

SUP APRIL 2024

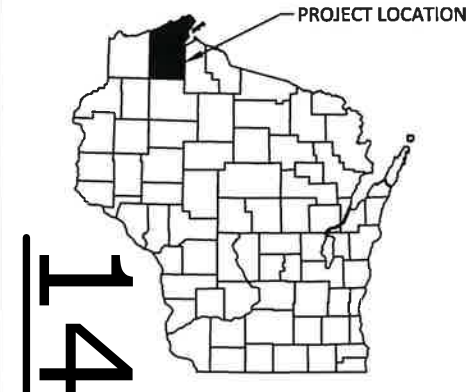
PROJECT ID: 8731-00-70

COUNTY: BAYFIELD

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 = 82



DESIGN DESIGNATION

A.A.D.T.	(2024)	=	1,850
A.A.D.T.	(2044)	=	2,325
D.H.V.		=	171
D.D.		=	60/40
T.		=	8.6%
DESIGN SPEED		=	35/45/55 MPH
ESALS		=	N/A

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

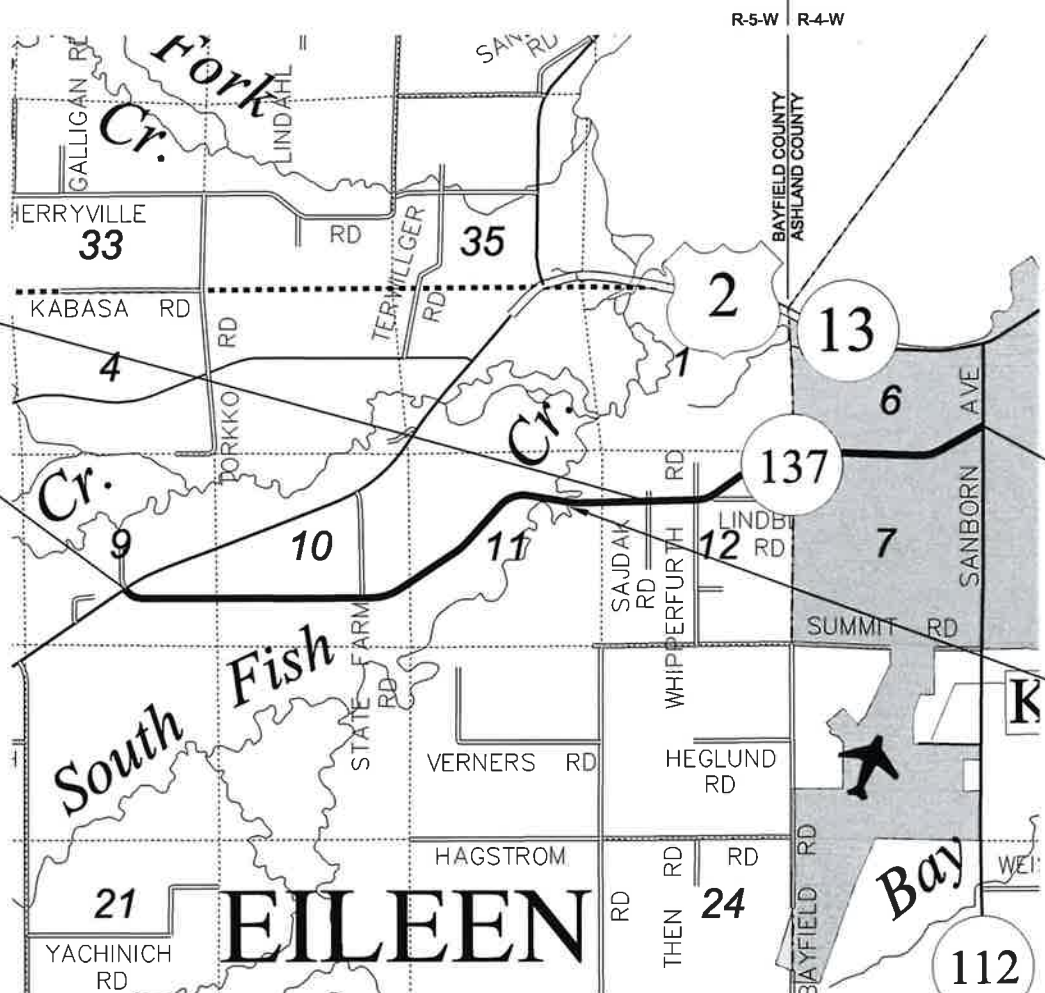
USH 2 - ASHLAND

USH 2 TO STH 112

STH 137

BAYFIELD COUNTY

STATE PROJECT NUMBER
8731-00-70



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 4.732 MILES

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8731-00-70		

ORIGINAL PLANS PREPARED BY

Westwood

DAVID S. GALE
E-26283
Luxemburg, Wis.

DATE: 1/4/24

(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT / WESTWOOD
Designer	WESTWOOD
Project Manager	JEFFREY OLSON, PE
Regional Examiner	TOU YANG, PE
Regional Supervisor	JEFFREY OLSON, PE

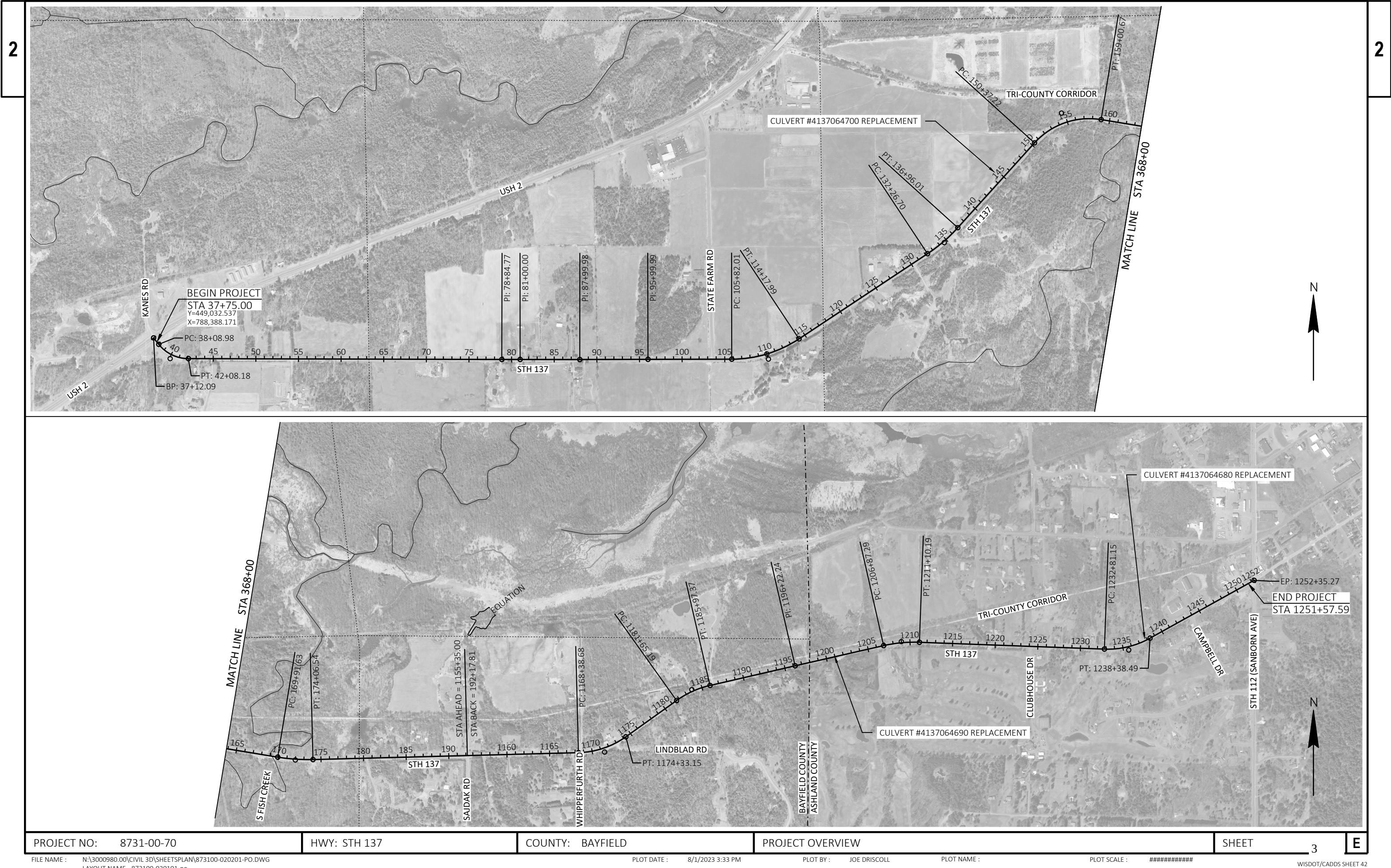
APPROVED FOR THE DEPARTMENT

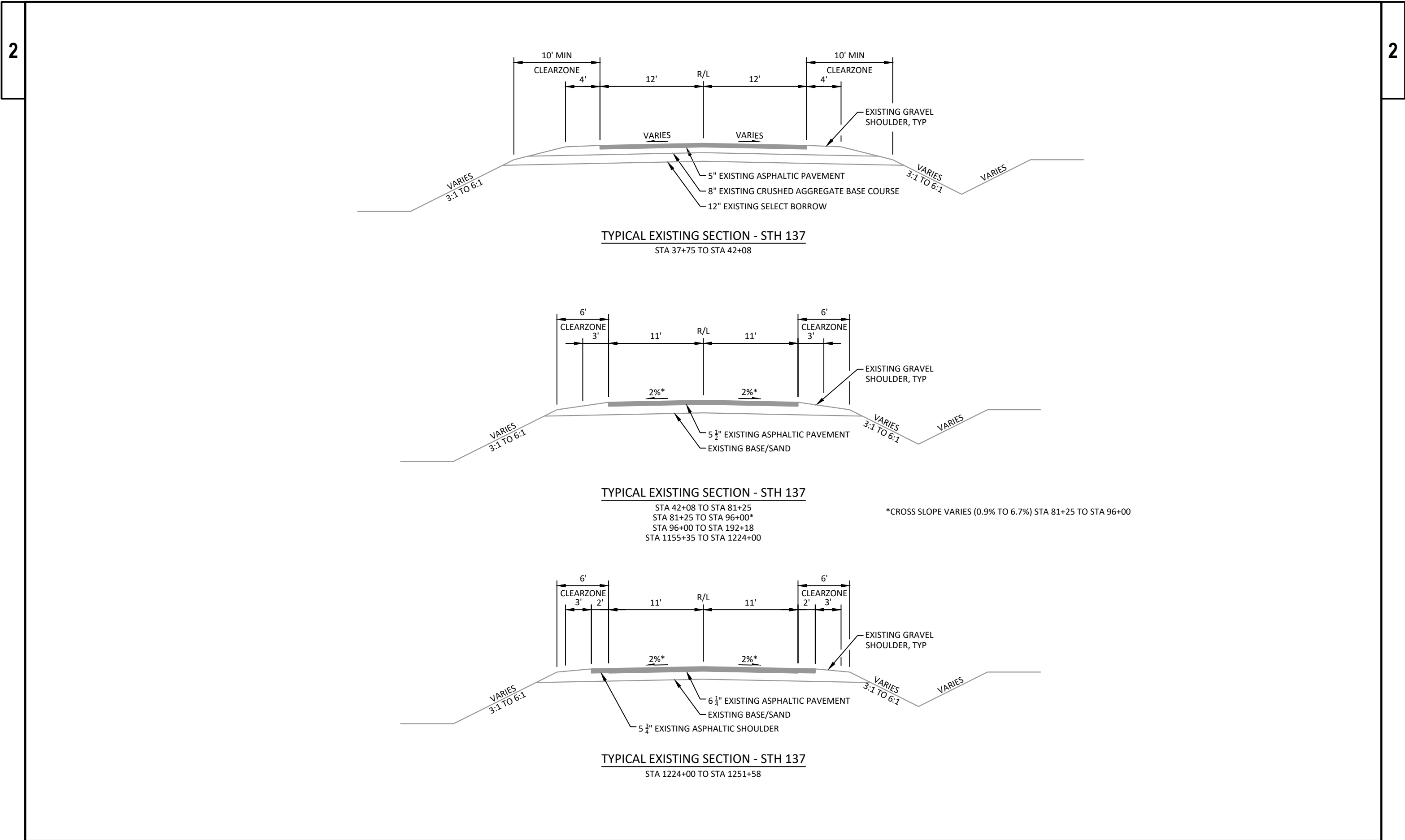
DATE: 1/30/2024

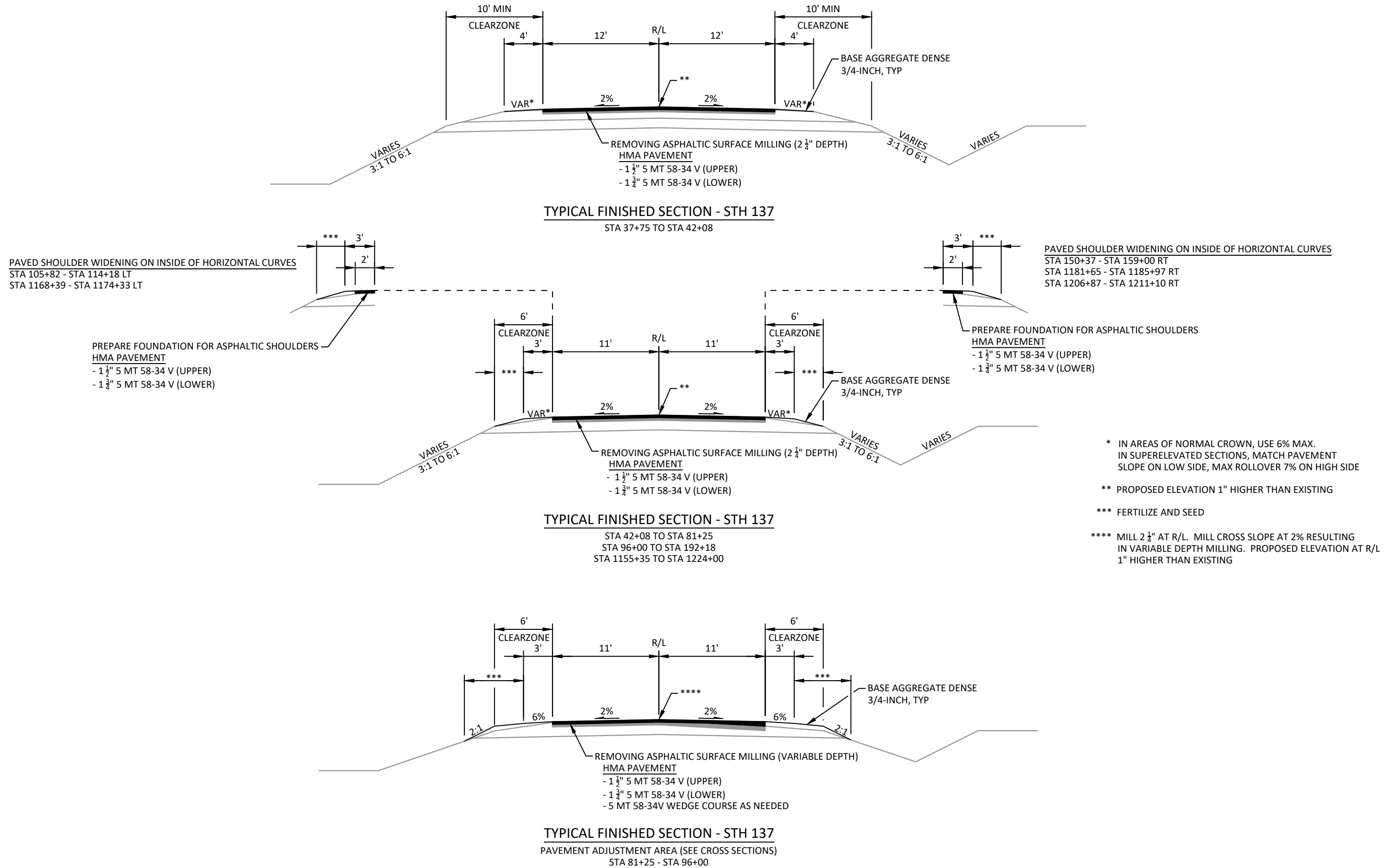
(Signature)

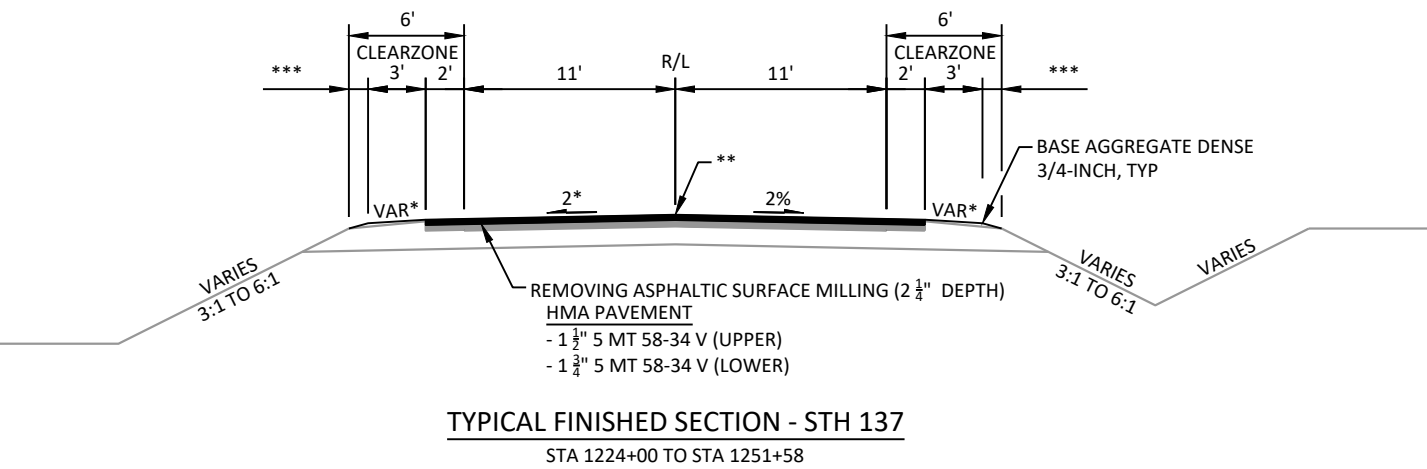
E

2	GENERAL NOTES LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE ARE ALSO OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. UTILITIES HAVE NOT BEEN FIELD VERIFIED. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL INSTALL THE EROSION CONTROL PROTECTION IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. A BUTT JOINT SHALL BE PLACED AT ALL LOCATIONS WHERE NEW PAVEMENT IS TO MATCH EXISTING PAVEMENT. ALL BUTT JOINTS SHALL BE SAWCUT OR REMOVED AS APPROVED BY THE ENGINEER TO PROVIDE A VERTICAL FACE. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER. THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES, FIELD ENTRANCES AND COMMERCIAL ENTRANCES SHALL BE DETERMINED BY THE ENGINEER. DRIVEWAYS SHALL BE REPLACED IN KIND AND IN ACCORDANCE WITH THE CONSTRUCTION DETAILS.	OTHER CONTACTS DNR LIASION SHAWN HASELEU DEPARTMENT OF NATURAL RESOURCES 810 W. MAPLE ST. SPOONER, WI 54801 TELEPHONE: (715) 635-4228 E-MAIL: SHAWN.HASELEU@WISCONSIN.GOV		UTILITIES CONTACTS BAYFIELD ELECTRIC COOPERATIVE - ELECTRIC BOB LAHTI P.O. BOX 68 IRON RIVER, WI 54847 TELEPHONE: (715) 372-4287 E-MAIL: BOB.LAHTI@BAYFIELDELECTRIC.COM BRIGHTSPEED OF NORTH CENTRAL WISCONSIN, LLC TAYLOR AYLESWORTH 135 N. 21ST ST. SUPERIOR, WI 54880-5203 TELEPHONE: (980) 376-1577 E-MAIL: TAYLOR.AYLESWORTH@BRIGHTSPEED.COM CITY OF ASHLAND WASTEWATER & WATER - WATER BRIAN LEDIN 1901 KNIGHT RD. ASHLAND, WI 54806 TELEPHONE: (715) 209-7194 E-MAIL: BLEIDIN@COAWI.ORG CITY OF ASHLAND WASTEWATER & WATER- WASTEWATER BRIAN LEDIN 1901 KNIGHT RD. ASHLAND, WI 54806 TELEPHONE: (715) 209-7194 E-MAIL: BLEIDIN@COAWI.ORG MERIT NETWORK, INC. - COMMUNICATIONS KEVIN HAWTHORNE 880 TECHNOLOGY DR. ANN ARBOR, MI 48108 TELEPHONE: (734) 474-4867 E-MAIL: KHAWT@MERIT.EDU NORTHERN NATURAL GAS CO. - GAS/PETROLEUM COURTNEY RENNER 1120 CENTER POINT DR. #400 MENDOTA HEIGHTS, MN 55120 TELEPHONE: (651) 456-1730 E-MAIL: COURTNEY.RENNER@NNGCO.COM SPECTRUM - COMMUNICATIONS RYAN NELSON 1810 LAKE SHORE DR. E. ASHLAND, WI 54806 TELEPHONE: (715) 931-0238 E-MAIL: RYAN.NELSON@CHARTER.COM XCEL ENERGY - ELECTRICITY BEN KOZAK 2400 FARM ROAD ASHLAND, WI 54806 TELEPHONE: (715) 682-6915 BENJAMIN.KOZAK@XCELENERGY.COM XCEL ENERGY - GAS / PETROLEUM BEN KOZAK 2400 FARM ROAD ASHLAND, WI 54806 TELEPHONE: (715) 682-6915 BENJAMIN.KOZAK@XCELENERGY.COM			
	PROJECT NO: 8731-00-70	HWY: STH 137	COUNTY: BAYFIELD	ORDER OF SECTION 2 DETAIL SHEETS GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS EROSION CONTROL TRAFFIC CONTROL OVERVIEW DETOUR PLAN DIGGERSHOTLINE Dial 811 or (800)242-8511 www.DiggersHotline.com			
PROJECT NO: 8731-00-70			HWY: STH 137	COUNTY: BAYFIELD	GENERAL NOTES	SHEET 2	E





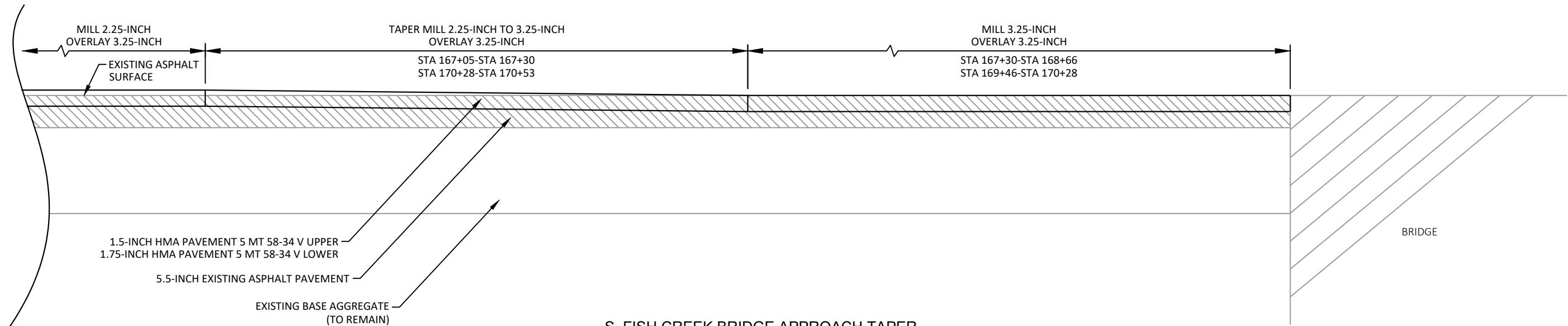




* IN AREAS OF NORMAL CROWN, USE 6% MAX.
IN SUPERELEVATED SECTIONS, MATCH PAVEMENT
SLOPE ON LOW SIDE, MAX ROLLOVER 7% ON HIGH SIDE

** PROPOSED ELEVATION 1" HIGHER THAN EXISTING

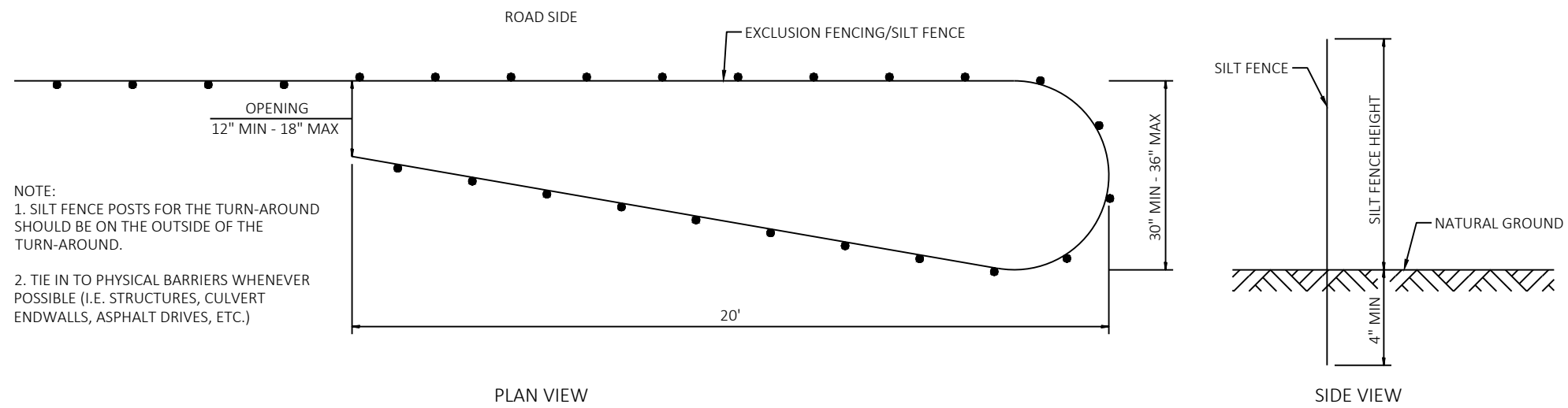
*** FERTILIZE AND SEED



S. FISH CREEK BRIDGE APPROACH TAPER

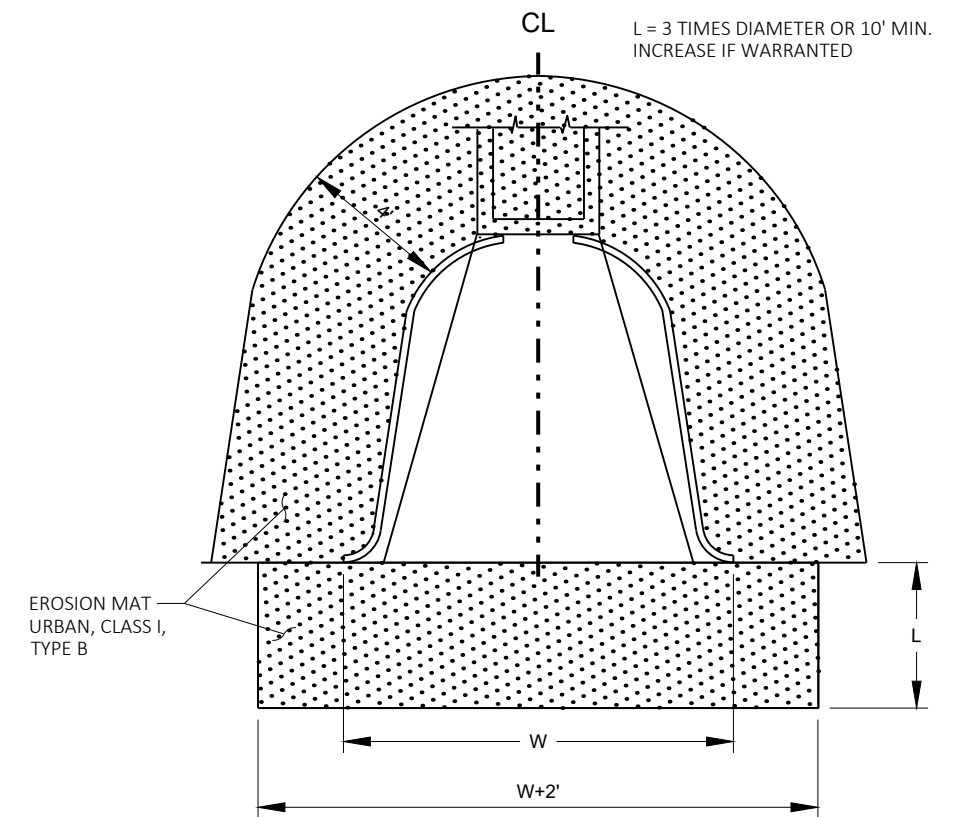
STA 169

NOT TO SCALE



NOTE:
1. SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND.
2. TIE IN TO PHYSICAL BARRIERS WHENEVER POSSIBLE (I.E. STRUCTURES, CULVERT ENDWALLS, ASPHALT DRIVES, ETC.)

EXCLUSION FENCING/SILT FENCE TURN-AROUND DETAIL



EROSION CONTROL AT PIPE ENDS

PROJECT NO: 8731-00-70

HWY: STH 137

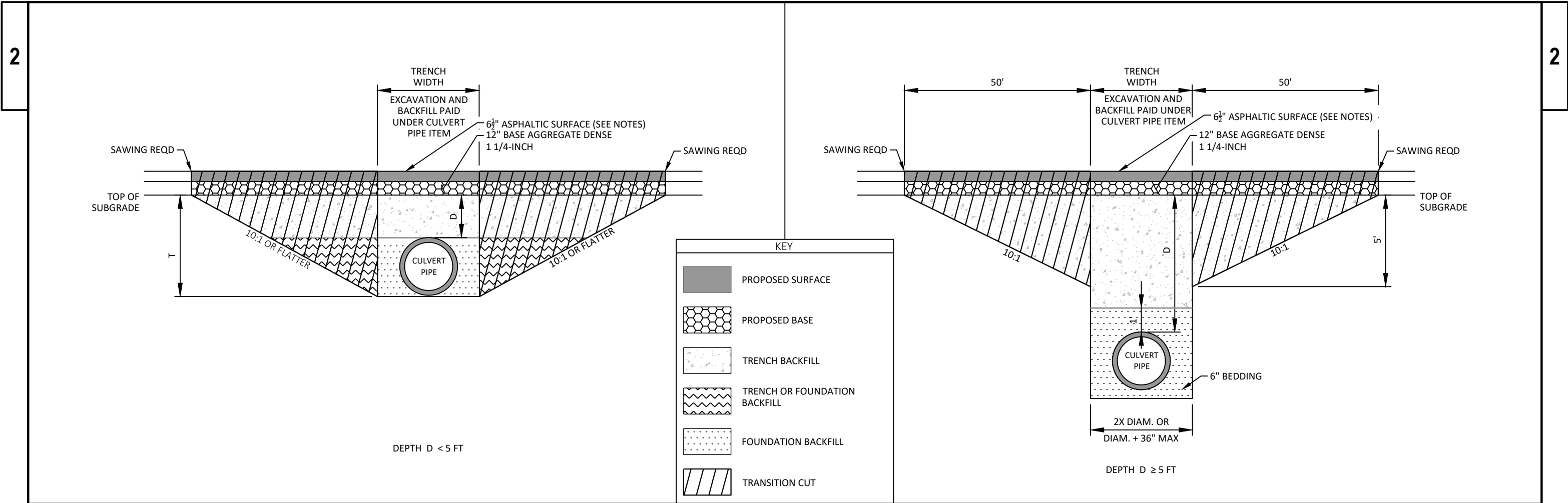
COUNTY: BAYFIELD

CONSTRUCTION DETAILS

SHEET

7

E



NOTES

1. TRANSITION CUT IS PAID AS EXCAVATION COMMON.
2. TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
3. BACKFILL THE EXCAVATION WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
4. IF EXCAVATED MATERIAL IS NEAR OPTIMUM MOISTURE CONTENT AND DEEMED ACCEPTABLE BY THE ENGINEER, USE AS TRENCH BACKFILL AND SLOPES CAN BE INCREASED TO 3:1.
5. IF EXCAVATED MATERIAL IS UNACCEPTABLE, USE BACKFILL GRANULAR GRADE 2 AS TRENCH BACKFILL. TRANSITION CUTS MUST THEN BE AT 10:1.
6. PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND OVERLAY. PLACE BASE AGGREGATE DENSE AND ASPHALTIC SURFACE AFTER CULVERT PIPE INSTALLATION AND BEFORE MILLING. PAVE TO ADJOINING EXISTING ASPHALT SURFACE ELEVATION, THEN PERFORM NORMAL PROJECT MILLING AND PAVING OPERATIONS.
7. ASPHALTIC SURFACE SHALL CONSIST OF THE FOLLOWING DEPTHS:

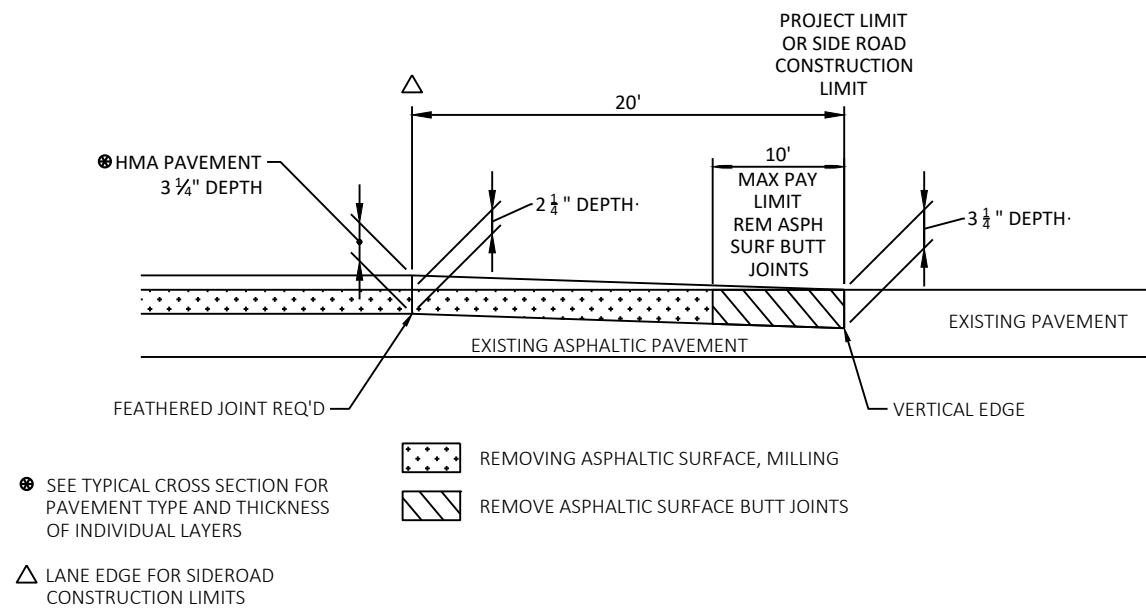
UPPER LAYER: 1 1/2-INCH AND 1 3/4-INCH

LOWER LAYER: 3 1/4-INCH

CULVERT PIPE TRANSITION

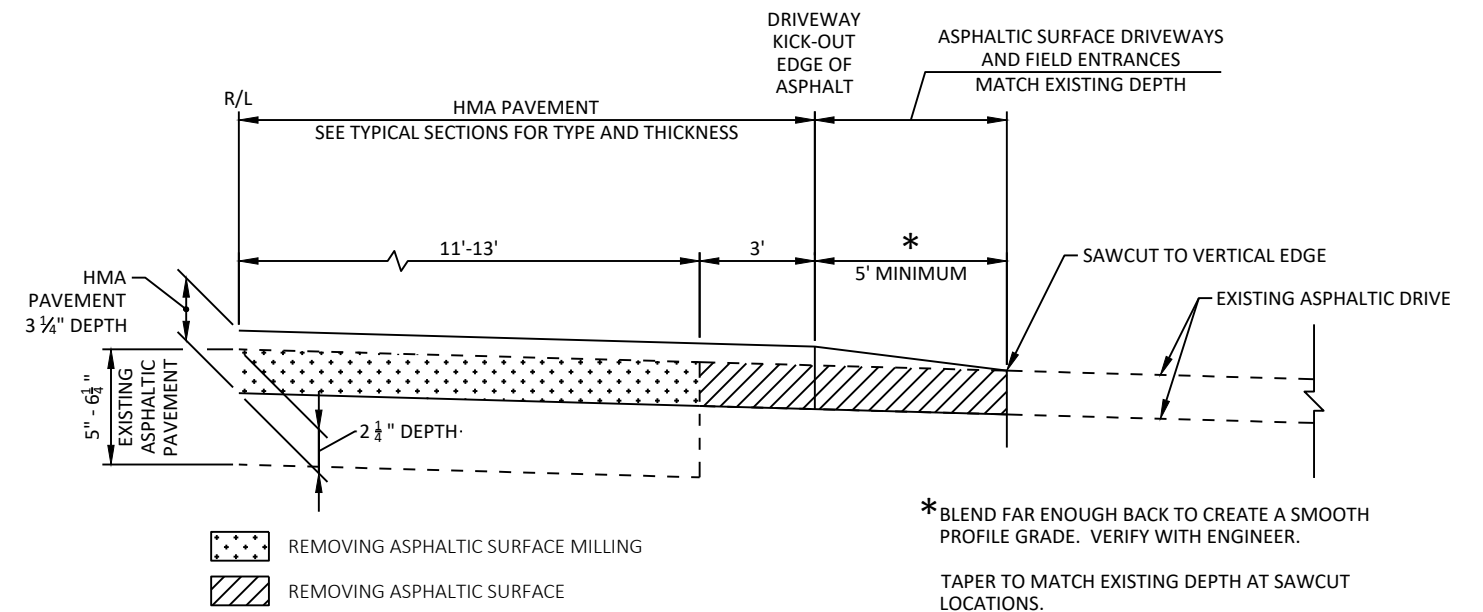
ROUTE	STA (CL)	AVERAGE DEPTH D (FT)	EXISTING PIPE DIA (IN)	PROPOSED PIPE DIA (IN)	CULVERT #
STH 137	144+98	3.9	36	36	4137064700
STH 137	1201+60	13.7	36	36	4137064690
STH 137	1237+37	1.4	24	24	4137064680

CULVERT PIPE TRANSITION CUT DETAIL

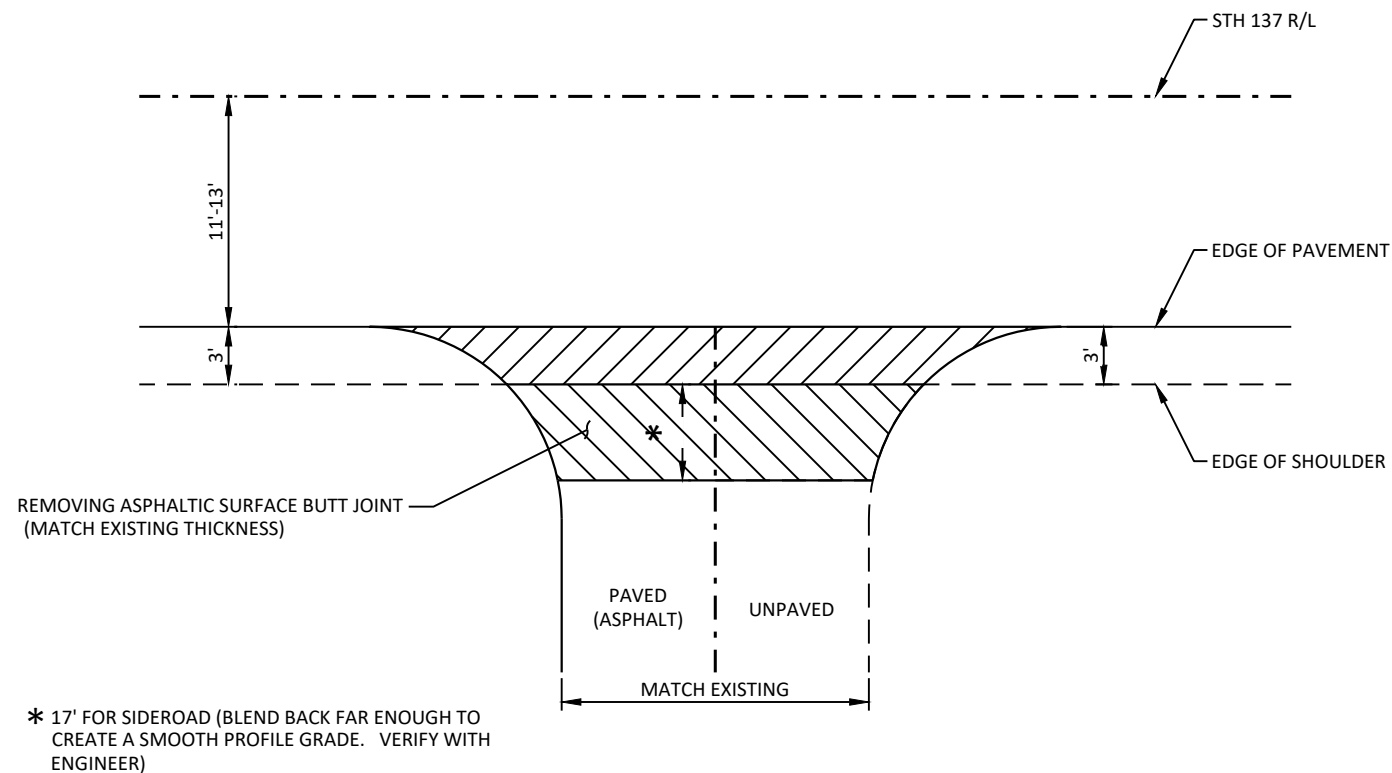
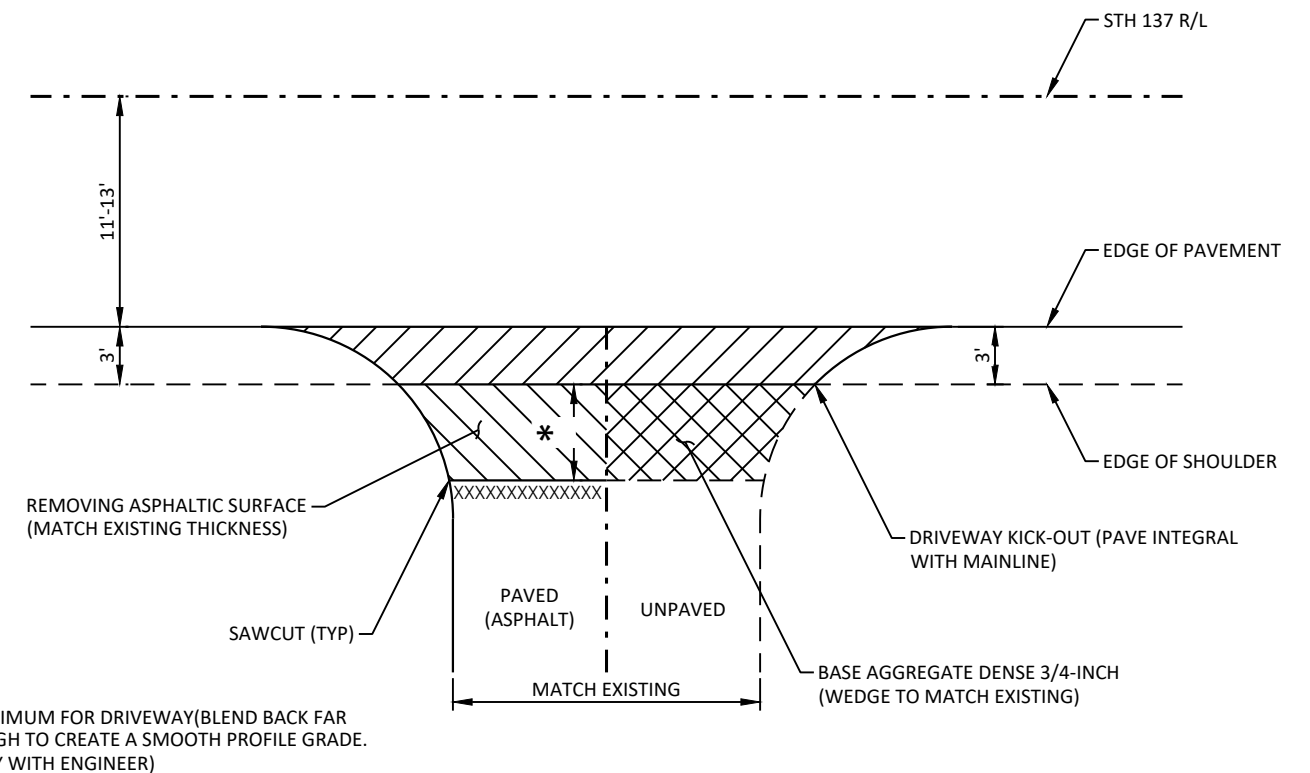
**MAINLINE AND SIDEROAD BUTT JOINT DETAIL** N.T.S.

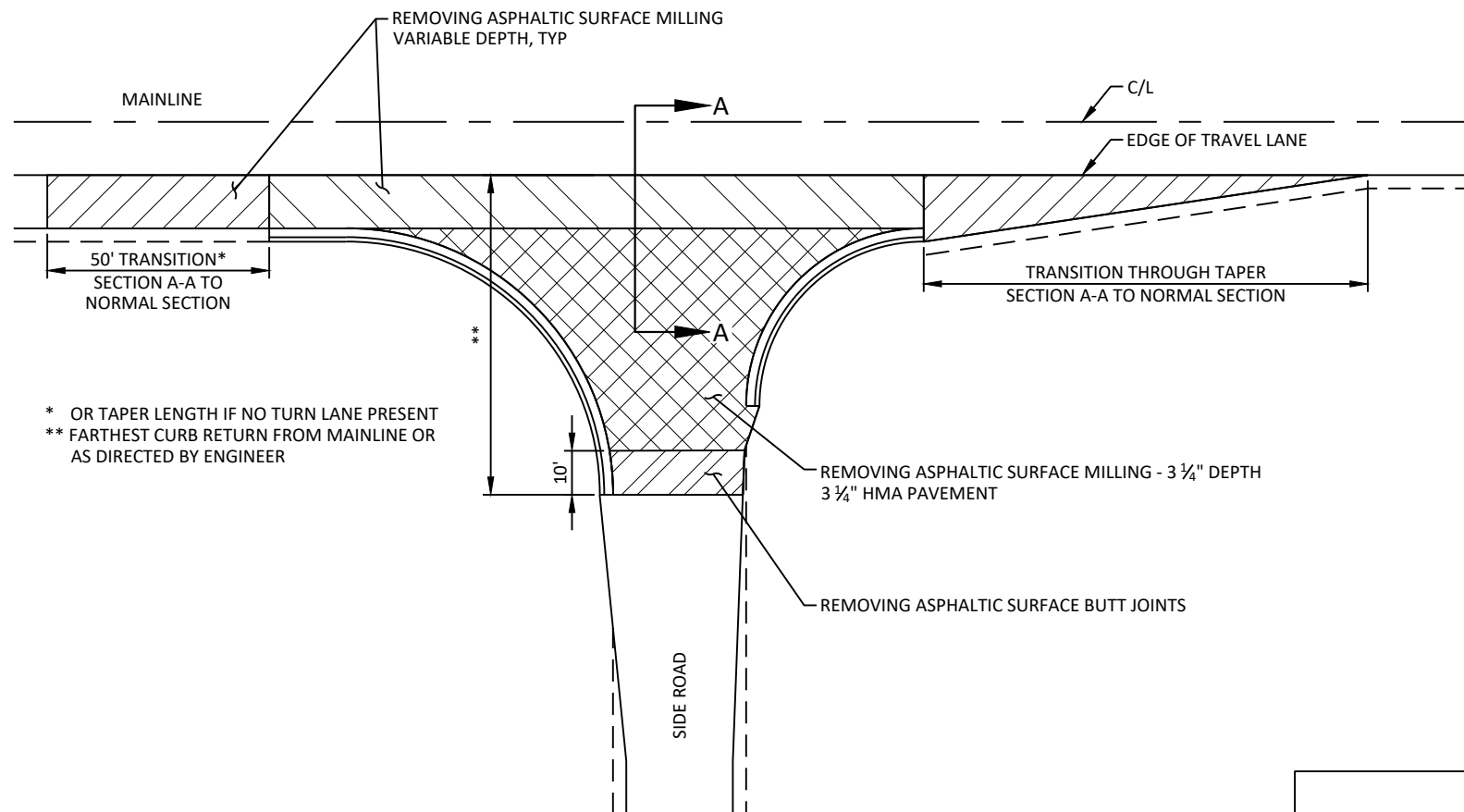
STA 37+75
ERKKILA RD
STATE FARM RD
SAJDAK RD
WHIPPERFURTH RD

LINDBLAD RD
CLUBHOUSE DR
CAMPBELL DR
STA 125+58

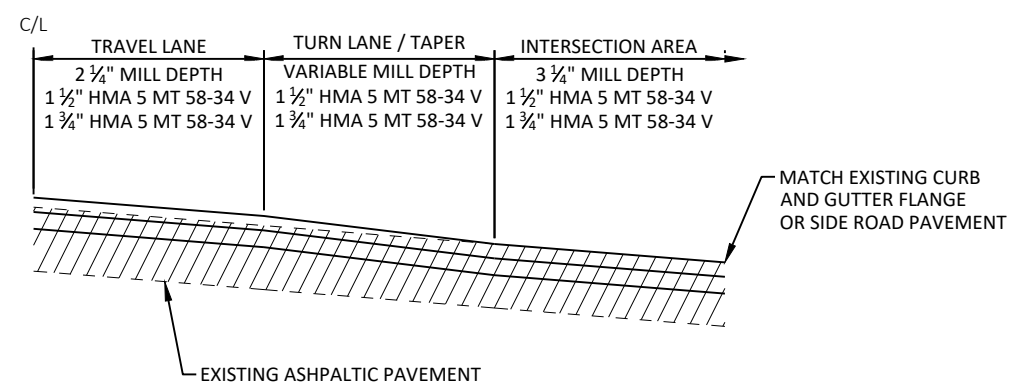
**ASPHALT DRIVE EDGE JOINT DETAIL** N.T.S.

ASPHALT DRIVES

**SIDEROAD INTERSECTION DETAIL****RURAL DRIVEWAY INTERSECTION DETAIL**



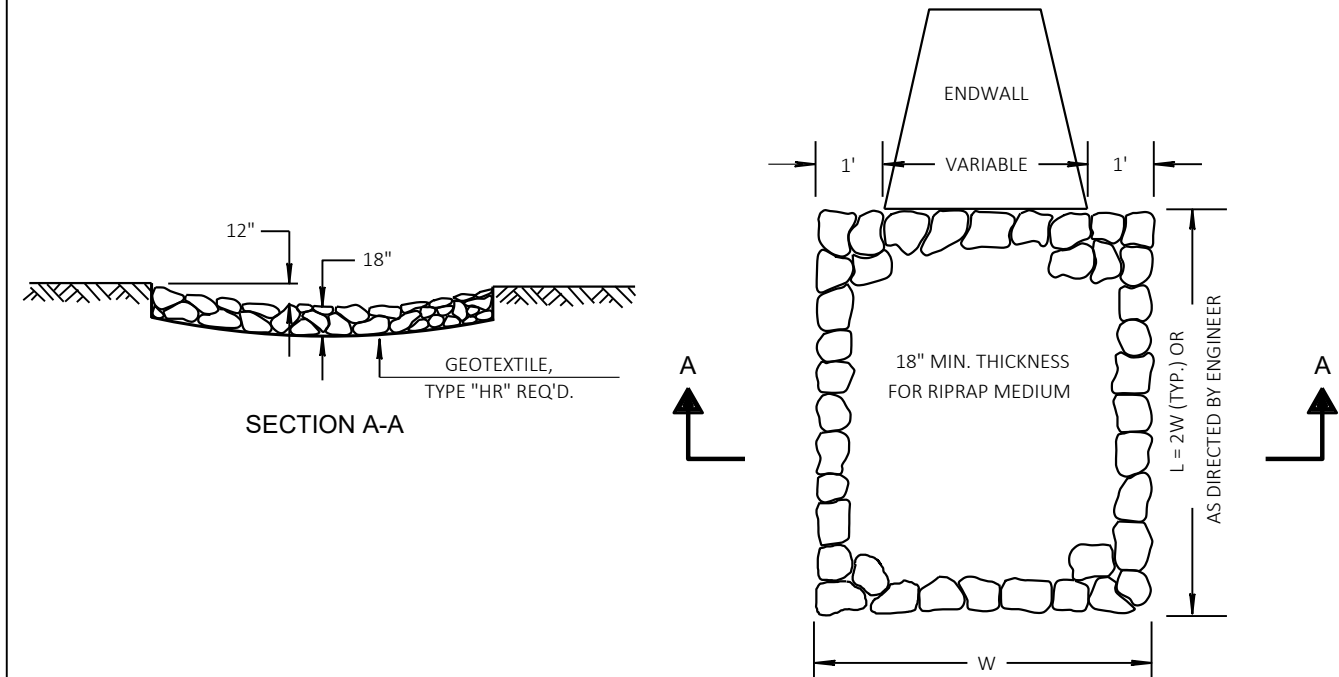
PLAN VIEW



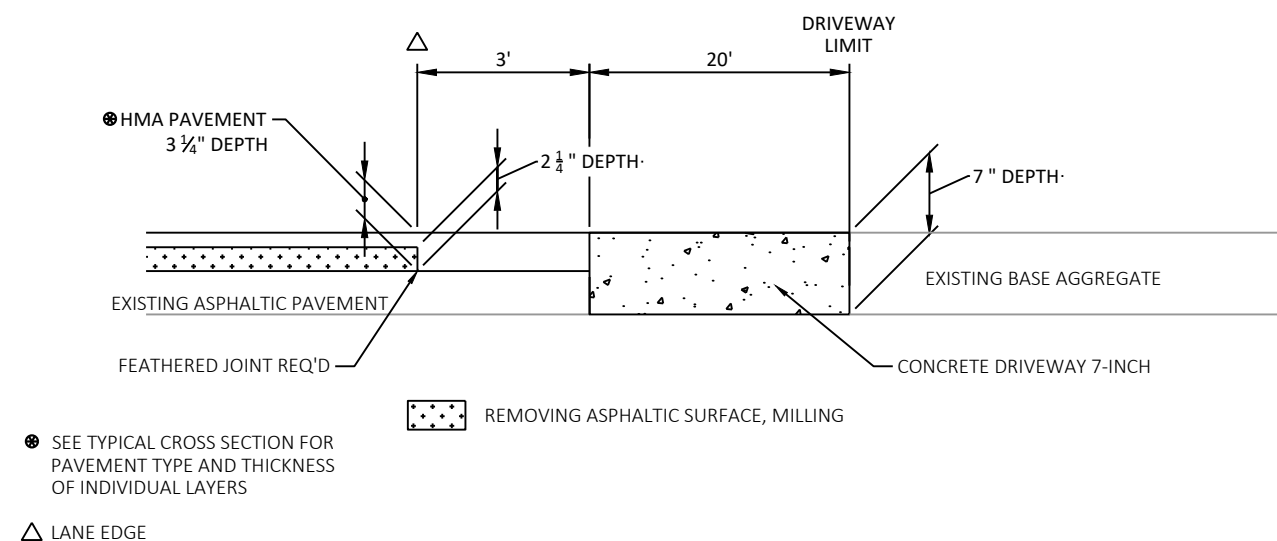
SECTION A-A

SIDE ROAD WITH CURB AND GUTTER (PROFILE CHANGE)

CAMPBELL DR

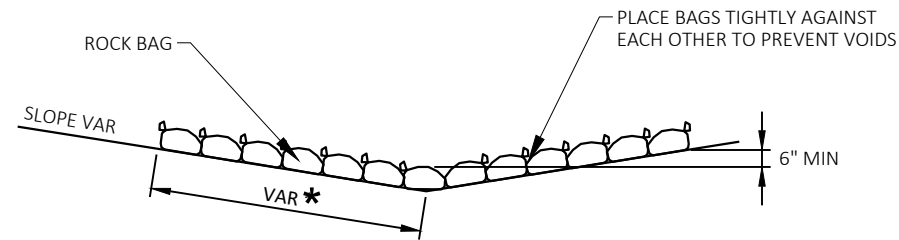


RIPRAP MEDIUM TREATMENT AT CULVERTS



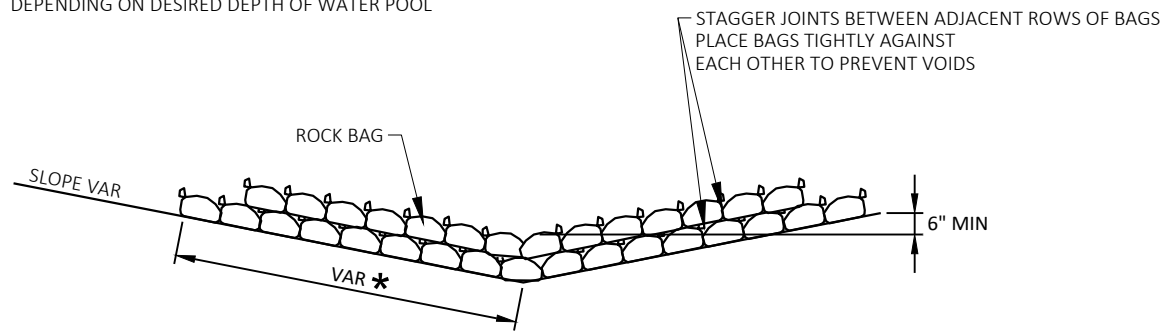
CONCRETE DRIVEWAY DETAIL

N.T.S. STA 72+90

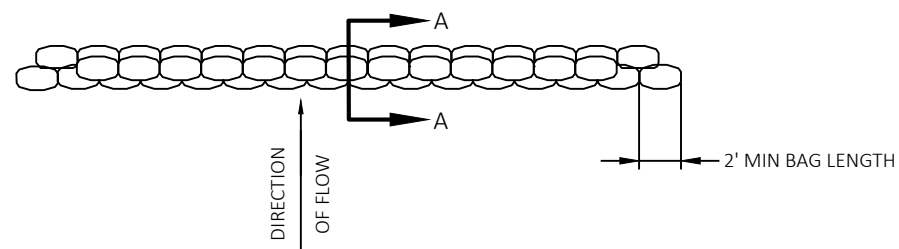


SIDE VIEW (SINGLE LAYER)

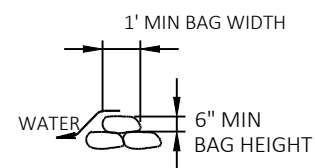
* LENGTH AND NUMBER OF BAGS MAY VARY
DEPENDING ON DESIRED DEPTH OF WATER POOL



SIDE VIEW (MULTIPLE LAYER)



TOP VIEW (MULTIPLE LAYER)



SECTION A-A

ROCK BAGS USED FOR DITCH CHECKS

PROJECT NO: 8731-00-70

HWY: STH 137

COUNTY: BAYFIELD

CONSTRUCTION DETAILS

SHEET

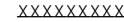
11

E

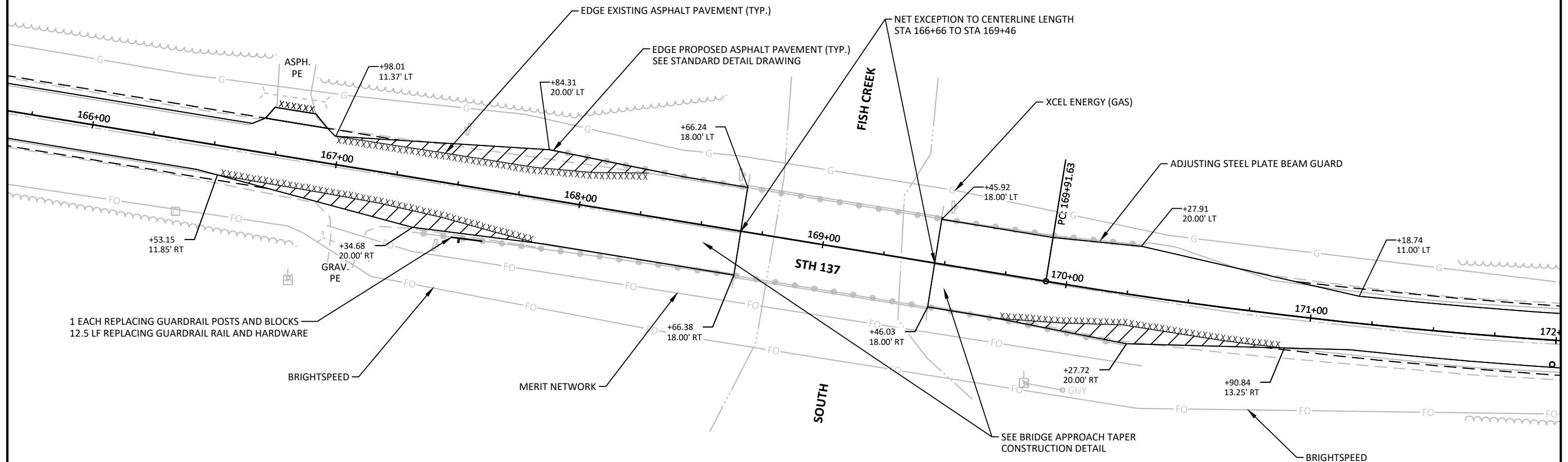
LEGEND

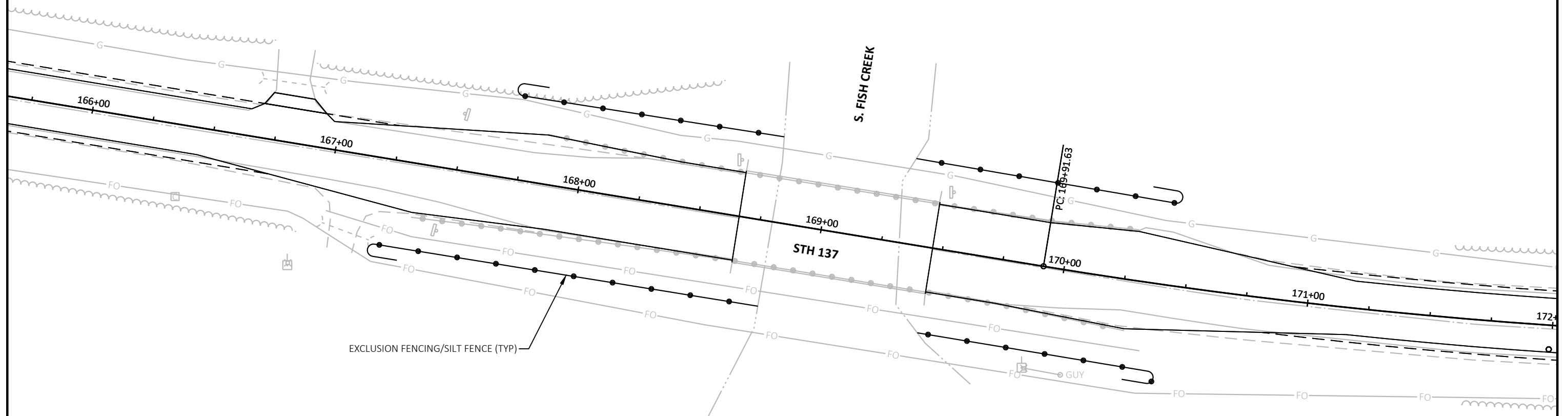


EXCAVATION COMMON, 8-INCH BASE AGGREGATE
DENSE 3/4-INCH AND 3 1/4-INCH ASPHALTIC SURFACE
SLOPE AT -4%



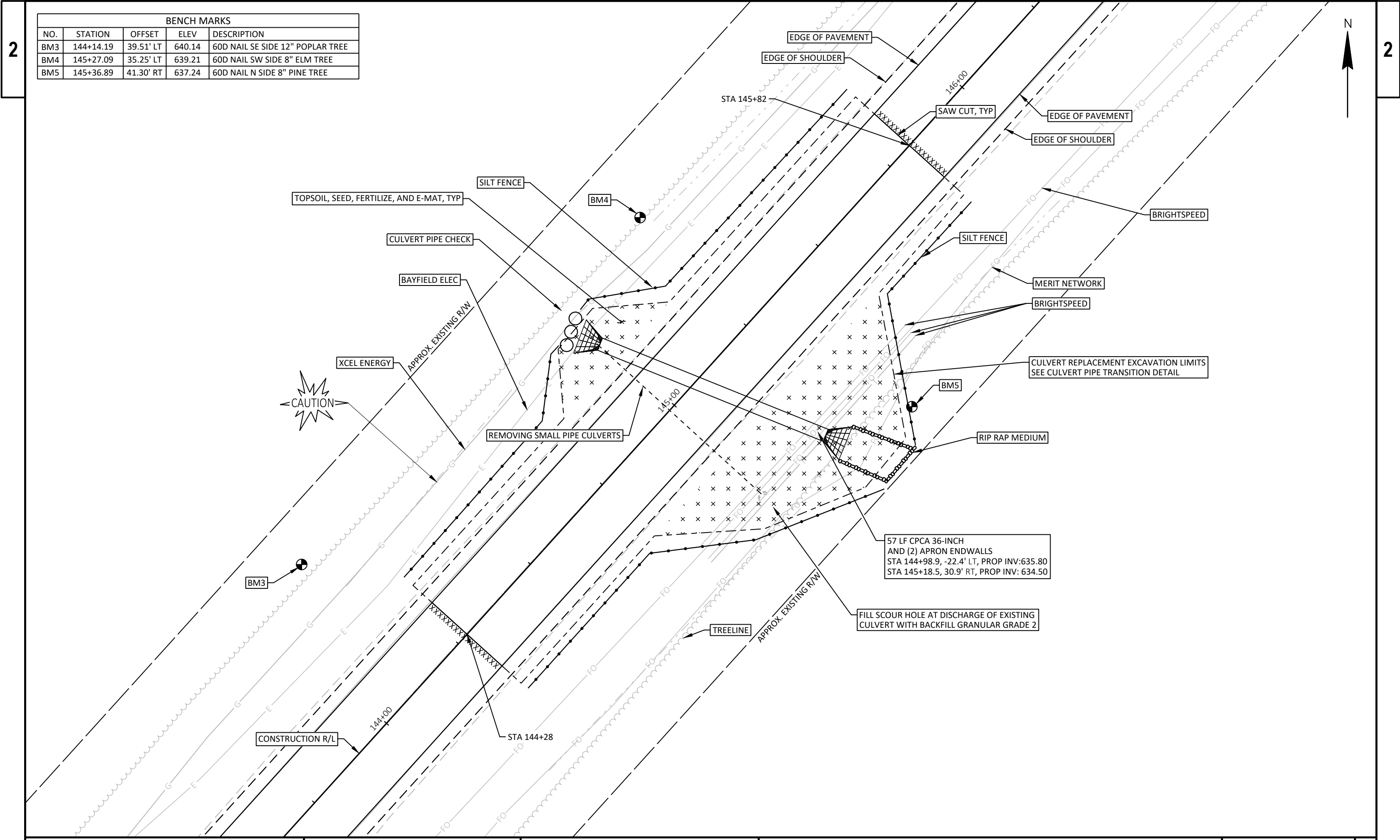
SAWING ASPHALT



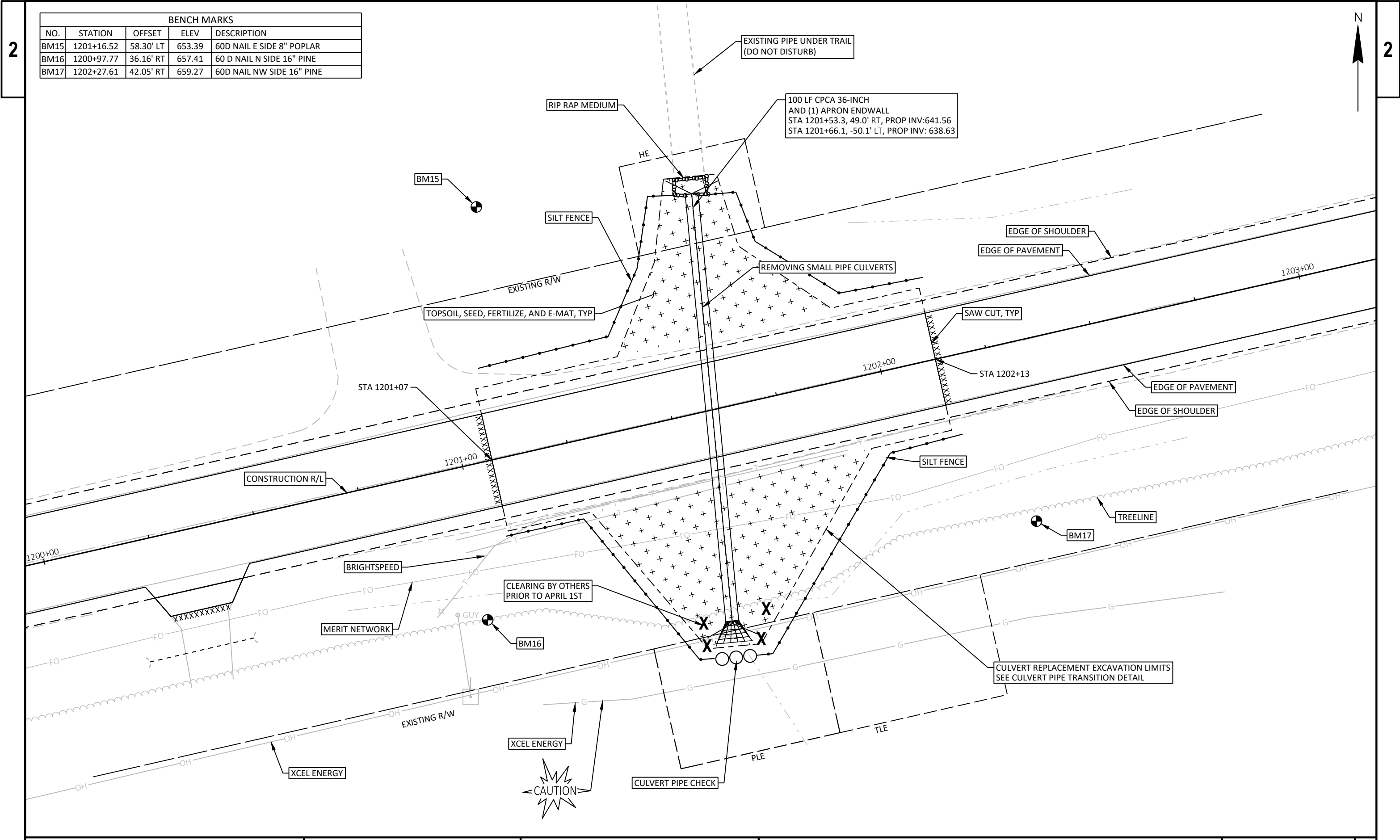


NOTE: EXCLUSION FENCING/SILT FENCE MUST BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITIES WITHIN FORAGING DISTANCES AS FOLLOWS:

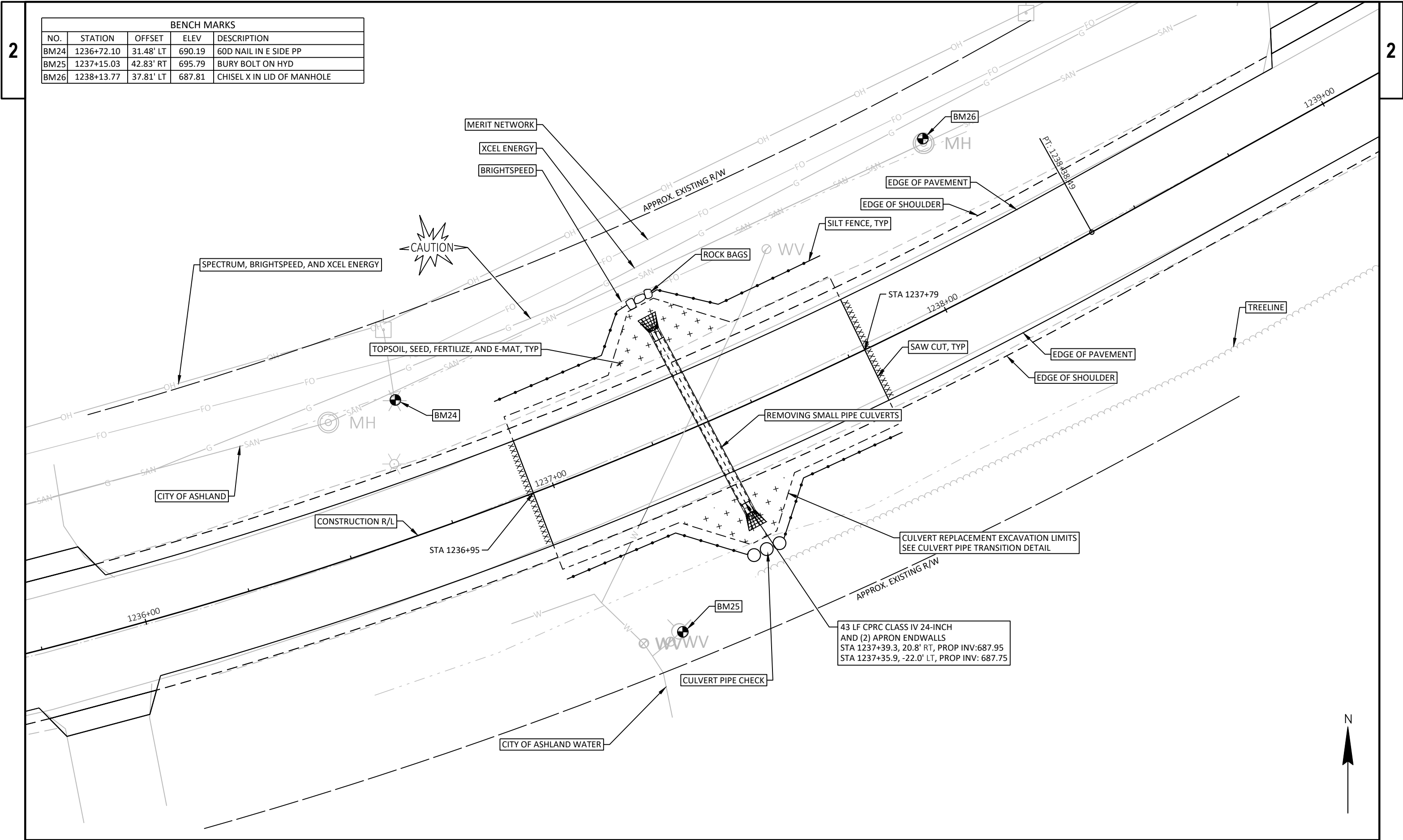
DATE	FORAGING DISTANCE AREAS
NOVEMBER 1-MARCH 14	NONE
MARCH 15-MAY 14	0-264'
MAY 15-SEPTEMBER 15	0-984'
SEPTEMBER 16-OCTOBER 31	0-264'



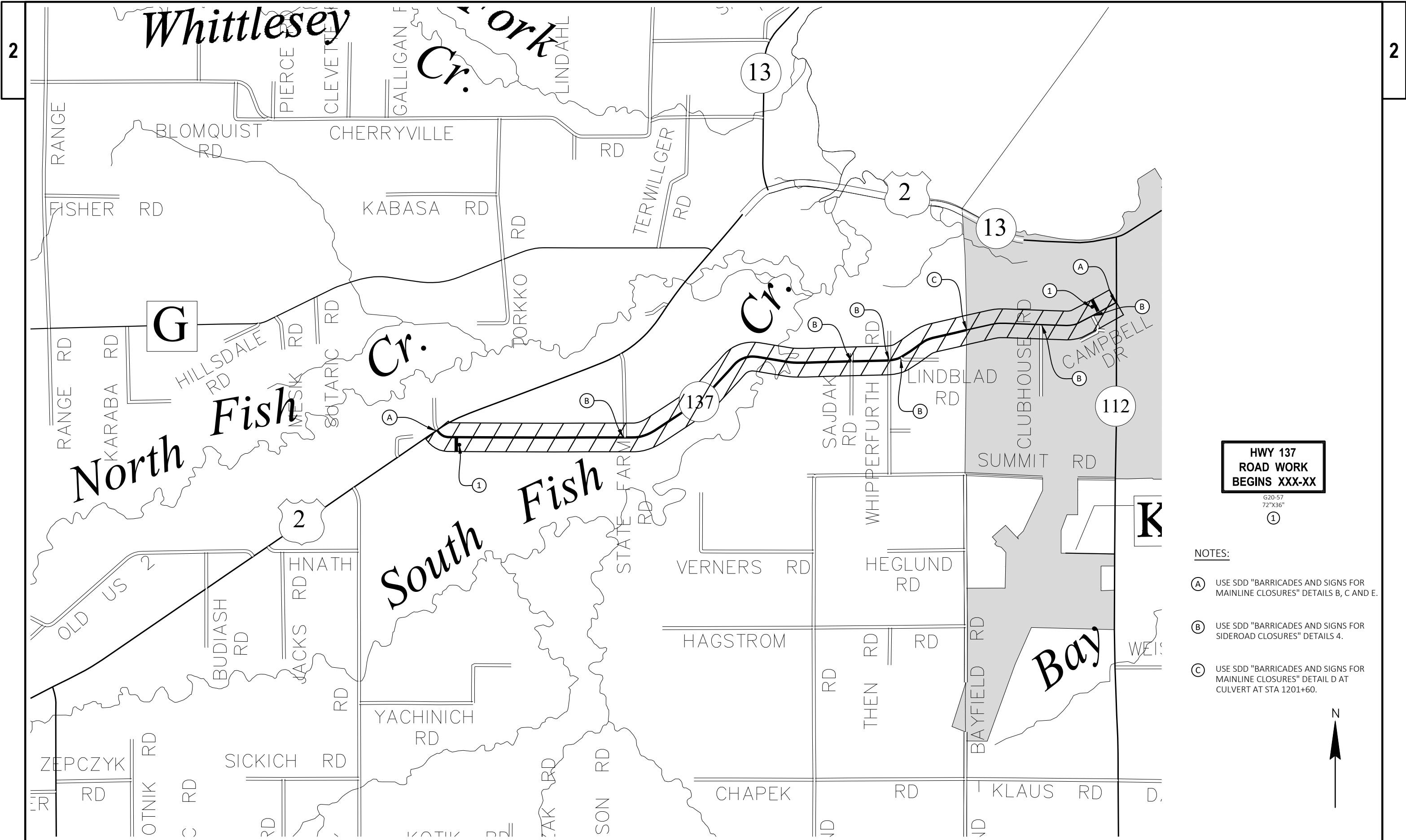
BENCH MARKS				
NO.	STATION	OFFSET	ELEV	DESCRIPTION
BM3	144+14.19	39.51' LT	640.14	60D NAIL SE SIDE 12" POPLAR TREE
BM4	145+27.09	35.25' LT	639.21	60D NAIL SW SIDE 8" ELM TREE
BM5	145+36.89	41.30' RT	637.24	60D NAIL N SIDE 8" PINE TREE



BENCH MARKS				
NO.	STATION	OFFSET	ELEV	DESCRIPTION
BM15	1201+16.52	58.30' LT	653.39	60D NAIL E SIDE 8" POPLAR
BM16	1200+97.77	36.16' RT	657.41	60 D NAIL N SIDE 16" PINE
BM17	1202+27.61	42.05' RT	659.27	60D NAIL NW SIDE 16" PINE



BENCH MARKS				
NO.	STATION	OFFSET	ELEV	DESCRIPTION
BM24	1236+72.10	31.48' LT	690.19	60D NAIL IN E SIDE PP
BM25	1237+15.03	42.83' RT	695.79	BURY BOLT ON HYD
BM26	1238+13.77	37.81' LT	687.81	CHISEL X IN LID OF MANHOLE



HWY 137
ROAD WORK
BEGINS XXX-XX

G20-57
72"x36"
①

- NOTES:
- ① USE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAILS B, C AND E.
 - ② USE SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES" DETAILS 4.
 - ③ USE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL D AT CULVERT AT STA 1201+60.



LEGEND

00

SIGN NUMBER

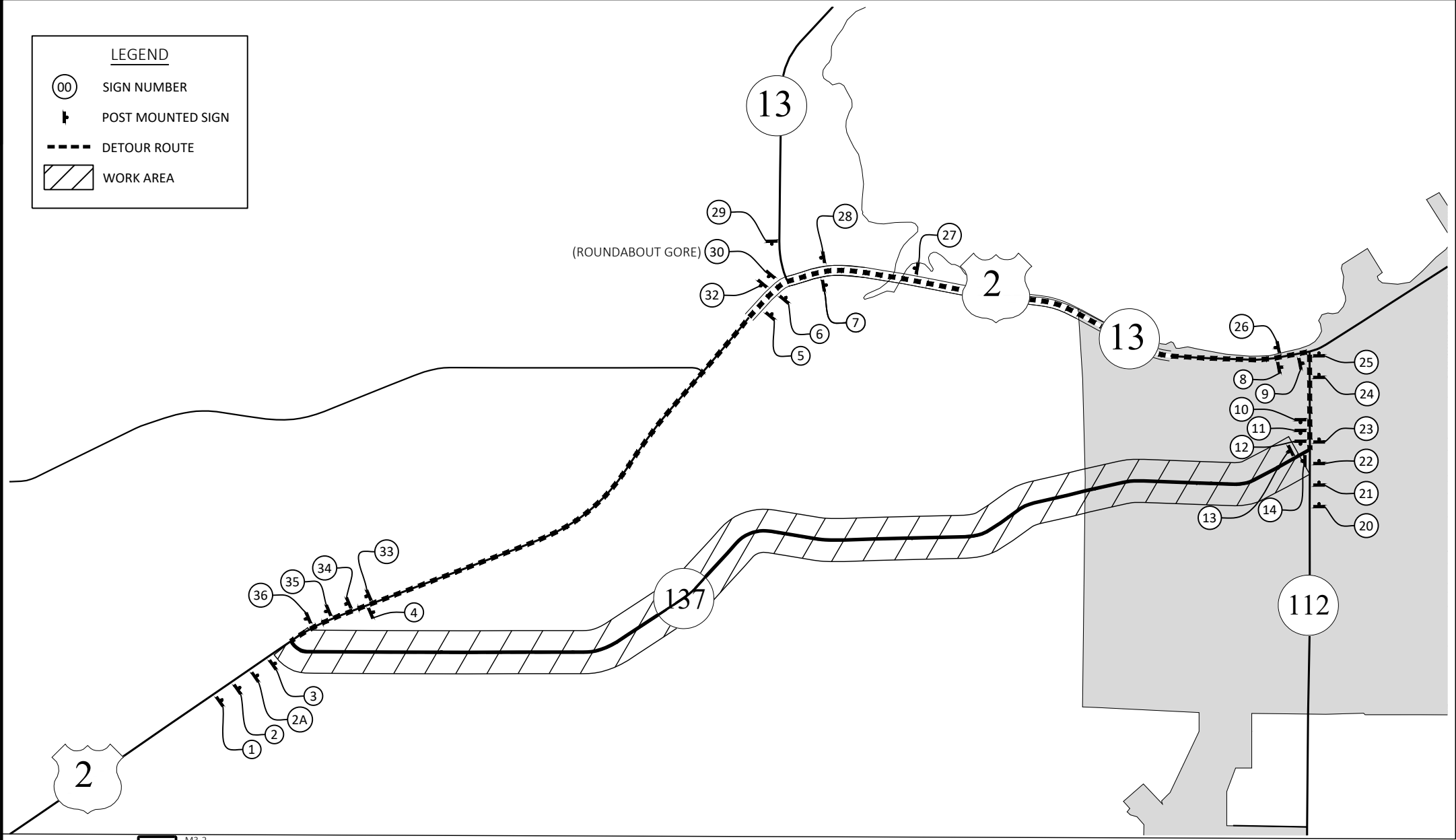
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POST MOUNTED SIGN

DETOUR ROUTE

▨

WORK AREA



STH 137 EAST

EAST

137

DETOUR AHEAD

W20-24A
48" X48"

1

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

2

137

↑

2

M4-8
24"X12"

MO6-1
21"X21"

COVER

COVER

2A

A4-12
14"X14"

↑

3

M4-8
24"X12"

DETOUR

EAST

2

137

↑

4

M4-8
24"X12"

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

137

↑

7

M4-8
24"X12"

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

137

↑

5

M4-8
24"X12"

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

137

↑

6

M4-8
24"X12"

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

137

↑

8

M4-8
24"X12"

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

137

↑

9

M4-8
24"X12"

M3-2
24"X12"

M1-6
24"X24"

DETOUR

EAST

137

↑

10

JCT

137

2

COVER

11

END

DETOUR

EAST

137

↑

12

M4-8A
24"X18"

M3-2
24"X12"

M1-6
24"X24"

COVER

13

COVER

14

DETOUR

DETOUR

SOUTH

ALT

WEST

NORTH

112

2

137

112

MO6-1
21"X21"

MO6-1
21"X21"

STH 137 WEST

WEST

137

DETOUR AHEAD

W20-24A
48" X48"

20

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

21

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

22

M4-8
24"X12"

MO6-1
21"X21"

COVER

COVER

23

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

26

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

32

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

24

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

25

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

27

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

28

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

29

COVER

30

M4-8
24"X12"

M3-4
24"X12"

M1-6
24"X24"

DETOUR

WEST

137

↑

33

COVER

34

Superior

Hayward

COVER

35

COVER

36

END

DETOUR

WEST

137

↑

M4-8A
24"X18"

M3-4
24"X12"

M1-6
24"X24"

PROJECT NO: 8731-00-70

HWY: STH 137

COUNTY: BAYFIELD

DETOUR

SHEET

18

E

FILE NAME : N:\3000980.00\CIVIL 3D\SHEETS\PLAN\873100-027001-DT.DWG
LAYOUT NAME - 873100-027001-dt

PLOT DATE : 5/8/2023 2:59 PM

PLOT BY : CRAIG KNUTH

PLOT NAME :

PLOT SCALE : 1 IN: 3000 FT

WISDOT/CADDs SHEET 42

Estimate Of Quantities

8731-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	1.000	1.000
0004	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0006	204.0100	Removing Concrete Pavement	SY	120.000	120.000
0008	204.0110	Removing Asphaltic Surface	SY	751.000	751.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	447.000	447.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	62,775.000	62,775.000
0014	205.0100	Excavation Common	CY	1,755.000	1,755.000
0016	209.2500	Backfill Granular Grade 2	TON	1,155.000	1,155.000
0018	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 8731-00-70	EACH	1.000	1.000
0020	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	37.000	37.000
0022	213.0100	Finishing Roadway (project) 01. 8731-00-70	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	7,485.000	7,485.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	980.000	980.000
0028	455.0605	Tack Coat	GAL	7,935.000	7,935.000
0030	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0032	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0034	460.2005	Incentive Density PWL HMA Pavement	DOL	11,420.000	11,420.000
0036	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	5,000.000	5,000.000
0038	460.2010	Incentive Air Voids HMA Pavement	DOL	12,430.000	12,430.000
0040	460.6645	HMA Pavement 5 MT 58-34 V	TON	12,610.000	12,610.000
0042	460.9000.S	Material Transfer Vehicle	EACH	1.000	1.000
0044	465.0105	Asphaltic Surface	TON	560.000	560.000
0046	465.0110	Asphaltic Surface Patching	TON	100.000	100.000
0048	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	85.000	85.000
0050	465.0315	Asphaltic Flumes	SY	4.000	4.000
0052	520.8700	Cleaning Culvert Pipes	EACH	2.000	2.000
0054	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	1.000	1.000
0056	521.1036	Apron Endwalls for Culvert Pipe Steel 36-Inch	EACH	2.000	2.000
0058	521.3124	Culvert Pipe Corrugated Steel 24-Inch	LF	5.000	5.000
0060	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	43.000	43.000
0062	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0064	525.0136	Culvert Pipe Corrugated Aluminum 36-Inch	LF	157.000	157.000
0066	525.0336	Apron Endwalls for Culvert Pipe Aluminum 36-Inch	EACH	3.000	3.000
0068	602.0815	Concrete Driveway 7-Inch	SY	120.000	120.000
0070	606.0200	Riprap Medium	CY	40.000	40.000
0072	614.0400	Adjusting Steel Plate Beam Guard	LF	75.000	75.000
0074	614.0950	Replacing Guardrail Posts and Blocks	EACH	1.000	1.000
0076	614.0951	Replacing Guardrail Rail and Hardware	LF	12.500	12.500
0078	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8731-00-70	EACH	1.000	1.000
0080	619.1000	Mobilization	EACH	1.000	1.000
0082	624.0100	Water	MGAL	51.000	51.000
0084	625.0100	Topsoil	SY	560.000	560.000
0086	628.1504	Silt Fence	LF	1,400.000	1,400.000
0088	628.1520	Silt Fence Maintenance	LF	1,400.000	1,400.000
0090	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0092	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0094	628.2008	Erosion Mat Urban Class I Type B	SY	680.000	680.000
0096	628.7504	Temporary Ditch Checks	LF	15.000	15.000
0098	628.7555	Culvert Pipe Checks	EACH	17.000	17.000
0100	628.7570	Rock Bags	EACH	30.000	30.000

Estimate Of Quantities

8731-00-70

Line	Item	Item Description	Unit	Total	Qty
0102	629.0210	Fertilizer Type B	CWT	0.350	0.350
0104	630.0130	Seeding Mixture No. 30	LB	10.000	10.000
0106	630.0500	Seed Water	MGAL	13.000	13.000
0108	633.5200	Markers Culvert End	EACH	15.000	15.000
0110	642.5001	Field Office Type B	EACH	1.000	1.000
0112	643.0300	Traffic Control Drums	DAY	400.000	400.000
0114	643.0420	Traffic Control Barricades Type III	DAY	2,160.000	2,160.000
0116	643.0705	Traffic Control Warning Lights Type A	DAY	4,304.000	4,304.000
0118	643.0900	Traffic Control Signs	DAY	8,484.000	8,484.000
0120	643.0920	Traffic Control Covering Signs Type II	EACH	11.000	11.000
0122	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0124	643.5000	Traffic Control	EACH	1.000	1.000
0126	645.0120	Geotextile Type HR	SY	110.000	110.000
0128	646.2020	Marking Line Epoxy 6-Inch	LF	85,930.000	85,930.000
0130	650.4500	Construction Staking Subgrade	LF	345.000	345.000
0132	650.5000	Construction Staking Base	LF	345.000	345.000
0134	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0136	650.8000	Construction Staking Resurfacing Reference	LF	24,986.000	24,986.000
0138	650.9911	Construction Staking Supplemental Control (project) 01. 8371-00-70	EACH	1.000	1.000
0140	650.9920	Construction Staking Slope Stakes	LF	1,475.000	1,475.000
0142	690.0150	Sawing Asphalt	LF	1,230.000	1,230.000
0144	740.0440	Incentive IRI Ride	DOL	18,930.000	18,930.000
0146	SPV.0090	Special 01. Ditch Cleaning	LF	75.000	75.000

GRUBBING

STATION	DIR	ROADWAY	201.0205 GRUBBING STA
PROJECT 8731-00-70			
CATEGORY 0010			
1201+60	RT	STH 137	1

PROJECT TOTAL 1

REMOVING SMALL PIPE CULVERTS

STATION	ROADWAY	CULVERT NUMBER	203.0100 EA	COMMENTS
PROJECT 8731-00-70				
CATEGORY 0010				
103+04	STH 137	4137064698	1	6 LF 24" CPCS
144+98	STH 137	4137064700	1	52 LF 36" CPCS
1201+60	STH 137	4137064690	1	100 LF 36" CPCS
1237+37	STH 137	4137064680	1	50 LF 24" CPCA

PROJECT TOTAL 4

ASPHALTIC SURFACE REMOVALS

STATION TO STATION	ROADWAY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
PROJECT 8731-00-70				
CATEGORY 0010				
37+75 - 67+25	STH 137	21	110	7,465
67+25 - 97+25	STH 137	52	---	7,335
97+25 - 127+25	STH 137	26	66	7,440
127+25 - 157+25	STH 137	23	---	6,960
157+25 - 187+25	STH 137	21	---	7,470
187+25 - 1180+50	STH 137	97	123	7,560
1180+50 - 1210+50	STH 137	101	---	7,075
1210+50 - 1240+50	STH 137	348	42	7,895
1240+50 - 1251+58	STH 137	62	106	3,575

PROJECT TOTALS 751 447 62,775

EXCAVATION COMMON

STATION TO STATION	ROADWAY	205.0100 CY	COMMENTS
PROJECT 8731-00-70			
CATEGORY 0010			
144+28 - 145+82	STH 137	750	TRANSITON CUT AND ASPHALTIC PAVEMENT
166+50 - 171+00	STH 137	55	GUARDRAIL WIDENING
1201+07 - 1202+13	STH 137	560	TRANSITON CUT AND ASPHALTIC PAVEMENT REMOVAL
1236+95 - 1237+79	STH 137	390	

PROJECT TOTAL 1,755

BACKFILL GRANULAR GRADE 2

STATION	ROADWAY	209.2500 TON	COMMENTS
PROJECT 8371-00-70			
CATEGORY 0010			
144+98	STH 137	540	FOR TRANSITION CUT BACKFILL IF EXCAVATED MATERIAL IS UNSUITABLE (WITH 10:1 TRANSITION CUT)
1201+60	STH 137	365	
1237+37	STH 137	250	

PROJECT TOTAL 1,155

REMOVING CONCRETE PAVEMENT

LOCATION	ROADWAY	204.0100 SY
PROJECT 8731-00-70		
CATEGORY 0010		
73+00, LT	STH 137	120

PROJECT TOTALS 120

BASE AGGREGATE DENSE 3/4-INCH

STATION TO STATION	ROADWAY	305.0110		624.0100
		SHOULDER	DRIVEWAYS	WATER
		TON	TON	MGAL
PROJECT 8731-00-70				
CATEGORY 0010				
37+75 - 67+25	STH 137	950	15	6
67+25 - 97+25	STH 137	980	20	6
97+25 - 127+25	STH 137	880	15	5
127+25 - 157+25	STH 137	870	15	5
157+25* - 187+25*	STH 137	885	5	5
187+25 - 1180+50	STH 137	870	25	5
1180+50 - 1210+50	STH 137	850	20	5
1210+50 - 1240+50	STH 137	810	---	5
1240+50 - 1251+58	STH 137	270	5	2
SUBTOTALS		7,365	120	45
PROJECT TOTAL		7,485		45

*INCLUDES WIDENING AT BEAMGUARD STA 166+50 - 171+00

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION TO STATION	DIR	ROADWAY	211.0400
			STA
PROJECT 8731-00-70			
CATEGORY 0010			
105+00 - 115+00	LT	STH 137	10
150+00 - 159+00	RT	STH 137	9
1168+00 - 1175+00	LT	STH 137	7
1181+00 - 1186+00	RT	STH 137	5
1206+00 - 1212+00	RT	STH 137	6
PROJECT TOTAL			37

BASE AGGEGATE DENSE 1 1/4-INCH

STATION TO STATION	ROADWAY	305.0120	624.0100	COMMENTS
		TON	WATER MGAL	
PROJECT 8731-00-70				
CATEGORY 0010				
144+28 - 145+82	STH 137	440	3	CULVERT REPLACEMENT
1201+07 - 1202+13	STH 137	300	2	CULVERT REPLACEMENT
1236+95 - 1237+79	STH 137	240	1	CULVERT REPLACEMENT
PROJECT TOTAL		980	6	

CONCRETE DRIVEWAY 7-INCH

LOCATION	ROADWAY	602.0815
		SY
PROJECT 8731-00-70		
CATEGORY 0010		
73+00, LT	STH 137	120
PROJECT TOTALS		120

ASPHALTIC ITEMS

STATION TO STATION			455.0605 TACK COAT GAL	460.6645 HMA PAVEMENT 5 MT 58-34 V TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0315 ASPHALTIC FLUMES SY	COMMENTS
PROJECT 8731-00-70								
CATEGORY 0010								
37+75	-	67+25	910	1,440	---	2	4	FLUME STA 37+80 RT
67+25	-	97+25	885	1,400	---	14	---	
97+25	-	127+25	925	1,465	---	3	---	
127+25	-	157+25	900	1,425	---	2	---	
157+25	-	187+25	920	1,460	---	2	---	
187+25	-	1180+50	950	1,490	35	10	---	GUARDRAIL WIDENING STA 166+50 - 171+00
1180+50	-	1210+50	905	1,435	---	14	---	
1210+50	-	1240+50	1,000	1,585	---	34	---	
1240+50	-	1251+58	445	700	---	4	---	
81+00	-	96+00	---	50	---	---	---	WEDGING
144+28	-	145+82	25	---	140	---	---	CULVERT REPLACEMENT
1201+07	-	1202+13	15	---	95	---	---	CULVERT REPLACEMENT
1236+94	-	1237+78	15	---	90	---	---	CULVERT REPLACEMENT
105+82	-	114+18	10	40	---	---	---	INSIDE SHOULDER OF HORIZ. CURVES
150+37	-	159+00	10	40	---	---	---	INSIDE SHOULDER OF HORIZ. CURVES
1168+39	-	1174+33	10	35	---	---	---	INSIDE SHOULDER OF HORIZ. CURVES
1181+65	-	1185+97	5	20	---	---	---	INSIDE SHOULDER OF HORIZ. CURVES
1206+87	-	1211+10	5	25	---	---	---	INSIDE SHOULDER OF HORIZ. CURVES
UNDISTRIBUTED			---	---	200 **	---	---	

PROJECT TOTALS7,93512,610560854

** USED FOR MISCELLANEOUS WEDGING AND LEVELING, SPOT LANE FAILURES, AND EDGE REPAIRS AFTER MILLING.

HMA MIXTURE ACCEPTANCE

STATION TO STATION		ROADWAY	LOCATION	UNDERLAYING SURFACE	MIXTURE USE	BID ITEM	LAYER DEPTH (IN)	TONNAGE	QMP TO BE USED FOR:		
									MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE	
PROJECT 8731-00-70											
CATEGORY 0010											
37+75	-	1251+58	STH 137	DRIVING LANE	5 MT 58-34 V	UPPER	5 MT 58-34 V	1.50	6,170	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
				SHLDS / SIDE ROADS	5 MT 58-34 V	UPPER	5 MT 58-34 V	1.50	625		ACCEPTANCE TESTING BY DEPT, NOT ELIGIBLE FOR INCENTIVE
				DRIVING LANE	MILLED HMA	LOWER	5 MT 58-34 V	1.75	5,280		INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
				SHLDS / SIDE ROADS	MILLED HMA	LOWER	5 MT 58-34 V	1.75	535		ACCEPTANCE TESTING BY DEPT, NOT ELIGIBLE FOR INCENTIVE

PROJECT TOTALS 12,610

HMA PAVEMENT PWL TEST STRIP

ROADWAY	460.0105.S VOLUMETRICS EACH	460.0110.S DENSITY EACH	COMMENTS
PROJECT 8731-00-70			
CATEGORY 0010			
STH 137	1	2	

PROJECT TOTALS 1 2

ASPHALTIC SURFACE PATCHING *

				465.0110	
STATION TO STATION		LOCATION		TON	
PROJECT 8371-00-70					
CATEGORY 0010					
37+75	-	1251+58	STH 137	100	

PROJECT TOTAL 100

* USED FOR FILLING POTHoles, TRAFFIC POP-OUTS, RAMPING AT BUTT JOINTS SAW CUTS, ETC.

CULVERTS

STATION	ROADWAY	CULVERT NUMBER	520.8700	521.3124	522.0424	525.0136	THICKNESS	521.1024	521.1036	522.1024	525.0336	606.0200	645.0120	633.5200	COMMENTS	
			CLEANING CULVERT PIPES	CULVERT PIPE				APRON ENDWALLS FOR CULVERT PIPE								
				CORRUGATED STEEL	REINFORCED CONCRETE CLASS IV	CORRUGATED ALUMINUM		STEEL		REINFORCED CONCRETE	ALUMINUM	RIPRAP MEDIUM	GEOTEXTILE TYPE HR	MARKERS CULVERT END		
								24-INCH LF	24-INCH LF							36-INCH LF
EA															CY	SY
PROJECT 8731-00-70																
CATEGORY 0010																
103+04	STH 137	4137064698	1	5	---	---	0.064	1	---	---	---	---	---	2	24 INCH	
145+08	STH 137	4137064700	---	---	---	57	0.105	---	---	---	2	12	30	2		
182+35	STH 137	4137064697	---	---	---	---	---	---	---	---	---	---	---	2		
1187+61	STH 137	4137064716	---	---	---	---	---	---	---	---	---	---	---	2		
1190+49	STH 137	4137064715	---	---	---	---	---	---	---	---	---	---	---	1		
1201+60	STH 137	4137064690	---	---	---	100	0.105	---	---	---	1	12	30	2	ENDWALL RT SIDE ONLY	
1207+45	STH 137	4137064689	1	---	---	---	---	---	2	---	---	12	30	2	36 INCH	
1237+38	STH 137	4137064680	---	---	43	---	---	---	---	2	---	---	---	2		
UNDISTRIBUTED			---	---	---	---	---	---	---	---	---	4	20	---		
PROJECT TOTALS			2	5	43	157		1	2	2	3	40	110	15		

GUARDRAIL

STATION TO STATION			DIR	ROADWAY	614.0400 ADJUSTING STEEL PLATE BEAM GUARD LF	614.0950 REPLACING GUARDRAIL POSTS & BLOCKS EACH	614.0951 REPLACING GUARDRAIL RAIL & HARDWARE LF
PROJECT 8731-00-70							
CATEGORY 0010							
167+34	-	167+84	RT	STH 137	---	1.0	12.5
169+50	-	170+25	LT	STH 137	75.0	---	---
PROJECT TOTALS					75	1.0	12.5

EROSION CONTROL

STATION	ROADWAY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EA	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EA	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EA	628.7570 ROCK BAGS EA
PROJECT 8371-00-70									
CATEGORY 0010									
145+07	STH 137	340	340	1	---	200	---	7	---
169+00	STH 137	430	430	---	---	---	---	---	---
1201+60	STH 137	280	280	1	---	310	---	7	---
1237+37	STH 137	170	170	1	---	50	---	3	10
UNDISTRIBUTED		180	180	1	2	120	15	---	20
PROJECT TOTALS		1,400	1,400	4	2	680	15	17	30

RESTORATION

TRAFFIC CONTROL COVERING SIGNS	
643.0920 TYPE II	
LOCATION	NUMBER OF CYCLES
PROJECT 8731-00-70	
CATEGORY 0010	
STH 137 EAST DETOUR	1
STH 137 WEST DETOUR	1
UNDISTRIBUTED	1
CATEGORY 0010 TOTALS	
PROJECT TOTALS	

STATION TO STATION	DIR	ROADWAY	LOCATION	630.0500 SEED WATER MGAL	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB
PROJECT 8371-00-70							
CATEGORY 0010							
144+98	LT/RT	STH 137	CULV REPLACEMENT	2	100	0.06	2
1201+60	LT/RT	STH 137	CULV REPLACEMENT	7	300	0.19	5
1237+37	LT/RT	STH 137	CULV REPLACEMENT	1	50	0.03	1
UNDISTRIBUTED				3	110	0.07	2
PROJECT TOTAL				13	560	0.35	10

TRAFFIC CONTROL

LOCATION	SERVICE DAYS	643.0300		643.0420		643.0705		643.0900		643.1000	COMMENT
		DRUMS		BARRICADES TYPE III		WARNING LIGHTS TYPE A		SIGNS		SIGNS FIXED MESSAGE	
		NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY	SF	
PROJECT 8731-00-70											
CATEGORY 0010											
STH 137 EAST DETOUR	75	0	---	0	---	0	---	37	2,775	---	
STH 137 WEST DETOUR	75	0	---	0	---	0	---	41	3,075	---	
MAINLINE CLOSURES	75	0	---	4	300	8	600	2	150	---	
MAINLINE CLOSURE CULVERT STA 1201+60	2	0	---	10	20	12	24	2	4	---	
SIDEROAD CLOSURES	75	0	---	24	1,800	48	3,600	32	2,400	---	
STH 137	---	0	---	0	---	0	---	---	---	36	HWY 137 ROAD WORK BEGINS XXX
UNDISTRIBUTED	20	20	400	2	40	4	80	4	80	---	
PROJECT TOTALS		400		2,160		4,304		8,484		36	

PAVEMENT MARKING

STATION TO STATION	ROADWAY	646.2020	
		EPOXY 6-INCH	
		(WHITE) LF	(YELLOW) LF
PROJECT 8371-00-70			
CATEGORY 0010			
37+75 - 105+00	STH 137	13,450	5,610
105+00 - 160+00	STH 137	11,000	9,100
160+00 - 1190+00	STH 137	13,370	11,430
1190+00 - 1251+57	STH 137	12,320	9,650
SUBTOTALS		50,140	35,790
PROJECT TOTALS		85,930	

DITCH CLEANING

STATION	ROADWAY	CULVERT NUMBER	SPV.0090.01 LF	COMMENTS
PROJECT 8731-00-70				
CATEGORY 0010				
182+35	STH 137	4137064697	15	RT SIDE
1190+49	STH 137	4137064715	10	LT SIDE
1190+49	STH 137	4137064715	10	RT SIDE
1207+45	STH 137	4137064689	15	RT SIDE
1218+54	STH 137	4137064684	25	RT SIDE
PROJECT TOTAL			75	

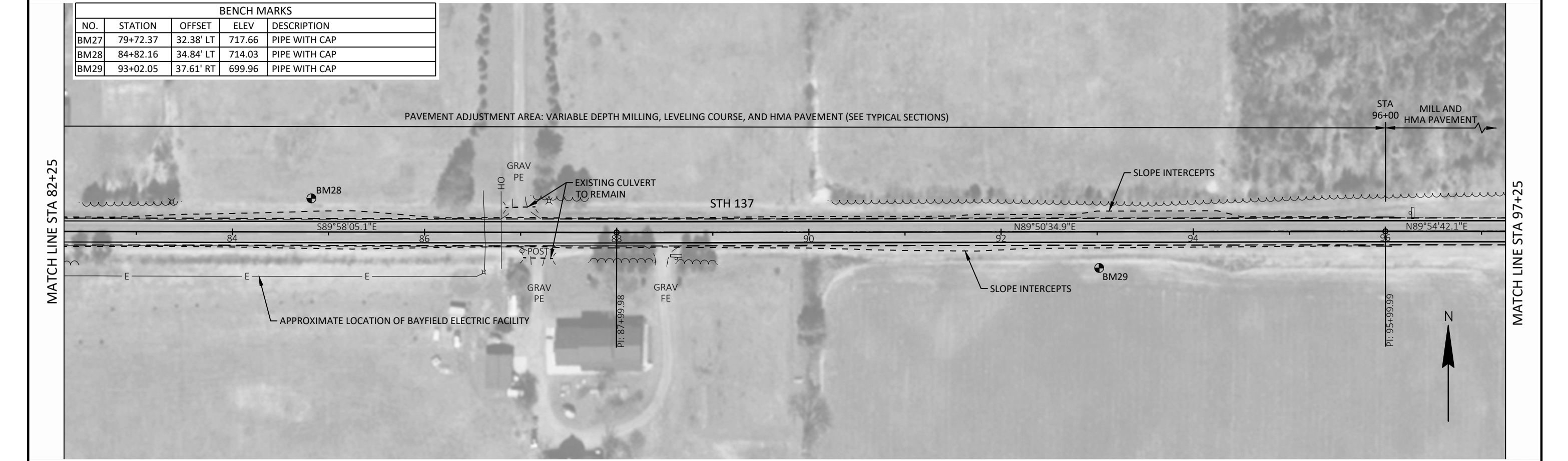
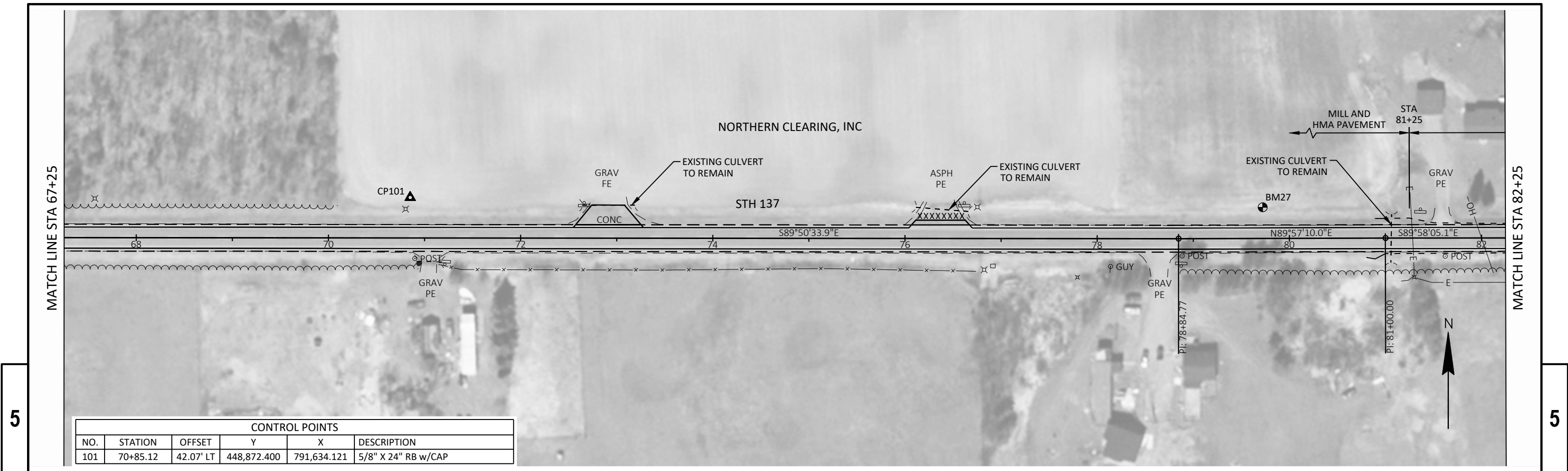
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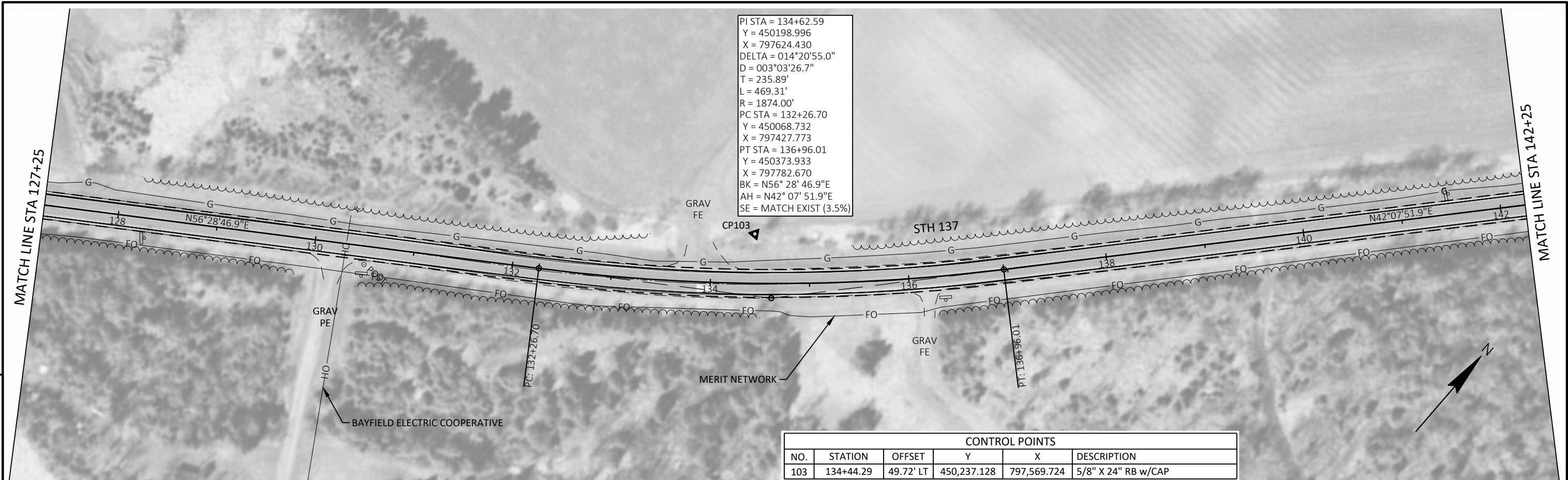
STATION TO STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6000 PIPE CULVERTS EA	650.8000 RESURFACING REFERENCE LF	650.9920 SLOPE STAKES LF
PROJECT 8371-00-70						
CATEGORY 0010						
37+75 - 1251+58	STH 137	---	---	---	24,986	---
144+98	STH 137	155	155	1	---	---
81+25 - 96+00	STH 137	---	---	---	---	1475
1201+60	STH 137	106	106	1	---	---
1237+37	STH 137	84	84	1	---	---
PROJECT TOTALS		345	345	3	24,986	1,475

SAWING

STATION TO STATION	DIR	ROADWAY	690.0150 ASPHALT LF	COMMENT
PROJECT 8731-00-70				
CATEGORY 0010				
144+28	R/L	STH 173	22	
145+82	R/L	STH 173	22	
166+53 - 167+85	RT	STH 173	132	GUARDRAIL WIDENING
166+98 - 168+67	LT	STH 173	169	GUARDRAIL WIDENING
169+79 - 170+91	RT	STH 173	112	GUARDRAIL WIDENING
1201+07	R/L	STH 173	22	
1202+13	R/L	STH 173	22	
1236+95	R/L	STH 173	22	
1237+78	R/L	STH 173	22	
DRIVEWAYS		STH 173	685	

PROJECT TOTAL 1,230

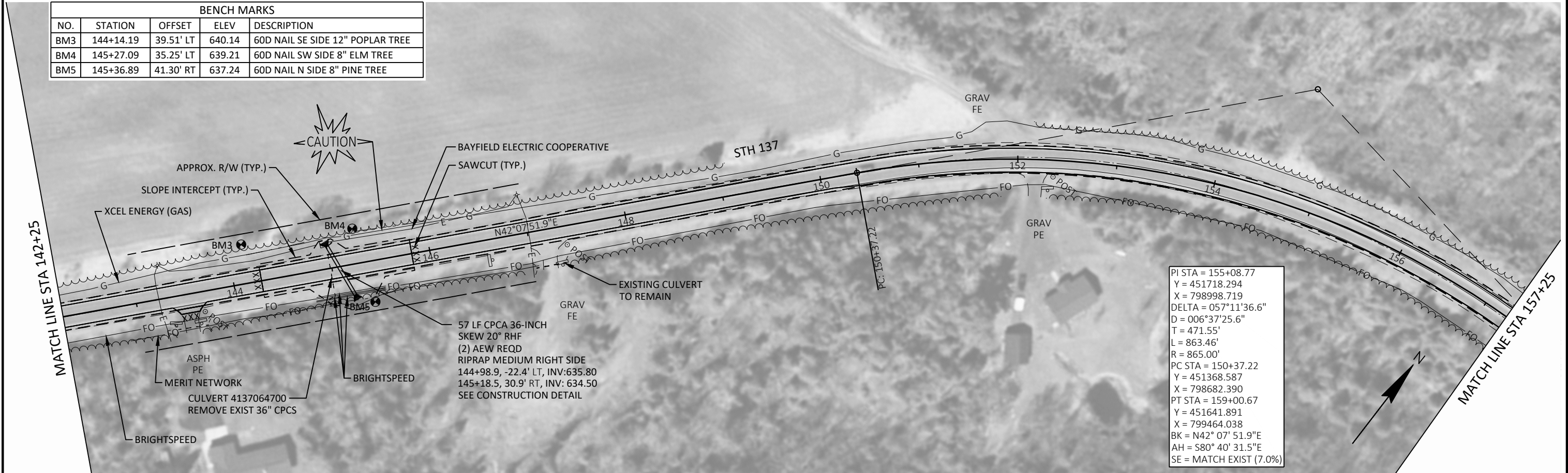




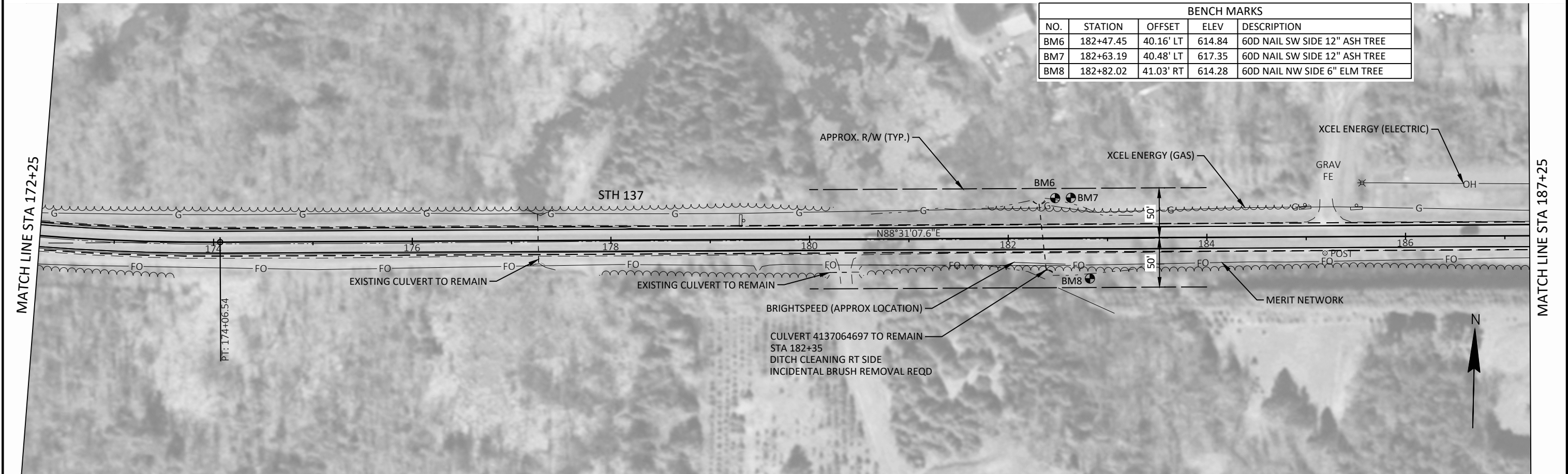
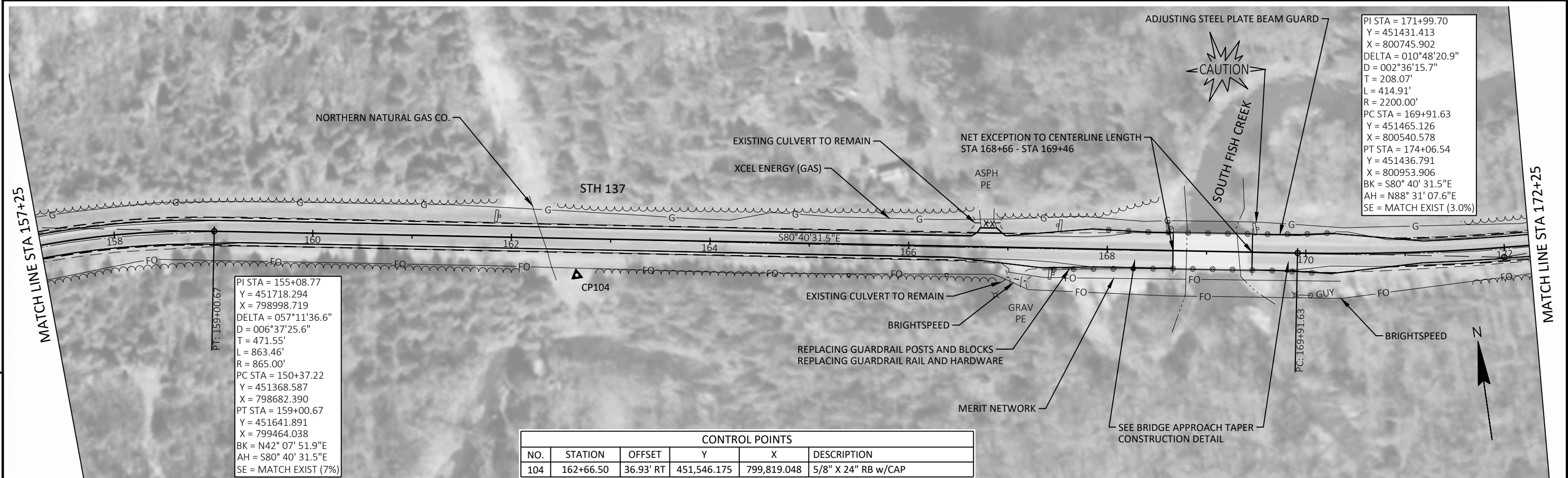
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L = 469.31'
R = 1874.00'
PC STA = 132+26.70
Y = 450068.732
X = 797427.773
PT STA = 136+96.01
Y = 450373.933
X = 797782.670
BK = N56° 28' 46.9"E
AH = N42° 07' 51.9"E
SE = MATCH EXIST (3.5%)

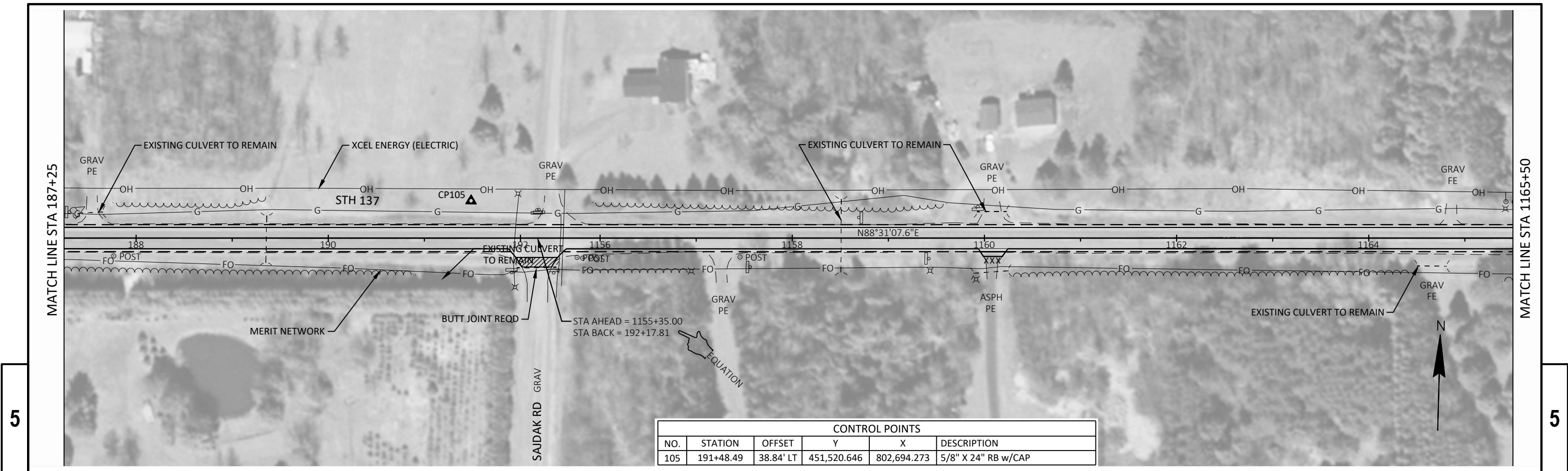
CONTROL POINTS					
NO.	STATION	OFFSET	Y	X	DESCRIPTION
103	134+44.29	49.72' LT	450,237.128	797,569.724	5/8" X 24" RB w/CAP

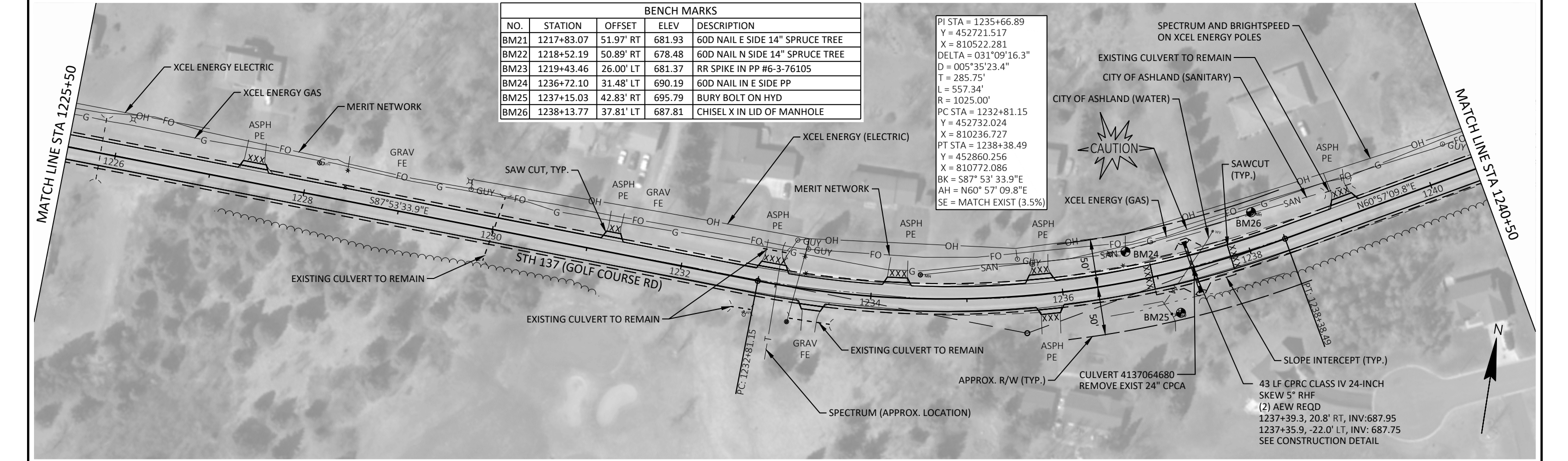
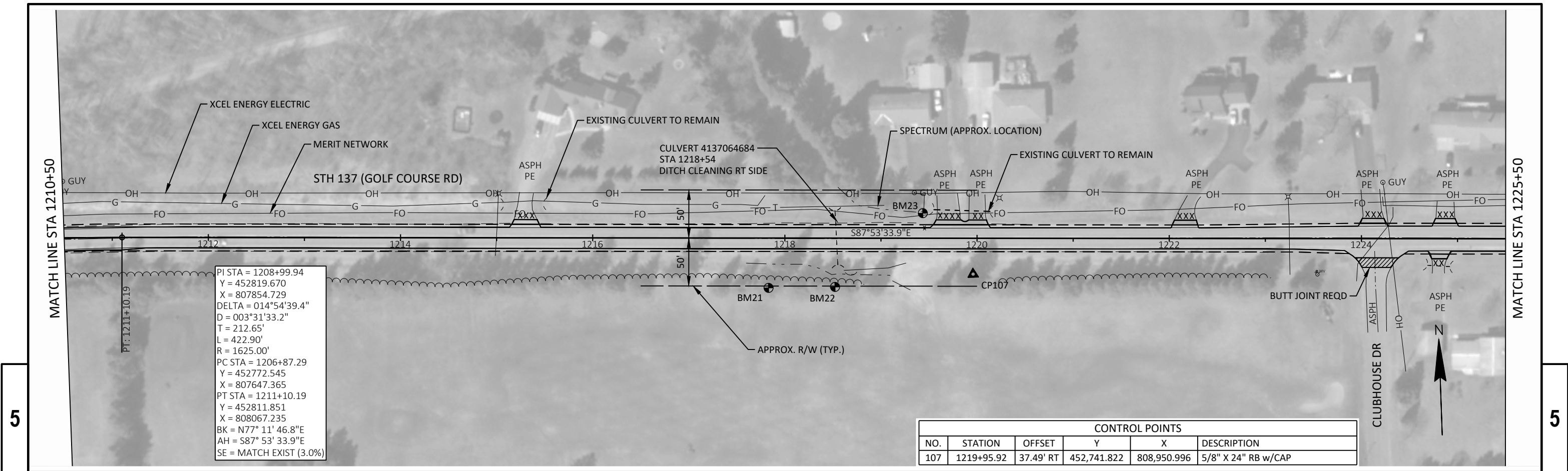
BENCH MARKS				
NO.	STATION	OFFSET	ELEV	DESCRIPTION
BM3	144+14.19	39.51' LT	640.14	60D NAIL SE SIDE 12" POPLAR TREE
BM4	145+27.09	35.25' LT	639.21	60D NAIL SW SIDE 8" ELM TREE
BM5	145+36.89	41.30' RT	637.24	60D NAIL N SIDE 8" PINE TREE

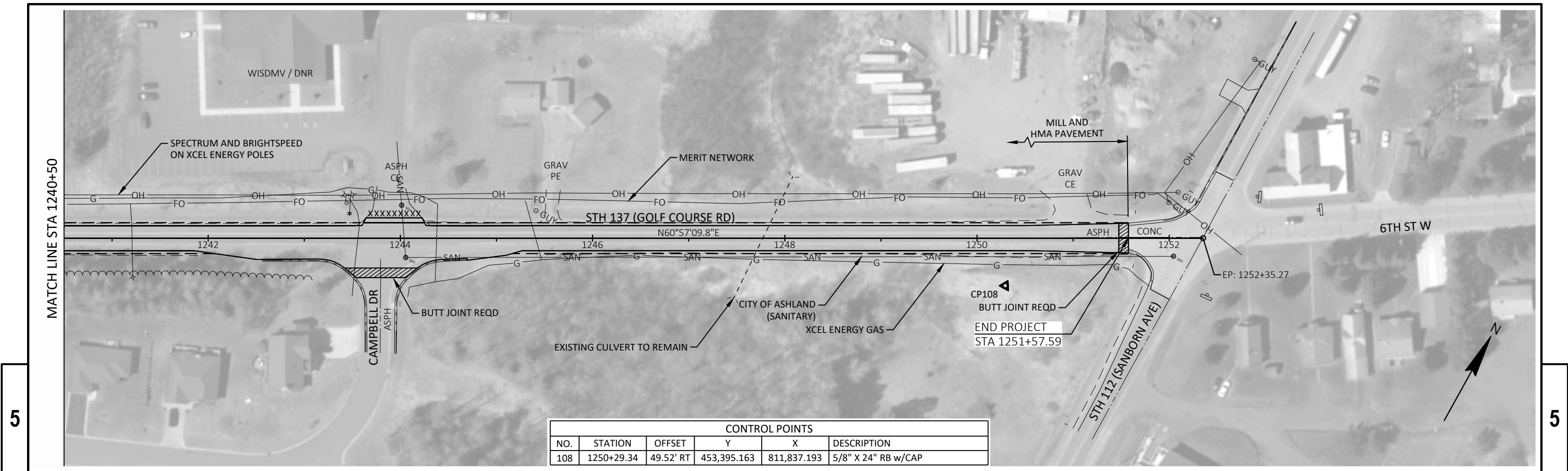


PI STA = 155+08.77
Y = 451718.294
X = 798998.719
DELTA = 057°11'36.6"
D = 006°37'25.6"
T = 471.55'
L = 863.46'
R = 865.00'
PC STA = 150+37.22
Y = 451368.587
X = 798682.390
PT STA = 159+00.67
Y = 451641.891
X = 799464.038
BK = N42° 07' 51.9"E
AH = S80° 40' 31.5"E
SE = MATCH EXIST (7.0%)





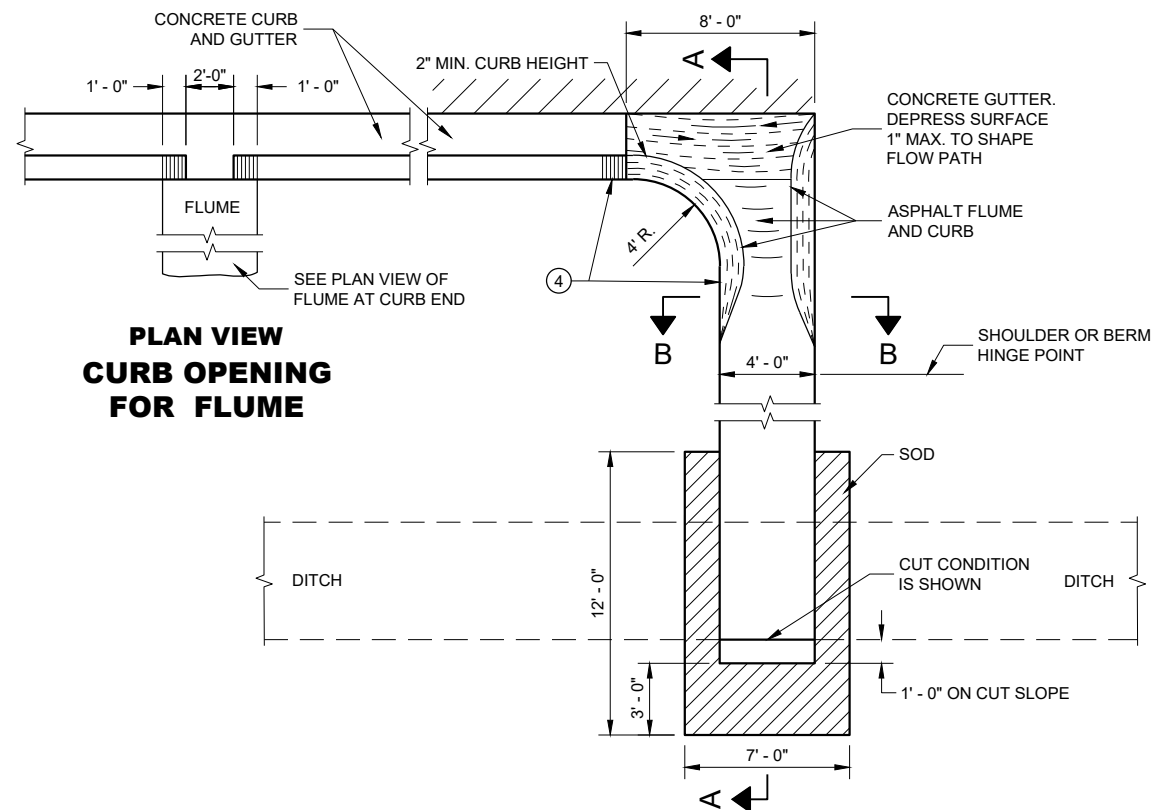




Standard Detail Drawing List

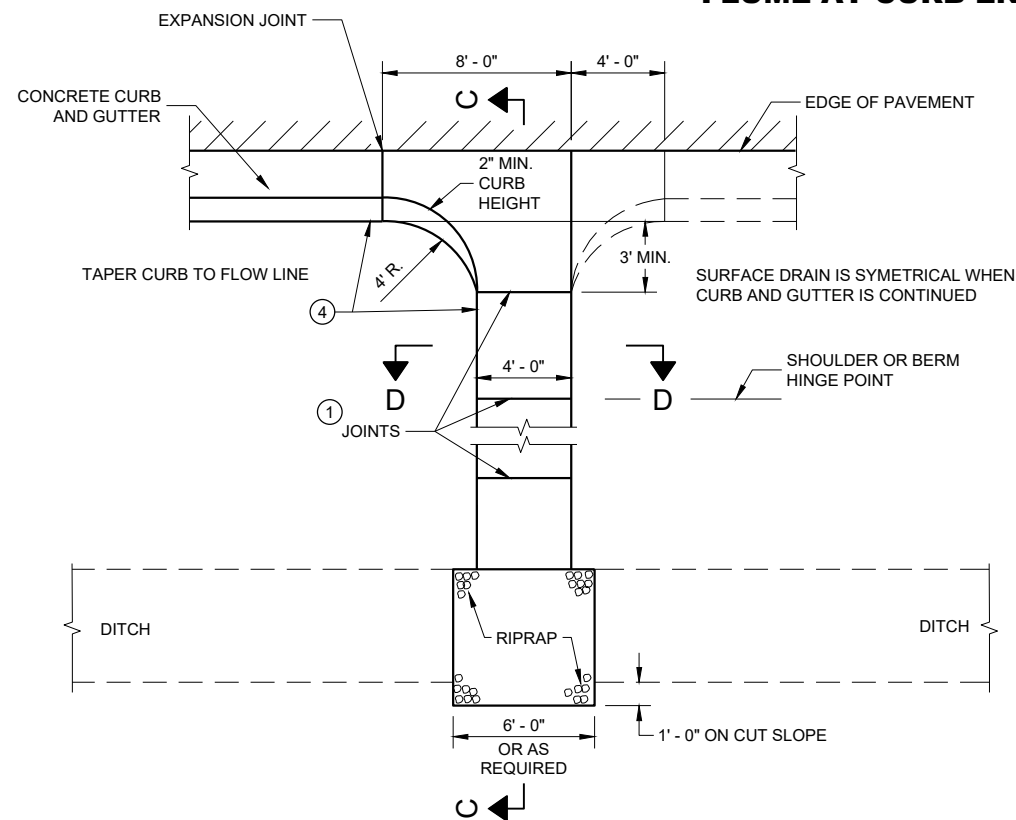
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)

ASPHALTIC FLUME



**PLAN VIEW
CURB OPENING
FOR FLUME**

PLAN VIEW
FLUME AT CURB END

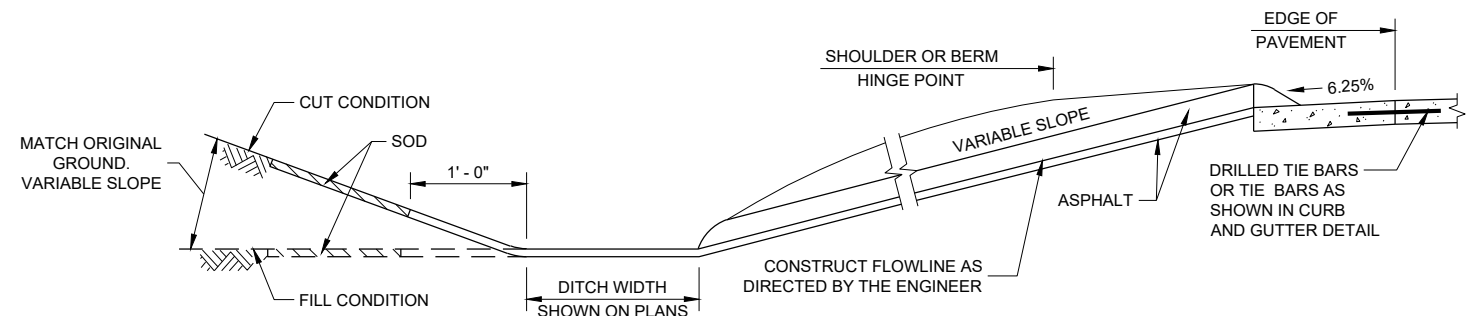


PLAN VIEW

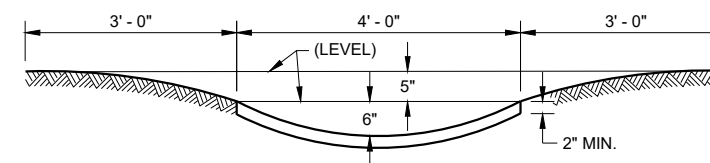
CONCRETE SURFACE DRAIN

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

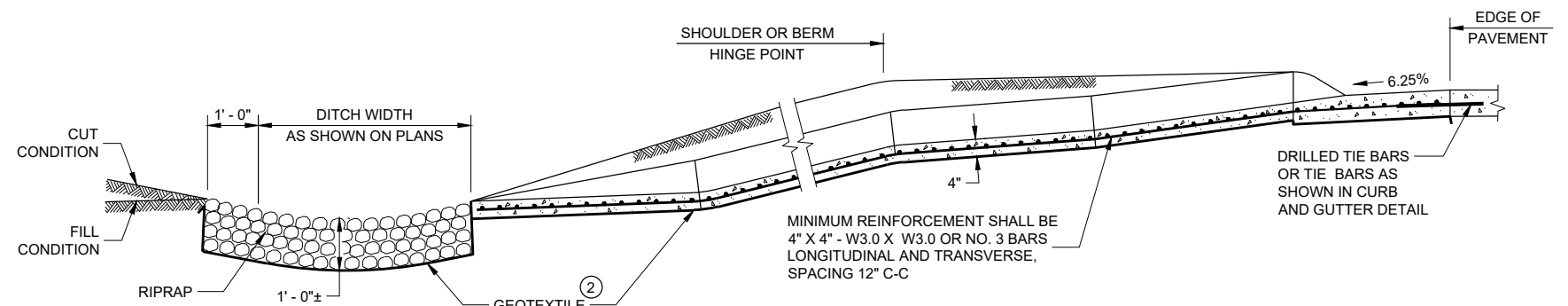
- ① JOINTS SHALL BE $\frac{1}{8}$ " TO $\frac{1}{4}$ " WIDE BY $\frac{1}{2}$ " DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



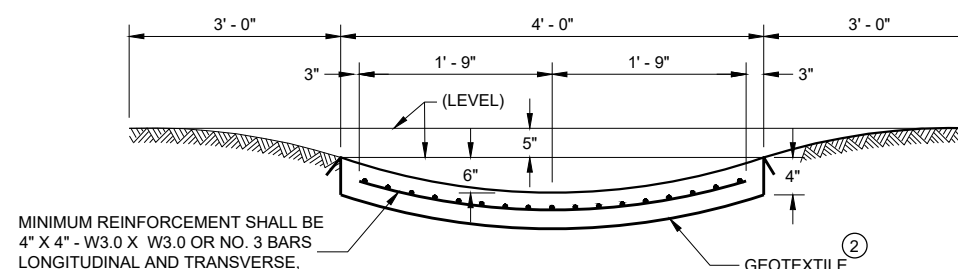
SECTION A - A



SECTION B - B



SECTION C - C



SECTION D - D

APPROVED
May 2023
 DATE

/S/ Rodney Taylor
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

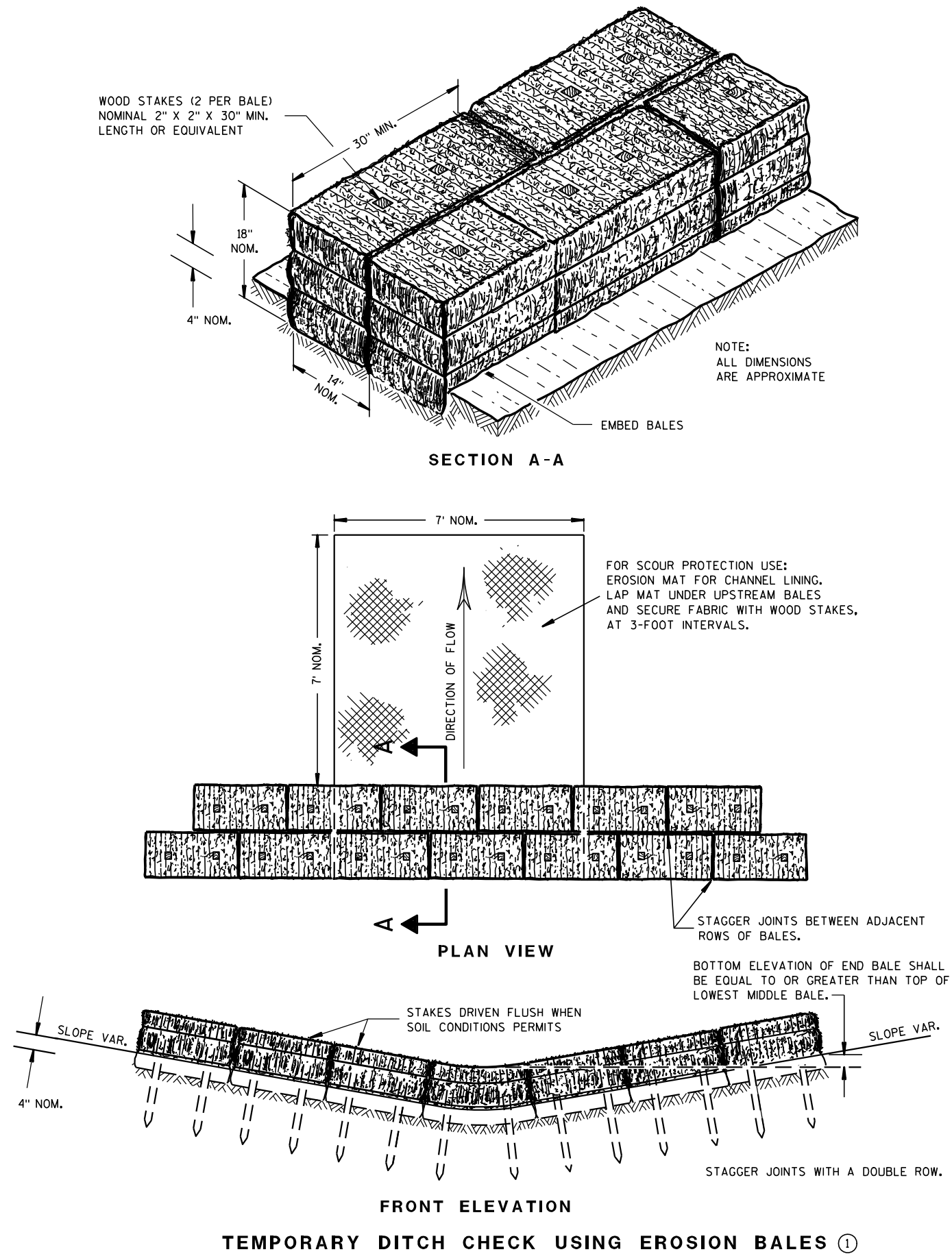
39

6

SDD 08D04 - 07

6 |

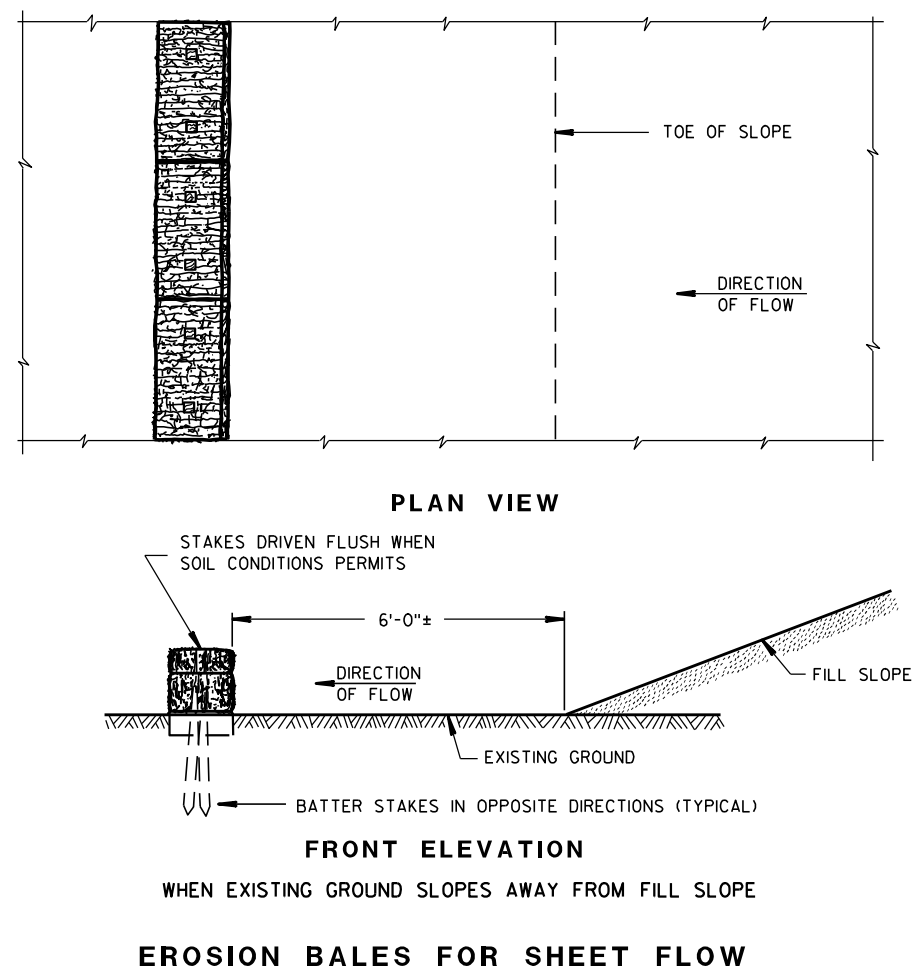
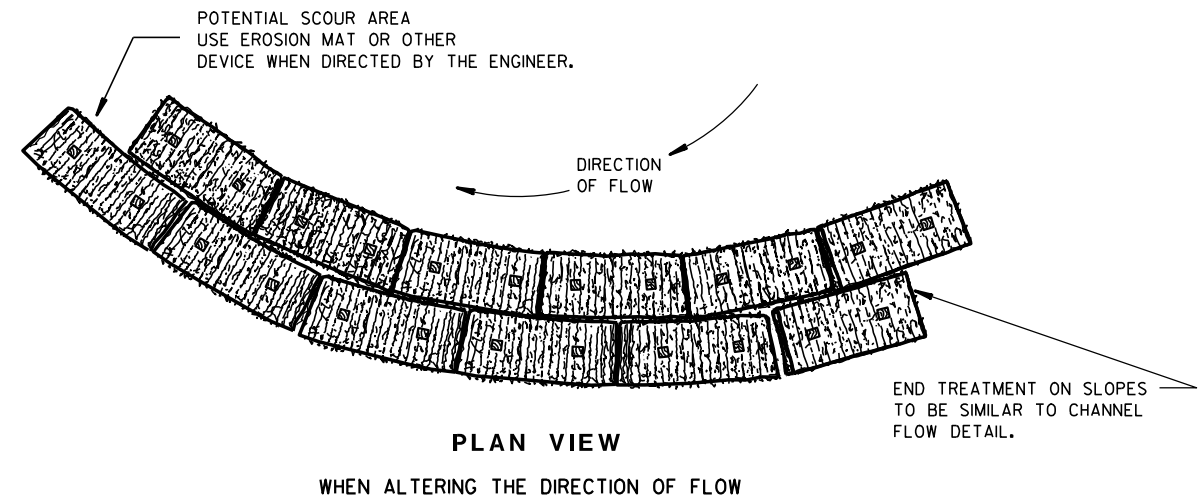
SDD 08D04 - 07



GENERAL NOTES

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

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



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

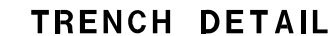
/S/ Beth Connors
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



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

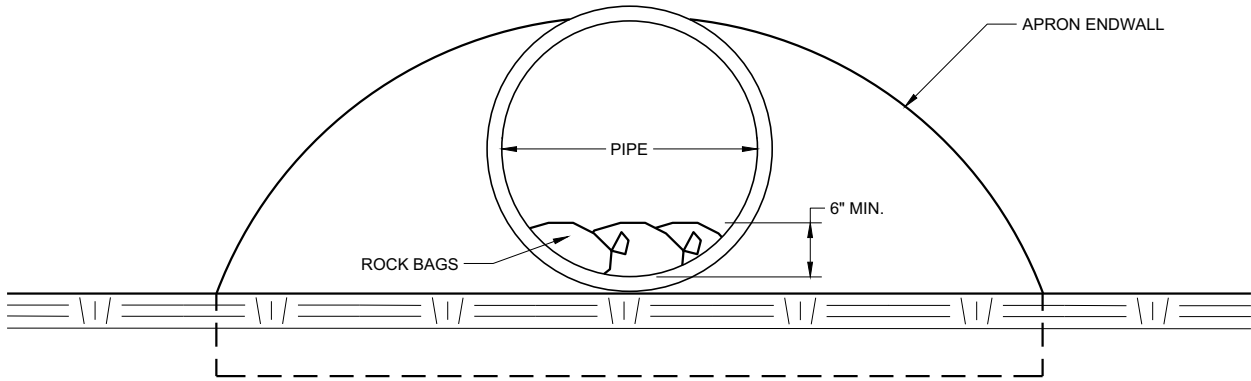


SILT FENCE

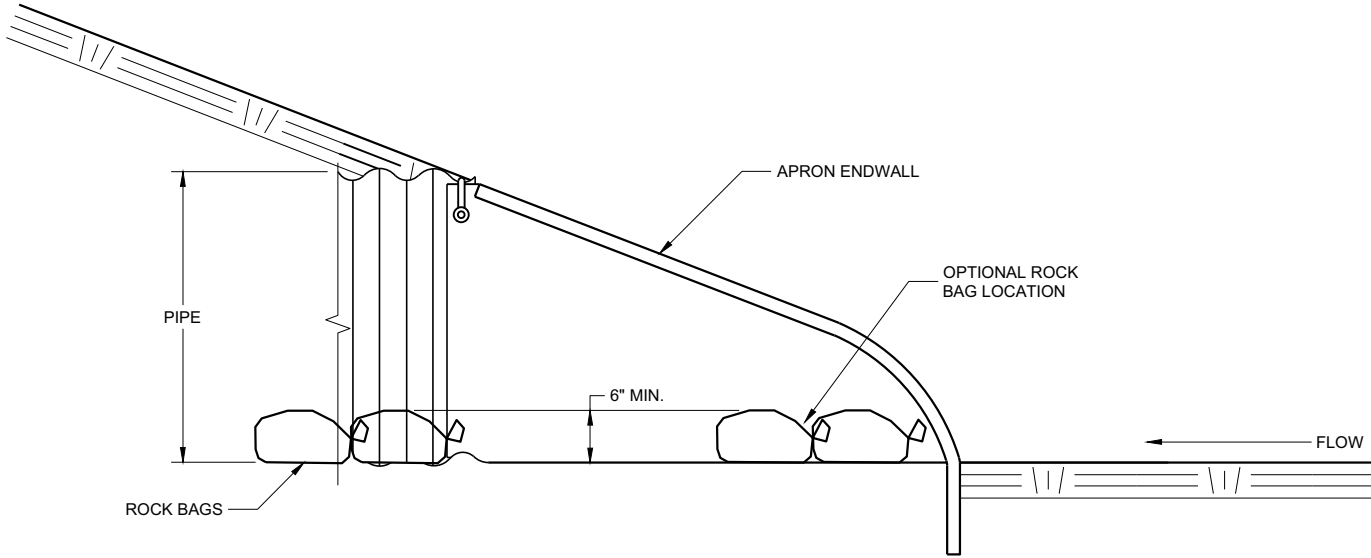
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



END VIEW



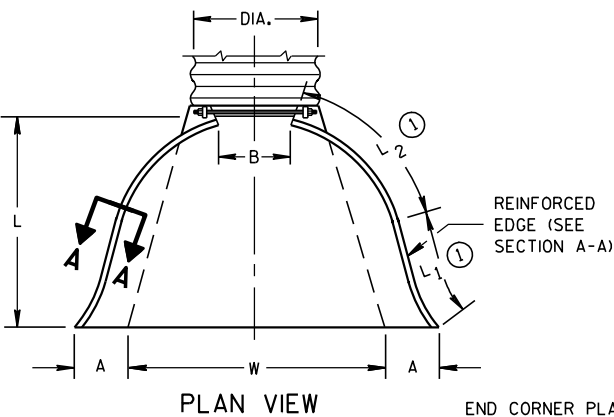
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
May 2019	/S/ Daniel Schave		
DATE	EROSION CONTROL ENGI	42	
FHWA			

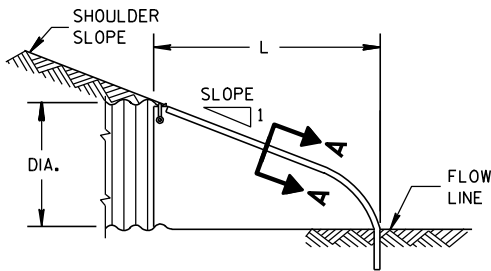
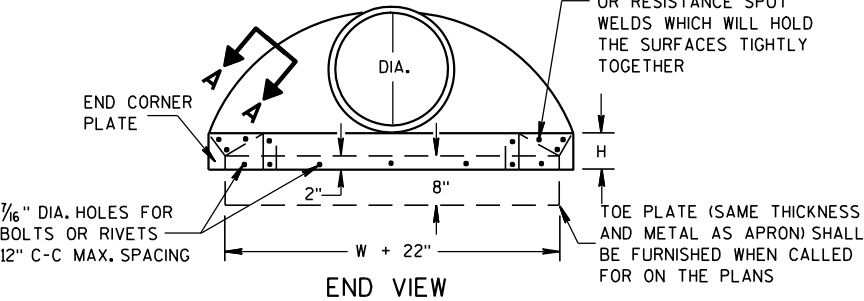
METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

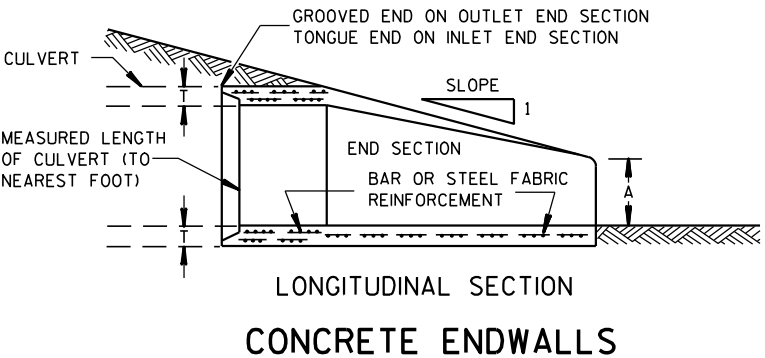
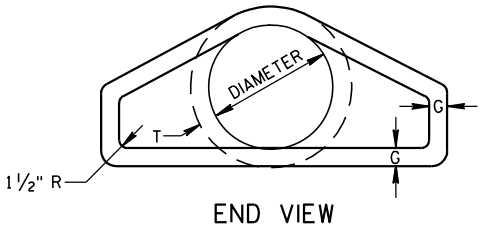
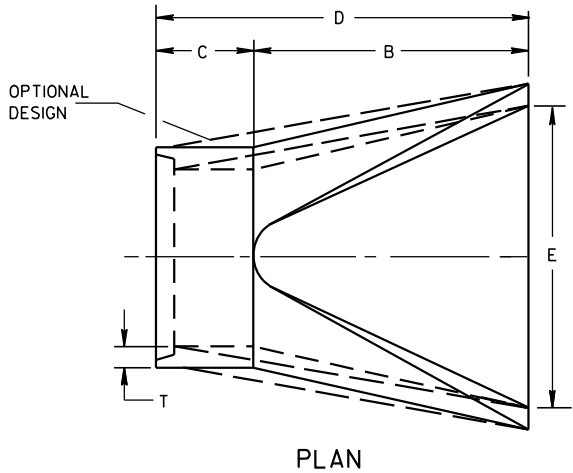
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

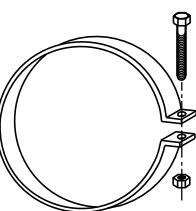
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43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

* MINIMUM
** MAXIMUM

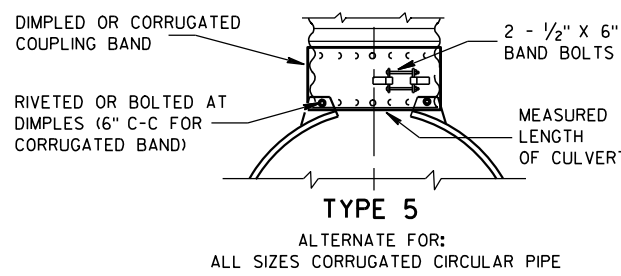
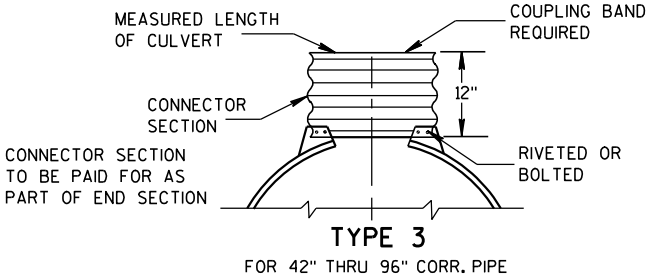
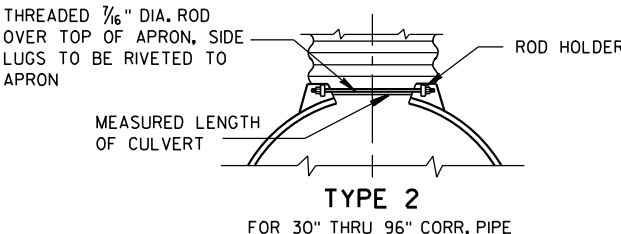
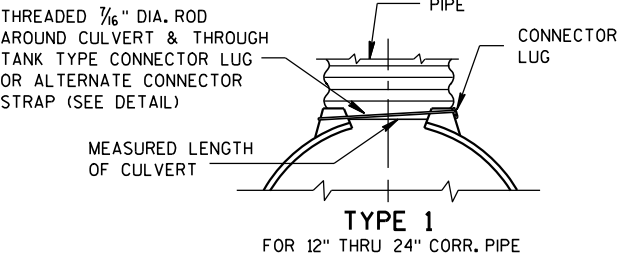


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



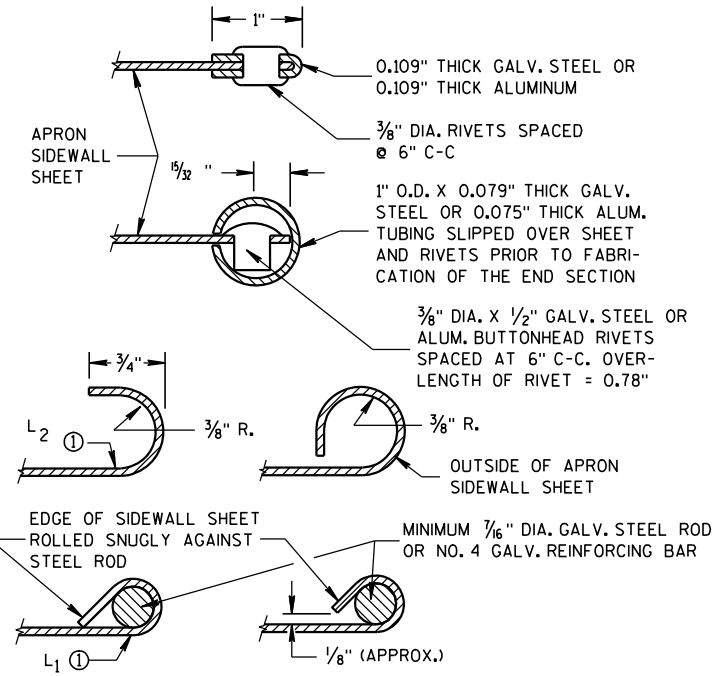
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

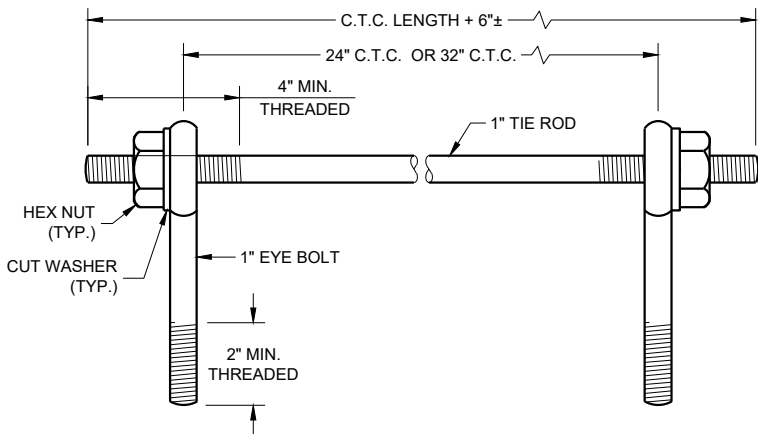
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

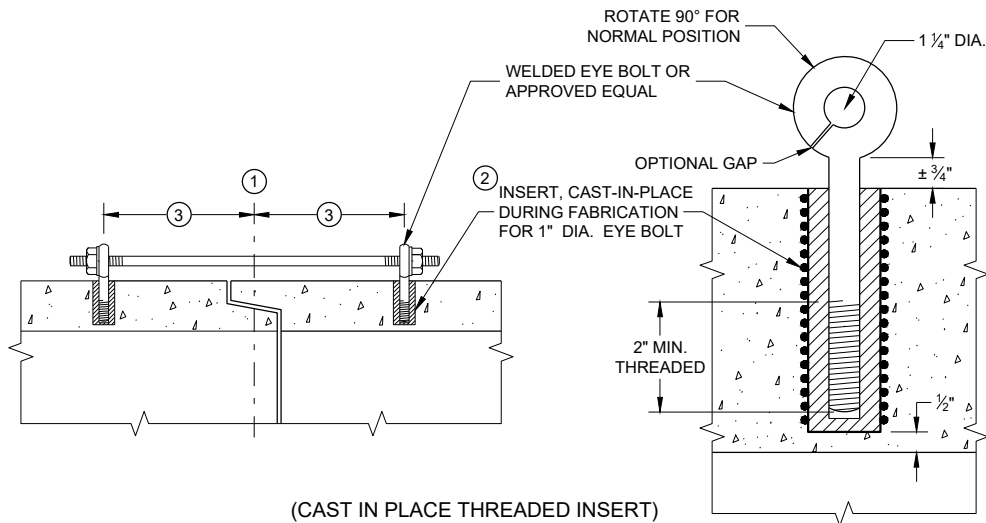
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhin... CHIEF ROADWAY DEVELOP 43 NEER
FHWA	



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

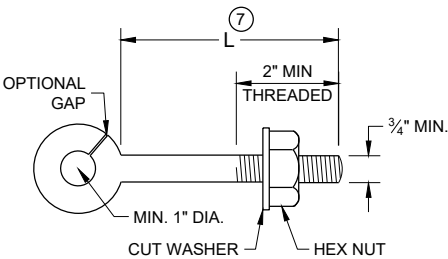
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

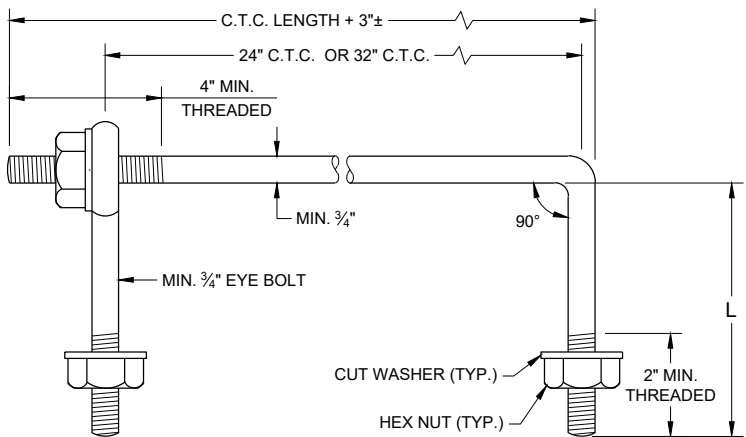
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

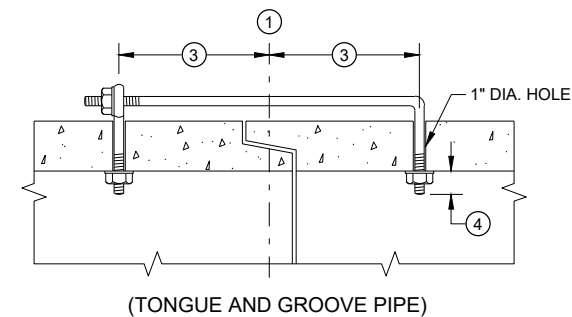


EYE BOLT 7

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



EYE BOLT AND TIE ROD

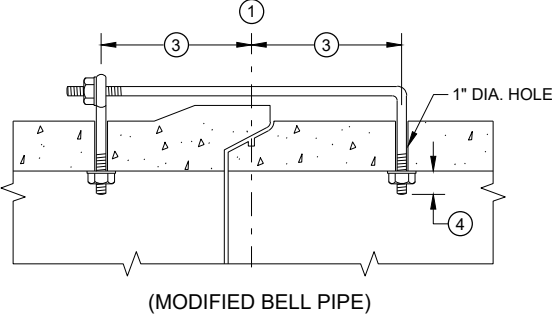


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

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

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

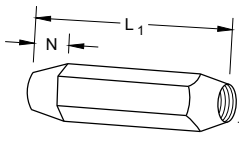


(MODIFIED BELL PIPE)

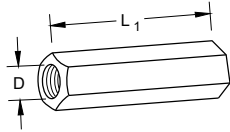
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

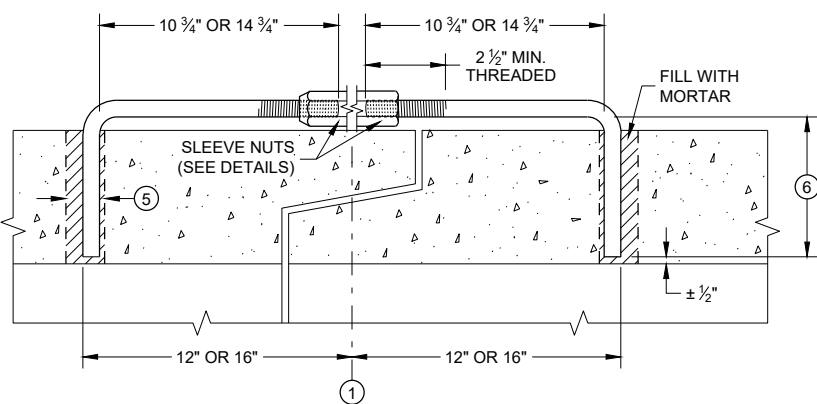


TAPERED



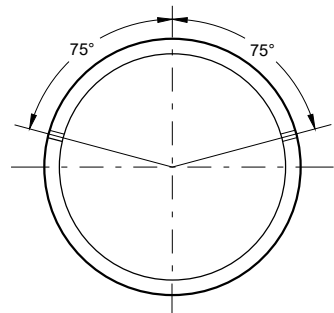
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



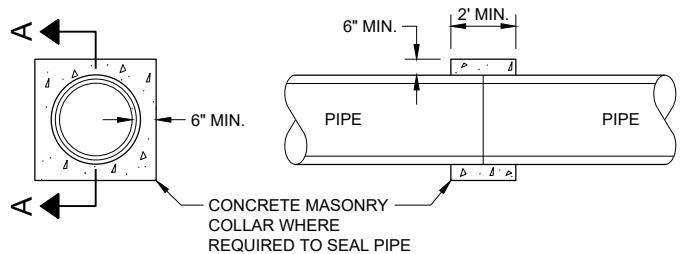
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



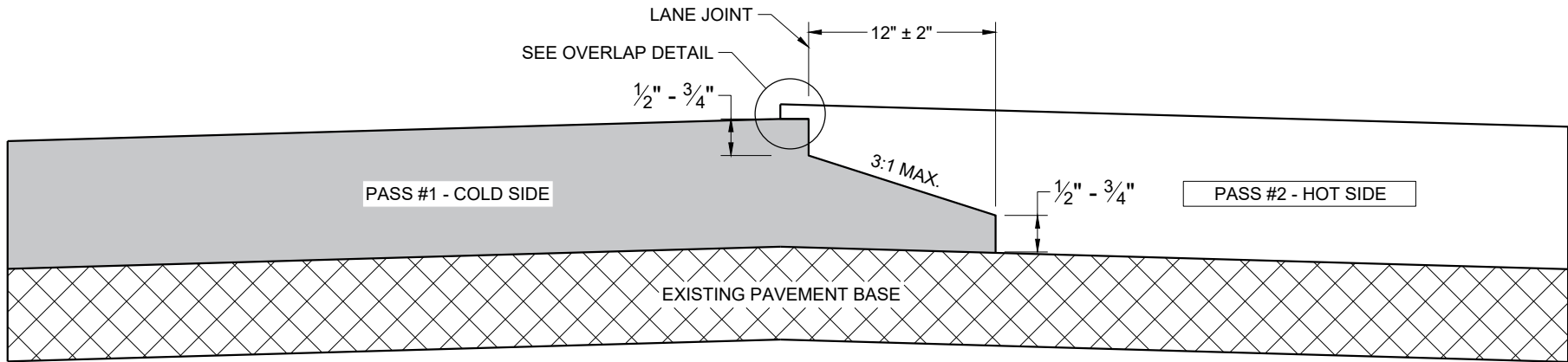
SECTION A - A

CONCRETE COLLAR DETAIL

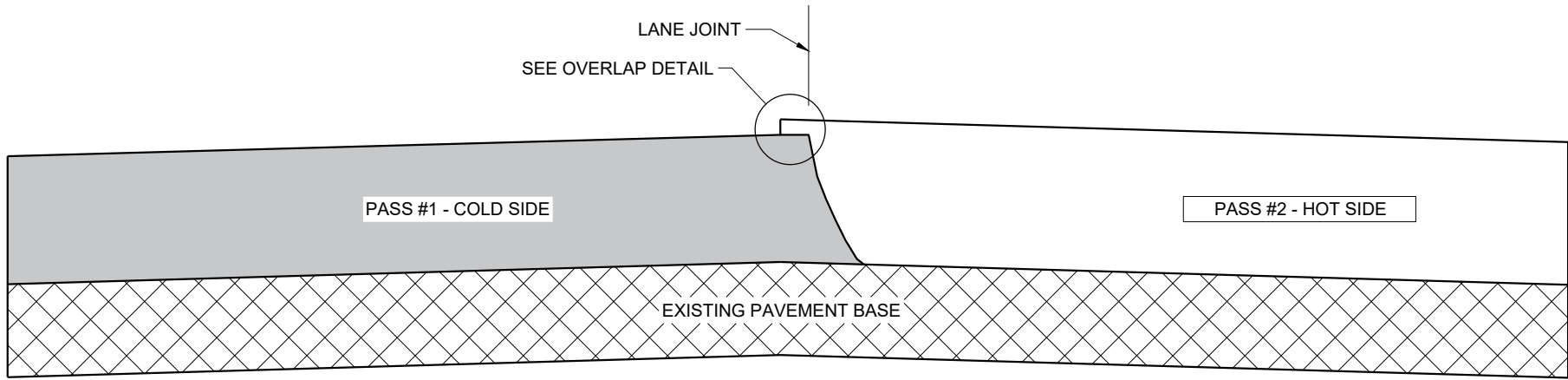
JOINT TIES FOR CONCRETE
PIPE AND CONCRETE
COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

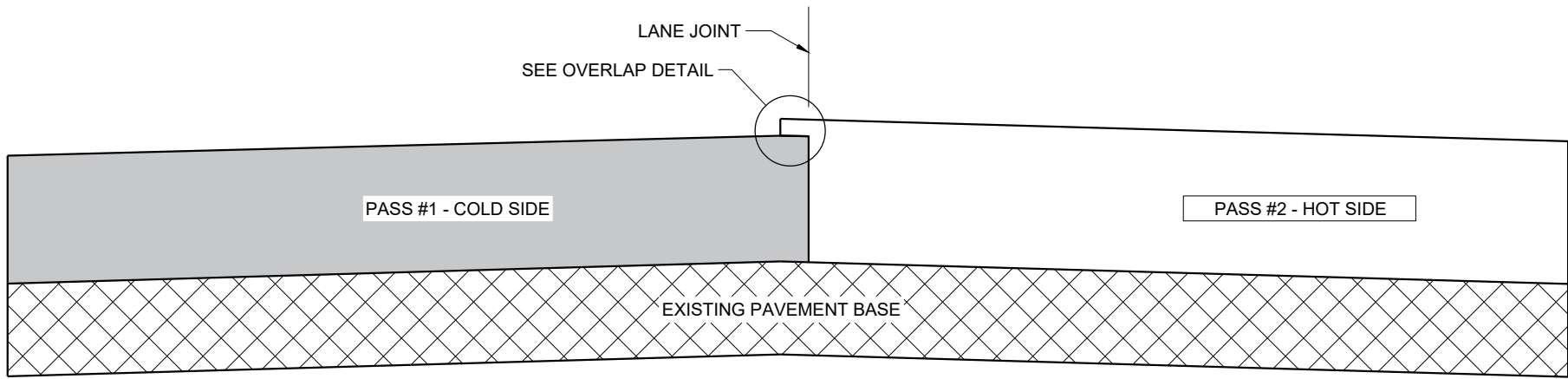
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 44
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

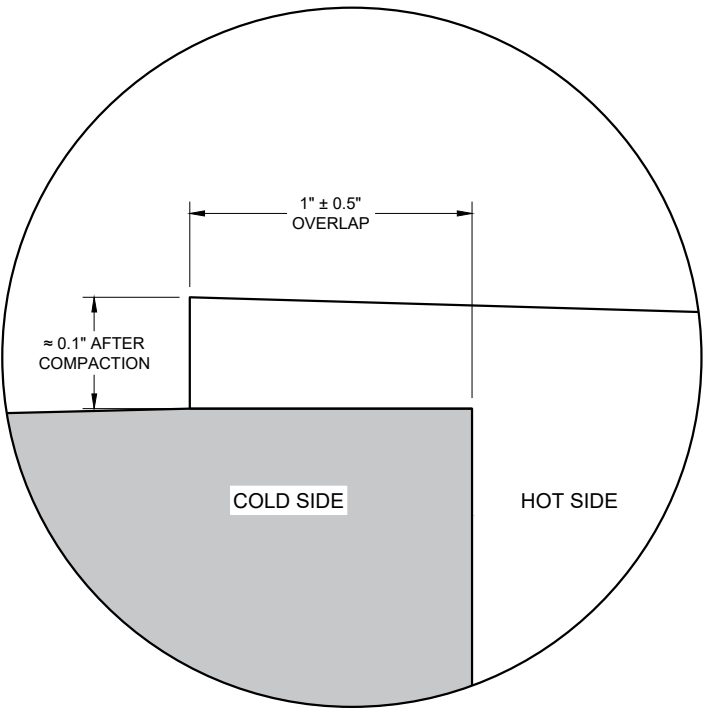
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

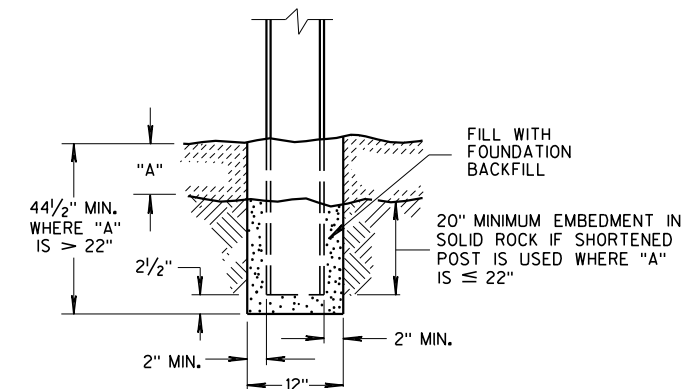
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

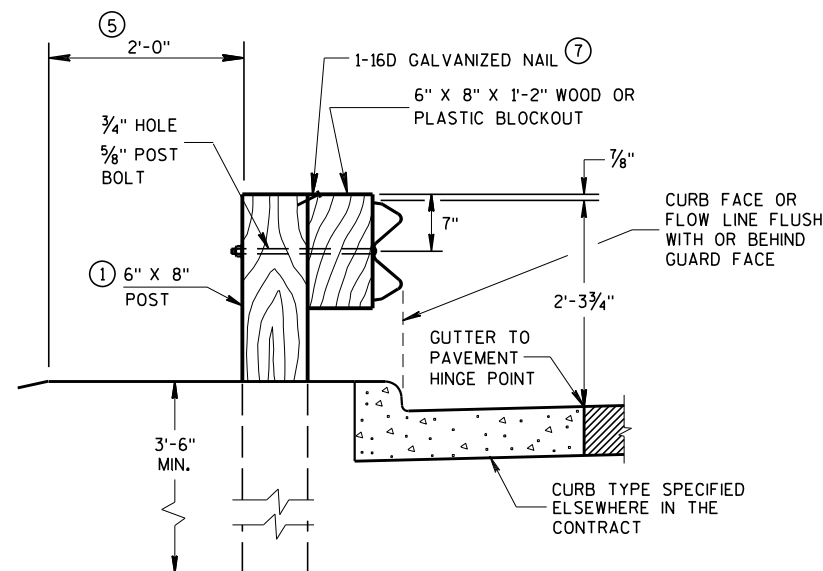
GENERAL NOTES

- W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
- INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
- WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

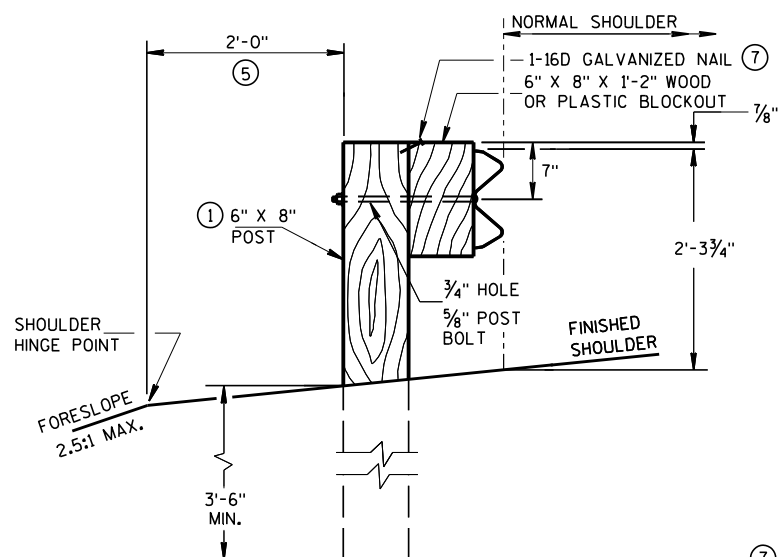
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



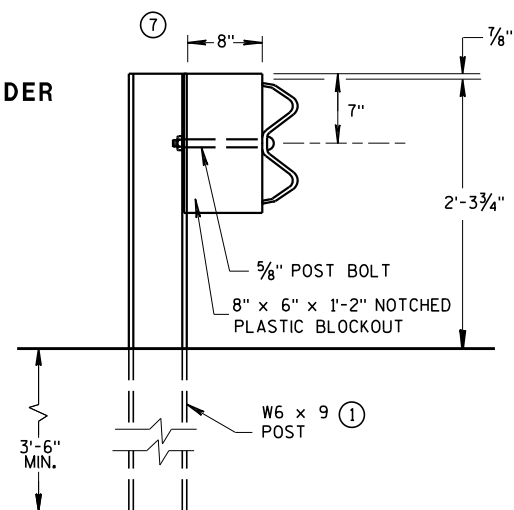
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



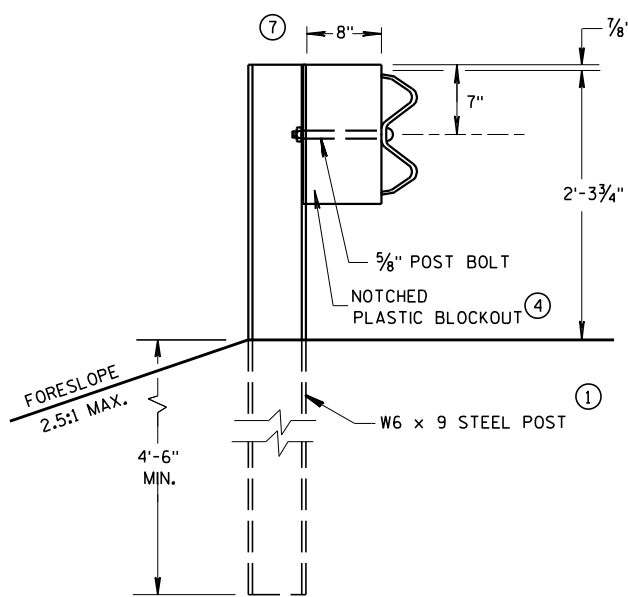
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION

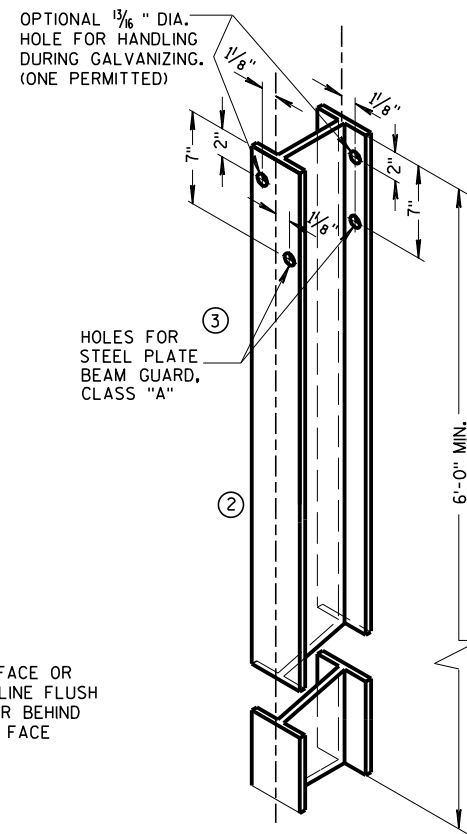


END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



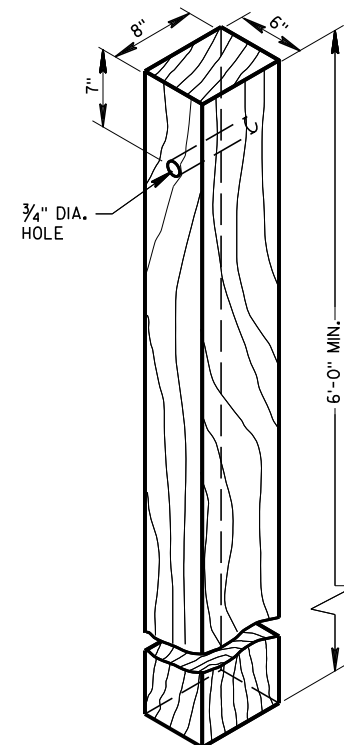
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

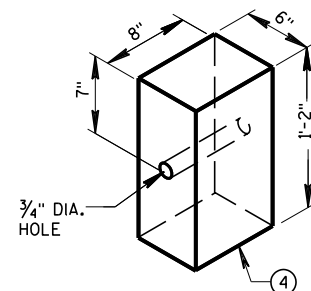


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①

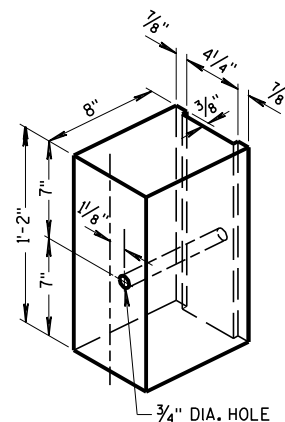
ALL HOLES 1/8" DIAMETER EXCEPT AS NOTED



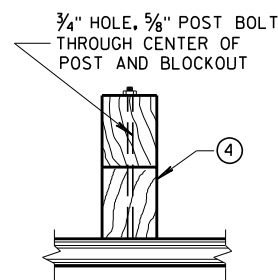
WOOD POST
(6"X8") NOMINAL



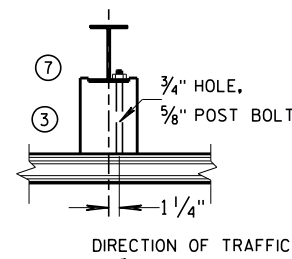
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS ①



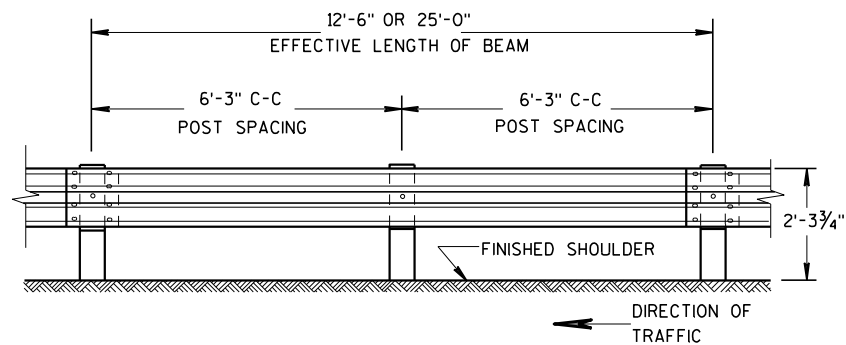
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

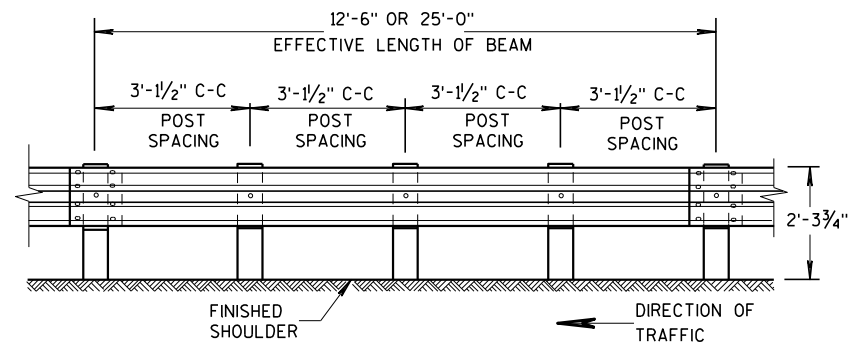
STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



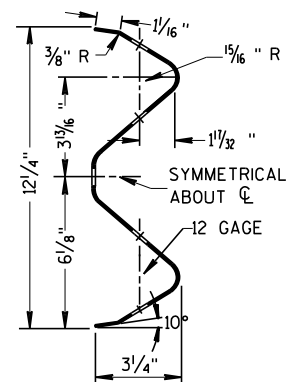
FRONT VIEW

POST SPACING STANDARD INSTALLATION

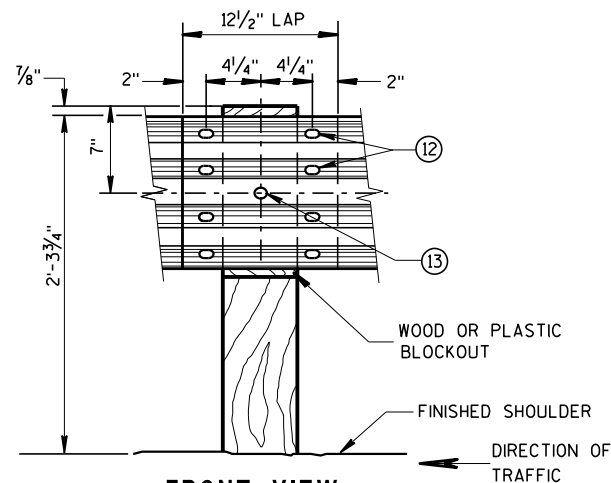


FRONT VIEW

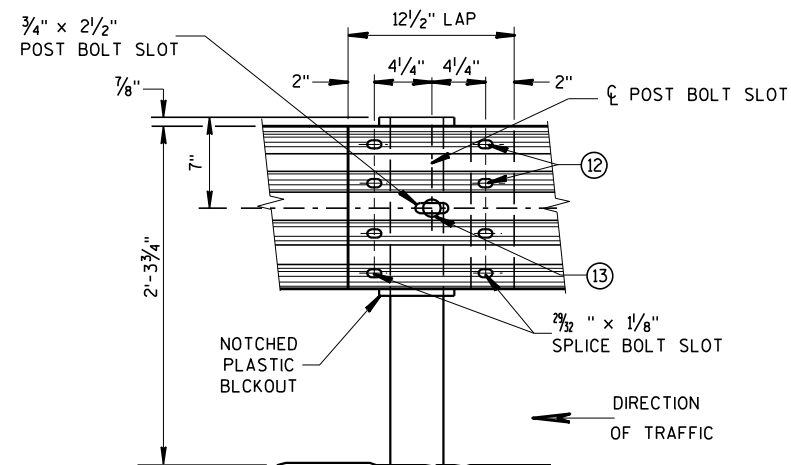
POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)



SECTION THRU W BEAM



FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL

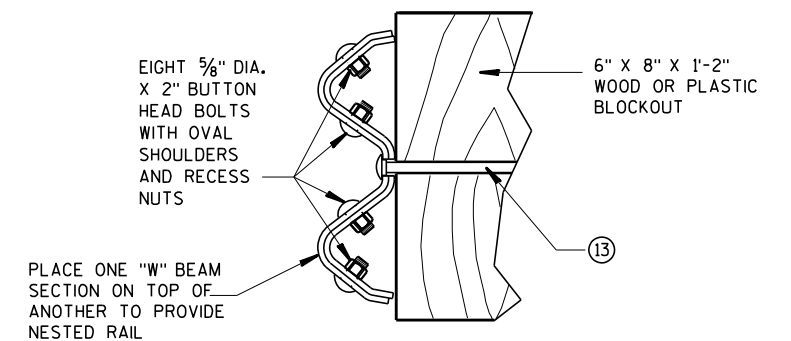


FRONT VIEW
BEAM SPLICE AT STEEL POST
TYPICAL SPlicing DETAILS
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

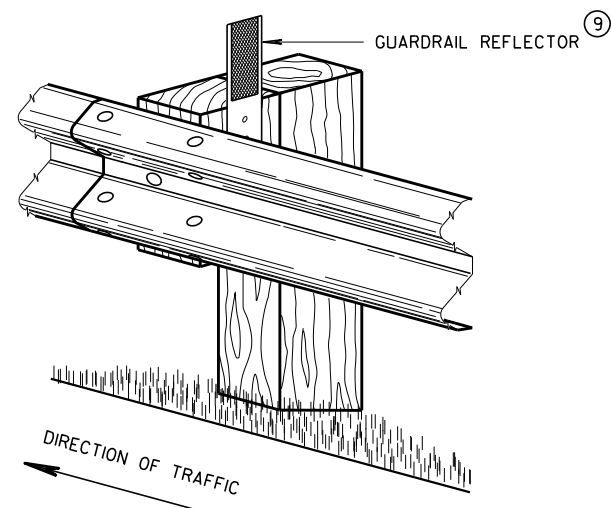
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



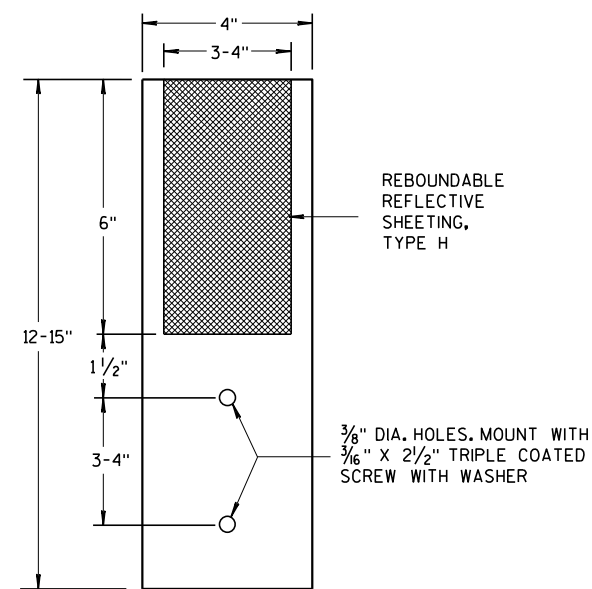
NESTED W BEAM (NW)

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

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



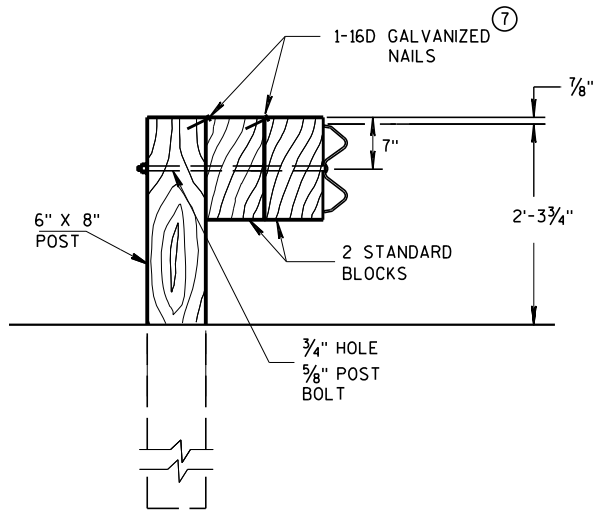
4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

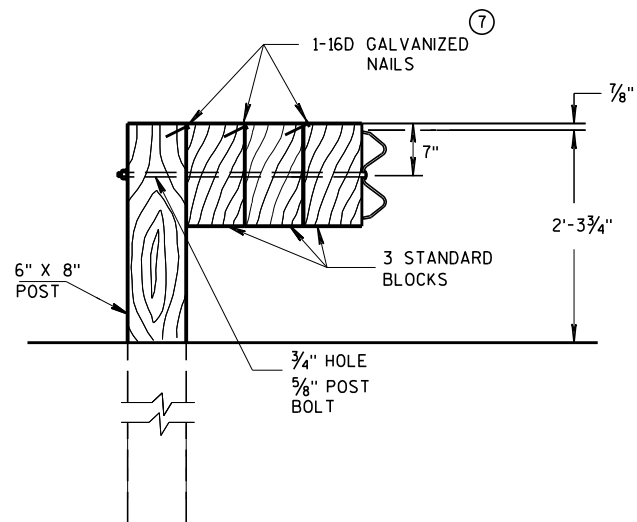
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCO⁴⁷
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

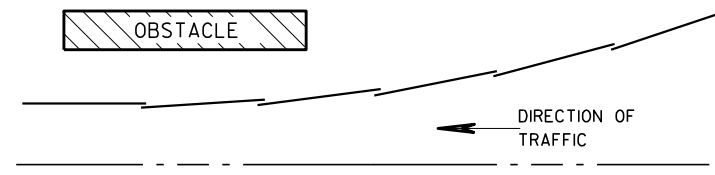


DETAIL FOR TRIPLE BLOCKS

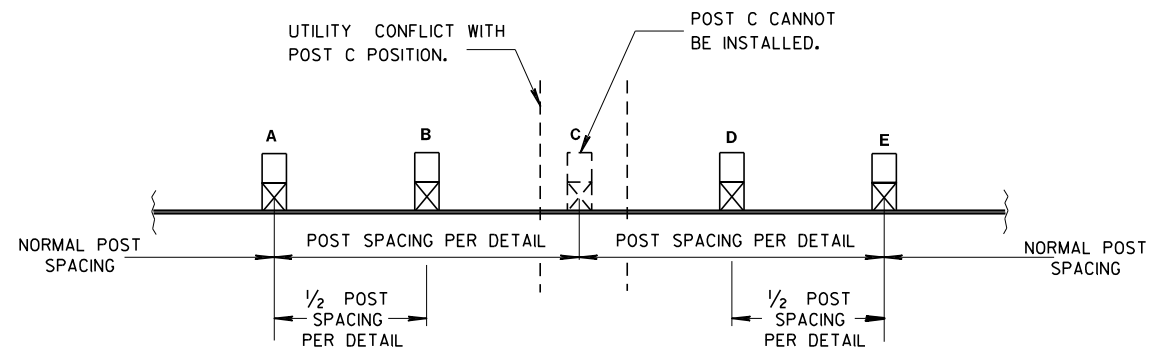
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS 48 UNIT SUPERVISOR
FHWA

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6 1/2"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

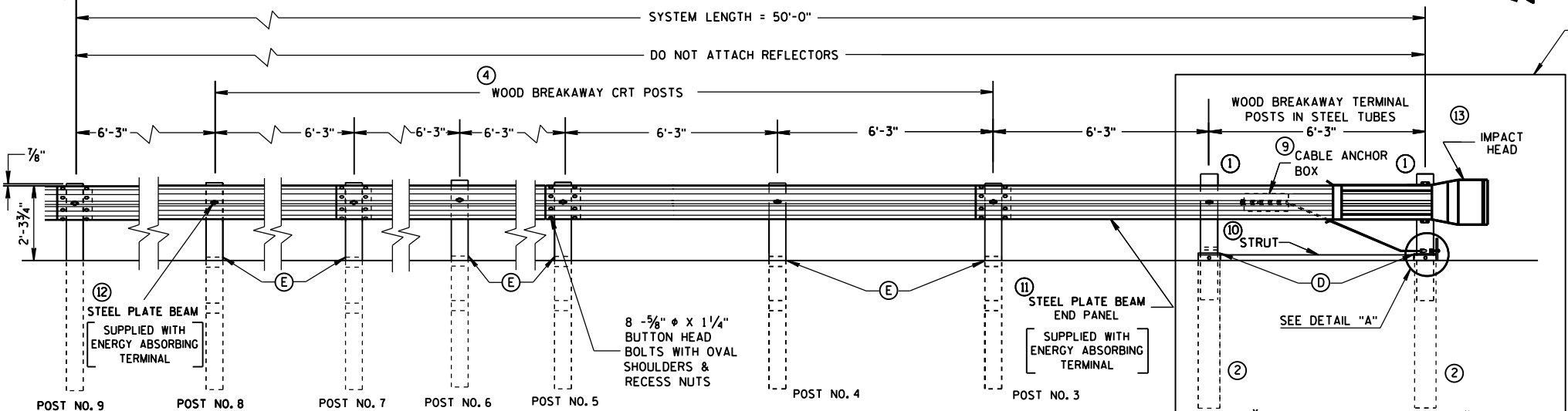
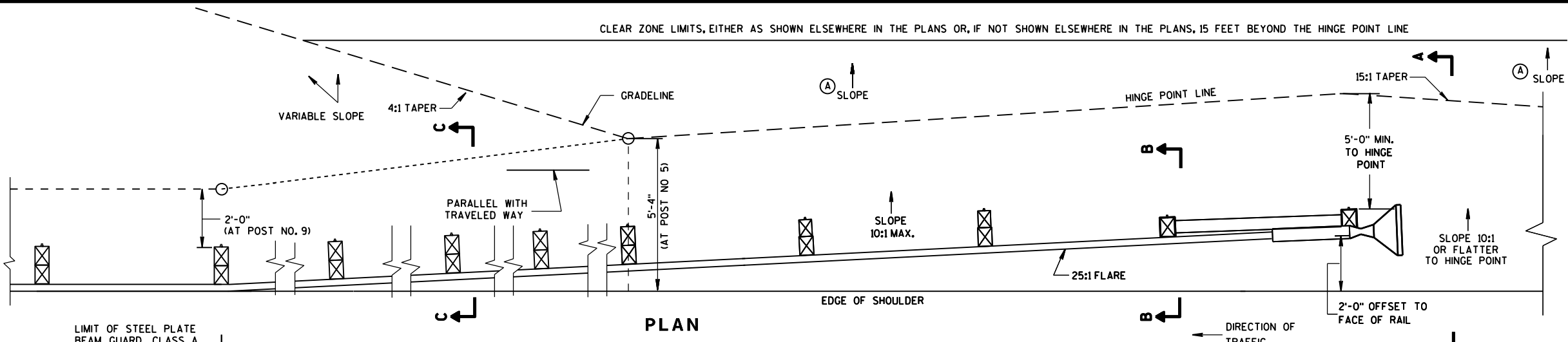
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (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.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.
- (F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

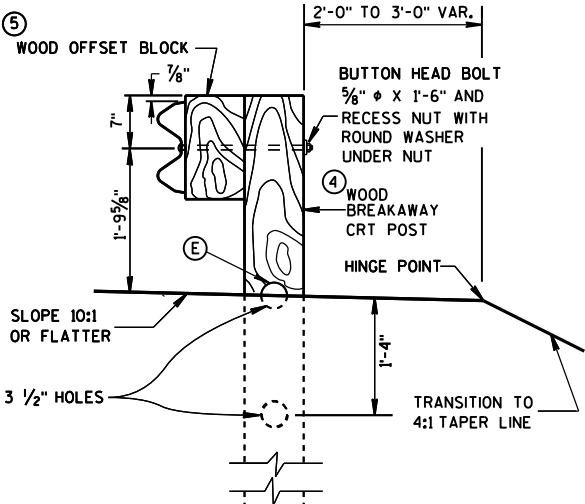
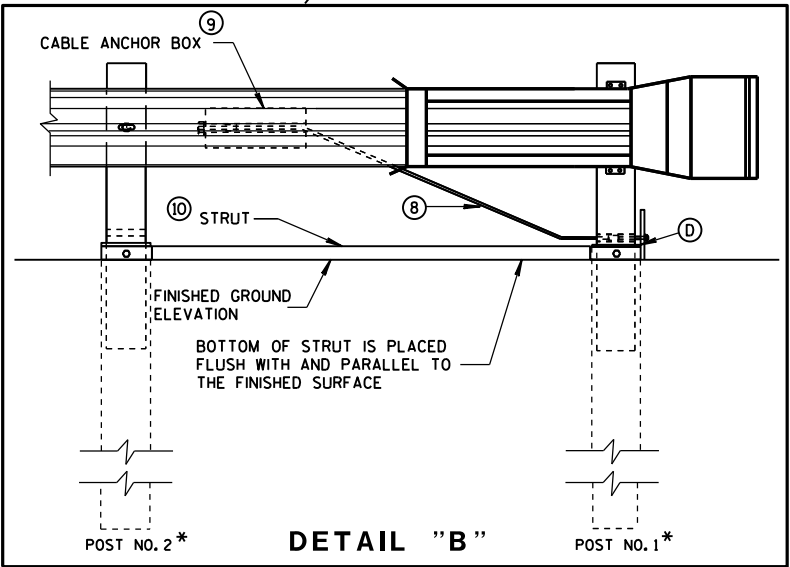
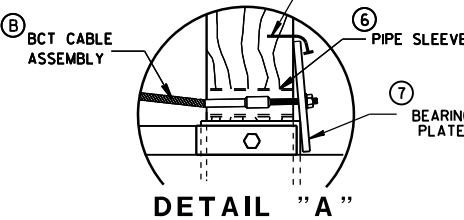
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

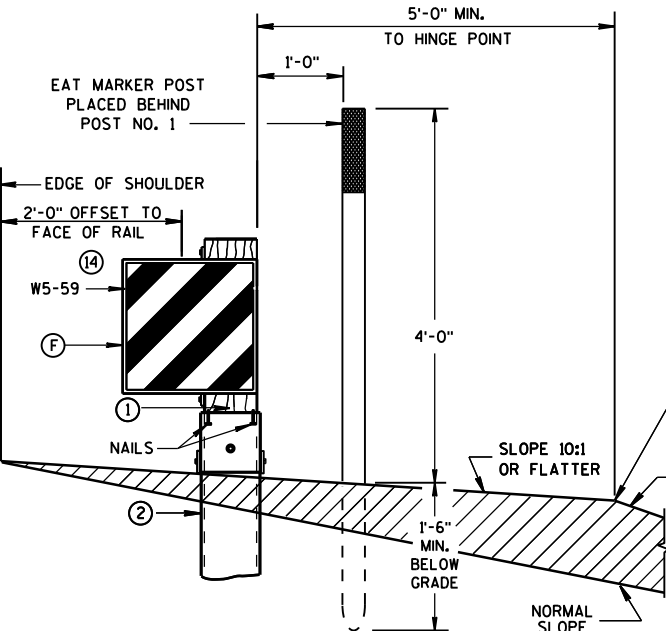
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.



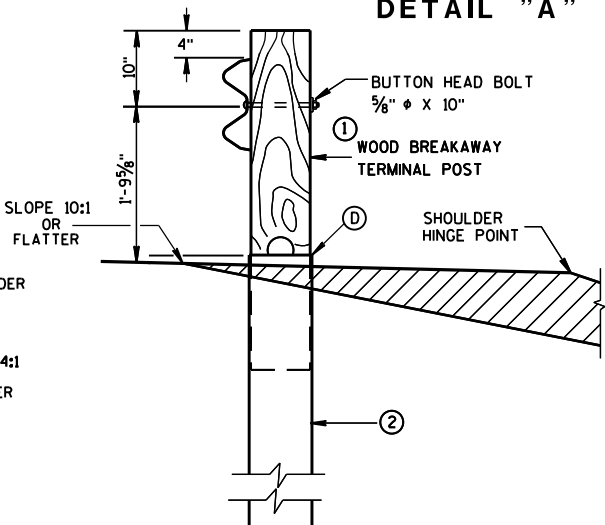
ELEVATION



SECTION C-C
TYPICAL AT POST NOS. 6, 8



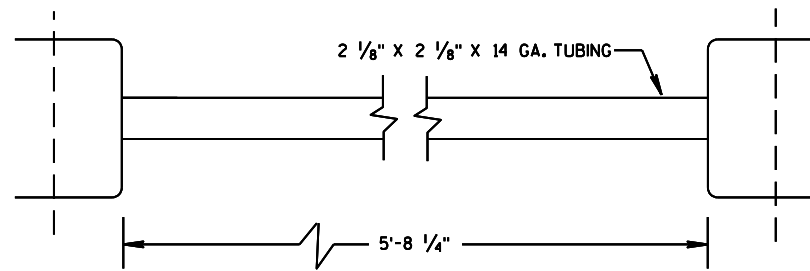
SECTION A-A
TYPICAL AT POST NO. 1*



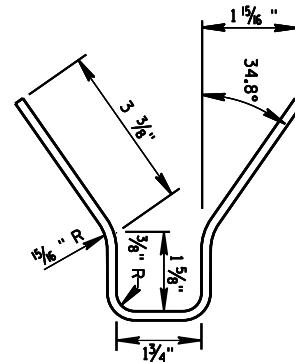
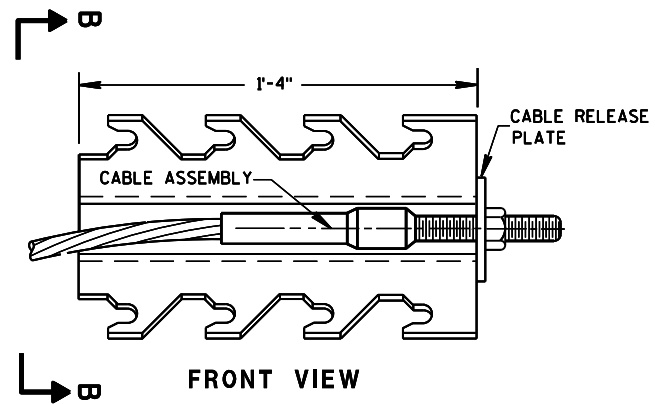
SECTION B-B
TYPICAL AT POST NO. 2*

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

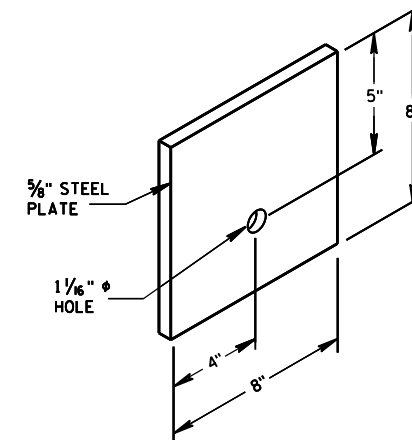
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX

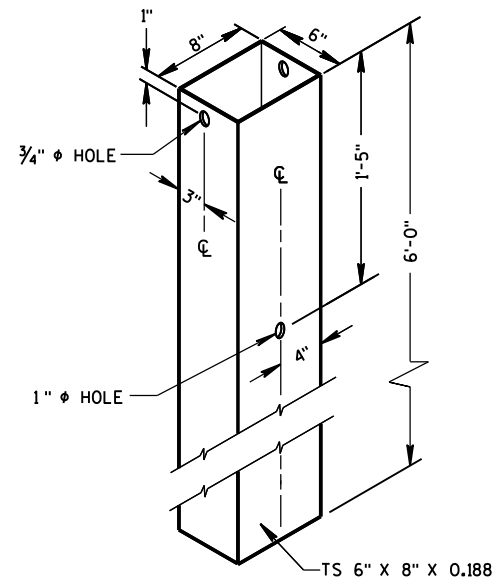


⑦ STEEL BEARING PLATE

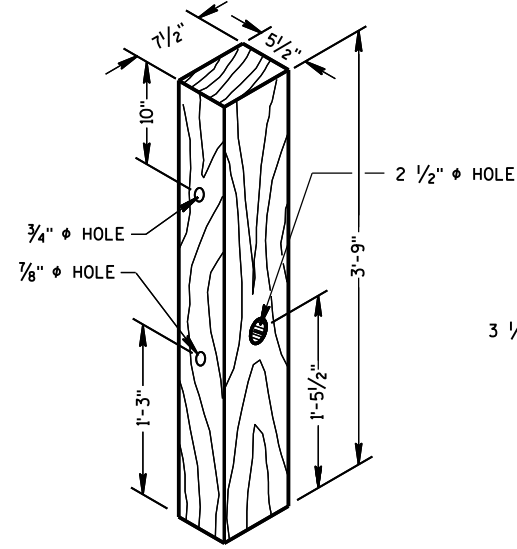
STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

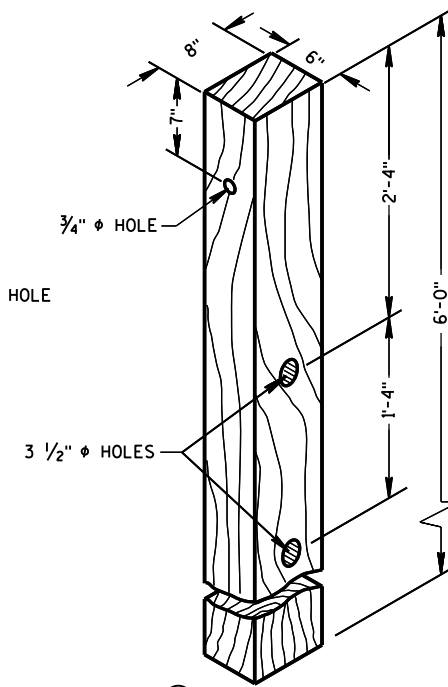
50



② **72" STEEL TUBE**
(POSTS NO. 1-2)

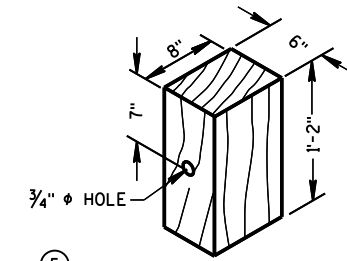


① **TERMINAL POST**



④ **CRT POST**
(POSTS NO'S 5-8)

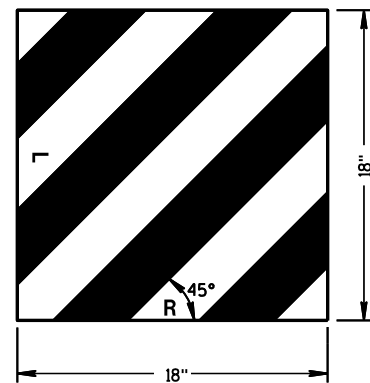
WOOD BREAKAWAY POSTS



⑤ **WOOD OFFSET BLOCK**
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

GENERAL NOTES

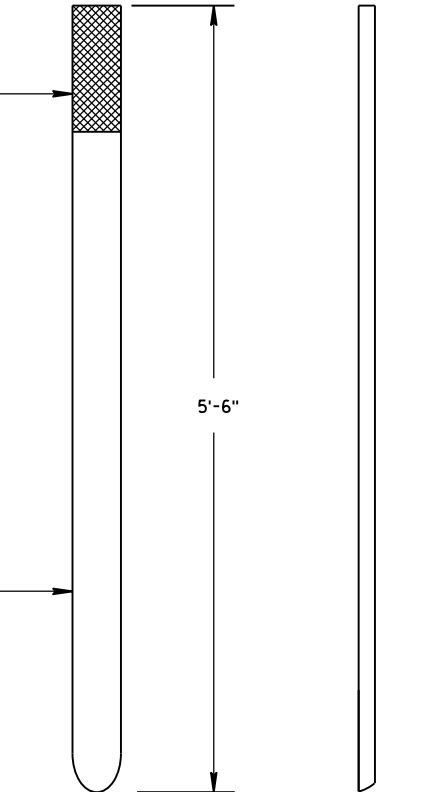
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑭ **REFLECTIVE SHEETING DETAILS**

TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.

E.A.T. MARKER
POST (YELLOW)
SEE APPROVED
PRODUCTS LIST



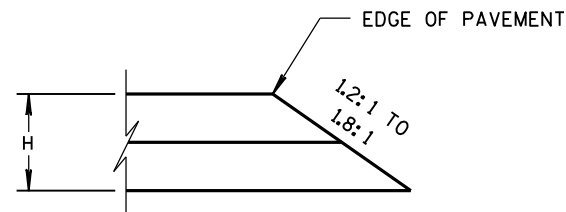
FRONT VIEW **SIDE VIEW**

E.A.T. MARKER POST

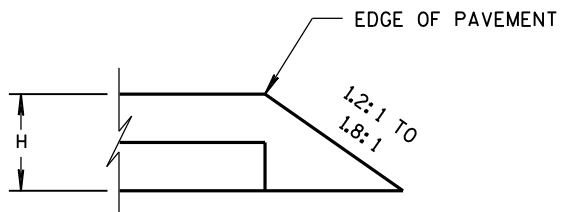
**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

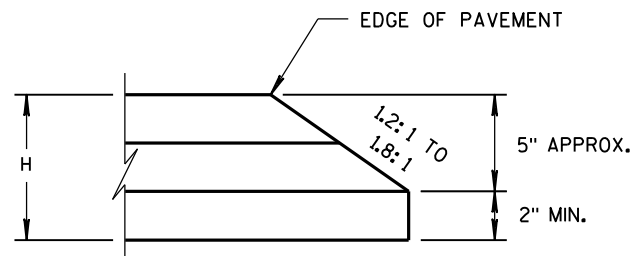
APPROVED
June 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS 51 ENT
FHWA UNIT SUPERVISOR



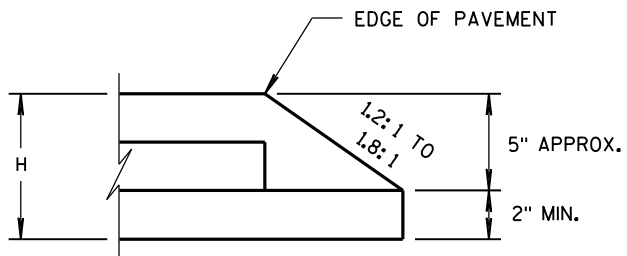
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

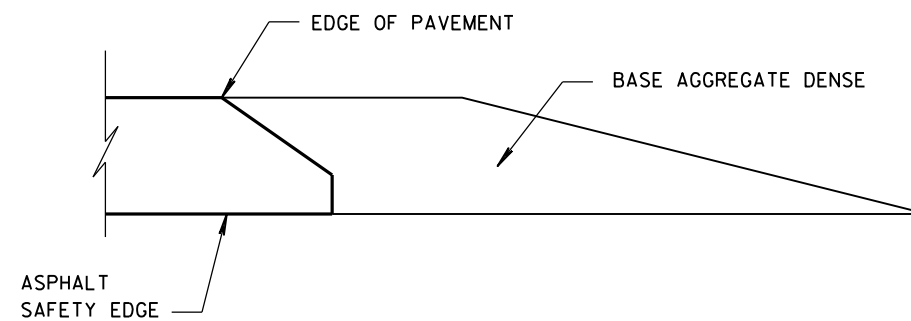


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

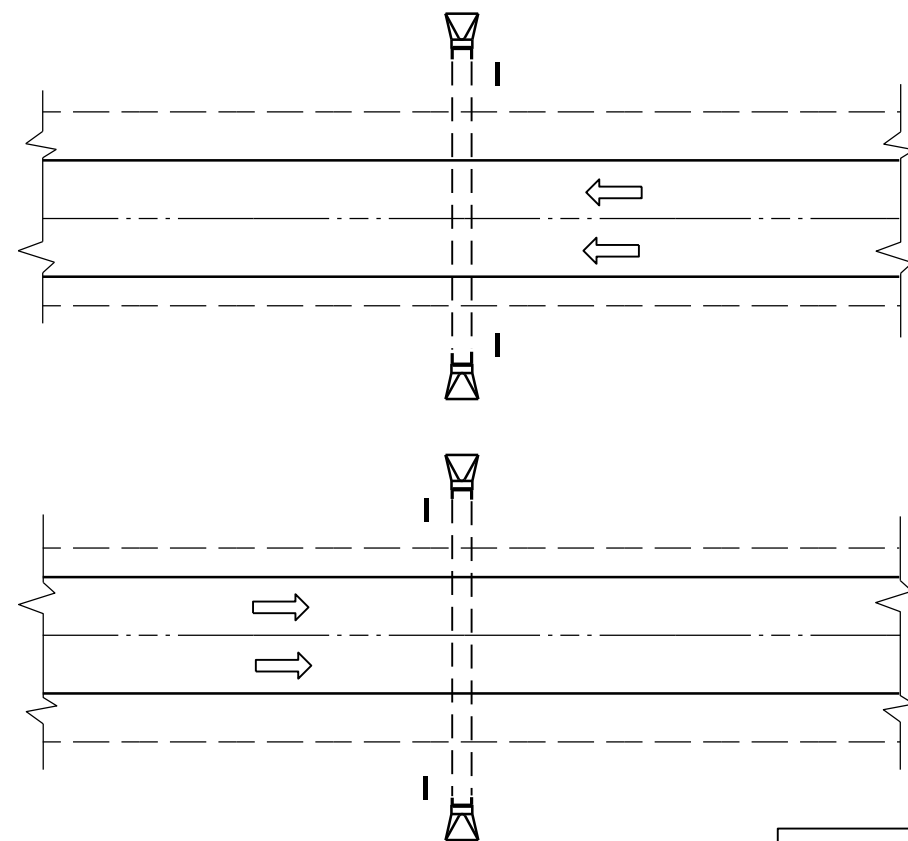
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/2012
DATE
FHWA

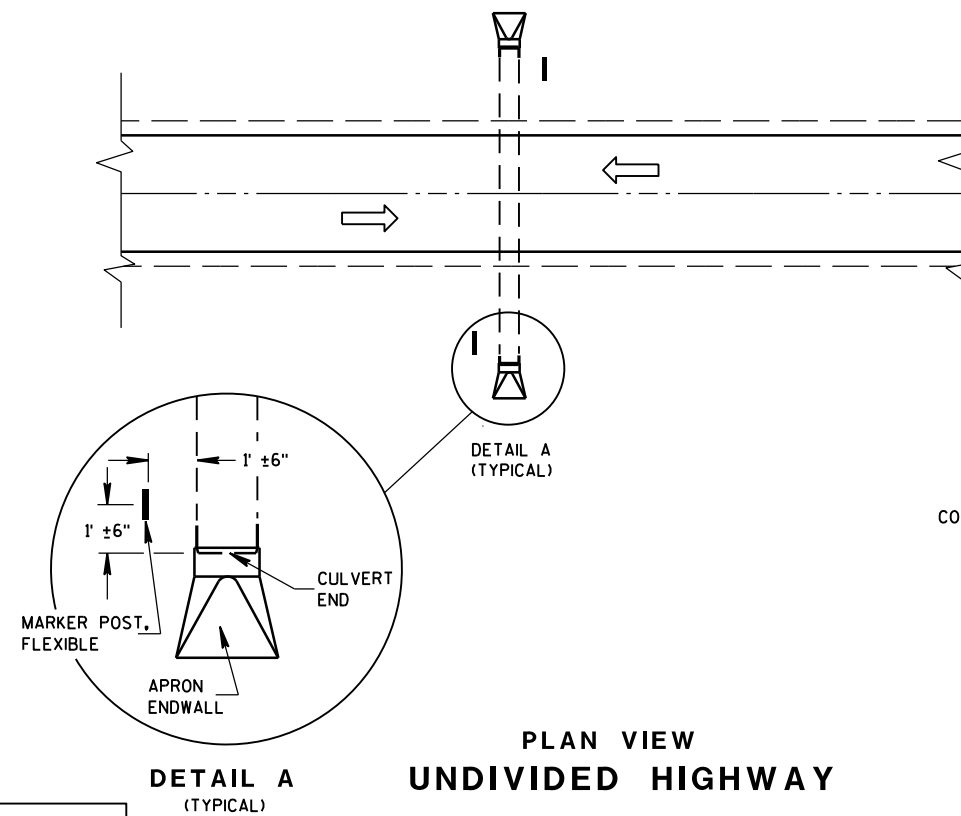
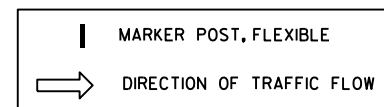
/s/ Jerry H. Zoog
ROADWAY STANDARDS
ENGINEER

52

ENT



PLAN VIEW
DIVIDED HIGHWAY

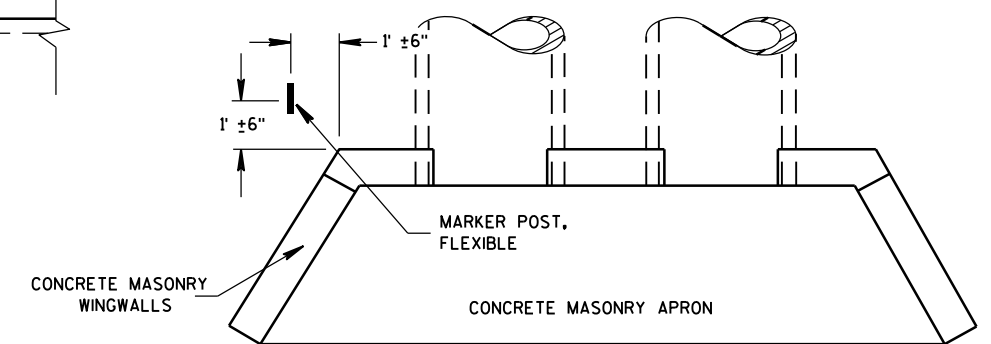


PLAN VIEW
UNDIVIDED HIGHWAY

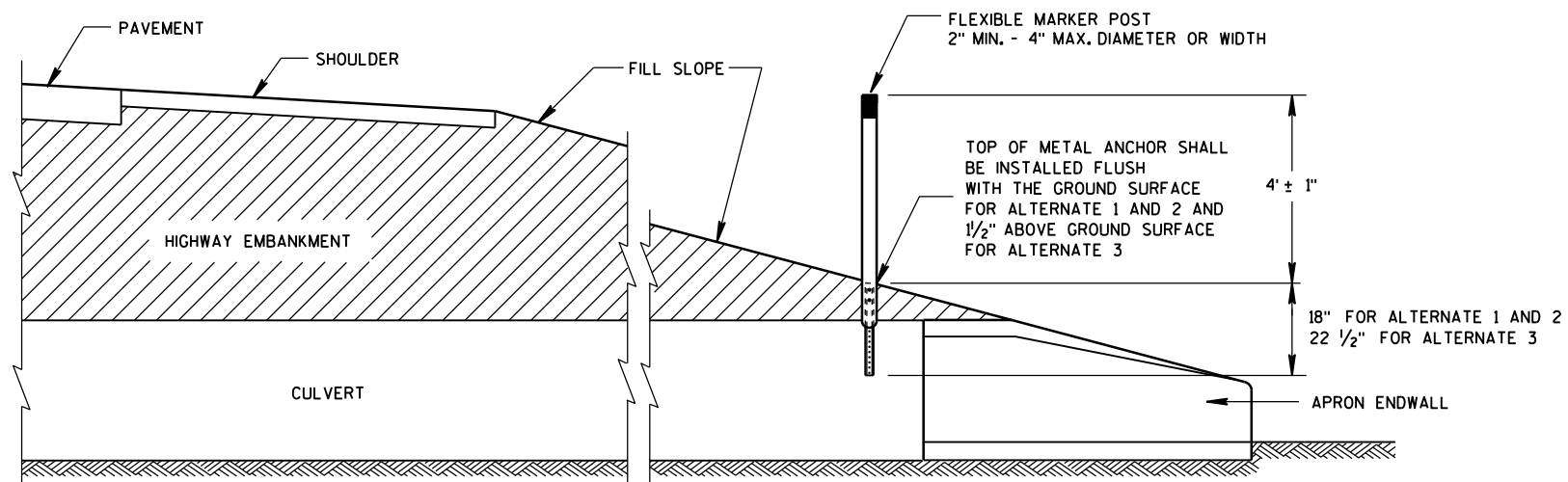
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



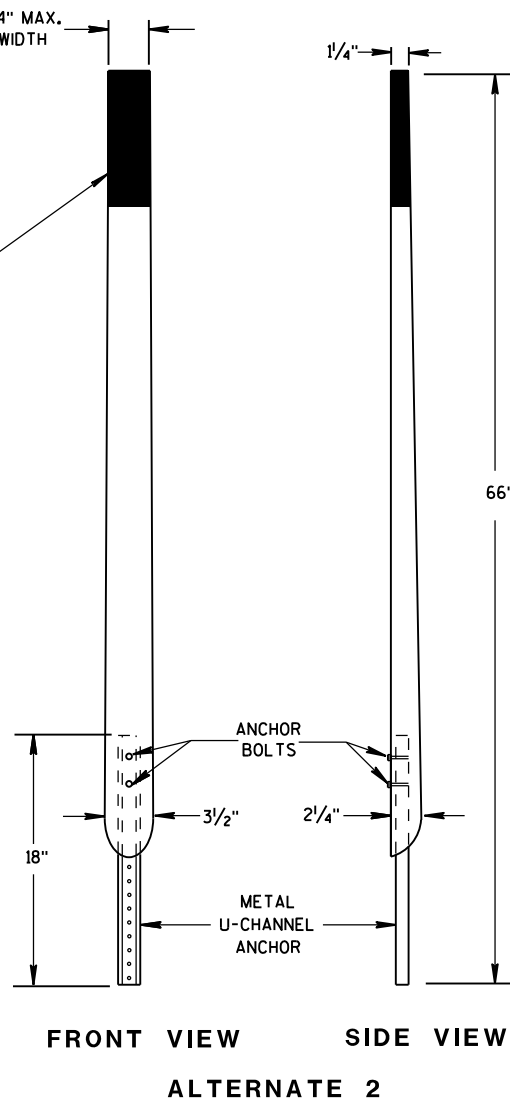
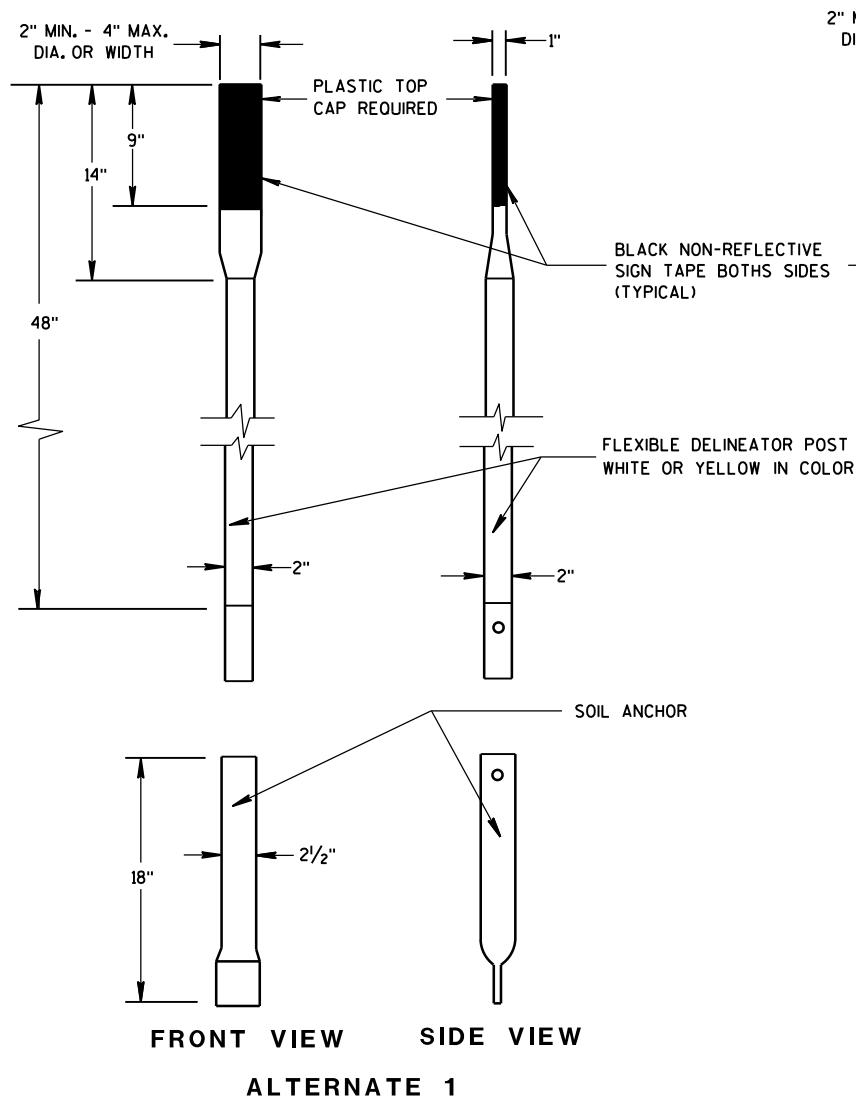
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



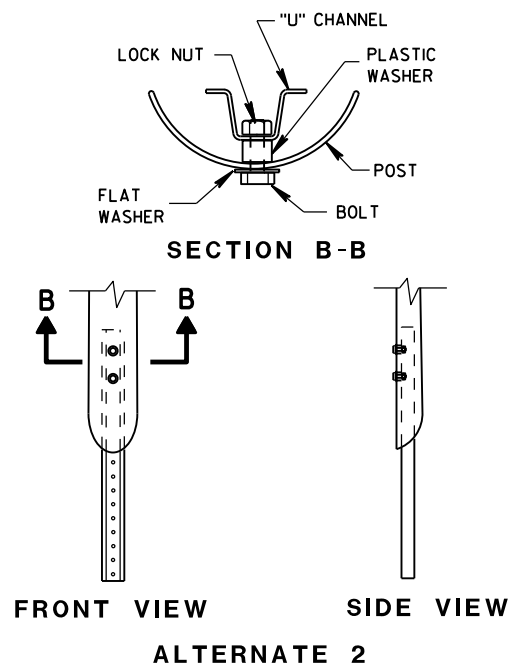
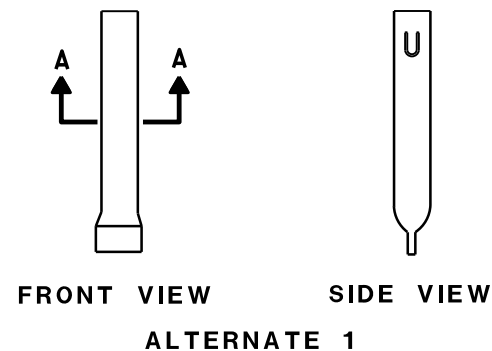
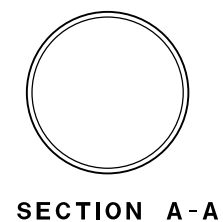
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

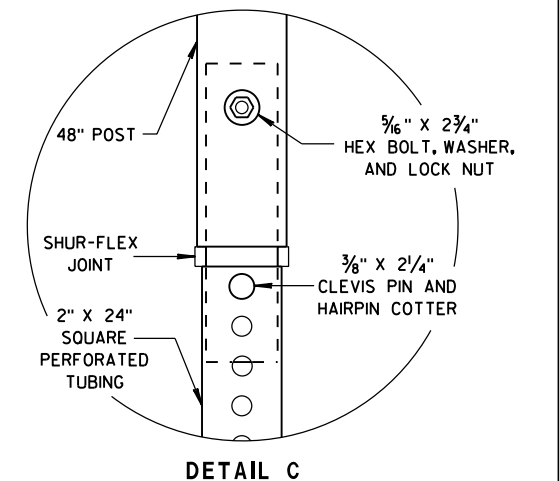
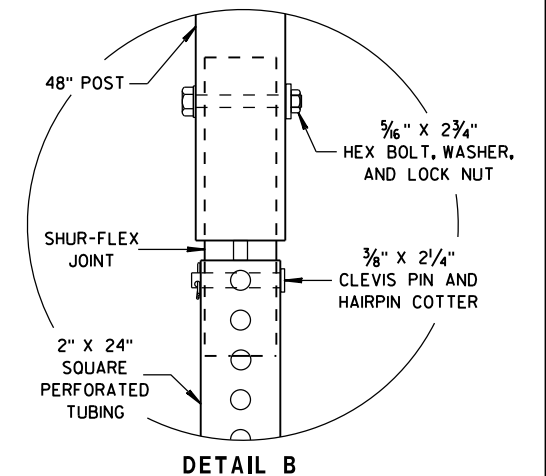
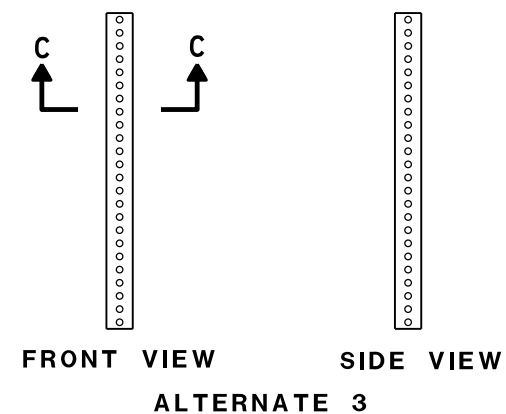
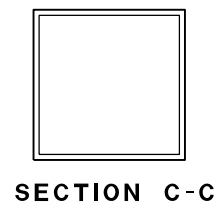
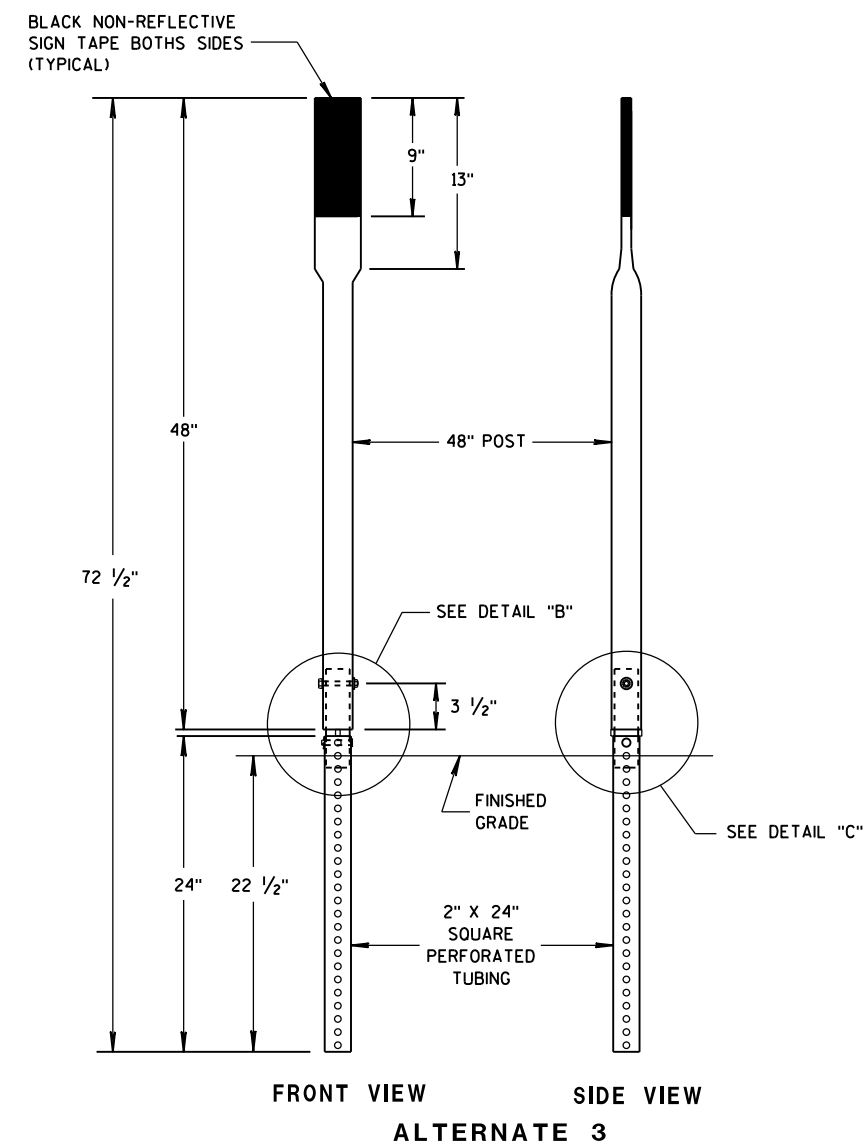
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



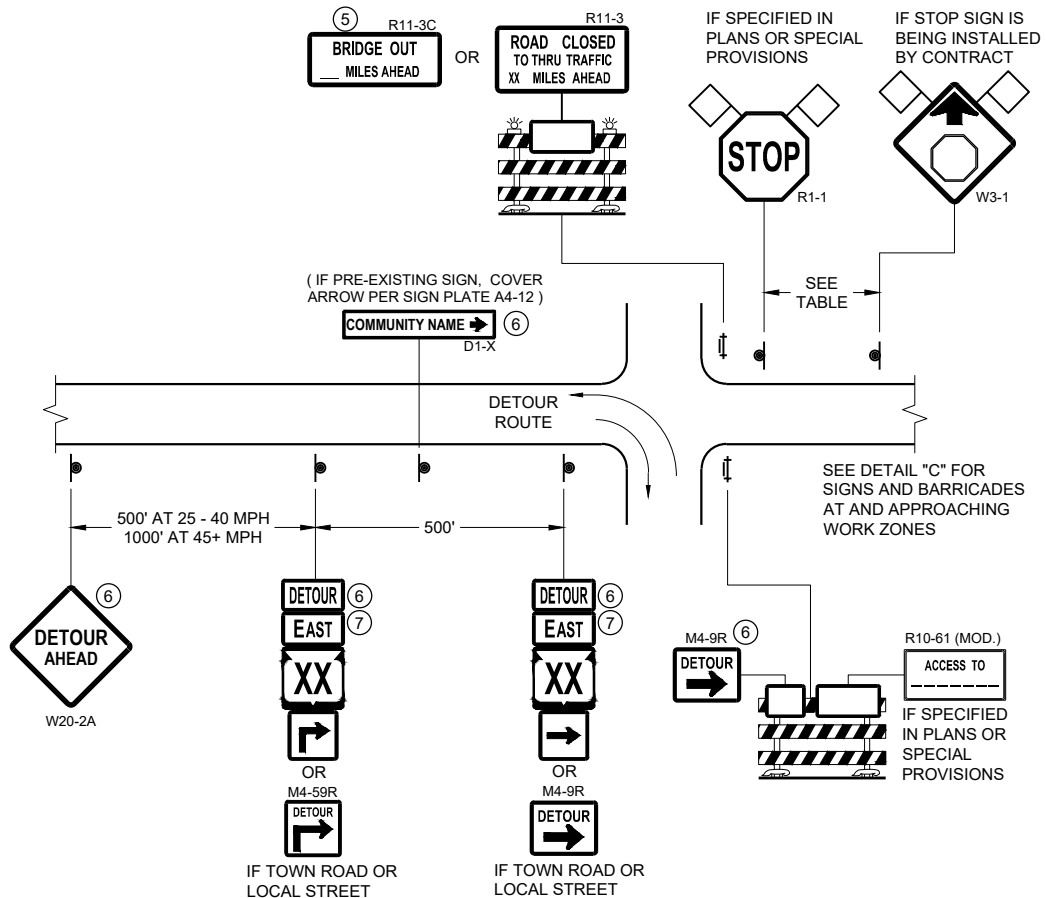
FLEXIBLE MARKER POSTS



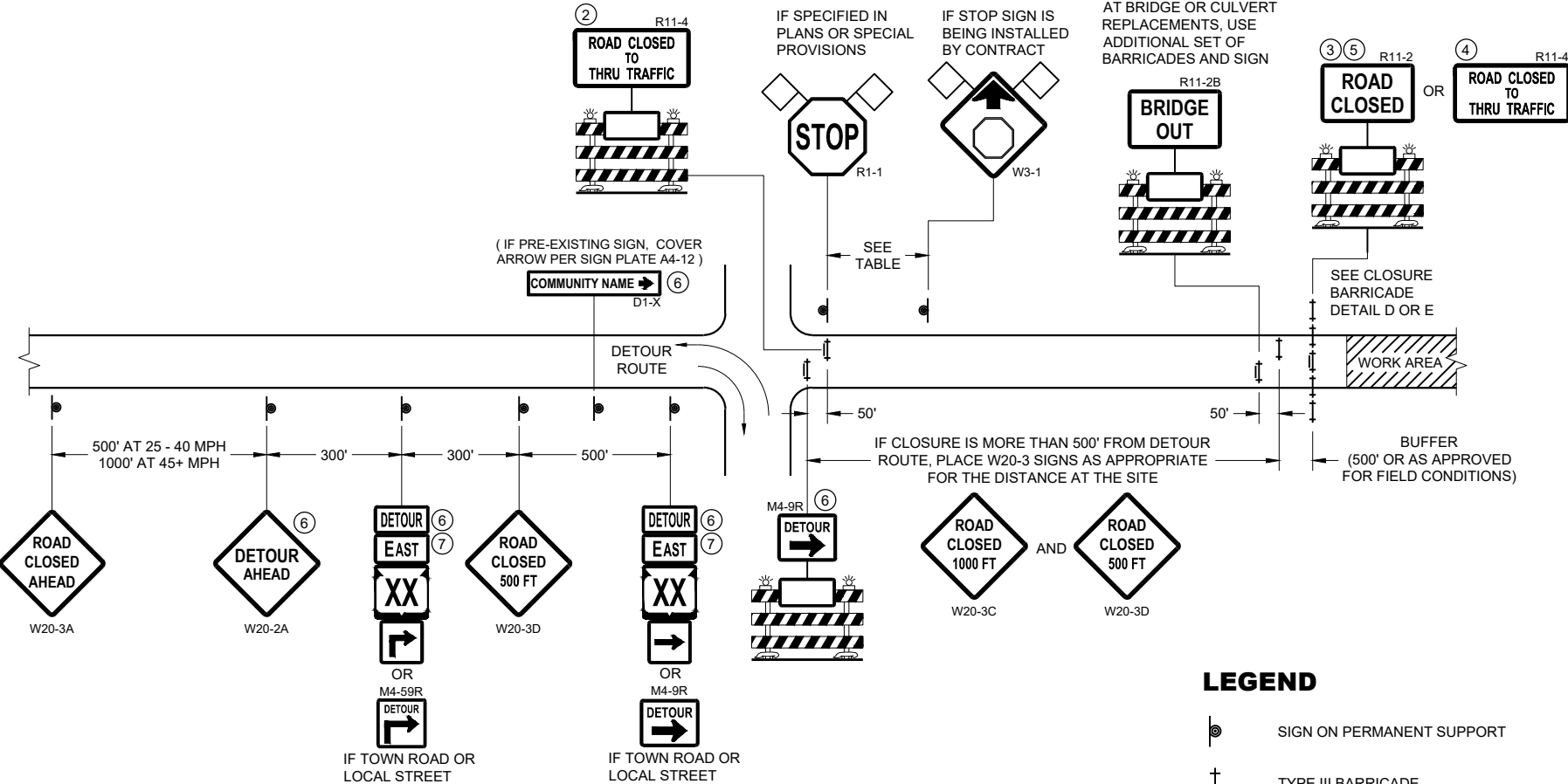
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 54	IGN
FHWA		



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

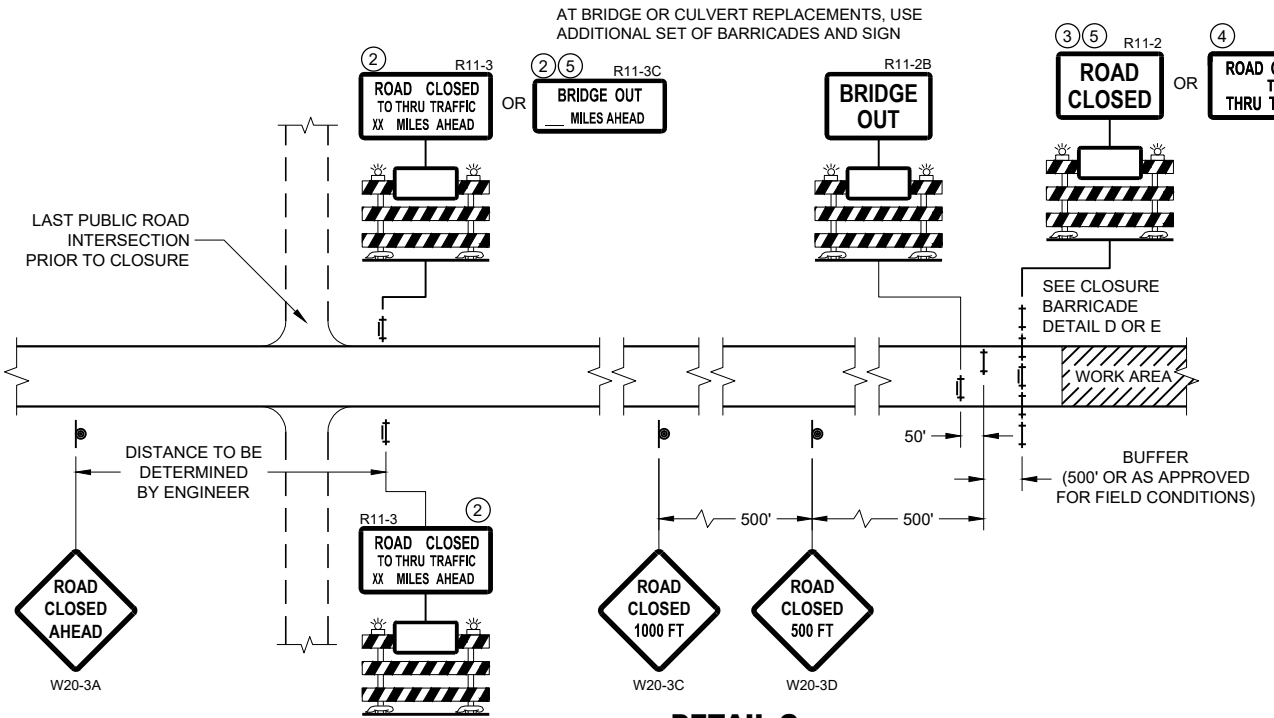
LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX OR **XX** OR **COUNTY X**
M1 - 4 M1 - 6 M1 - 5A
→ OR **→**
M05 - 1 M06 - 1

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



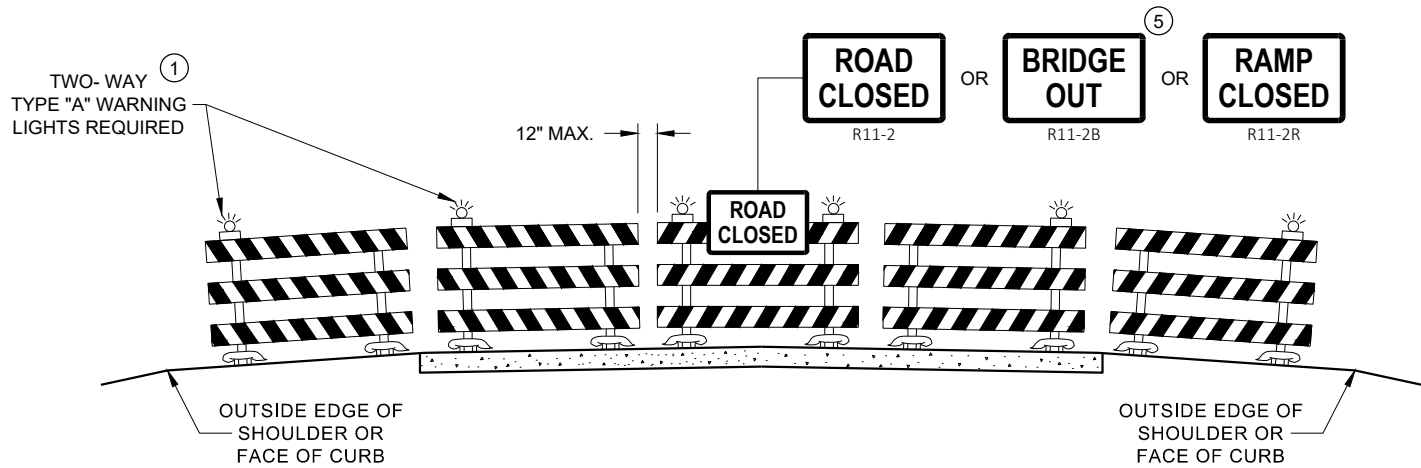
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

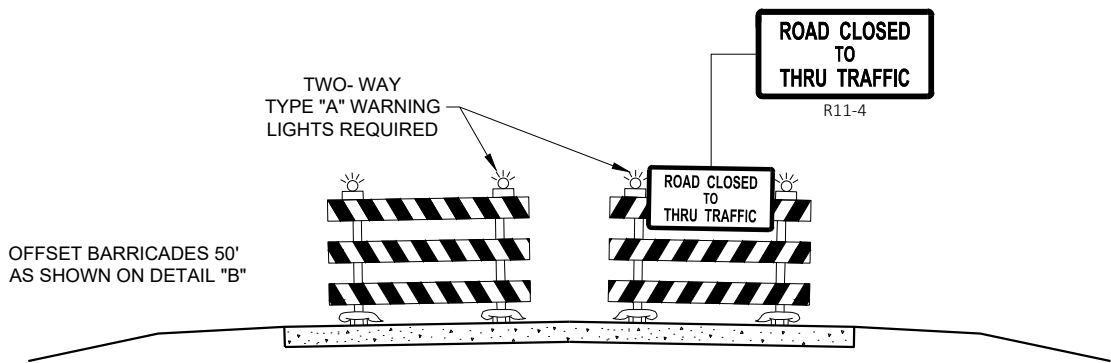
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 55

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

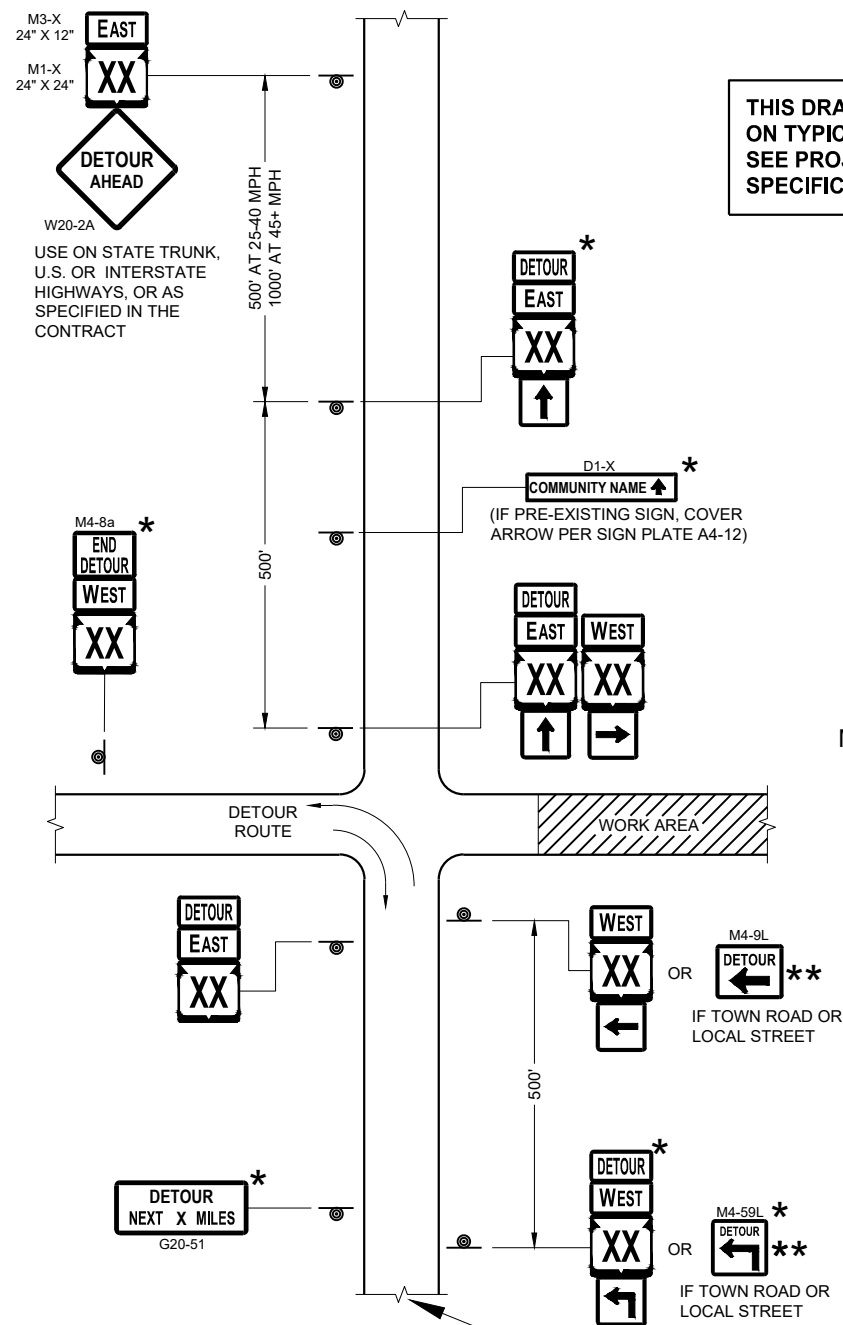
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 56

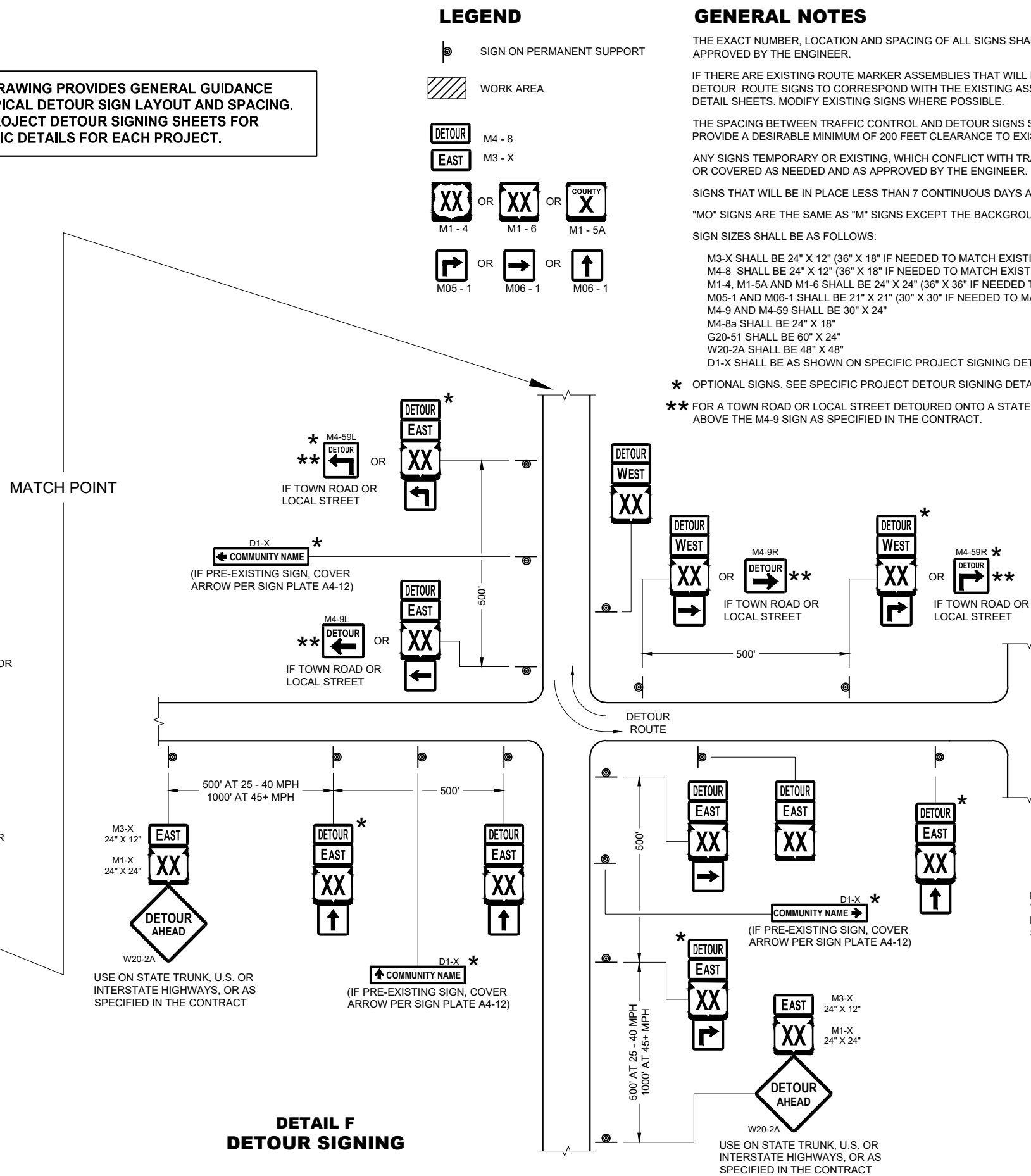
FHWA



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

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

SDD 15C02 - 09c



DETAIL F DETOUR SIGNING

GENERAL NOTES

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

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

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

**** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.**

PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

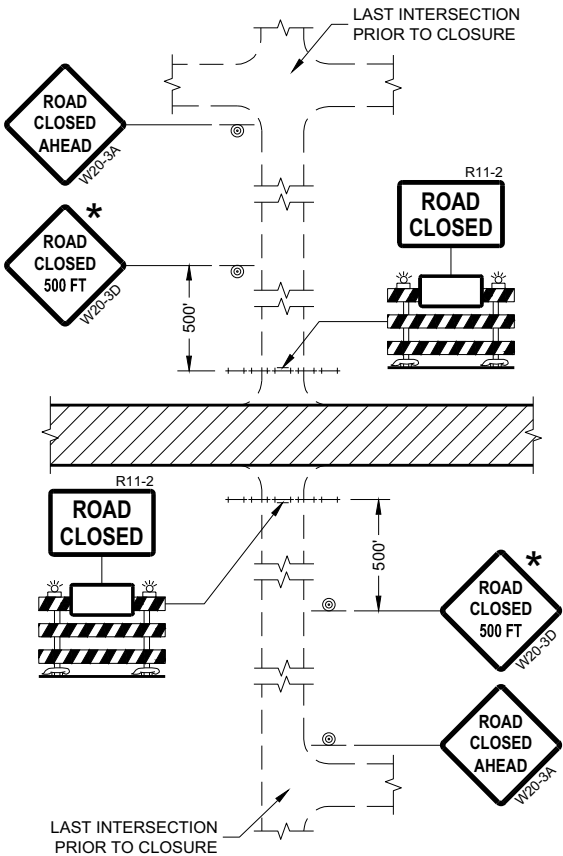
APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

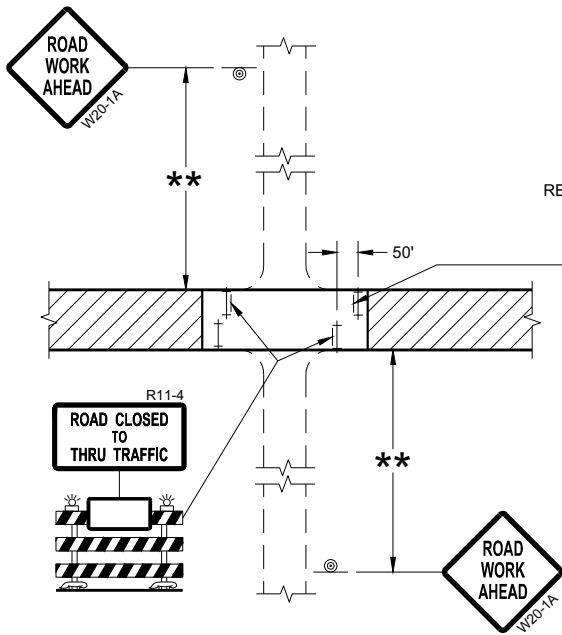
57

FHWA

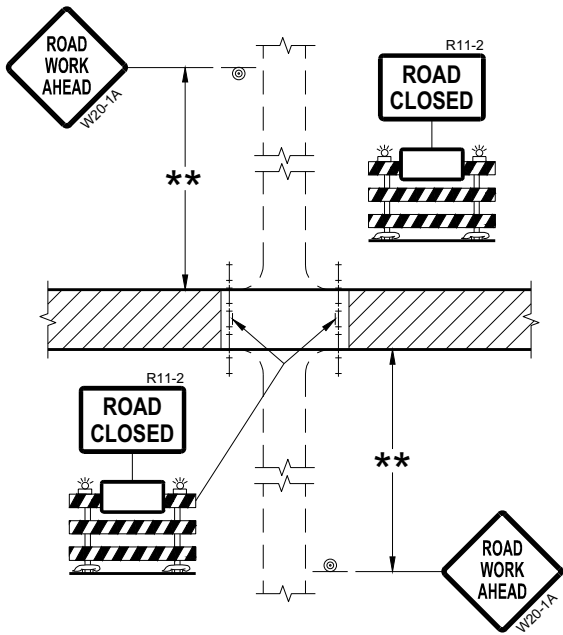
SDD15C02 - 09c



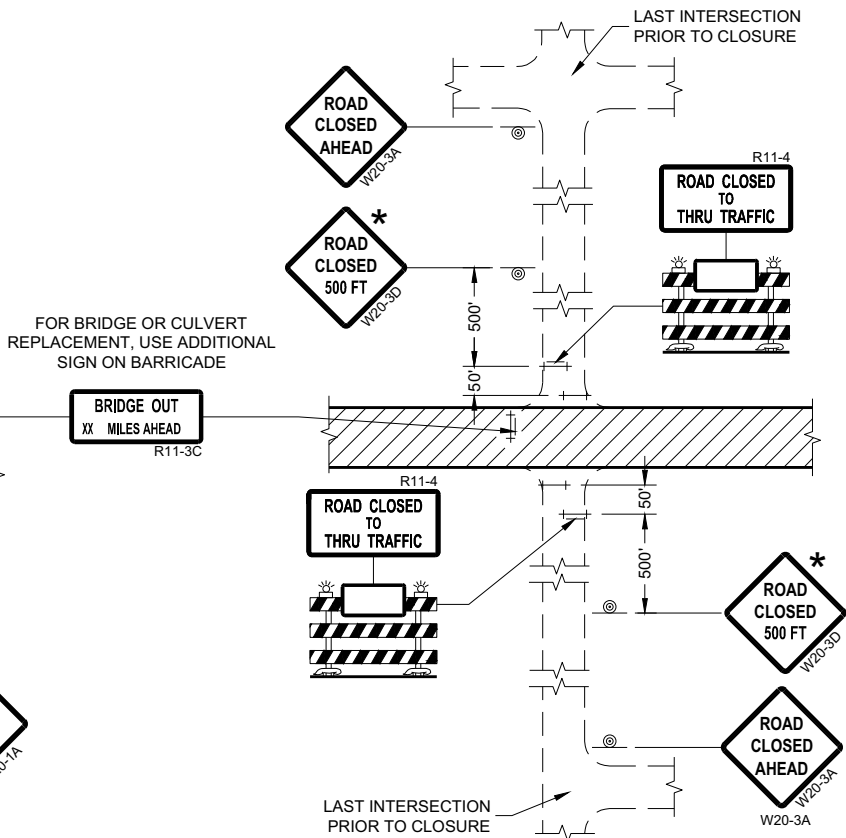
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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.

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 58
FHWA



PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



SDD 15C08-23a

GENERAL NOTES

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

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

LEGEND

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

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

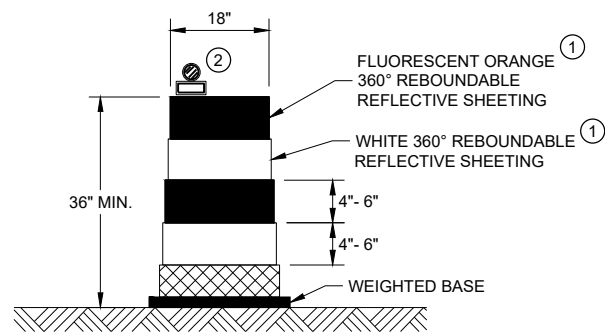
DATE

/S/ Jeannie Silver

STATEWIDE SIGNING AND N
ENGINEER

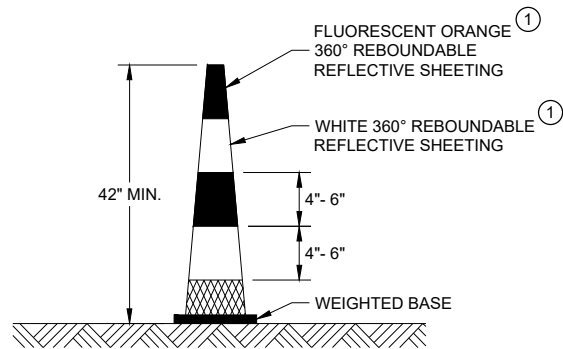
59

FWHA



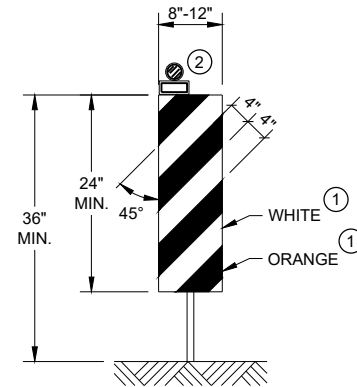
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



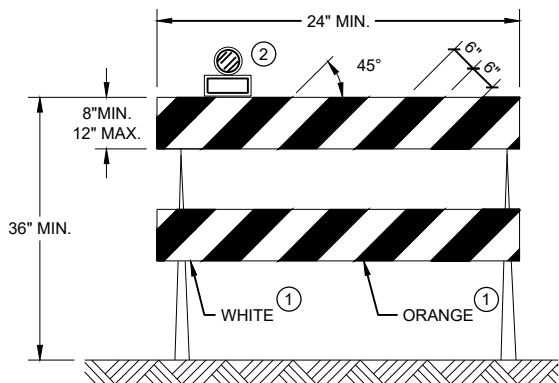
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



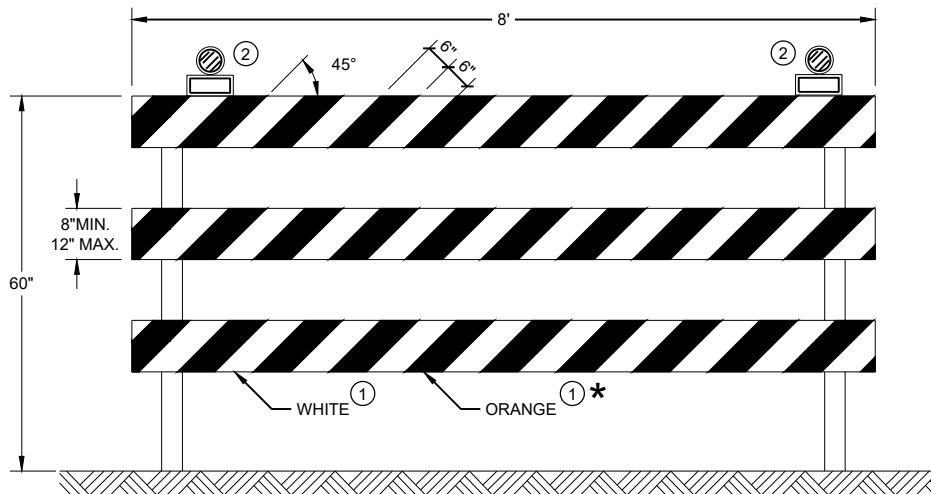
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

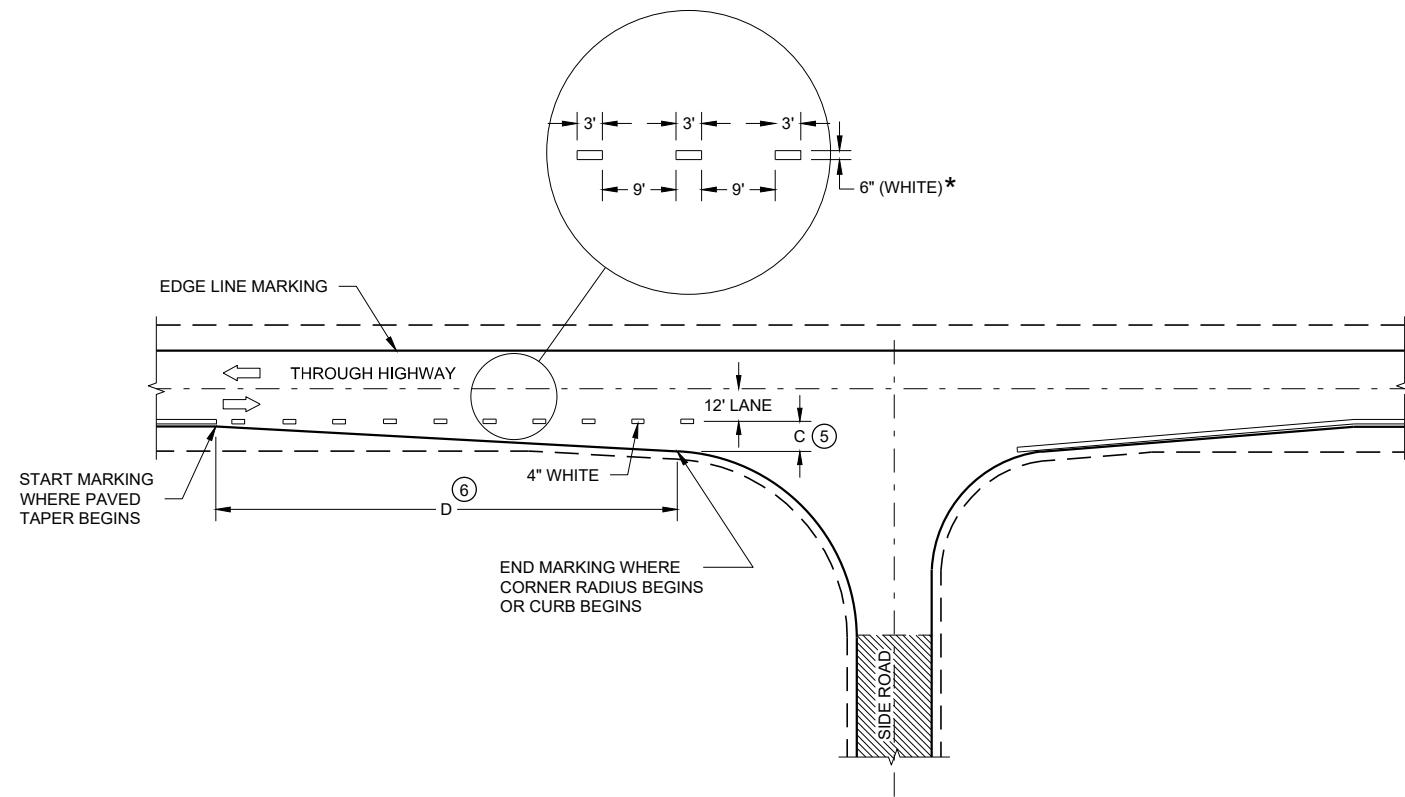
GENERAL NOTES

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

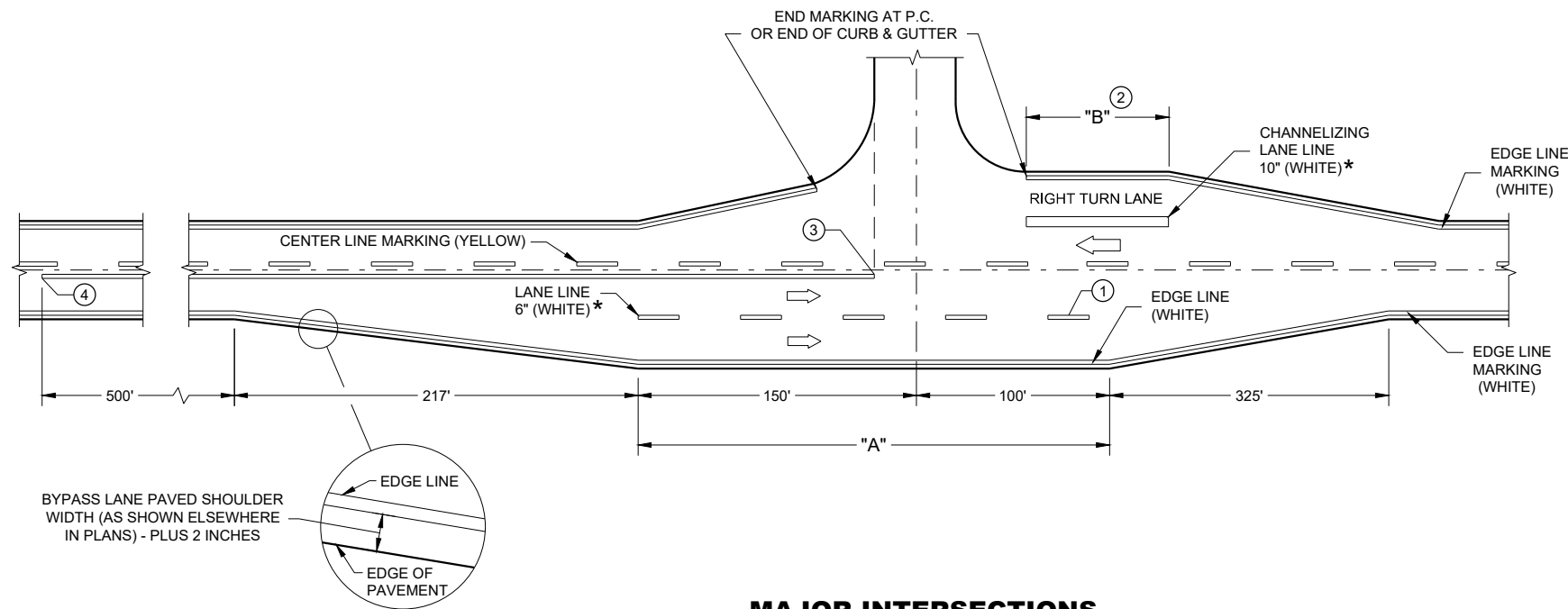
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 60
FHWA



MINOR INTERSECTION



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

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

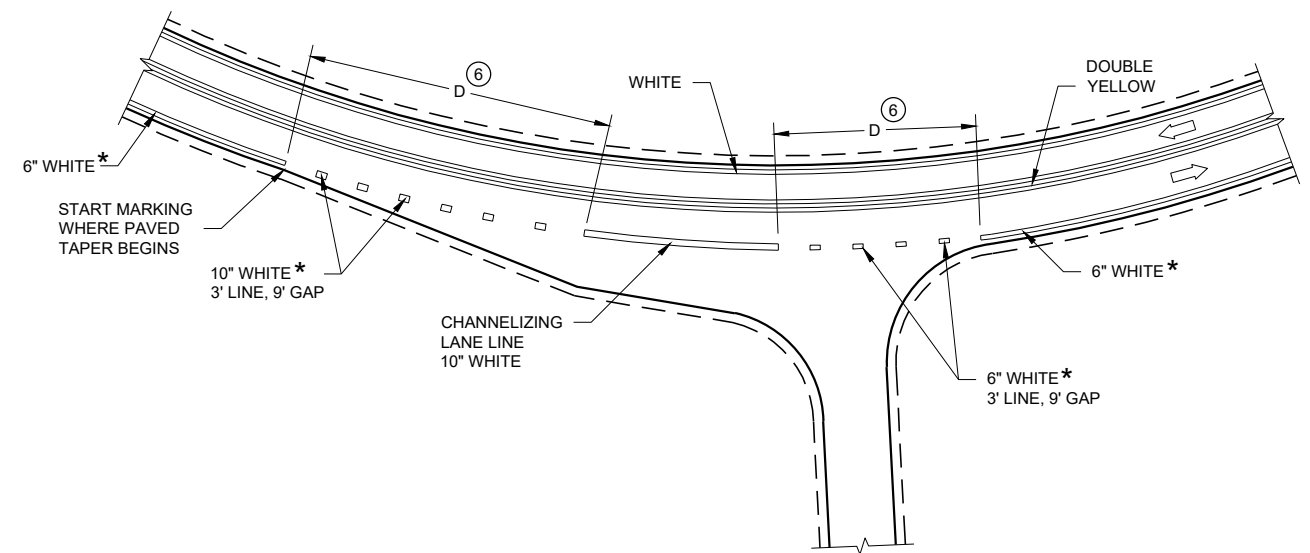
GENERAL NOTES

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

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

LEGEND

➡ DIRECTION OF TRAVEL

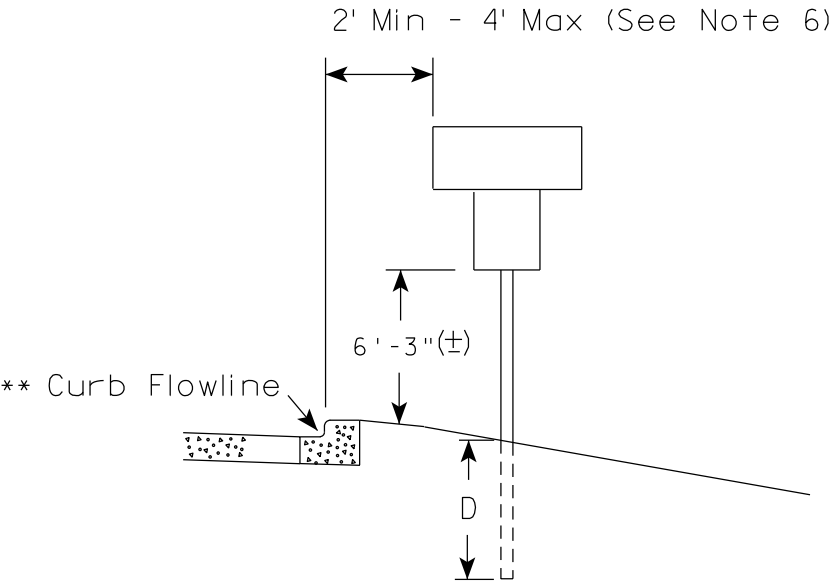
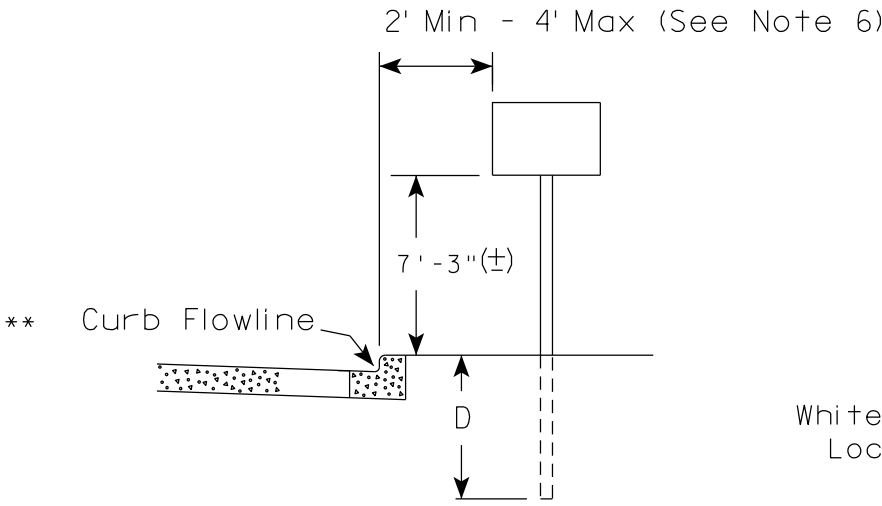


INTERSECTION ON OUTSIDE OF CURVE

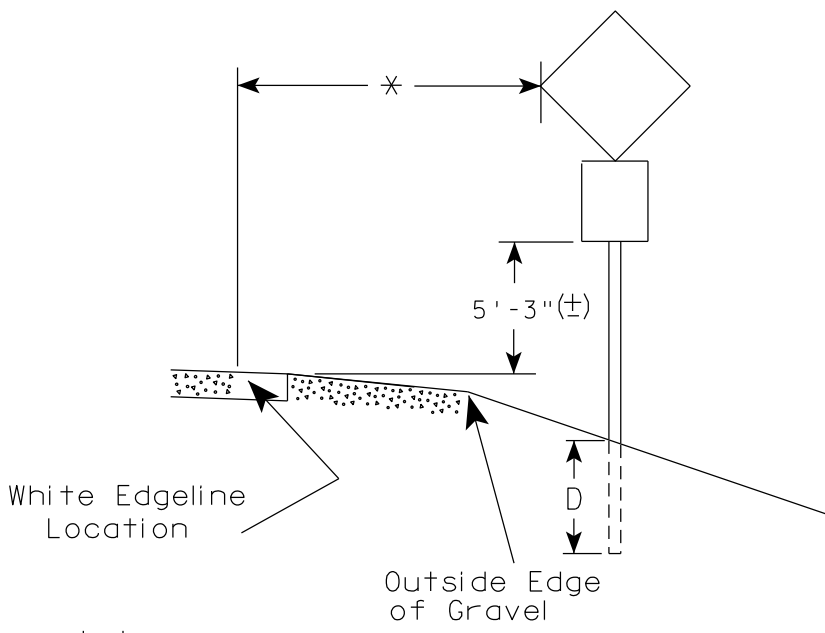
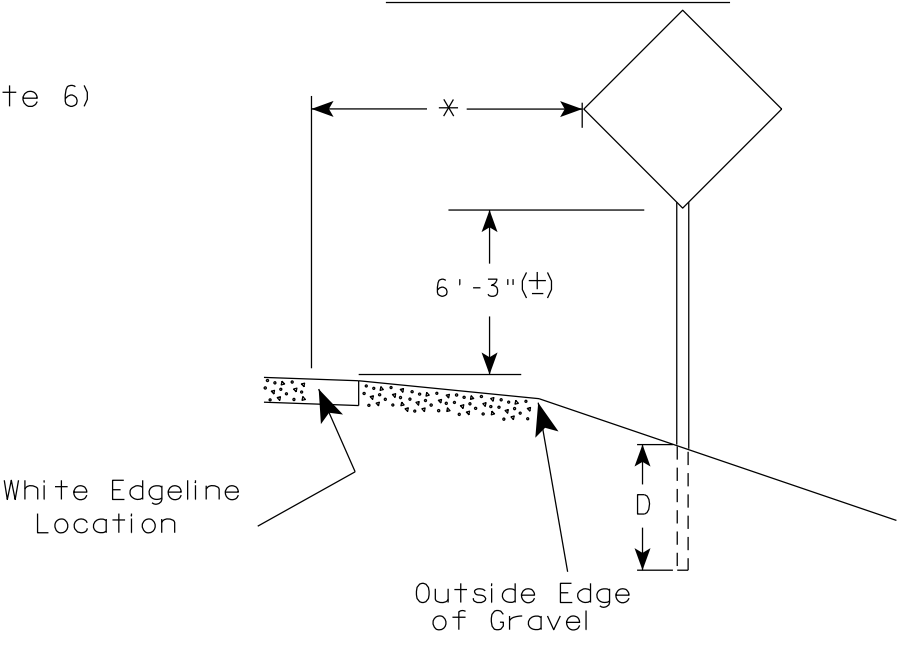
PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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 or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.

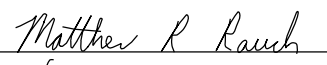
✱✱ The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs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

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

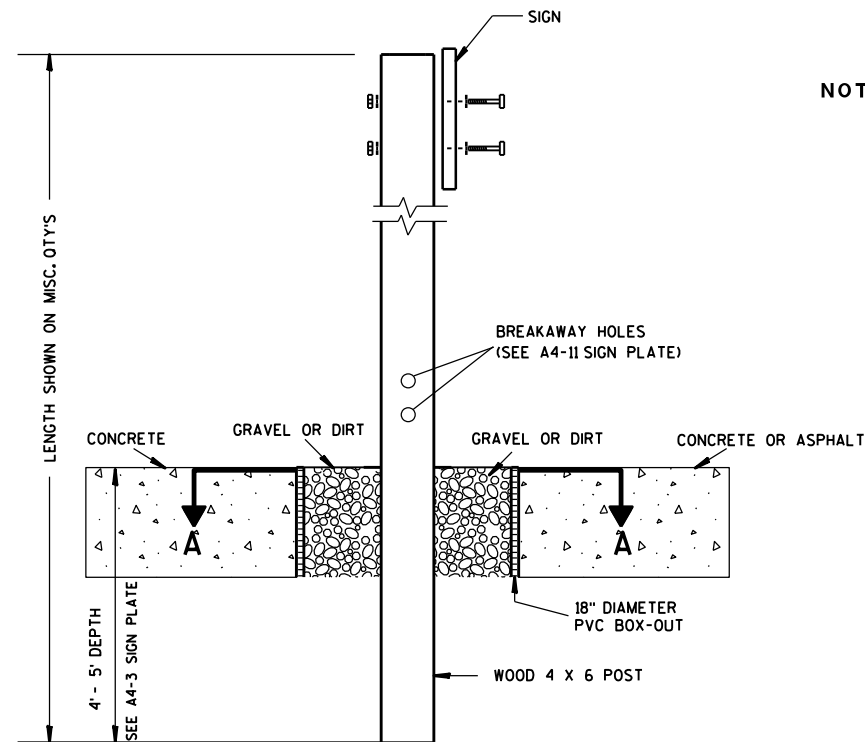
POST EMBEDMENT DEPTH	
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
for State Traffic Engineer

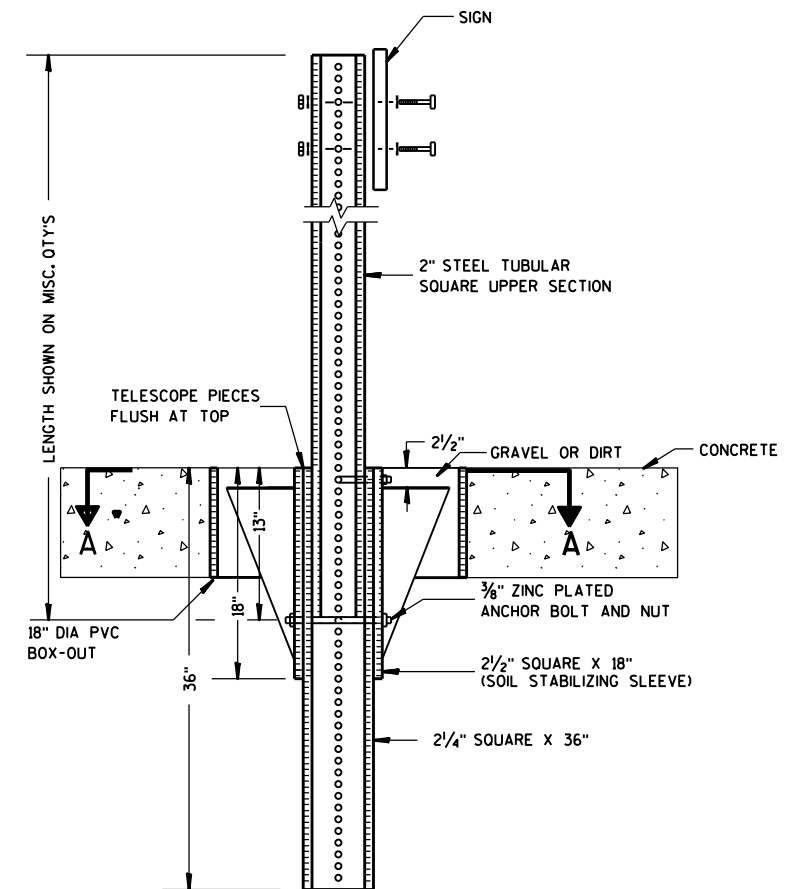
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

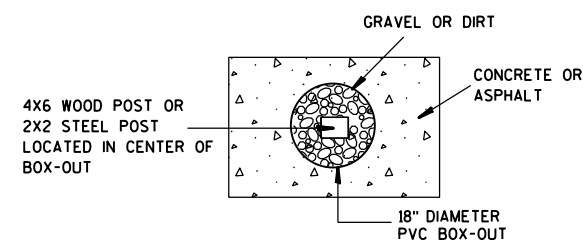
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 63 A4-3B.1

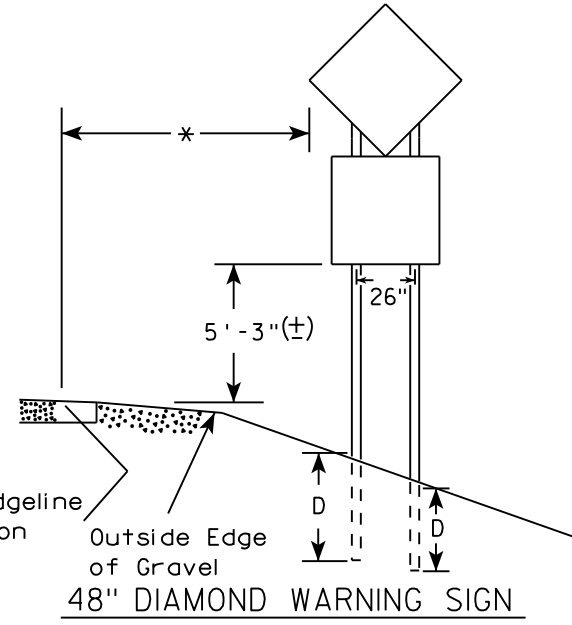
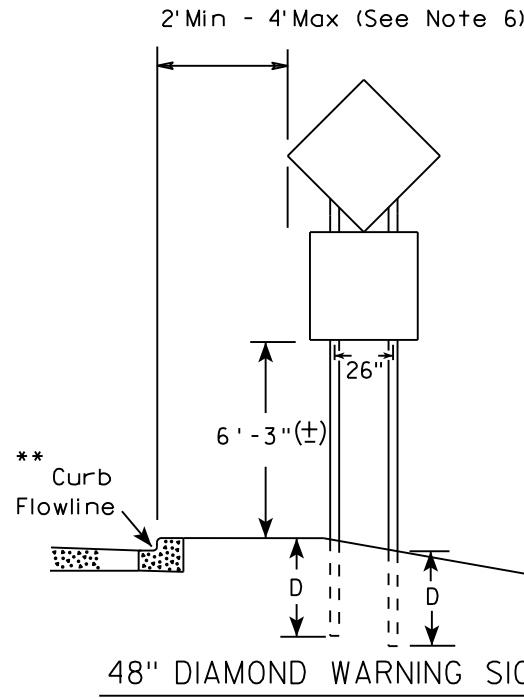
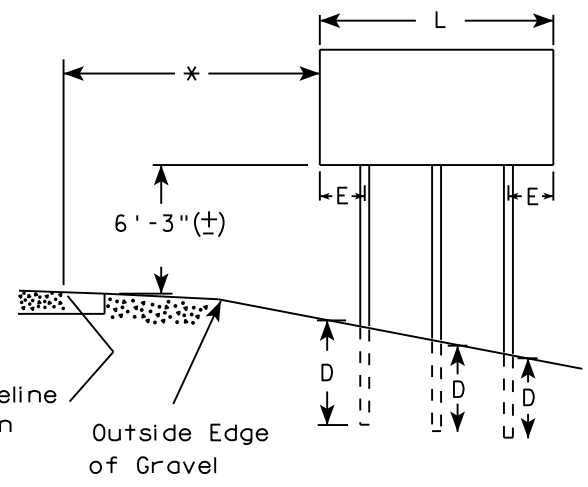
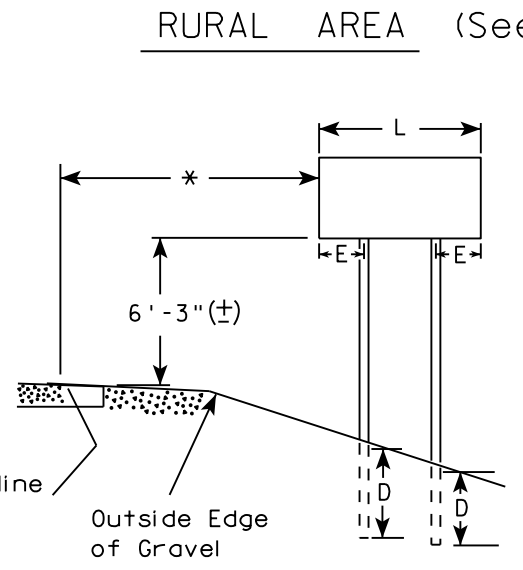
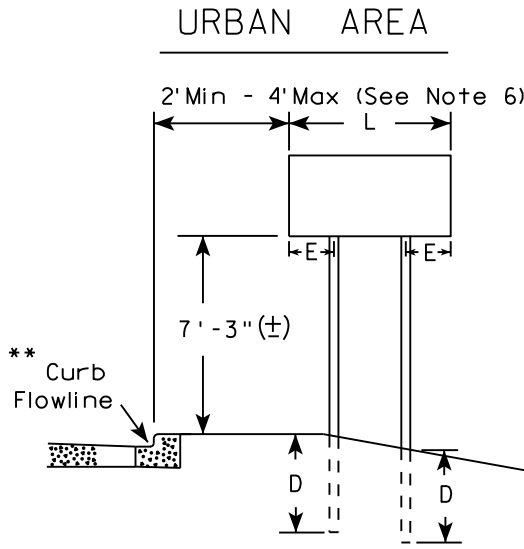
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. 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 108"	L/5

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

POST EMBEDMENT DEPTH

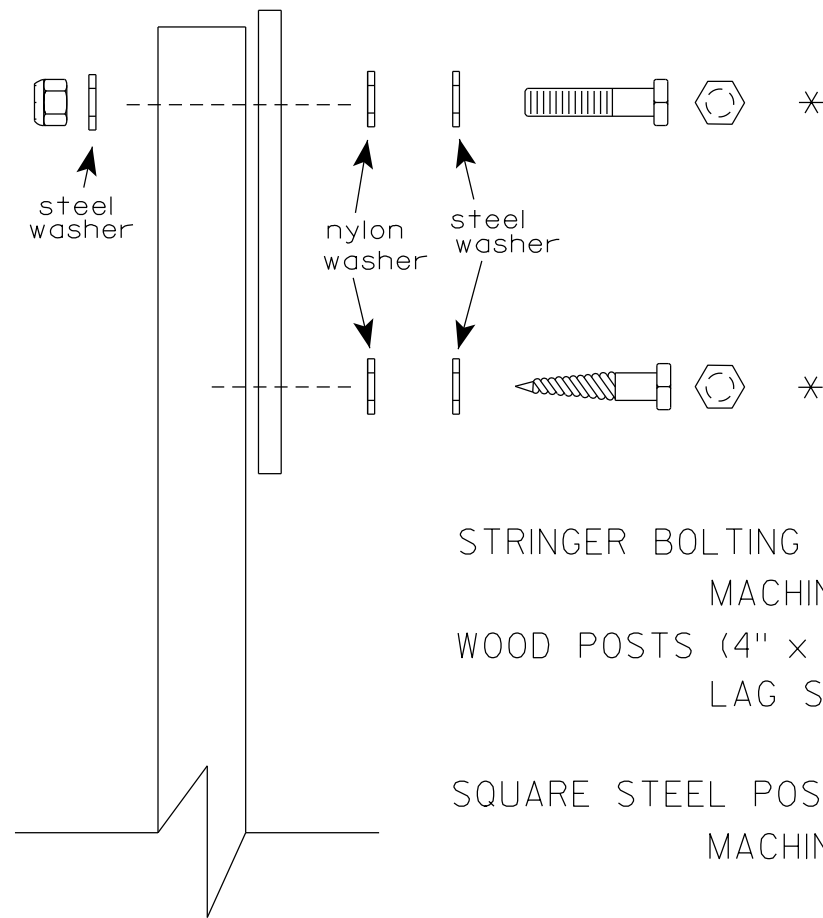
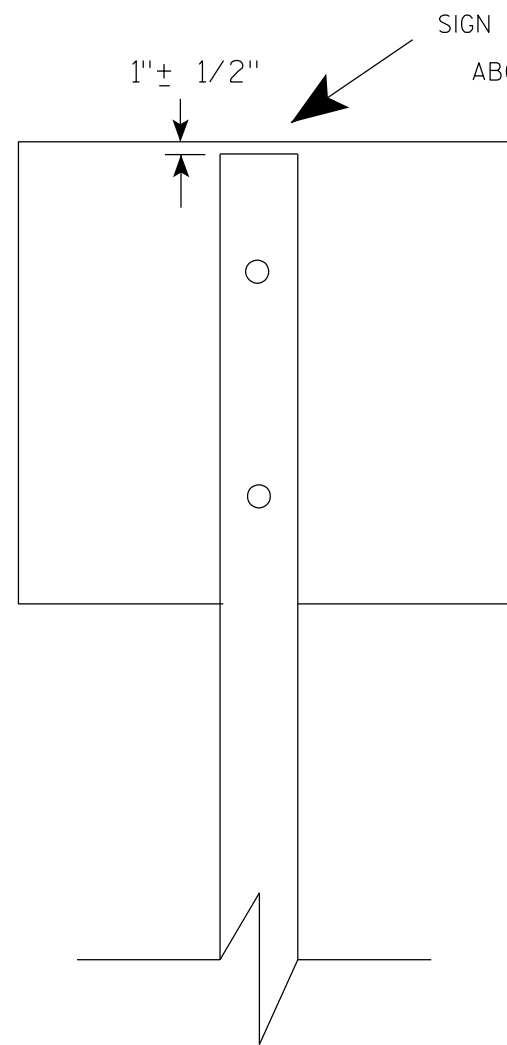
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15



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

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

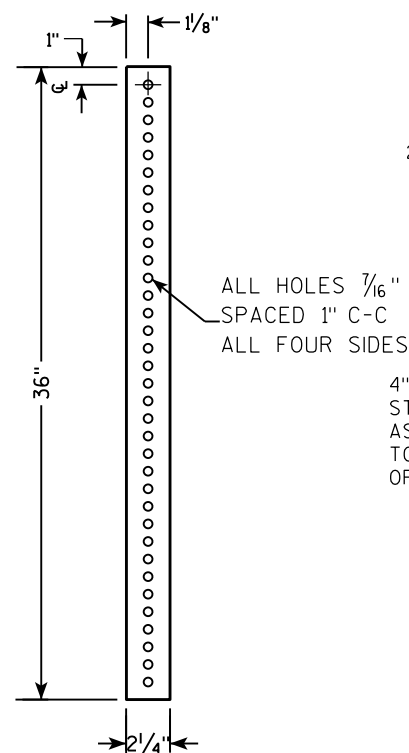
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

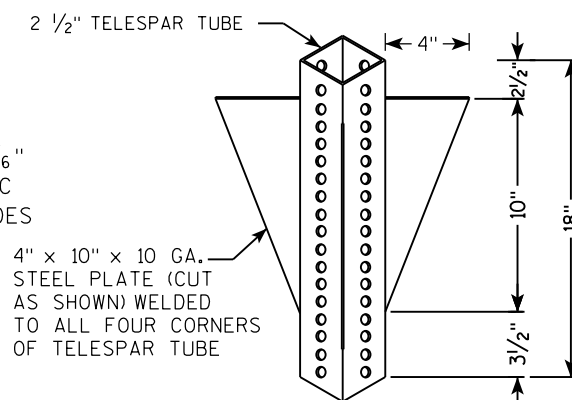
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

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

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



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



TELESCOPE PIECES
FLUSH AT TOP

18" DIA SCHEDULE
40 PVC
BOX-OUT

36"

18"

13"

2 1/2" GRAVEL OR DIRT

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

3/16" ZINC PLATED
ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18"
(SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

2" STEEL TUBULAR
SQUARE UPPER SECTION

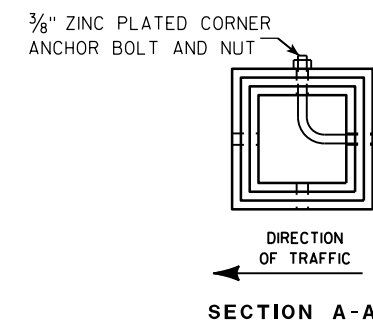
ALL HOLES 7/16"
SPACED 1" C-C
ALL FOUR SIDES

SIGN

SEE SIGN PLATE
A4-8 FOR BOLT
WASHER, & NUT
MATERIAL

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- TELESCOPE PIECES FLUSH AT TOP**: Indicated by a dimension line on the left.
- 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 perforations in the upper section.
- SIGN**: Attached to the top of the upper section.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to a separate plate for hardware details.
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Hardware used to secure the post to the base.
- 1"**: Dimension for the offset of the anchor bolt from the post face.
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT**: Hardware used to secure the base plate to the ground.
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**: The base plate.
- 2 1/4" SQUARE X 36"**: The main vertical support post.
- Dimensions**:
 - 36" (Total height of the main post section)
 - 18" (Height of the upper section)
 - 12" (Height of the lower section)
- Arrows A**: Indicate downward forces or weights applied to the sign and the base plate.



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI 66 14-9.9

SHEET NO:

E

PROJECT NO:

HWY:

COUNTY:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN

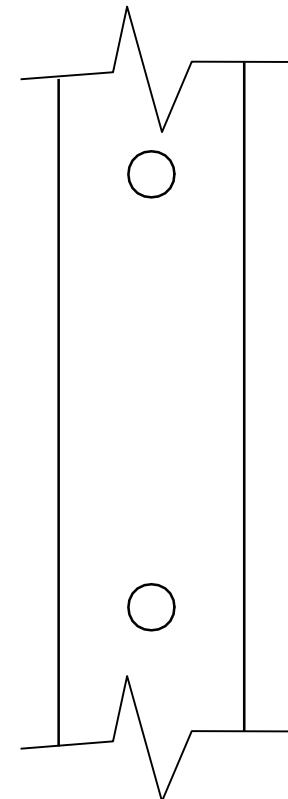
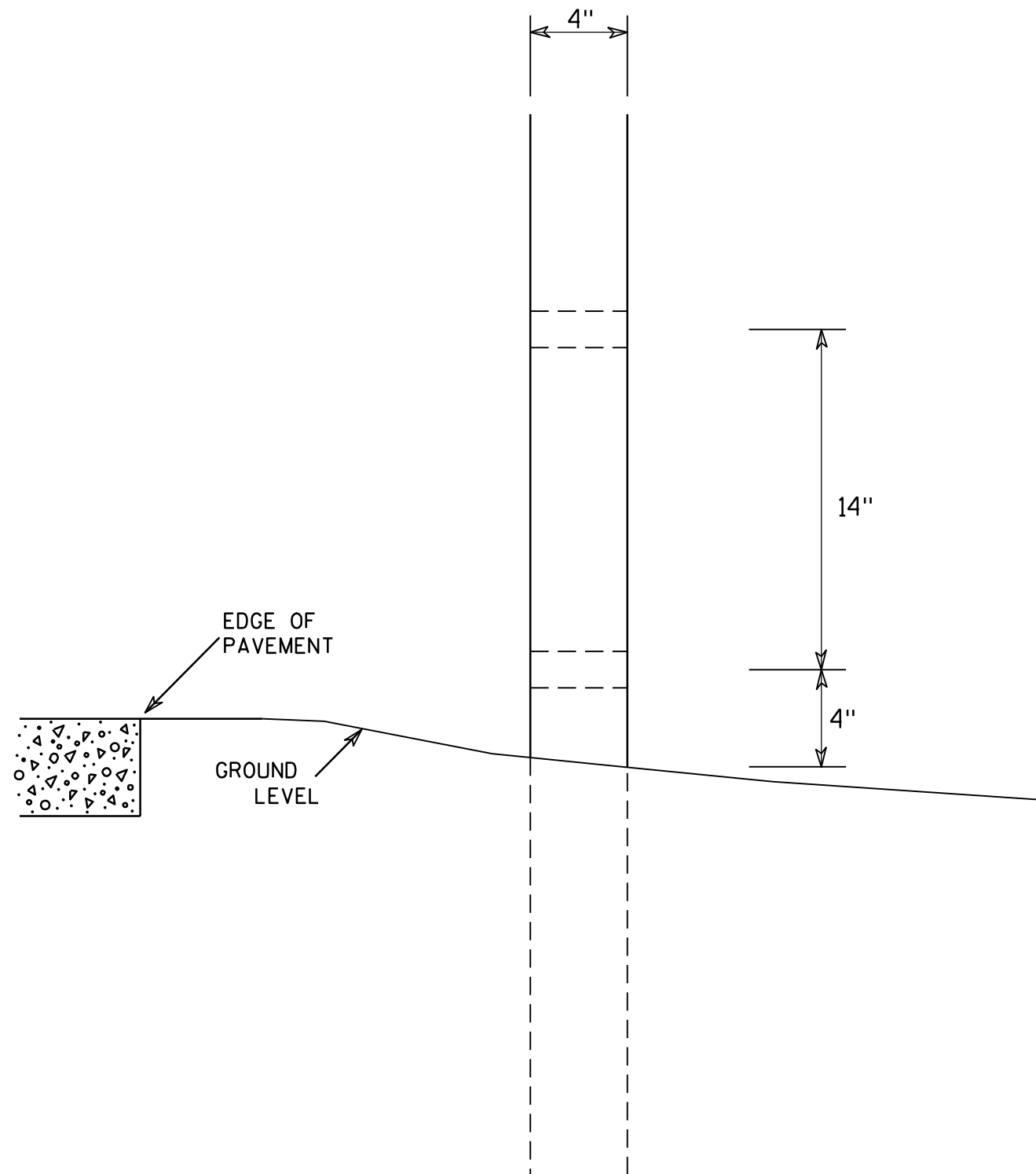
PLOT DATE : 05-FEB-2015 17:09

PLOT BY : mscs_ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

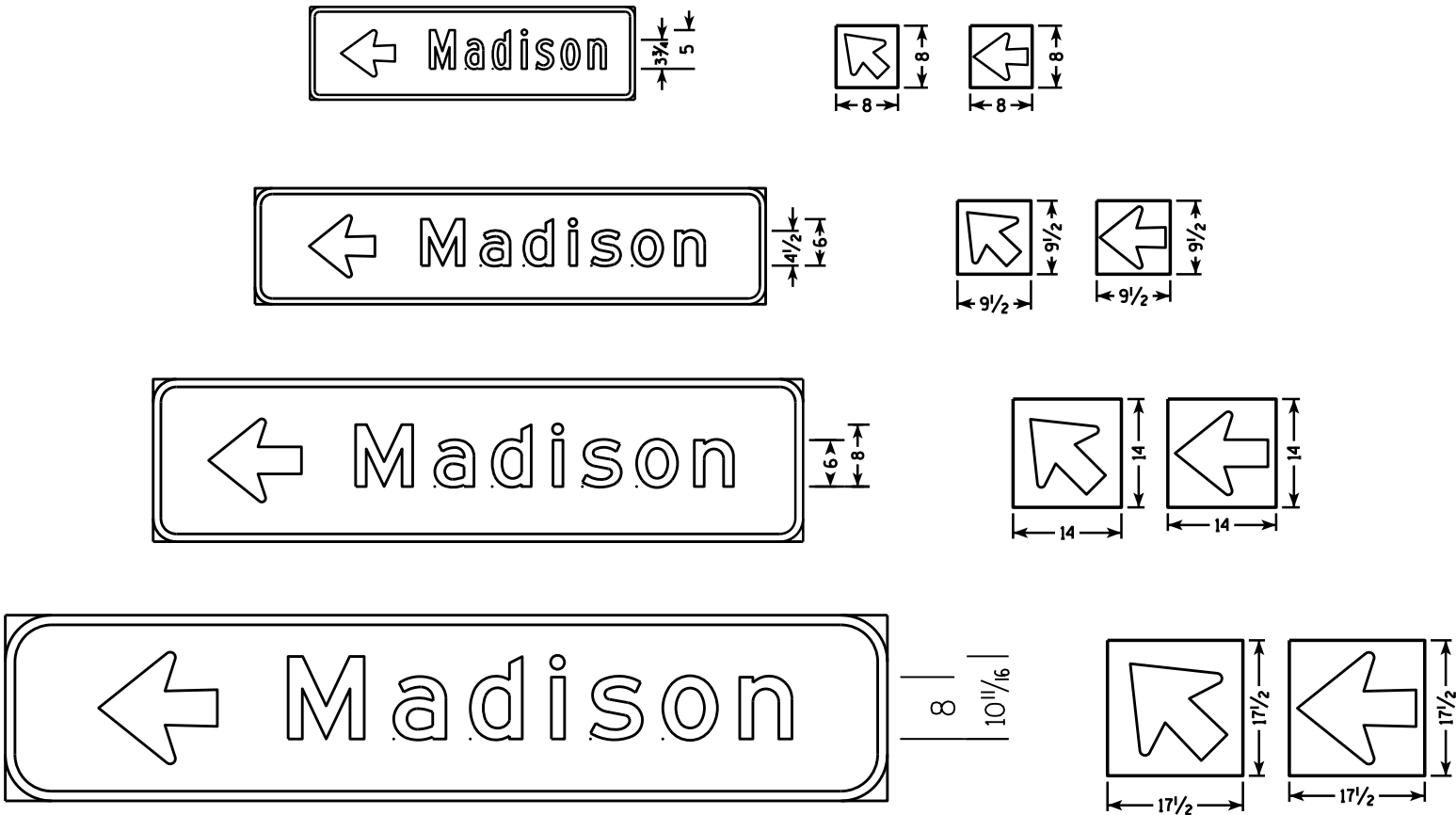
SHEET NO: 67

E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES

GENERAL NOTES

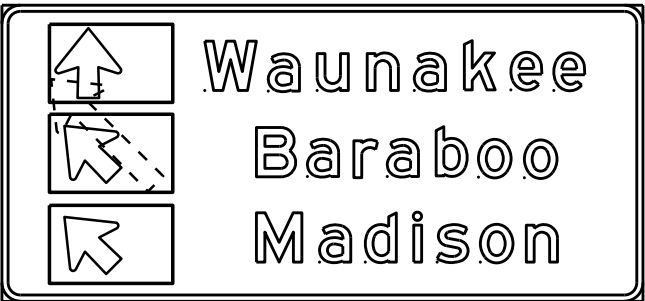
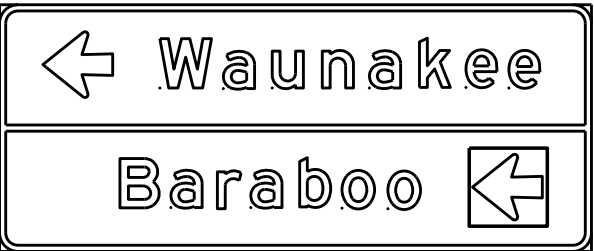
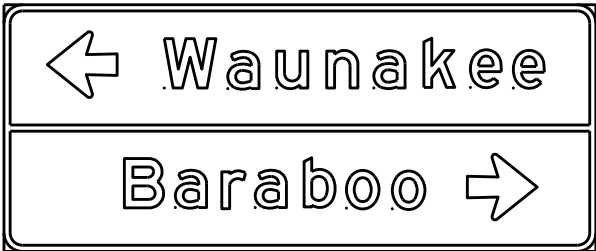
- 1. Materials shall conform to Standard Specification Section 637.
Base - Sheet Aluminum 0.040" Thickness
Sheeting - Orange Type F Reflective
Arrow - Black Non-Reflective
- 2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws.
There shall be a minmum of 2 fasteners used per arrow sign.
- 3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
- 4. Arrows are per standard plate A1-2
- 5. Use separate arrow sign for each destination
- 6. Tilt arrow is always at 45 degrees
- 7. Arrow is centered on arrow sign



Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3 3/4" Series C	8	9 1/2	14 1/2	8
4 1/2" Series D & E	9 1/2	10	15	9 1/2
6" Series D & E	14	16	20 1/2	14
8" Series E	17 1/2	20 1/2	25	17 1/2

BEFORE

AFTER



DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 10/08/14

NOTES

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



G20-57

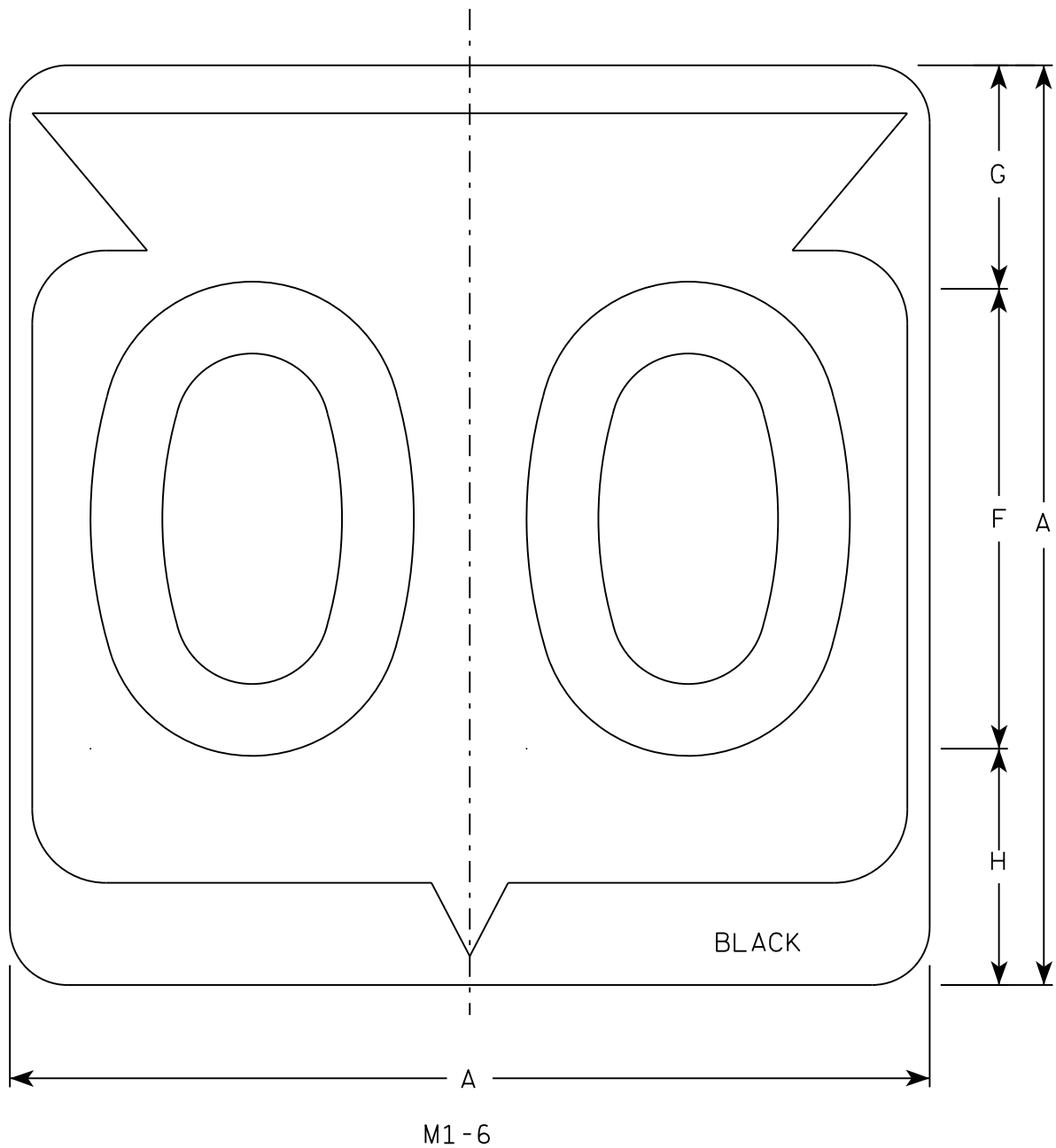
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

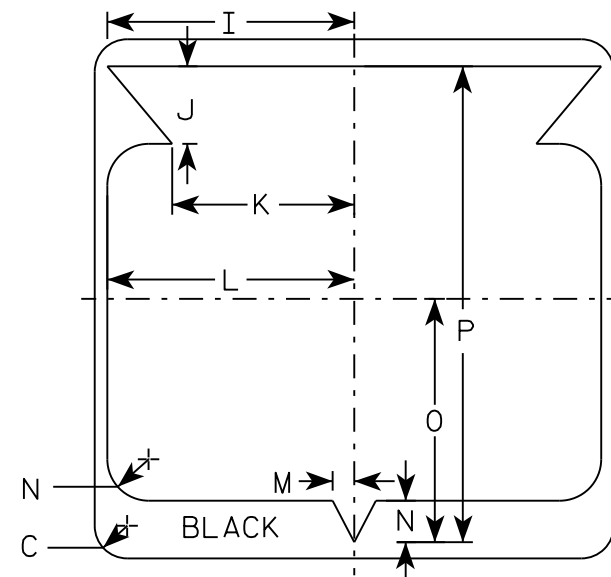
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C
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.



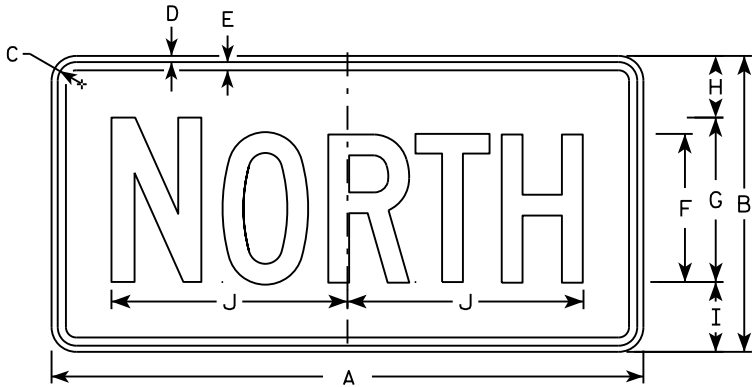
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

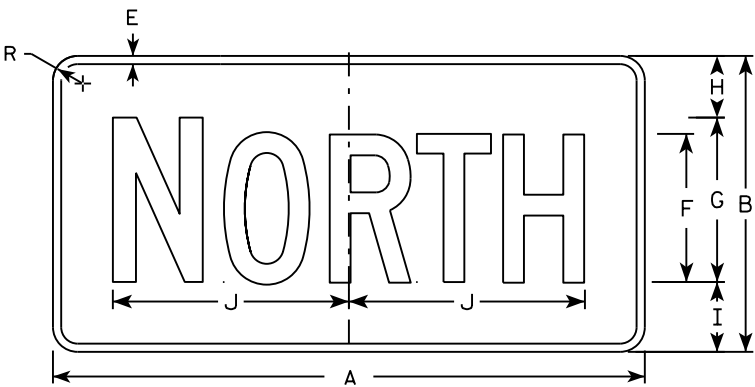
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10



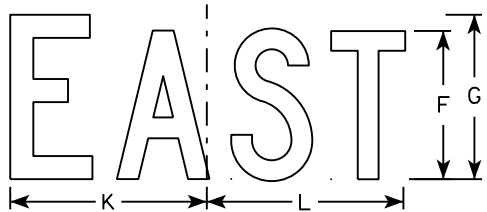
M3-1
MM3-1
MP3-1



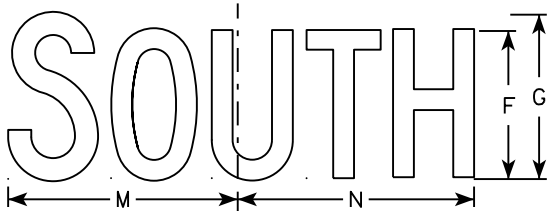
MB3-1
MK3-1
MN3-1



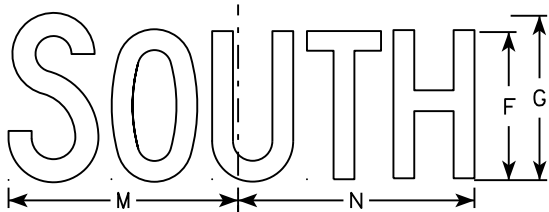
M3-2
MM3-2
MP3-2



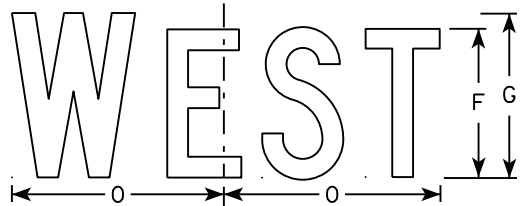
MB3-2
MK3-2
MN3-2



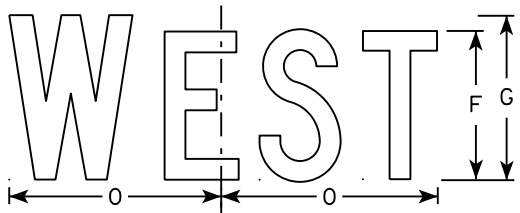
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
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

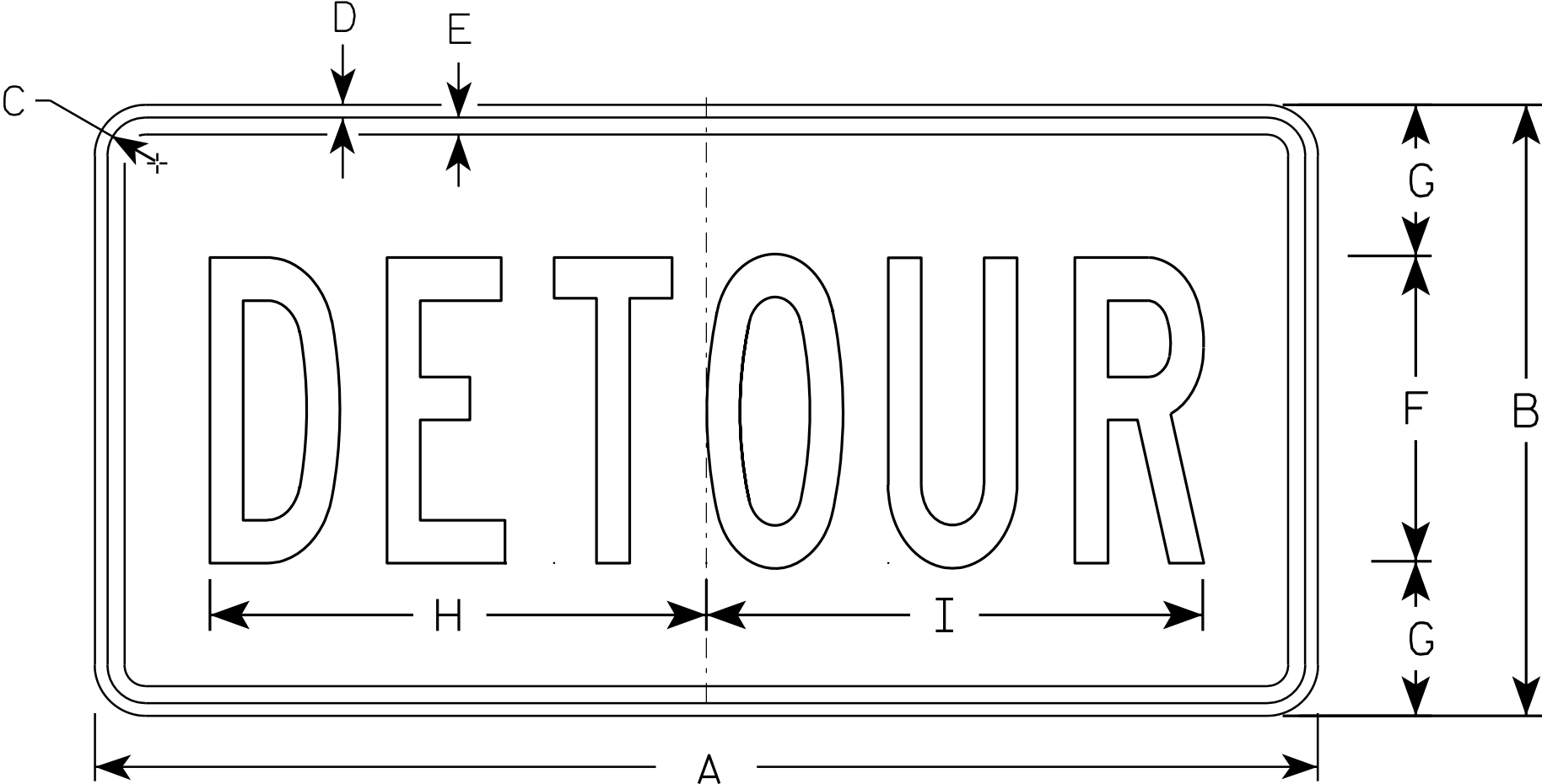
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLAT 71 M3-1.14

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 - B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



M4 - 8

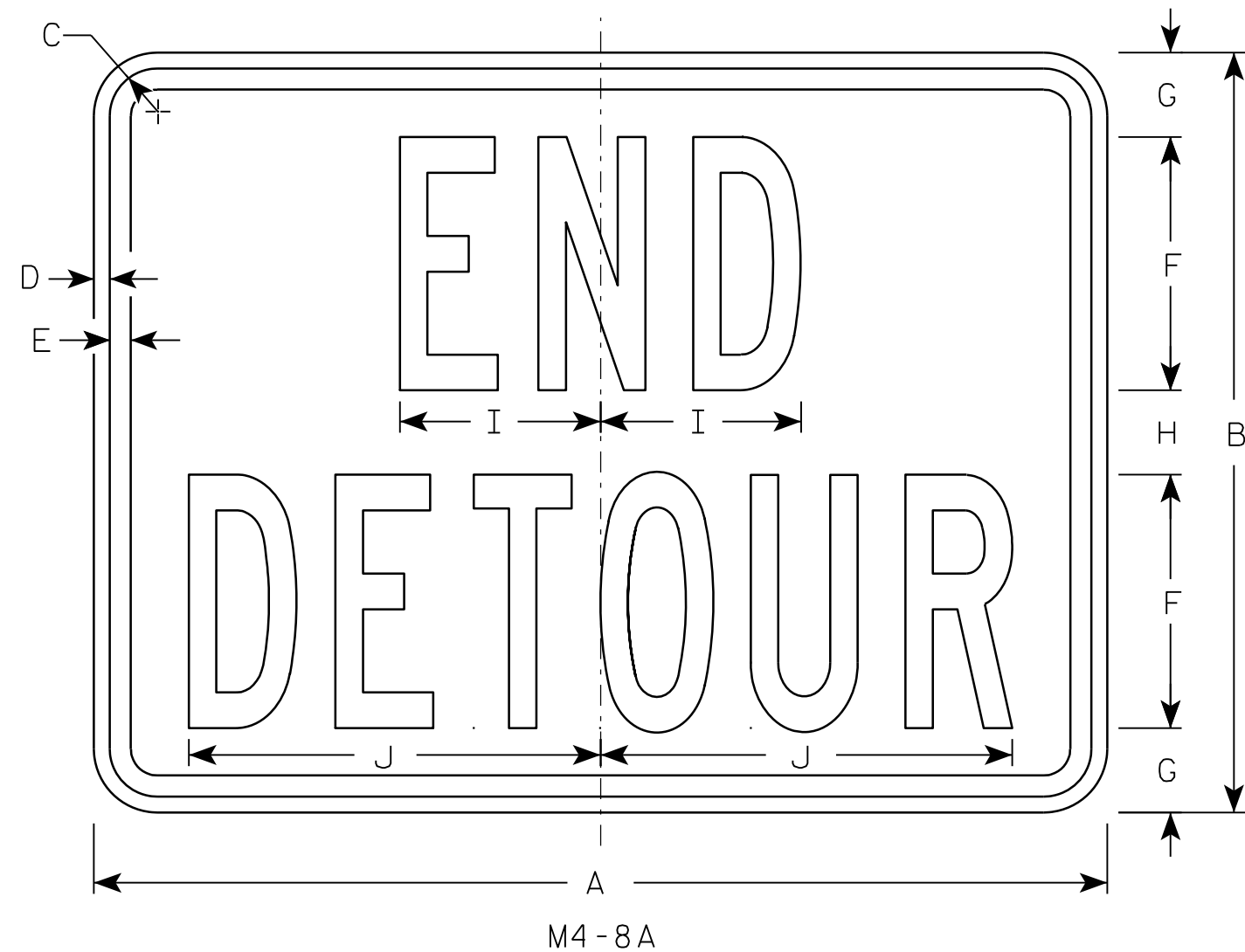
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

STANDARD SIGN
M4 - 8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2



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 - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

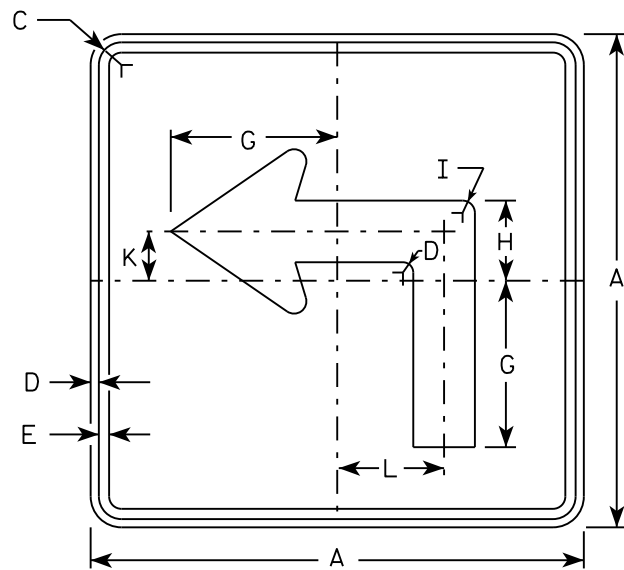
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 73	E
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STANDARD SIGN
M4-8A

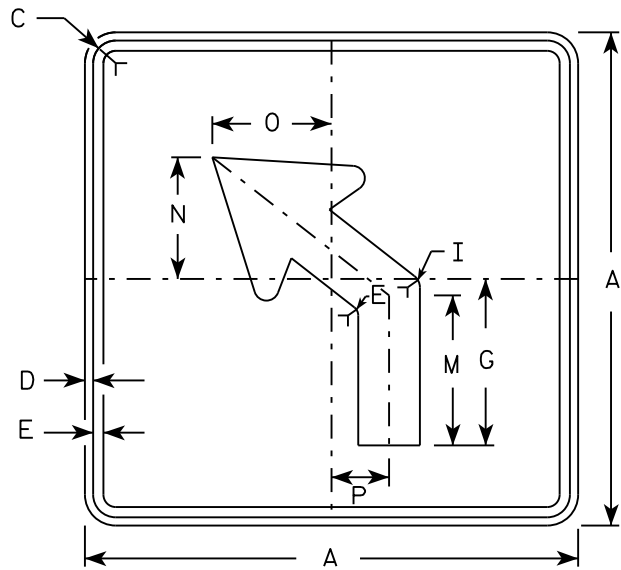
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

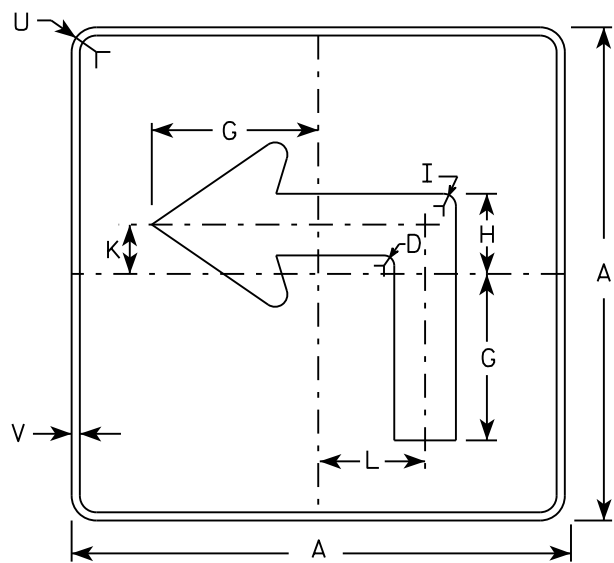
DATE 3/9/11 PLATE NO. M4-8A.2



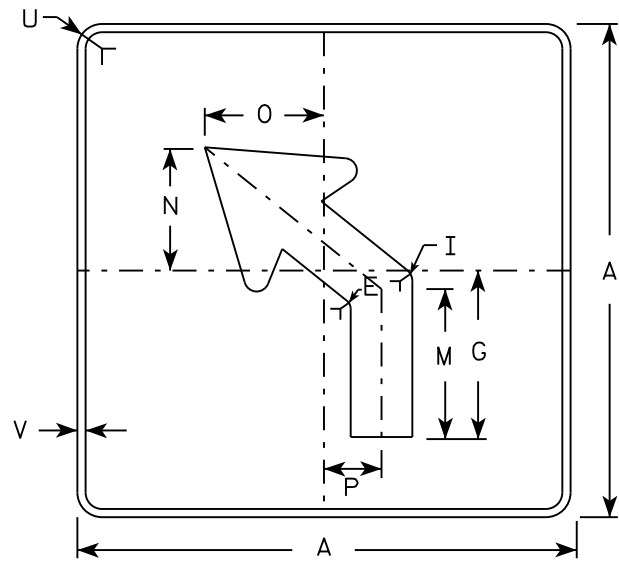
M5-1L
MM5-1L
M05-1L
MP5-1L



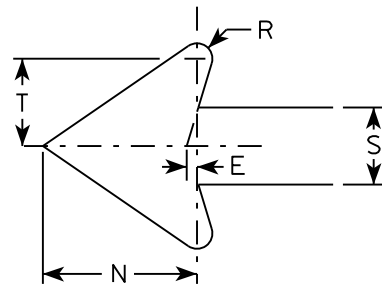
M5-2L
MM5-2L
M05-2L
MP5-2L



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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

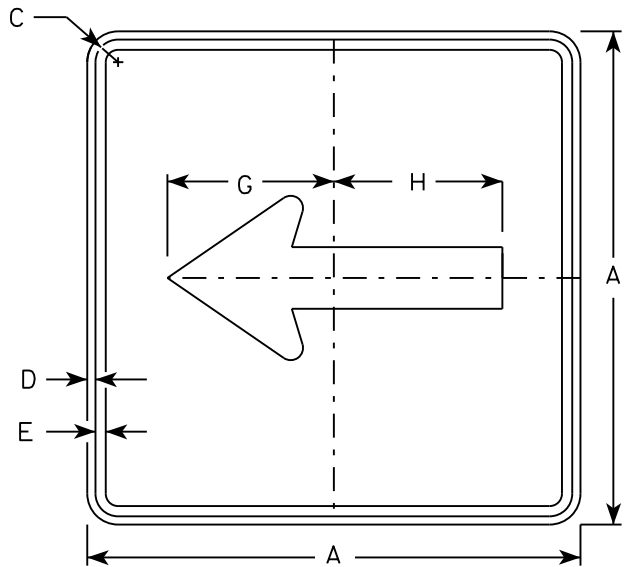
E

STANDARD SIGN
M5-1 & M5-2

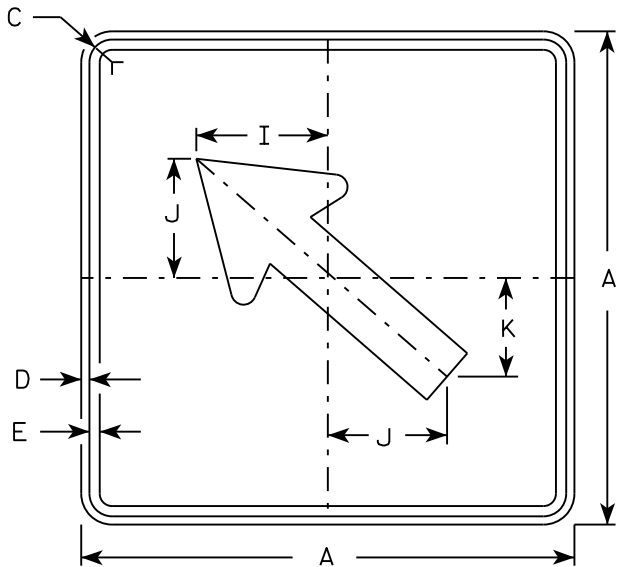
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

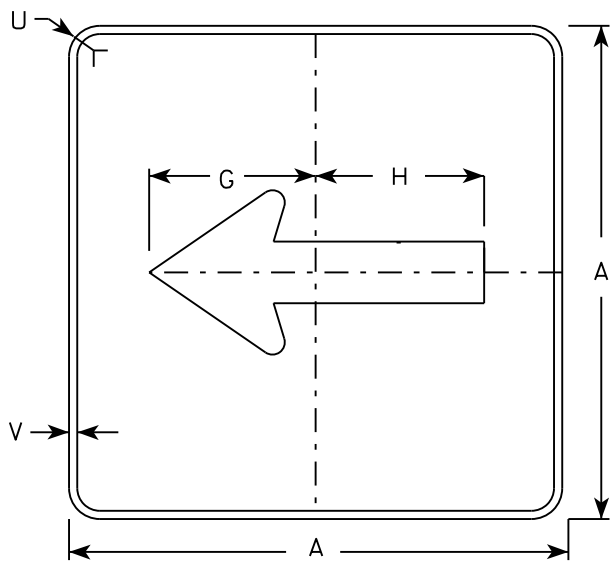
DATE 10/15/15 PLATE 74 M5-1.13



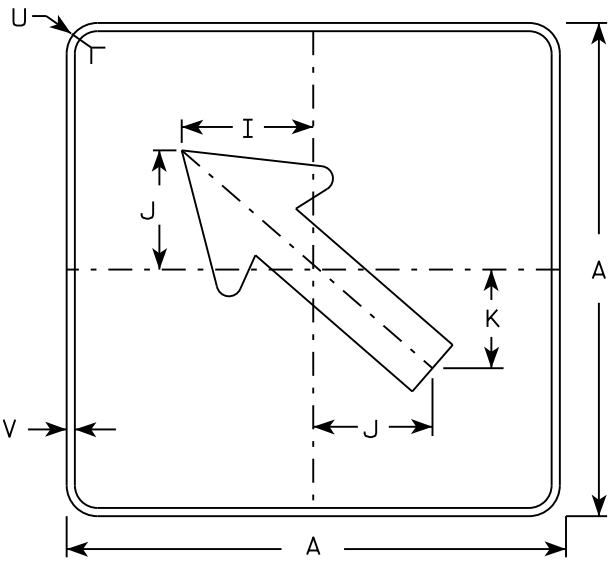
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



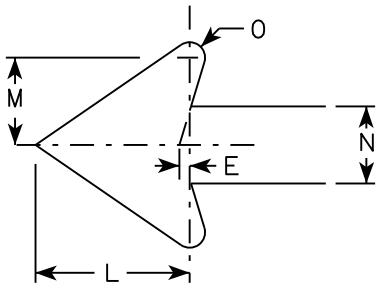
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



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:

DATE 10/15/15

PLAT 75

SHEET NO:

E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

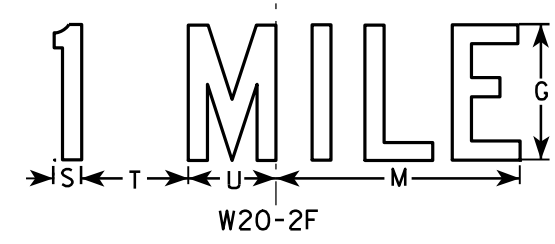
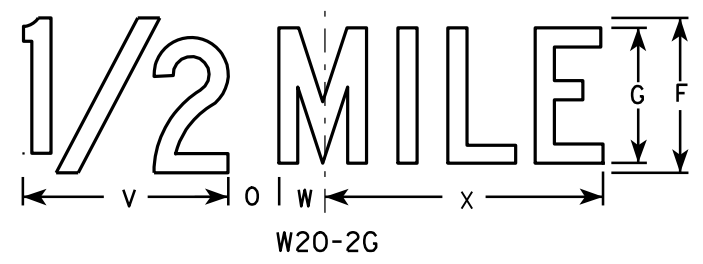
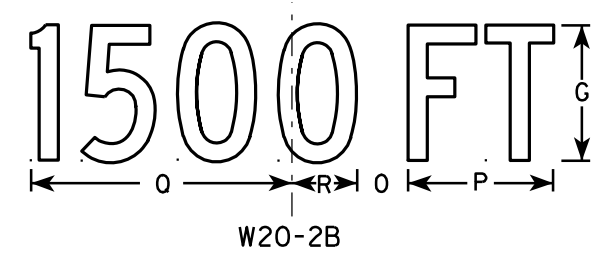
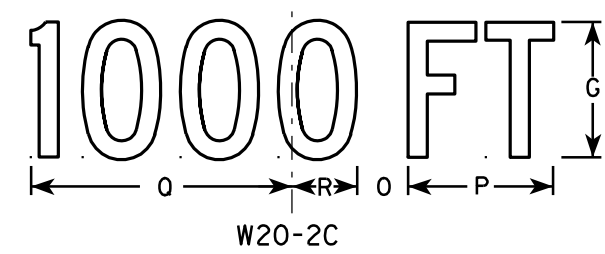
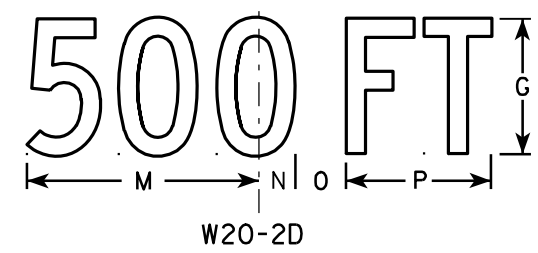
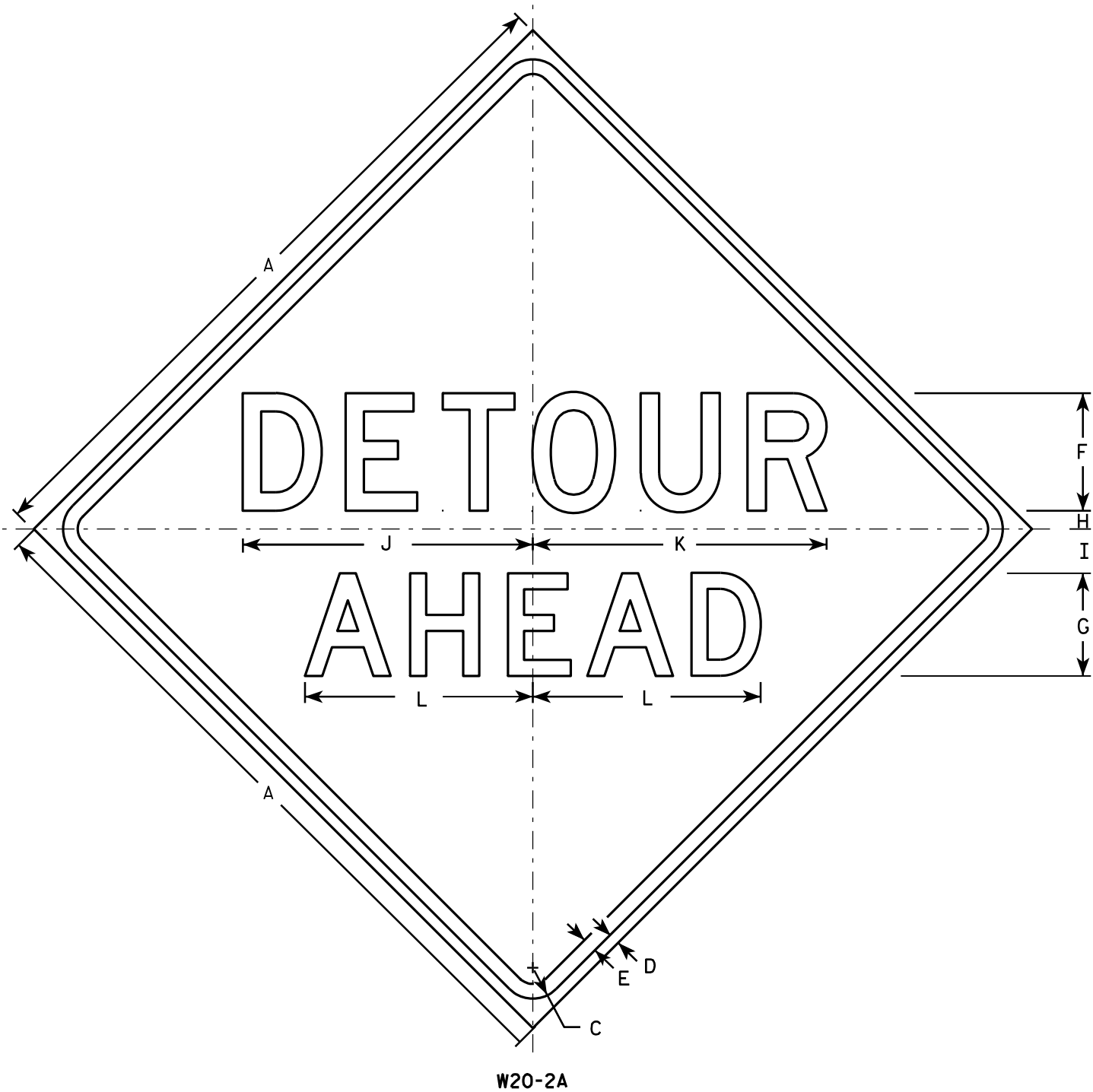
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15

PLAT 75

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 - 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. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:

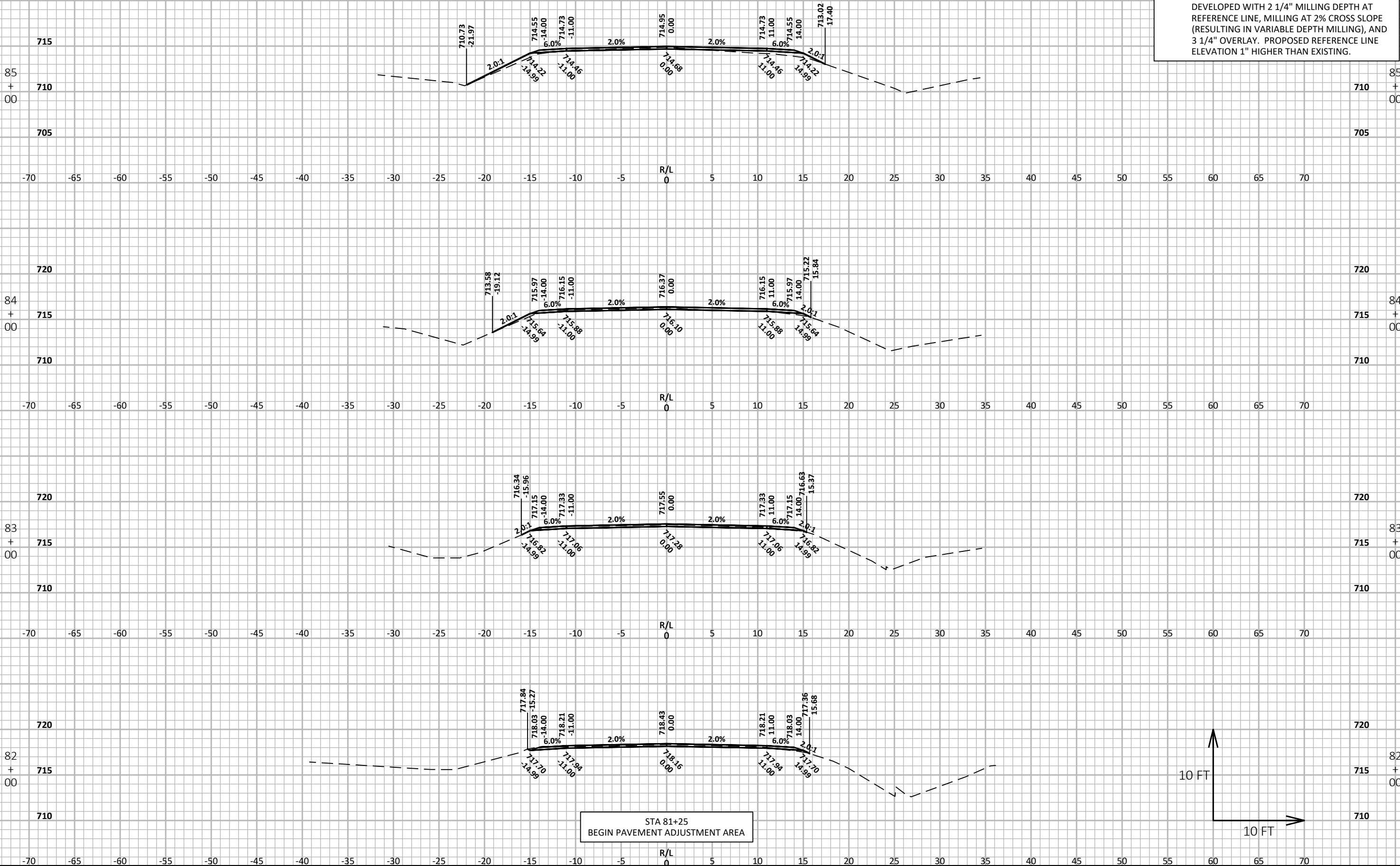
HWY:

COUNTY:

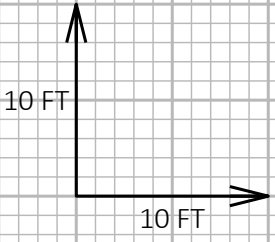
SHEET NO: 76

E

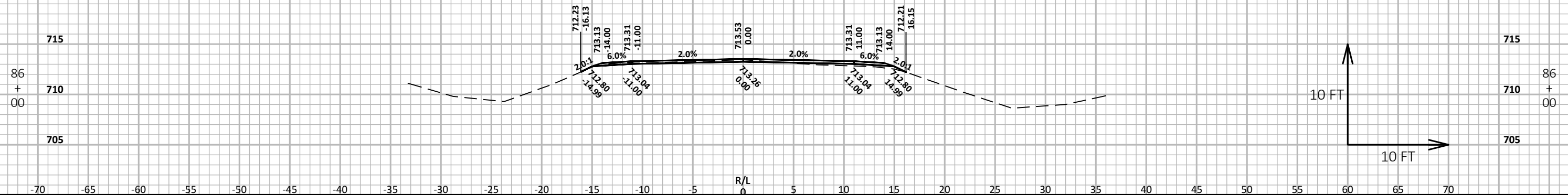
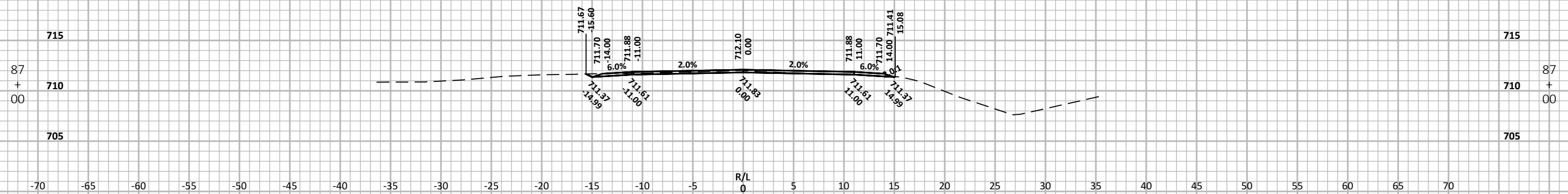
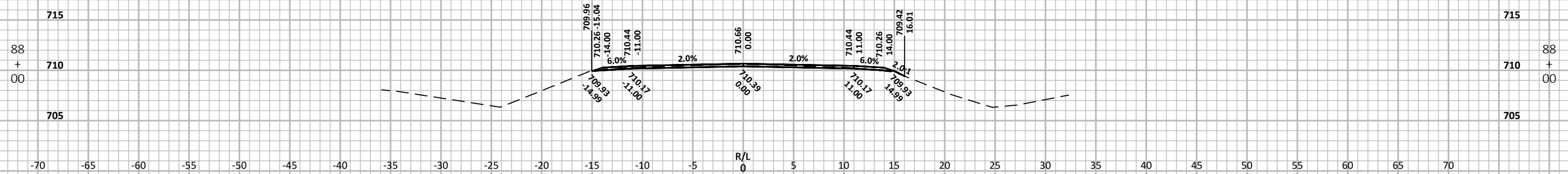
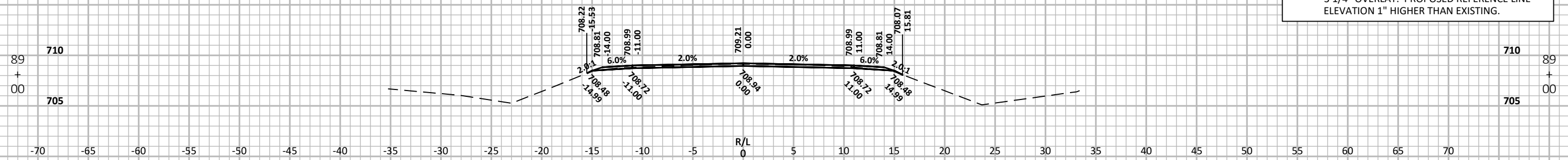
NOTE: PAVEMENT ADJUSTMENT AREA CROSS SECTIONS DEVELOPED WITH 2 1/4" MILLING DEPTH AT REFERENCE LINE, MILLING AT 2% CROSS SLOPE (RESULTING IN VARIABLE DEPTH MILLING), AND 3 1/4" OVERLAY. PROPOSED REFERENCE LINE ELEVATION 1" HIGHER THAN EXISTING.



STA 81+25
BEGIN PAVEMENT ADJUSTMENT AREA



NOTE: PAVEMENT ADJUSTMENT AREA CROSS SECTIONS DEVELOPED WITH 2 1/4" MILLING DEPTH AT REFERENCE LINE, MILLING AT 2% CROSS SLOPE (RESULTING IN VARIABLE DEPTH MILLING), AND 3 1/4" OVERLAY. PROPOSED REFERENCE LINE ELEVATION 1" HIGHER THAN EXISTING.



PROJECT NO:	8731-00-70
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HWY: STH 137

COUNTY: BAYFIELD

CROSS SECTIONS: PAVEMENT ADJUSTMENT AREA STA 81+25 TO STA 96+00

SHEET 78

FILE NAME : N:\3000980.00\CIVIL 3D\SHEETSPLAN\873100-090201-XS.DWG
LAYOUT NAME - 873100-090202-xs

PLOT DATE : 1/3/2024 10:17 AM

PLOT BY : COREY RAYFORD

PLOT NAME :

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

WISDOT/CADDS SHEET 49

NOTE: PAVEMENT ADJUSTMENT AREA CROSS SECTIONS DEVELOPED WITH 2 1/4" MILLING DEPTH AT REFERENCE LINE, MILLING AT 2% CROSS SLOPE (RESULTING IN VARIABLE DEPTH MILLING), AND 3 1/4" OVERLAY. PROPOSED REFERENCE LINE ELEVATION 1" HIGHER THAN EXISTING.

705
93
+
700
00

695

-70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 R/L 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

93
+
700
00

695

710
92
+
705
00

700

-70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 R/L 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

710

92
+
705
00

700

710
91
+
705
00

700

-70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 R/L 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

710

91
+
705
00

700

710
90
+
705
00

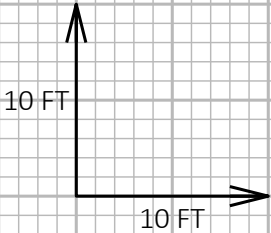
700

-70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 R/L 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

710

90
+
705
00

700



PROJECT NO: 8731-00-70

HWY: STH 137

COUNTY: BAYFIELD

CROSS SECTIONS: PAVEMENT ADJUSTMENT AREA STA 81+25 TO STA 96+00

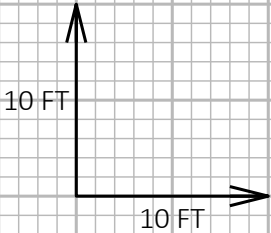
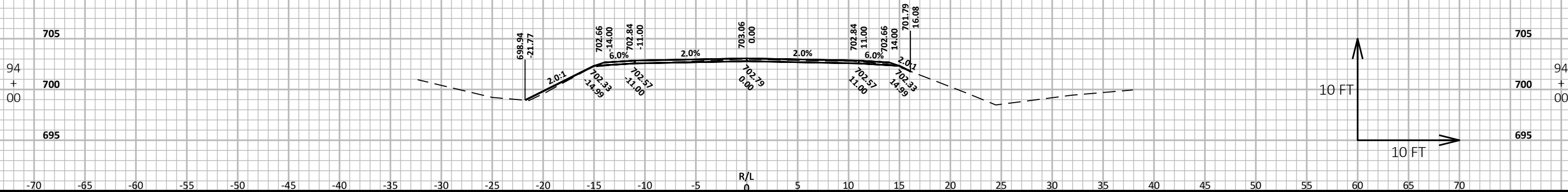
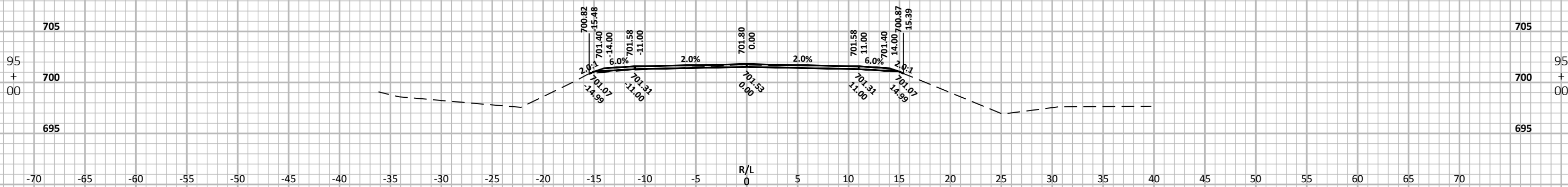
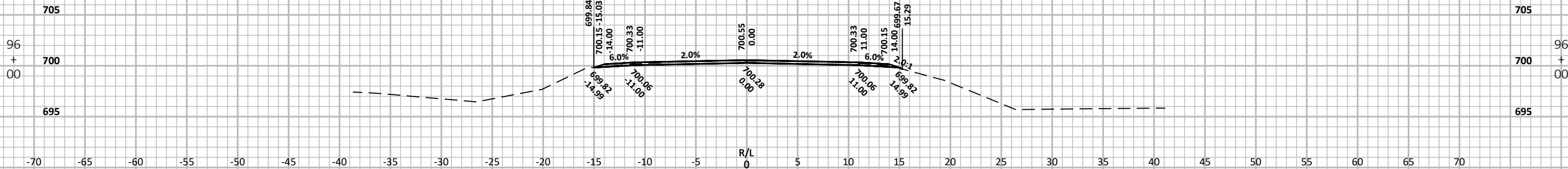
SHEET

79

E

NOTE: PAVEMENT ADJUSTMENT AREA CROSS SECTIONS DEVELOPED WITH 2 1/4" MILLING DEPTH AT REFERENCE LINE, MILLING AT 2% CROSS SLOPE (RESULTING IN VARIABLE DEPTH MILLING), AND 3 1/4" OVERLAY. PROPOSED REFERENCE LINE ELEVATION 1" HIGHER THAN EXISTING.

STA 96+00
END PAVEMENT ADJUSTMENT AREA



PROJECT NO: 8731-00-70

HWY: STH 137

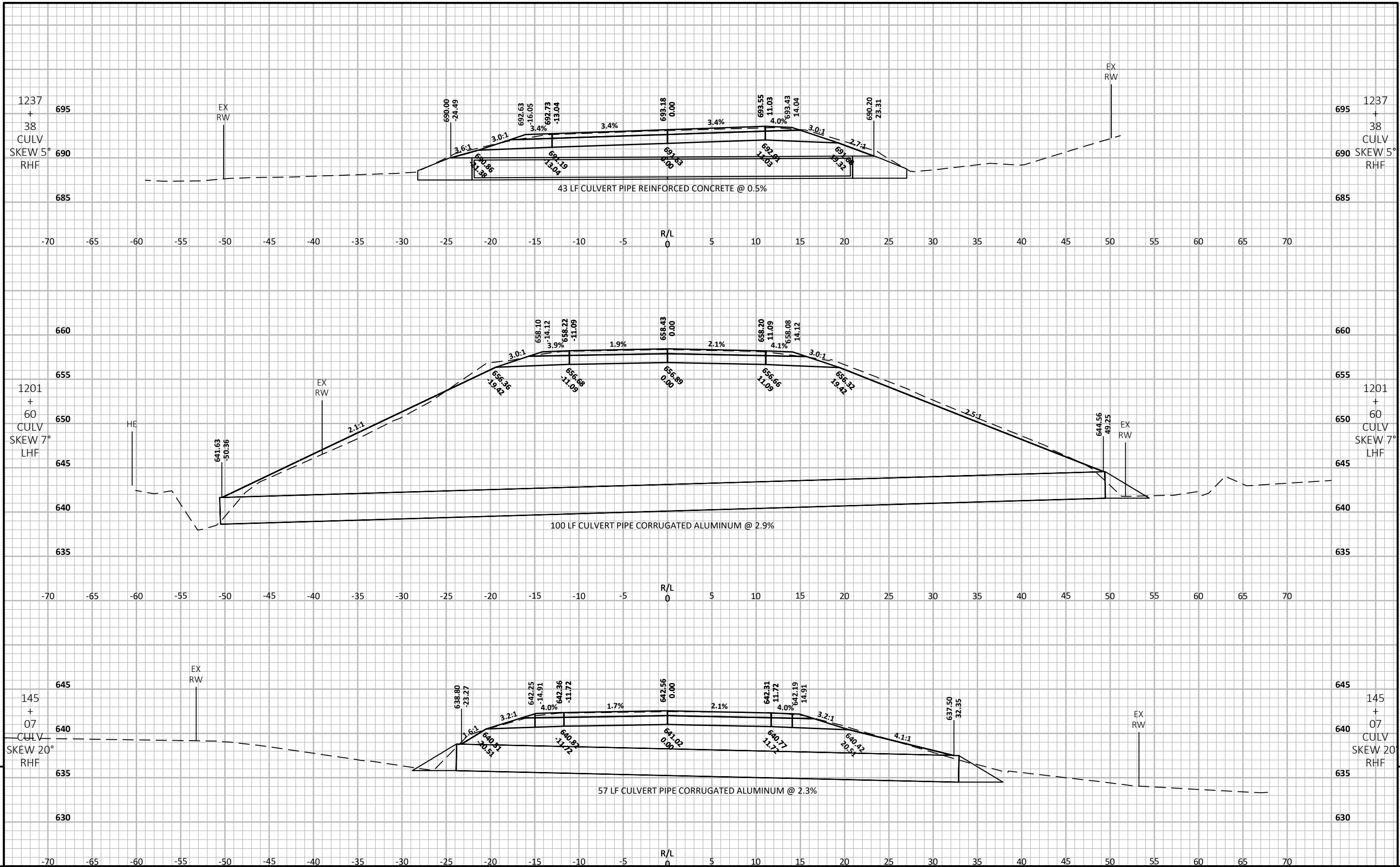
COUNTY: BAYFIELD

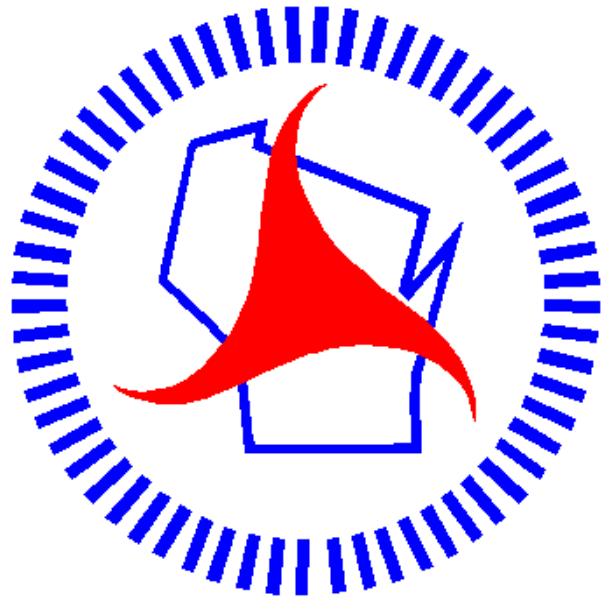
CROSS SECTIONS: PAVEMENT ADJUSTMENT AREA STA 81+25 TO STA 96+00

SHEET

80

E





Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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