

RHI PROJECT ID: 9231-08-70 WITH: 15

COUNTY: IRON

NOVEMBER 2016
ORDER OF SHEETS

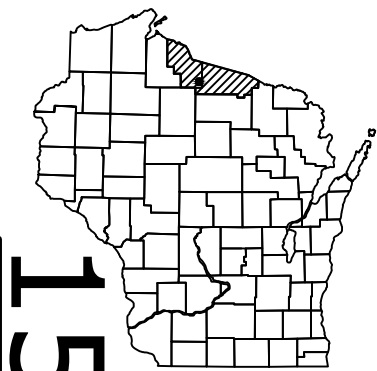
Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section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

TOTAL SHEETS = 140

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
WOODRUFF - MANITOWISH
LOWER SUGAR BUSH LANE - USH 51
STH 47
IRON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9231-08-70	WISC 2016350	1

STATE PROJECT NUMBER
9231-08-70



END CONSTRUCTION
9231-08-70
STA 564+76
X = 786689
Y = 254820

DESIGN DESIGNATION

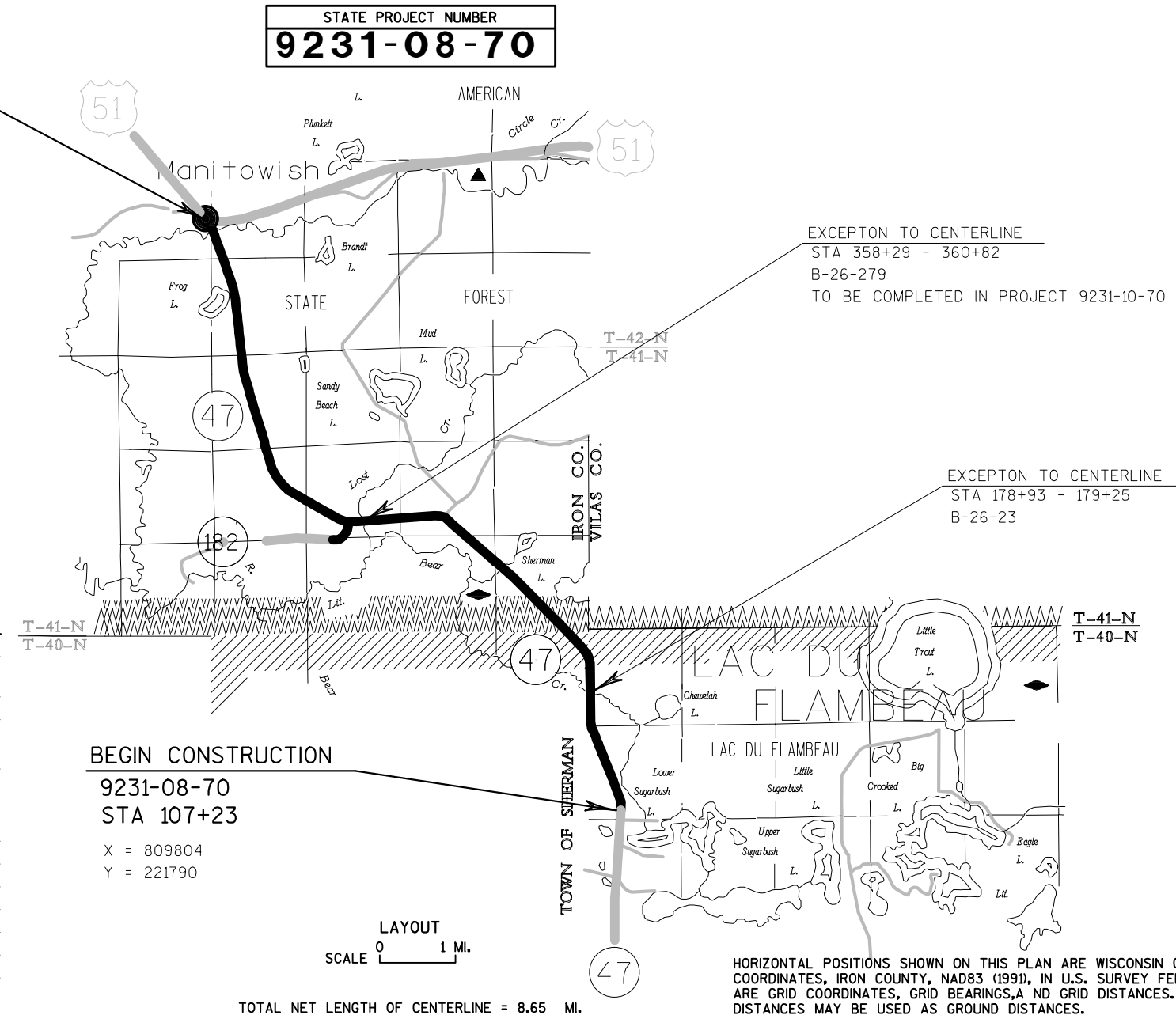
A.A.D.T. 2010	=	1000
A.A.D.T. 2023	=	1300
D.H.V. 2023	=	184
D.D.	=	63.37
T.	=	15.6%
DESIGN SPEED	=	55 MPH
ESALS	=	325,500

CONVENTIONAL SYMBOLS

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

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

	ROCK
	LABEL
	95.36
	E
	FO
	G
	SAN
	SS
	T
	W



EXCEPTION TO CENTERLINE
STA 358+29 - 360+82
B-26-279
TO BE COMPLETED IN PROJECT 9231-10-70

EXCEPTION TO CENTERLINE
STA 178+93 - 179+25
B-26-23

BEGIN CONSTRUCTION
9231-08-70
STA 107+23
X = 809804
Y = 221790

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 8.65 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, IRON COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

VERTICAL POSITIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	ALLEN OLEINIK
Designer	MITCHELL L. LAVIN
Project Manager	JIM L. VOLKMANN
Regional Examiner	CHERYL L. SIMON
Regional Supervisor	MICHAEL WENDT

APPROVED FOR THE DEPARTMENT

DATE: 4/25/2016

(Signature)

E

GENERAL NOTES

UNEVEN LANES
W8-11
36" X 36"

GROOVED PAVEMENT
W8-52
30" X 30"

LOW SHOULDERS
W8-9
30" X 30"

USE THESE SIGNS AS NEEDED OR DIRECTED BY THE ENGINEER.

AS-BUILTS	USED
	9230-08-70
	9231-02-60
DIVISION	*7027 - WPSO 545A
	0026-73-30
DIVISION	*7084 - WPSO 545B

DIGGERSHOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

- GENERAL NOTES
1. WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, TH DEPTH OR THICKNESS SHOWN ON THE PLAN IS APPROXIMATE. THE ACTUAL PLAN WILL DEPEND ON THE DISTRIBUTION OF MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

2. EXISTING CURVE SUPER ELEVATION SHALL BE RESTORED IN KIND, UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

3. THERE MAY BE UTILITY FACILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN ON THE PLAN.

CONTACTS

CENTURYLINK
BRIAN HUHN
400 W. 9TH ST. N, SUITE 5
LADYSMITH, WI 54848
715-532-0023
CELL: 715-563-8294

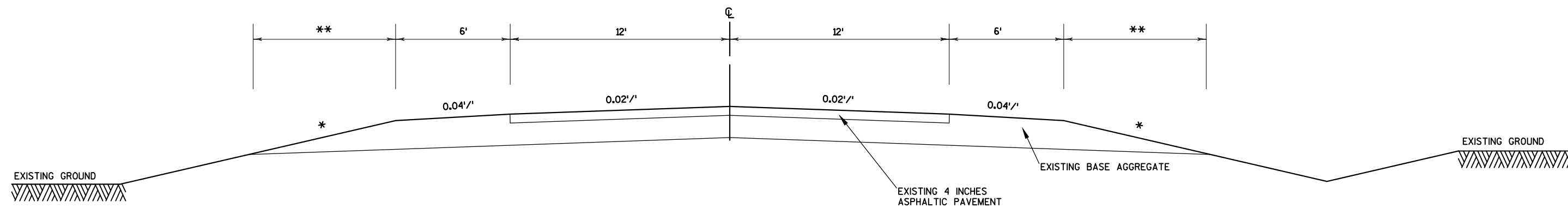
XCEL ENERGY-ELECTRICITY
ATTN: MURRAY SMERER
2400 FARM ROAD
ASHLAND, WI 54806
715-682-6928
CELL: 715-577-2749

WE ENERGIES
BILL HOWARD
4222 COUNTY ROAD B
LAND O' LAKES, WI 54540
906-779-2472
24 HR GAS DISPATCH:
1-800-662-4797
24 HR ELECT DISPATCH:
1-800-261-5325

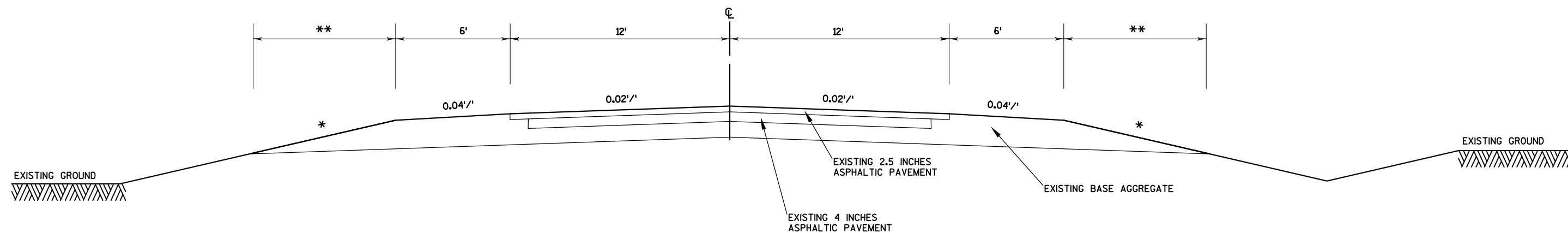
WISCONSIN DNR
JON SIMONSEN
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
JONATHON.SIMONSEN@WISCONSIN.GOV
715-365-8916

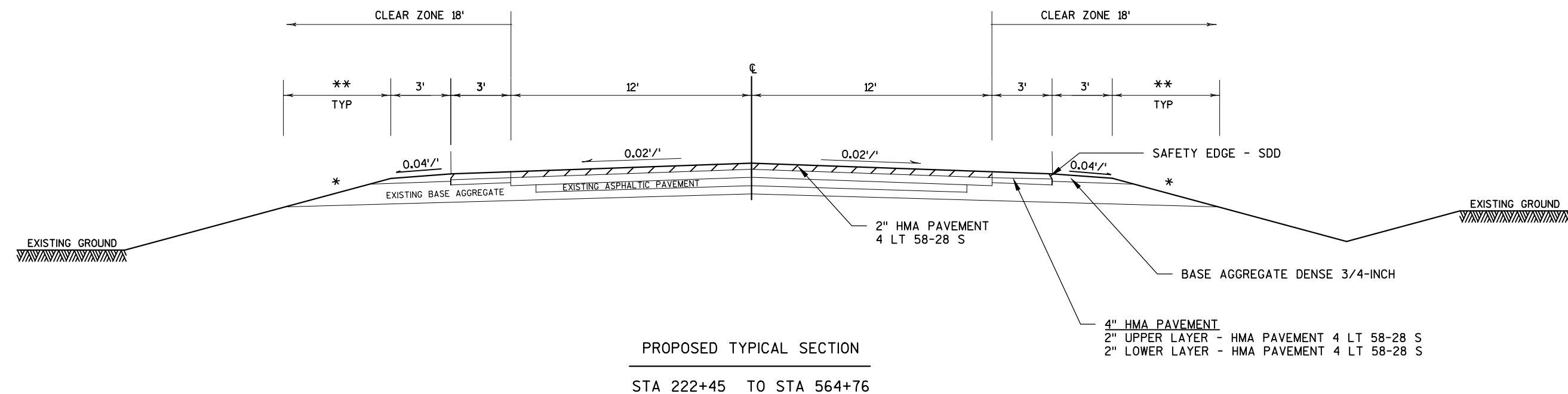
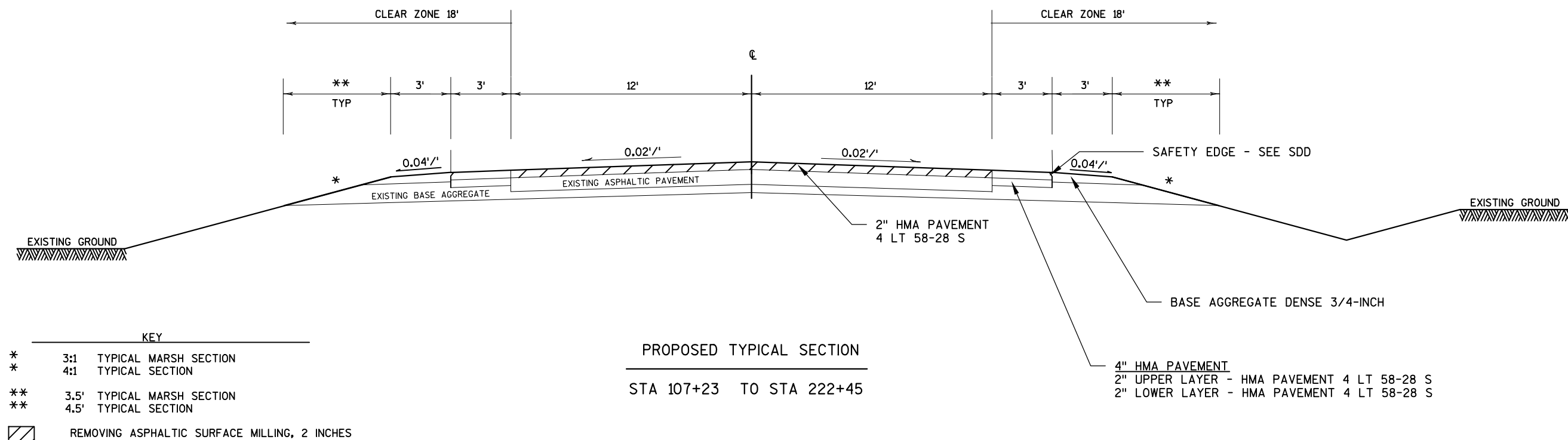
LAC DU FLAMBEAU
TRIBAL HISTORIC PRESERVATION OFFICER
MELINDA YOUNG
715-588-2139

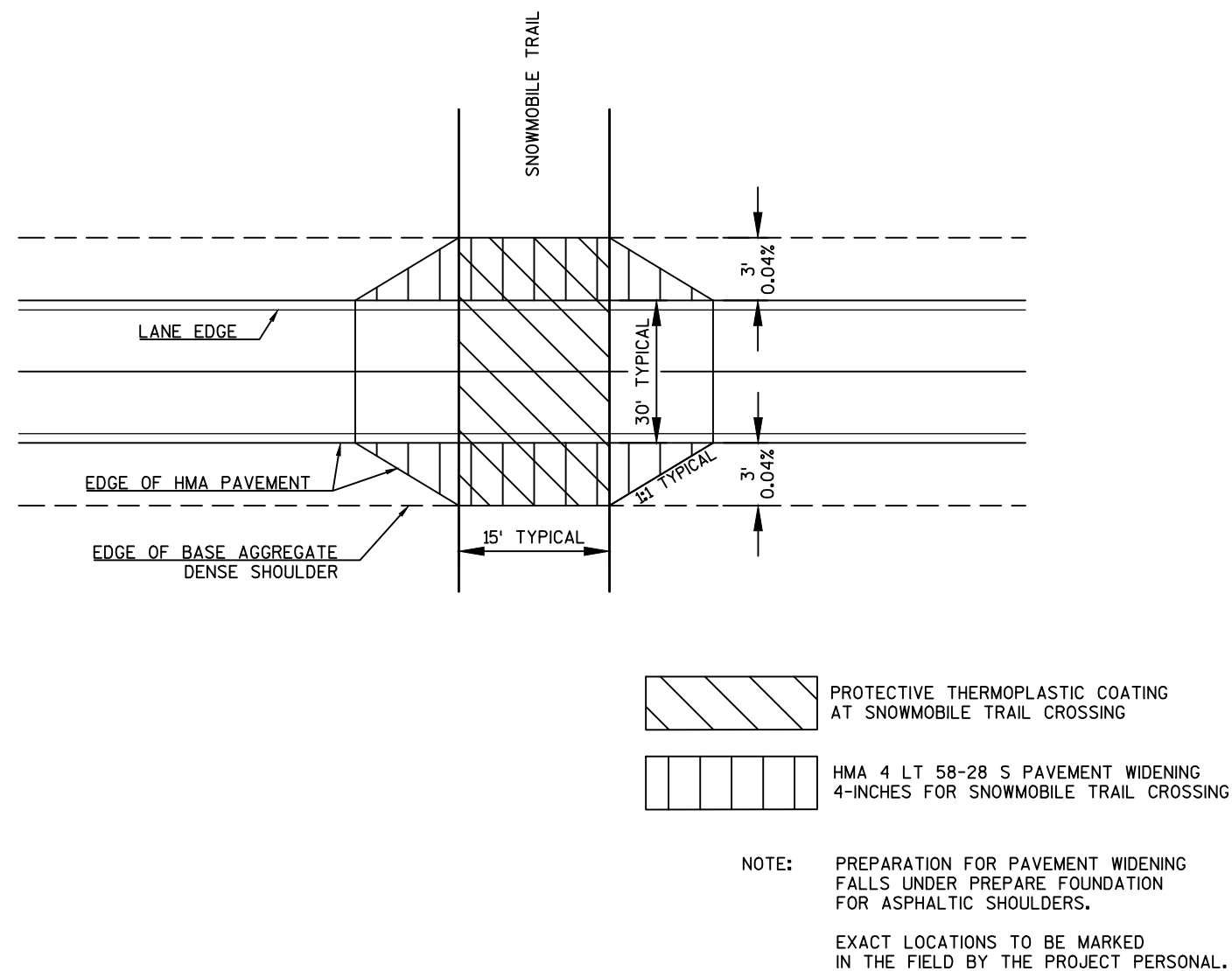
LAC DU FLAMBEAU
NATURAL RESOURCES DIRECTOR TRIBAL
CONTACT
LARRY WAWRONOWICZ
715-588-3303 ext 5253



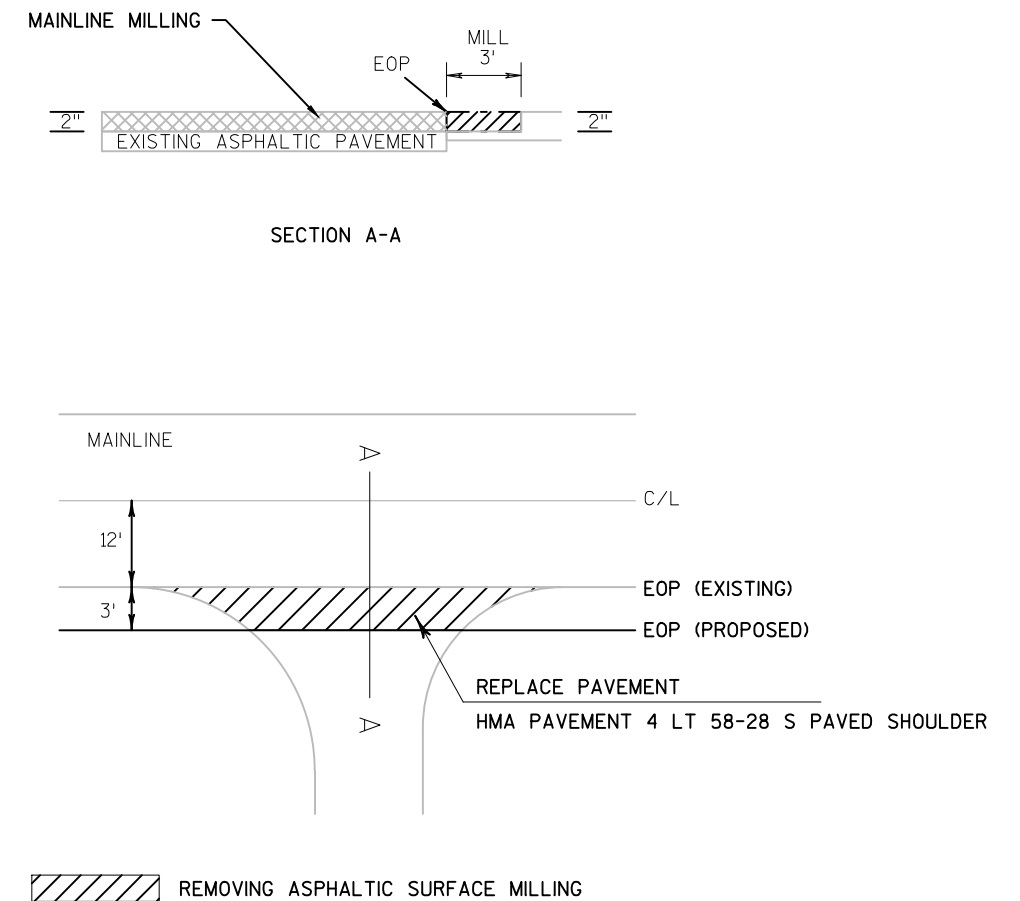
KEY		
*	3:1	TYPICAL MARSH SECTION
*	4:1	TYPICAL SECTION
**	3.5'	TYPICAL MARSH SECTION
**	4.5'	TYPICAL SECTION





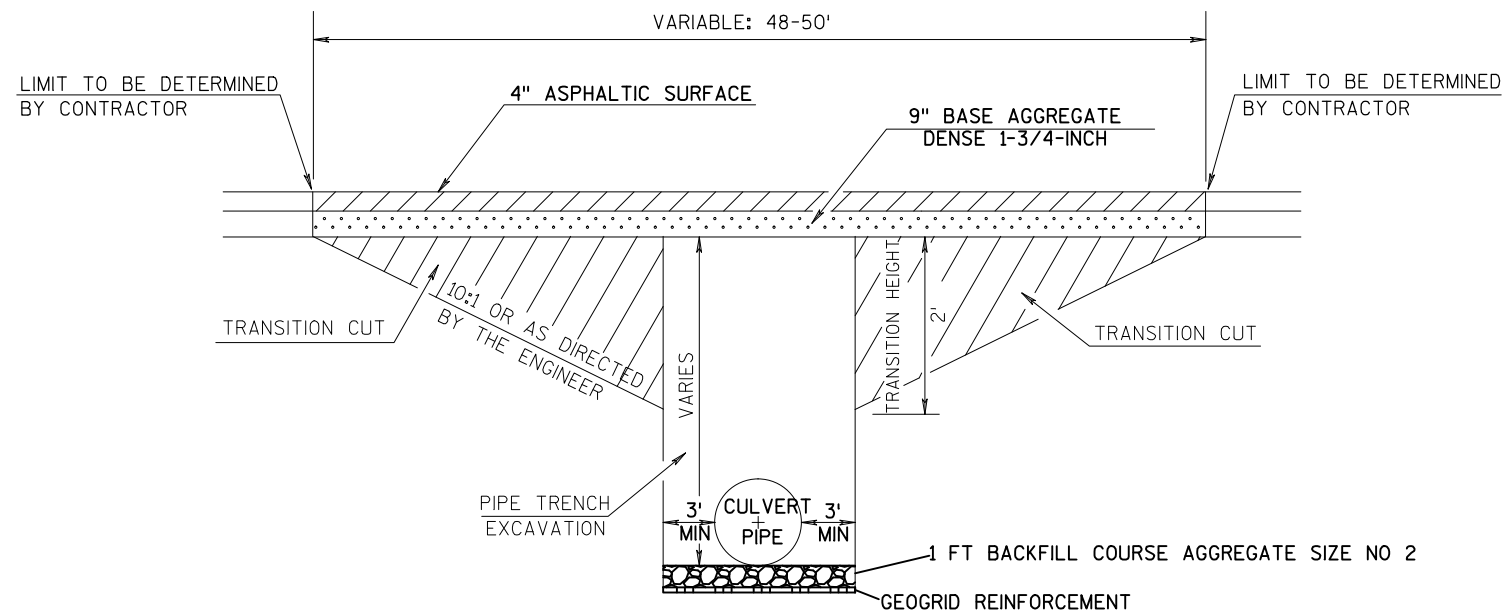


SNOWMOBILE TRAIL CROSSING
STA 346+96



NOTE: EXACT DIMENSIONS AND LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD

DRIVEWAY DETAIL
ALL ASPHALT DRIVEWAYS



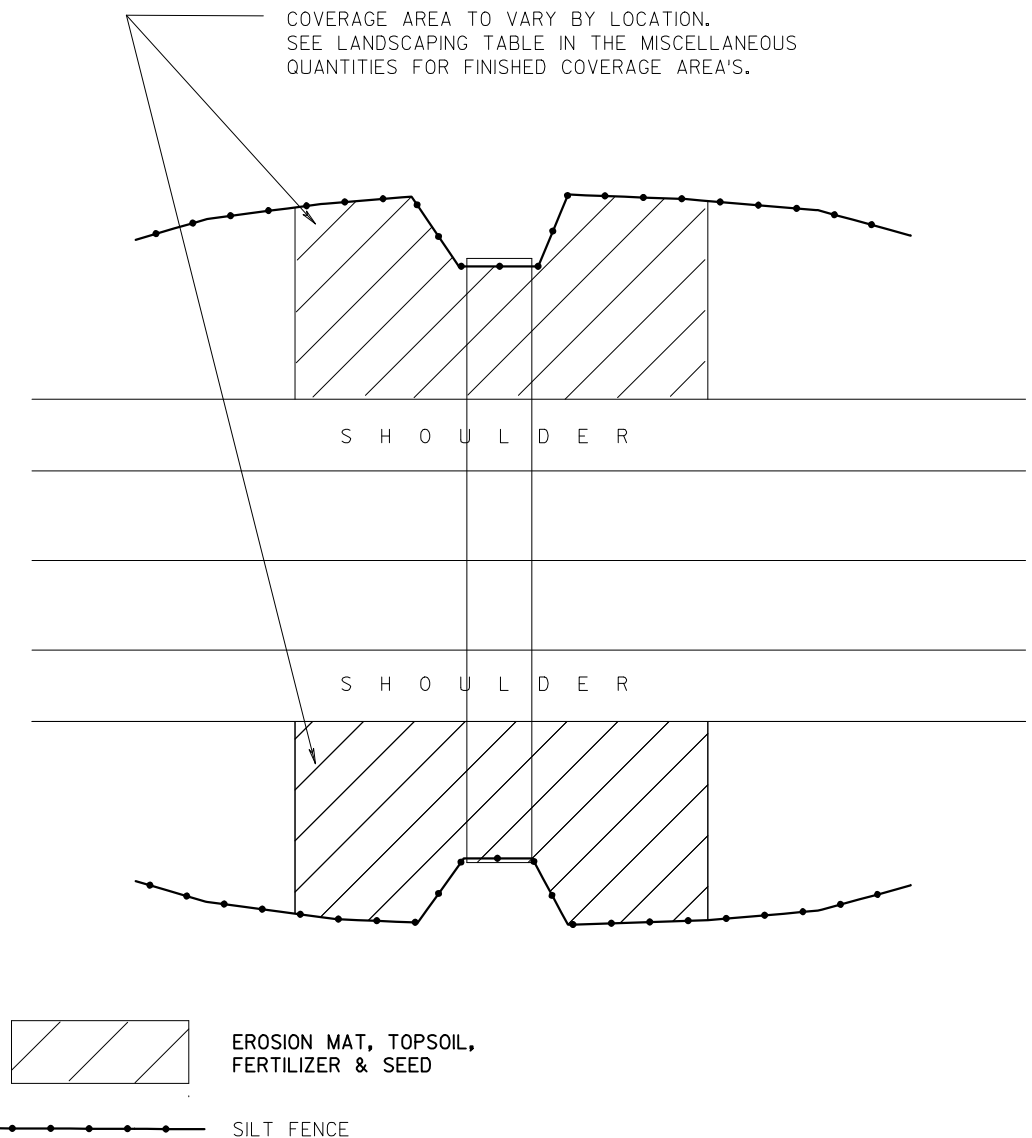
LOCATION	CULVERT ID	SIZE	TRANSITION HEIGHT	LENGTH OF TRANSITION CUT	CUT VOLUME
STA 250+83	26-047-006	24"	2'	48'	75 CY
STA 481+05	26-047-021	24"	2'	48'	75 CY
STA 552+28	26-047-027	24"	2'	48'	75 CY
STA 784+12	26-182-045	30"	2'	48'	75 CY

NOTE: REUSE MATERIAL REMOVED IN TRANSITION CUT AND PIPE TRENCH EXCAVATIONS AS BACKFILL UNLESS OTHERWISE DIRECTED BY THE ENGINEER TO USE BACKFILL GRANULAR

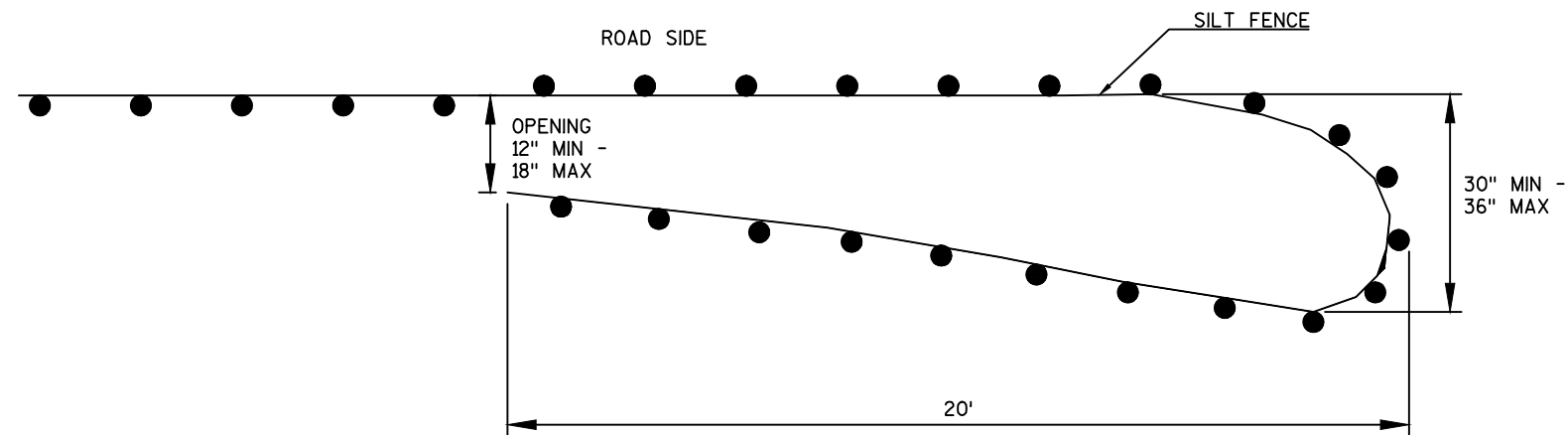
PIPE TRENCH EXCAVATION, EXCLUDING TRANSITION CUT IS CONSIDERED INCIDENTAL TO PIPE INSTALLATION. TRANSITION CUT WILL BE PAID FOR AS CULVERT PIPE TRANSITION.

TRANSITION CUT WILL BE SHOULDER POINT TO SHOULDER POINT, HALF OF SHOULDER POINT TO SHOULDER POINT EACH SIDE OF CENTERLINE.

CULVERT PIPE TRANSITION
TO BE COMPLETED AT ALL CULVERT PIPE REPLACEMENT LOCATIONS



DETAIL FOR EROSION CONTROL
STA 250+33 LT & RT
STA 481+05 LT & RT
STA 552+28 LT & RT

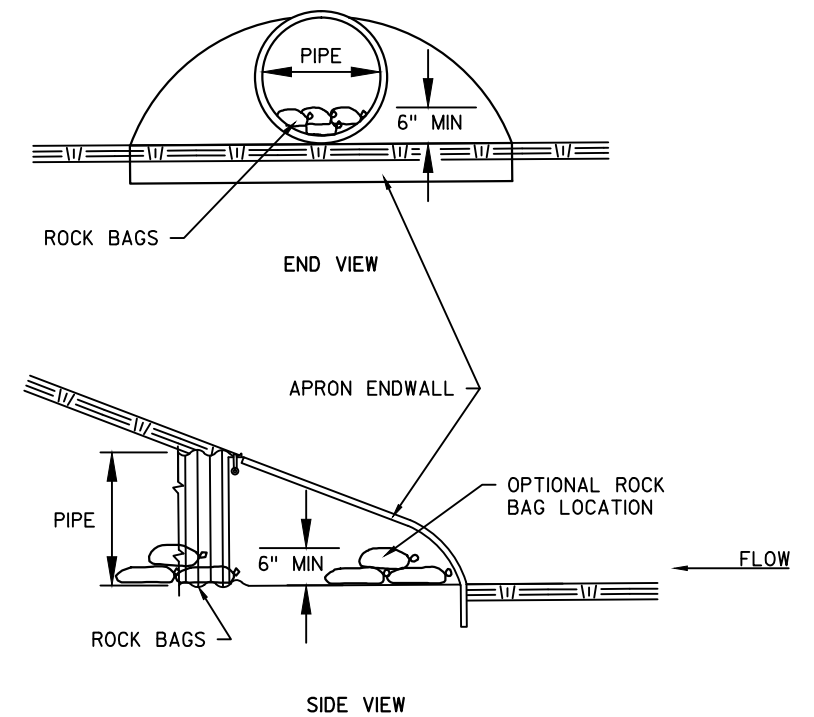


PLAN VIEW

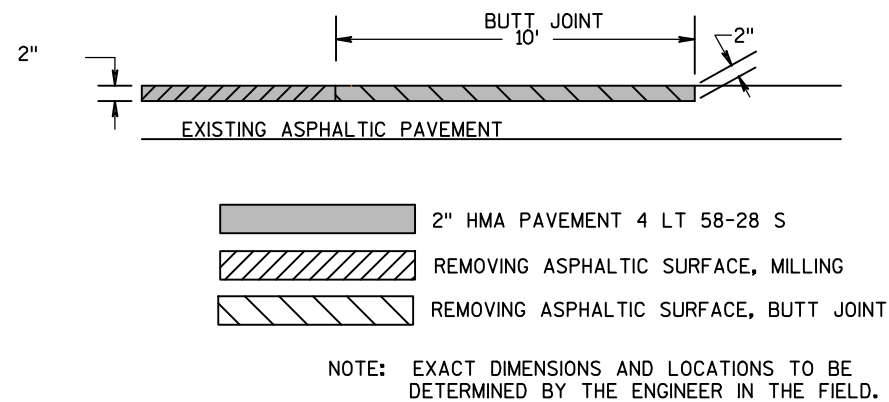
GENERAL NOTES:

SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND, AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

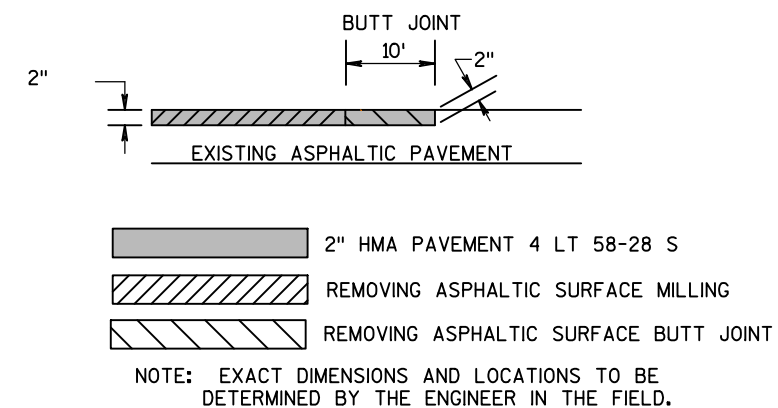
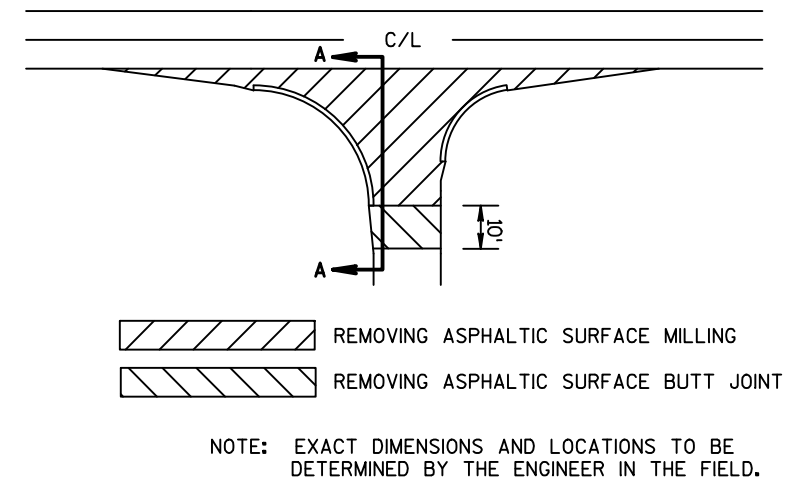
TEMPORARY SMALL ANIMAL TURN-AROUND



CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

MAINLINE BUTT JOINT DETAIL

STA 107+23 - STA 107+33
STA 178+83 - STA 178+93
STA 179+25 - STA 179+35
STA 359+33 - STA 359+43
STA 359+69 - STA 359+79
STA 564+66 - STA 564+76



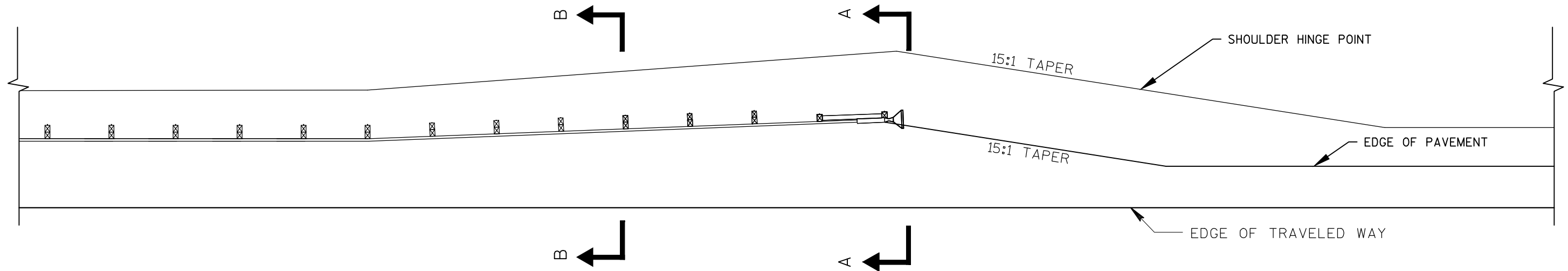
SECTION A - A

BUTT JOINT DETAIL

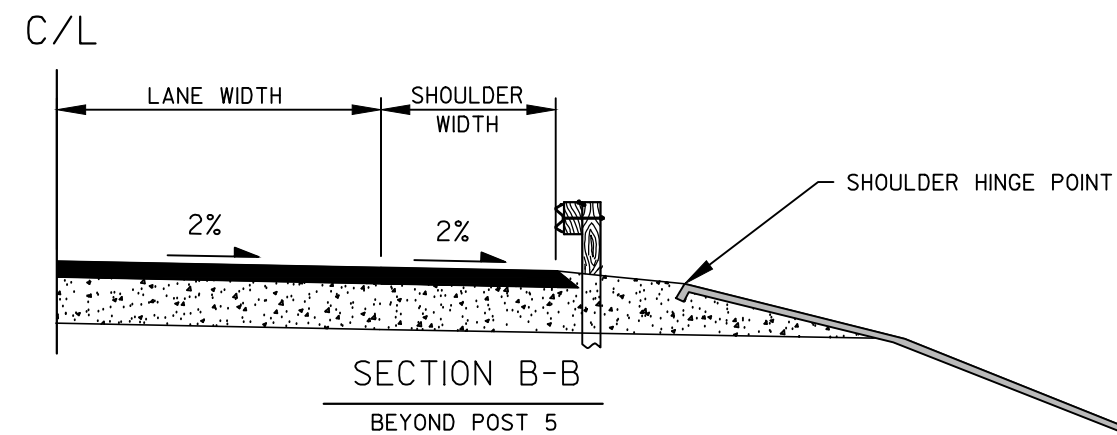
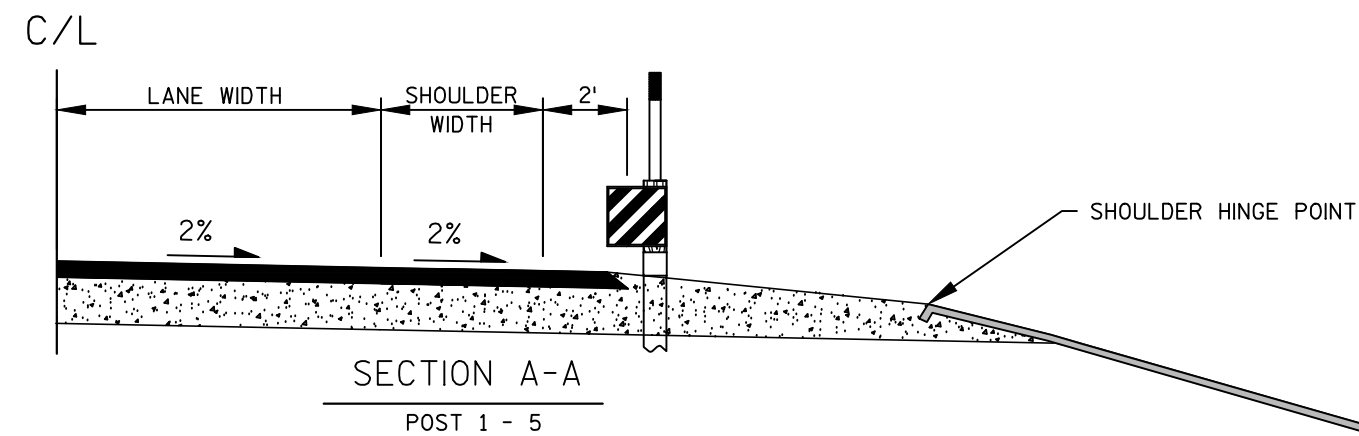
POWELL ROAD
STH 182

2

2



SHOULDER PAVING AT GUARDRAIL DETAIL



SHOULDER TREATMENT AT GUARDRAIL - EROSION MAT

NOTE: SEE STANDARD DETAIL DRAWINGS

MIDWEST GUARDRAIL SYSTEM SYSTEM (MGS) GUARDRAIL

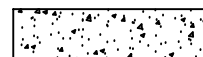
MIDWEST GUARDRAIL SYSTEM LONG SPAN (MGS L)

MIDWEST GUARDRAIL SYSTEM (MGS) EAT

MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION



HMA PAVEMENT

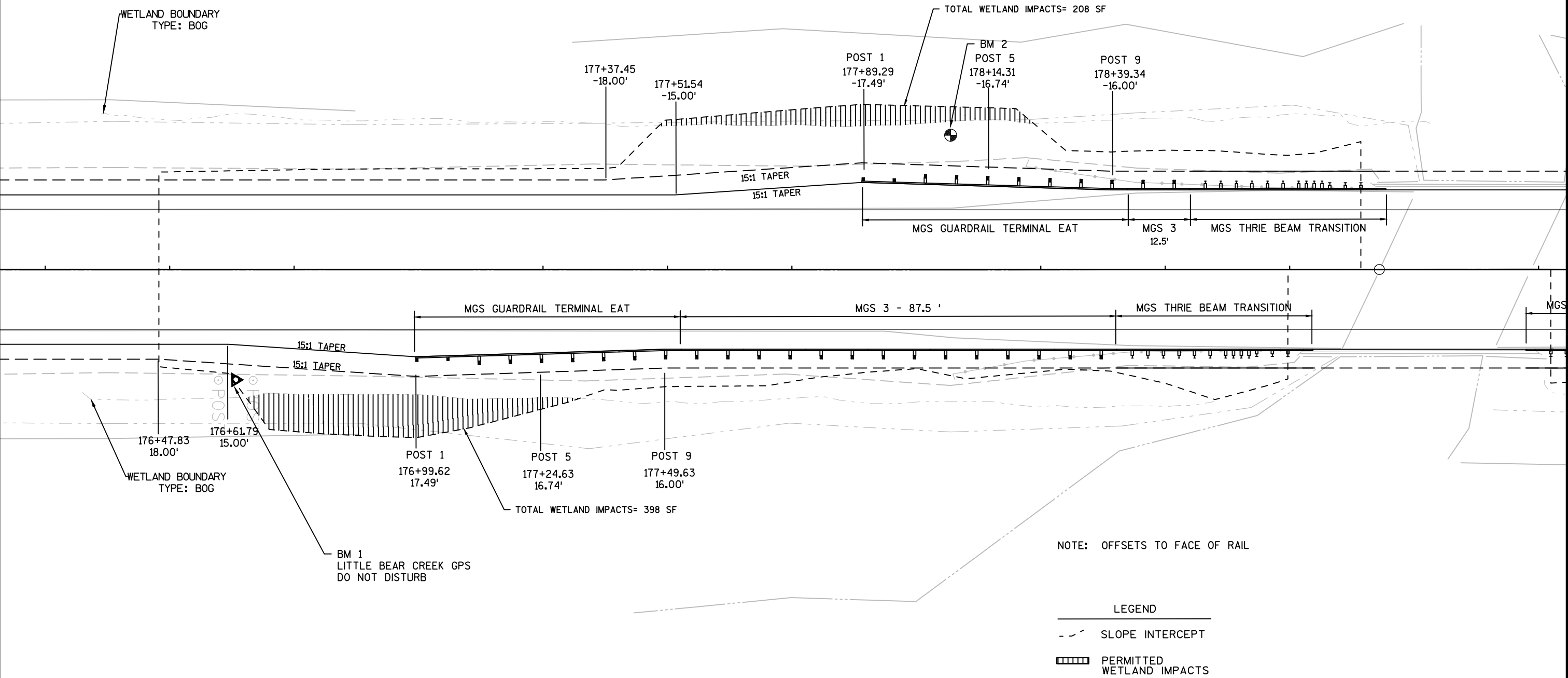


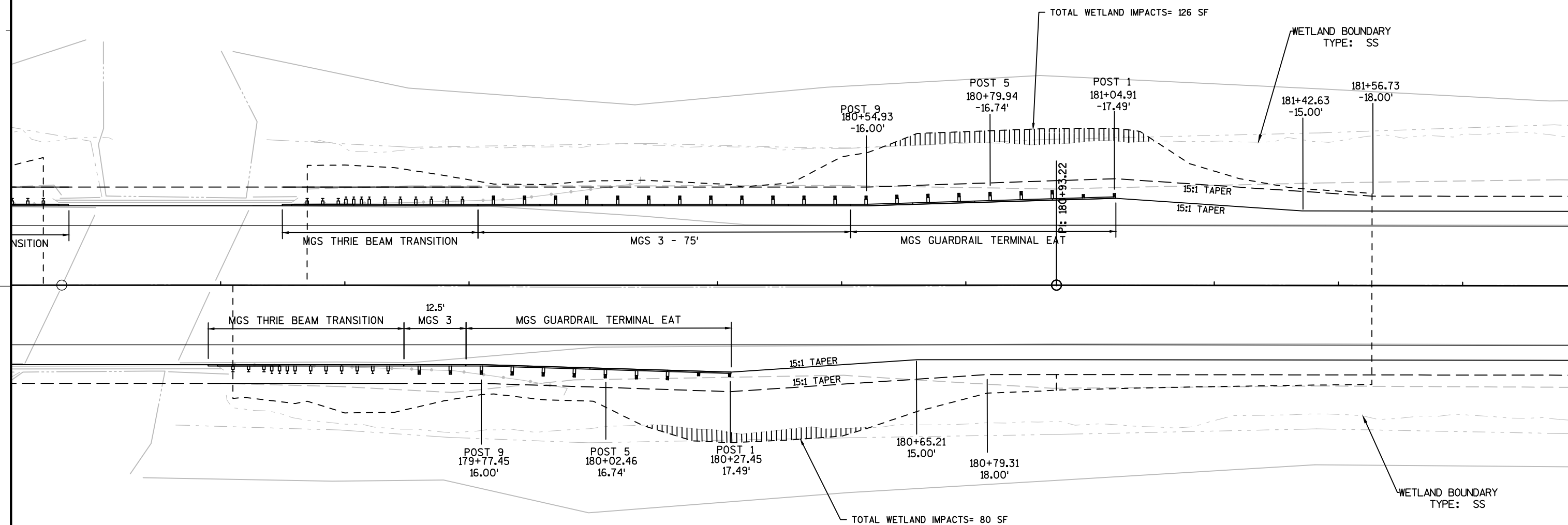
BASE



EROSION MAT AND SEED

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEVATION
1	176+63 RT	LITTLE BEAR CREEK GPS, BRONZE CAP	1597.109
2	178+07 LT		1596.838





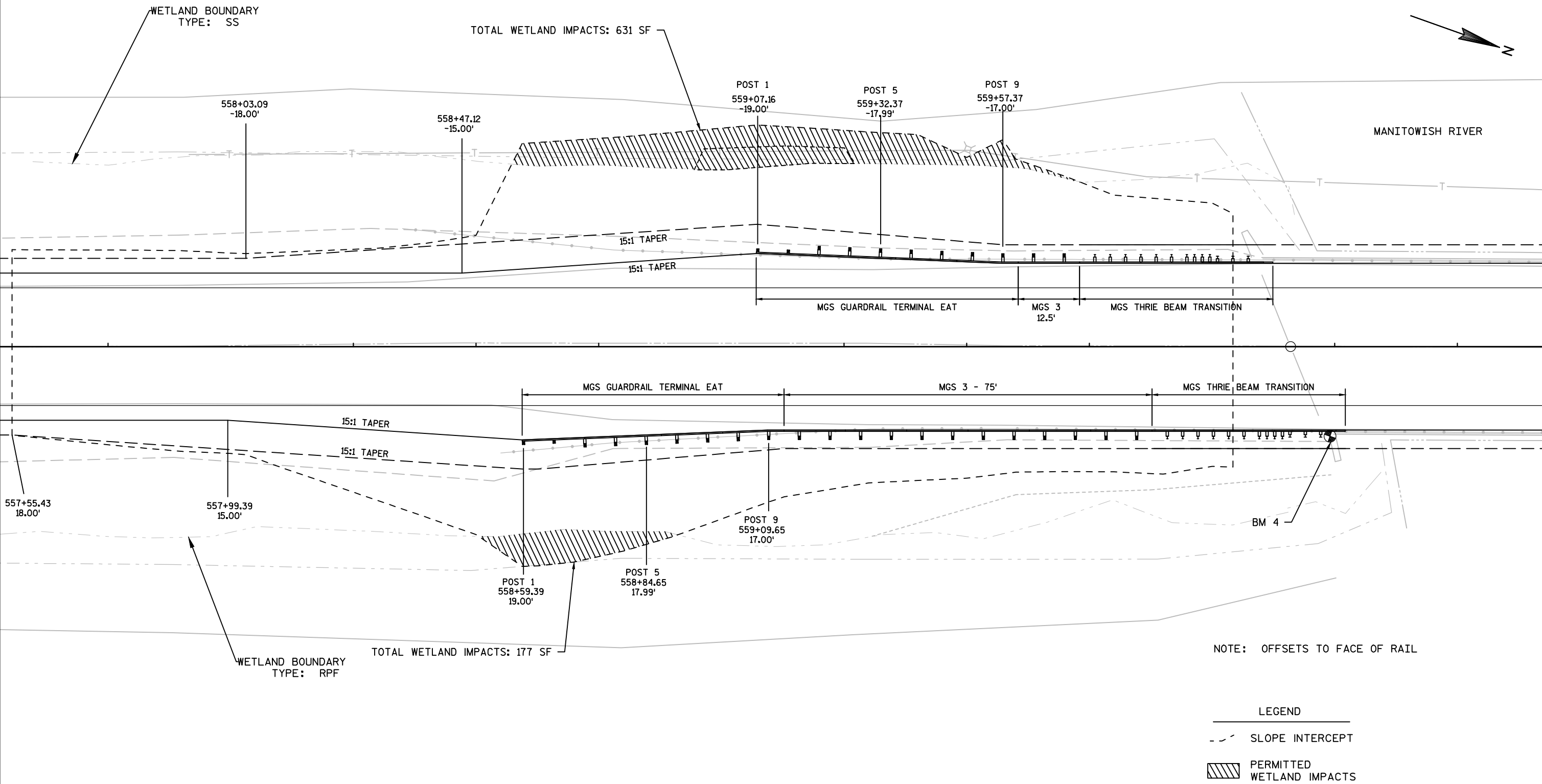
NOTE: OFFSETS TO FACE OF RAIL

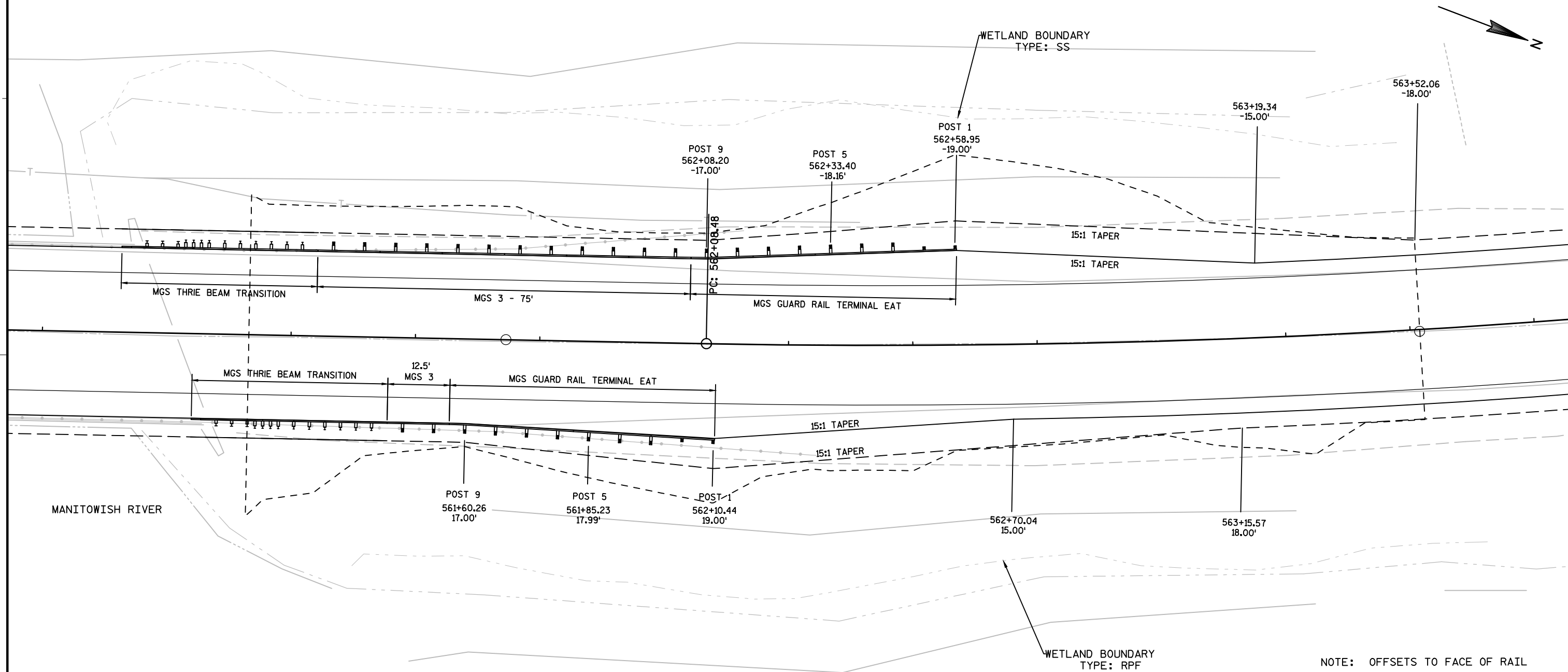
LEGEND

--- SLOPE INTERCEPT

||||| PERMITTED WETLAND IMPACTS

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEVATION
4	560+24 RT	BRONZE CAP ON ABUTMENT	1589.63



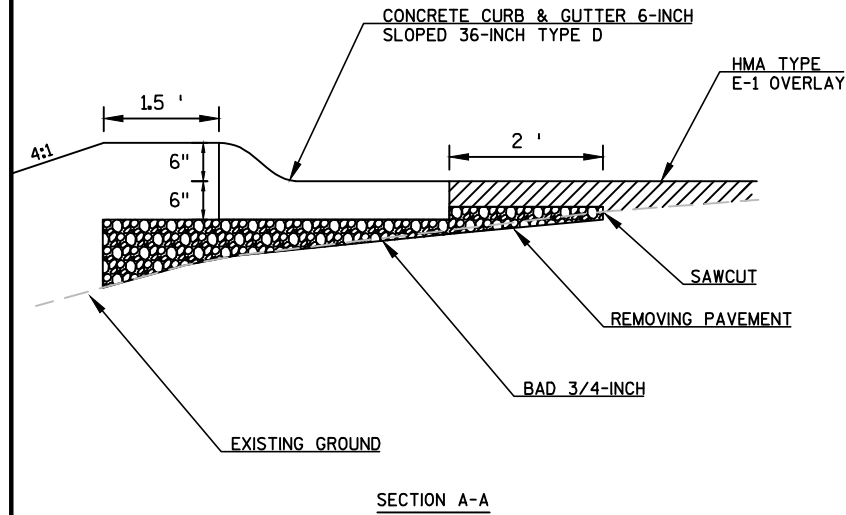
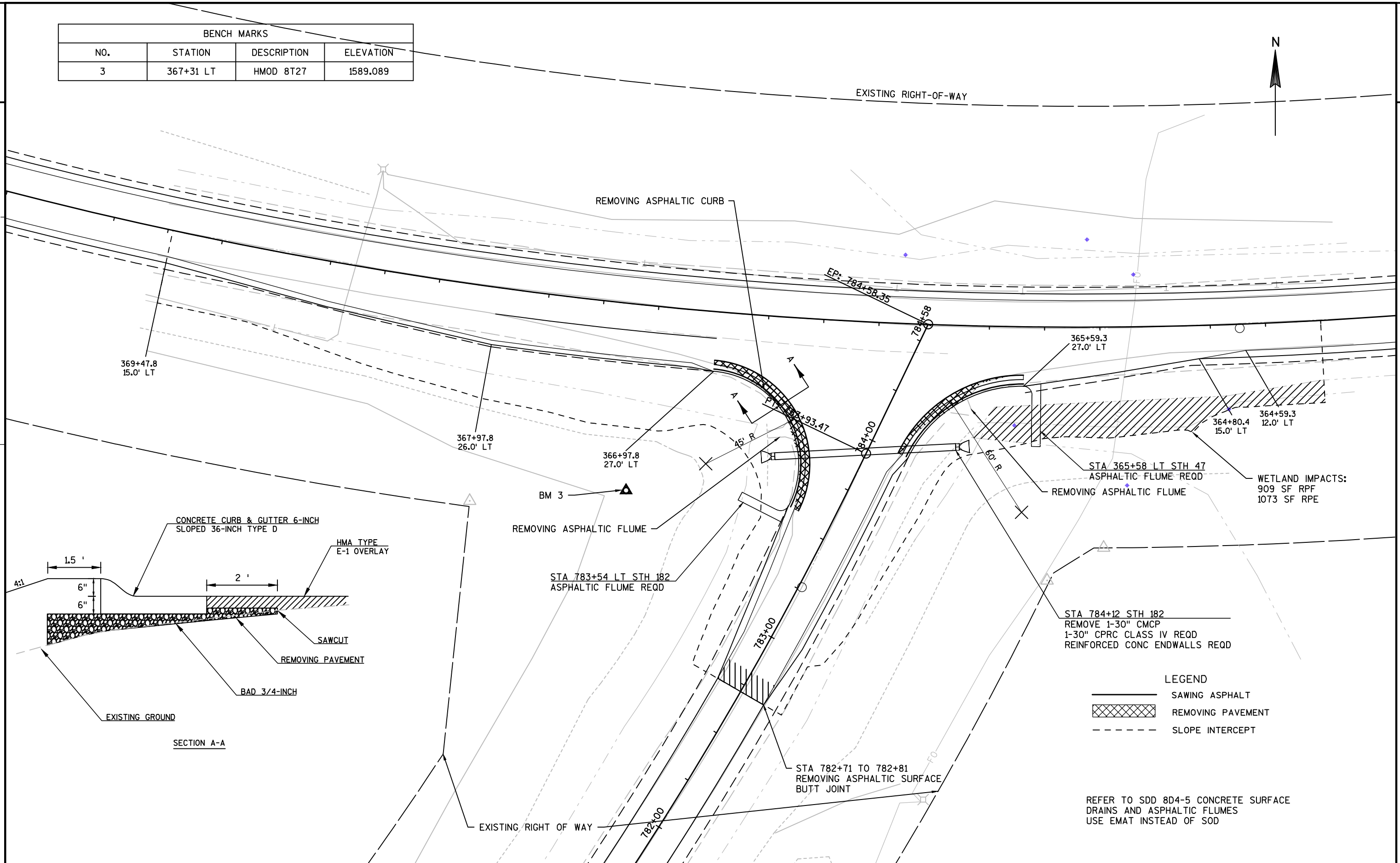


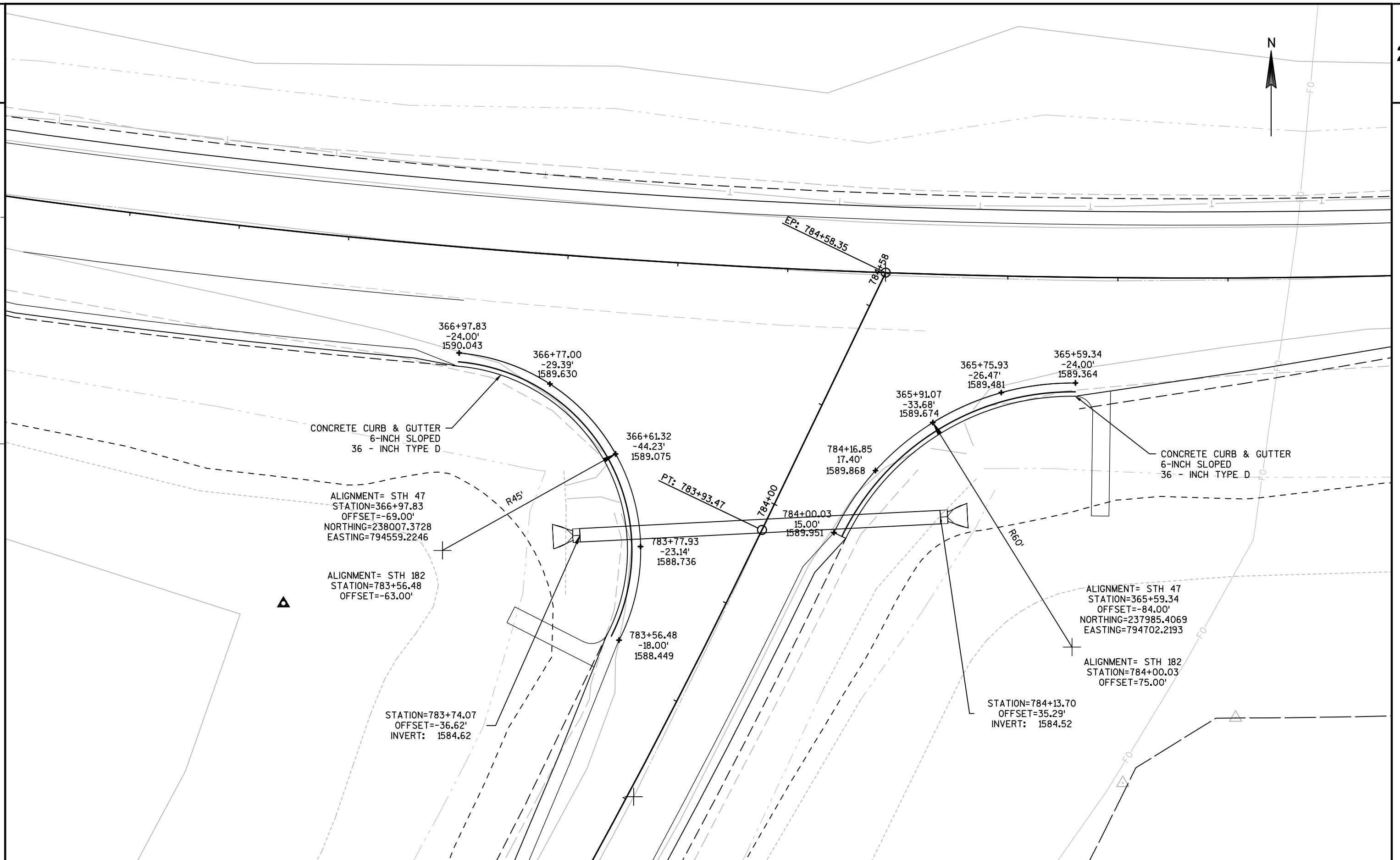
LEGEND

--- SLOPE INTERCEPT

PERMITTED WETLAND IMPACTS

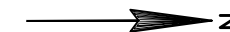
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEVATION
3	367+31 LT	HMOD 8T27	1589.089





LEGEND

- EROSION MAT URBAN CLASS I, TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- WETLAND BOUNDARY



TOPSOIL, SEED, AND FERTILIZE ALL
AREAS PRIOR TO PLACING EROSION MAT

WETLAND BOUNDARY

TEMPORARY SMALL ANIMAL TURN-AROUND

EROSION MAT URBAN CLASS I TYPE B

SILT FENCE REQUIRED

TEMPORARY SMALL ANIMAL TURN-AROUND

WETLAND BOUNDARY

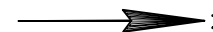
TEMPORARY SMALL ANIMAL TURN-AROUND

SILT FENCE REQUIRED

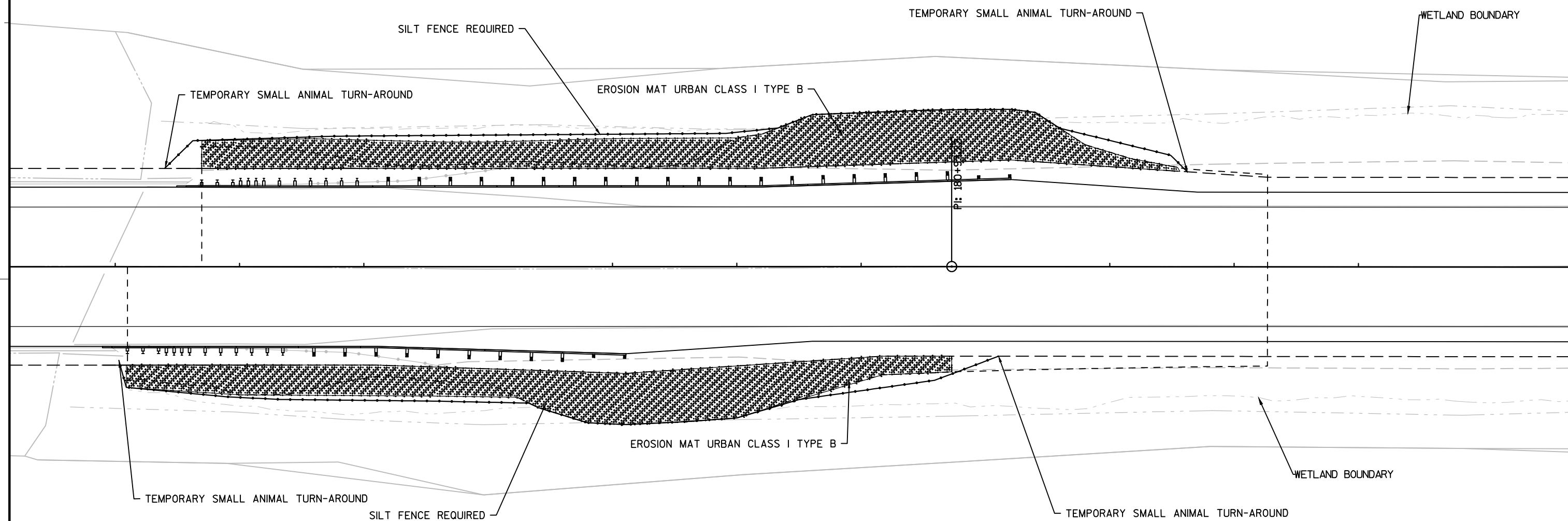
EROSION MAT URBAN CLASS I TYPE B

TEMPORARY SMALL ANIMAL TURN-AROUND

- LEGEND
- EROSION MAT URBAN CLASS I, TYPE B
 - SILT FENCE
 - SLOPE INTERCEPT
 - WETLAND BOUNDARY



TOPSOIL, SEED, AND FERTILIZE ALL
AREAS PRIOR TO PLACING EROSION MAT



- LEGEND
- EROSION MAT URBAN CLASS I, TYPE B
 - SILT FENCE
 - SLOPE INTERCEPT
 - WETLAND BOUNDARY

TOPSOIL, SEED, AND FERTILIZE ALL
AREAS PRIOR TO PLACING EROSION MAT

EROSION MAT URBAN CLASS I TYPE B

SILT FENCE REQUIRED

SMALL ANIMAL TURN-AROUND

WETLAND BOUNDARY

SMALL ANIMAL TURN-AROUND

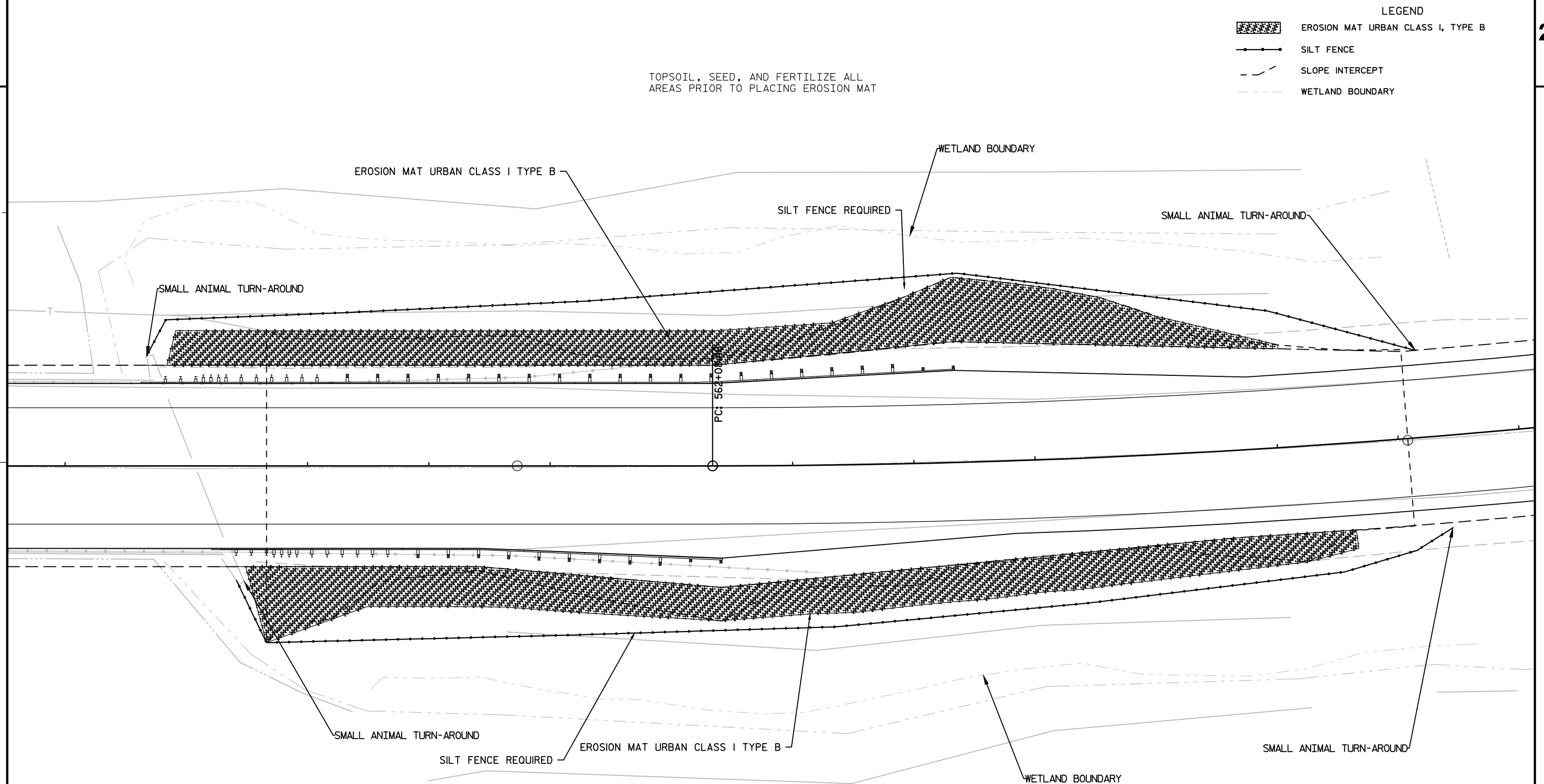
SMALL ANIMAL TURN-AROUND

WETLAND BOUNDARY

SILT FENCE REQUIRED

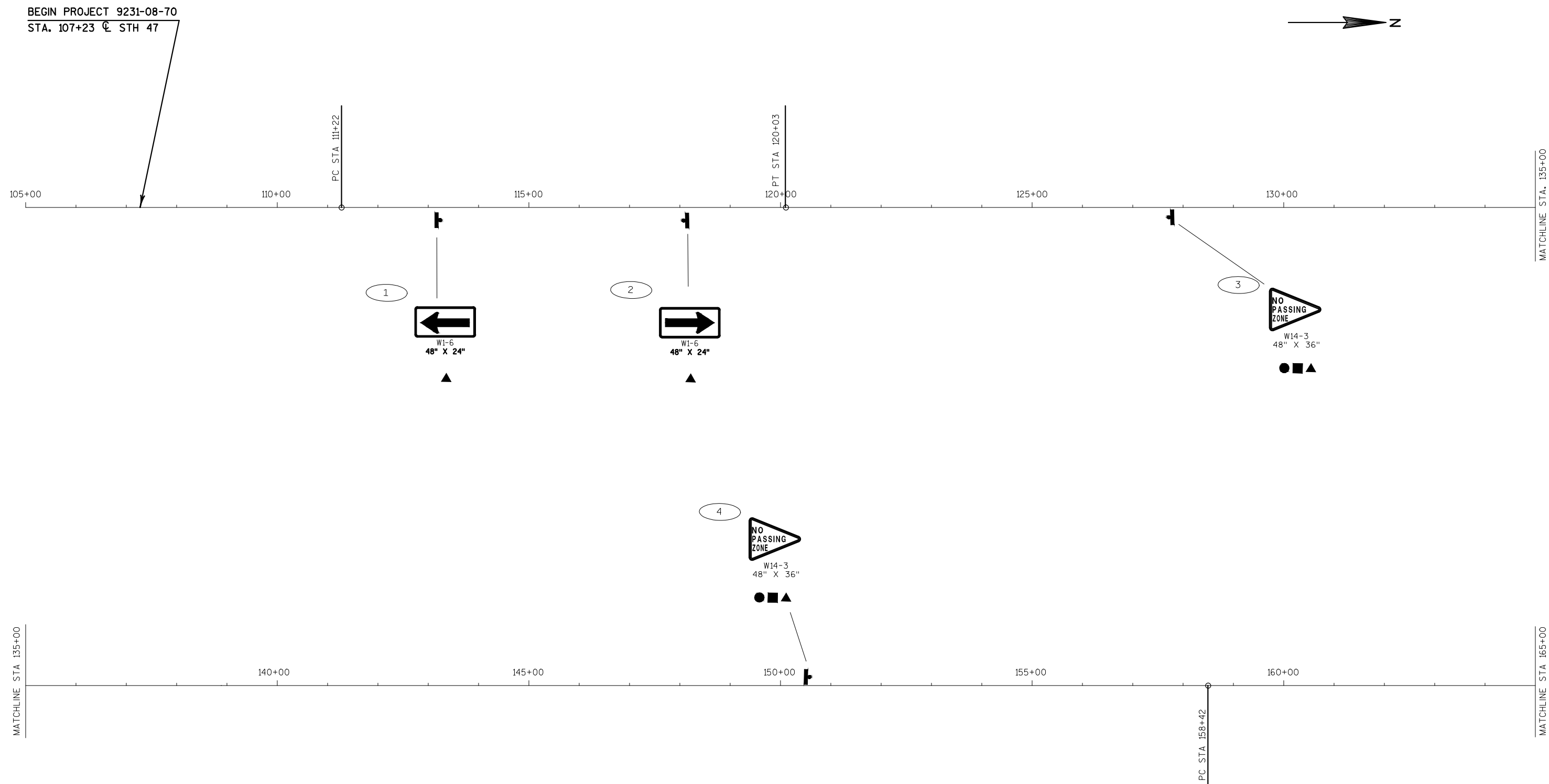
EROSION MAT URBAN CLASS I TYPE B

SMALL ANIMAL TURN-AROUND





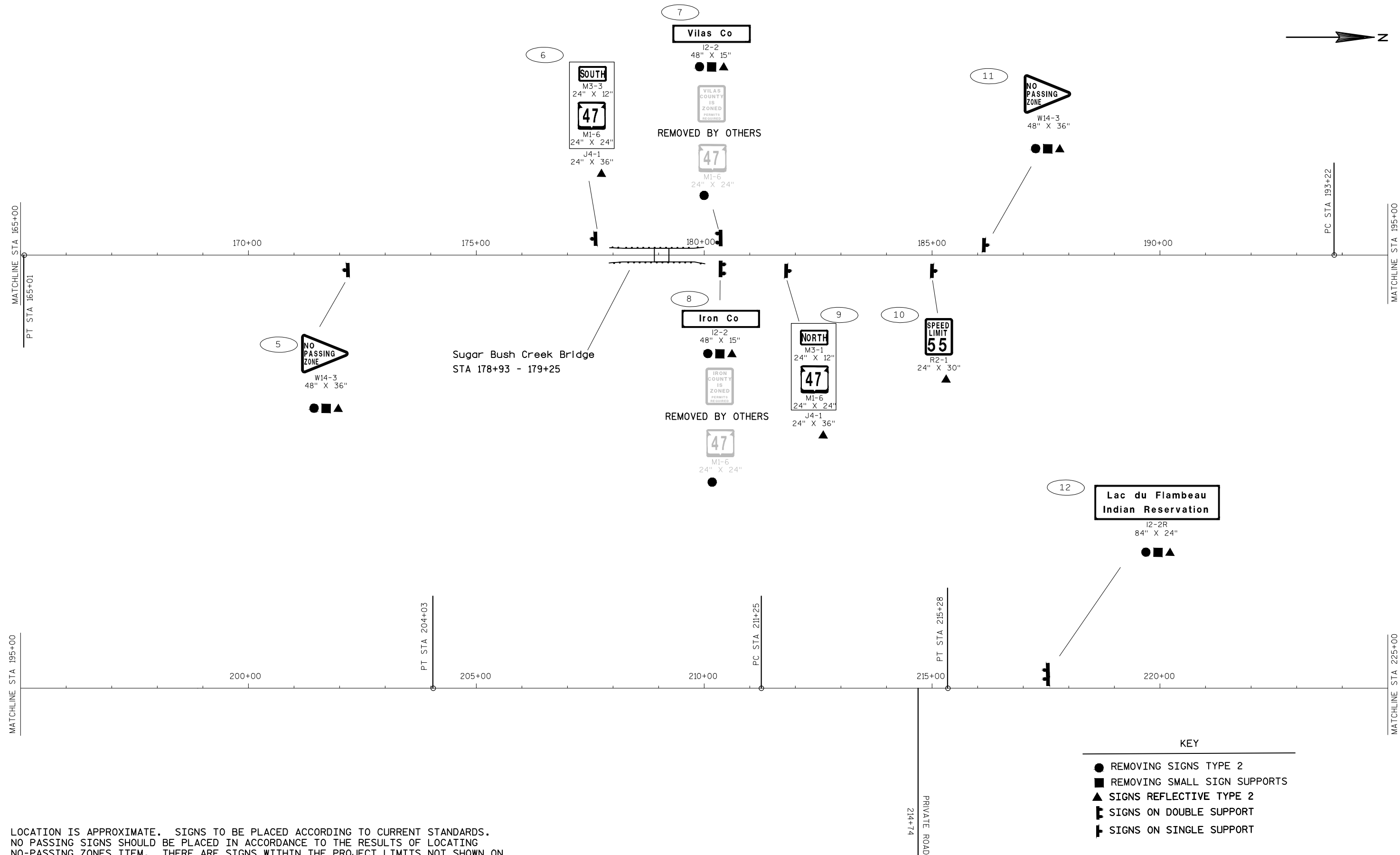
TOPSOIL, SEED, AND FERTILIZE ALL
AREAS PRIOR TO PLACING EROSION
MAT

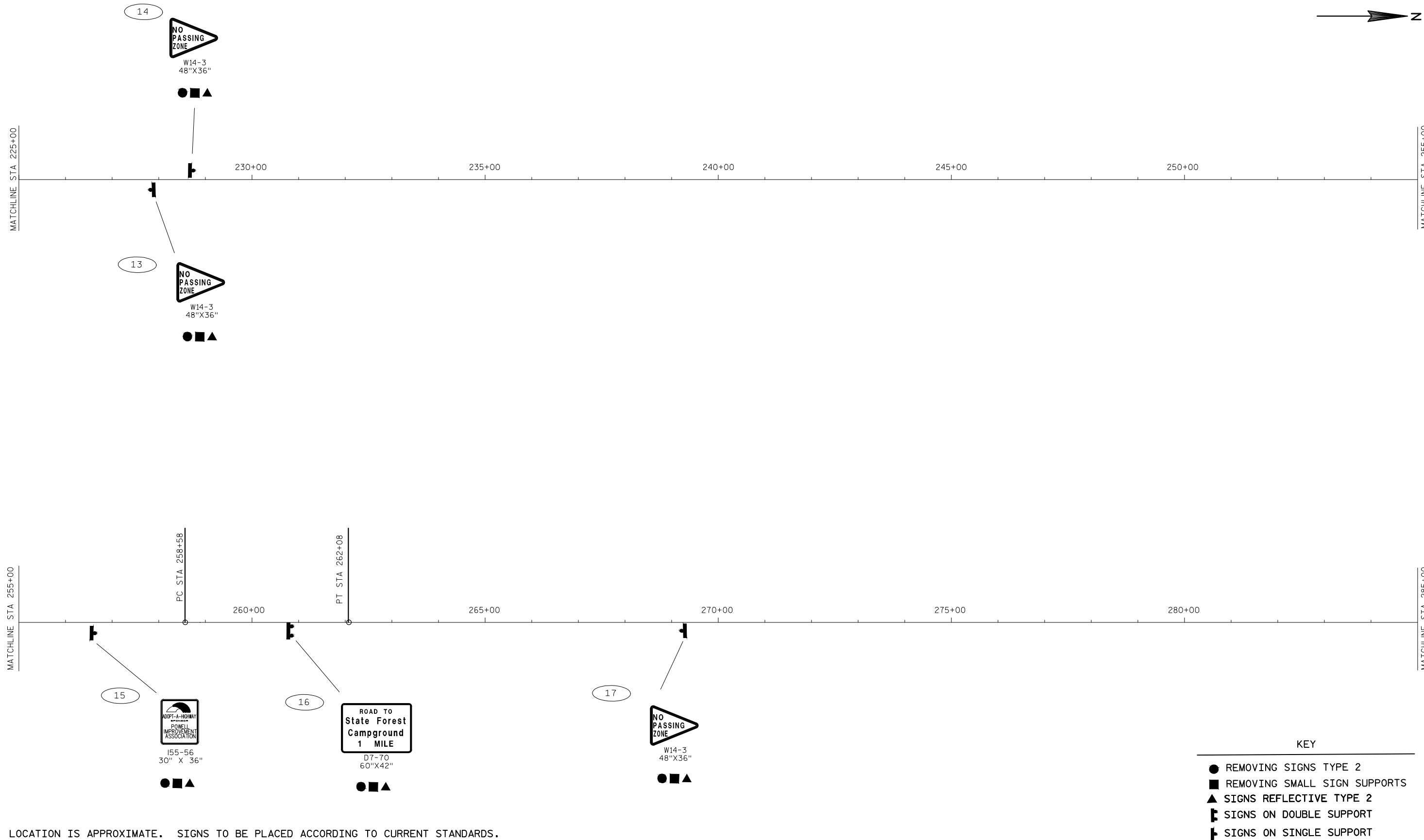


LOCATION IS APPROXIMATE. SIGNS TO BE PLACED ACCORDING TO CURRENT STANDARDS.
NO PASSING SIGNS SHOULD BE PLACED IN ACCORDANCE TO THE RESULTS OF LOCATING
NO-PASSING ZONES ITEM. THERE ARE SIGNS WITHIN THE PROJECT LIMITS NOT SHOWN ON
THE PLAN WHICH ARE TO REMAIN.

KEY

- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- └─ SIGNS ON DOUBLE SUPPORT
- └─ SIGNS ON SINGLE SUPPORT





LOCATION IS APPROXIMATE. SIGNS TO BE PLACED ACCORDING TO CURRENT STANDARDS.
NO PASSING SIGNS SHOULD BE PLACED IN ACCORDANCE TO THE RESULTS OF LOCATING
NO-PASSING ZONES ITEM. THERE ARE SIGNS WITHIN THE PROJECT LIMITS NOT SHOWN ON
THE PLAN WHICH ARE TO REMAIN.

KEY

- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ┌ SIGNS ON DOUBLE SUPPORT
- └ SIGNS ON SINGLE SUPPORT

PROJECT NO:9231-08-70

HWY:STH 47

COUNTY:IRON

PERMANENT SIGNING

SHEET

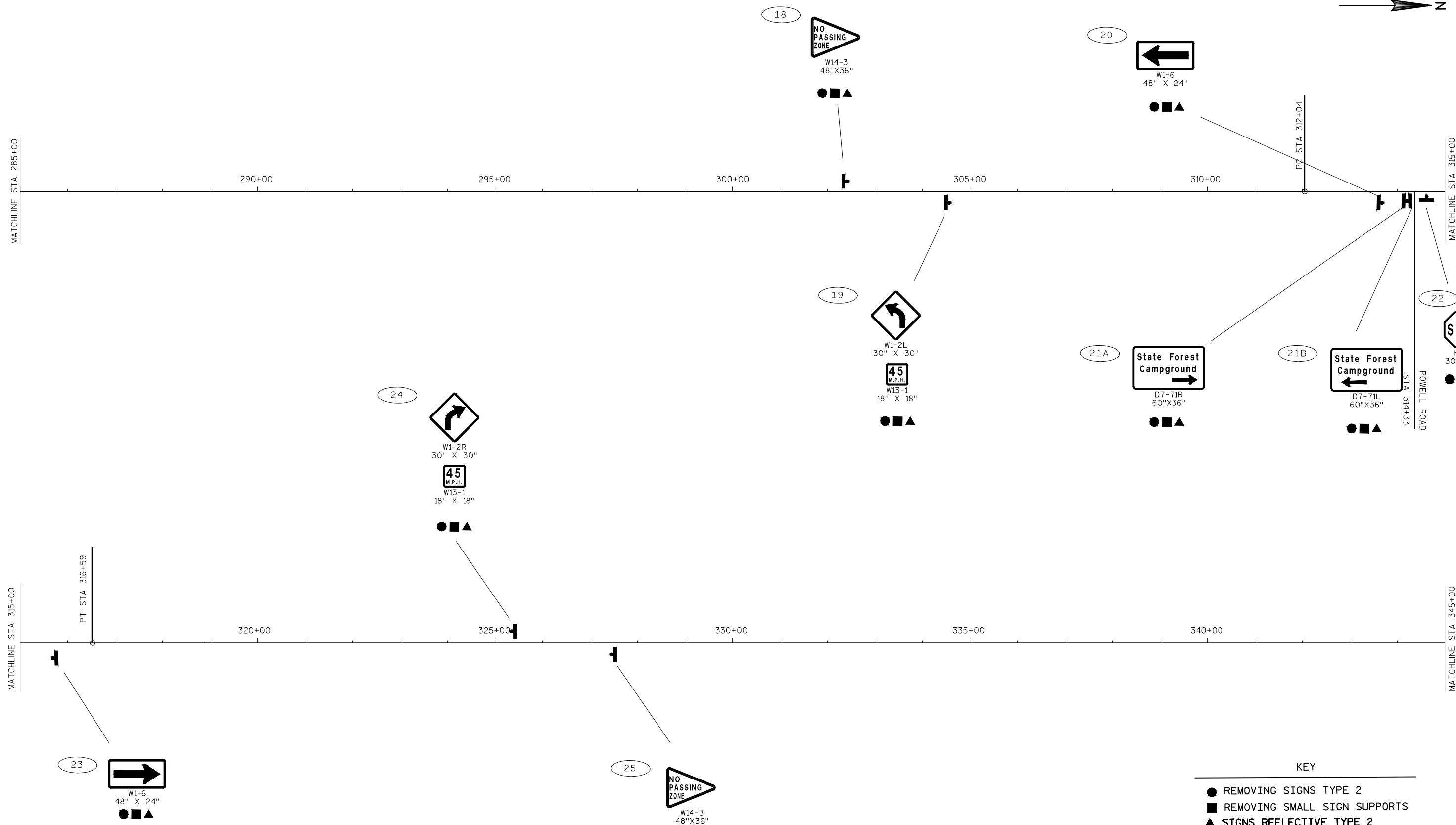
E

MATCHLINE STA 285+00

MATCHLINE STA 315+00

MATCHLINE STA 315+00

MATCHLINE STA 345+00



LOCATION IS APPROXIMATE. SIGNS TO BE PLACED ACCORDING TO CURRENT STANDARDS.
NO PASSING SIGNS SHOULD BE PLACED IN ACCORDANCE TO THE RESULTS OF LOCATING
NO-PASSING ZONES ITEM. THERE ARE SIGNS WITHIN THE PROJECT LIMITS NOT SHOWN ON
THE PLAN WHICH ARE TO REMAIN.

- KEY
- REMOVING SIGNS TYPE 2
 - REMOVING SMALL SIGN SUPPORTS
 - ▲ SIGNS REFLECTIVE TYPE 2
 - ⌋ SIGNS ON DOUBLE SUPPORT
 - ⌋ SIGNS ON SINGLE SUPPORT

PROJECT NO:9231-08-70

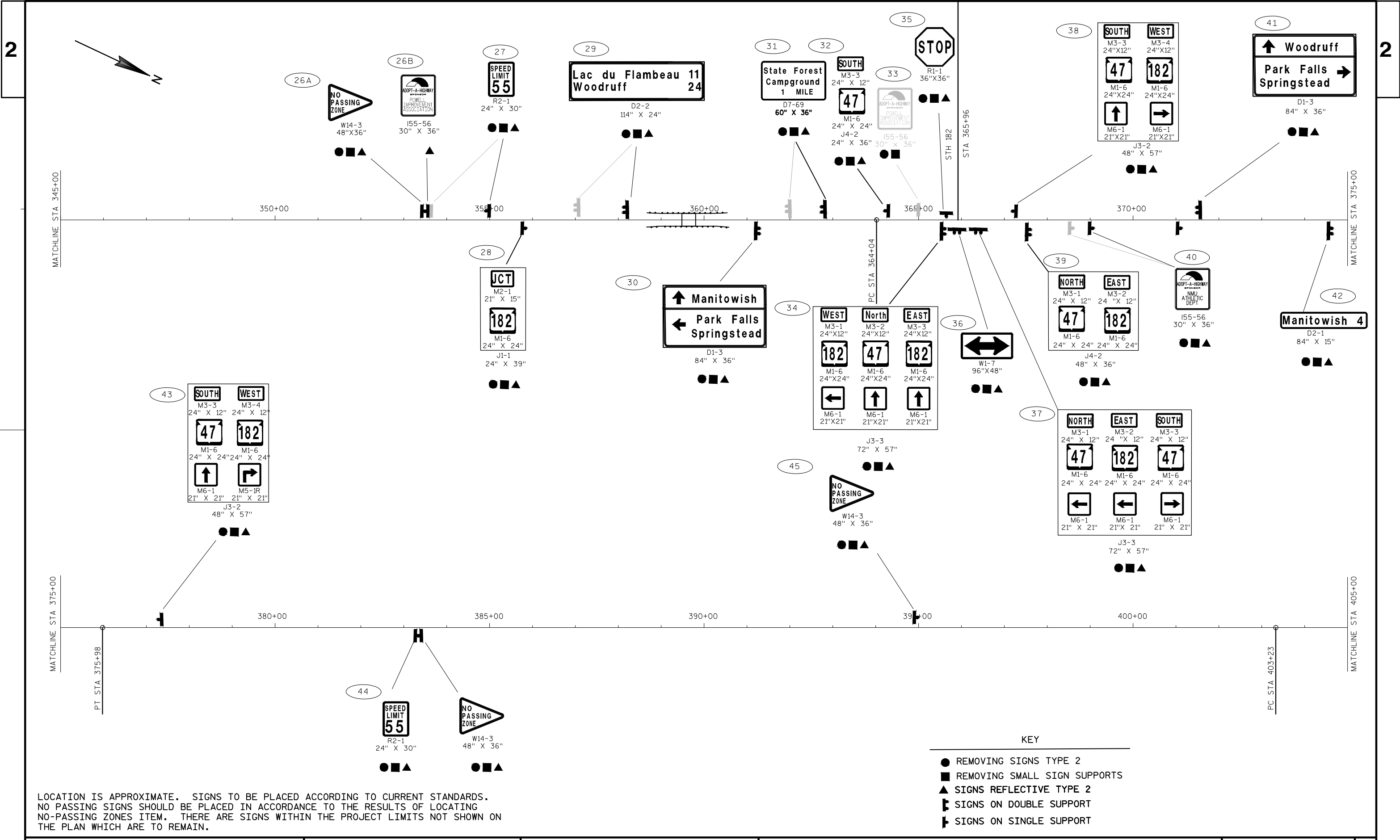
HWY:STH 47

COUNTY:IRON

PERMANENT SIGNING

SHEET

E



LOCATION IS APPROXIMATE. SIGNS TO BE PLACED ACCORDING TO CURRENT STANDARDS.
NO PASSING SIGNS SHOULD BE PLACED IN ACCORDANCE TO THE RESULTS OF LOCATING
NO-PASSING ZONES ITEM. THERE ARE SIGNS WITHIN THE PROJECT LIMITS NOT SHOWN ON
THE PLAN WHICH ARE TO REMAIN.



MATCHLINE STA 405+00

MATCHLINE STA 435+00

410+00

415+00

420+00

425+00

430+00

PT STA 425+05

46

NO
PASSING
ZONE

W14-3
48" X 36"



47

ADOPT-A-HIGHWAY
SPONSOR
NMU
ATHLETIC
DEPT

155-56
30" X 36"



MATCHLINE STA 465+00

MATCHLINE STA 435+00

440+00

445+00

450+00

455+00

460+00

48

ADOPT-A-HIGHWAY
SPONSOR
NMU
REC SPORTS
PROGRAM

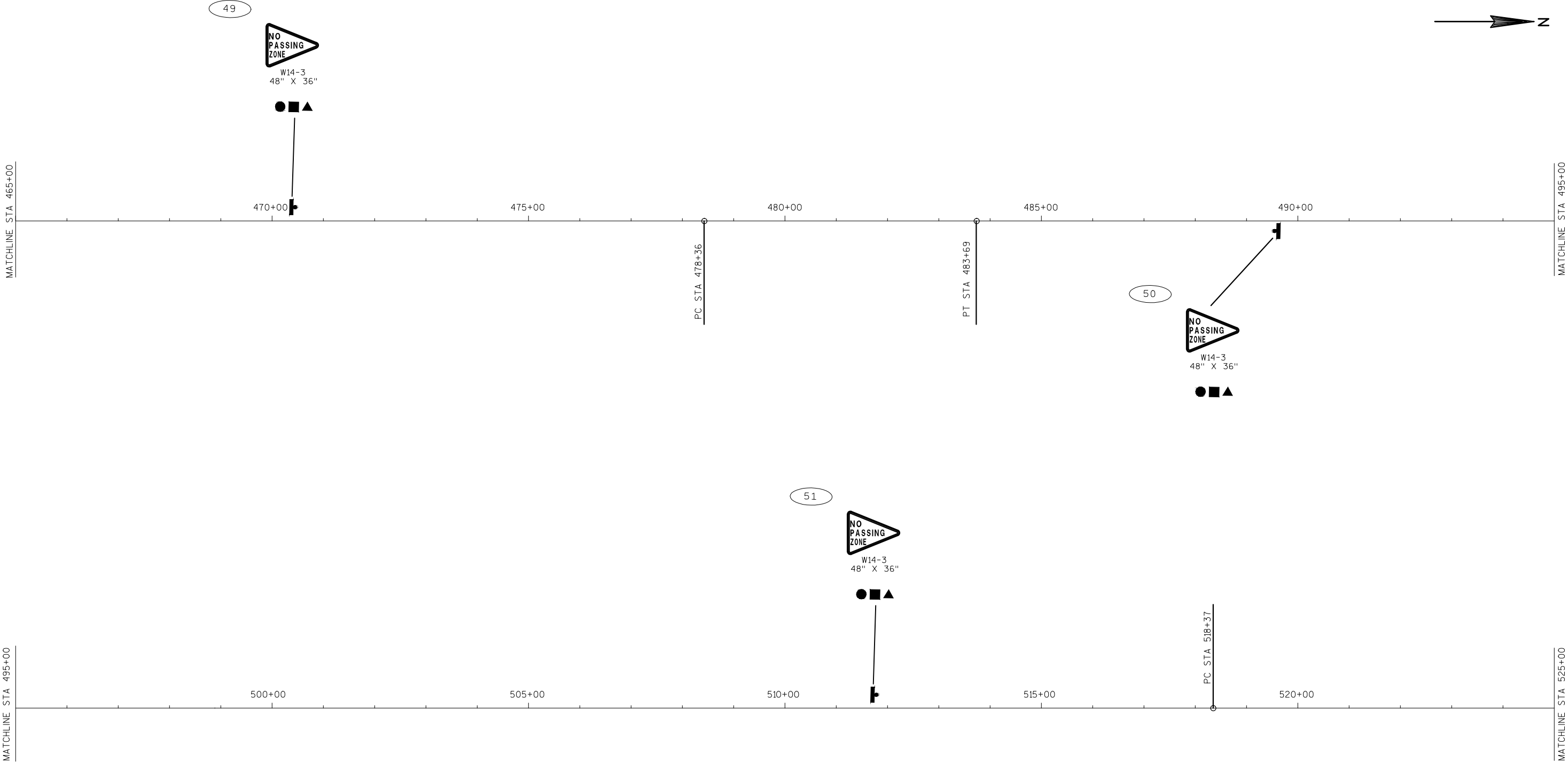
REMOVE



KEY

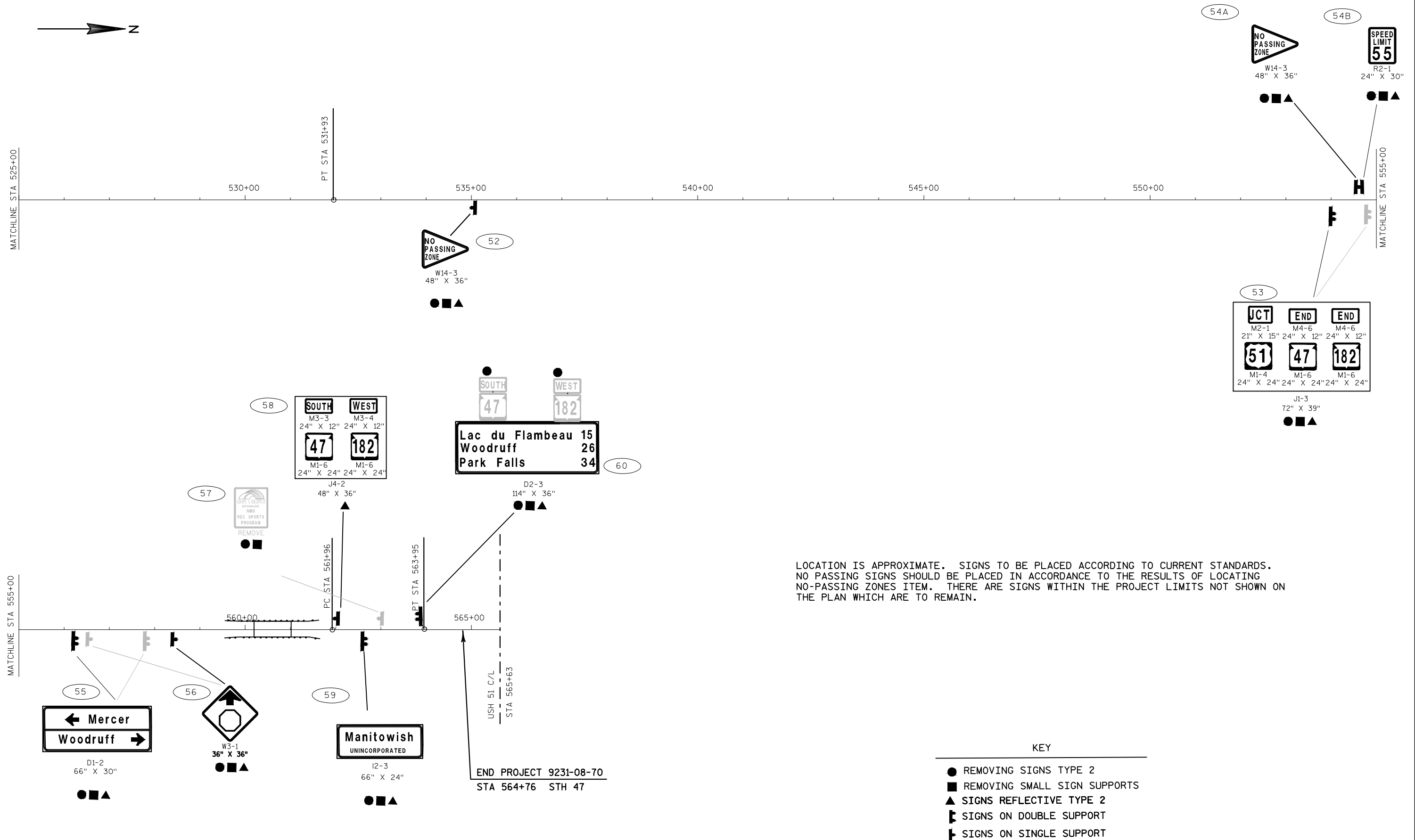
- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ┌ SIGNS ON DOUBLE SUPPORT
- └ SIGNS ON SINGLE SUPPORT

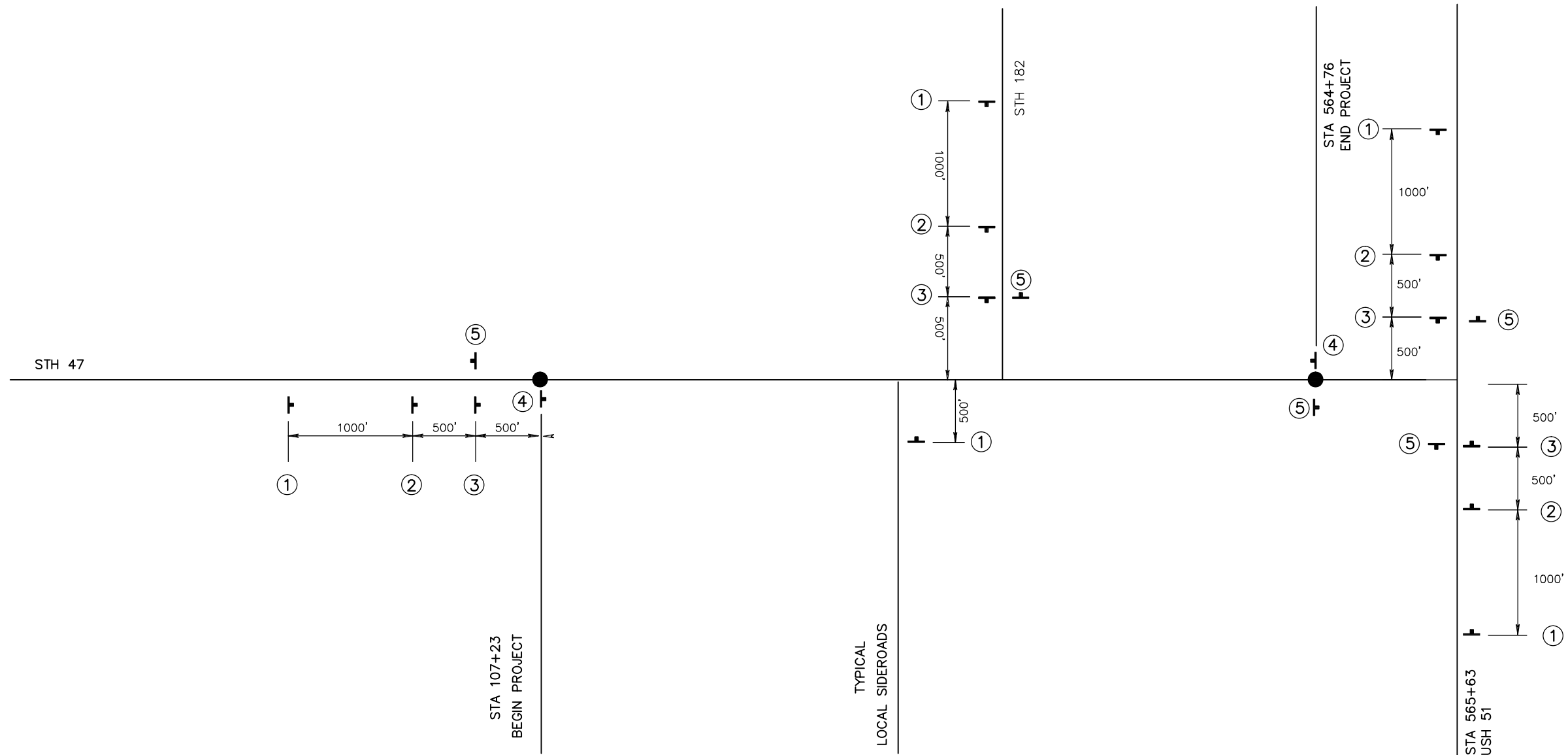
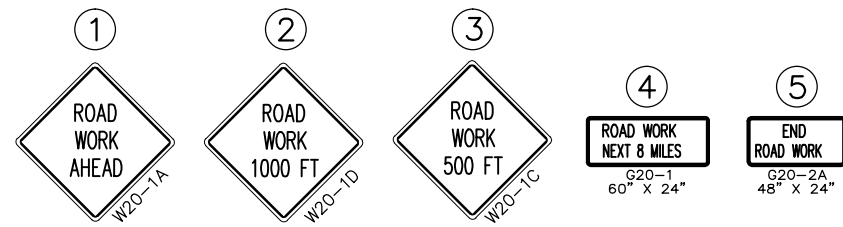
LOCATION IS APPROXIMATE. SIGNS TO BE PLACED ACCORDING TO CURRENT STANDARDS.
NO PASSING SIGNS SHOULD BE PLACED IN ACCORDANCE TO THE RESULTS OF LOCATING
NO-PASSING ZONES ITEM. THERE ARE SIGNS WITHIN THE PROJECT LIMITS NOT SHOWN ON
THE PLAN WHICH ARE TO REMAIN.



LOCATION IS APPROXIMATE. SIGNS TO BE PLACED ACCORDING TO CURRENT STANDARDS.
NO PASSING SIGNS SHOULD BE PLACED IN ACCORDANCE TO THE RESULTS OF LOCATING
NO-PASSING ZONES ITEM. THERE ARE SIGNS WITHIN THE PROJECT LIMITS NOT SHOWN ON
THE PLAN WHICH ARE TO REMAIN.

- KEY
- REMOVING SIGNS TYPE 2
 - REMOVING SMALL SIGN SUPPORTS
 - ▲ SIGNS REFLECTIVE TYPE 2
 - └ SIGNS ON DOUBLE SUPPORT
 - └ SIGNS ON SINGLE SUPPORT





LEGEND

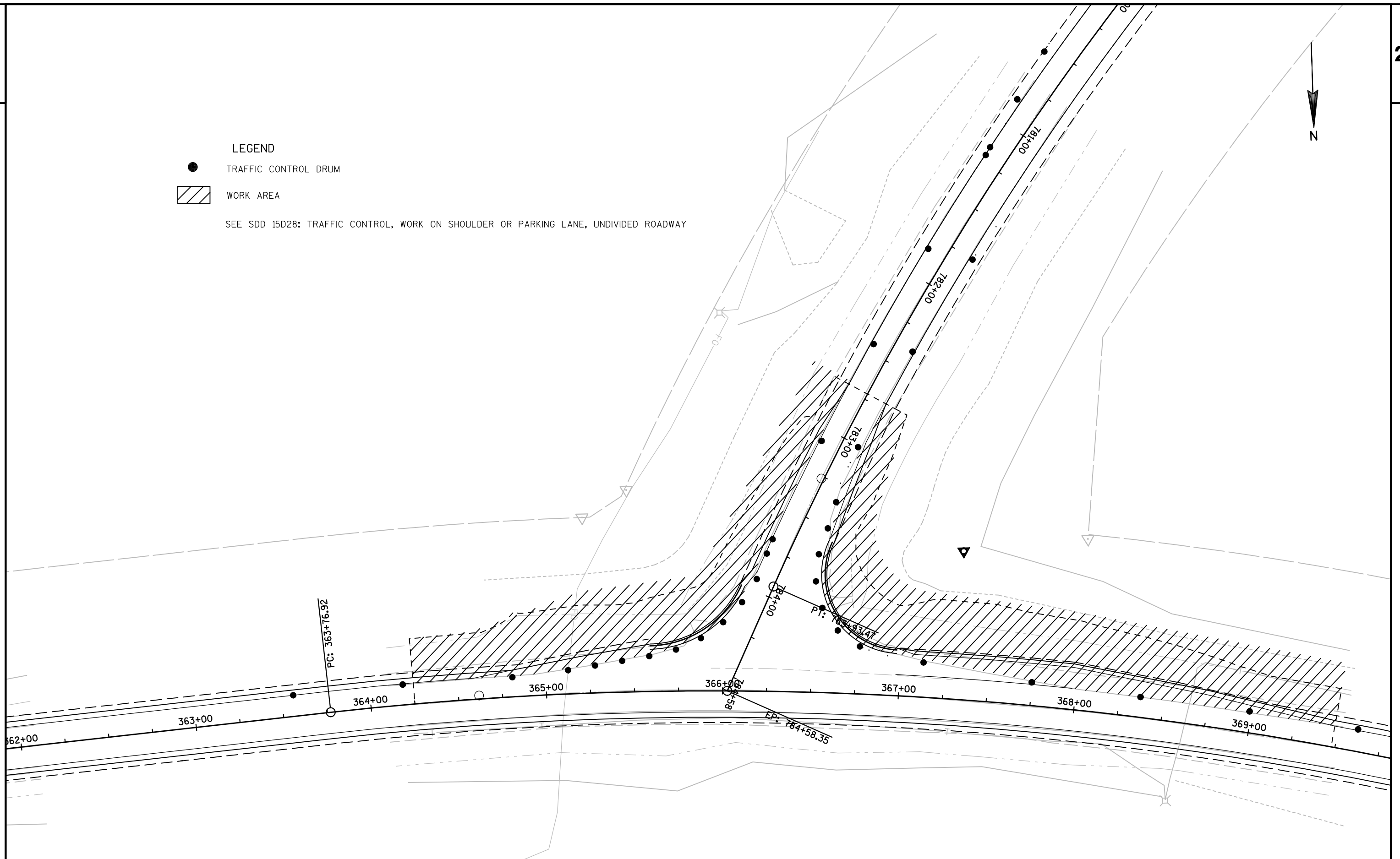


TRAFFIC CONTROL DRUM



WORK AREA

SEE SDD 15D28: TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



PROJECT NO: 9231-08-70

HWY: STH 47

COUNTY: IRON

TRAFFIC CONTROL: SHOULDER CLOSURES AT STH 182

SHEET

E

LEGEND

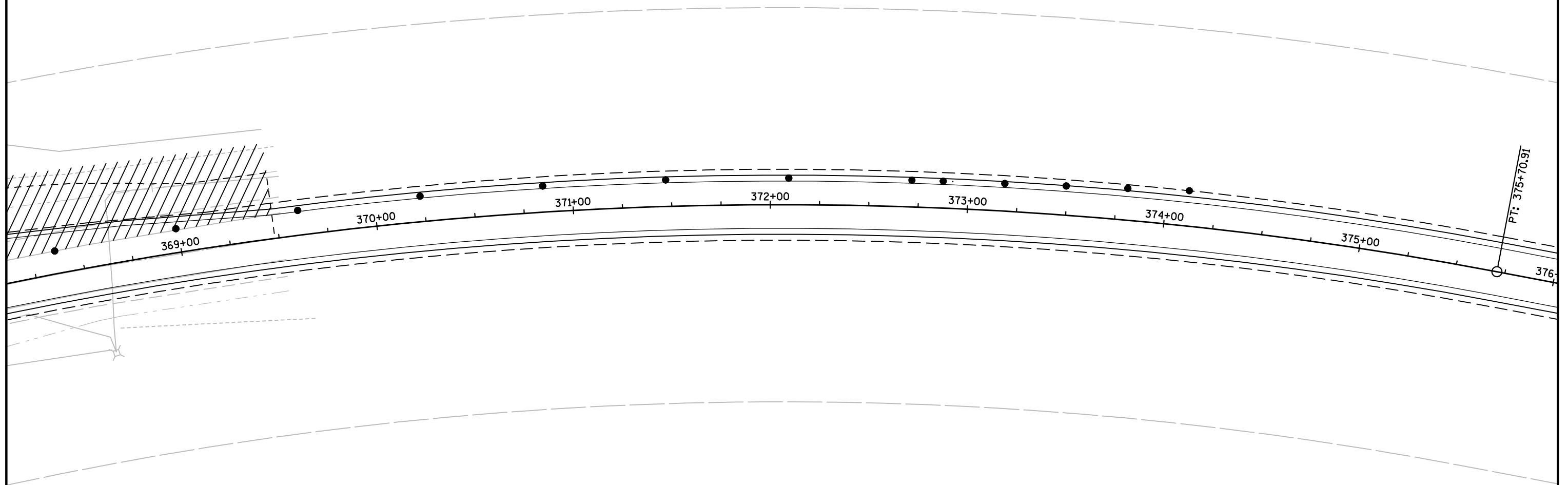


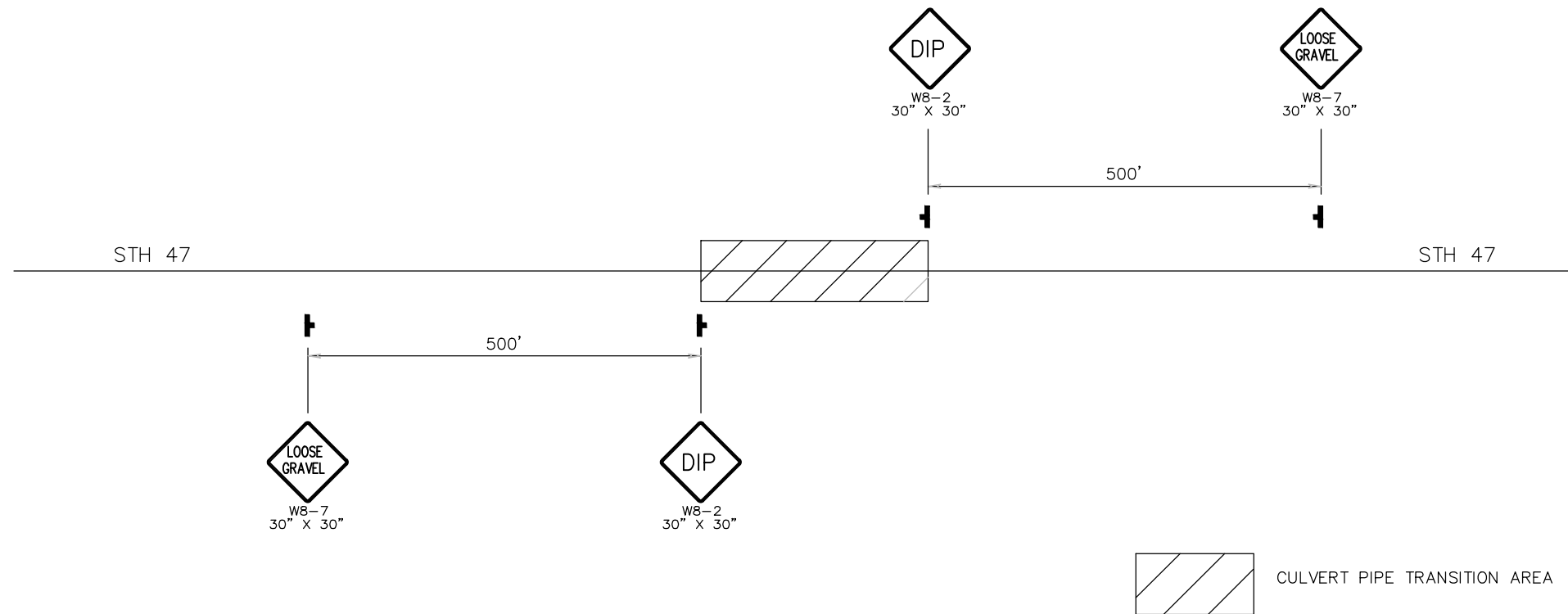
TRAFFIC CONTROL DRUM



WORK AREA

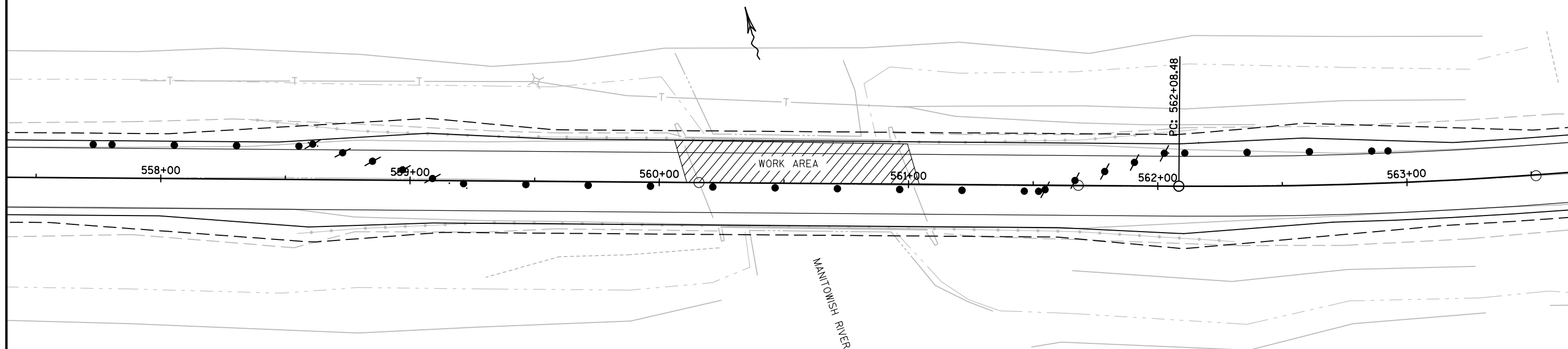
SEE SDD 15D28: TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY





NOTE: SIGNS TO BE IN PLACE WHILE REPLACING PIPE AND
UNTIL ASPHALTIC SURFACE PATCH HAS BEEN PLACED.

TEMPORARY SIGNING AT CULVERT PIPE REPLACEMENT



STAGE 1 TRAFFIC CONTROL SHOWN. STAGE 2
TRAFFIC CONTROL IS SIMILAR.

SEE SDD 15C12 TRAFFIC CONTROL FOR LANE
CLOSURE (SUITABLE FOR MOVING OPERATIONS)

DATE 11AUG16		E S T I M A T E O F Q U A N T I T I E S			
LINE					9231-08-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0020	203.0225.S	Debris Containment (structure) 01. B-26-14	LS	1.000	1.000
0030	204.0110	Removing Asphaltic Surface	SY	120.000	120.000
0040	204.0115	Removing Asphaltic Surface Butt Joints	SY	216.000	216.000
0050	204.0120	Removing Asphaltic Surface Milling	SY	122,900.000	122,900.000
0060	204.0180	Removing Delineators and Markers	EACH	78.000	78.000
0070	204.9090.S	Removing (item description) 01. Asphaltic Curb	LF	26.000	26.000
0080	204.9180.S	Removing (item description) 01. Asphaltic Surface Flumes	SY	15.000	15.000
0090	205.0100	Excavation Common	CY	31.000	31.000
0100	208.0100	Borrow	CY	780.000	780.000
0110	209.0300.S	Backfill Coarse Aggregate (size) 01. No. 2	CY	76.000	76.000
0120	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 9231-08-70	LS	1.000	1.000
0130	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	917.000	917.000
0140	213.0100	Finishing Roadway (project) 01. 9231-08-70	EACH	1.000	1.000
0150	305.0110	Base Aggregate Dense 3/4-Inch	TON	29,120.000	29,120.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,120.000	1,120.000
0170	440.4410	Incentive IRI Ride	DOL	34,600.000	34,600.000
0180	455.0605	Tack Coat	GAL	10,883.000	10,883.000
0190	460.2000	Incentive Density HMA Pavement	DOL	13,290.000	13,290.000
0200	460.5224	HMA Pavement 4 LT 58-28 S	TON	20,755.000	20,755.000
0210	465.0105	Asphaltic Surface	TON	145.000	145.000
0220	465.0110	Asphaltic Surface Patching	TON	45.000	45.000
0230	465.0315	Asphaltic Flumes	SY	25.000	25.000
0240	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	44,460.000	44,460.000
0250	509.1500	Concrete Surface Repair	SF	480.000	480.000
0260	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 01. B-26-14	SY	324.000	324.000
0270	516.0610.S	Sheet Membrane Waterproofing for Top Slab (structure) 01. B-26-14	SY	324.000	324.000
0280	522.0324	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	154.000	154.000
0290	522.0330	Culvert Pipe Reinforced Concrete Class IV 30-Inch	LF	82.000	82.000
0300	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	6.000	6.000
0310	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0320	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	160.000	160.000
0330	614.0920	Salvaged Rail	LF	1,050.000	1,050.000
0340	614.0925	Salvaged Guardrail End Treatments	EACH	8.000	8.000
0350	614.2300	MGS Guardrail 3	LF	362.500	362.500
0360	614.2500	MGS Thrie Beam Transition	LF	315.000	315.000
0370	614.2610	MGS Guardrail Terminal EAT	EACH	8.000	8.000
0380	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9231-08-70	EACH	1.000	1.000
0390	619.1000	Mobilization	EACH	1.000	1.000
0400	624.0100	Water	MGAL	12.000	12.000

DATE 11AUG16		E S T I M A T E O F Q U A N T I T I E S			
LINE		9231-08-70			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0410	625.0100	Topsoil	SY	3,500.000	3,500.000
0420	628.1504	Silt Fence	LF	3,000.000	3,000.000
0430	628.1520	Silt Fence Maintenance	LF	3,000.000	3,000.000
0440	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0450	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0460	628.2006	Erosion Mat Urban Class I Type A	SY	1,900.000	1,900.000
0470	628.2008	Erosion Mat Urban Class I Type B	SY	1,650.000	1,650.000
0480	628.7504	Temporary Ditch Checks	LF	175.000	175.000
0490	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0500	629.0210	Fertilizer Type B	CWT	4.000	4.000
0510	630.0120	Seeding Mixture No. 20	LB	110.000	110.000
0520	633.5200	Markers Culvert End	EACH	78.000	78.000
0530	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	64.000	64.000
0540	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	12.000	12.000
0550	637.2210	Signs Type II Reflective H	SF	437.900	437.900
0560	637.2230	Signs Type II Reflective F	SF	198.300	198.300
0570	638.2602	Removing Signs Type II	EACH	65.000	65.000
0580	638.3000	Removing Small Sign Supports	EACH	69.000	69.000
0590	642.5201	Field Office Type C	EACH	1.000	1.000
0600	643.0100	Traffic Control (project) 01. 9231-08-70	EACH	1.000	1.000
0610	643.0300	Traffic Control Drums	DAY	1,000.000	1,000.000
0620	643.0715	Traffic Control Warning Lights Type C	DAY	60.000	60.000
0630	643.0900	Traffic Control Signs	DAY	1,000.000	1,000.000
0640	646.0106	Pavement Marking Epoxy 4-Inch	LF	135,900.000	135,900.000
0650	646.0126	Pavement Marking Epoxy 8-Inch	LF	100.000	100.000
0660	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	44,200.000	44,200.000
0670	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	20.000	20.000
0680	648.0100	Locating No-Passing Zones	MI	8.670	8.670
0690	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	39,250.000	39,250.000
0700	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	160.000	160.000
0710	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
0720	650.8000	Construction Staking Resurfacing Reference	LF	45,755.000	45,755.000
0730	650.9910	Construction Staking Supplemental Control (project) 01. 9231-08-70	LS	1.000	1.000
0740	650.9920	Construction Staking Slope Stakes	LF	2,570.000	2,570.000
0750	690.0150	Sawing Asphalt	LF	170.000	170.000
0760	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0770	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,260.000	1,260.000
0780	SPV.0060	Special 01. Culvert Pipe Transitions	EACH	4.000	4.000
0790	SPV.0180	Special 01. Thermoplastic Coating At Snowmobile Trail Crossings	SY	70.000	70.000
0800	SPV.0180	Special 02. Geogrid Reinforcement	SY	235.000	235.000

3

REMOVING SMALL PIPE CULVERTS					203.0100
					REMOVING
					SMALL
					PIPE
					CULVERTS
STATION	LOCATION	LENGTH (LF)	DIAMETER (INCHES)	APPROXIMATE DEPTH TO TOP OF PIPE (LF)	(EACH)
250+53	STH 47	56	24	3	1
481+05	STH 47	48	24	2	1
552+28	STH 47	50	24	3	1
784+12	STH 182	75	30	3	1
TOTAL					4

REMOVING ASPHALTIC SURFACE				204.0110
				REMOVING
				ASPHALTIC
				SURFACE
STATION	LOCATION	COMMENTS	(SY)	
364+60 LT	STH 182/47 INTERSECTION	CURB & GUTTER	70	
UNDISTRIBUTED			50	
TOTAL			120	

REMOVING ASPHALTIC SURFACE BUTT JOINT				204.0115
				REMOVING ASPHALTIC
				SURFACE
				BUTT JOINT
STATION	LOCATION	COMMENTS	(SY)	
107+23 - 107+33	STH 47	MAINLINE, 24' WIDE	27	
178+83 - 178+93	STH 47	MAINLINE, 24' WIDE	27	
179+25 - 179+35	STH 47	MAINLINE, 24' WIDE	27	
359+33 - 359+43	STH 47	MAINLINE, 24' WIDE	27	
359+69 - 359+79	STH 47	MAINLINE, 24' WIDE	27	
564+66 - 564+76	STH 47	MAINLINE, 24' WIDE	27	
314+33 RT	POWELL ROAD	SIDE ROAD	27	
782+71 - 782+81	STH 182	24' WIDE	27	
TOTAL			216	

REMOVING ASPHALTIC SURFACE MILLING				204.0120
				REMOVING
				ASPHALTIC
				SURFACE
				MILLING
STATION	LOCATION	COMMENTS	(SY)	
10733 - 17883	STH 47	MAINLINE, 24' WIDE	19,070	
17935 - 35933	STH 47	MAINLINE, 24' WIDE	48,000	
35979 - 56466	STH 47	MAINLINE, 24' WIDE	54,640	
314+33 RT	POWELL ROAD	SIDE ROAD*	150	
366+02 LT	STH 182	SIDE ROAD*	830	
UNDISTRIBUTED			210	
TOTAL			122,900	

*INCLUDES TAPERS

REMOVING DELINEATORS AND MARKERS			204.0180 REMOVING DELINEATORS AND MARKERS (EACH)
STATION	LOCATION* (CULVERT NO.)		
109+72	63-047-026		2
122+43	63-047-027		2
127+45	63-047-028		2
132+46	63-047-029		2
137+49	63-047-030		2
142+53	63-047-031		2
147+53	63-047-032		2
152+55	63-047-033		2
172+59	63-047-034		2
186+96	26-047-001		2
191+44	26-047-002		2
199+47	26-047-003		2
208+76	26-047-004		2
231+33	26-047-005		2
250+53	26-047-006		2
269+91	26-047-007A		2
269+91	26-047-007B		2
283+23	26-047-008		2
303+55	26-047-009		2
312+34	26-047-010		2
327+55	26-047-011		2
338+22	26-047-012		2
346+10	26-047-013		2
377+63	26-047-013R		2
397+81	26-047-014		2
416+20	26-047-015		2
428+85	26-047-016		2
441+53	26-047-017		2
449+89	26-047-018		2
454+68	26-047-019		2
470+09	26-047-020		2
481+05	26-047-021		2
504+18	26-047-022		2
513+03	26-047-023		2
521+74	26-047-024		2
527+56	26-047-025		2
534+94	26-047-026		2
552+28	26-047-027		2
784+12	26-182-045		2
TOTAL			78

* CULVERT END MARKERS

REMOVING ASPHALTIC CURB

204.9090.S.01

REMOVING ASPHALTIC CURB

(LF)

STATION

LOCATION

366+50 - 367+00 LT

SE QUAD

26

TOTAL

26

REMOVING ASPHALTIC SURFACE FLUMES

204.9180.S.01

REMOVING ASPHALTIC SURFACE FLUMES

(SY)

STATION

LOCATION

COMMENTS

365+86

35' LT

SE QUAD

7

366+65

52' LT

SW QUAD

8

TOTAL

15

BACKFILL COURSE AGGREGATE SIZE NO. 2

209.0300.S.01

BACKFILL COURSE AGGREGATE

(CY)

STATION

LOCATION (CULVERT NO.)

250+33

26-047-006

18

481+05

26-047-021

16

549+41

26-047-027

16

784+12

26-182-045

26

TOTAL

76

3

Division	From/To Station	Location	Common Excavation (1) Item #205.0100		Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow	Comment
			Cut (2)	EBS Excavation (3)			Factor 1.25			Item #208.0100	
Division 1											
47-SugarBush	176+50/181+56.73		0	0	0	67	83	-83	0	83	
STH 47 at 182	364+25/369+47.83		17	0	17	317	397	-380	0	380	
STH 47-Manitowish	557+55/563+51.96		14	0	14	151	189	-175	0	175	
STH 182	782+71/784+50		1	0	1	113	141	-142	0	142	
Division 1 Subtotal			31	0	31	648	810	-780	0	780	
Grand Total			31	0	31	648	810	-780	0.00	780	
Total Common Exc			31								

- 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.
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 13) Expanded Fill. Factor = 1.25
- Depending on selections:
- Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or

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

Or

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

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

3

PREPARE FOUNDATION FOR
ASPHALTIC PAVING (PROJECT) 9231-08-70

	211.0100
	PREPARE
	FOUNDATION
	FOR
	ASPHALTIC
	PAVING
STATION	(LS)
107+23 - 564+76	1
TOTAL	1

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

			211.0400
			PREPARE
			FOUNDATION
			FOR
			ASPHALTIC
			SHOULDERS
STATION	LOCATION	COMMENTS	(STA)
107+23 - 564+76 RT	STH 47	RT SHOULDER	457
107+23 - 564+76 LT	STH 47	LT SHOULDER	457
782+67 - 784+00 RT	STH 182	RT SHOULDER	2
782+67 - 783+60 LT	STH 182	LT SHOULDER	1
	TOTAL		917

3

BASE AGGREGATE DENSE

			305.0110	305.0120	624.0100
			BASE	BASE	
			AGGREGATE	AGGREGATE	
			DENSE	DENSE	
			3/4-INCH	1 1/4-INCH	WATER
STATION	LOCATION	COMMENTS	(TON)	(TON)	(MGAL)
107+23 - 314+33	LT SHLDR	MAINLINE	9120	-	
314+33 - 366+02	LT SHLDR	MAINLINE	2000	-	
366+02 - 564+76	LT SHLDR	MAINLINE	3510	-	
107+23 - 314+33	RT SHLDR	MAINLINE	7730	-	
314+33 - 366+02	RT SHLDR	MAINLINE	1400	-	
366+02 - 564+76	RT SHLDR	MAINLINE	4610	-	
314+33 RT	POWELL ROAD	CURB RETURNS	25	-	
366+02 LT	STH 182	LT & RT SHOULDER	100	-	
366+02	STH 182	INTERSECTION	275	-	
250+29 - 250+77	CULVERT PIPE	TRANSITION	-	280	3
480+81 - 481+29	CULVERT PIPE	TRANSITION	-	280	3
552+04 - 552+52	CULVERT PIPE	TRANSITION	-	280	3
783+88 - 784+36	CULVERT PIPE	TRANSITION	-	280	3
PE's , FE's & CE's			250	-	
UNDISTRIBUTED			100	-	
	TOTAL		29,120	1,120	12

HMA PAVEMENT

			455.0605	460.5224
			TACK	HMA
			COAT	PAVEMENT
			(GAL)	4 LT 58-28 S
				(TON)
STATION	LOCATION	COMMENTS		
GROUP 0010				
10723 - 17893	STH 47	MAINLINE	1,680	2,680
17925 - 35943	STH 47	MAINLINE	4,210	6,730
35969 - 56476	STH 47	MAINLINE	4,790	7,660
107+23 - 178+93	STH 47	LT&RT PAVED SHOULDER LOWER	-	536
179+25 - 359+43	STH 47	LT&RT PAVED SHOULDER LOWER	-	1,346
359+69 - 560+16	STH 47	LT&RT PAVED SHOULDER LOWER	-	1,497
561+02 - 564+76	STH 47	LT&RT PAVED SHOULDER LOWER	-	28
782+67 - 784+42	STH 182	SHOULDER & TAPER LOWER	-	11
782+67 - 784+42	STH 182	SHOULDER & TAPER LOWER	-	12
782+67 - 784+42	STH 182	MAINLINE & TAPERS	80	124
314+33 RT	POWELL ROAD	SIDE ROAD	100	16
UNDISTRIBUTED				60
	TOTAL		10,860	20,700

PROJECT NO: 9231-08-70

HWY: STH 47

COUNTY: IRON

MISCELLANEOUS QUANTITIES

SHEET

E

3

ASPHALTIC SURFACE

			465.0105	465.0110
			ASPHALTIC	ASPHALTIC
			SURFACE	SURFACE
			(TON)	PATCHING
			(TON)	(TON)
365+59 - 366+13	LT CURB RETURN	C&G AREA	-	2
366+44 - 366+98	RT CURB RETURN	C&G AREA	-	2
250+29 - 250+77	26-047-006	PIPE REPLACEMENT	36	-
480+81 - 481+29	26-047-021	PIPE REPLACEMENT	36	-
552+04 - 552+52	26-047-027	PIPE REPLACEMENT	36	-
783+88 - 784+36	26-182-045	PIPE REPLACEMENT	37	-
UNDISTRIBUTED	STH 47 MAINLINE	PATCHING AFTER MILLING	-	41
TOTAL			145	45

ASPHALTIC FLUMES

		465.0315
		ASPHALTIC
		FLUMES
		(SY)
365+86	LT SE QUAD	13
366+60	LT SW QUAD	12
TOTAL		25

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL

			465.0475
			ASPHALTIC
			CENTERLINE
			RUMBLE
			STRIP
			LF
107+23 - 178+68	STH 47	MAINLINE	7,145
179+50 - 312+33	STH 47	MAINLINE	13,283
316+33 - 359+18	STH 47	MAINLINE	4,285
359+94 - 363+96	STH 47	MAINLINE	402
367+96 - 559+91	STH 47	MAINLINE	19,195
561+26 - 562+76	STH 47	MAINLINE	150
TOTAL			44,460

CULVERT PIPE REINFORCED CONCRETE
APRON ENDWALLS FOR CULVERT PIPE

		522.0324	522.0330	522.1024	522.1030
		CULVERT PIPE	CULVERT PIPE	APRON	APRON
		REINFORCED	REINFORCED	ENDWALLS FOR	ENDWALLS FOR
		CONCRETE	CONCRETE	CULVERT PIPE	CULVERT PIPE
		CLASS IV	CLASS IV	REINFORCED	REINFORCED
		24-INCH	30-INCH	CONCRETE	CONCRETE
		(LF)	(LF)	24-INCH	30-INCH
				(EACH)	(EACH)
250+53	PIPE 26-047-006	56	-	2	-
481+05	PIPE 26-047-021	48	-	2	-
552+28	PIPE 26-047-027	50	-	2	-
784+12	PIPE 26-182-045	-	82	-	2
TOTAL		154	82	6	2

NOTE:
PLACE CONCRETE PIPE JOINT TIES AT ALL JOINTS. JOINT TIES INCIDENTAL TO CULVERT PIPE ITEMS.
MATCH EXISITING INVERT ELEVATIONS.

CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D

			601.0557
			CONCRETE
			CURB & GUTTER
			6-INCH
			SLOPED
			36-INCH
			TYPE D
			(LF)
365+59 - 366+13	LT STH 182	SE QUAD	70
366+44 - 366+98	RT STH 182	SW QUAD	90
TOTAL			160

SALVAGED GUARDRAIL

		614.0920	614.0925
		SALVAGED	SALVAGED
		GUARDRAIL	GUARDRAIL
		END TREATMENTS	
		(LF)	(EACH)
178+22 - 180+10	LT B-26-023	144	2
178+07 - 179+95	RT B-26-023	144	2
558+35 - 562+16	LT B-26-023	384	2
558+55 - 562+31	RT B-26-014	378	2
TOTAL		1,050	8

3

3

MGS GUARDRAIL

GUARDRAIL TERMINAL EAT

MGS THRIE BEAM TRANSITION

				614.2300	614.2500	614.2610
				MGS	THRIE	GUARDRAIL
				GUARDRAIL	BEAM	TERMINAL
				3	TRANSITION	EAT
STATION	STATION	LOCATION	COMMENTS	(LF)	(LF)	(EACH)
178+89 LT	- 178+95 LT	B-26-023	SW QUAD	12.5	39.4	1
179+34 LT	- 181+05 LT	B-26-023	NW QUAD	75.0	39.4	1
176+99 RT	- 178+79 RT	B-26-023	SE QUAD	87.5	39.4	1
179+22 RT	- 180+28 RT	B-26-023	NE QUAD	12.5	39.4	1
559+07 LT	- 560+12 LT	B-26-014	SW QUAD	12.5	39.4	1
560+90 LT	- 562+59 LT	B-26-014	NW QUAD	75.0	39.4	1
558+59 RT	- 560+27 RT	B-26-014	SE QUAD	12.5	39.4	1
561+05 RT	- 562+11 RT	B-26-014	NE QUAD	75.0	39.4	1
TOTAL				362.5	315	8

MARKERS CULVERT END

		633.5200
		MARKERS
		CULVERT
STATION	LOCATION (CULVERT NO.)	END (EACH)
109+72	63-047-026	2
122+43	63-047-027	2
127+45	63-047-028	2
132+46	63-047-029	2
137+49	63-047-030	2
142+53	63-047-031	2
147+53	63-047-032	2
152+55	63-047-033	2
172+59	63-047-034	2
186+96	26-047-001	2
191+44	26-047-002	2
199+47	26-047-003	2
208+76	26-047-004	2
231+33	26-047-005	2
250+53	26-047-006	2
269+91	26-047-007A	2
269+91	26-047-007B	2
283+23	26-047-008	2
303+55	26-047-009	2
312+34	26-047-010	2
327+55	26-047-011	2
338+22	26-047-012	2
346+10	26-047-013	2
377+63	26-047-013R	2
397+81	26-047-014	2
416+20	26-047-015	2
428+85	26-047-016	2
441+53	26-047-017	2
449+89	26-047-018	2
454+68	26-047-019	2
470+09	26-047-020	2
481+05	26-047-021	2
504+18	26-047-022	2
513+03	26-047-023	2
521+74	26-047-024	2
527+56	26-047-025	2
534+94	26-047-026	2
552+28	26-047-027	2
784+12	26-182-045	2
TOTAL		78

3

LANDSCAPING

				628.2006	628.2008	629.0210	630.0120
				EROSION MAT	EROSION MAT	FERTILIZER	SEEDING
				625.0100	URBAN	URBAN	MIXTURE
				TOPSOIL	CLASS 1	TYPE A	TYPE B
				(SY)	(SY)	(SY)	(CWT)
				(SY)	(SY)	(SY)	(LB)
STATION				LOCATION			
PIPE REPLACEMENT							
250+53				PIPE 26-047-006	16	-	16
481+05				PIPE 26-047-021	16	-	16
552+28				PIPE 26-047-027	16	-	16
STH 182 INTERSECTION IMPROVEMENTS							
364+00 LT (STH 47)	- 782+67 RT (STH 182)		SE QUAD	700	700	-	0.5
782+61 LT (STH 182)	- 369+55 LT (STH 47)		SW QUAD	1,080	1,080	-	0.7
BEAM GUARD							
178+89 LT	- 178+95 LT	B-26-023	SW QUAD	161	-	161	0.2
179+34 LT	- 181+05 LT	B-26-023	NW QUAD	146	-	146	0.1
176+99 RT	- 178+79 RT	B-26-023	SE QUAD	168	-	168	0.2
179+22 RT	- 180+28 RT	B-26-023	NE QUAD	126	-	126	0.1
559+07 LT	- 560+12 LT	B-26-014	SW QUAD	295	-	295	0.2
560+90 LT	- 562+59 LT	B-26-014	NW QUAD	193	-	193	0.2
558+59 RT	- 560+27 RT	B-26-014	SE QUAD	225	-	225	0.2
561+05 RT	- 562+11 RT	B-26-014	NE QUAD	197	-	197	0.2
UNDISTRIBUTED				161	120	91	1.1
TOTAL				3,500	1,900	1,650	4.0

PROJECT NO: 9231-08-70

HWY: STH 47

COUNTY: IRON

MISCELLANEOUS QUANTITIES

SHEET

E

3

EROSION CONTROL

					628.1520	628.1905	628.1910	628.7504	628.7555	
			628.1504	SILT	MOBILIZATIONS	MOBILIZATIONS	EMERGENCY	TEMPORARY	CULVERT	
			SILT	FENCE	EROSION	EROSION	EROSION	DITCH	PIPE	
			FENCE	MAINTENANCE	CONTROL	CONTROL	CONTROL	CHECKS	CHECKS	
STATION			(LF)	(LF)	(EACH)	(EACH)	(EACH)	(LF)	(EA)	
PROJECT										
107+23	-	564+76	-	-	5	5	-	-	-	
PIPE REPLACEMENT										
250+53	LT & RT		180	180	-	-	-	-	-	
481+05	LT & RT		180	180	-	-	-	-	-	
552+28	LT & RT		180	180	-	-	-	-	-	
784+12	LT		-	-	-	-	-	-	9	
BEAM GUARD										
176+76	LT	-	179+00	LT	235	235	-	-	-	
176+50	RT	-	178+83	RT	240	240	-	-	-	
179+35	LT	-	181+82	LT	255	255	-	-	-	
179+21	RT	-	181+48	RT	240	240	-	-	-	
557+77	LT	-	560+09	LT	240	240	-	-	-	
557+73	RT	-	560+26	RT	260	260	-	-	-	
560+92	LT	-	563+24	LT	240	240	-	-	-	
561+10	RT	-	563+20	RT	215	215	-	-	-	
CURB AND GUTTER AND INTERSECTION										
364+00	LT (STH 47)	-	782+67	RT (STH 182)	-	-	-	50	-	
782+61	LT (STH 182)	-	369+55	LT (STH 47)	-	-	-	75	-	
UNDISTRIBUTED			535	535	-	-	-	50	6	
TOTAL			3,000	3,000	5	5	175	15		

TRAFFIC CONTROL

			643.0100	643.0300	643.0715	643.0900
			TRAFFIC	TRAFFIC	TRAFFIC CONTROL	TRAFFIC
			CONTROL	CONTROL	WARNING LIGHTS	CONTROL
			PROJECT	DRUMS	TYPE C	SIGNS
LOCATION			COMMENTS	(EACH)	(DAYS)	(DAYS)
PROJECT LIMITS						
107+23 - 564+76			PROJECT	1	-	700
PIPE REPLACEMENT						
250+53	26-047-006	LANE SHIFT	-	50	-	16
481+05	26-047-021	LANE SHIFT	-	50	-	16
552+28	26-047-027	LANE SHIFT	-	50	-	16
784+12	26-182-045	LANE SHIFT	-	100	-	24
STRUCTURE						
557+50 - 563+50	B-26-14	STAGE 1 & 2	-	180	60	20
BEAM GUARD						
177+50 - 180+50	STH 47	BEAM GUARD	-	100	-	16
557+50 - 563+50	STH 47	BEAM GUARD	-	100	-	16
CURB & GUTTER AND INTERSECTION IMPROVEMENTS						
364+00 - 370+00 LT	STH 47	CURB & GUTTER	-	100	-	20
782+50 - 784+50	STH 182	CURB & GUTTER	-	100	-	20
UNDISTRIBUTED				170		136
TOTAL			1	1,000	60	1,000

PAVEMENT MARKING EPOXY 8-INCH

				646.0126
				PAVEMENT
				MARKING
				EPOXY
				8-INCH
STATION		LOCATION		(LF)
366+37	-	367+37	12' LT	100
TOTAL				100

PAVEMENT MARKING

		646.0106	646.0106	646.0406	649.0402
		PAVEMENT	PAVEMENT	PAVEMENT	TEMP PAVEMENT
		MARKING	MARKING	MARKING	MARKING
		EPOXY	EPOXY	SAME DAY	REFLECTIVE
		4-INCH	4-INCH	EPOXY	PAINT
		WHITE	YELLOW	4-INCH	4-INCH
STATION		(LF)	(LF)	(LF)	(LF)
107+23	-	574+76	91,700	44,200	44,200
TOTAL		135,900		44,200	39,250

PAVEMENT MARKING STOP LINE EPOXY 18-INCH

				647.0566
				PAVEMENT
				MARKING
				STOP LINE
				EPOXY
				18-INCH
STATION		LOCATION		(LF)
366+37		STH 182		20
TOTAL				20

LOCATE NO-PASSING ZONES

				648.0100
				LOCATING
				NO-PASSING
				ZONES
STATION				(MI)
107+23	-	564+76		8.67
TOTAL				8.67

3

PERMANENT SIGNING

SHEET 1 of 2

STATION	LOCATION	SIGN #	SIGN CODE	Size	638.2602	638.3000	637.2210	637.2230	634.0614	634.0616	DESCRIPTION
					REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE REFLECTIVE F SF	WOOD POSTS 4X6-INCH 14 FOOT EACH	WOOD POSTS 4X6-INCH 16 FOOT EACH	
113+25	R	1	W1-6	48 x 24				8	1		NIGHT ARROW
118+00	R	2	W1-6	48 x 24				8	1		NIGHT ARROW
127+81	R	3	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
150+87	L	4	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
172+34	R	5	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
177+65	L	6	J4-1	24 x 36			6		1		SOUTH 47
180+15	L	7	I2-2	48 x 15	1	1	5		2		VILAS CO
			M1-6	24 x 24	1						47/VILAS COUNTY IS ZONED
180+15	R	8	I2-2	48 x 15	1	1	5		1		IRON CO
			M1-6	24 x 24	1						47/ IRON COUNTY IS ZONED
181+90	R	9	J4-1	24 x 36			6		1		NORTH 47
185+00	R	10	R2-1	24 x 30			5		1		55 MPH
186+13	L	11	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
217+51	L	12	I2-24	84 x 24	1	2	14		2		LAC DU FLAMBEAU INDIAN RESERVATION
227+93	R	13	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
228+70	L	14	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
256+58	R	15	I55-56	30 x 36	1	1	8		1		ADOPT A HWY POWELL IMPROVEMENT ASSOCIATION
260+81	R	16	D7-70	60 x 42	1	2	17.5		2		RD TO STATE FOREST CAMPGROUND
269+20	R	17	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
302+28	L	18	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
304+46	R	19	W1-2L	30 x 30	1	1		5		1	CURVE LEFT
			W13-1	18 x 18	1			3			45 MPH
313+62	R	20	W1-6	48 x 24	1	1		8	1		NIGHT ARROW
314+11	R	21	D7-71R	60 x 36	1	2	15		2		STATE FOREST CAMPGROUND R ARROW
			D7-71L	60 x 36	1		15				STATE FOREST CAMPGROUND L ARROW
314+48	R	22	R1-1	30 x 30	1	1	5		1		STOP
315+70	R	23	W1-6	48 x 24	1	1		8	1		NIGHT ARROW
325+39	L	24	W1-24	30 x 30	1	1		6.25		1	CURVE RIGHT
			W13-1	18 x 18	1			3			45MPH
327+51	R	25	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
353+83	L	26	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
			R2-1	24 x 30	1		5				SPEED LIMIT 55
			I55-56	30 x 36			8		1		ADOPT A HWY POWELL IMPROVEMENT ASSOCIATION
355+00	L	27	R2-1	24 x 30			5		1		SPEED LIMIT 55
355+76	R	28	J1-1	24 x 39	1	1	6.5		1		JCT 182
357+05	L	29	D2-2	114 x 24	1	2	19		2		LAC DU FLAMBEAU 11
											WOODRUFF 24
361+15	R	30	D1-3	84 x 36	1	2	21		2		(UA) MANITOWISH
											(LA) PARK FALLS
											(LA) SPRINGSTEAD
362+90	L	31	D7-69	60 x 36	1	2	15		2		STATE FOREST CAMPGROUND 1 MILE
SUBTOTAL SHEET 1					31	31	180.2	109.3	37	2	

3

PERMANENT SIGNING

SHEET 2 of 2

STATION	LOCATION	SIGN #	SIGN CODE	SIZE	638.2602	638.3000	637.2210	637.2230	634.0614	634.0616	DESCRIPTION
					REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE REFLECTIVE F SF	WOOD POSTS 4X6-INCH 14 FOOT EACH	WOOD POSTS 4X6-INCH 16 FOOT EACH	
364+22	L	32	J4-1	24 x 36	1	1	6		1		SOUTH 47
365+00	L	33	I55-56	30 x 36	1	1					ADOPT A HWY POWELL IMPROVEMENT ASSOCIATION
365+67	R	34	J3-3	72 x 57	1	2	28.5			2	W 182 (LA), N 47 (UA), E 182 (UA)
365+88	L	35	R1-1	36 x 36	1	1	5.18		1		STOP
365+96	R	36	W1-7	96 x 48	1	2		32	2		DOUBLE NIGHT ARROW
366+16	R	37	J3-3	72 x 57	1	2	28.5			2	N 47 (LA), E 182 (LA), S 47 (RA)
367+25	L	38	J3-2	48 x 57	1	1	19			1	S 47 (UA), W 182 (RA)
367+59	R	39	J4-2	48 x 36	1	2	12		2		NORTH 47, EAST 182
369+00	R	40	I55-56	30 x 36	1	1	7.5		1		ADOPT A HWY NMU ATHLETIC DEPT
371+66	L	41	D1-3	84 x 36	1	2	21			2	WOODRUFF (UA) PARK FALLS (RA) SPRINGSTEAD (RA)
374+51	R	42	D2-1	84 x 15	1	2	8.75		2		MANITOWISH 4
377+24	L	43	J3-2	48 x 57	1	1	19			1	S 47 (UA), W 182 ADVANCE RIGHT ARROW
383+20	R	44	R2-1	24 x 30	1	1	5		1		SPEED LIMIT 55
			W14-3	48 x 36	1			6			NO PASSING ZONE
394+94	L	45	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
432+15	R	46	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
460+34	L	47	I55-56	30 x 36	1	1	7.5		1		ADOPT A HWY NMU ATHLETIC DEPT.
462+59	R	48	I55-56	30 x 36	1	1					ADOPT A HWY NMU REC SPORTS PROGRAM
470+37	L	49	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
489+91	R	50	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
511+76	L	51	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
535+07	R	52	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
554+00	R	53	J1-3	72 x 39	1	2	19.5			2	JCT 51, END 47, END 182
554+69	L	54	W14-3	48 x 36	1	1		6	1		NO PASSING ZONE
			R2-1	24 x 30	1		5				SPEED LIMIT 55
556+20	R	55	D1-2	66 x 30	1	2	13.75		2		(LA) MERCER, WOODRUFF (RA)
558+25	R	56	W3-1	36 x 36	1	1		9	1		STOP AHEAD
558+25	L	57	I55-56	30 x 36	1	1					ADOPT A HWY NMU REC SPORTS PROGRAM
562+00	L	58	J4-2	48 x 36			12		1		SOUTH 47, WEST 182.
562+56	R	59	I2-3	66 x 24	1	2	11		2		MANITOWISH UNINCORPORATED
563+88	L	60	D2-3	114 x 36	1	2	28.5		3		LAC DU FLAMBEAU 15 WOODRUFF 26 PARK FALLS 34 SOUTH 47, WEST 182.
SUBTOTAL SHEET 2					34	38	257.7	89.0	27	10	
TOTAL					65	69	437.9	198.3	64	12	

3

3

CONSTRUCTION STAKING

		650.5500		650.6000		650.8000		650.9910		650.9920	
		CONSTRUCTION		CONSTRUCTION		CONSTRUCTION		CONSTRUCTION		CONSTRUCTION	
		STAKING		STAKING		STAKING		STAKING		STAKING	
		CURB		PIPE		RESURFACING		SUPPLEMENTAL		SLOPE	
		GUTTER AND		CULVERTS		REFERENCE		CONTROL		STAKES	
		CURB & GUTTER		(LF)		(LF)		(LS)		(LF)	
STATION	LOCATION										
107+23	- 564+76	STH 47				45,755		1			
176+76	- 179+00 LT	GUARDRAIL		-		-		-		225	
179+35	- 181+82 LT	GUARDRAIL		-		-		-		250	
176+50	- 178+83 RT	GUARDRAIL		-		-		-		235	
179+21	- 181+48 RT	GUARDRAIL		-		-		-		230	
557+77	- 560+09 LT	GUARDRAIL		-		-		-		230	
560+92	- 563+24 LT	GUARDRAIL		-		-		-		230	
557+73	- 560+26 RT	GUARDRAIL		-		-		-		250	
561+10	- 563+20 RT	GUARDRAIL		-		-		-		210	
364+12	- 369+53 LT	STH 47		-		-		-		540	
365+59 24' L	- 366+12 59' LT	STH 47		70		-		-		-	
366+58 86' L	- 366+98 24' LT	STH 47		90		-		-		-	
782+62	- 784+33	STH 182		-		-		-		170	
250+53	PIPE 26-047-006	PIPE REPLACEMENT		-		1		-		-	
481+05	PIPE 26-047-021	PIPE REPLACEMENT		-		1		-		-	
552+28	PIPE 26-047-027	PIPE REPLACEMENT		-		1		-		-	
784+12	PIPE 26-182-045	PIPE REPLACEMENT		-		1		-		-	
TOTAL				160		4		45,755		1	
								2,570			

CULVERT PIPE TRANSITIONS

						SPV.0060.01	
						CULVERT	
						PIPE	
						TRANSITIONS	
						(EACH)	
STATION	STATION	LOCATION					
STA 250+29	- STA 250+77	PIPE 26-047-006					1
STA 480+81	- STA 481+29	PIPE 26-047-021					1
STA 552+04	- STA 552+52	PIPE 26-047-027					1
STA 783+88	- STA 784+36	PIPE 26-182-045					1
TOTAL						4	

THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSINGS

		SPV.0180.01	
		THERMOPLASTIC	
		COATING AT	
		SNOWMOBILE	
		TRAIL	
		CROSSINGS	
STATION		(SY)	
346+96		70	
TOTAL		70	

SAWING ASPHALT

		690.0150	
		SAWING	
		ASPHALT	
STATION	LOCATION	(LF)	
365+59 (STH 47) 22' LT	- 784+00 (STH 182) 13' RT	SE QUAD	
783+56 (STH 182) 16' LT	- 366+98 (STH 47) 22' LT	SW QUAD	
TOTAL		170	

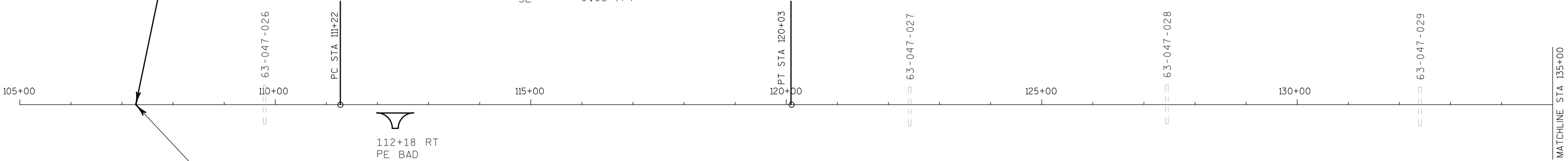
GEOGRID REINFORCEMENT

		SPV.0180.02	
		GEOGRID	
		REINFORCEMENT	
STATION	LOCATION (CULVERT NO.)	(SY)	
250+33	26-047-006	55	
481+05	26-047-021	45	
549+41	26-047-027	50	
784+12	26-182-045	85	
TOTAL		235	

3

BEGIN PROJECT 9231-08-70
STA 107+23 @ STH 47

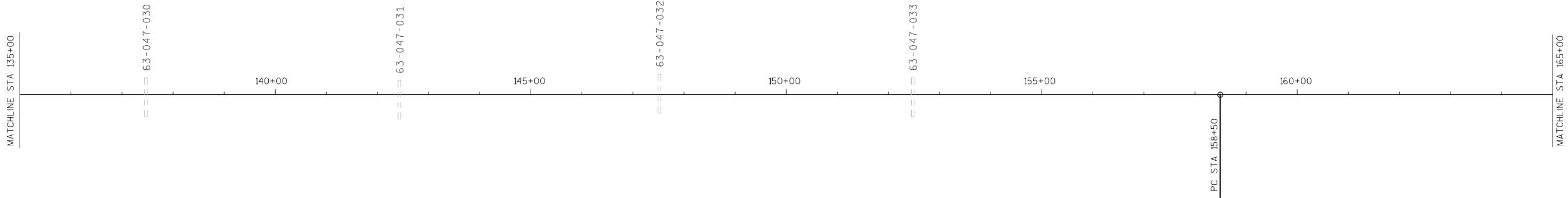
CURVE 1	
PI	= 115+70
Δ	= 26° 26' 20.8" LT
D	= 3° 0'
T	= 448.64'
L	= 881.30'
R	= 1909.86'
SE	= 0.05' / FT



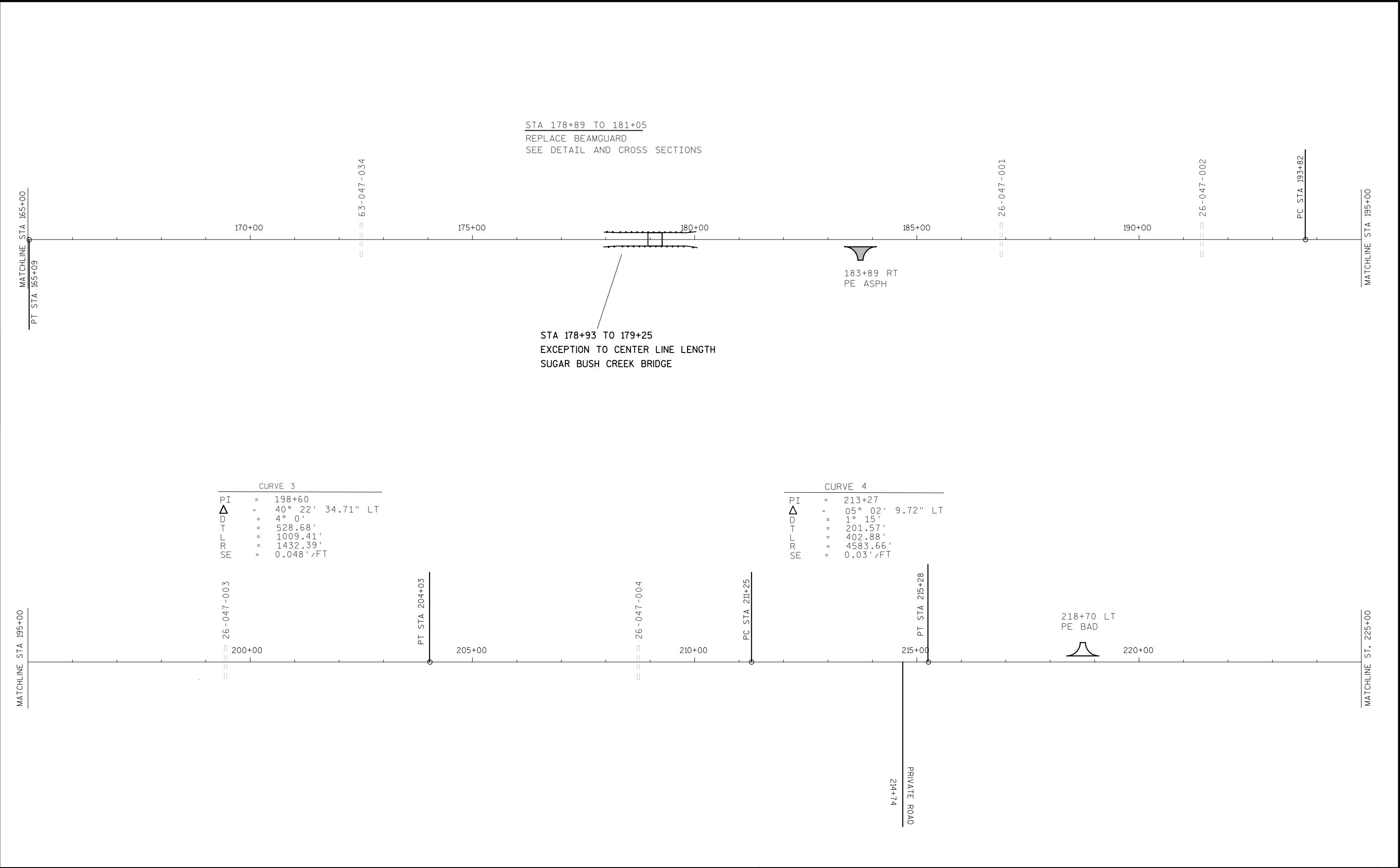
STA 107+23
BEGIN CENTERLINE RUMBLE STRIPS

5

5

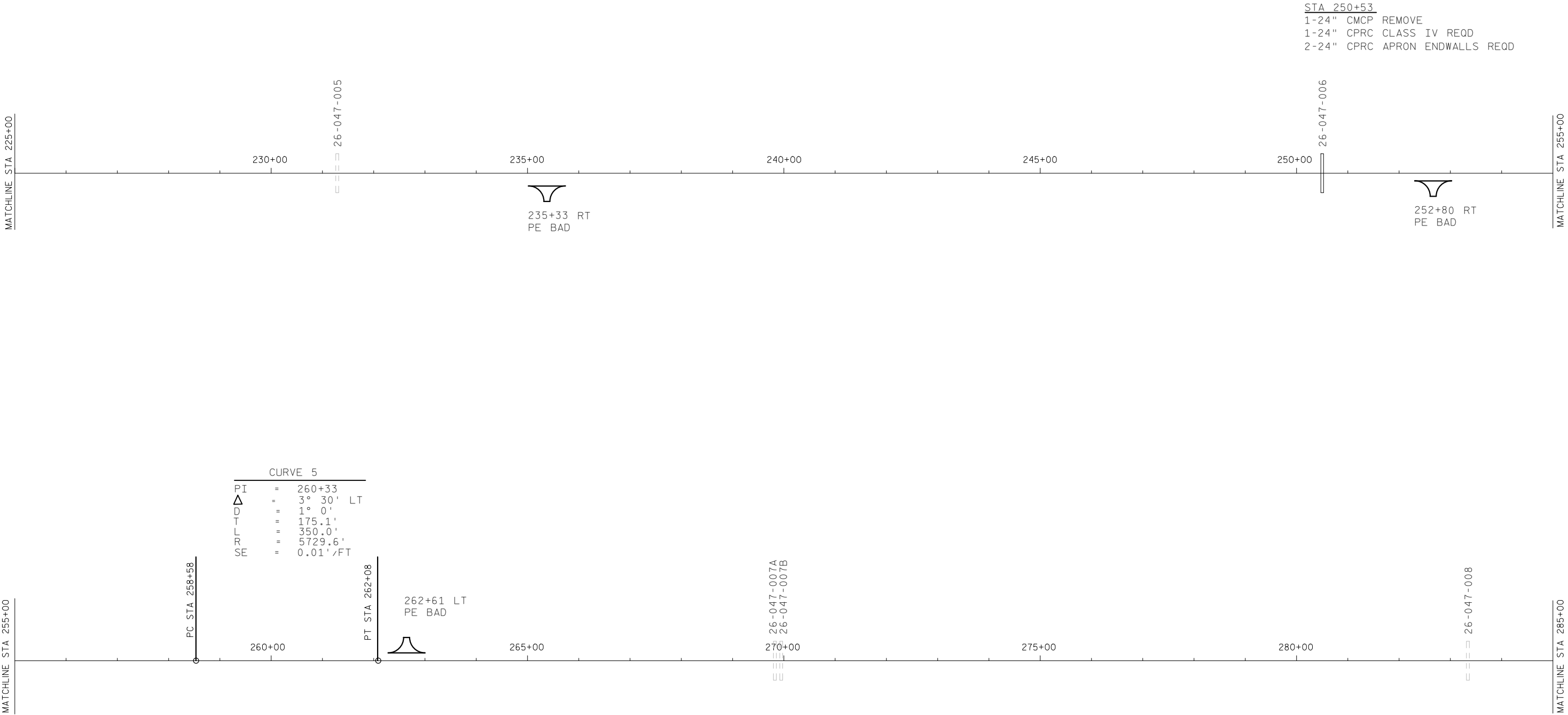


CURVE 2	
PI	= 161+84
Δ	= 23° 02' 22.3" RT
D	= 3° 30'
T	= 333.64'
L	= 658.27'
R	= 1637.02'
SE	= 0.06' / FT

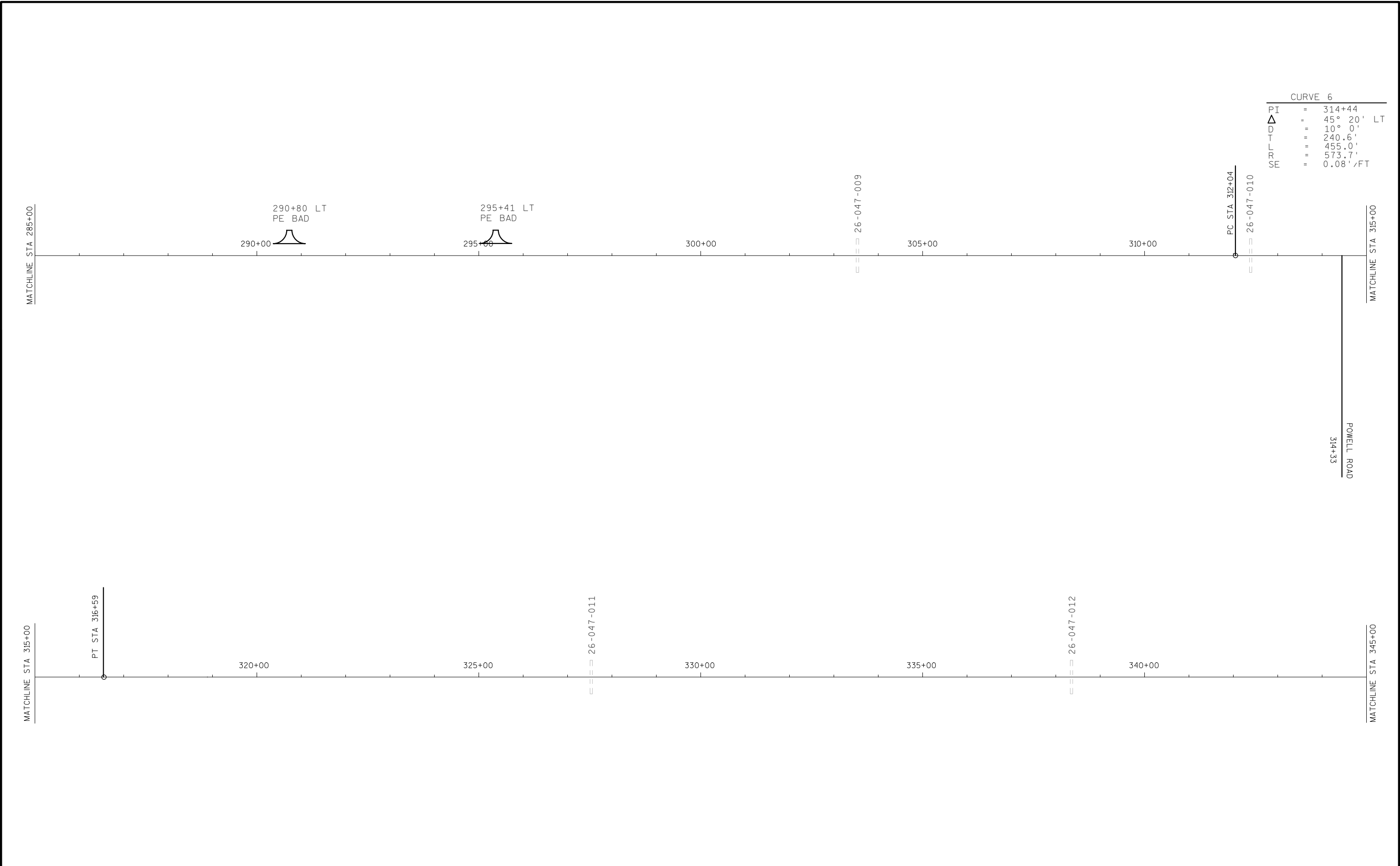


5

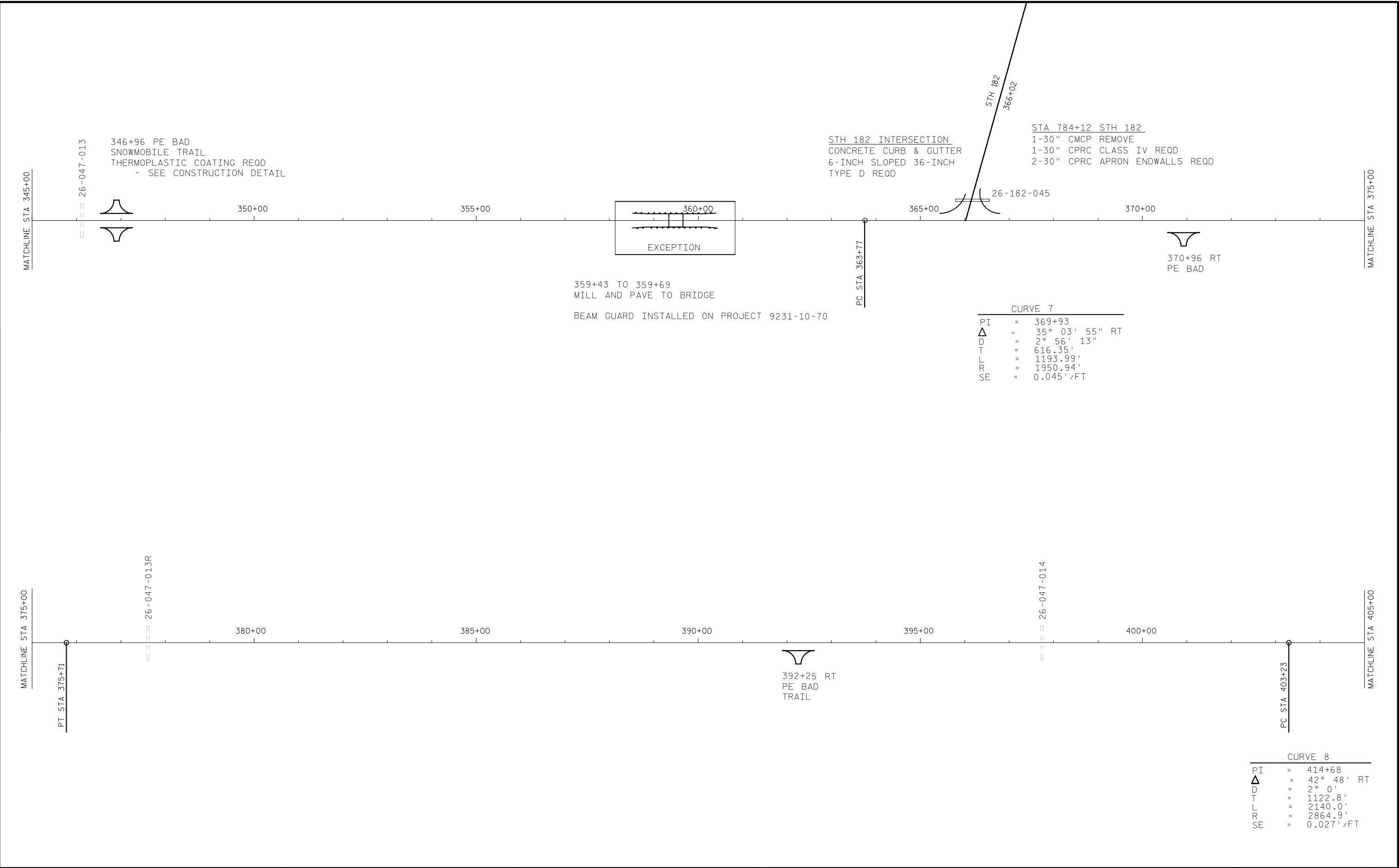
5



5

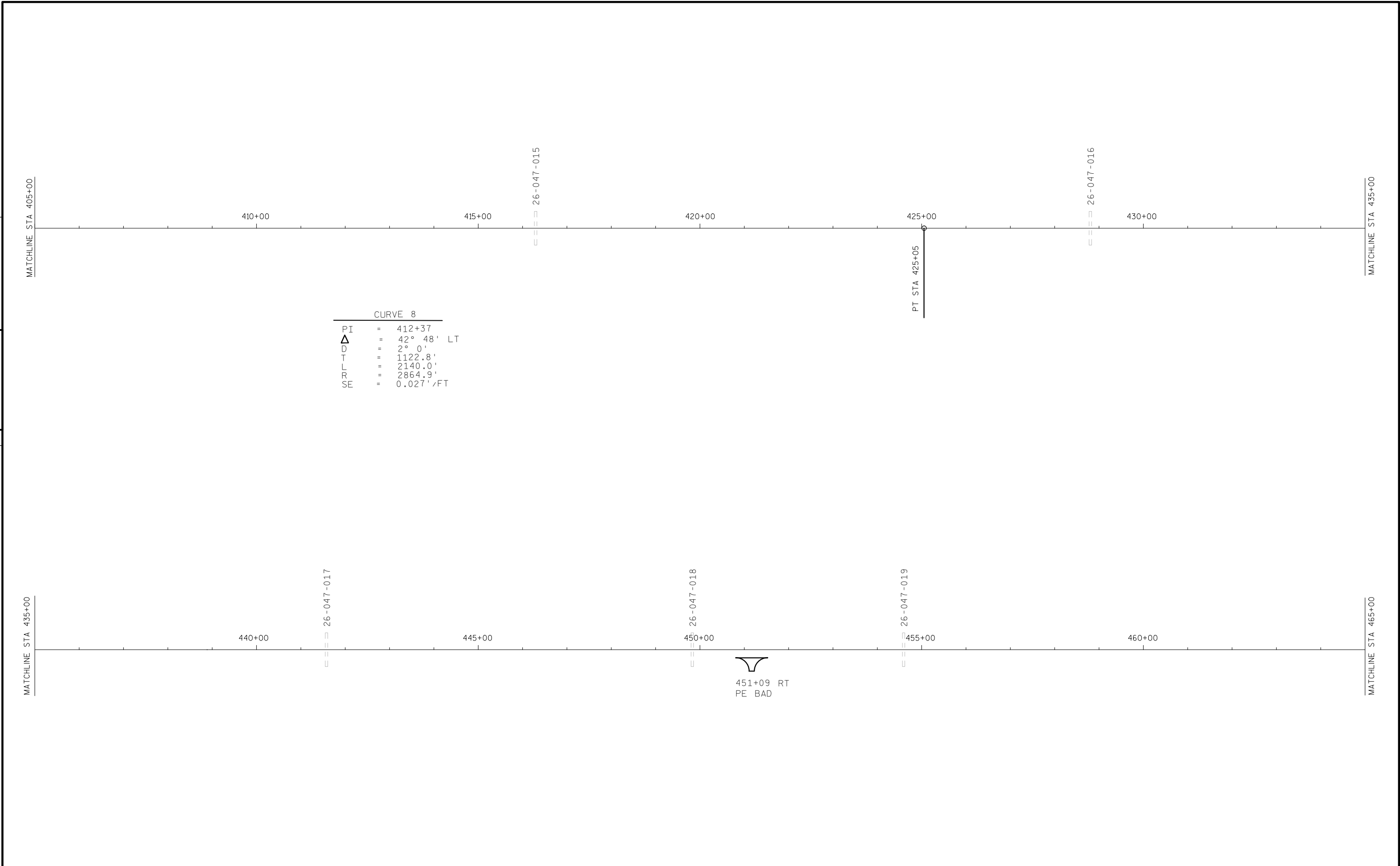


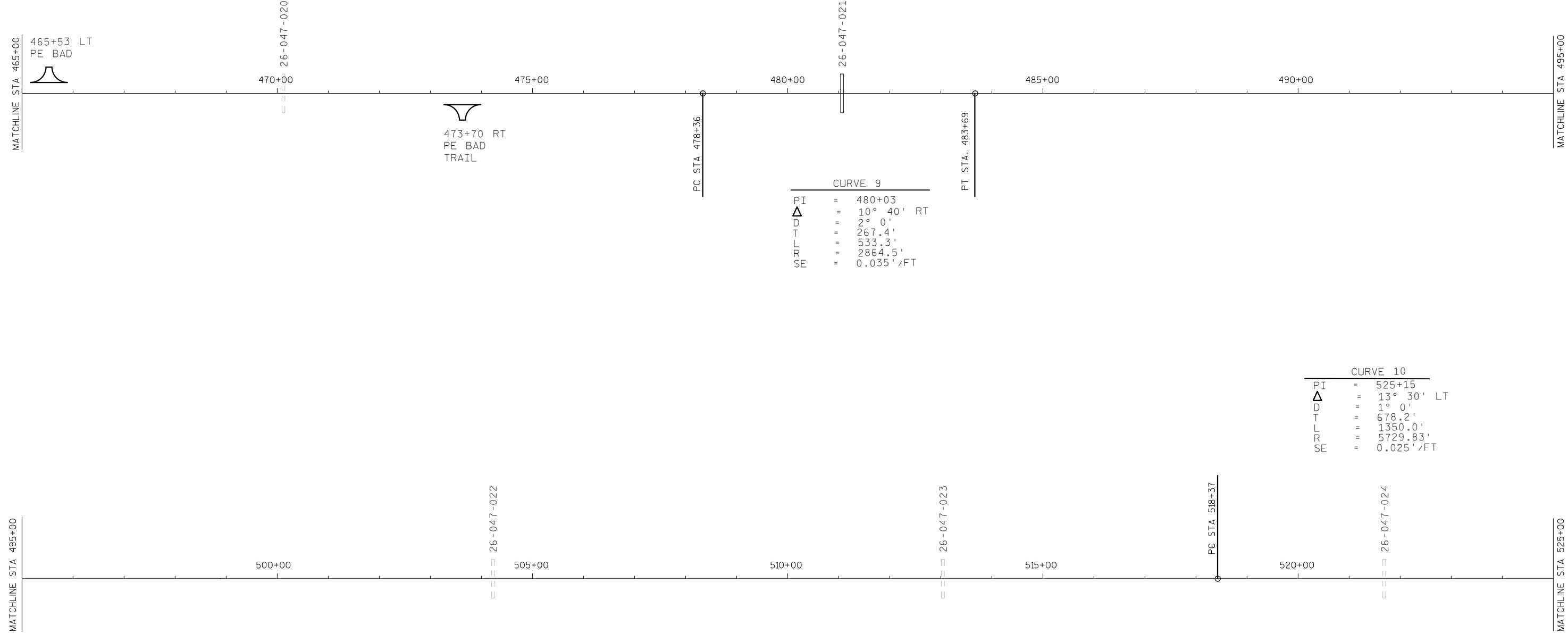
5



5

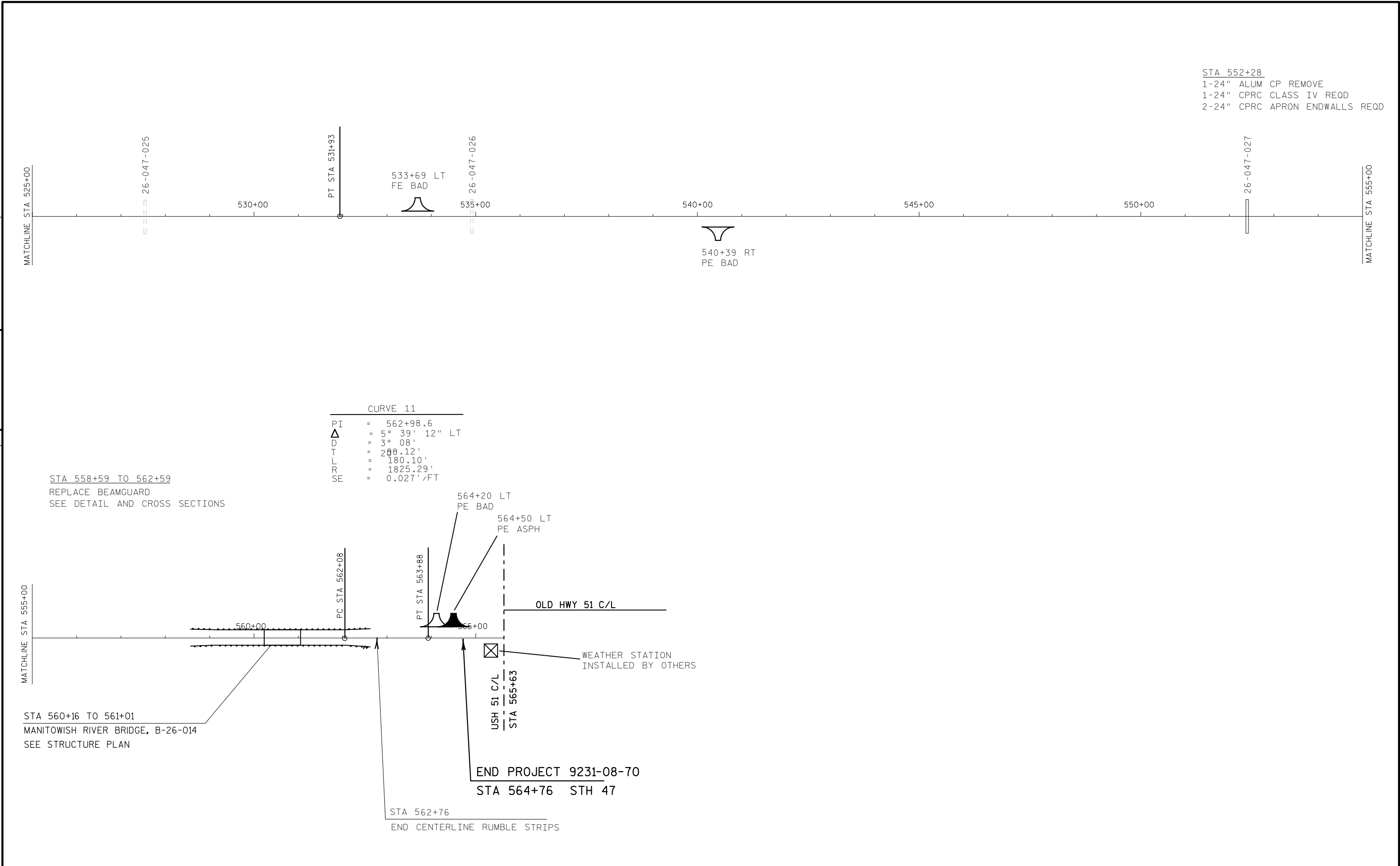
5





5

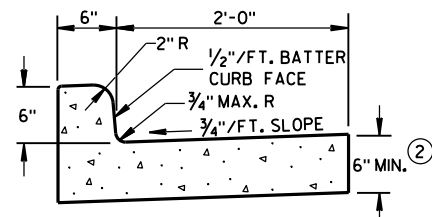
5



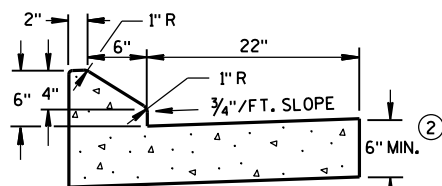
PROJECT NO:9231-08-70	HWY:STH 47	COUNTY:IRON	LINE DIAGRAM: STA 525+00 TO 565+24	SHEET	E
-----------------------	------------	-------------	------------------------------------	-------	---

Standard Detail Drawing List

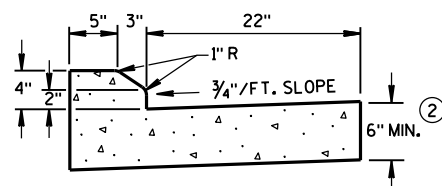
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



TYPES A & D ①

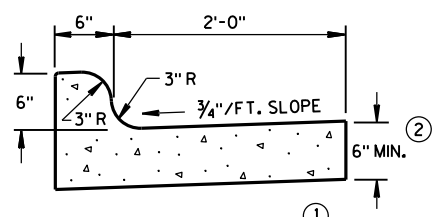


6" SLOPED CURB TYPES G & J ①



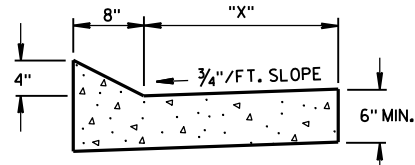
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



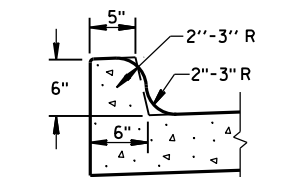
TYPES K & L ①

CONCRETE CURB & GUTTER 30"

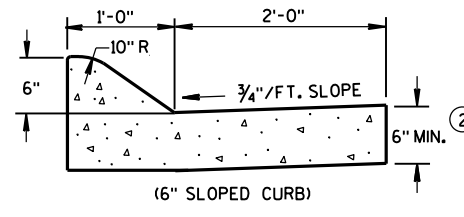


TYPES TBT & TBT
CONCRETE CURB & GUTTER

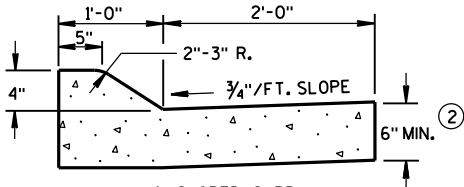
TBT & TBT	"X"
30"	22"
36"	28"



OPTIONAL CURB SHAPE
FOR TYPES K & L ①

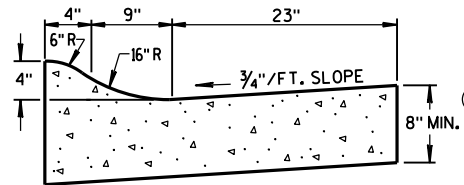


(6" SLOPED CURB)



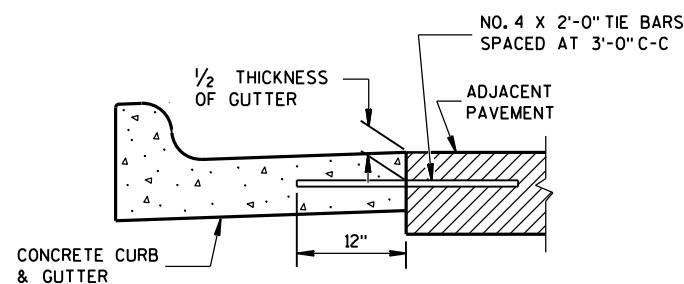
(4" SLOPED CURB)

TYPES A & D ①

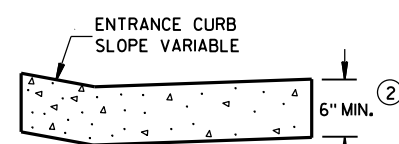


4" SLOPED CURB TYPES R & T ① ④

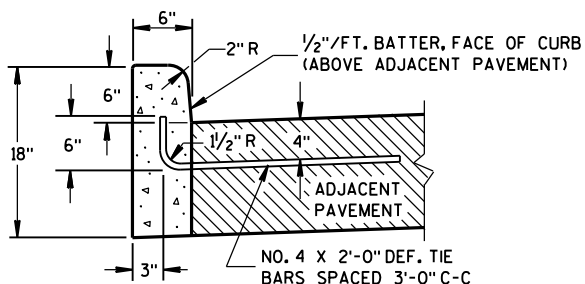
CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION ①

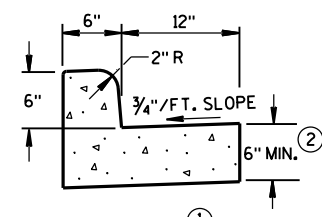


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

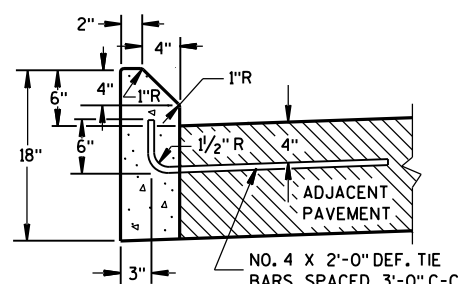


TYPES A & D ①

CONCRETE CURB



TYPES A & D
CONCRETE CURB & GUTTER 18"



TYPES G & J ①

GENERAL NOTES

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

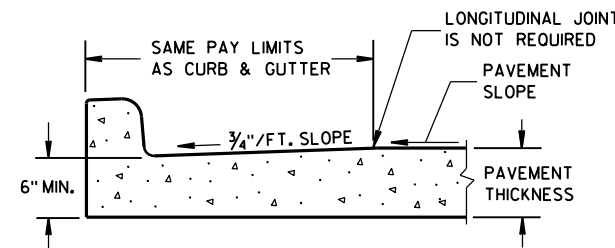
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

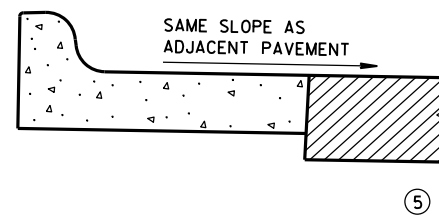
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

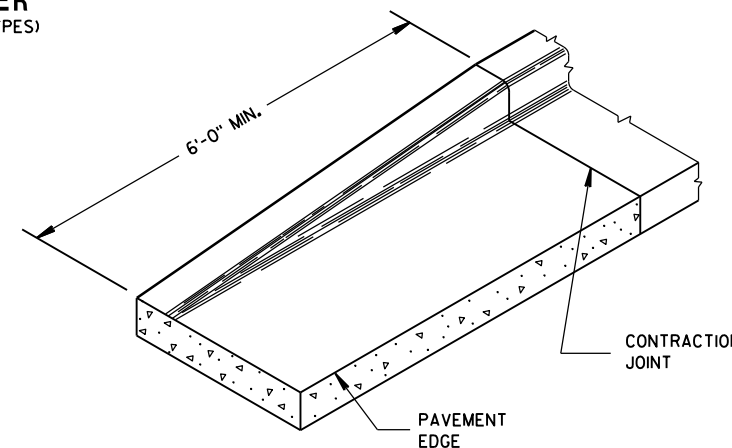
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



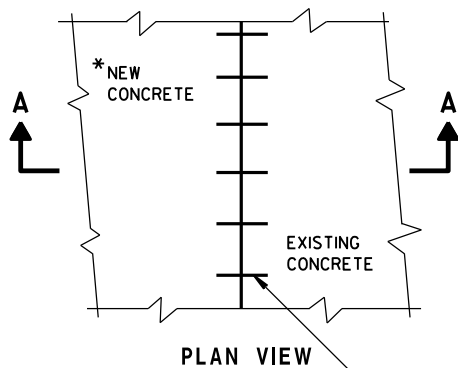
PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



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



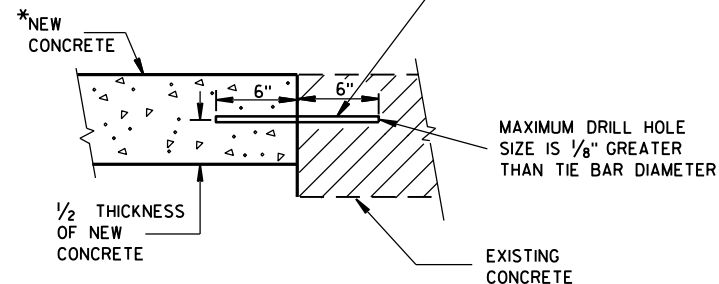
END SECTION CURB & GUTTER



PLAN VIEW

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.



SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

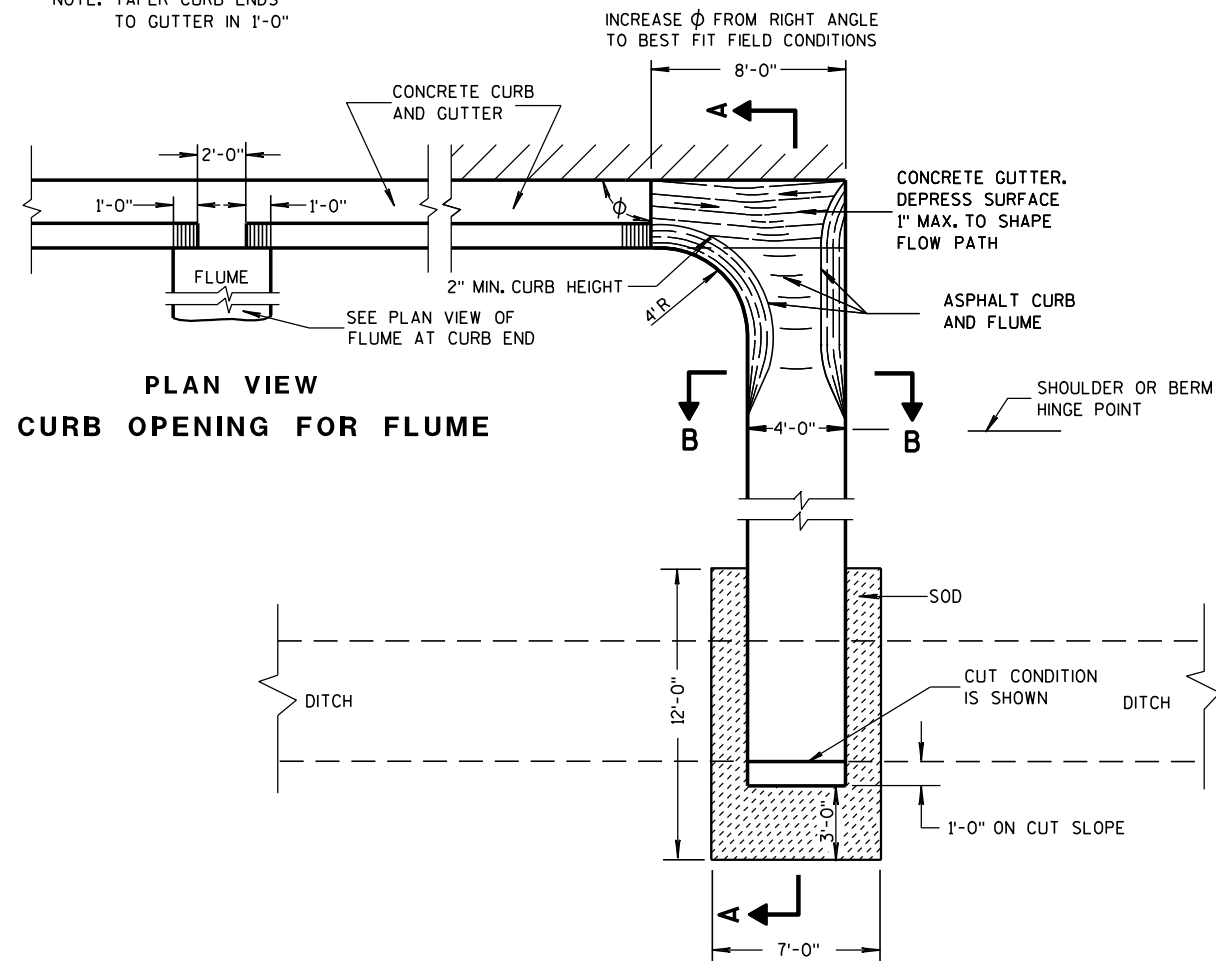
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

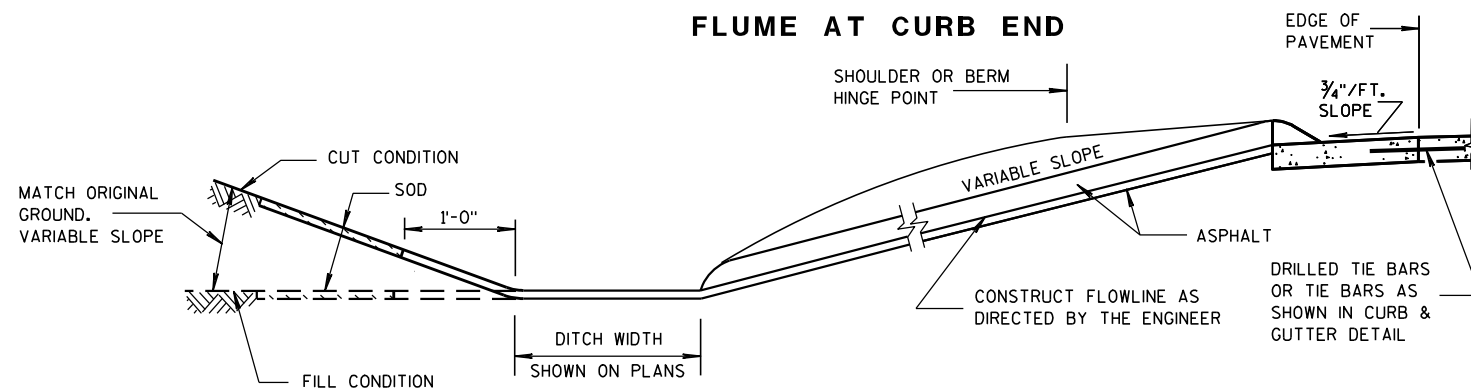
ASPHALTIC FLUME

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

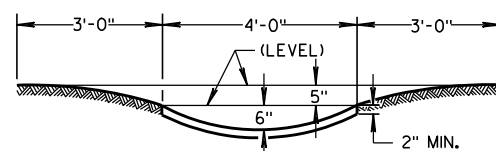


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

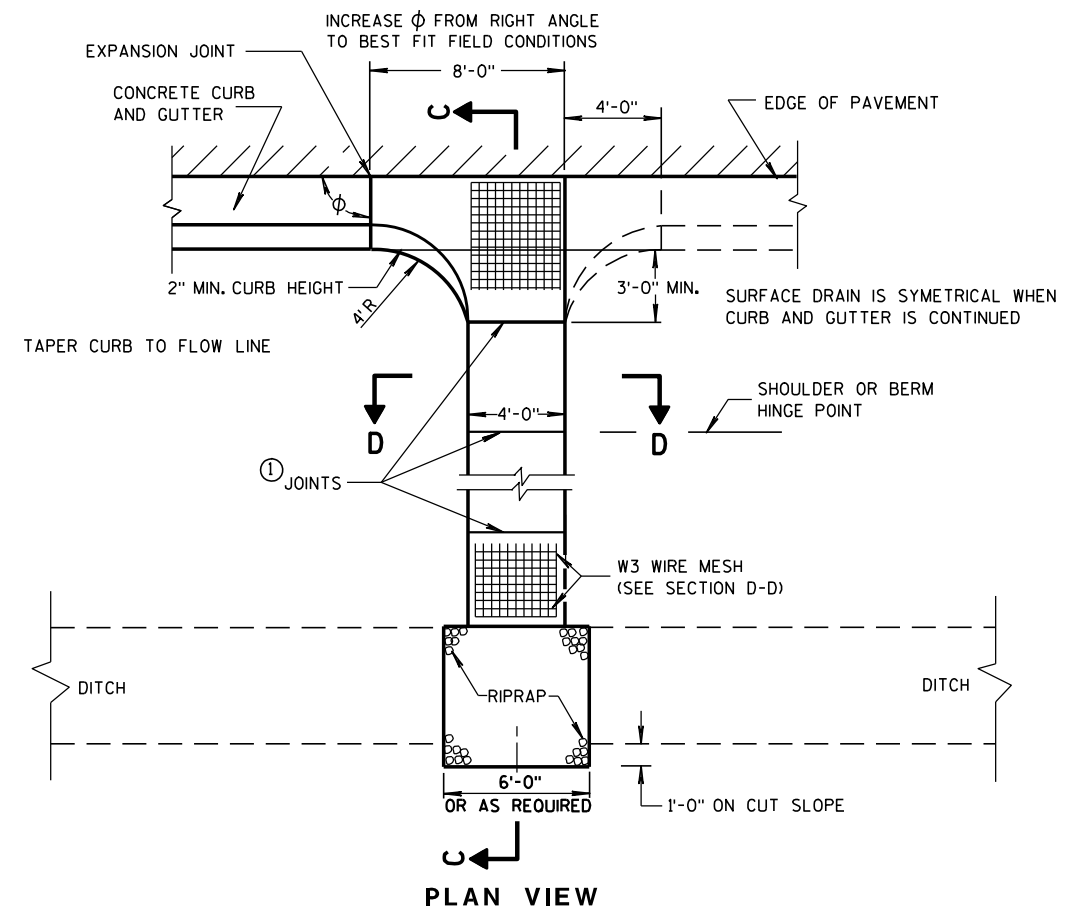
GENERAL NOTES

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

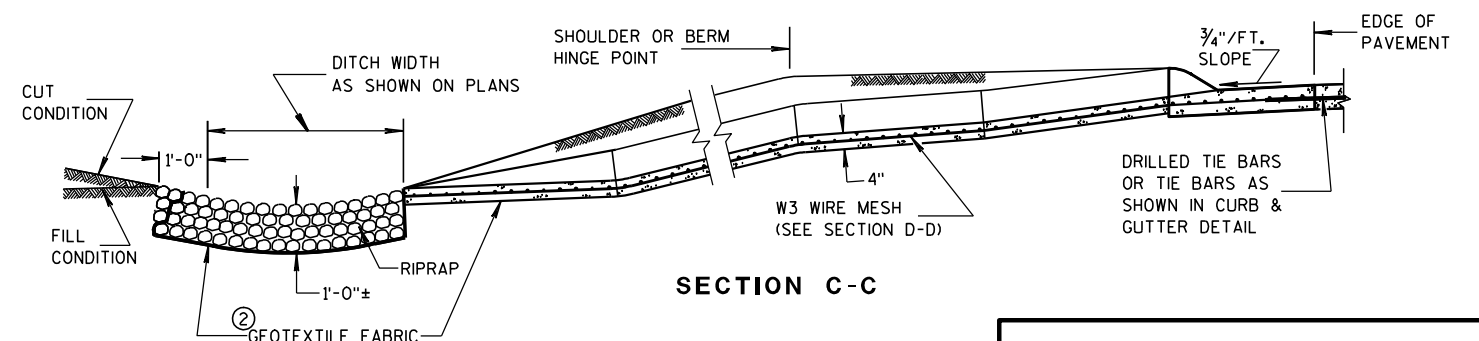
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE 1/8" TO 1/4" INCH WIDE BY 1 1/2" INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

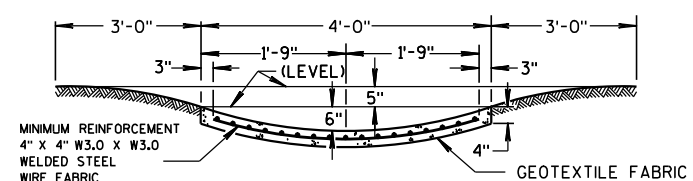
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

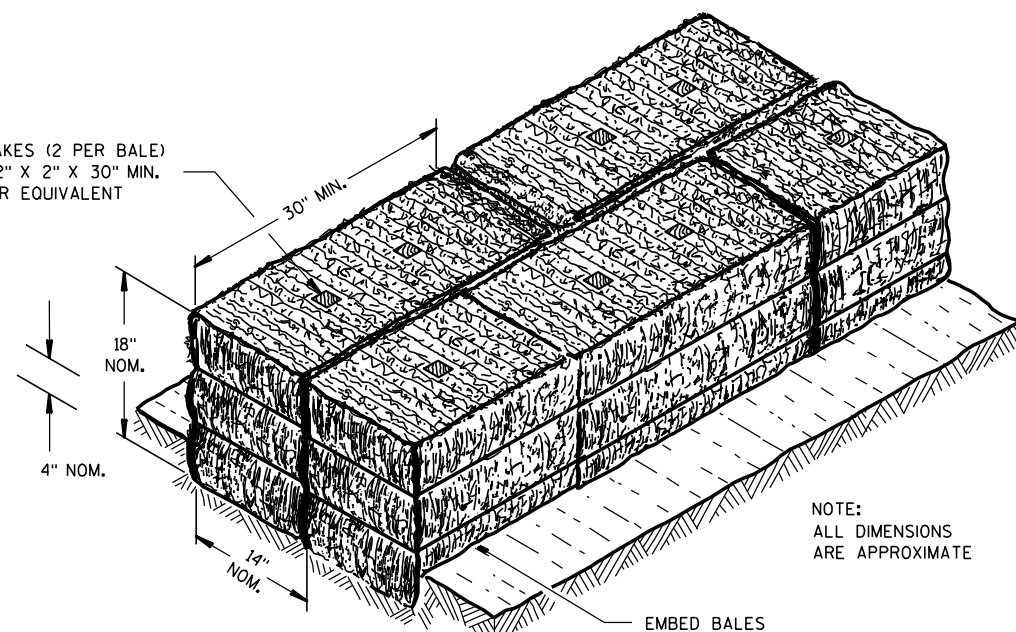
9-4-08

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

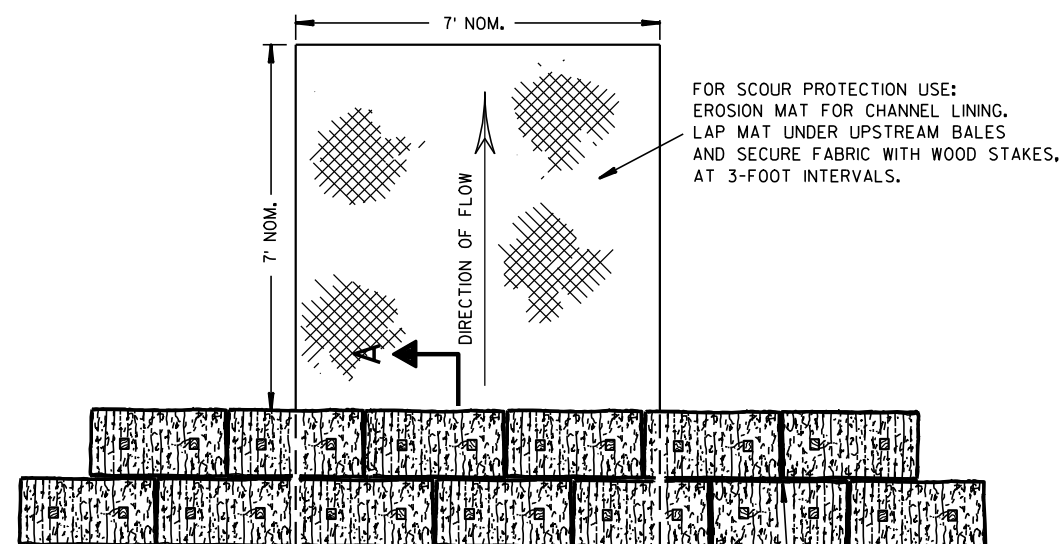
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

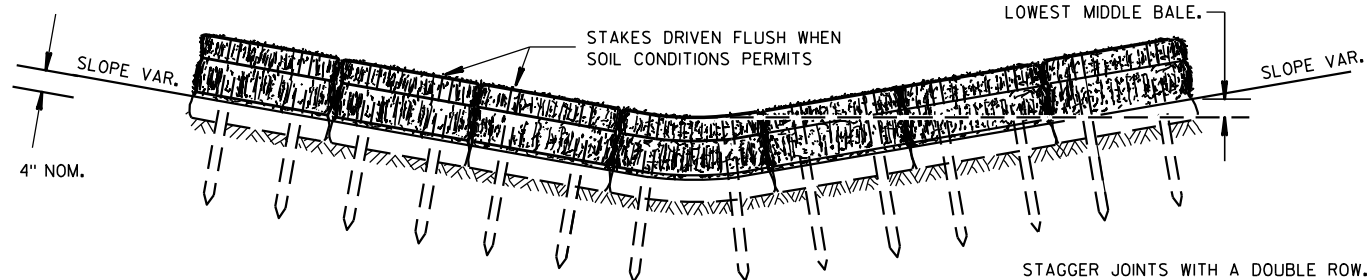
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



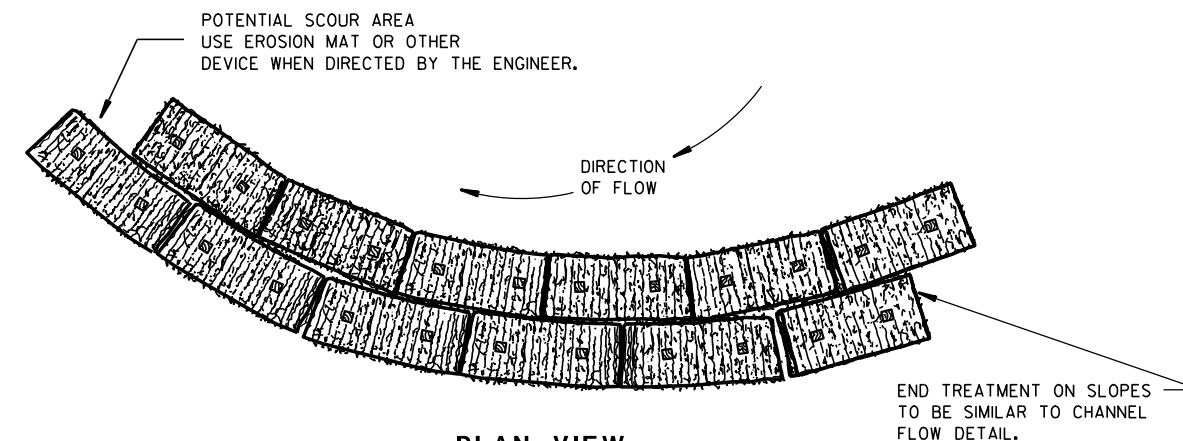
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

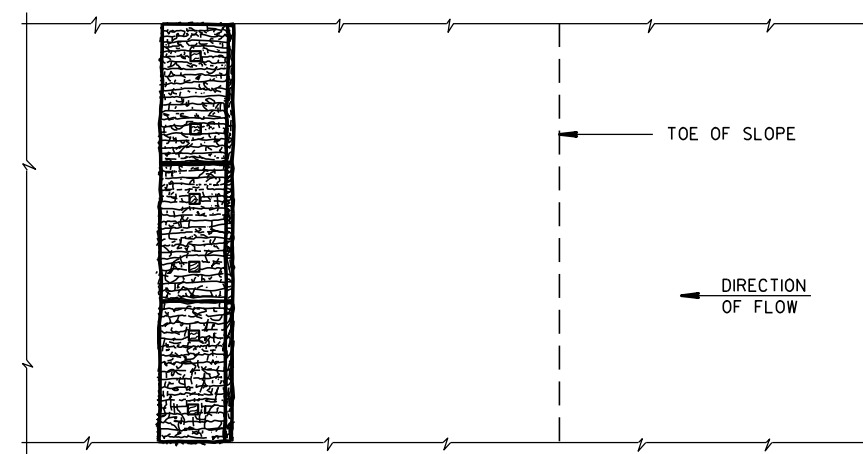
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

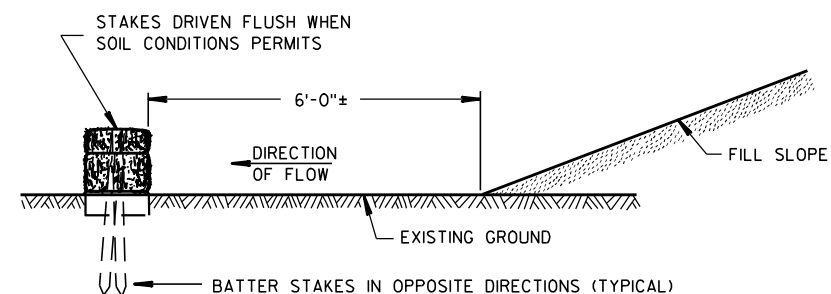


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

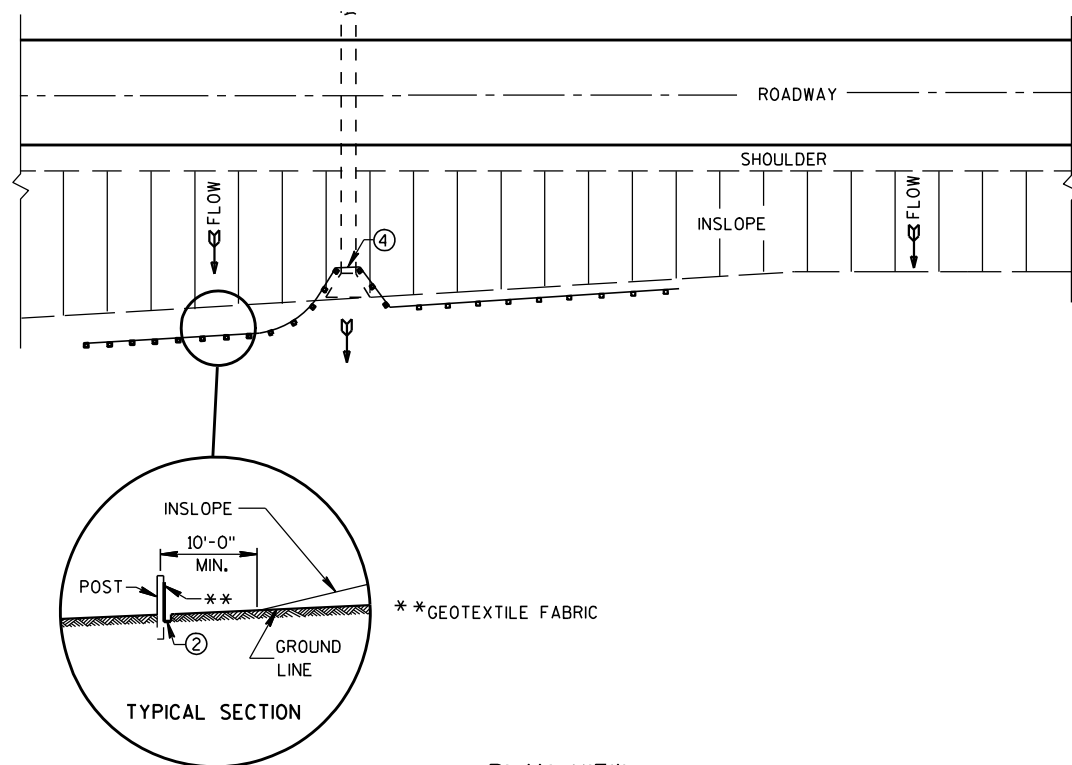
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

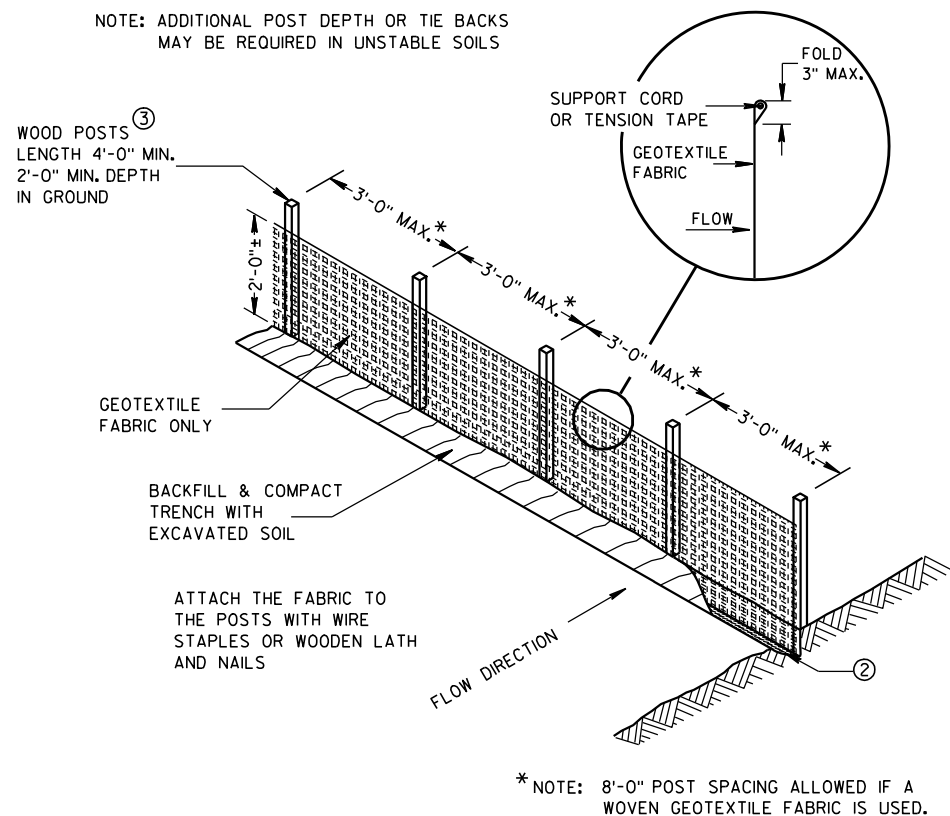
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



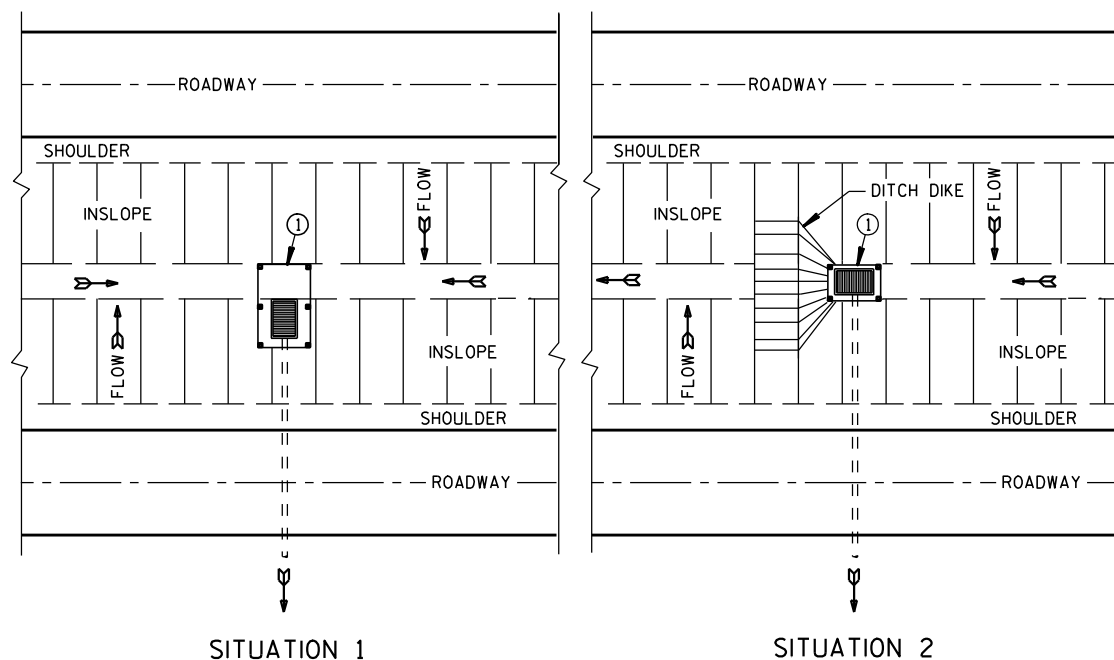
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS

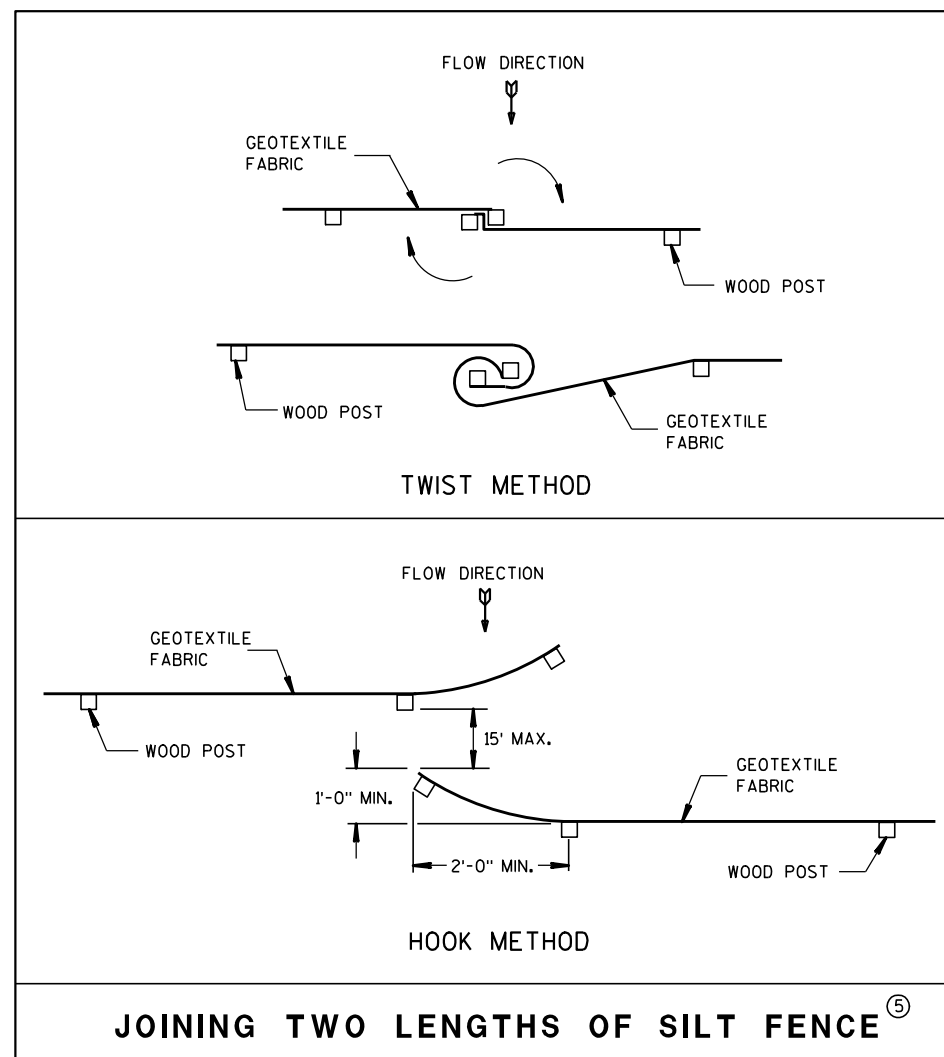


SILT FENCE

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



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

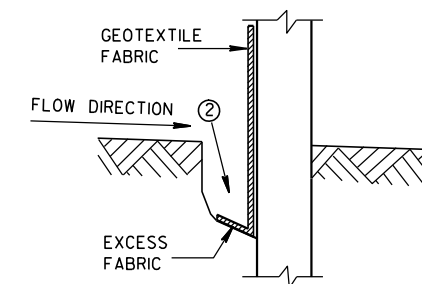


JOINING TWO LENGTHS OF SILT FENCE^⑤

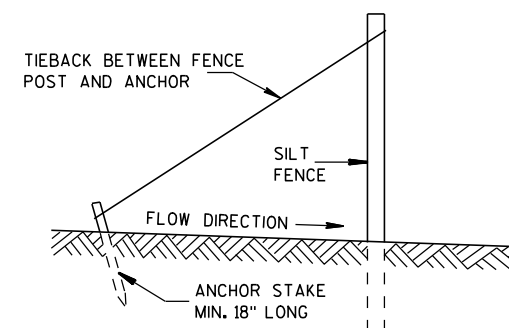
GENERAL NOTES

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

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

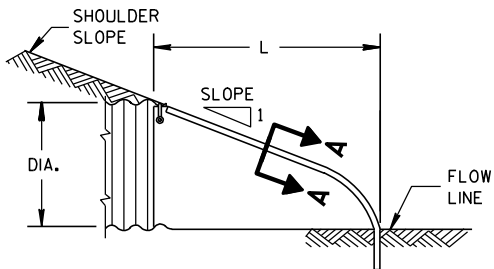
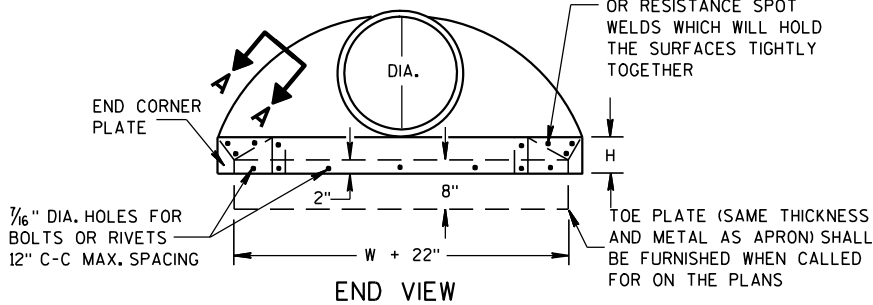
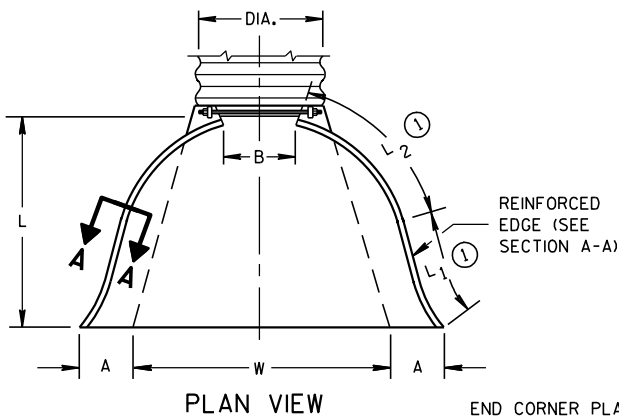
4-29-05
DATE

FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2	Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2	Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3	Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3	Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3	Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3	Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3	Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3	Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3	Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3	Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3	Pc.

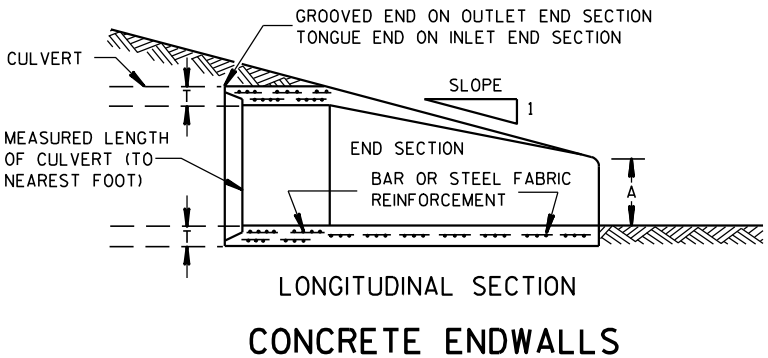
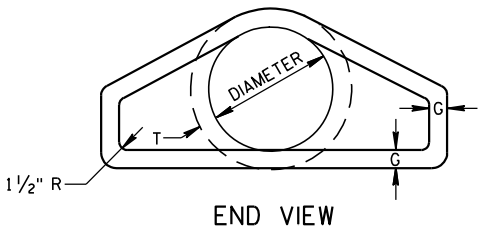
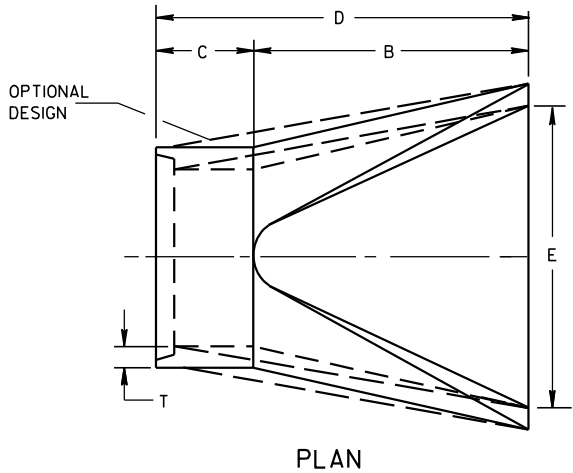
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

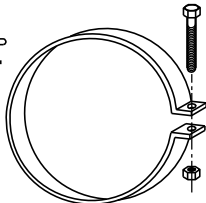
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

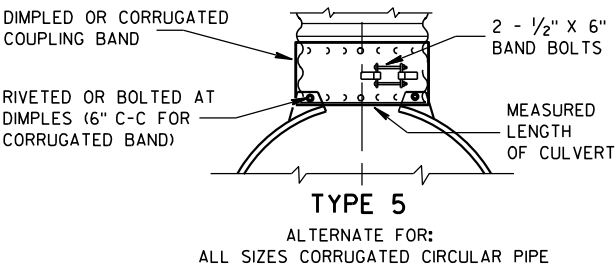
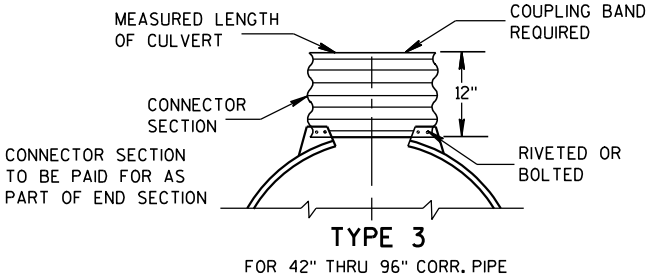
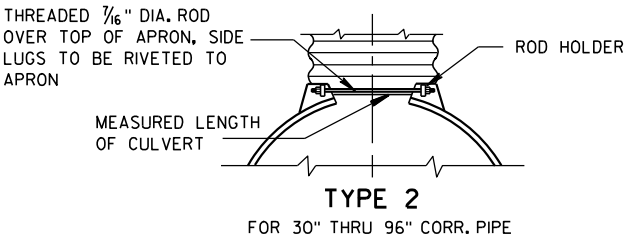
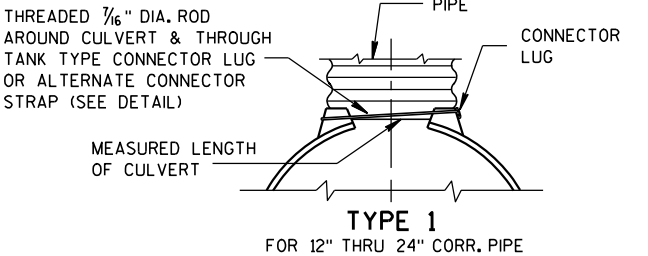


CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



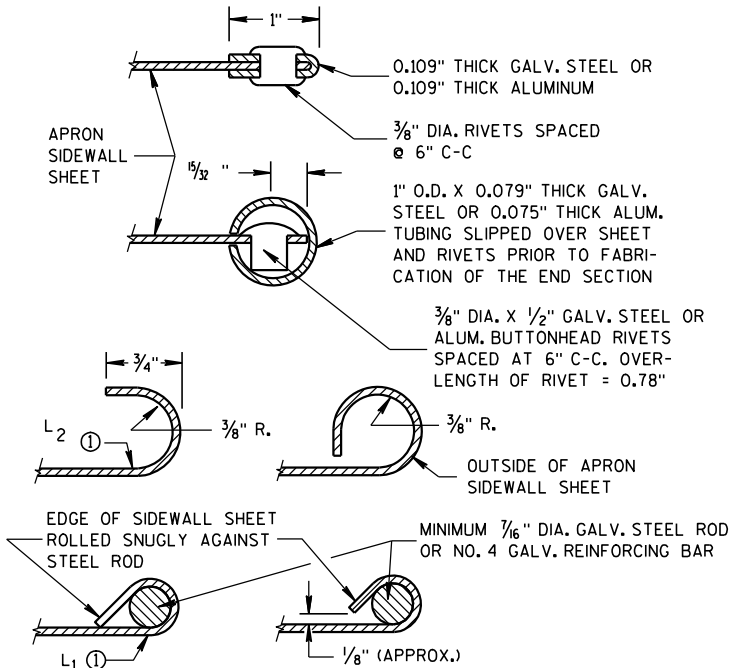
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

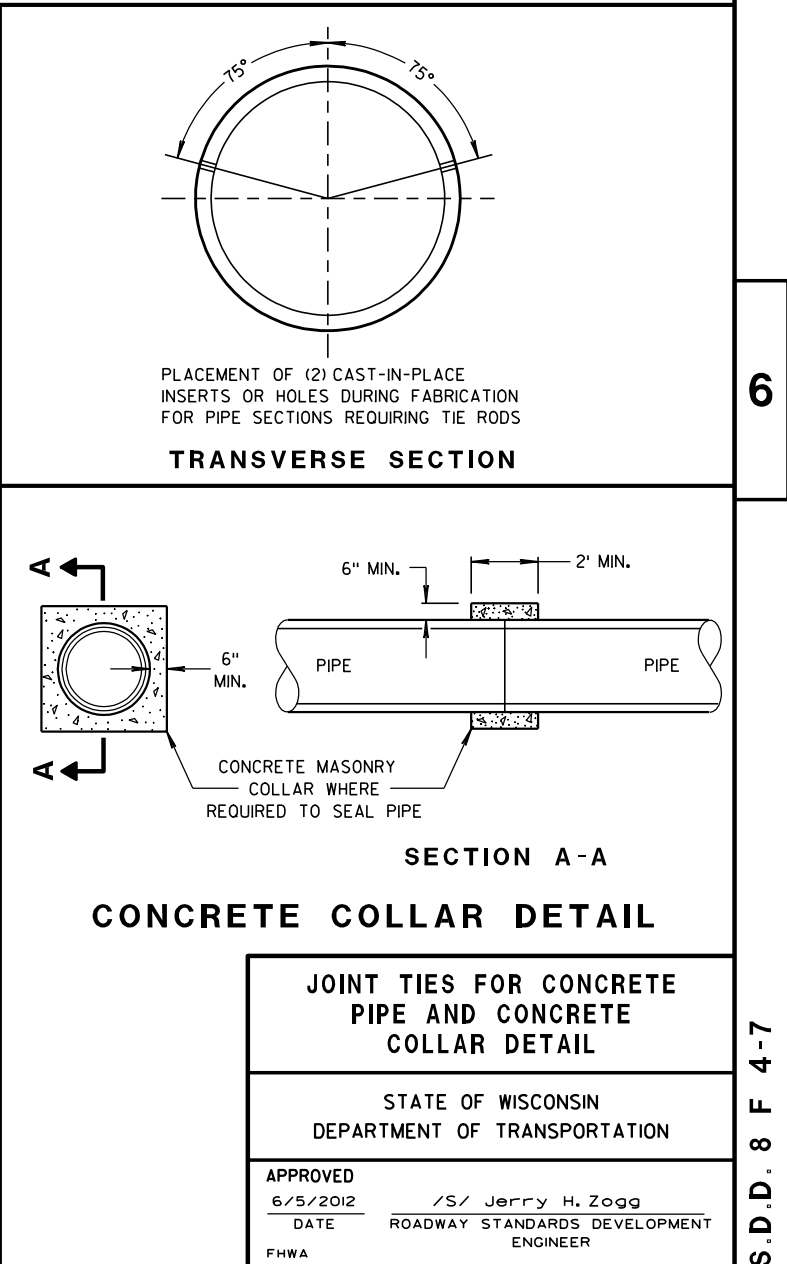
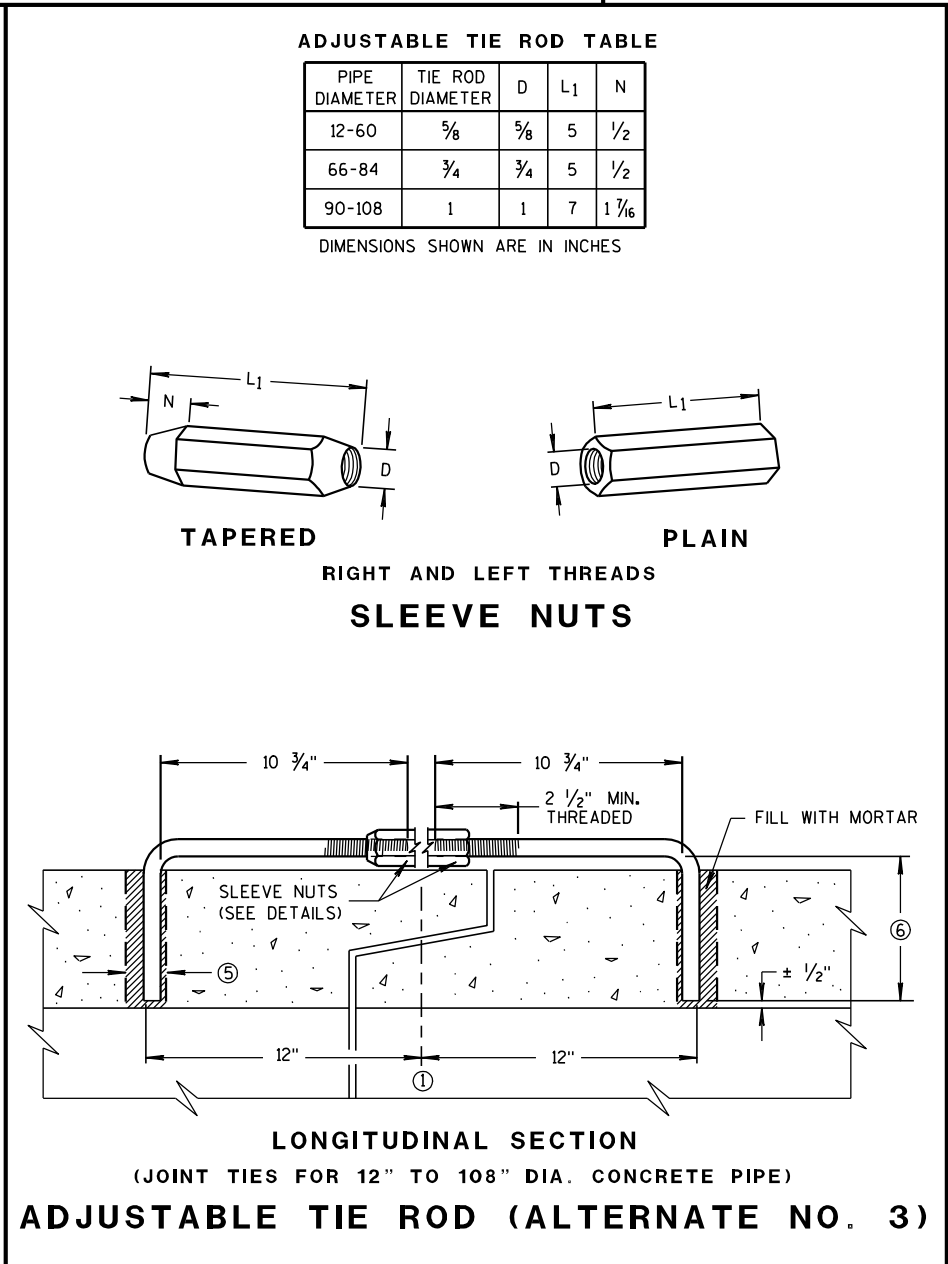
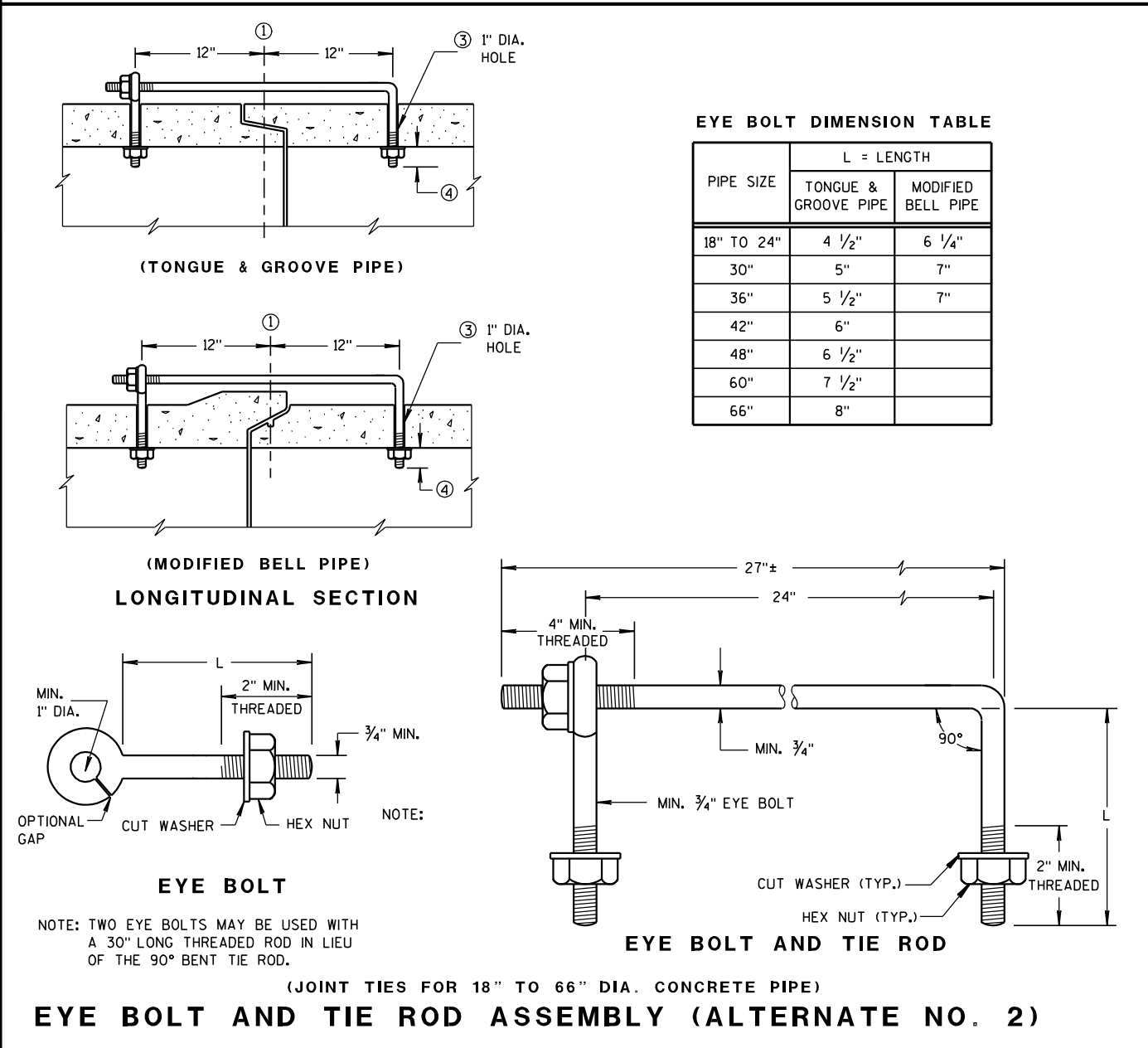
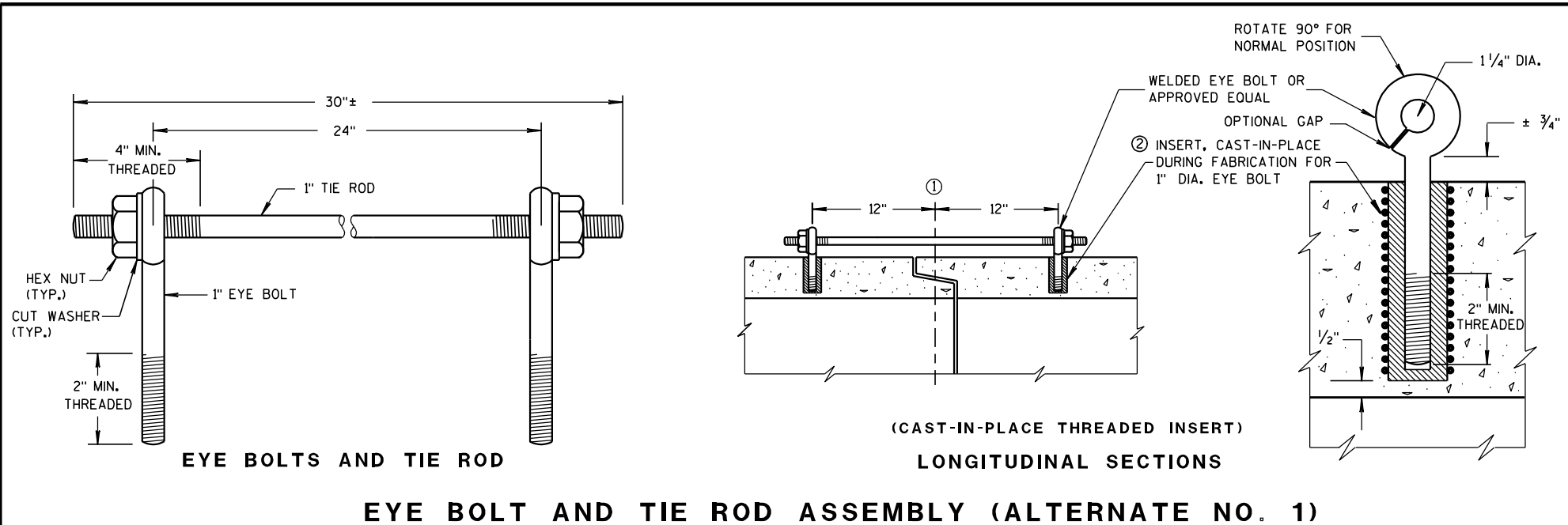
GENERAL NOTES

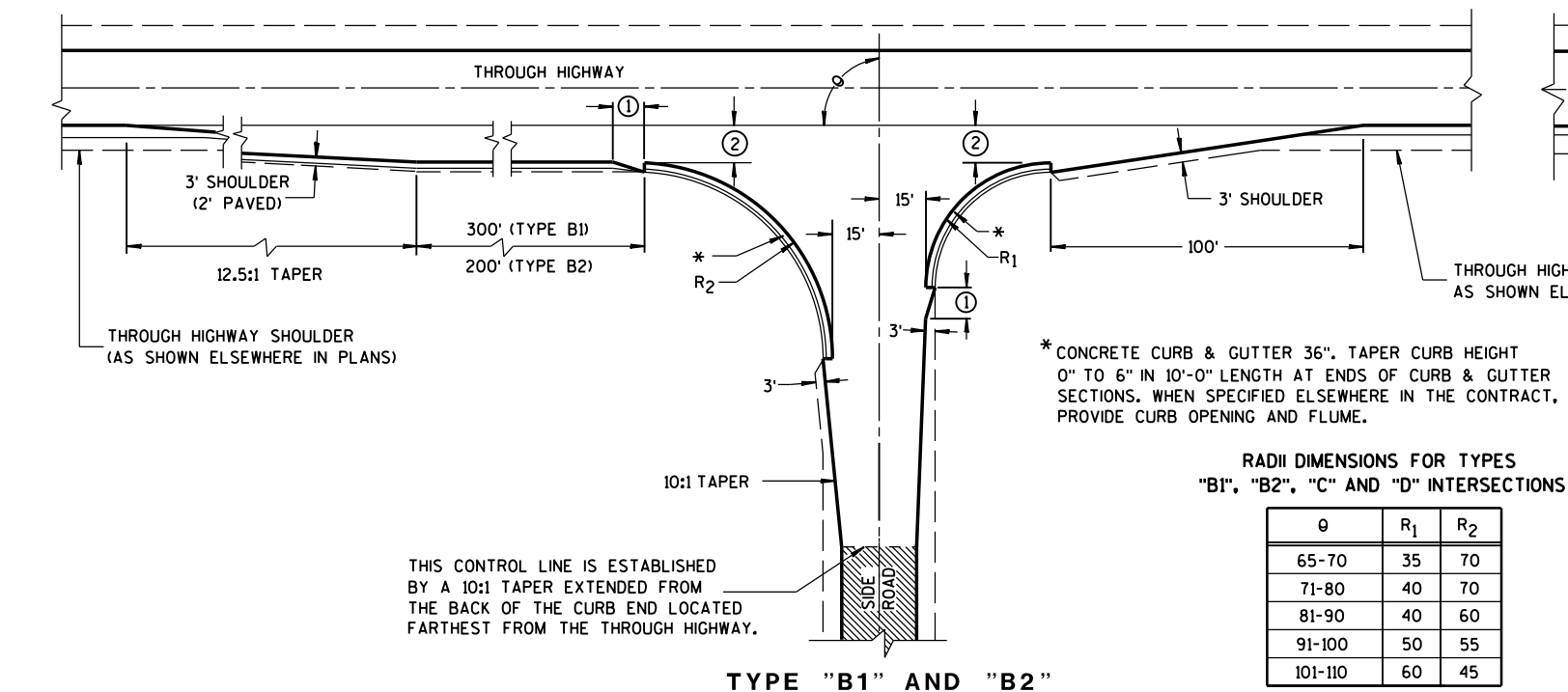
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VICE VERSA. GALVANIZED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

APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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





GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

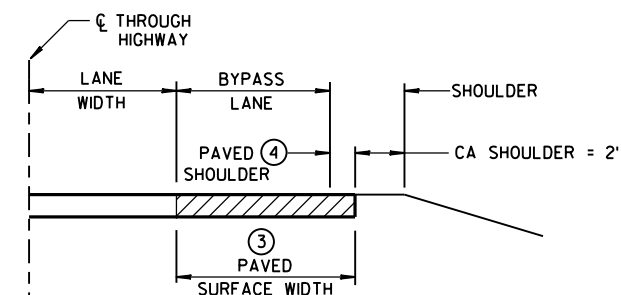
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

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

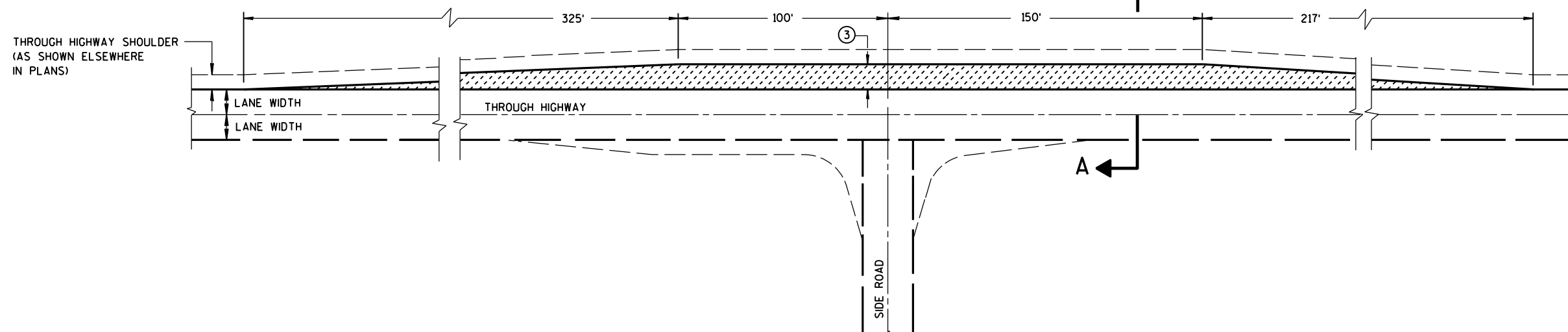
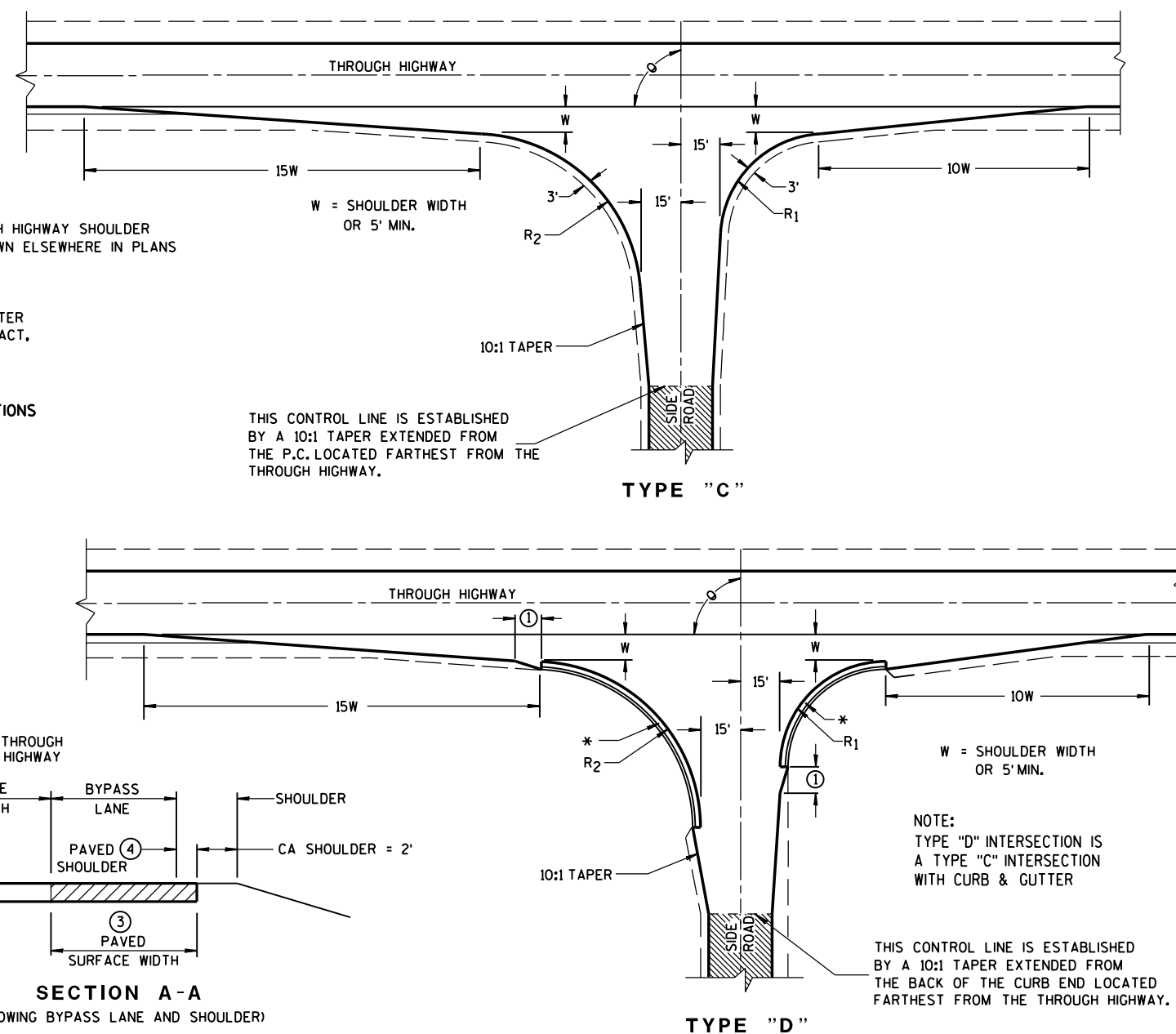
EXISTING PAVED SURFACE

BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
- **10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

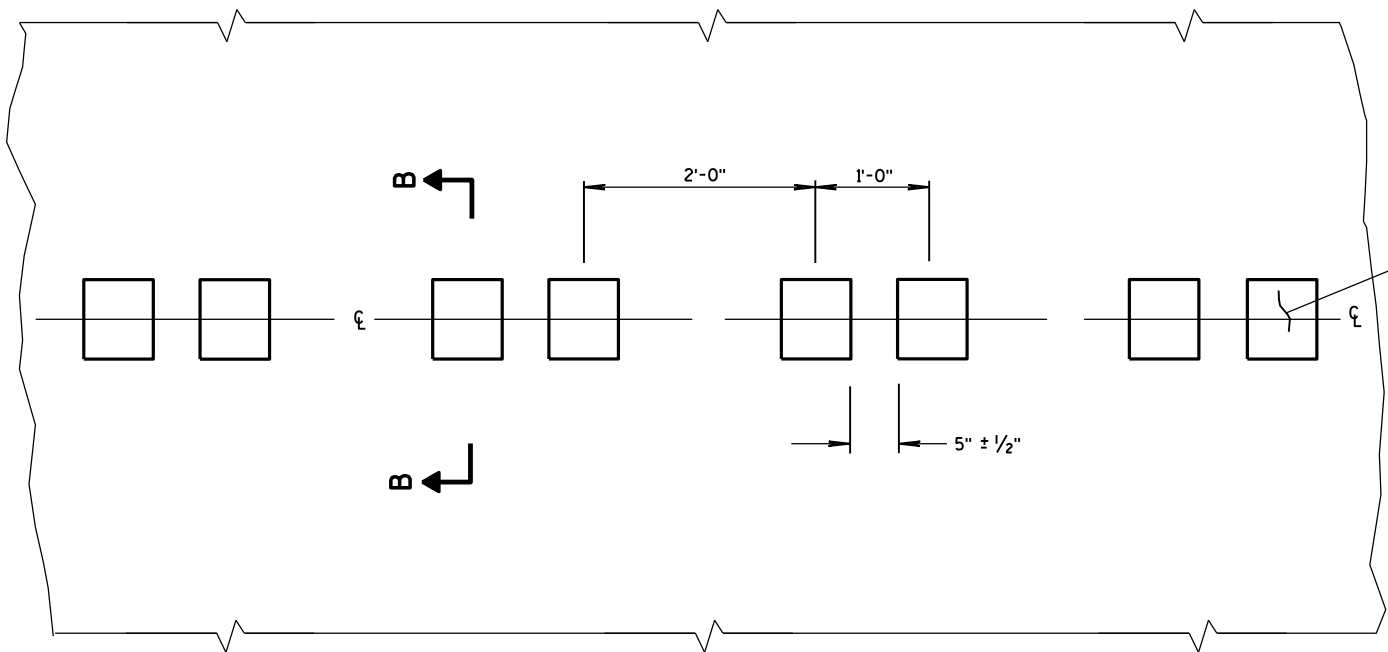
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

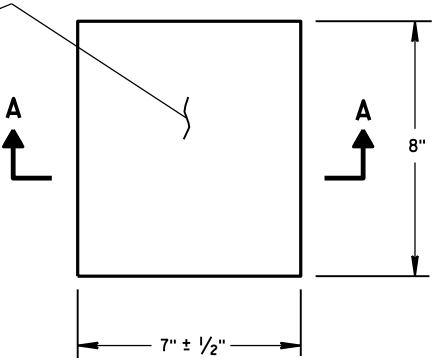
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

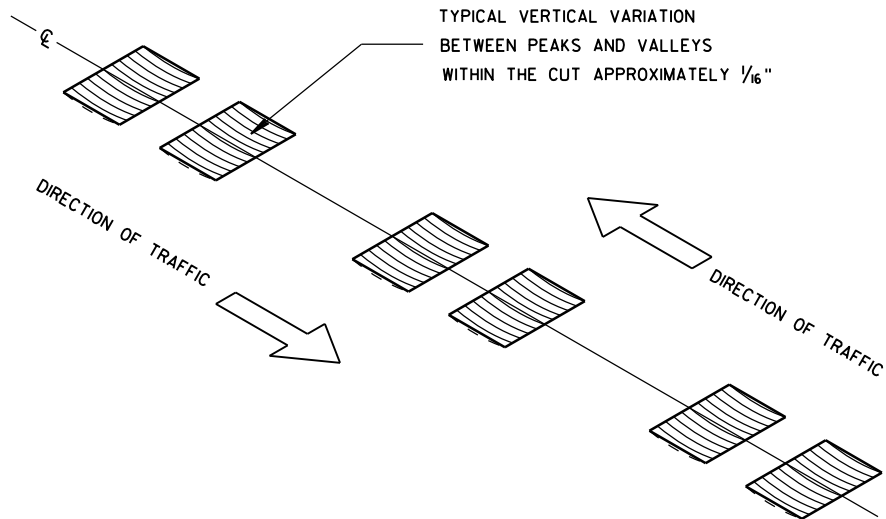
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



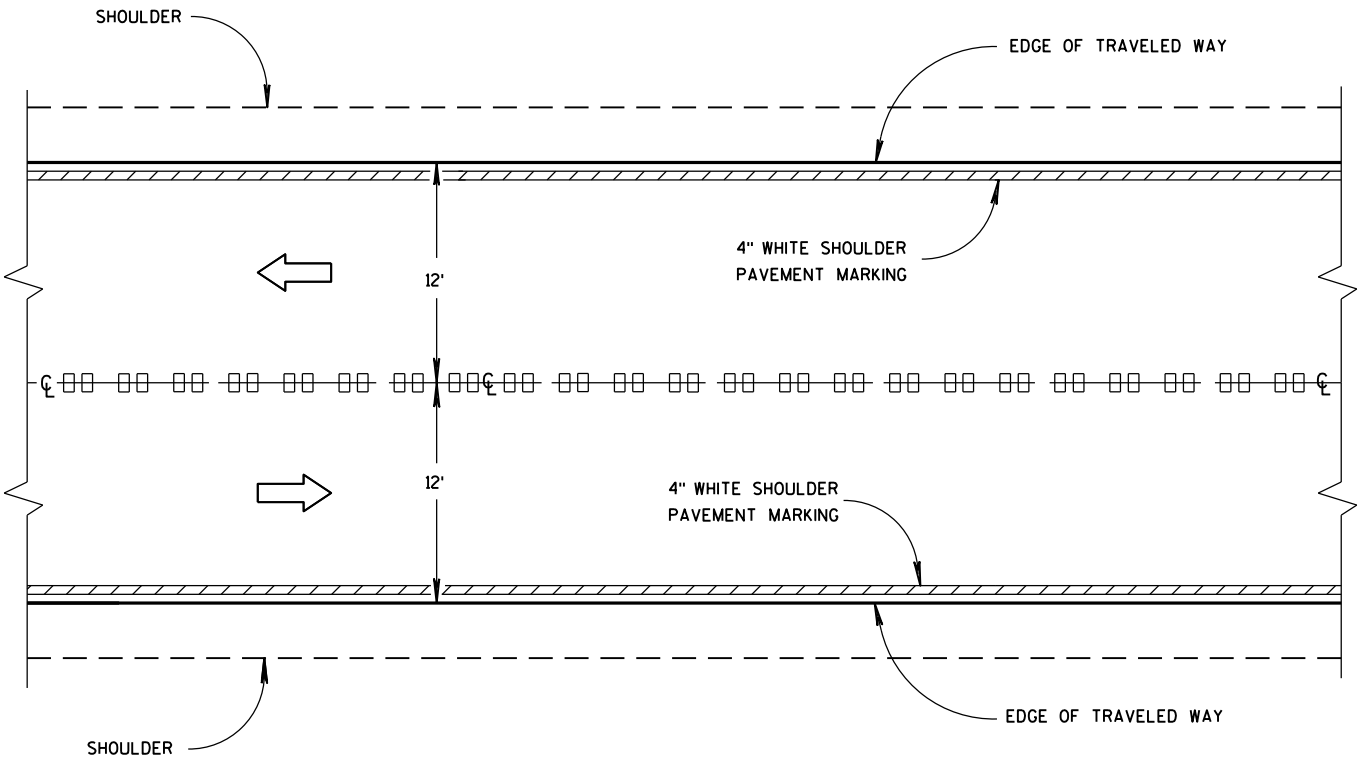
PLAN VIEW
CENTER LINE WITH GROOVES



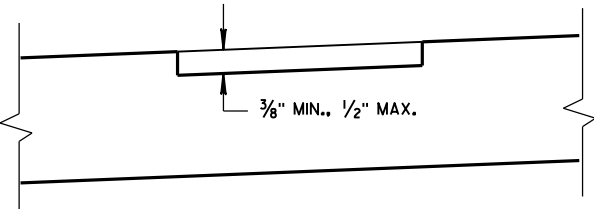
PLAN VIEW
(SINGLE GROOVE)



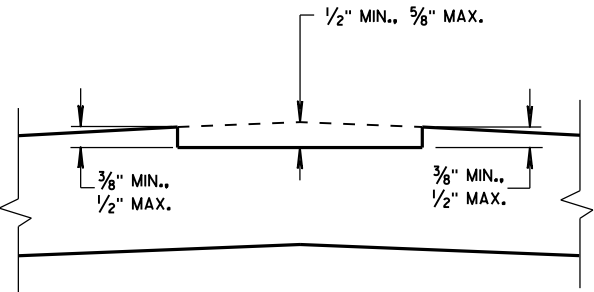
ISOMETRIC



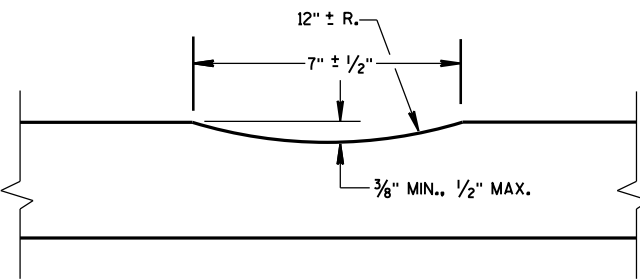
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



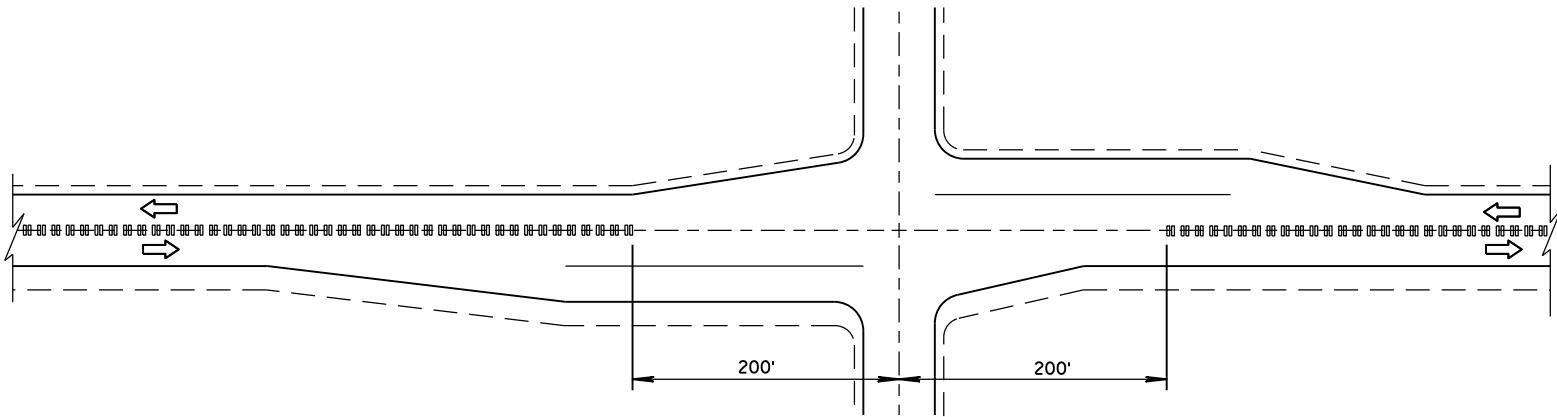
SECTION B-B
CROWNED ROADWAY



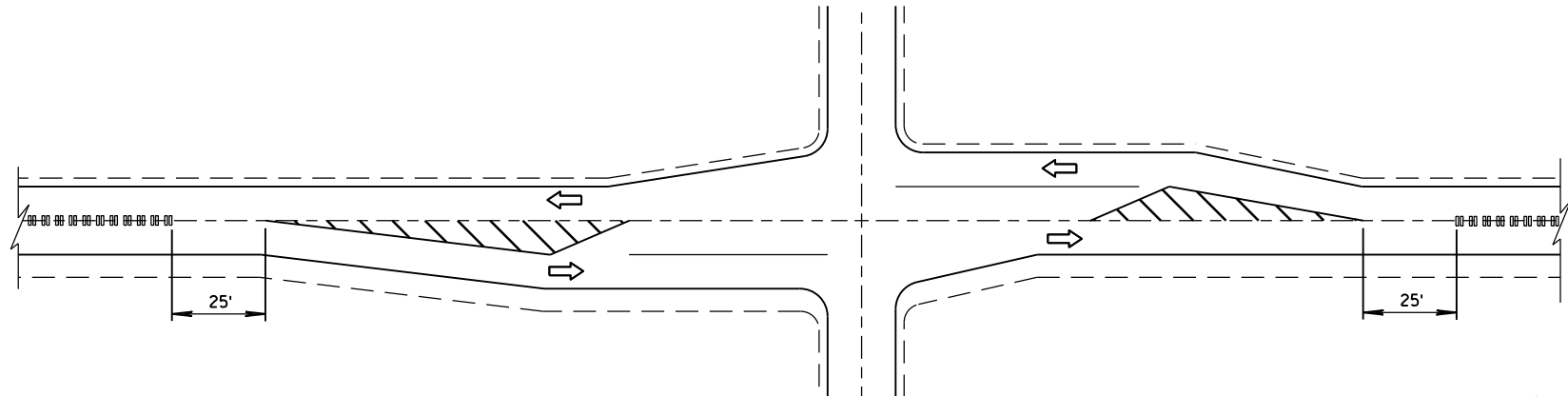
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

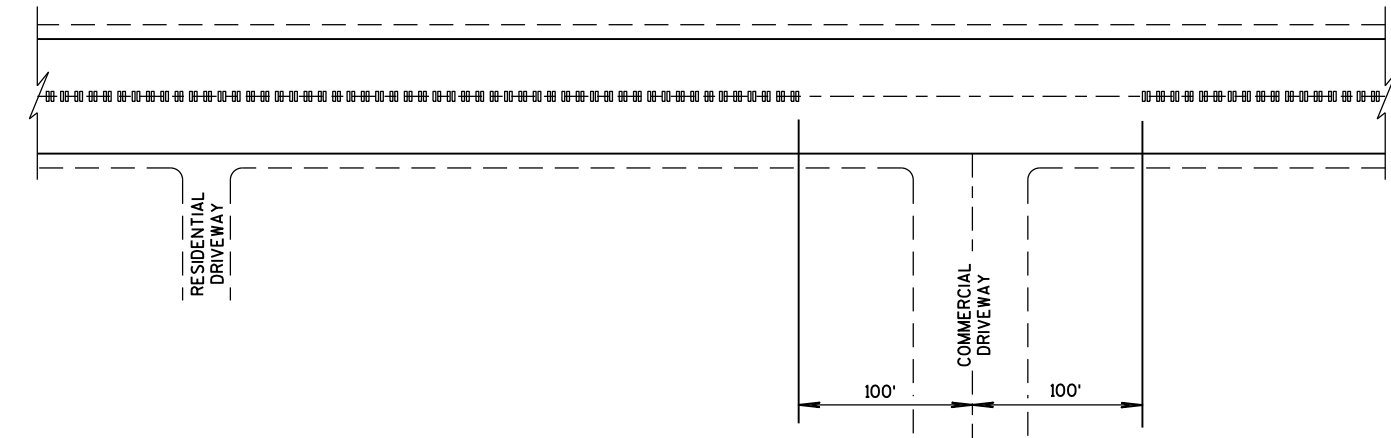
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

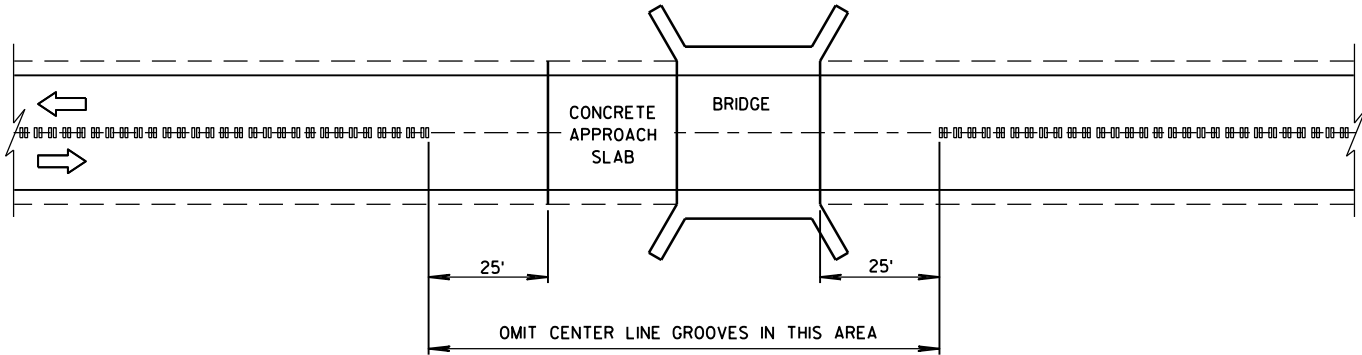


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

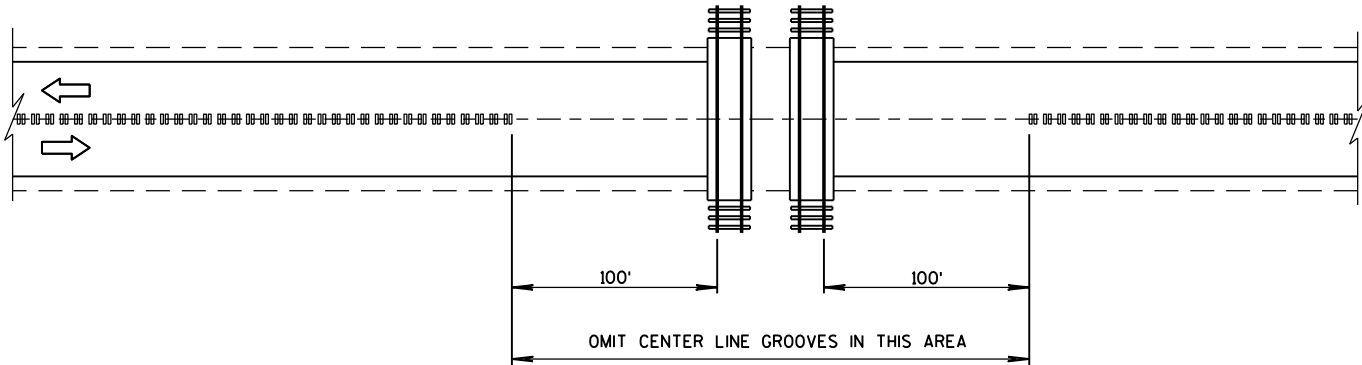


CENTER LINE GROOVES AT DRIVEWAYS^①

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

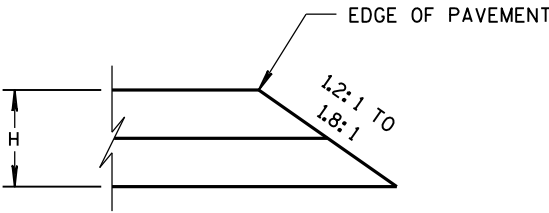


CENTER LINE GROOVES AT BRIDGES

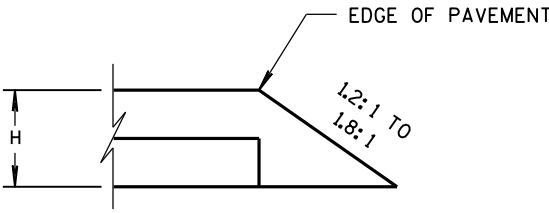


CENTER LINE GROOVES AT RAILROADS

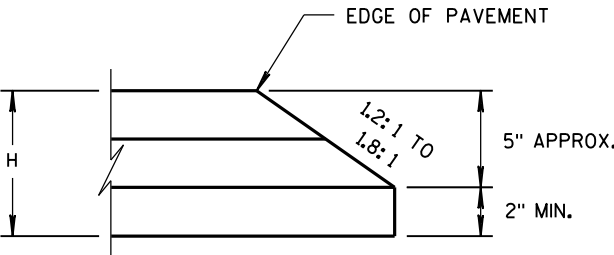
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/15/2013 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



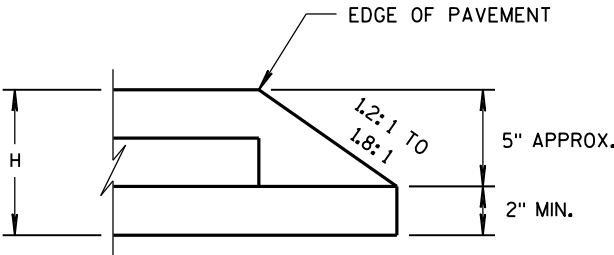
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

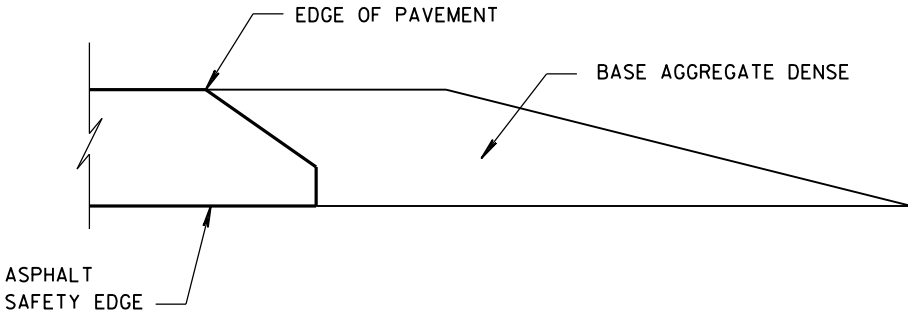


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS

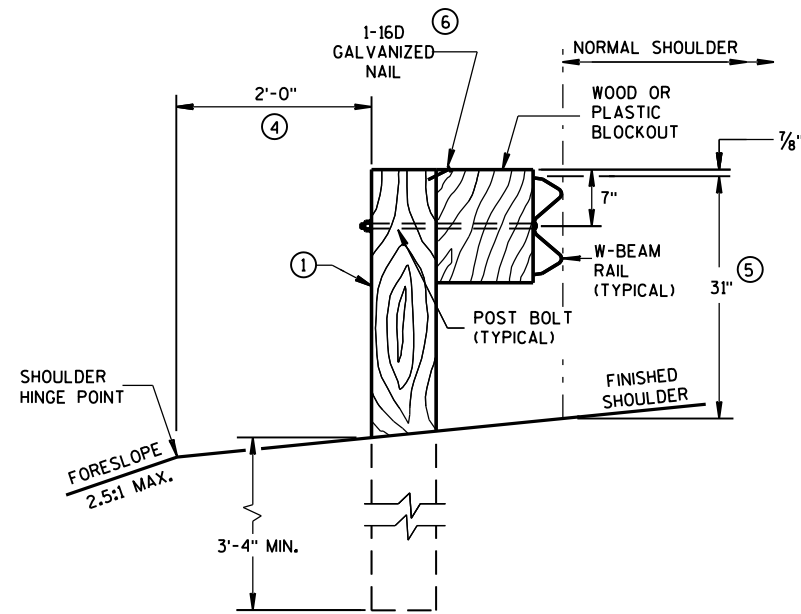


FINISHED SHOULDER AGGREGATE PLACEMENT

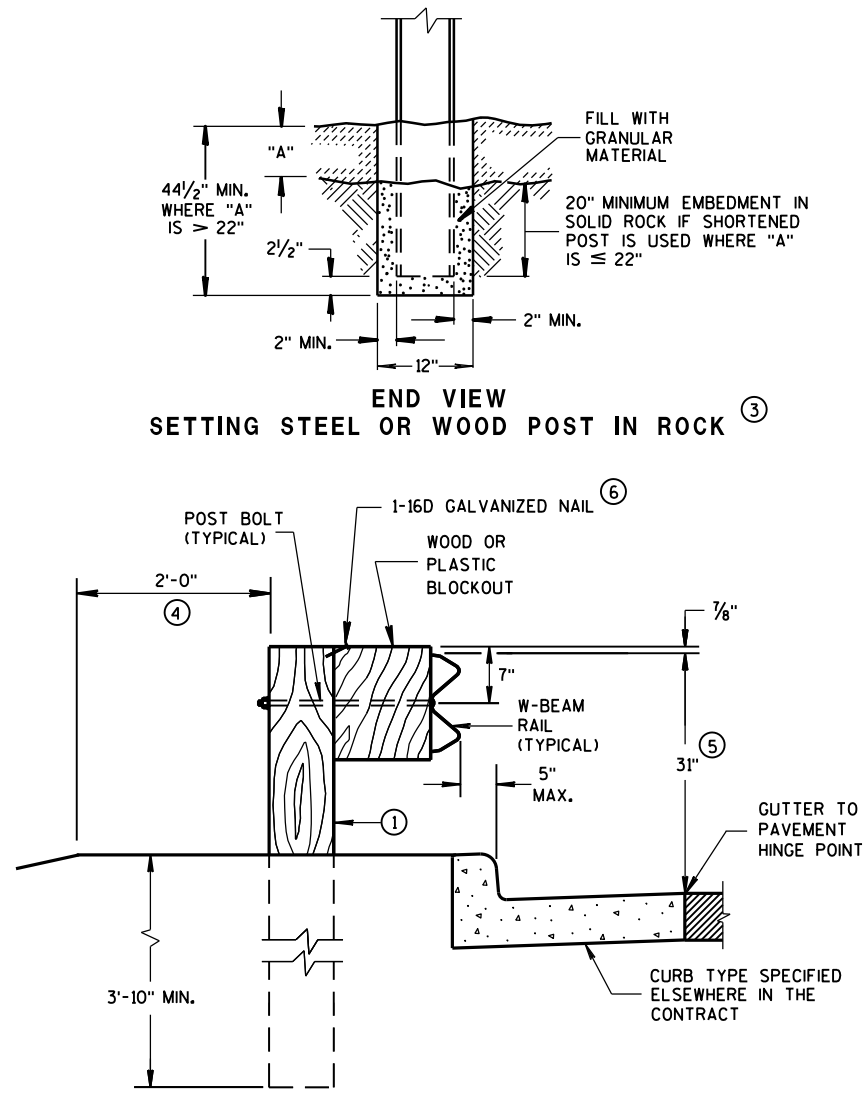
SAFETY EDGE _{SM}	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 11/30/2012	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

GENERAL NOTES

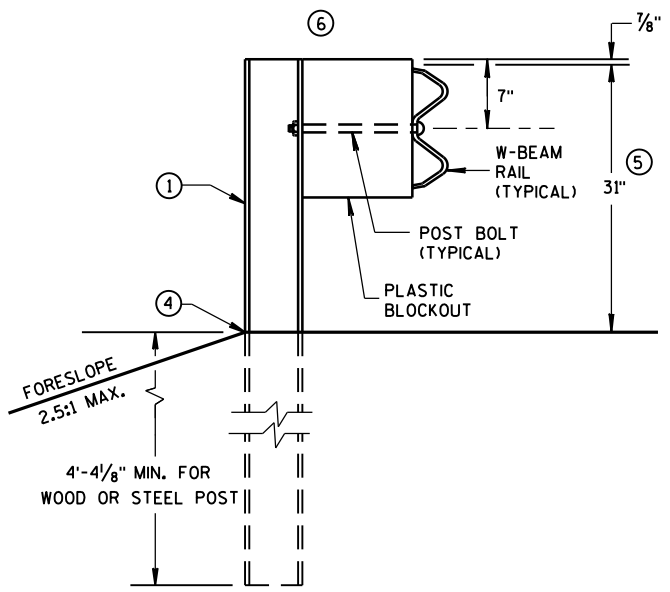
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. 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 ± 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.



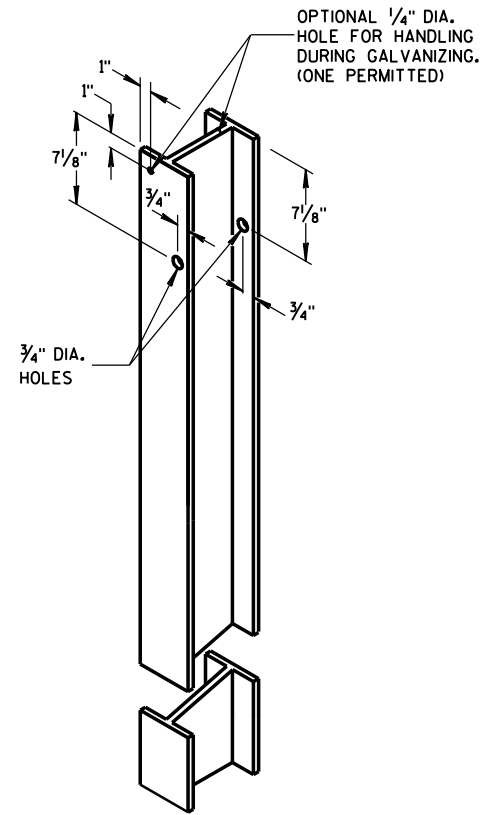
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



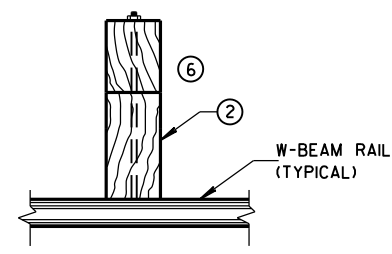
END VIEW
LOCATED ALONG A CURBED ROADWAY



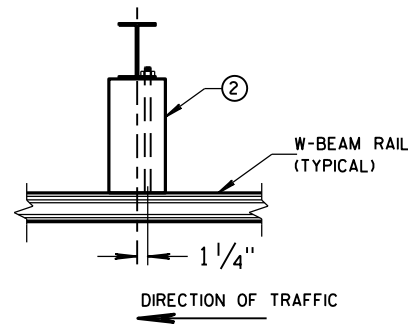
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



STEEL POST &
HOLE PUNCHING DETAIL
(w6X9)



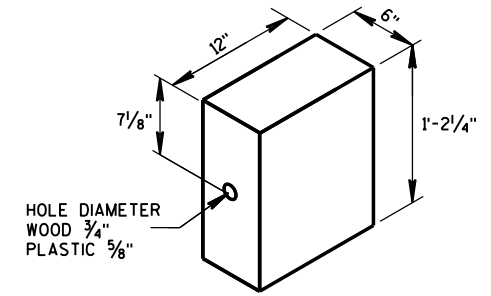
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



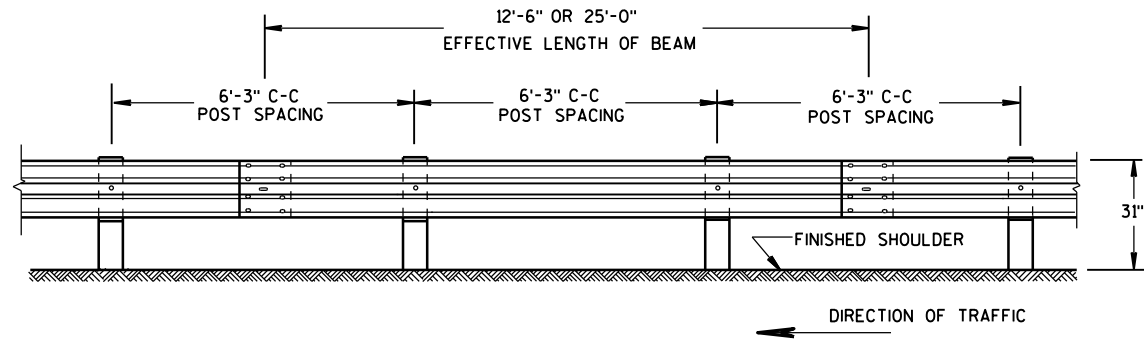
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST
(6" X 8") NOMINAL

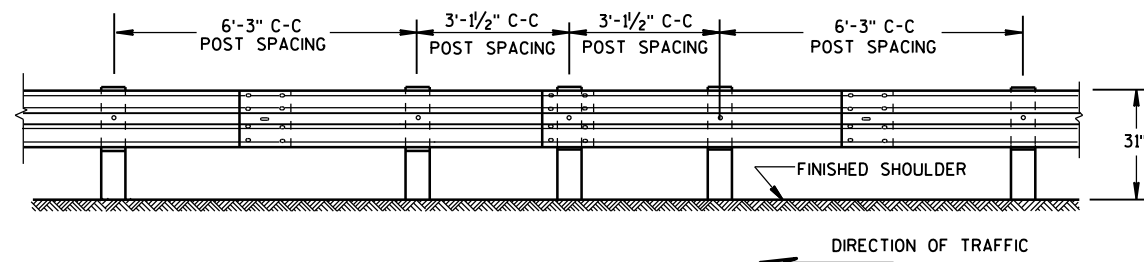


WOOD OR
PLASTIC BLOCKOUT



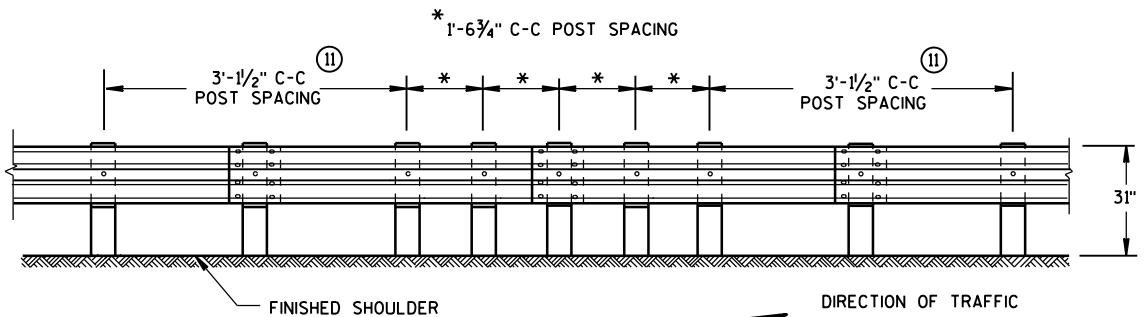
FRONT VIEW

POST SPACING STANDARD INSTALLATION



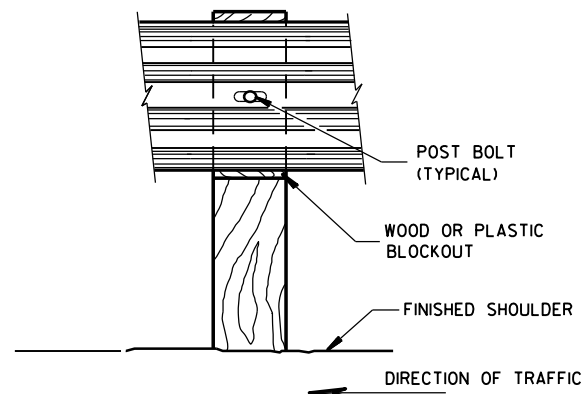
FRONT VIEW

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

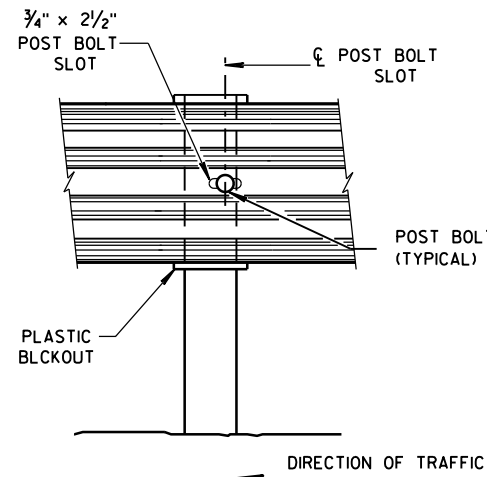


FRONT VIEW

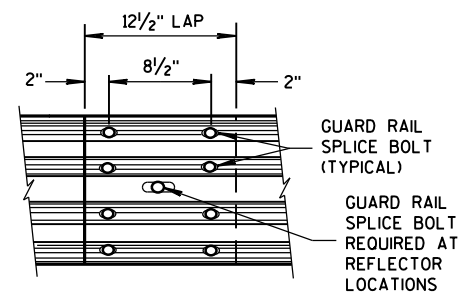
QUARTER POST SPACING (QS)



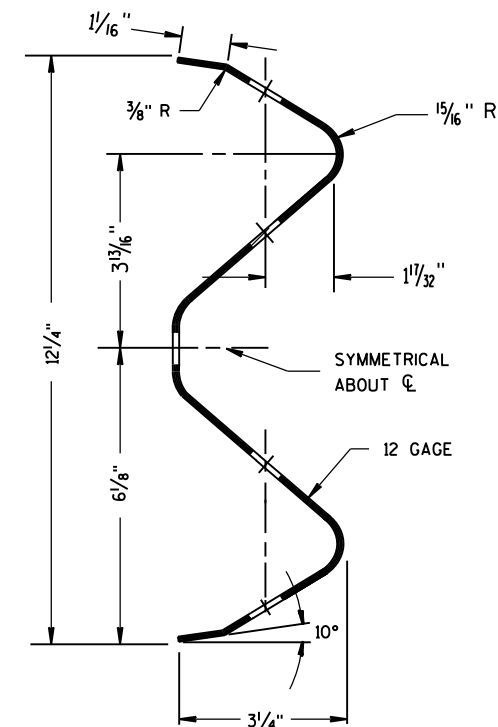
FRONT VIEW AT WOOD POST



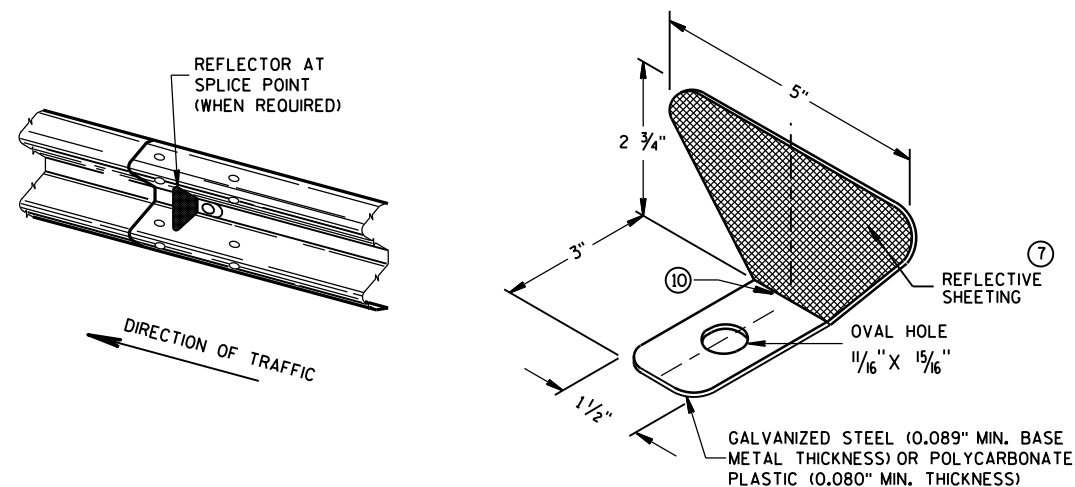
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

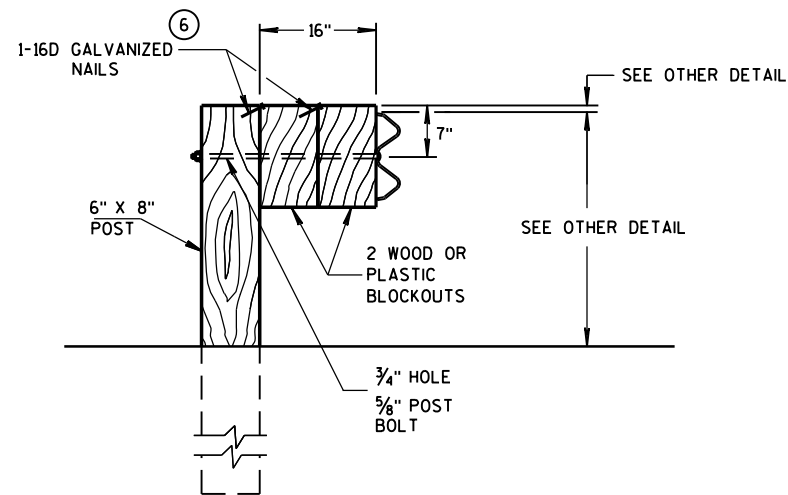
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF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

REFLECTOR SPACING

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

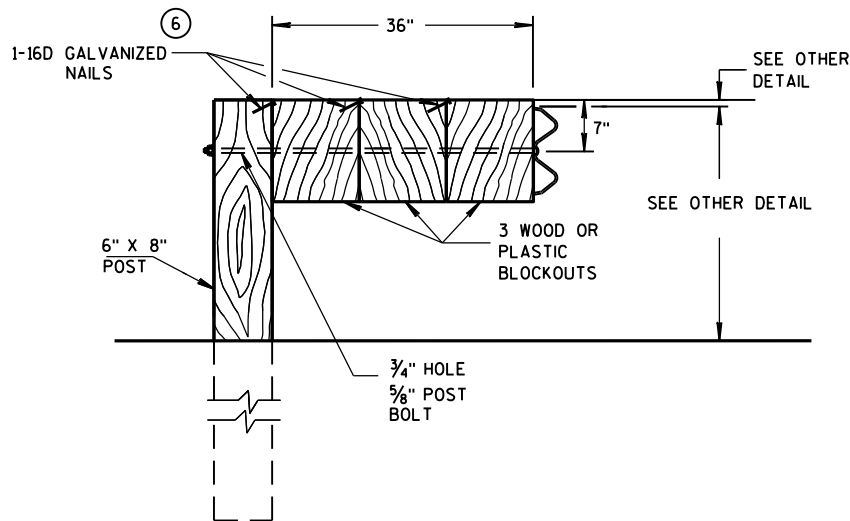
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

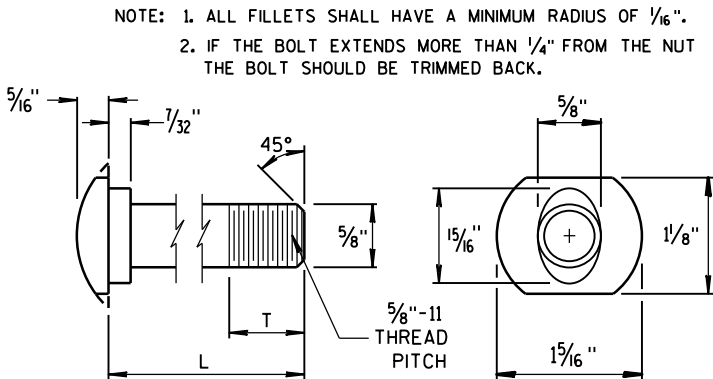
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



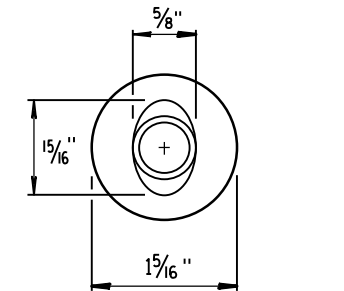
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

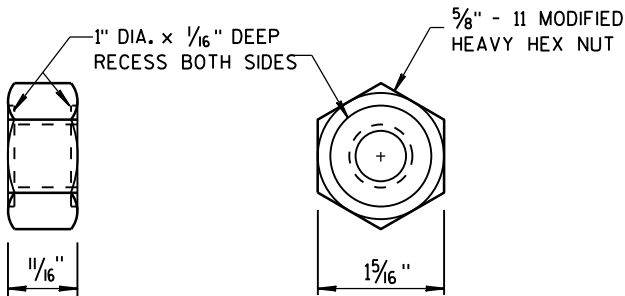
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



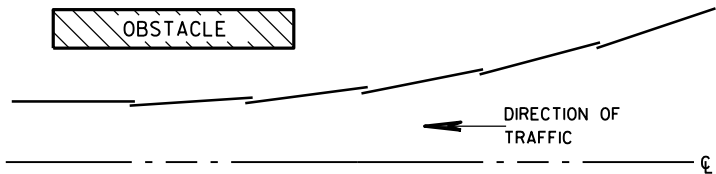
POST BOLT TABLE



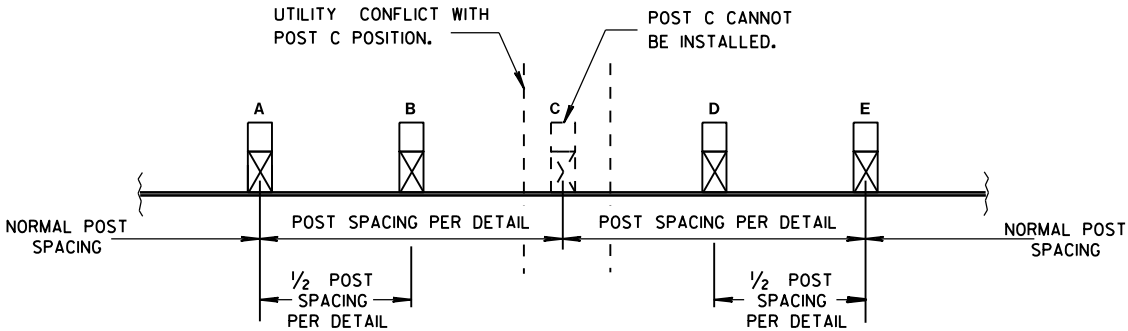
ALTERNATE BOLT HEAD



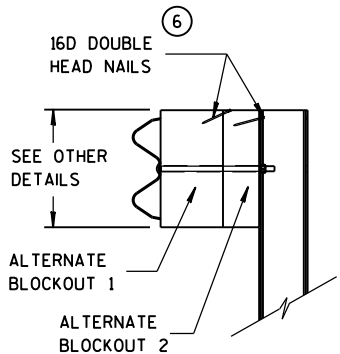
POST BOLT
AND RECESS NUT



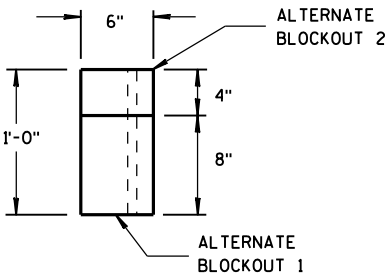
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

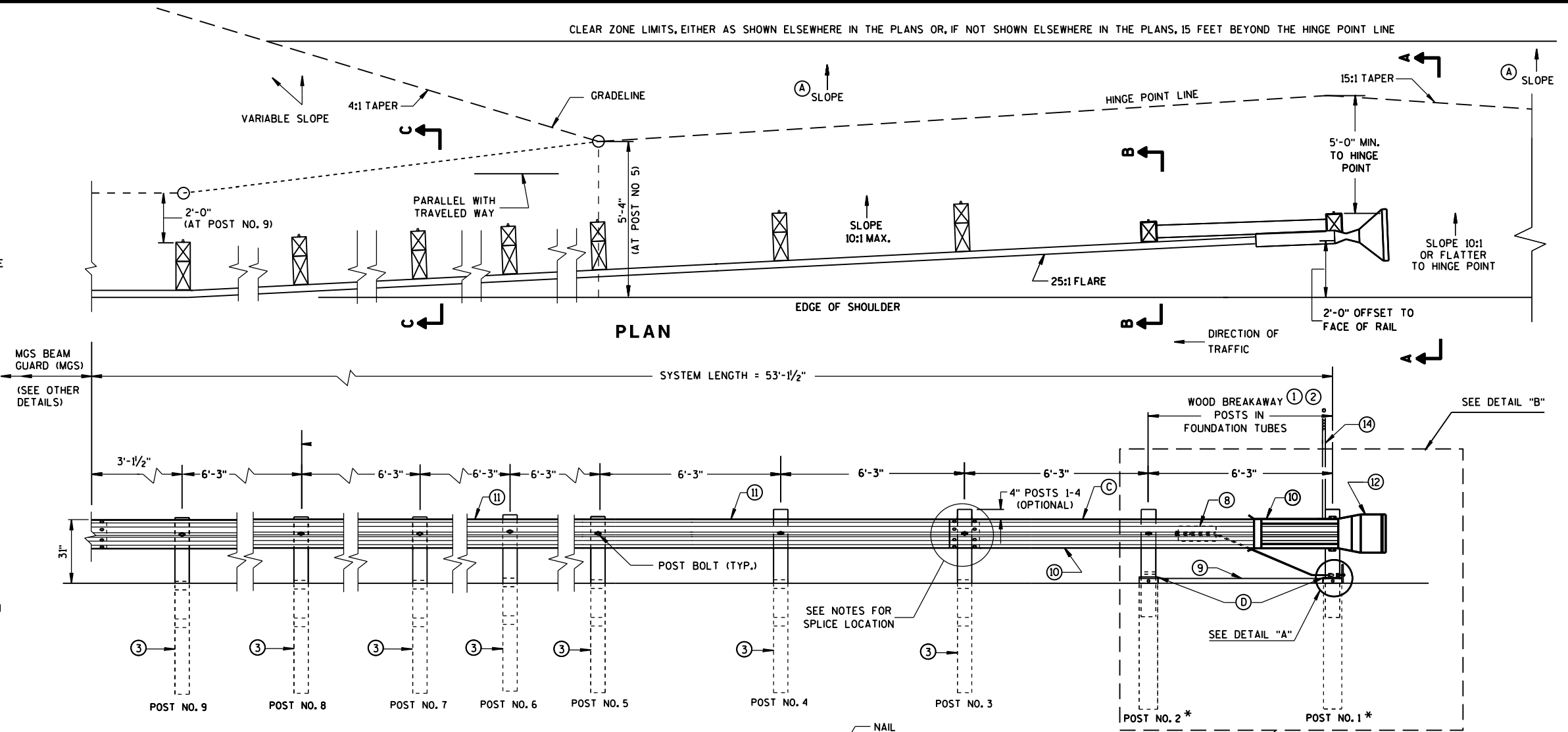
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

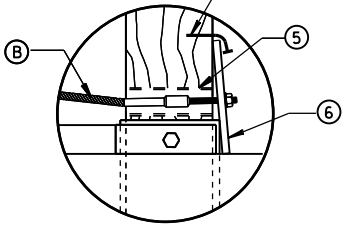
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

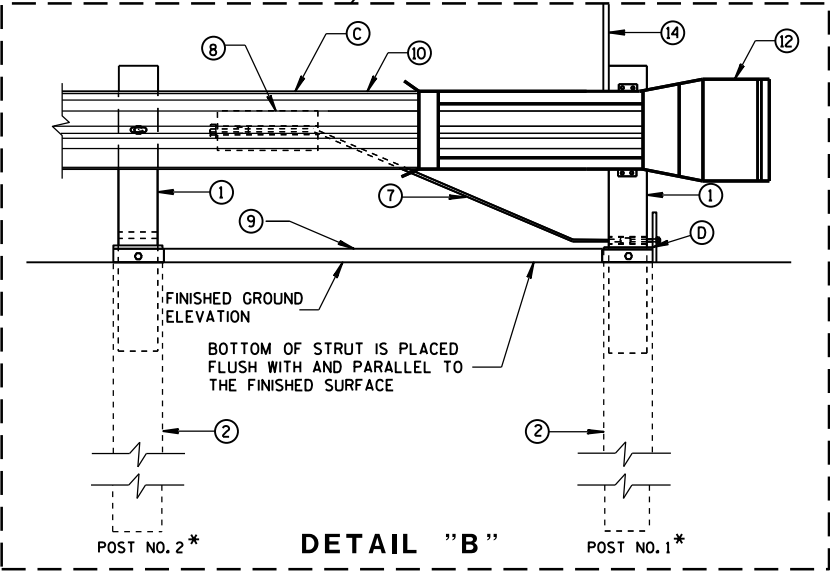
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



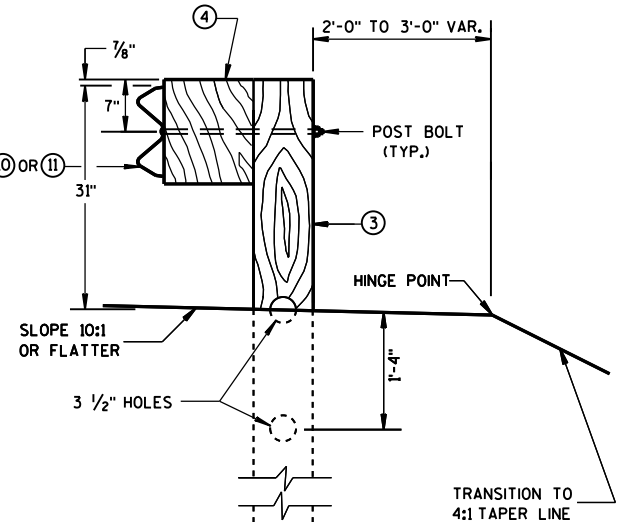
ELEVATION



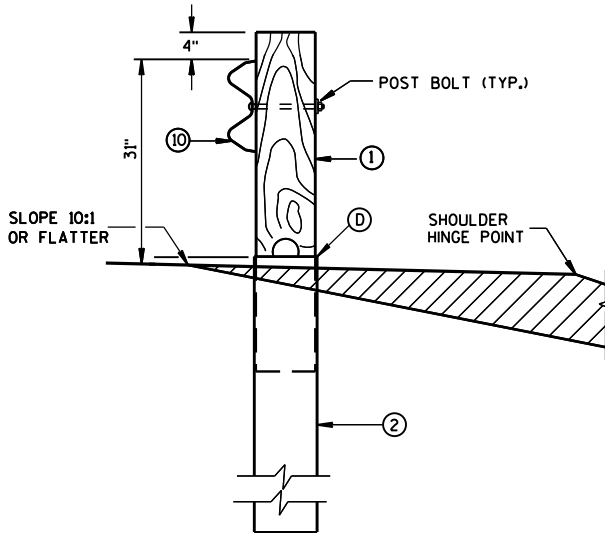
DETAIL "A"



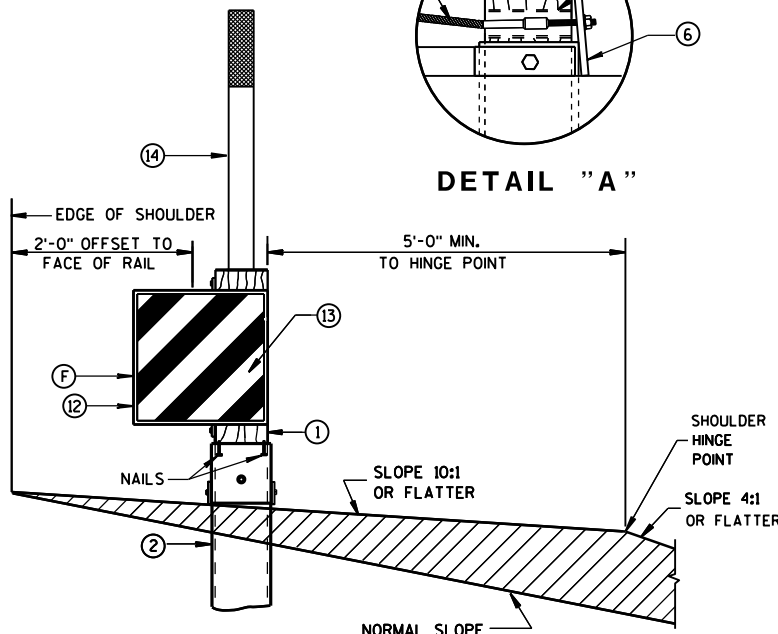
DETAIL "B"



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



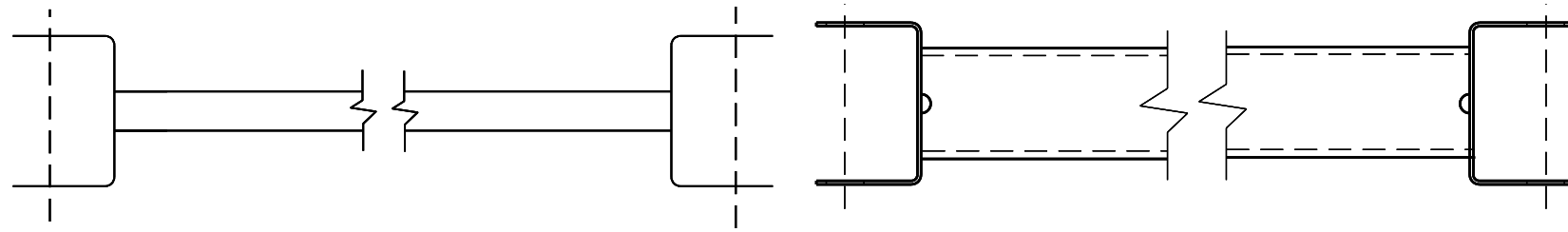
SECTION B-B
TYPICAL AT POST NO. 2*



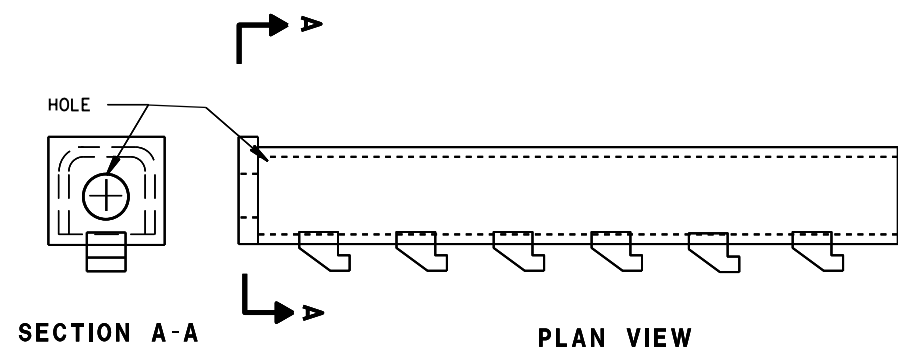
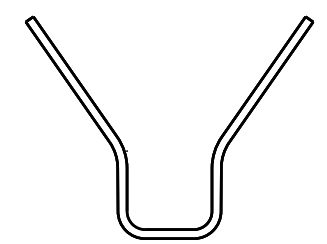
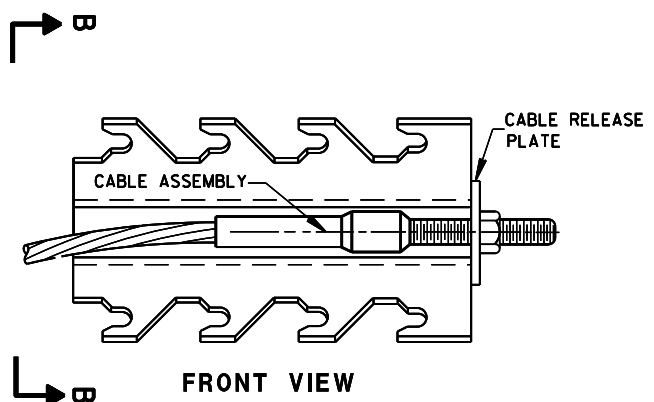
SECTION A-A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



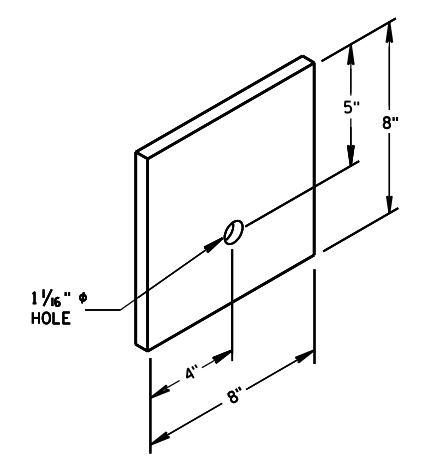
9 H
GENERIC GROUND STRUT



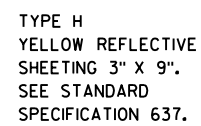
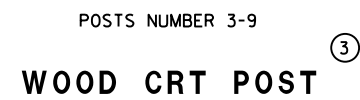
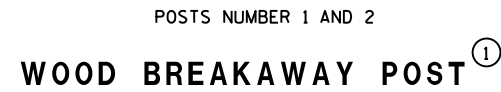
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

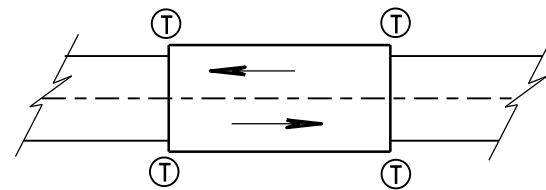
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND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



⑥
BEARING PLATE

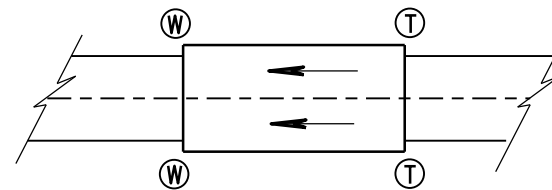


MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014	<i>/S/ Jerry H. Zogg</i>
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

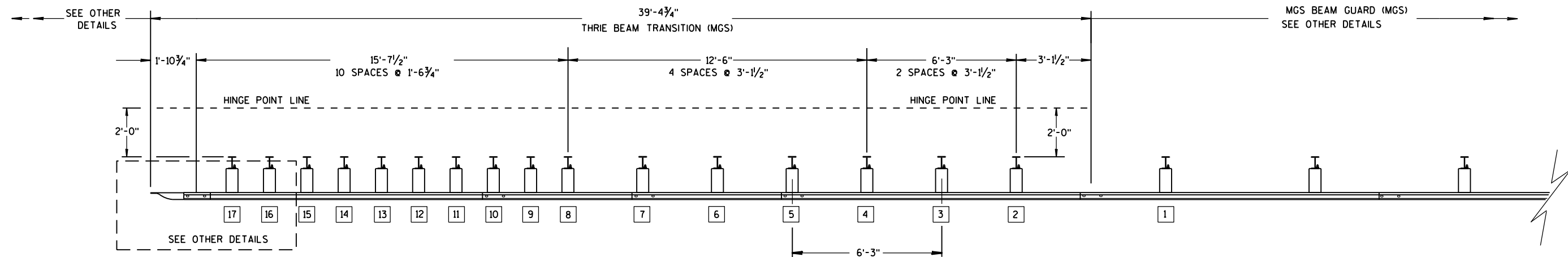
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

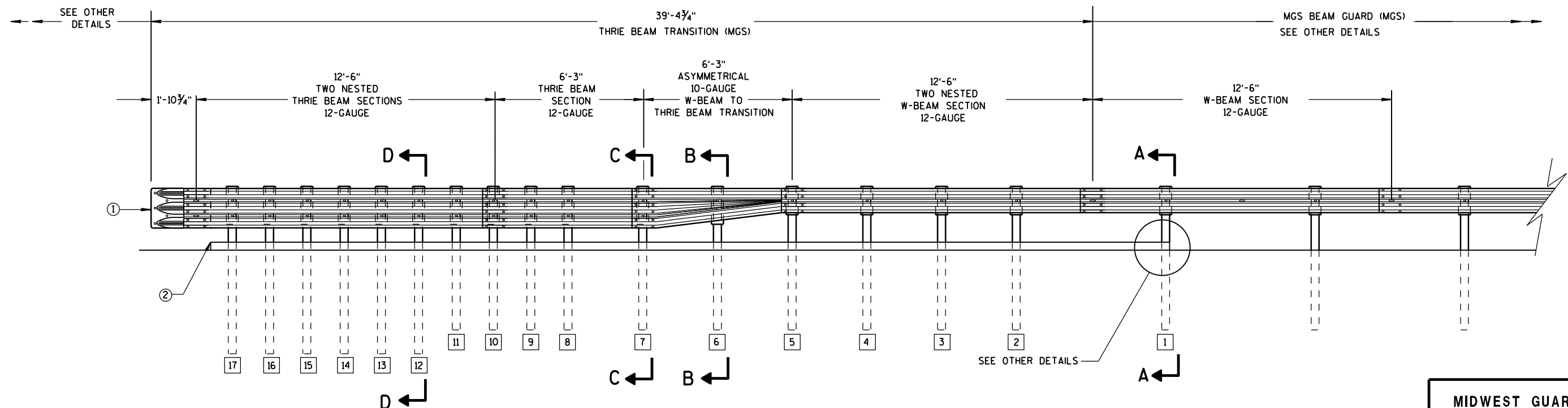
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

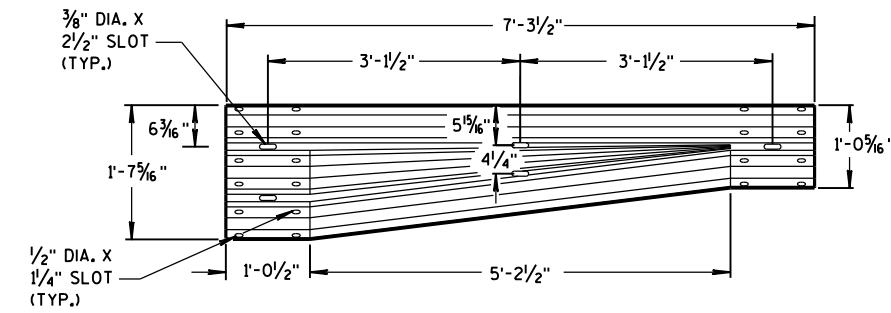
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

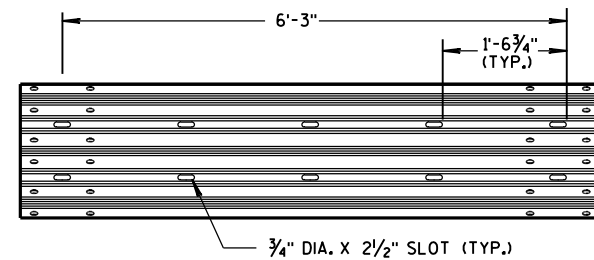
- S.D.D. 14 B 45-4b**



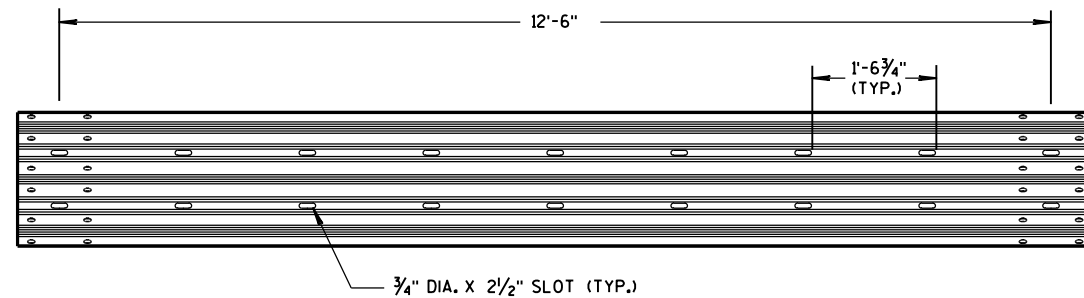
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



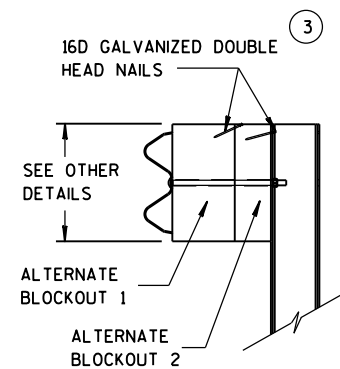
W-BEAM TO THRIE BEAM TRANSITION SECTION



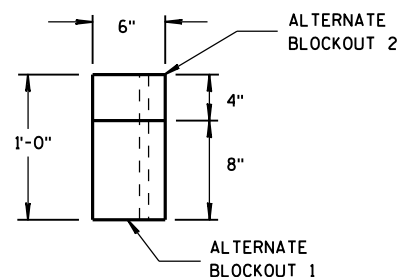
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

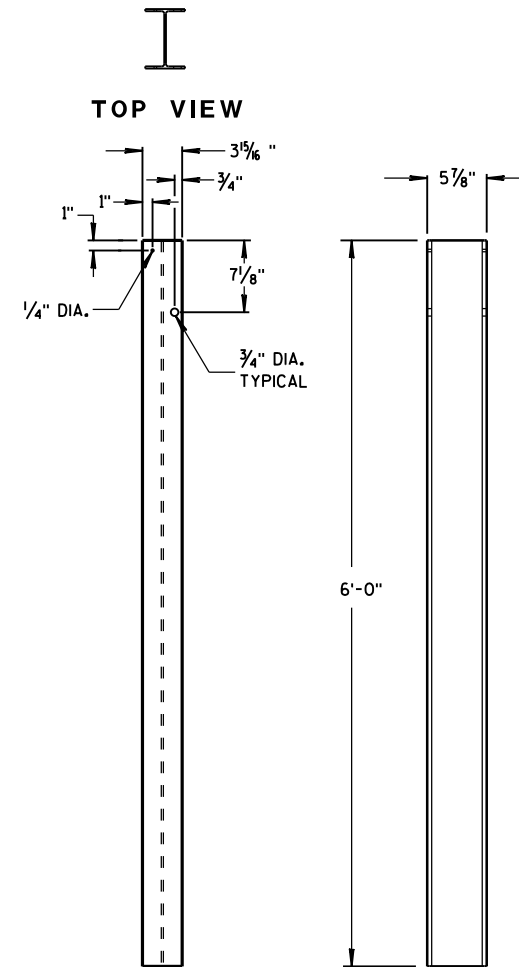


SIDE VIEW



TOP VIEW

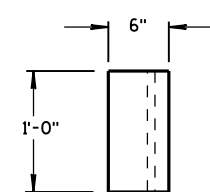
ALTERNATE WOOD BLOCKOUT DETAIL



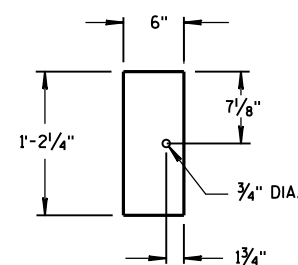
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

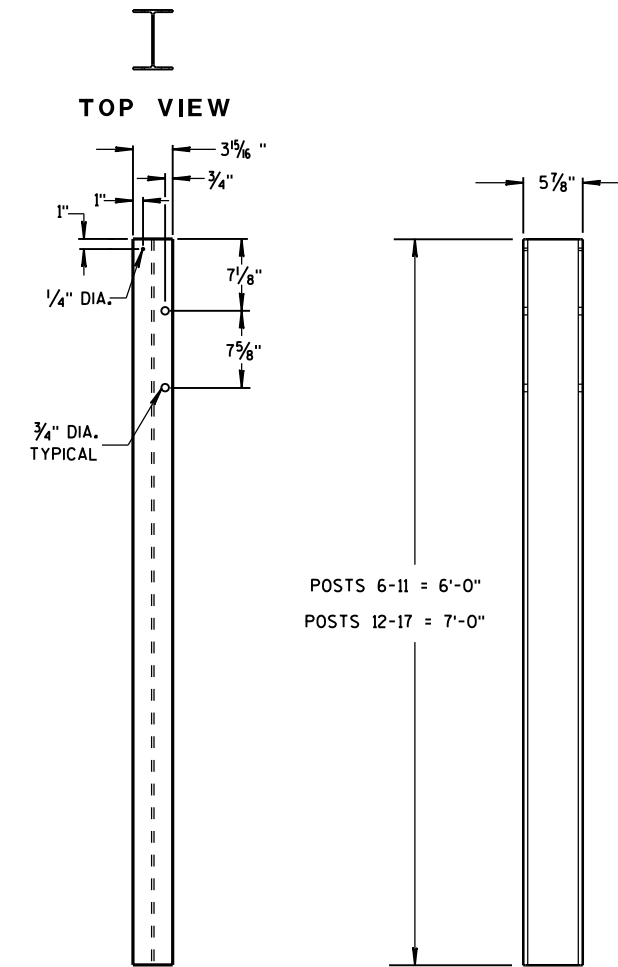


TOP VIEW



FRONT VIEW

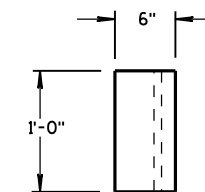
BLOCKOUT
POSTS 1-5



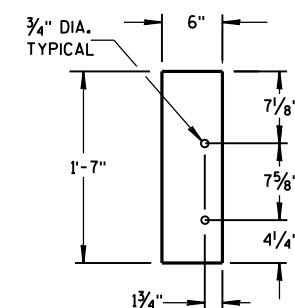
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT
POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

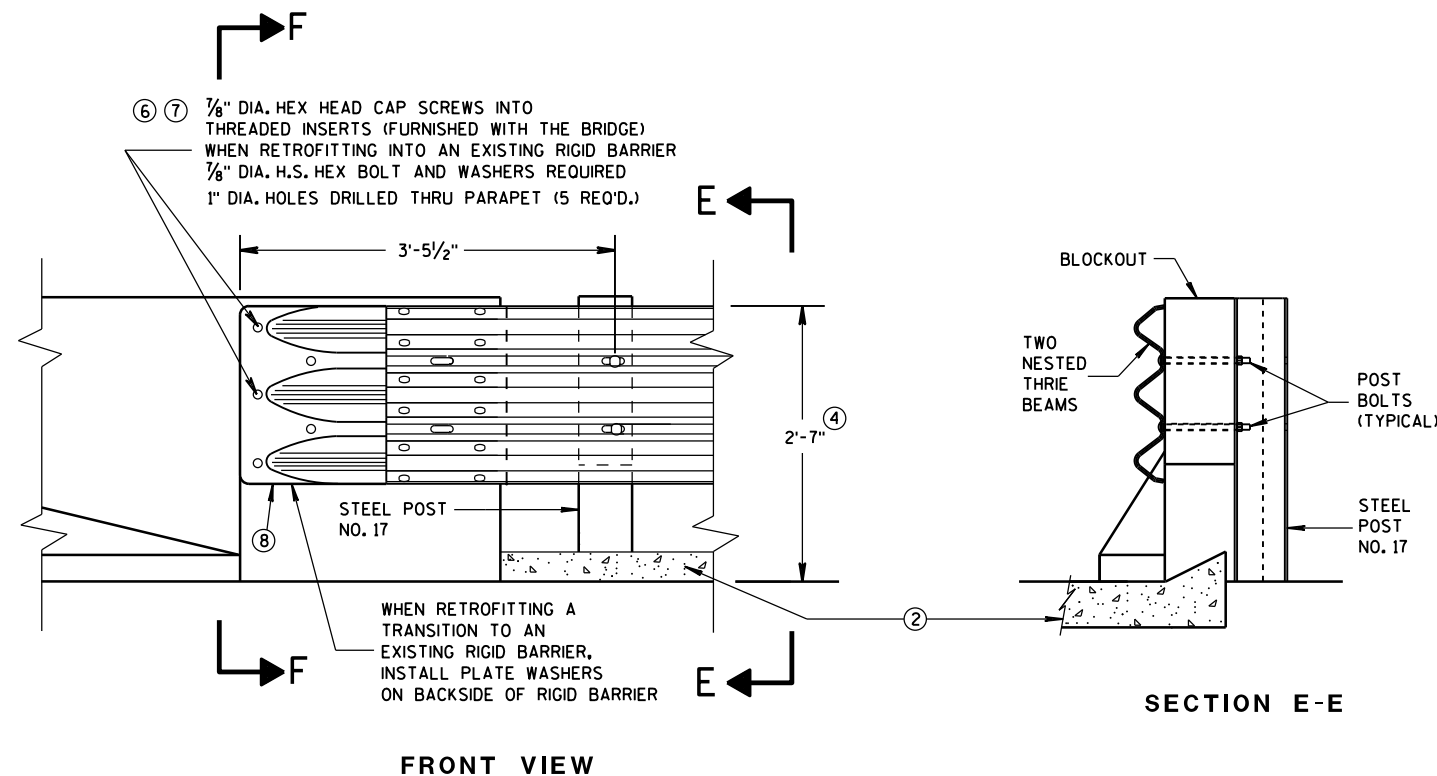
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

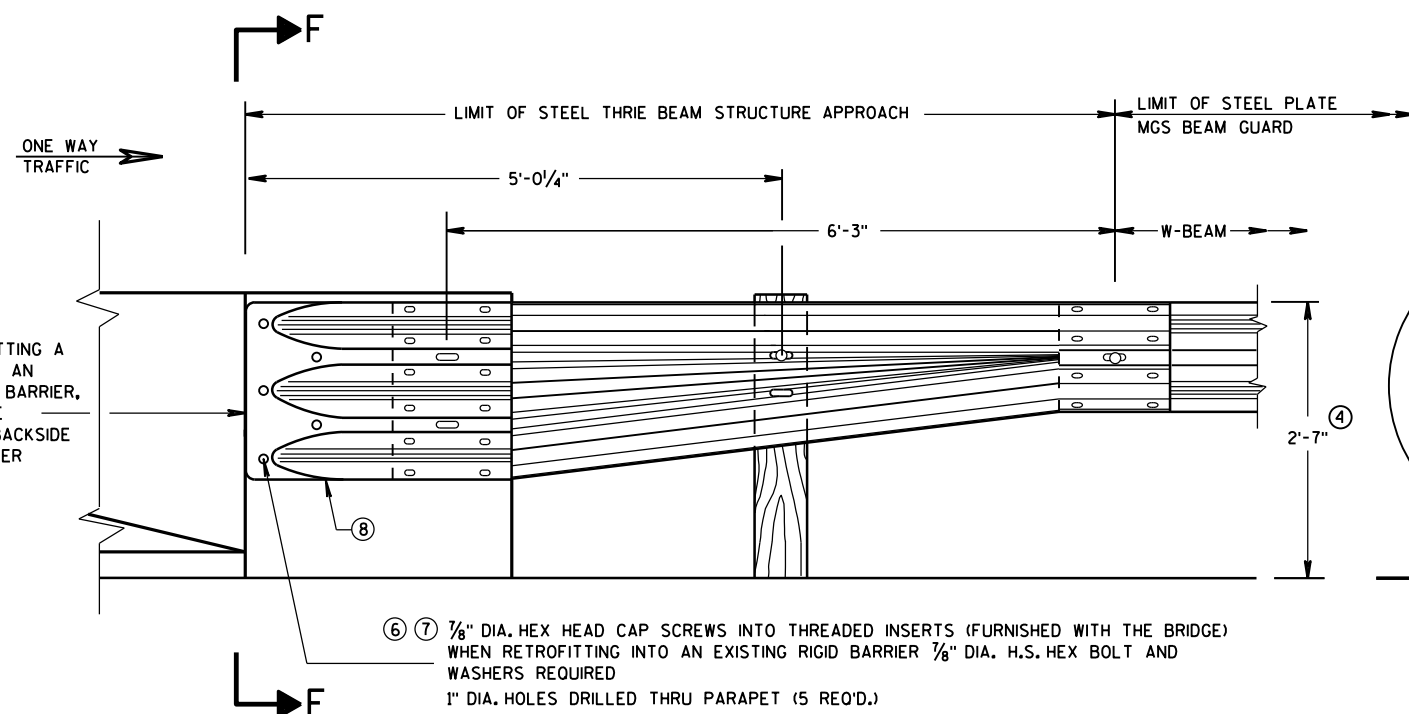
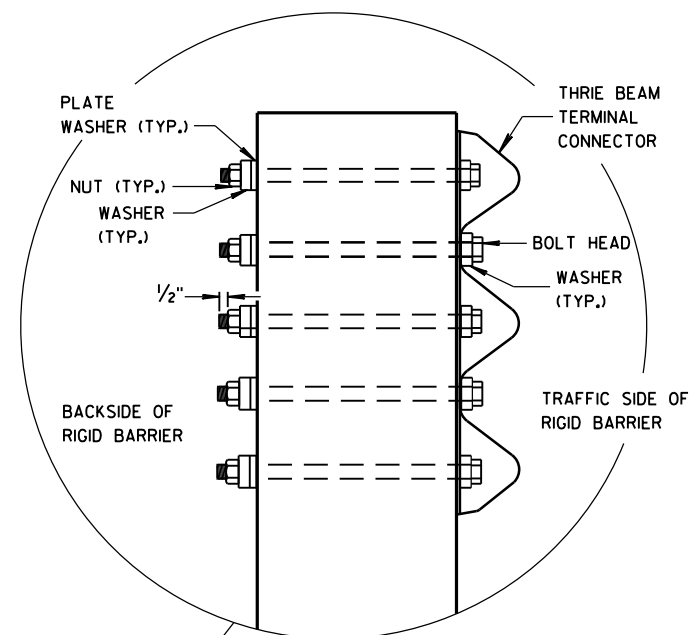
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



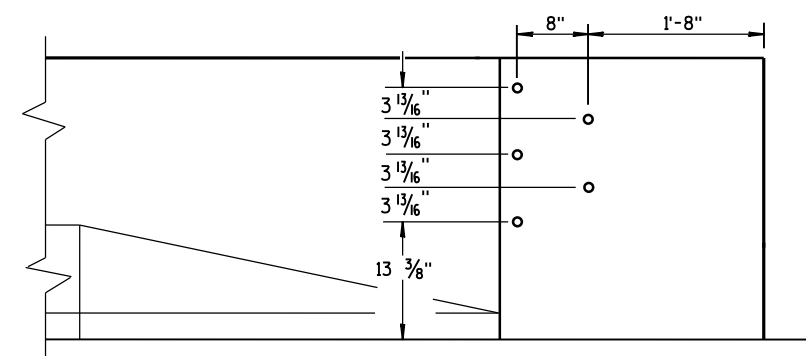
GENERAL NOTES

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

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



SECTION F-F



DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

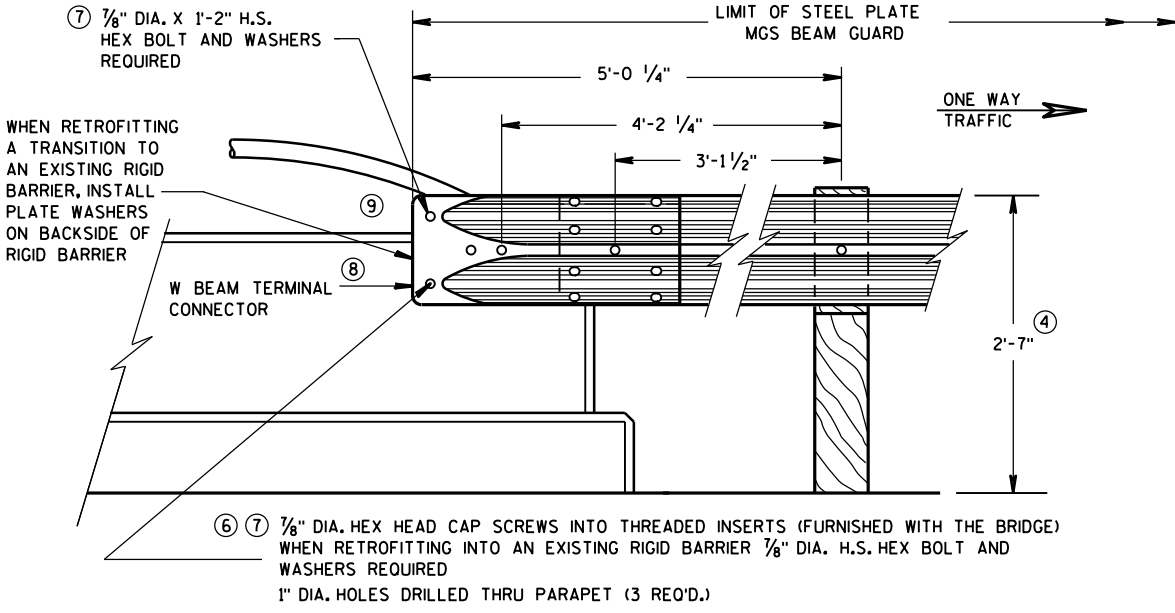
APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

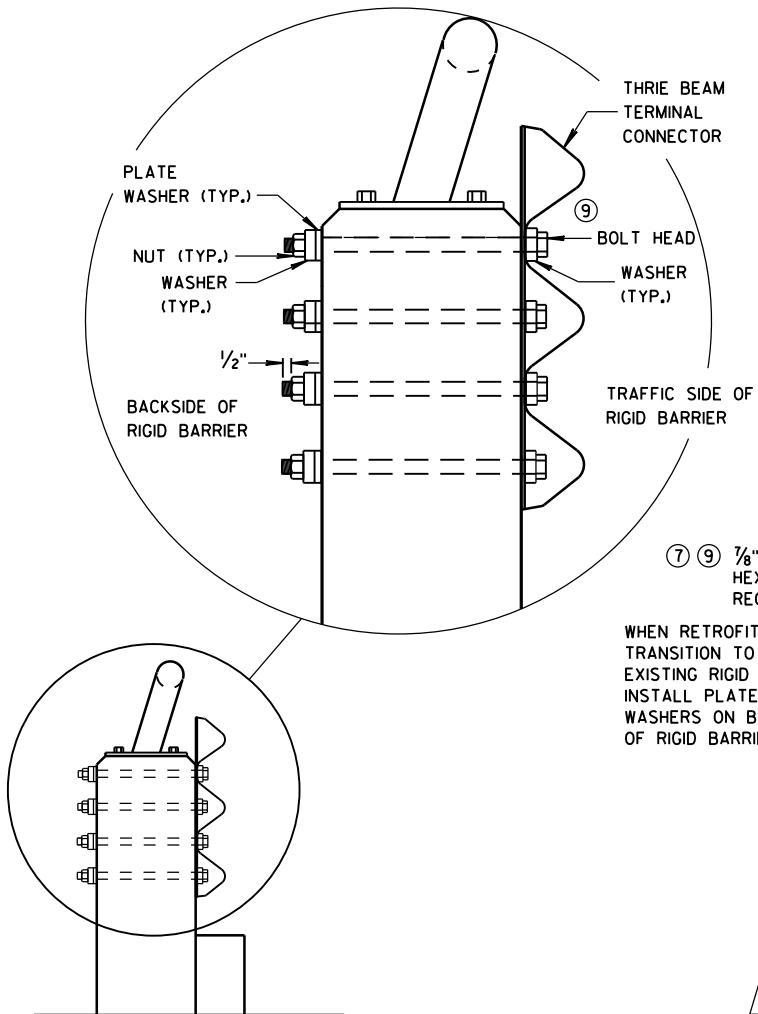
GENERAL NOTES

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

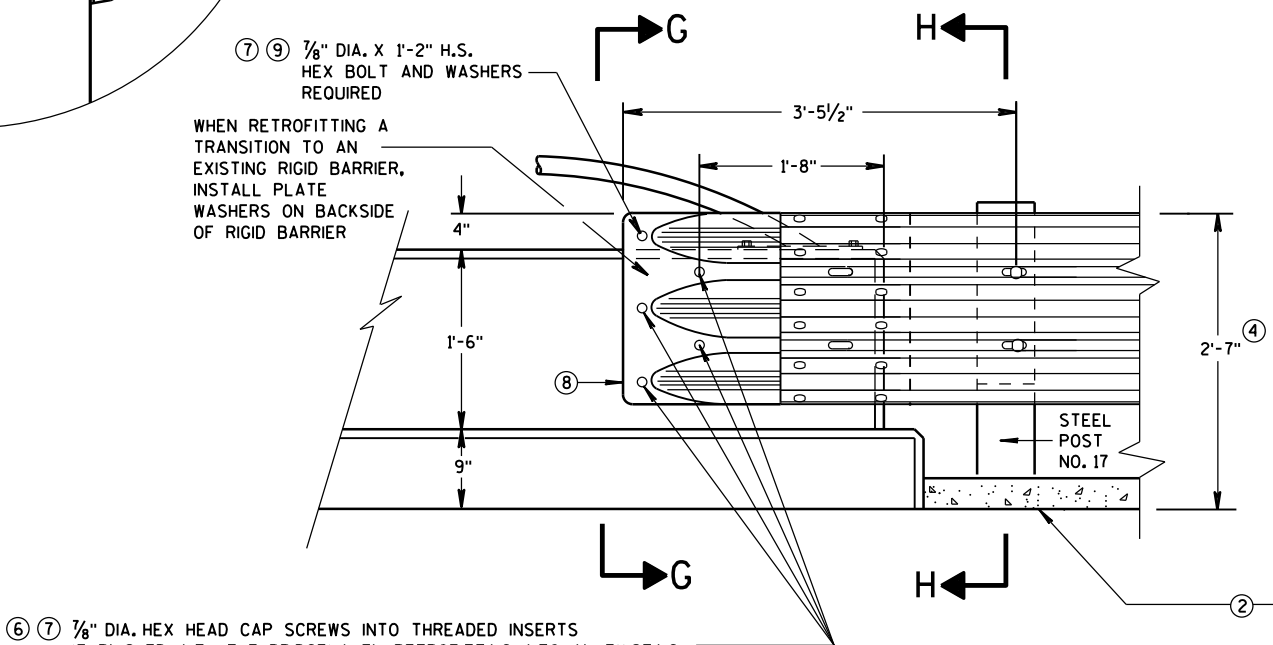
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}"$ THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}"$.
- ⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



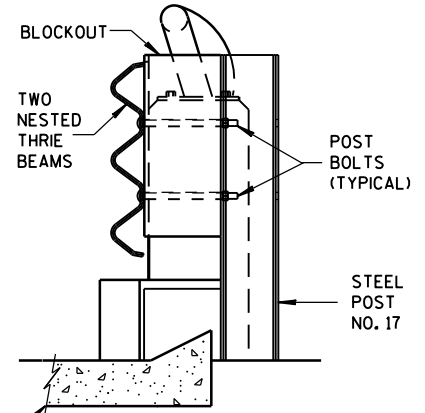
FRONT VIEW
W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



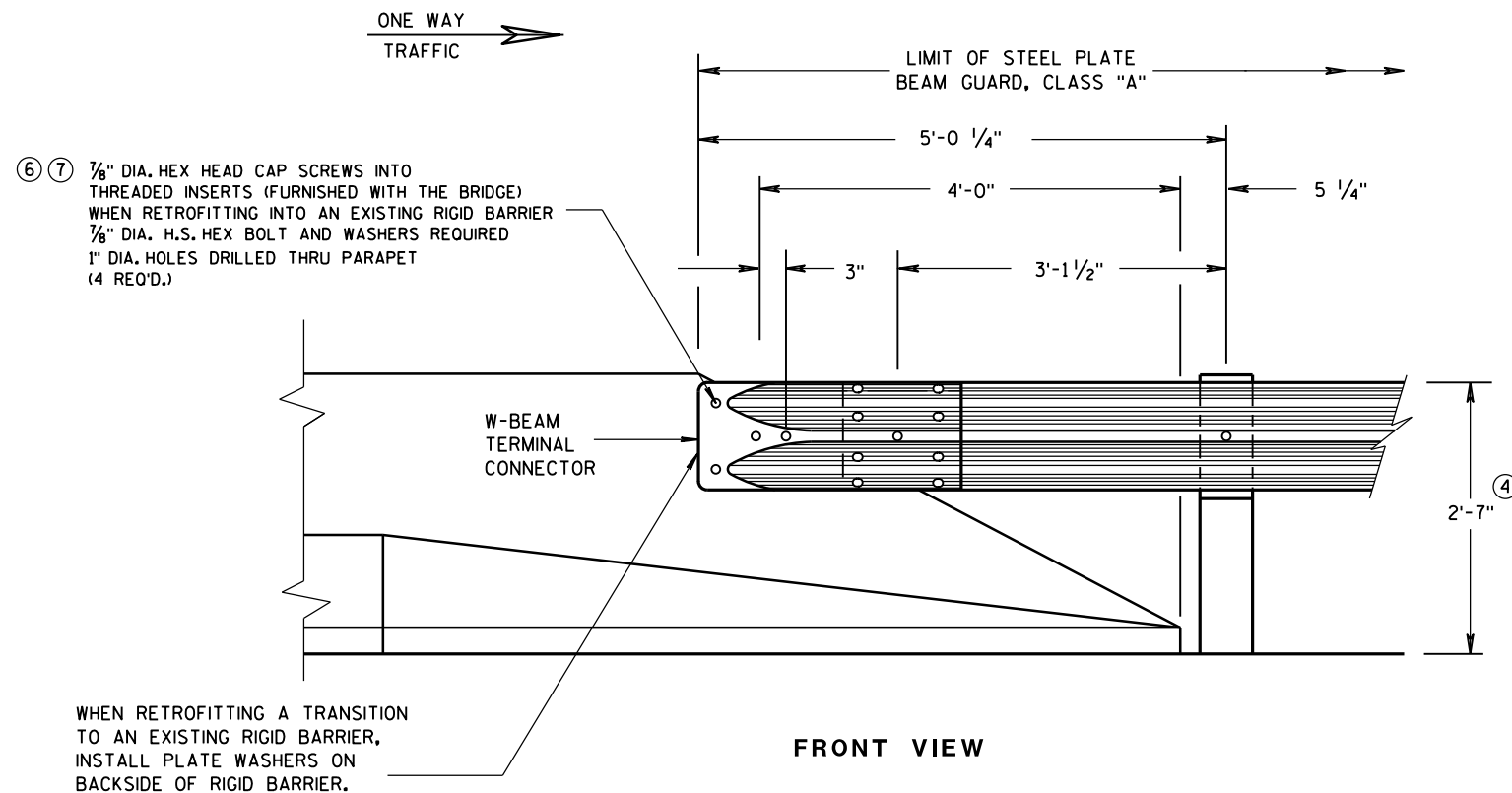
FRONT VIEW



SECTION H-H

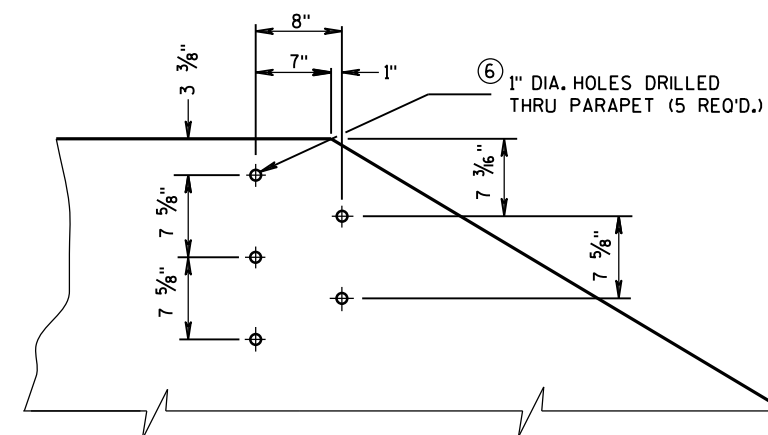
THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June, 2015 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

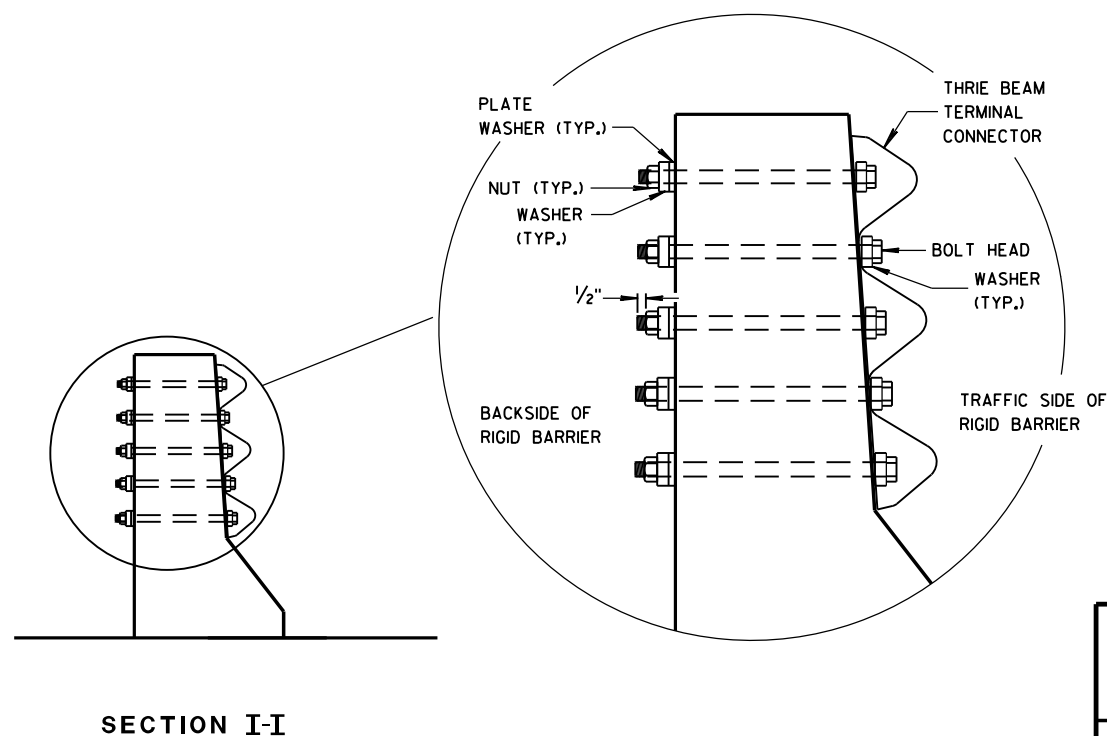
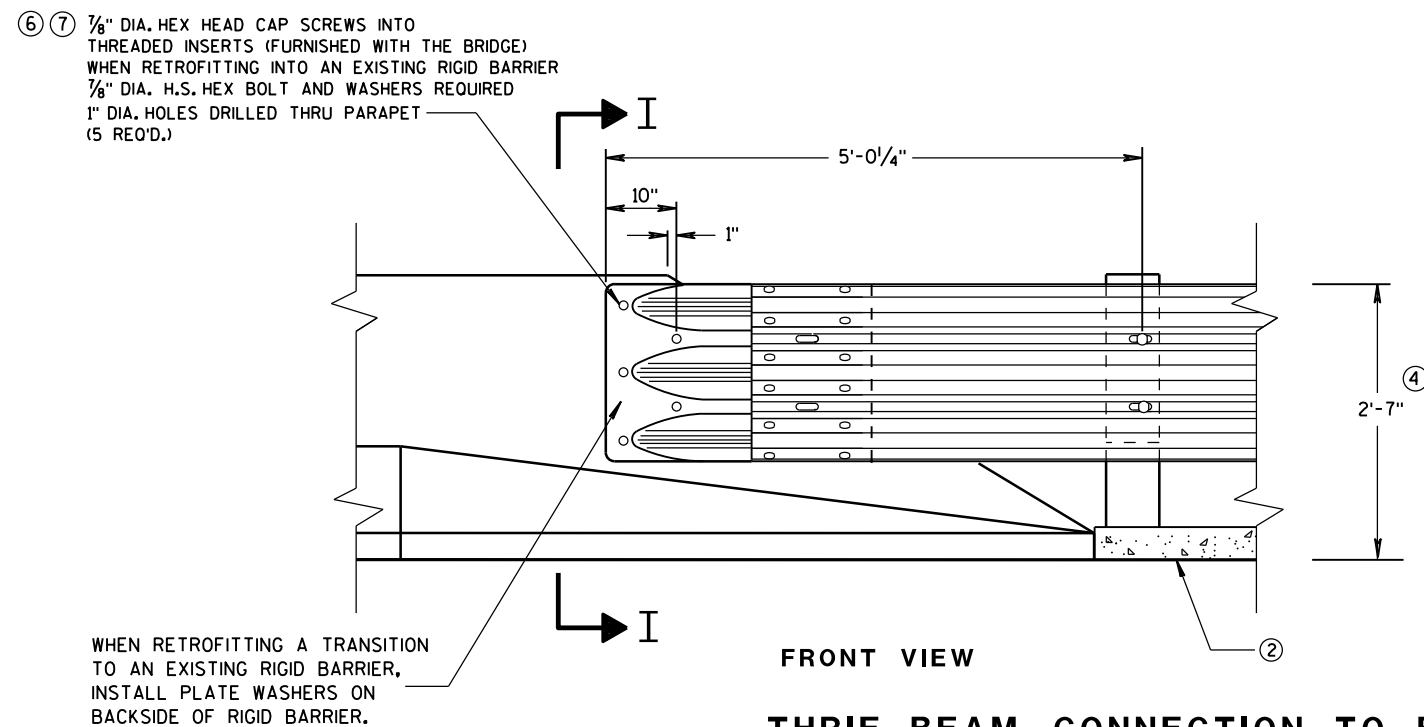


GENERAL NOTES

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

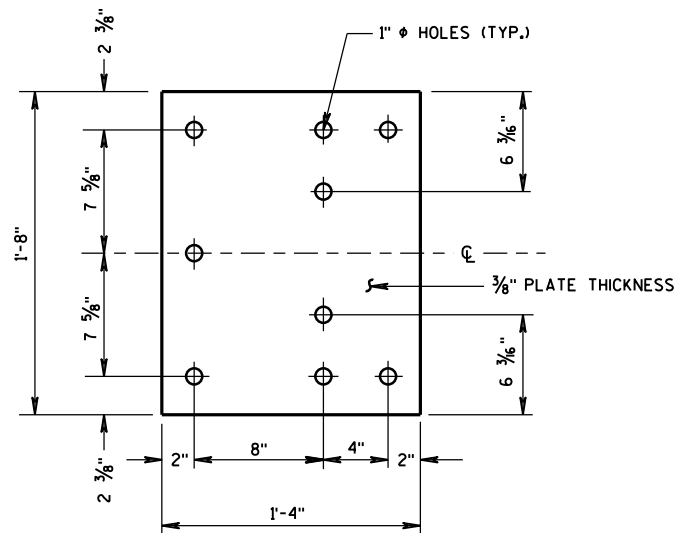


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

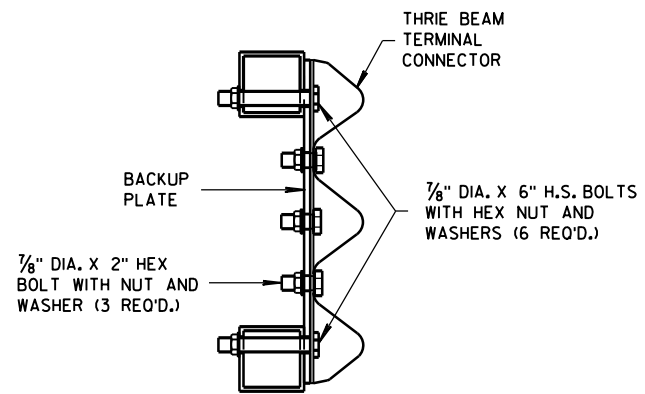
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

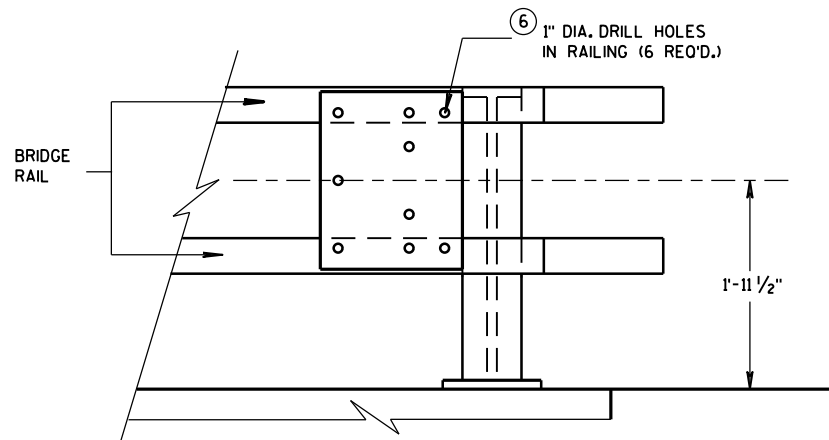
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



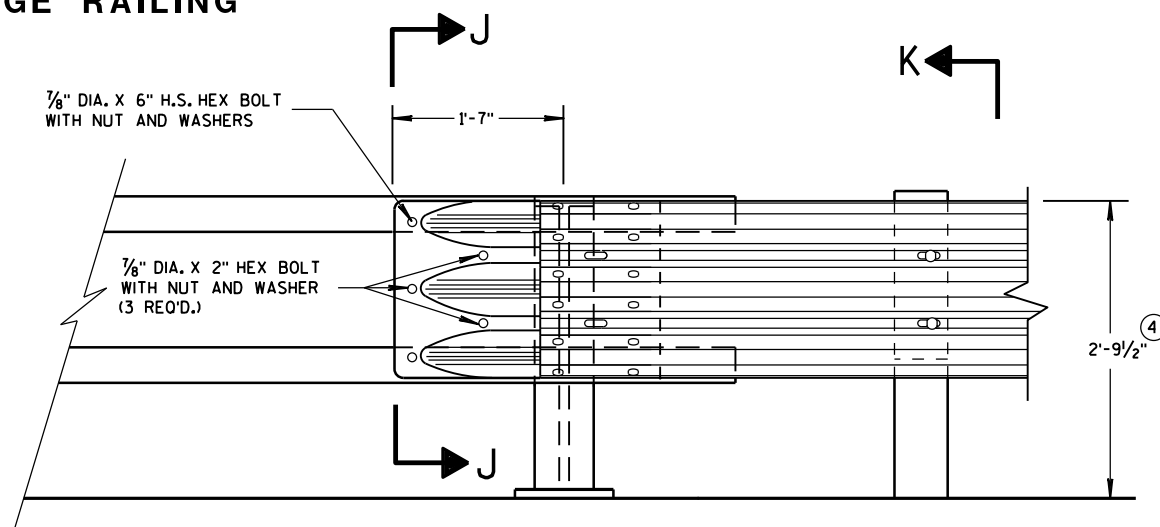
BACK-UP PLATE DETAIL



SECTION J-J

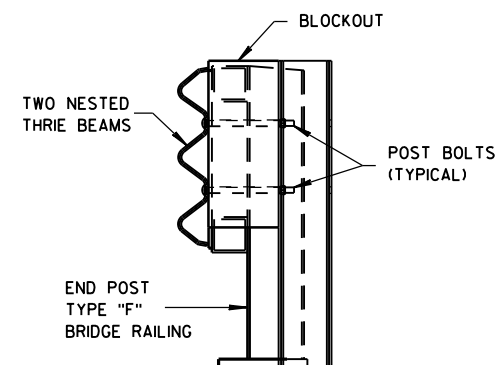


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

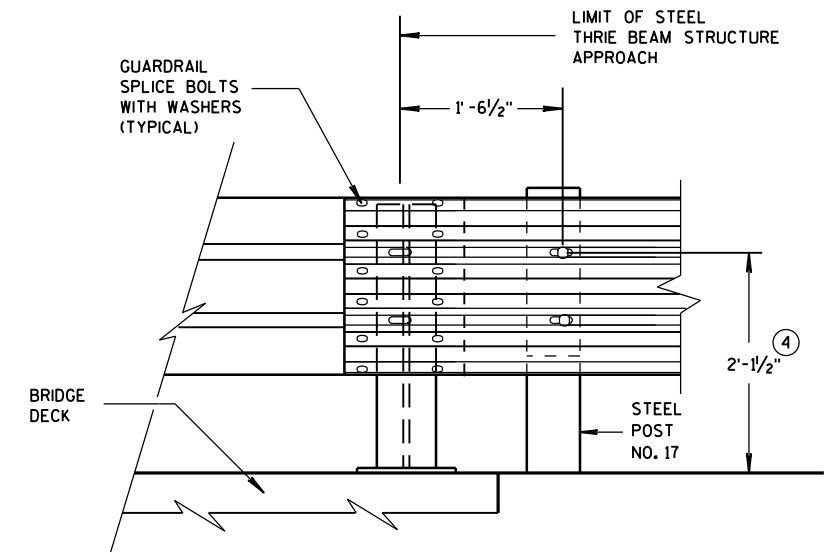
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

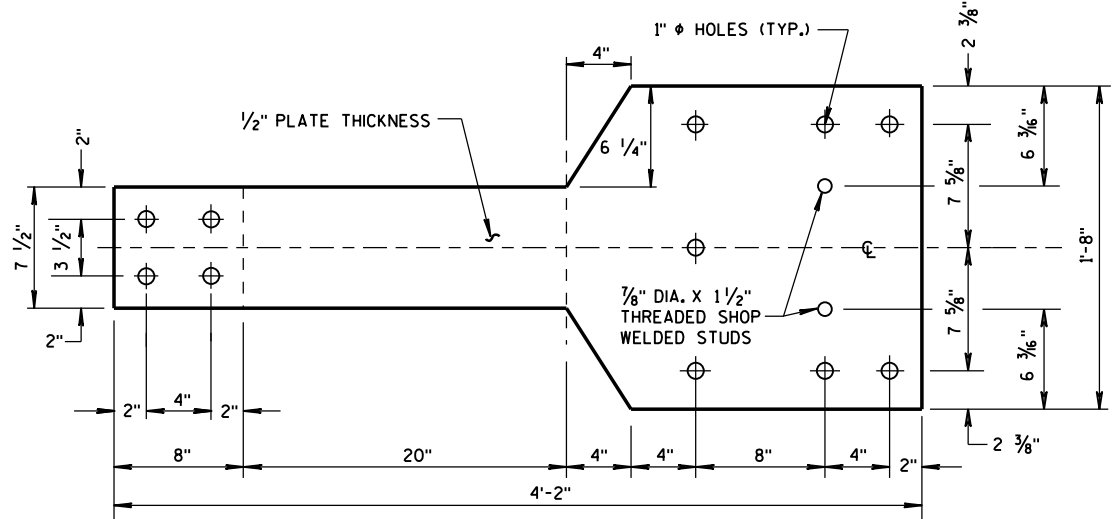
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

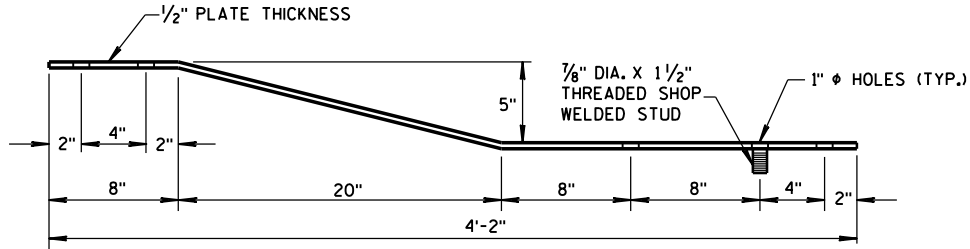
APPROVED
June, 2015 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA ENGINEER

GENERAL NOTES

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

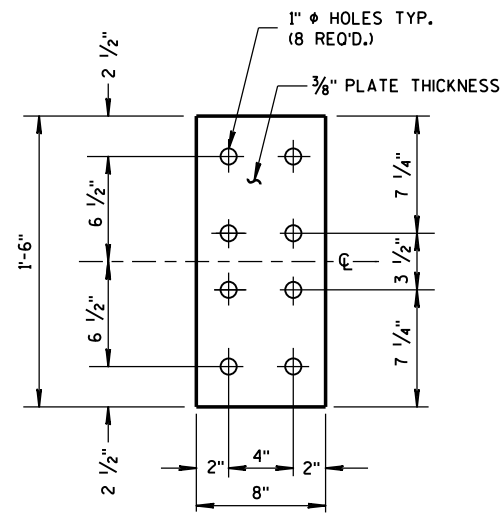


FRONT VIEW



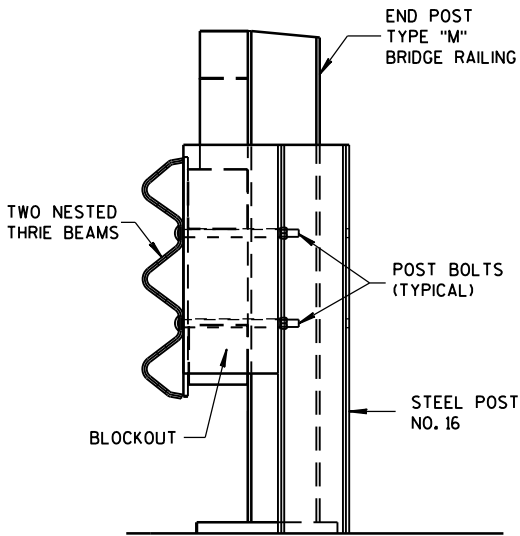
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

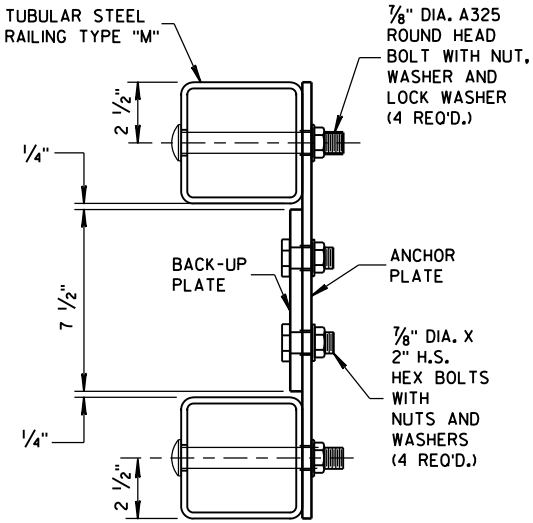


FRONT VIEW

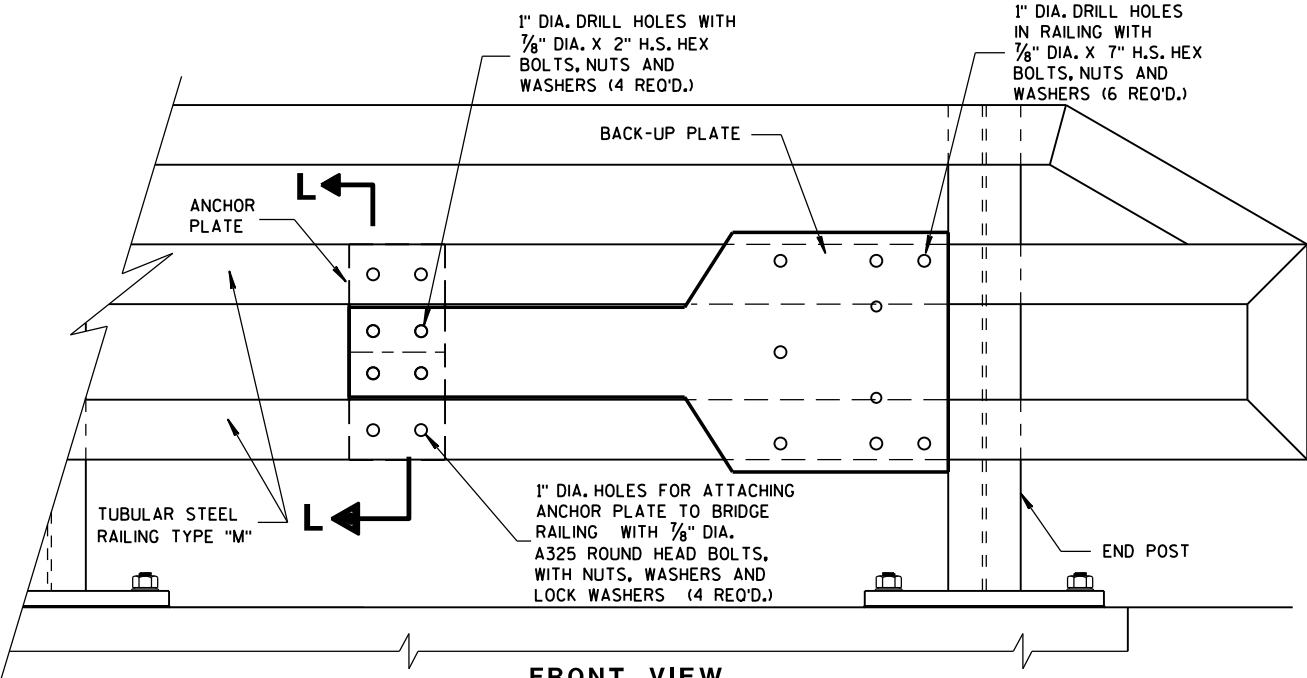
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

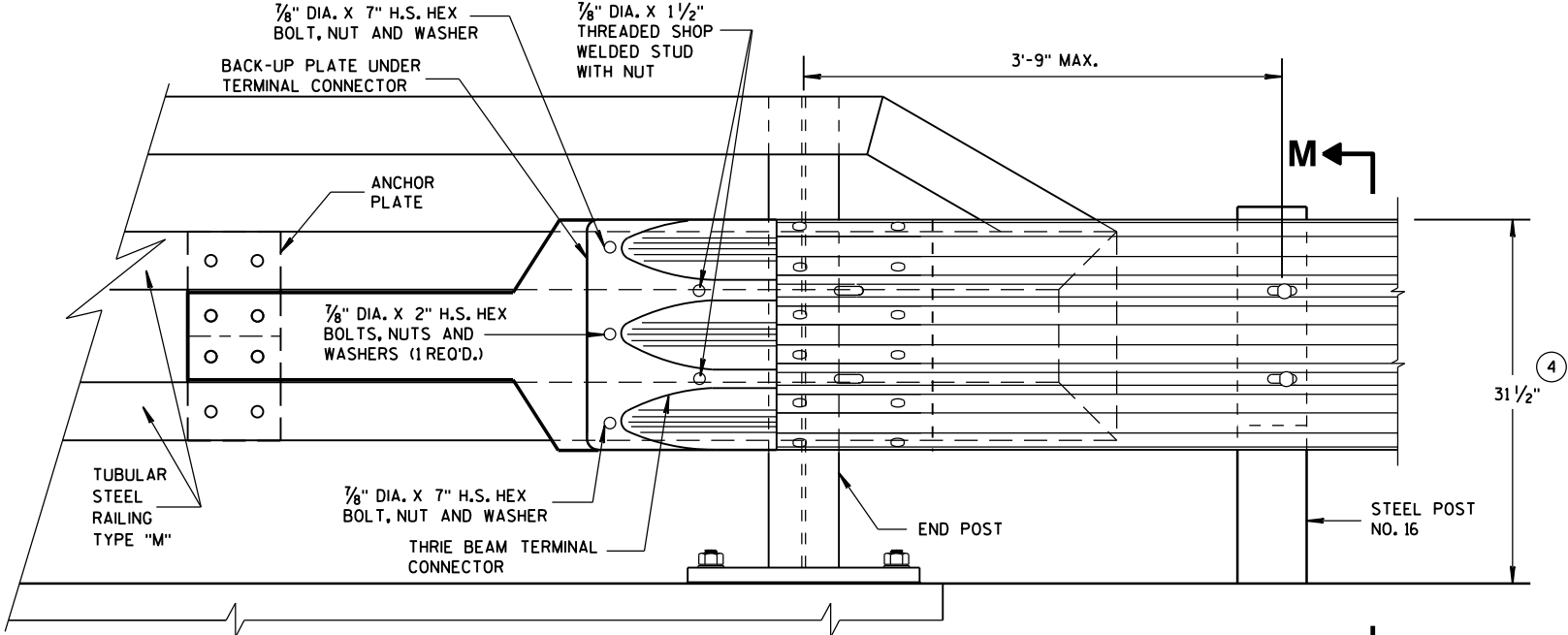


SECTION L-L

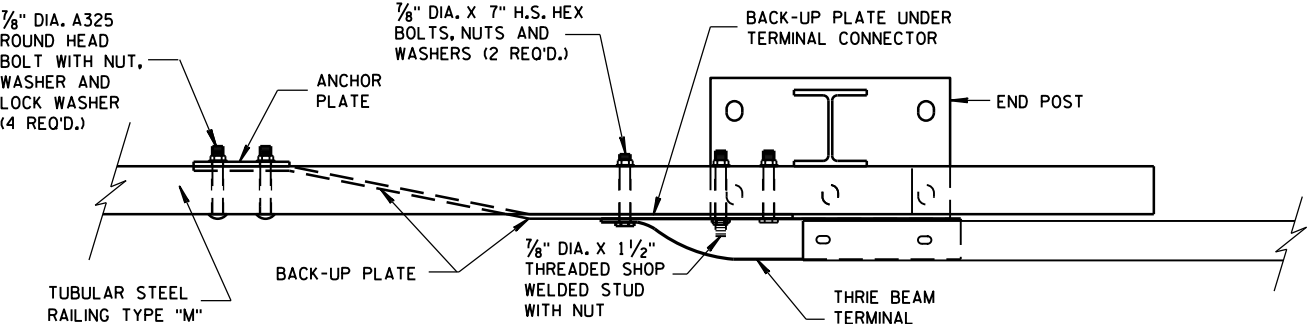


FRONT VIEW

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



FRONT VIEW



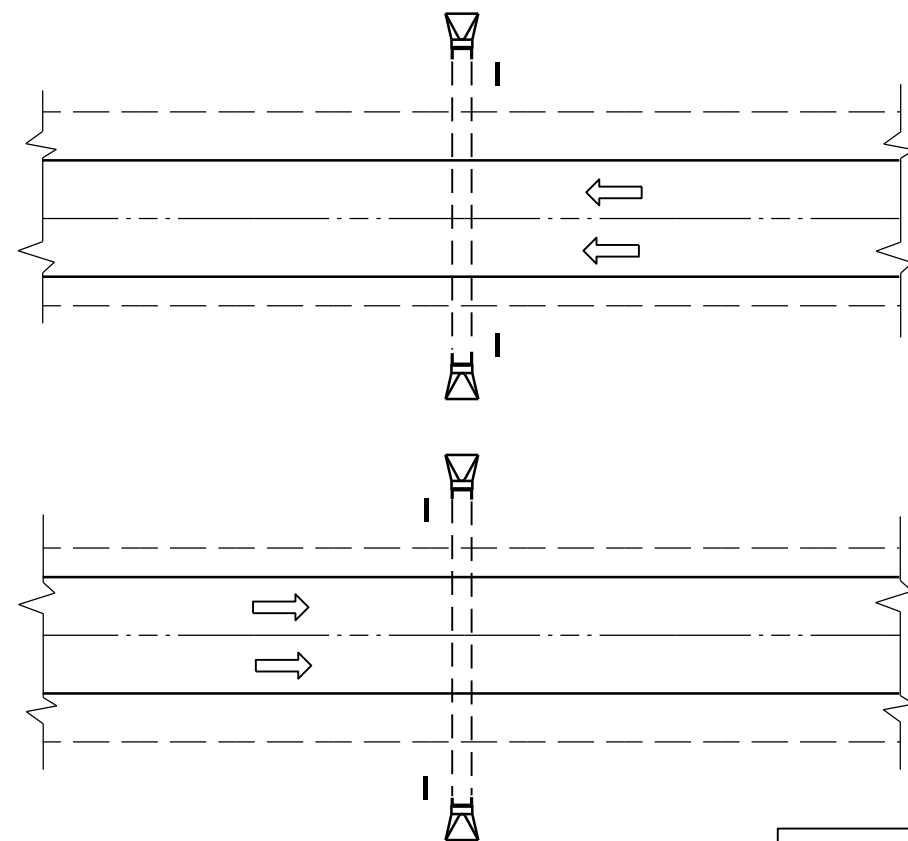
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

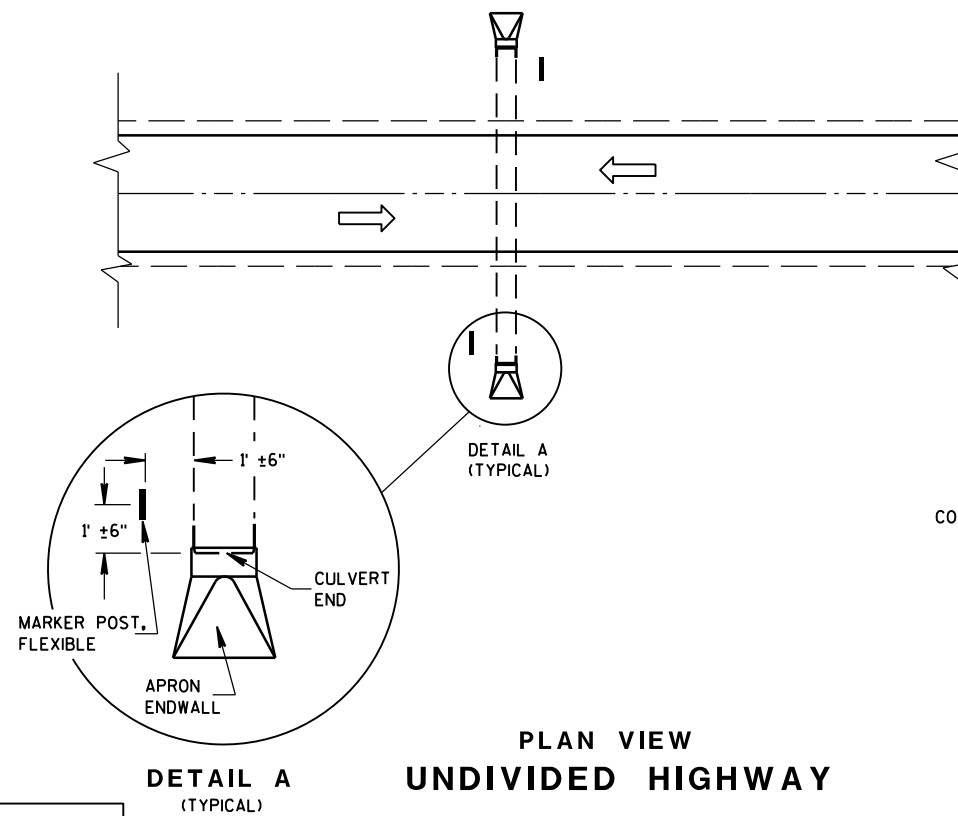
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

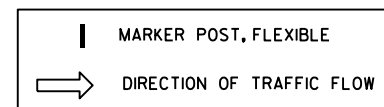
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



PLAN VIEW
DIVIDED HIGHWAY



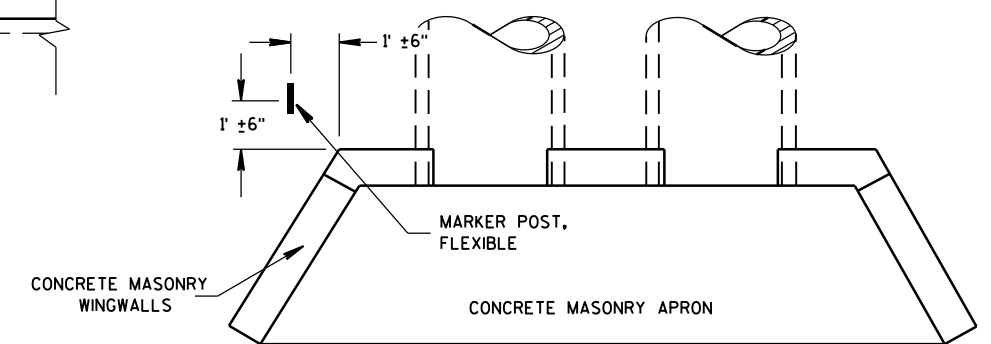
PLAN VIEW
UNDIVIDED HIGHWAY



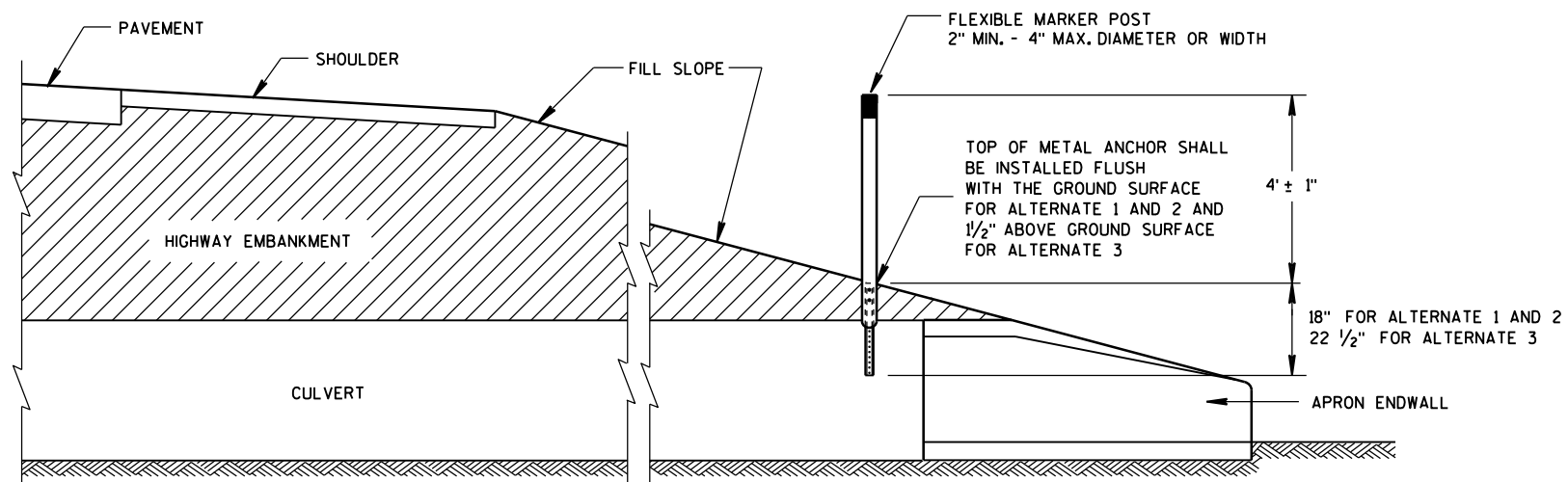
FLEXIBLE MARKER POST LOCATION

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.



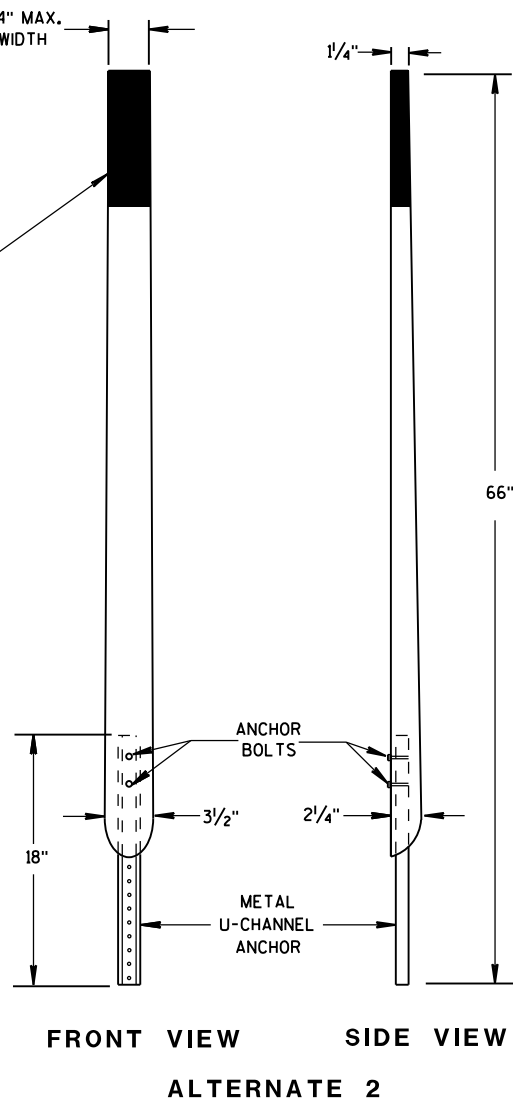
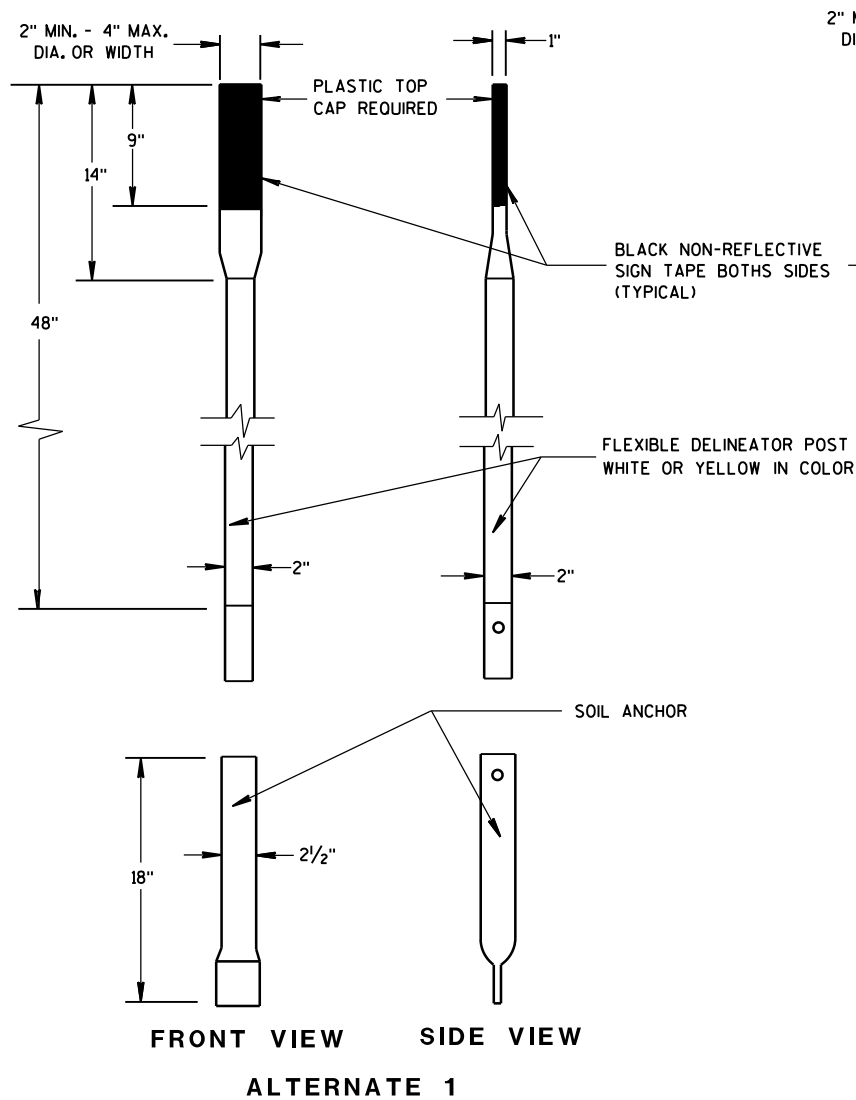
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



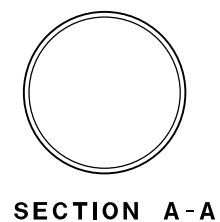
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

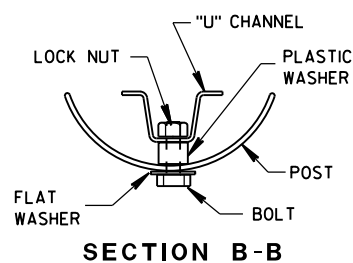
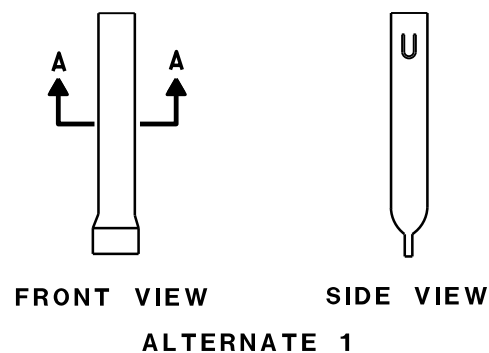
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



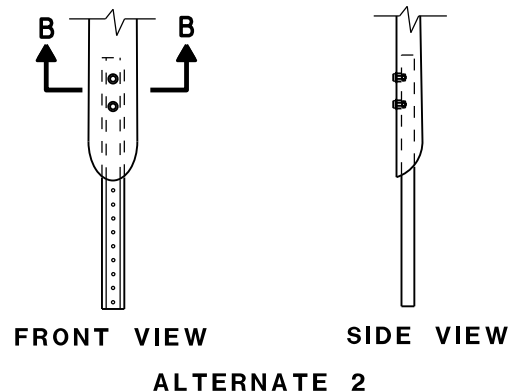
FLEXIBLE MARKER POSTS



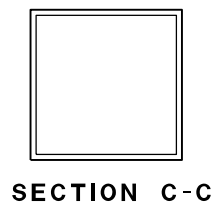
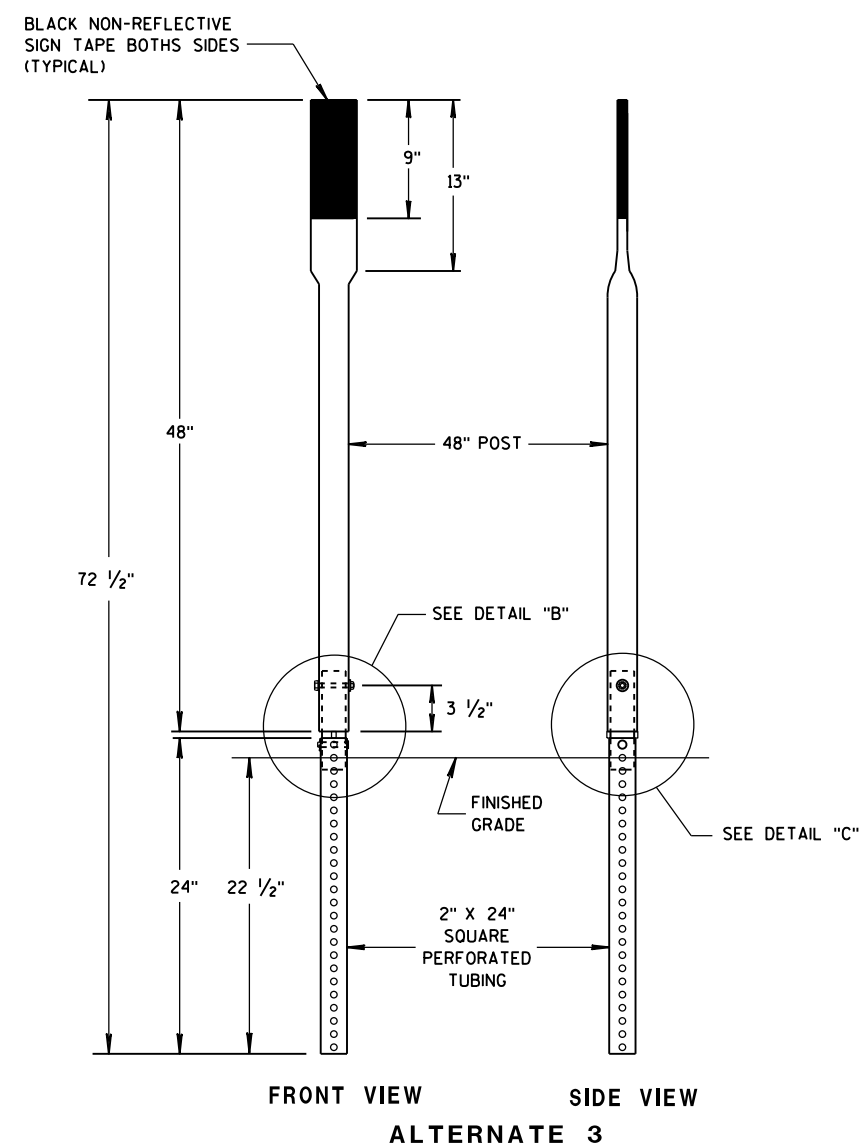
SECTION A-A



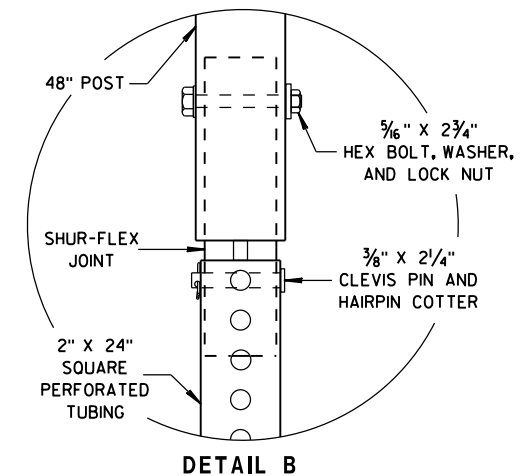
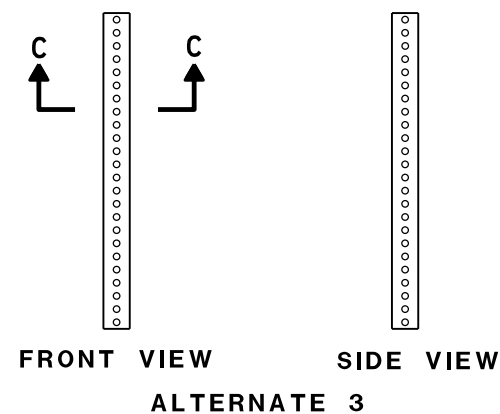
SECTION B-B



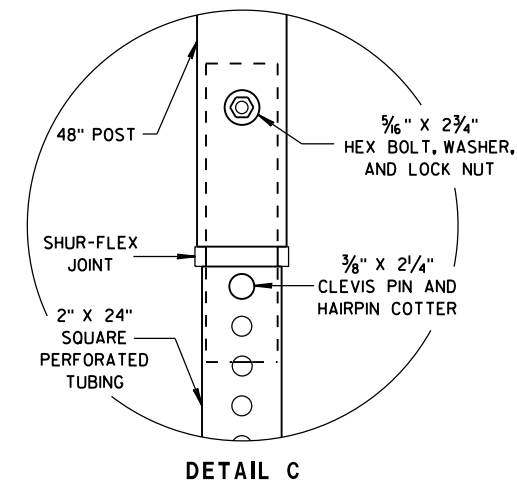
FLEXIBLE MARKER POST ANCHORS



SECTION C-C



DETAIL B

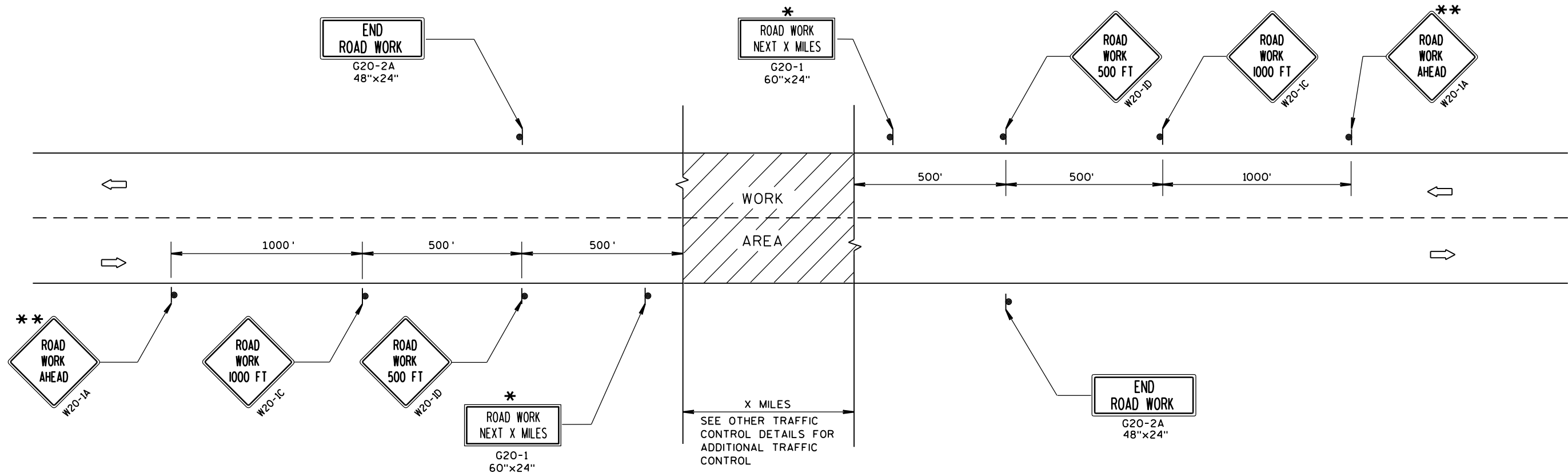


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

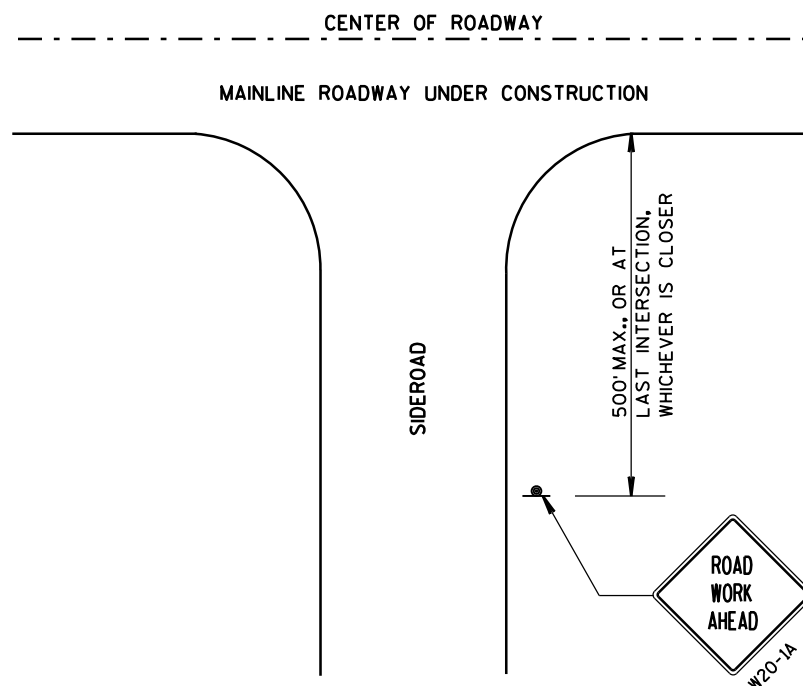
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

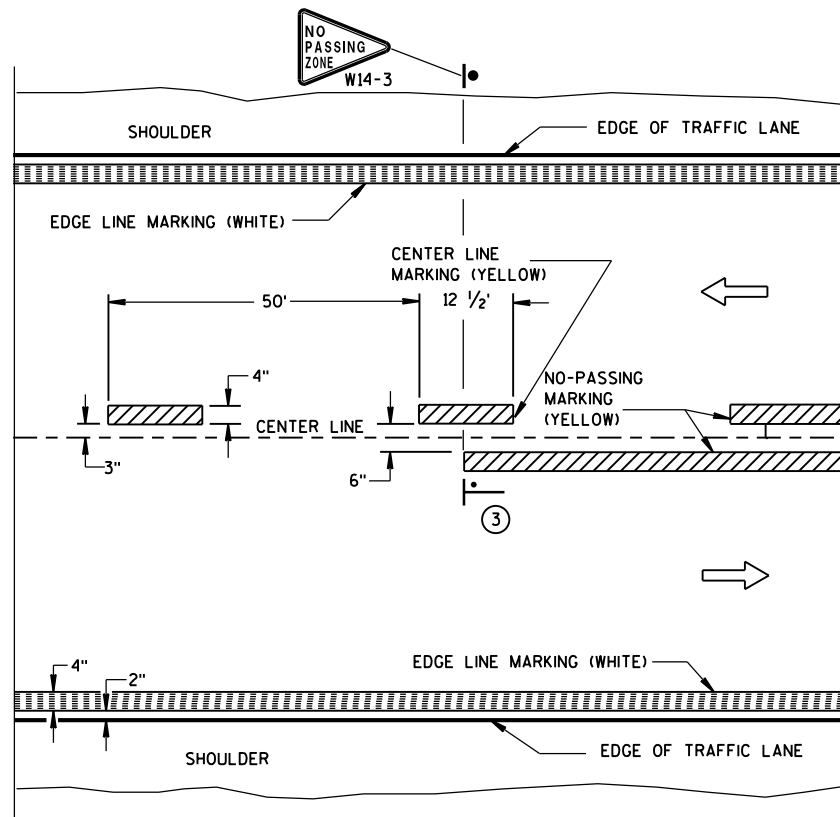
** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



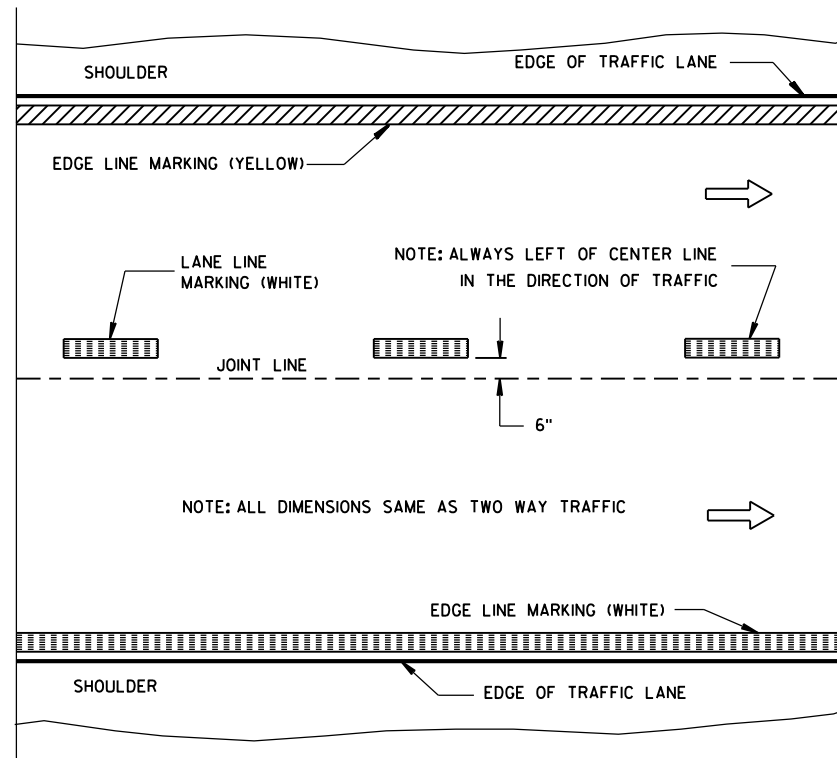
LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

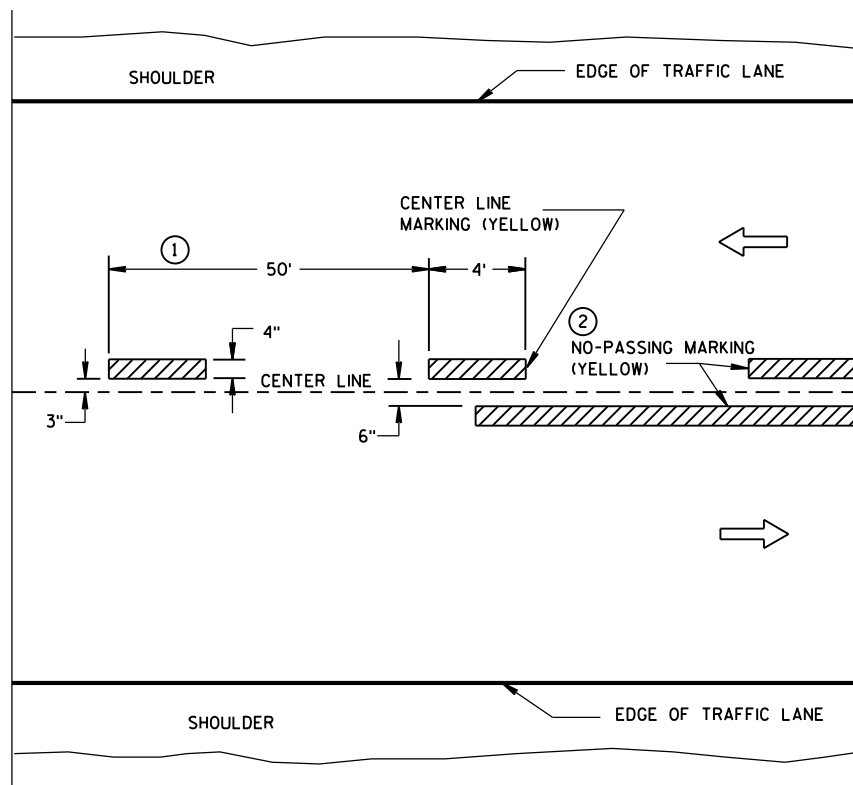


TWO WAY TRAFFIC

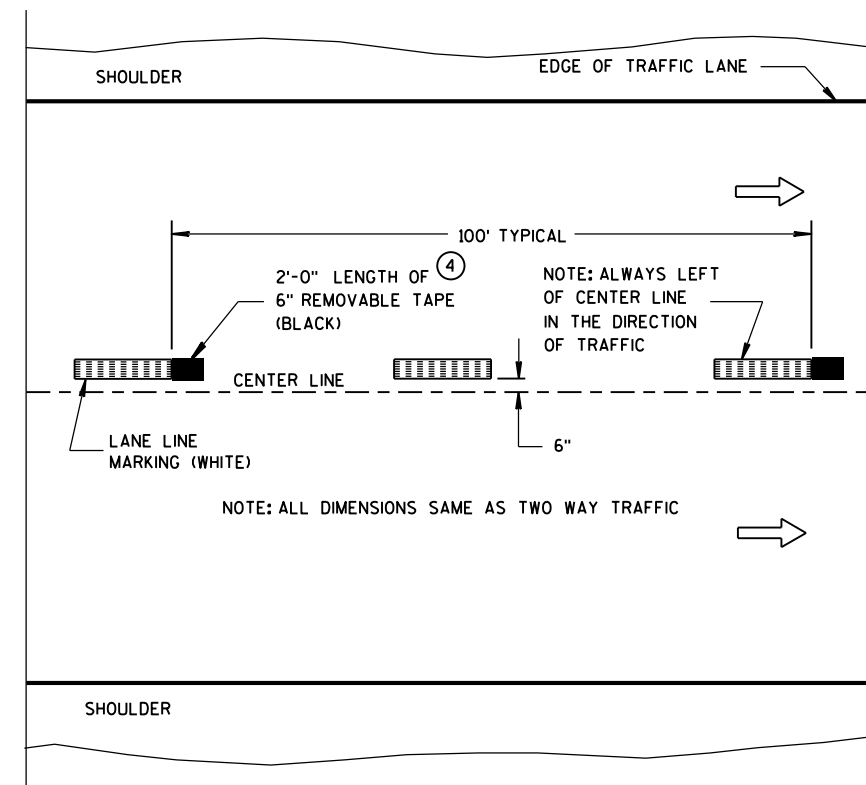


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

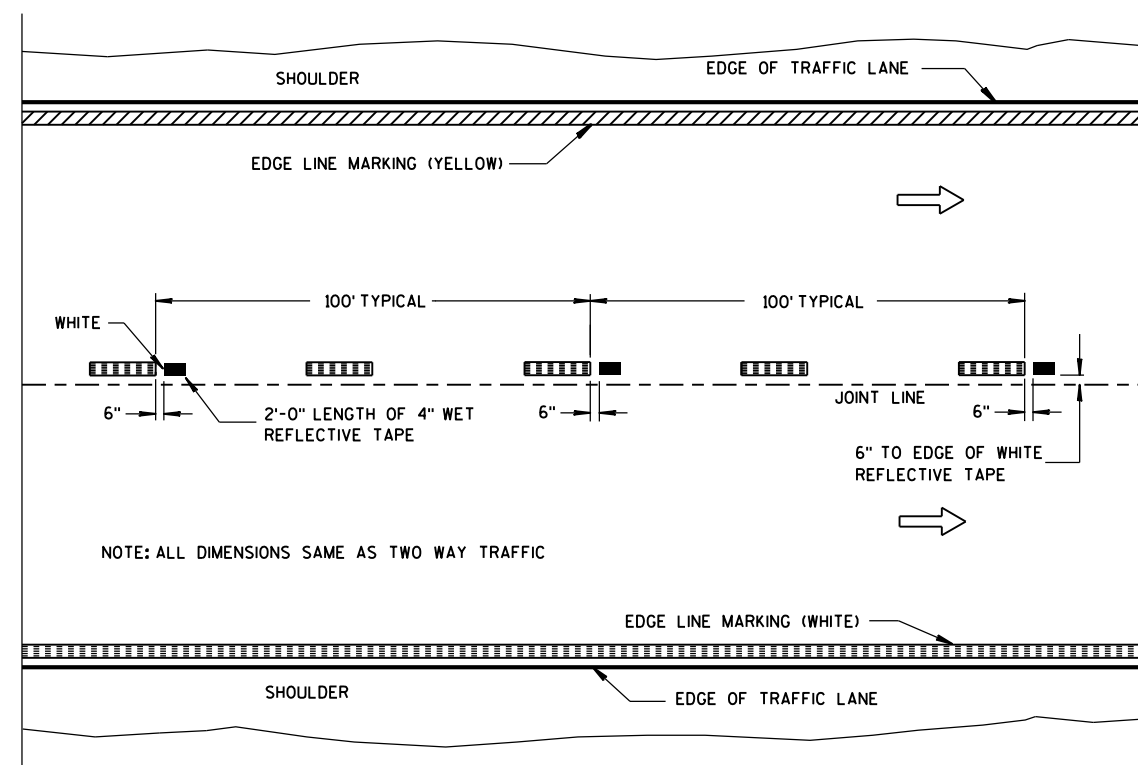
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

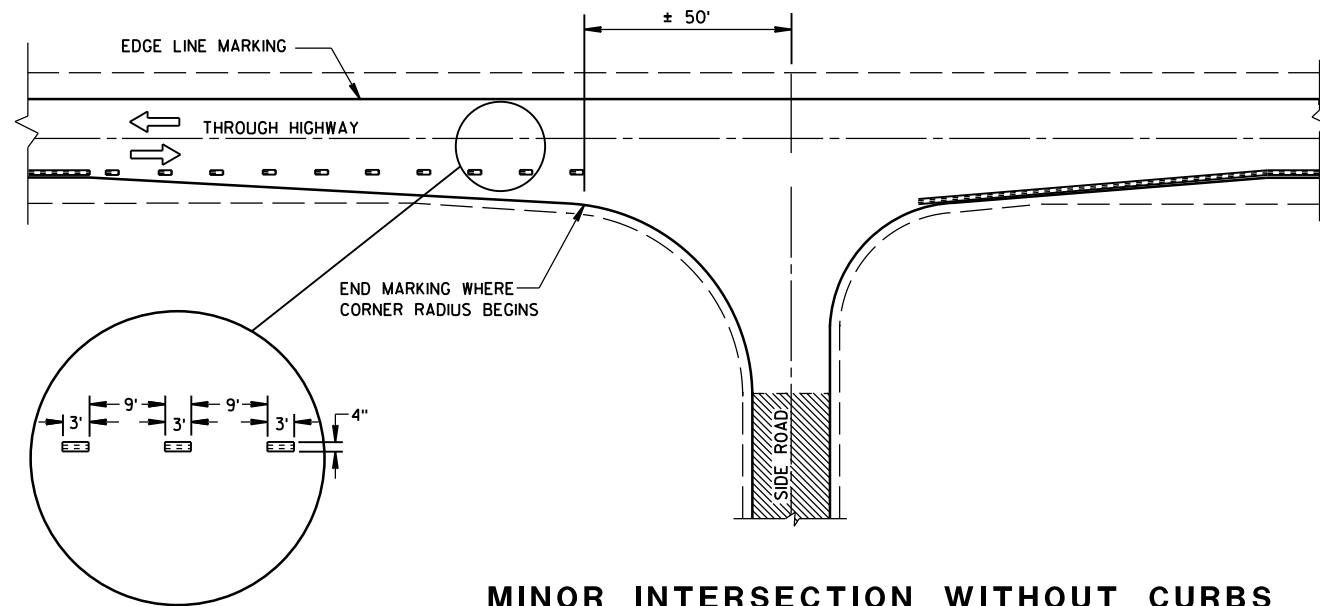
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

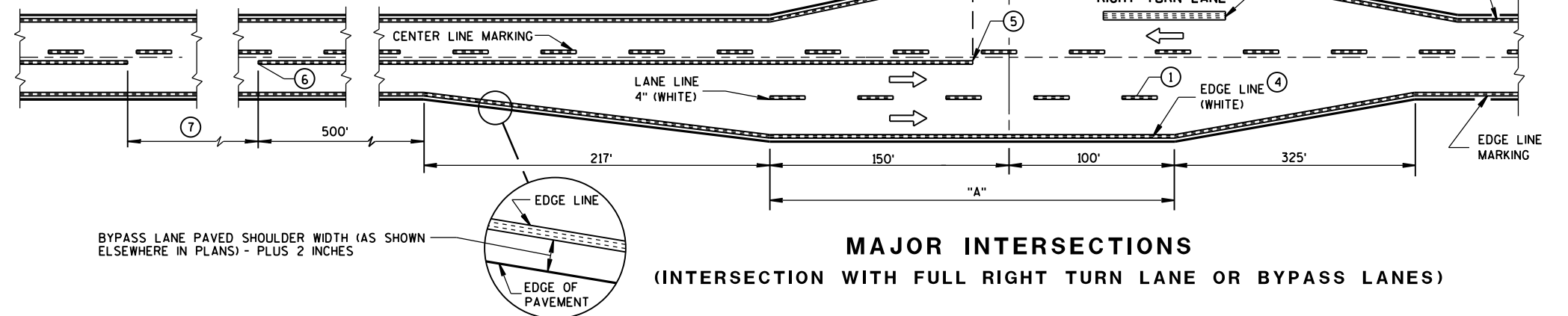
/S/ Travis Feltes
STATE TRAFFIC ENGINEER



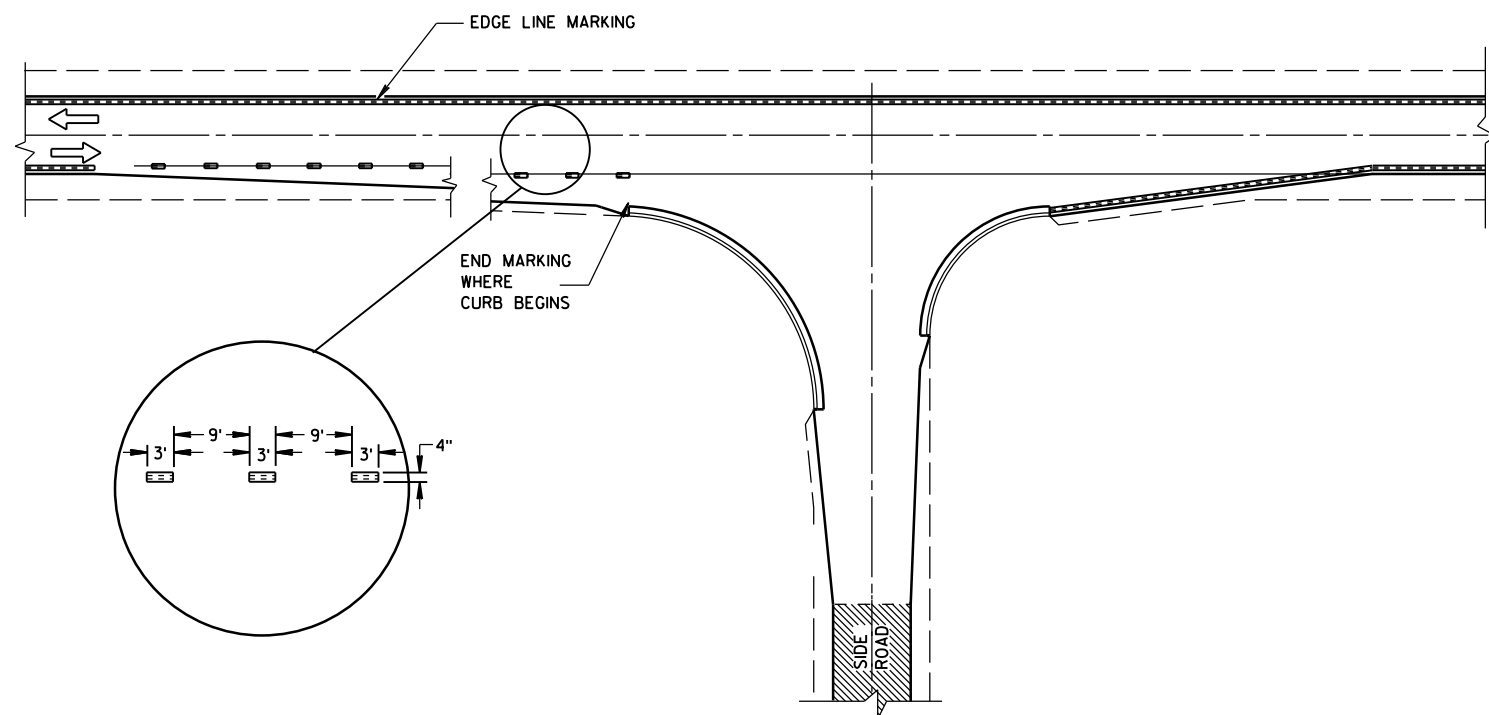
MINOR INTERSECTION WITHOUT CURBS

⑦

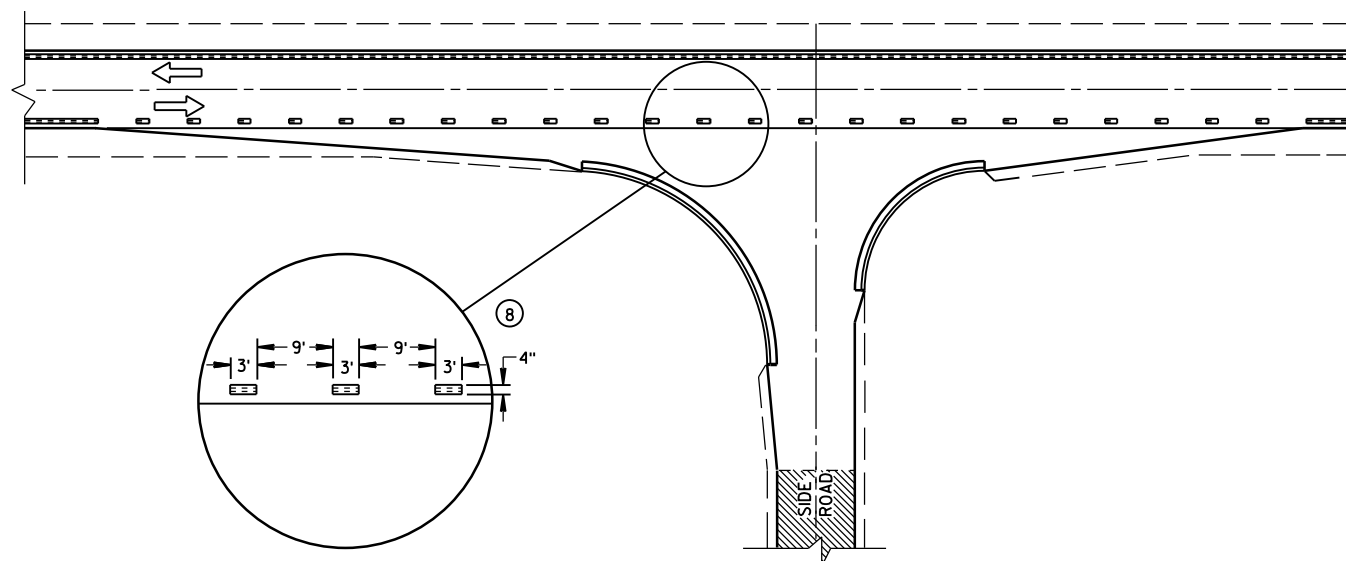
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED 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 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

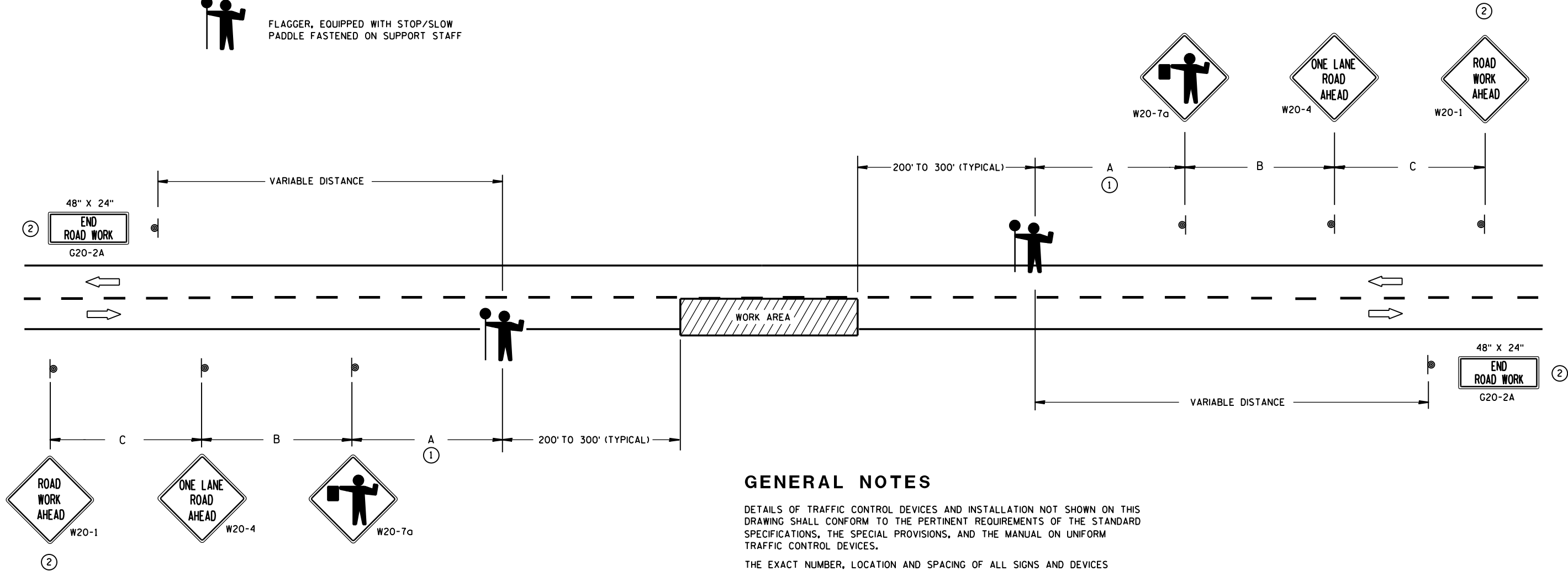
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

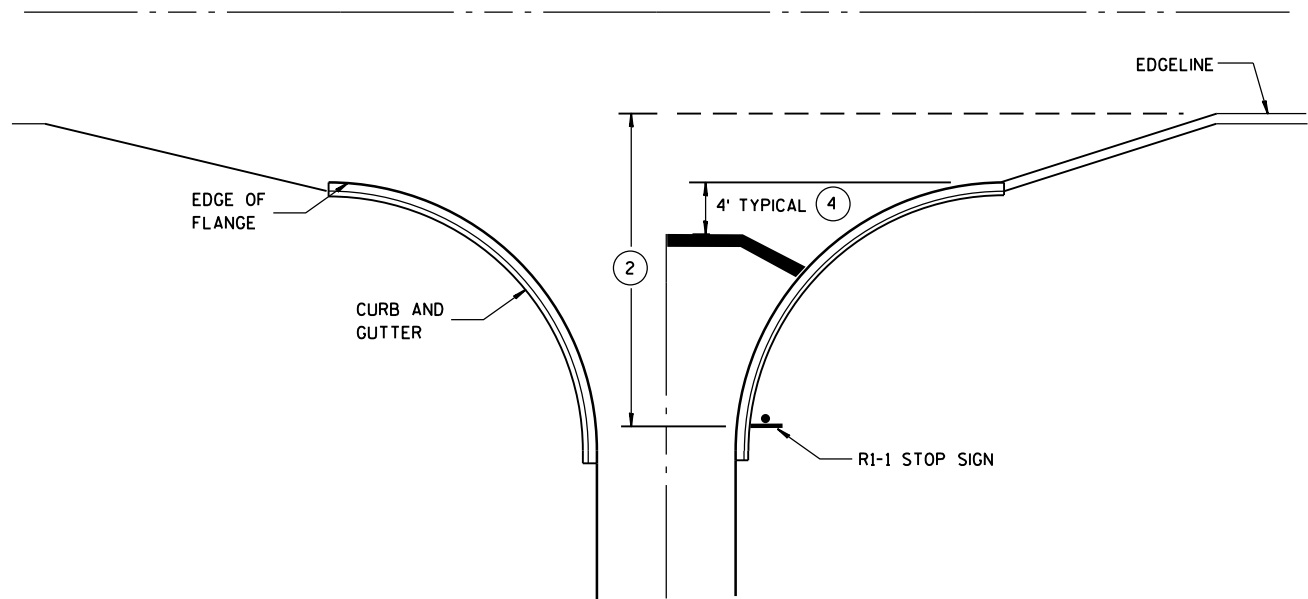
WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

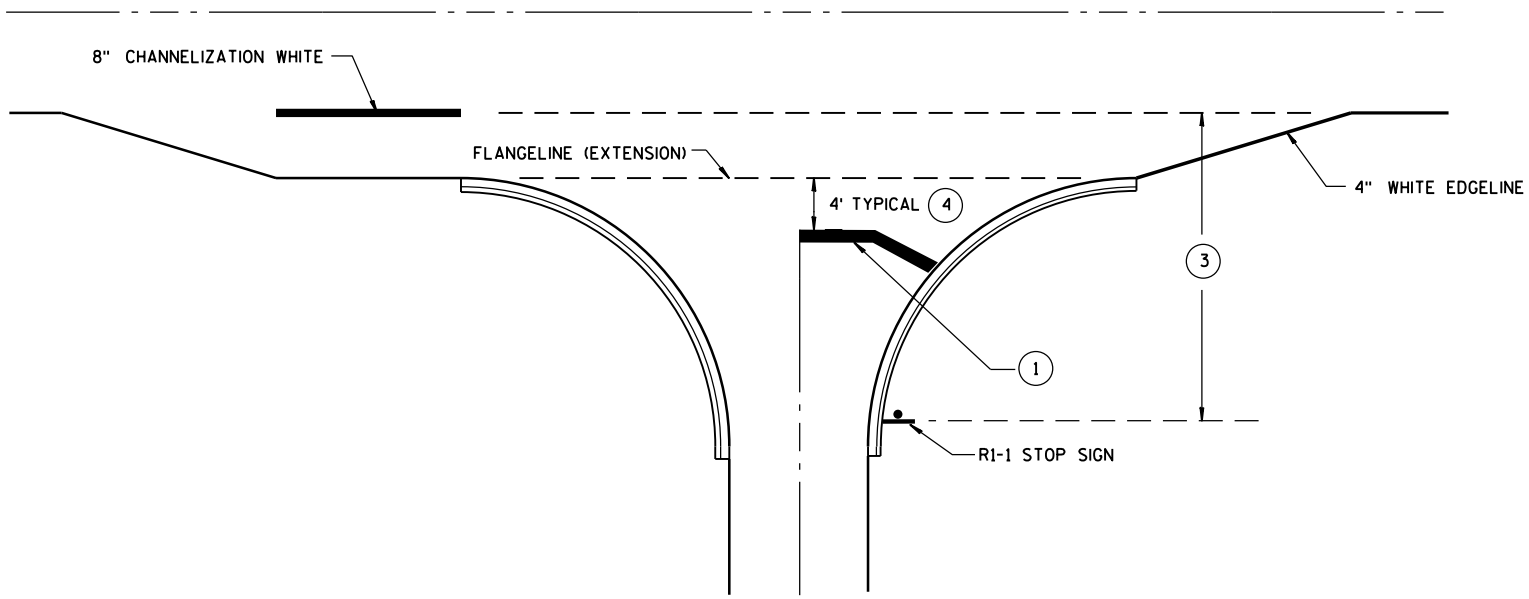
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT 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.

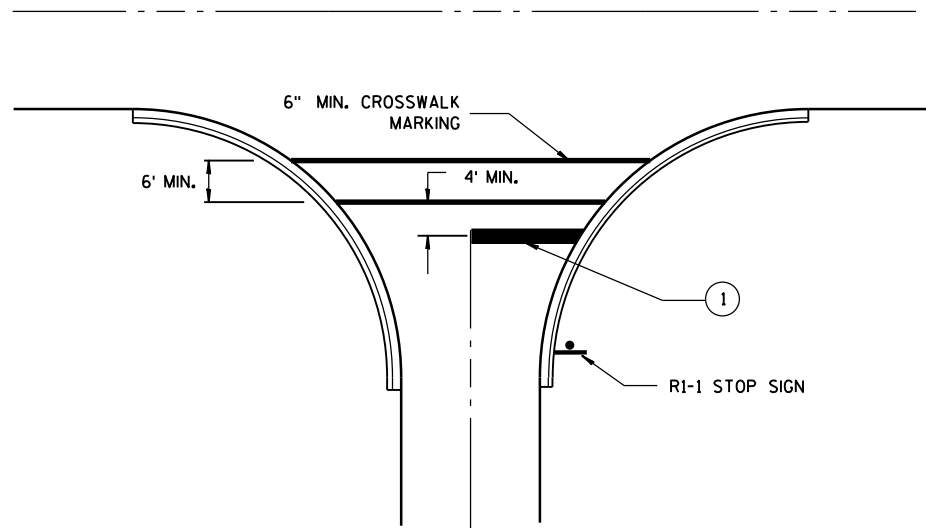
TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



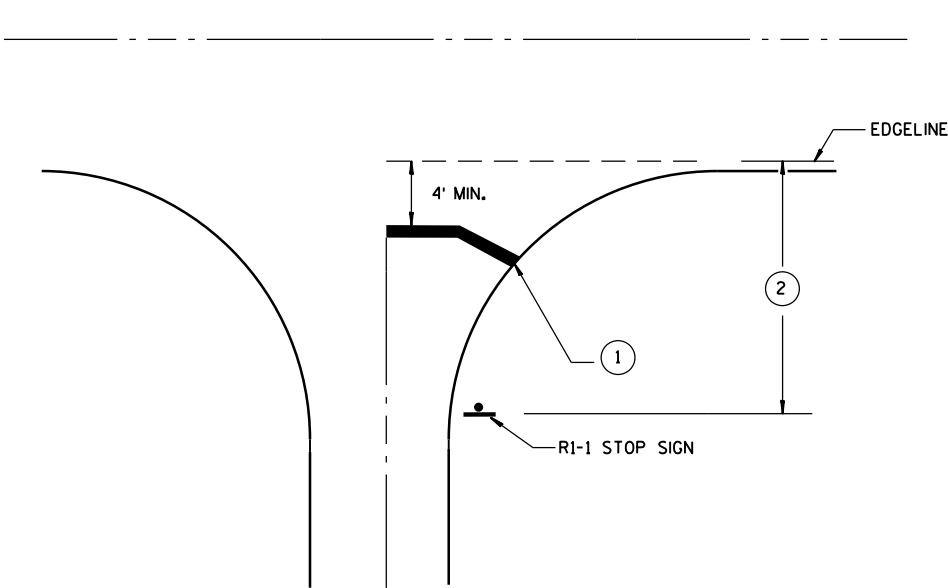
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4/30/2013 DATE	/S/ Travis Feltz STATE TRAFFIC ENGINEER
FHWA	

GENERAL NOTES

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

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

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

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

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

W20-1A 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.

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

TABLE A

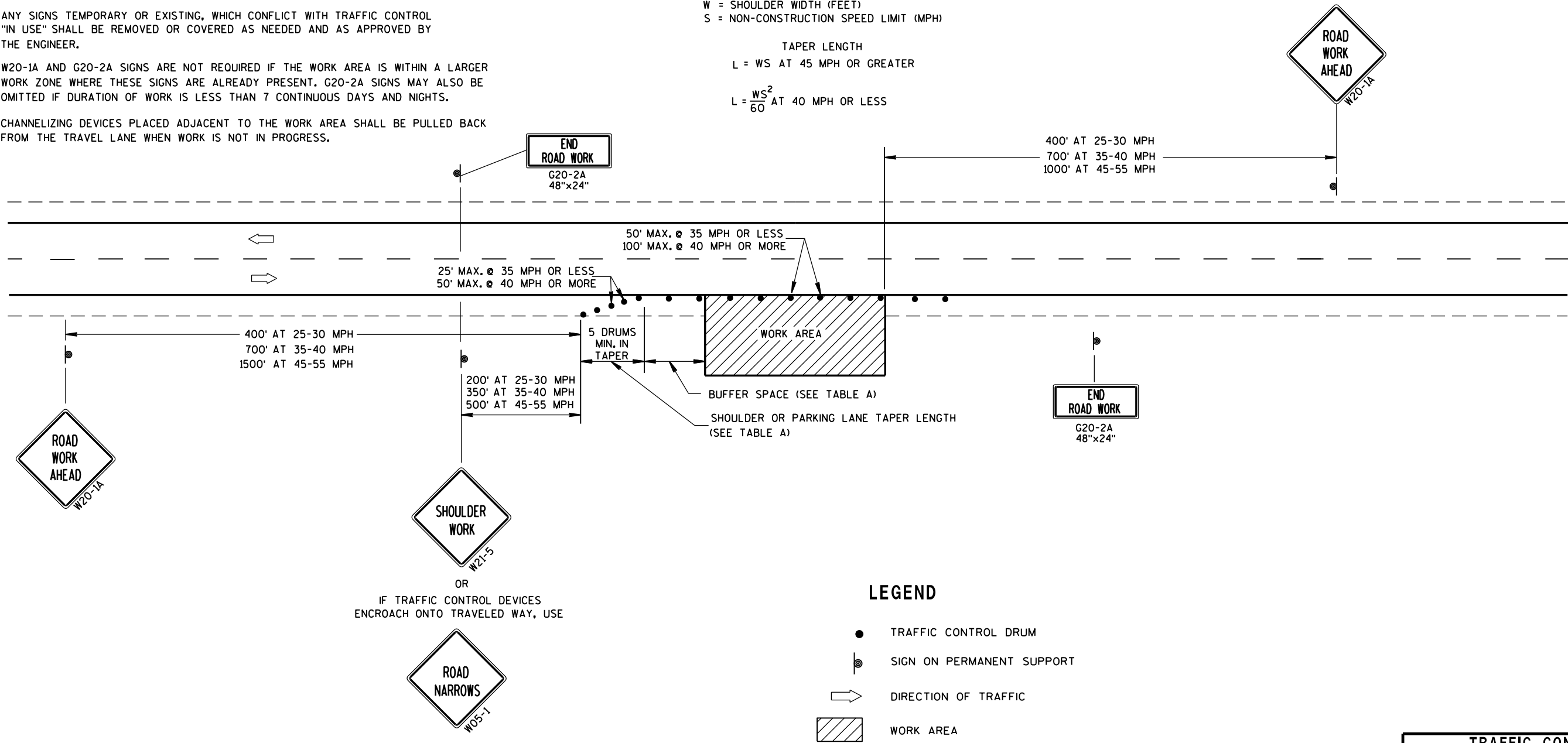
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

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

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

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

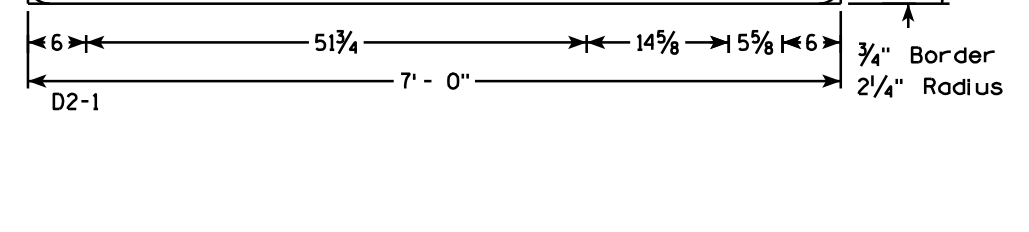
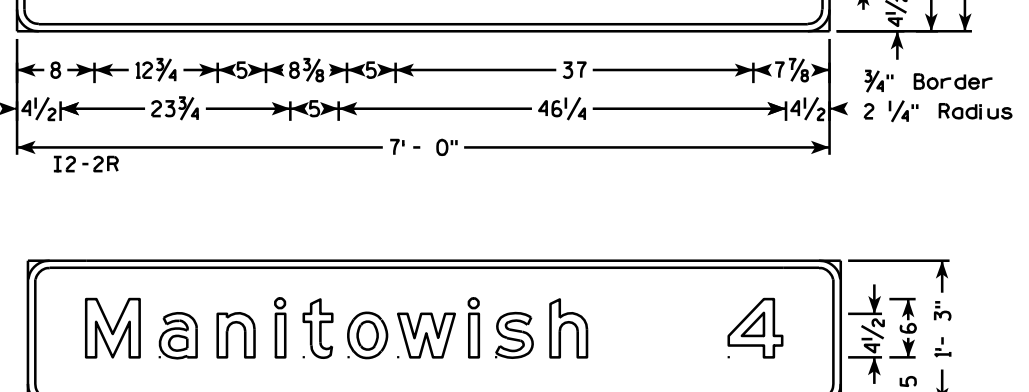
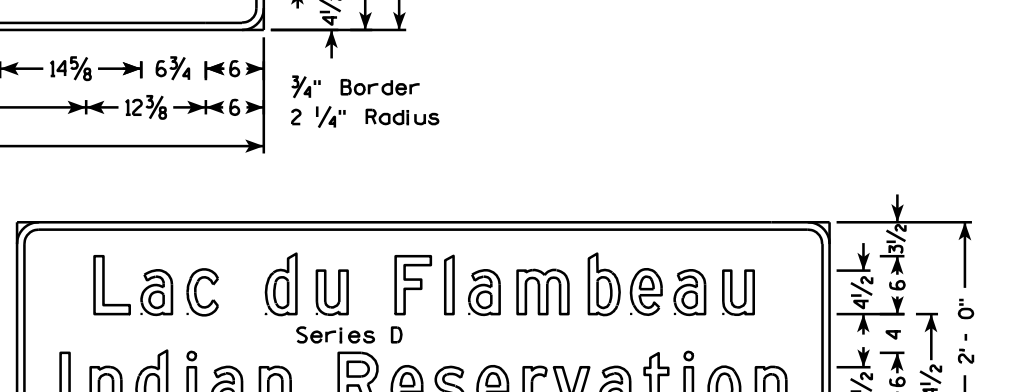
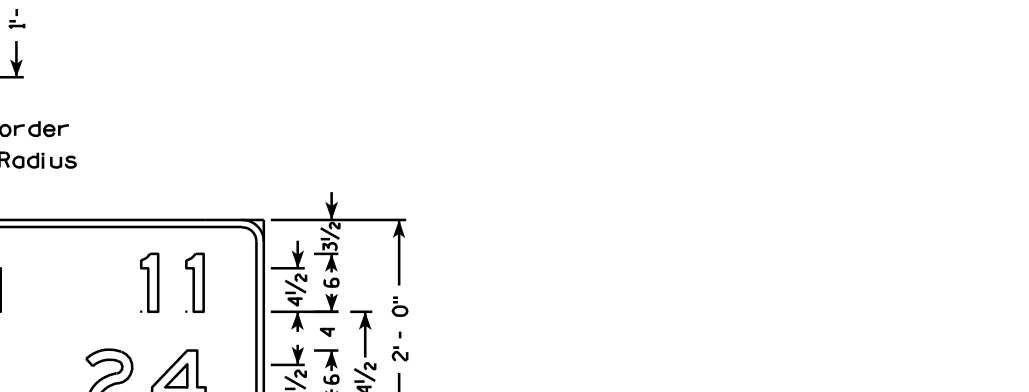
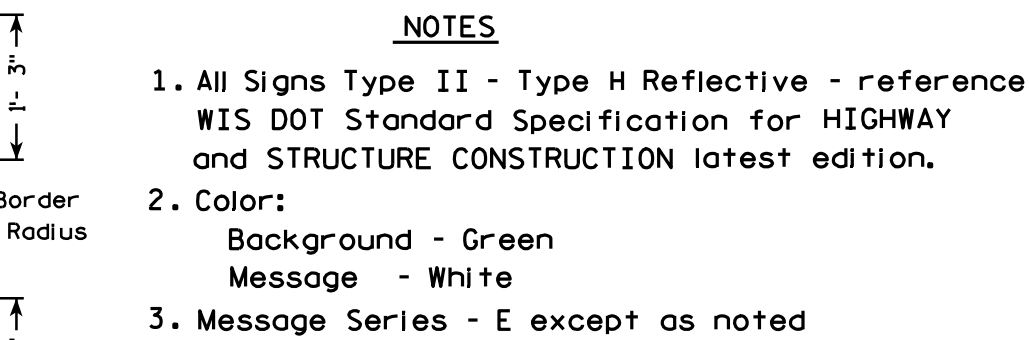
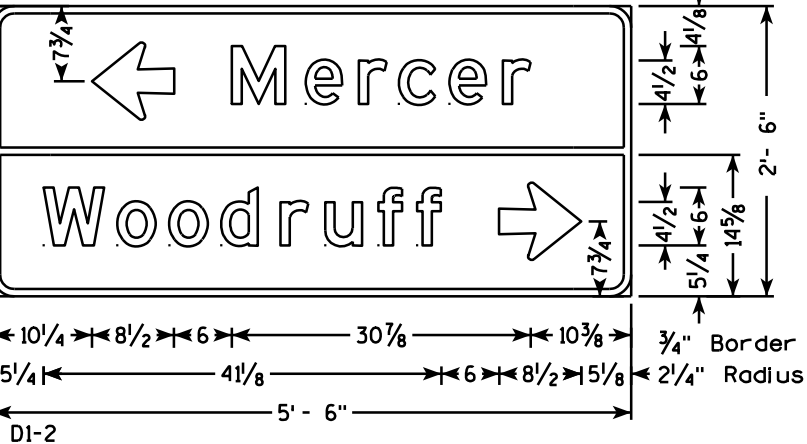
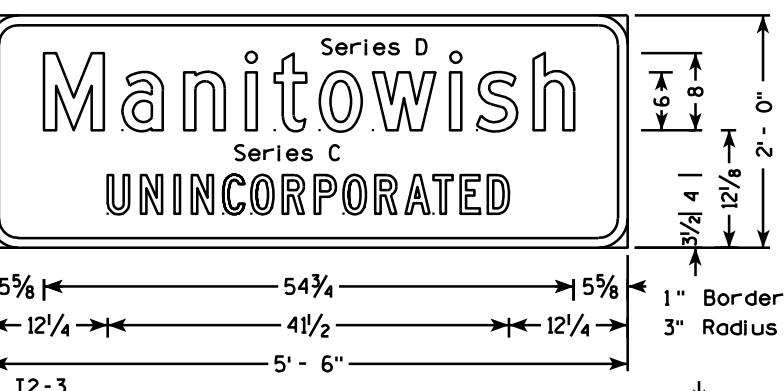
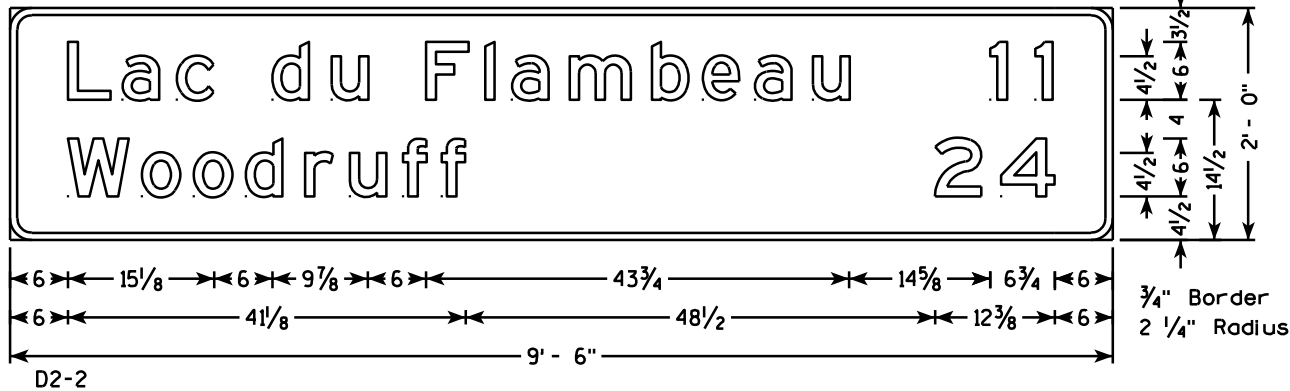
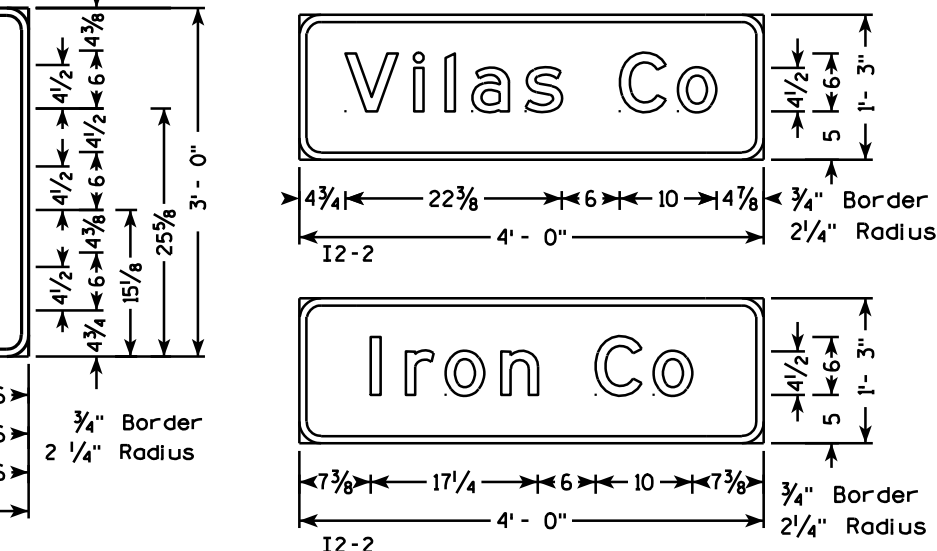
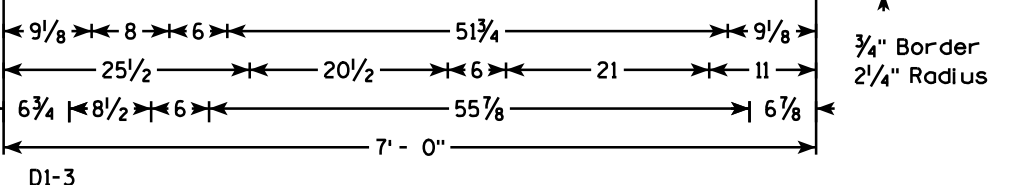
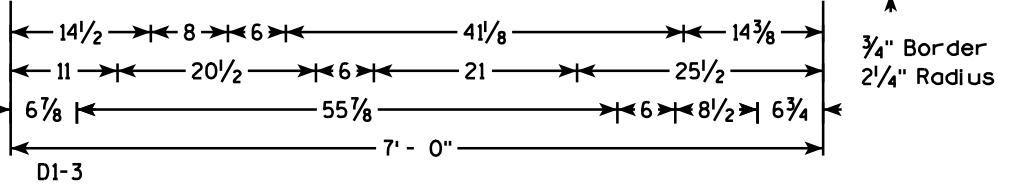
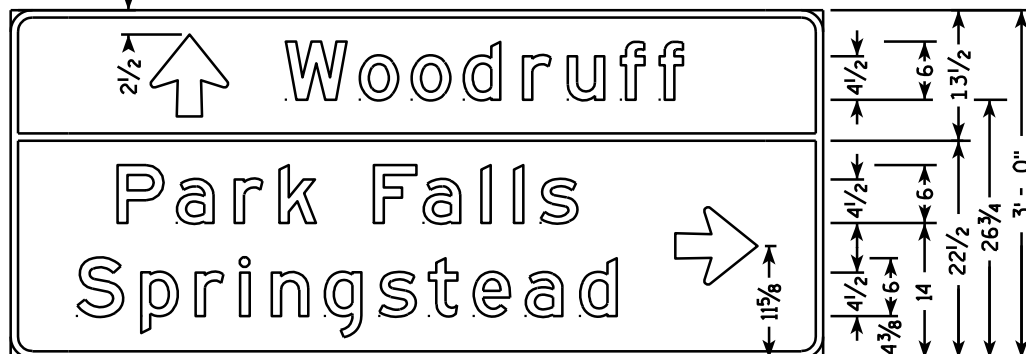
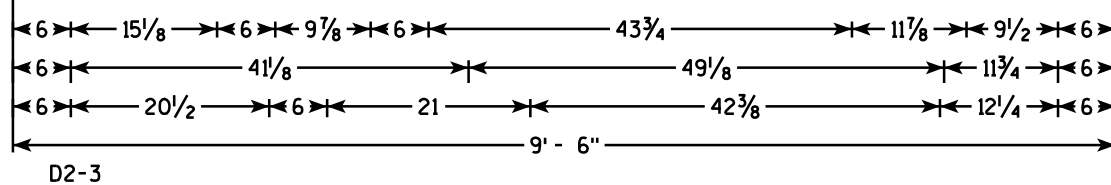
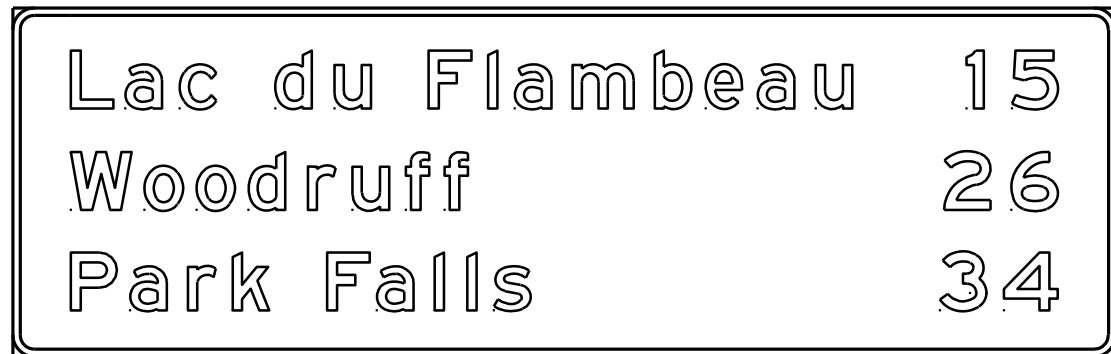
SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

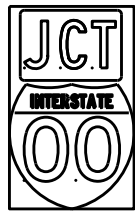
- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

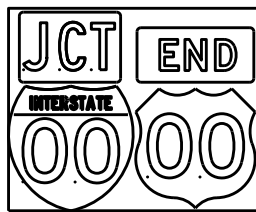


- NOTES
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
 2. Color:
Background - Green
Message - White
 3. Message Series - E except as noted

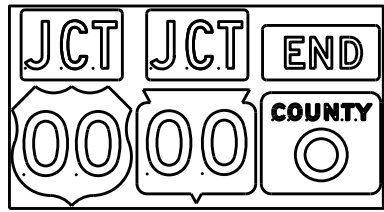
TYPICAL ASSEMBLIES



J1-1



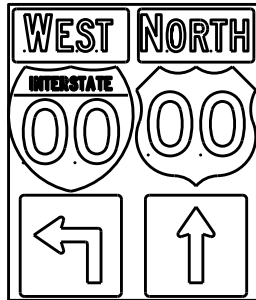
J1-2



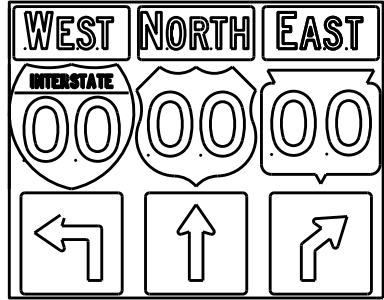
J1-3



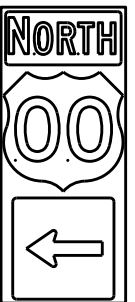
J2-1



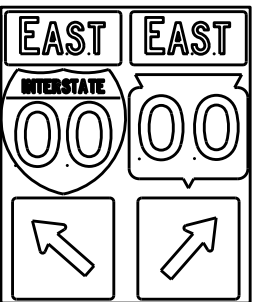
J2-2



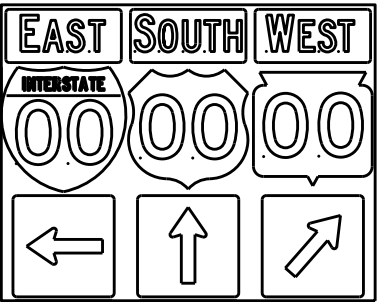
J2-3



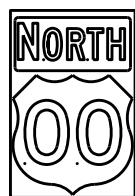
J3-1



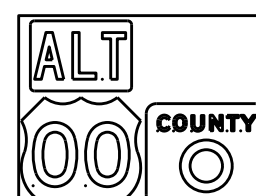
J3-2



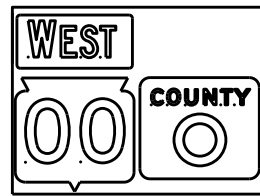
J3-3



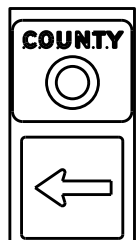
J4-1



J4-2



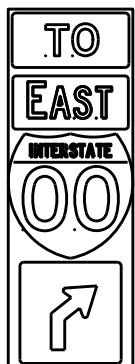
J4-2



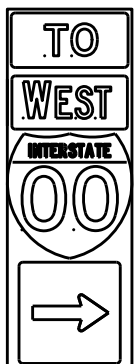
J13-1



J12-1



J32-1



J33-1



J23-1

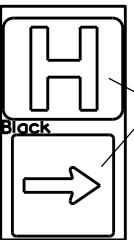


J22-1



JV

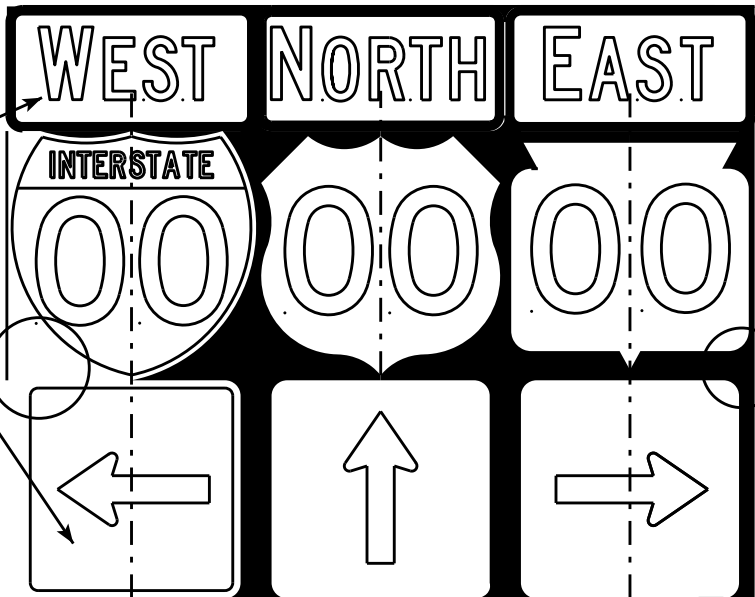
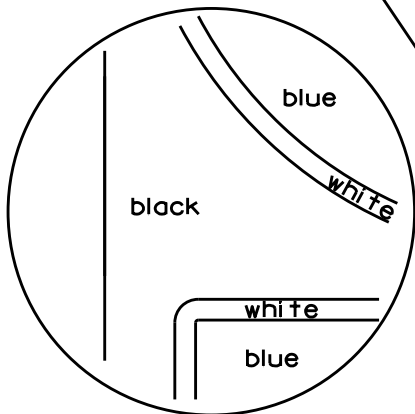
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

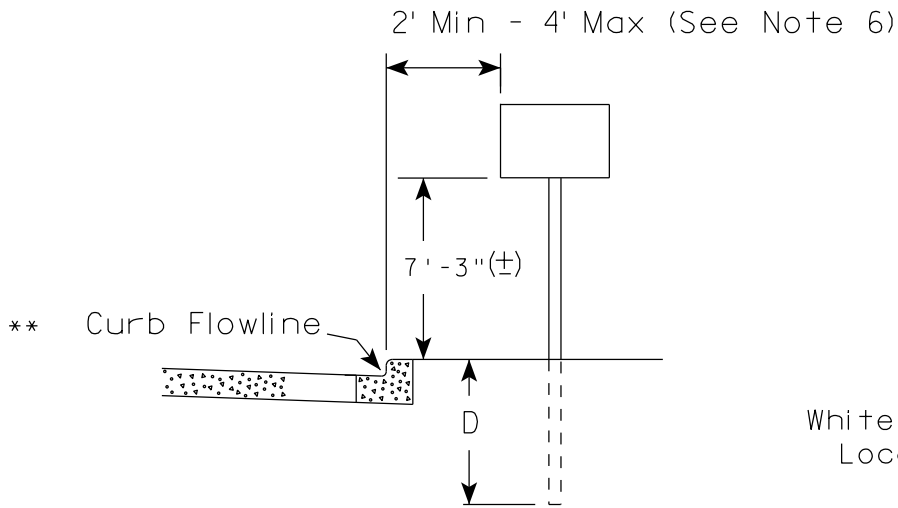
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

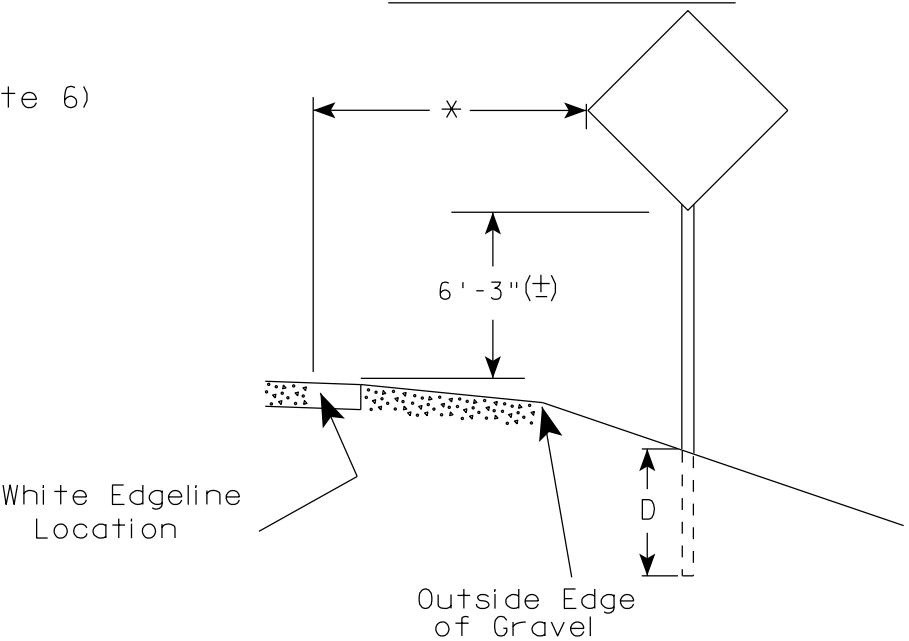
NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

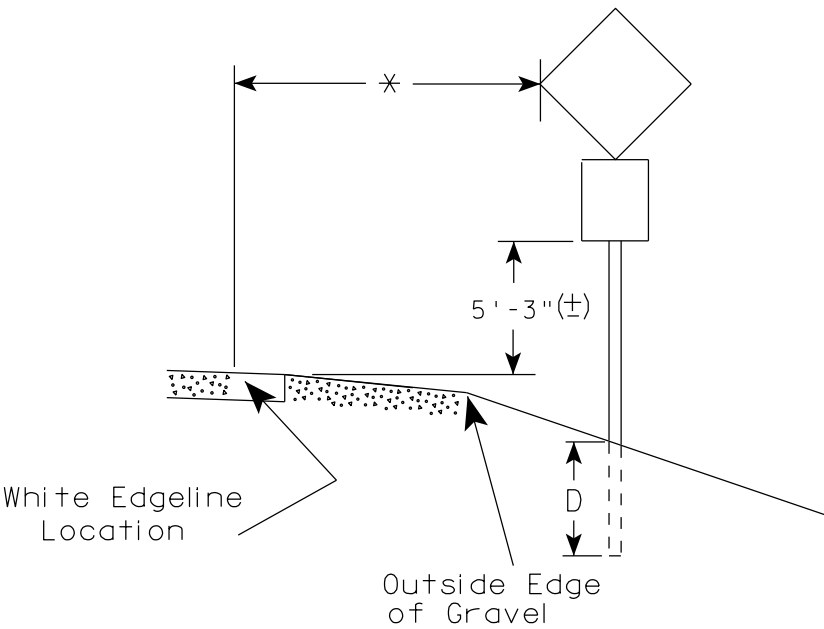
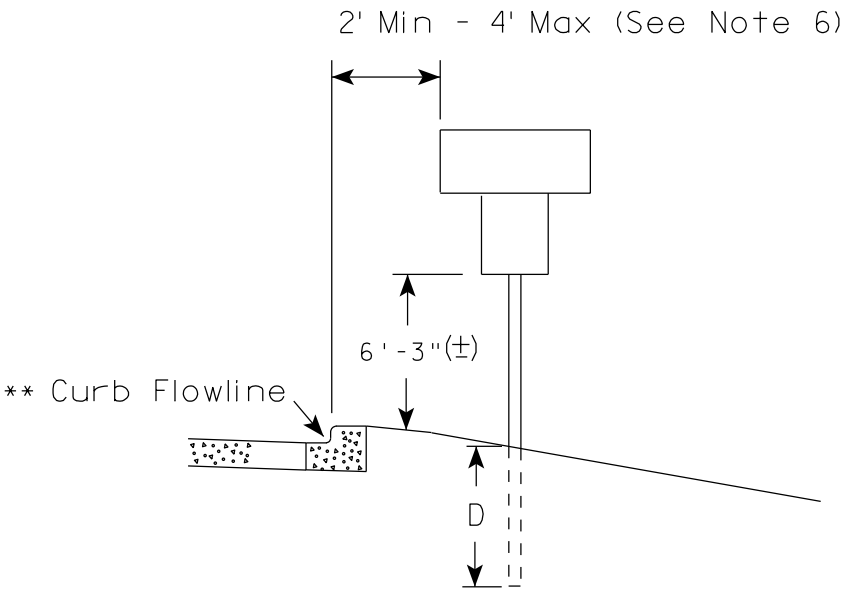
URBAN AREA



RURAL AREA (See Note 2)



- GENERAL NOTES
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
 2. If signs are mounted on barrier wall, see A4-10 sign plate.
 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
 4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. The (±) tolerance for mounting height is 3 inches.
 8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-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" (±).



POST EMBEDMENT DEPTH

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

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

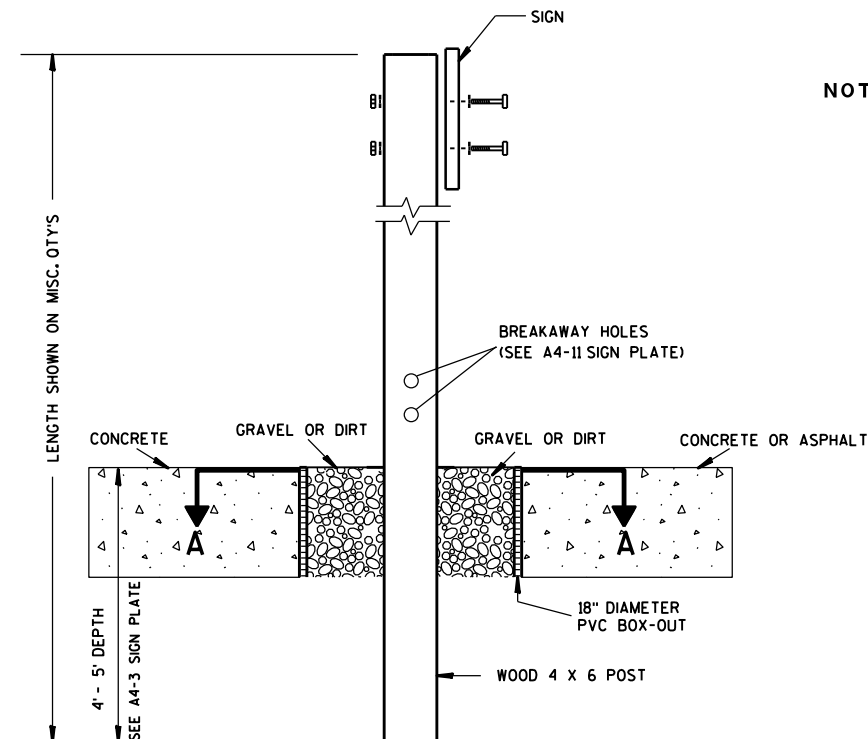
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

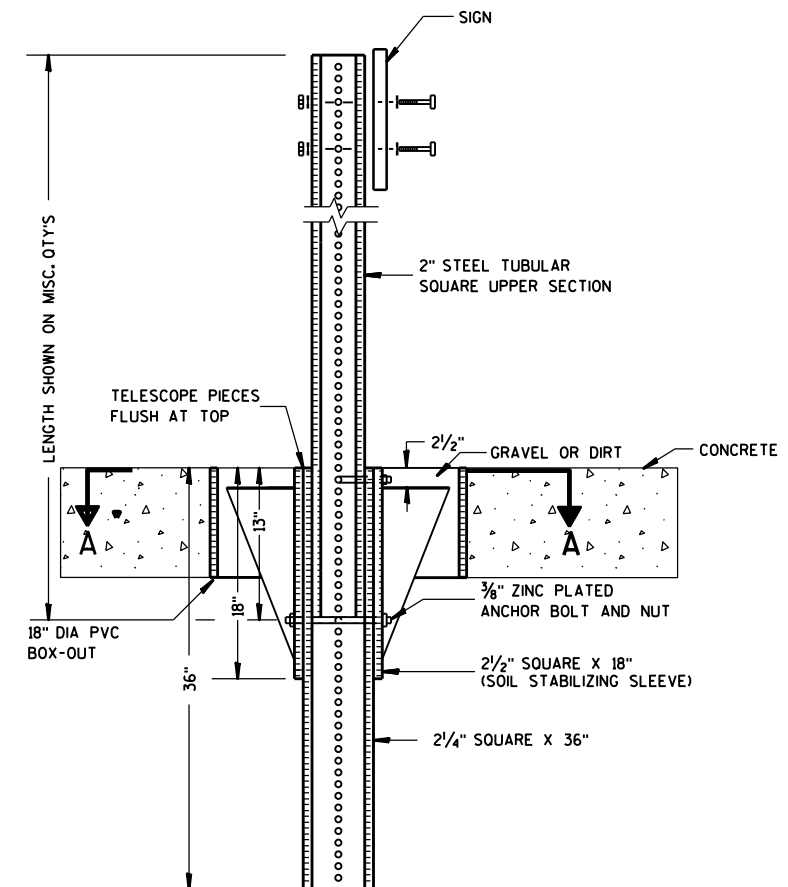
DATE 7/23/15 PLATE NO. A4-3.20



ELEVATION VIEW

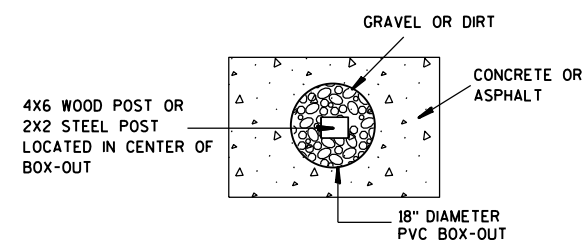
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

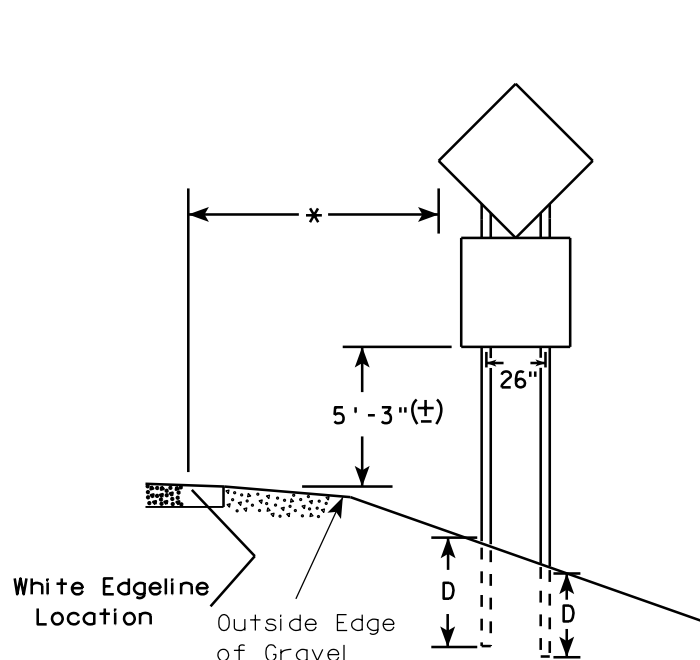
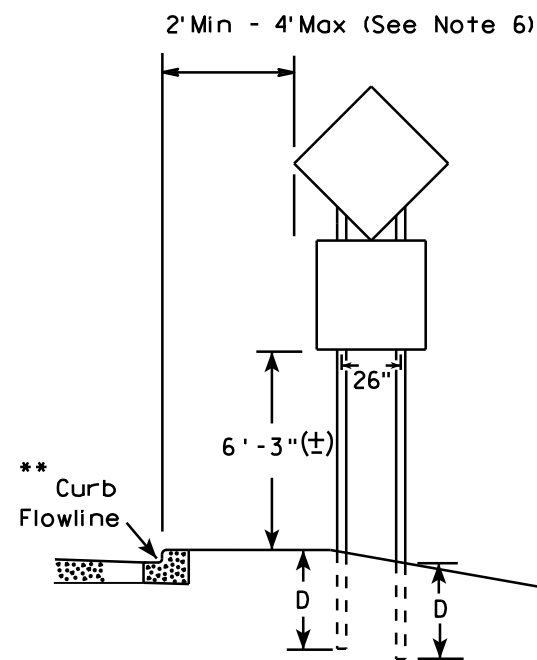
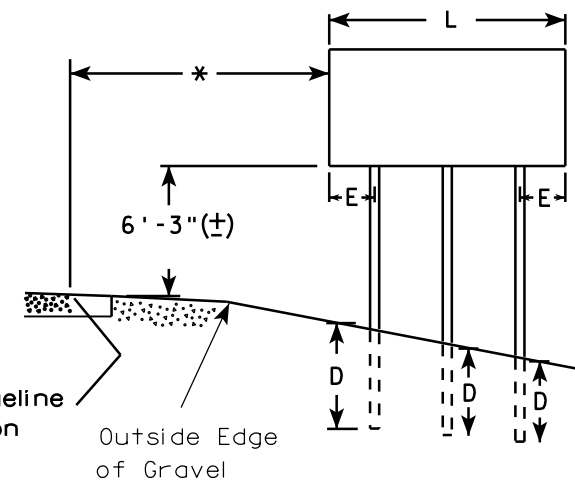
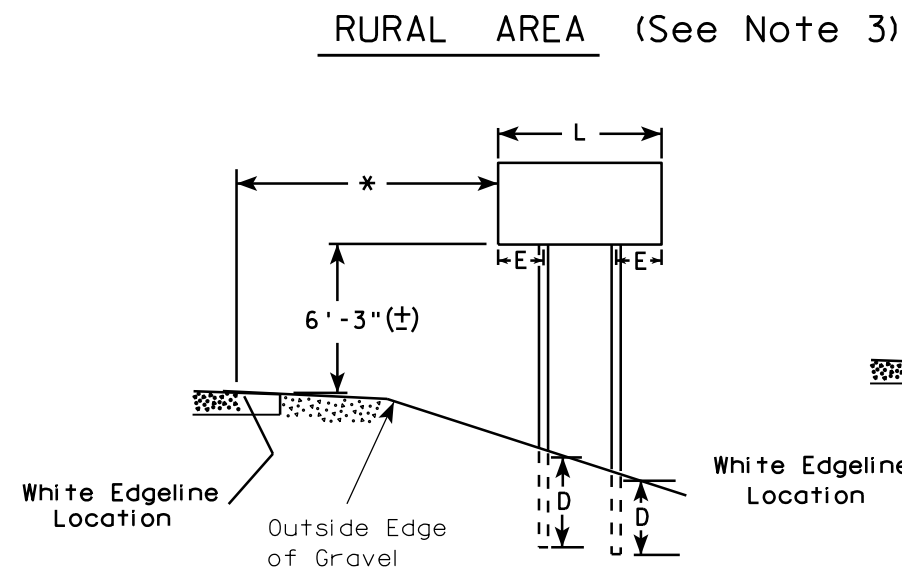
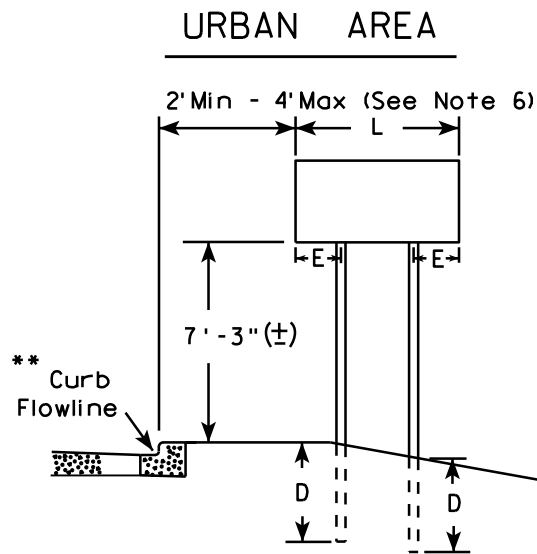
FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES**
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 - See tables below for required number of posts.
 - For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 - The (±) tolerance for mounting height is 3 inches.
 - Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 - Offset distance shall be consistent with existing signs or consistent throughout length of project.
 - Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 - The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

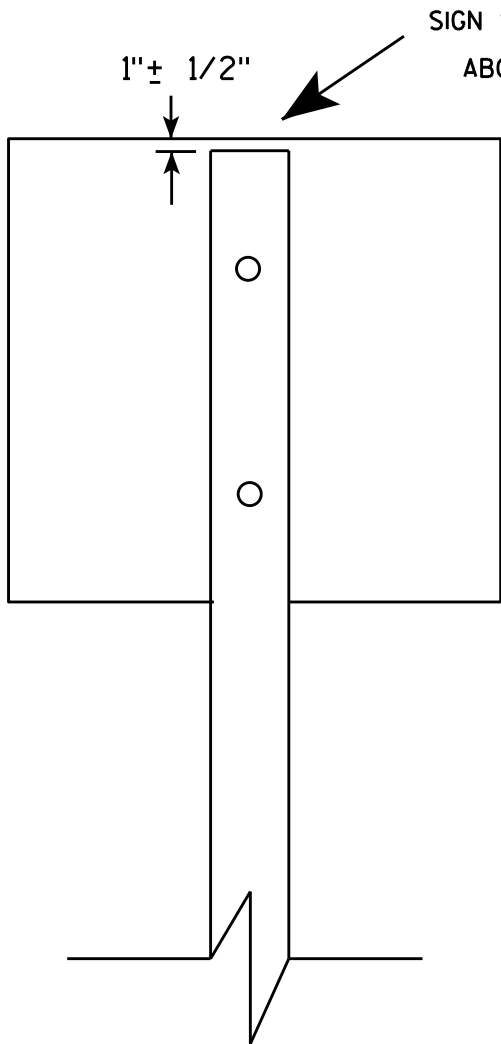
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

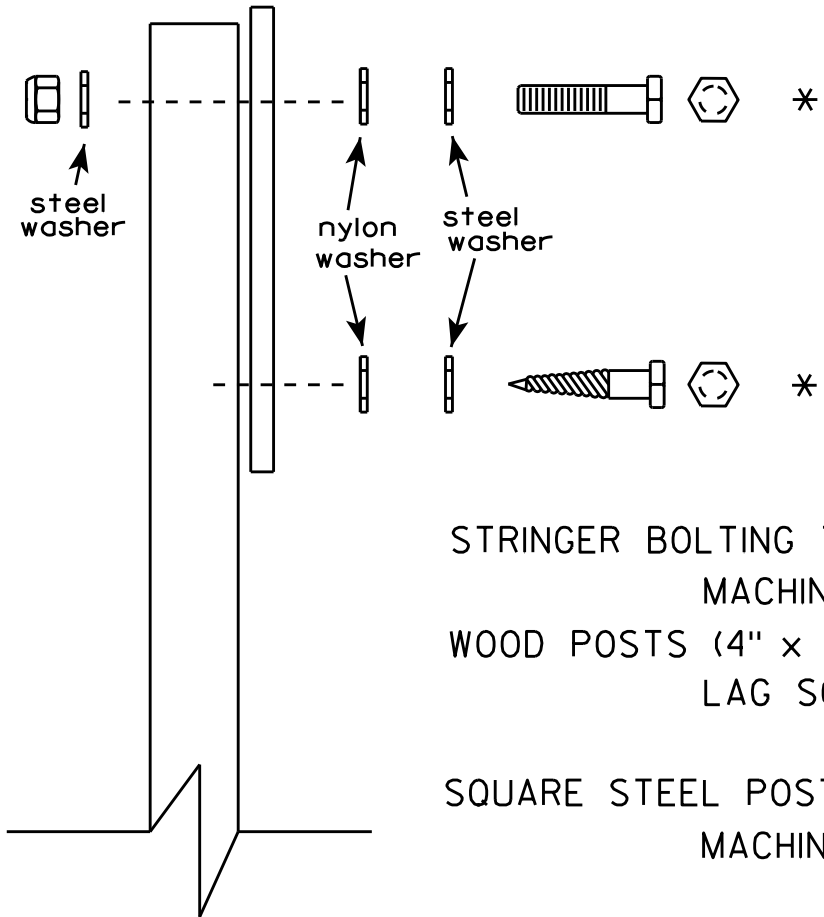
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4.14



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



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

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

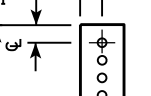
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/27/16	PLATE NO. A4-8.8

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



1"

$\frac{1}{8}"$

ALL HOLES $\frac{7}{16}"$
SPACED 1" C-C
ALL FOUR SIDES

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

**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"

3 1/2"

16"

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

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- SIGN**: Indicated at the top of the post.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to sign plate details.
- 2" STEEL TUBULAR SQUARE UPPER SECTION**: The main vertical support.
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES**: Specification for the upper section's holes.
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Detail of the corner anchor bolt.
- 2 $\frac{1}{2}$ " GRAVEL OR DIRT**: Material filling the base around the anchor bolts.
- 3 $\frac{1}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT**: Detail of the anchor bolt used in the base.
- 2 $\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)**: Sleeve surrounding the lower part of the post.
- 2 $\frac{1}{4}$ " SQUARE X 36"**: The bottom section of the post.
- TELESCOPE PIECES FLUSH AT TOP**: Note about the connection between sections.
- 18" DIA SCHEDULE 40 PVC BOX-OUT**: The base container for gravel/dirt.
- Dimensions**:
 - Total height: 36"
 - Upper section length: 18"
 - Lower section length: 18"
 - Top offset: 13"
- Labels A and B**: Marked on the cross-section view of the base.

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: LENGTH SHOWN ON MISC. Q'TYS
- Section A-A: 36" (Total height of the main post section)
- Section B-B: 18" (Height of the upper section)
- Section C-C: 12" (Height of the lower section)

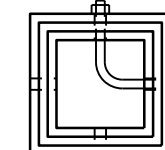
End View Details:

- SIGN:** Indicated at the top.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**
- 2" STEEL TUBULAR SQUARE UPPER SECTION**
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES**
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT** (1" spacing)
- $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT**
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**
- 2 1/4" SQUARE X 36"**

Assembly Notes:

- TELESCOPE PIECES FLUSH AT TOP
- Section A-A shows the post embedded in a base.
- Section B-B shows the post embedded in a base.
- Section C-C shows the post embedded in a base.

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



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. Ranch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

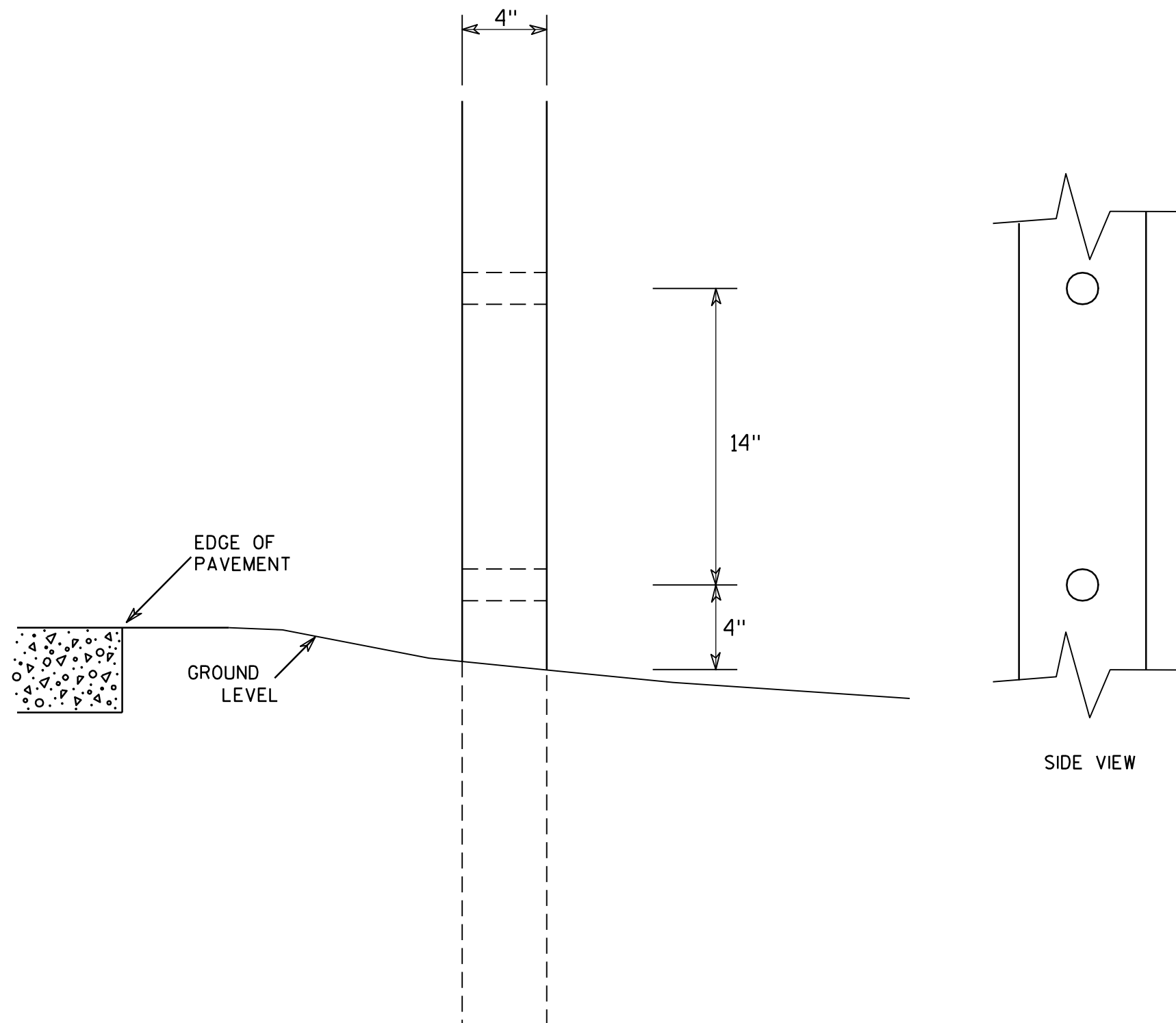
HWY:

COUNTY:

SHEET NO:

1

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

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:

E

58, 59, 60, 61, 62, 63

7

LEVELS ON - 2, 3, 5, 6, 10.



D7-69

Metric equivalent
for this sign is:

SIZE	
1	
2	1500 mm X 900 mm
3	
4	
5	

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.	Area m ²
1																												
2	60	36	2 1/4		3/4	4 1/2	6	5	5 1/2	4 1/4		20 5/8	4 1/8	7/8	24	24 1/2	1 1/4	4 3/8	10 5/8								15.0	1.35
3																												
4																												
5																												

NOTES

1. Sign Is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Brown
Message - White
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.

STANDARD SIGN
D7-69

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Christen J. Spang
for State Traffic Engineer

DATE 1/14/02

PLATE NO. D7-69.5

STATE PROJECT NUMBER:

SHEET NO:

E

58,59,60,61,62,63

7

LEVELS ON - 2, 3, 5, 6



Metric equivalent
for this sign is:

SIZE	
1	
2	1500 mm X 1050 mm
3	
4	
5	

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.	Area m2
1																												
2	60	42	2 1/4		3/4	4 1/2	6	4	5	4 3/4	3 1/4	4 1/4	11 1/2	2 3/4	3	5 7/8	20 5/8	4 1/8	7/8	24	24 1/2	1 1/4	4 3/8	10 5/8			17.5	1.58
3																												
4																												
5																												

STATE PROJECT NUMBER:

FILE NAME : C:\Users\Projects\tr_std\plate\D770.DGN

PLOT DATE : 22-JAN-2002 08:58

ORG DATE : 6/23/97

Originator : Don Kluever

STANDARD SIGN
D7-70

WISCONSIN DEPT OF TRANSPORTATION

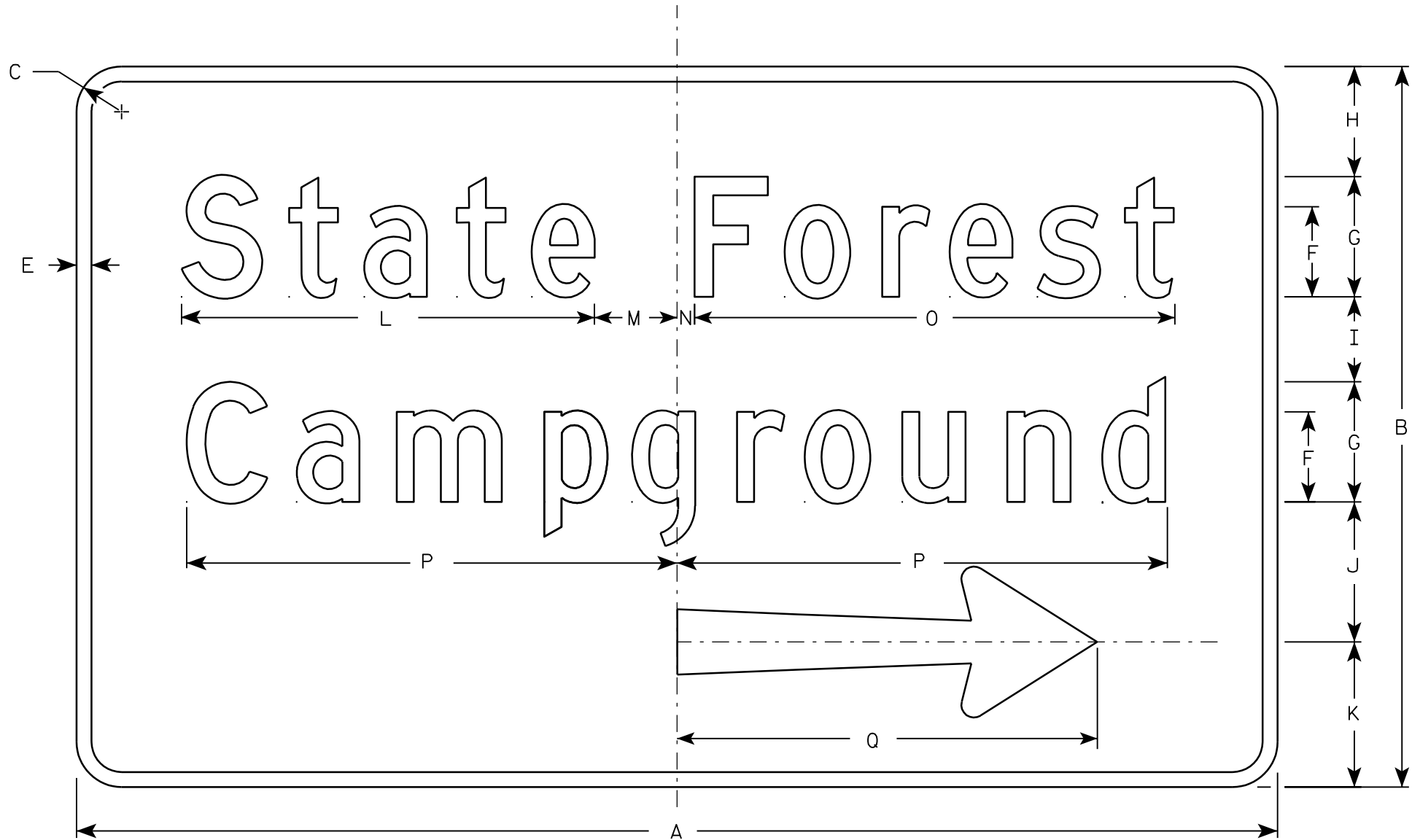
APPROVED
Christa J. Spay
for State Traffic Engineer

DATE 1/14/02 PLATE NO. D7-70.5

SHEET NO:

E

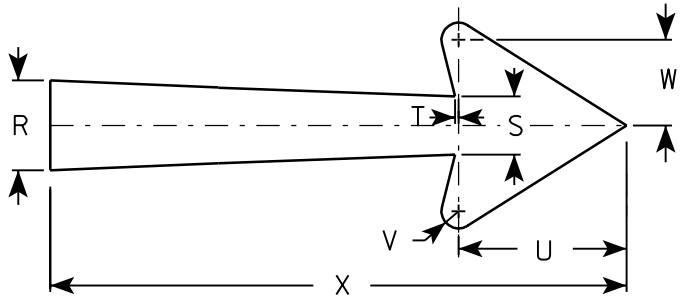
7



D7-71R

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Brown
 - Message - White - Type H Reflective
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. D7-71L is same as D7-71R except that the arrow is reversed.



Arrow Detail

Metric equivalent for this sign is:

SIZE	
1	
2	1500 mm X 900 mm
3	
4	
5	

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.	Area m ²
1																												
2	60	36	2 1/4		3/4	4 1/2	6	5 1/2	4 1/4	7	7 1/4	20 5/8	4 1/8	7/8	24	24 1/2		3 1/4	2 1/8	1/8	6 1/8	5/8	3 1/8	21			15.0	1.35
3																												
4																												
5																												

STANDARD SIGN
D7-71

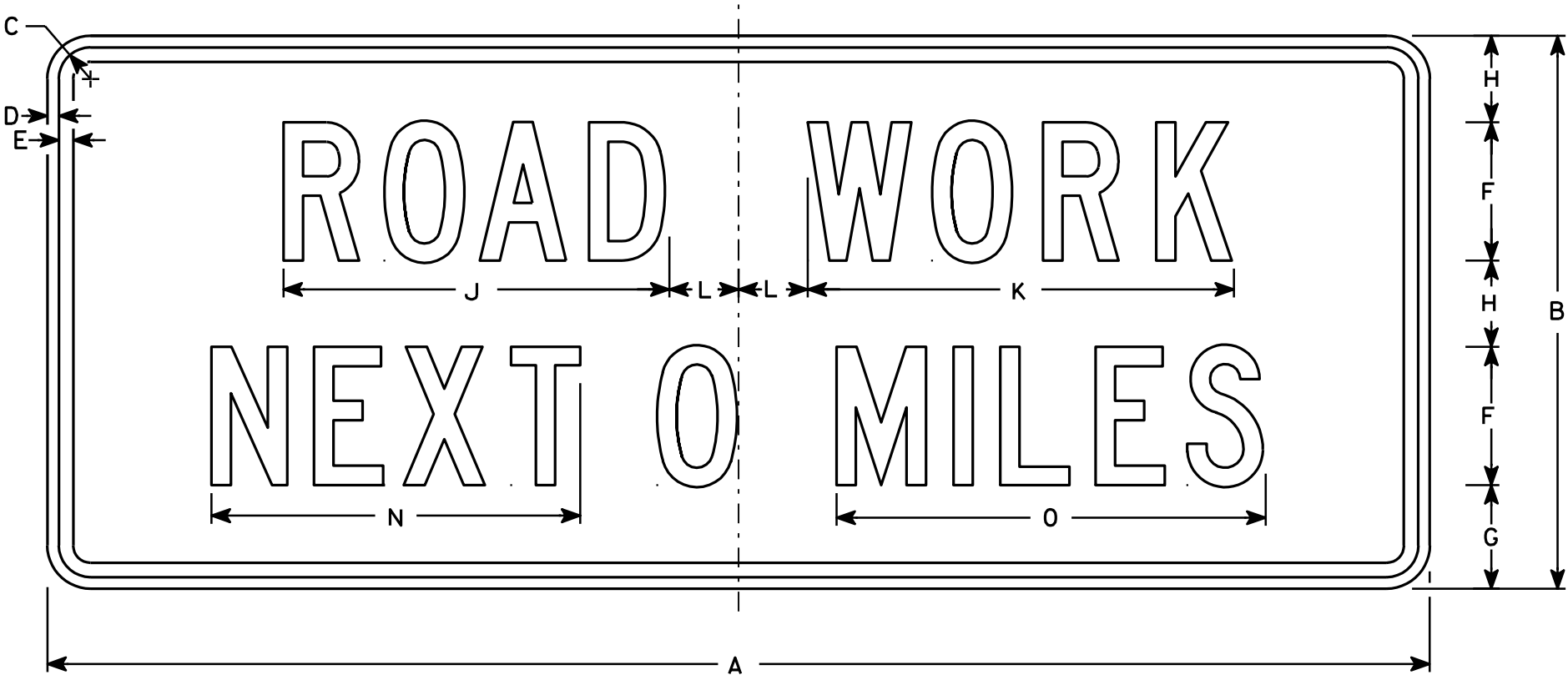
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/07/05 PLATE NO. D7-71.6

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-1

Metric equivalent
for this sign is:

SIZE	
1	
2	1500 mm X 600 mm
3	
4	1500 mm X 600 mm
5	

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.	Area m ²
1																												
2	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10	.90
3																												
4	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10	.90
5																												

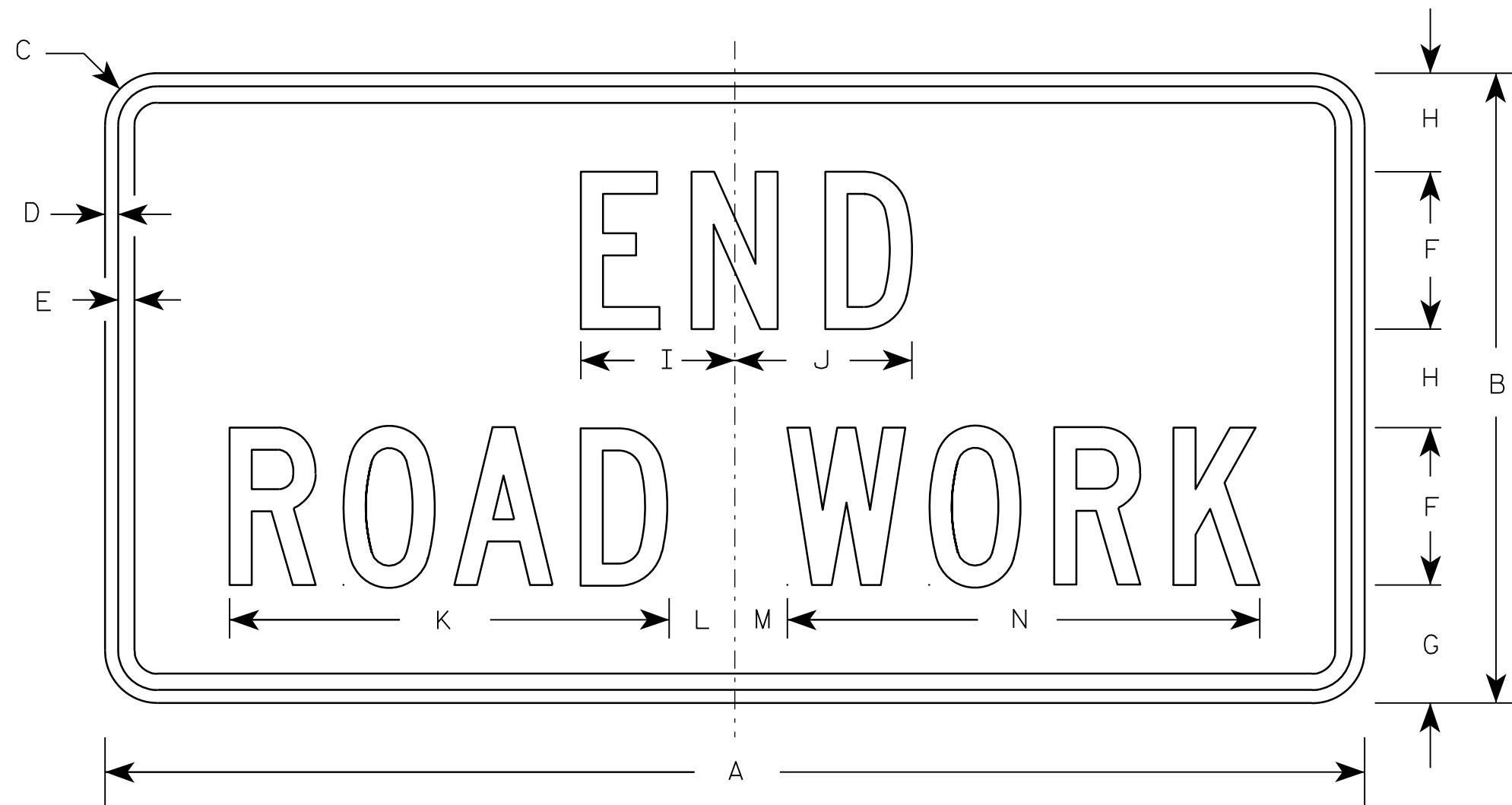
STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Chris J. Spay
State Traffic Engineer
DATE 4/8/97 PLATE NO. G20-1.7

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

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.	Area m ²
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

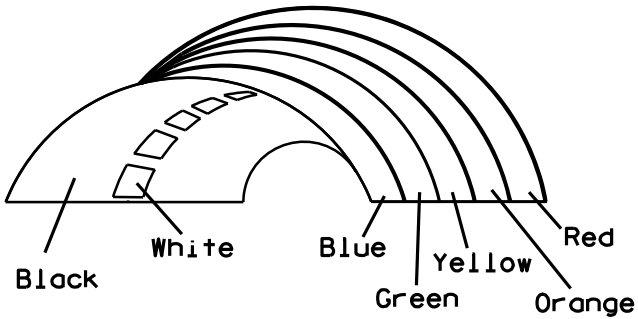
E

7



* VARIES

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - (See Note 5)
3. Message Series - (See Note 6)
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Border - Blue
Line 1 - Red
Line 2 - Black
Line 3-5 - Blue
6. Line 1 - Dutch 8011L
Line 2 - Series E
Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

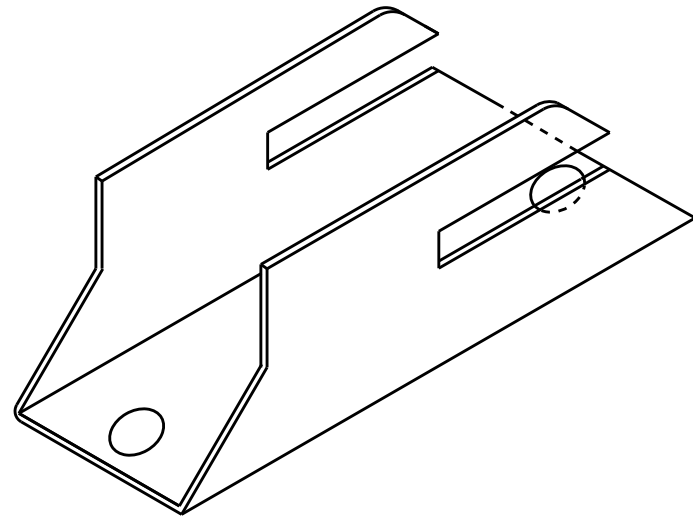
STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

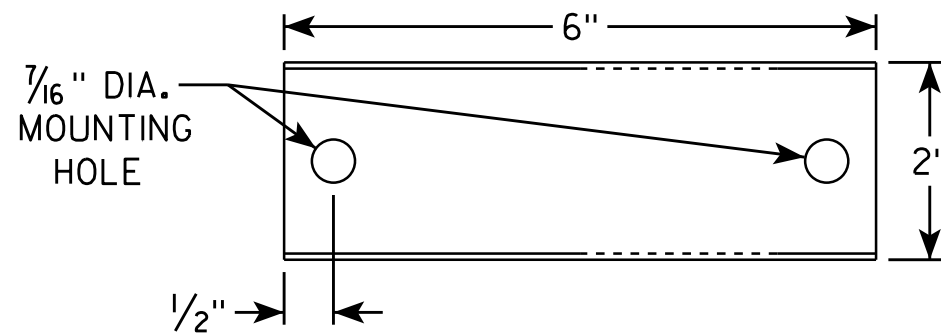
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/27/11 PLATE NO. I55-56.3

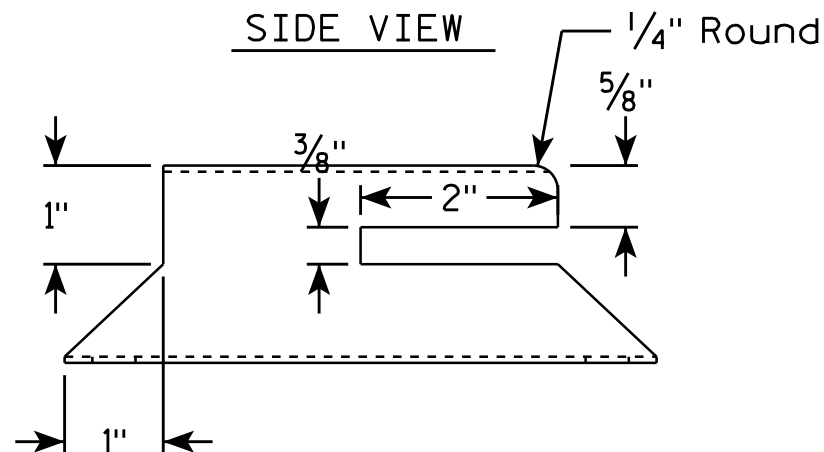
ISOMETRIC VIEW



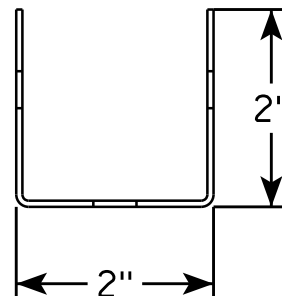
TOP VIEW



SIDE VIEW



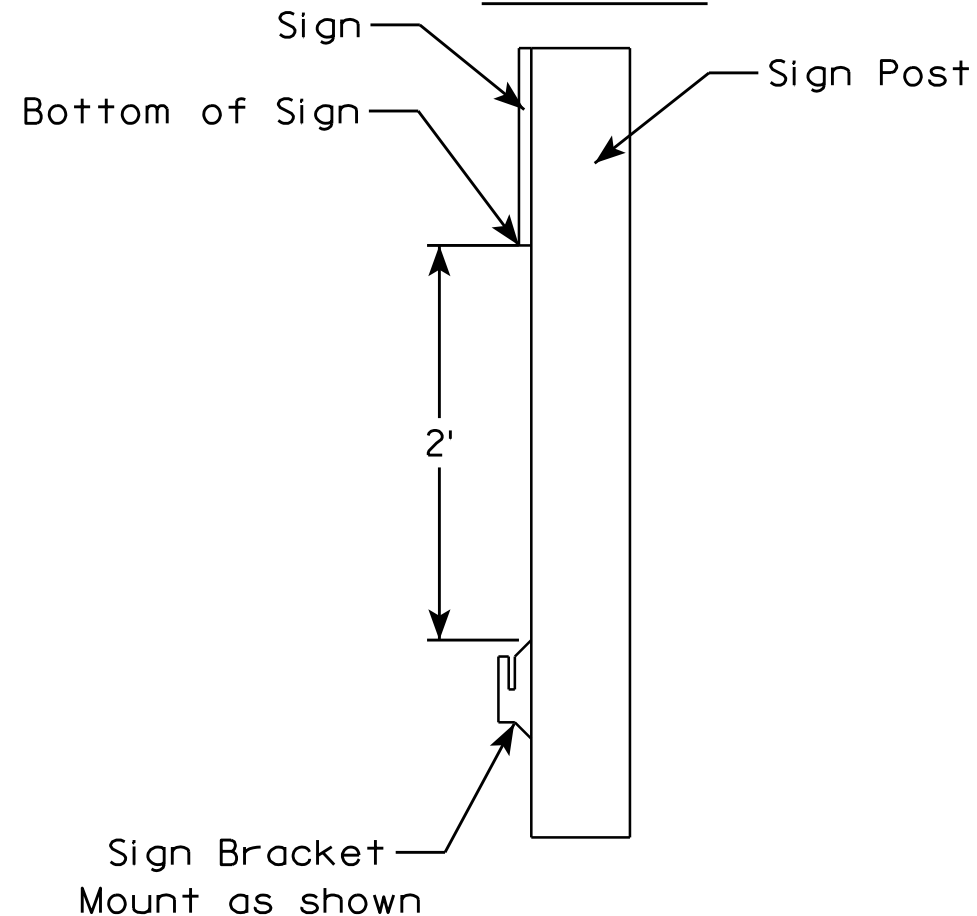
END VIEW



NOTES

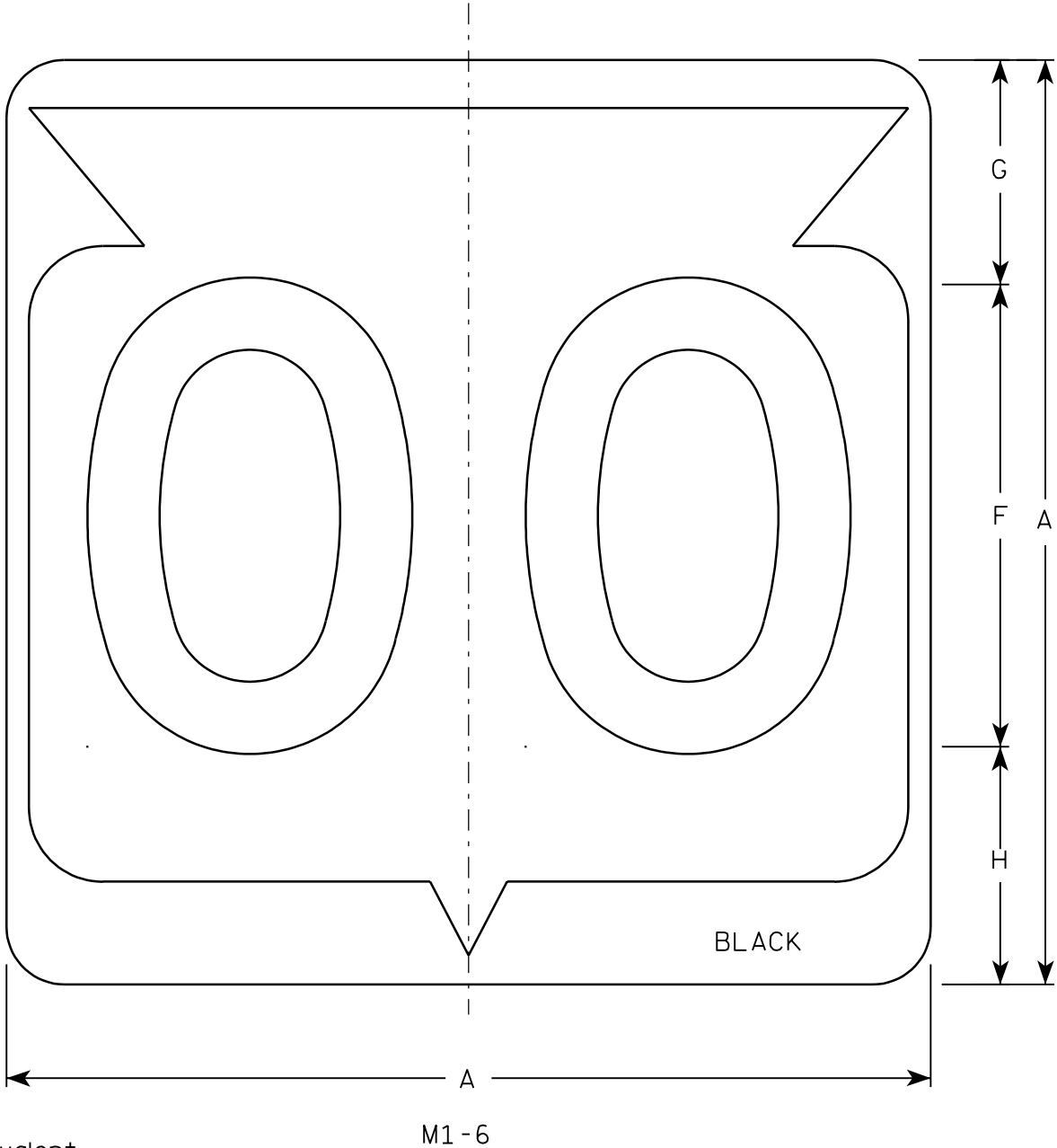
1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

SIDE VIEW



ROLLUP SIGN BRACKET I55-56B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/26/16	PLATE NO. I55-56B.2

7



Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

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.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

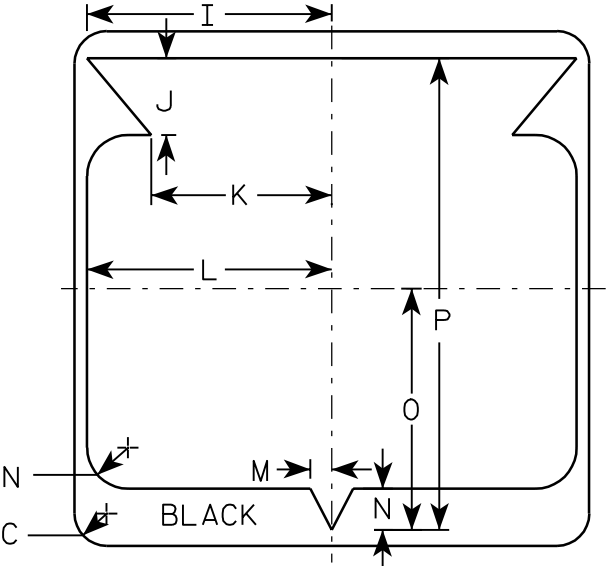
COUNTY:

SHEET NO:

E

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
5. Substitute appropriate Series numerals and
adjust spacing as per plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

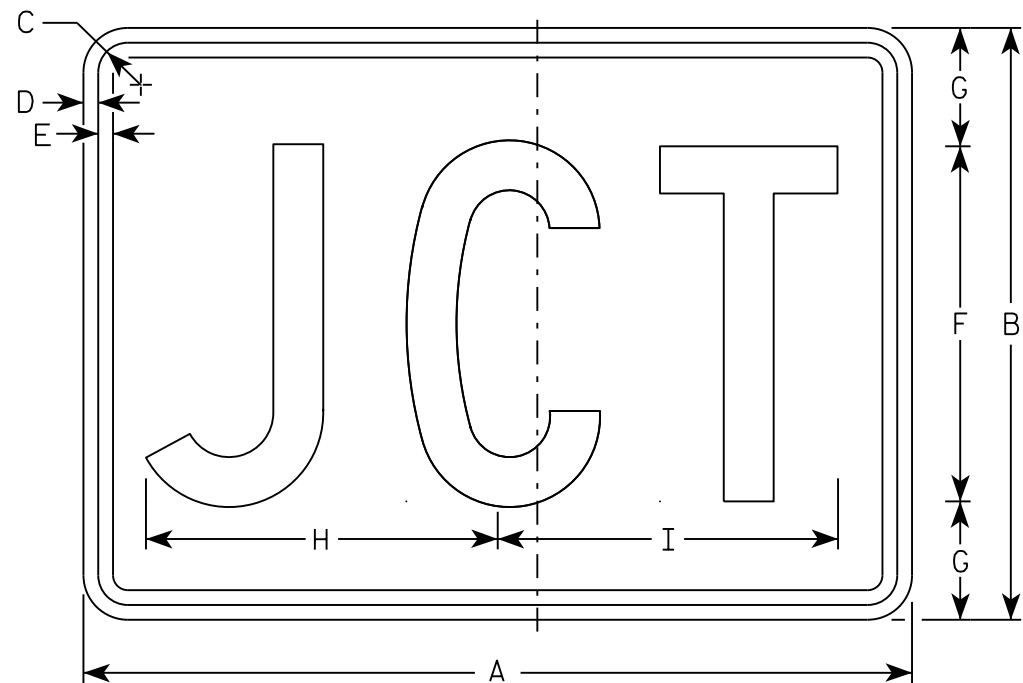
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

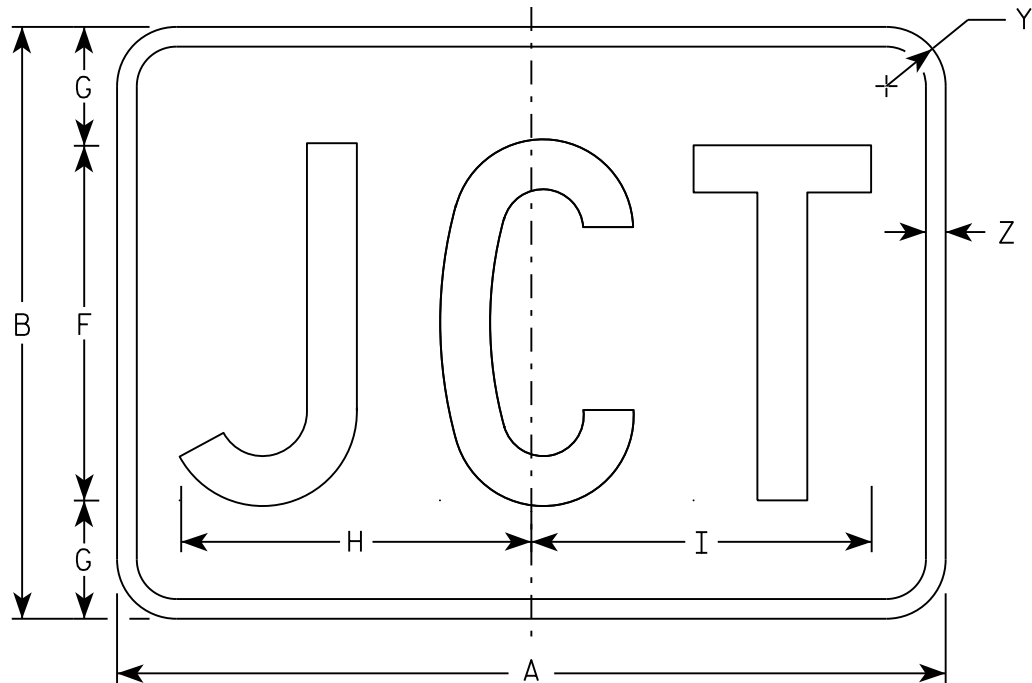
Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

PLATE NO. M1-6.9



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

- 1. Sign is Type II - Type H
- 2. Color:
 - Background - See note 5
 - Message - See note 5
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M2-1 Background - White
 Message - Black
 MB2-1 Background - Blue
 Message - White
 MK2-1 Background - Green
 Message - White
 MM2-1 Background - White
 Message - Green
 MN2-1 Background - Brown
 Message - White
 MP2-1 Background - White
 Message - Blue
 MR2-1 Background - Brown
 Message - Yellow

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	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN

M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

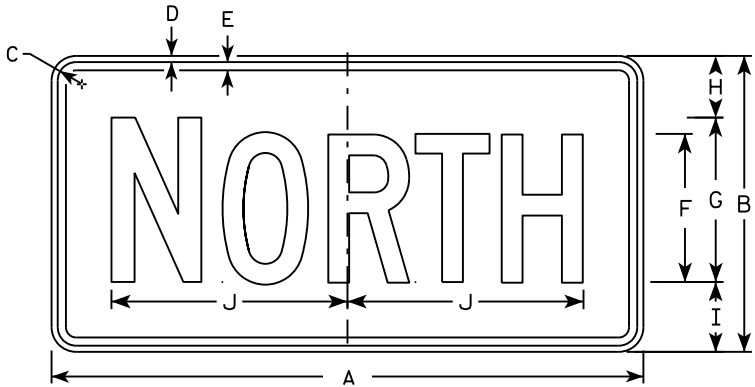
APPROVED

Matthew R. Rauch

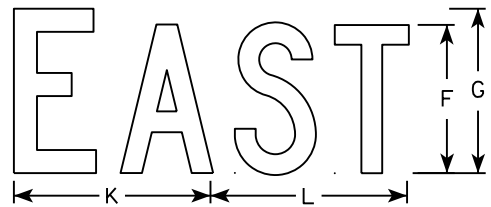
For State Traffic Engineer

DATE 10/15/15

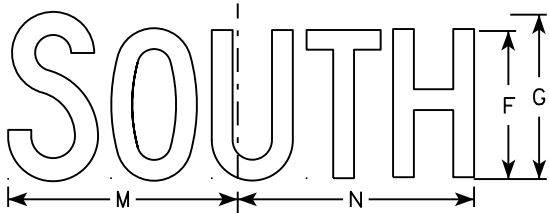
PLATE NO. M2-1.12



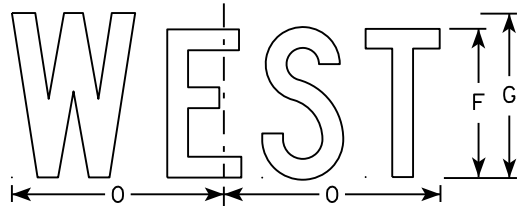
M3-1
MM3-1
MP3-1



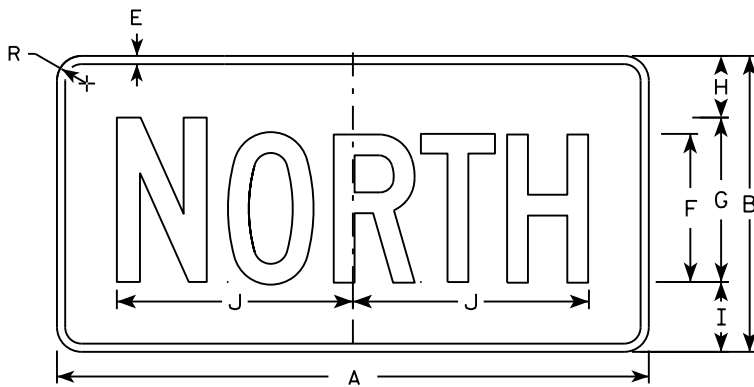
M3-2
MM3-2
MP3-2



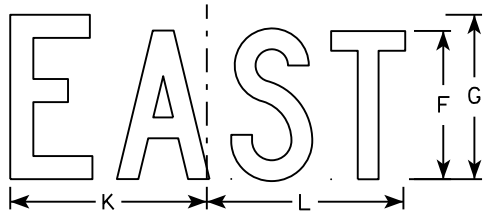
M3-3
MM3-3
MP3-3



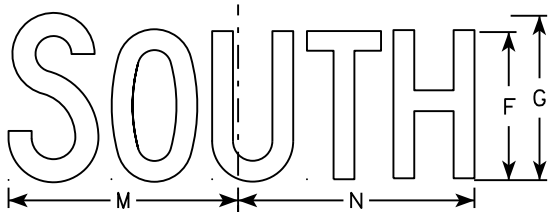
M3-4
MM3-4
MP3-4



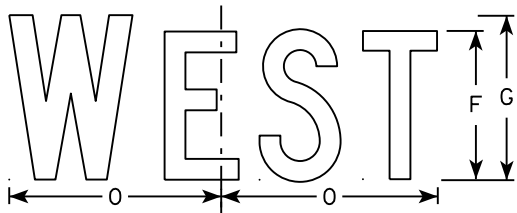
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

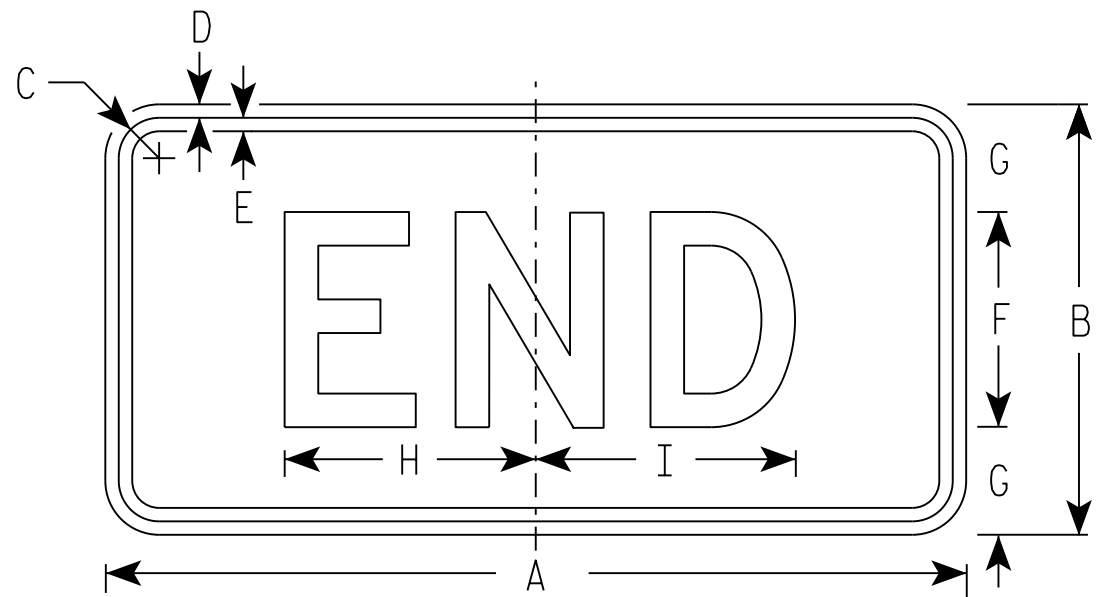
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

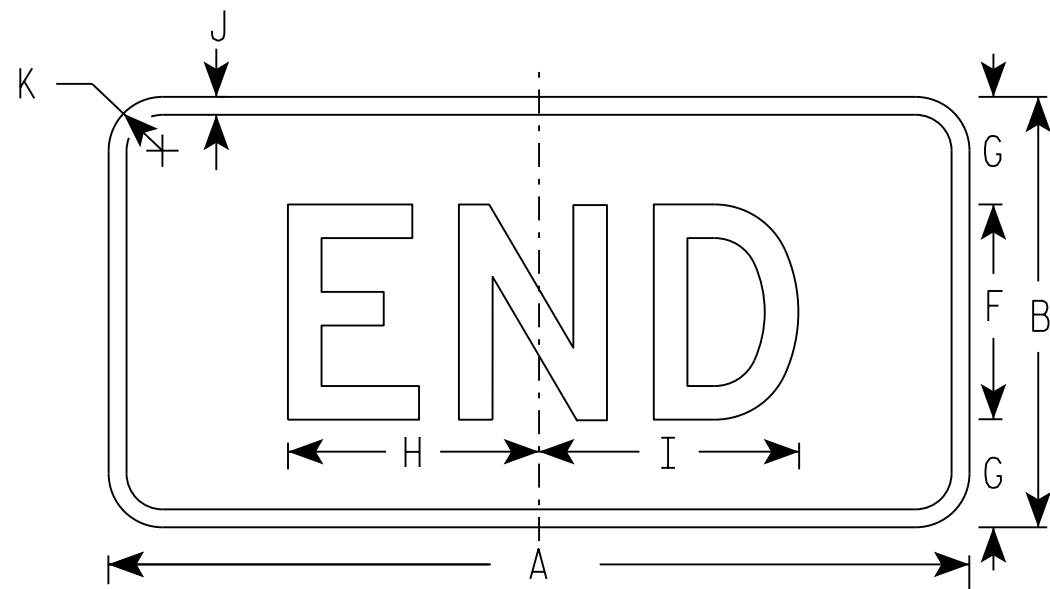
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14



M4-6
MM4-6
MP4-6



MB4-6
MK4-6
MN4-6
MR4-6

NOTES

- Sign is Type II - Type H
- Color:
Background - See note 5
Message - See note 5
- Message Series - D
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M4-6 Background - White
Message - Black
MB4-6 Background - Blue
Message - White
MK4-6 Background - Green
Message - White
MM4-6 Background - White
Message - Green
MN4-6 Background - Brown
Message - White
MP4-6 Background - White
Message - Blue
MR4-6 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

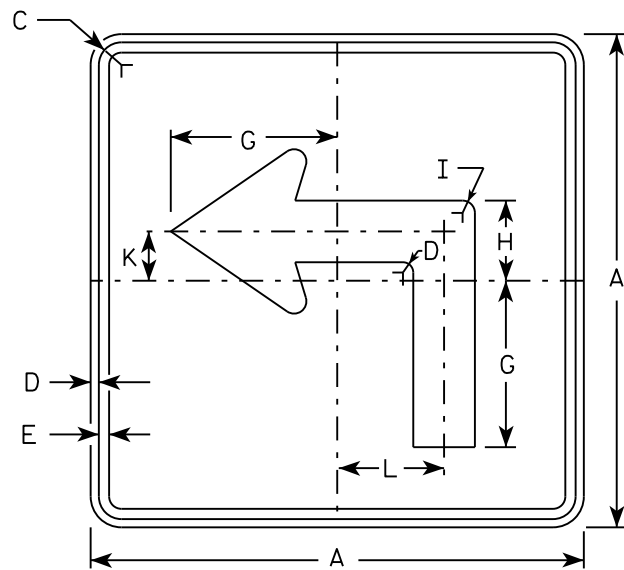
E

STANDARD SIGN
M4-6

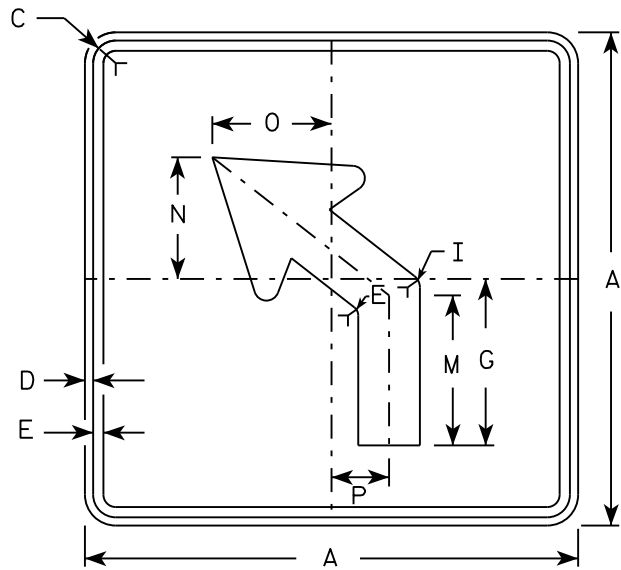
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

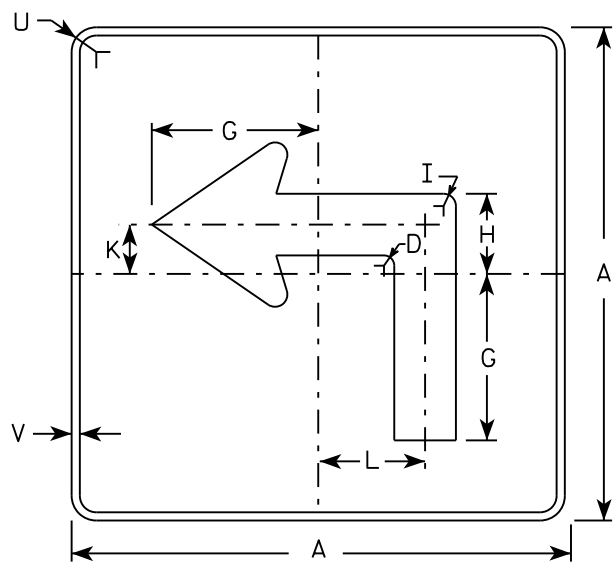
DATE 10/15/15 PLATE NO. M4-7.9



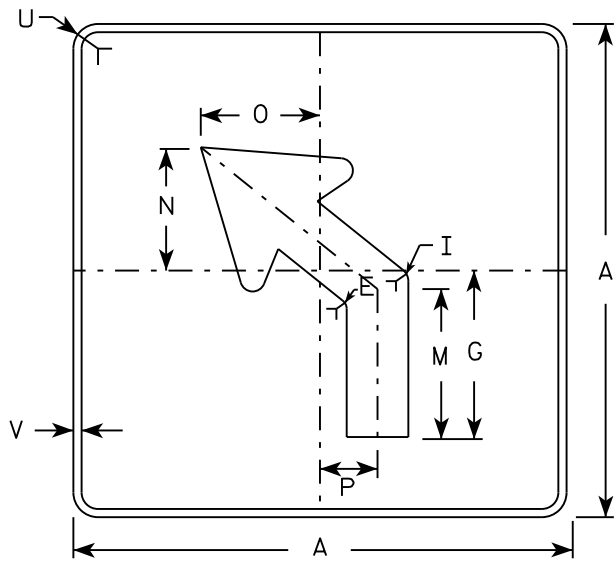
M5-1L
MM5-1L
M05-1L
MP5-1L



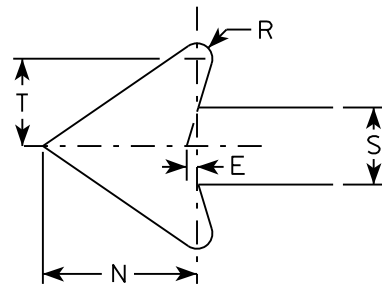
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 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.
- M5-1 and M5-2 Background - White
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White
MK5-1 and MK5-2 Background - Green
Message - White
MM5-1 and MM5-2 Background - White
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White
M05-1 and M05-2 Background - Orange - Type F Reflective
Message - Black
MP5-1 and MP5-2 Background - White - Type H Reflective
Message - Blue
MR5-1 and MR5-2 Background - Brown
Message - Yellow
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

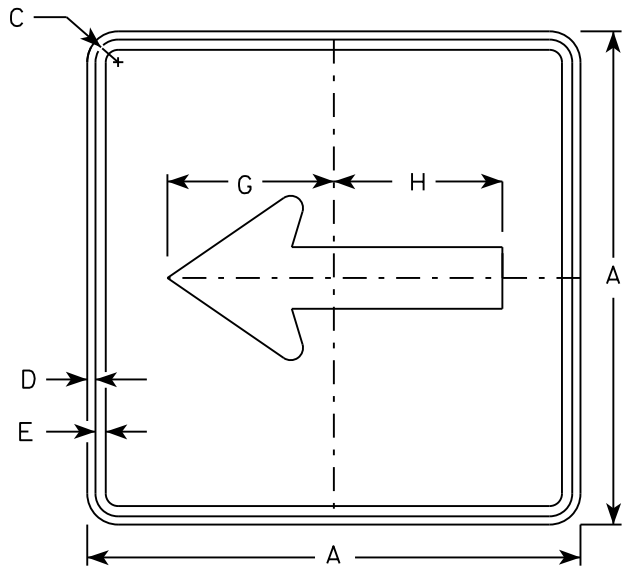
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

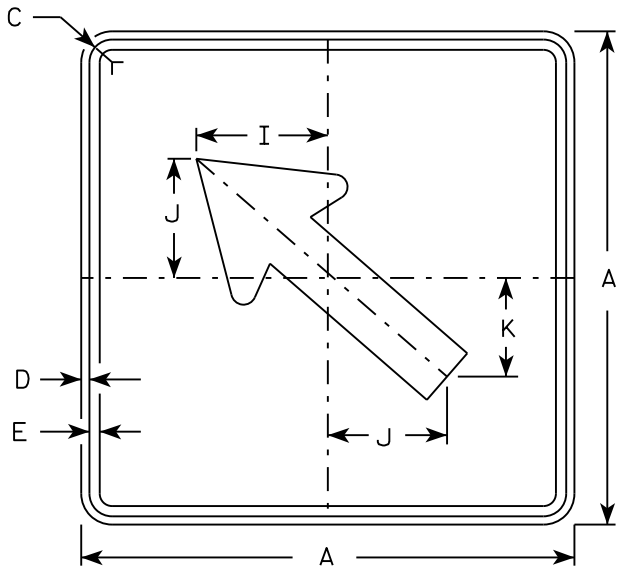
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

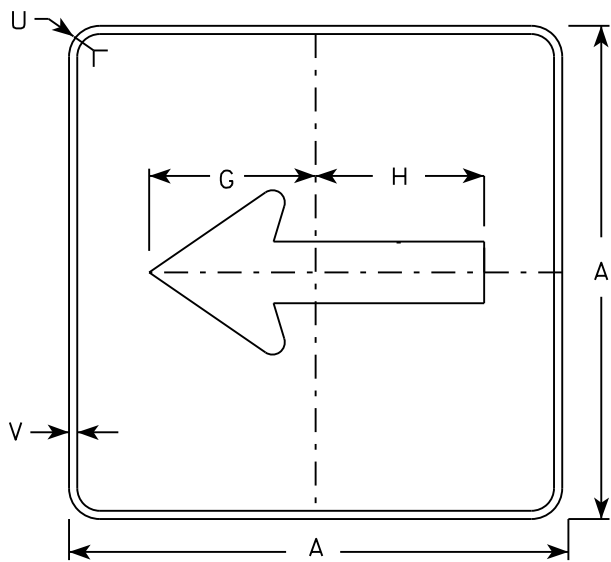
DATE 10/15/15 PLATE NO. M5-1.13



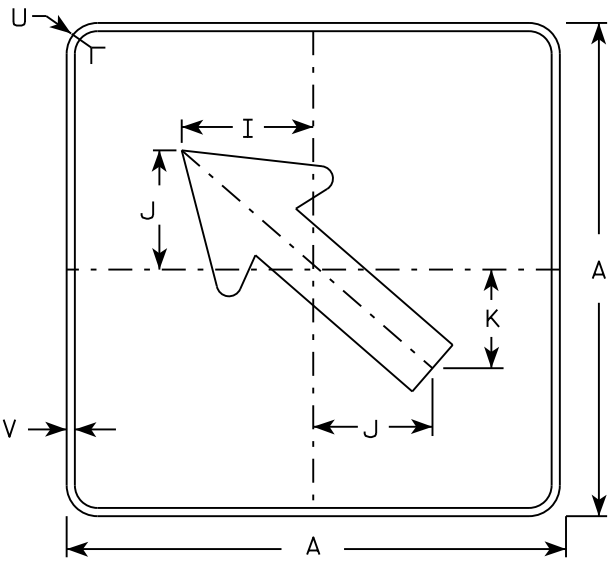
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



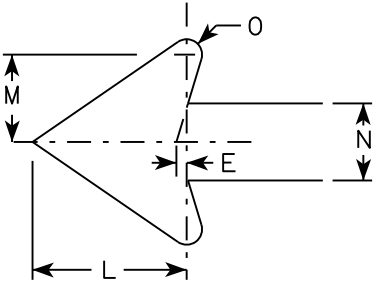
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 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.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

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	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

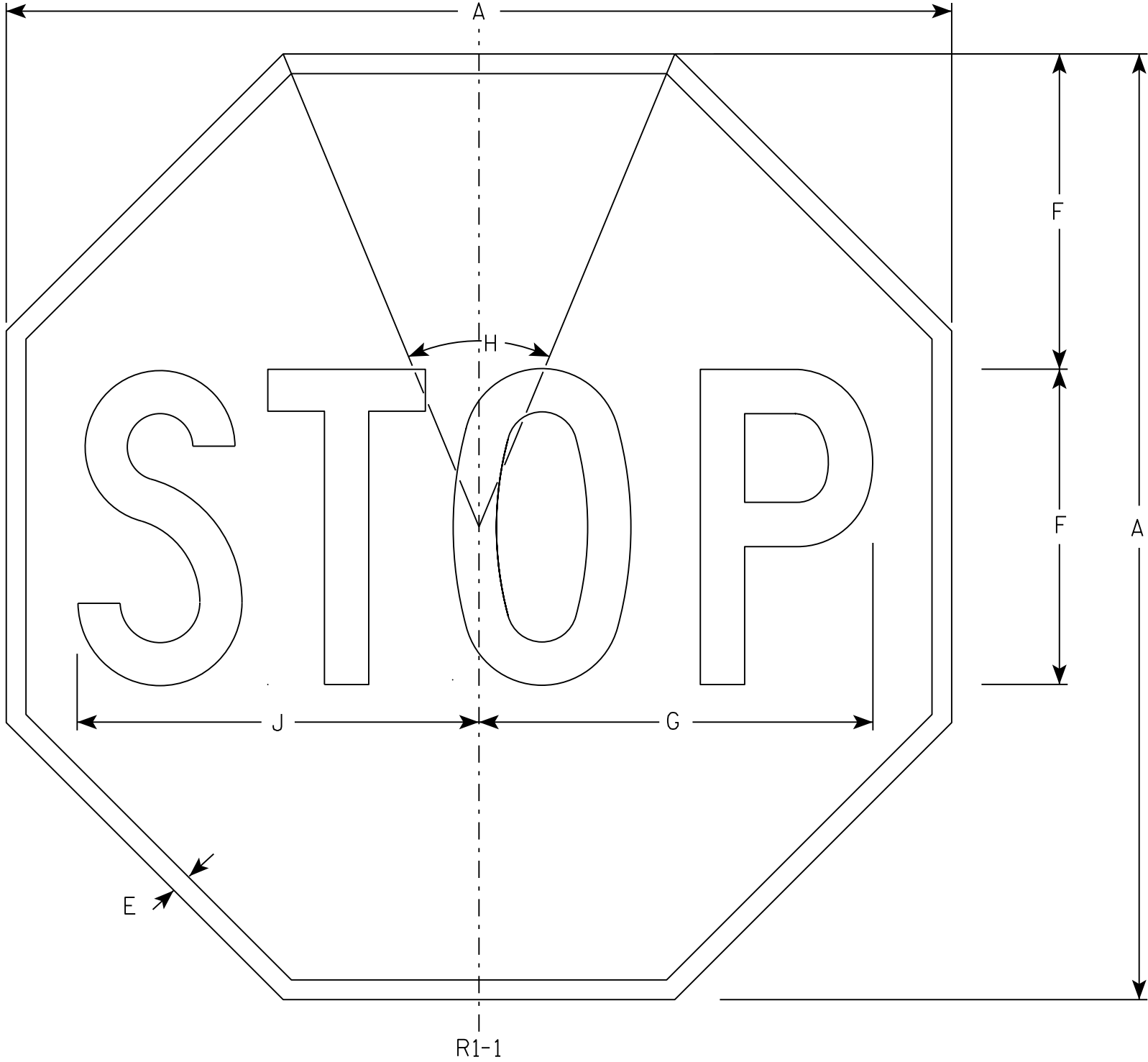
E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Red
 - Message - White
- 3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

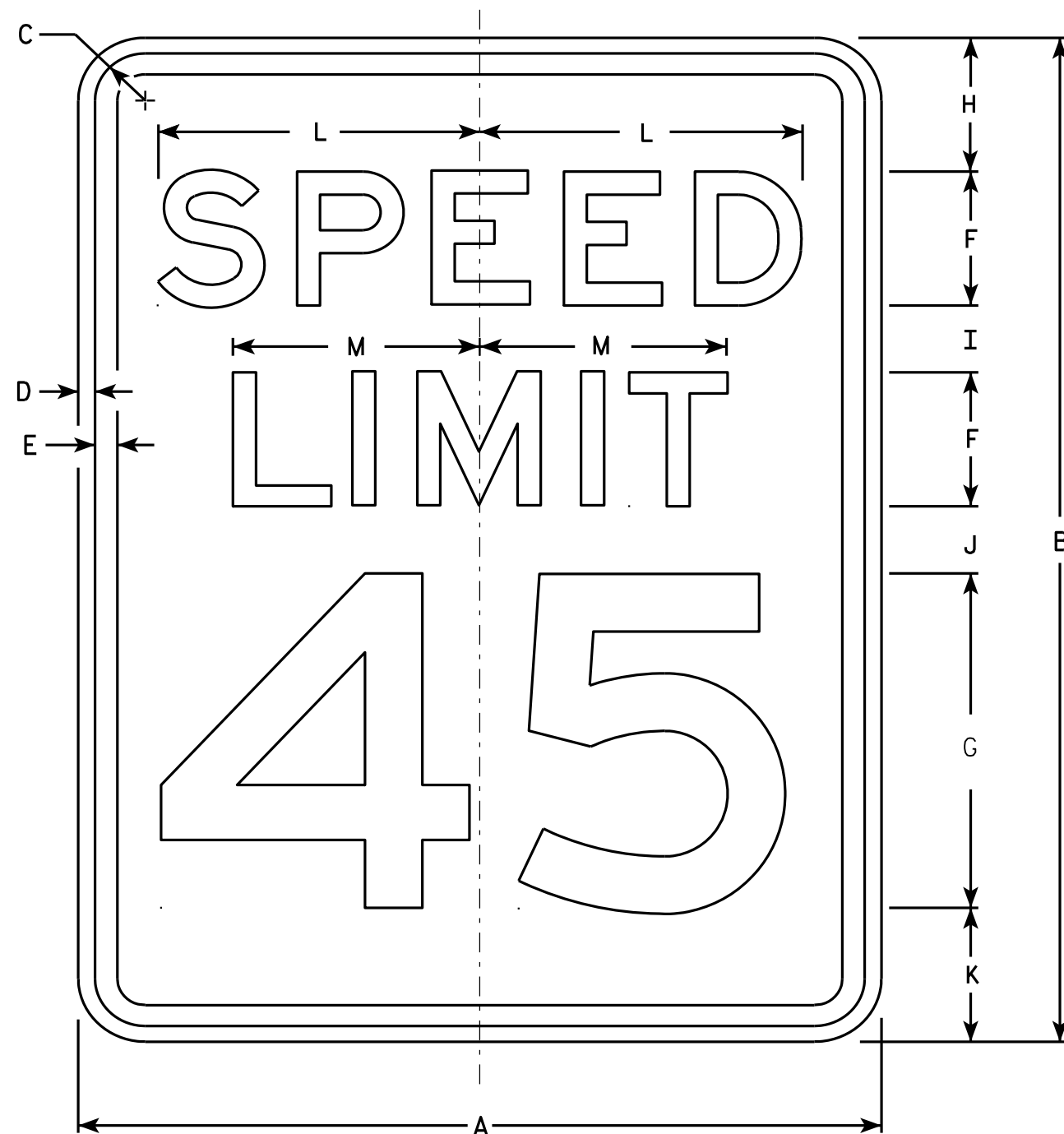
STANDARD SIGN

R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

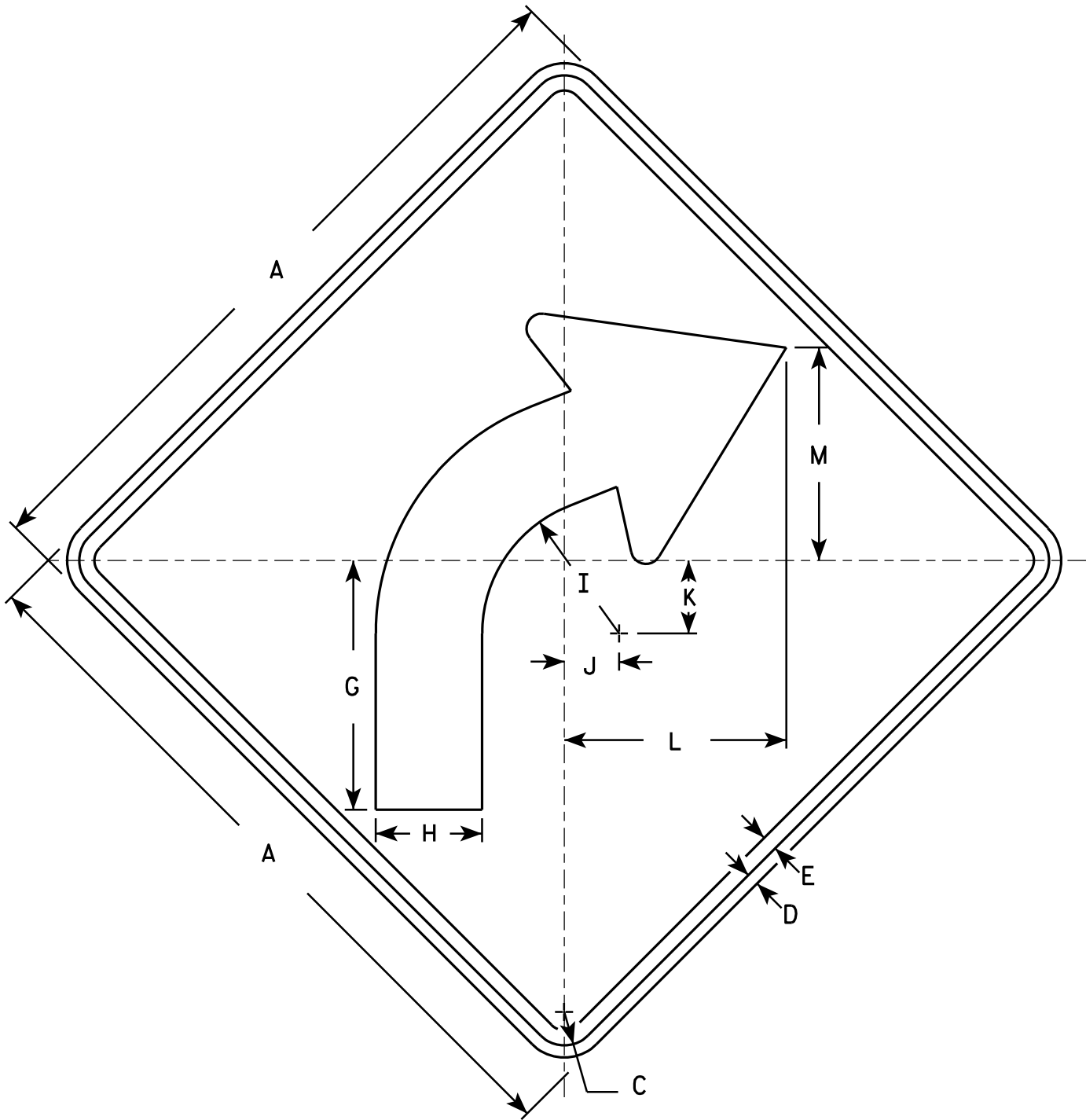
STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

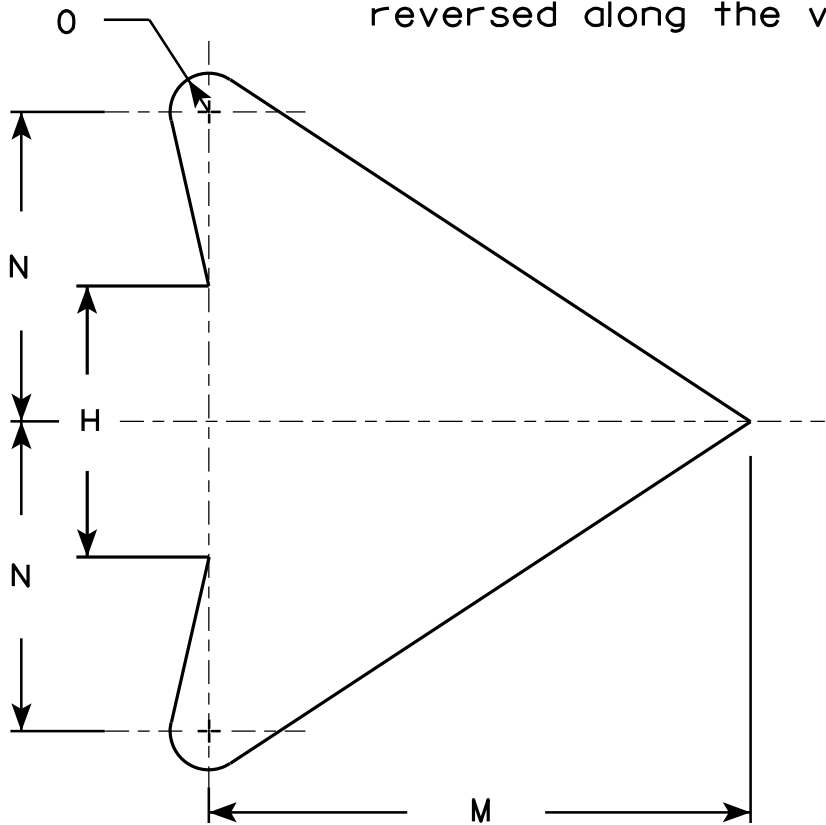
PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 5/15/12

PLATE NO. W1-2.10

PROJECT NO:

HWY:

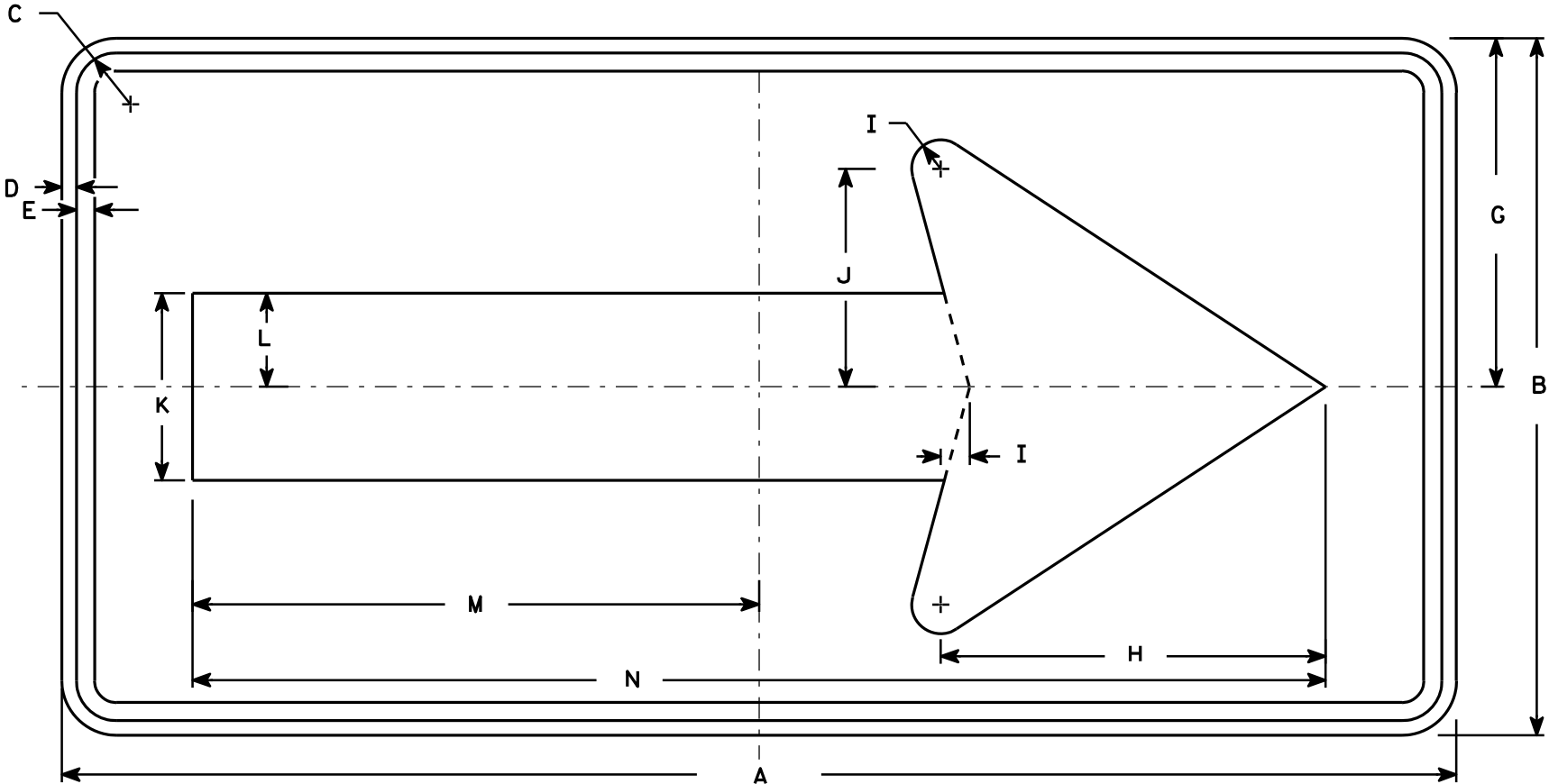
COUNTY:

SHEET NO:

E

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



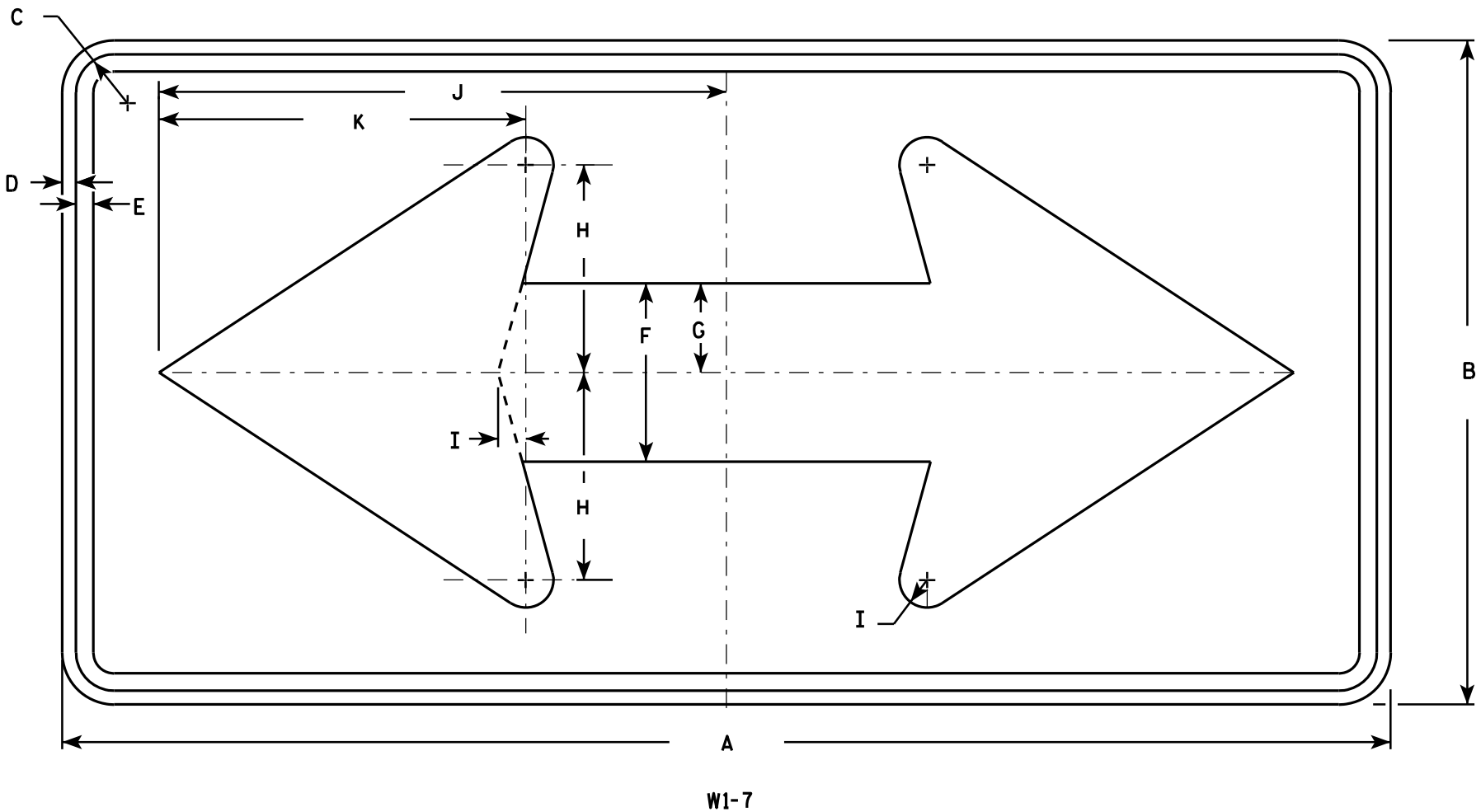
W1-6

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 1/8	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 3/8	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 3/8	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 3/8	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 3/8	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	2 1/4	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 6/7/10 PLATE NO. W1-6.8



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

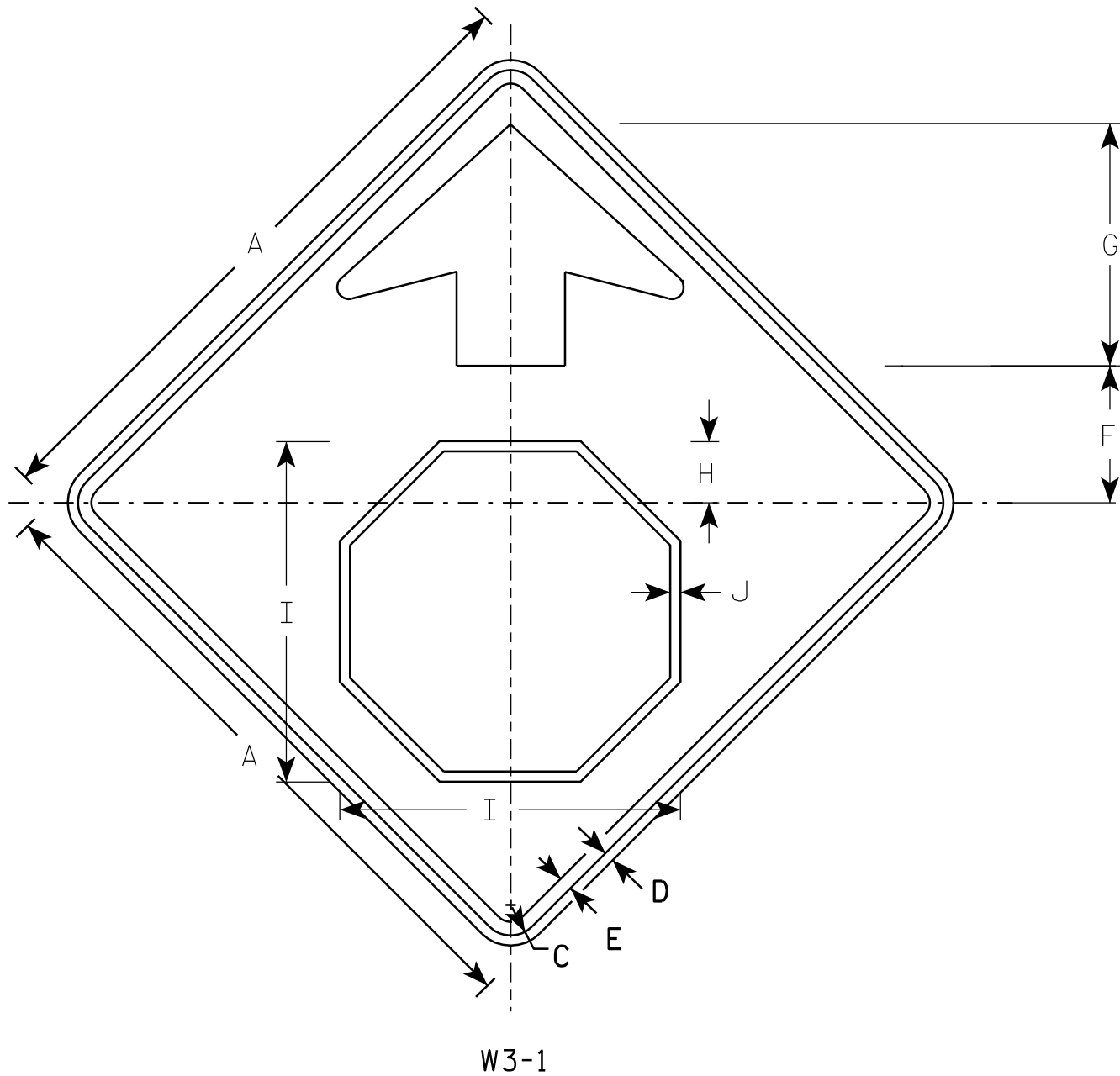
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

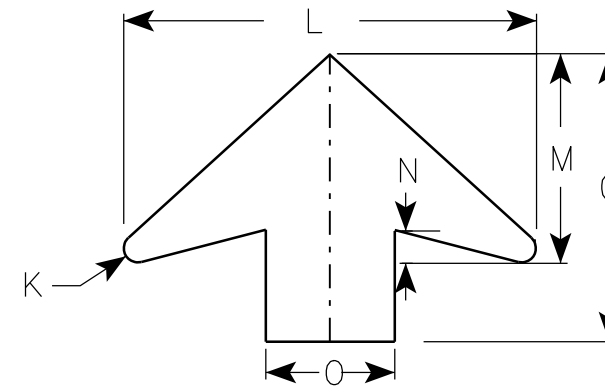
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

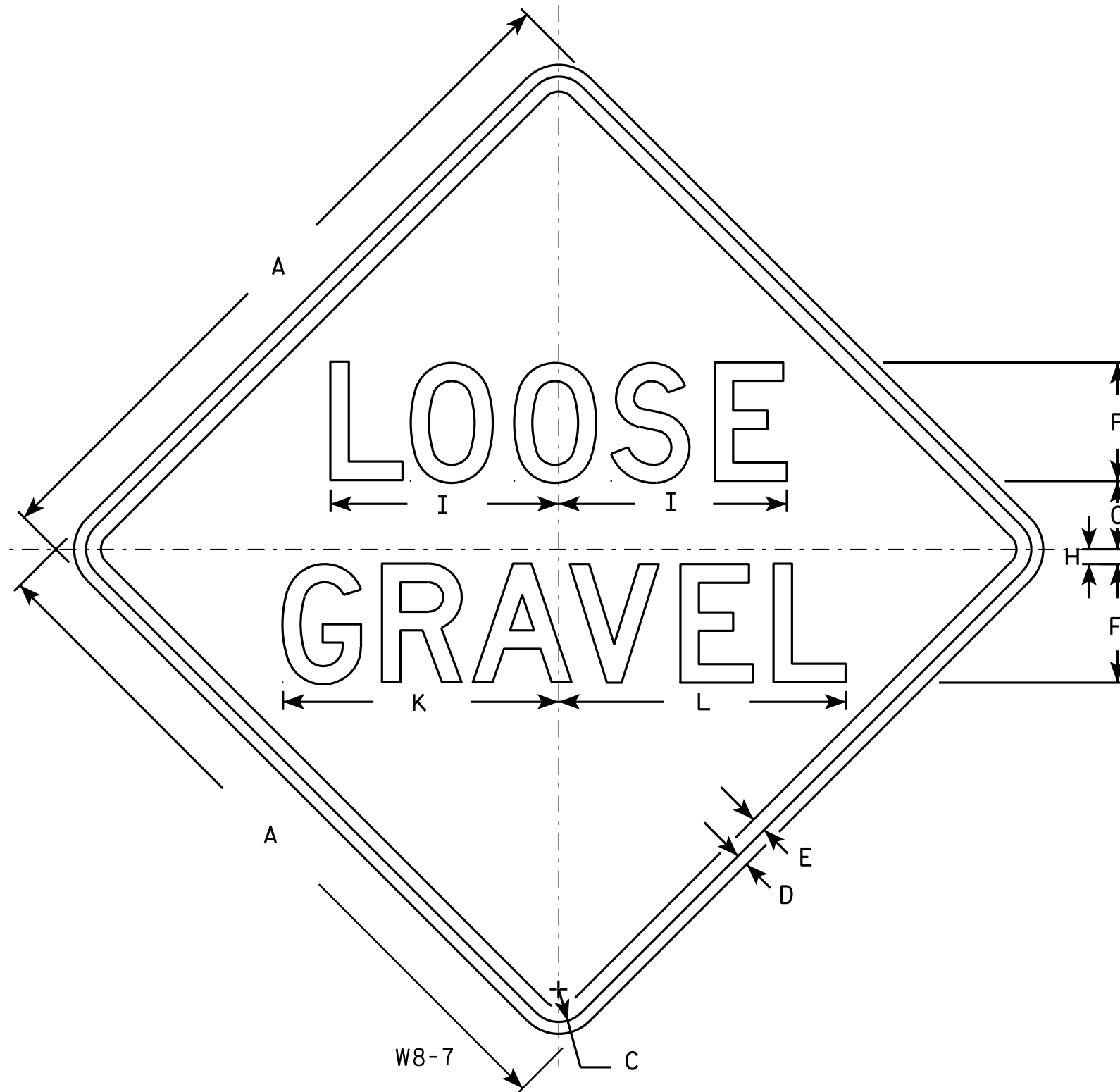
STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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	24		1 1/8	3/8	1/2	4	2 3/4	1/2	7 3/4		9 1/4	9 3/4															4.0
2S	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
2M	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
3	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
4	36		1 5/8	5/8	3/4	6	4 1/8	3/4	11 5/8		14	14 1/2															9.0
5	48		2 1/4	3/4	1	8	5 1/2	1	15 1/2		18 5/8	19 3/8															16.0

STANDARD SIGN

W8-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 5/30/12 PLATE NO. W8-7.7

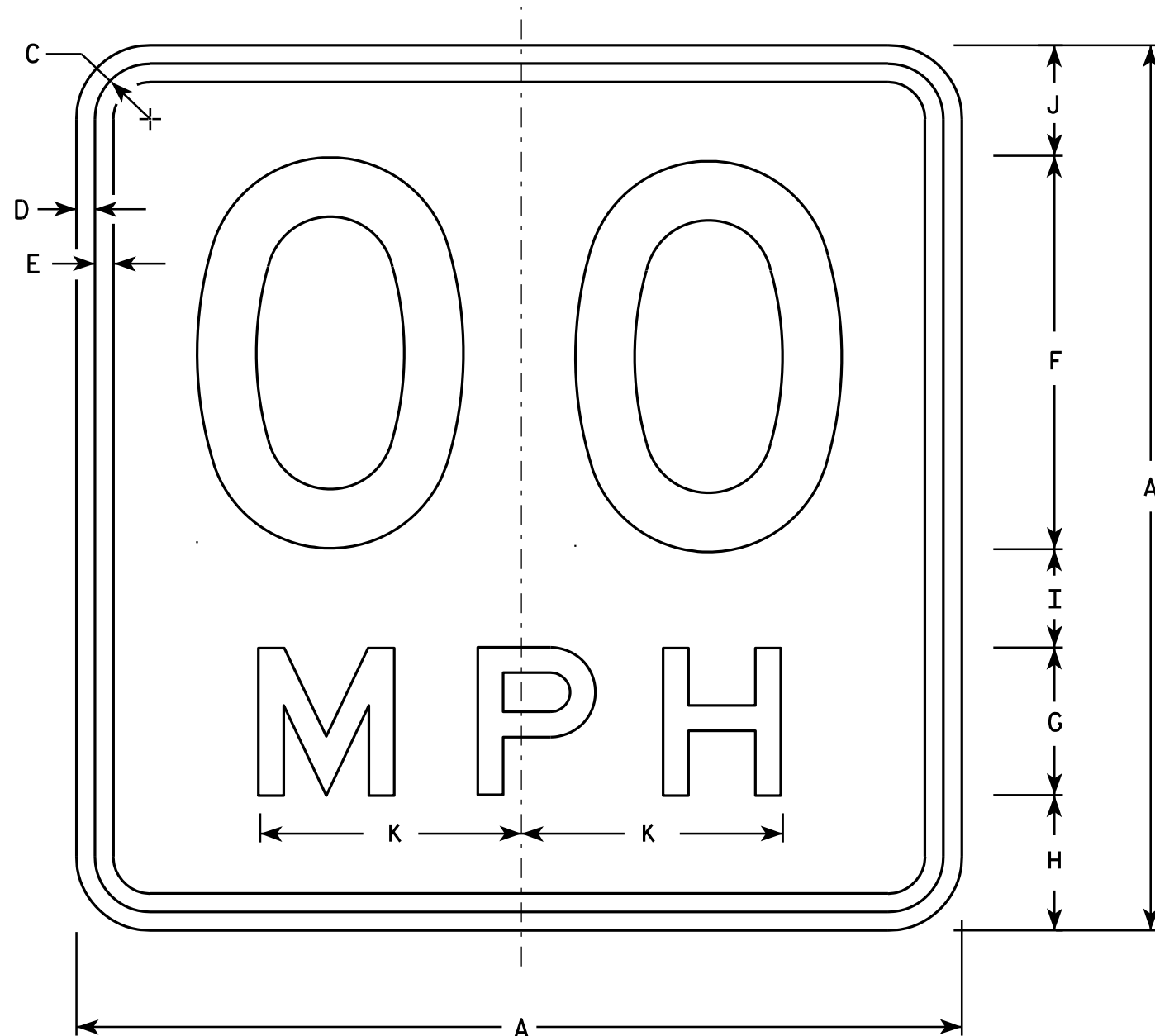
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area Sq. Ft.
1	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO:

HWY:

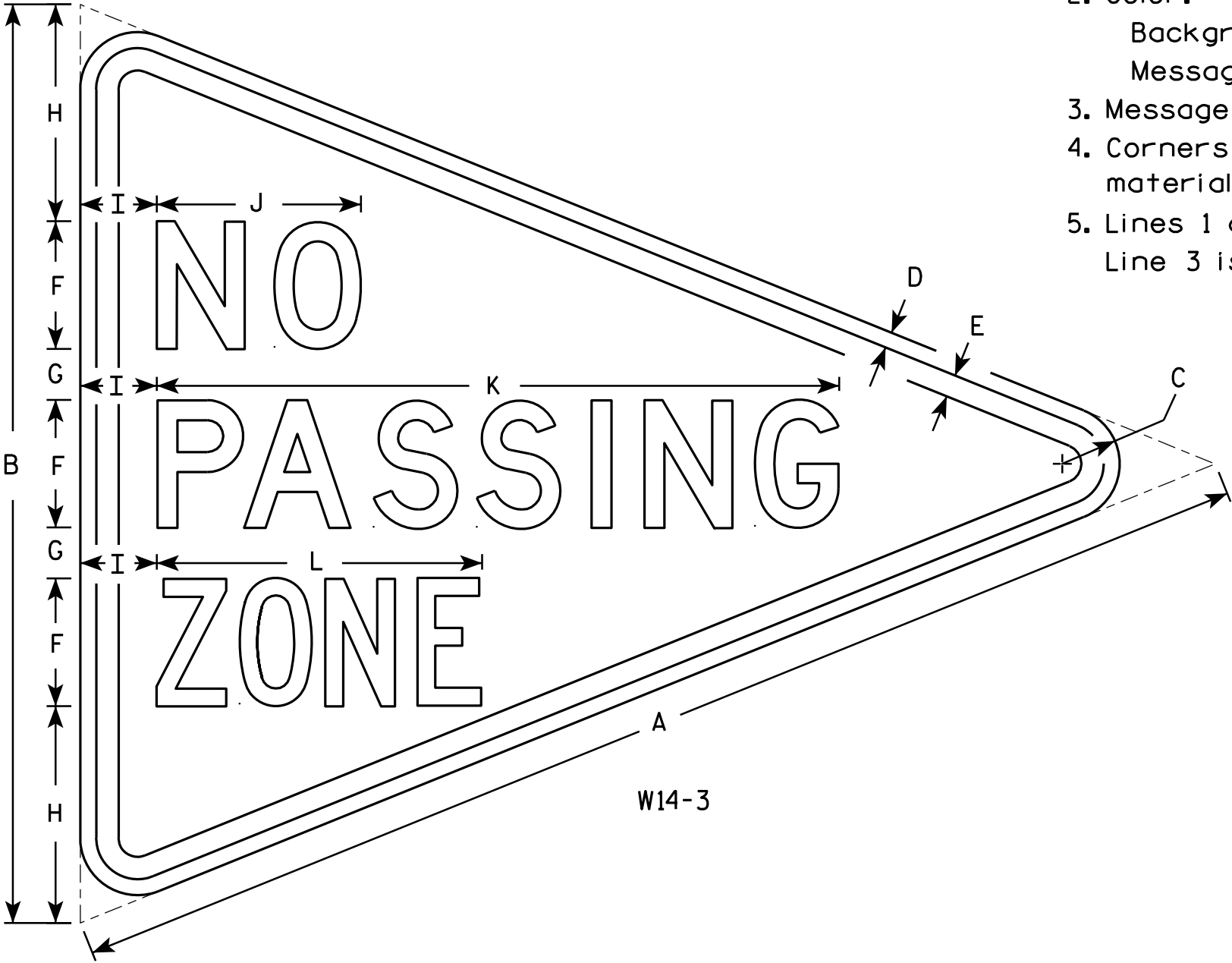
COUNTY:

SHEET NO:

E

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



W14-3

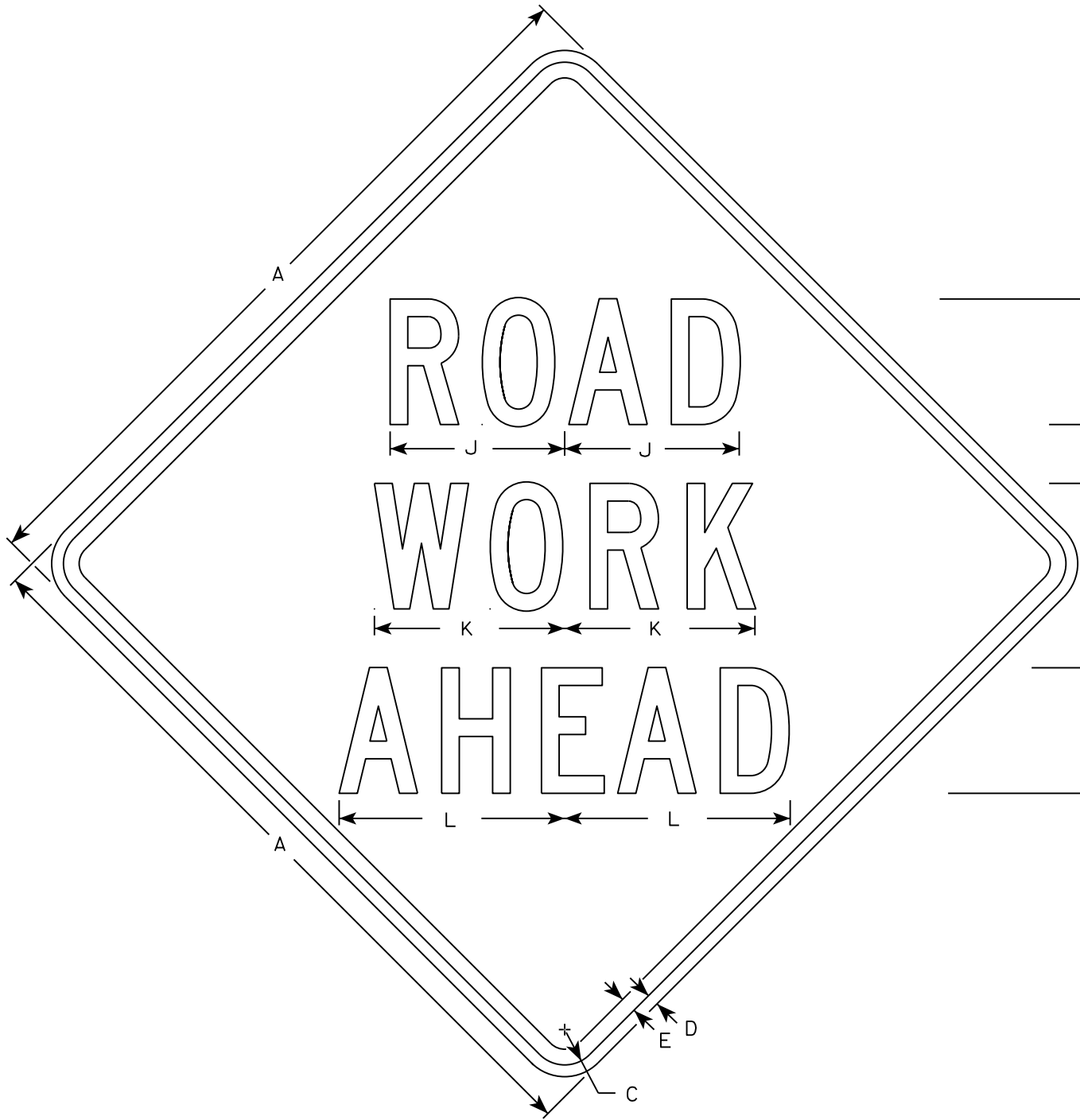
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

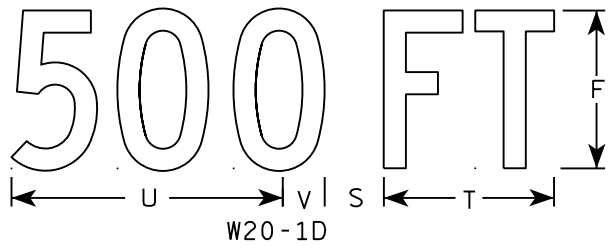
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

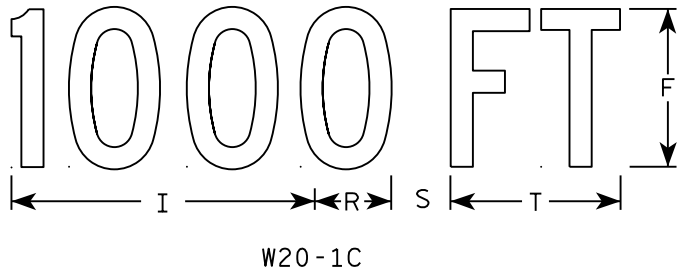
DATE 6/7/10 PLATE NO. W14-3.9



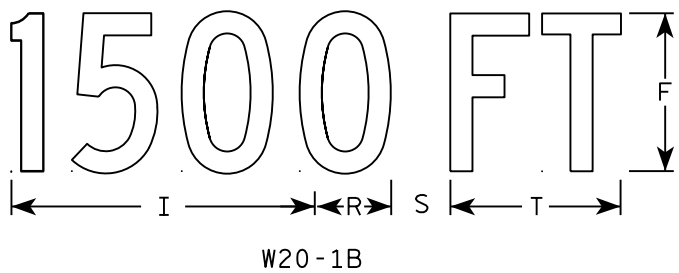
W20-1A



W20-1D



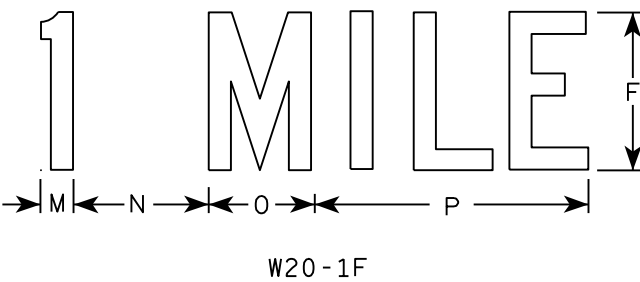
W20-1C



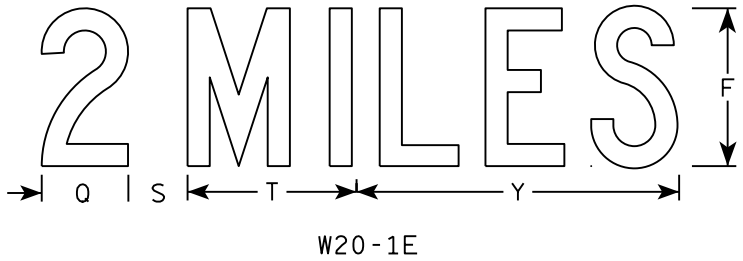
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

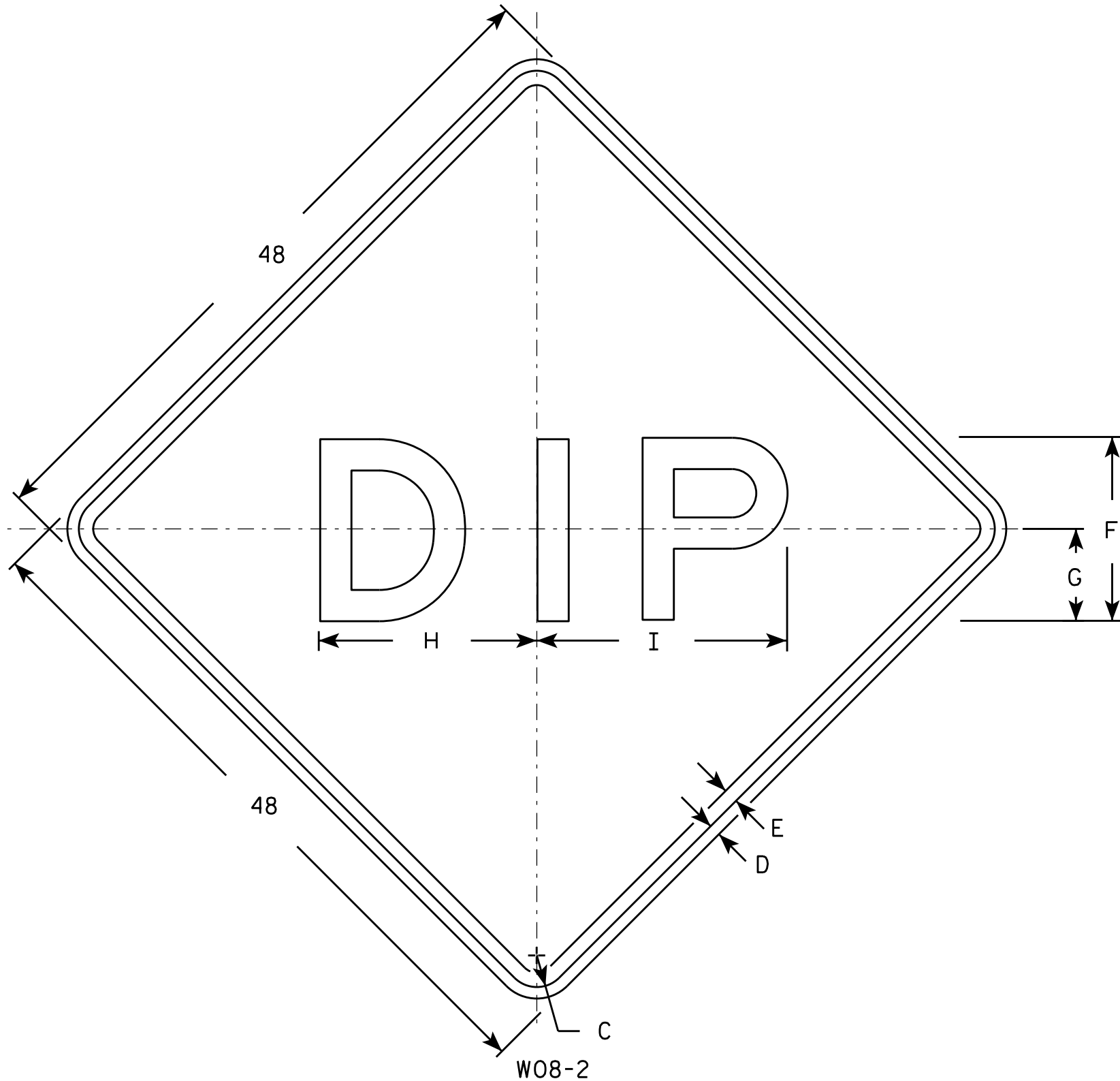
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - E
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

W08-2

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		1 5/8	5/8	3/4	10	5	11 7/8	13 1/2																		9.0
2S	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
2M	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
3	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
4	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0
5	48		2 1/4	3/4	1	12	6	14 1/4	16 1/4																		16.0

STANDARD SIGN

W08-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 11/20/13

PLATE NO. W08-2.1

LIVE LOAD:
DESIGN RATING: HS-20
INVENTORY RATING: HS-23
OPERATIONAL RATING: HS-39
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 180 KIPS

DRAWINGS SHALL NOT BE SCALED.
DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

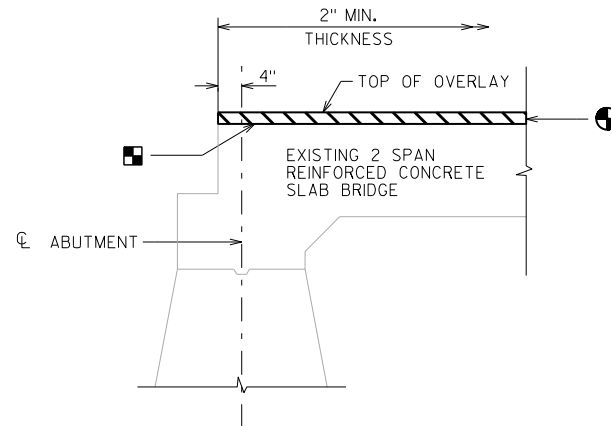
ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS
TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA PAVEMENT 4 LT 58-28 S".

THE PLAN QUANTITY FOR THE BID ITEM "HMA PAVEMENT 4 LT 58-28 S" IS BASED
ON THE AVERAGE OVERLAY THICKNESS.

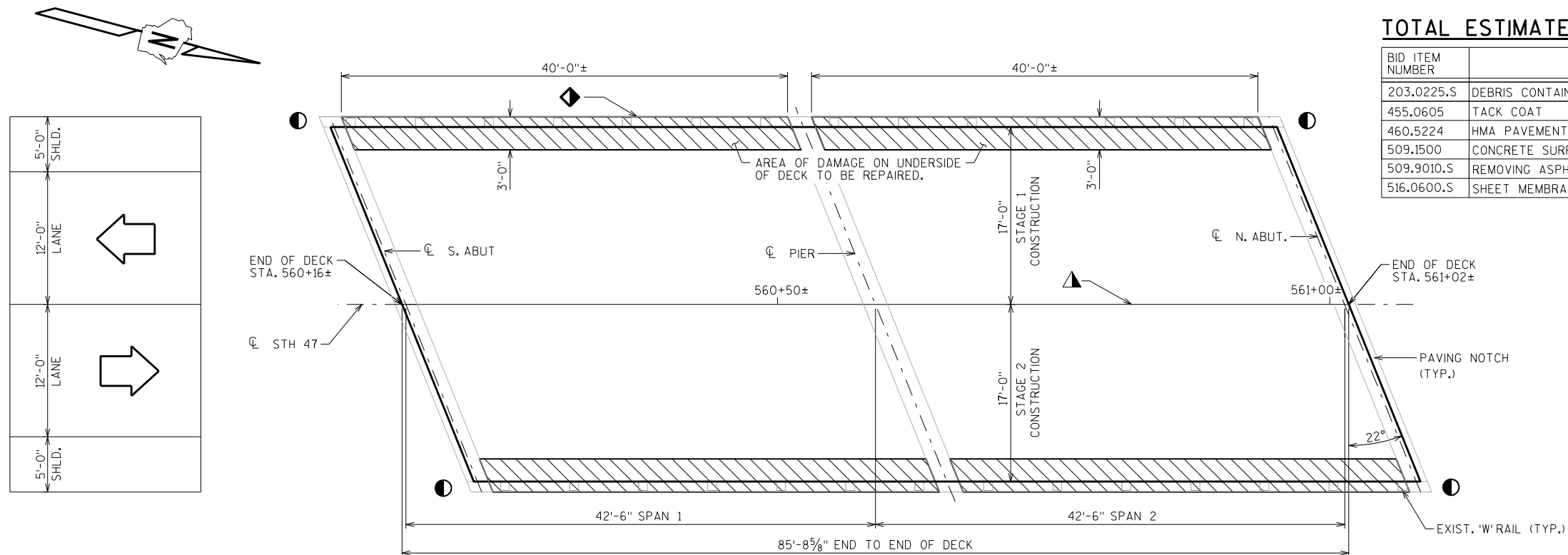
THE PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE. THE EXPECTED OVERLAY THICKNESS AT THE CROWN IS 3". AVERAGE OVERLAY THICKNESS IS 3". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE BUREAU OF STRUCTURES.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER
BID ITEM "REMOVING ASPHALT CONCRETE DECK OVERLAY B-26-14".

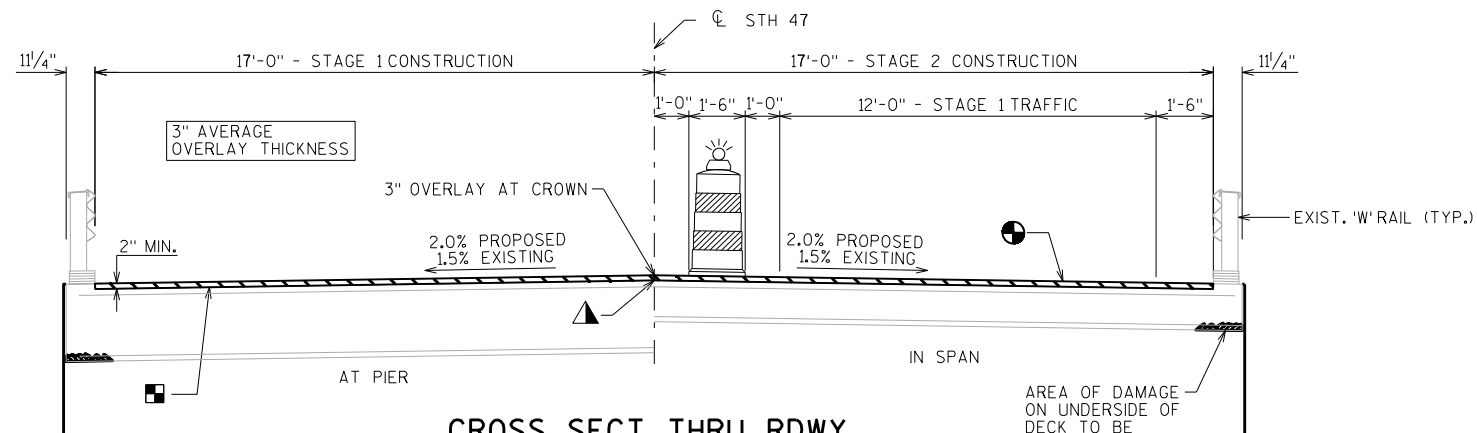
BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
203.0225.S	DEBRIS CONTAINMENT B-26-14	LS	1
455.0605	TACK COAT	GAL	23
460.5224	HMA PAVEMENT 4 LT 58-28 S	TON	55
509.1500	CONCRETE SURFACE REPAIR	SF	480
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-26-14	SY	324
516.0600.S	SHEET MEMBRANE WATERPROOFING	SY	324



DETAIL AT ABUTMENTS



PLAN



CROSS SECT. THRU RDWY.

(STAGE 1 TRAFFIC SHOWN, STAGE 2 TRAFFIC IS SIMILAR)
(LOOKING NORTH)

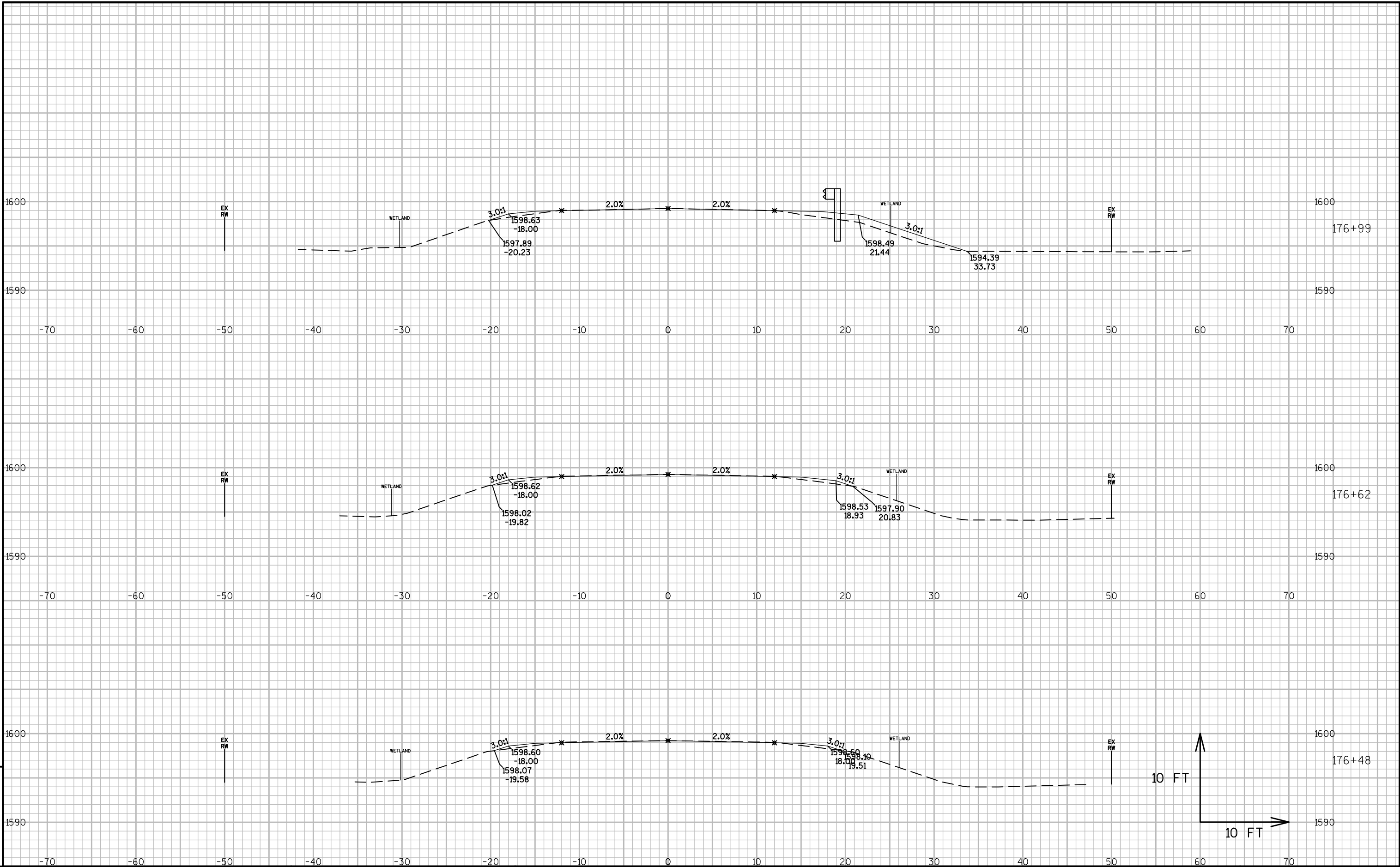
AREA OF DAMAGE
ON UNDERSIDE OF
DECK TO BE
REPAIRED.
TYP. BOTH SIDES
FULL LENGTH

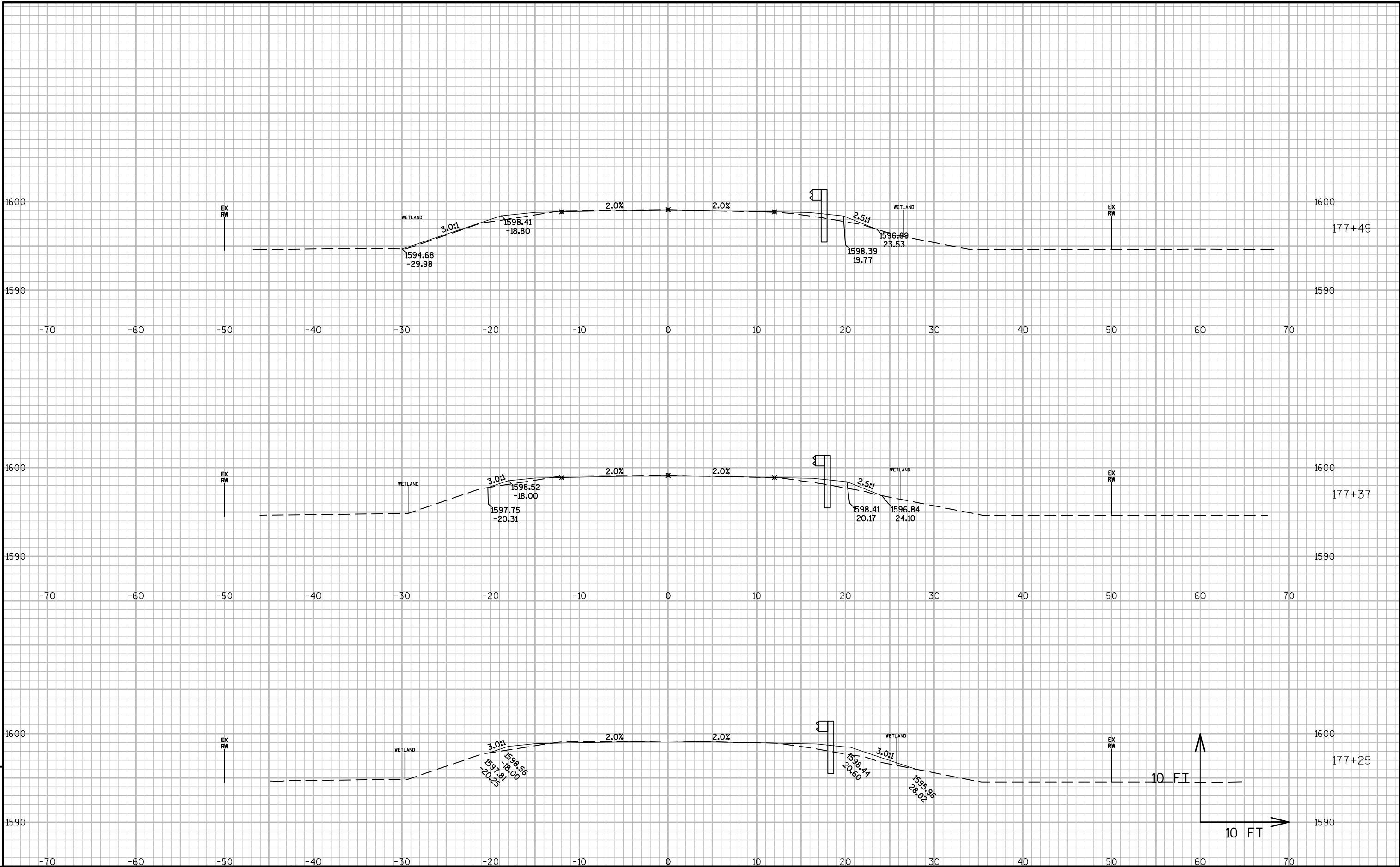
-  GUARD RAIL ATTACHMENT LOCATIONS
-  METAL DRIP EDGE TO BE REMOVED PRIOR TO CONCRETE SURFACE REPAIR
-  EXISTING WATERPROOF MEMBRANE TO BE REMOVED AND REPLACED
-  REMOVE EXISTING 2" HOT MIXED ASPHALT PAVEMENT AND REPLACE WITH A 2" (MIN.) HOT MIXED ASPHALT OVERLAY
-  LONGIT. CONST. JOINT

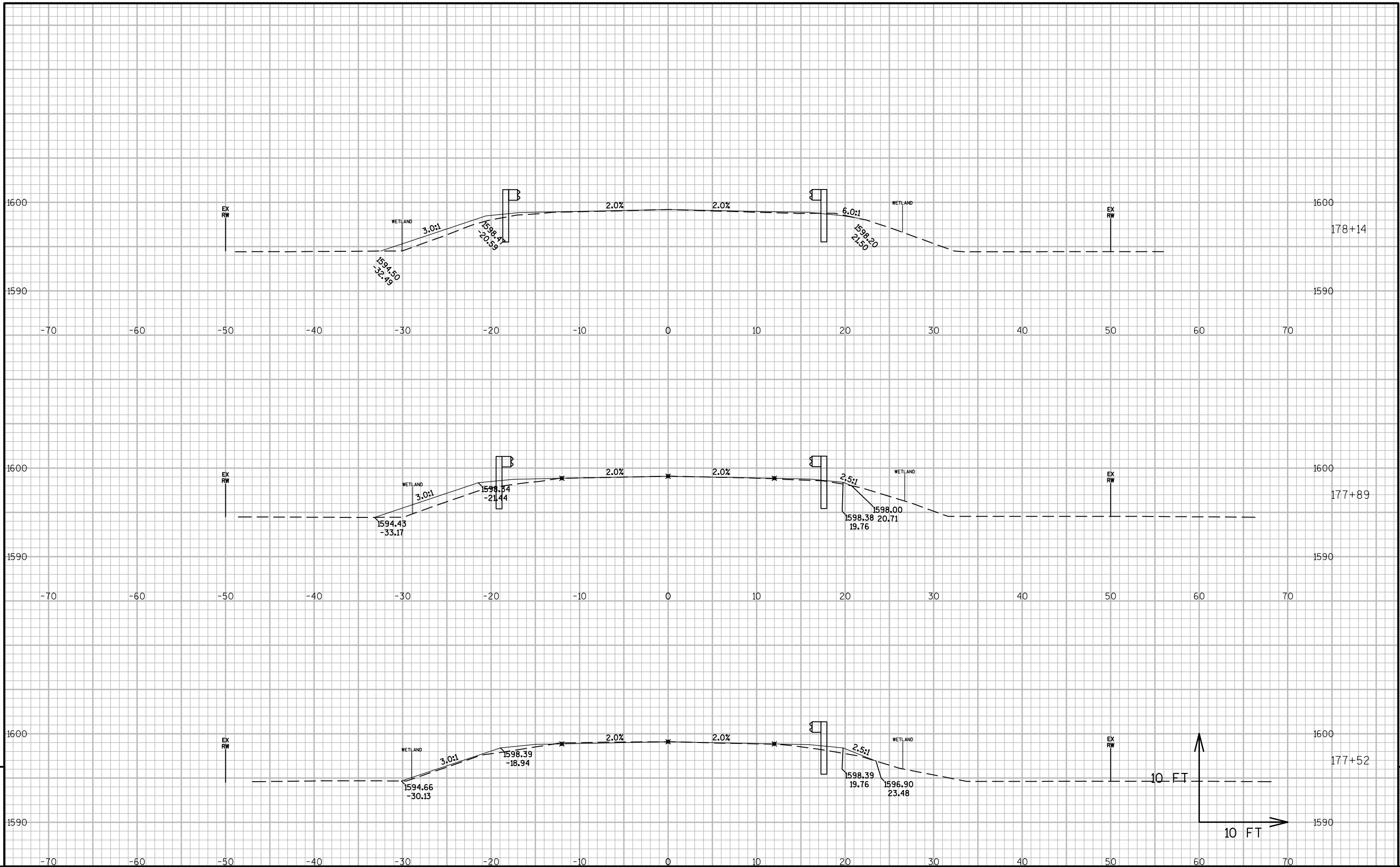
1. HOT MIXED ASPHALT OVERLAY

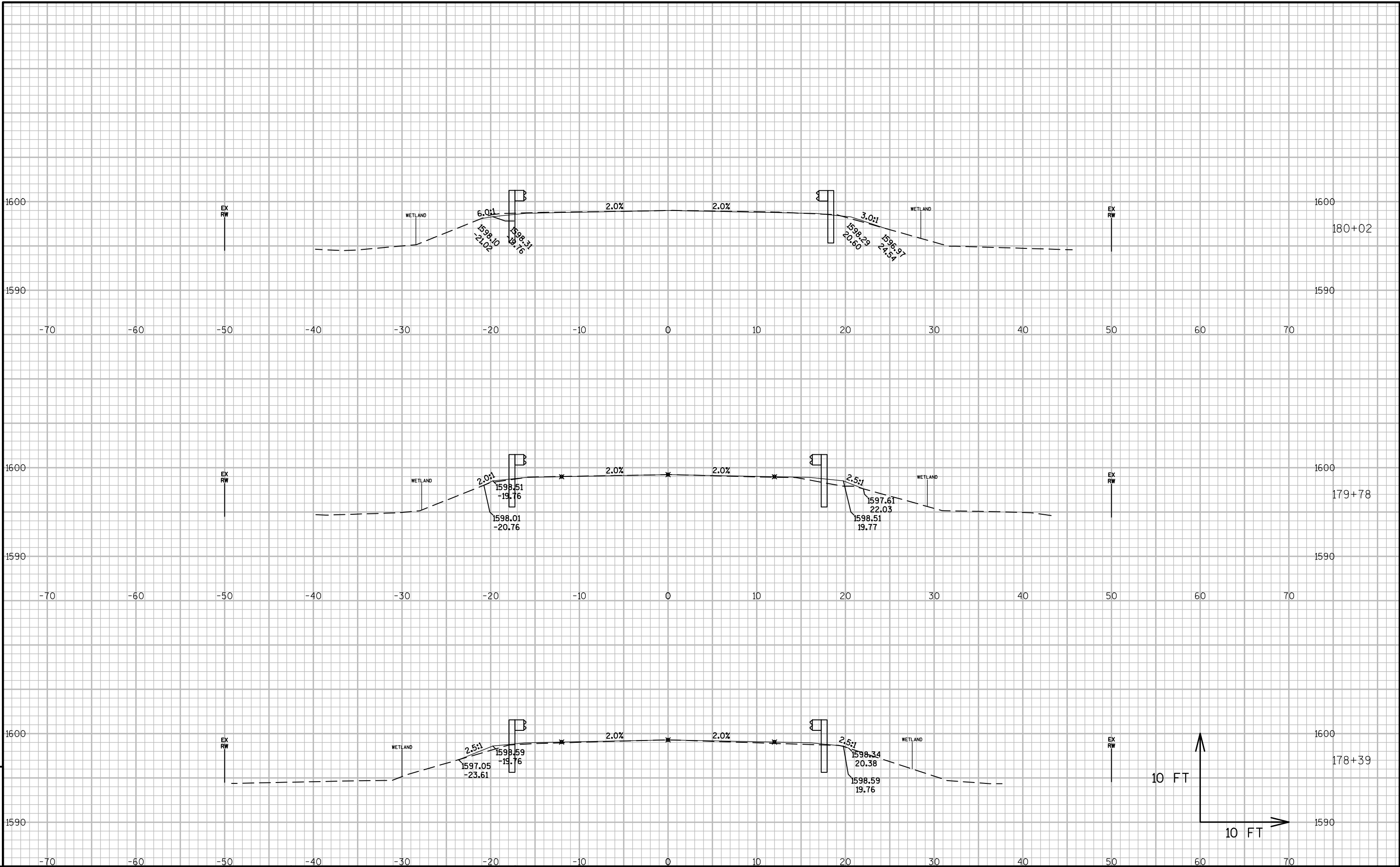
STRUCTURE DESIGN CONTACTS:
MICHAEL LARSON (608)-267-4539
LAURA SHADEWALD (608)-267-9592

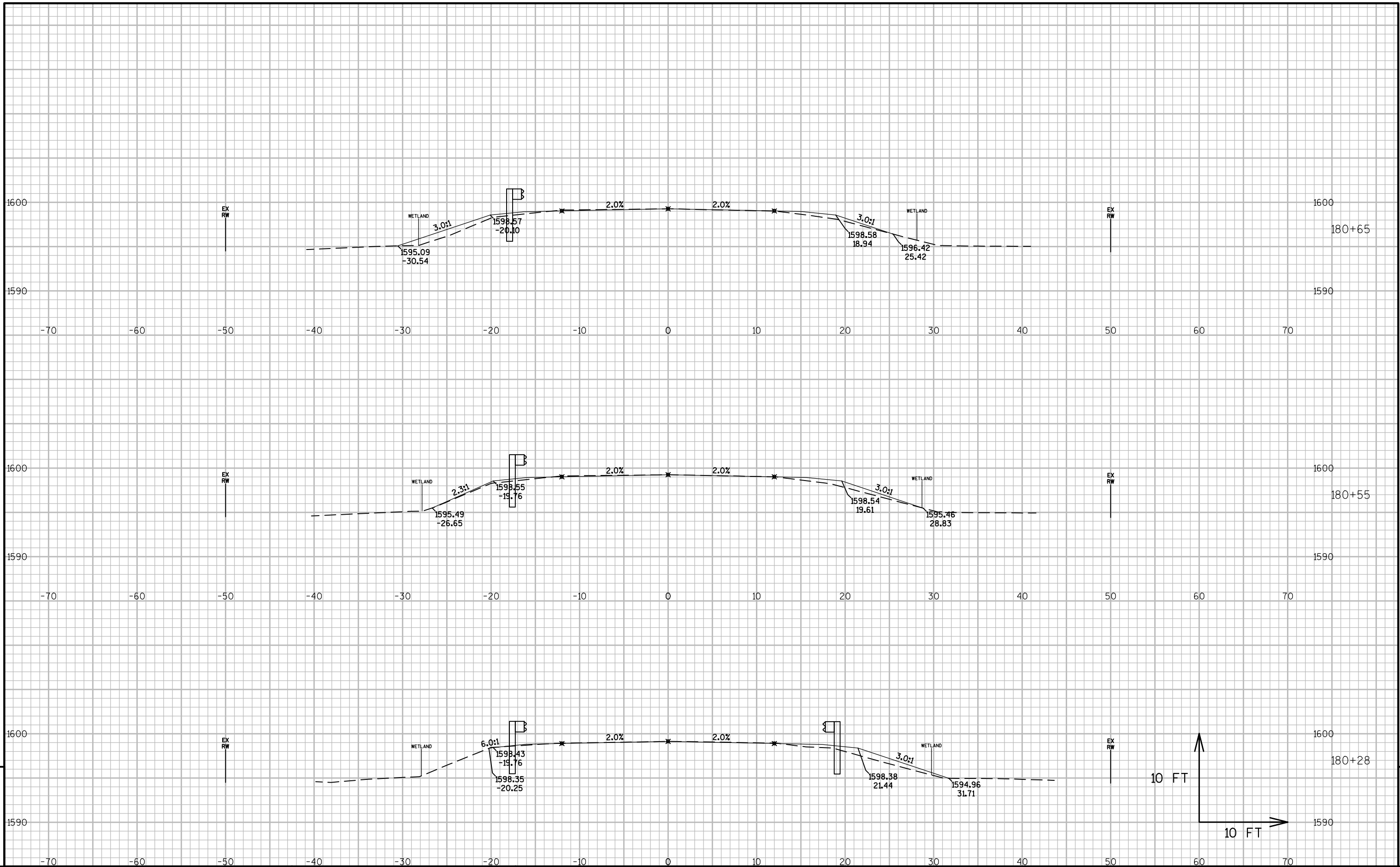
NO.	DATE	REVISION		BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES ACCEPTED <u>William C. Decker^{LLS}</u> 7/26/16 CHIEF STRUCTURES DESIGN ENGINEER DATE				
STRUCTURE B-26-14				
STH 47 OVER MANITOWISH RIVER				
COUNTY		IRON	TOWN	
			MERCER	
DESIGN SPEC. REHABILITATION N/A				
DESIGNED BY	MJL	DESIGN C&D.	TAB	DRAWN BY
				MJL
			PLANS C&D.	TAB
HOT MIXED ASPHALT OVERLAY			SHEET 1 OF 1	

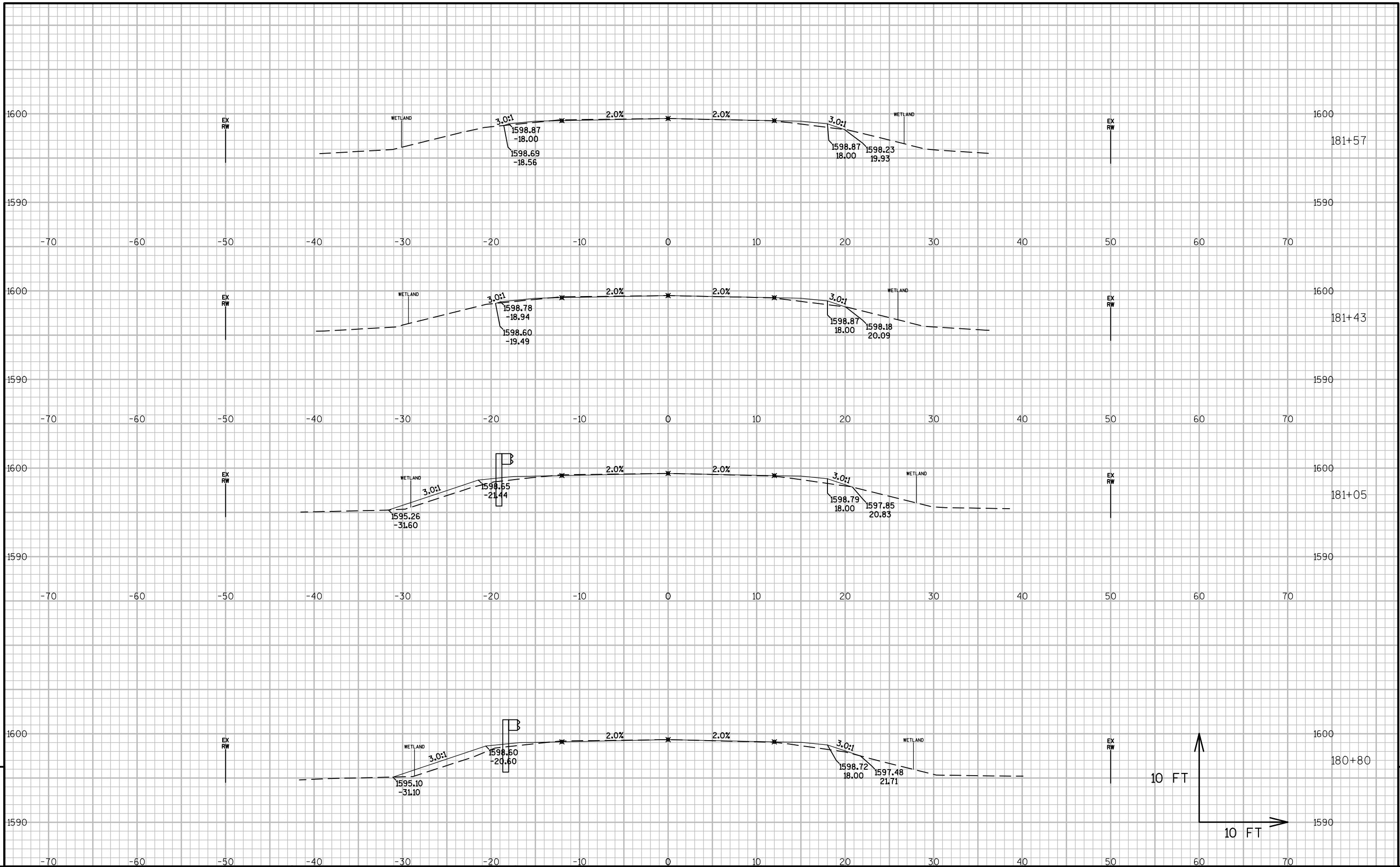




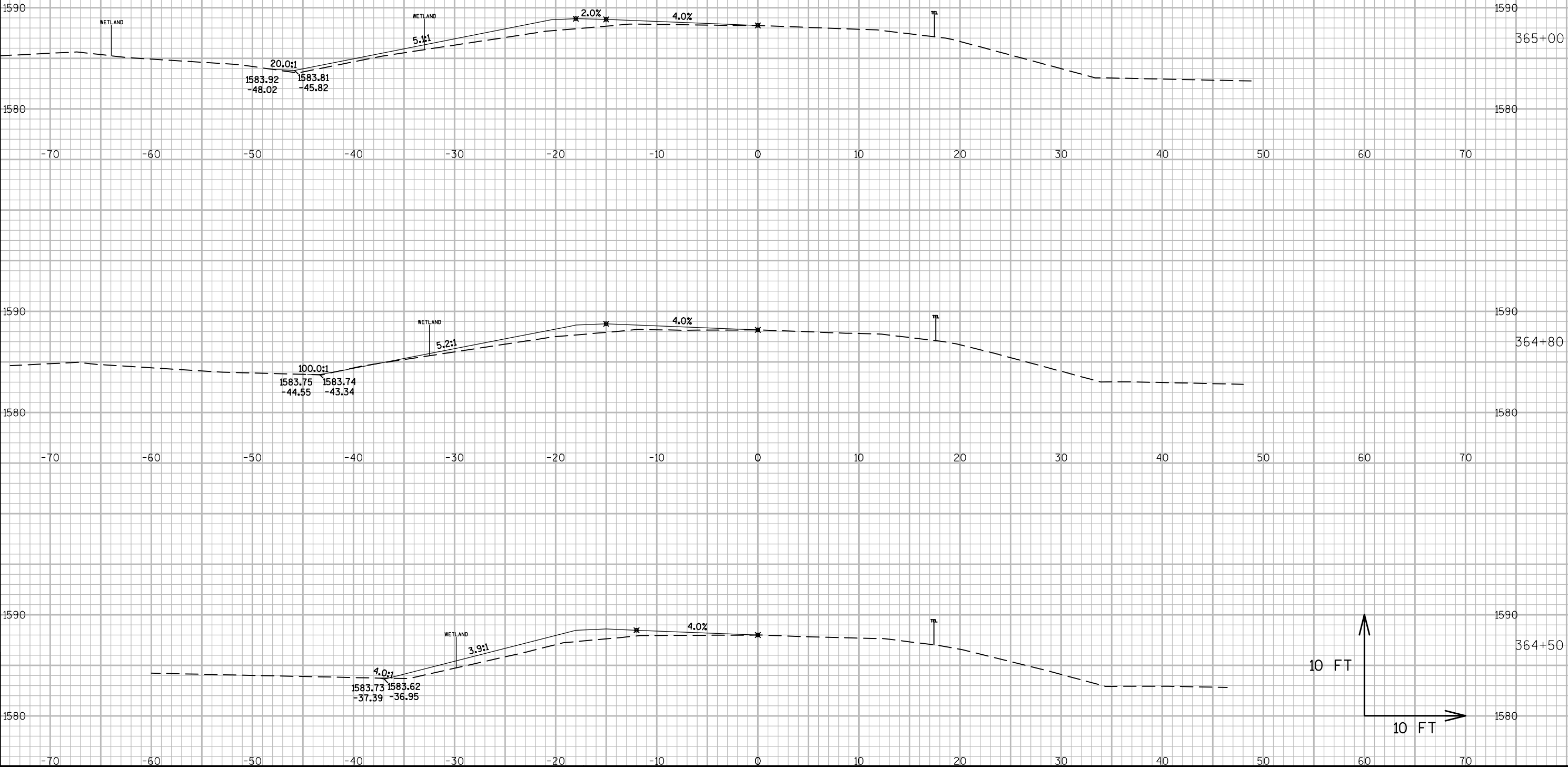








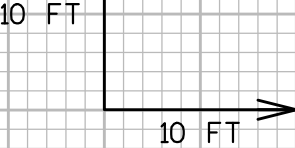
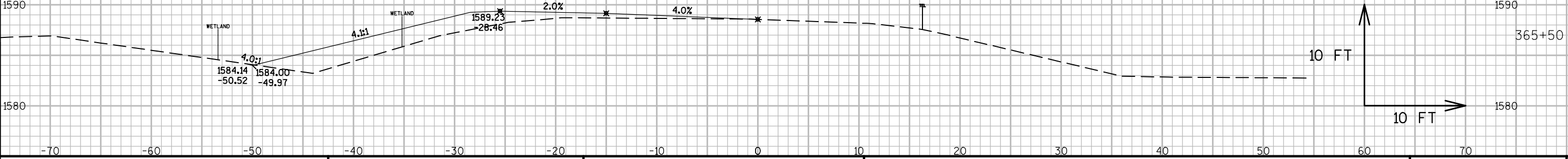
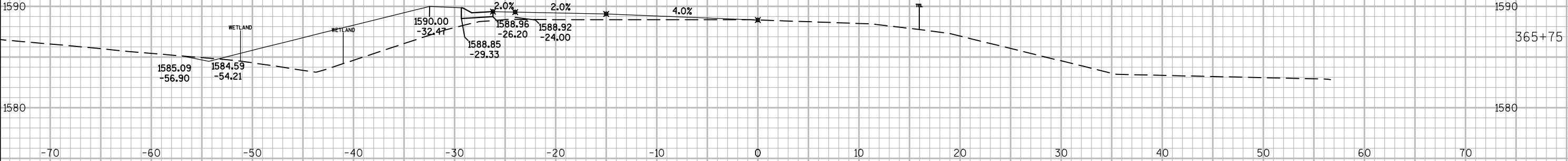
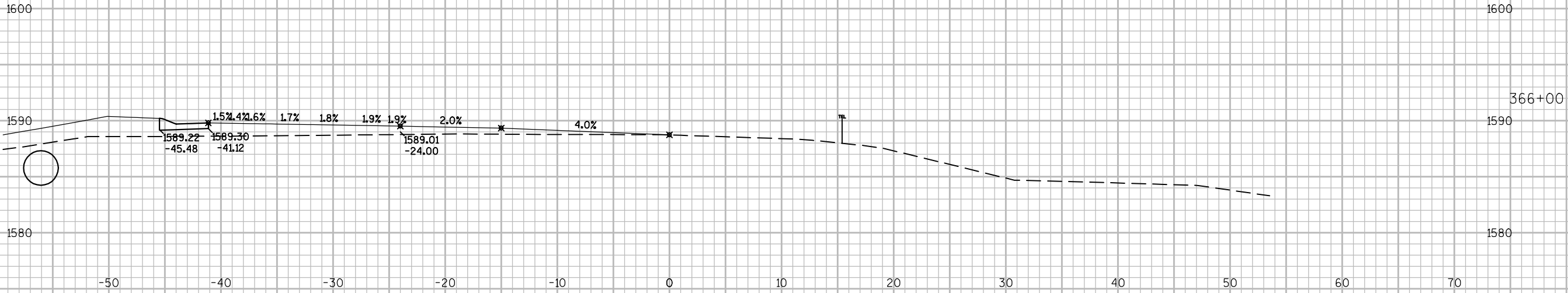
RW 100' FROM $\varnothing$ BOTH SIDES



9

9

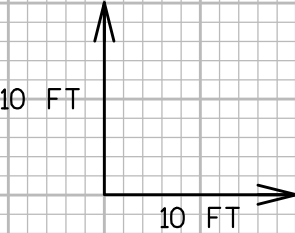
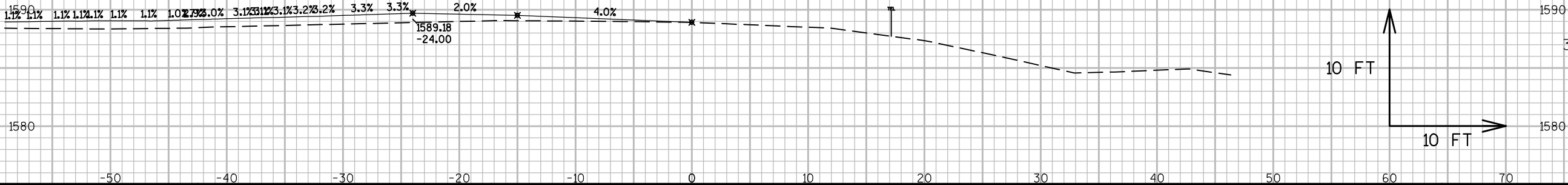
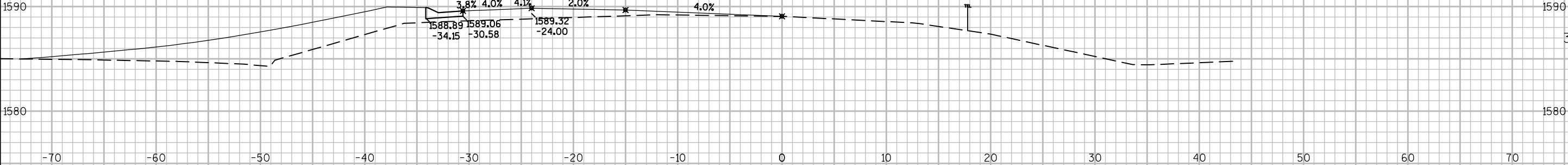
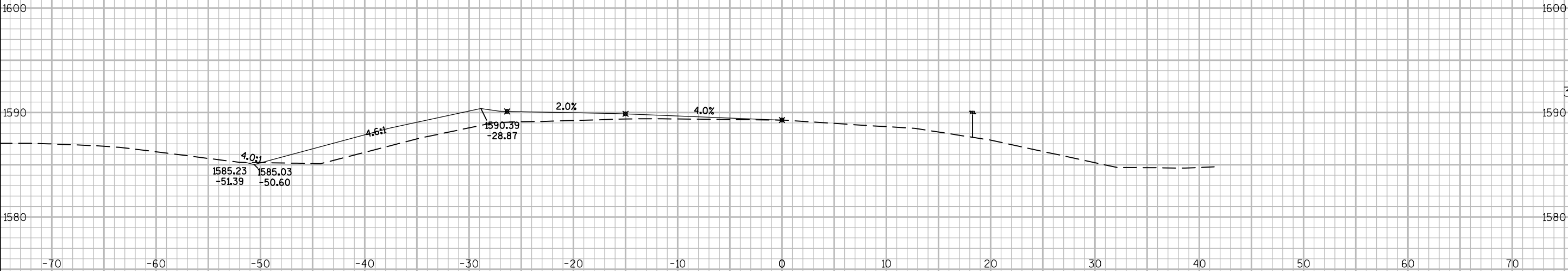
RW 100' FROM CL BOTH SIDES



9

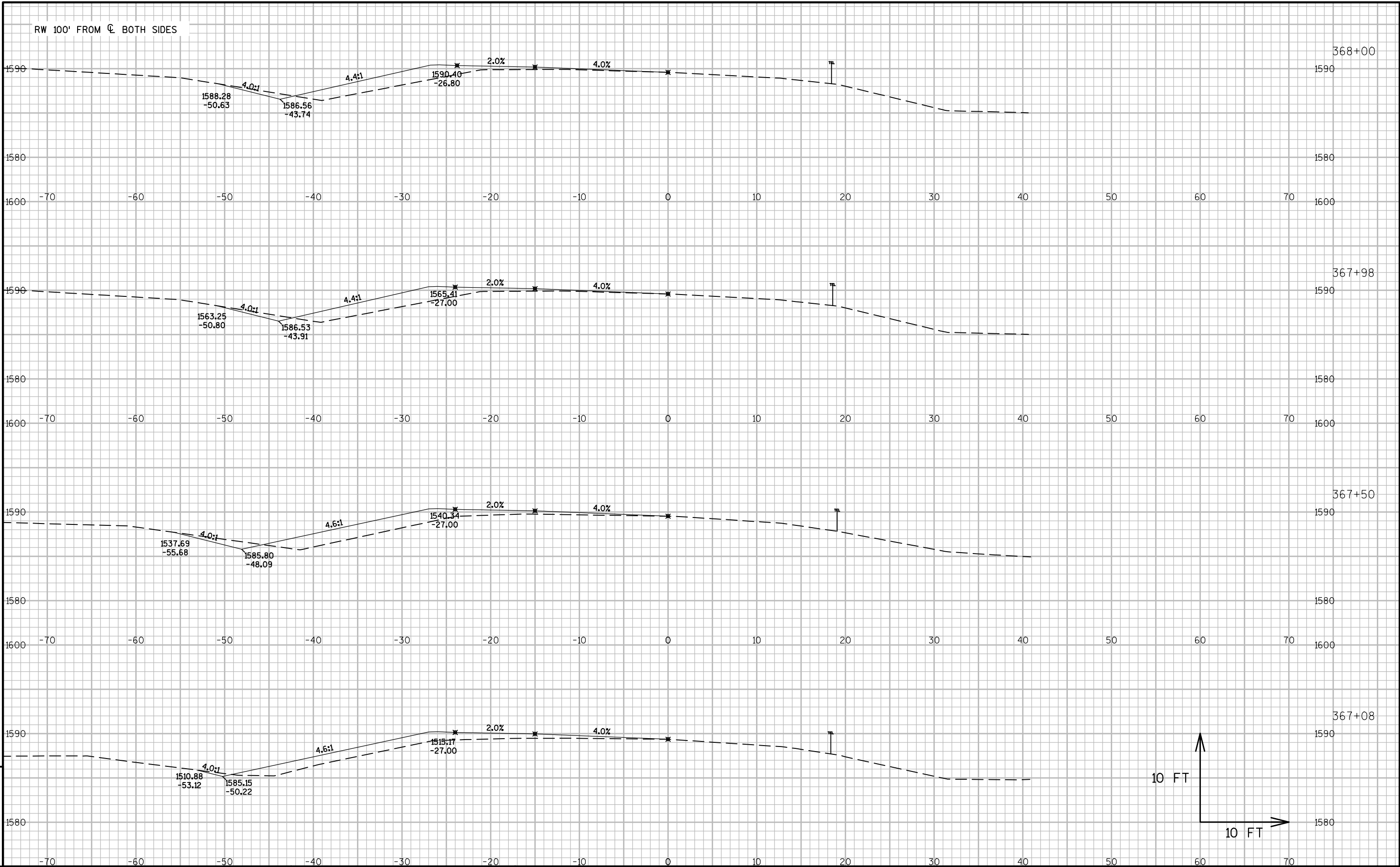
9

RW 100' FROM C BOTH SIDES

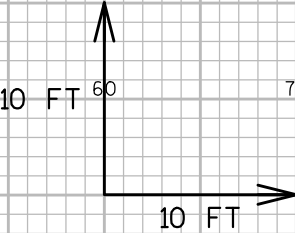
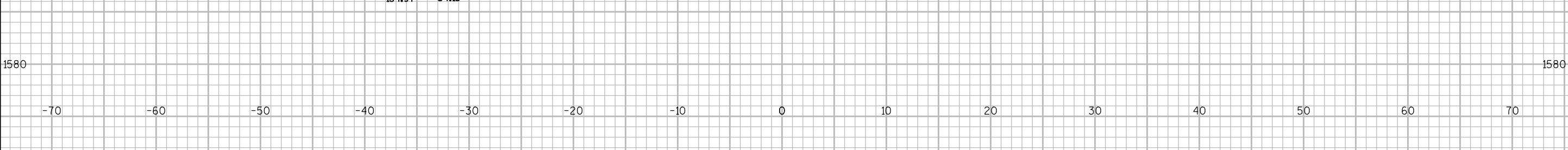
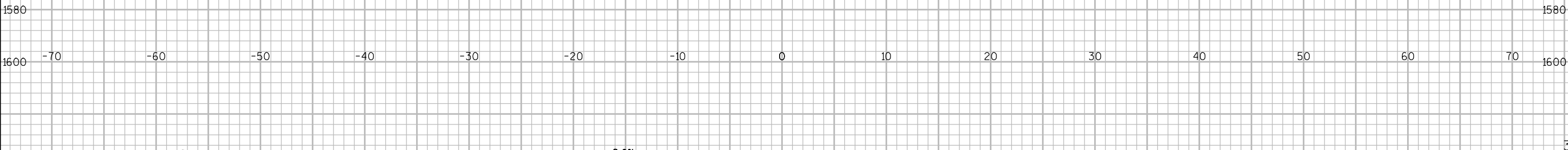
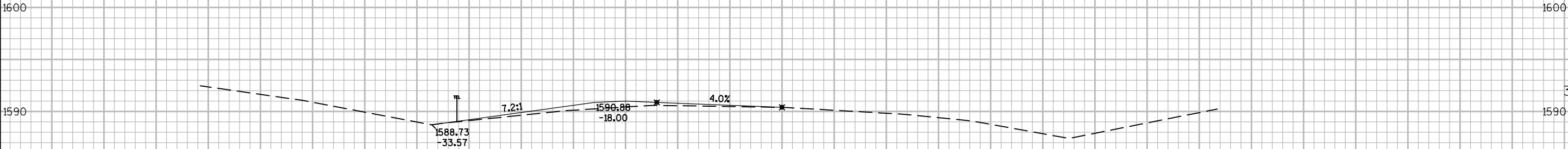


9

9



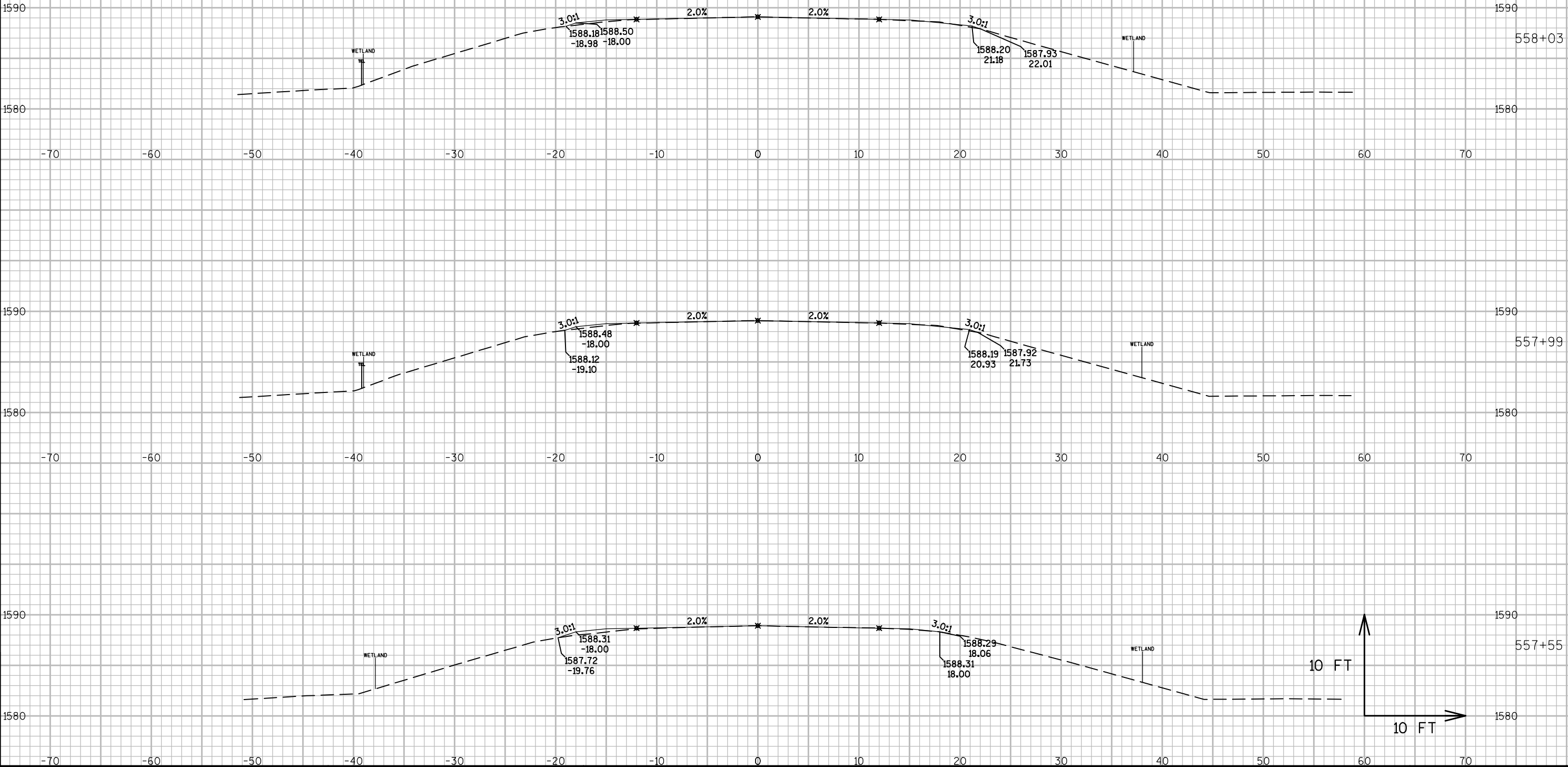
RW 100' FROM CL BOTH SIDES



9

9

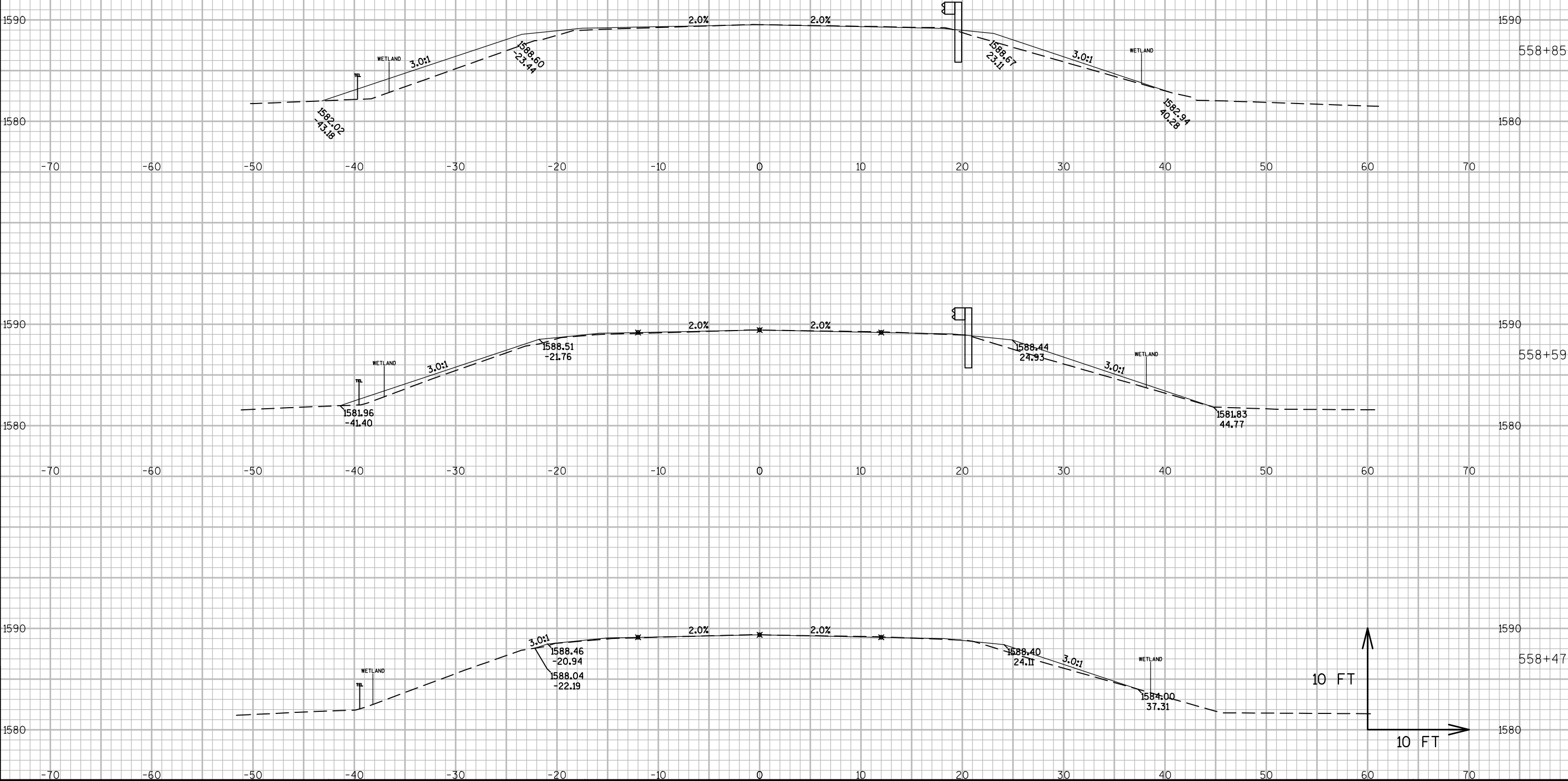
RW 100' FROM CL BOTH SIDES



9

9

RW 100' FROM CL BOTH SIDES



9

9

PROJECT NO: 9231-08-70

HWY: STH 47

COUNTY: IRON

CROSS SECTIONS: STH 47

SHEET

E

FILE NAME : N:\PDS\C3D\92310830\SHEETSP\PLAN\090212_XS.DWG
LAYOUT NAME - 090213_XS

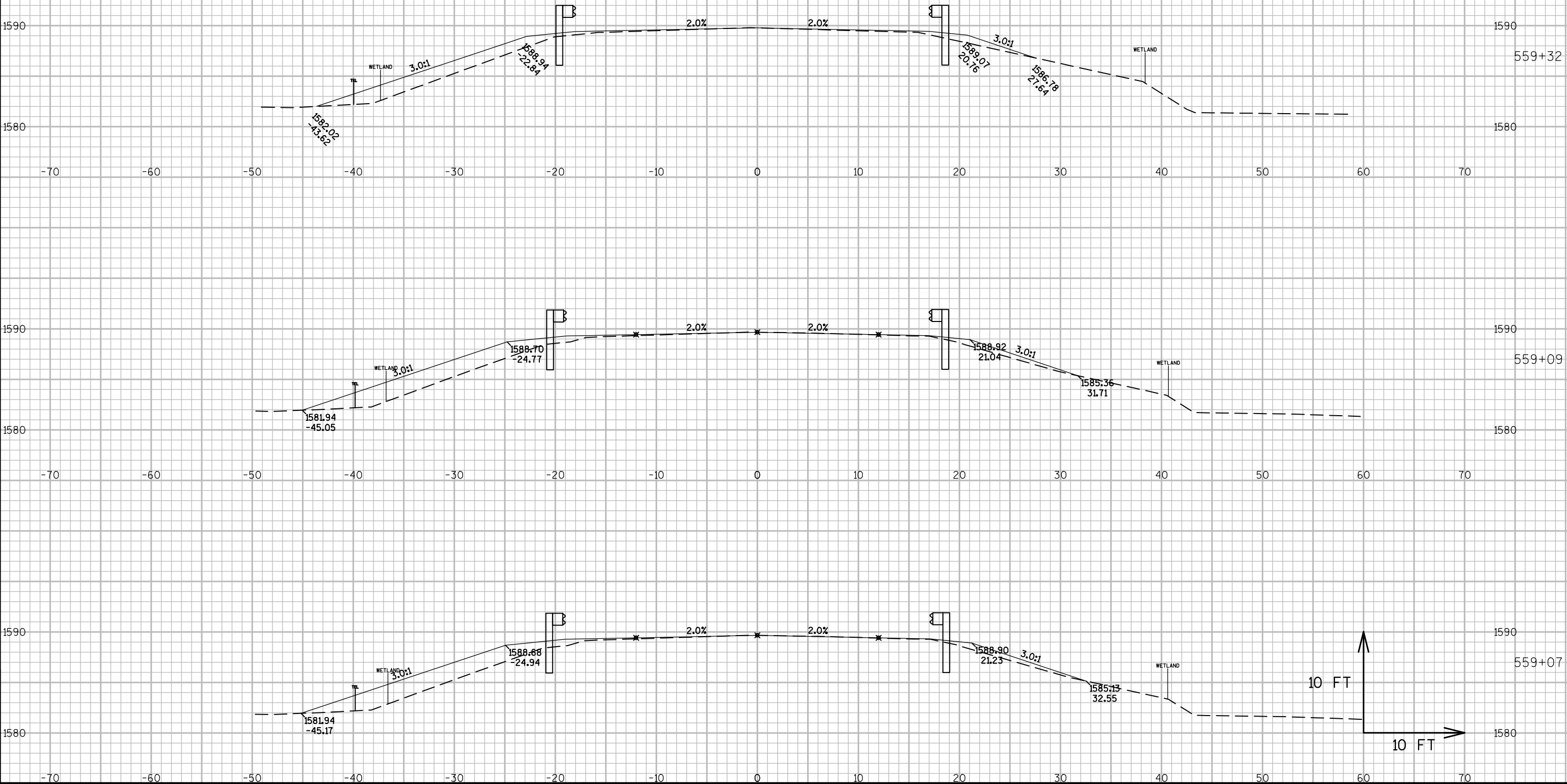
PLOT DATE : 5/1/2015 8:28 AM

PLOT BY : LAVIN, MITCHELL L PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

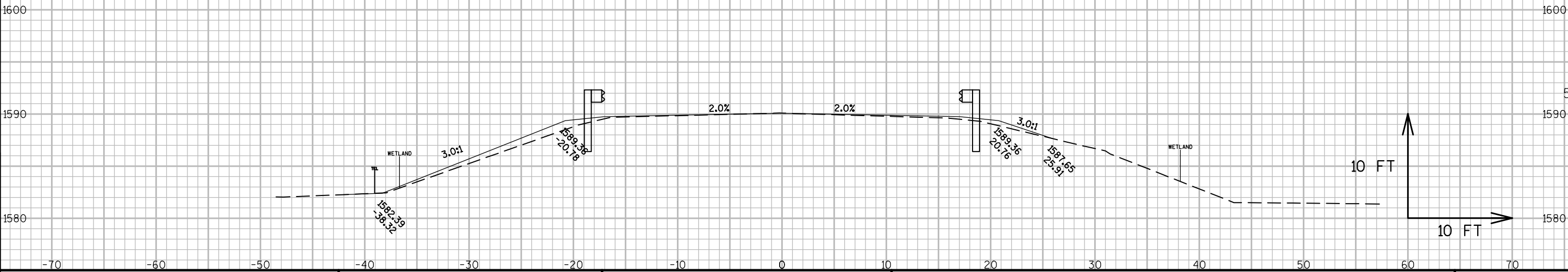
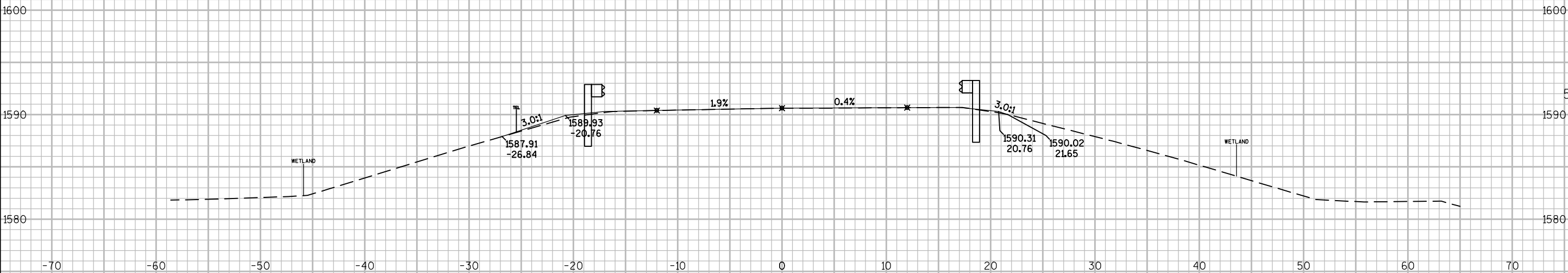
RW 100' FROM CL BOTH SIDES



9

9

RW 100' FROM CL BOTH SIDES



10 FT

10 FT

PROJECT NO: 9231-08-70

HWY: STH 47

COUNTY: IRON

CROSS SECTIONS: STH 47

SHEET

E

FILE NAME : N:\PDS\C3D\92310830\SHEETSP\PLAN\090212_XS.DWG
LAYOUT NAME - 090215_XS

PLOT DATE : 5/1/2015 8:28 AM

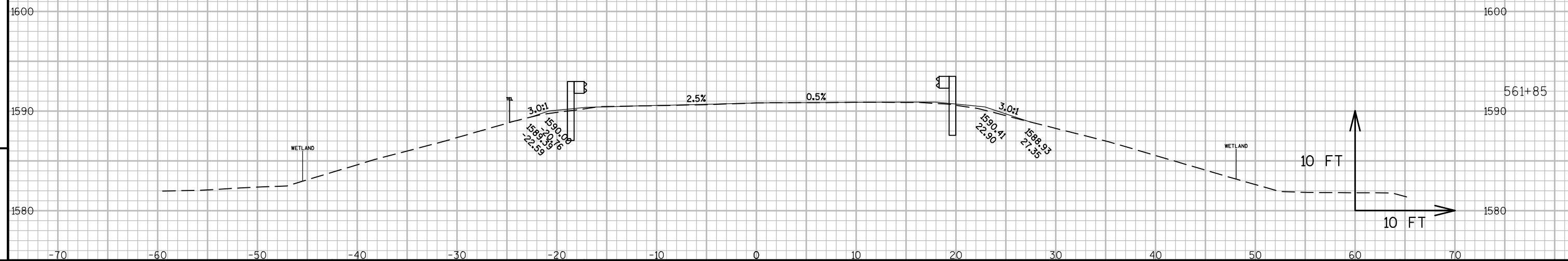
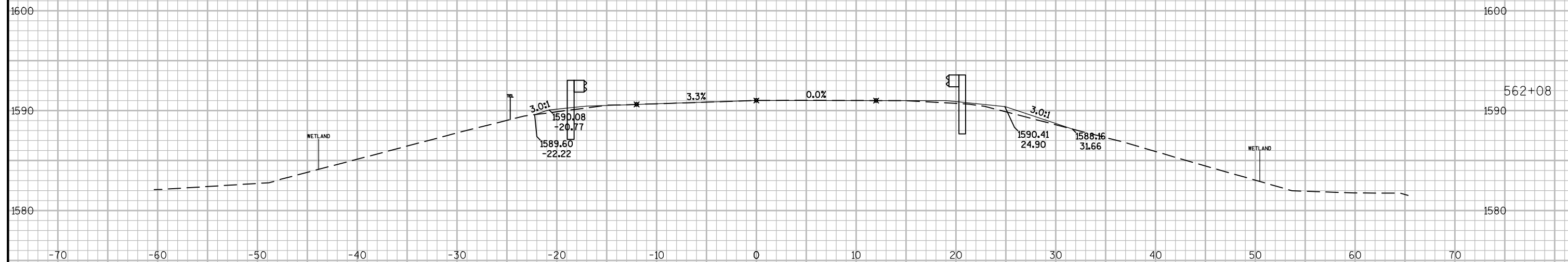
PLOT BY : LAVIN, MITCHELL L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

RW 100' FROM CL BOTH SIDES



PROJECT NO: 9231-08-70

HWY: STH 47

COUNTY: IRON

CROSS SECTIONS: STH 47

SHEET

E

FILE NAME : N:\PDS\C3D\92310830\SHEETSPLAN\090212_XS.DWG
LAYOUT NAME - 090216_XS

PLOT DATE : 5/1/2015 8:29 AM

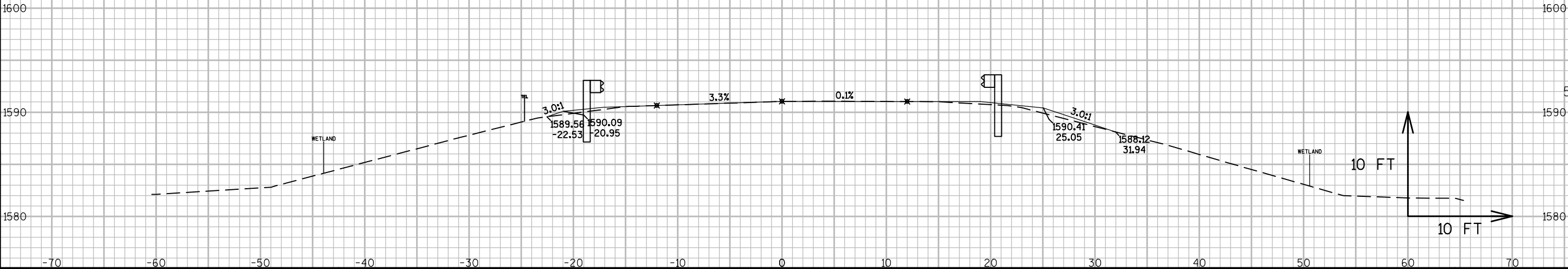
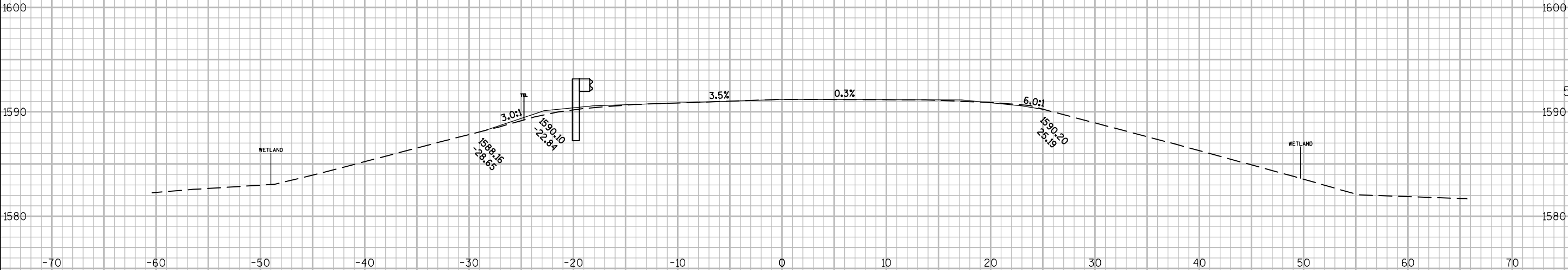
PLOT BY : LAVIN, MITCHELL L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

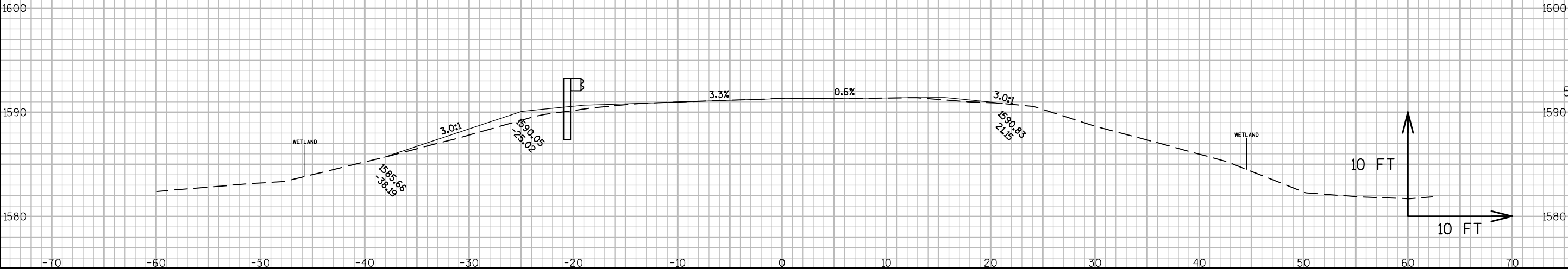
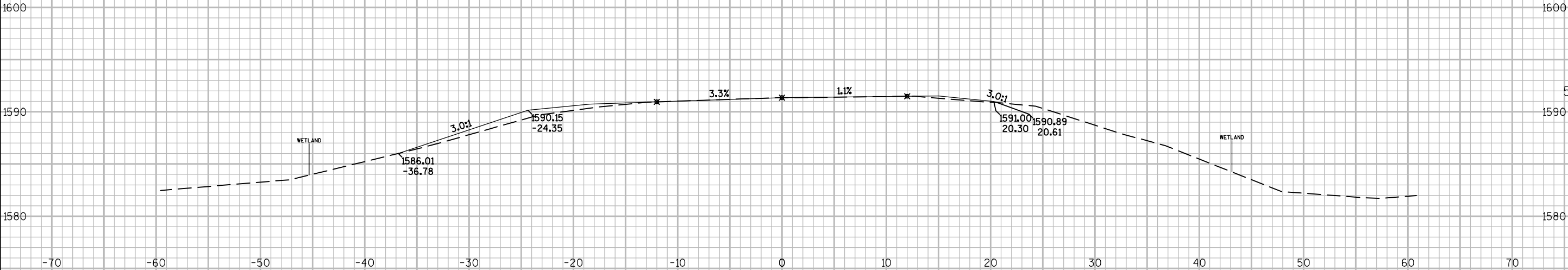
RW 100' FROM CL BOTH SIDES



9

9

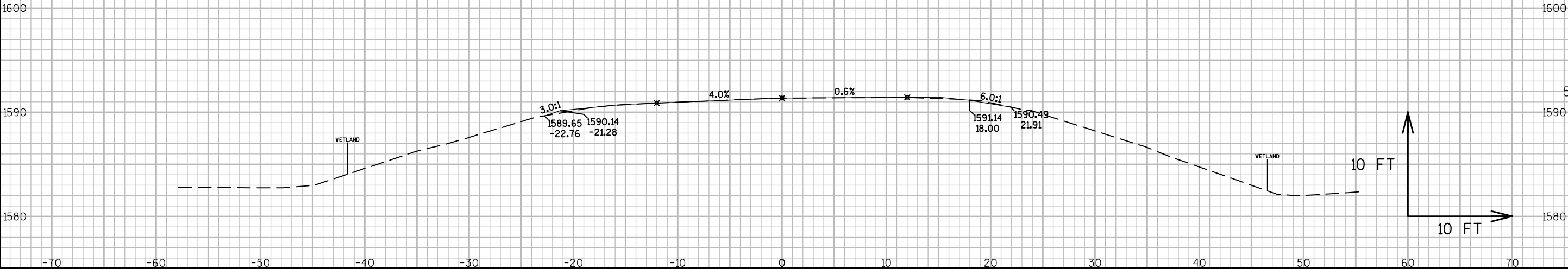
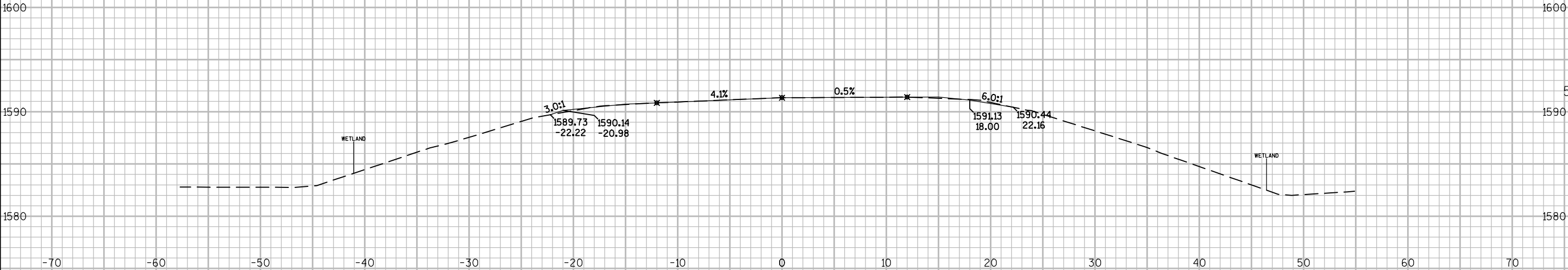
RW 100' FROM C BOTH SIDES



9

9

RW 100' FROM CL BOTH SIDES



10 FT

10 FT

PROJECT NO: 9231-08-70

HWY: STH 47

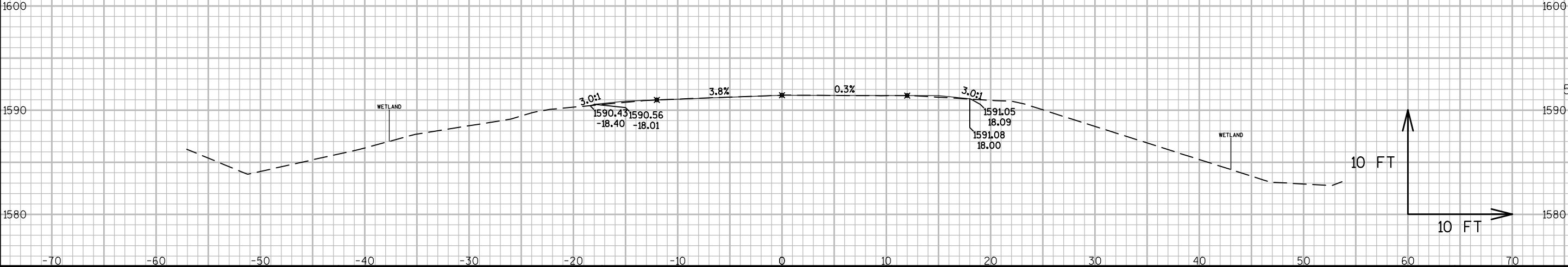
COUNTY: IRON

CROSS SECTIONS: STH 47

SHEET

E

RW 100' FROM CL BOTH SIDES



9

9

PROJECT NO: 9231-08-70

HWY: STH 47

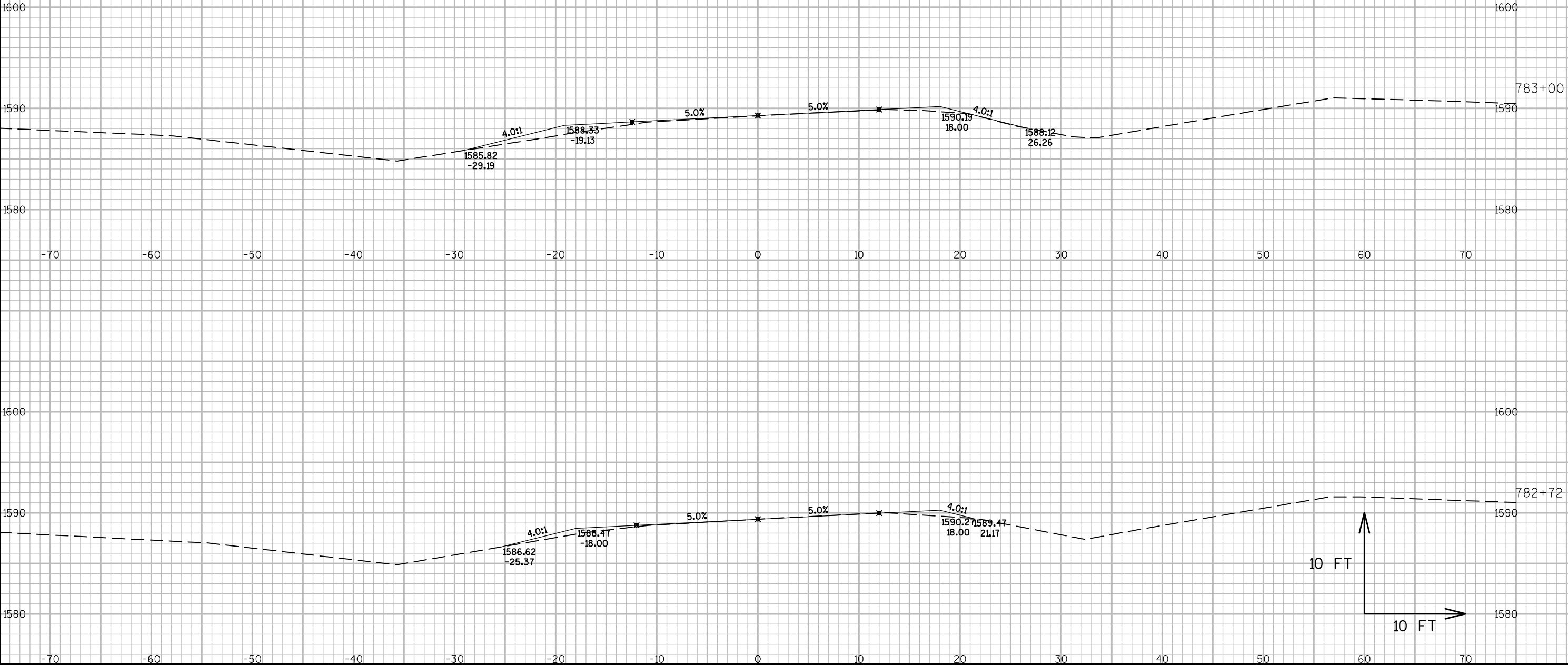
COUNTY: IRON

CROSS SECTIONS: STH 47

SHEET

E

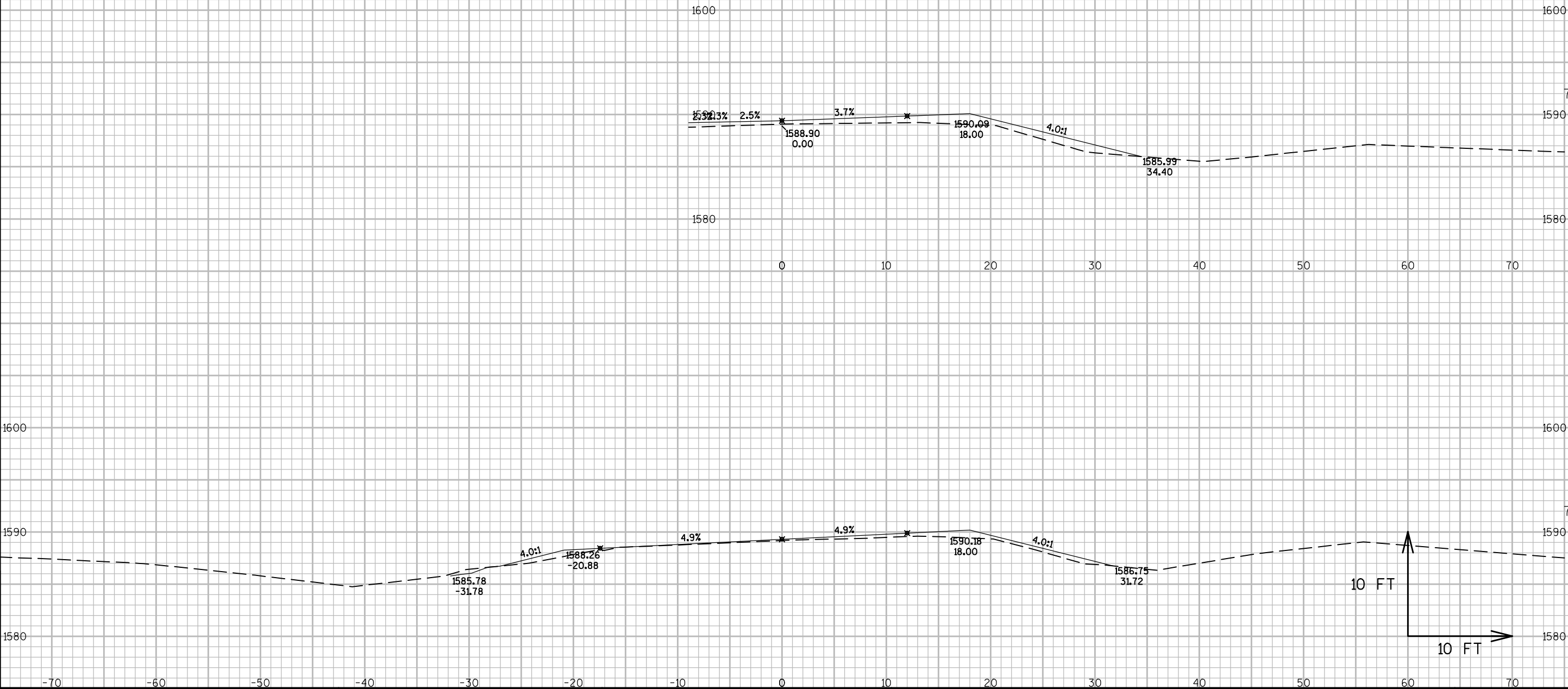
RW 100' FROM C BOTH SIDES



9

9

RW 100' FROM CL BOTH SIDES



9

9

PROJECT NO: 9231-08-70

HWY: STH 47

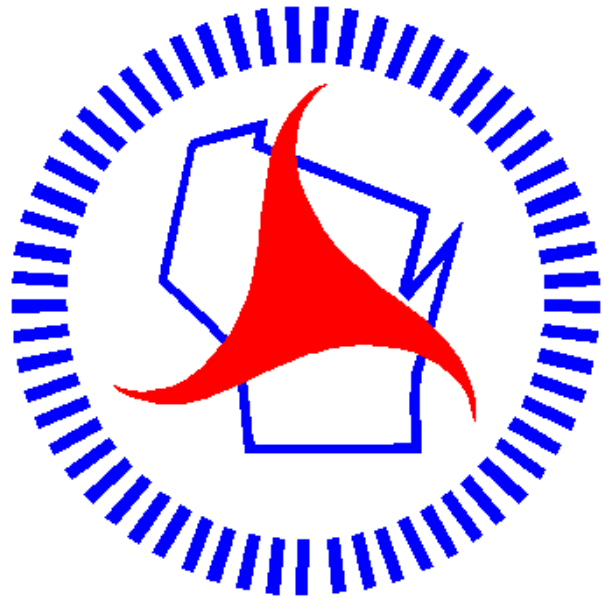
COUNTY: IRON

CROSS SECTIONS: STH 182

SHEET

E

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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