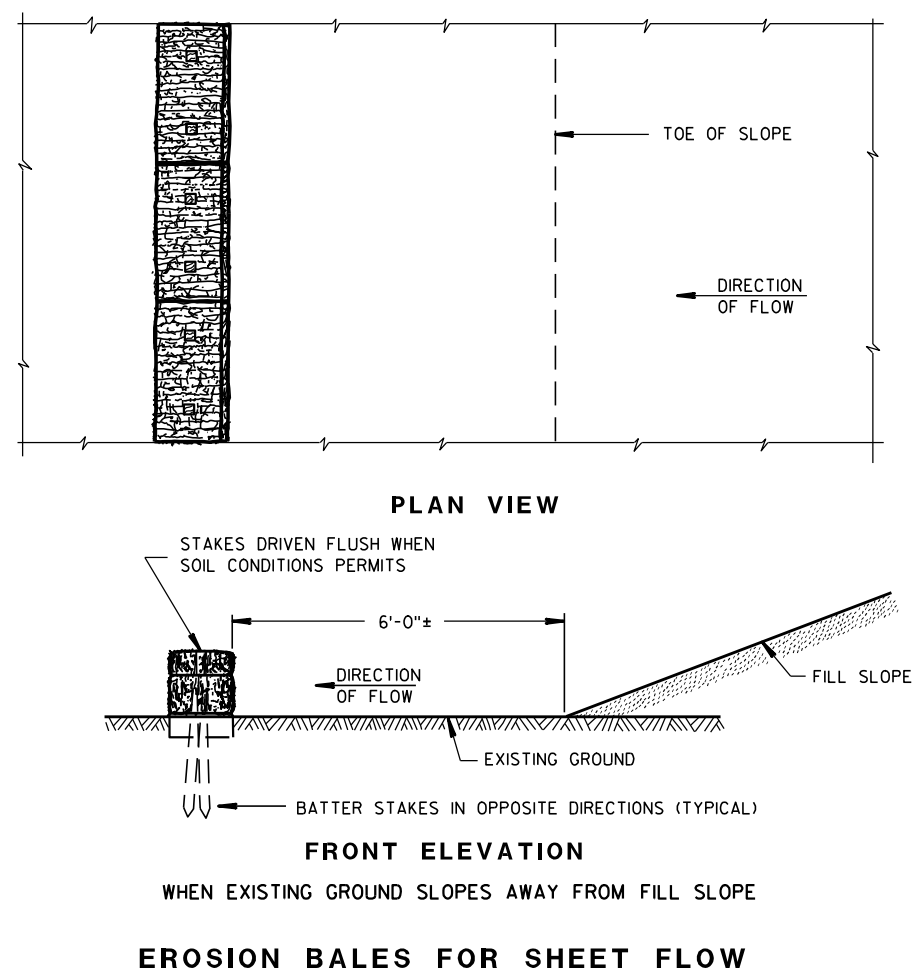
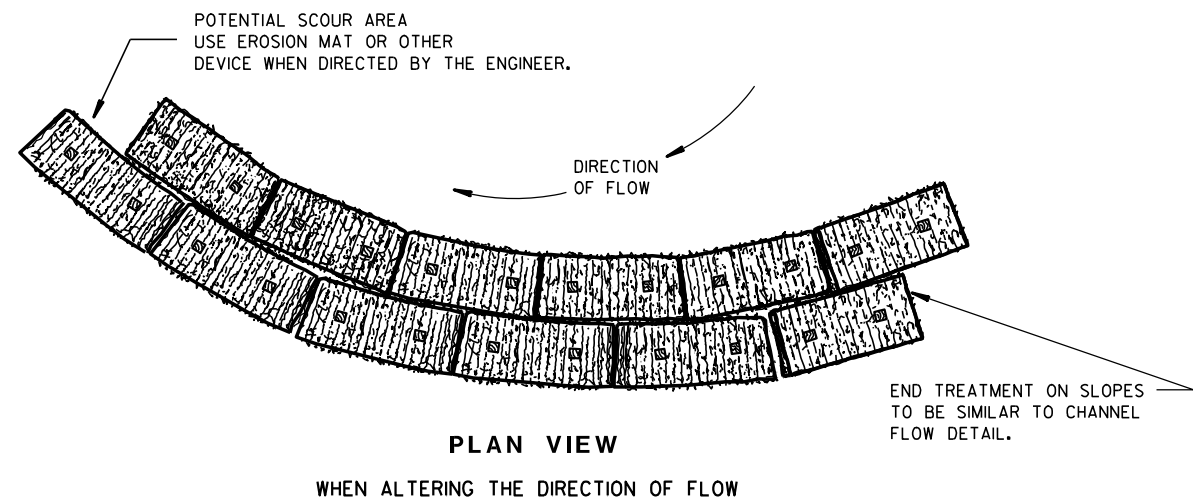
FHWA



GENERAL NOTES

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

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



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

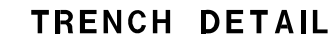
/S/ Beth Connors
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



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

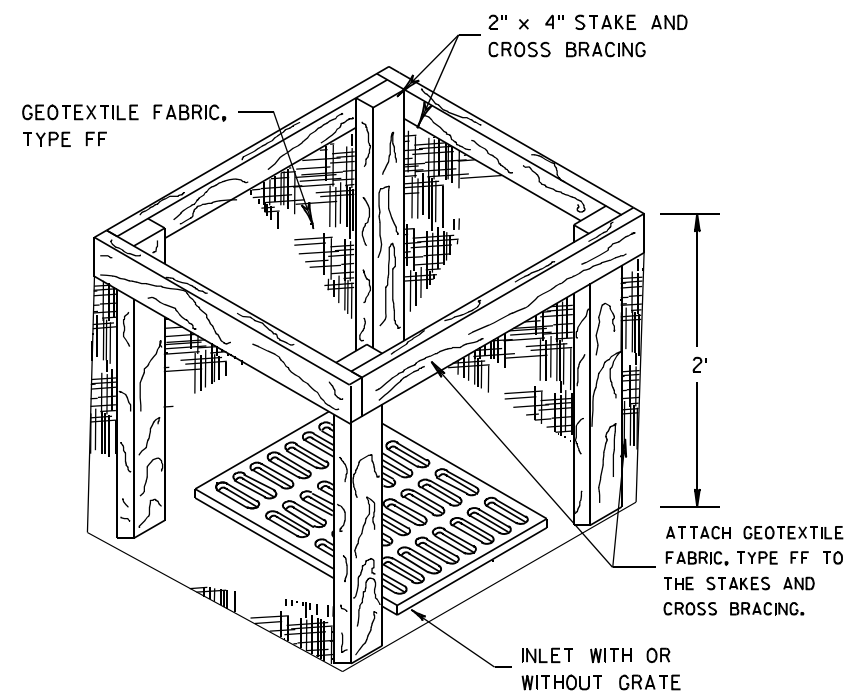
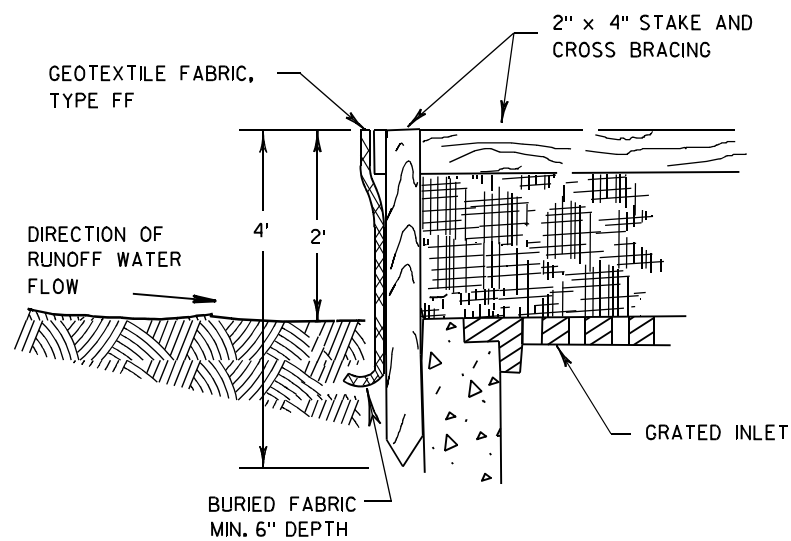


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE /S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT 41 INCHES

FHWA



INLET PROTECTION, TYPE A

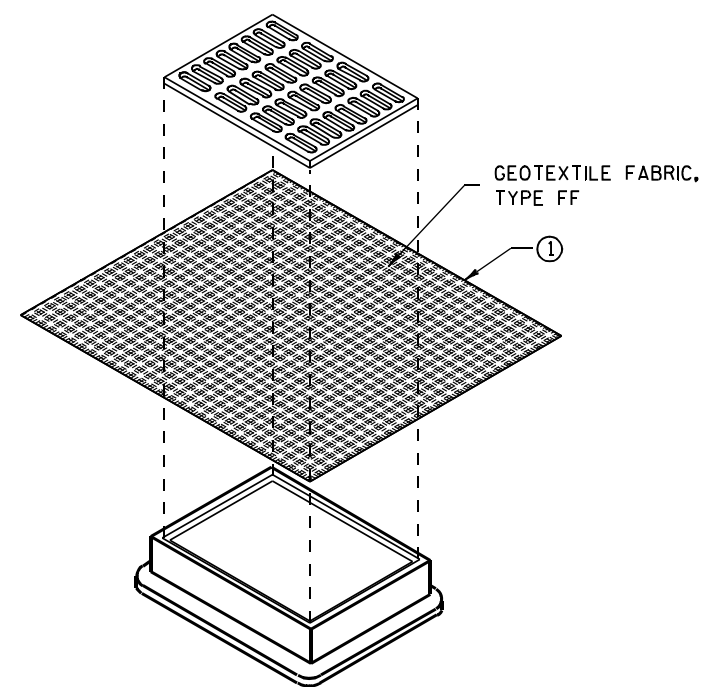
GENERAL NOTES

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.

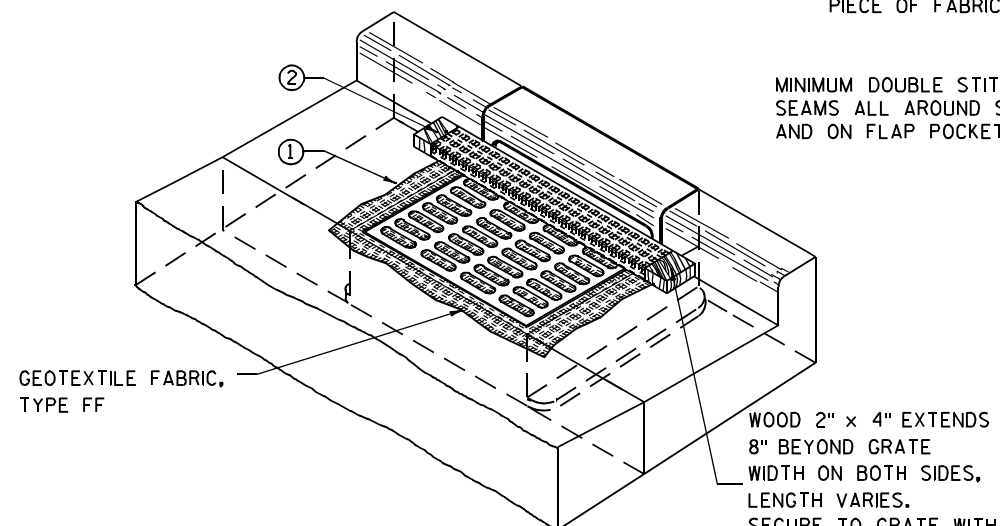
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

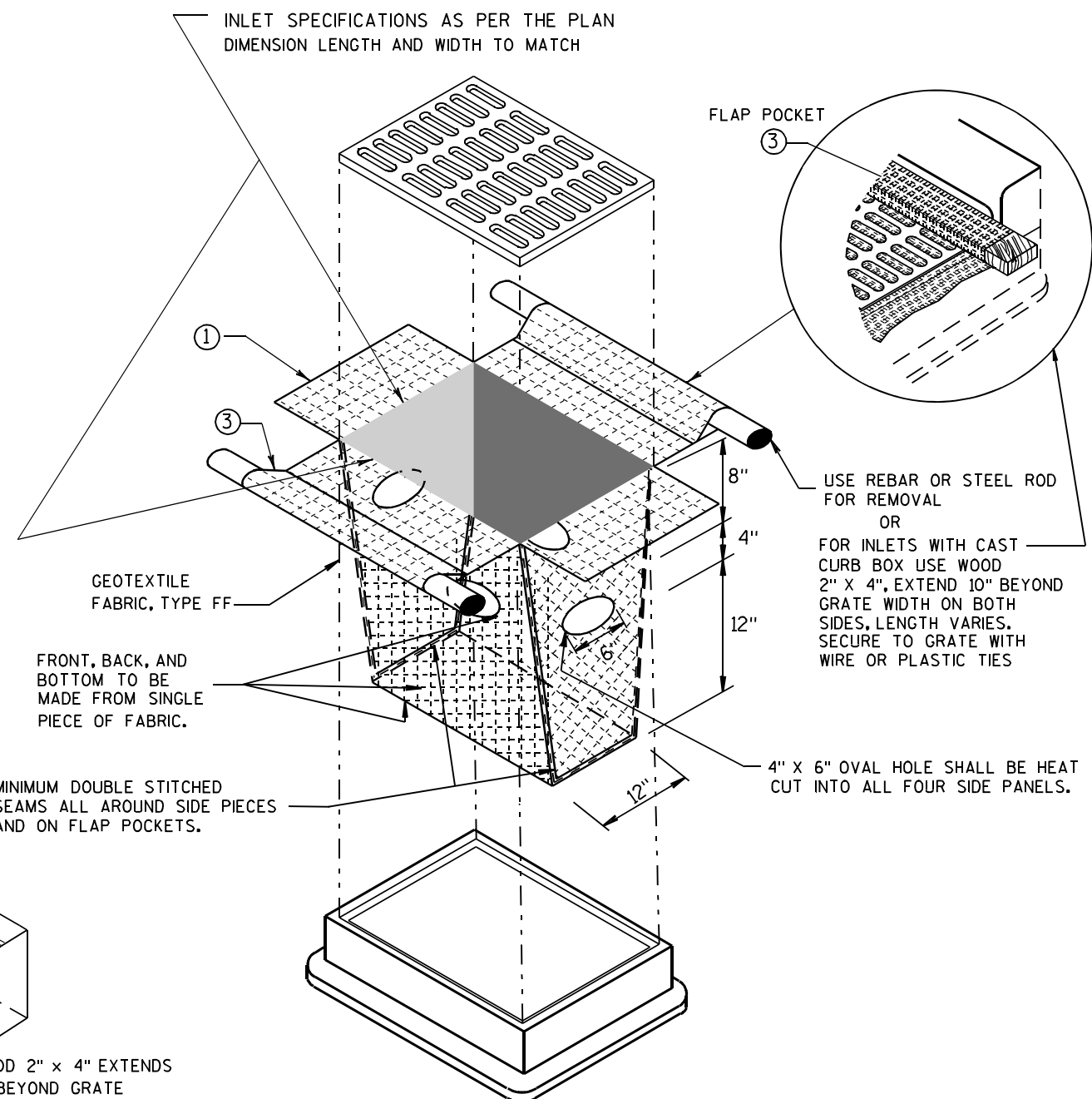
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.



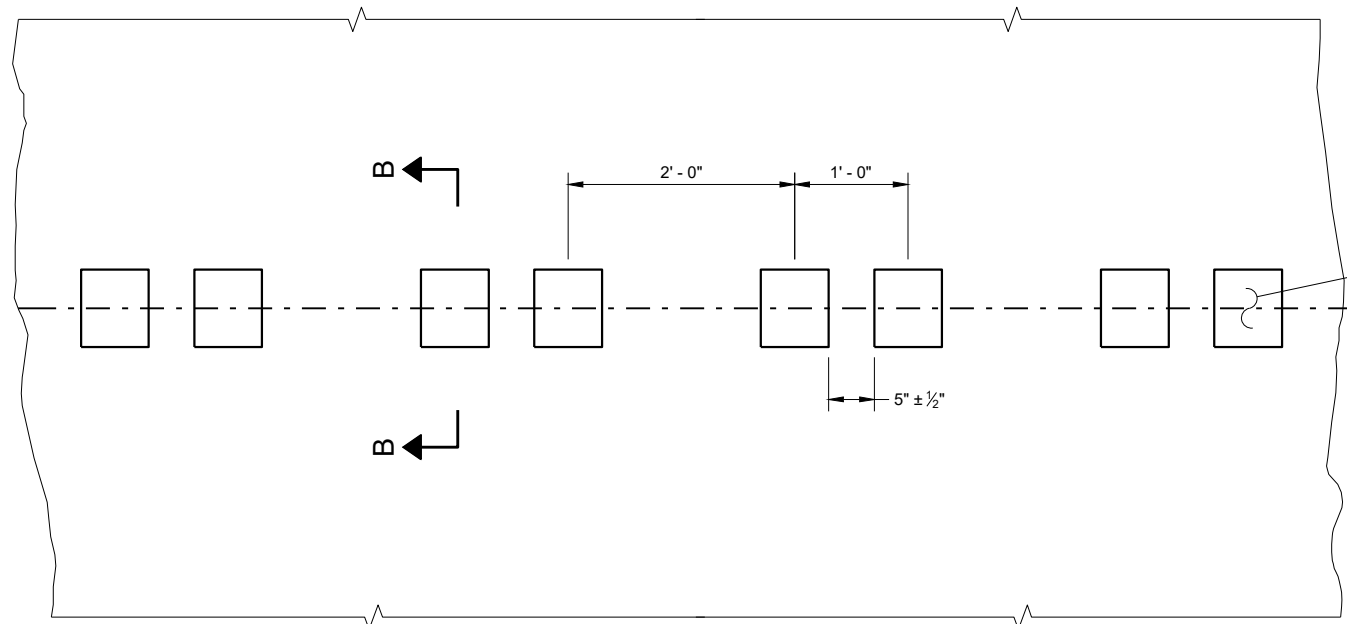
INLET PROTECTION, TYPE D

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

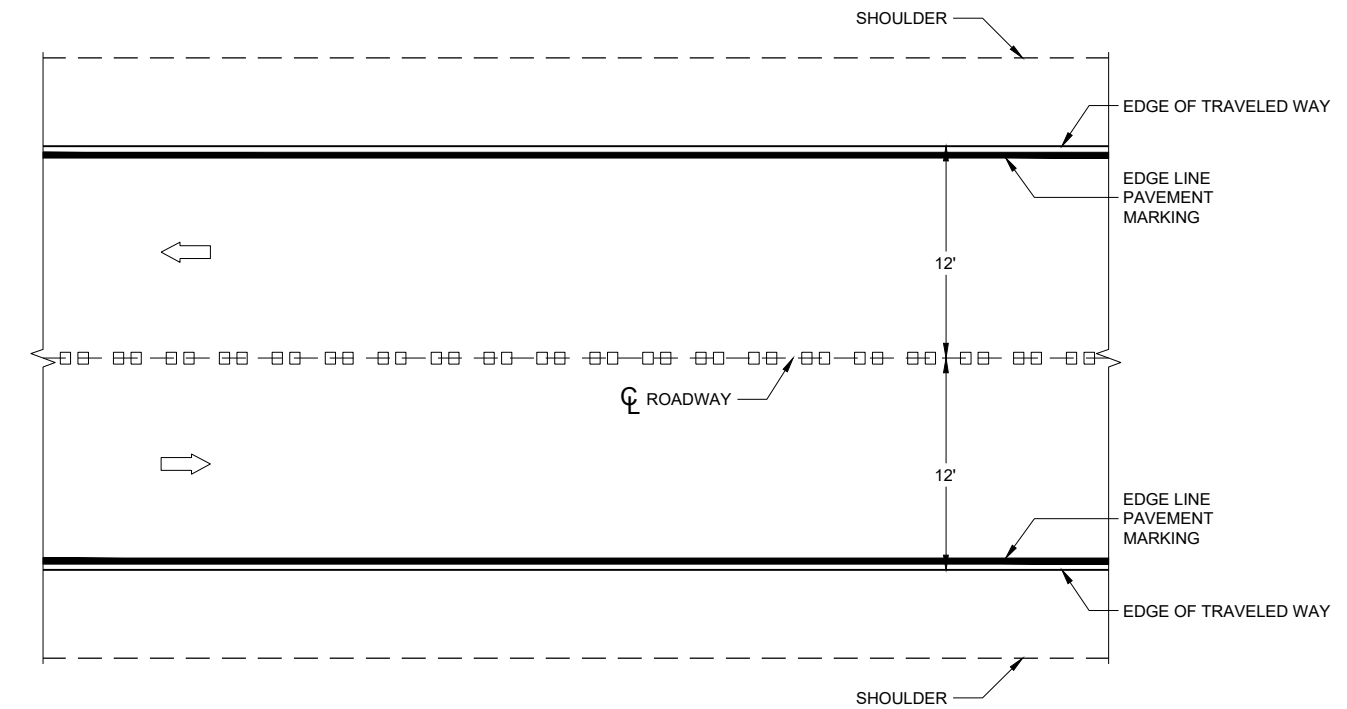
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 42
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

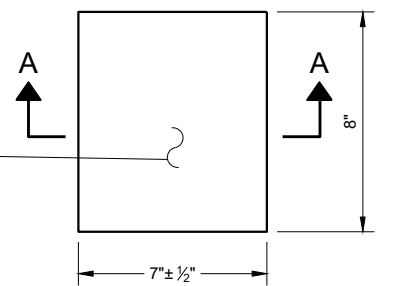


PLAN DETAIL VIEW

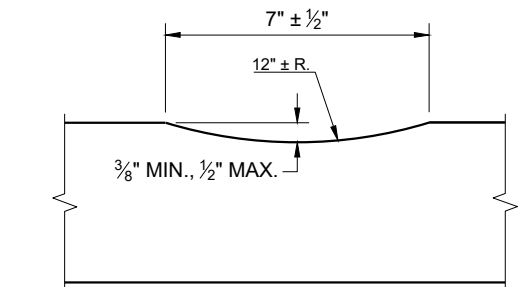


PLAN VIEW

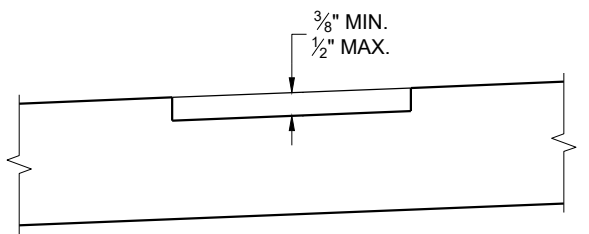
CENTERLINE RUMBLE STRIPS - ASPHALT



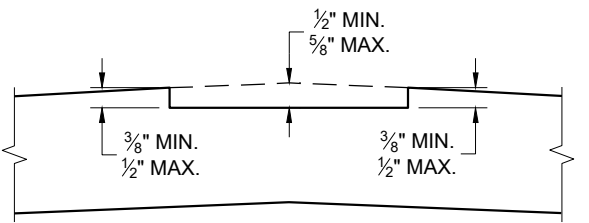
PLAN VIEW (SINGLE GROOVE)



SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY

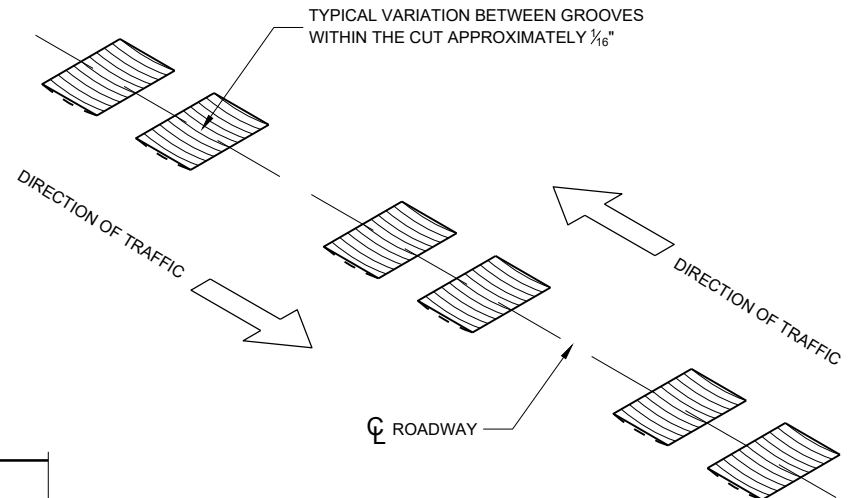


SECTION B - B
CROWNED ROADWAY

GENERAL NOTES

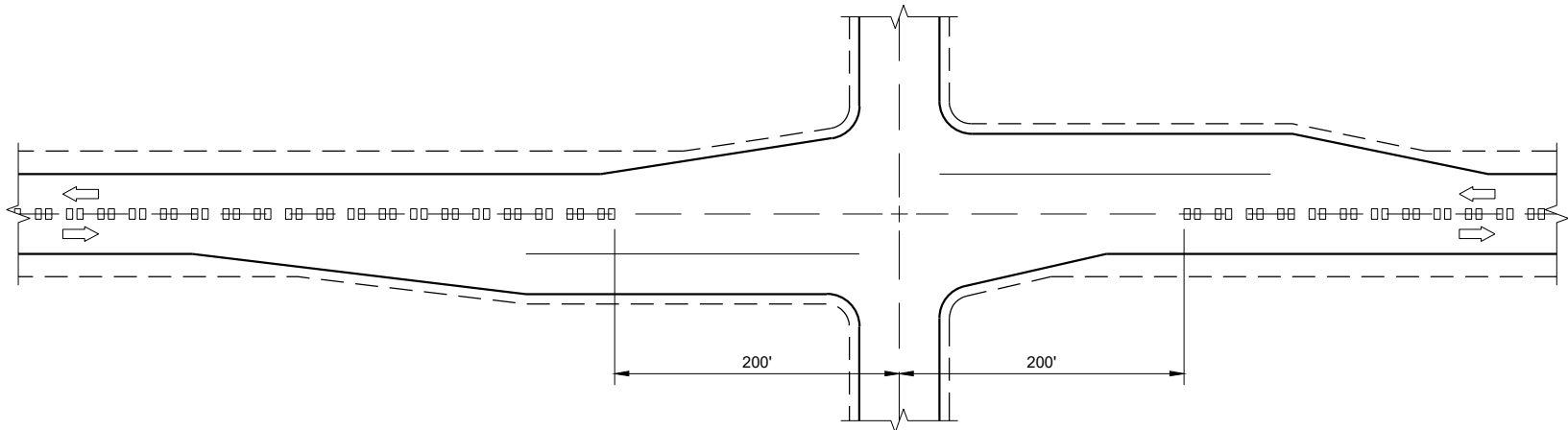
DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

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

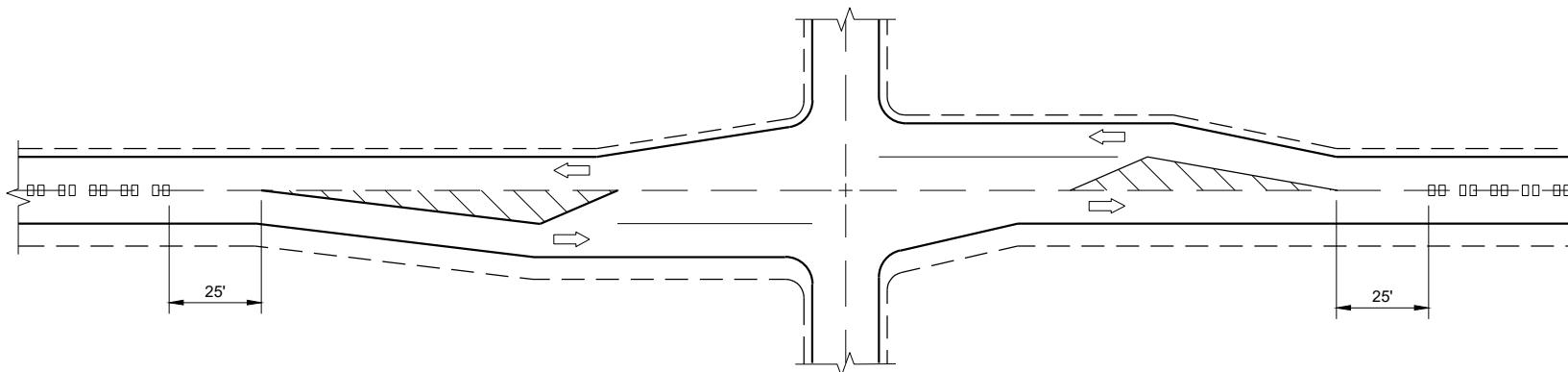


CENTERLINE RUMBLE STRIPS - ASPHALT

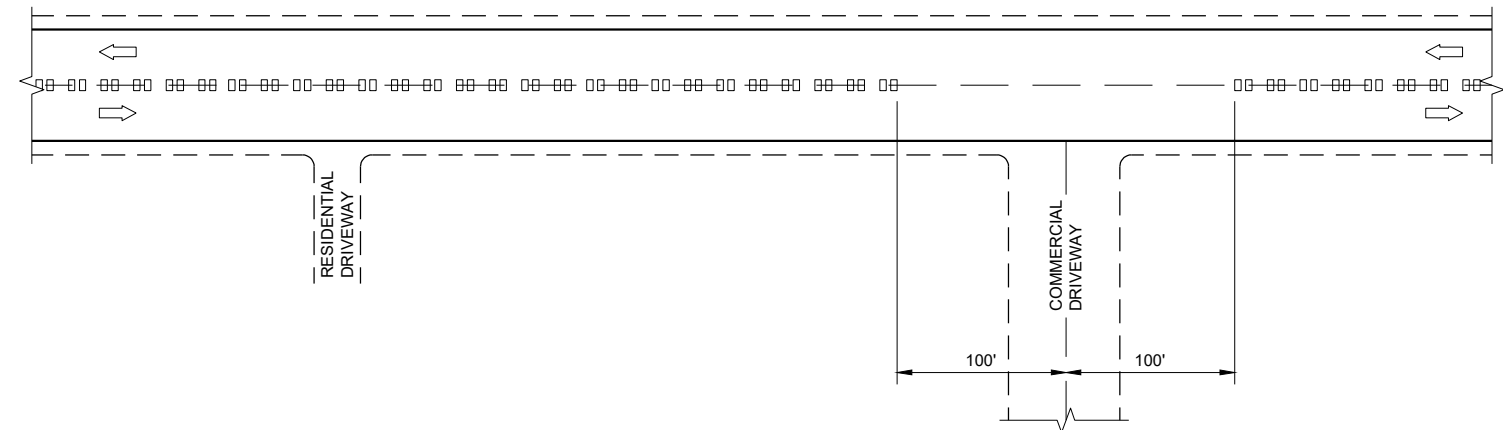
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



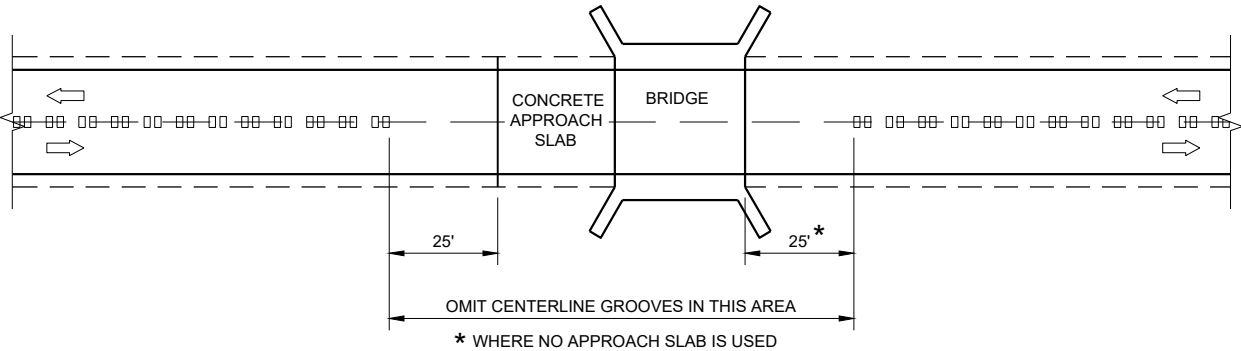
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



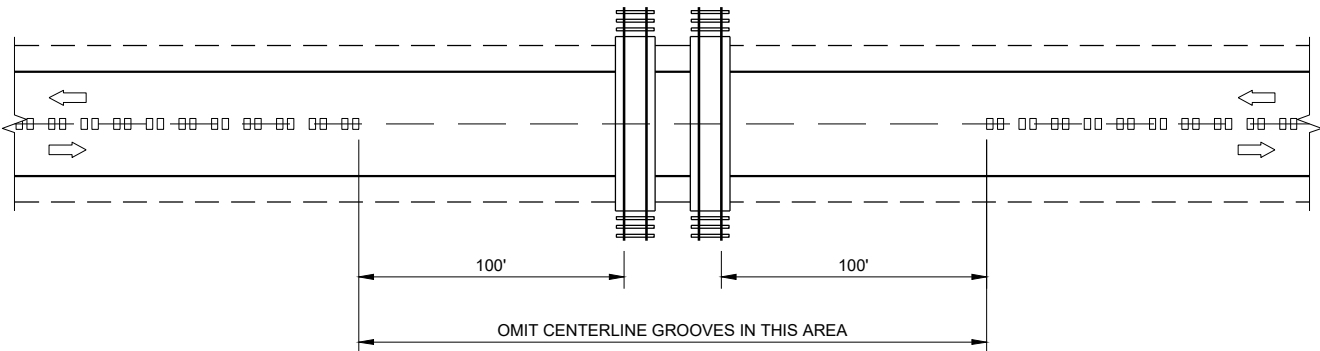
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

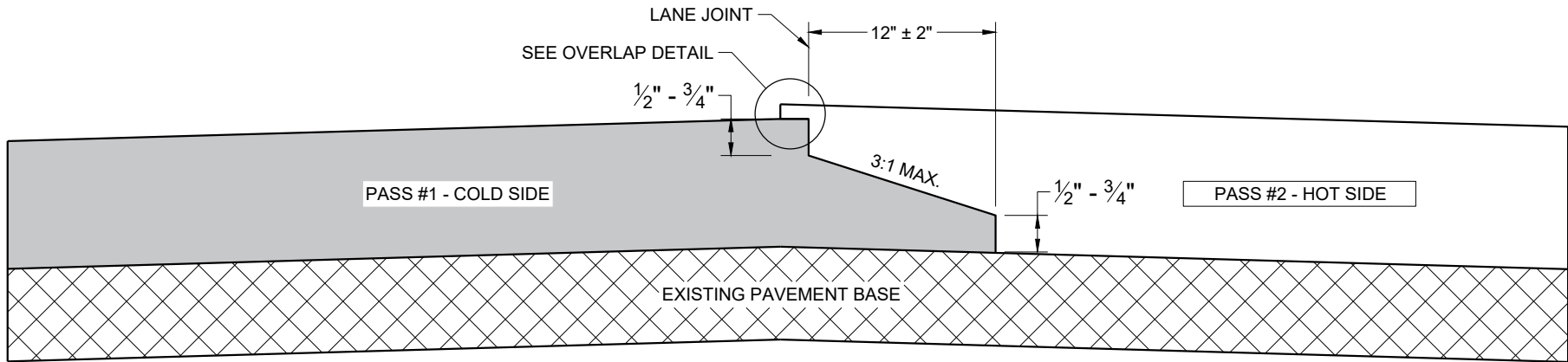


CENTERLINE GROOVES AT RAILROADS

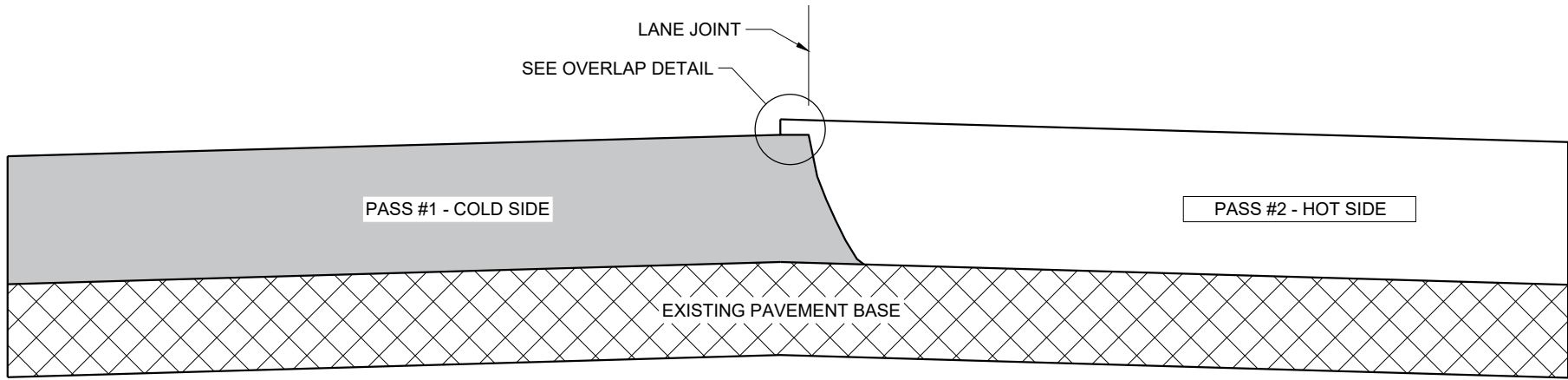
CENTER LINE
RUMBLE STRIPS -
INTERSECTIONS, DRIVEWAYS,
BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

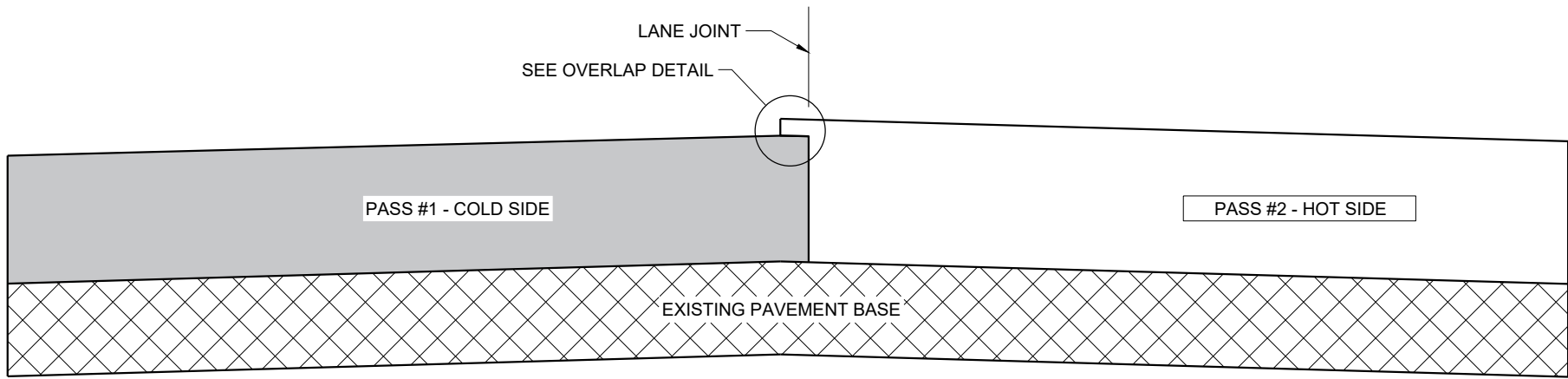
APPROVED
May 2023
DATE
/S/ John Jenkins
ROADWAY STANDARDS DEVELOPMENT ENGINEER
44
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

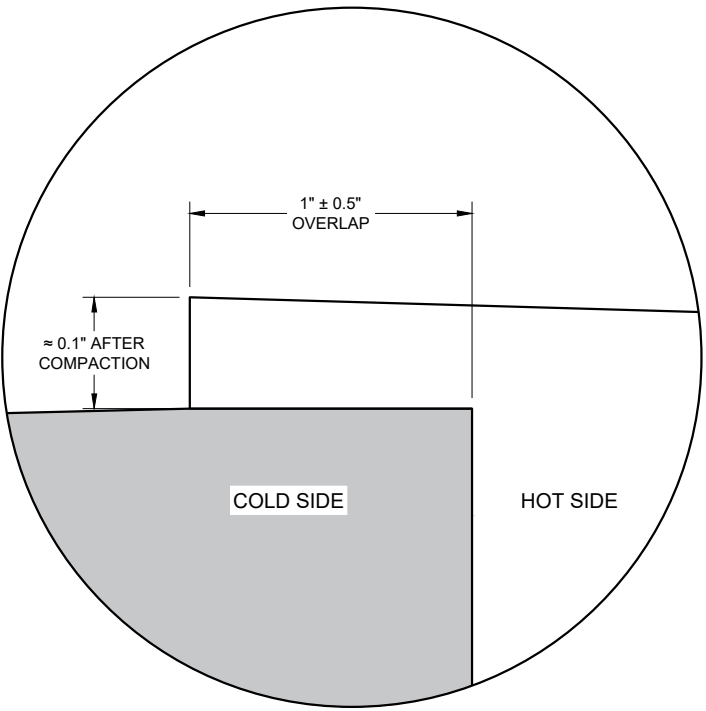
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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

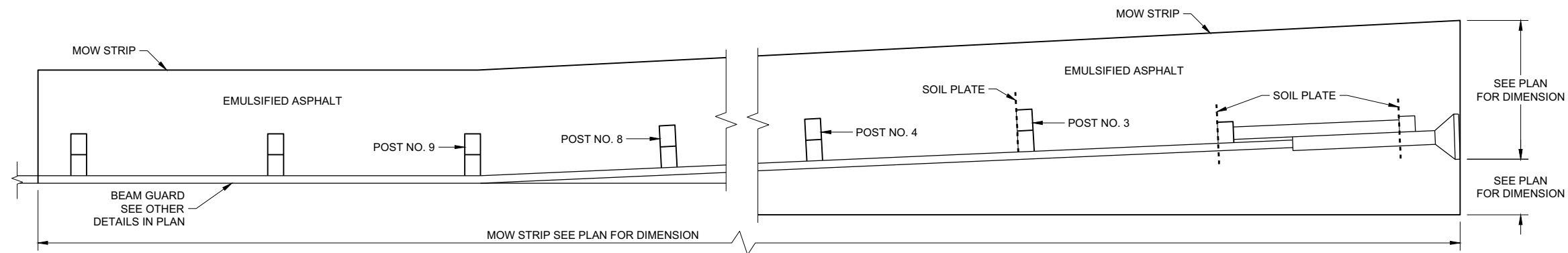


OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 45
FHWA

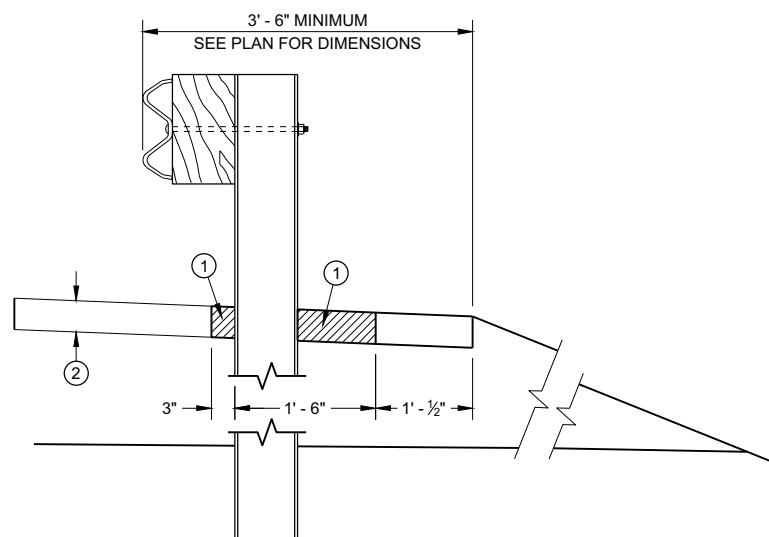


PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

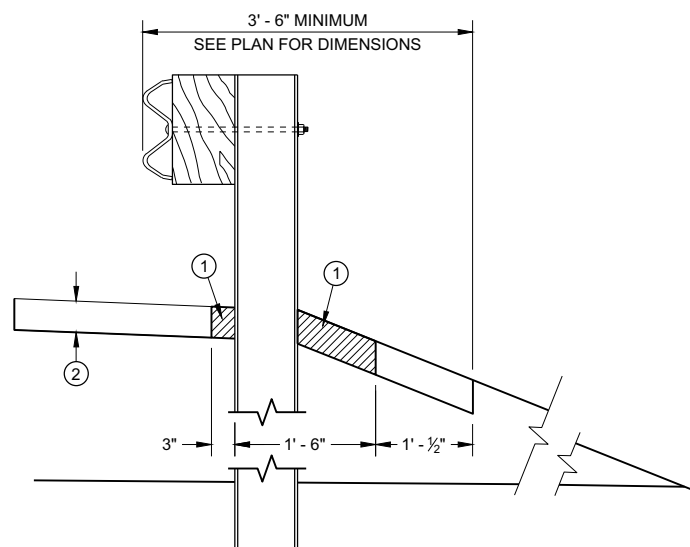
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

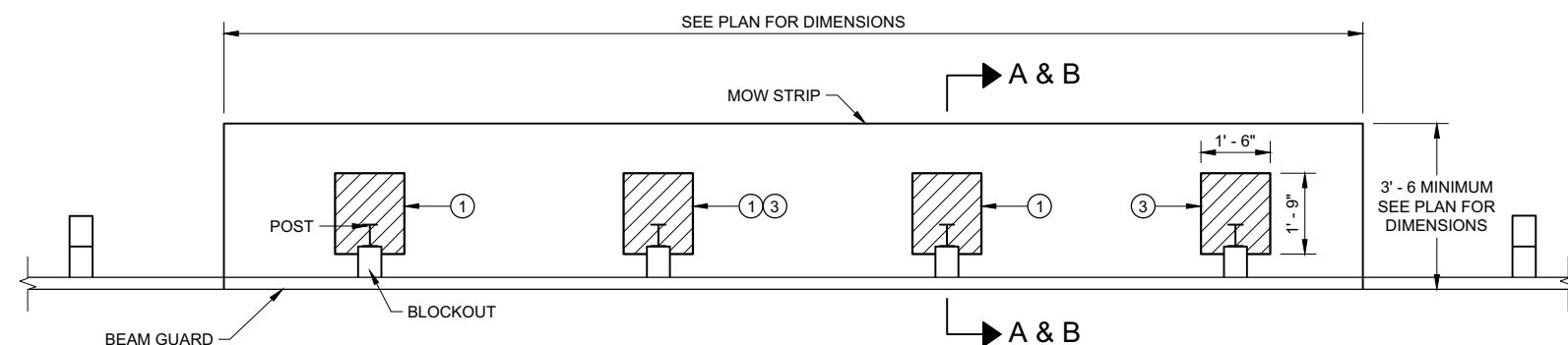
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



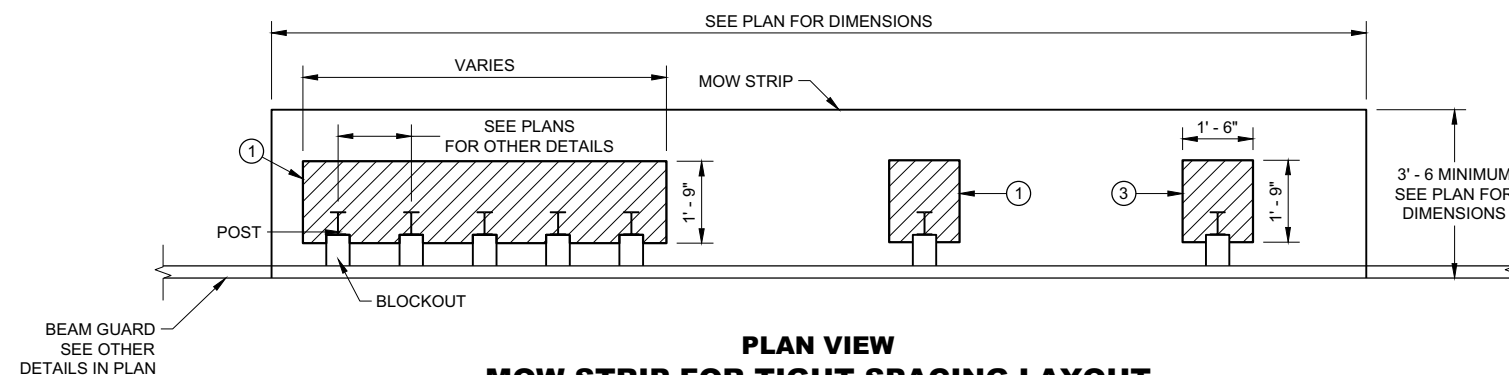
SECTION A - A



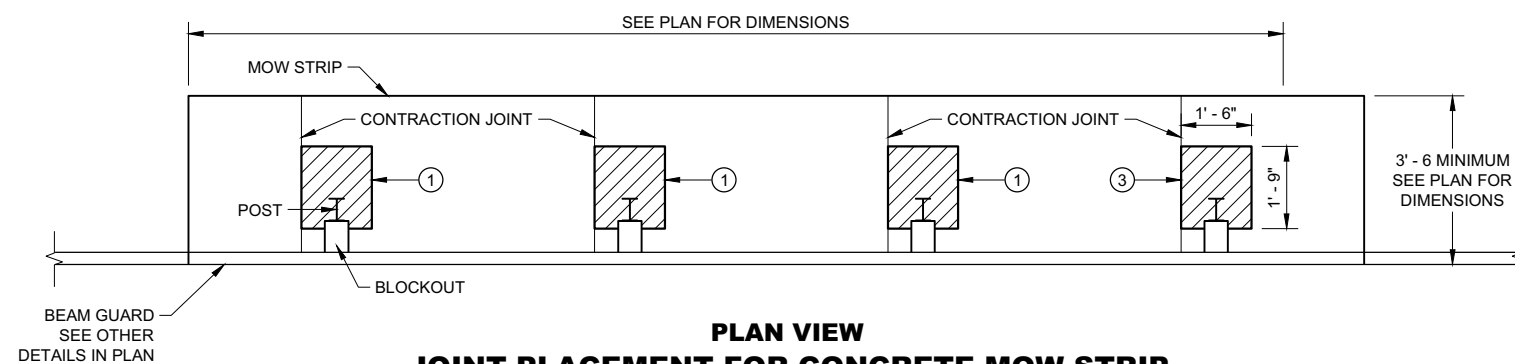
SECTION B - B



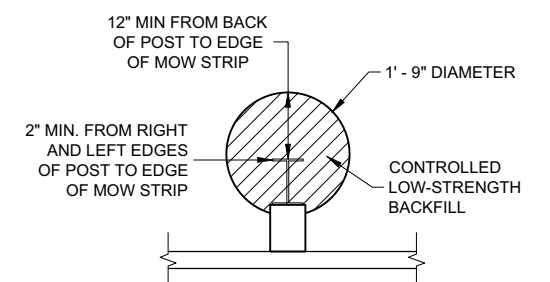
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP



ALTERNATIVE HMA
MOW STRIP DESIGN

GUARDRAIL MOW STRIP

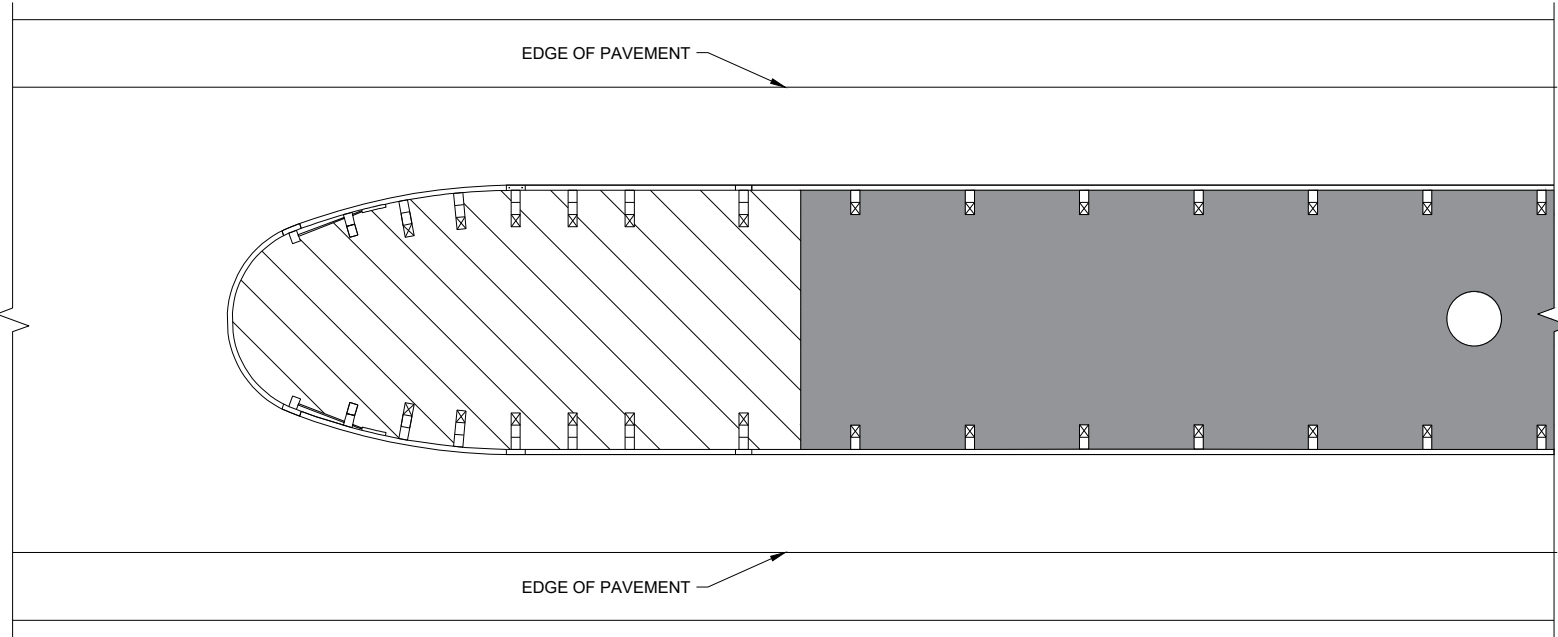
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

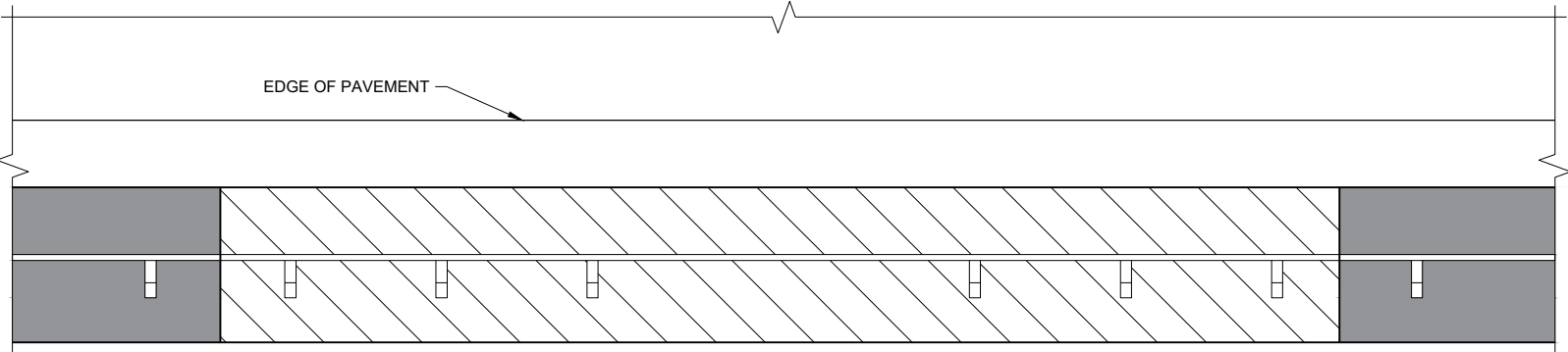
- CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)
- EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

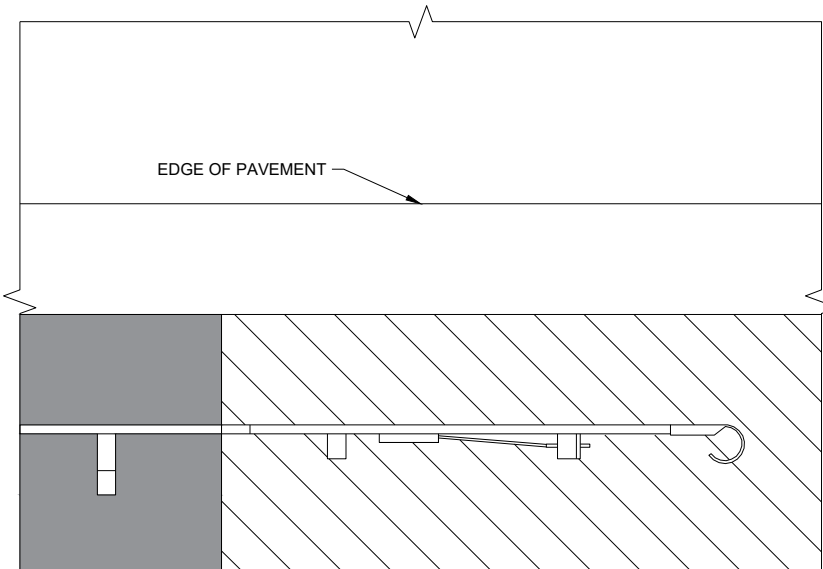
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



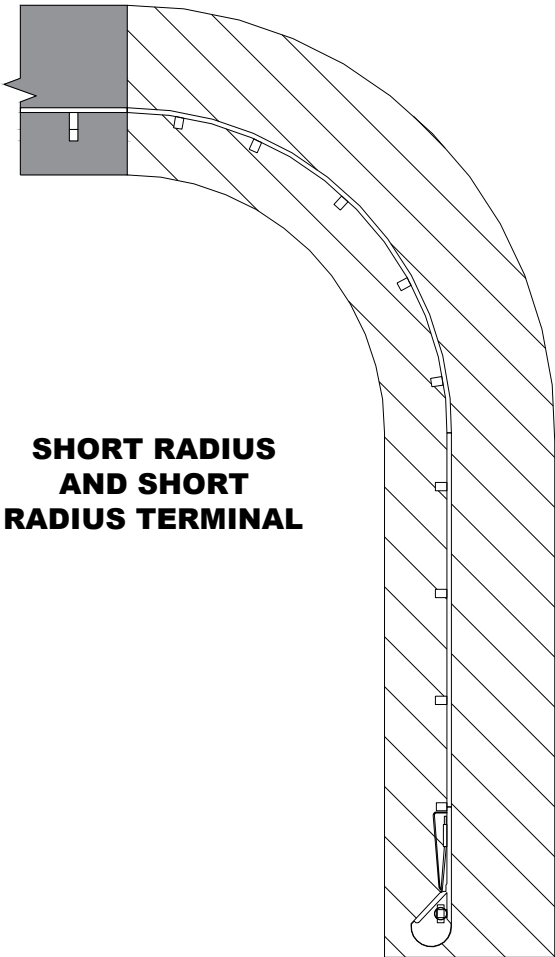
THRIE BEAM BULLNOSE



LONG - SPAN

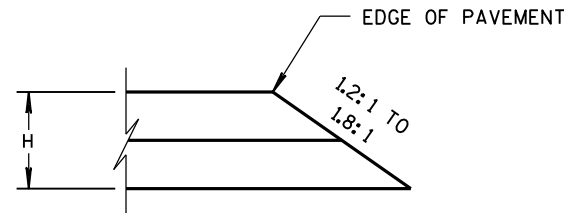


TYPE 2 TERMINAL

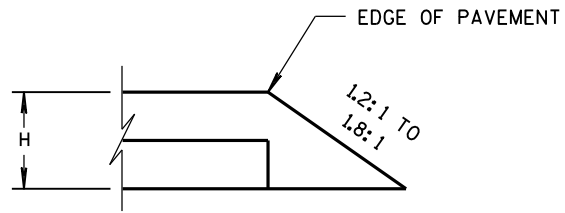


SHORT RADIUS
AND SHORT
RADIUS TERMINAL

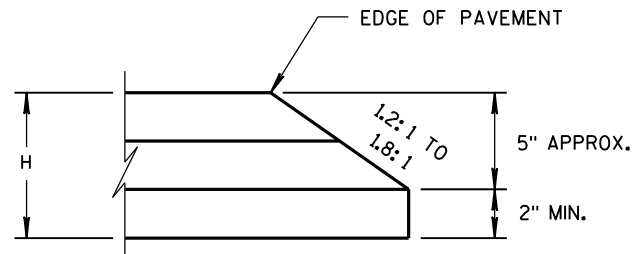
GUARDRAIL MOW STRIP	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED August 2020 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER 47
FHWA	



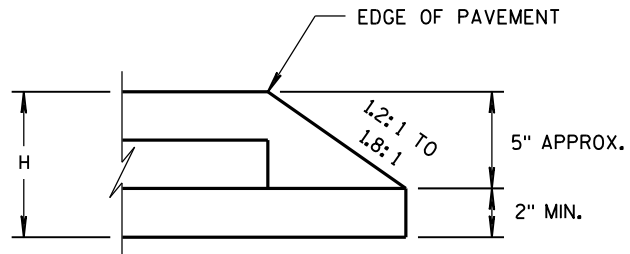
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

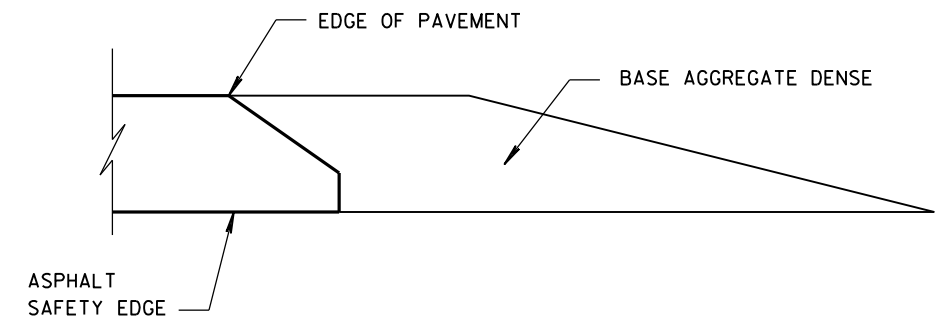


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

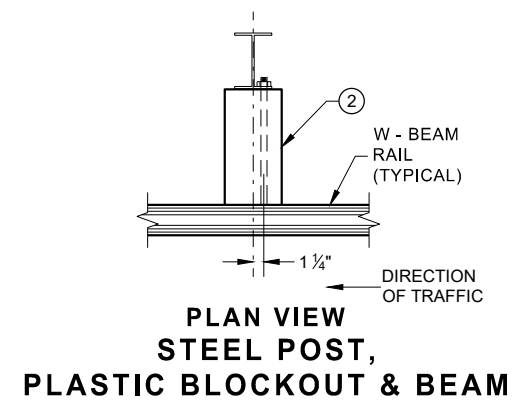
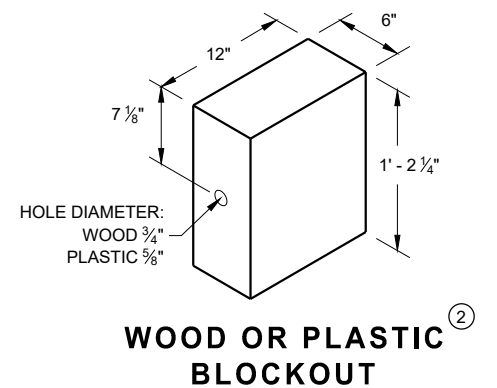
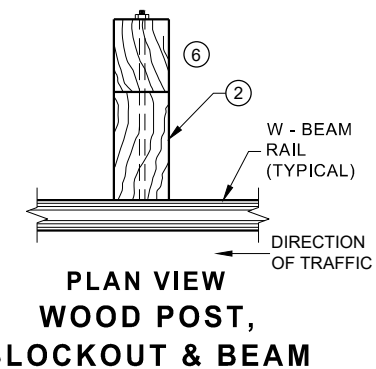
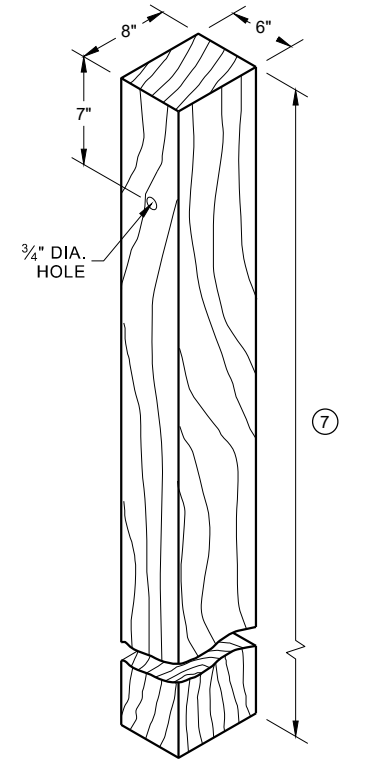
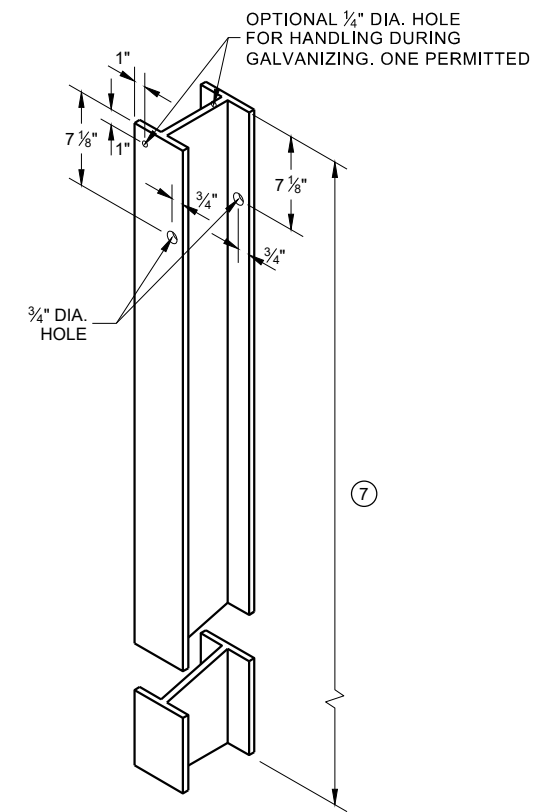
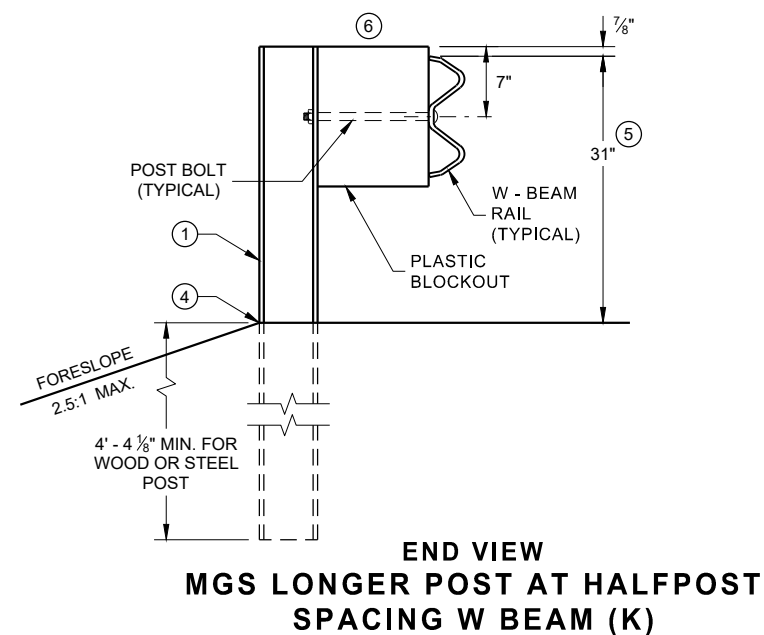
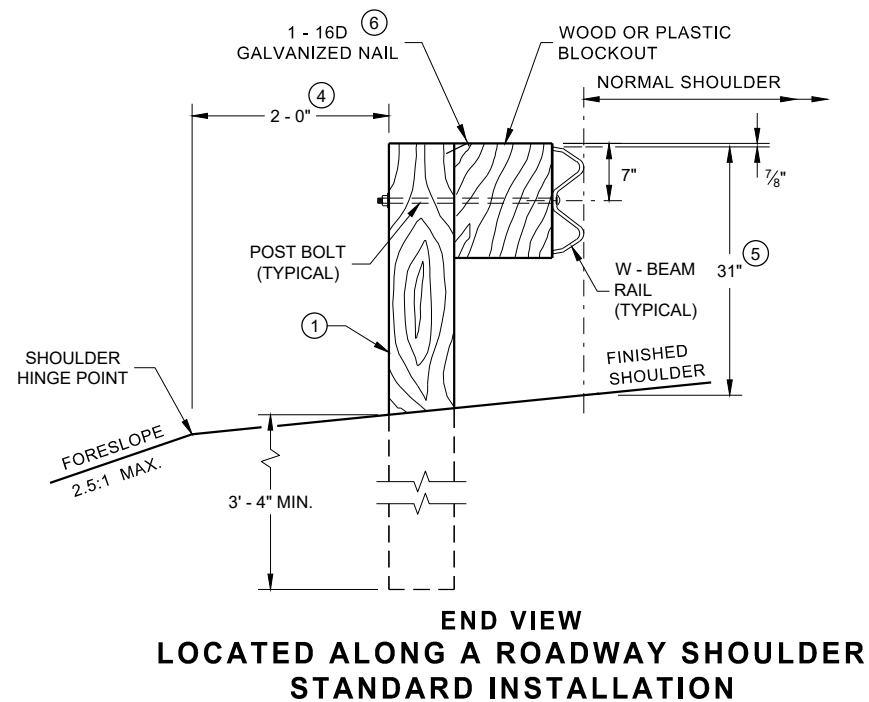
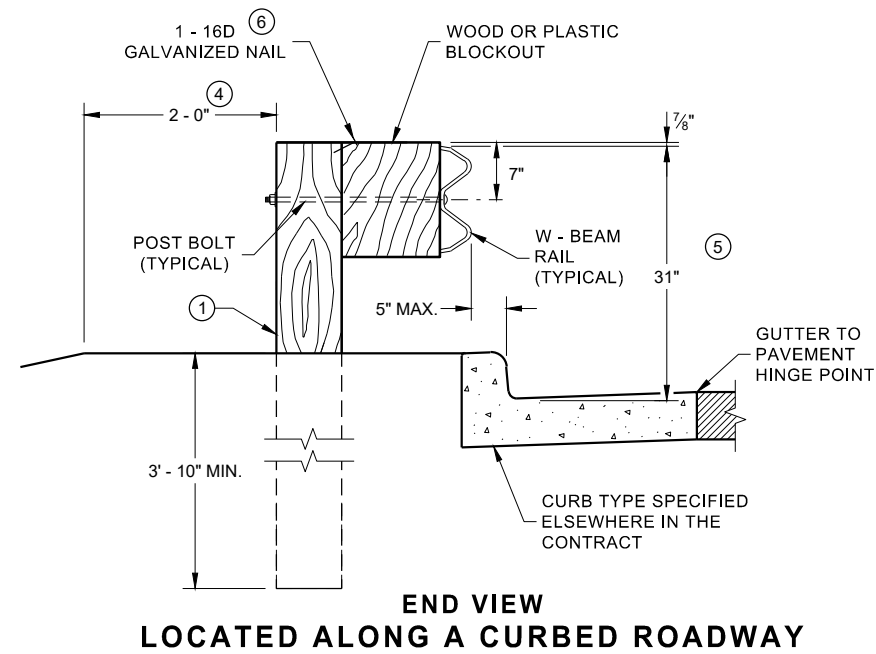
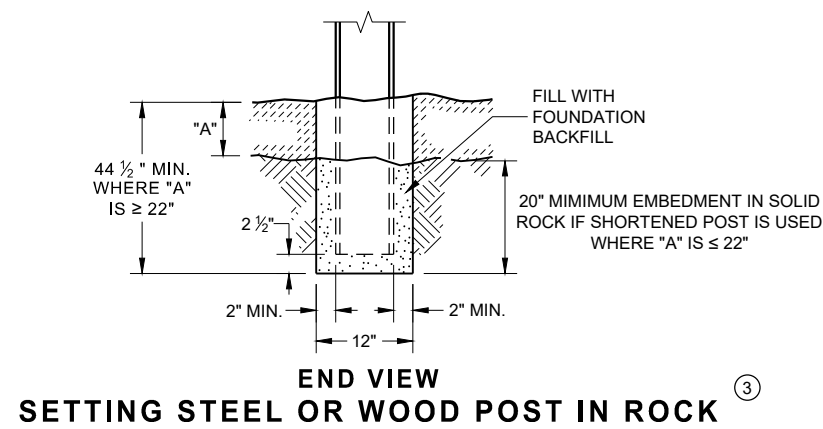
HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

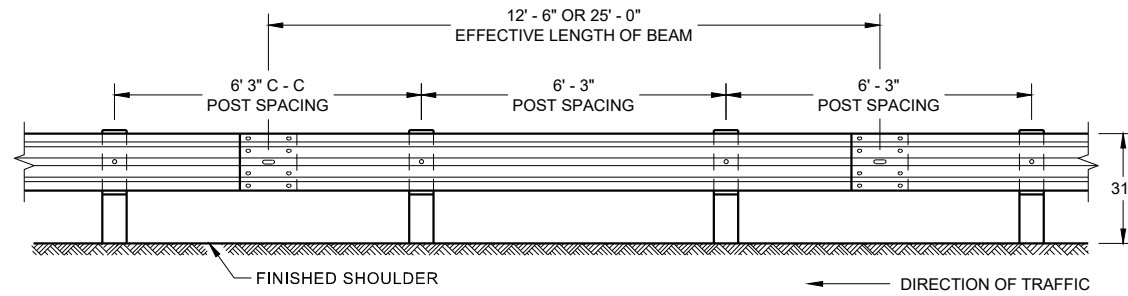
SAFETY EDGE _{SM}		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED DATE 11/30/2012	/S/ Jerry H. Zoaga ROADWAY STANDARDS ENGINEER	48 INT
FHWA		

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

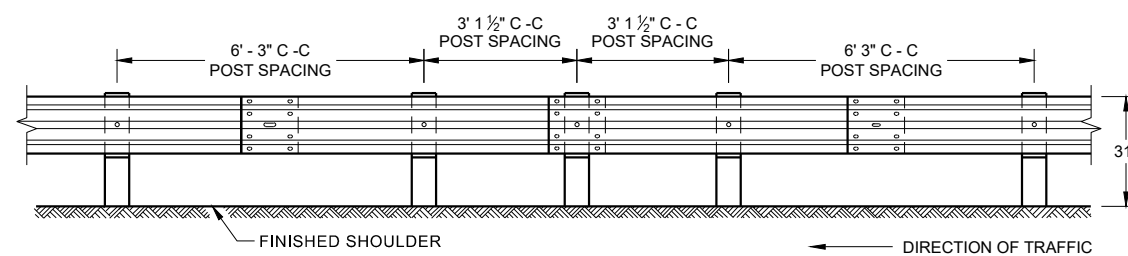


**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

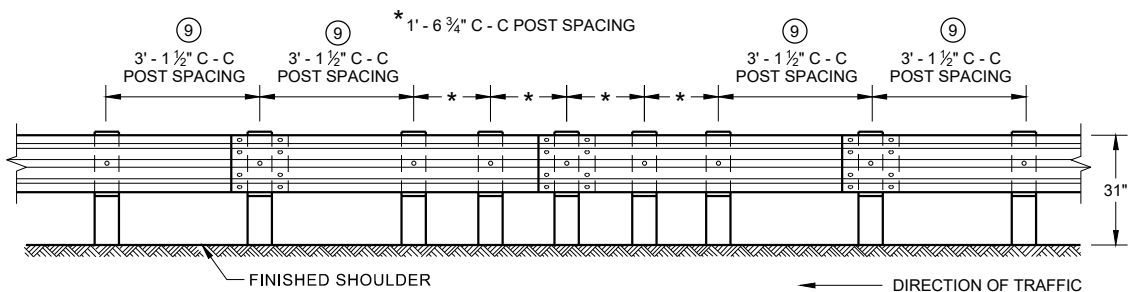
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 49



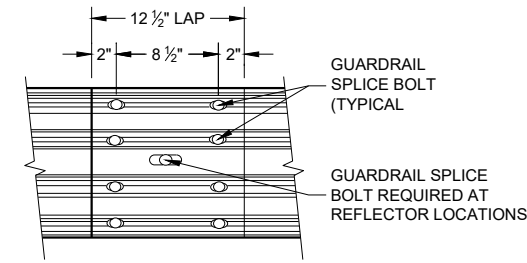
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



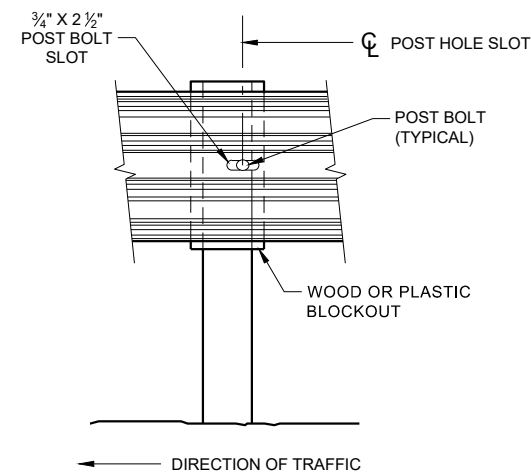
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



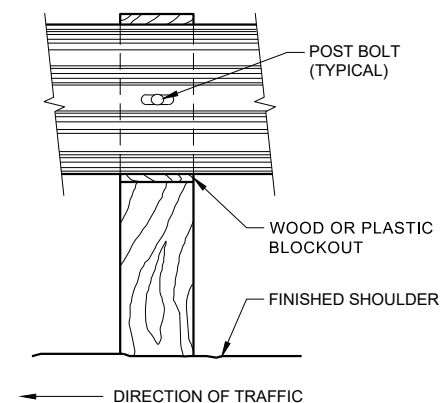
**FRONT VIEW
QUARTER POST SPACING (QS)**



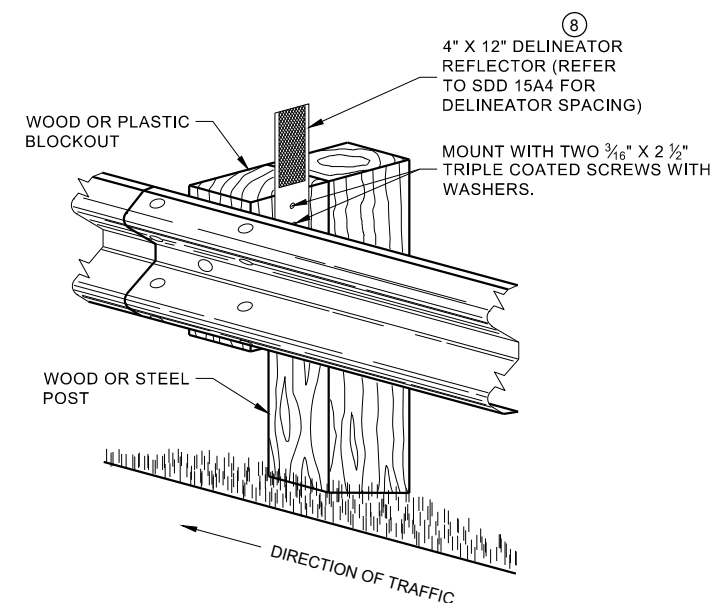
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



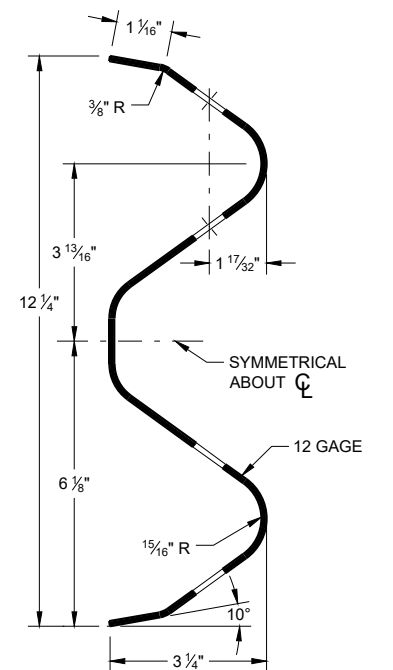
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

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

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

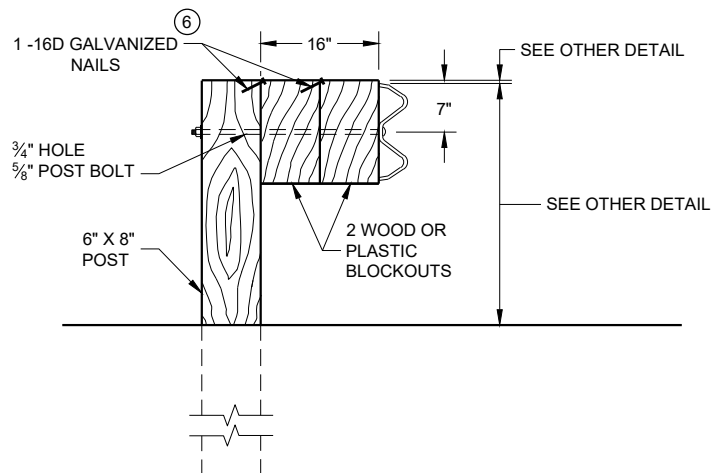
GUARD RAIL SPLICE BOLTS ARE A $\frac{3}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{3}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

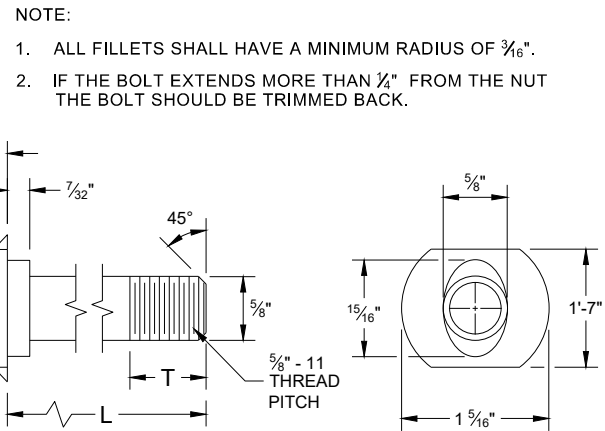
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 150



DETAIL FOR 16" BLOCKOUT DEPTH

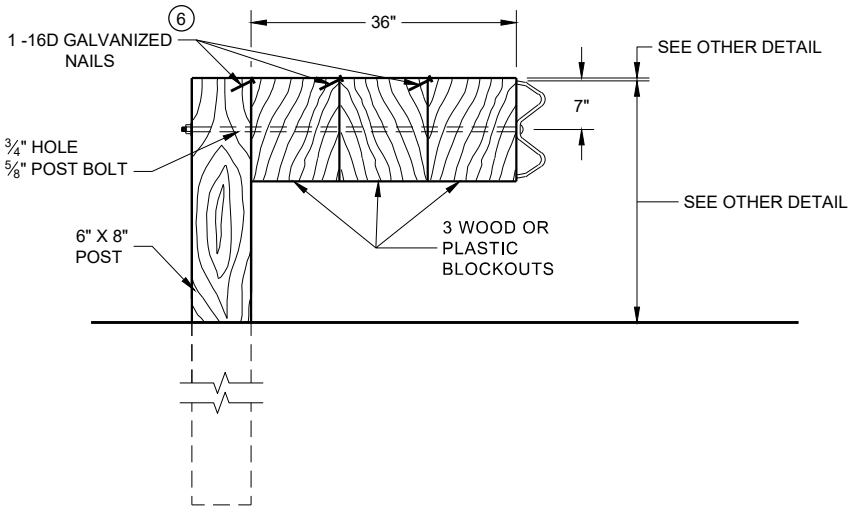
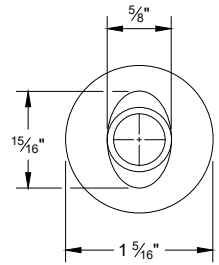
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



POST BOLT TABLE

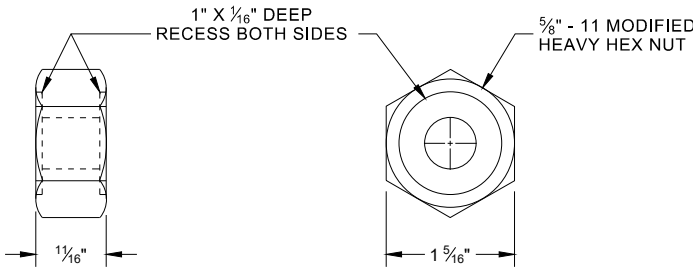
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

ALTERNATE BOLT HEAD



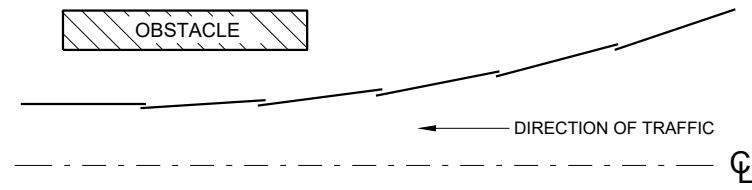
DETAIL FOR 36" BLOCKOUT DEPTH

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

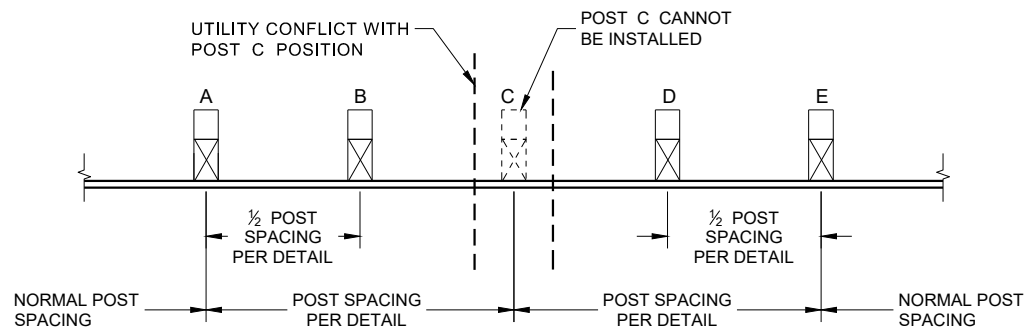


POST BOLT, SPLICE BOLT AND RECESS NUT

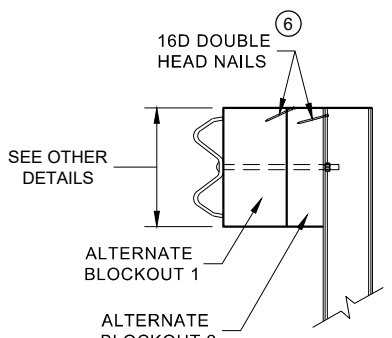
6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



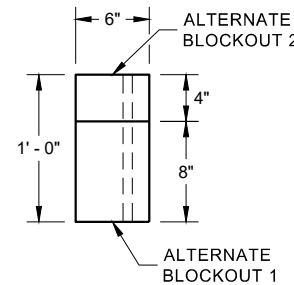
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW

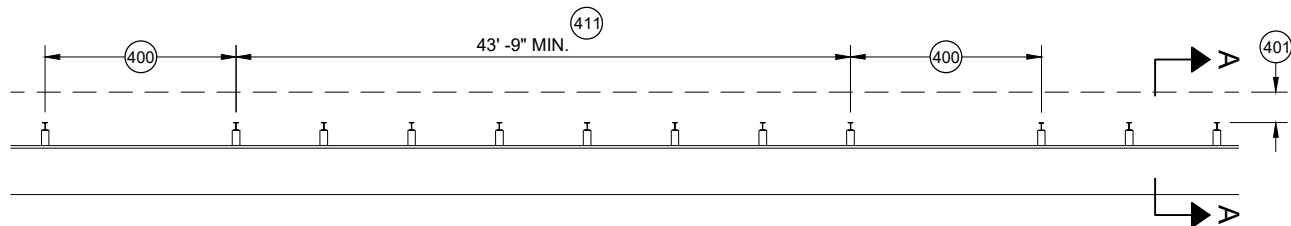


PLAN VIEW

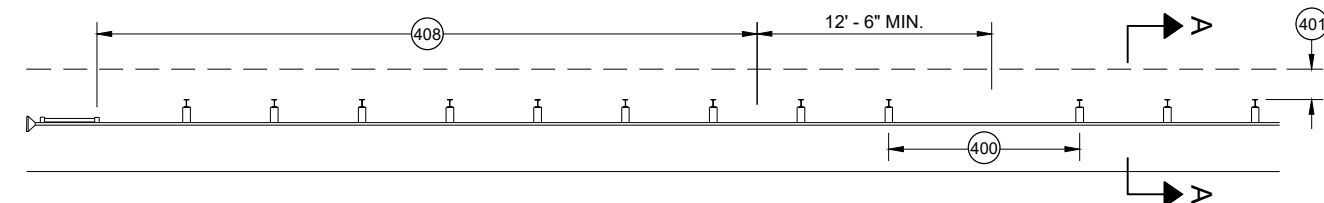
ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

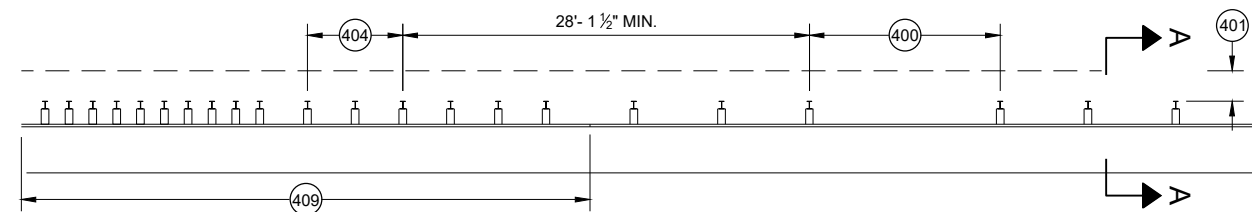
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



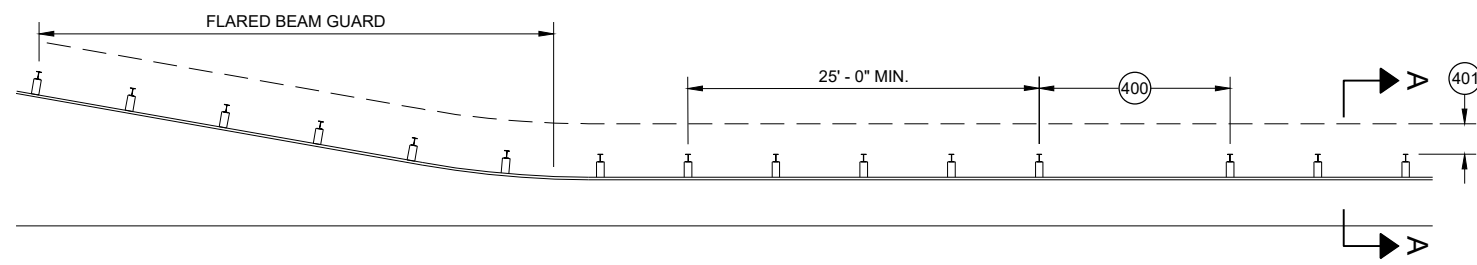
MISSING POST IN MGS GUARDRAIL



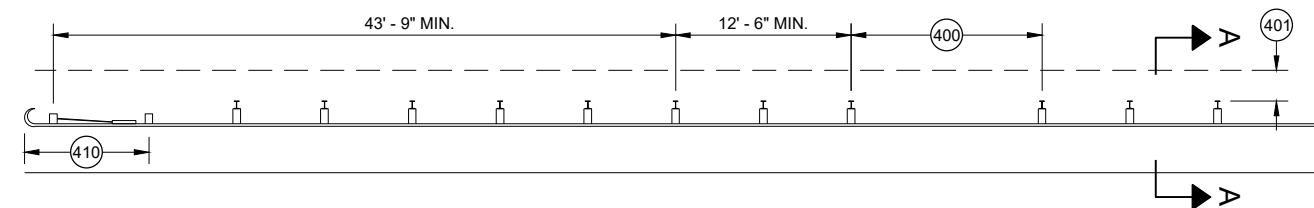
MISSING POST IN MGS GUARDRAIL NEAR EAT



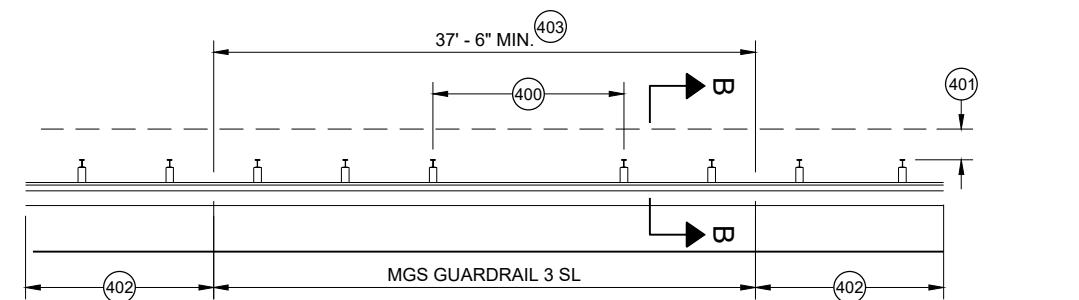
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

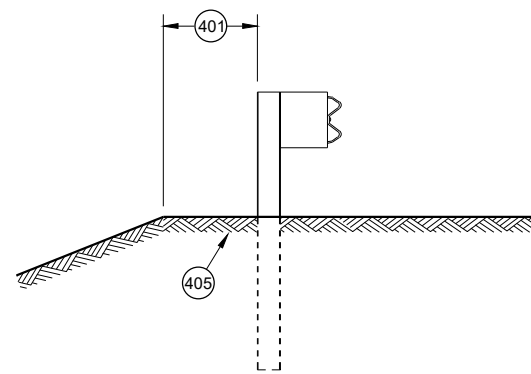


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

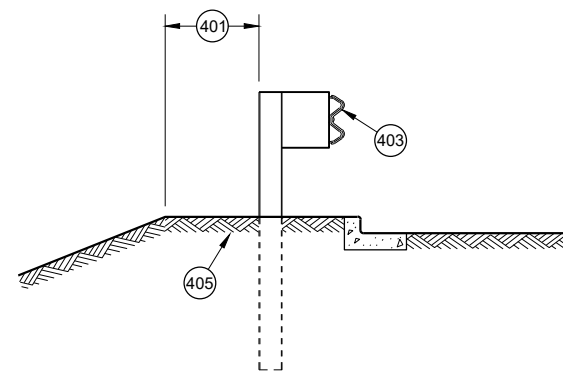


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

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



SECTION A - A



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

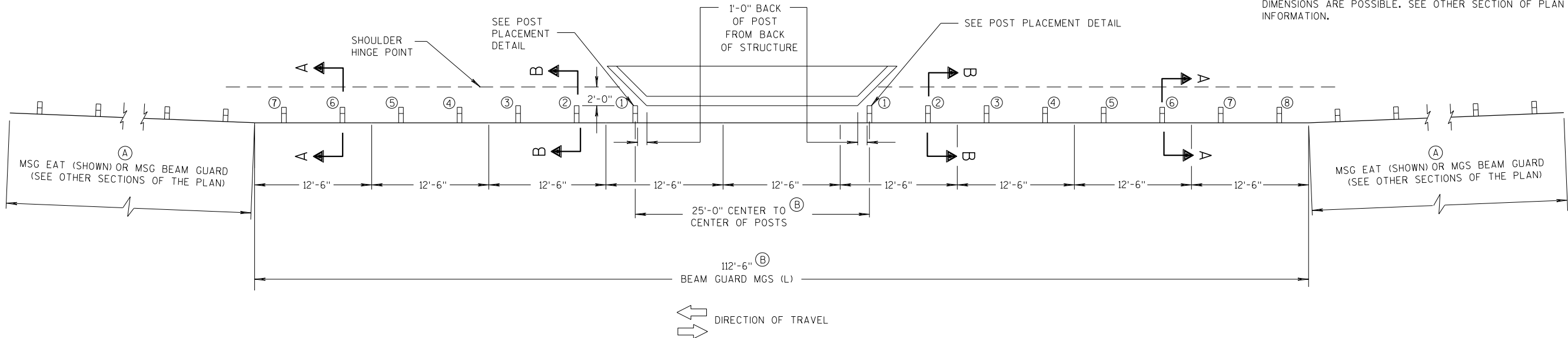
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

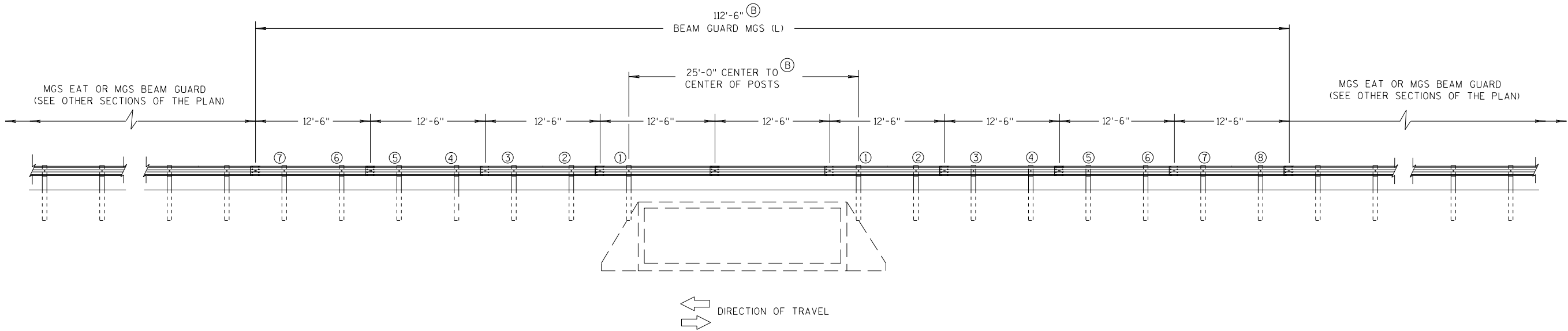
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN, IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW

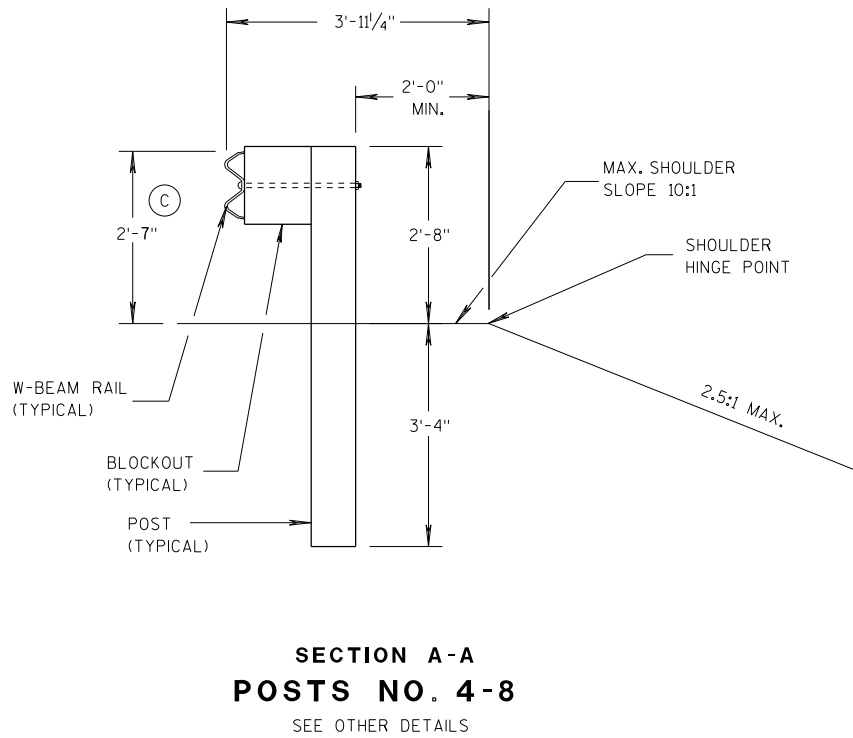
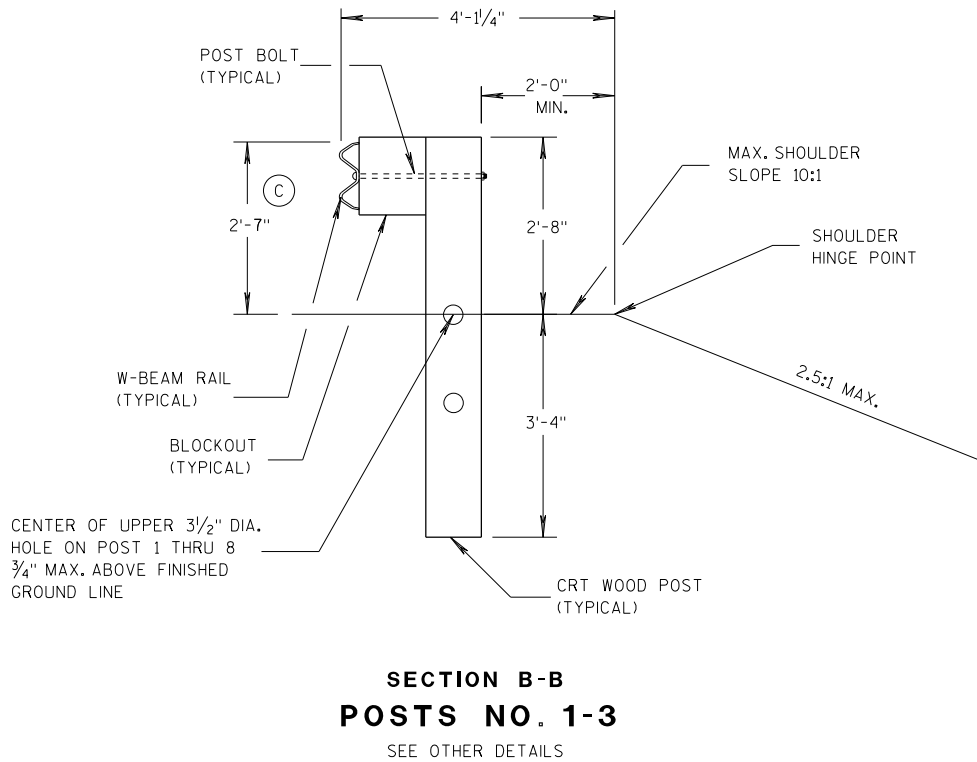
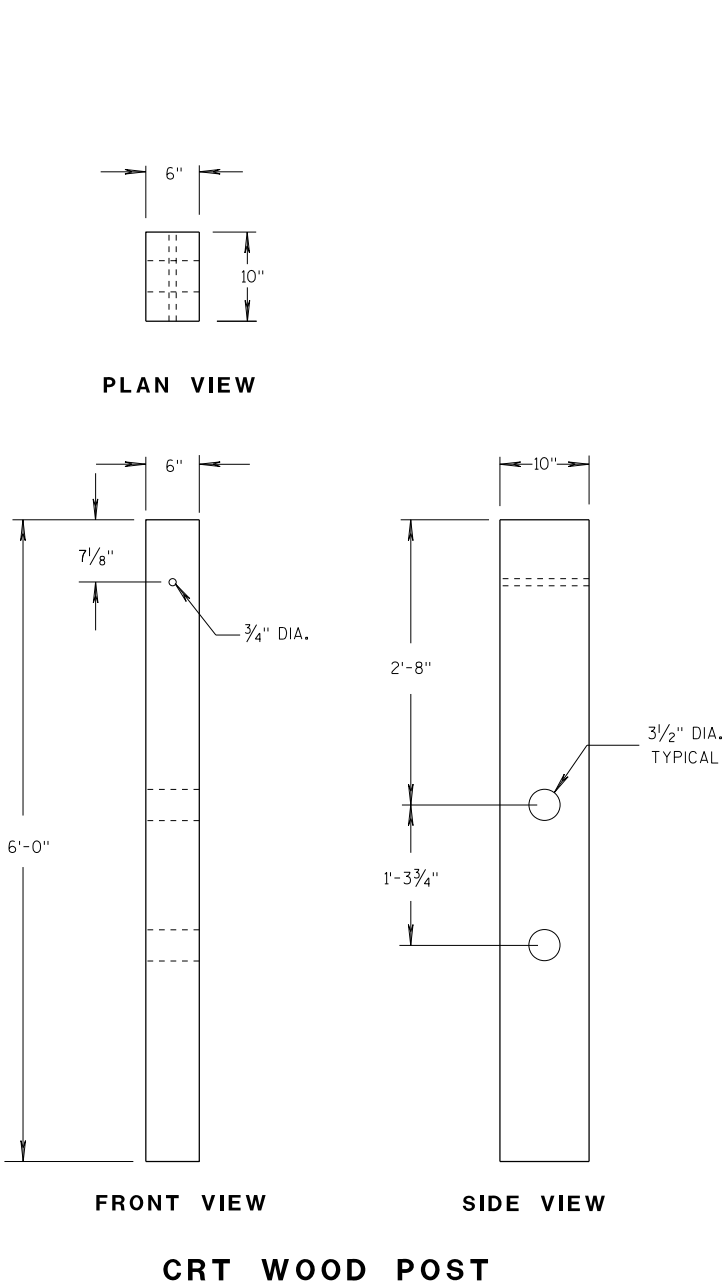


ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

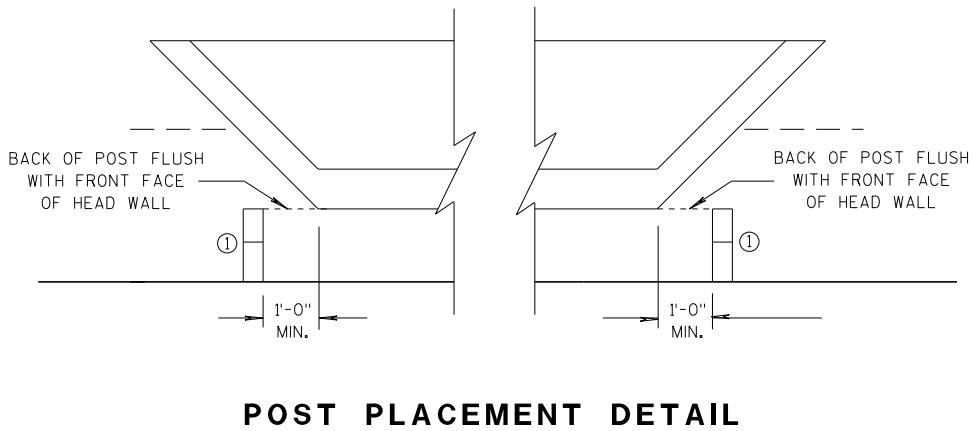
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

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



MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 07/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS ENGINEER	54 NT
FHWA		

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

*** DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.**

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

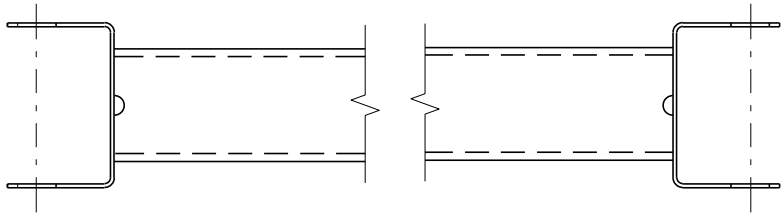
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

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



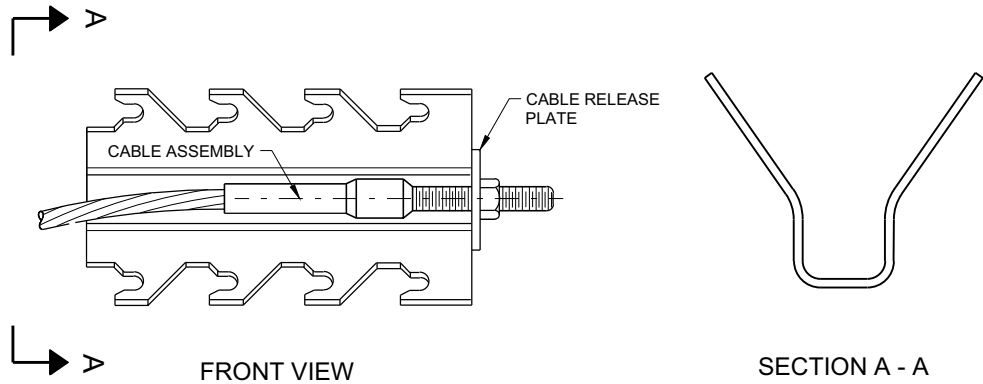
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 55

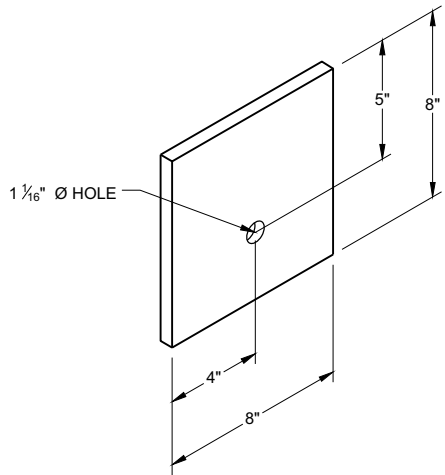


GENERIC GROUND STRUT⁹ ^E

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



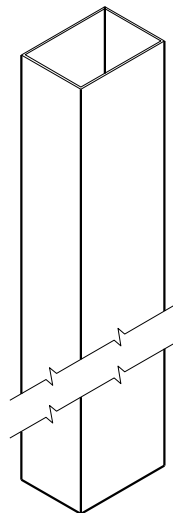
GENERIC ANCHOR CABLE BOX⁹ ^E



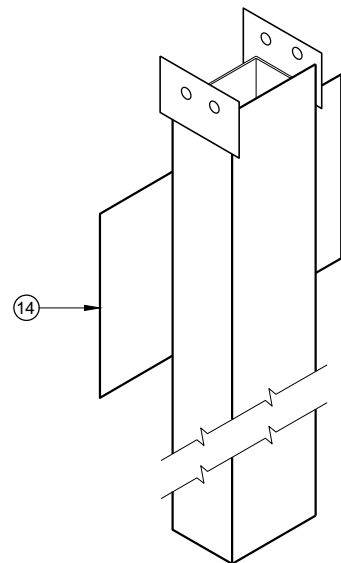
BEARING PLATE⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

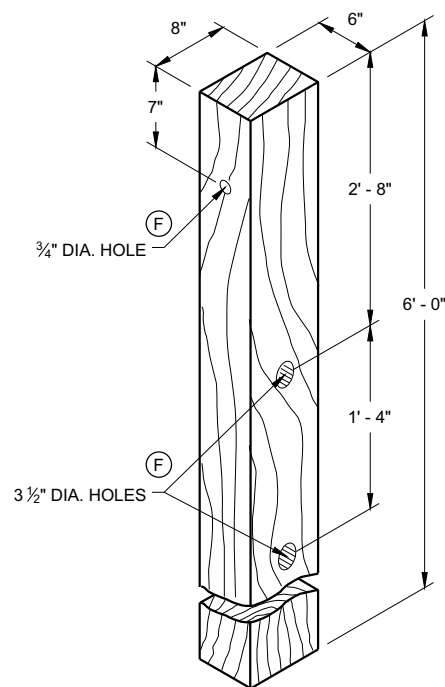
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



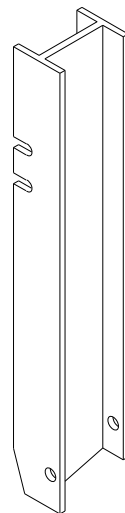
UPPER POST NO. 1 ⁽¹⁾ (E)



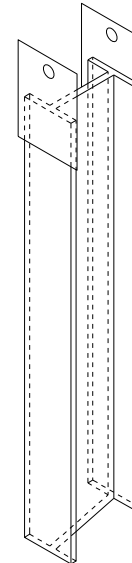
LOWER POST NO. 1 ⁽²⁾ (E)



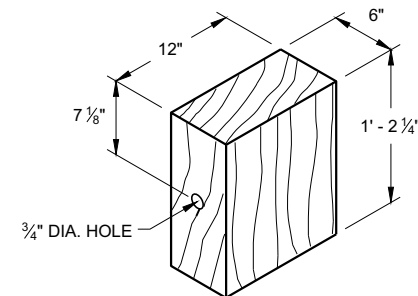
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



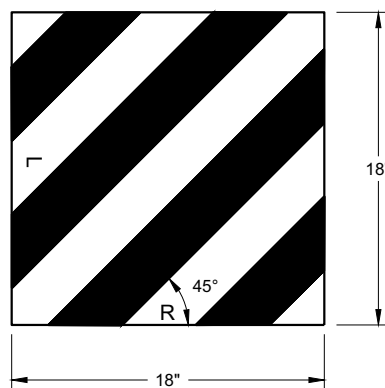
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



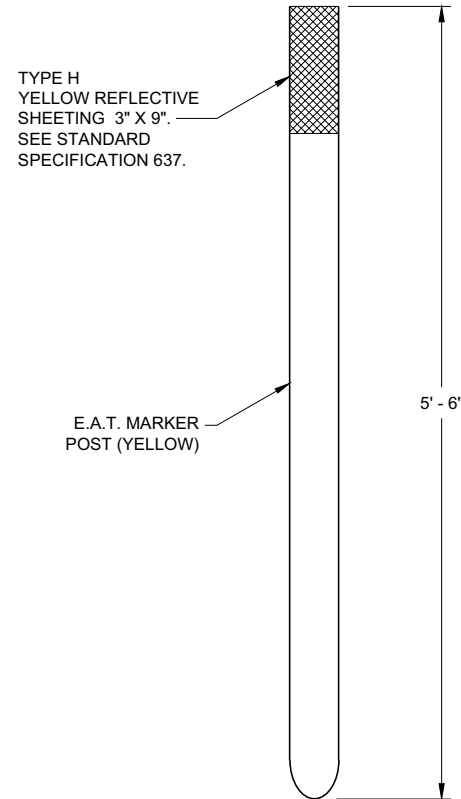
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



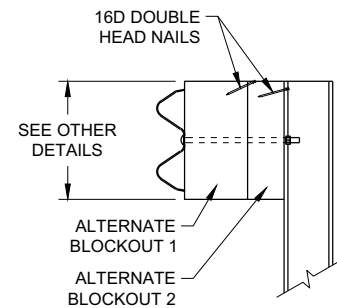
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



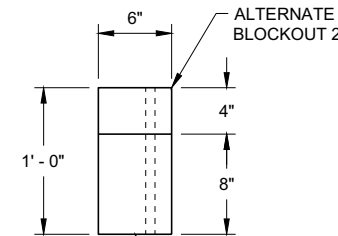
REFLECTIVE SHEETING DETAIL ^(E)



E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



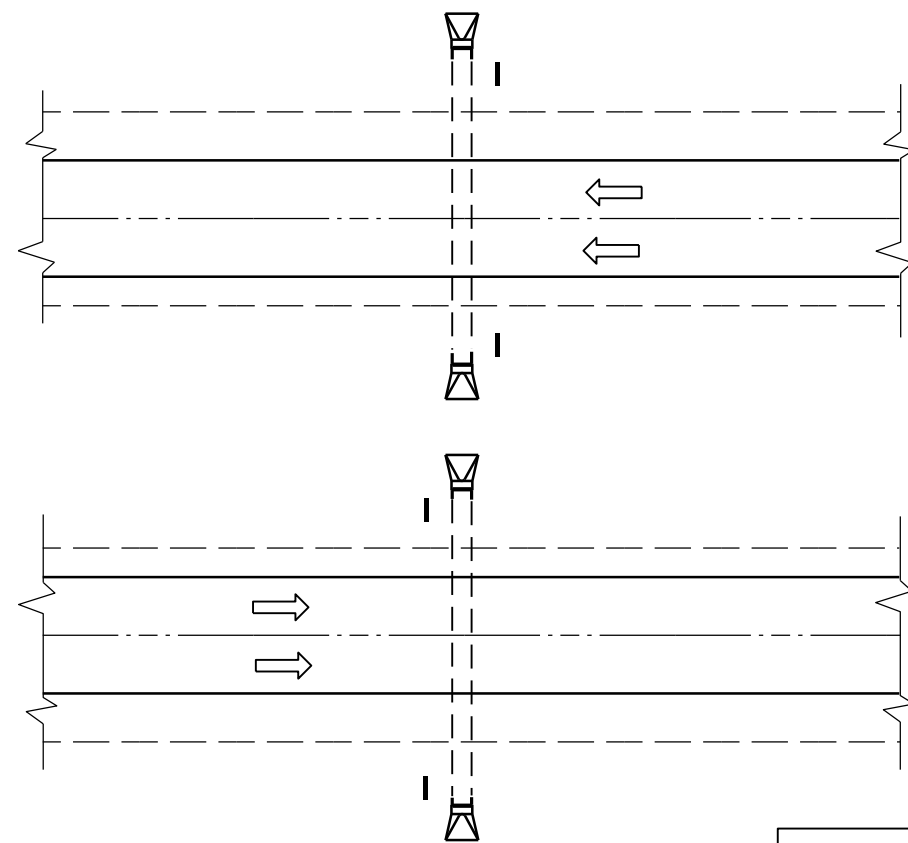
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

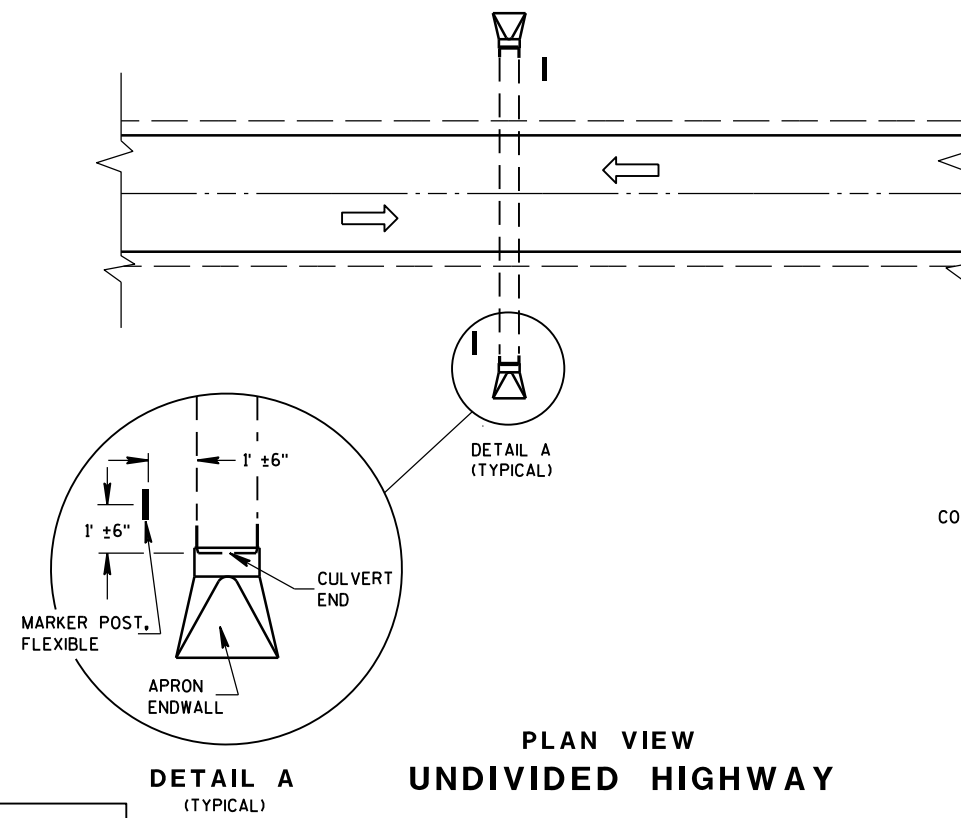
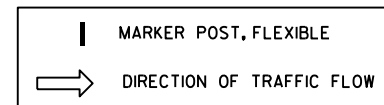
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
DIVIDED HIGHWAY

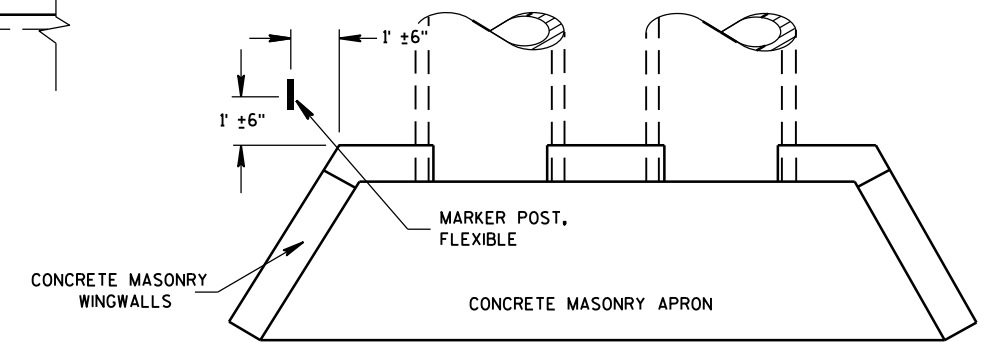


PLAN VIEW
UNDIVIDED HIGHWAY

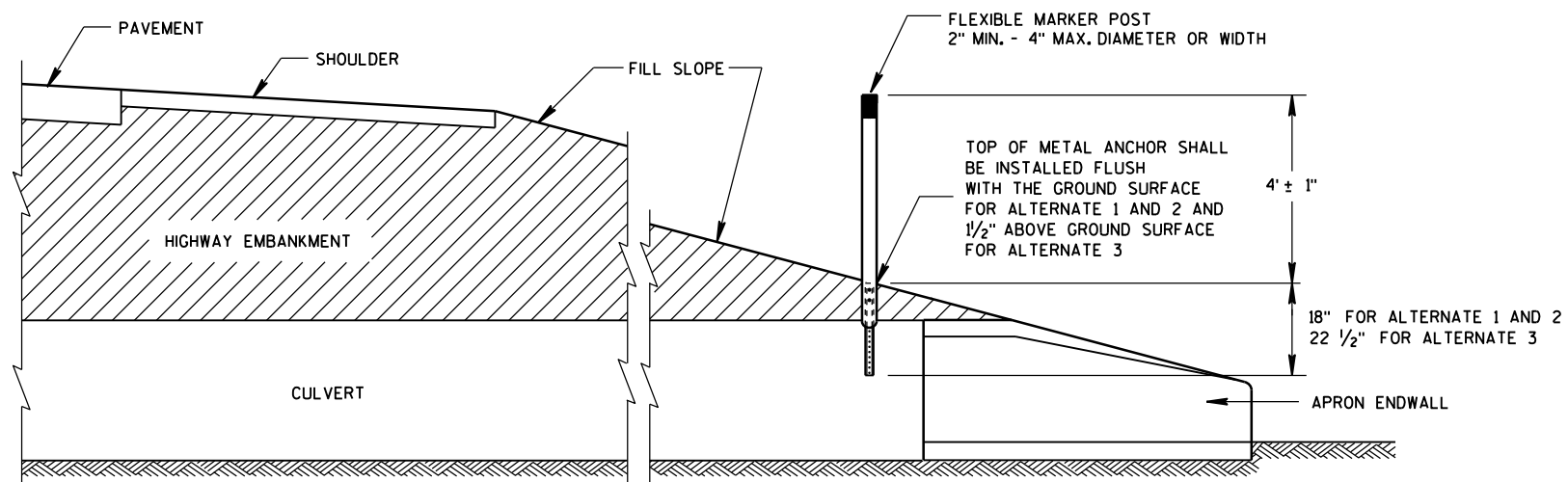
FLEXIBLE MARKER POST LOCATION

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.



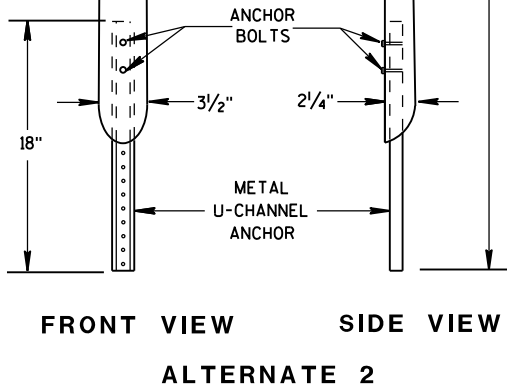
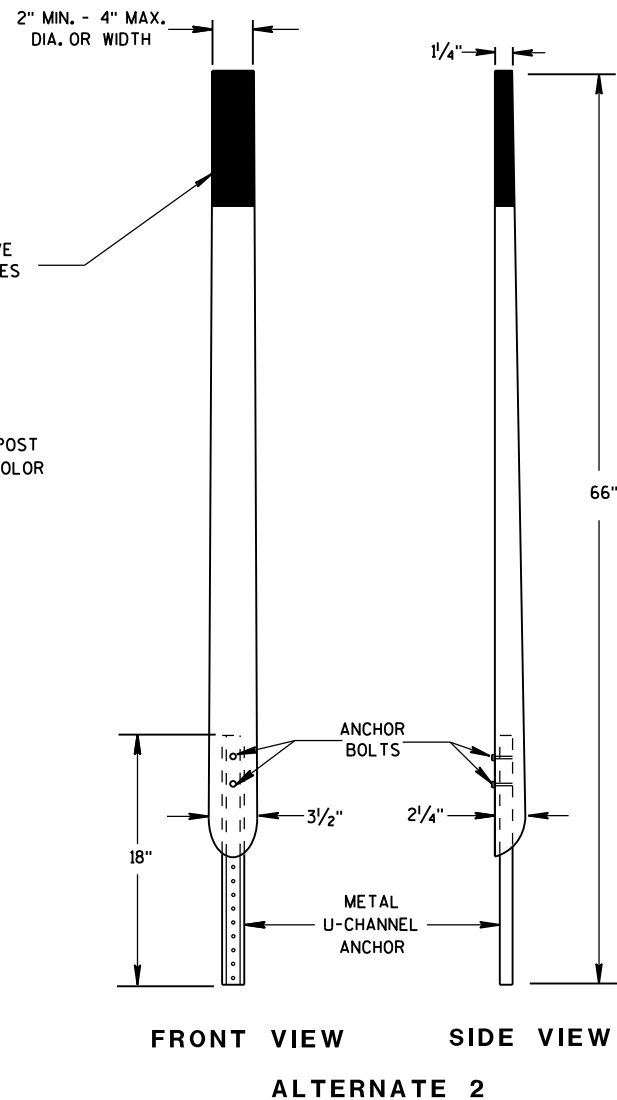
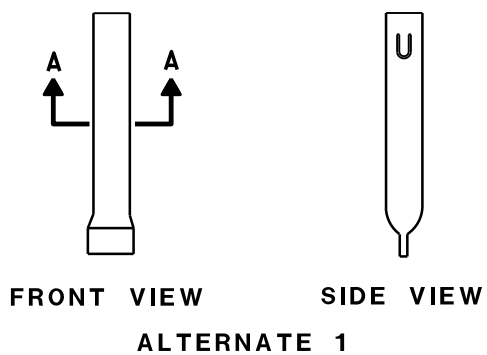
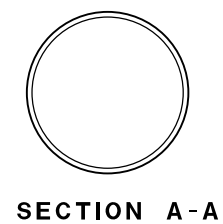
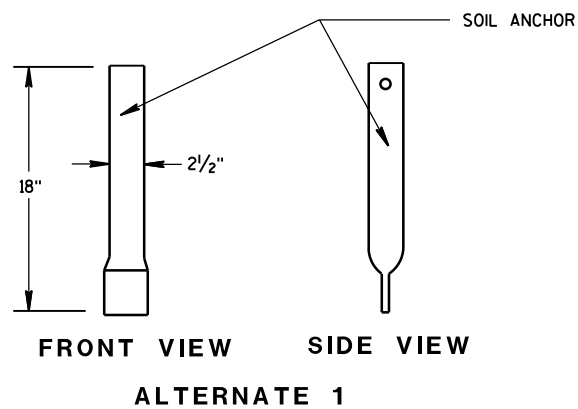
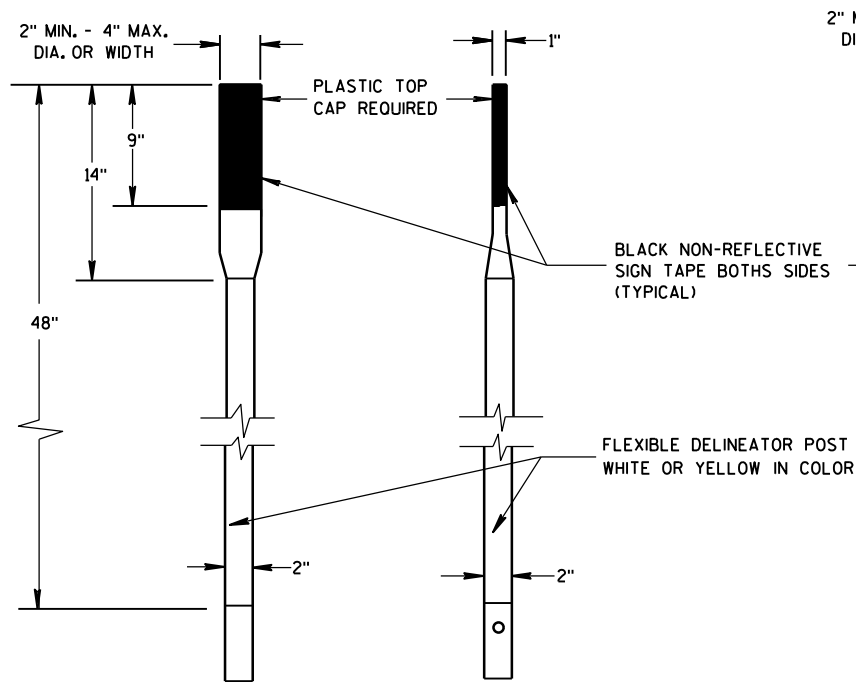
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



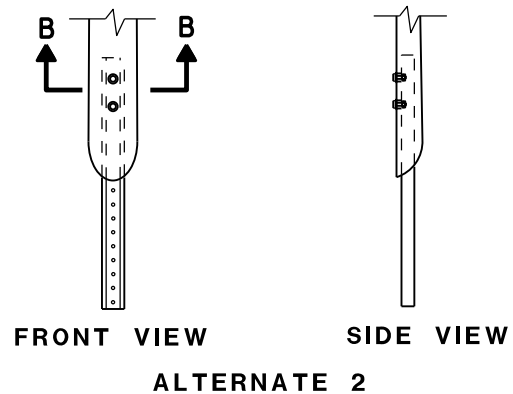
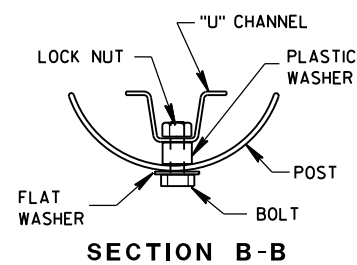
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

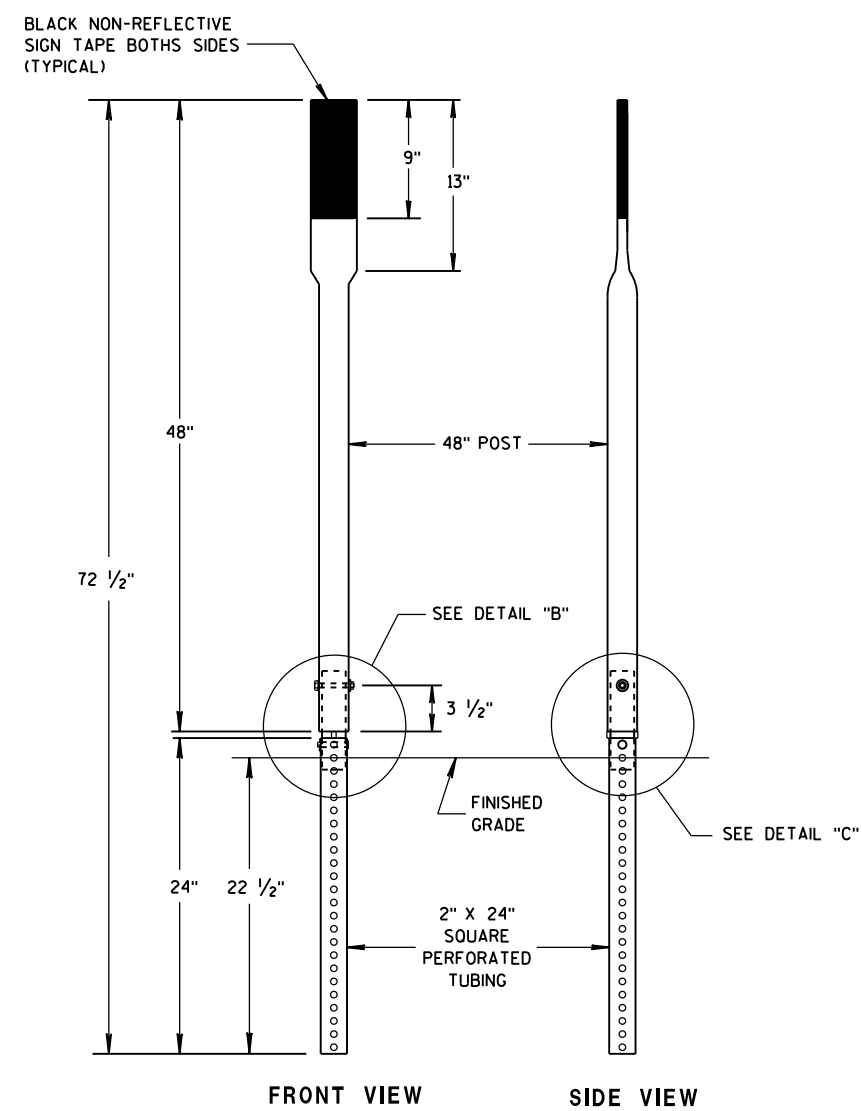
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



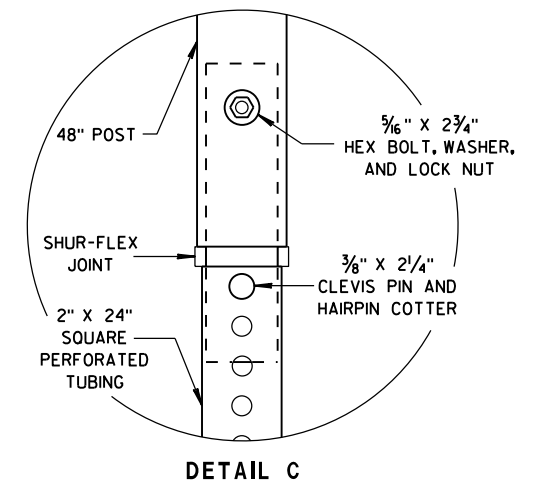
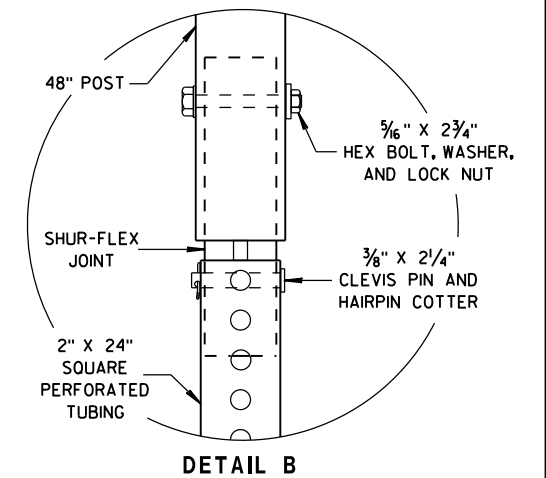
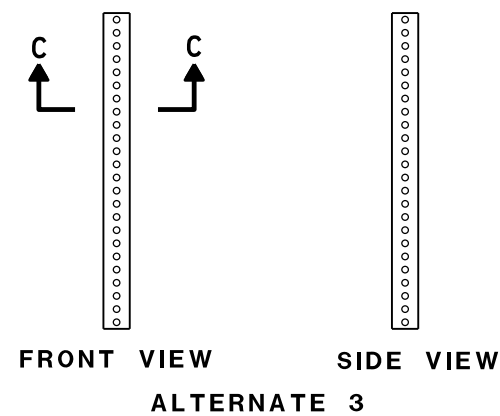
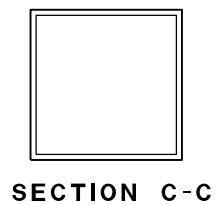
FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW
ALTERNATE 3



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/1/2012
DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 59 IGN

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.

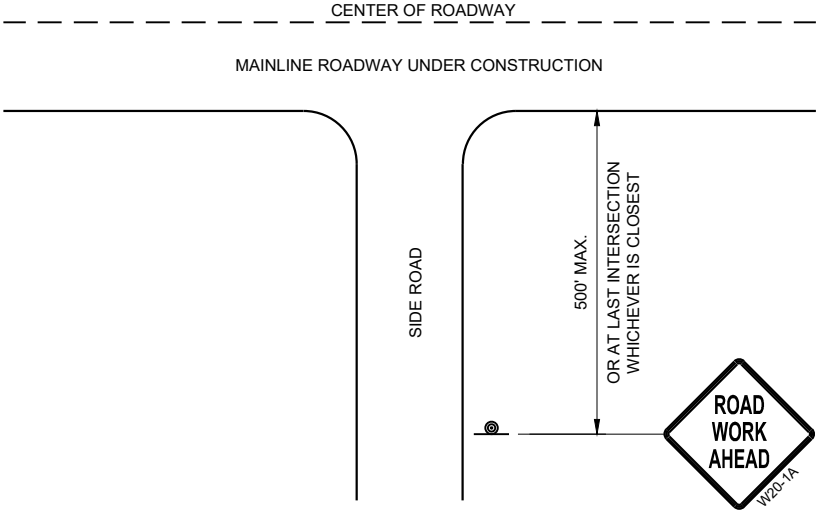
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

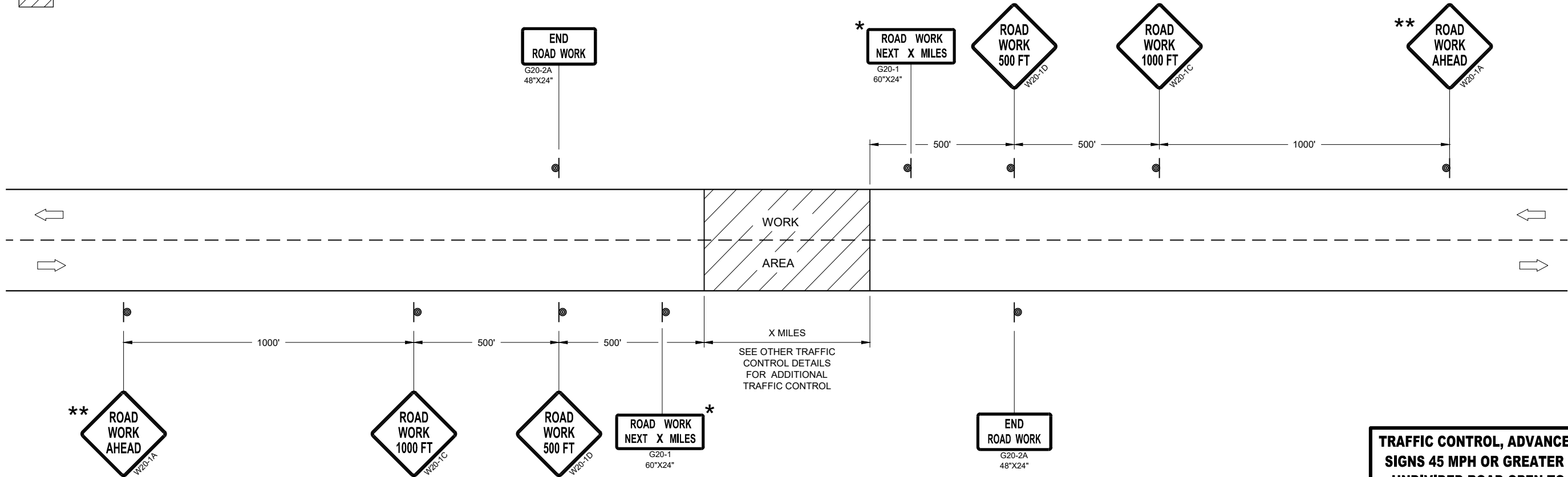
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



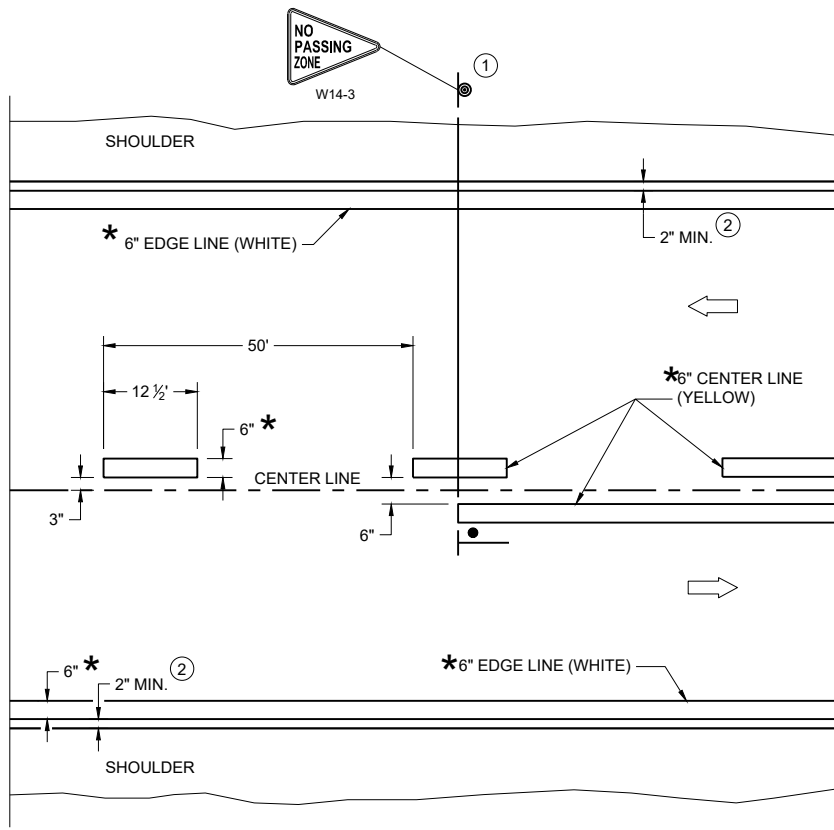
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

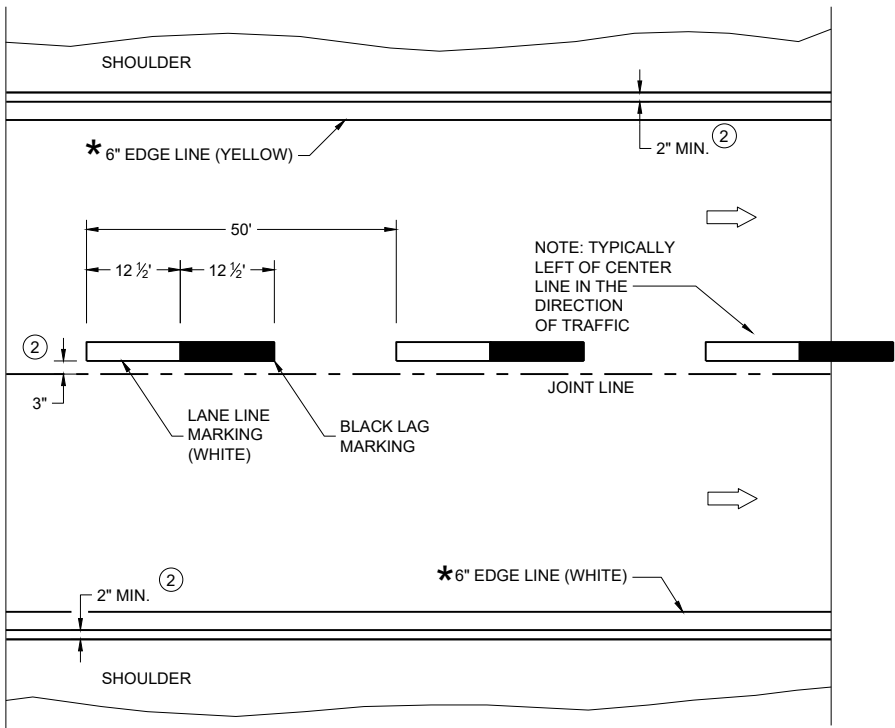
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 60

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

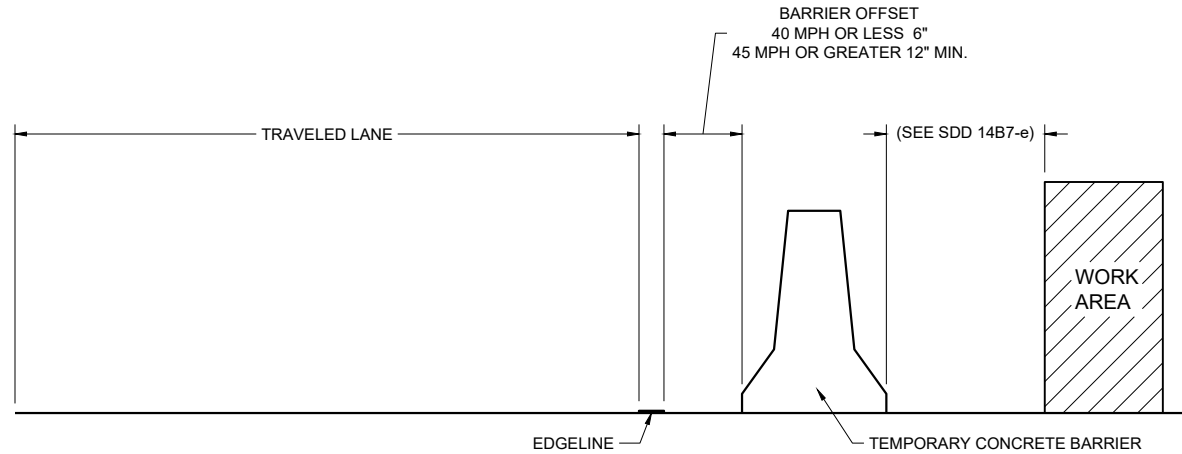
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

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

LEGEND

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

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	61



TEMPORARY BARRIER OFFSET FROM EDGE LINE

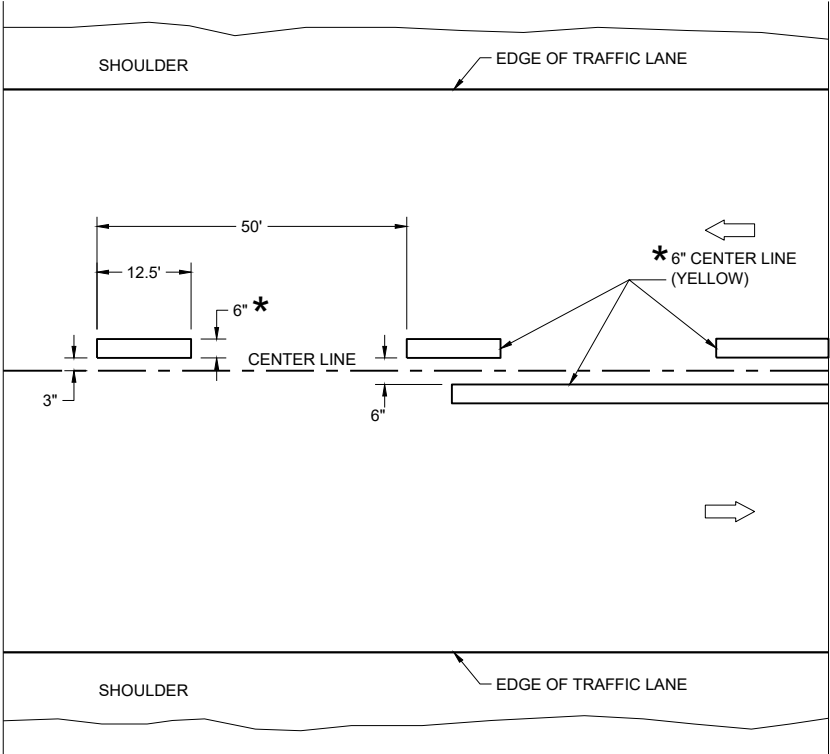
GENERAL NOTES

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

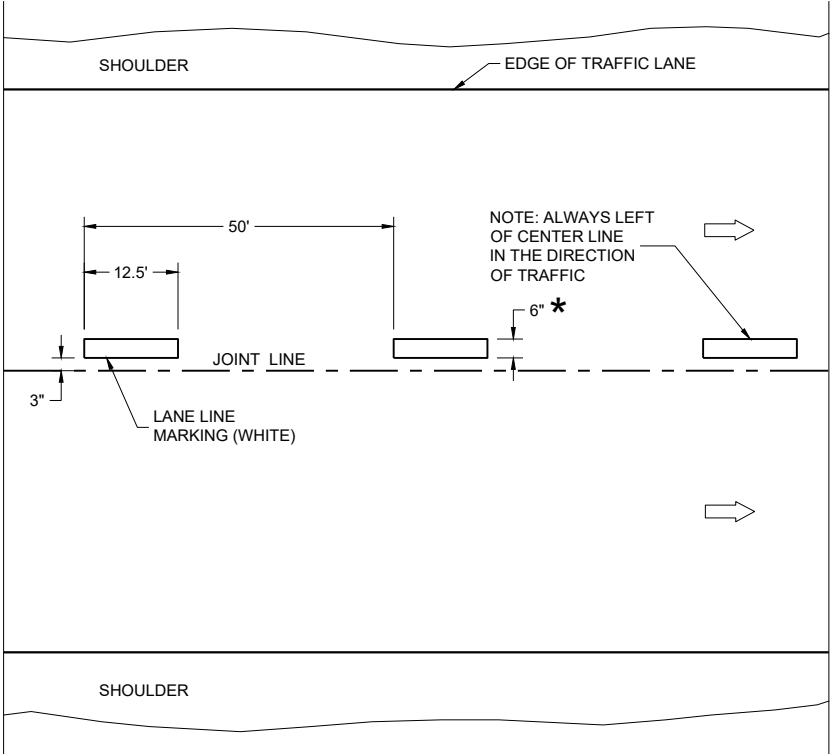
LEGEND

➡ DIRECTION OF TRAFFIC

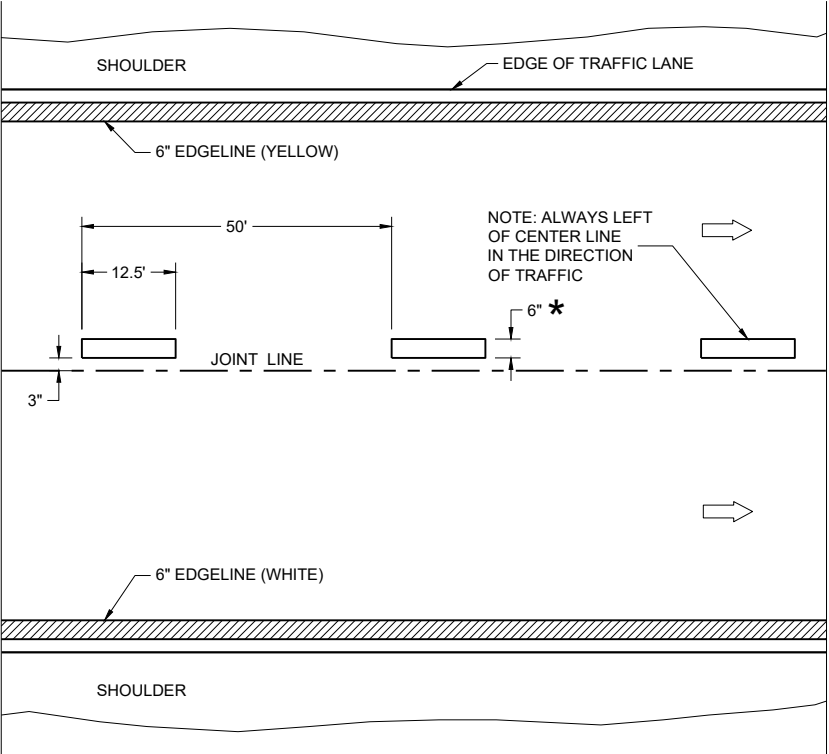
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



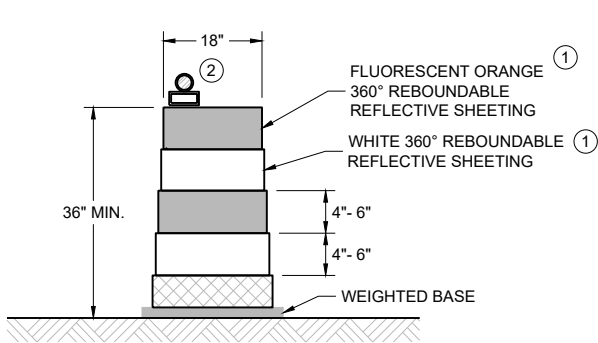
ONE WAY TRAFFIC



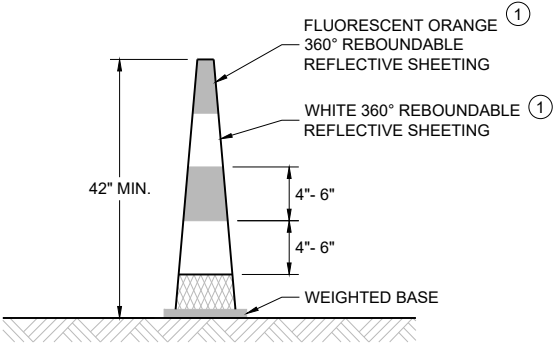
FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

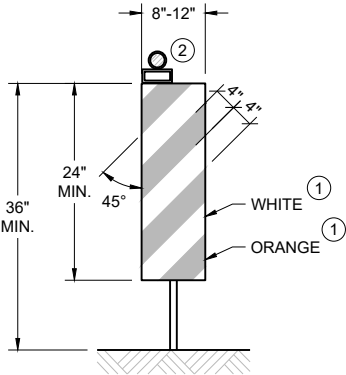
TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



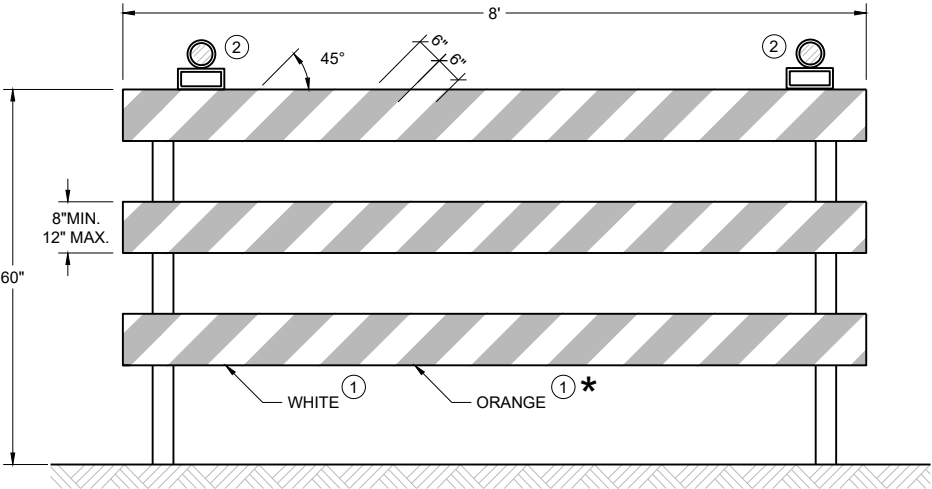
DRUM
BALLAST WIDTHS
RANGE FROM 24"-36"



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.

GENERAL NOTES

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

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

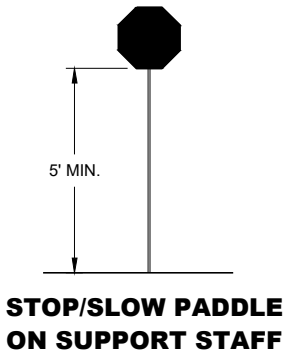
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- 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.

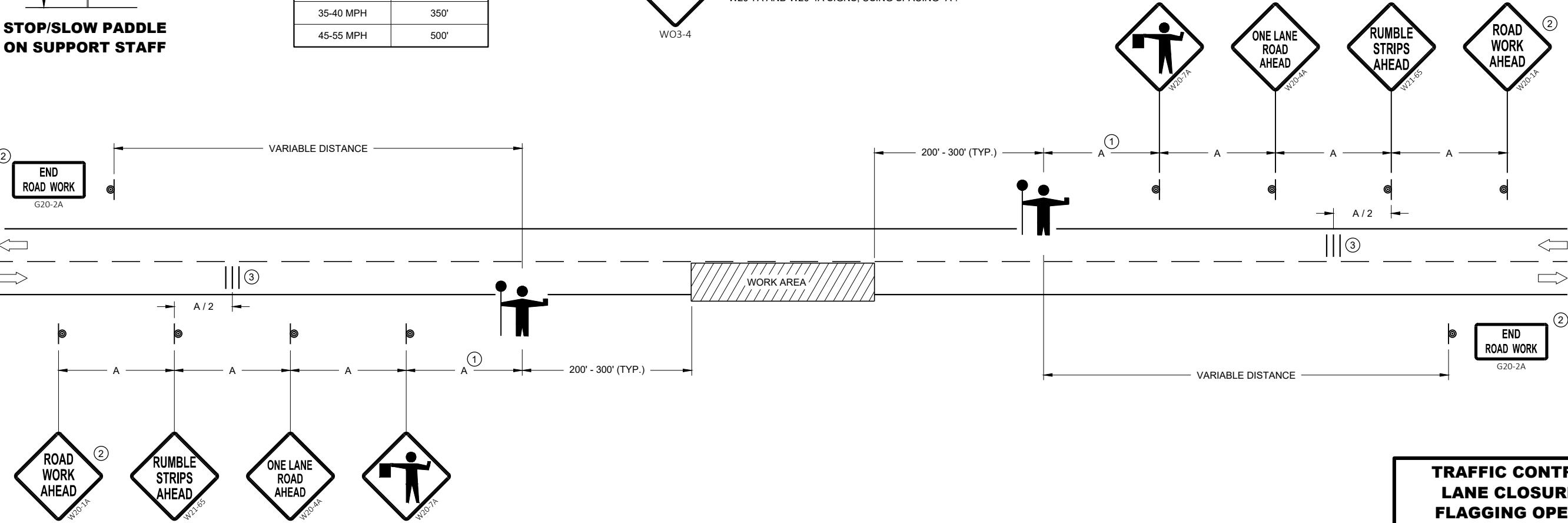


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



USE OF W03-4 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 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 64

FHWA

	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)

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.

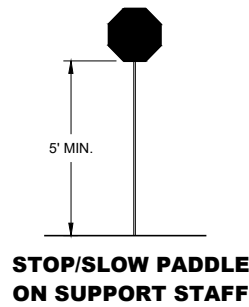
WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

IF THE AUTOMATED FLAGGING 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.

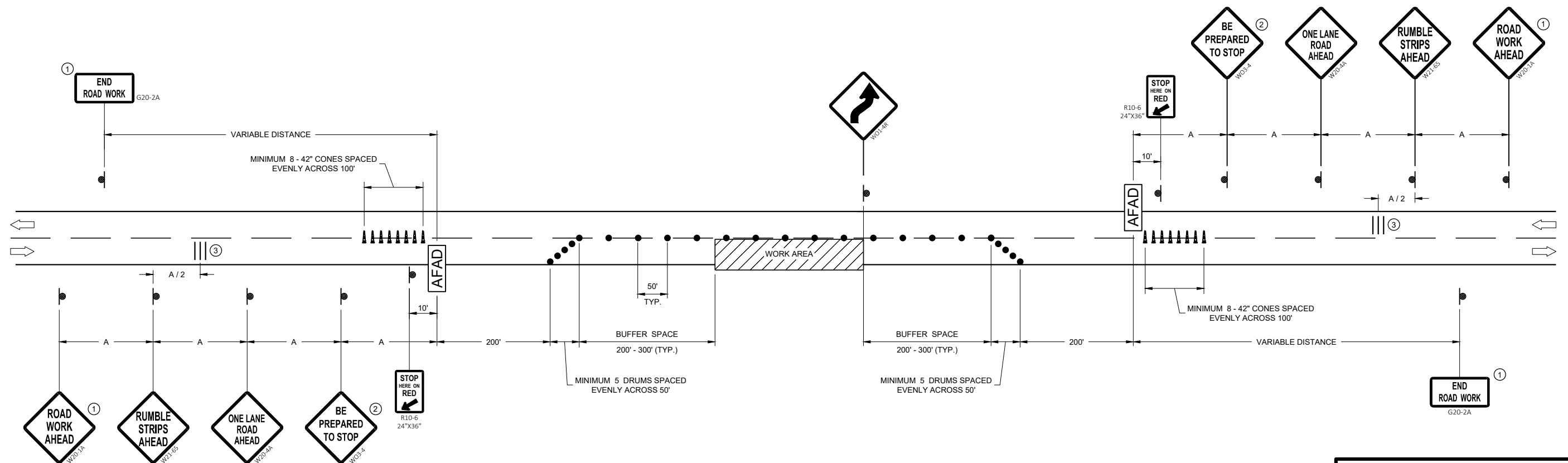
WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

- ① SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ② IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE W03-4 SIGNS WITH W20-7A SIGNS.

- 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.



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 ENGINEER 65

FHWA

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

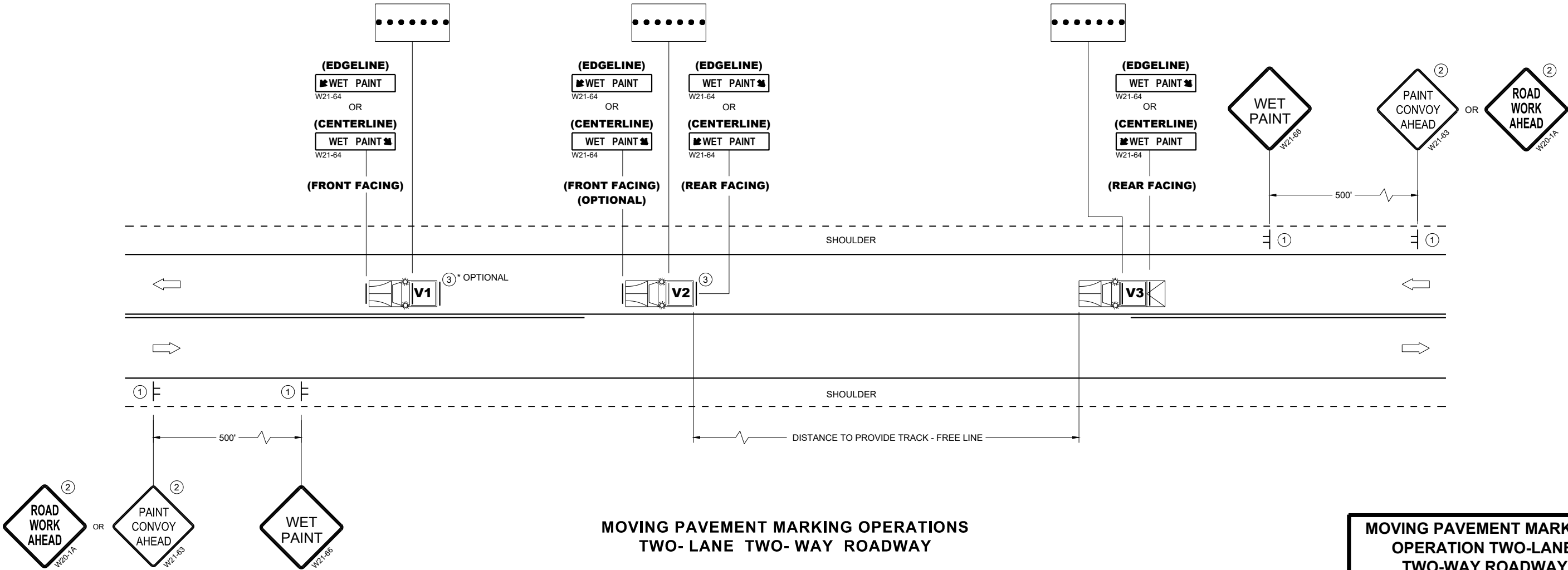
WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

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.



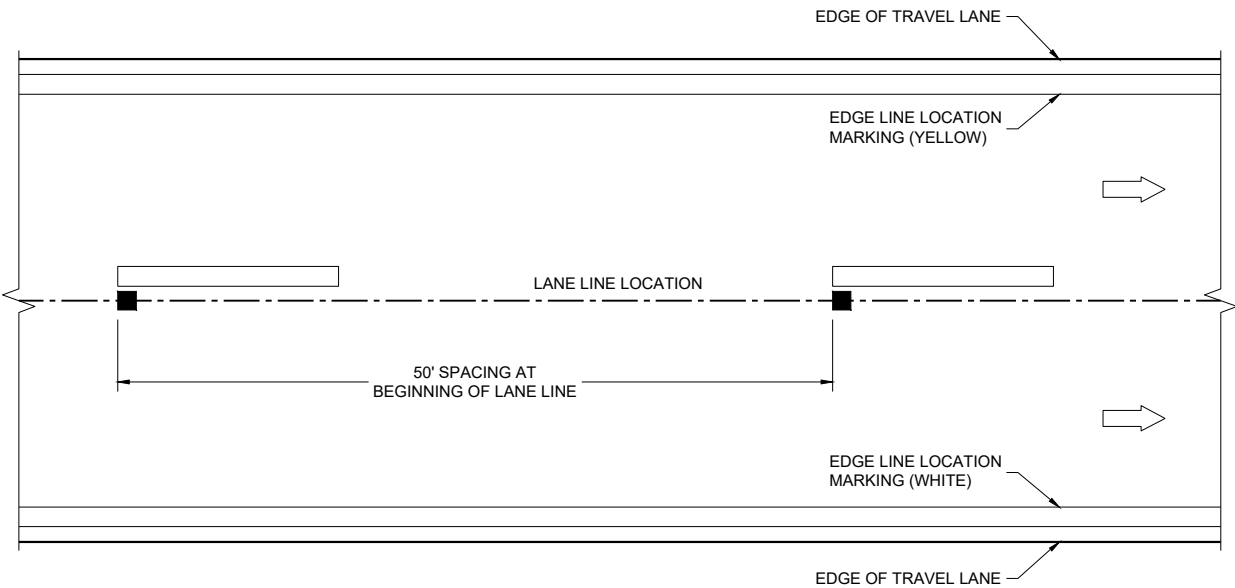
MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING
OPERATION TWO-LANE
TWO-WAY ROADWAY

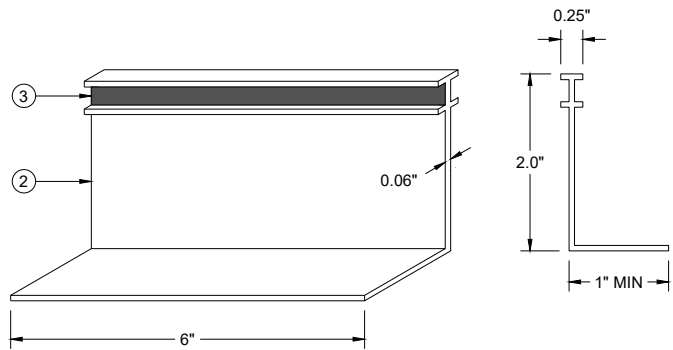
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



LONGITUDINAL PLACEMENT 6 - INCH LANE LINE



ISOMETRIC VIEW

SIDE VIEW

TEMPORARY RAISED PAVEMENT MARKER, TYPE II

GENERAL NOTES

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

COLOR OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II, SHALL MATCH THE COLOR OF THE MARKING THEY SUPPLEMENT.

PLACEMENT OF TEMPORARY RAISED PAVEMENT MARKERS ON EDGE LINES IS OPTIONAL. IF PLACED ON EDGE LINES, MAXIMUM SPACING SHALL BE 50 FEET.

PROVIDE SINGLE OR MULTI-COVER TEMPORARY RAISED PAVEMENT MARKERS AS SHOWN ON PLAN.

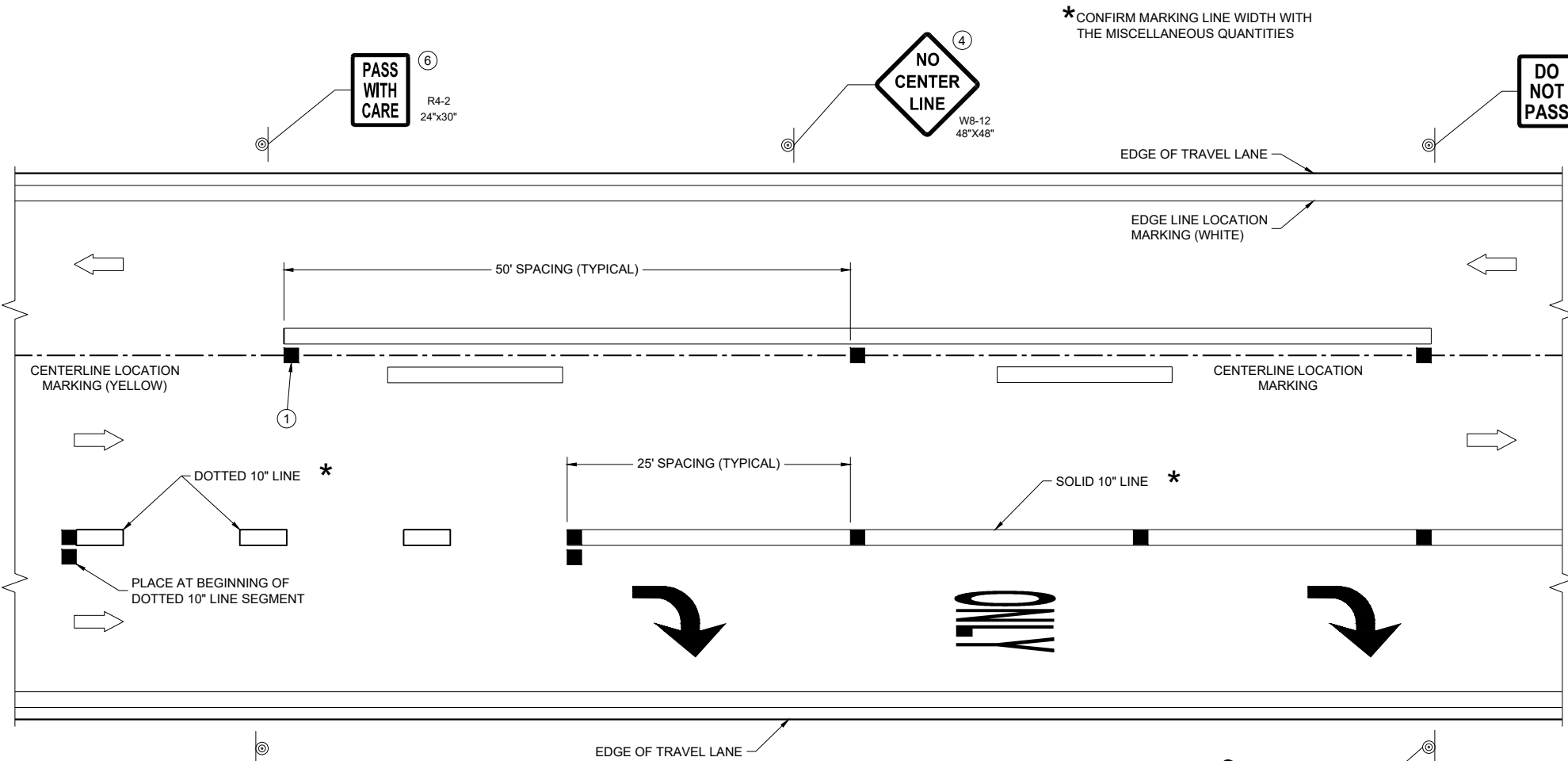
MARK "T"s ON PAVEMENT FOR REESTABLISHING NO PASSING ZONES.

SAME DAY TEMPORARY PAVEMENT MARKING MAY BE USED IN LIEU OF TEMPORARY RAISED PAVEMENT MARKERS, TYPE II.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF TEMPORARY SAME DAY PAVEMENT MARKING IS USED, ENSURE PROPOSED PAVEMENT MARKING ARE PLACED IN THE EXACT LOCATIONS AS THE EXISTING MARKINGS, USING A MINIMAL AMOUNT OF TEMPORARY RAISED MARKERS, TYPE II OR OTHER METHODS AS APPROVED BY THE ENGINEER.

IF ROADWAY IS DETOURED DURING CONSTRUCTION, THE "DO NOT PASS," "PASS WITH CARE" AND "NO CENTERLINE" SIGNS MAY BE OMITTED, PROVIDING A LIQUID MARKING IS INSTALLED BEFORE THE ROADWAY IS REOPENED TO TRAFFIC.



LONGITUDINAL PLACEMENT 6 - INCH LANE LINE AND 10 - INCH CHANNEL LINE

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

- FOR DOUBLE SOLID YELLOW, PLACE THE MARKERS BETWEEN THE LINES.
- MARKERS SHALL BE OF POLYURETHANE MATERIAL.
- MARKERS SHALL HAVE A MINIMUM SIZE REFLECTIVE SURFACE OF 6-INCH WIDTH X 0.25 INCH HEIGHT.
- "NO CENTER LINE" SIGNS SHALL BE PLACED AT THE BEGINNING OF PROJECT, AT TWO MILE INTERVALS AND AFTER STATE AND COUNTY HIGHWAY INTERSECTIONS.
- "DO NOT PASS" SIGNS SHALL BE INSTALLED AT THE BEGINNING OF NO PASSING ZONES. ADDITIONAL "DO NOT PASS" SIGNS SHALL BE INSTALLED AT ONE MILE INTERVALS AND AFTER STATE AND COUNTY HIGHWAY INTERSECTIONS WITHIN THE NO PASSING ZONE.
- "PASS WITH CARE" SIGNS SHALL BE PLACED AT THE DOWNSTREAM END OF NO PASSING ZONES.

LEGEND

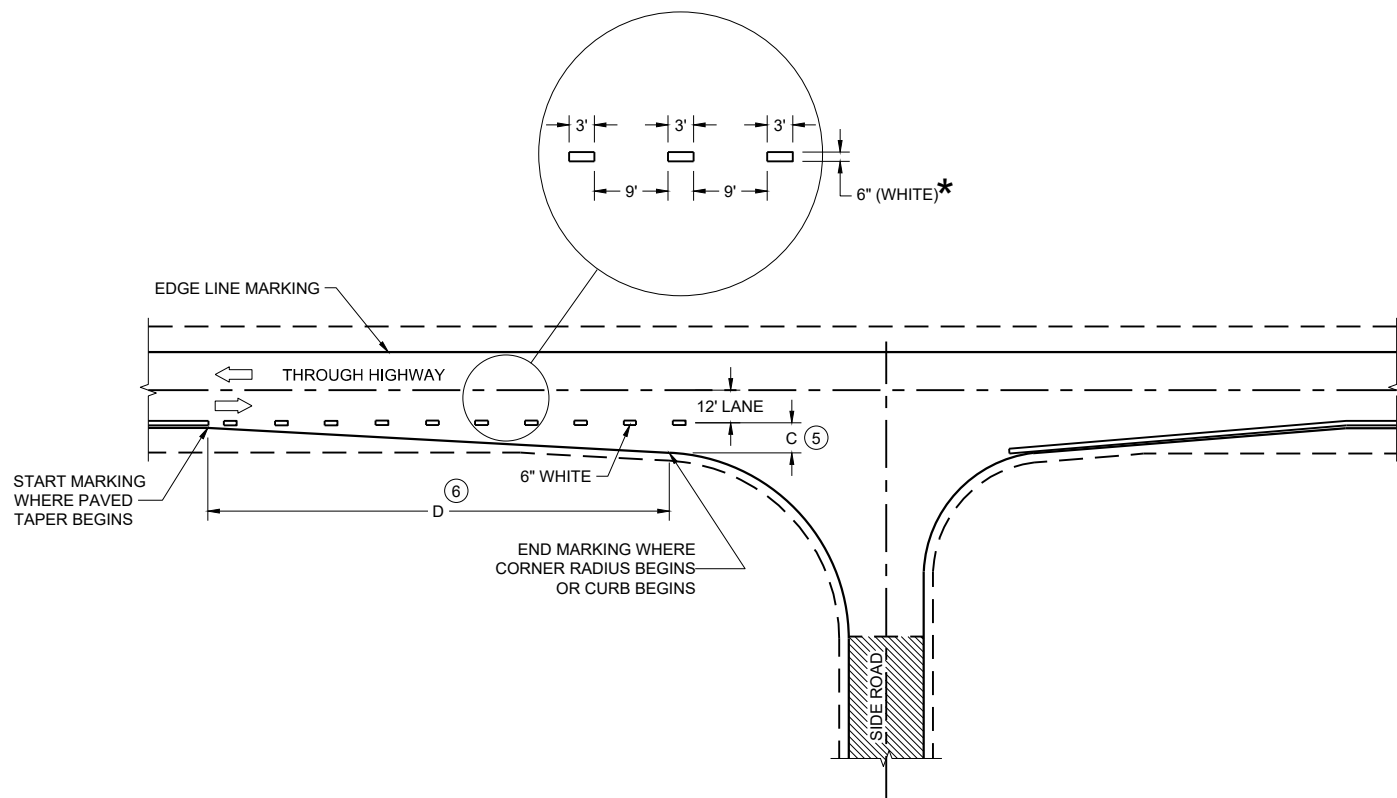
- TEMPORARY RAISED PAVEMENT MARKER, TYPE II
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC.

STANDARD APPLICATION FOR TEMPORARY RAISED PAVEMENT MARKERS, TYPE II

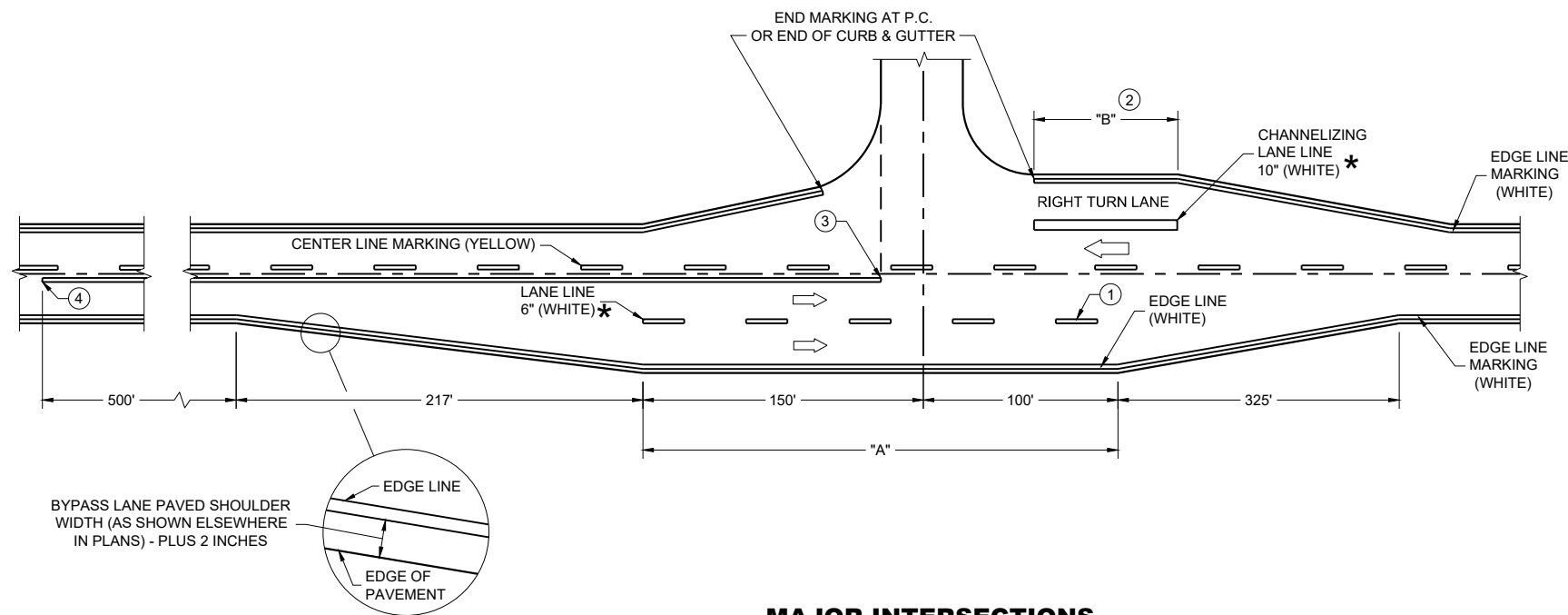
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Matthew Rauch
DATE 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

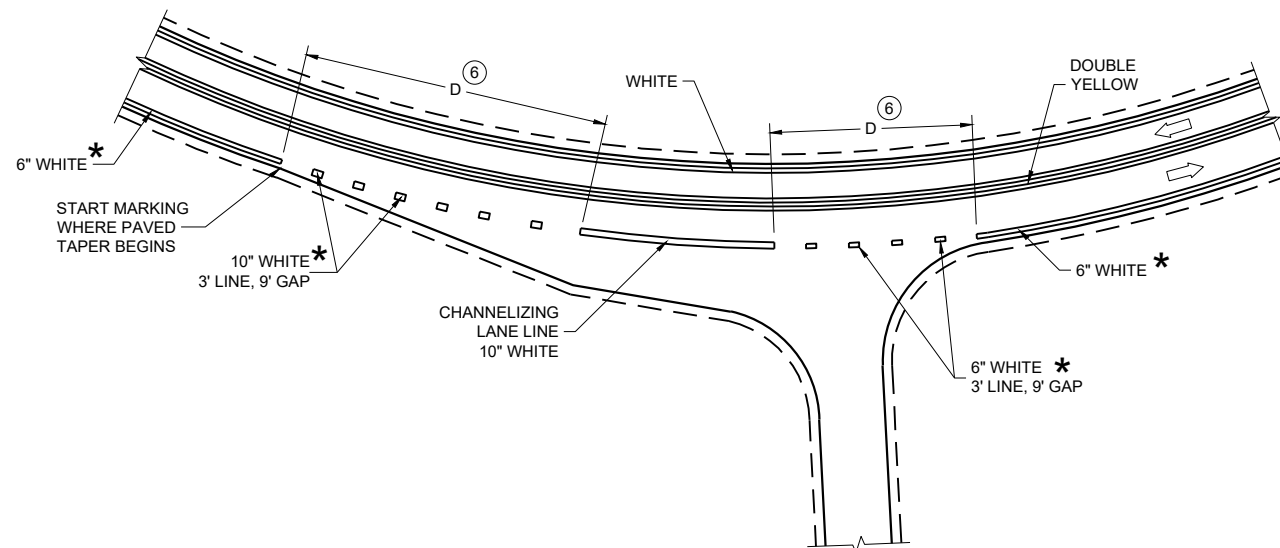
GENERAL NOTES

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.

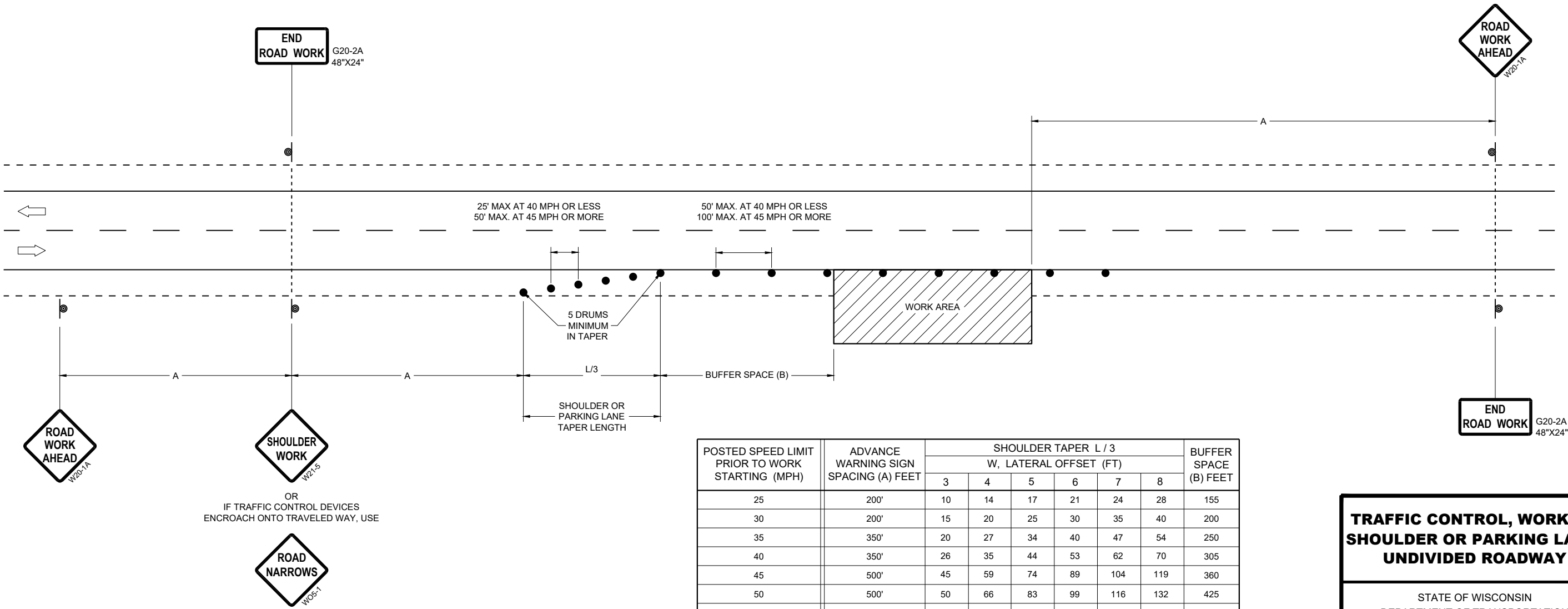
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

6

SDD 15D28-05



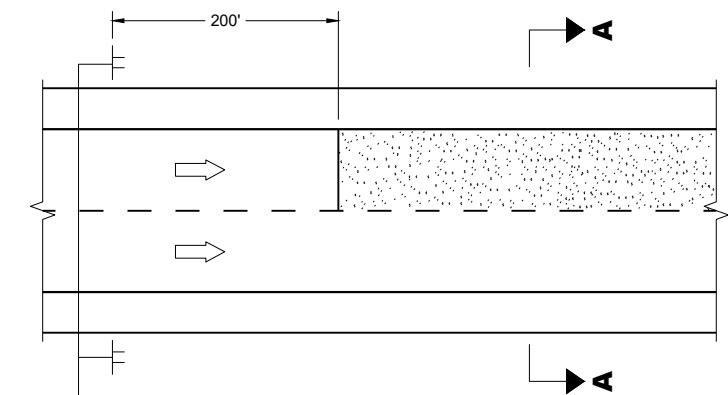
6

SDD 15D28-05

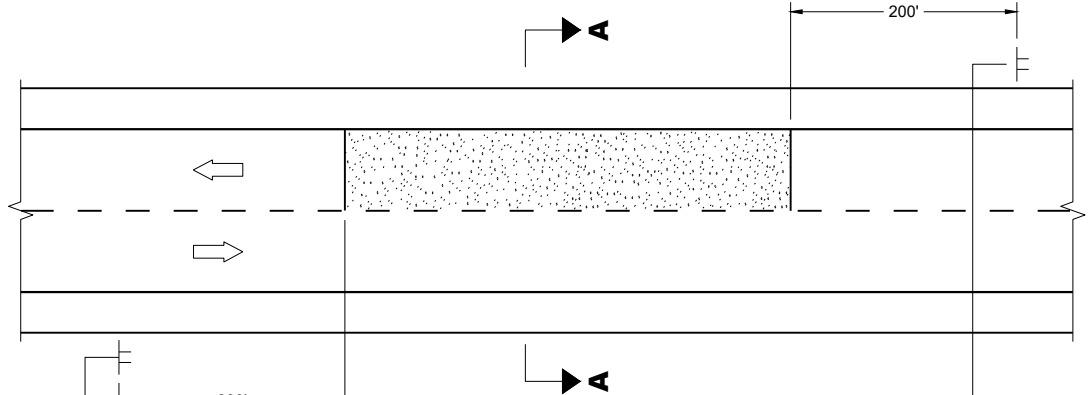
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED November 2025 /S/ ANDREW HEIDTKE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER



MULTI-LANE

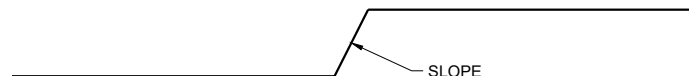


TWO-WAY TWO LANE

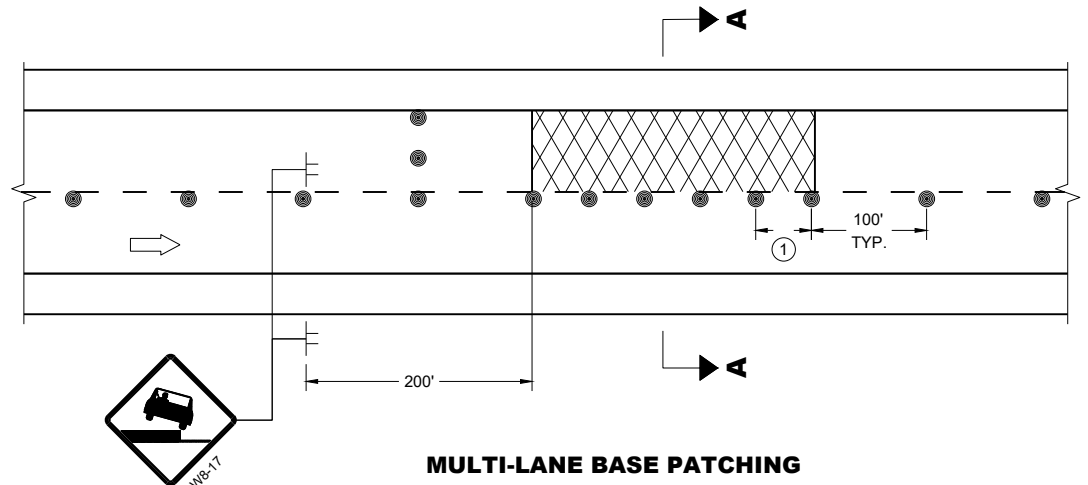


SECTION A - A

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.

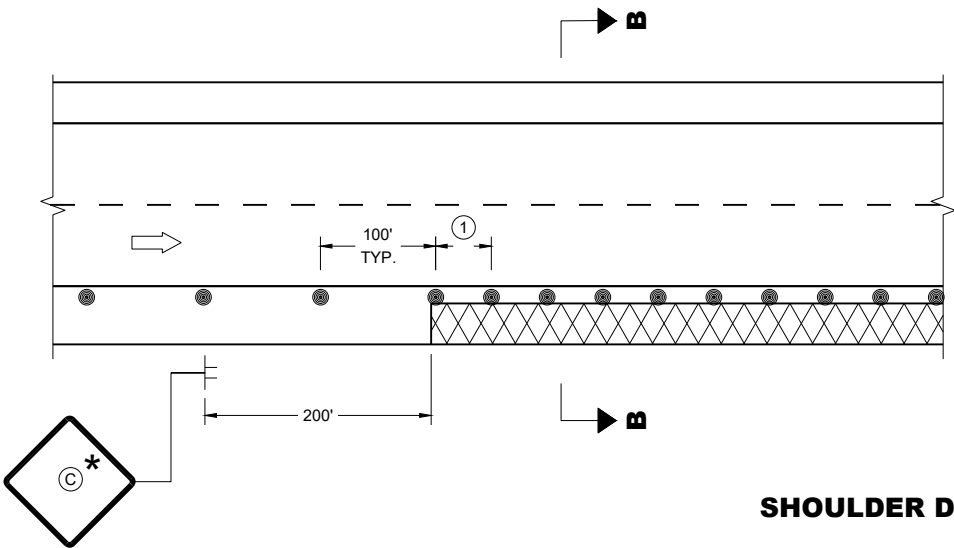
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

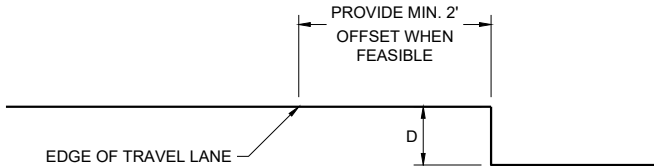
① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

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 ©
< 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

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.

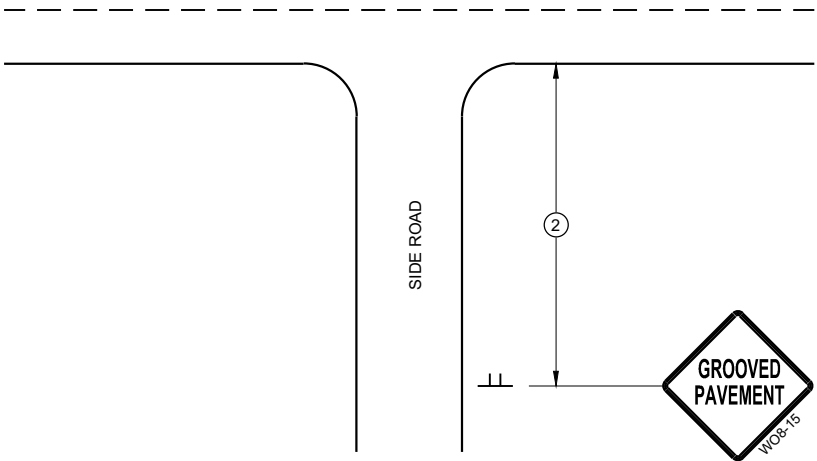
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

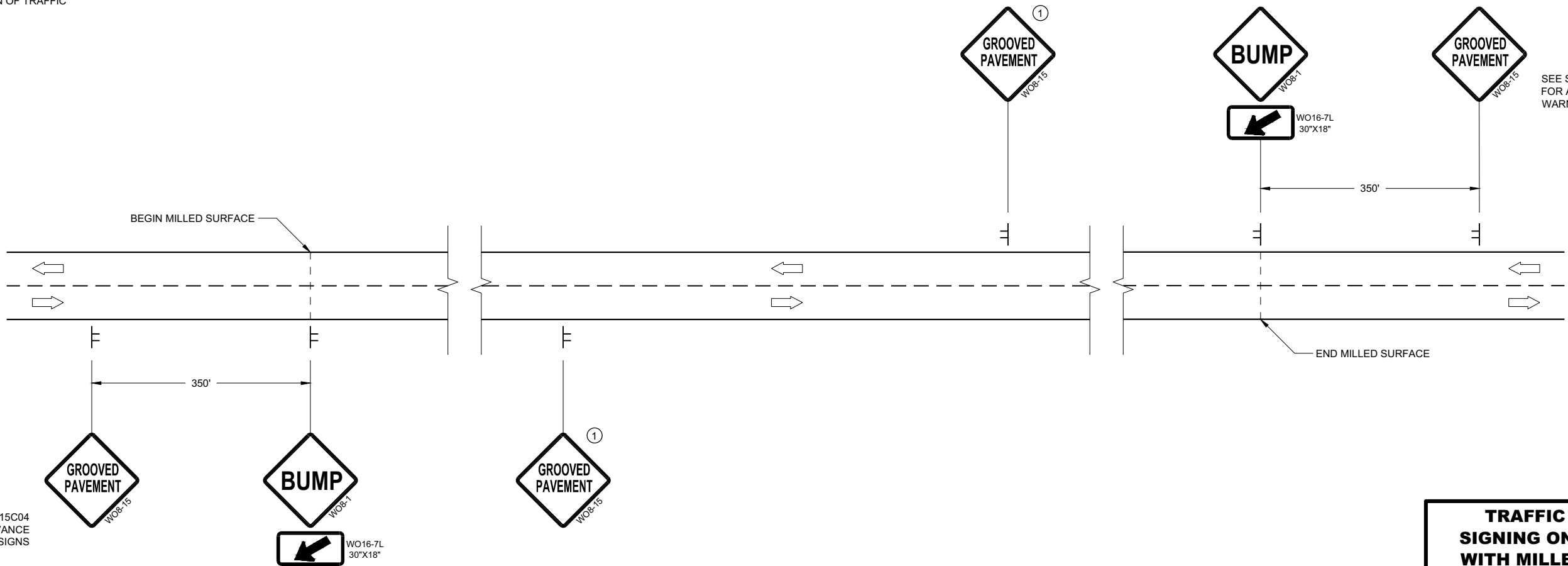
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 71

FHWA

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.

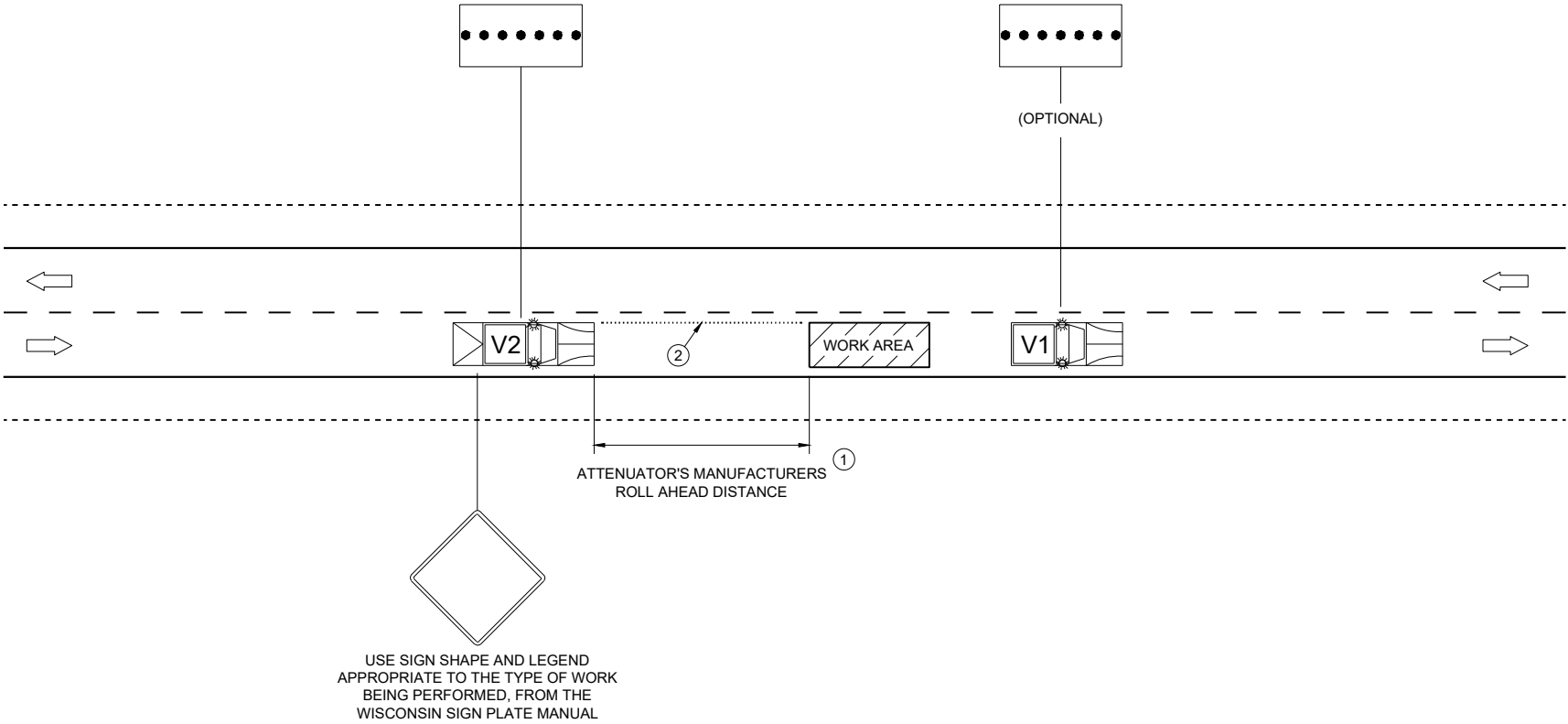
USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

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

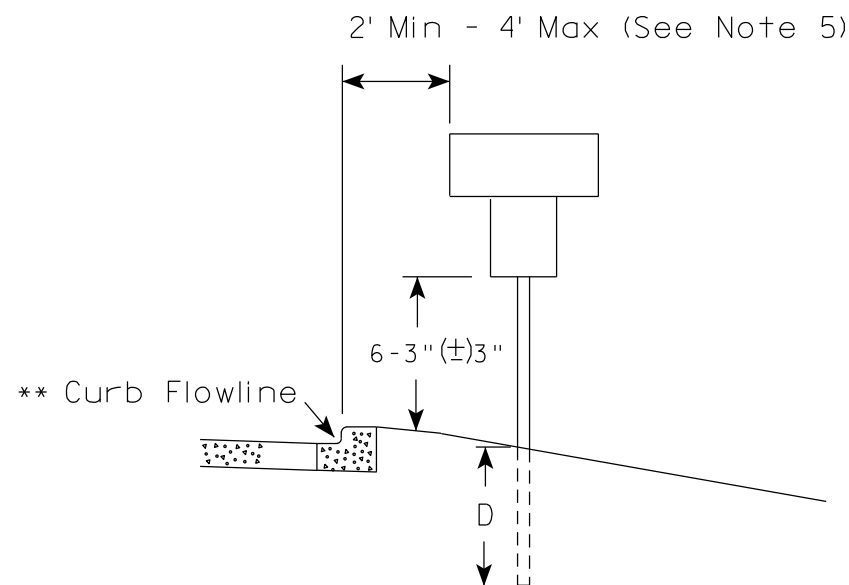
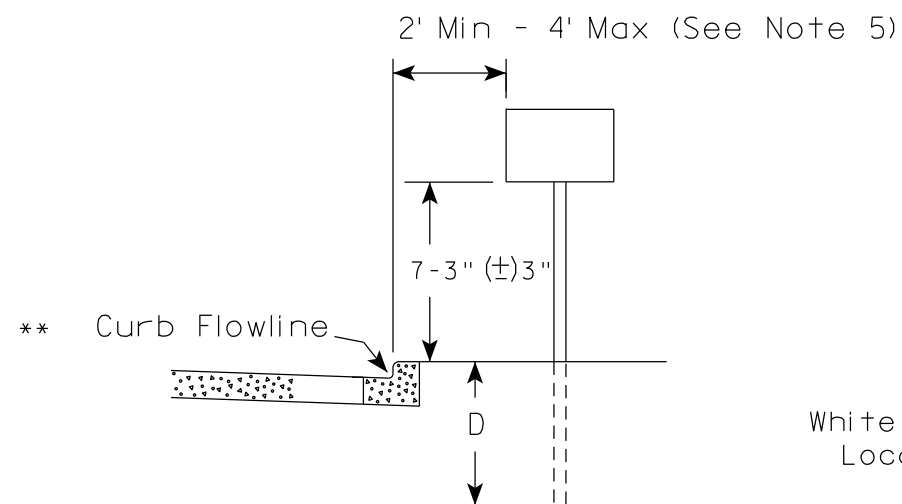
DATE

/S/ Andrew Heidtke

STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

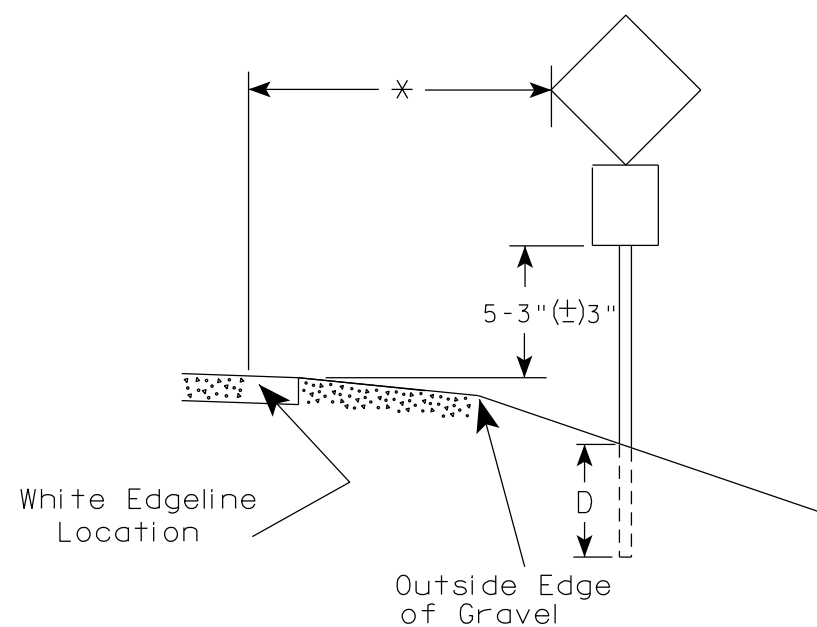
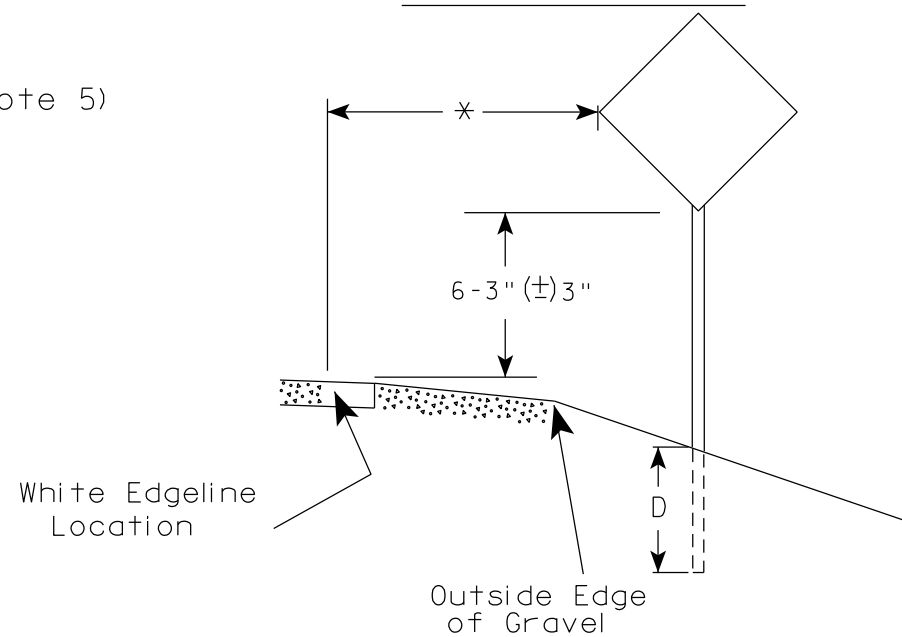
FHWA

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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.

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 directed by the Engineer.

POST EMBEDMENT DEPTH

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

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

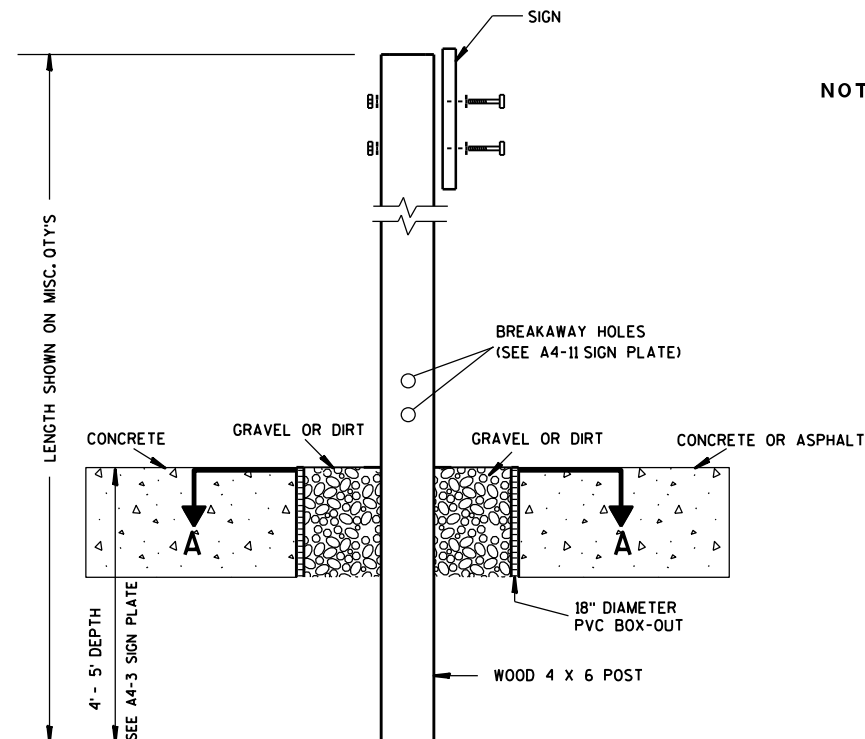
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 73

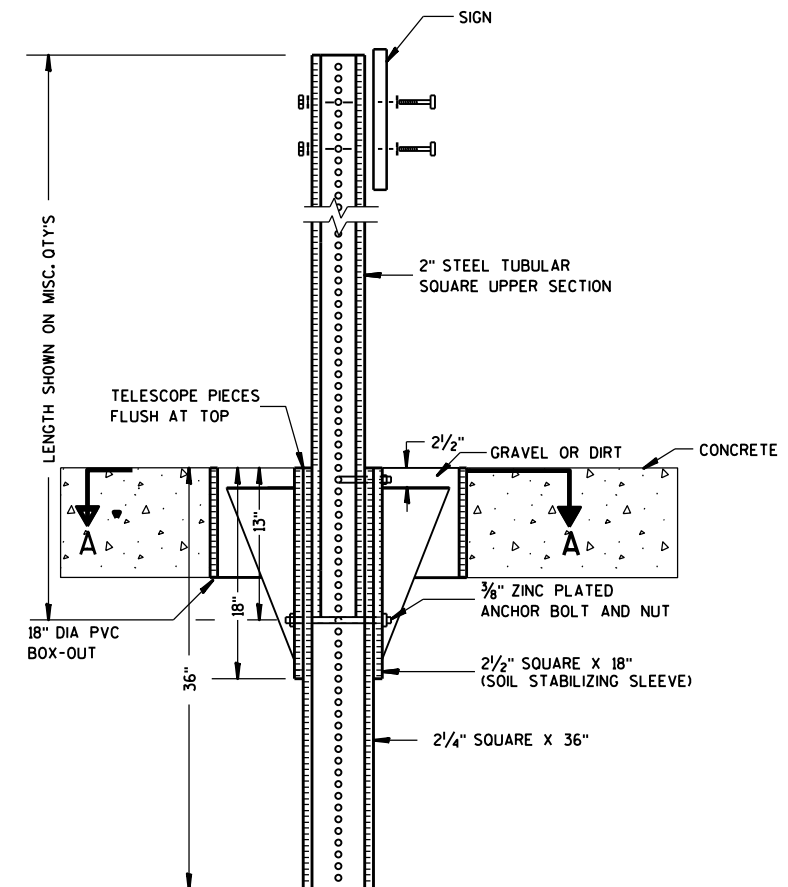
E



ELEVATION VIEW

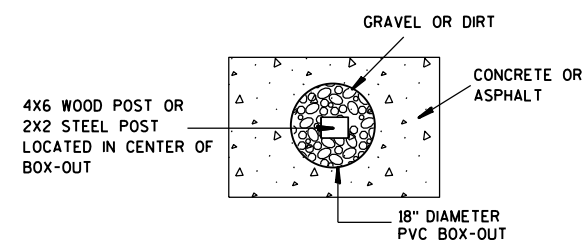
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 74 A4-3B.1

PROJECT NO:

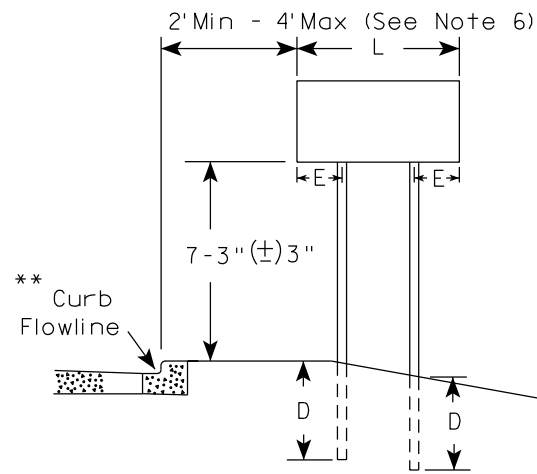
HWY:

COUNTY:

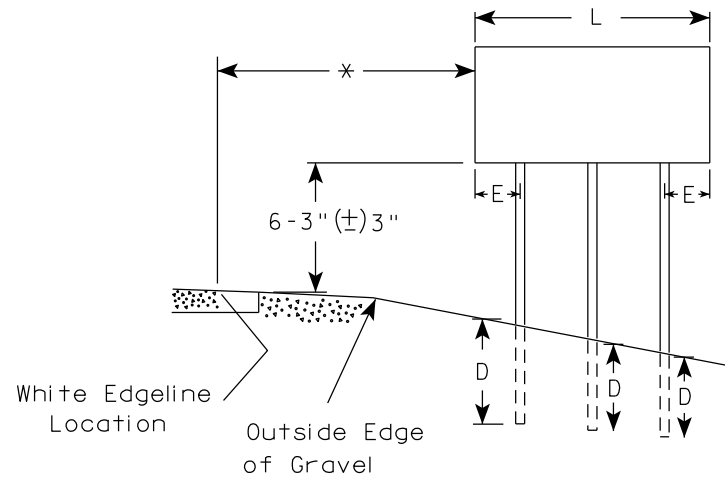
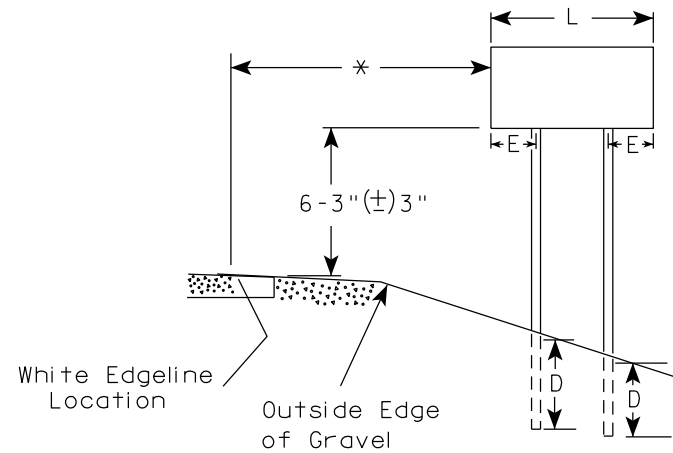
SHEET NO:

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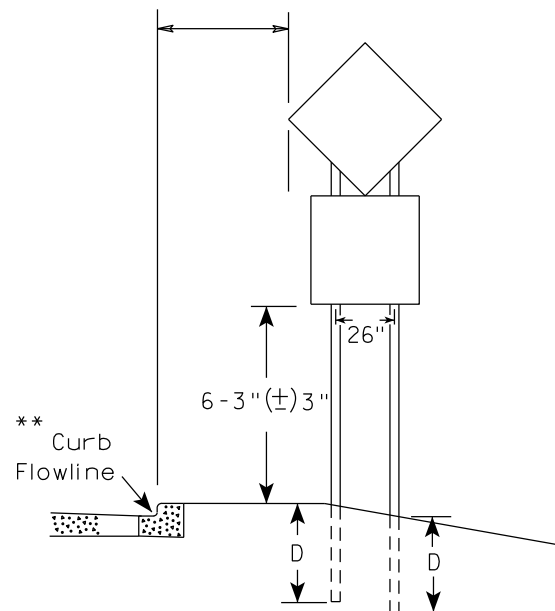
URBAN AREA



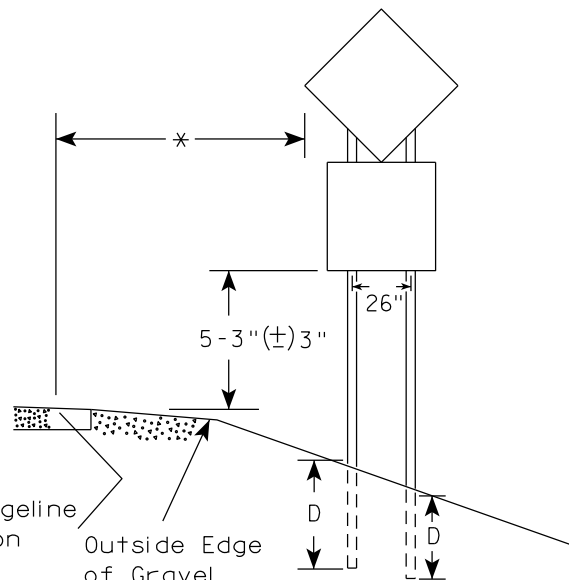
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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

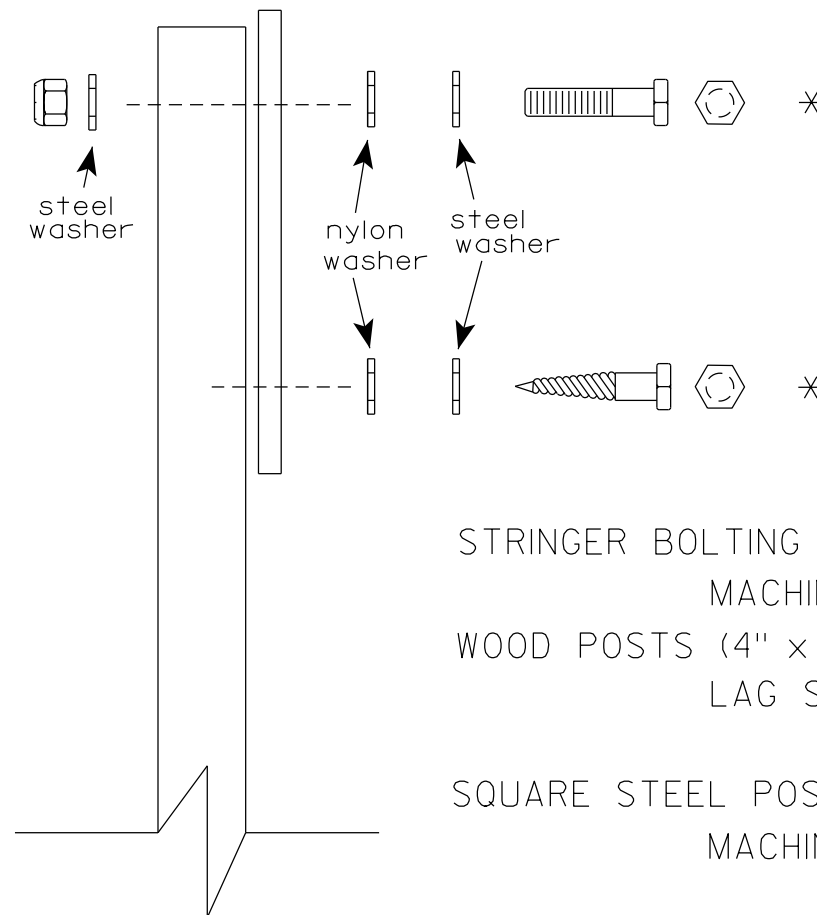
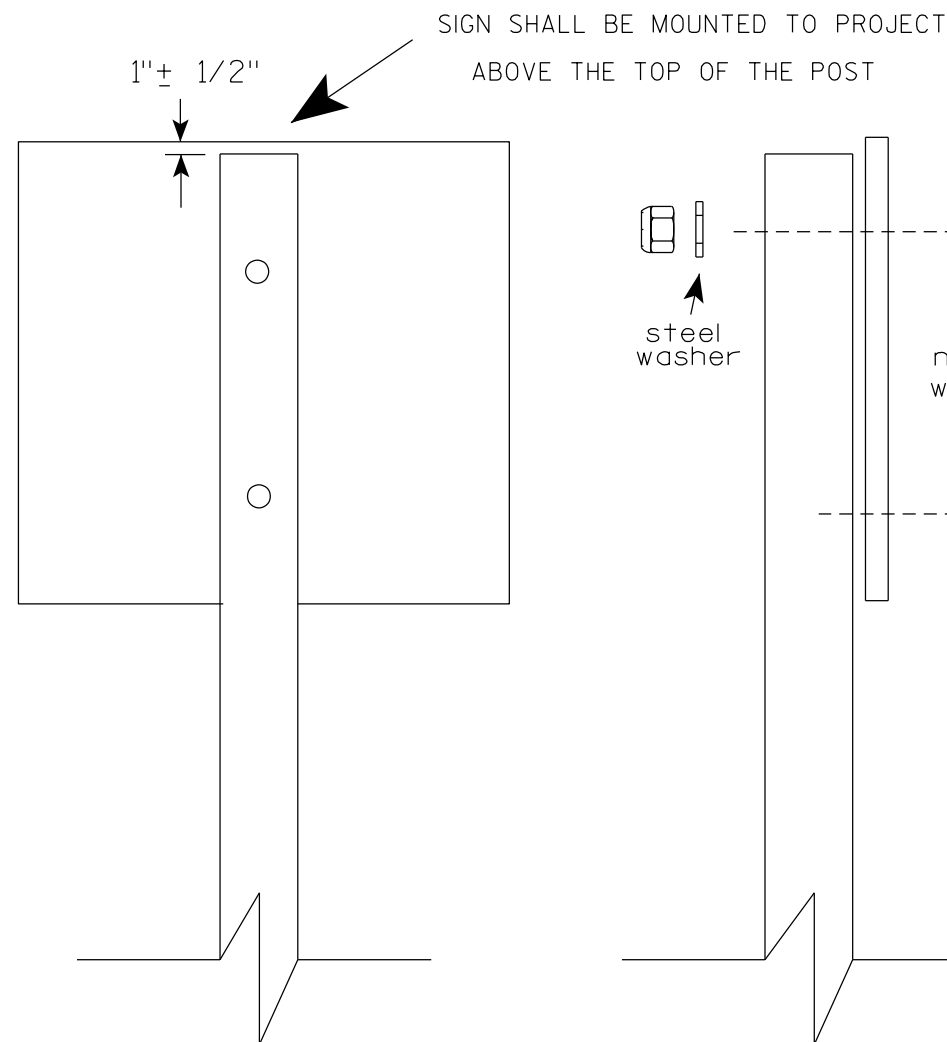
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 75

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 - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**

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

2 1/2" TELES PAR TUBE

4"

2 1/2"

10"

1 1/2"

12 1/2"

4" x 10" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELES PAR TUBE

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: LENGTH SHOWN ON MISC. QTY'S
- Section 1: 2" STEEL TUBULAR SQUARE UPPER SECTION
- Section 2: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Section 3: 2 1/4" SQUARE X 36"
- Section 4: 36" (Total length of the bottom section)
- Section 5: 18"
- Section 6: 12"

End View Details:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 1"
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- TELESCOPE PIECES FLUSH AT TOP

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

A schematic diagram of a square microfluidic chip. It features a central square channel with rounded corners. Four inlet/outlet ports are located at the midpoints of the outer edges of the chip. A central vertical channel runs from the top port, turns 90 degrees to the right, and then continues horizontally to the right port. The chip is represented by three concentric square outlines.

DIRECTION
OF TRAFFIC

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 PLATI 77 14-9.9

PROJECT NO:

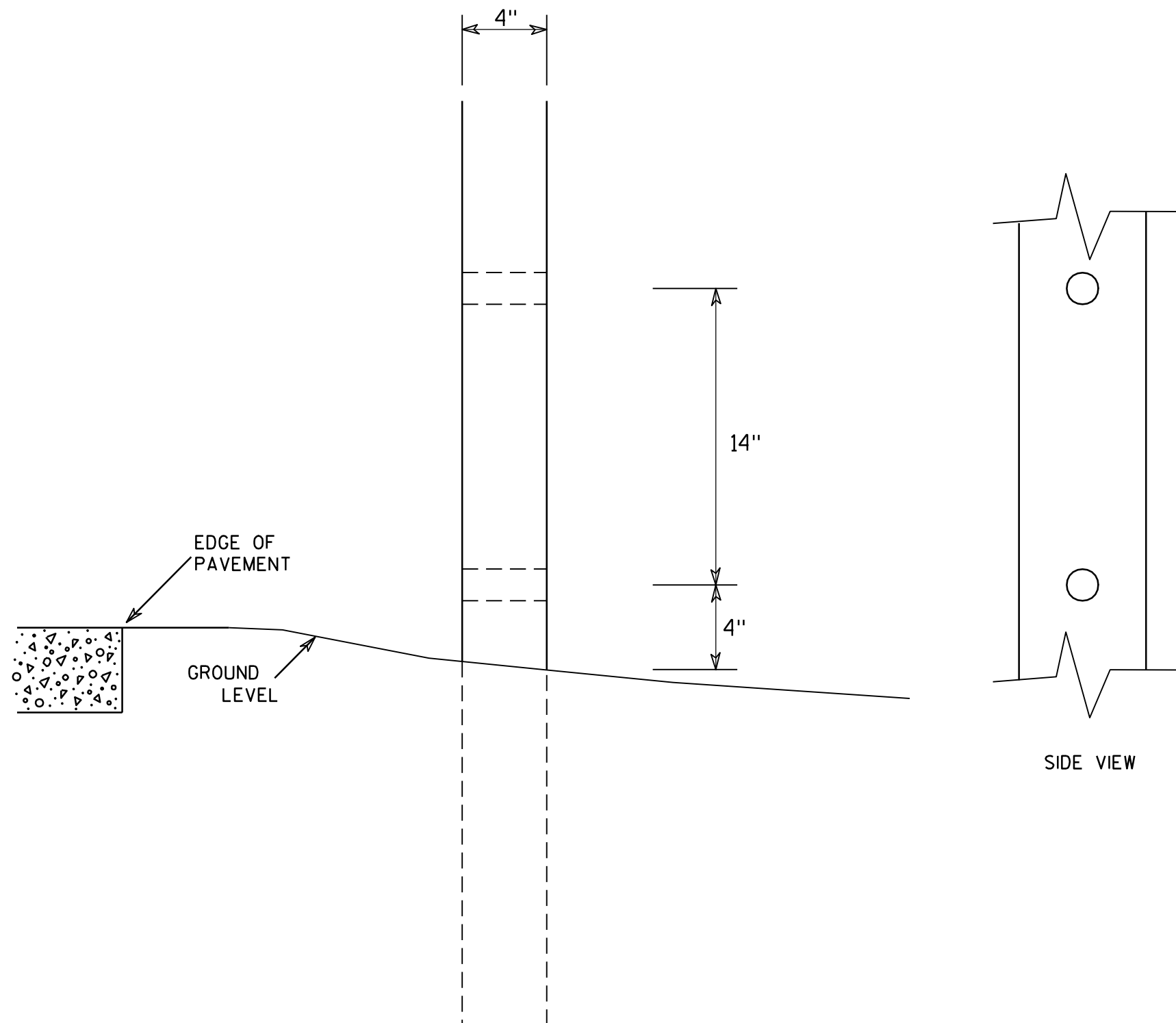
HWY:

COUNTY:

SHEET NO:

T

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

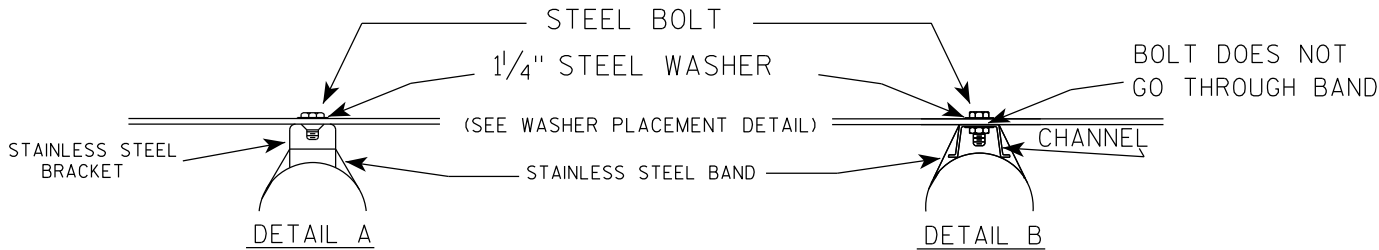
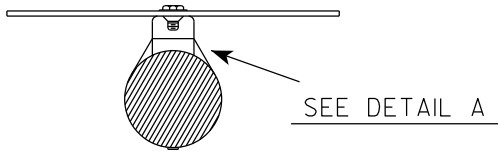
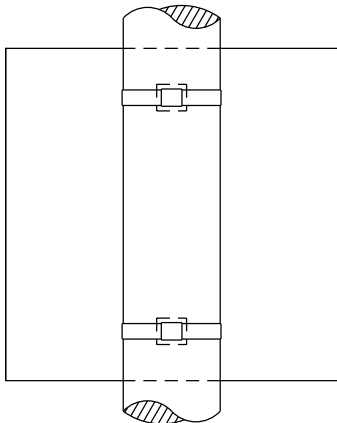
COUNTY:

SHEET NO: 78

E

BANDING

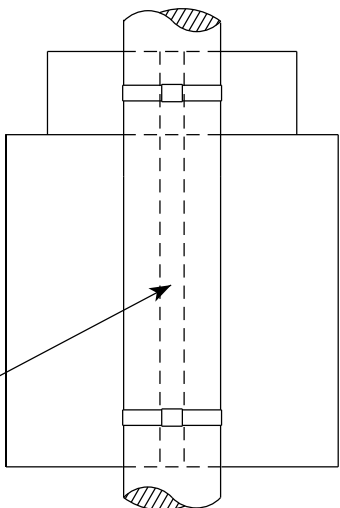
SINGLE SIGN



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 $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

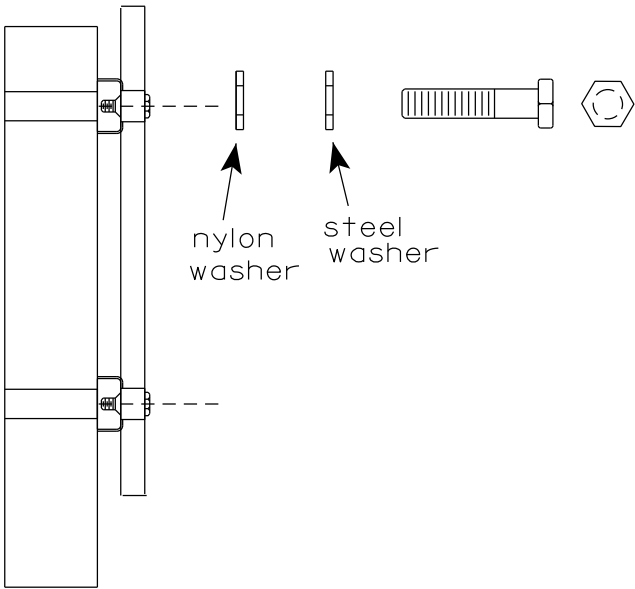
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

WASHER PLACEMENT

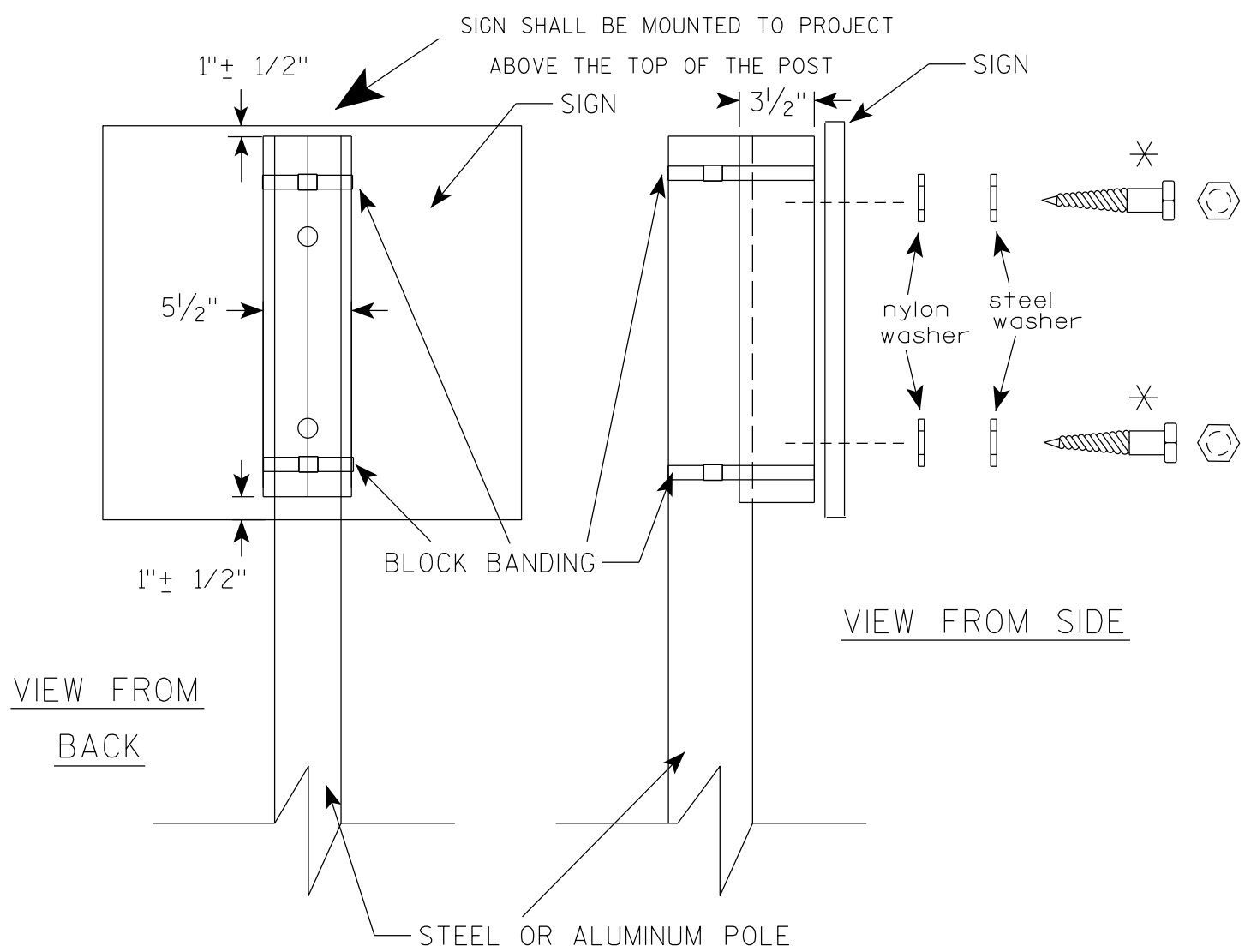


WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

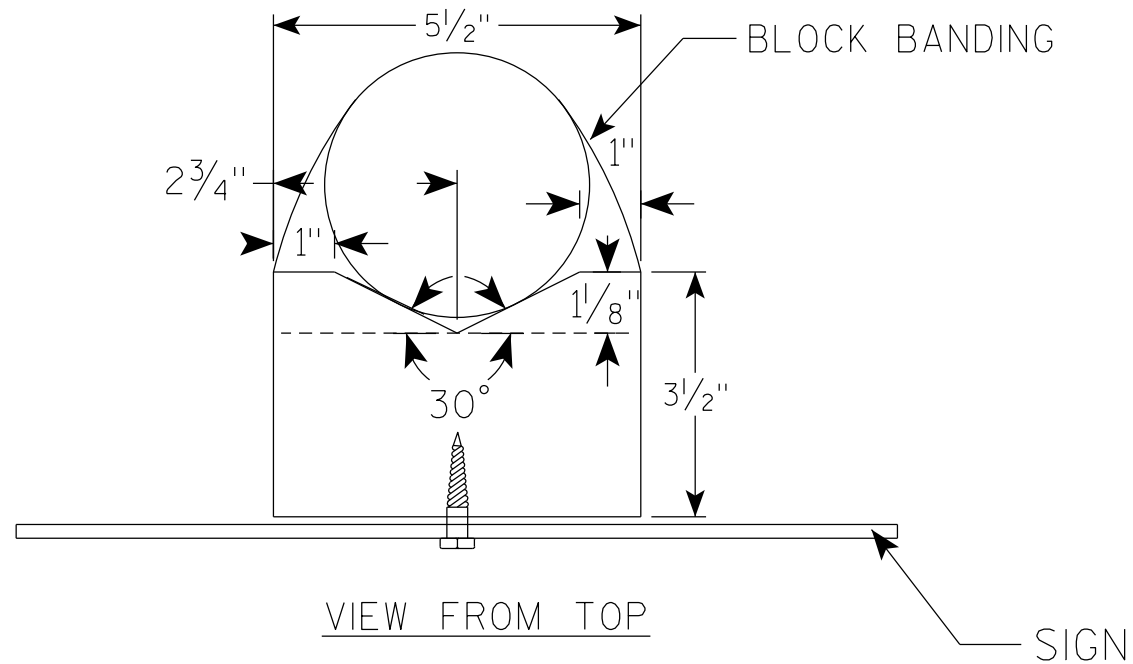
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

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

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

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 80

E

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.



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

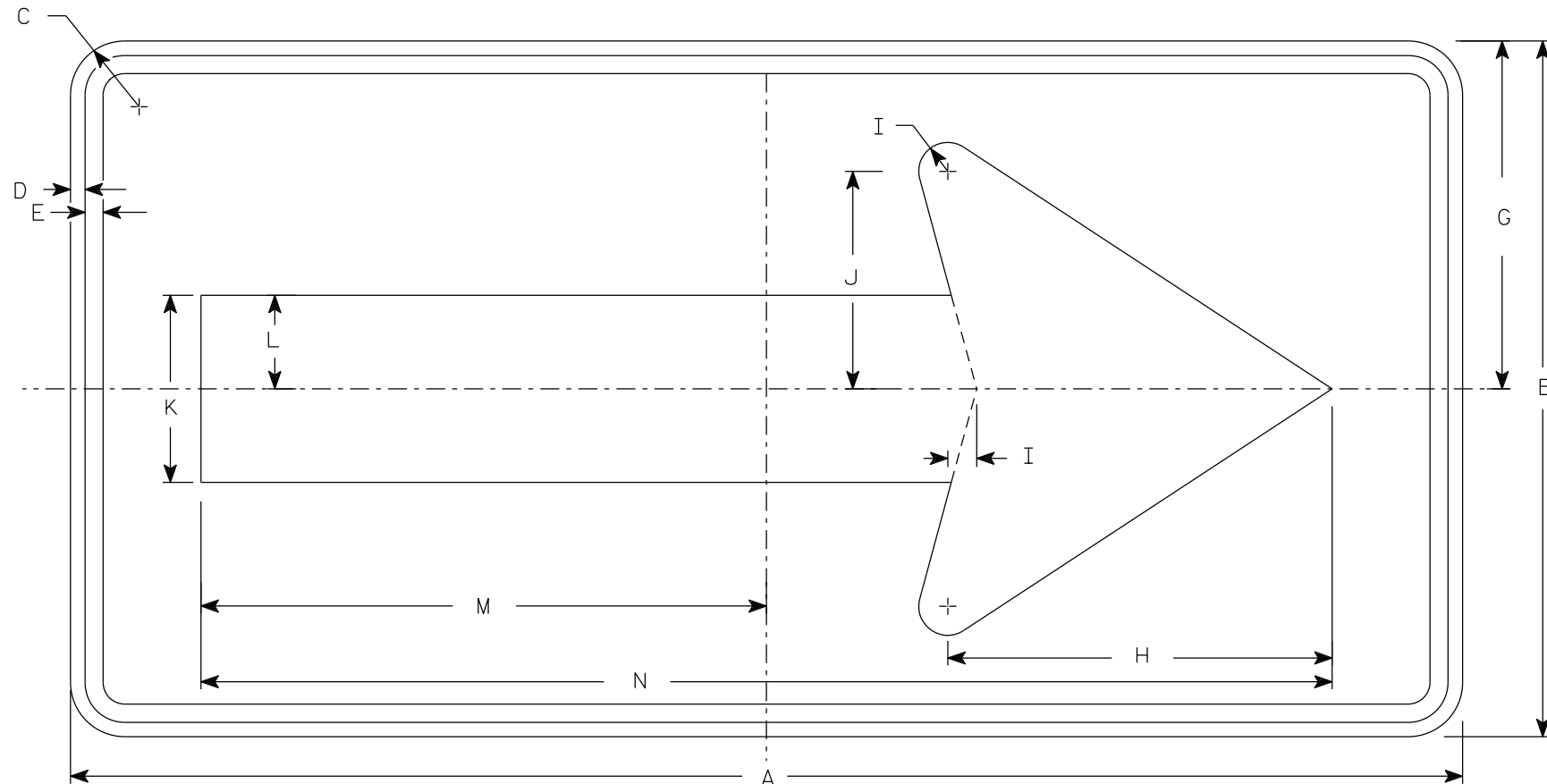
DATE 1/22/19 PLATE NO. G20-57.3

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black



W1-6

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	3	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

STANDARD SIGN

W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/13/2023 PLATE NO. W1-6.9

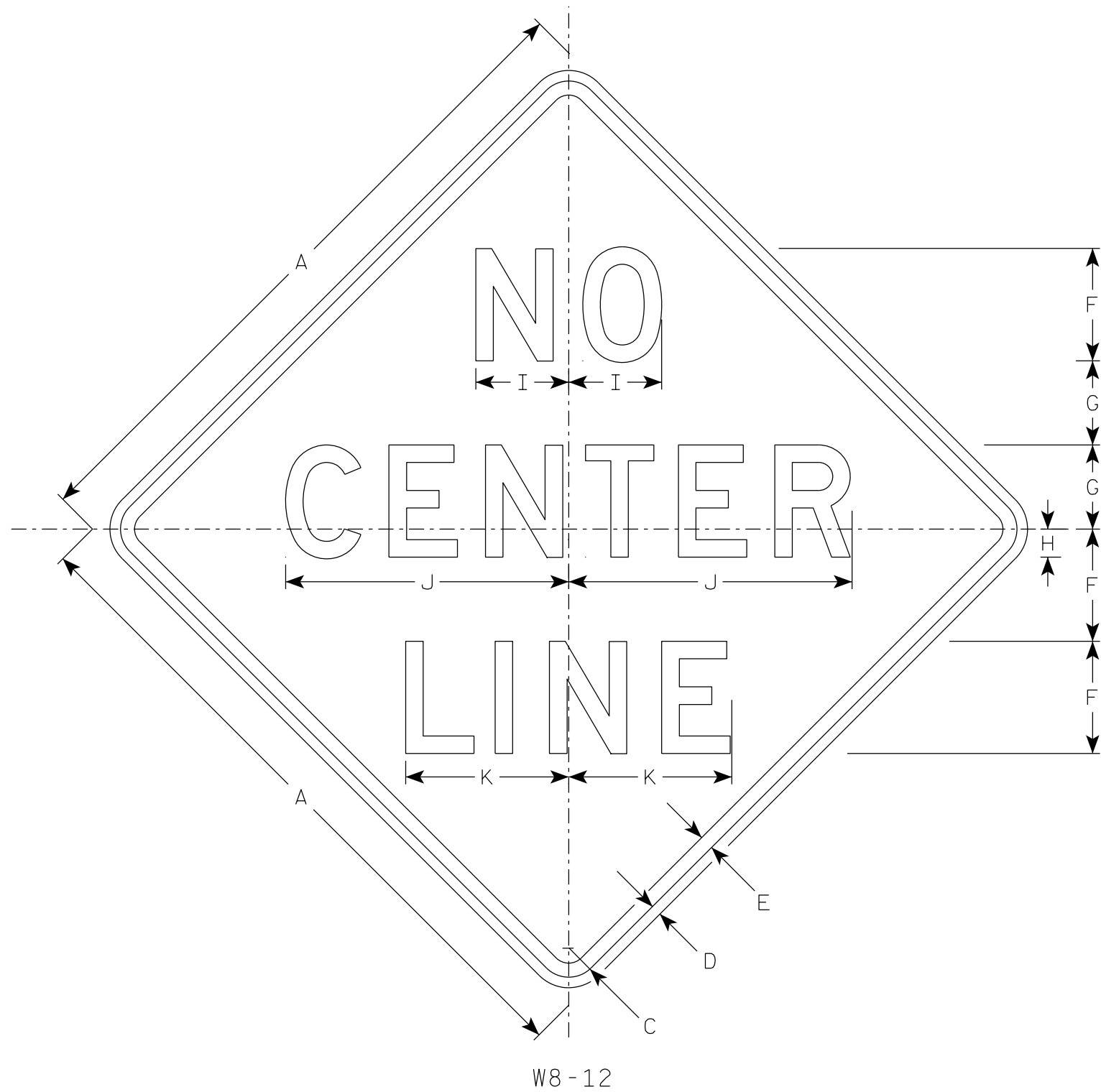
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 82

E



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	4 1/2	1 1/2	5 1/8	16	9																9.0
2S	48		3	3/4	1	8	6	2	6 5/8	20 1/4	11 5/8																16.0
2M	48		3	3/4	1	8	6	2	6 5/8	20 1/4	11 5/8																16.0
3	48		3	3/4	1	8	6	2	6 5/8	20 1/4	11 5/8																16.0
4	48		3	3/4	1	8	6	2	6 5/8	20 1/4	11 5/8																16.0
5	48		3	3/4	1	8	6	2	6 5/8	20 1/4	11 5/8																16.0

STANDARD SIGN
W8-12

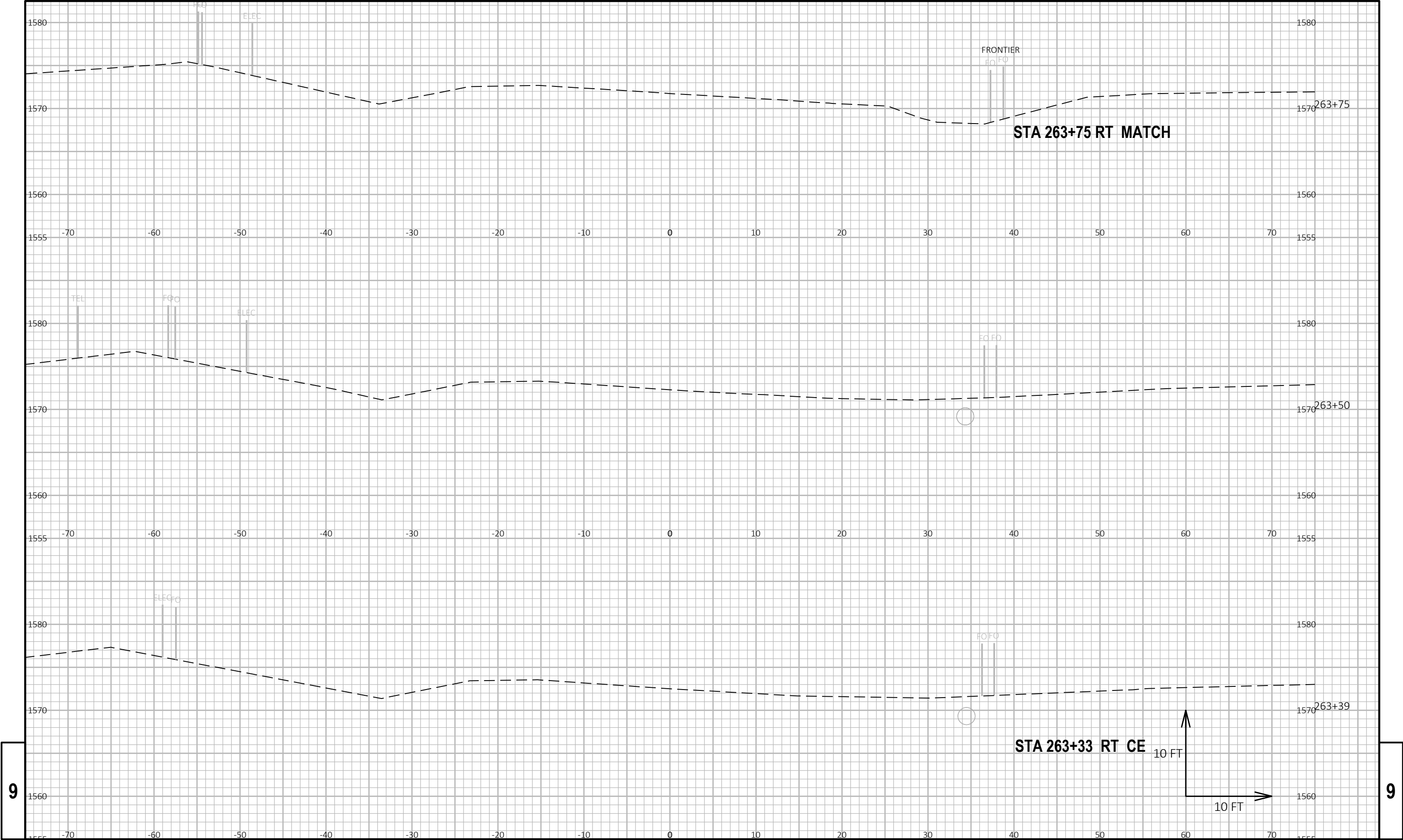
WISCONSIN DEPT OF TRANSPORTATION

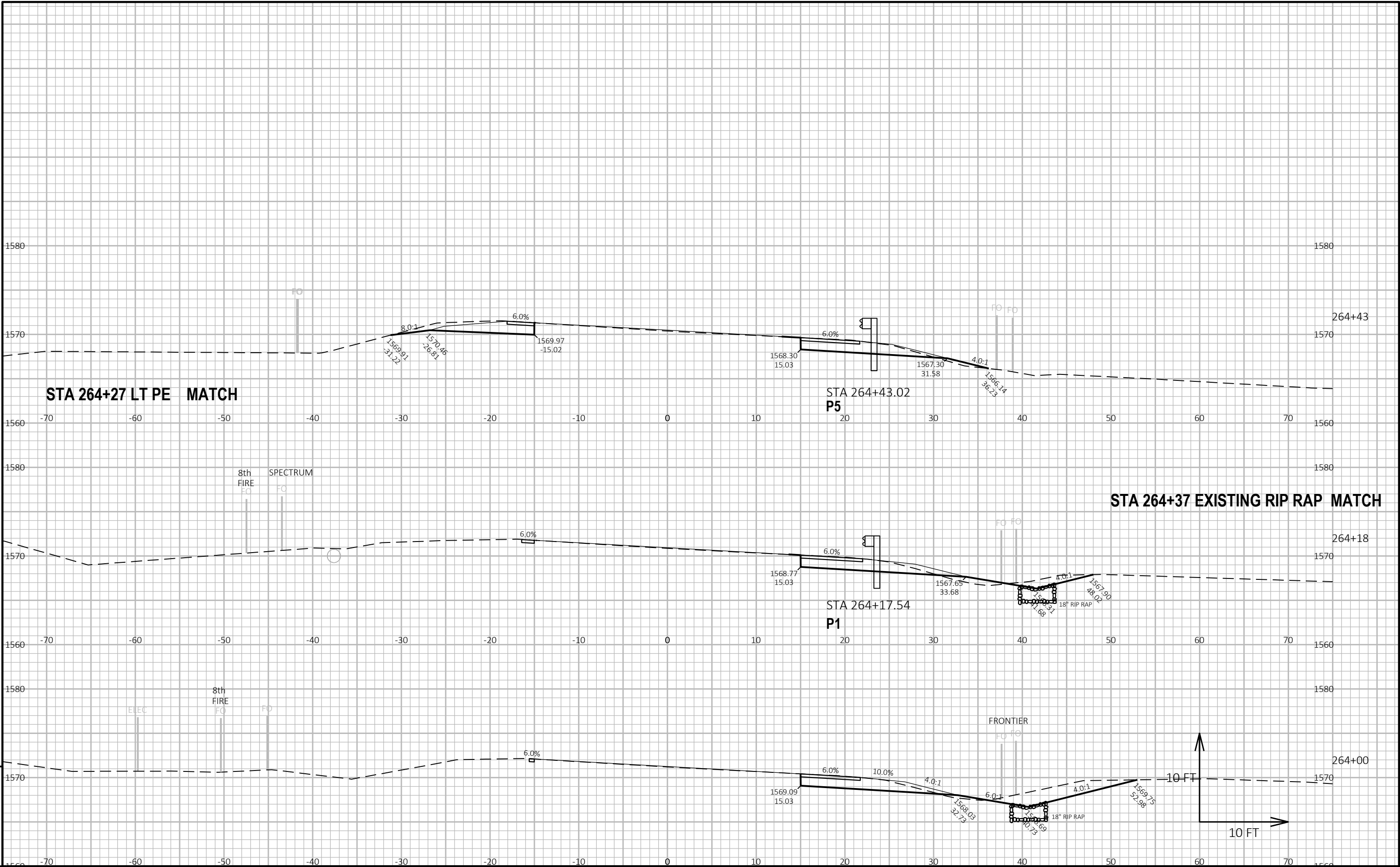
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

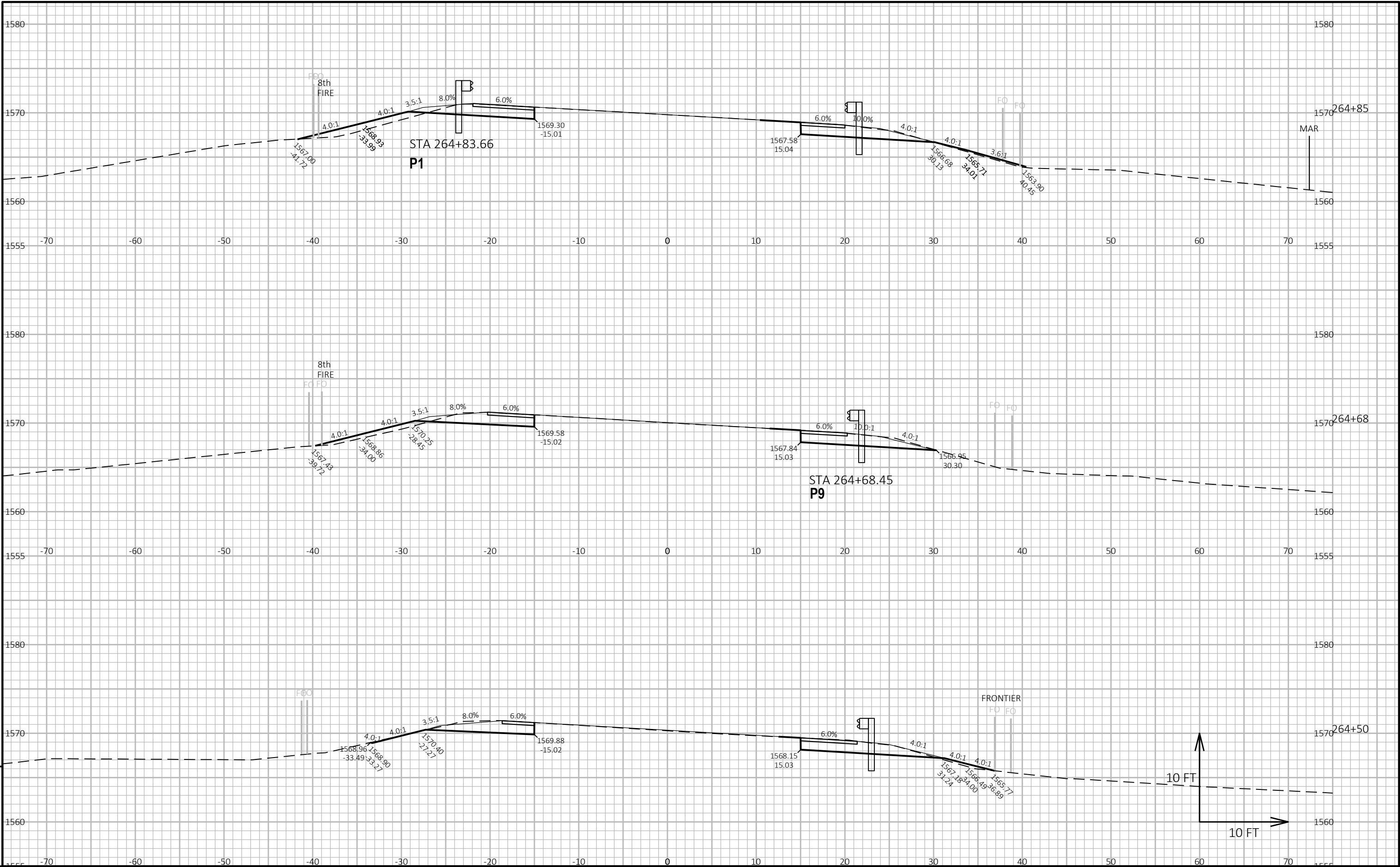
DATE 10/26/2023 PLATE NO. W8-12.5

DIVISION 1 - STH 70													
STATION	REAL STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT/ASPHALT MATERIAL	FILL	EBS	CUT	SALVAGED/UNUSABLE PAVEMENT/ASPHALT MATERIAL	FILL	EBS	CUT	EXPANDED FILL	MASS ORDINATE
											1.00	1.30	
							NOTE 1	NOTE 2	NOTE 3		NOTE 1		NOTE 8
263+75.00	26375.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0
264+00.00	26400.00	25.00	34.07	2.92	1.11	0.00	16	1	1	0	16	1	14
264+18.00	26418.00	18.00	22.21	5.83	3.19	0.00	19	3	1	0	35	3	28
264+43.00	26443.00	25.00	31.55	5.83	1.45	0.00	25	5	2	0	60	5	46
264+50.00	26450.00	7.00	29.40	5.83	1.38	0.00	8	2	0	0	68	5	52
264+68.00	26468.00	18.00	28.98	5.83	5.25	0.00	19	4	2	0	87	8	64
264+85.00	26485.00	17.00	28.39	5.83	10.48	0.00	18	4	5	0	105	14	72
265+08.00	26508.00	23.00	26.95	5.83	9.38	0.00	24	5	8	0	129	25	80
265+23.00	26523.00	15.00	26.54	5.83	7.95	0.00	15	3	5	0	144	31	86
265+33.00	26533.00	10.00	26.63	5.83	0.06	0.00	10	2	1	0	154	33	93
265+45.00 MATCH	26545.00	12.00	27.37	5.83	0.81	0.00	12	3	0	0	166	33	102
265+77.00	26577.00	0.00	22.86	5.83	2.18	0.00	0	0	0	0	166	33	102
265+89.83	26589.83	0.00	21.39	5.83	0.67	0.00	0	0	0	0	166	33	102
266+22.00 MATCH	26622.00	32.17	25.07	5.83	12.33	0.00	28	7	8	0	194	43	112
266+37.00	26637.00	15.00	24.78	5.83	8.19	0.00	14	3	6	0	208	51	115
266+53.00	26653.00	16.00	26.38	5.83	0.33	0.00	15	3	3	0	223	55	123
266+78.00	26678.00	25.00	28.64	5.83	0.09	0.00	25	5	0	0	248	55	143
267+03.00	26703.00	25.00	31.59	5.83	0.00	0.00	28	5	0	0	276	55	166
267+25.00	26725.00	22.00	13.15	5.83	0.00	0.00	18	5	0	0	294	55	179
267+50.00	26750.00	25.00	15.10	2.92	0.00	0.00	13	4	0	0	307	55	188
267+72.00	26772.00	22.00	12.39	2.92	0.59	0.00	11	2	0	0	318	55	197
268+00.00	26800.00	28.00	11.28	2.92	11.56	0.00	12	3	6	0	330	62	199
268+21.00	26821.00	21.00	10.33	0.00	30.28	0.00	8	1	16	0	338	83	185
268+50.00	26850.00	29.00	10.12	0.00	17.90	0.00	11	0	26	0	350	117	162
							TOTAL	70					

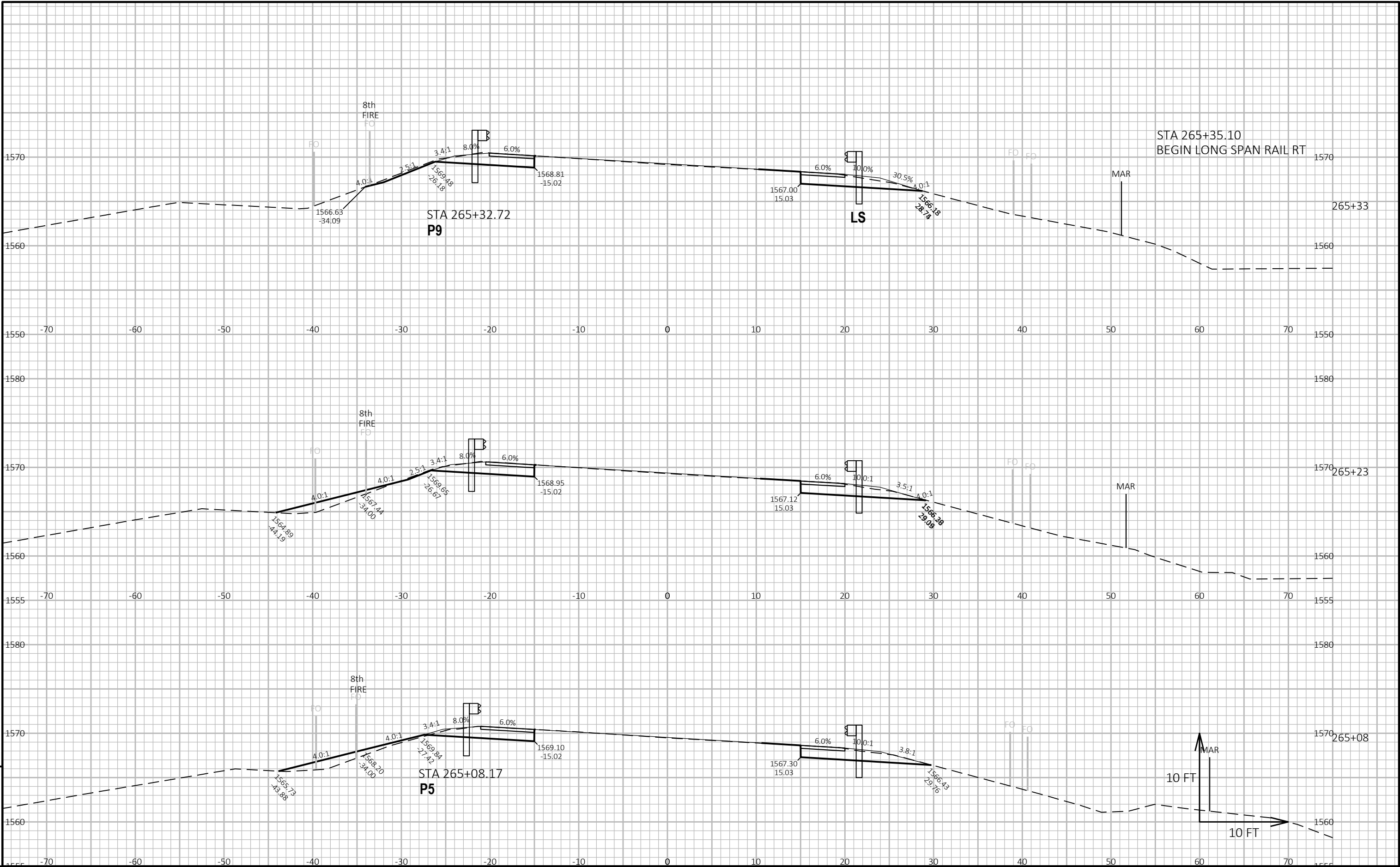
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF EBS TO BE BACKFILLED WITH COMMON: [(CUT - SALVAGED PAVT - EXPANDED EBS) * FILL FACTOR)]

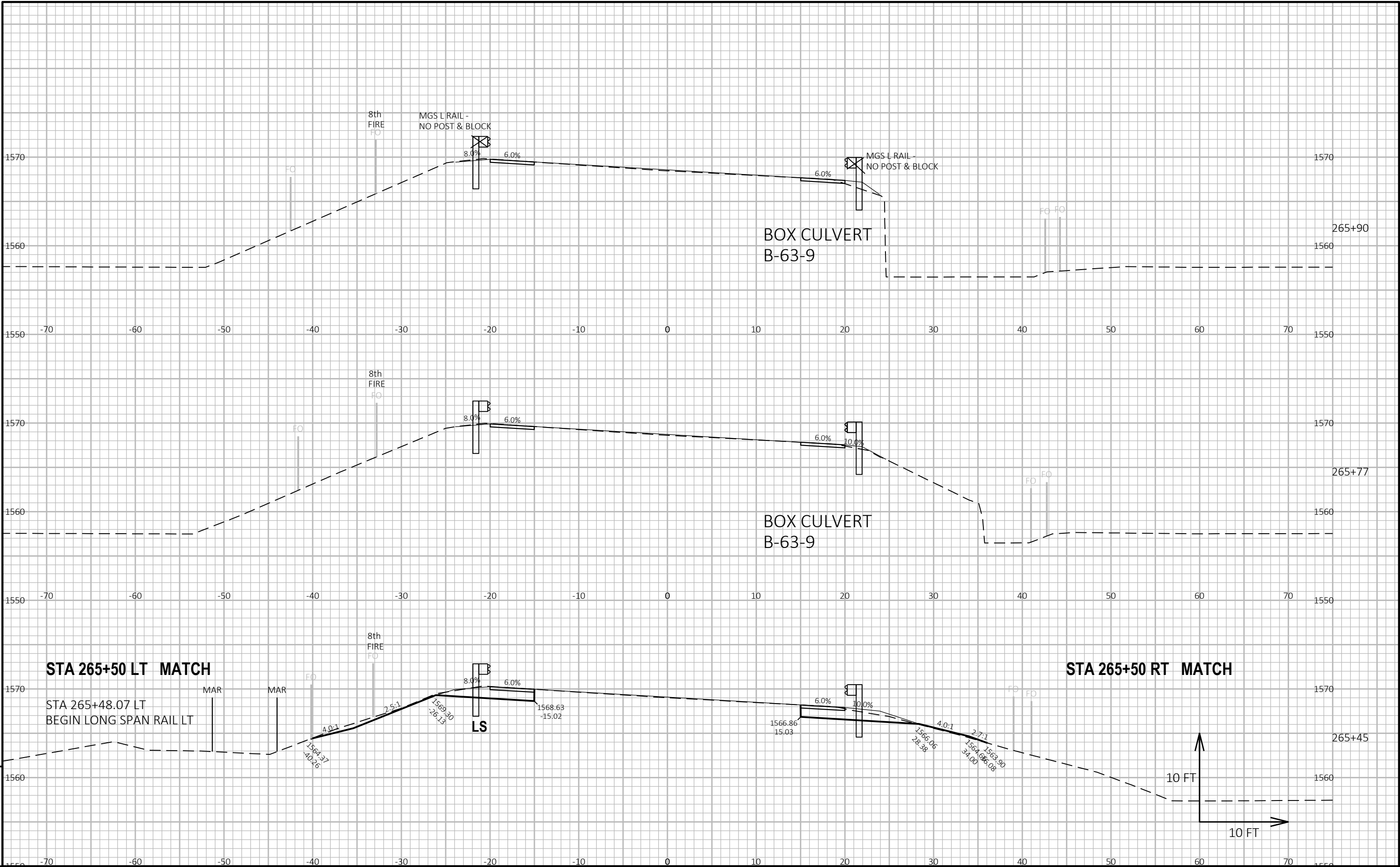


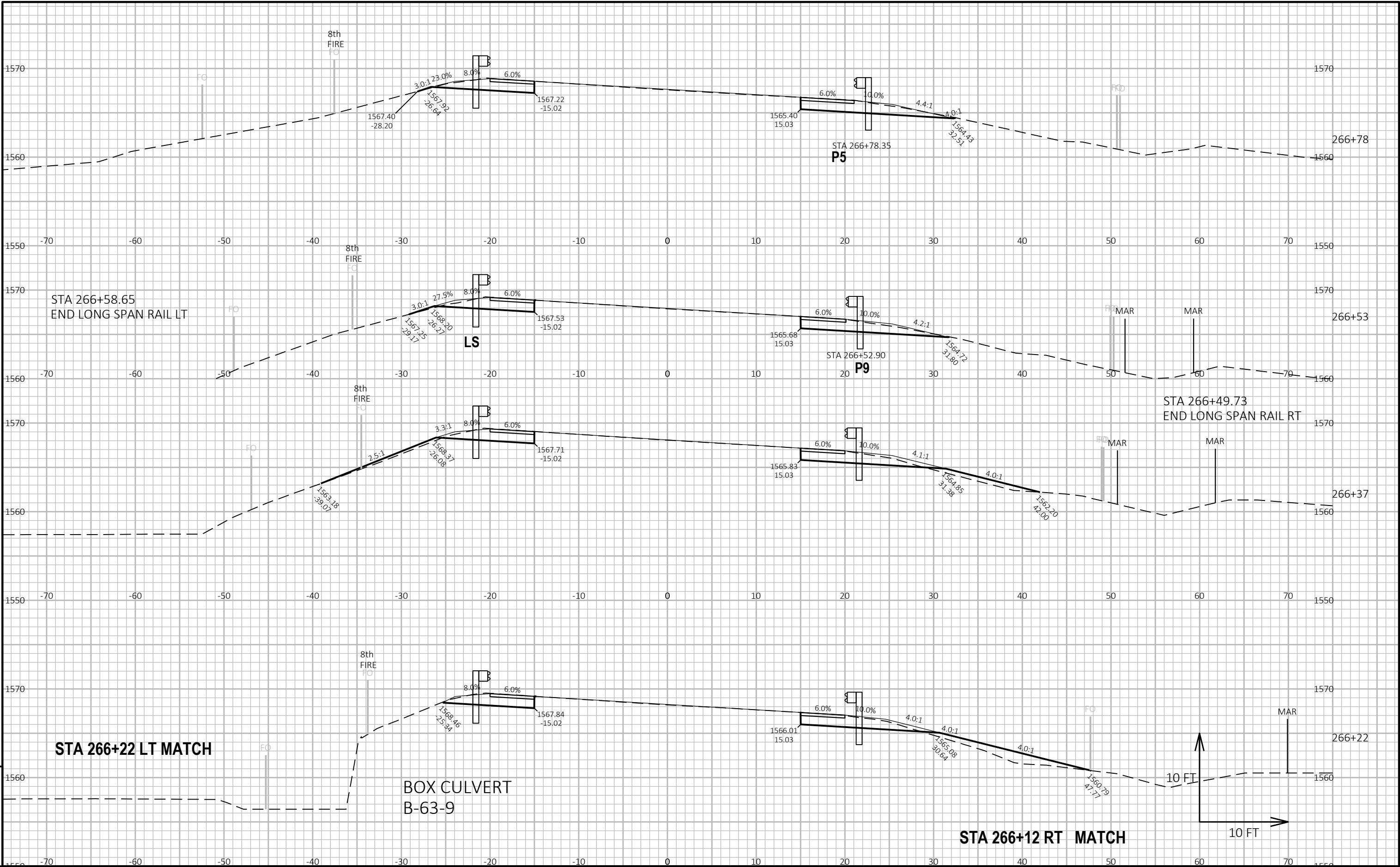


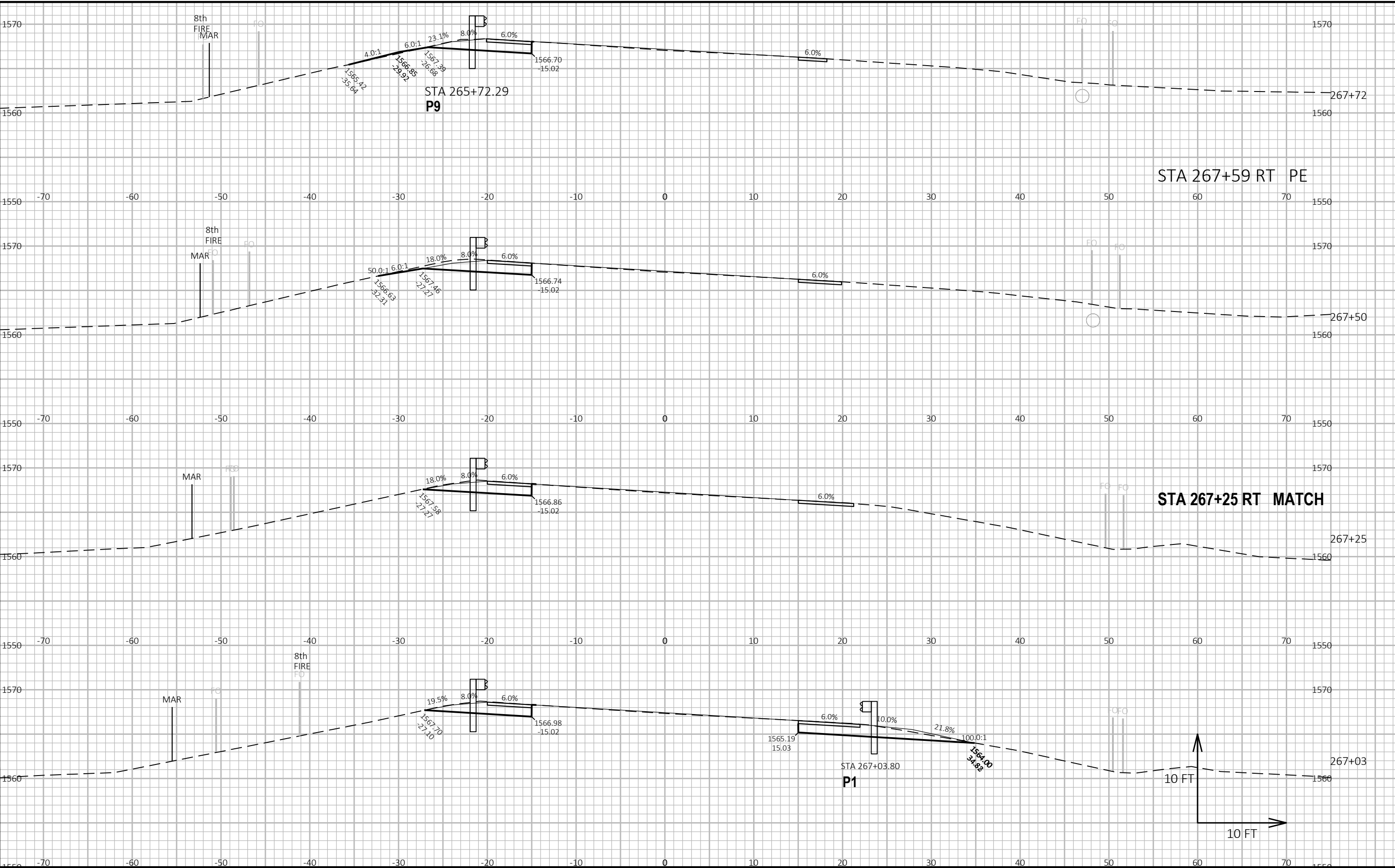


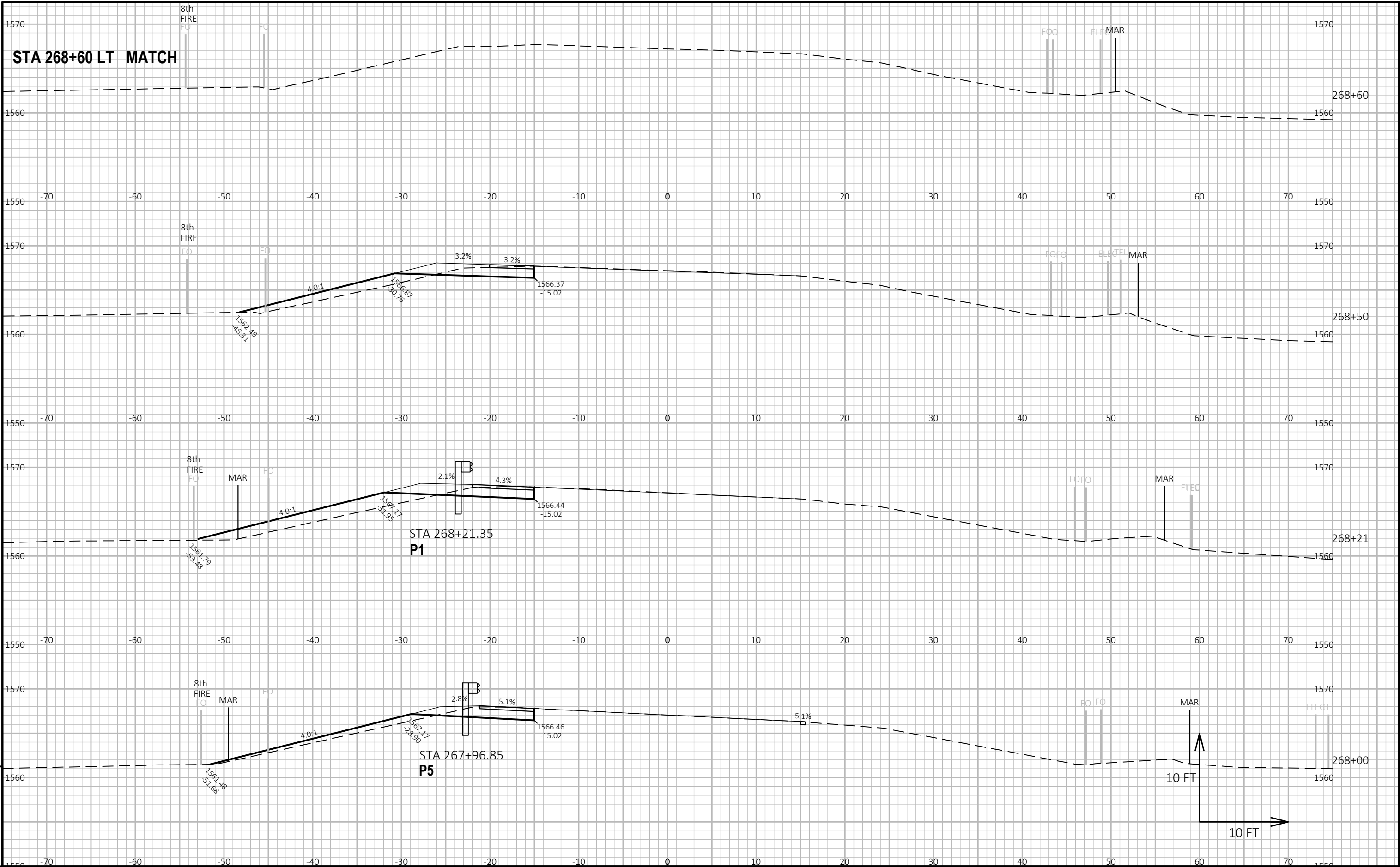
PROJECT NO:	9070-03-74	HWY:	STH 70	COUNTY:	ONEIDA & VILAS	CROSS SECTIONS:	STH 70 XS	SHEET	87	E
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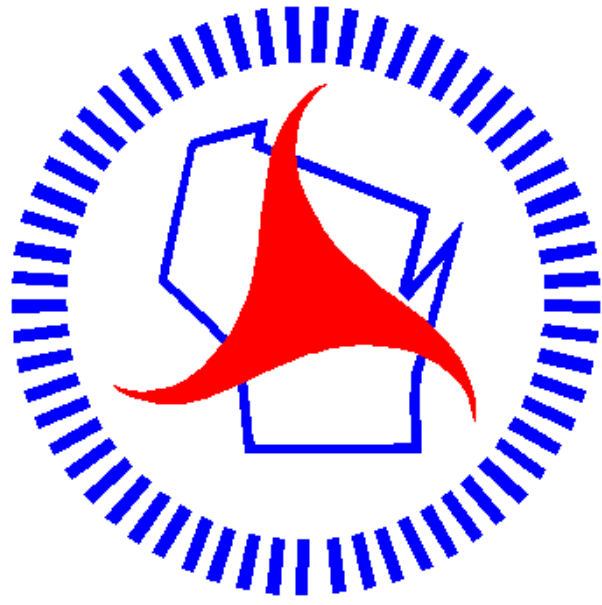








Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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