

RHI
PROJECT ID: 1581-13-70
WITH:

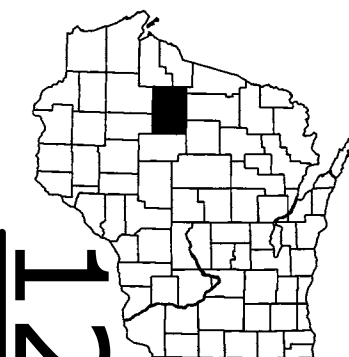
COUNTY: PRICE

JAN 2015

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 = 248



DESIGN DESIGNATION

A.A.D.T. (2010)	= 2,000
A.A.D.T. (2033)	= 2,2250
D.H.V.	= 340
D.	= 63-37
T.	= 14.7%
DESIGN SPEED	= 55 mph
ESALS	= 1,160,700

CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
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

HAWKINS - PRENTICE

RUSK CO LINE TO JUMP RIVER BRIDGE

USH 8

PRICE COUNTY

STATE PROJECT NUMBER
1581-13-70

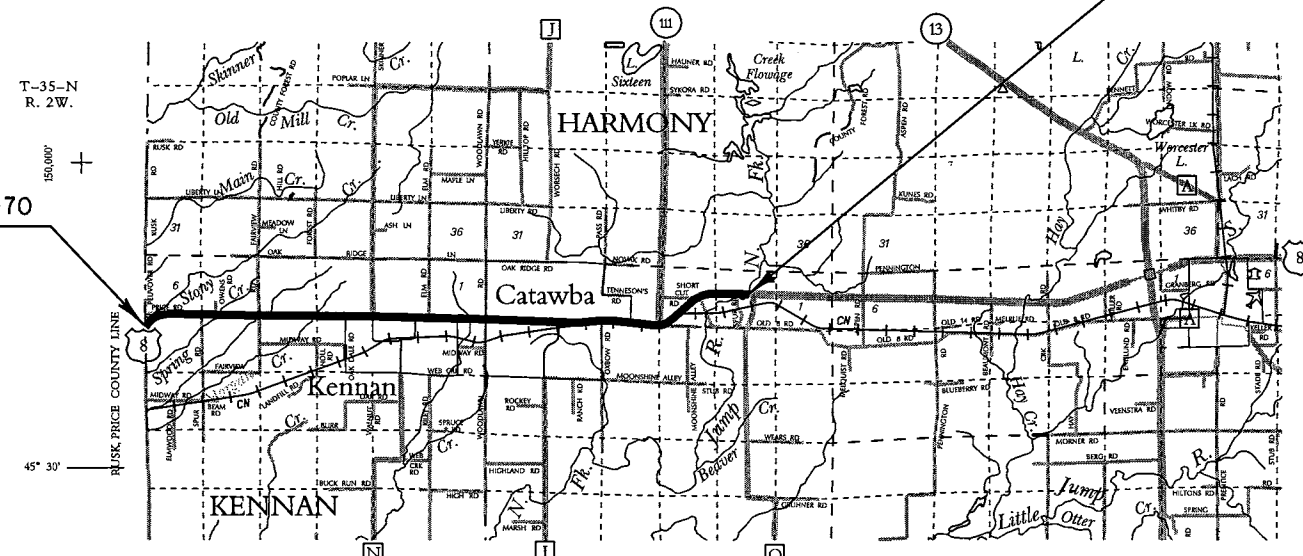
END PROJECT 1581-13-70
STA 606+29.92 USH 8

BEGIN PROJECT 1581-13-70

STA 32+46.53 USH 8

X = 669084

Y = 356889



LAYOUT
SCALE 0 1 MI.
TOTAL NET LENGTH OF CENTERLINE = 10.84 MI

COORDINATES ON THIS PLAN ARE SCALED
TO THE WISCONSIN COUNTY COORDINATE
SYSTEM (WCCS), PRICE COUNTY, NAD 1983 (91)

ELEVATIONS SHOWN ON THIS PLAN ARE
REFERENCED TO THE NORTH AMERICAN VERTICAL
DATUM OF 1988 NAVD 88 (91)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	COLEMAN ENGINEERING/WISDOT
Designer	CODY J. HOMAN
Project Manager	RICHARD A. SIMON
Regional Examiner	CHERYL L. SIMON
Regional Supervisor	ROBIN W. STAFFORD
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 4/9/14
Signature: [Signature]

E

GENERAL NOTES

1. MAINTAIN EXISTING SUPERELEVATIONS RATES EXCEPT WHERE OTHERWISE NOTED. EXISTING SUPERELEVATIONS TRANSITIONS WERE CONSTRUCTED WITH TWO-THIRDS OF LENGTH OF RUNOFF ON THE TANGENT APPROACH AND ONE-THIRD OF THE LENGTH OF THE CURVE.
2. WHEN THE QUANTITY OF THE ITEM ASPHALTIC PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLAN IS APPROXIMATE & THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION ON THE MATERIAL AS DIRECTED BY THE ENGINEER.
3. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLAN. THE LOCATIONS OF EXISTING & PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE.
4. PERMANENT SIGNING ENTRANCE STATIONING WAS CALCULATED FROM THE PHOTOLOG AND MAY BE PLUS OR MINUS 50 FEET.
5. ALL SIGNS SHALL BE REPLACED IN EXISTING LOCATIONS UNLESS OTHERWISE NOTED.
6. PAVING LIMITS AND EXACT LOCATIONS FOR BUTT JOINTS ARE TO BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER.
7. THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURED BY THIER OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
8. ALL FIELD, PRIVATE, AND COMMERCIAL ENTRANCES SHALL BE RESTORED IN KIND. LIMITS TO BE DETERMINED BY THE PROJECT ENGINEER.
9. PRESENCE OF CRACK FILLED MATERIAL CONTAINING RUBBER ADDITIVE MAY STILL BE PRESENT AFTER MILLING. RUBBER CRACK FILL MATERIAL MUST BE REMOVED AS SPECIFIED IN PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING.



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

TEMPORARY TRAFFIC SIGNAL TIMING

B-50-83

STOP BAR SPACING = 950 FT

TEMPORARY SIGNAL TIMING*1 6:00AM TO 8:00PM

EB	WB	YELLOW	ALL RED	GREEN
RED	RED		32.0 SEC	
GREEN	RED			24.0 SEC
YELLOW	RED	4.0 SEC		
RED	RED		32.0 SEC	
RED	GREEN			24.0 SEC
RED	YELLOW	4.0 SEC		

TOTAL CYCLE LENGTH: 8.0 SEC 64.0 SEC 48.0 SEC = 120.0 SEC

TEMPORARY SIGNAL TIMING*2 8:00PM TO 6:00AM

EB	WB	YELLOW	ALL RED	GREEN
RED	RED		32.0 SEC	
GREEN	RED			17.0 SEC
YELLOW	RED	4.0 SEC		
RED	RED		32.0 SEC	
RED	GREEN			17.0 SEC
RED	YELLOW	4.0 SEC		

TOTAL CYCLE LENGTH: 8.0 SEC 64.0 SEC 34.0 SEC = 106.0 SEC

B-50-84

STOP BAR SPACING = 1200 FT

TEMPORARY SIGNAL TIMING*1 6:00AM TO 8:00PM

EB	WB	YELLOW	ALL RED	GREEN
RED	RED		37.0 SEC	
GREEN	RED			27.0 SEC
YELLOW	RED	4.0 SEC		
RED	RED		37.0 SEC	
RED	GREEN			27.0 SEC
RED	YELLOW	4.0 SEC		

TOTAL CYCLE LENGTH: 8.0 SEC 74.0 SEC 54.0 SEC = 136.0 SEC

TEMPORARY SIGNAL TIMING*2 8:00PM TO 6:00AM

EB	WB	YELLOW	ALL RED	GREEN
RED	RED		37.0 SEC	
GREEN	RED			19.0 SEC
YELLOW	RED	4.0 SEC		
RED	RED		37.0 SEC	
RED	GREEN			19.0 SEC
RED	YELLOW	4.0 SEC		

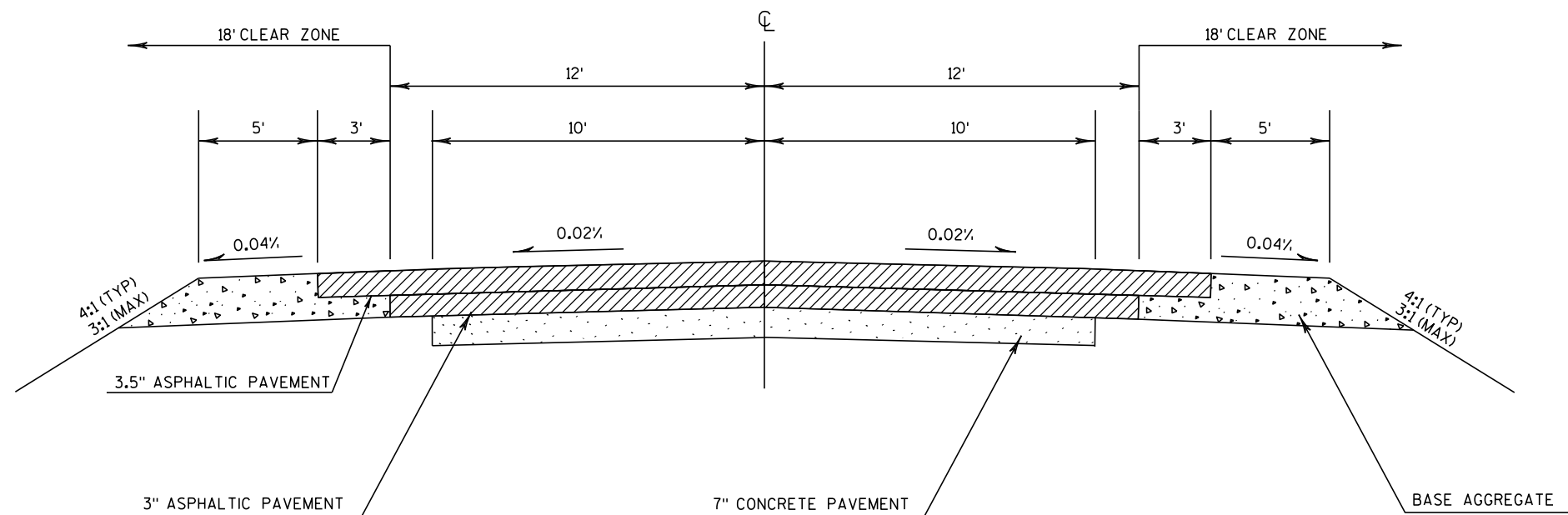
TOTAL CYCLE LENGTH: 8.0 SEC 74.0 SEC 38.0 SEC = 120.0 SEC

UTILITIES & OTHER CONTACTS

CENTURY LINK - COMMUNICATION LINE
BRIAN HUHN
400 W 9TH ST. N, STE #5
LADYSMITH WI 54848
PHONE: (715) 532-0023
MOBILE: (715) 563-8294
EMAIL: BRIAN.HUHN@CENTURYLINK.COM

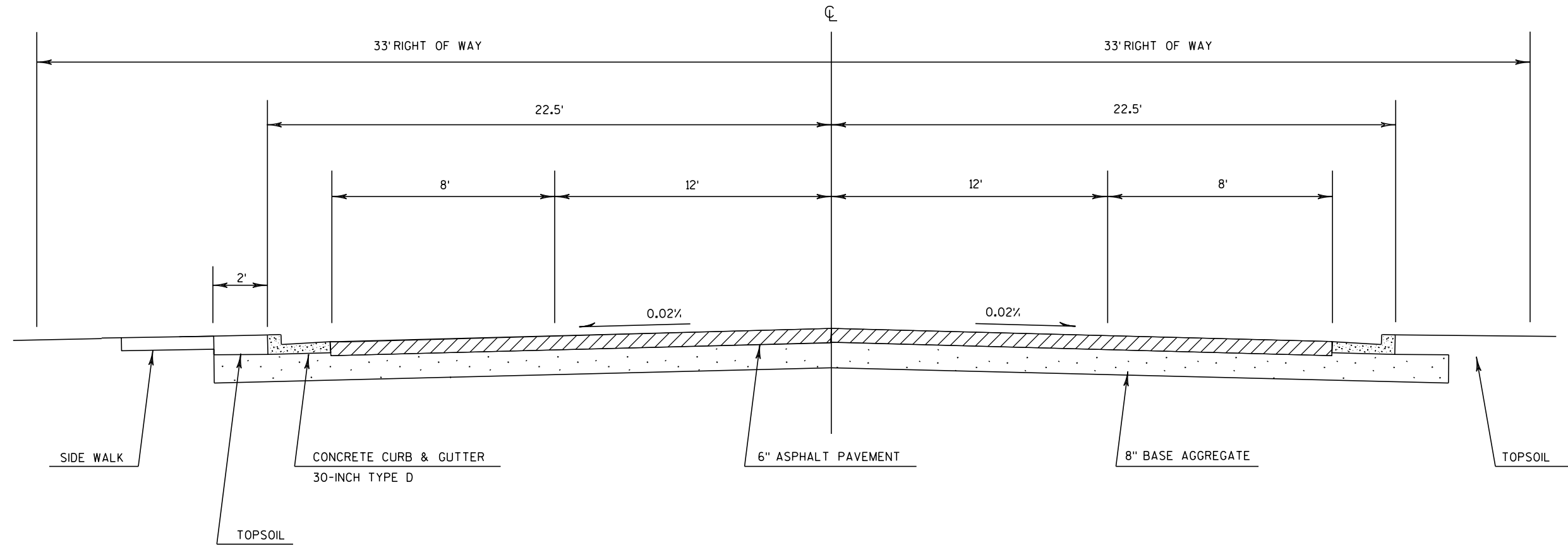
PRICE ELEECTRIC COOPERATION INC - ELECTRICITY
JASON WEIK
PO BOX 110
PHILLIPS WI 54555
PHONE: (715) 339-2155
MOBILE: (715) 820-2748
EMAIL: JWEIK@PRICE-ELECTRIC.COM

XCEL ENERGY-ELECTRICITY
JASON MCROBERTS
310 HICKORY HILLS LN
PHILLIPS WI 54555
PHONE: (715) 737-1198
MOBILE: (715) 577-1132
EMAIL: JASON.L.MCROBERTS@XCELENERGY.COM

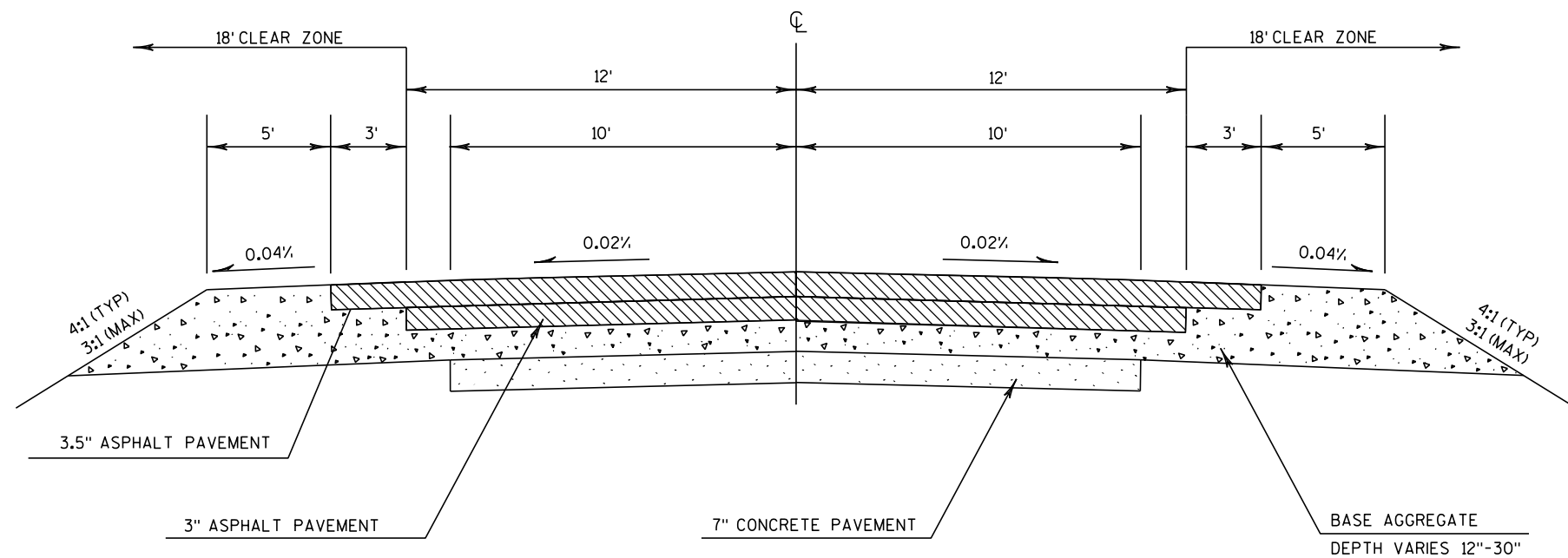


EXISTING TYPICAL SECTION

STA 32+46 - STA 411+40
STA 427+64 - STA 476+03

**EXISTING TYPICAL SECTION**

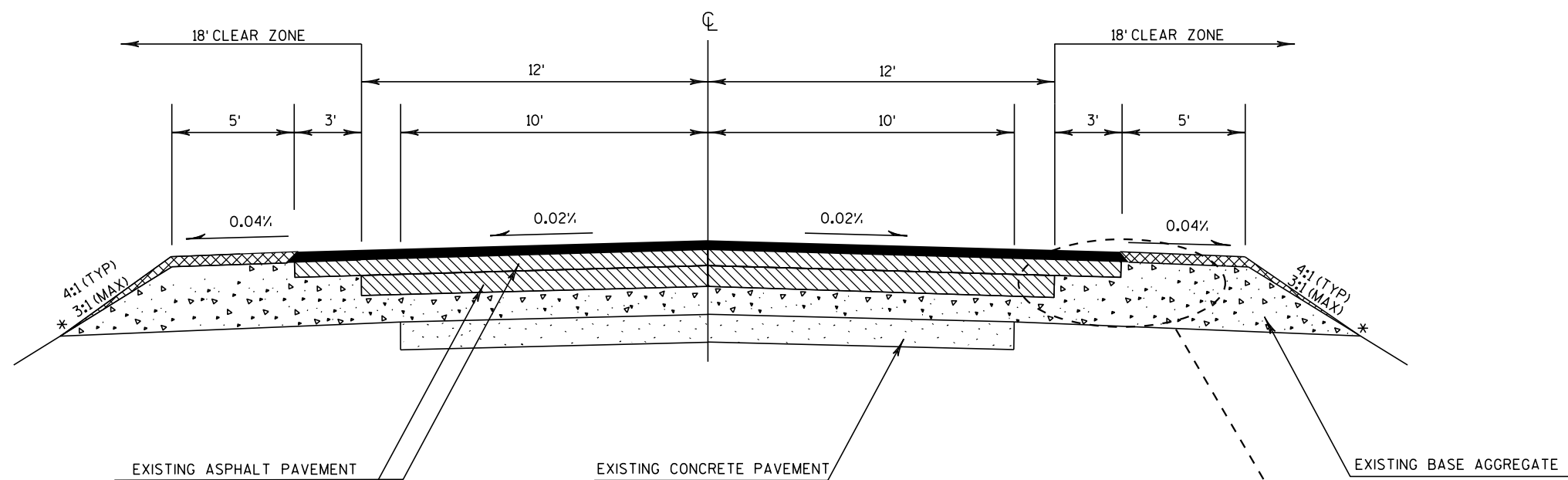
STA 411+40 - STA 427+64

**EXISTING TYPICAL SECTION**

STA 476+03 - STA 606+30

2

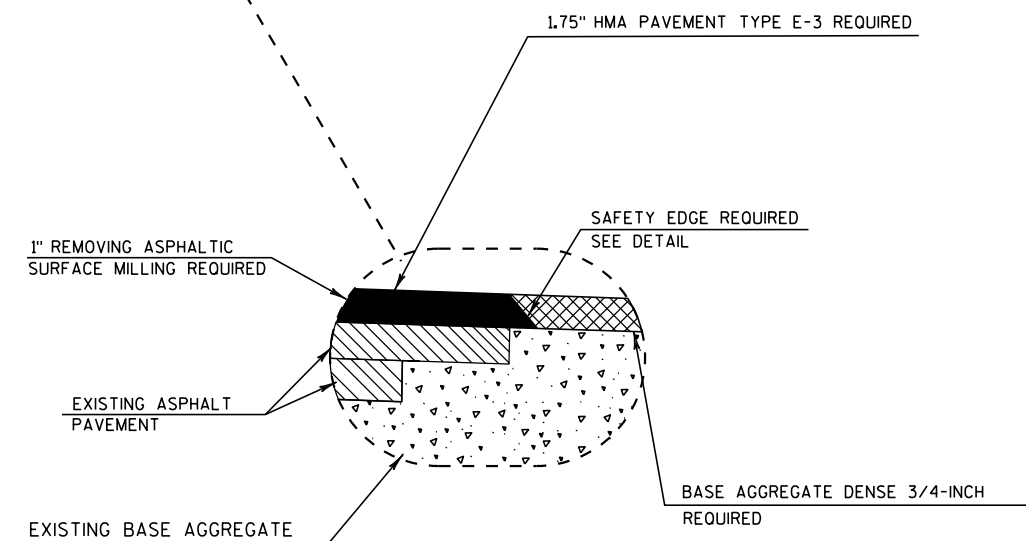
2

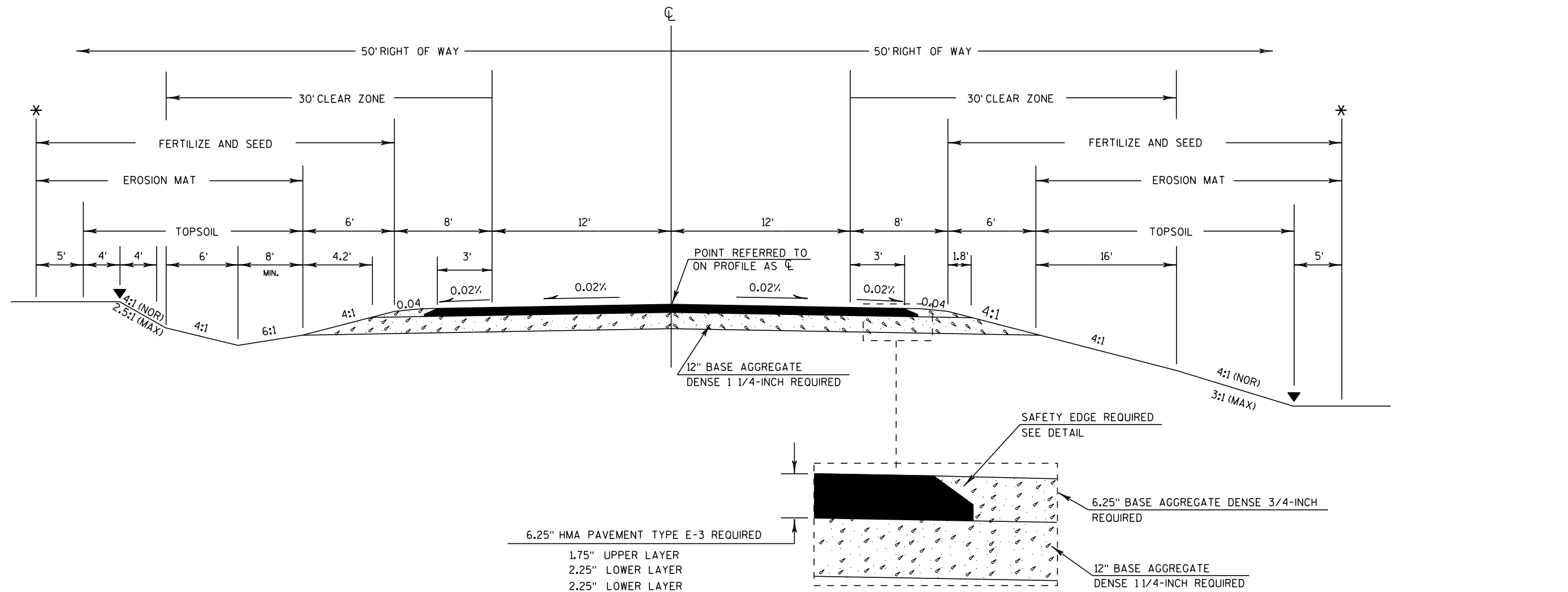


* NOTE: MATCH EXISTING SUBGRADE SHOULDER POINT

PROPOSED TYPICAL SECTION

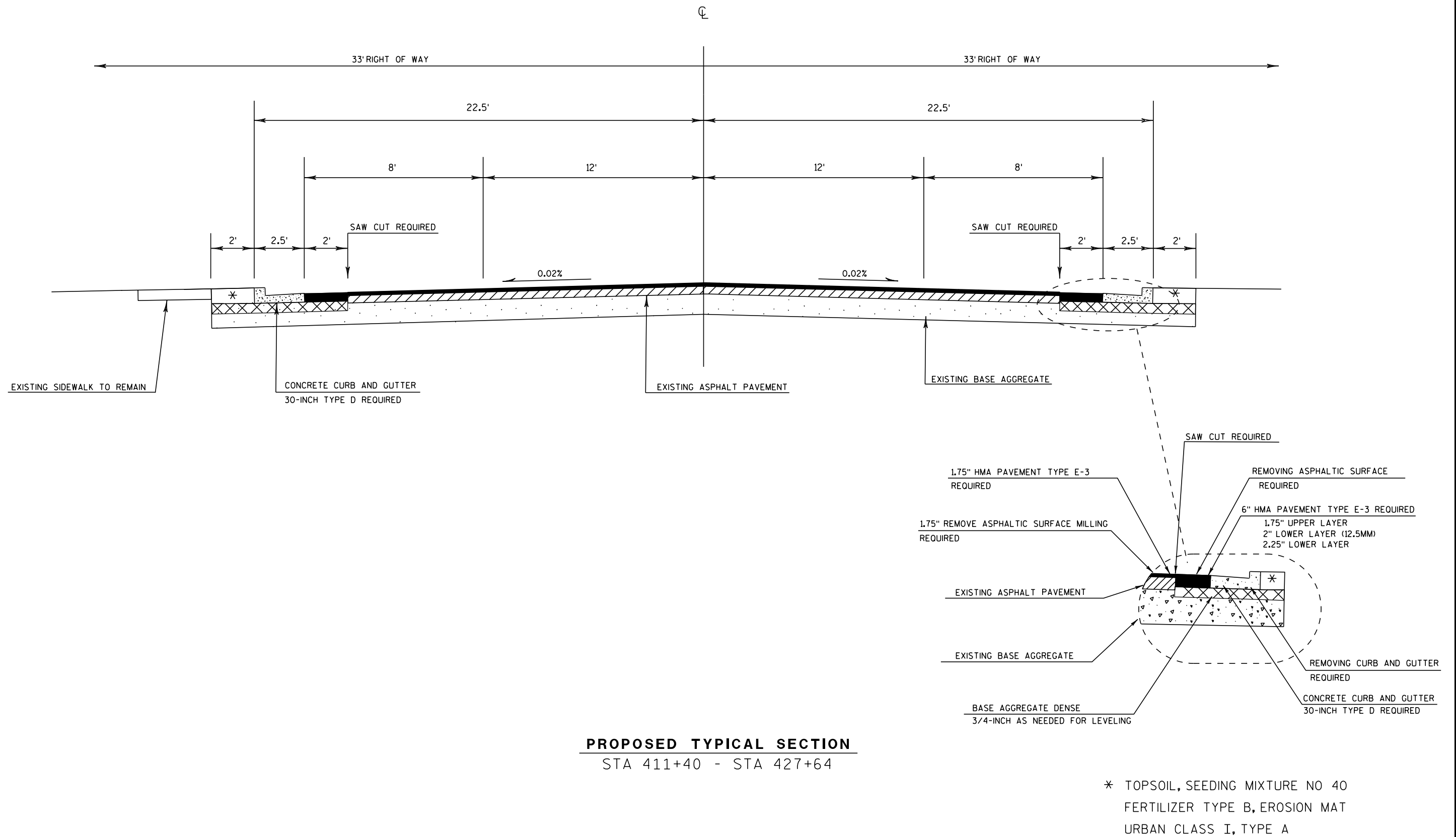
STA 32+46 - STA 146+00
STA 151+50 - STA 192+00
STA 196+50 - STA 411+40
STA 427+64 - STA 476+03





PROPOSED TYPICAL SECTION

STA 146+00 - STA 151+50
STA 192+00 - STA 196+50



2

GRADUALLY INCREASE MILL DEPTH FROM 0" AT CENTERLINE
TO 1" FROM STA 528+70 TO STA 529+70

* NOTE: MATCH EXISTING SUBGRADE SHOULDER POINT

PROPOSED TYPICAL SECTION

STA 509+69 TO STA 528+70

SUPERELEVATION CORRECTION

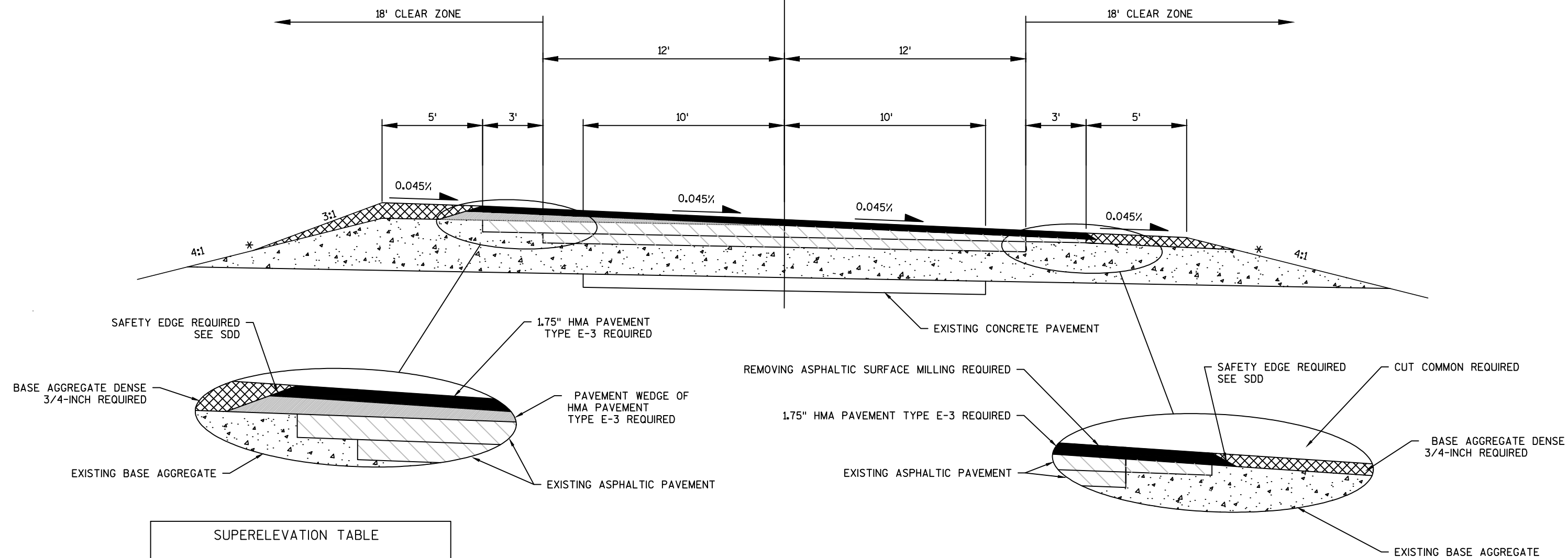
SUPERELEVATION TABLE		
STA	LOW SIDE	HIGH SIDE
509+70	NORMAL CROWN	NORMAL CROWN
510+23	NORMAL CROWN	0.000%
510+75	NORMAL CROWN	REVERSE CROWN
511+20	0.037%	0.037%
511+70	FULL SUPER	FULL SUPER
526+70	END FULL SUPER	END FULL SUPER
527+20	0.037%	0.037%
527+65	NORMAL CROWN	REVERSE CROWN
528+17	NORMAL CROWN	0.000%
528+70	NORMAL CROWN	NORMAL CROWN

NOTE: EXISTING SUPERELEVATION = 0.030%

GRADUALLY REDUCE MILL DEPTH FROM 1" AT CENTERLINE TO 0" FROM STA 550+60 TO STA 551+60

MILL OR WEDGE WITH HMA PAVEMENT TO MATCH INTO THE EXISTING CENTERLINE

GRADUALLY INCREASE MILL DEPTH FROM 0" AT CENTERLINE TO 1" FROM STA 575+85 TO STA 576+85



SUPERELEVATION TABLE

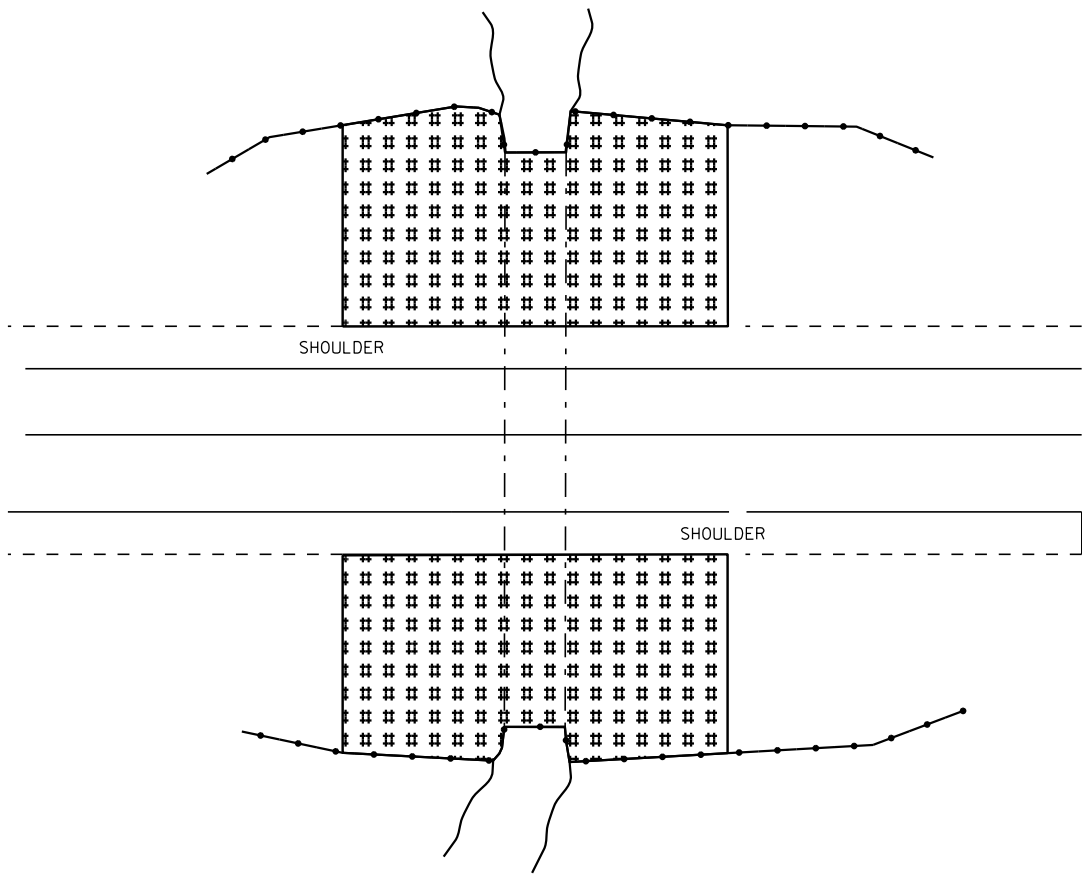
STA	LOW SIDE	HIGH SIDE
551+60	NORMAL CROWN	NORMAL CROWN
552+13	NORMAL CROWN	0.000%
552+65	NORMAL CROWN	REVERSE CROWN
553+00	0.033%	0.033%
553+33	FULL SUPER	FULL SUPER
574+12	END FULL SUPER	END FULL SUPER
574+45	0.033%	0.033%
574+80	NORMAL CROWN	REVERSE CROWN
575+32	NORMAL CROWN	0.000%
575+85	NORMAL CROWN	NORMAL CROWN

PROPOSED TYPICAL SECTION

STA 551+60 TO STA 576+00

SUPERELEVATION CORRECTION

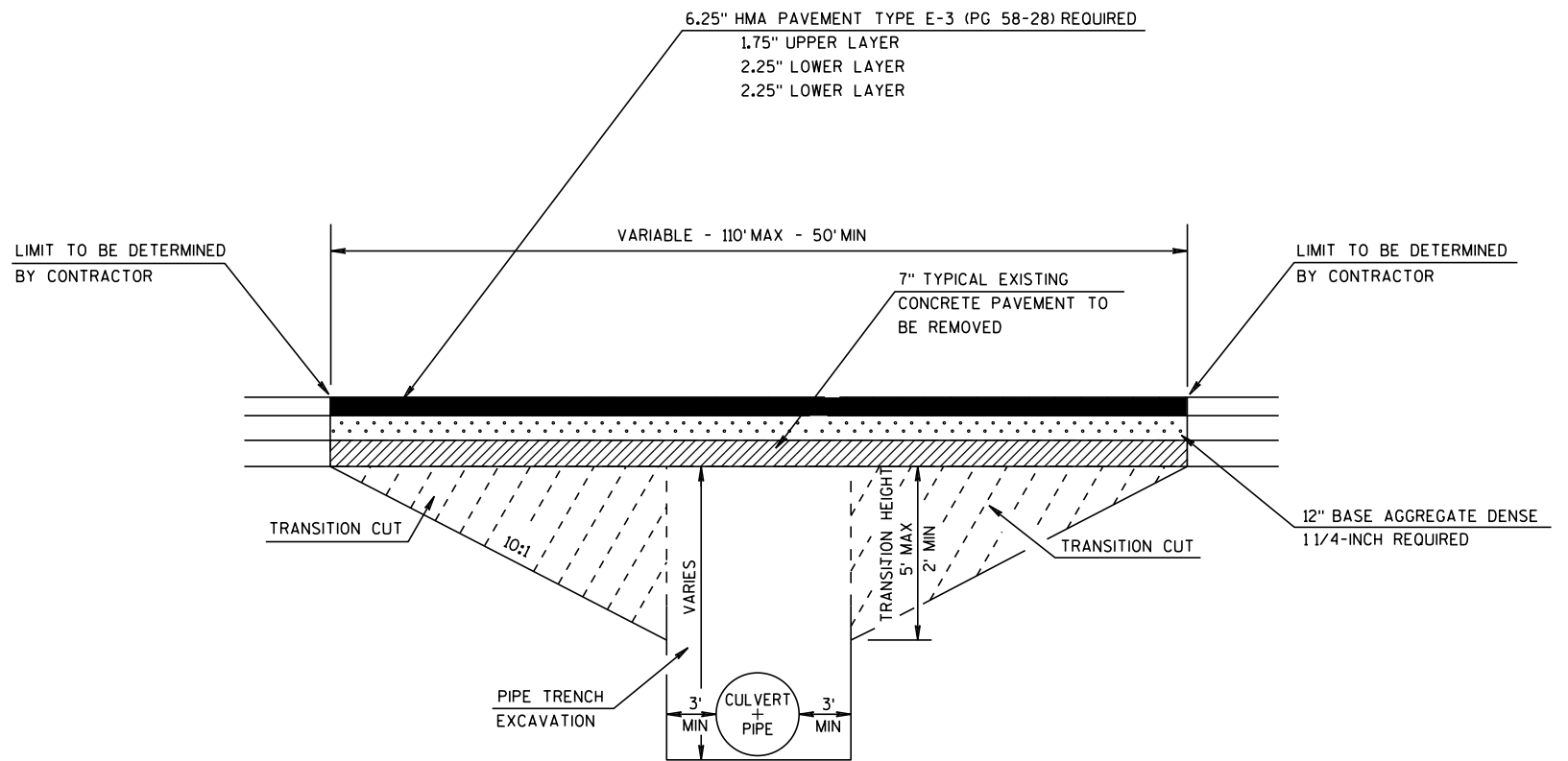
* NOTE: MATCH EXISTING SUBGRADE SHOULDER POINT



DETAIL FOR EROSION CONTROL AT CULVERT PIPES

***** EMAT, TOPSOIL, FERTILIZER, AND SEED

—●—●—●— SILT FENCE



QUANTITIES FOR INFORMATIONAL PURPOSE

LOCATION	CULVERT NUMBER	SIZE	LENGTH OF TRANSITION CUT FT.	TRANSITION HEIGHT (FT)	CUT VOL. (CY)
STA 38+16	50-008-001	24"	50'	2'	50
STA 249+36	50-008-011	24"	50'	2'	50
STA 255+74	50-008-012	24"	50'	2'	50
STA 261+89	50-008-013	30"	70'	3'	115
STA 273+63	50-008-014	48"	115'	5'	315
STA 288+16	50-008-015	24"	50'	2'	50
STA 314+66	50-008-016	24"	50'	2'	50
STA 445+06	50-008-020	36"	90'	4'	205
STA 488+56	50-008-021A	48"	125'	5'	315
-----	50-008-021B	48"	--	-	--
STA 561+97	50-008-023	24"	50'	2'	50

CULVERT PIPE TRANSITION

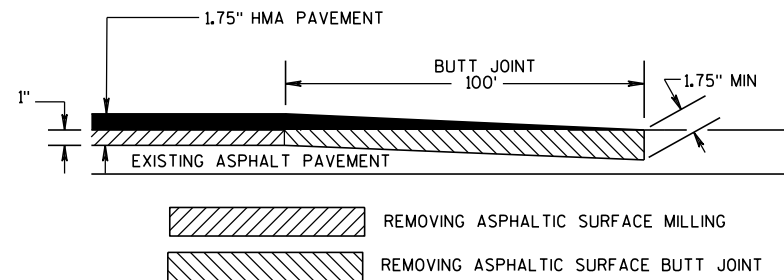
TO BE COMPLETED AT ALL CULVERT PIPE REPLACEMENT LOCATIONS

NOTE: MATERIAL REMOVED IN THE TRANSITION CUT AND PIPE TRENCH EXCAVATIONS TO BE REUSED AS BACKFILL UNLESS DETERMINED TO BE UNUSABLE BY THE ENGINEER IN WHICH CASE GRANULAR BACKFILL WILL BE USED.

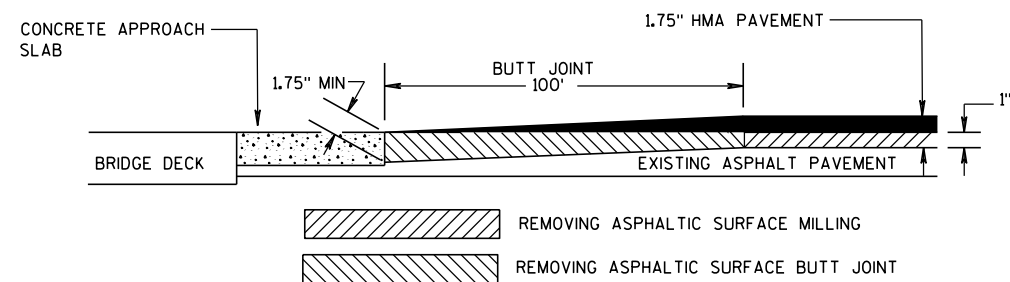
PIPE TRENCH EXCAVATION, EXCLUDING TRANSITION CUT IS CONSIDERED INCIDENTAL TO PIPE INSTALLATION. TRANSITION CUT WILL BE PAID FOR AS EXCAVATION COMMON.

TRANSITION CUT WILL BE 34' WIDE, 2' OUTSIDE EDGE OF EXISTING PAVEMENT ON EACH SIDE OF CENTERLINE.

2

**MAINLINE BUTT JOINT DETAIL**

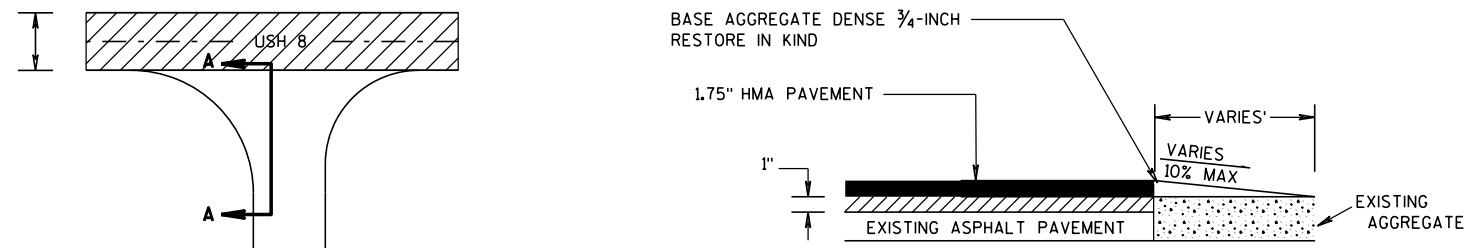
STA 32+46 - STA 33+46



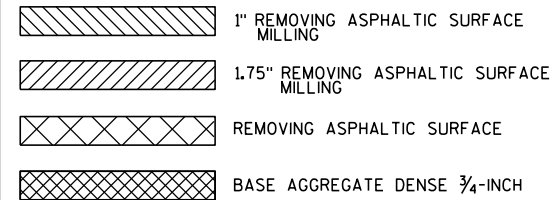
NOTE: MATCH APPROACH SLAB ELEVATION.

BUTT JOINT DETAIL

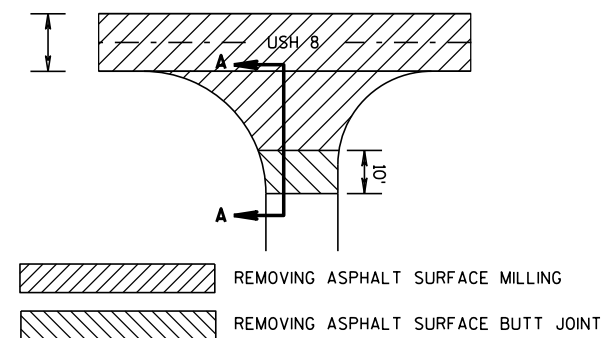
STA 605+30 - STA 606+30

**BASE AGGREGATE DENSE ENTRANCE DETAIL**

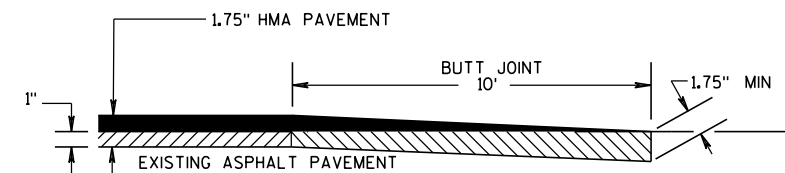
SECTION A-A

**CTH N DETAIL**

SIDE ROAD WITH CURB AND GUTTER



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

SIDE ROAD AND ASPHALTIC PAVEMENT ENTRANCE DETAILSIDE ROADS WITHOUT CURB AND GUTTER
AND ASPHALT PAVEMENT ENTRANCES

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

SECTION A-A

PROJECT NO: 1581-13-70

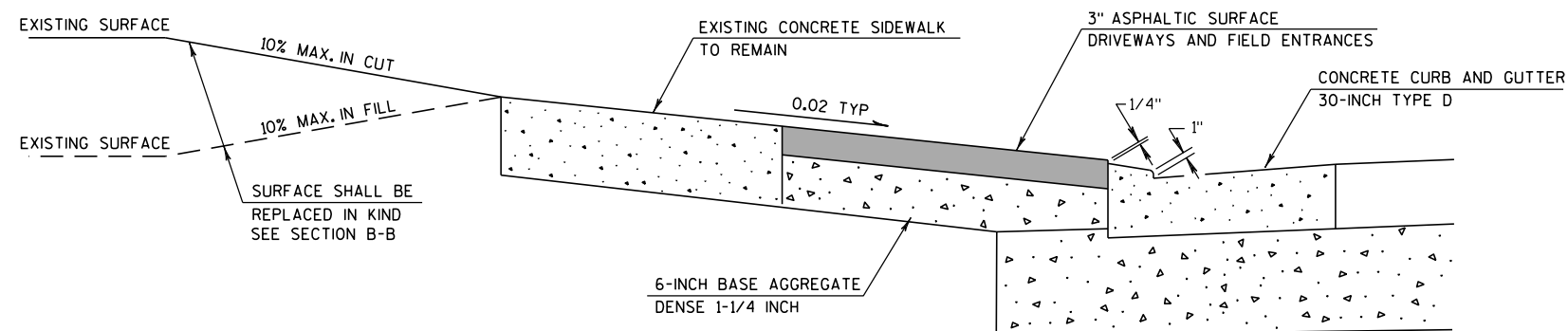
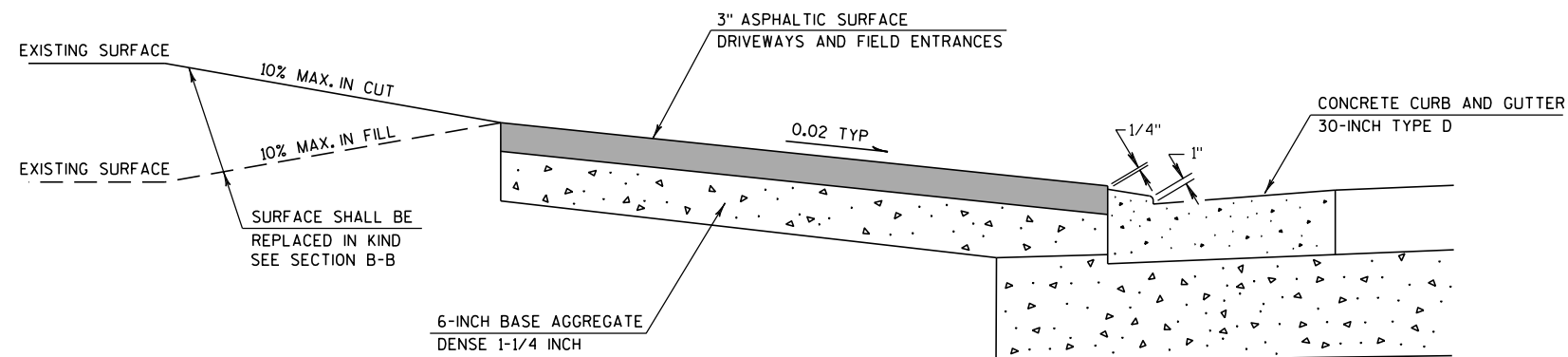
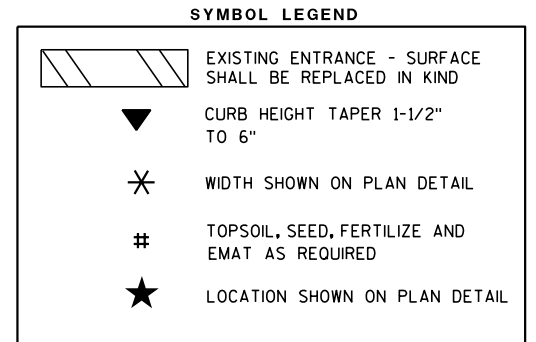
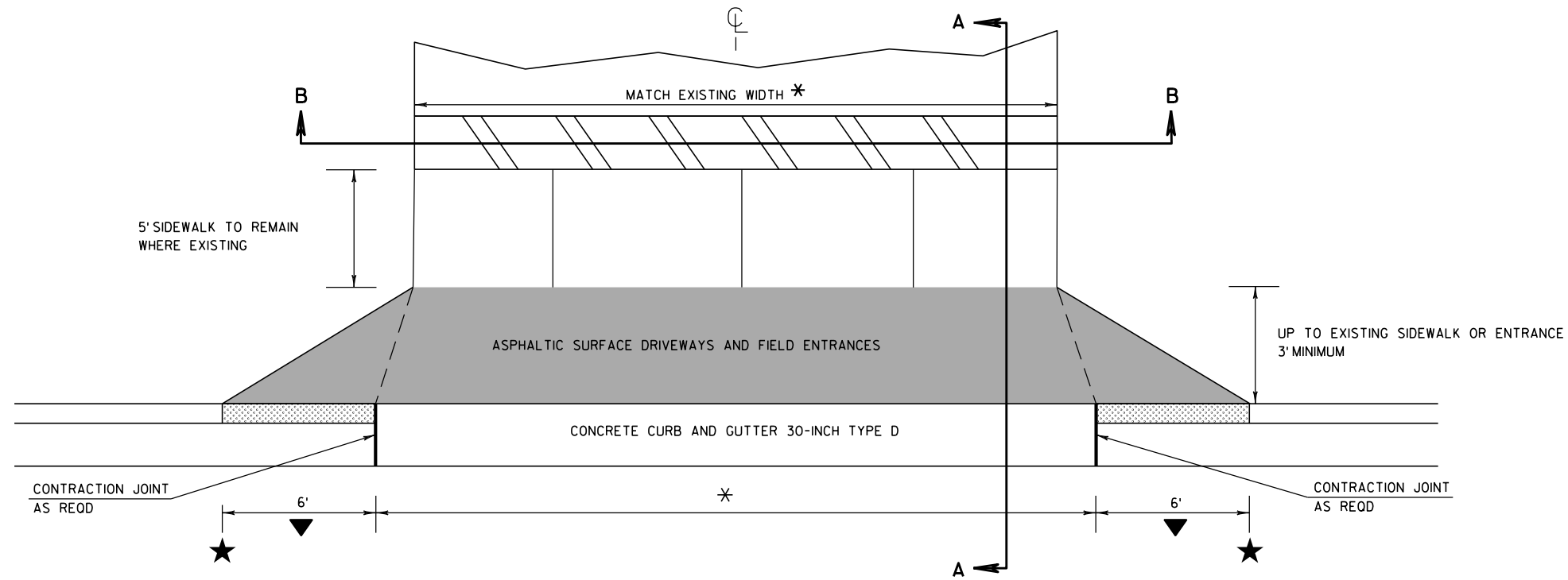
HWY: USH 8

COUNTY: PRICE

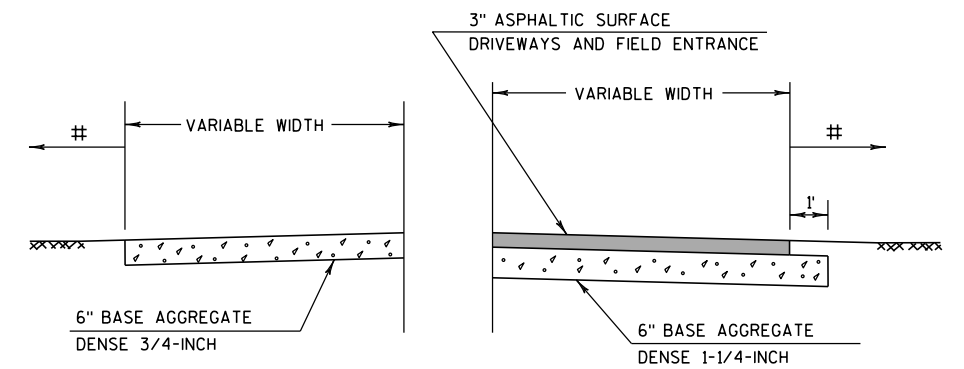
CONSTRUCTION DETAILS

SHEET

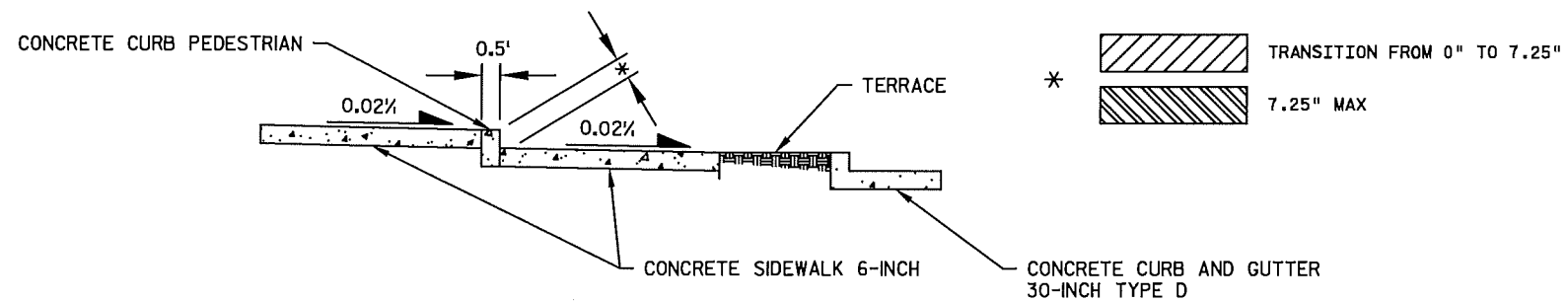
E



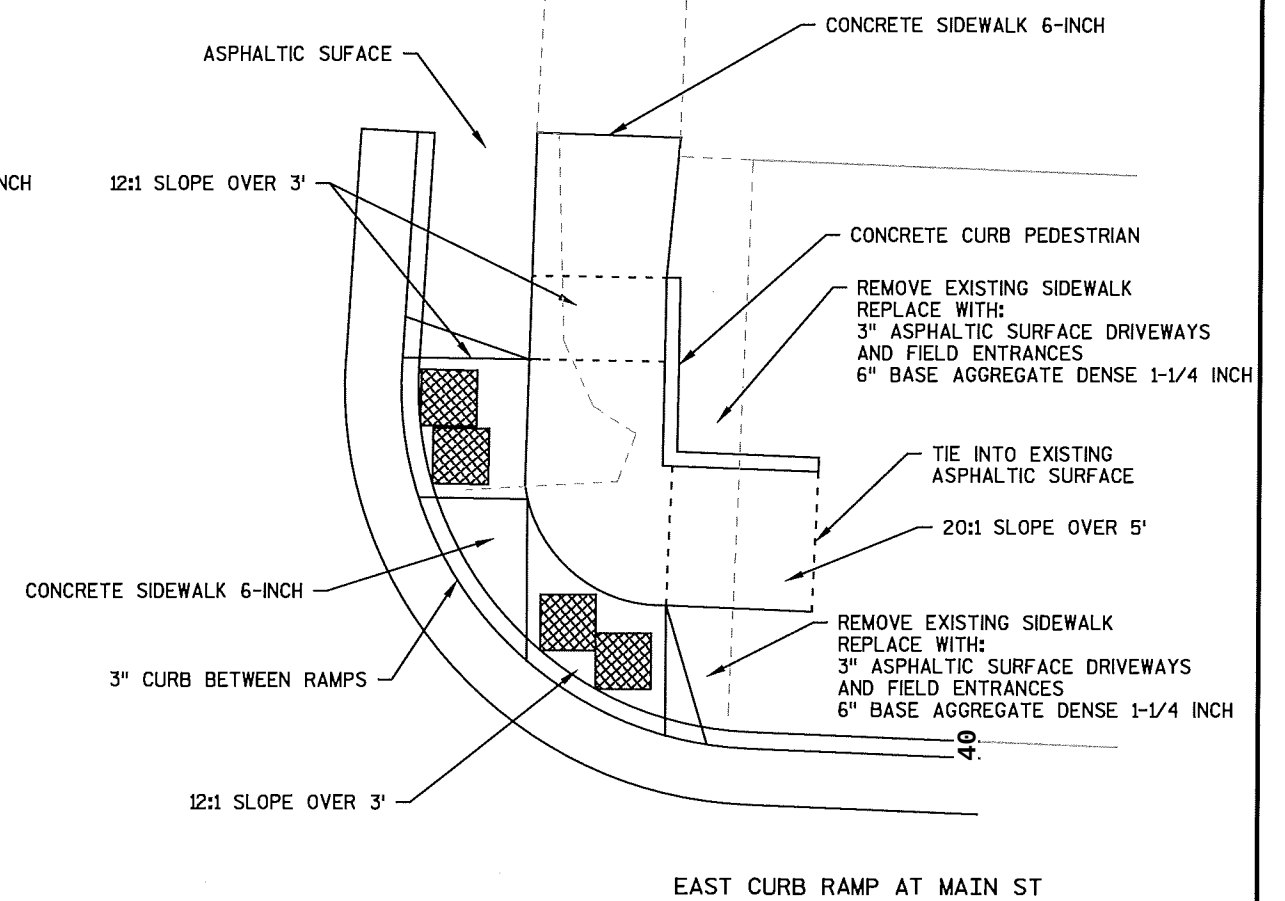
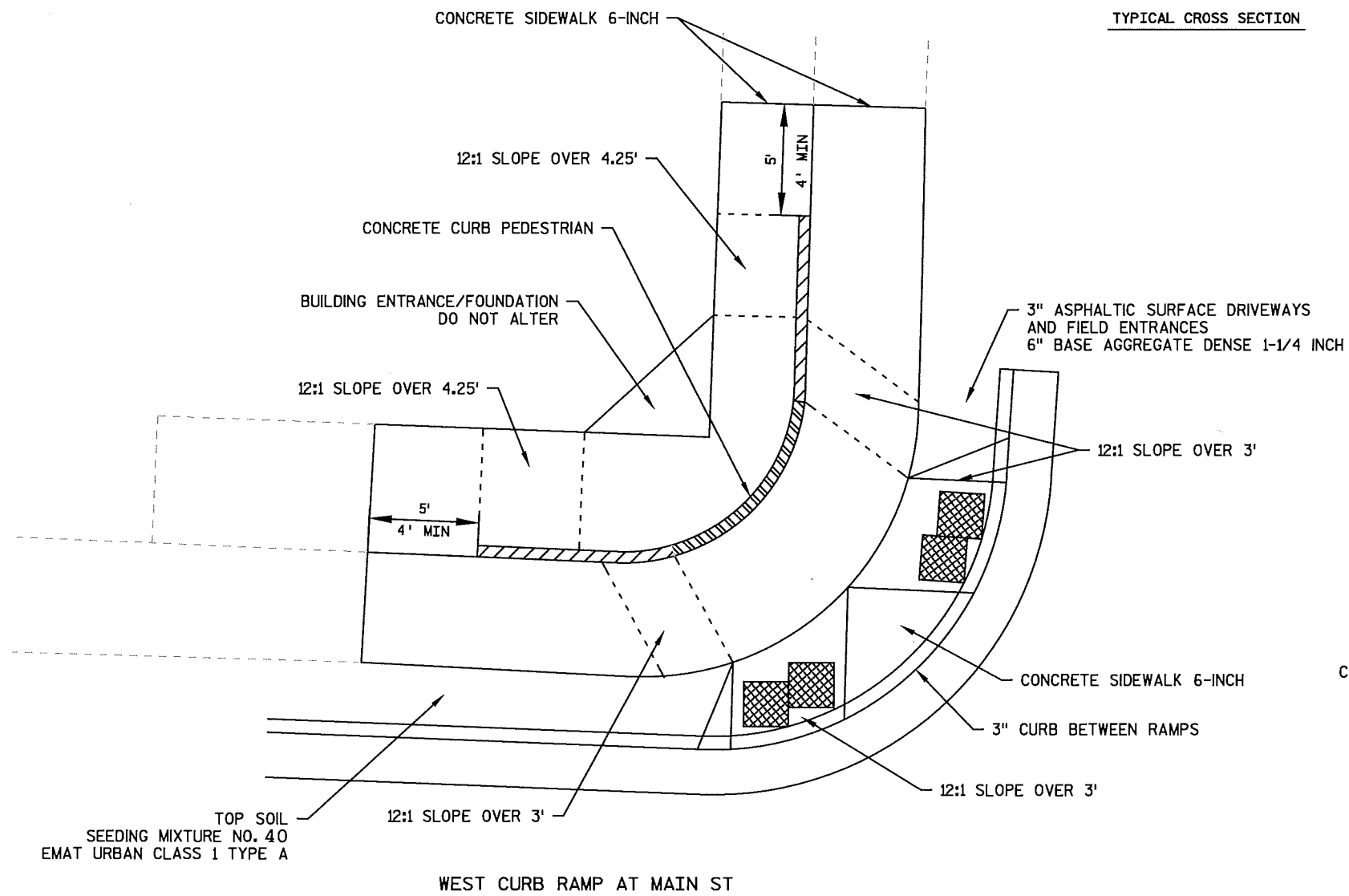
SECTION A-A



SECTION B-B

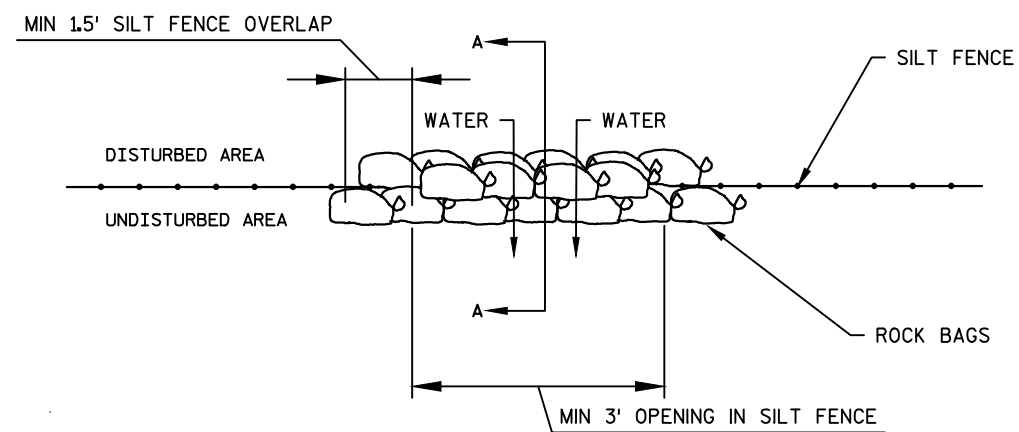


TYPICAL CROSS SECTION

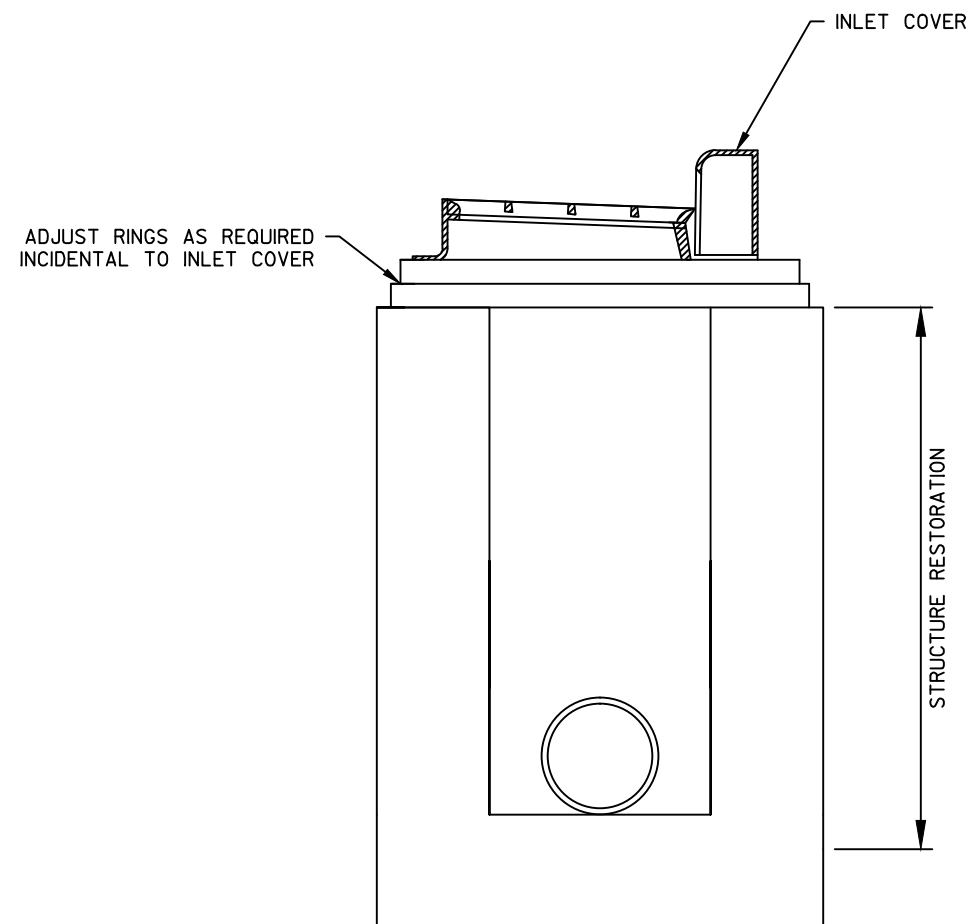


CURB RAMPS AT MAIN STREET (TYPE 2-A)

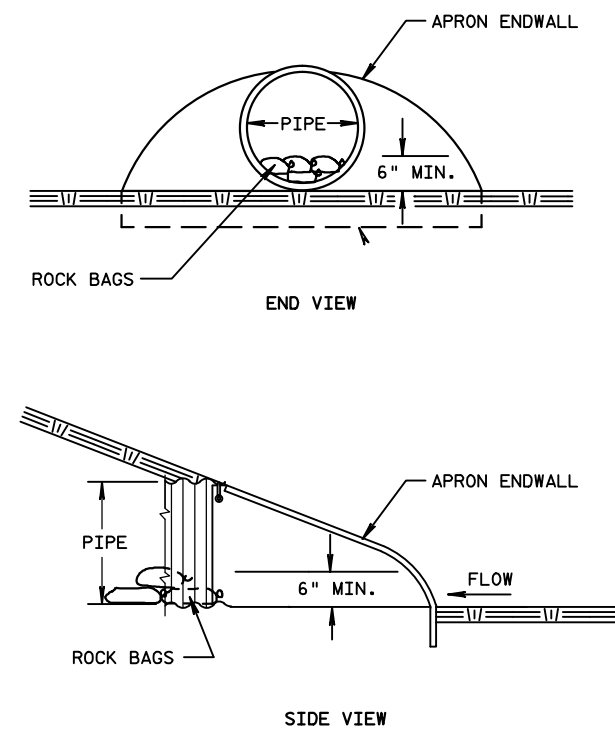
SEE SDD 805: CURB RAMPS TYPES 1, 1A, AND 2



SILT FENCE RELIEF (ROCK BAGS)



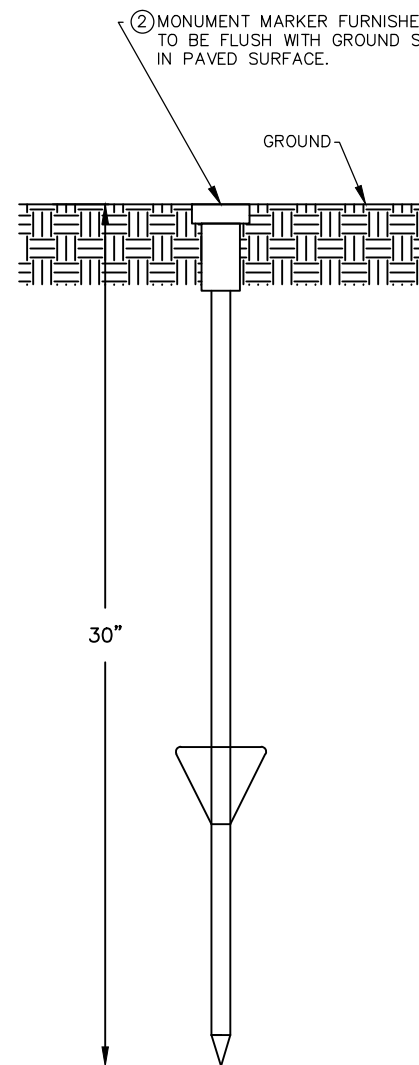
STRUCTURE RESTORATION



CULVERT PIPE DITCH CHECK

② WIS DOT MONUMENT CAP MARKER LOGO (SSDR130)

CONTRACTOR TO ORDER LANDMARK REFERENCE MONUMENTS WITH THE ABOVE STAMPING

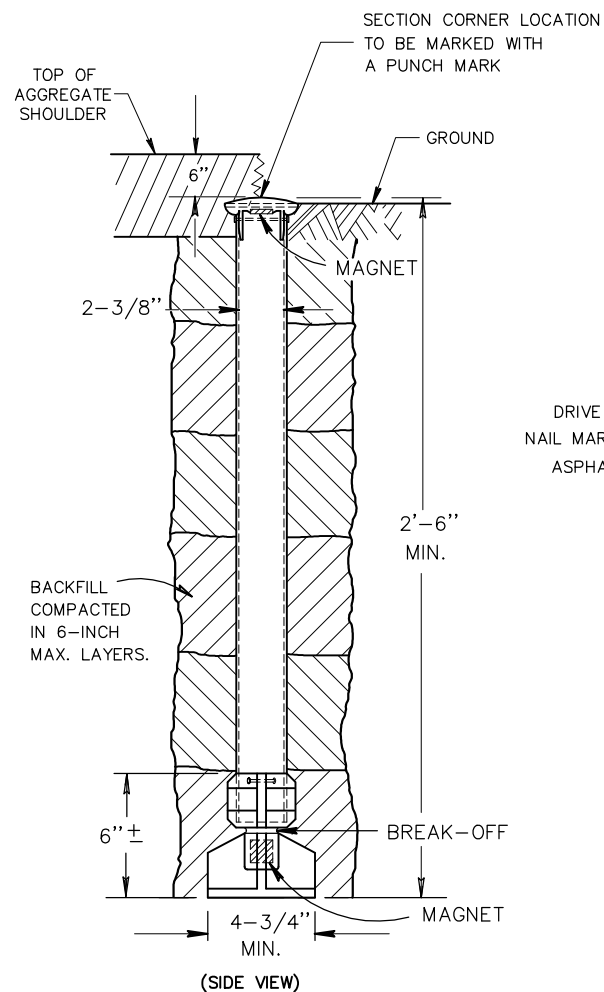


(FRONT VIEW)

BERNSTEN DRIVABLE MONUMENT SSDR130

LANDMARK REFERENCE MONUMENT (TIES ONLY)

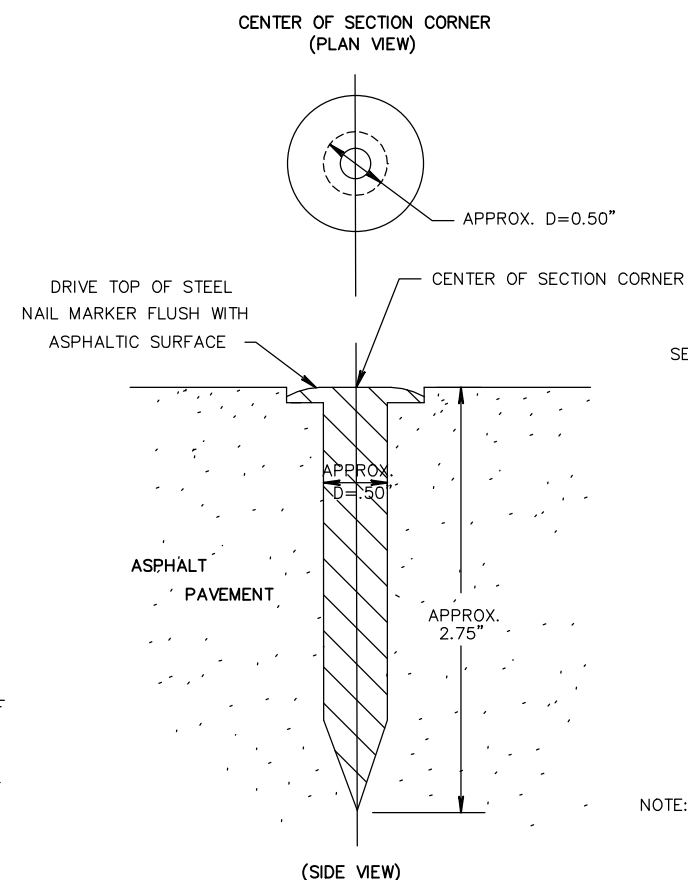
SECTION CORNER MONUMENT AND LANDMARK REFERENCE MONUMENT DETAIL



(SIDE VIEW)

OUTSIDE OF PAVEMENT

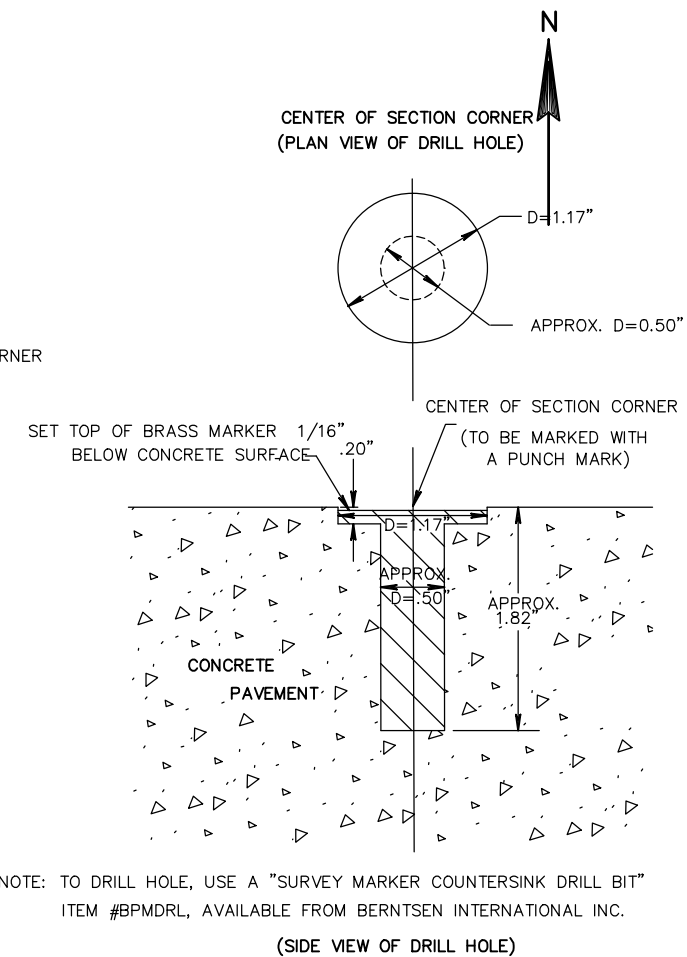
① BERNTSEN A1BR30 ALUMINUM BREAK-OFF MONUMENT



(SIDE VIEW)

IN ASPHALTIC PAVEMENT

① BERNTSEN SNM1 STEEL NAIL MARKER



(SIDE VIEW OF DRILL HOLE)

IN CONCRETE PAVEMENT

① BERNTSEN BP - 1 BRASS MARKER WITH ANCHOR PLUG

NOTE: TO DRILL HOLE, USE A "SURVEY MARKER COUNTERSINK DRILL BIT" ITEM #BPMRDL, AVAILABLE FROM BERNTSEN INTERNATIONAL INC.

SECTION CORNER MONUMENTS

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.

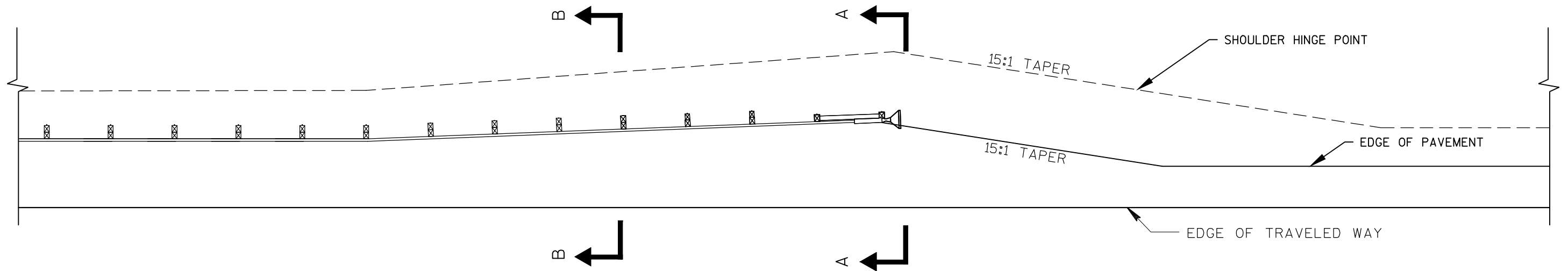
LOCATE LANDMARK REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION LIMITS AND WITHIN WISDOT RIGHT OF WAY. LOCATION TO BE APPROVED BY THE ENGINEER.

① THE REGIONAL SURVEY COORDINATOR WILL SUPPLY.

② CONTRACTOR WILL SUPPLY.

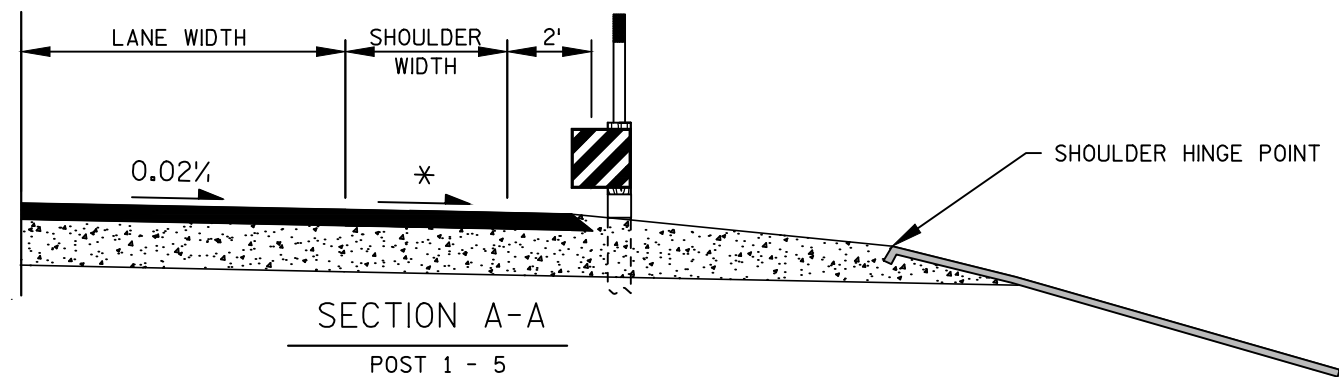
2

2

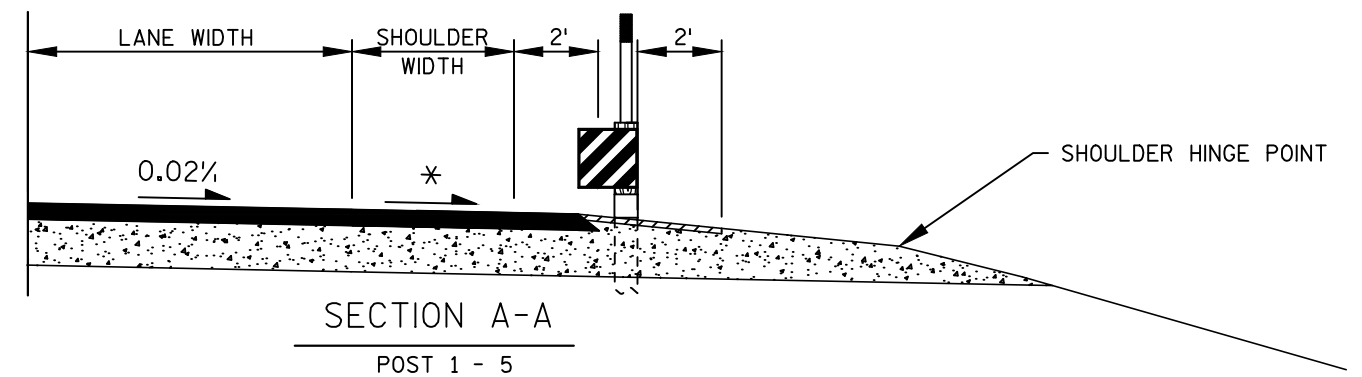


SHOULDER PAVING AT GUARDRAIL DETAIL

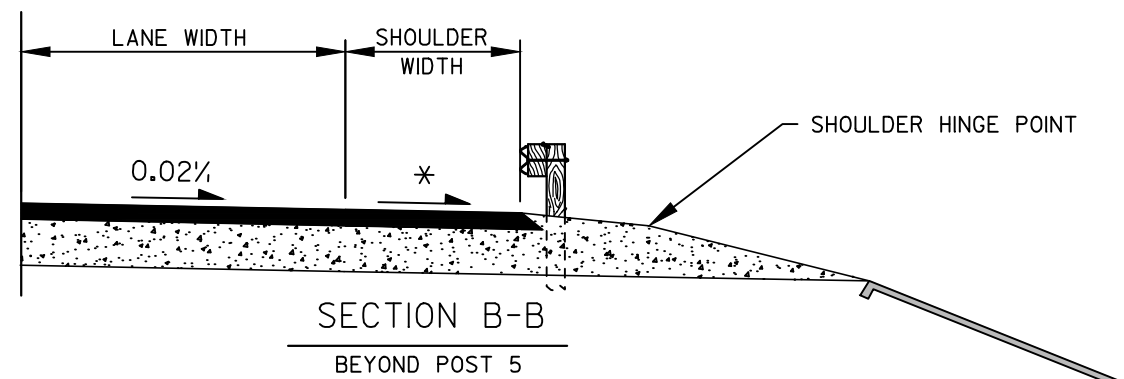
C/L



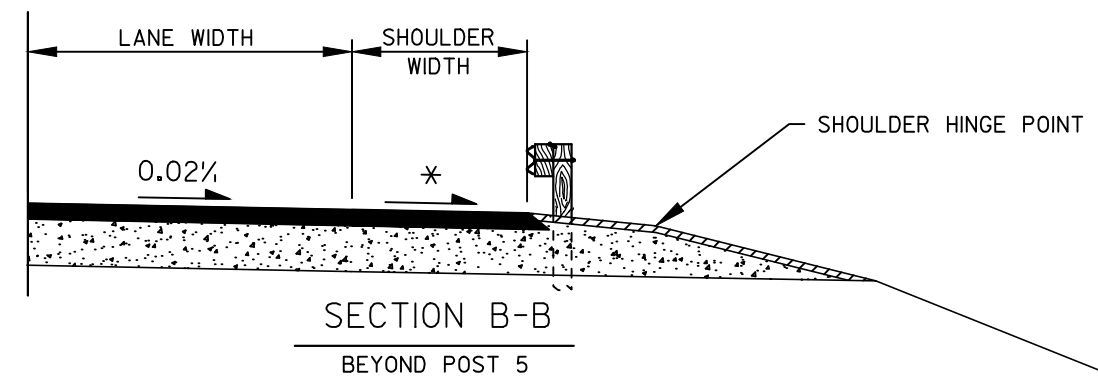
C/L



C/L



C/L

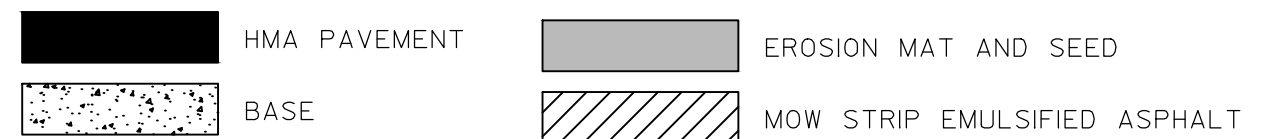


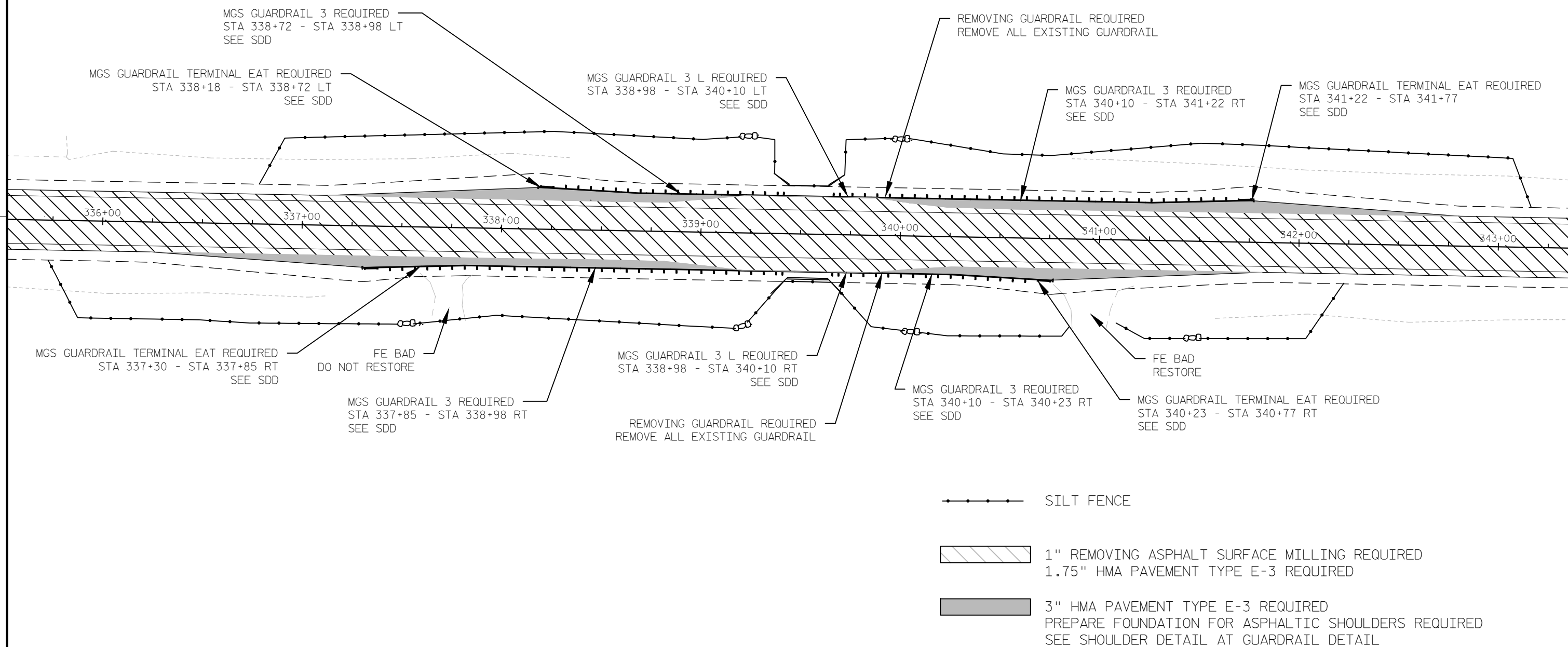
SHOULDER TREATMENT AT GUARDRAIL - EROSION MAT

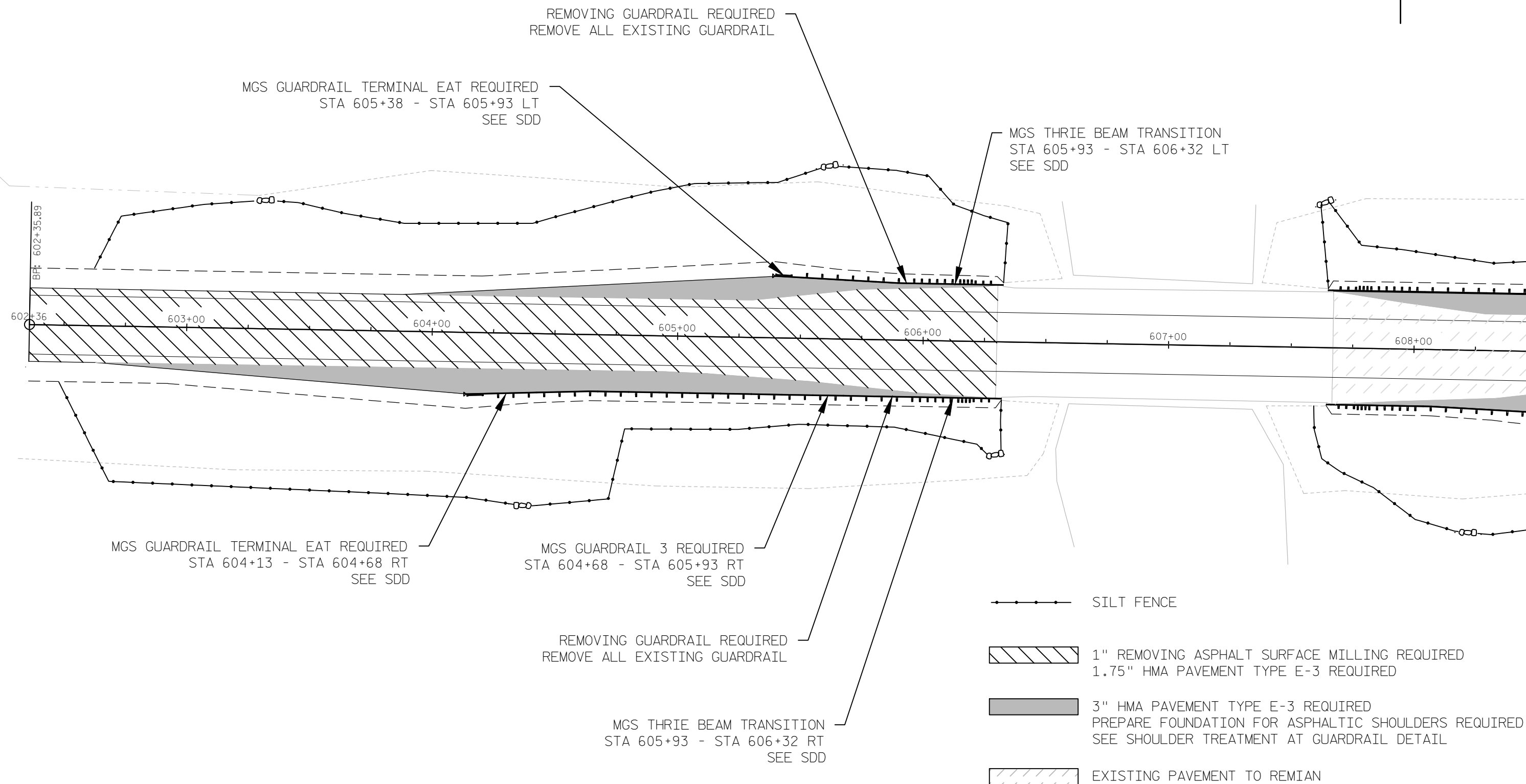
SHOULDER TREATMENT AT GUARDRAIL - SPRAYED ASPHALT

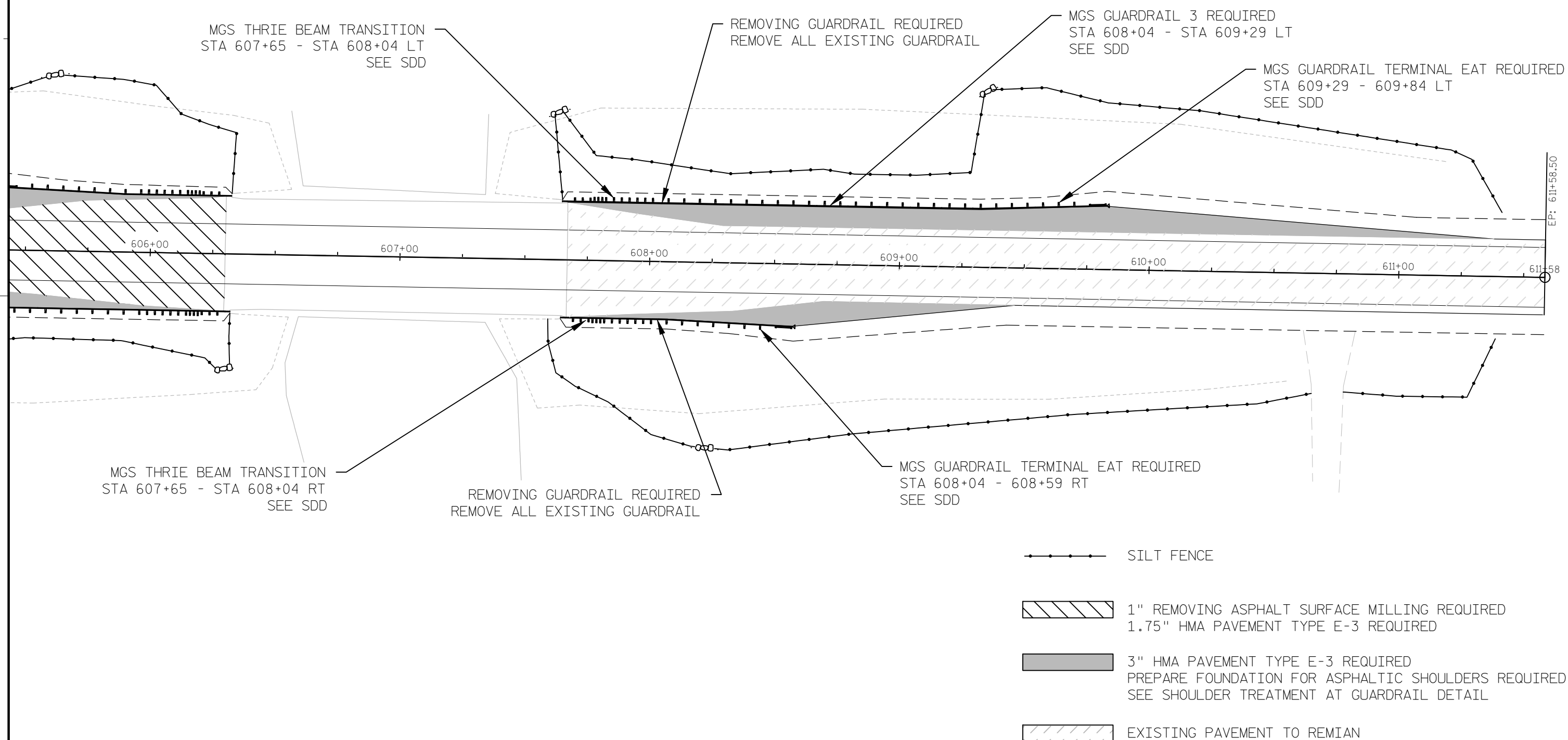
NOTE: SEE STANDARD DETAIL DRAWINGS

MIDWEST GUARDRAIL SYSTEM SYSTEM (MGS) GUARDRAIL
 MIDWEST GUARDRAIL SYSTEM LONG SPAN (MGS L)
 MIDWEST GUARDRAIL SYSTEM (MGS) EAT
 MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION
 GUARDRAIL MOW STRIP



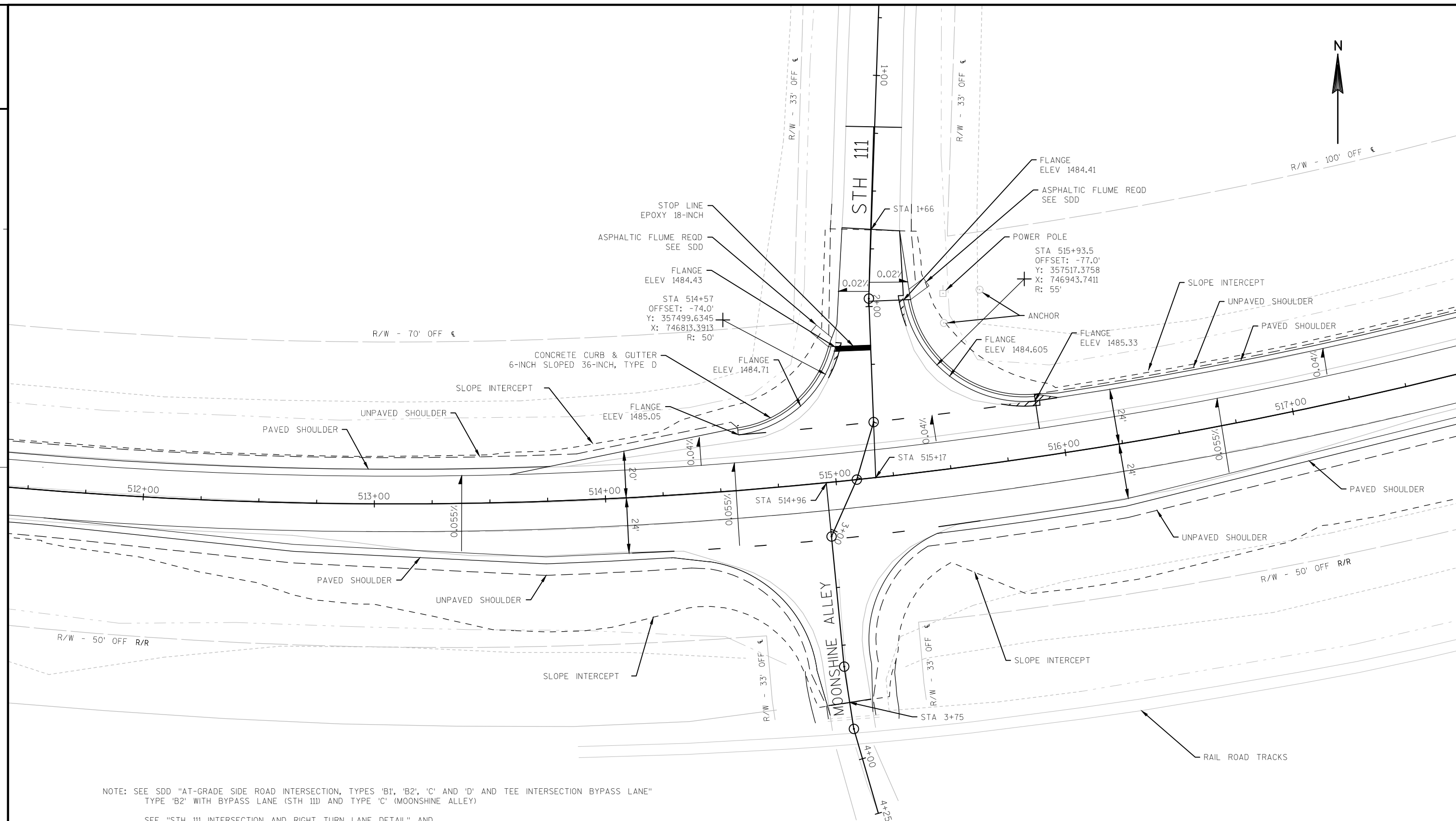






2

2



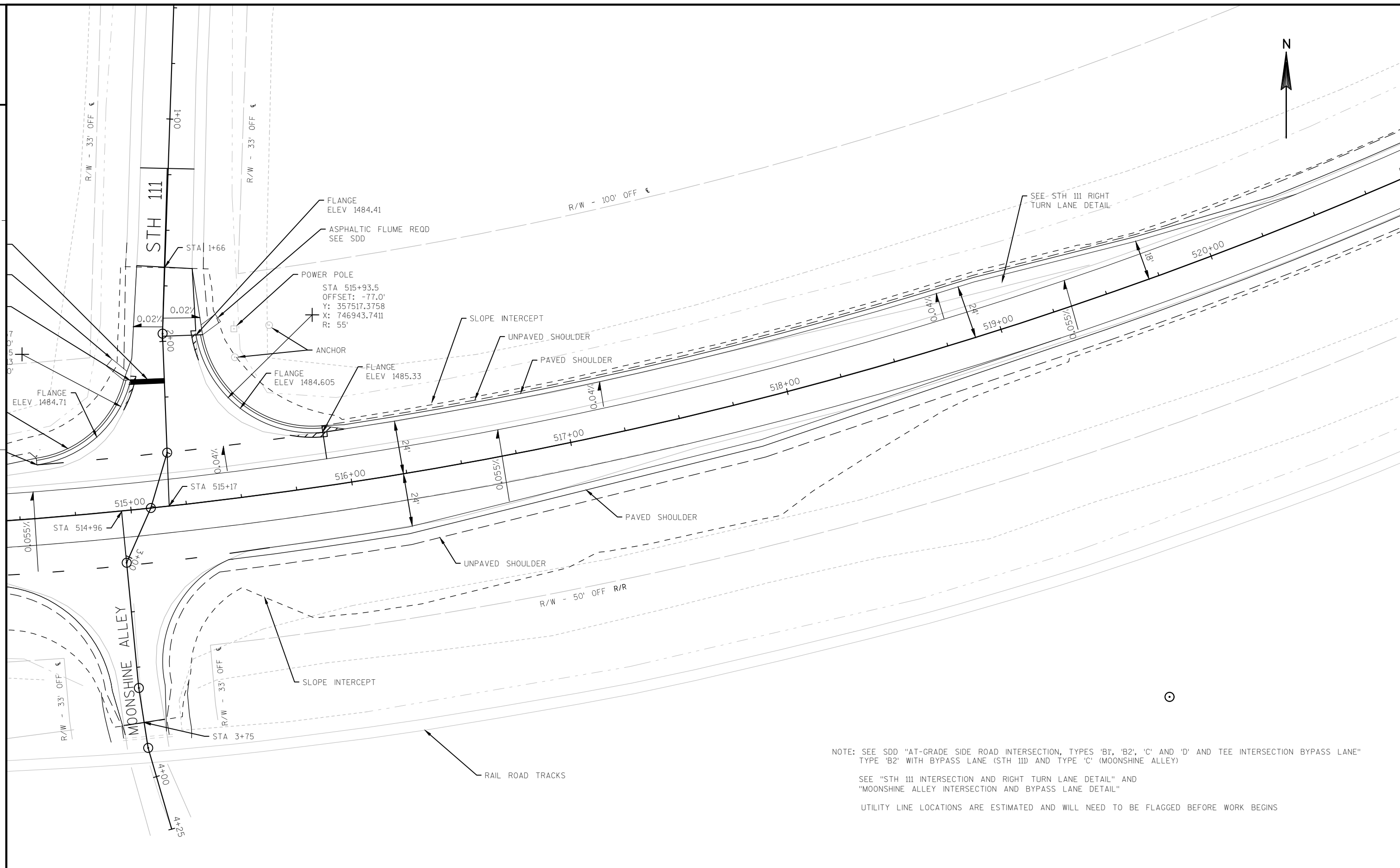
NOTE: SEE SDD "AT-GRADE SIDE ROAD INTERSECTION, TYPES 'B1', 'B2', 'C' AND 'D' AND TEE INTERSECTION BYPASS LANE"
TYPE 'B2' WITH BYPASS LANE (STH 111) AND TYPE 'C' (MOONSHINE ALLEY)

SEE "STH 111 INTERSECTION AND RIGHT TURN LANE DETAIL" AND
"MOONSHINE ALLEY INTERSECTION AND BYPASS LANE DETAIL"

UTILITY LINE LOCATIONS ARE ESTIMATED AND WILL NEED TO BE FLAGGED BEFORE WORK BEGINS

2

2



PROJECT NO: 1581-13-70

HWY: USH 8

COUNTY:	PRICE
---------	-------

PLAN: CONSTRUCTION DETAIL - STH 111 / MOONSHINE ALLEY

SHEET

23

[illegible]

FILE NAME : N:\PDS\C3D\15811330\DESIGN\ALIPROFS\ALIPROFUSH8-INTERSECTIONSTH111DESIRABLE.DWG

PLOT DATE : 2/20/2014 8:01 AM

PLOT BY : HOMAN, CODY J

PLOT NAME :

PLOT SCALE : 1:40_XREF

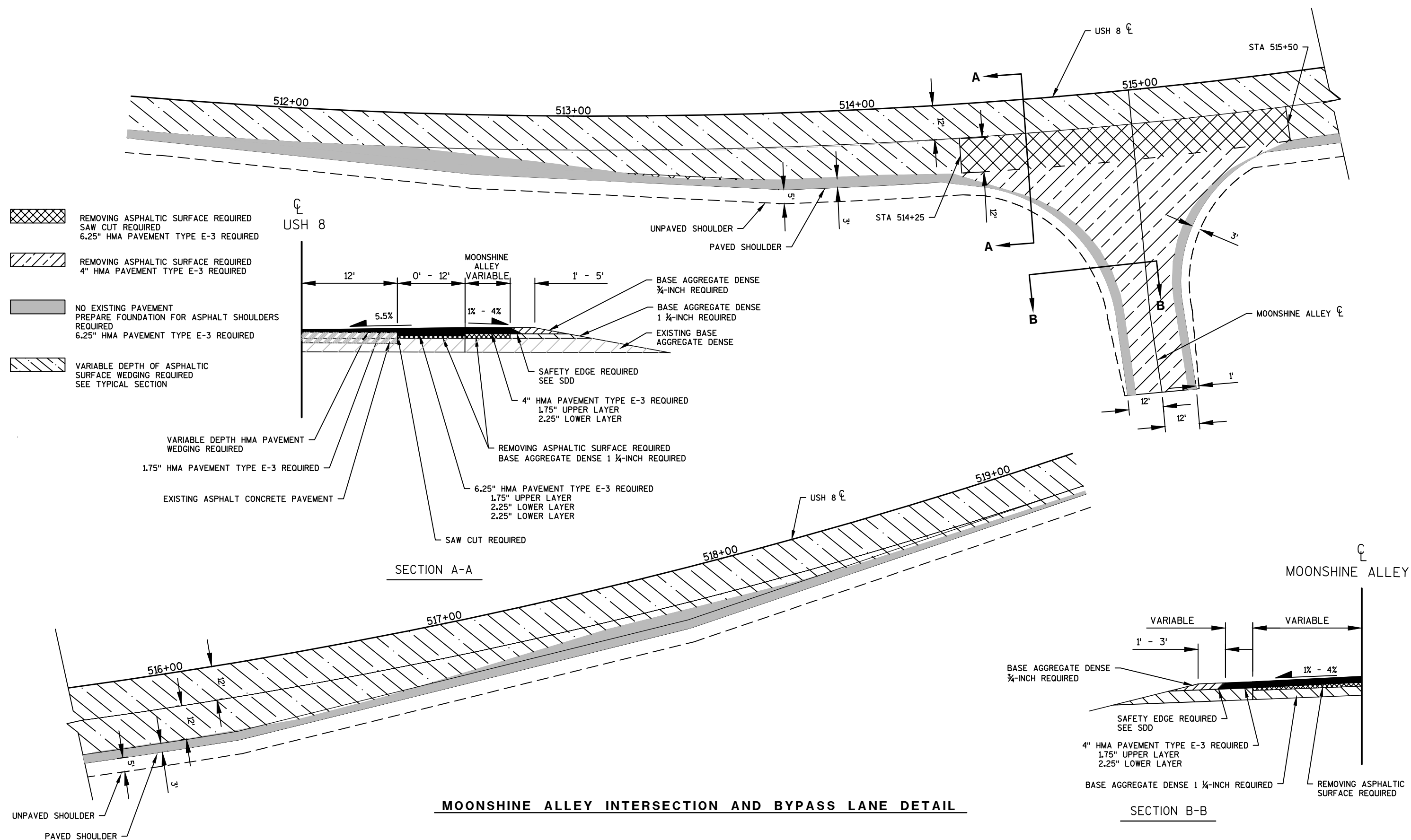
WISDOT/CADDS SHEET 42

2



E

WISDOT/CADDS SHEET 42

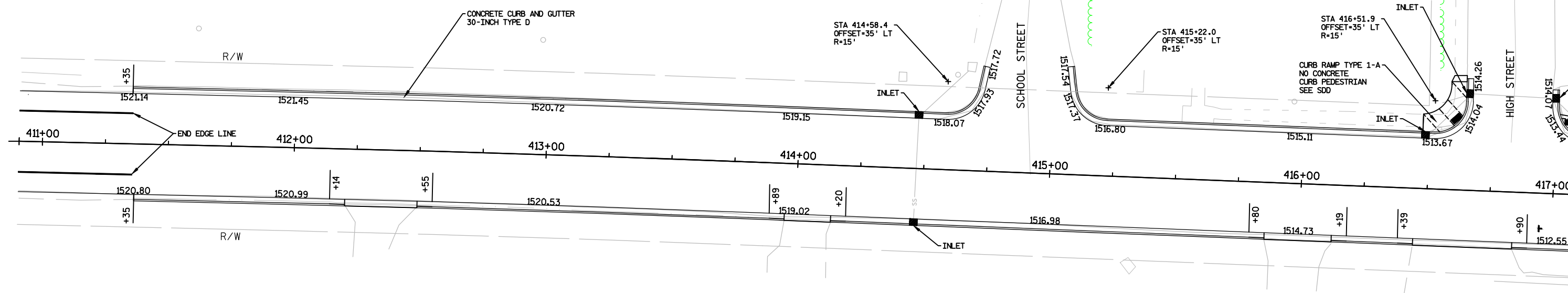


2

NOTE: ELEVATIONS SHOWN ARE THE APPROXIMATE ELEVATION AT THE FLOW LINE

CURB AND GUTTER AND INLET COVERS WILL BE REPLACED IN KIND, ELEVATIONS
FOR NEW CURB AND GUTTER WILL BE SHOT FROM THE EXISTING CURB AND GUTTER

2



PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

CATAWBA PLAN DETAIL STA 411+00 - 417+00

SHEET

26

E

FILE NAME : N:\PDS\C3D\15811330\CATAWBACURBANDGUTTERFINALL.DWG

PLOT DATE : 4/22/2014 8:31 AM

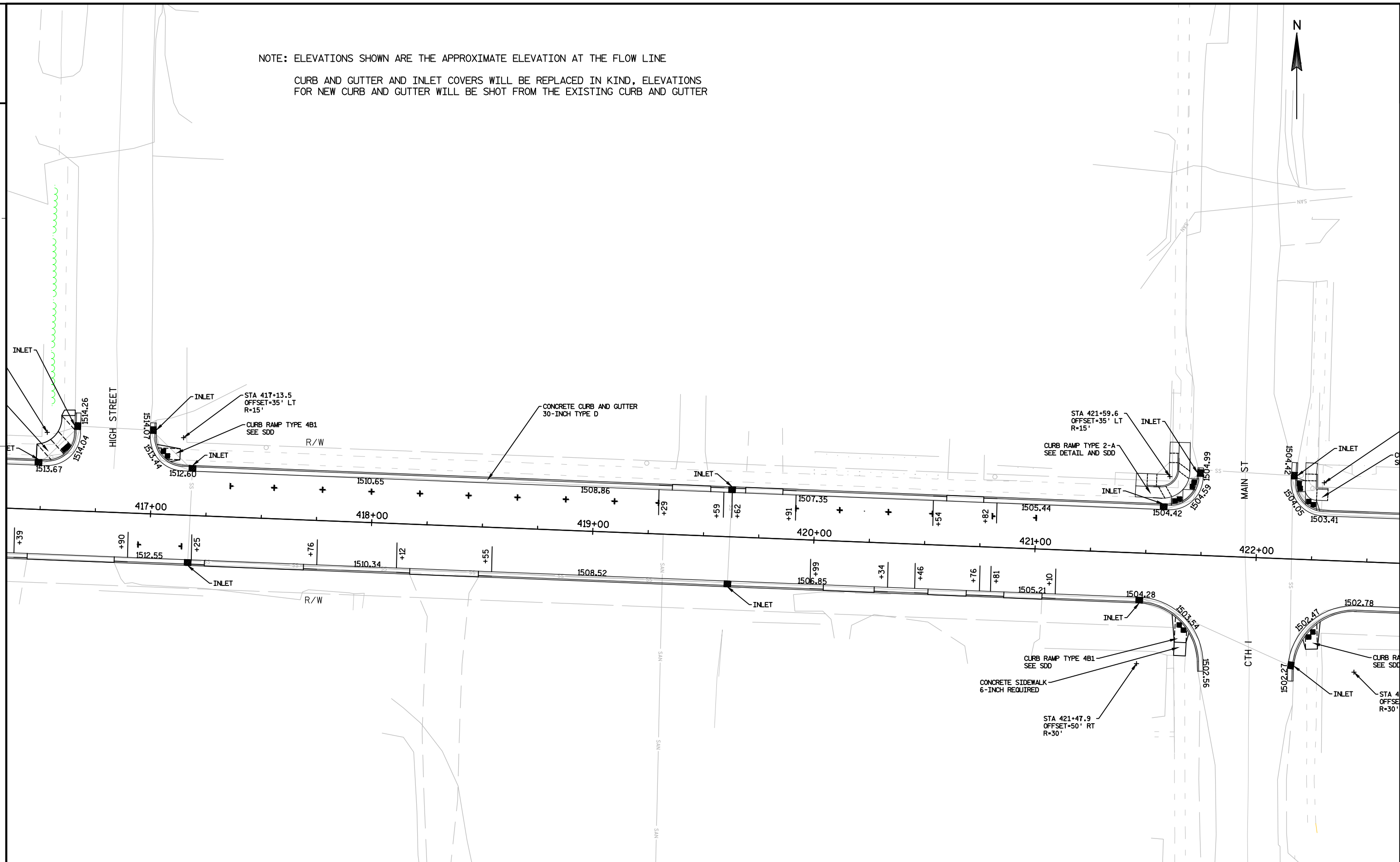
PLOT BY : HOMAN, CODY J

PLOT NAME :

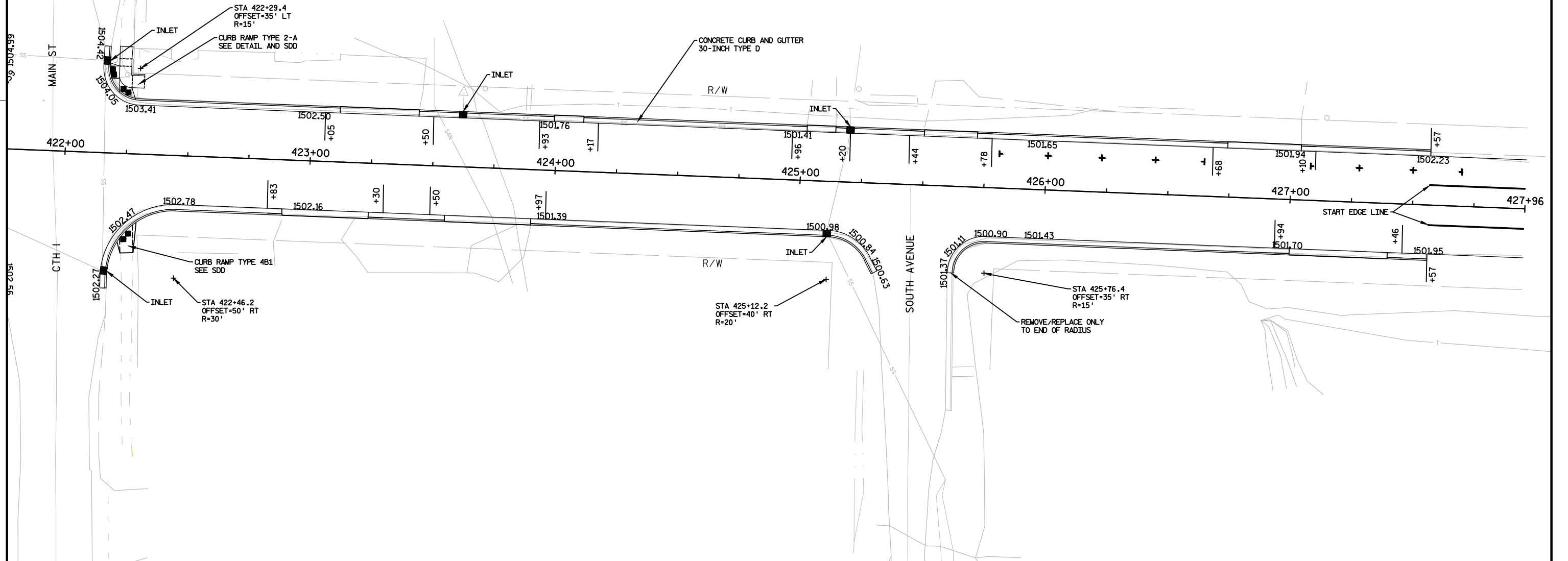
PLOT SCALE : 1 IN:40 FT

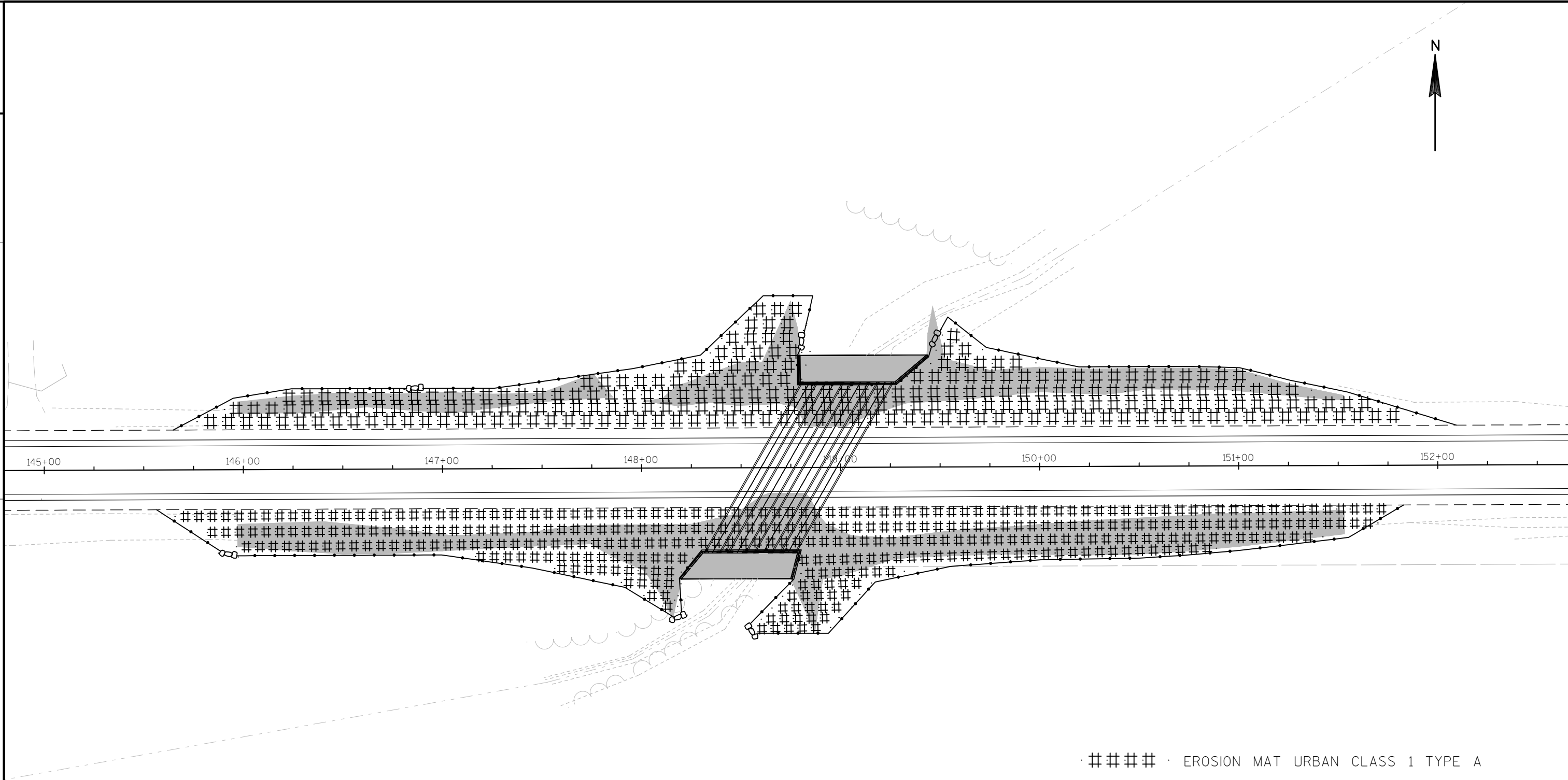
WISDOT/CADDs SHEET 44

NOTE: ELEVATIONS SHOWN ARE THE APPROXIMATE ELEVATION AT THE FLOW LINE
CURB AND GUTTER AND INLET COVERS WILL BE REPLACED IN KIND, ELEVATIONS
FOR NEW CURB AND GUTTER WILL BE SHOT FROM THE EXISTING CURB AND GUTTER

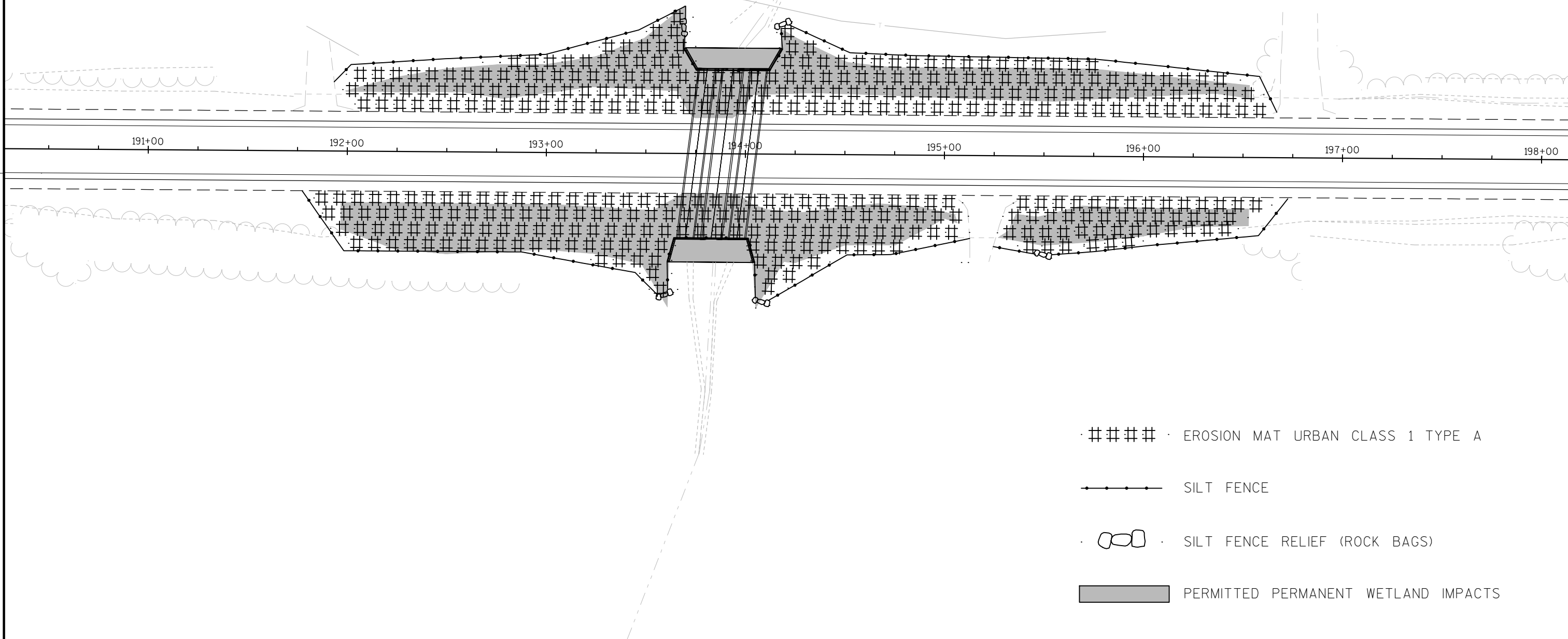


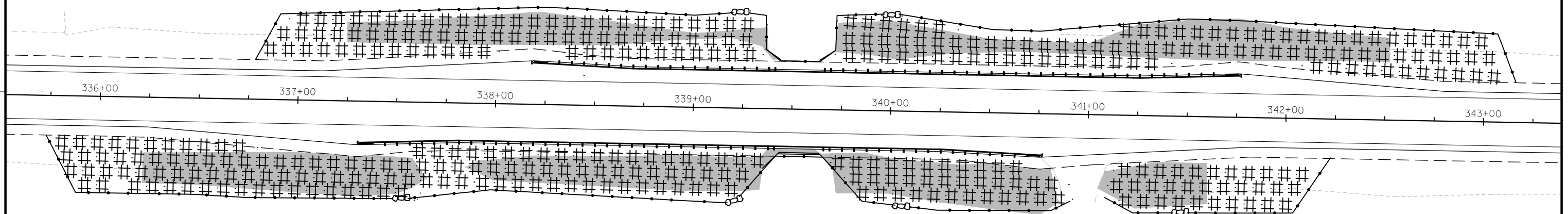
NOTE: ELEVATIONS SHOWN ARE THE APPROXIMATE ELEVATION AT THE FLOW LINE
CURB AND GUTTER AND INLET COVERS WILL BE REPLACED IN KIND, ELEVATIONS
FOR NEW CURB AND GUTTER WILL BE SHOT FROM THE EXISTING CURB AND GUTTER



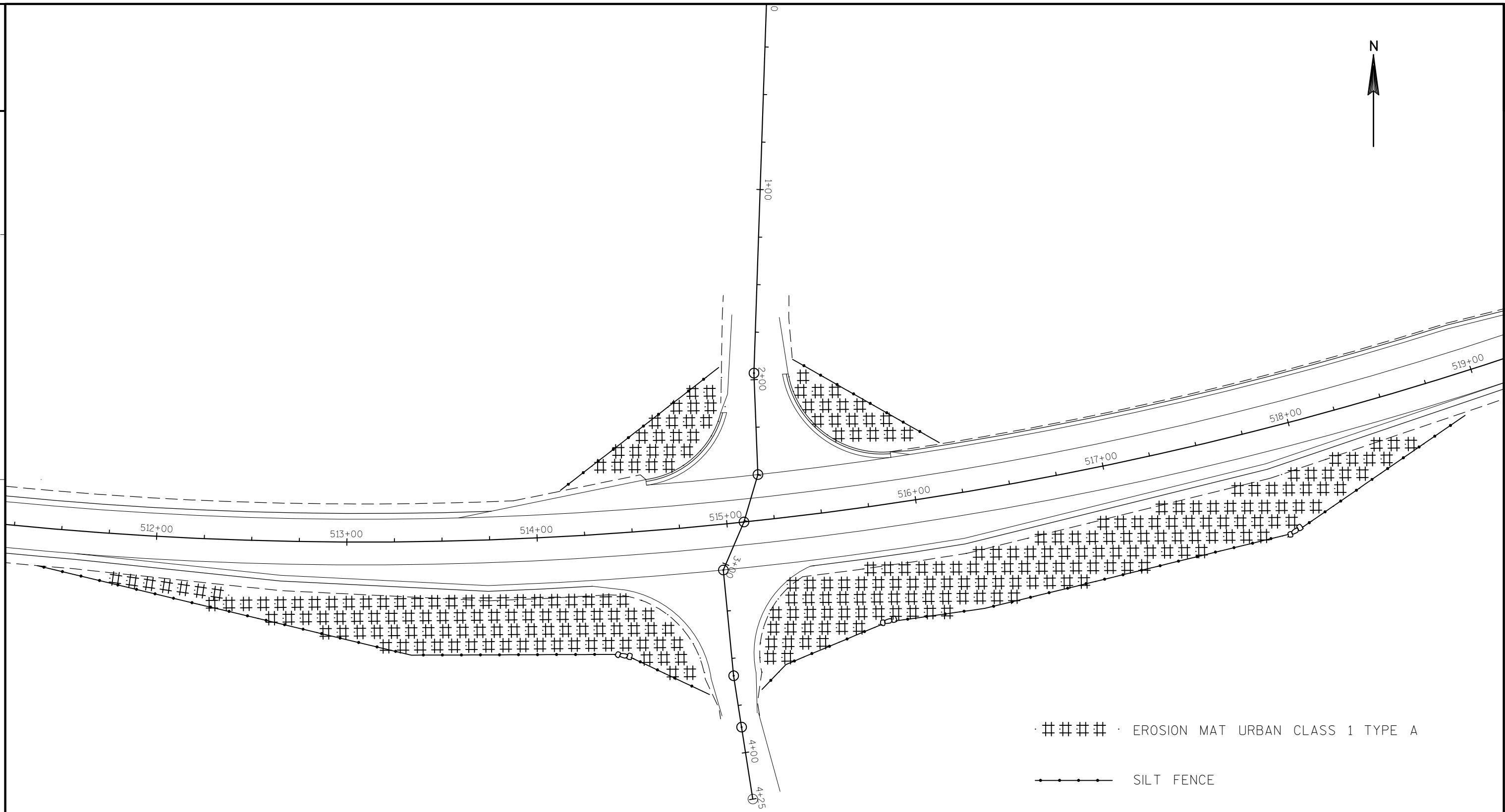


- 井井井井 · EROSION MAT URBAN CLASS 1 TYPE A
- — · SILT FENCE
- 〇〇 · SILT FENCE RELIEF (ROCK BAGS)
- PERMITTED PERMANENT WETLAND IMPACTS

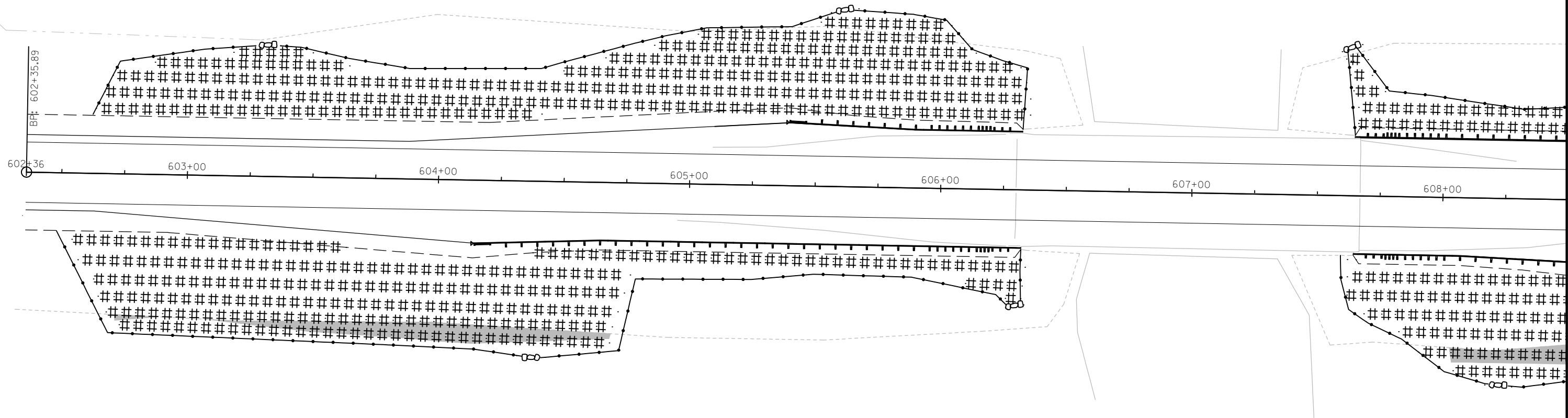




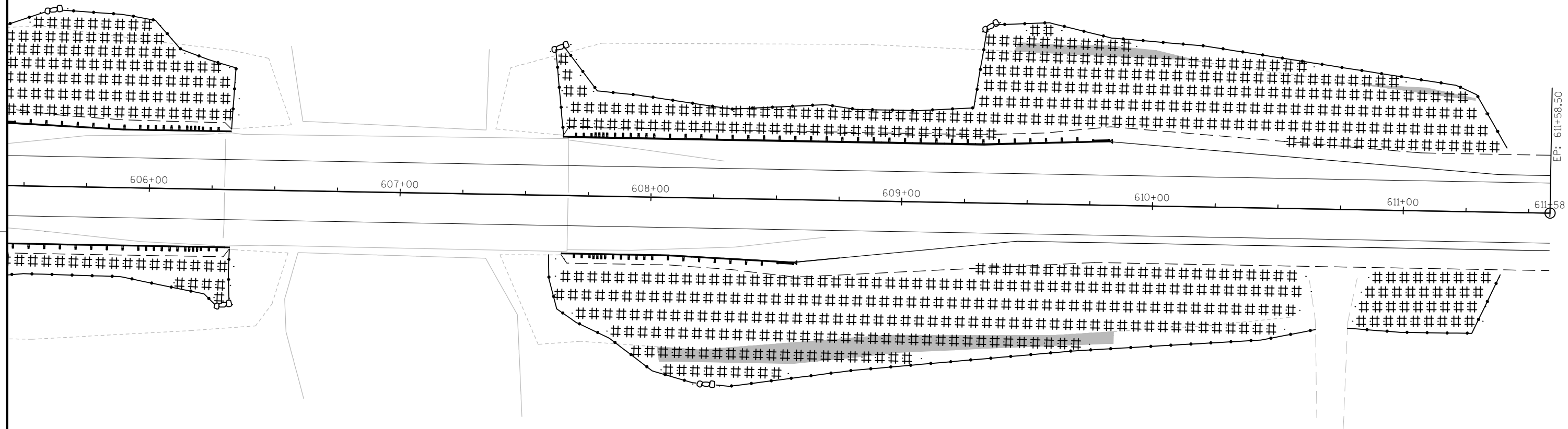
- ##### · EROSION MAT URBAN CLASS 1 TYPE A
- — · — · — · — · SILT FENCE
- () () · SILT FENCE RELIEF (ROCK BAGS)
- PERMITTED PERMANENT WETLAND IMPACTS



- ##### · EROSION MAT URBAN CLASS 1 TYPE A
- ———— · SILT FENCE
- (O) (O) · SILT FENCE RELIEF (ROCK BAGS)



- ##### · EROSION MAT URBAN CLASS 1 TYPE A
- · · · · SILT FENCE
- () · SILT FENCE RELIEF (ROCK BAGS)
- PERMITTED PERMANENT WETLAND IMPACTS

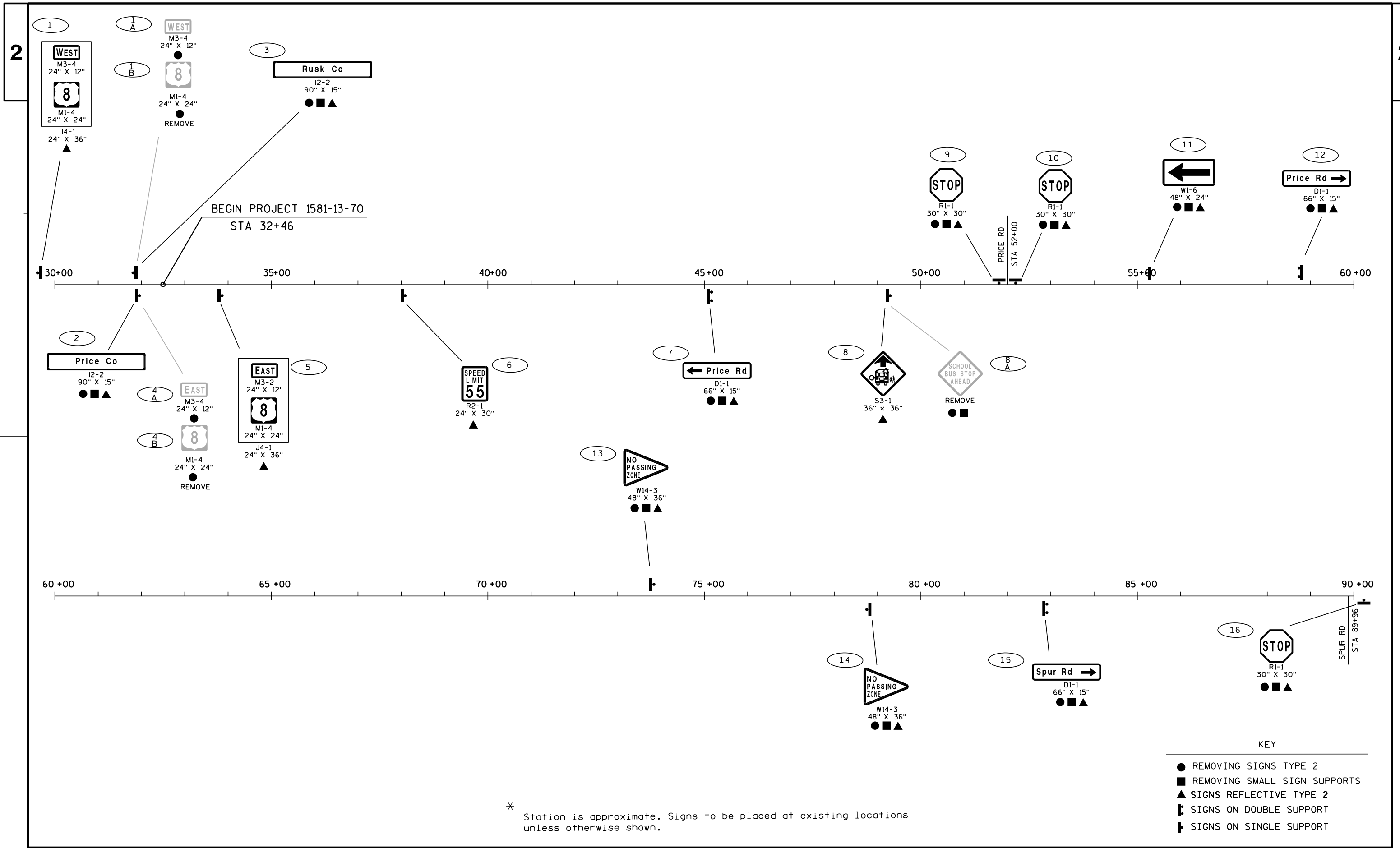


· 井井井井 · EROSION MAT URBAN CLASS 1 TYPE A

· — · SILT FENCE

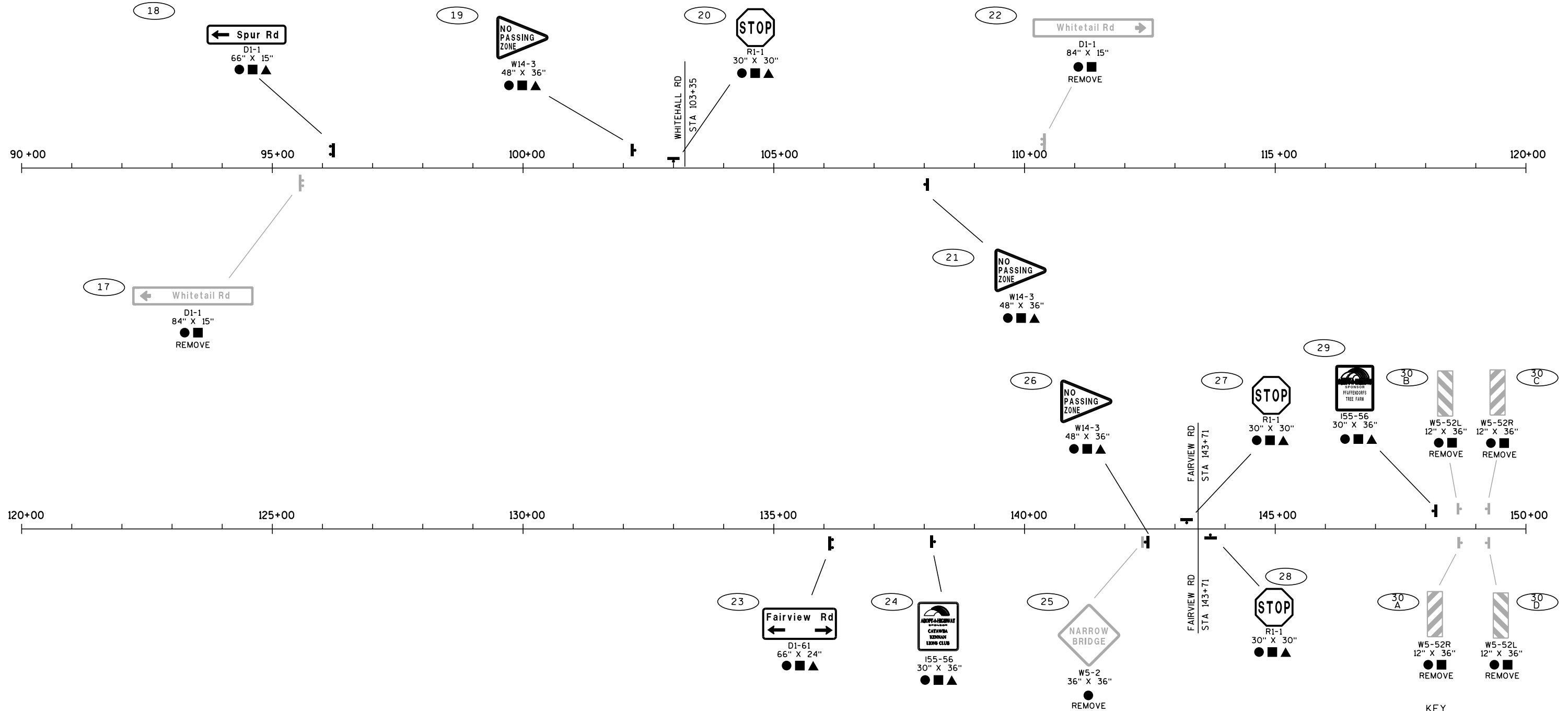
· 〇〇 · SILT FENCE RELIEF (ROCK BAGS)

■ PERMITTED PERMANENT WETLAND IMPACTS



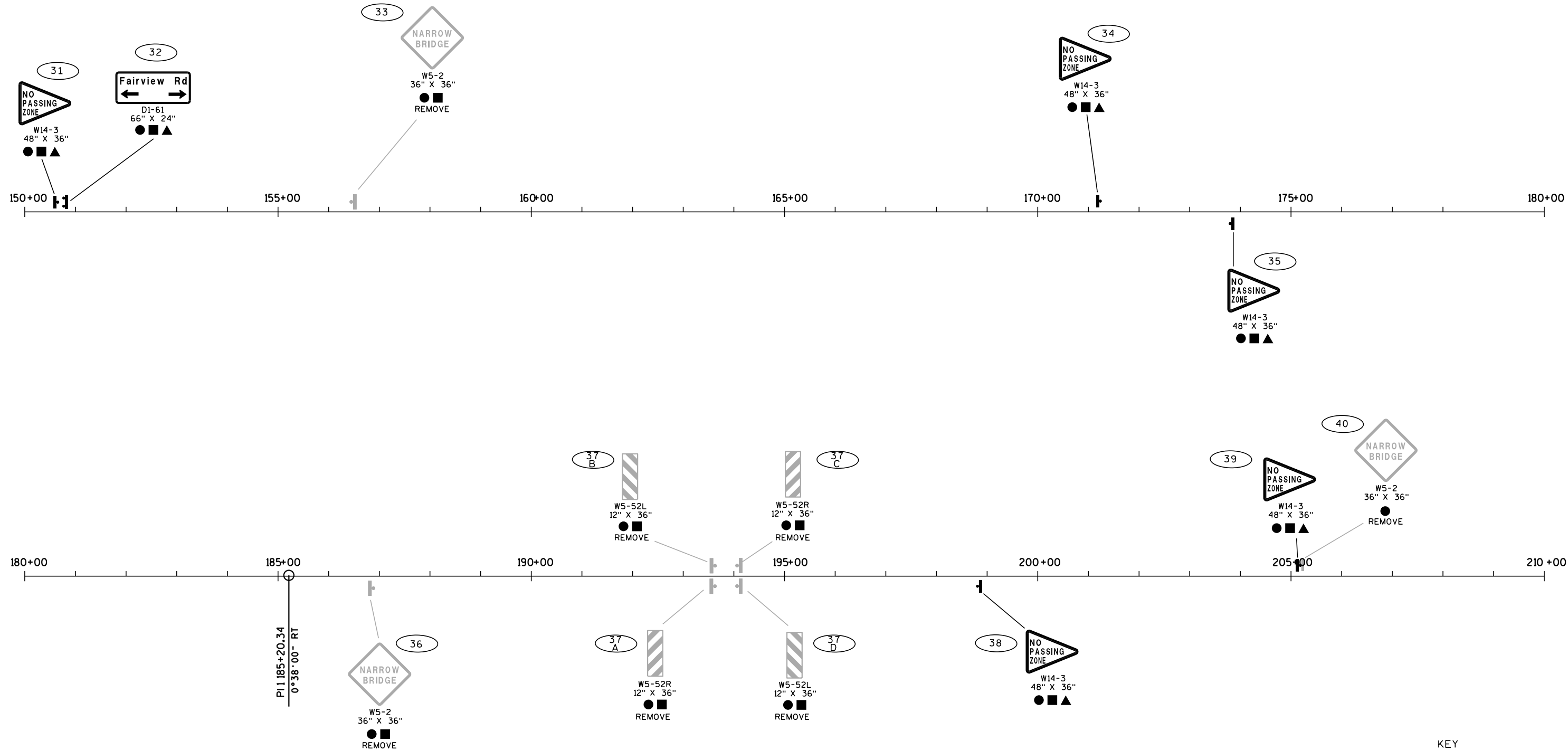
* Station is approximate. Signs to be placed at existing locations unless otherwise shown.

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

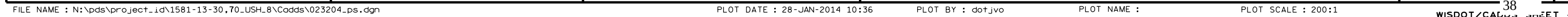


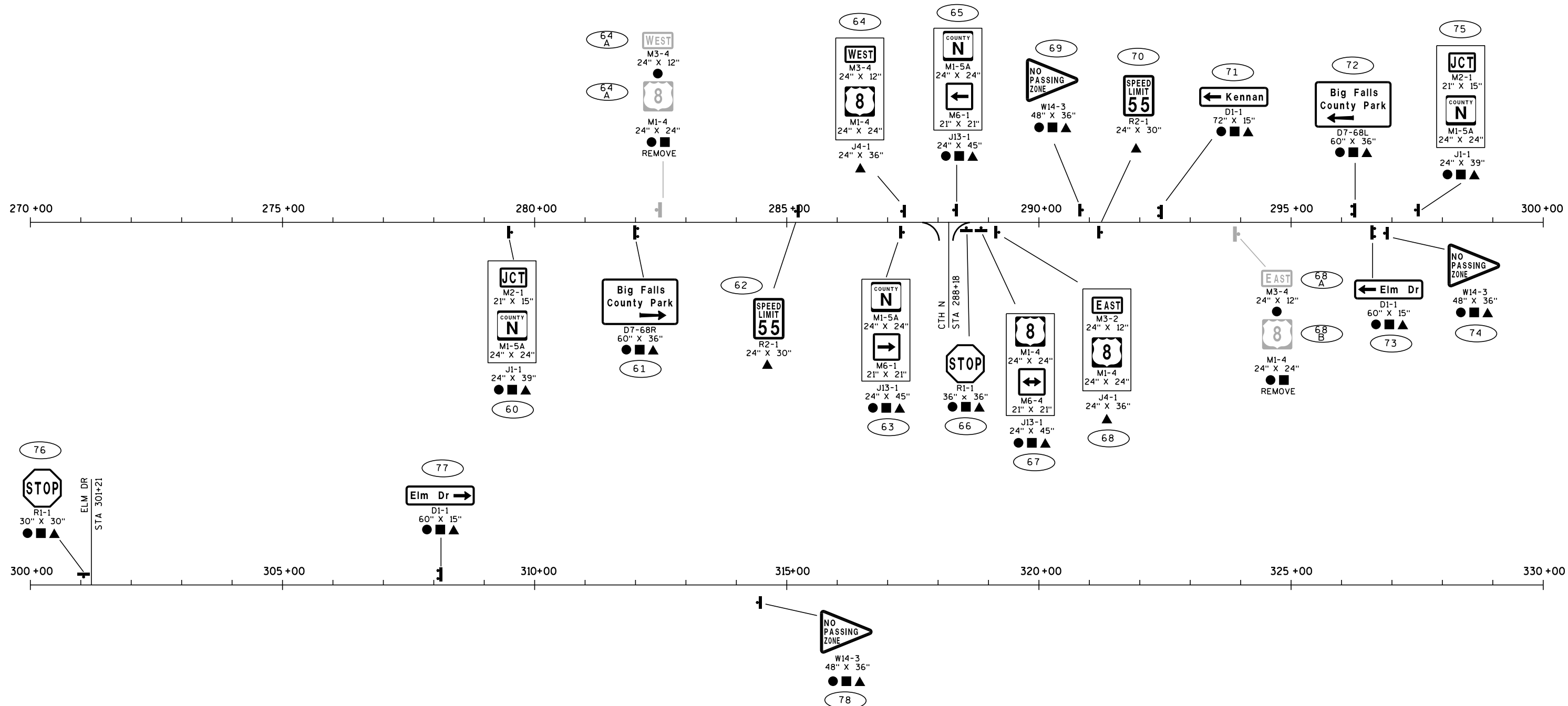
* Station is approximate. Signs to be placed at existing locations unless otherwise shown.

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



* Station is approximate. Signs to be placed at existing locations unless otherwise shown.





* Station is approximate. Signs to be placed at existing locations unless otherwise shown.

KEY

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

PROJECT NO: 1581-13-70

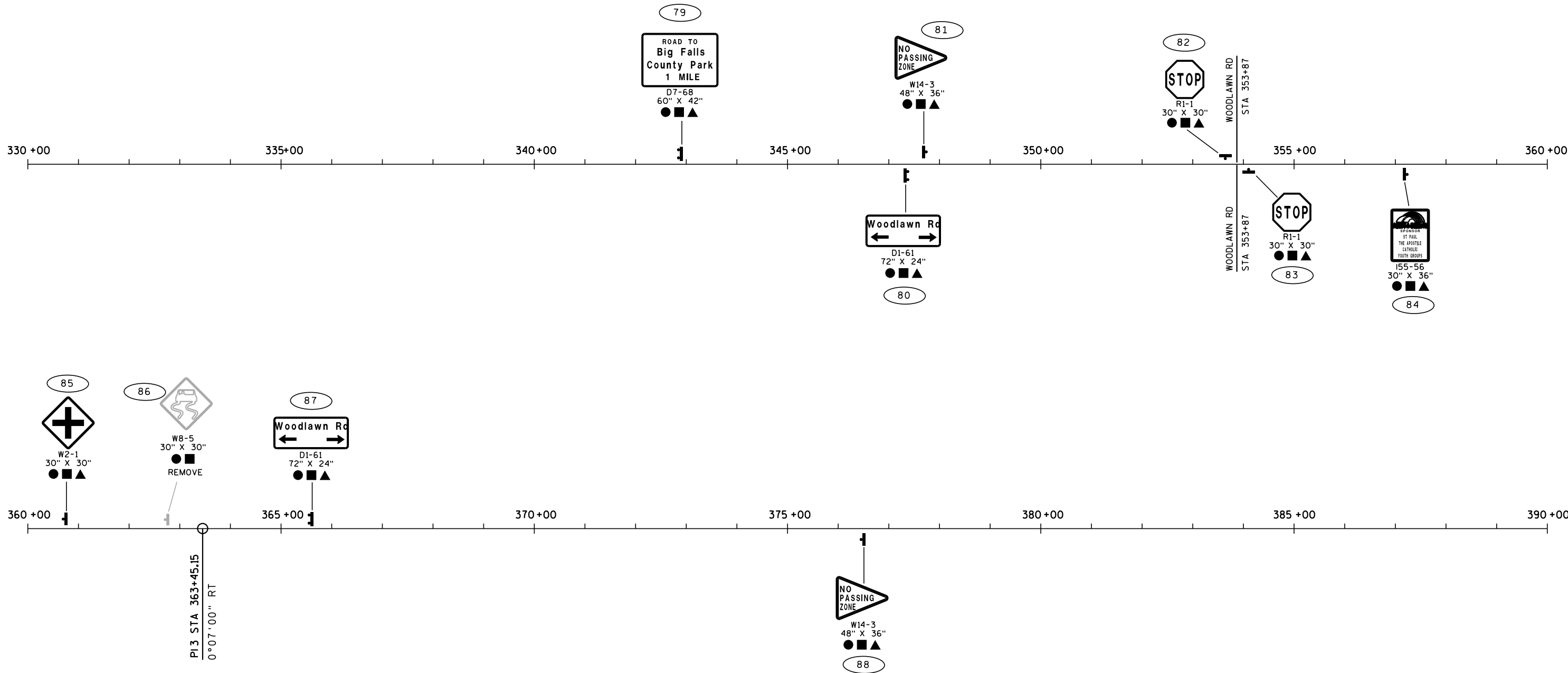
HWY: USH 8

COUNTY: PRICE

PERMANENT SIGNING

SHEET

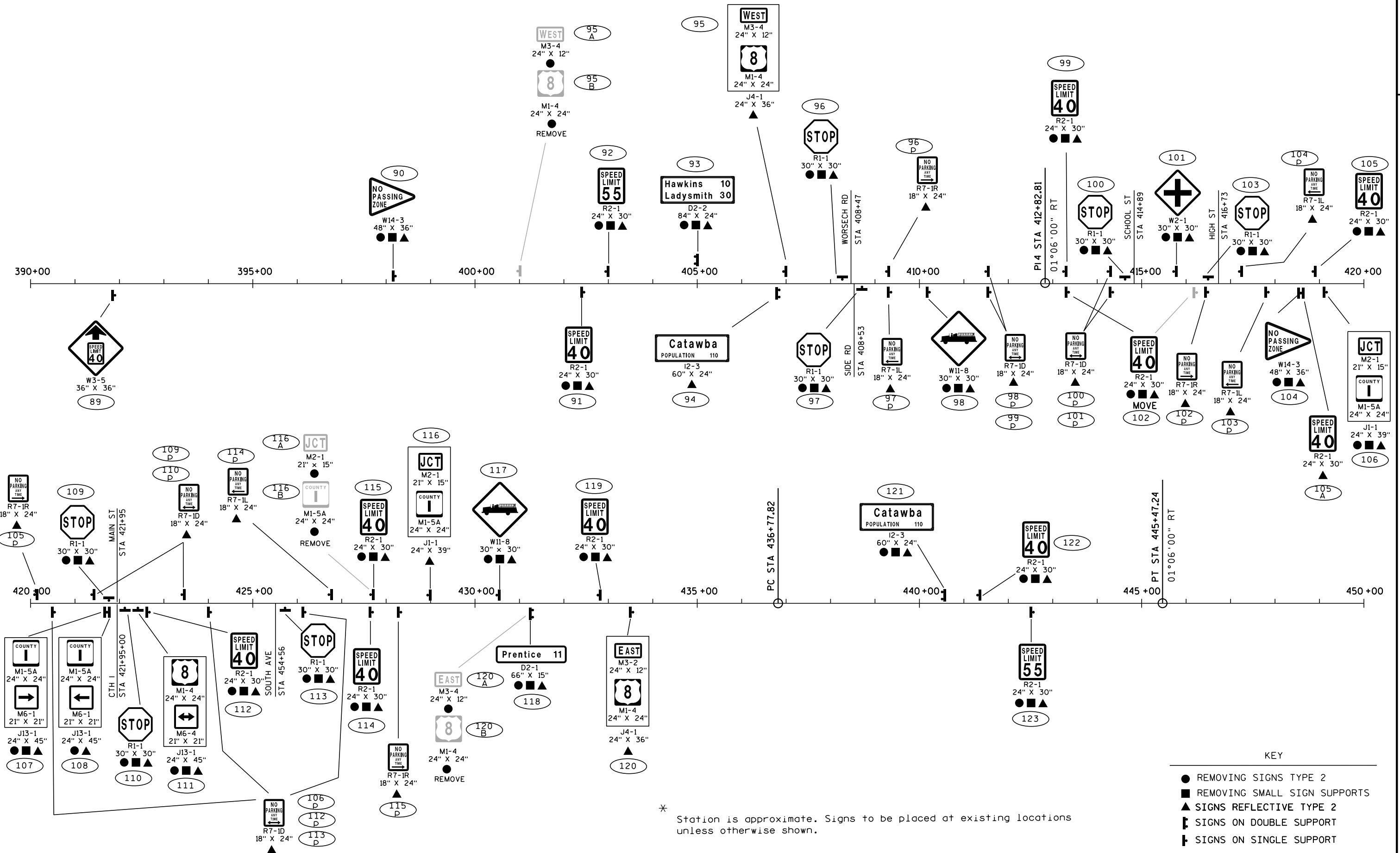
E

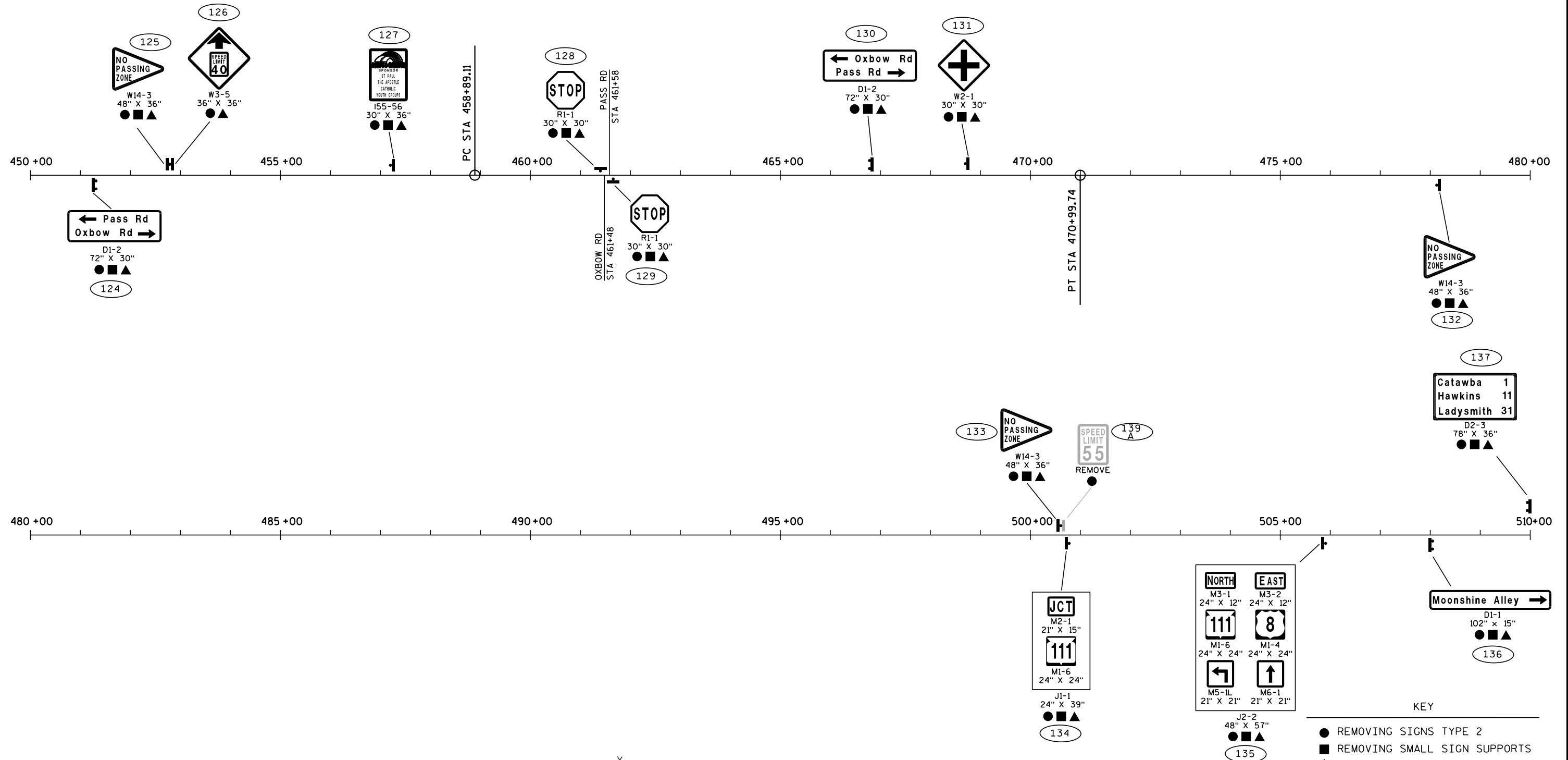


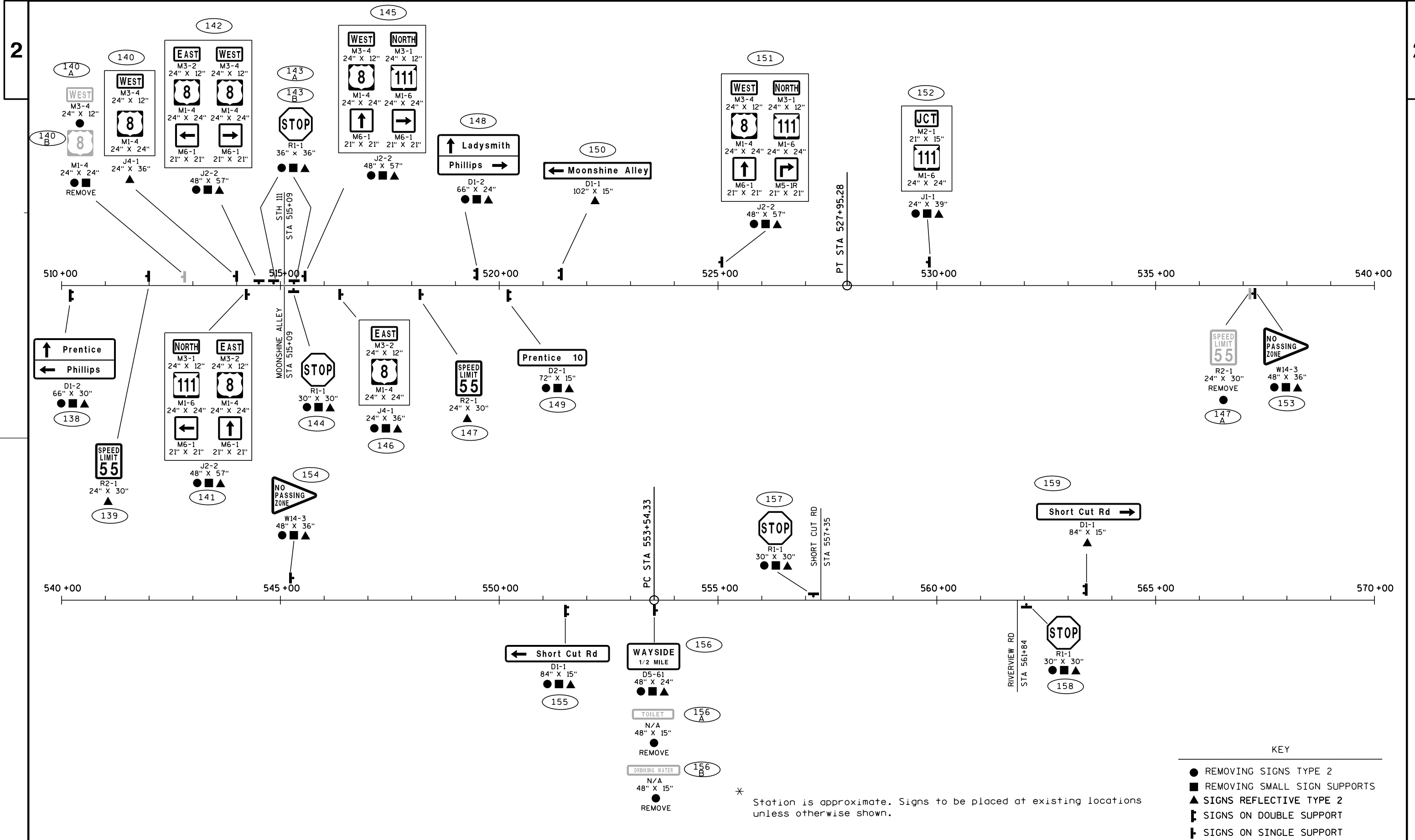
* Station is approximate. Signs to be placed at existing locations unless otherwise shown.

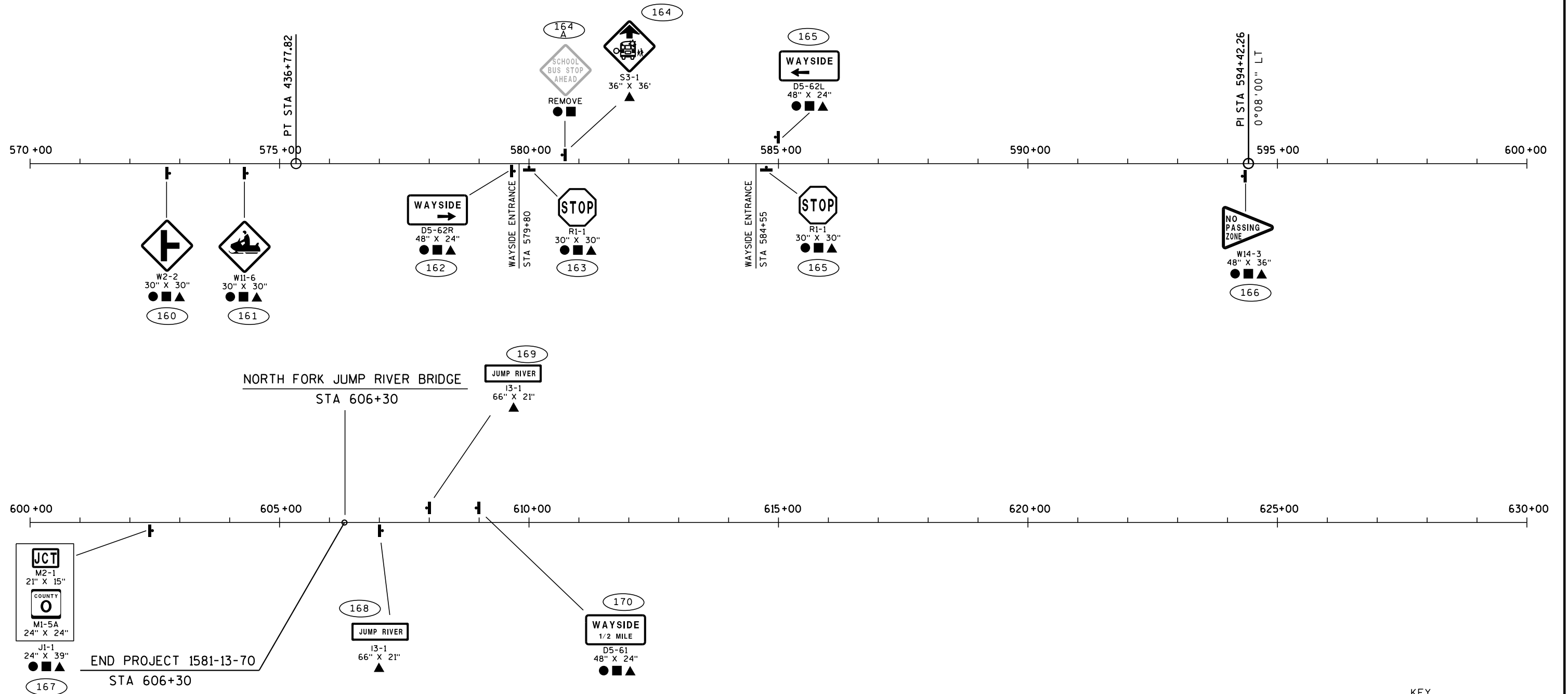
KEY

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



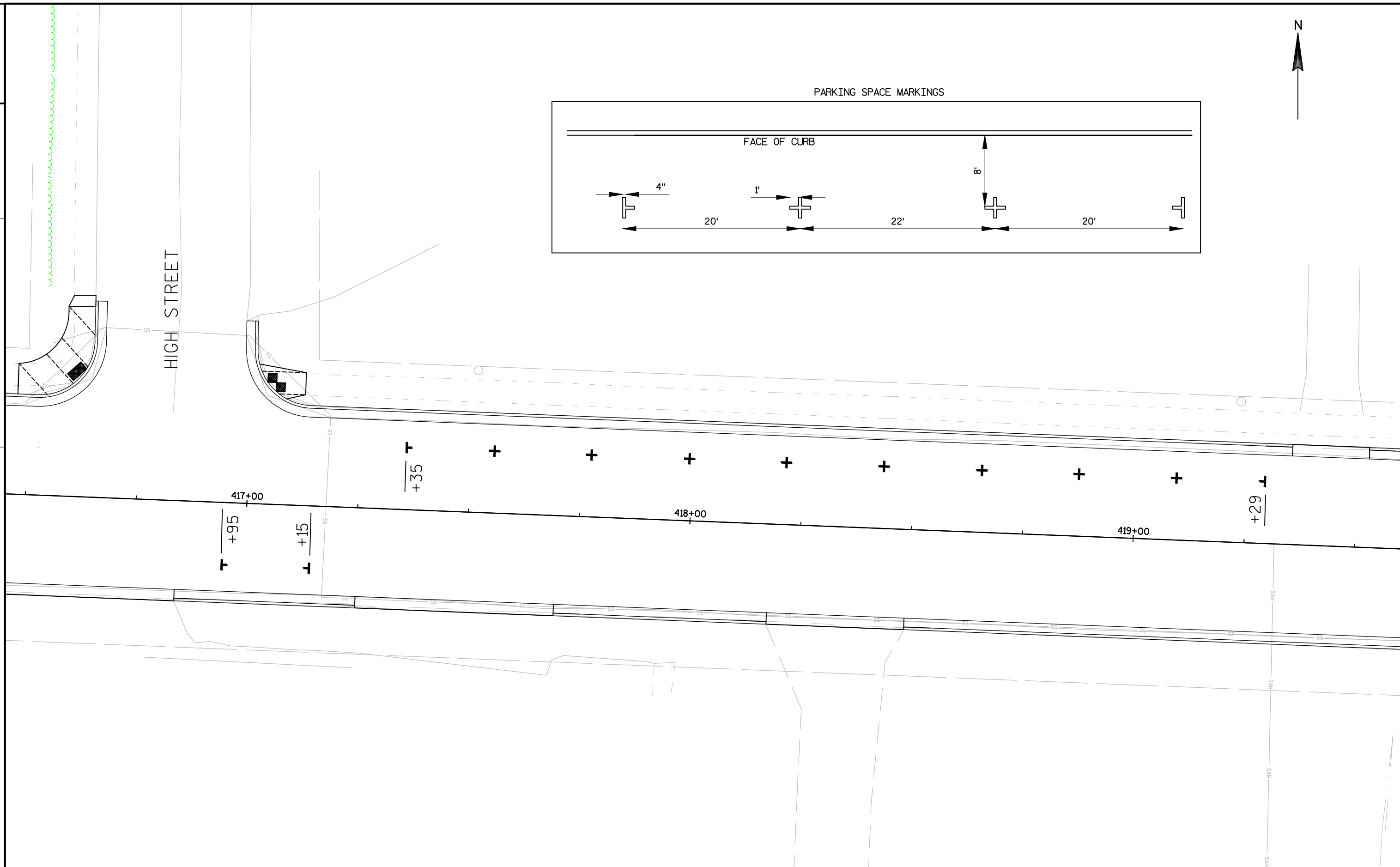


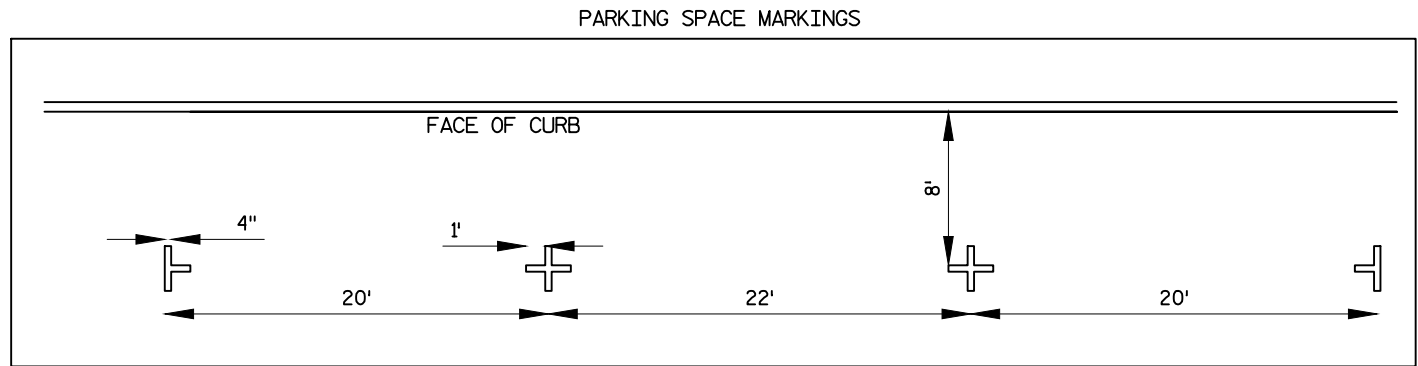


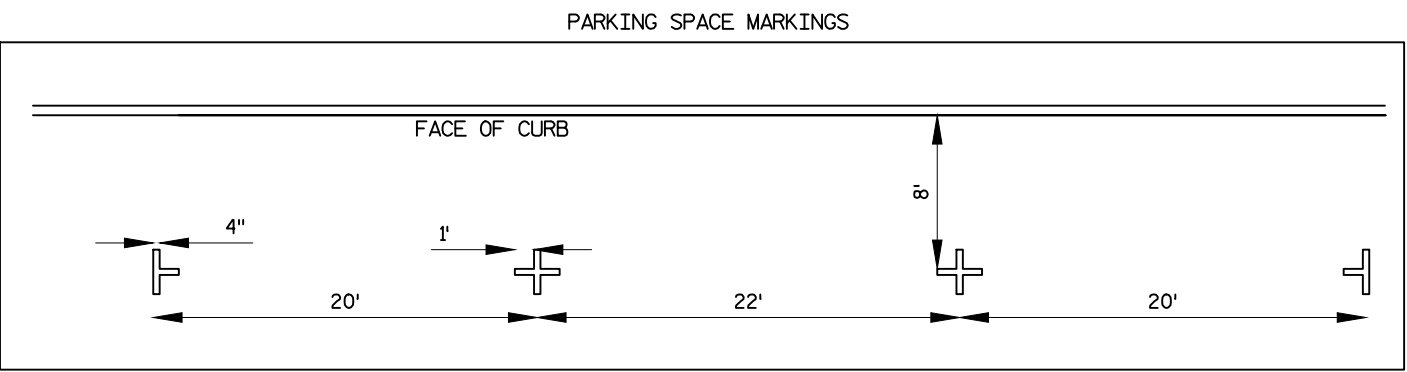


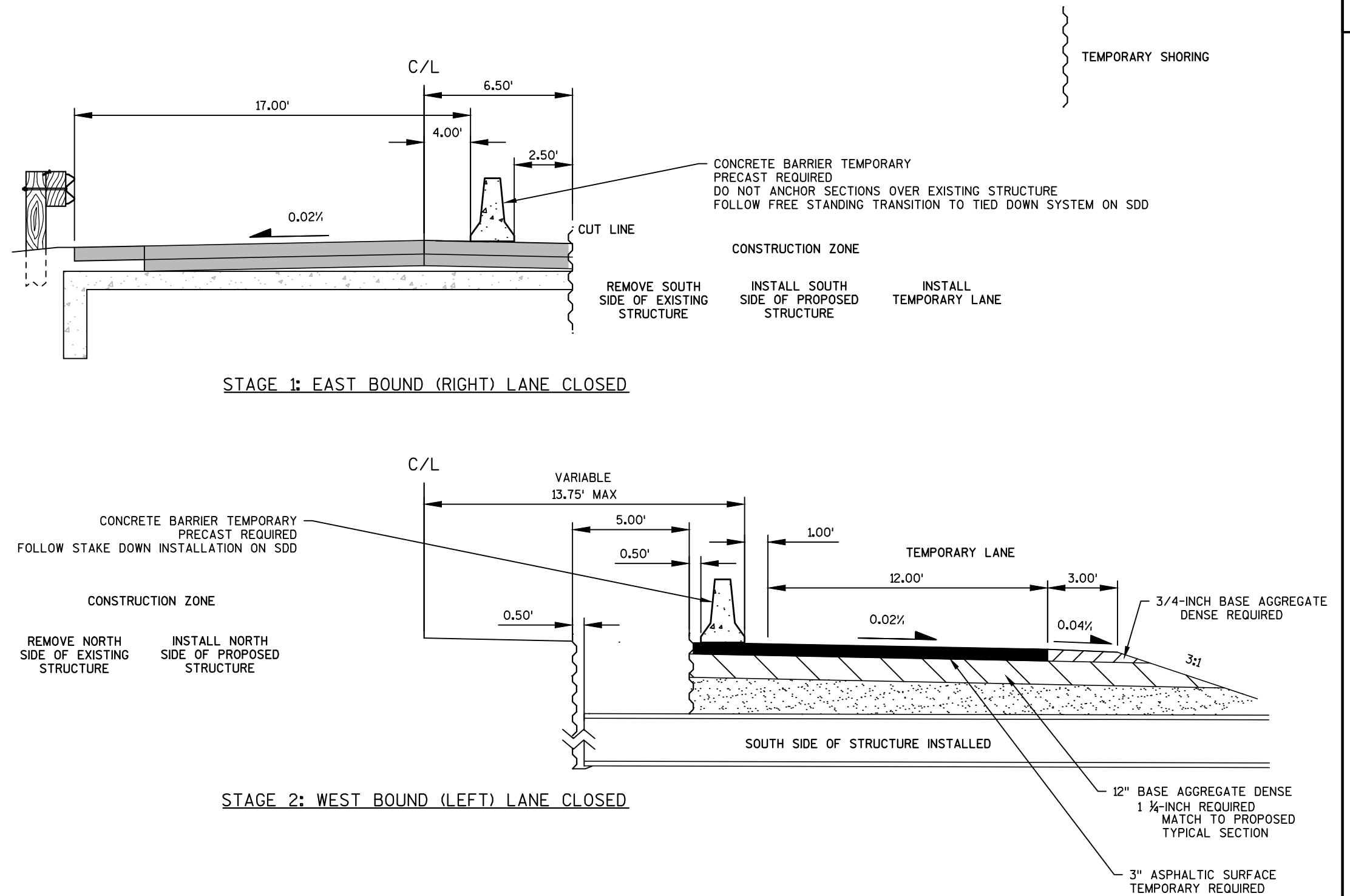
* Station is approximate. Signs to be placed at existing locations unless otherwise shown.

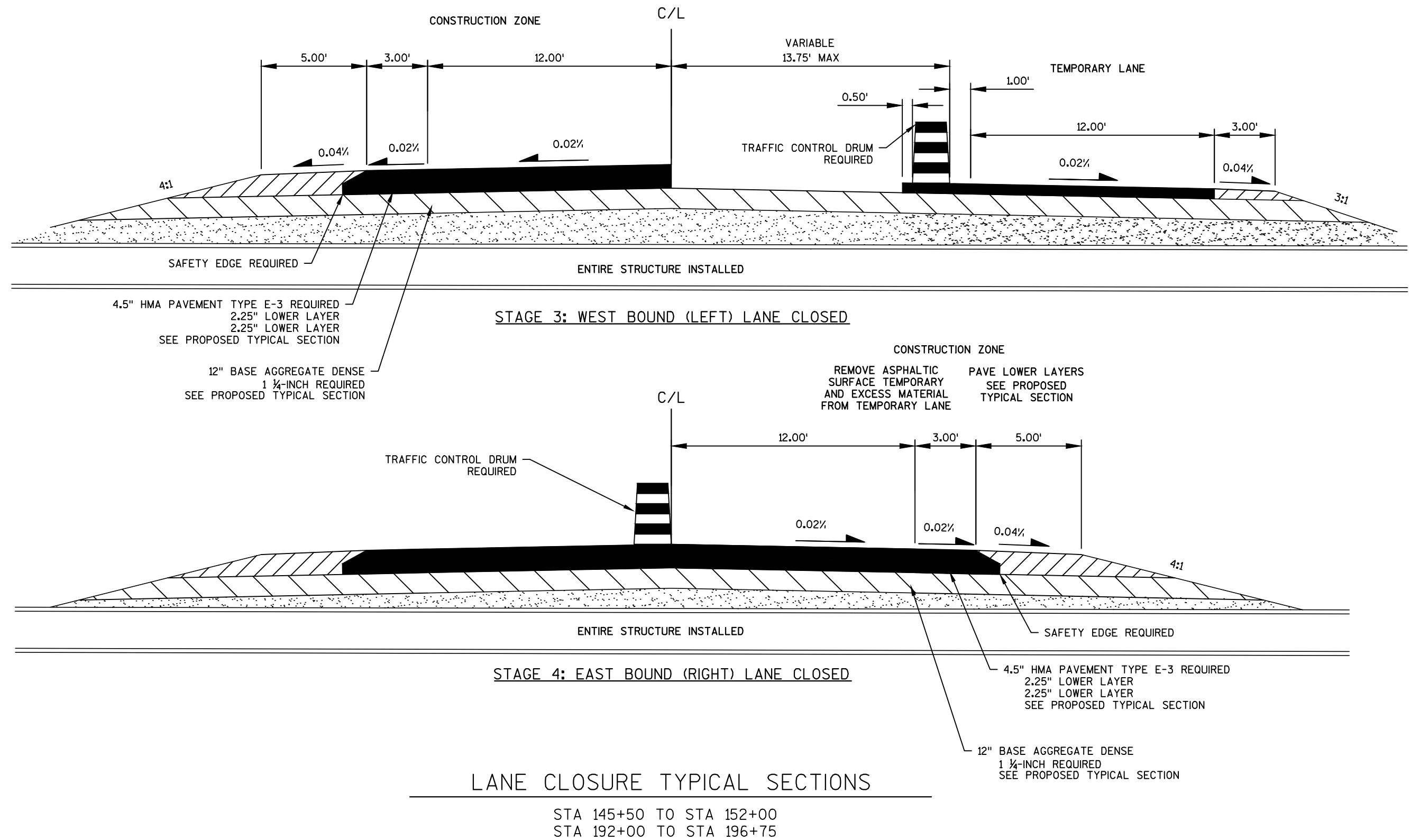
- KEY
- REMOVING SIGNS TYPE 2
 - REMOVING SMALL SIGN SUPPORTS
 - ▲ SIGNS REFLECTIVE TYPE 2
 - ┌ SIGNS ON DOUBLE SUPPORT
 - └ SIGNS ON SINGLE SUPPORT



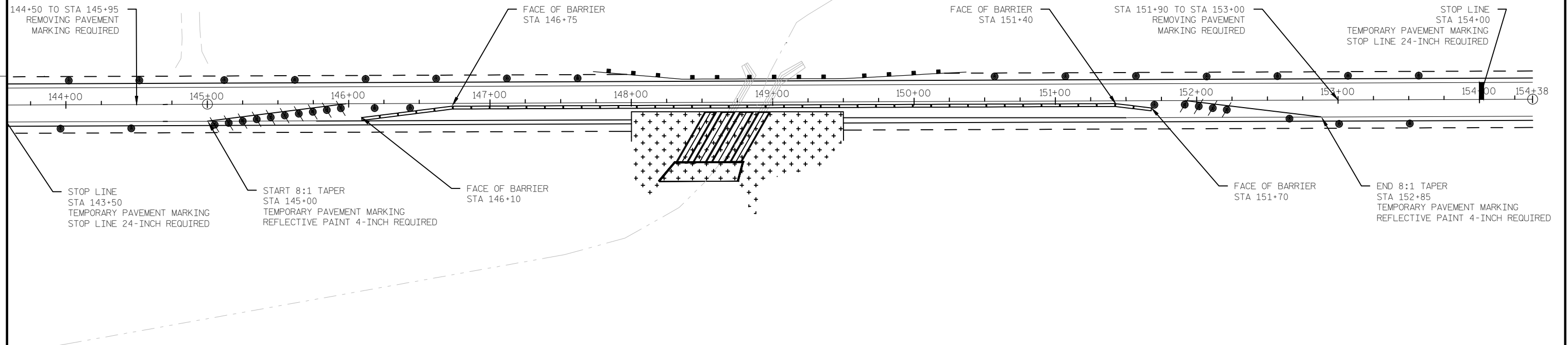
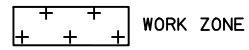




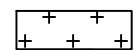




NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

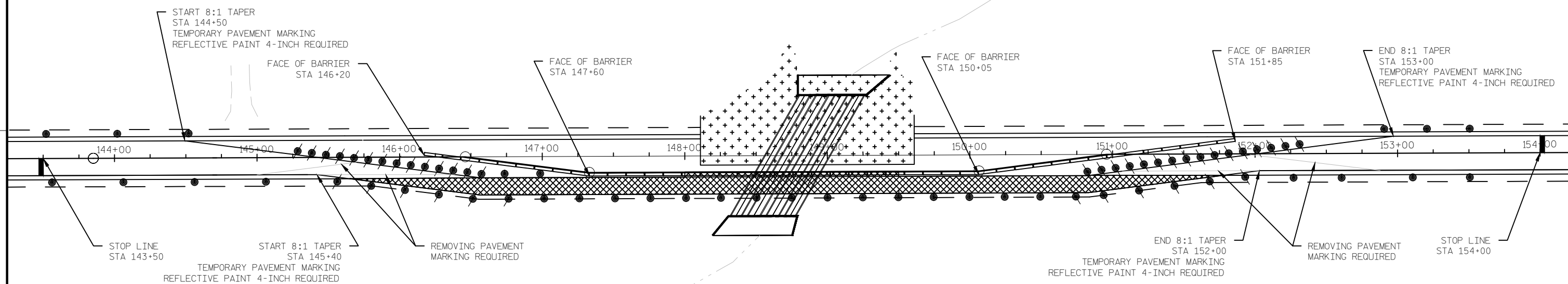


WORK ZONE

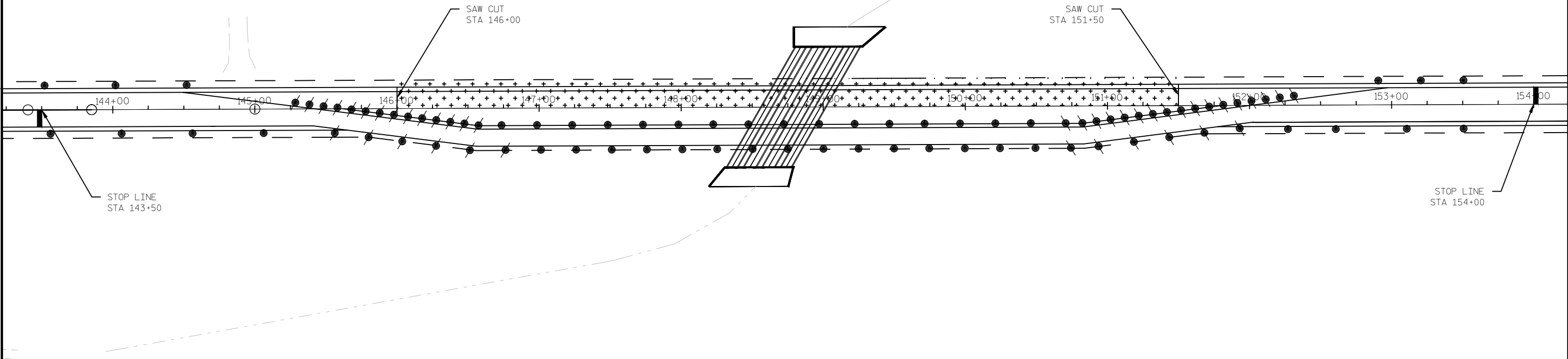


ASPHALTIC SURFACE TEMPORARY
(INCIDENTAL TO LANE SHIFT ITEM)

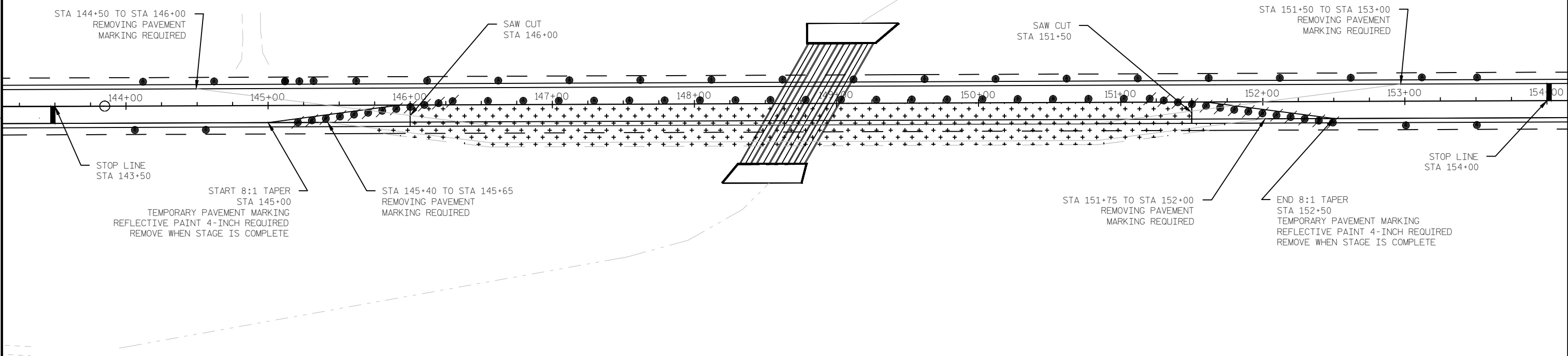
N



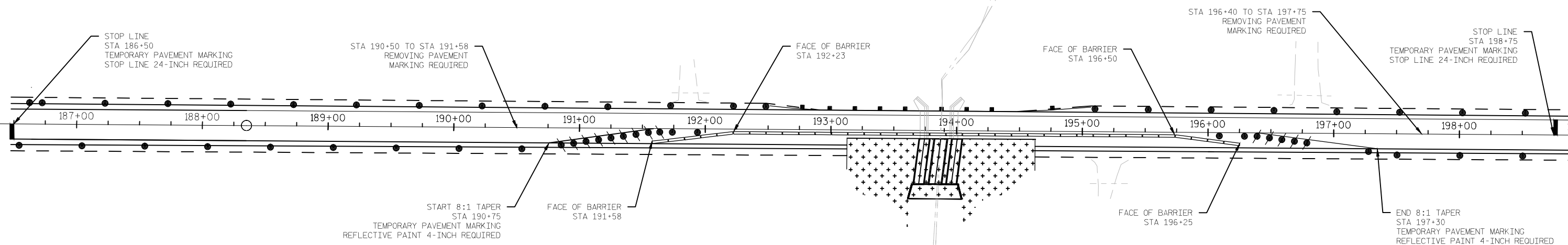
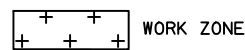
NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



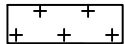
NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



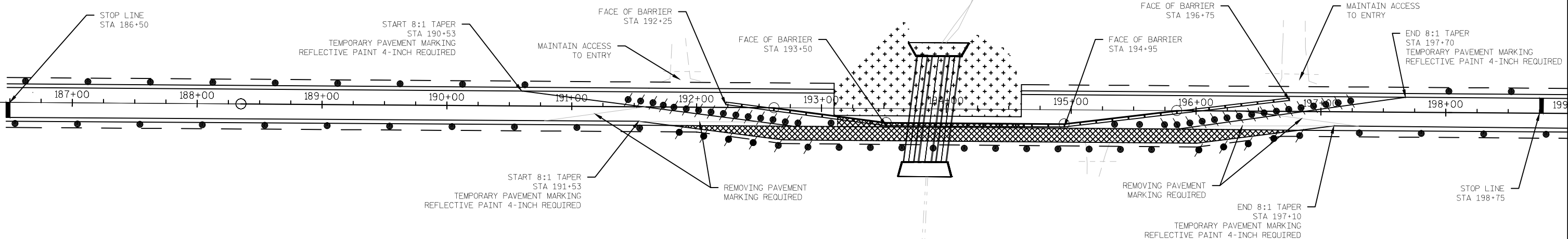
NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



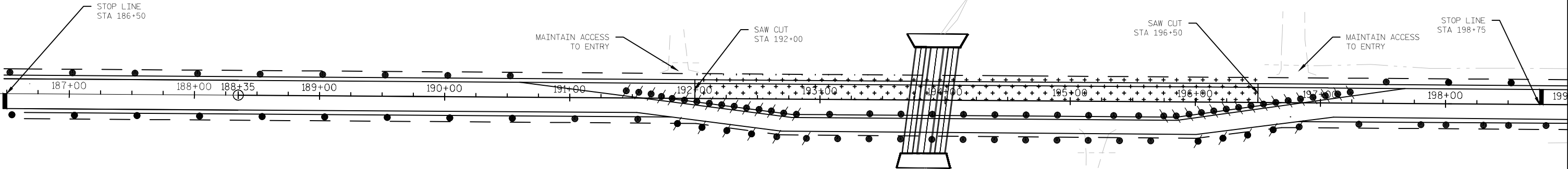
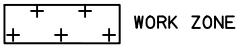
WORK ZONE



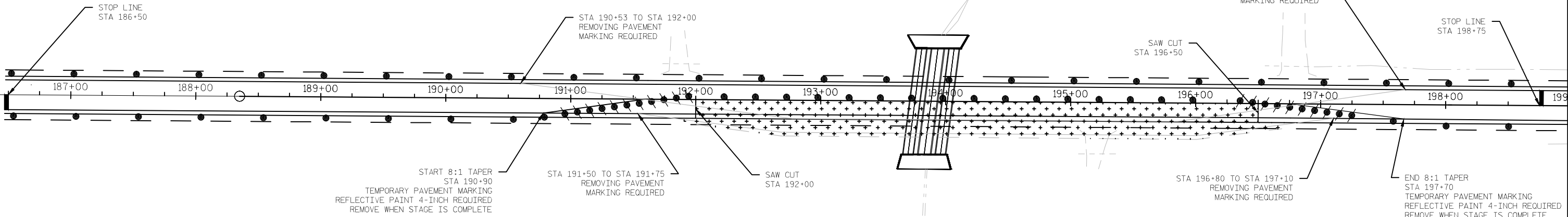
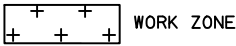
ASPHALTIC SURFACE TEMPORARY
(INCIDENTAL TO LANE SHIFT ITEM)



NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



NOTE: SEE SDD 15D33: TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



3

DATE 18NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE		1581-13-70			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	11.500	11.500
0020	201.0205	GRUBBING	STA	11.500	11.500
0030	202.0105	ROADSIDE CLEARING	STA	191.000	191.000
0040	203.0100	REMOVING SMALL PIPE CULVERTS	EACH	10.000	10.000
0050	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 01.149+00	LS	1.000	1.000
0060	203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY (STATION) 01.194+00	LS	1.000	1.000
0070	204.0100	REMOVING PAVEMENT	SY	3,730.000	3,730.000
0080	204.0110	REMOVING ASPHALTIC SURFACE	SY	615.000	615.000
0090	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	1,550.000	1,550.000
0100	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	185,331.000	185,331.000
0110	204.0150	REMOVING CURB & GUTTER	LF	3,350.000	3,350.000
0120	204.0155	REMOVING CONCRETE SIDEWALK	SY	75.000	75.000
0130	204.0165	REMOVING GUARDRAIL	LF	1,800.000	1,800.000
0140	205.0100	EXCAVATION COMMON	CY	4,975.000	4,975.000
0150	205.0400	EXCAVATION MARSH	CY	5,305.000	5,305.000
0160	208.0100	BORROW	CY	2,209.000	2,209.000
0170	209.0100	BACKFILL GRANULAR	CY	9,946.000	9,946.000
0180	209.0200.S	BACKFILL CONTROLLED LOW STRENGTH	CY	520.000	520.000
0190	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	13.000	13.000
0200	213.0100	FINISHING ROADWAY (PROJECT) 01. 1581-13-70	EACH	1.000	1.000
0210	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	4,825.000	4,825.000
0220	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	7,620.000	7,620.000
0230	305.0500	SHAPING SHOULDERS	STA	1,135.000	1,135.000
0240	440.4410.S	INCENTIVE IRI RIDE	DOL	43,400.000	43,400.000
0250	455.0105	ASPHALTIC MATERIAL PG58-28	TON	1,342.000	1,342.000
0260	455.0605	TACK COAT	GAL	14,970.000	14,970.000
0270	460.1103	HMA PAVEMENT TYPE E-3	TON	24,407.000	24,407.000
0280	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	15,185.000	15,185.000
0290	465.0110	ASPHALTIC SURFACE PATCHING	TON	25.000	25.000
0300	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	25.000	25.000
0310	465.0315	ASPHALTIC FLUMES	SY	40.000	40.000
0320	465.0475	ASPHALT CENTER LINE RUMBLE STRIPS 2-LANE RURAL	LF	46,530.000	46,530.000
0330	504.0900	CONCRETE MASONRY ENDWALLS	CY	170.000	170.000
0340	511.1200	TEMPORARY SHORING (STRUCTURE) 01. B-50-83	SF	605.000	605.000
0350	511.1200	TEMPORARY SHORING (STRUCTURE) 02. B-50-84	SF	430.000	430.000
0360	522.0124	CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	LF	342.000	342.000
0370	522.0130	CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH	LF	64.000	64.000
0380	522.0136	CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH	LF	70.000	70.000
0390	522.0148	CULVERT PIPE REINFORCED CONCRETE CLASS III 48-INCH	LF	202.000	202.000
0400	522.0172	CULVERT PIPE REINFORCED CONCRETE CLASS III 72-INCH	LF	200.000	200.000
0410	522.0184	CULVERT PIPE REINFORCED CONCRETE CLASS III 84-INCH	LF	200.000	200.000

3

3

DATE 18NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE					1581-13-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0420	522.1024	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	EACH	10.000	10.000
0430	522.1030	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	EACH	2.000	2.000
0440	522.1036	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH	2.000	2.000
0450	522.1048	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH	6.000	6.000
0460	523.0158	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 58X91-INCH	LF	174.000	174.000
0470	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	3,205.000	3,205.000
0480	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D	LF	285.000	285.000
0490	601.0600	CONCRETE CURB PEDESTRIAN	LF	38.000	38.000
0500	602.0415	CONCRETE SIDEWALK 6-INCH	SF	1,005.000	1,005.000
0510	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	48.000	48.000
0520	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	1,000.000	1,000.000
0530	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	2,000.000	2,000.000
0540	606.0300	RIPRAP HEAVY	CY	160.000	160.000
0550	609.0124	RELAID STORM SEWER 24-INCH	LF	42.000	42.000
0560	611.0600	INLET COVERS TYPE A	EACH	13.000	13.000
0570	611.0624	INLET COVERS TYPE H	EACH	4.000	4.000
0580	614.0397	GUARDRAIL MOW STRIP EMULSIFIED ASPHALT	SY	1,310.000	1,310.000
0590	614.2300	MGS GUARDRAIL 3	LF	387.500	387.500
0600	614.2340	MGS GUARDRAIL 3 L	LF	225.000	225.000
0610	614.2500	MGS THRIE BEAM TRANSITION	LF	157.600	157.600
0620	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	8.000	8.000
0630	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1581-13-70	EACH	1.000	1.000
0640	619.1000	MOBILIZATION	EACH	1.000	1.000
0650	621.0100	LANDMARK REFERENCE MONUMENTS	EACH	64.000	64.000
0660	624.0100	WATER	MGAL	10.000	10.000
0670	625.0100	TOPSOIL	SY	24,445.000	24,445.000
0680	628.1504	SILT FENCE	LF	9,050.000	9,050.000
0690	628.1520	SILT FENCE MAINTENANCE	LF	9,050.000	9,050.000
0700	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	3.000	3.000
0710	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0720	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	21,660.000	21,660.000
0730	628.7015	INLET PROTECTION TYPE C	EACH	21.000	21.000
0740	628.7555	CULVERT PIPE CHECKS	EACH	140.000	140.000
0750	628.7570	ROCK BAGS	EACH	475.000	475.000
0760	629.0210	FERTILIZER TYPE B	CWT	16.000	16.000
0770	630.0140	SEEDING MIXTURE NO. 40	LB	645.000	645.000
0780	630.0200	SEEDING TEMPORARY	LB	65.000	65.000
0790	633.5200	MARKERS CULVERT END	EACH	58.000	58.000
0800	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	175.000	175.000
0810	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	35.000	35.000
0820	637.2210	SIGNS TYPE II REFLECTIVE H	SF	1,039.900	1,039.900
0830	637.2230	SIGNS TYPE II REFLECTIVE F	SF	219.500	219.500
0840	638.2602	REMOVING SIGNS TYPE II	EACH	191.000	191.000
0850	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	174.000	174.000

3

3

DATE 18NOV14		E S T I M A T E O F Q U A N T I T I E S			
LINE		1581-13-70			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0860	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
0870	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1581-13-70	EACH	1.000	1.000
0880	643.0300	TRAFFIC CONTROL DRUMS	DAY	4,000.000	4,000.000
0890	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	60.000	60.000
0900	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	900.000	900.000
0910	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,000.000	3,000.000
0920	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	430.000	430.000
0930	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	170,860.000	170,860.000
0940	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	175.000	175.000
0950	646.0406	PAVEMENT MARKING SAME DAY EPOXY 4-INCH	LF	58,570.000	58,570.000
0960	646.0600	REMOVING PAVEMENT MARKINGS	LF	2,730.000	2,730.000
0970	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	15.000	15.000
0980	647.0656	PAVEMENT MARKING PARKING STALL EPOXY	LF	83.000	83.000
0990	648.0100	LOCATING NO-PASSING ZONES	MI	10.840	10.840
1000	649.0200	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	LF	56,955.000	56,955.000
1010	649.1300	TEMPORARY PAVEMENT MARKING STOP LINE 24-INCH	LF	48.000	48.000
1020	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	2,600.000	2,600.000
1030	650.5000	CONSTRUCTION STAKING BASE	LF	2,600.000	2,600.000
1040	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	3,600.000	3,600.000
1050	650.6000	CONSTRUCTION STAKING PIPE CULVERTS	EACH	11.000	11.000
1060	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-50-83	LS	1.000	1.000
1070	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-50-84	LS	1.000	1.000
1080	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	57,575.000	57,575.000
1090	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1581-13-70	LS	1.000	1.000
1100	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	3,115.000	3,115.000
1110	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-50-83	LS	1.000	1.000
1120	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 02. B-50-84	LS	1.000	1.000
1130	690.0150	SAWING ASPHALT	LF	5,260.000	5,260.000
1140	690.0250	SAWING CONCRETE	LF	780.000	780.000
1150	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	HRS	2,000.000	2,000.000
1160	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT \$5.00/HR	HRS	1,260.000	1,260.000
1170	SPV.0060	SPECIAL 01. LANE SHIFT	EACH	2.000	2.000
1180	SPV.0060	SPECIAL 02. TEMPORARY WATER DIVERSION B-50-83	EACH	1.000	1.000
1190	SPV.0060	SPECIAL 03. TEMPORARY WATER DIVERSION B-50-84	EACH	1.000	1.000
1200	SPV.0060	SPECIAL 04. TEMPORARY WATER DIVERSION CULVERTS 50-008-021	EACH	1.000	1.000
1210	SPV.0060	SPECIAL 05. STRUCTURE RESTORATION	EACH	17.000	17.000
1220	SPV.0060	SPECIAL 06.LOCATE AND REESTABLISH SECTION CORNER MONUMENTS	EACH	16.000	16.000
1230	SPV.0090	SPECIAL 01. CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL HE-111 72X113-INCH	LF	87.000	87.000
1240	SPV.0120	SPECIAL 01. WATER FOR SEEDED AREAS	MGAL	350.000	350.000

3

PAVEMENT REMOVAL
SAWCUTTING

<u>SAWCUTTING</u>				204.0100	204.0110	204.0115	204.0120	690.0150	690.0250	
				REMOVING	REMOVING	REMOVING	REMOVING	SAWING	SAWING	
				PAVEMENT	ASPHALTIC	ASPHALTIC	ASPHALTIC	ASPHALTIC	CONCRETE	
				TOTAL	(SY)	SURFACE	SURFACE	SURFACE	PAVEMENT	(LF)
				WIDTH		(SY)	BUTT JOINT	MILLING	(LF)	
STATION	-	STATION	LOCATION	(FT)			(SY)	(SY)		REMARKS
USH 8										
STA 32+46	-	STA 33+46		30			335			
STA 33+46	-	STA 146+00		30				37,346		
STA 146+00	-	STA 151+50	B-50-83		1225			611	60	CONCRETE UNDER ASPHALT
STA 151+50	-	STA 192+00		30				13,500		
STA 192+00	-	STA 196+50	B-50-84		1005			500	60	CONCRETE UNDER ASPHALT
STA 196+50	-	STA 411+40		30				70,349		
STA 411+40	-	STA 429+51	VILLAGE OF CATAWBA MAINLINE	24				4,829		
STA 411+40	-	STA 429+51	CATAWBA AUXILIARY LANES	12				2,415		
STA 429+51	-	STA 605+30		30				50,271		
STA 605+30	-	STA 606+30		30			335			
INTERSECTIONS							670	4,889		
DRIVEWAYS							210			
STA 337+30	-	STA 340+77	PAVED SHOULDERS AT C-50-1968					900		
STA 513+50	-	STA 525+50	STH 111 / MOONSHINE ALLEY INTERSECTION	615				1,400		
STA 607+75	-	STA 611+25	PAVED SHOULDERS AT JUMP RIVER BRIDGE					720		
IN FRONT AND BEHIND CURB AND GUTTER								3,800		
CULVERT REPLACEMENTS					1500	60				660
TOTAL					3,730	615	1,550	186,331	5,260	780

Division	From / To Station	Common Excavation (1)	Salvaged / Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6)	Expanded Marsh Backfill (10)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate + / - (14)	Waste	Borrow (15)	Comment:
Division 1		Cut (2) (item #205.0100)			(item #205.0500)	(item #209.0100) Factor 1.875		Factor 1.25			(item #208.0100)	
STH 111 - MOONSHINE	01+68/03+59	10	0	10	0	0	40	49	-39	0	-39	USE WASTE FROM CURVE 5 AREA AS BORROW FOR CURVE 4 AREA
JUMP RIVER BRIDGE	602+75/611+25	970	0	970	0	0	861	1,076	-106	0	-106	
CURVE 5	549+50/578+00	500	0	500	0	0	255	319	181	181	181	
CURVE 4	505+50/531+94.75	200	0	200	0	0	435	544	-344	0	-344	
C-1968-47	336+00/343+50	471	0	471	1,461	2,739	729	911	-441	0	-441	
B-50-84	192+00/196+50	596	63	533	1,506	2,824	765	956	-423	0	-423	
B-50-83	146+00/151+50	704	77	627	2,338	4,384	1,026	1,283	-656	0	-656	
CULVERT REPLACEMENT	VARIOUS	1250	0	1,250	0	0	1250	1,563	-313	0	-313	
BEHIND CURB AND GUTTER	VARIOUS	274	0	274	0	0	274	343	-69	0	-69	
Grand Total	Total Common Exc	4,975	140	3,311	5,305	9,946	5,635	7,044	-2,209	0	-2,209	

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Pavement Material is included in Cut.
- 4) Salvaged/Unusable Pavement Material
- 10) Expanded Marsh Backfill - This is to be filled with Backfill Granular material. Marsh Backfill Factor = 1.875. Item number 209.0100
- 13) Expanded Fill. Factor = 1.25
- Depending on select

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

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

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

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
- 14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
- 15) Borrow item number 208.0100

3

CLEARING / GRUBBING

				201.0105	201.0205	202.0105
				CLEARING	GRUBBING	ROAD SIDE CLEARING
STATION	-	STATION	LOCATION	(STA)	(STA)	(STA)
USH 8						
STA 42+00	-	STA 59+00				17
STA 63+50	-	STA 108+50				45
STA 121+00	-	STA 130+00				9
STA 138+50	-	STA 143+50				5
STA 146+00	-	STA 151+50	B-50-83	5.5	5.5	
STA 170+00	-	STA 192+00				22
STA 192+00	-	STA 196+50	B-50-84	4.5	4.5	
STA 198+00	-	STA 201+00				3
STA 207+50	-	STA 217+00				9.5
STA 223+50	-	STA 230+50				7
STA 235+50	-	STA 242+00				6.5
STA 273+00	-	STA 287+00				14
STA 322+00	-	STA 323+00				1
STA 330+00	-	STA 331+00				1
STA 337+00	-	STA 342+00	C-50-1968	1.5	1.5	5
STA 358+00	-	STA 359+00				1
STA 465+50	-	STA 483+50				18
STA 499+00	-	STA 500+00				1
STA 530+00	-	STA 540+50				10.5
STA 555+00	-	STA 557+00				2
STA 561+00	-	STA 563+00				2
STA 590+00	-	STA 596+00				6
MISCELANEOUS						5
TOTAL				11.5	11.5	191

NOTE: ROADSIDE CLEARING OUT TO 42 FEET FROM CENTERLINE

BASE AGGREGATE DENSE

				305.0110	305.0120	305.0500	624.0100
				BASE AGGREG. DENSE 3/4-INCH (TON)	BASE AGGREG. DENSE 1 1/4-INCH (TON)	SHAPING SHOULDERS (STA)	WATER (MGAL)
STATION	-	STATION	LOCATION				
USH 8							
PROJECT						1,135	
STA 32+46	-	STA 146+00	SHOULDERS	779			
STA 146+00	-	STA 151+50	B-50-83 SHOULDERS/BASE	306	2,120		
STA 151+50	-	STA 192+00	SHOULDERS	276			
STA 192+00	-	STA 196+50	B-50-84 SHOULDERS/BASE	250	1,735		
STA 196+50	-	STA 336+00	SHOULDERS	951			
STA 336+00	-	STA 342+50	C-1967-47 SHOULDERS	111	555		
STA 342+50	-	STA 441+40	SHOULDERS	470			
STA 411+40	-	STA 427+64	VILLAGE OF CATAWBA				
STA 427+64	-	STA 511+65	SHOULDERS	575			
STA 511+65		STA 528+70	CURVE 4 SHOULDERS/BASE	218	55		
STA 528+70		STA 551+60	SHOULDER	156			
STA 551+60		STA 576+00	CURVE 5 SHOULDERS	313			
STA 576+00		STA 602+75	SHOULDERS	182			
STA 602+75		STA 611+25	JUMP RIVER BRIDGE SHOULDERS	115	555		
CULVERT REPLACEMENTS				58	2,600		
STA 579+79	-	STA 584+55	WAYSIDE SHOULDERS	65			
UNDISTRIBUTED							10
TOTAL				4,825	7,620	1,135	10

NOTE:
BEAM GUARD ADJUSTMENT LOCATIONS WILL REQUIRE HAND-RAKING FOR BASE AGGREGATE PLACEMENT.

3

CONCRETE CURB & GUTTER

				204.0150	601.0411	601.0557	611.0600	611.0624	SPV.0060.05
				REMOVING CURB & GUTTER (LF)	CONCRETE CURB & GUTTER TYPE D 30 INCH (LF)	CONCRETE CURB & GUTTER 6 INCH SLOPED TYPE D 36 INCH (LF)	INLET COVERS TYPE A (EACH)	INLET COVERS TYPE H (EACH)	STRUCTURE RESTORATION (EACH)
LOCATION	STATION	-	STATION						
USH 8									
CTH N	STA 288+25	-	STA 289+20	145		145			
VILLAGE OF CATAWBA RT	STA 411+17	-	STA 427+64	1,605	1,605		5	1	5
VILLAGE OF CATAWBA LT	STA 411+17	-	STA 427+64	1,600	1,600		8	3	12
STH 111	STA 514+50	-	STA 516+00			140			
TOTAL				3,350	3,205	285	13	4	17

ASPHALTIC FLUMES

		465.0315
		ASPHALTIC FLUMES (SY)
USH 8		
USH 8 AND CTH N INTERSECTION - SW CORNER		10
USH 8 AND CTH N INTERSECTION - SE CORNER		10
USH 8 AND STH 111 INTERSECTION - NW CORNER		10
USH 8 AND STH 111 INTERSECTION - NE CORNER		10
TOTAL		40

3

HMA PAVEMENT

STATION - STATION		LOCATION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS (STA)	455.0105 ASPHALTIC MATERIAL PG58-28 (TON)	455.0605 TACK COAT (GAL)	460.1103 HMA PAVEMENT TYPE E-3 (TON)	465.0110 ASPHALTIC SURFACE PATCHING (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAY & FIELD ENTRANCES (TON)
USH 8								
STA 32+46	- STA 146+00			206	2,650	3,746		
STA 146+00	- STA 151+50	B-50-83		36	260	646		
STA 151+50	- STA 192+00			74	950	1,341		
STA 192+00	- STA 196+50	B-50-84		29	210	529		
STA 196+50	- STA 411+40	(C-50-1968)	6	391	5,010	7,115		
STA 411+40	- STA 429+51	VILLAGE OF CATAWBA		43	340	784		
STA 411+40	- STA 429+51	CATAWBA AUXILIARY LANES		6	170	102		
STA 429+51	- STA 509+69			146	1,870	2,655		
STA 509+69	- STA 528+70	CURVE 4		109	760	1,973		
STA 528+70	- STA 551+60			42	530	758		
STA 551+60	- STA 576+00	CURVE 5		50	850	912		
STA 576+00	- STA 602+75			49	620	886		
STA 579+79	- STA 584+55	WAYSIDE		9	110	156		
STA 602+75	- STA 611+25	JUMP RIVER BRIDGE	7	76	120	1,374		
INTERSECTIONS				26	340	481		
DRIVEWAYS					10		25	
CULVERT REPLACEMENTS				50	160	902		
CURB AND GUTTER AT CTH N				3	10	47		
UNDISTRIBUTED							25	
TOTAL			13	1,342	14,970	24,407	25	25

CENTER LINE RUMBLE STRIPS

STATION - STATION		LOCATION (LF)	465.0475 ASPHALTIC CENTER LINE RUMBLE STRIPS 2-LANE RURAL
USH 8			
STA 35+00	- STA 50+00	1,500	
STA 54+00	- STA 88+00	3,400	
STA 92+00	- STA 101+35	935	
STA 105+35	- STA 141+30	3,595	
STA 145+30	- STA 246+80	10,150	
STA 250+80	- STA 257+30	650	
STA 261+40	- STA 286+20	2,480	
STA 290+20	- STA 299+20	900	
STA 303+20	- STA 351+90	4,870	
STA 355+90	STA 382+40	2,650	
STA 384+40	- STA 385+60	120	
STA 387+60	- STA 401+00	1,340	
STA 444+50	- STA 459+50	1,500	
STA 463+60	- STA 513+10	4,950	
STA 517+10	STA 555+35	3,825	
STA 559+35	- STA 559+85	50	
STA 563+85	- STA 578+80	1,495	
STA 580+80	- STA 583+55	275	
STA 585+55	- STA 604+00	1,845	
TOTAL			46,530

3

GUARDRAIL

STATION - STATION		LOCATION	204.0165 REMOVING GUARDRAIL (LF)	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (SY)	614.2300 MGS GUARDRAIL 3 (LF)	614.2340 MGS GUARDRAIL 3 L (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL EAT (EACH)
USH 8								
STA 148+25	- STA 150+45	C-1966-47	513					
STA 193+20	- STA 195+30	C-1967-47	500					
STA 339+30	- STA 340+65	C-1968-47	313	770	262.5	225		4
STA 606+10	- STA 609+90	JUMP RIVER BRIDGE	474	540	125.0		157.6	4
TOTAL			1,800	1,310	387.5	225	157.6	8

CONCRETE SIDEWALK AND CURB RAMPS

LOCATION		204.0155 REMOVING CONCRETE SIDEWALK (SY)	601.0600 CONCRETE CURB PEDESTRIAN (LF)	602.0415 CONCRETE SIDEWALK 6-INCH (SF)	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW (SF)
USH 8					
USH 8 AND HIGH ST INTERSECTION - NW CORNER		16		210	8
USH 8 AND HIGH ST INTERSECTION - NE CORNER		5		55	8
USH 8 AND CTH I INTERSECTION - SW CORNER				95	8
USH 8 AND CTH I INTERSECTION - SE CORNER		6		60	8
USH 8 AND MAIN ST INTERSECTION - NW CORNER		33	26	425	8
USH 8 AND MAIN ST INTERSECTION - NE CORNER		15	12	160	8
TOTAL					
		75	38	1,005	48

3

REFERENCE MONUMENTS

LOCATION	APPROXIMATE STATION	621.0100	SPV.0060.06
		LANDMARK REFERENCE MONUMENTS (EACH)	REESTABLISH SECTION CORNER MONUMENTS (EACH)
N1/4 Corner, Section 7 T35N, R2W	STA 63+56	4	1
NE Corner, Section 7 T35N, R2W	STA 89+96	4	1
N1/4 Corner, Section 8 T35N, R2W	STA 116+36	4	1
NE Corner, Section 8 T35N, R2W	STA 143+30	4	1
N1/4 Corner, Section 9 T35N, R2W	STA 169+70	4	1
NE Corner, Section 9 T35N, R2W	STA 196+10	4	1
N1/4 Corner, Section 10 T35N, R2W	STA 222+50	4	1
NE Corner, Section 10 T35N, R2W	STA 248+78	4	1
N1/4 Corner, Section 11 T35N, R2W	STA 275+18	4	1
NE Corner, Section 11 T35N, R2W	STA 301+58	4	1
N1/4 Corner, Section 12 T35N, R2W	STA 327+98	4	1
NE Corner, Section 12 T35N, R2W	STA 353+87	4	1
N1/4 Corner, Section 7 T35N, R1W	STA 380+27	4	1
NE Corner, Section 7 T35N, R1W	STA 406+67	4	1
N1/4 Corner, Section 8 T35N, R2W	STA 433+07	4	1
NE Corner, Section 9 T35N, R2W	STA 515+09	4	1
TOTAL		64	16

TEMPORARY WATER DIVERSION

LOCATION	SPV.0060.02	SPV.0060.03	SPV.0060.04
	TEMPORARY WATER DIVERSION B-50-83 (EACH)	TEMPORARY WATER DIVERSION B-50-84 (EACH)	TEMPORARY WATER DIVERSION CULVERTS 50-008-21(A/B) (EACH)
STA 149+00	1		
STA 194+00		1	
STA 488+56			1
TOTAL	1	1	1

3

CULVERT PIPE REINFORCED CONCRETE
APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE
MARKER POSTS CULVERT END FLEXIBLE

** FOR INFORMATION ONLY, JOINT TIES INCIDENTAL
TO CULVERT PIPE

		203.0100	522.0124	522.0130	522.0136	522.0148	522.1024	522.1030	522.1036	522.1048	609.0124	633.5200		
		REMOVING	CLASS III	CLASS III	CLASS III	CLASS III	24-INCH	30-INCH	36-INCH	48-INCH	RELAID	MARKERS		
		SMALL PIPE	24 - INCH	30-INCH	36-INCH	48-INCH	ENDWALL	ENDWALL	ENDWALL	ENDWALL	STORM	CULVERT	**	
		CULVERTS	PIPE	PIPE	PIPE	PIPE	APRON	APRON	APRON	APRON	SEWER	END	NUMBER OF	
STATION	CULVERT NO.	(EACH)	(LF)	(LF)	(LF)	(LF)	(EACH)	(EACH)	(EACH)	(EACH)	24-INCH	(EACH)	JOINT TIES	REMARKS
USH 8														
STA 38+17	50-008-001	1	64				2					2	18	
STA 249+36	50-008-011	1	68				2					2	20	
STA 255+74	50-008-012	1	60				2					2	18	
STA 261+89	50-008-013	1		64				2				2	18	LENGTHEN LT SIDE
STA 273+63	50-008-014	1				58				2		2	18	SHORTEN RT SIDE
STA 288+16	50-008-015										42	2	12	RELAY LAST TWO SECTIONS AND ENDWALL LT AND RT
STA 314+66	50-008-016	1	64				2					2	18	LENGTHEN LT SIDE
STA 445+06	50-008-020	1			70				2			2	20	LENGTHEN LT SIDE
STA 488+56	50-008-021A	1				72				2		2	20	
	50-008-021B	1				72				2		2	20	
STA 561+97	50-008-023	1	86				2					2	20	
CULVERTS NOT TO BE REPLACED												36	SEE LINE DIAGRAM FOR STATIONS	
TOTAL		10	342	64	70	202	10	2	2	6	42	58	202	

3

3

LANDSCAPING/EROSION CONTROL

<u>LANDSCAPING / EROSION CONTROL</u>				625.0100	628.1504	628.1520	628.1905	628.1910	628.2006	628.7015
				TOPSOIL	SILT FENCE	SILT FENCE	MOBILIZATIONS	MOBILIZATIONS	EMAT URBAN	INLET
				(SY)	(LF)	MAINTENANCE	EROSION	EMERGENCY	CLASS 1	PROTECTION
						(LF)	CONTROL	EROSION	TYPE A	TYPE C
							(EACH)	CONTROL	(SY)	(EACH)
								(EACH)		
STATION	-	STATION	LOCATION							
USH 8										
STA 146+00	-	STA 151+20	B-50-83	3,222	1,457	1,457			3,402	
STA 192+00	-	STA 196+50	B-50-84	3,889	1,099	1,099			2,740	
STA 336+25	-	STA 342+75	C-1968-47 SIDESLOPES	2,978	1,268	1,268			2,379	
STA 511+50	-	STA 519+00	STH 111 / MOONSHINE	2,825	833	833			2,825	
STA 602+75	-	STA 611+25	JUMP RIVER BRIDGE SIDE SLOPES	4,653	1,813	1,813			3,936	
VARIOUS		BEHIND CURB AND GUTTER		822					822	
VARIOUS		CULVERT REPLACEMENTS		4,556	1,830	1,830			4,556	
UNDISTRIBUTED				1,500	750	750	3	2	1,000	21
TOTAL				24,445	9,050	9,050	3	2	21,660	21

			628.7555	628.7570	629.0210	630.0140	630.0200	SPV.0120.01	
			CULVERT	ROCK	FERTILIZER	SEEDING	SEEDING	WATER	
			PIPE	BAGS	TYPE B	MIXTURE	TEMPORARY	FOR SEEDED	
			CHECKS	(EACH)	(CWT)	No. 40	(LB)	AREAS	
STATION	-	STATION	LOCATION	(EACH)		(LB)		(MGAL)	
USH 8									
STA 146+00	-	STA 151+20	B-50-83	17	96	2.030	87	26	
STA 192+00	-	STA 196+50	B-50-84	13	80	2.450	105	32	
STA 336+25	-	STA 342+75	C-1968-47 SIDESLOPES		96	1.876	80		
STA 511+50	-	STA 519+00	STH 111 / MOONSHINE		48	1.780	76		
STA 602+76	-	STA 611+26	JUMP RIVER BRIDGE SIDE SLOPES		112	2.931	126		
VARIOUS		BEHIND CURB AND GUTTER				0.518	22		
VARIOUS		CULVERT REPLACEMENTS		110		2.870	124		
UNDISTRIBUTED					43	1	25	7	350
TOTAL				140	475	16	645	65	350

NOTE: ROCK BAGS TO BE USED PRIMARILY FOR SILT FENCE RELIEFS

TRAFFIC CONTROL

	603.8000	603.8125	643.0100	643.0300	643.0420	643.0705	643.0900	661.0100.01	661.0100.02	SPV.0060.01	
	CONCRETE	CONCRETE	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TEMPORARY	TEMPORARY	LANE	
	BARRIER	BARRIER	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	TRAFFIC	TRAFFIC	SHIFT	
	TEMPORARY	TEMPORARY	(PROJECT)	DRUMS	BARRICADES	WARNING	SIGNS	SIGNALS	SIGNALS	(EACH)	
	PRECAST	PRECAST		(DAYS)	TYPE III	LIGHTS	(DAYS)	FOR BRIDGES	FOR BRIDGES		
	DELIVERED	INSTALLED			(DAYS)	TYPE A		(STRUCTURE)	(STRUCTURE)		
LOCATION	(LF)	(LF)				(DAYS)		(EACH)	(EACH)		NOTES
USH 8											
UNDISTRIBUTED			1	550			2,400				
B-50-83	550	1100		1700	30	450	300	1		1	LANE SHIFT 1 EACH QUANTITY IS COMPENSATION FOR ALL NECESSARY TEMPORARY ROADS CONSTRUCTED AT EACH STRUCTURE LOCATION
B-50-84	450	900		1750	30	450	300		1	1	
TOTAL	1,000	2,000		4,000	60	900	3,000	1	1	2	

PAVEMENT MARKING

PAVEMENT MARKING				646.0106	646.0126	646.0406	646.0600	647.0566	647.0656	648.0100	649.0200	649.1300
				PVEMENT MARKING EPOXY 4-INCH (LF)	PVEMENT MARKING EPOXY 8-INCH (LF)	PAVEMENT MARKING SAME-DAY EPOXY 4-INCH (LF)	REMOVING PAVEMENT MARKINGS (LF)	STOP LINE EPOXY 18-INCH (LF)	PAVEMENT MARKING PARKING STALL EPOXY (LF)	LOCATING NO PASSING ZONES (MI)	TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (LF)	TEMPORARY PAVEMENT MARKING STOP LINE 24-INCH (LF)
STATION	-	STATION	LOCATION									
USH 8												
STA 32+47	-	STA 606+30	CENTERLINE	58,570		58,570				10.84	50,420	
STA 32+47	-	STA 606+30	EDGE LINE RT	56,075								
STA 32+47	-	STA 606+30	EDGE LINE LT	56,075								
STA 287+85	-	STA 288+48	CTH N WB BYPASS LANE	70								
STA 514+78	-	STA 515+41	STH 111 EB BYPASS LANE	70								
STA 515+09	-	STA 516+84	STH 111 WB RT TURN LANE		175							
			B-50-83				1,400				3,520	24
			B-50-84				1,330				3,015	24
			CATAWBA						83			
			STH 111					15				
TOTAL				170,860	175	58,570	2,730	15	83	10.84	56,955	48

3

3

PERMANENT SIGNING

USH 8 EAST BOUND

USH 8 EAST BOUND					638.2602 REMOVING SIGNS	638.3000 REMOVING SMALL SIGN SUPPORTS	637.2210 REFLECTIVE TYPE II H	637.2230 REFLECTIVE TYPE II F	634.0616 POSTS WOOD 4X6-INCH	634.0618 POSTS WOOD 4X6-INCH	MOUNT ON SAME POST AS SIGN		MESSAGE LINE 1	MESSAGE LINE 2	MESSAGE LINE 3	COMMENTS
STATION	ROAD	NO.	SIGN CODE	SIZE	(EACH)	(EACH)	(SF)	(SF)	(EACH)	(EACH)	NO.	DESCRIPTION				
31+94	RT	2	I2-2	48x15	1	1	5.000		1			(Name) County	Price Co			
33+94	RT	5	J4-1	24x36			6.000		1			Reassurance Assembly (1Headed Route Panel)				
			M3-2	24x12								Cardinal Direction Marker for J Assembly	EAST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
31+94	RT	4A	M3-4	24x12	1							Cardinal Direction Marker for J Assembly	EAST			Move / Replace with
31+94	RT	4B	M1-4	24x24	1							USH Route Marker for Assemblies	8			J Assembly
38+00	RT	6	R2-1	24x30			5.000		1			Speed Limit _____	55			
45+14	RT	7	D1-1	66x15	1	2	6.875		2			One Destination (Arrow)	← Price Rd			
49+36	RT	8	S3-1	36x36			9.000		1			School Bus Stop Ahead (Symbol)				
49+36	RT	8A	S3-1	36x36	1	1						School Bus Stop Ahead (Words)				Replace with Symbol
73+65	LT	13	W14-3	48x36	1	1		6.000	1			No Passing Zone				
82+89	RT	15	D1-1	66x15	1	2	6.875		2			One Destination (Arrow)	Spur Rd →			
89+96	RT	16	R1-1	30x30	1	1	5.180		1			Stop				From Spur Rd
95+77	RT	17	D1-1	84x15	1	2						One Destination (Arrow)	← Whitetail Rd			Not To Be Replaced
102+10	LT	19	W14-3	48x36	1	1		6.000	1			No Passing Zone				
136+08	RT	23	D1-61	66x24	1	2	11.000		2			Advanced Crossroad Name with Arrows (No Cardinals)	Fairview Rd	← →		
138+19	RT	24	I55-56	30x36	1	1	7.500		1			Adopt-A-Highway Sponsor (Name)	Catawba	Kennan	Lions Club	
142+42	RT	25	W5-2	36X36	1							Narrow Bridge Message				No To Be Replaced
143+30	RT	28	R1-1	30x30	1	1	5.180		1			Stop				From Fairview Rd
148+85	RT	30A	W5-52R	12x36	1	1						Bridge Hash Marks				Not To Be Replaced
148+85	LT	30B	W5-52L	12x36	1	1						Bridge Hash Marks				Not To Be Replaced
150+70	LT	31	W14-3	48x36	1	1		6.000	1			No Passing Zone				
171+29	LT	34	W14-3	48x36	1	1		6.000	1			No Passing Zone				
186+87	RT	36	W5-2	30x30	1	1						Narrow Bridge Message				Not To Be Replaced
194+52	RT	37A	W5-52R	12x36	1	1						Bridge Hash Marks				Not To Be Replaced
194+52	LT	37B	W5-52L	12x36	1	1						Bridge Hash Marks				Not To Be Replaced
205+08	LT	39	W14-3	48x36	1	1		6.000	1			No Passing Zone				
235+50	RT	42	D7-68	60x42			17.500			2		Road To [Name] County Park 1 Mile	Big Falls			
235+50	RT	42A	D7-68	N/A	1	1						Road To Co Park 1 Mile				Replace with Big Falls
238+61	RT	43	J1-1	24x39	1	1	6.500		1			Junction Or End Assembly				
			M2-1	21x15								JCT				
			M1-5A	24x24								CTH Route Marker	J			
240+99	LT	44	W14-3	48x36	1	1		6.000	1			No Passing Zone				
244+68	RT	45	D1-1	72x15	1	1	7.500		2			One Destination (Arrow)	Kennan →			
248+79	RT	48	J13-1	24x45	2	1	7.500			1		Directional without Cardinal (1 Headed Route Panel)				
			M1-5A	24x24								CTH Route Marker	J			
			M6-4	21x21								Double Directional Arrows for J Assemblies	↔			
PAGE SUBTOTAL					28	28	106.610	36.000	22	3						

CONTINUED ON NEXT PAGE

3

3

PROJECT NO: 1581-13-70	HWY: USH 8	COUNTY: PRICE	MISCELLANEOUS QUANTITIES	SHEET: 68
------------------------	------------	---------------	--------------------------	-----------

FILE NAME : N:¥PDS¥...¥030200_mq.pptx

PLOT DATE : Wednesday, November 05, 2014

PLOT BY: dotm9l

PLOT NAME :

PLOT SCALE : 1:1

3

3

PERMANENT SIGNING

USH 8 EAST BOUND

USH 8 EAST BOUND					638.2602	638.3000	637.2210	637.2230	634.0616	634.0618						
					REMOVING	REMOVING	SIGNS	SIGNS	POSTS	POSTS	MOUNT					
					SIGNS	SMALL SIGN	REFLECTIVE	REFLECTIVE	4X6-INCH	4X6-INCH	POST					
					TYPE II	SUPPORTS	TYPE II H	TYPE II F	X 16-FT	X 18-FT	AS SIGN					
STATION	ROAD	NO.	SIGN CODE	SIZE	(EACH)	(EACH)	(SF)	(SF)	(EACH)	(EACH)	NO.	DESCRIPTION	MESSAGE LINE 1	MESSAGE LINE 2	MESSAGE LINE 3	COMMENTS
408+46	RT	97	R1-1	30x30	1	1	5.180		1			Stop				From Side Rd
409+25	RT	97P	R7-1L	18x24			3.000		1			No Parking Any Time	←			
410+05	RT	98	W11-8	30x30	1	1		6.250	1			Fire Truck Crossing				
411+50	RT	98P	R7-1D	18x24			3.000		1			No Parking Any Time	↔			
416+12	RT	102	R2-1	24x30	1	1	5.000		1			Speed Limit _____	40			
414+25	RT	100P	R7-1D	18x24			3.000		1			No Parking Any Time	↔			
416+50	RT	102P	R7-1R	18x24			3.000		1			No Parking Any Time	→			
417+75	RT	103P	R7-1L	18x24			3.000		1			No Parking Any Time	←			
402+45	RT	105A	R2-1	24x30			5.000		1		104	Speed Limit _____	40			
419+02	RT	106	J1-1	24x39	1	1	6.500		1			Junction or End Assembly				
			M2-1	21x15								JCT				
			M1-5A	24x24								CTH Route Marker	I			
420+50	RT	106P	R7-1D	18x24			3.000		1			No Parking Any Time	↔			
421+14	RT	107	J13-1	24x45	1	1	7.500			1	108	Directional without Cardinal (1 Headed Route Panel)				
			M1-5A	24x24								CTH Route Marker	I			
			M6-1	21x21								Directional Arrows for J Assemblies	→			
421+95	RT	110	R1-1	30x30	1	1	5.180		1			Stop				From CTH I
421+98	RT	111	J13-1	24x45	2	1	7.500			1		Directional without Cardinal (1 Headed Route Panel)				From CTH I
			M1-4	24x24								USH Route Marker for Assemblies	8			
			M6-4	21x21								Double Directional Arrows for J Assemblies	↔			
422+48	RT	112	R2-1	24x30	1	1	5.000		1			Speed Limit _____	40			
424+00	RT	112P	R7-1D	18x24			3.000		1			No Parking Any Time	↔			
425+52	RT	113	R1-1	30x30	1	1	5.180		1			Stop				From South Ave
426+10	RT	113P	R7-1D	18x24			3.000		1			No Parking Any Time	↔			
427+64	RT	114	R2-1	24x30	1	1	5.000		1			Speed Limit _____	40			
428+15	RT	115P	R7-1R	18x24			3.000		1			No Parking Any Time	→			
431+33	RT	118	D2-1	66x15	1	2	6.875		2			Destination/Distance (One) with Die Cut Letters	Prentice 11			
433+33	RT	120	J4-1	24x36			6.000		1			Reassurance Assembly (1Headed Route Panel)				
			M3-2	24x12								Cardinal Direction Marker for J Assembly	EAST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
431+33	RT	120A	M3-2	24x12	1							Cardinal Direction Marker for J Assembly	EAST			Move / Replace with
431+33	RT	120B	M1-4	24x24	1							USH Route Marker for Assemblies	8			J Assembly
442+42	RT	123	R2-1	24x30	1	1	5.000		1			Speed Limit_____	55			
451+40	RT	124	D1-2	72x30	1	2	15.000			2		Two Destinations (Arrows)	← Pass Rd	Oxbow Rd →		
452+98	LT	125	W14-3	48x36	1	1		6.000	1		126	No Passing Zone				
461+48	RT	129	R1-1	30x30	1	1	5.180		1			Stop				From Oxbow Rd
500+13	LT	133	W14-3	48x36	1	1		6.000	1			No Passing Zone				
500+65	RT	134	J1-1	24x39	1	1	6.500		1			Junction or End Assembly				
			M2-1	21x15								JCT				
			M1-6	24x24								STH Route Marker	111			
PAGE SUBTOTAL					20	19	128.595	18.25	26	4						

CONTINUED ON NEXT PAGE

3

3

PROJECT NO: 1581-13-70	HWY: USH 8	COUNTY: PRICE	MISCELLANEOUS QUANTITIES	SHEET: 71
------------------------	------------	---------------	--------------------------	-----------

FILE NAME : N:¥PDS¥...¥030200_mq.pptx

PLOT DATE : Wednesday, November 05, 2014

PLOT BY: dotm9l

PLOT NAME :

PLOT SCALE : 1:1

3

3

PROJECT NO: 1581-13-70	HWY: USH 8	COUNTY: PRICE	MISCELLANEOUS QUANTITIES	SHEET: 72
------------------------	------------	---------------	--------------------------	-----------

FILE NAME : N:¥PDS¥...¥030200_mq.pptx

PLOT DATE : Wednesday, November 05, 2014

PLOT BY: dotm9l

PLOT NAME :

PLOT SCALE : 1:1

3

3

PROJECT NO: 1581-13-70	HWY: USH 8	COUNTY: PRICE	MISCELLANEOUS QUANTITIES	SHEET: 73
------------------------	------------	---------------	--------------------------	-----------

FILE NAME : N:¥PDS¥...¥030200_mq.pptx

PLOT DATE : Wednesday, November 05, 2014

PLOT BY: dotm9l

PLOT NAME :

PLOT SCALE : 1:1

3

3

PERMANENT SIGNING

USH 8 WEST BOUND

															634.0616	634.0618
				638.2602	638.3000	637.2210	637.2230	POSTS	POSTS	MOUNT						
				REMOVING	REMOVING	SIGNS	SIGNS	WOOD	WOOD	ON SAME						
				SIGNS	SMALL SIGN	REFLECTIVE	REFLECTIVE	4X6-INCH	4X6-INCH	POST						
SIDE OF SIGN	SIGN			TYPE II	SUPPORTS	TYPE II H	TYPE II F	X 16-FT	X 18-FT	AS SIGN					MESSAGE	MESSAGE
STATION	ROAD	NO.	CODE	SIZE	(EACH)	(EACH)	(SF)	(SF)	(EACH)	(EACH)	NO.	DESCRIPTION	LINE 1	LINE 2	LINE 3	COMMENTS
514+00	RT	140	J4-1	24x36			6.000		1			Reassurance Assembly (1Headed Route Panel)				
			M3-4	24x12								Cardinal Direction Marker for J Assembly	WEST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
512+80	RT	140A	M3-4	24x12	1							Cardinal Direction Marker for J Assembly	WEST			Move / Replace with
512+80	RT	140B	M1-4	24x24	1	1						USH Route Marker for Assemblies	8			J Assembly
515+05	RT	142	J2-2	48x57	1	1	19.000		1			Route Turn Assembly (2 Headed Route Panel)				From STH 111
			M3-2	24x12								Cardinal Direction Marker for J Assembly	EAST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
			M6-1	21x21								Directional Arrows for J Assemblies	←			
			M3-4	24x12								Cardinal Direction Marker for J Assembly	WEST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
			M6-1	21x21								Directional Arrows for J Assemblies	→			
515+00	RT	143A	R1-1	36x36	1	1	7.460		1			Stop				From STH 111
515+20	RT	143B	R1-1	36x36			7.460		1			Stop				From STH 111
515+62	RT	145	J2-2	48x57	1	1	19.000		1			Route Turn Assembly (2 Headed Route Panel)				
			M3-4	24x12								Cardinal Direction Marker for J Assembly	WEST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
			M6-1	21x21								Directional Arrows for J Assemblies	↑			
			M3-1	24x12								Cardinal Route Marker	NORTH			
			M1-6	30x30								State Route Marker	111			
			M6-1	21x21								Directional Arrows for J Assemblies	→			
519+32	RT	148	D1-2	72X30	1	2	15.000		2			Two Destinations (Arrows)	↑ Ladysmith	Phillips →		
521+50	RT	150	D1-1	102x15			10.625		2			One Destination (Arrow)	← Moonshine Alley			
525+12	RT	151	J2-2	48x57	1	1	19.000		1			Route Turn Assembly (2 Headed route Panel)				
			M3-4	24x12								Cardinal Direction Marker for J Assembly	WEST			
			M1-4	24x24								USH Route Marker for Assemblies	8			
			M6-1	21x21								Directional Arrows for J Assemblies	↑			
			M3-1	24x12								Cardinal Direction Marker for J Assembly	NORTH			
			M1-6	24x24								State Route Marker	111			
			M5-1R	21x21								Advanced Crossroad Name with Arrows (No Cardinals)	→			
529+88	RT	152	J1-1	24x39	1	1	6.500		1			Junction or End Assembly				
			M2-1	21x15								JCT				
			M1-6	24x24								State Route Marker	111			
PAGE SUBTOTAL					8	8	110.045	0.000	6	5						

CONTINUED ON NEXT PAGE

PERMANENT SIGNING

USH 8 WEST BOUND

USH 8 WEST BOUND					638.2602		638.3000		637.2210		637.2230		634.0616		634.0618					
					REMOVING	REMOVING	SIGNS		SIGNS		WOOD	WOOD	MOUNT							
					SIGNS	SMALL SIGN	REFLECTIVE		REFLECTIVE		4X6-INCH	4X6-INCH	POST							
SIDE OF SIGN					TYPE II	SUPPORTS	TYPE II H		TYPE II F		X 16-FT	X 18-FT	AS SIGN				MESSAGE	MESSAGE	MESSAGE	
STATION	ROAD	NO.	CODE	SIZE	(EACH)	(EACH)	(SF)	(SF)	(SF)	(SF)	(EACH)	(EACH)	NO.	DESCRIPTION	LINE 1	LINE 2	LINE 3	COMMENTS		
537+27	LT	153	W14-3	48x36	1	1			6.000		1			No Passing Zone						
557+35	RT	157	R1-1	30x30	1	1	5.180				1			Stop					From Short Cut Rd	
563+56	RT	159	D1-1	84x15			8.750				2			One Destination (Arrow)	Short Cut Rd →					
580+85	RT	164	S3-1	36X36			9.000				1			School Bus Stop (Symbol)						
580+85	RT	164A	S3-1	36X36	1	1								School Bus Stop (Words)					Replace with Symbol	
585+08	RT	165	D5-62L	48x24	1	1	8.000				1			Wayside w/ Arrow	WAYSIDE	←-				
594+58	LT	166	W14-3	48x36	1	1			6.000		1			No Passing Zone						
608+00	RT	169	I3-1	66x15			6.875				2			Lake/River (name)	Jump River					
609+00	RT	170	D5-61	48x24	1	1	8.000				1			Wayside 1/2 Mile						
PAGE SUBTOTAL					6	6	45.805	12.000			10	0								
WEST BOUND SUBTOTAL					94	88	538.040	119.750			88	19								
TOTAL					191	174	1039.9	219.5			175	35								

TRANSPORTATION PROJECT PLAT NO: 1581-13-20-4.01

PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 4,
AND THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 9,
TOWNSHIP 35 NORTH, RANGE 2 WEST, TOWN OF KENNAN, PRICE COUNTY, WISCONSIN

TOWN OF KENNAN
SW-SW, SECTION 4, T35N, R2W

RELOCATION ORDER USH 8 PRICE COUNTY

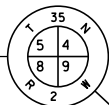
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION
HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS Laid OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

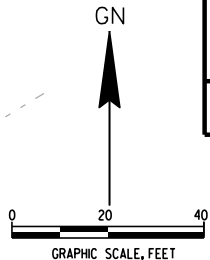
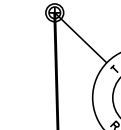
R/W STATION OFFSET & COORDINATE TABLE			
	POINT	STATION	COORDINATES
D2	240+59.97	50.00' L	Y 358123.60 X 710102.32
D1	240+59.99	.29' R	Y 358073.31 X 710102.52
PRW5	240+60.00	50.00' R	Y 358023.60 X 710102.71
PRW1	241+10.00	50.00' L	Y 358123.78 X 710152.35
PRW6	241+35.00	65.00' R	Y 358008.87 X 710177.76
PRW7	241+90.00	65.00' R	Y 358009.06 X 710232.76
PRW2	241+95.00	65.00' L	Y 358139.08 X 710237.30
PRW3	242+60.00	65.00' L	Y 358139.31 X 710302.30
PRW8	242+70.00	50.00' R	Y 358024.35 X 710312.71
PRW4	243+35.00	50.00' L	Y 358124.58 X 710377.35
D3	243+35.02	.21' R	Y 358074.37 X 710377.55
D4	243+35.03	50.00' R	Y 358024.58 X 710377.74

TLE COORDINATE TABLE			
	POINT	COORDINATES	
TLE3	Y 358159.37	X 710317.22	
TLE4	Y 358131.95	X 710339.82	
TLE5	Y 358013.78	X 710152.75	
TLE8	Y 358019.26	X 710286.06	
TLE6	Y 357988.79	X 710157.84	
TLE7	Y 357989.14	X 710252.83	
TLE1	Y 358130.10	X 710187.46	
TLE2	Y 358159.03	X 710223.22	

PK NAIL
FOUND
SW COR.
Y=358071.640
X=709669.380
STA. 262+26.85
0.40' RT



SEC1003
1" REBAR
1/4" COR.
Y=360720.476
X=709597.487



RESERVE FOR REGISTER OF DEEDS
PROJECT NUMBER 1581-13-20-4.01
AMENDMENT NUMBER:

RESERVE FOR CLAUSES AND NOTE INFORMATION

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE
REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE
APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE
LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH
THE COUNTY SURVEY DEPARTMENT.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, PRICE COUNTY, NAD83 (1990) IN US SURVEY FEET.
VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES
MAY BE USED AS GROUND DISTANCES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC
RECORD AND/OR EXISTING OCCUPANCIAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING
PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECTS:
R/W PROJECT NO. F021-2127

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING
THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS
REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON
ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF
THE SOIL. ALL TLES ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS
INSTRUMENT IS GIVEN.

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER
OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

FEE SIMPLE TO ALL THOSE EXISTING LANDS OF THE GRANTOR CURRENTLY USED FOR HIGHWAY PURPOSES, DESIGNATED AS
EXISTING RIGHT OF WAY, WHETHER ACQUIRED BY SEPARATE CONVEYANCE OR OTHERWISE, BOUND BY THE TRAVERSE OF THE
COURSE TABLE OF NEW RIGHT OF WAY AS SHOWN ON THE SAID TRANSPORTATION PROJECT PLAT.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095,
WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

PRINTED NAME	SIGNATURE	DATE
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION		
PRINTED NAME	SIGNATURE	DATE

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER	SC
ACCESS RIGHTS	AR	(MATERIAL AS NOTED)	
ACRES	AC	SET R/W MONUMENT #/CAP	
CHORD BEARING	CH BRG	(3/4" REBAR)	
CHORD DISTANCE	CH DTS		
DEED	D	SET P.K., NAIL	
DOCUMENT	DOC	PROPOSED R/W	
EAST BOUND	EB	BOUNDARY POINT	
GAS VALVE	GV		
INLET	IL		
LENGTH OF CURVE	L		
MANHOLE	MH	EXISTING R/W	
MONUMENT	MON	SECTION LINE	
NORTH BOUND	NB	QUARTER LINE	
PAGE	PG	SIXTEENTH LINE	
PERMANENT	PERM	PROPOSED OR NEW R/W LINE	
PERMANENT LIMITED EASEMENT	P.L.E.	PROPOSED EASEMENT LINE	
PRIVATE DRIVEWAY	PD		
PROPERTY LINE	PL		
RADIUS	R	PARCEL NUMBER	00
REFERENCE LINE	REF		
REMAINING	REM		
RIGHT OF WAY	R/W		
SECTION LINE	SEC		
FOUND IRON PIPE	IP		
STATION	STA		
TEMPORARY LIMITED EASEMENT	T.L.E.		
TIE POINT	DB1		
VOLUME	VOL		
ADJOINING LANDS			
WITH SAME OWNER			
PARALLEL TO LINE			

FEE ACQUISITION

VARIOUS MATCHING

LIMITED EASEMENT
(Temporary or Permanent)

COMPENSABLE		NON-COMPENSABLE	
POWER POLE	■	TELEPHONE POLE	■
TELEPHONE POLE	■	STON	■
TELEPHONE PEDESTAL	■		■
FIBER OPTIC LINE	—		—
TELEPHONE LINE	—		—
BURIED GAS LINE	—		—
SANITARY SEWER LINE	—		—
BURIED WATER LINE	—		—
BURIED ELECTRIC LINE	—		—
OVERHEAD ELECTRIC LINE	—		—

REFERENCE LINE
240+00 Y 358073.38 X 710042.53
400.00' N 89°47'40" E
244+00 Y 358074.82 X 710442.53

SCHEDULE OF LANDS & INTERESTS REQUIRED

SEE ALSO PLAT	OWNER NUMBER	OWNER	INTEREST REQUIRED	FEE R/W REQUIRED			T.L.E. SO.FT.	P.L.E. SO.FT.
				FEE SO.FT.	EXISTING SO.FT.	TOTAL SO.FT.		
	1	ROBERT A. KIRMSE	FEE & TLE	4162	27501	31663	5014	-

TRANSPORTATION PROJECT PLAT NO: 1581-13-20-4.02

PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 4,
AND THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 9,
TOWNSHIP 35 NORTH, RANGE 2 WEST, TOWN OF KENNAN, PRICE COUNTY, WISCONSIN

TOWN OF KENNAN
SE-SE, SECTION 4, T35N, R2W

RELOCATION ORDER USH 8 PRICE COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION
HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS Laid OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN
THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

R/W STATION OFFSET & COORDINATE TABLE					
POINT	STATION	OFFSET	COORDINATES		
PRW13	285+90.00	50.00' R	Y 358031.06	X 714632.12	
D5	285+90.00	57' L	Y 358081.63	X 714632.49	
D6	285+90.00	50.00' L	Y 358131.06	X 714632.85	
PRW9	286+10.00	50.00' L	Y 358130.91	X 714652.85	
PRW14	286+65.00	65.00' R	Y 358015.51	X 714707.00	
PRW10	286+70.00	65.00' L	Y 358145.47	X 714712.96	
PRW15	287+10.00	65.00' R	Y 358015.18	X 714752.00	
PRW11	287+20.00	65.00' L	Y 358145.10	X 714762.96	
PRW16	287+77.00	50.00' R	Y 358029.68	X 714819.11	
D8	287+90.00	50.00' R	Y 358029.59	X 714832.11	
D7	287+90.00	2.02' L	Y 358081.61	X 714832.49	
PRW12	287+90.00	50.00' L	Y 358129.59	X 714832.85	

POINT	COORDINATES	
TLE9	Y 358160.58	X 714698.07
TLE12	Y 357995.55	X 714701.86
TLE13	Y 357995.11	X 714761.85
TLE10	Y 358159.99	X 714778.07
TLE11	Y 358024.85	X 714796.74
TLE14	Y 358136.83	X 714800.23

REFERENCE LINE
285+50 Y 358081.36 X 714592.49
300.00' S 89°34'38" E
288+50 Y 358079.14 X 714892.48

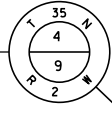
UTILITY RIGHTS TABLE

UTILITY		PARCEL
101	V. 271, P. 311	2

UTILITY INTERESTS REQUIRED

OWNER NUMBER	OWNER	INTEREST REQUIRED
101	CENTURYLINK	RELEASE OF RIGHTS

SEC8074
PK NAIL
S 1/4 COR.
Y=358081.837
X=712315.573
STA. 262+73.06
0.30' LT



RESERVE FOR CLAUSES AND NOTE INFORMATION

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE
REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.

AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE
APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE
LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH
THE COUNTY SURVEY DEPARTMENT.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, PRICE COUNTY, NAD83 (1999) IN US SURVEY FEET.
VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES
MAY BE USED AS GROUND DISTANCES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC
RECORD AND/OR EXISTING OCCUPANCY LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING
PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECTS:
R/W PROJECT NO. F021-2127

RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING
THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS
REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON
ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF
THE SOIL. ALL TLEs ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS
INSTRUMENT IS GIVEN.

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER
OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.

FEE SIMPLE TO ALL THOSE EXISTING LANDS OF THE GRANTOR CURRENTLY USED FOR HIGHWAY PURPOSES, DESIGNATED AS
EXISTING RIGHT OF WAY, WHETHER ACQUIRED BY SEPARATE CONVEYANCE OR OTHERWISE, BOUND BY THE TRAVERSE OF THE
COURSE TABLE OF NEW RIGHT OF WAY AS SHOWN ON THE SAID TRANSPORTATION PROJECT PLAT.

I HEREBY CERTIFY THAT THIS PLAT MEETS ALL REQUIREMENTS OF SECTION 84.095,
WISCONSIN STATUTES. THIS PLAT WAS PREPARED BY OR UNDER THE DIRECTION OF

PRINTED NAME	SIGNATURE	DATE
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION		
PRINTED NAME	SIGNATURE	DATE

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER	SC
ACCESS RIGHTS	AR	(MATERIAL AS NOTED)	
ACRES	AC	SET R/W MONUMENT W/CAP	SM
CHORD BEARING	CH BNG	(3/4" REBAR)	
CHORD DISTANCE	CH DTS		
DEED	D	SET P.K. NAIL	PN
DOCUMENT	DOC	PROPOSED R/W	PRW
EAST BOUND	EB	BOUNDARY POINT	BP
GAS VALVE	GV		
INLET	IL		
LENGTH OF CURVE	L		
MAN-HOLE	MH	EXISTING R/W	ERW
MONUMENT	MON	SECTION LINE	SL
NORTH BOUND	NB	QUARTER LINE	QL
PAGE	PG	SIXTEENTH LINE	SLN
PERMANENT	PERM	PROPOSED OR NEW R/W LINE	PRW
PERMANENT LIMITED EASEMENT	PFL	PROPOSED EASEMENT LINE	PEL
PRIVATE DRIVEWAY	PD		
PROPERTY LINE	PL		
RADIUS	RD	PARCEL NUMBER	00
REFERENCE LINE	RL		
REMAINING	RM		
RIGHT OF WAY	R/W		
SECTION LINE	SL		
FOUND IRON PIPE	IP		
STATION	STA		
TEMPORARY LIMITED EASEMENT	TLE		
TIE POINT	TP		
VOLUME	VOL		
ADJOINING LANDS	AL		
WITH SAME OWNER	WO		
PARALLEL TO LINE	PL		

FEE ACQUISITION

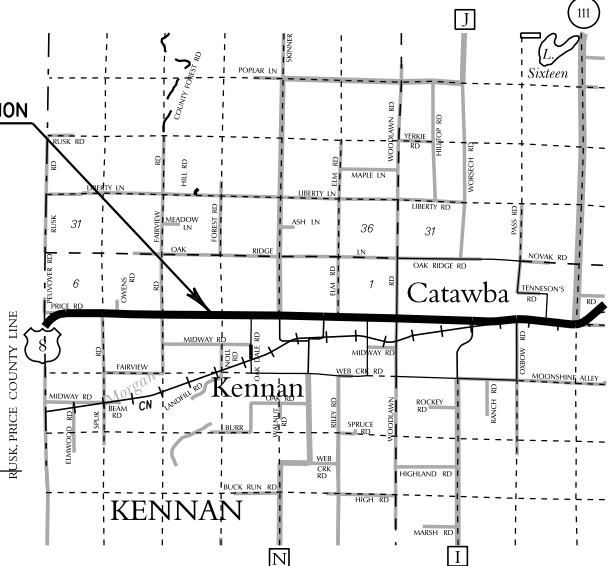
VARIOUS MATCHING

LIMITED EASEMENT
(Temporary or Permanent)

TOWN OF KENNAN
NE-NE, SECTION 9, T35N, R2W

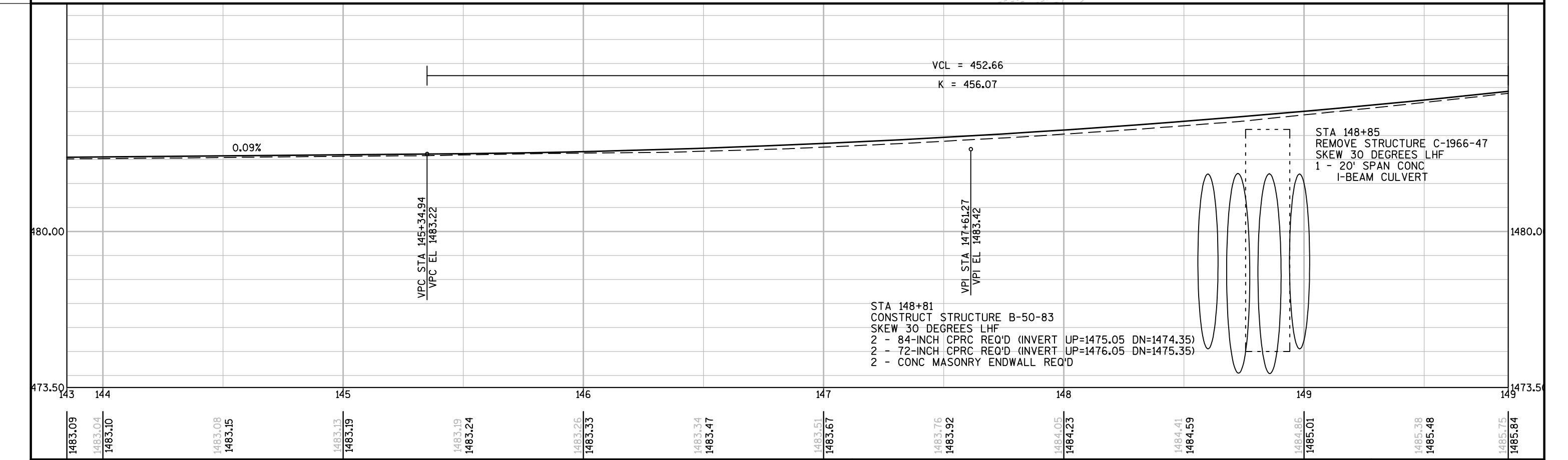
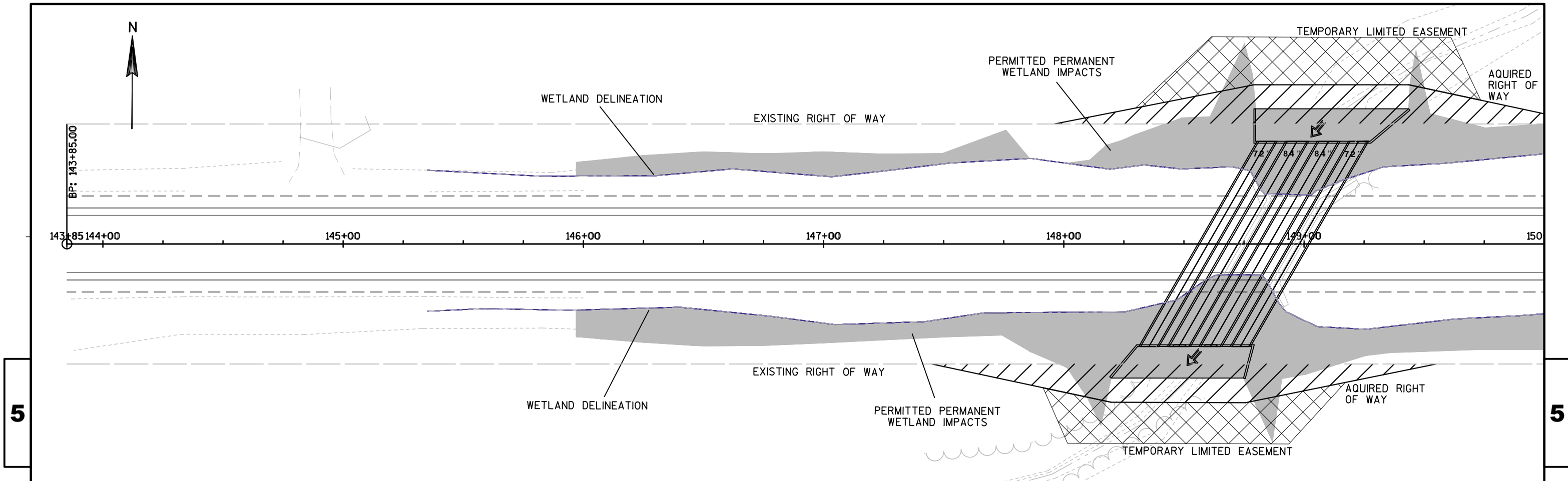
	COMPENSABLE	NON-COMPENSABLE
POWER POLE		
TELEPHONE POLE		
STON		
TELEPHONE PEDESTAL		
FIBER OPTIC LINE		
TELEPHONE LINE		
BURIED GAS LINE		
SANITARY SEWER LINE		
BURIED WATER LINE		
BURIED ELECTRIC LINE		
OVERHEAD ELECTRIC LINE		

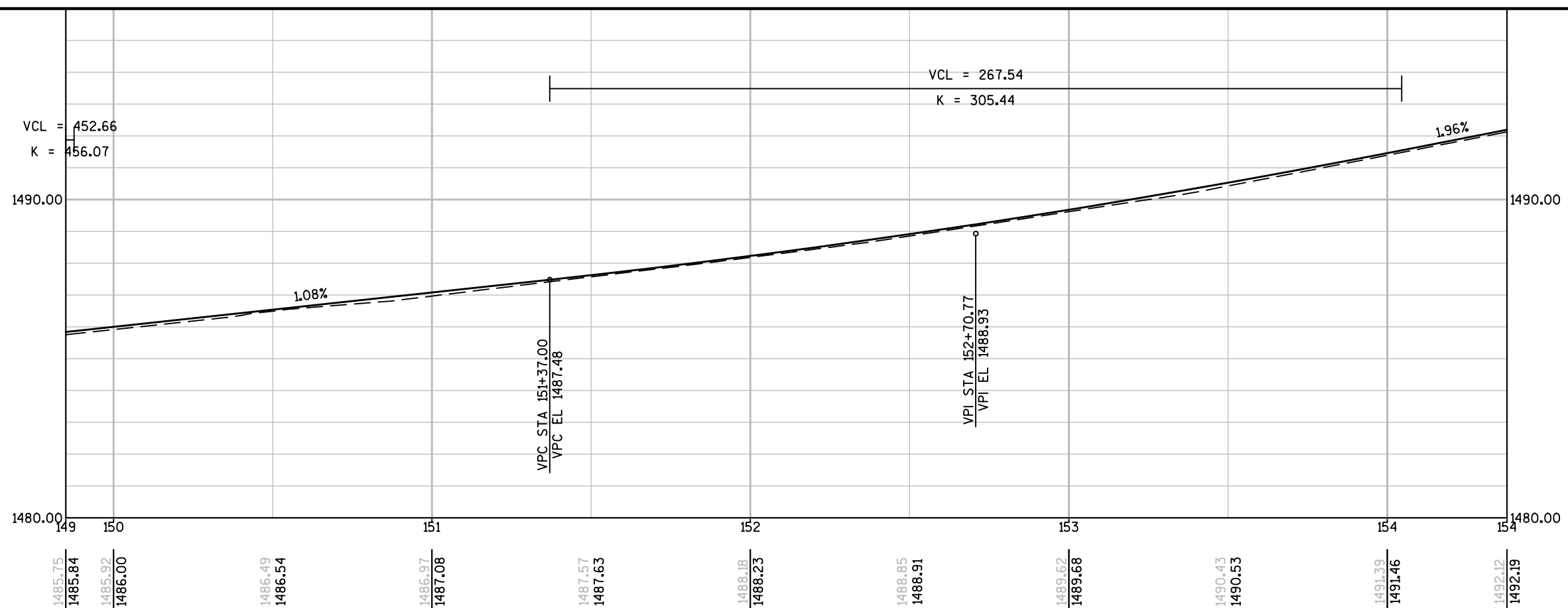
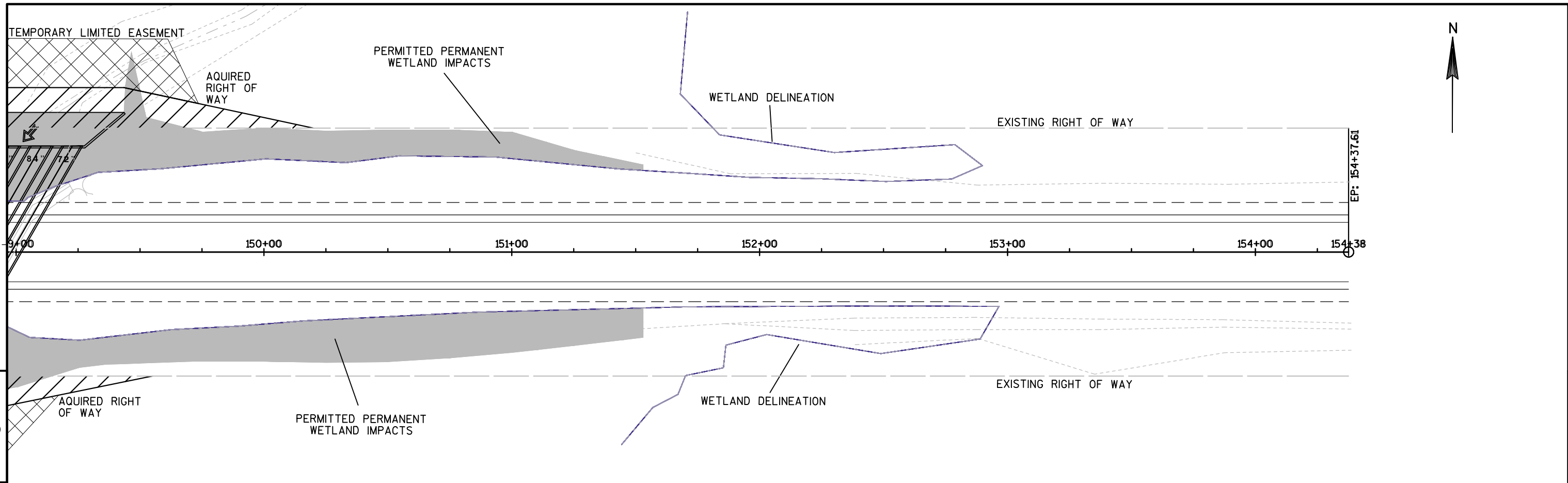
PLAT LOCATION



SCHEDULE OF LANDS & INTERESTS REQUIRED

SEE ALSO PLAT	OWNER NUMBER	OWNER	INTEREST REQUIRED	FEE R/W REQUIRED			T.L.E. SO.FT.	P.L.E. SO.FT.
				FEE SO.FT.	EXISTING SO.FT.	TOTAL SO.FT.		
	2	JODY J. LEBAL & DEBRA L. LEBAL	FEE & TLE	1725	9741	11466	1878	-
	3	JULIE A. SIDENBENDER & DONALD L. SIDENBENDER	FEE & TLE	1740	10259	11999	2334	-





PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

PLAN AND PROFILE: B-50-83

SHEET

79

E

FILE NAME : N:\PDS\C3D\15811330\SHEETS\PLAN\050101_PP.DWG

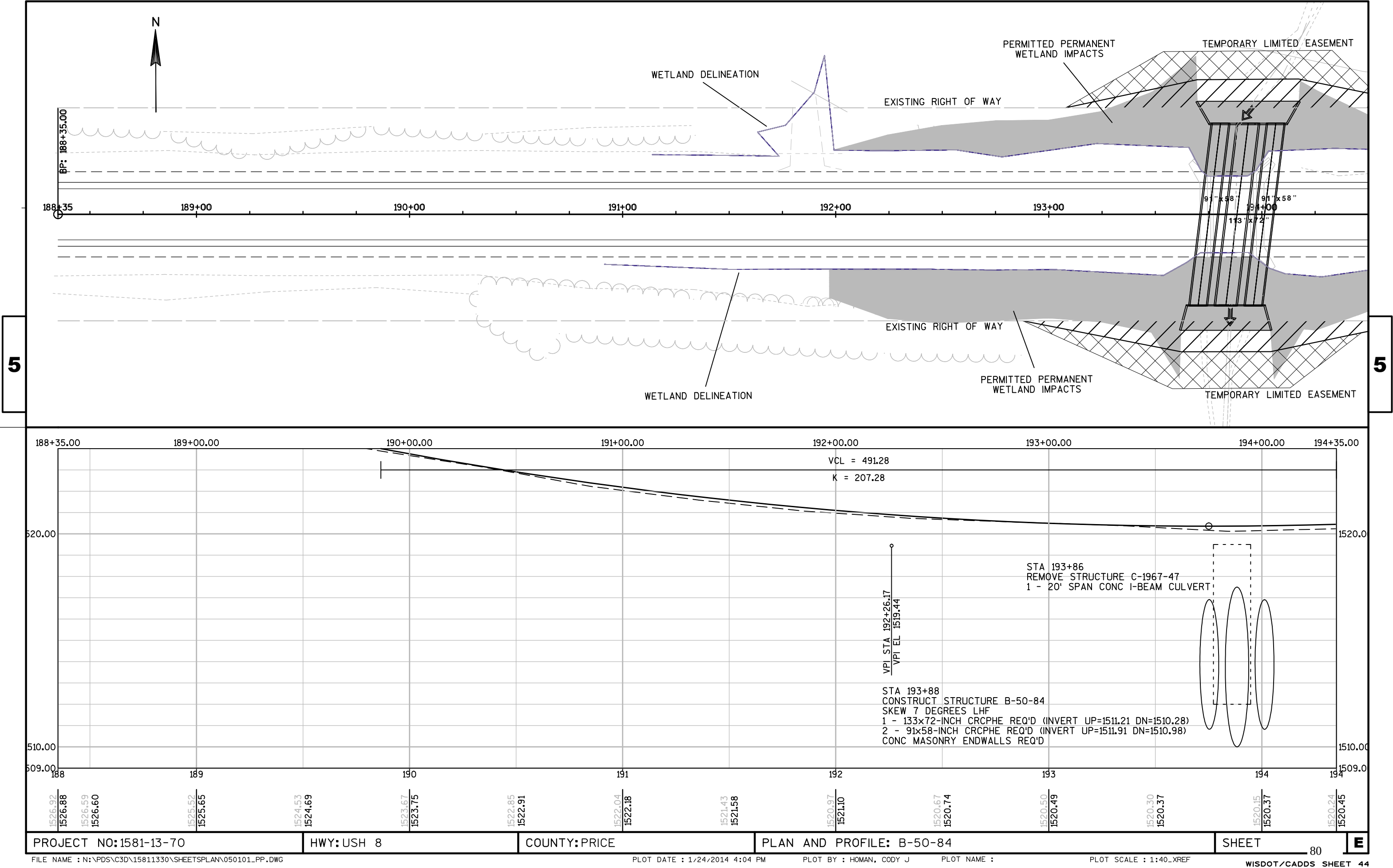
PLOT DATE : 1/24/2014 4:04 PM

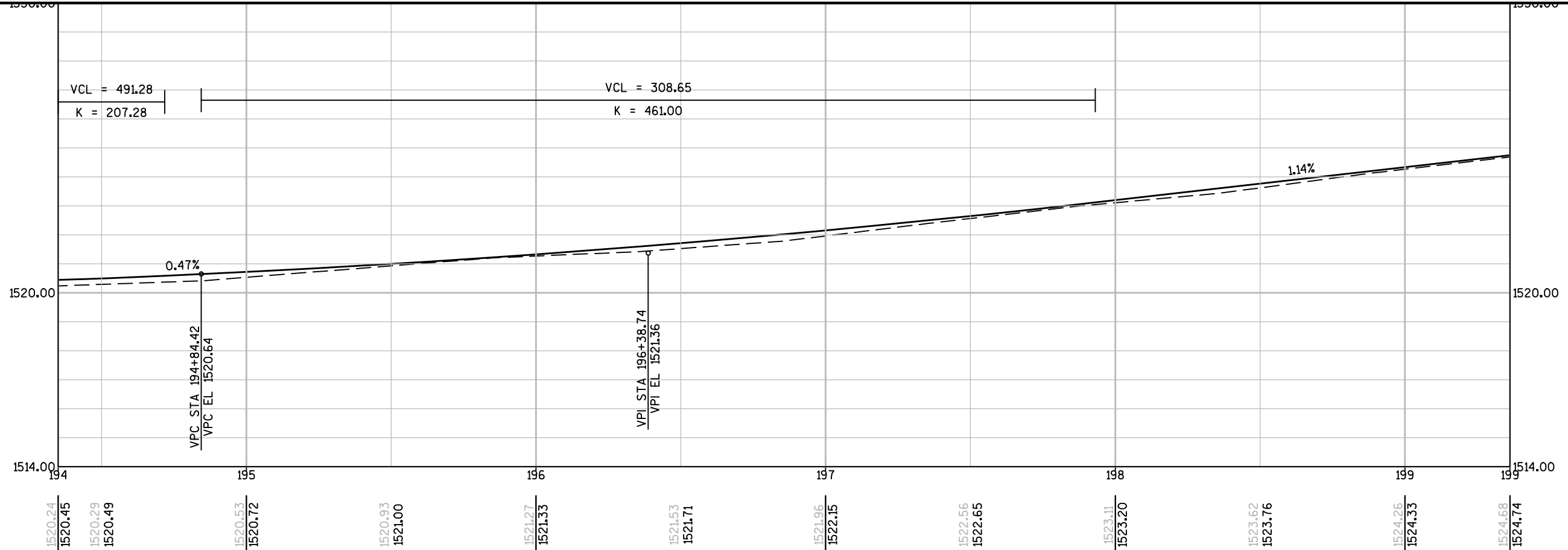
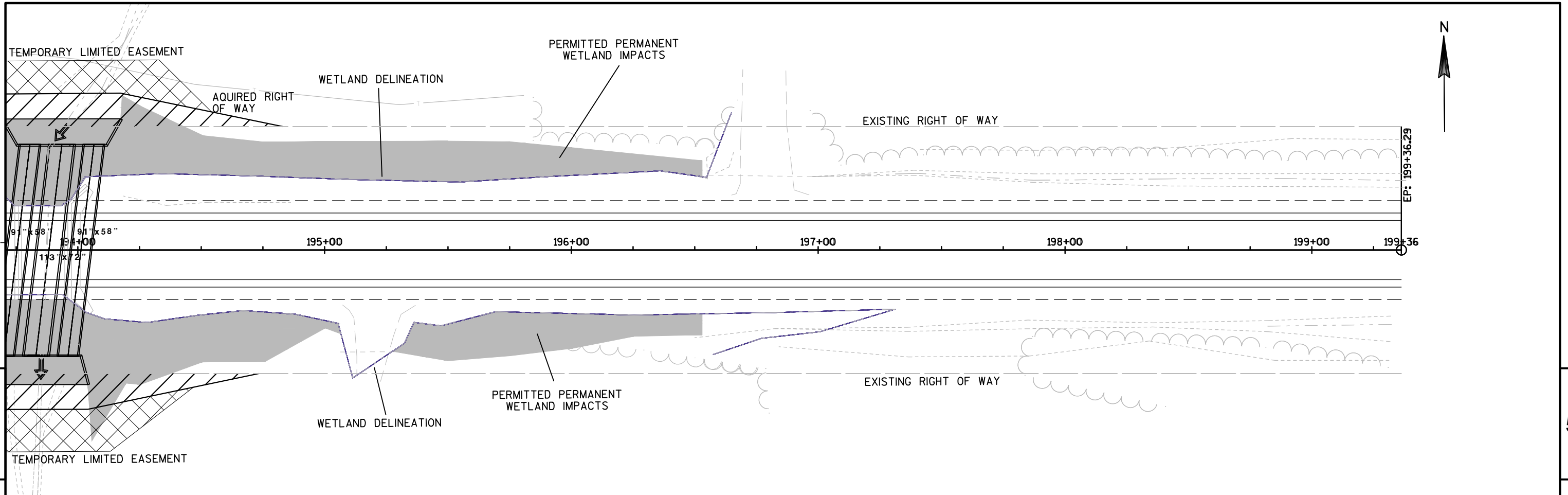
PLOT BY : HOMAN, CODY J

PLOT NAME :

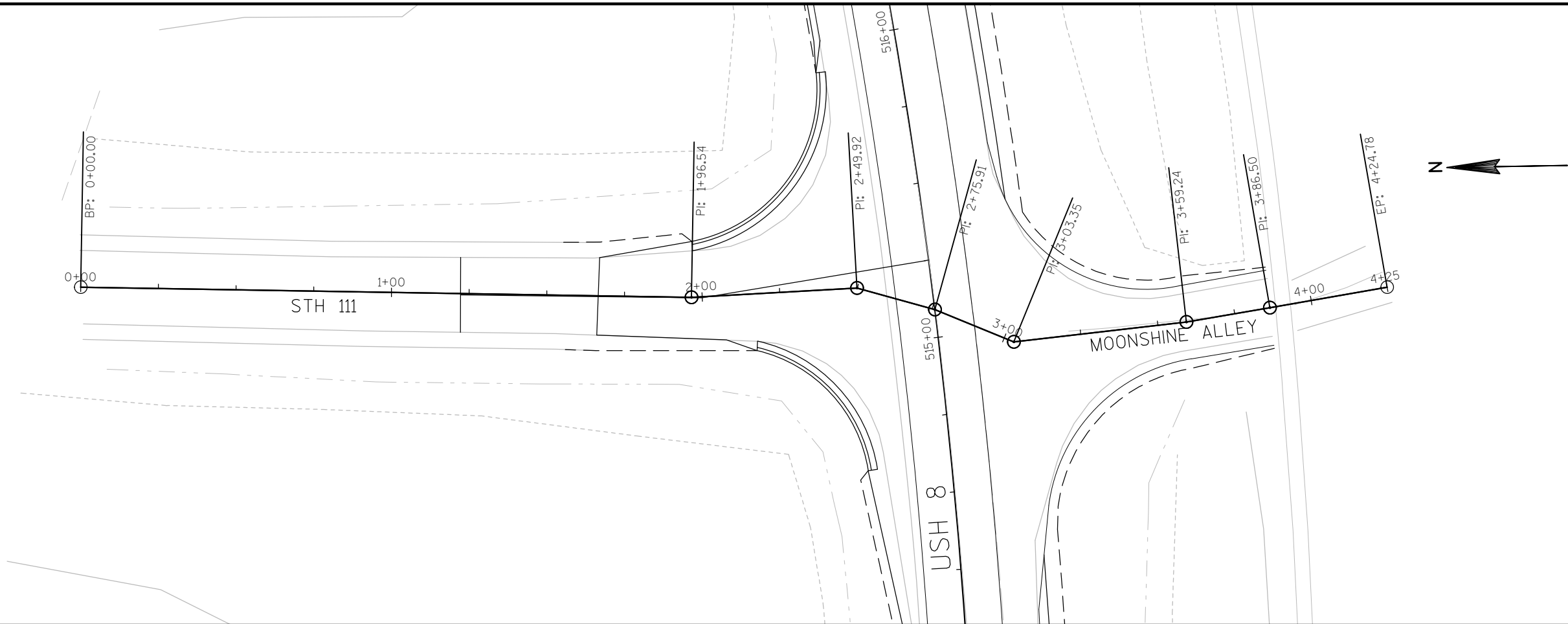
PLOT SCALE : 1:40-XREF

WISDOT/CADDs SHEET 44

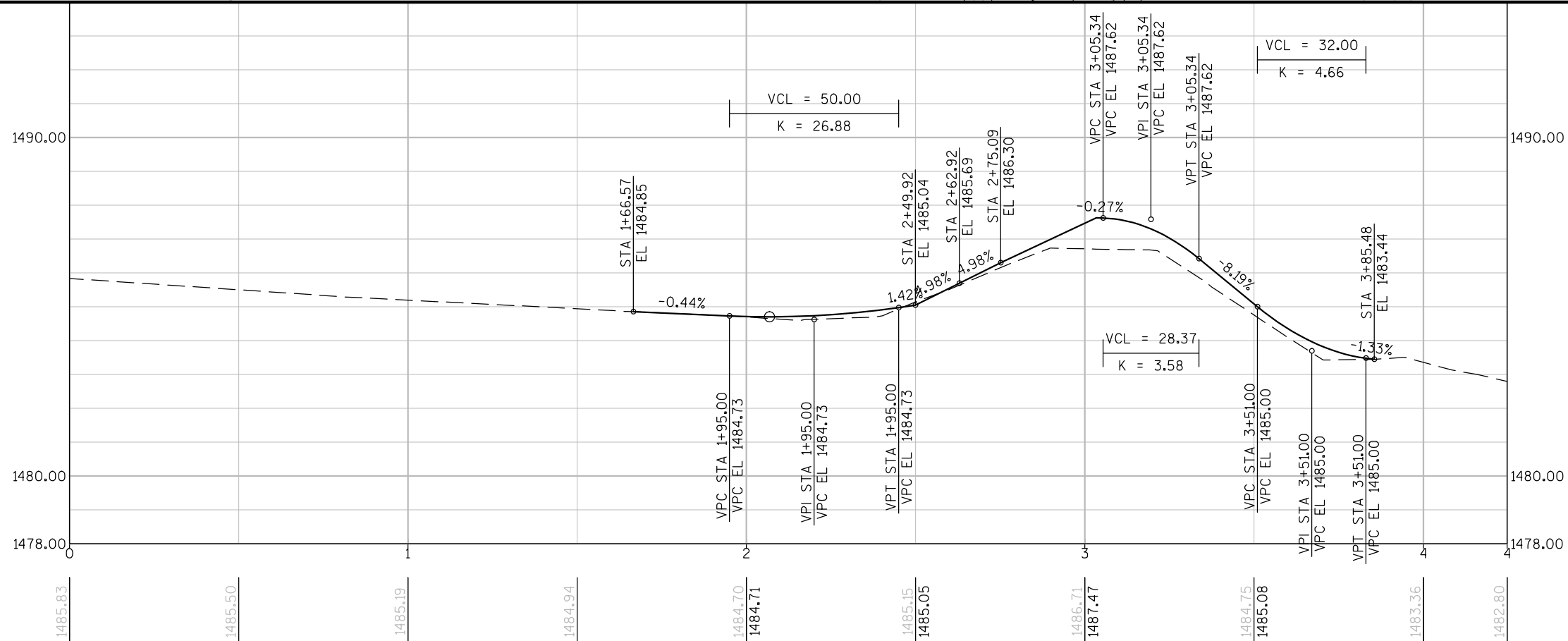




5



5



PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

PLAN AND PROFILE: STH 111 / MOONSHINE ALLEY

SHEET

82

E

CURVE 1
PI = 49+04.86
Δ = 56°21'00" RT
T = 1228'
L = 2254'
R = 2292'
SE = 5%

BEGIN PROJECT 1581-13-70
STA 32+46

START CENTERLINE
RUMBLE STRIPS

PC CURVE 1
STA 36+77.82

PT CURVE 1
STA 59+31.76

PRICE RD STA 52+00 LT
RESTORE
SEE SIDE ROAD DETAIL

SPUR RD STA 89+96 RT
RESTORE
SEE SIDE ROAD DETAIL

STA 38+16 @ 50-008-001
REMOVING SMALL PIPE CULVERT-24" x 64' CPRC
1- 24" RCCP REOD
2- APRON ENDWALLS FOR 24" CPRC REOD
2- MARKERS CULVERT ENDS REOD
SEE CULVERT PIPE TRANSITION DETAIL

STA 75+03 @ 50-008-002
CPRC TO REMAIN
2-MARKERS CULVERT END REOD

STA 62+03 LT
PE BAD RESTORE

STA 67+00 LT
PE BAD RESTORE

STA 86+32 LT
PE BAD RESTORE

STA 86+32 RT
PE BAD RESTORE

30+00 35+00 40+00 45+00 50+00 55+00 60+00

60+00 65+00 70+00 75+00 80+00 85+00 90+00

PROJECT NO: 1581-13-70

HWY: USH 8

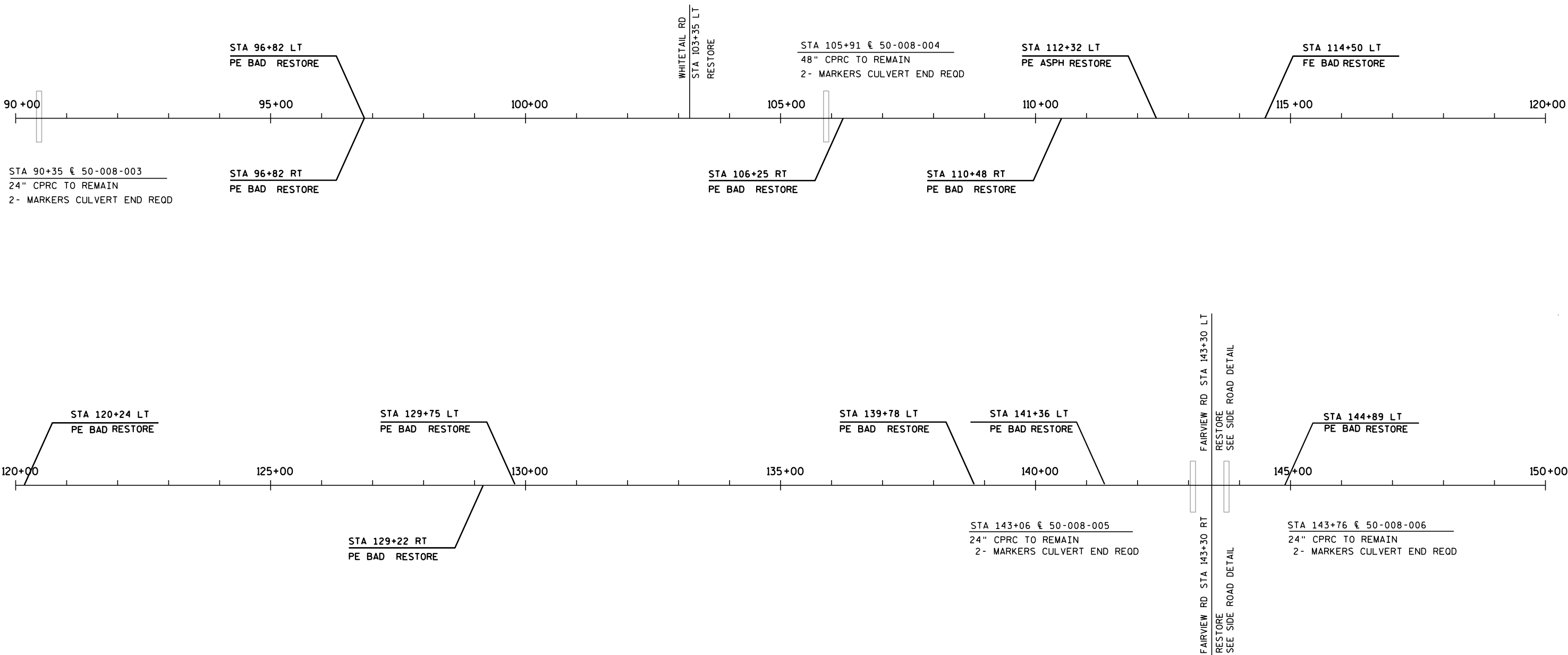
COUNTY: PRICE

LINE DIAGRAM STA 30+00 - 90+00

SHEET

E

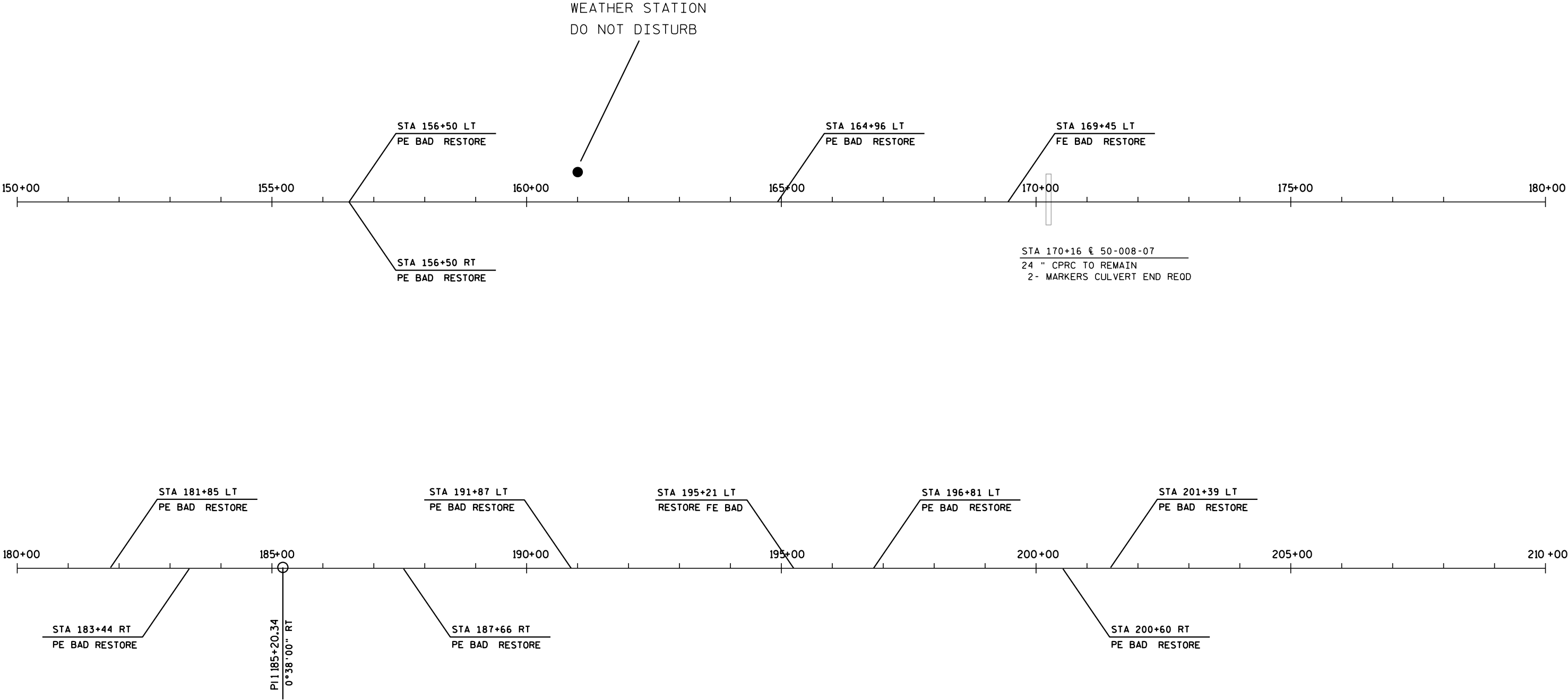
5



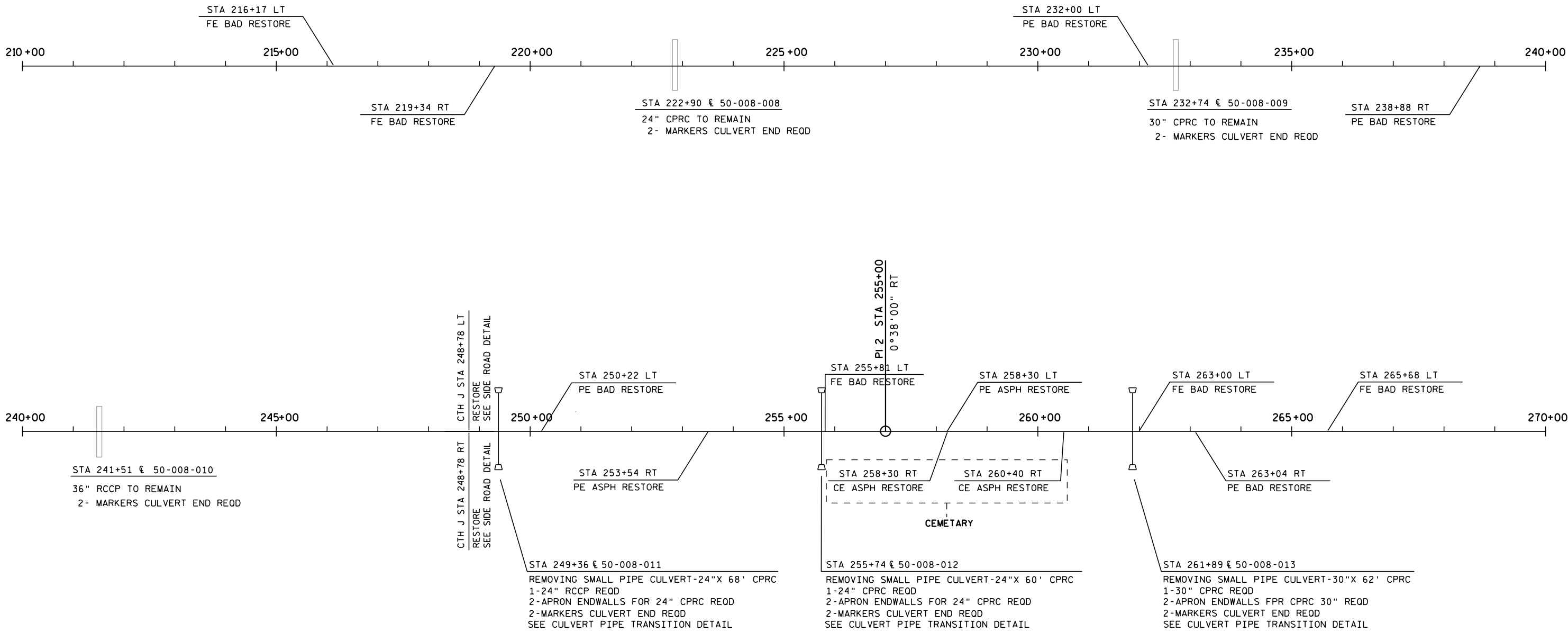
5

5

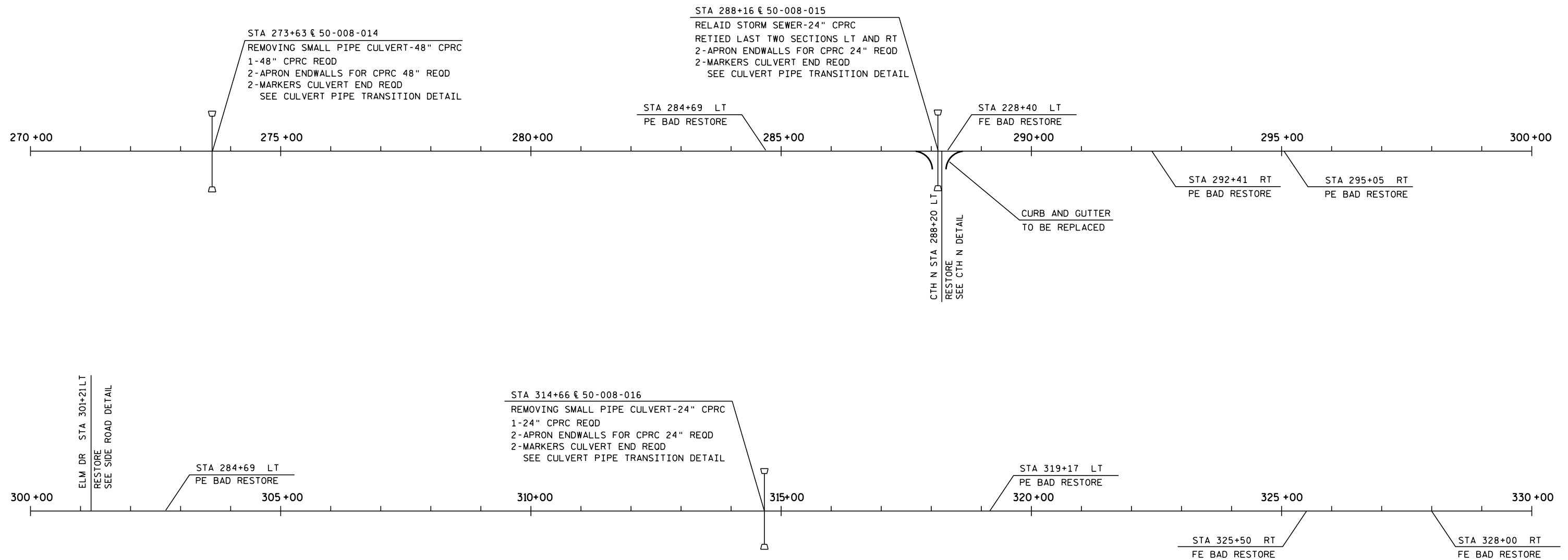
5



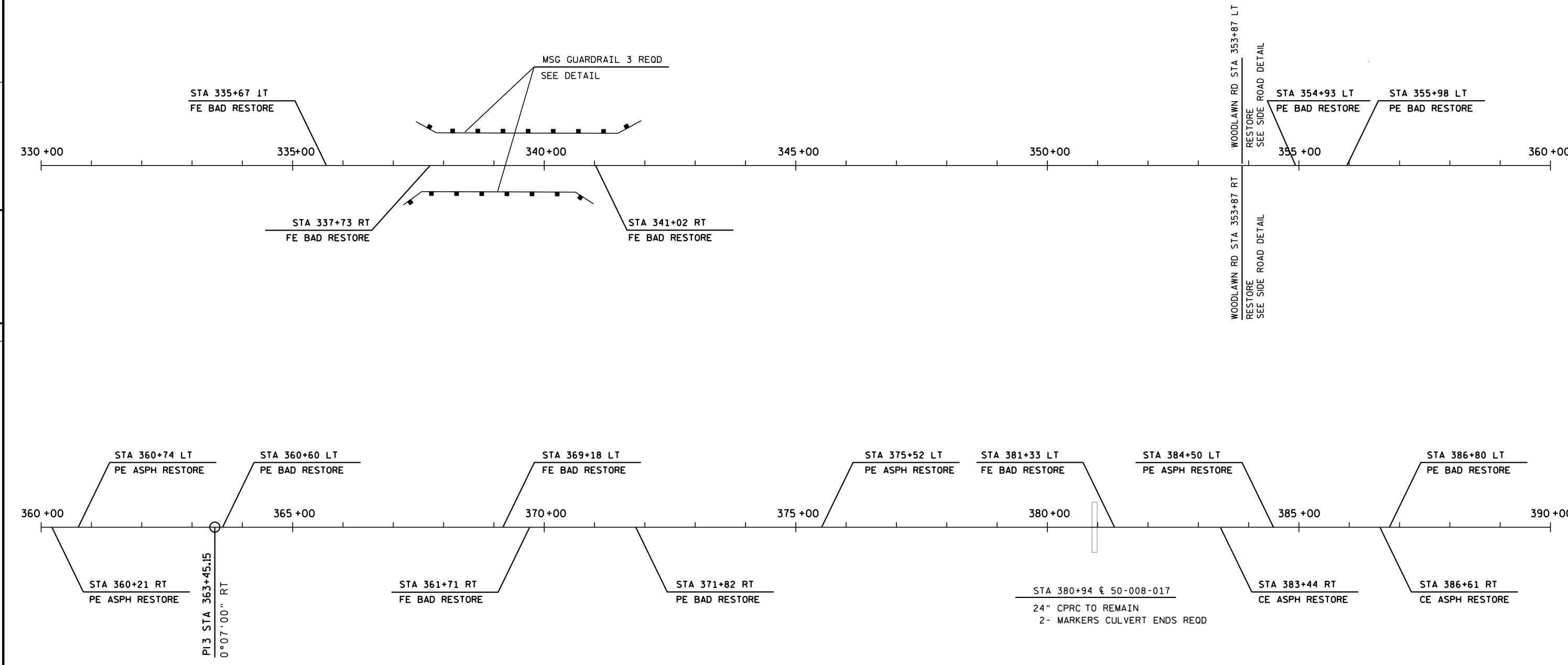
5



5

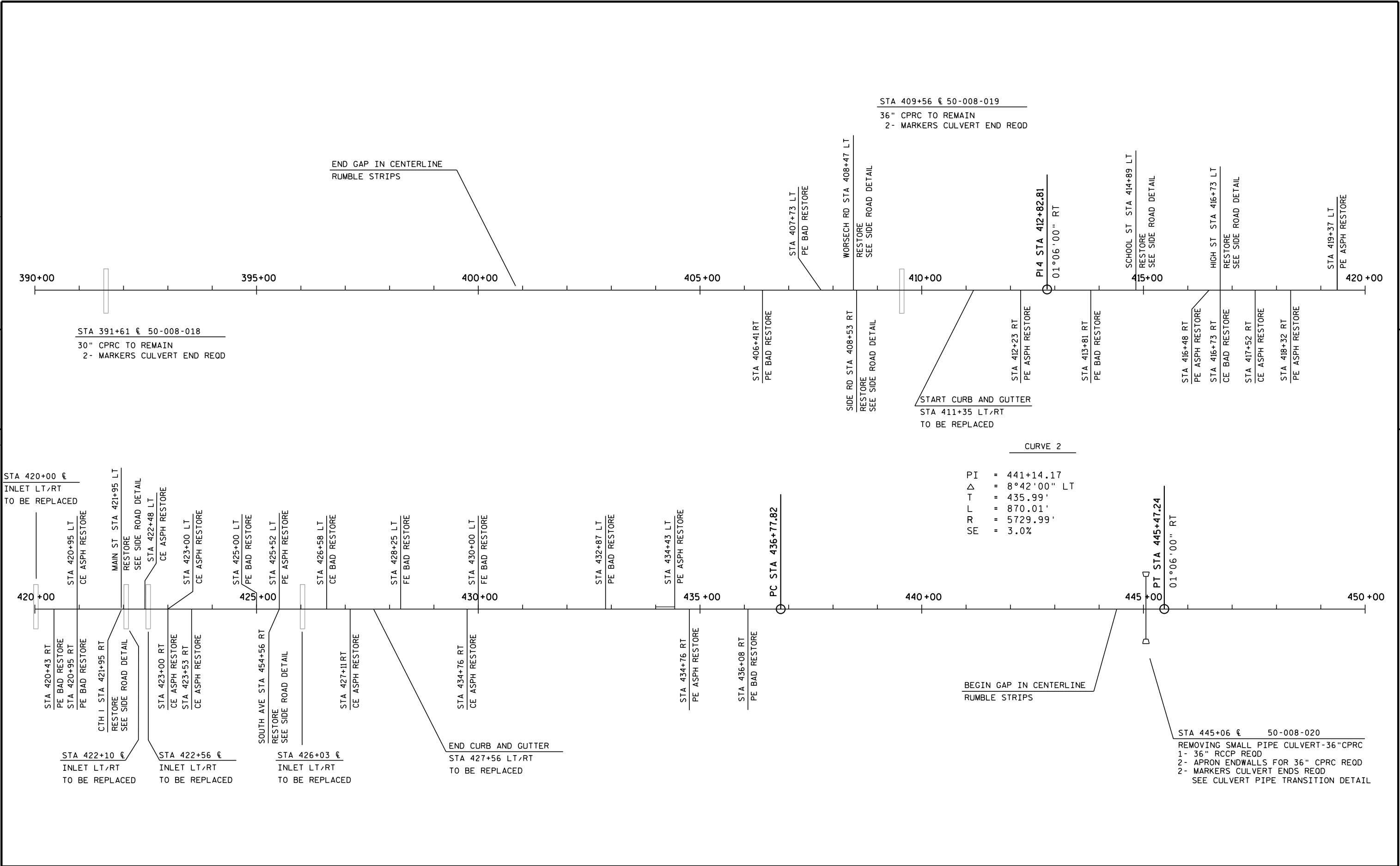


5



5

5

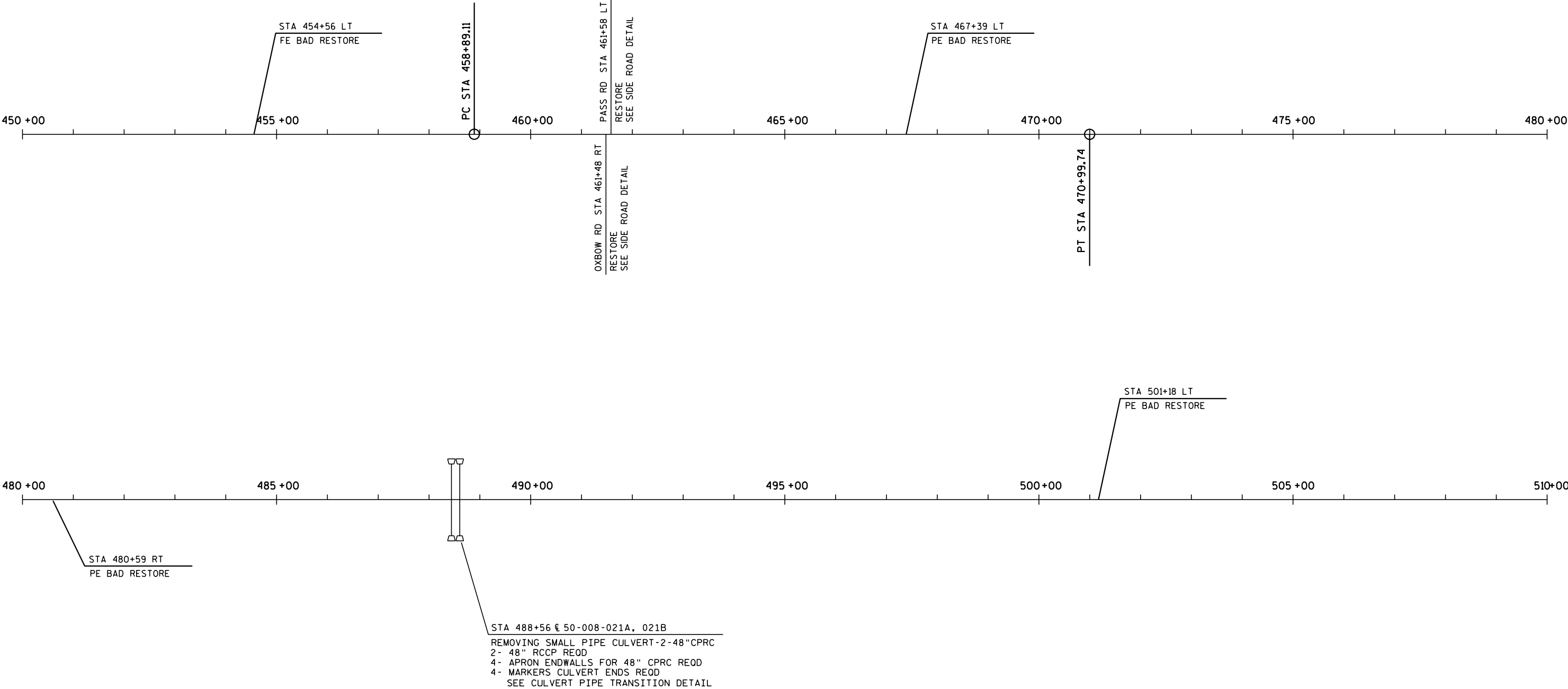


5

PROJECT NO: 1581-13-70	HWY: USH 8	COUNTY: PRICE	LINE DIAGRAM STA 390+00 - 450+00	SHEET	E
------------------------	------------	---------------	----------------------------------	-------	---

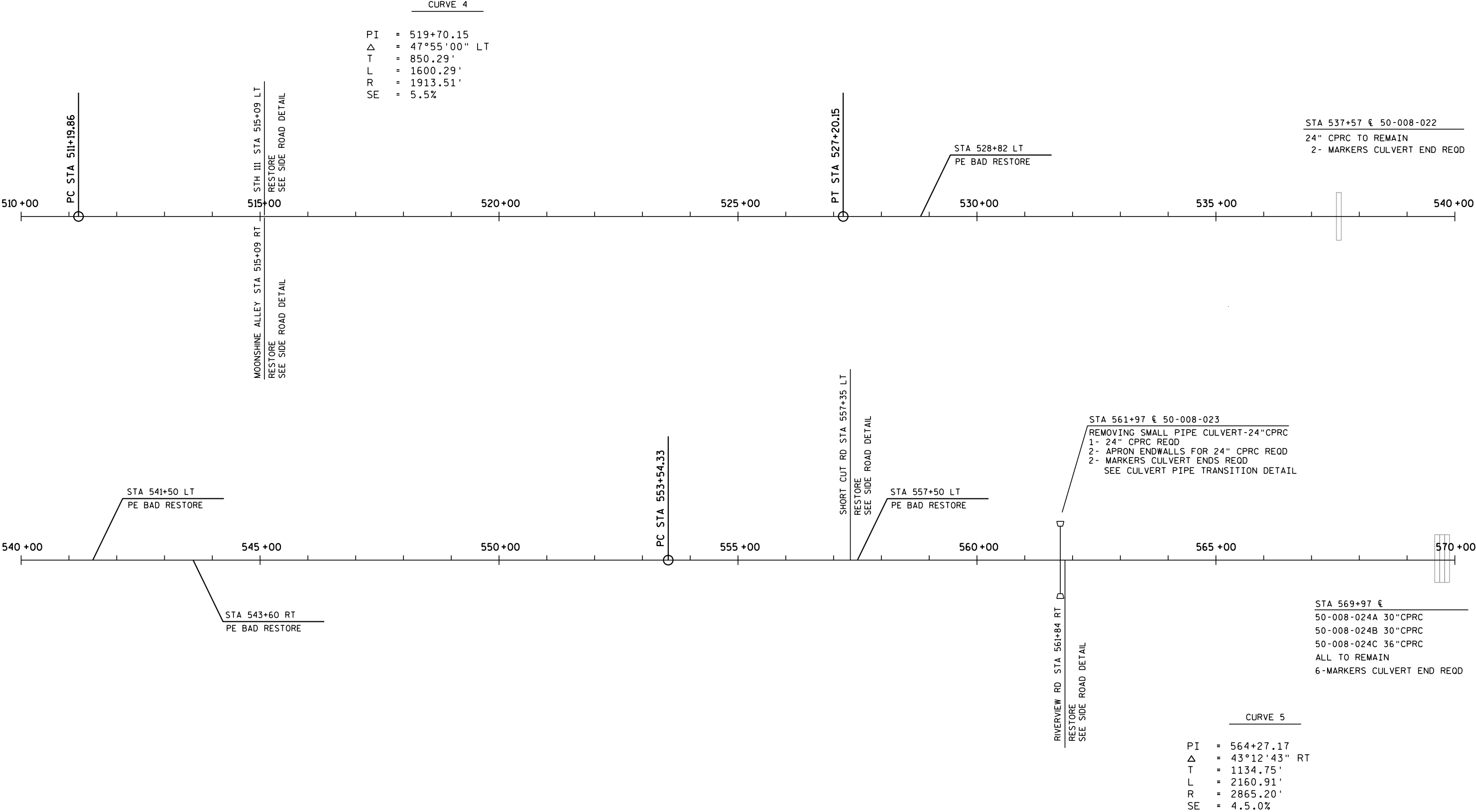
CURVE 3

PI = 464+96.06
Δ = 12°07'00" RT
T = 608.00'
L = 1212.01'
R = 5729.99'
SE = 3.0%

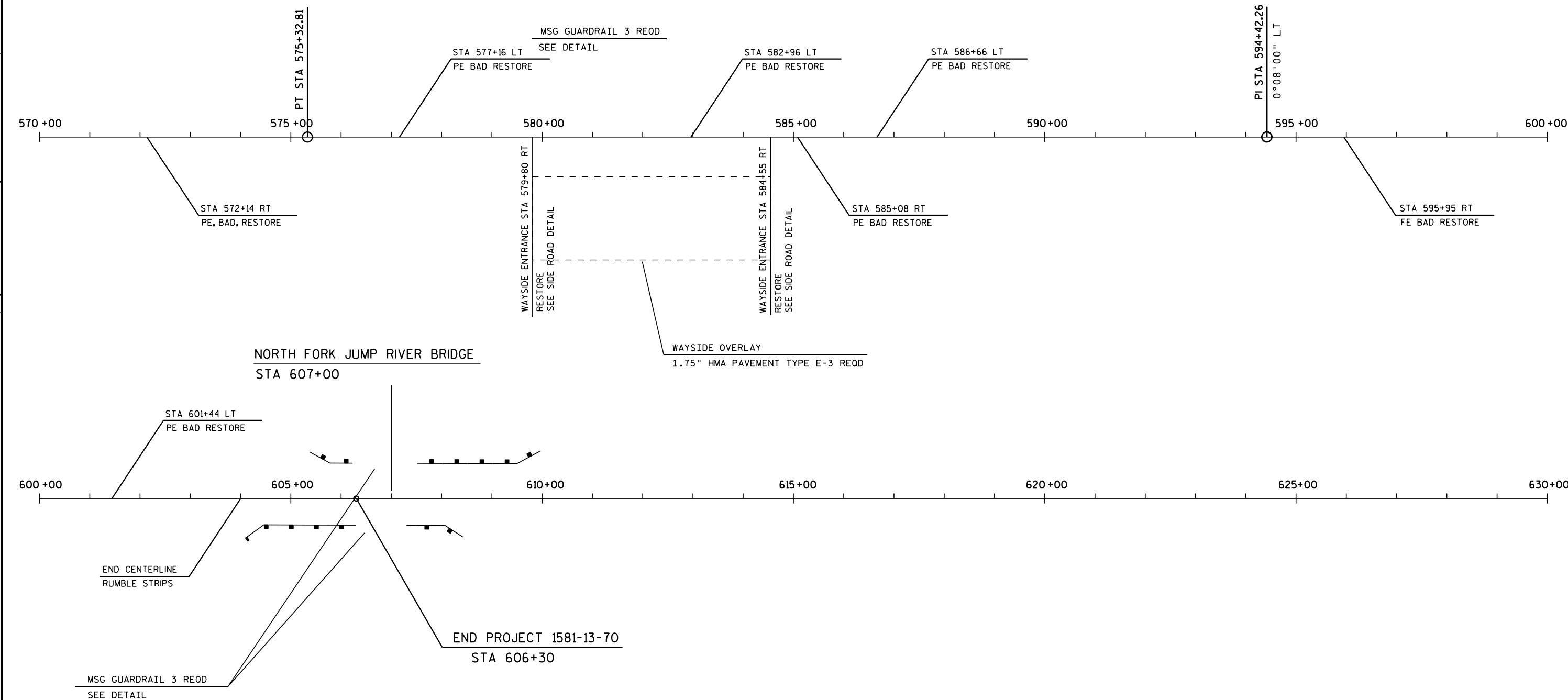


5

5



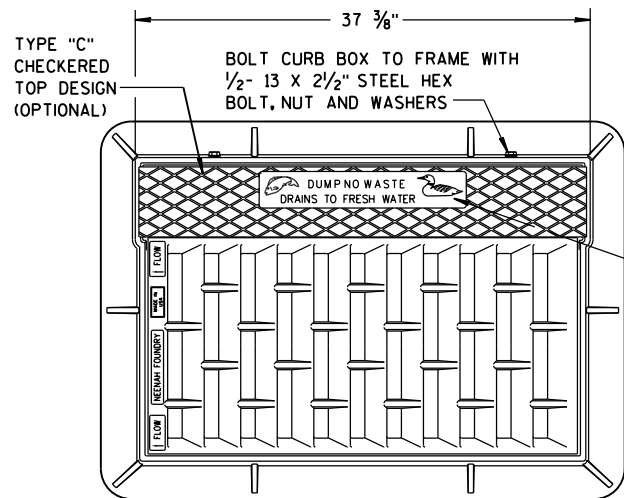
5



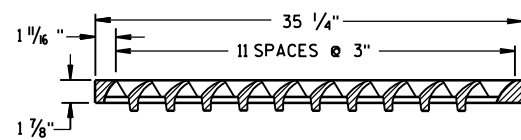
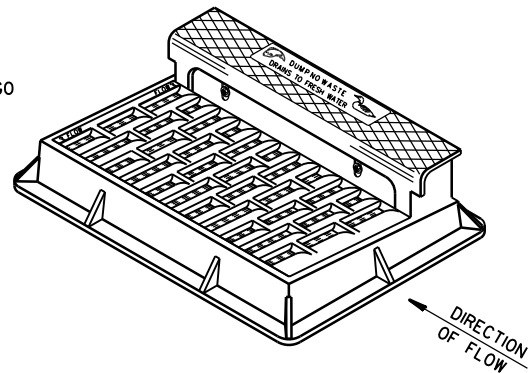
5

Standard Detail Drawing List

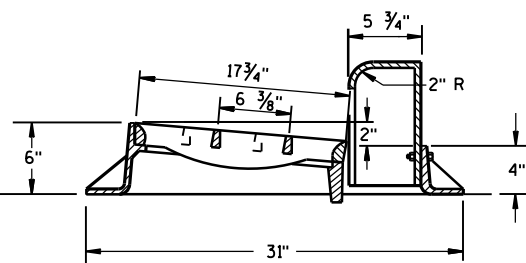
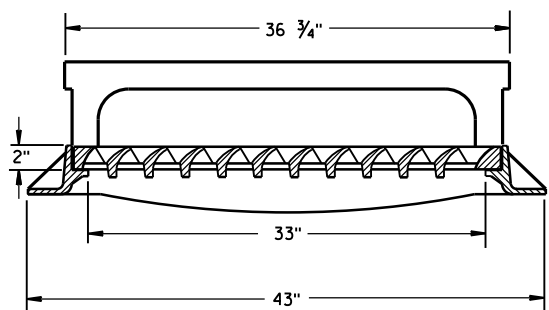
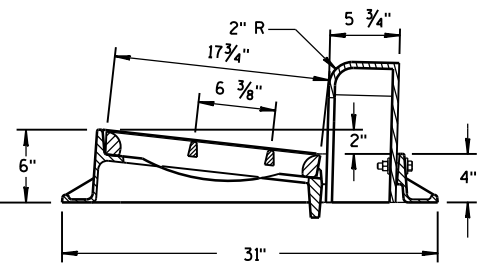
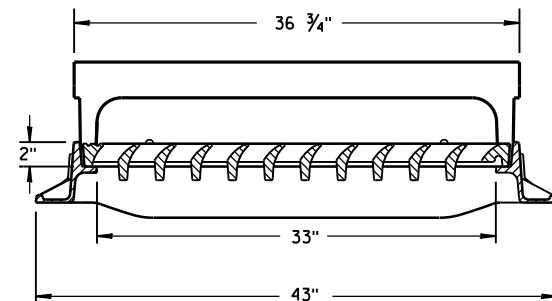
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-03A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-03	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS



**NOTE:
GRATE IS REVERSIBLE.**

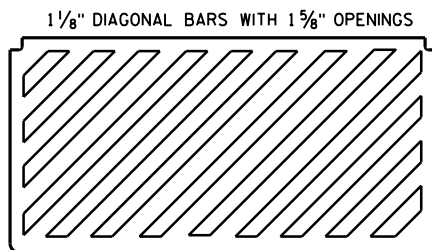


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



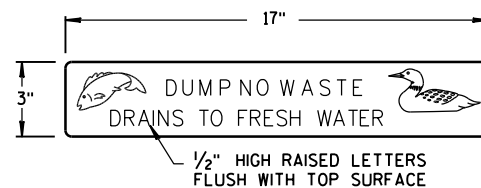
TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

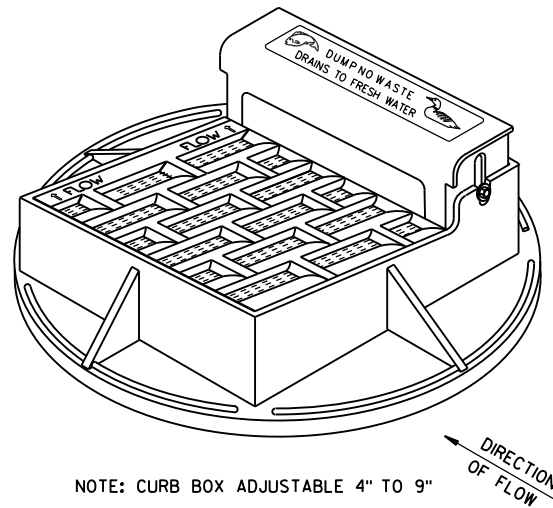


**SPECIAL GRATE FOR
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

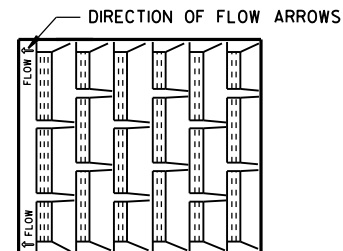


LOGO DETAIL

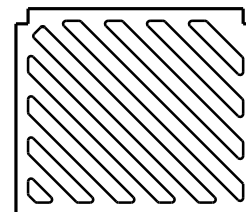


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

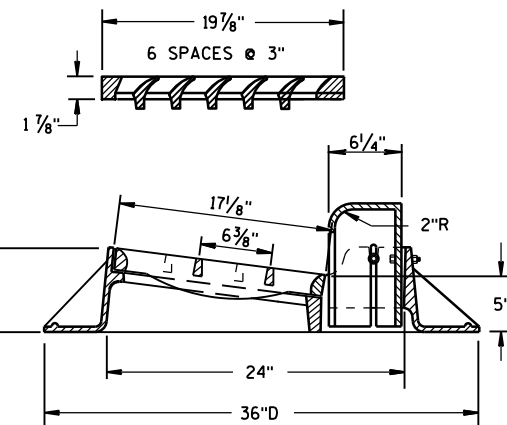
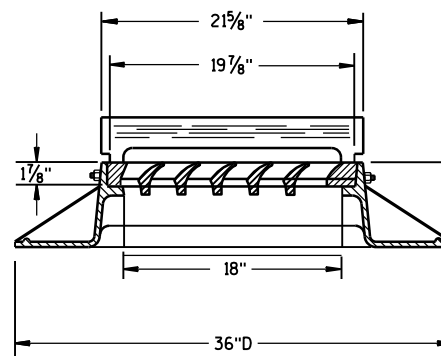
**NOTE:
GRATE IS REVERSIBLE.**



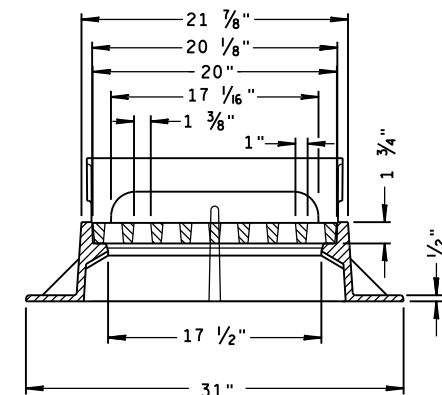
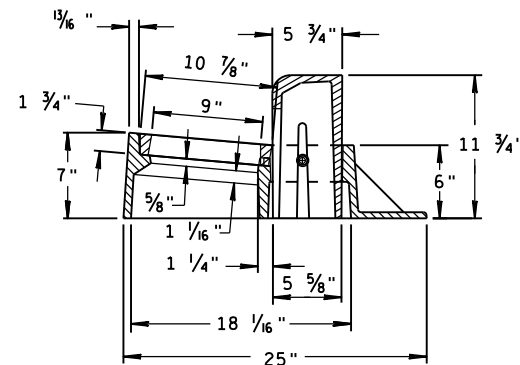
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



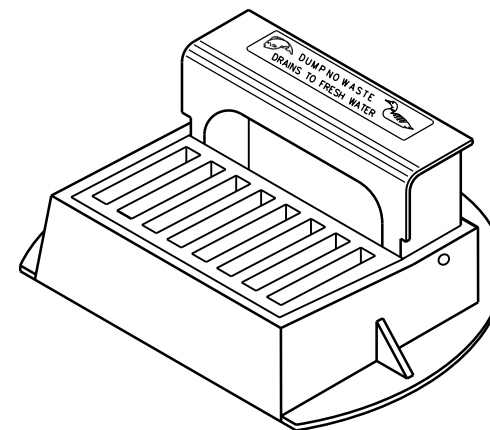
**SPECIAL GRATE FOR
TYPE "A" COVER**
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"



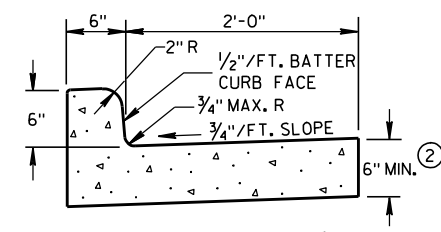
**INLET COVERS
TYPE A, H, A-S, H-S & Z**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

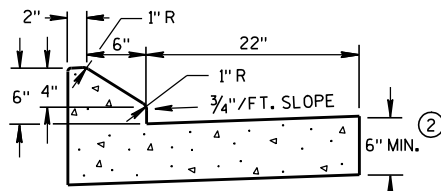
APPROVED
II-27-13
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

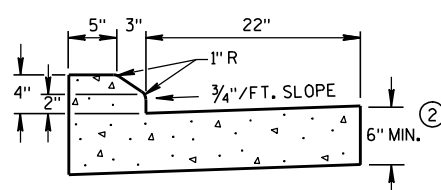
ENT



TYPES A & D ①



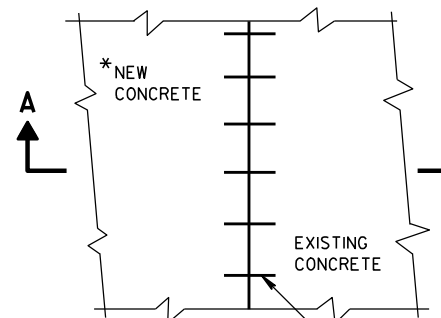
6" SLOPED CURB TYPES G & J ①



4" SLOPED CURB TYPES G & J ①

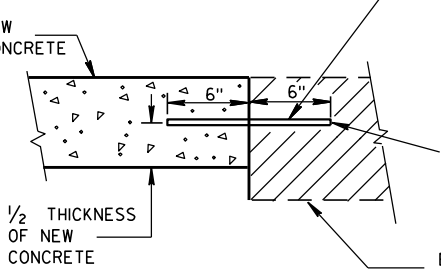
CONCRETE CURB & GUTTER 30"

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



PLAN VIEW

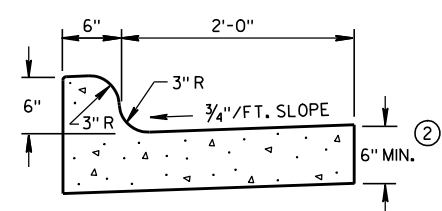
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.



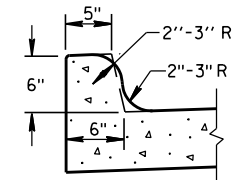
MAXIMUM DRILL HOLE SIZE IS 1/8" GREATER THAN TIE BAR DIAMETER

EXISTING CONCRETE

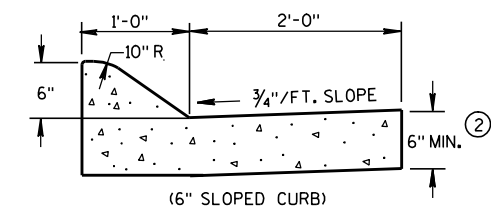
SECTION A-A
TIE BARS DRILLED INTO EXISTING PAVEMENT



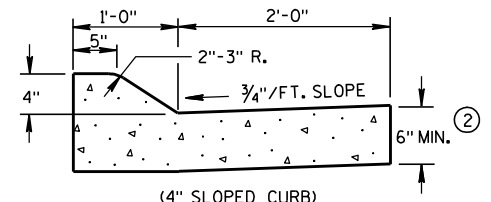
TYPES K & L ①



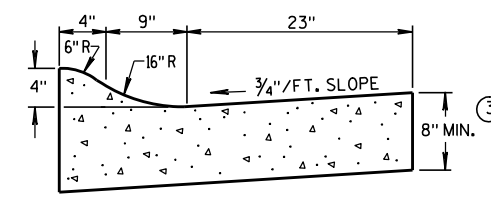
OPTIONAL CURB SHAPE FOR TYPES K & L ①



(6" SLOPED CURB)

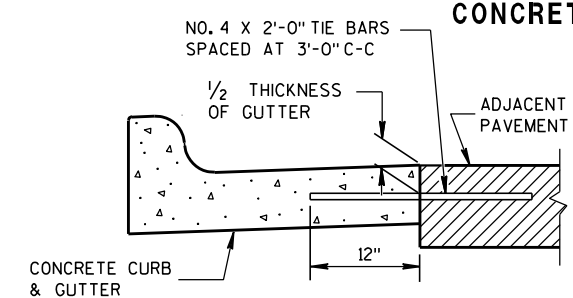


(4" SLOPED CURB)

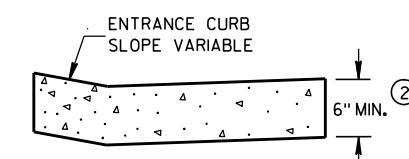


4" SLOPED CURB TYPES R & T ① ④

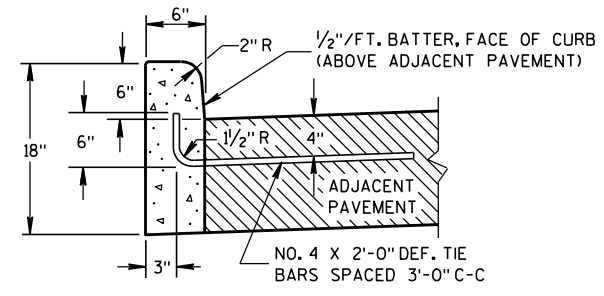
CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION ①

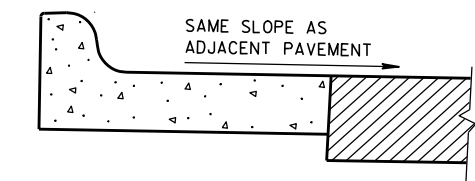


DRIVEWAY ENTRANCE CURB (WHEN DIRECTED BY THE ENGINEER)

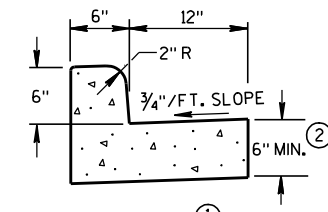


TYPES A & D ①

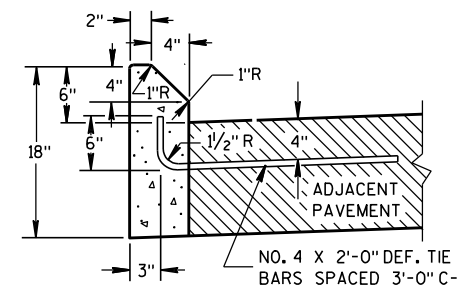
CONCRETE CURB



REVERSE SLOPE GUTTER (TYPICAL FOR ALL CURB & GUTTER TYPES) ⑤



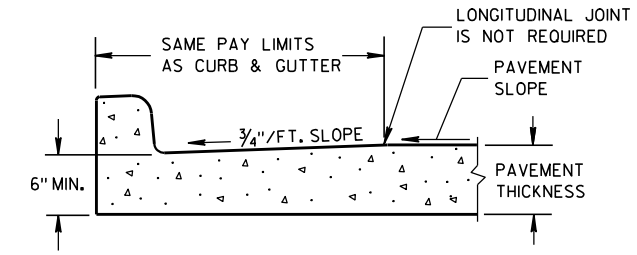
TYPES A & D
CONCRETE CURB & GUTTER 18"



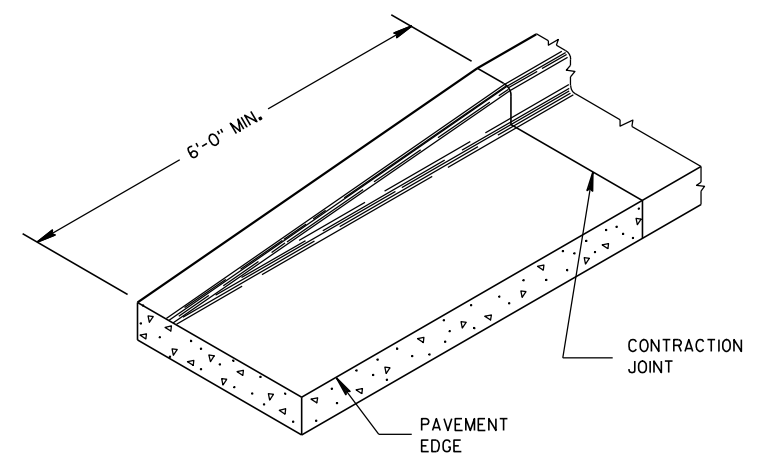
TYPES G & J ①

GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.
- INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.
- WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.
- UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.
 - ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
 - ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
 - ④ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
 - ⑤ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 /S/ Jerry H. 7-95 ENT
DATE ROADWAY STANDARDS ENGINEER
FHWA

6



6

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

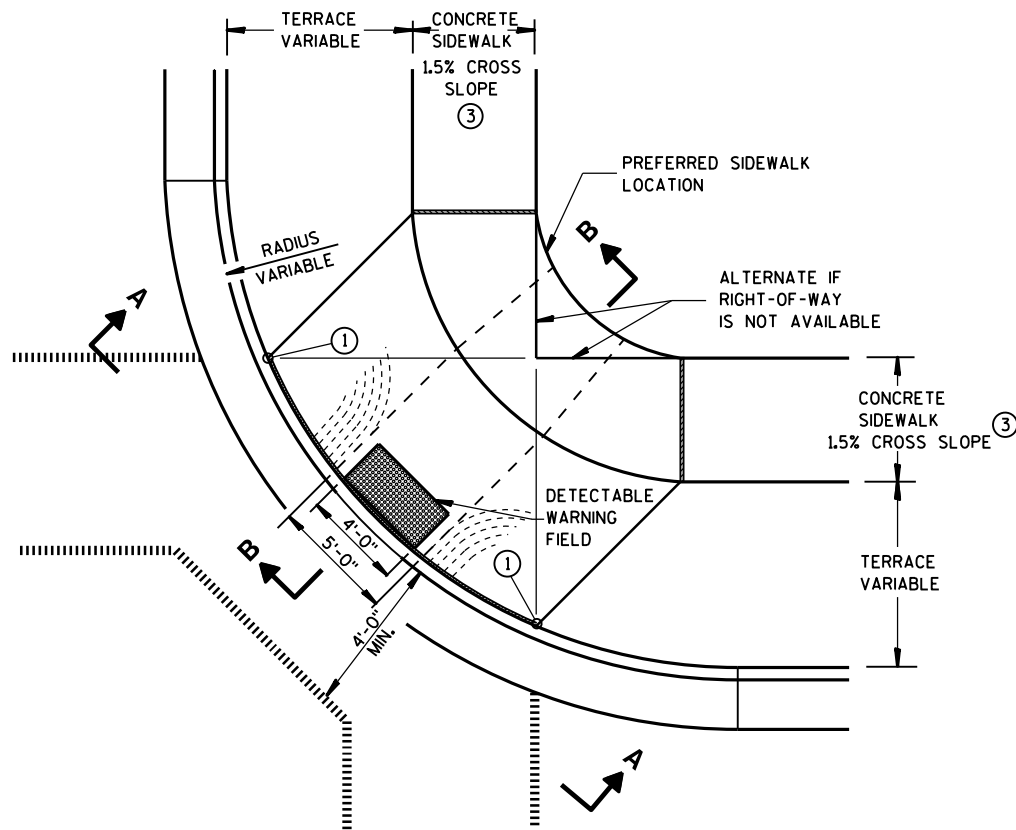
SECTION C-C



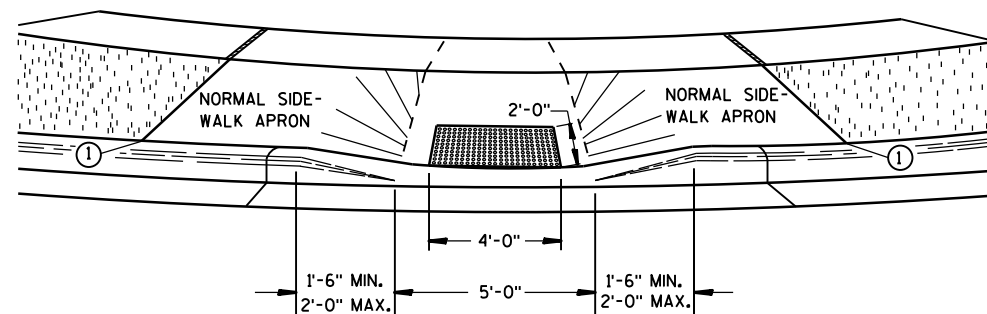
ENT

S.D.D. 8 D 4-5

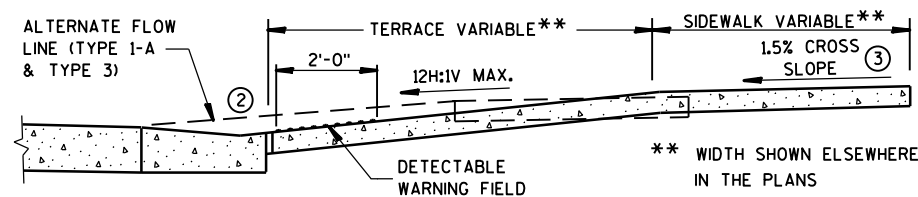
S.D.D. 8 D 4-5



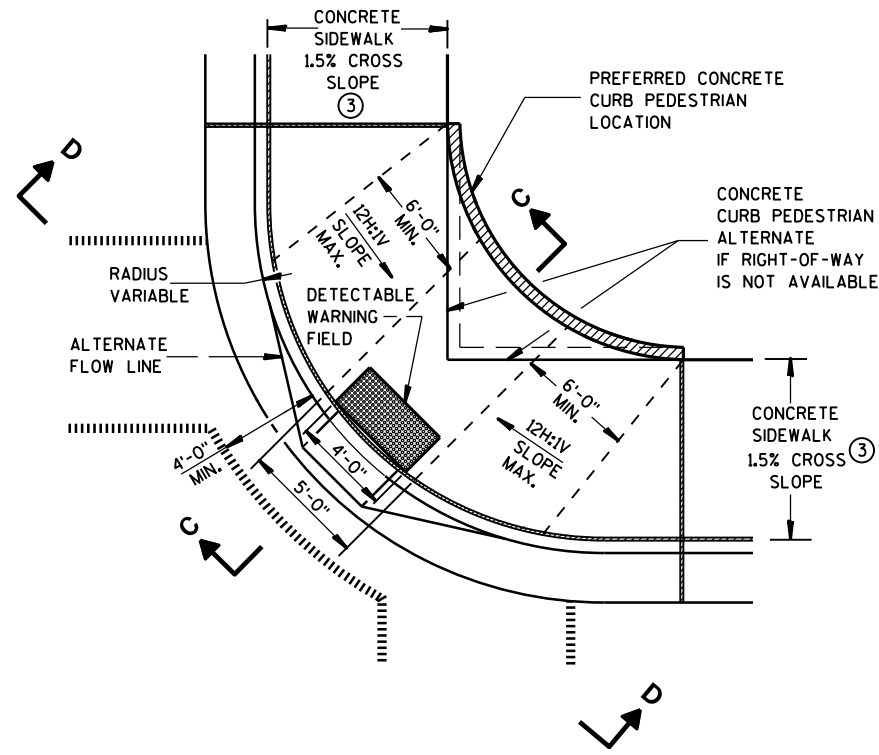
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



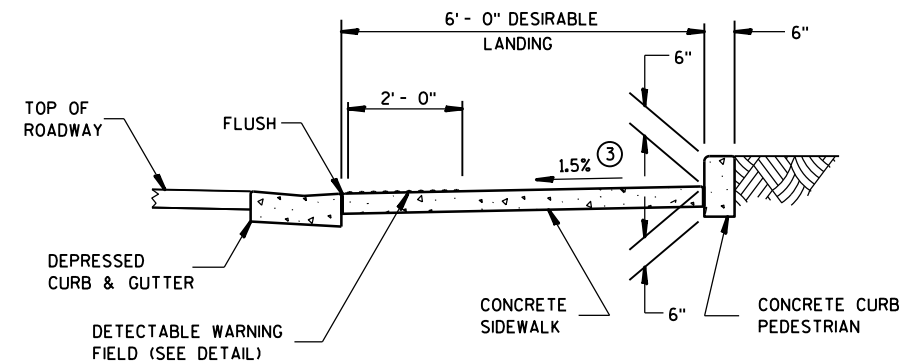
VIEW A-A



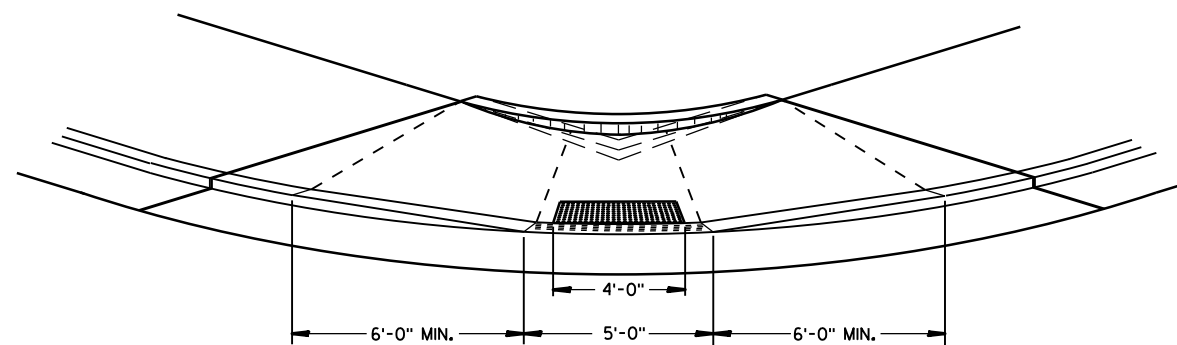
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

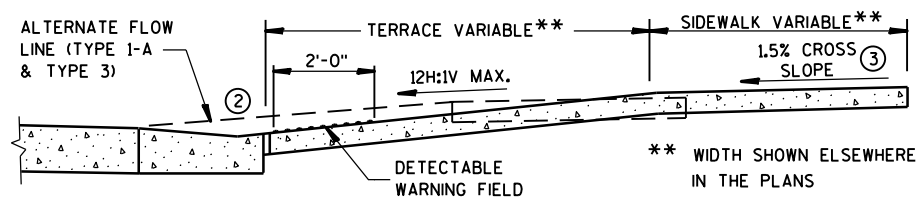
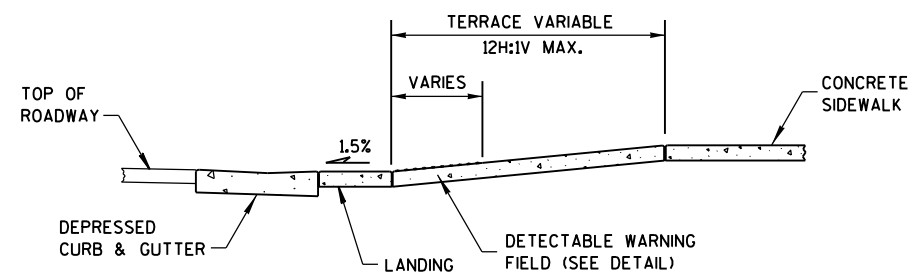
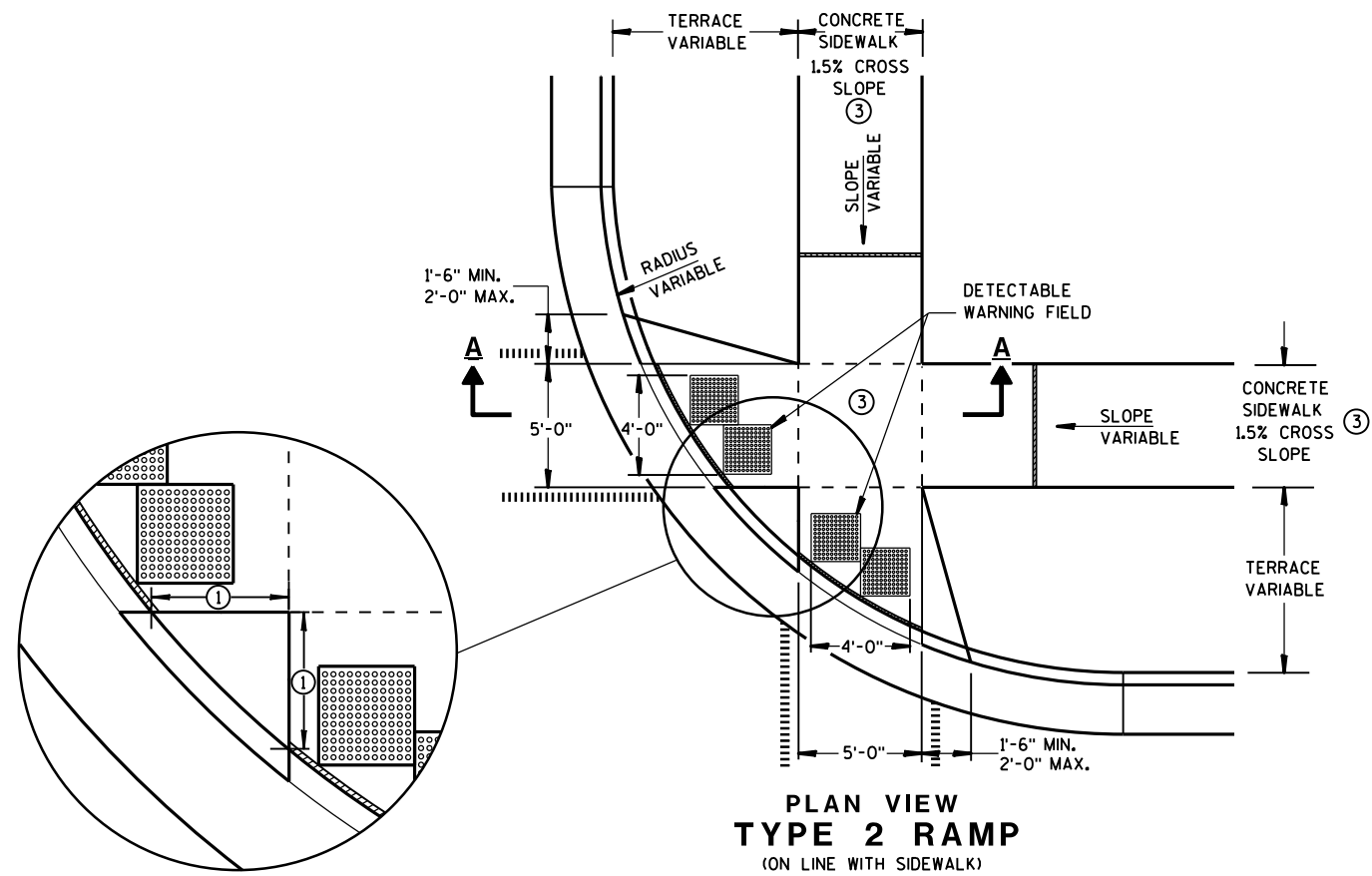
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

**CURB RAMPS
TYPES 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

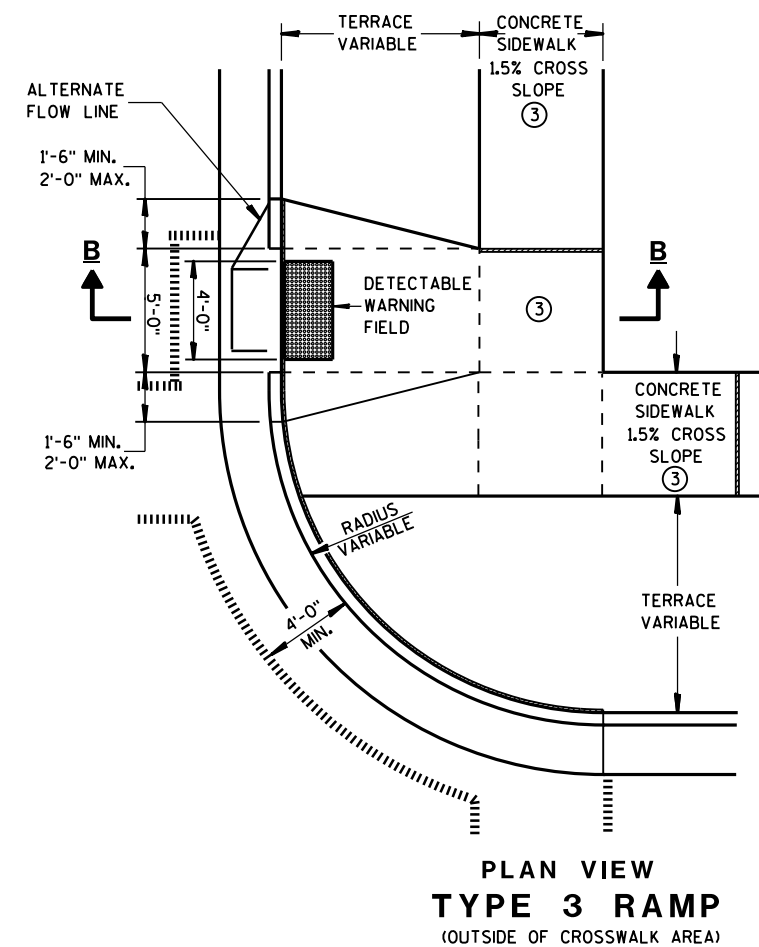
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

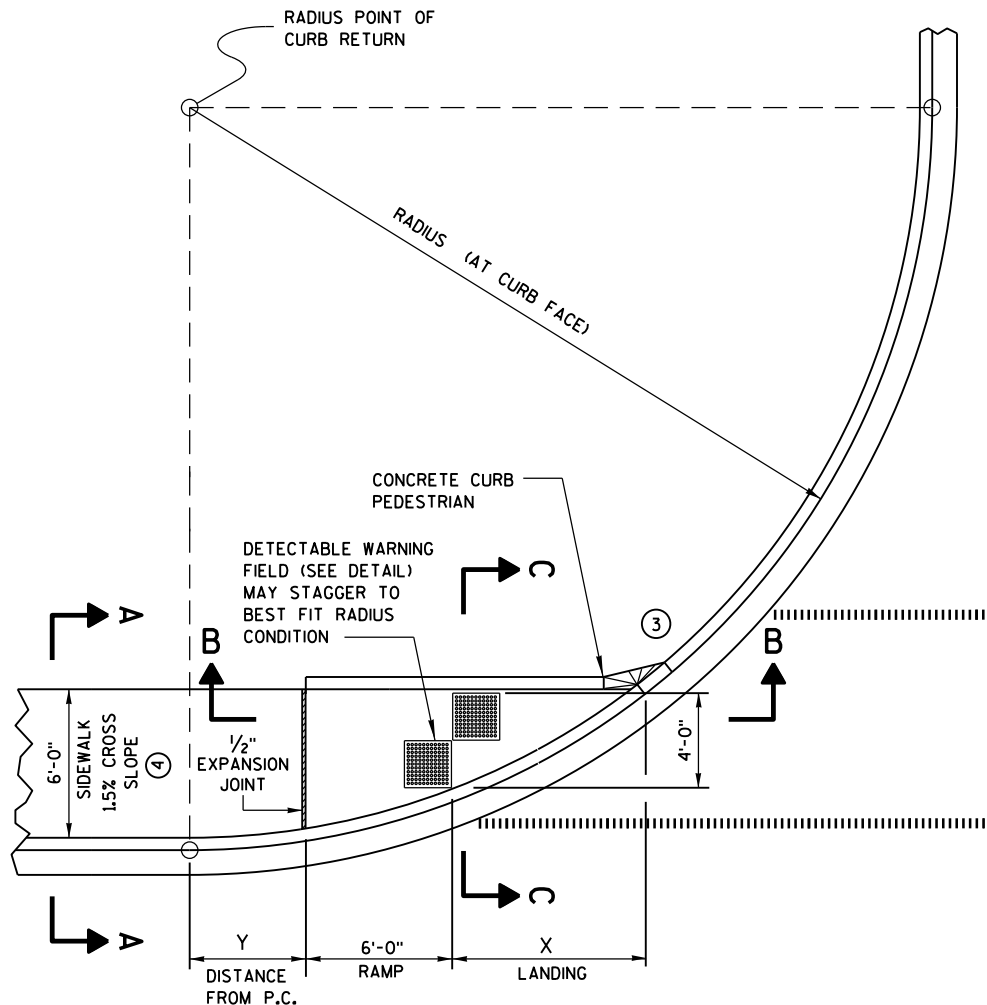
LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- - - CONTRACTION JOINT FIELD LOCATED
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

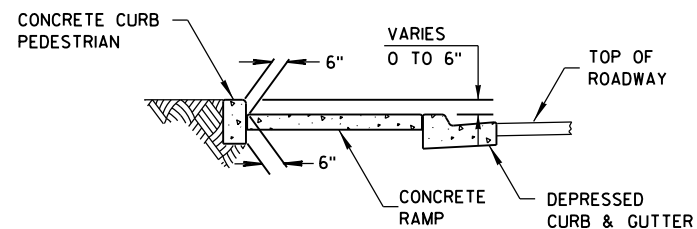


**CURB RAMPS
TYPES 2 AND 3**

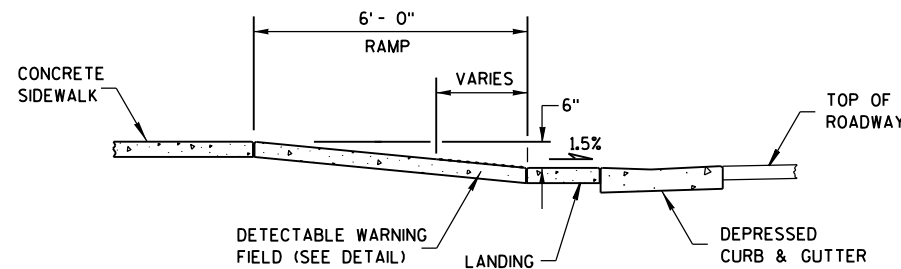
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4A
PLAN VIEW



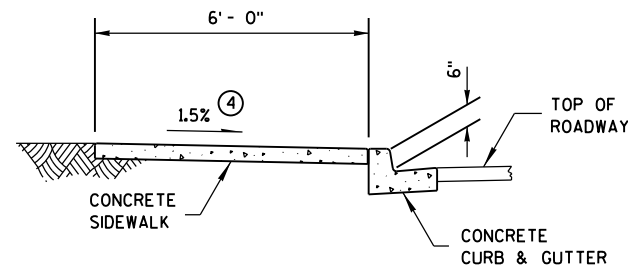
SECTION C-C FOR TYPE 4A



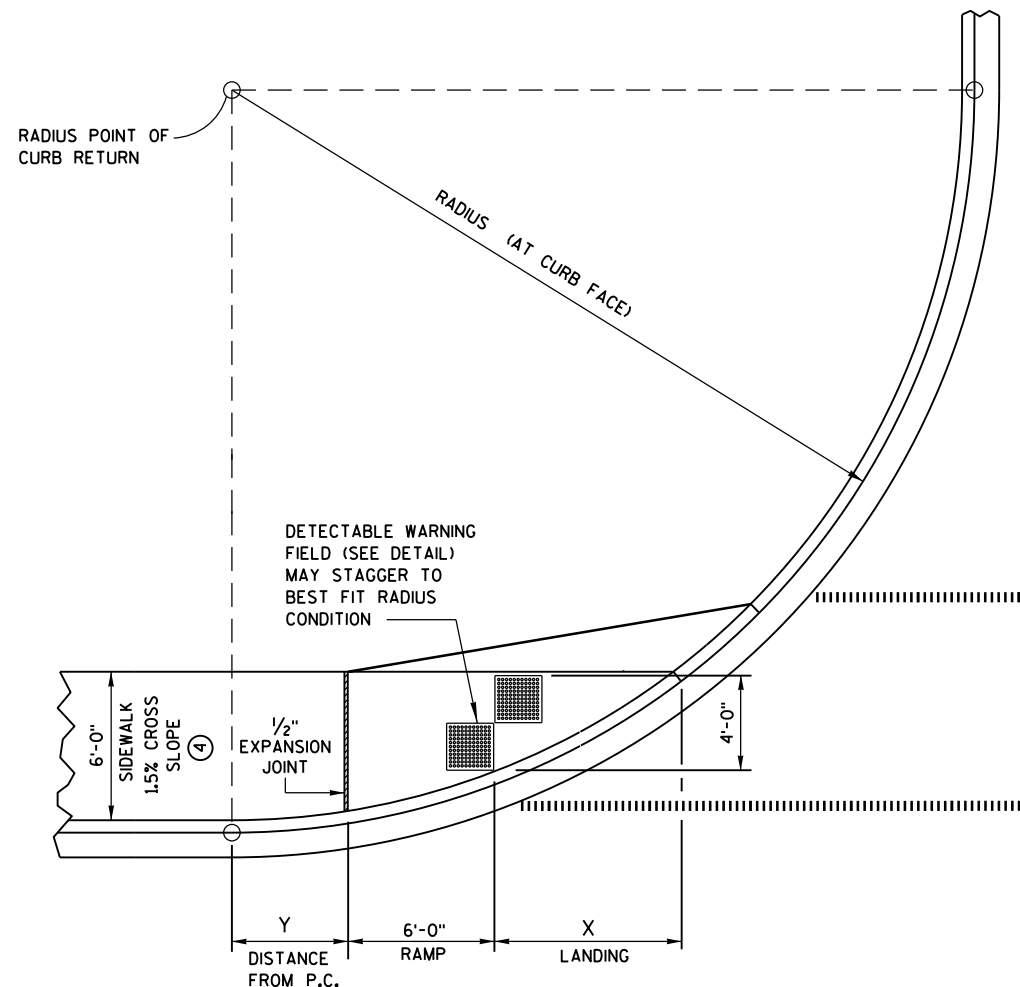
SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1 3/4"	2'-7 1/4"
30 FEET	7'-11 3/4"	4'-8 1/4"
40 FEET	9'-5 1/4"	6'-5"
50 FEET	10'-8 3/4"	7'-11 1/4"
60 FEET	11'-10 1/4"	9'-3 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

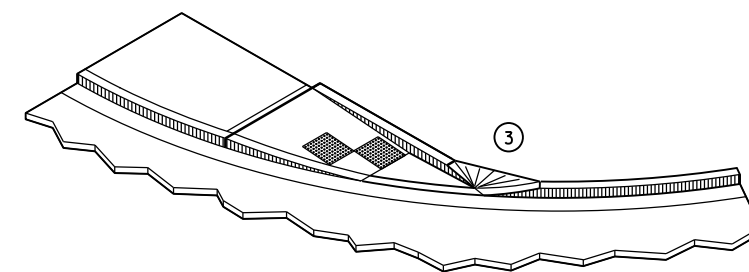
GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

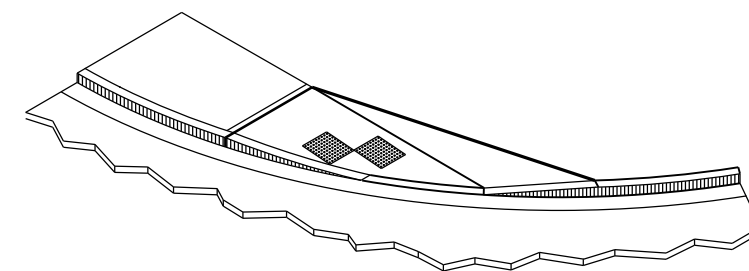
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



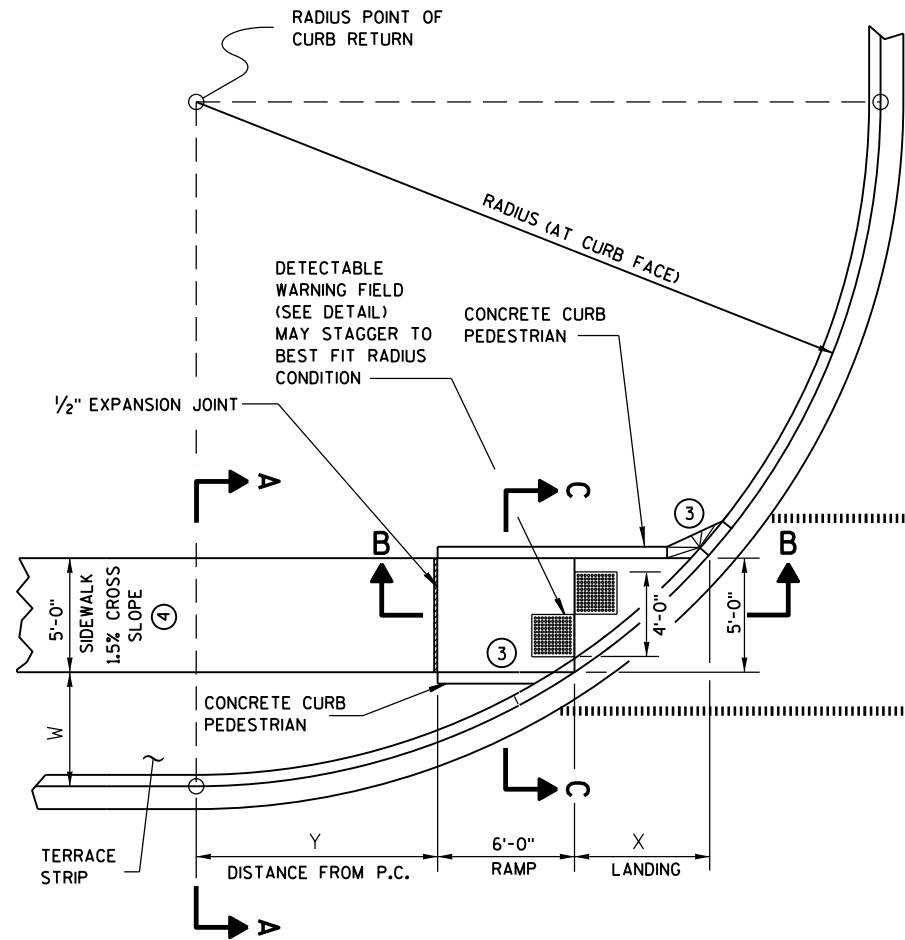
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

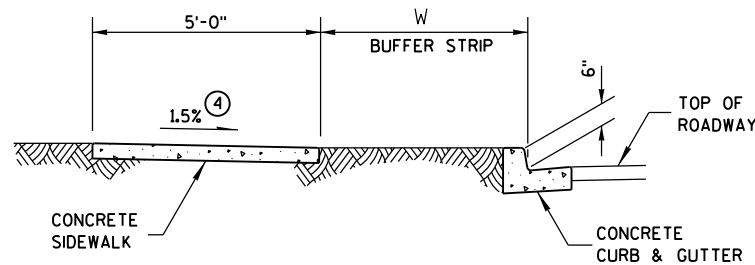
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

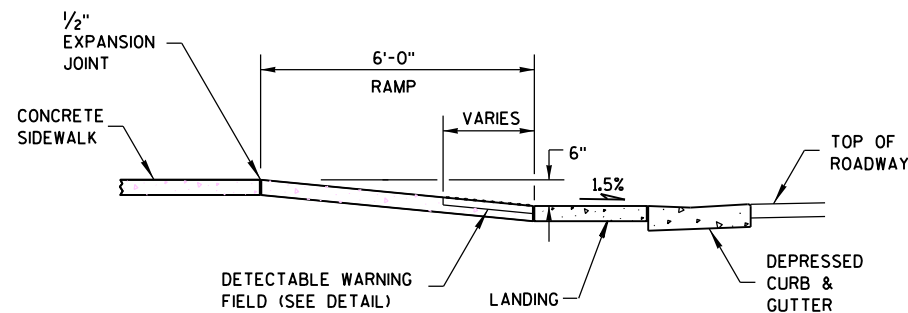
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CURB RAMP TYPE 4B
PLAN VIEW**



SECTION A-A FOR TYPE 4B

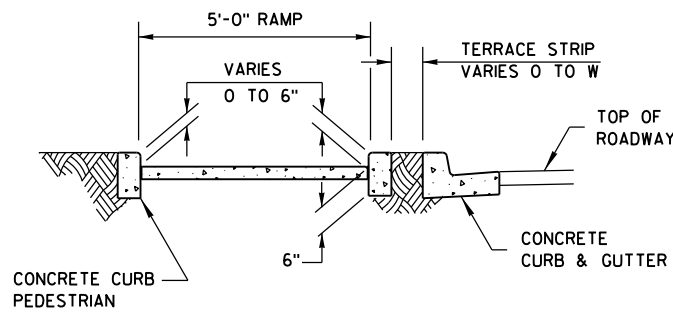


SECTION B-B FOR TYPE 4B

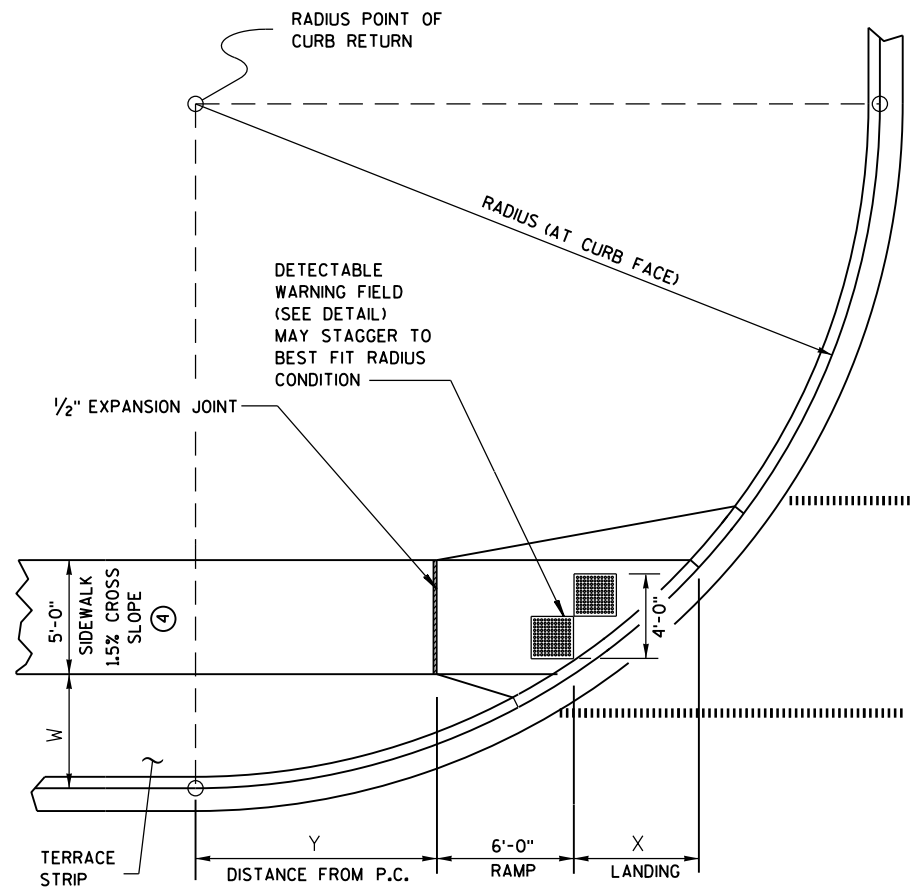
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - - - CONTRACTION JOINT FIELD LOCATED
 - ===== PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



**CURB RAMP TYPE 4B1
PLAN VIEW**

GENERAL NOTES

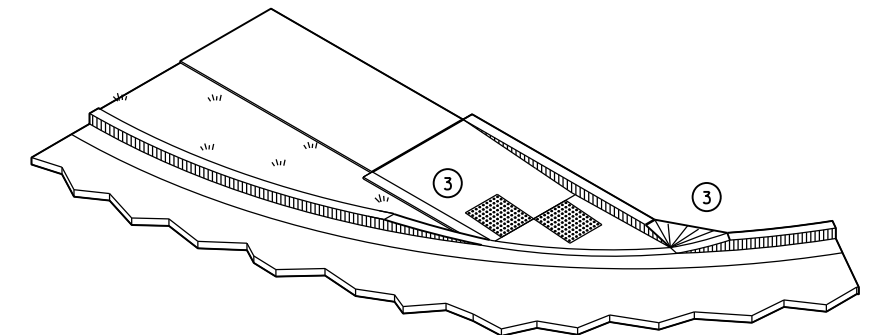
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

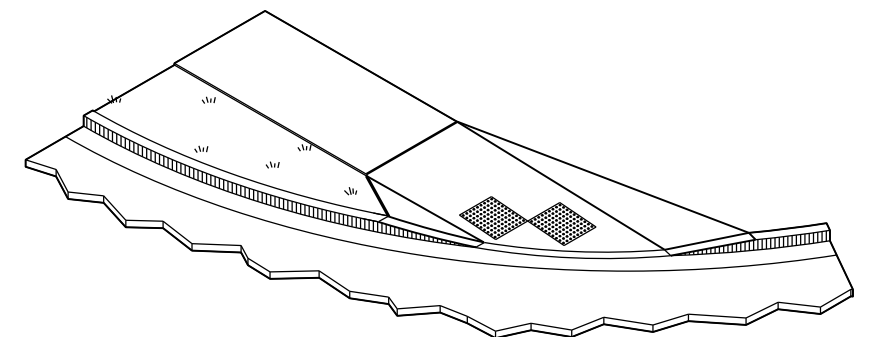
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



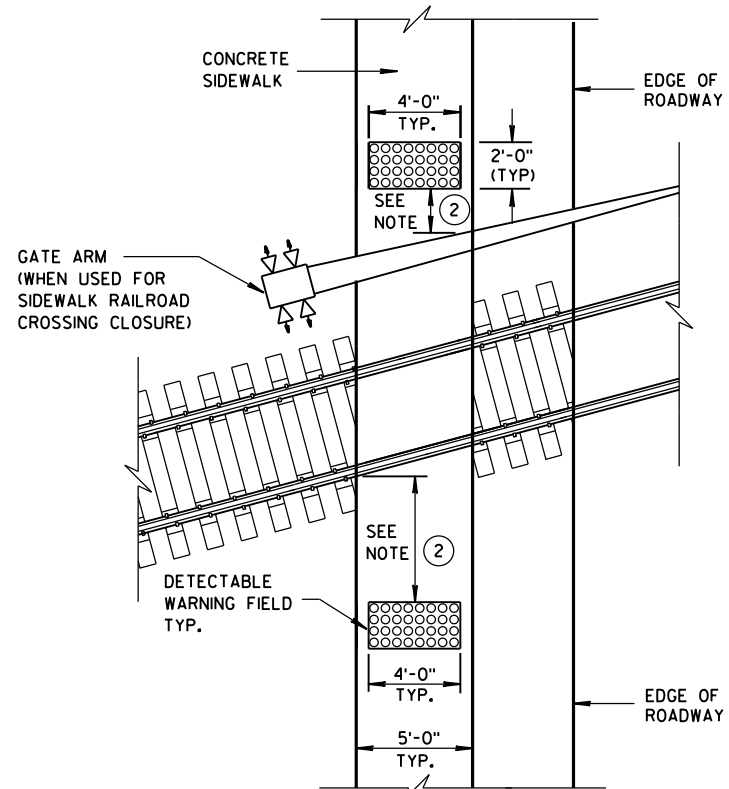
ISOMETRIC VIEW FOR TYPE 4B



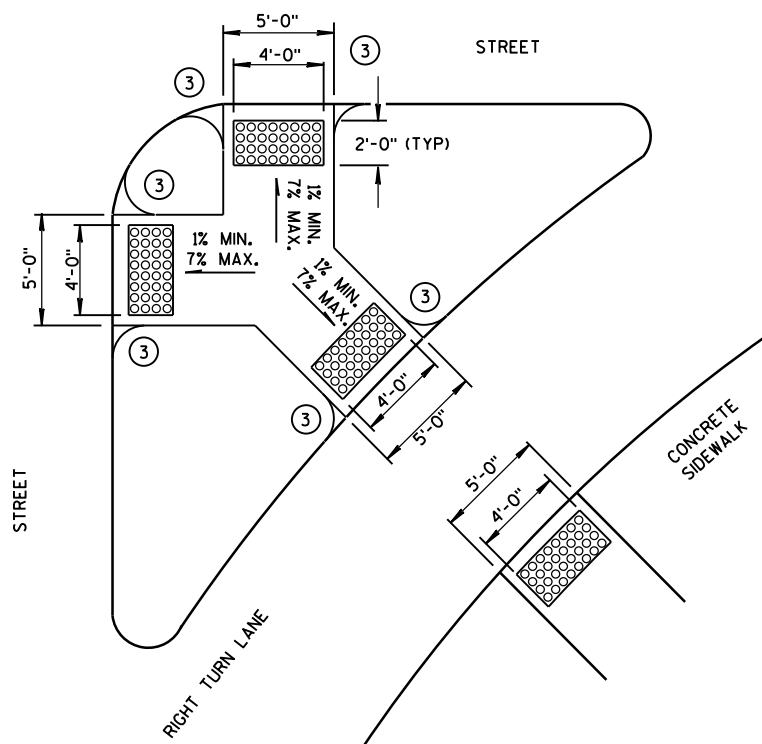
ISOMETRIC VIEW FOR TYPE 4B1

**CURB RAMPS
TYPE 4B AND 4B1**

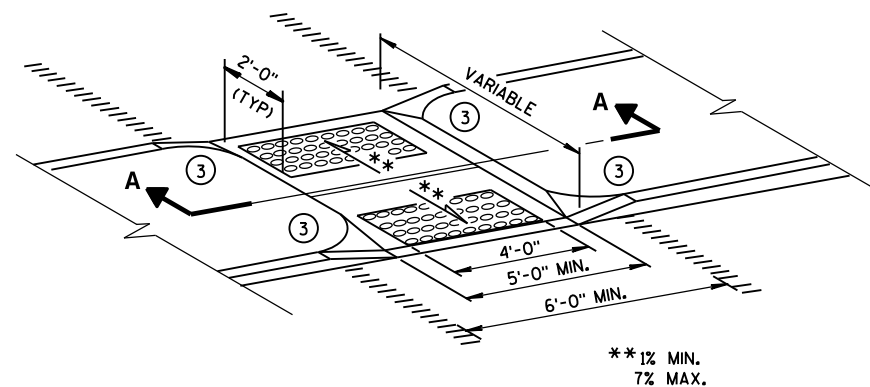
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



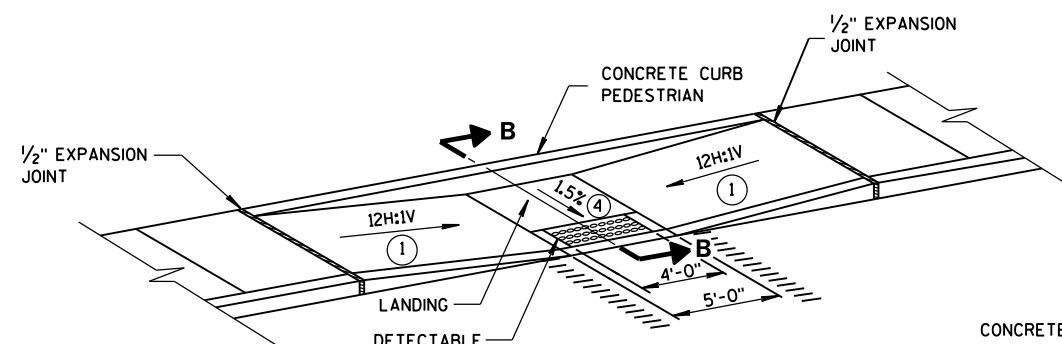
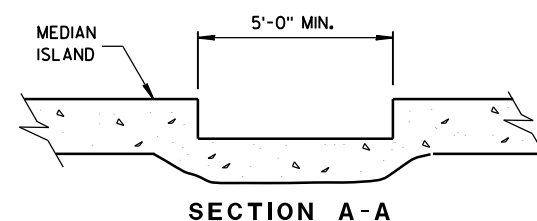
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



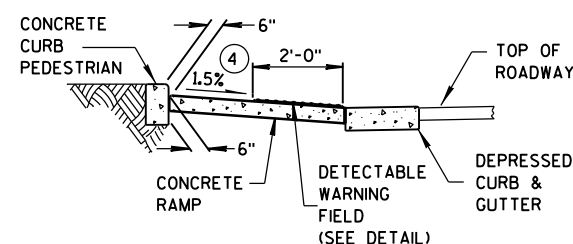
TYPE 6
DETECTABLE WARNING AT ISLANDS



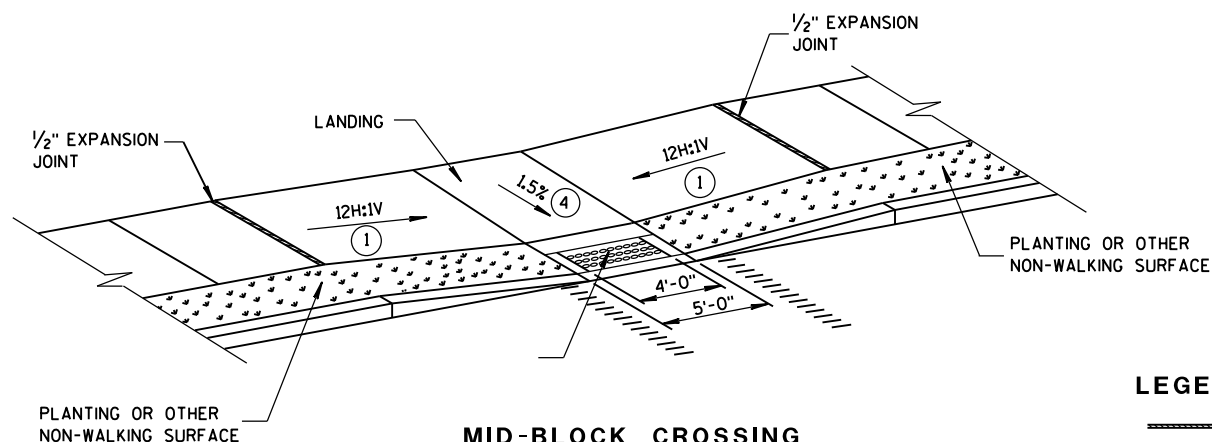
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

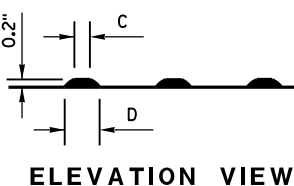
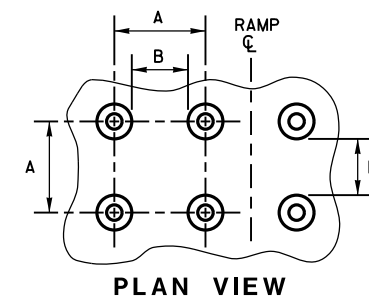
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- 1 SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 2 THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET $\pm$ 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- 3 INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- 4 $\pm$ 0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

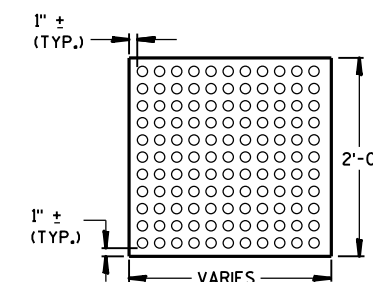


	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW
DETECTABLE WARNING
FIELD (TYPICAL)

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

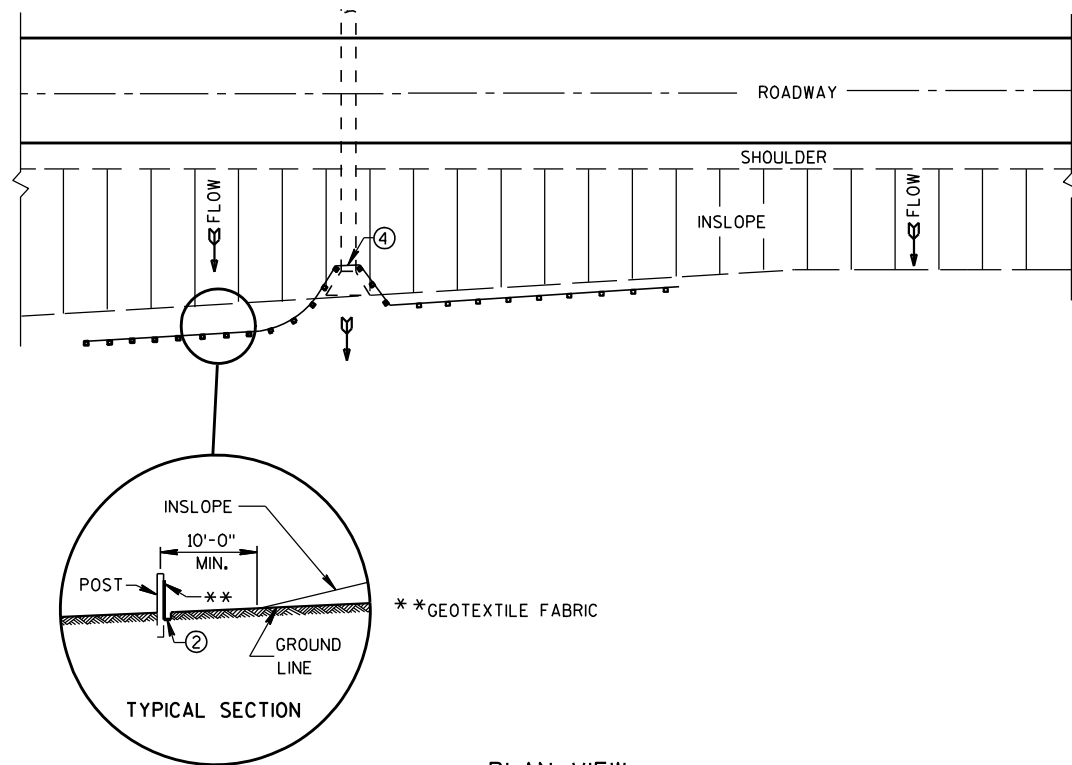
2-6-2013
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

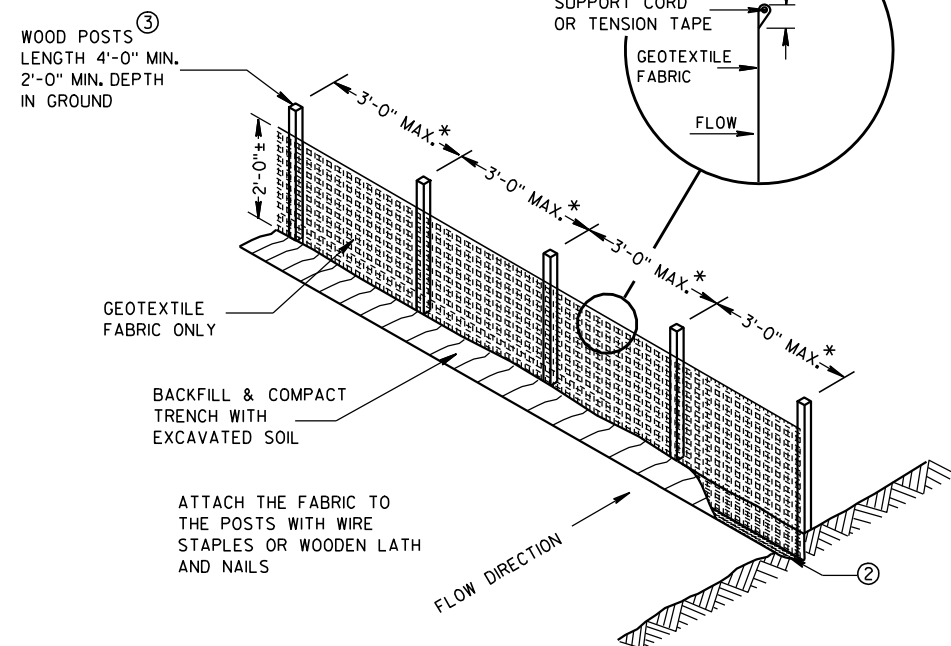
101

INT



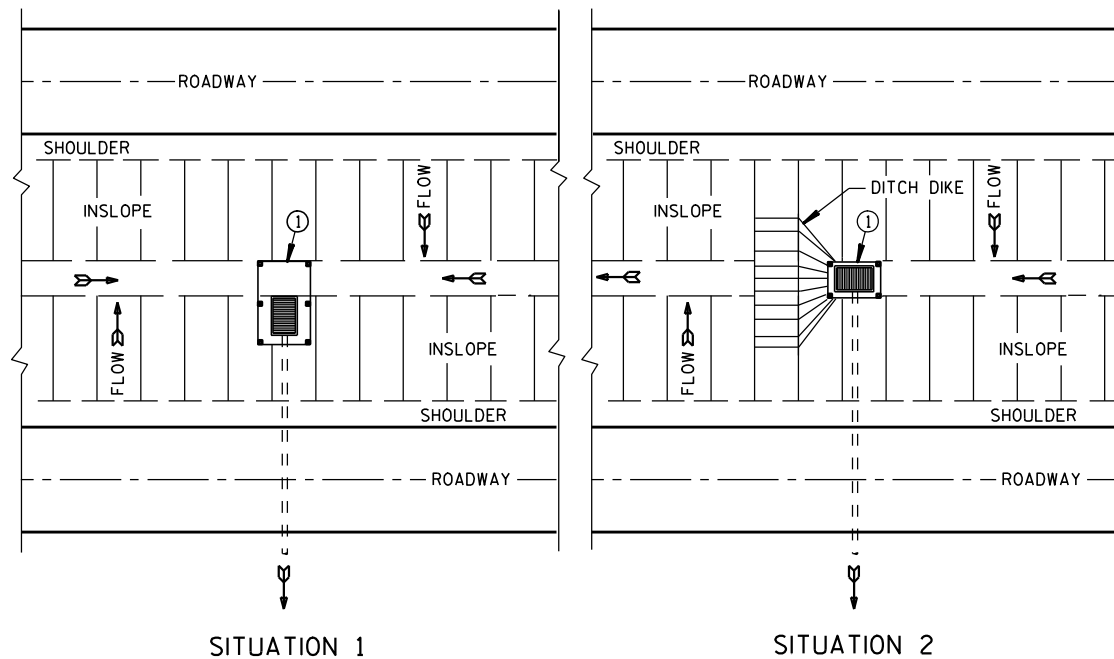
TYPICAL APPLICATION OF SILT FENCE

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



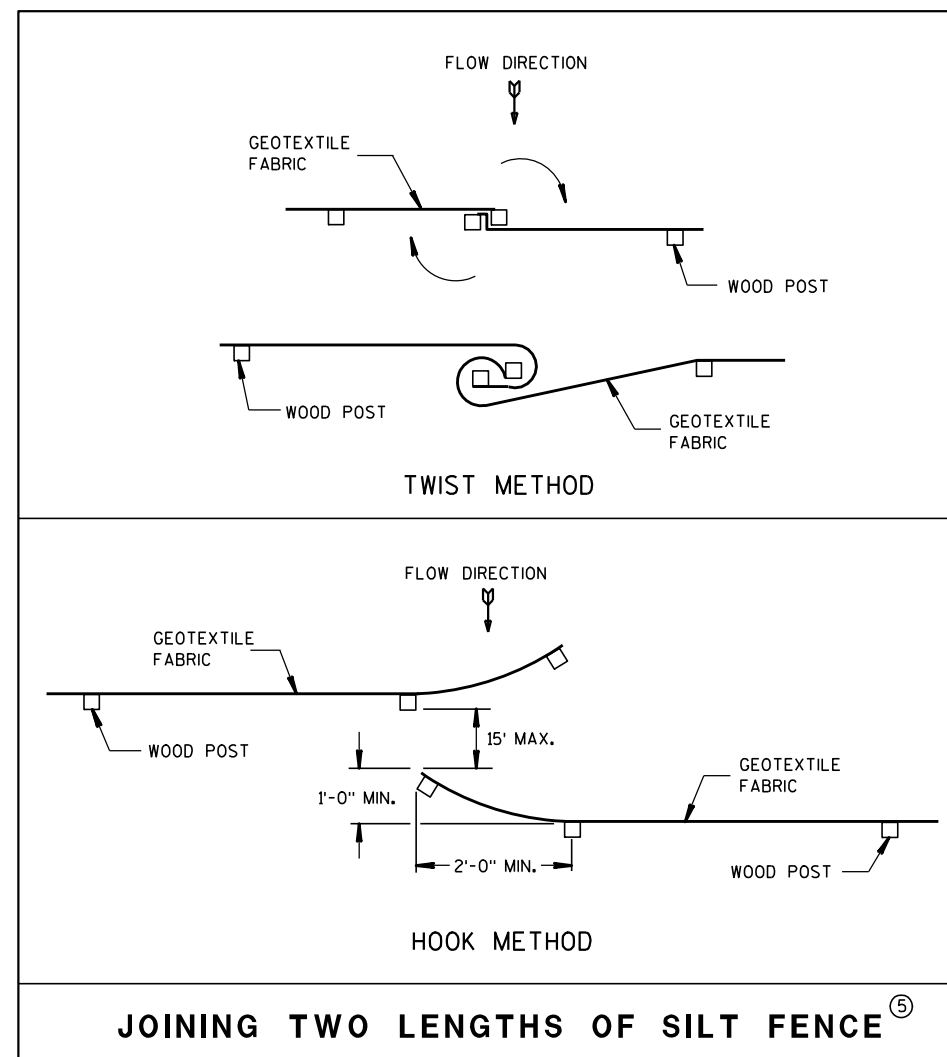
*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



PLAN VIEW

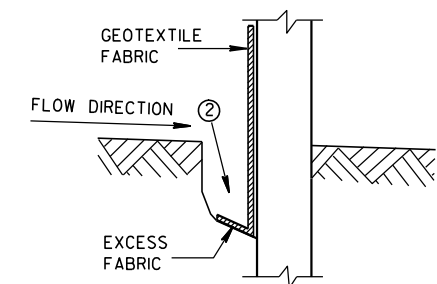
SILT FENCE AT MEDIAN SURFACE DRAINS



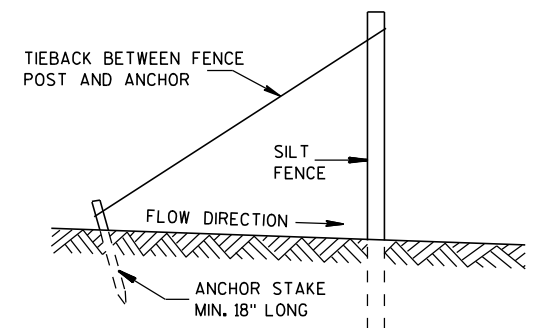
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

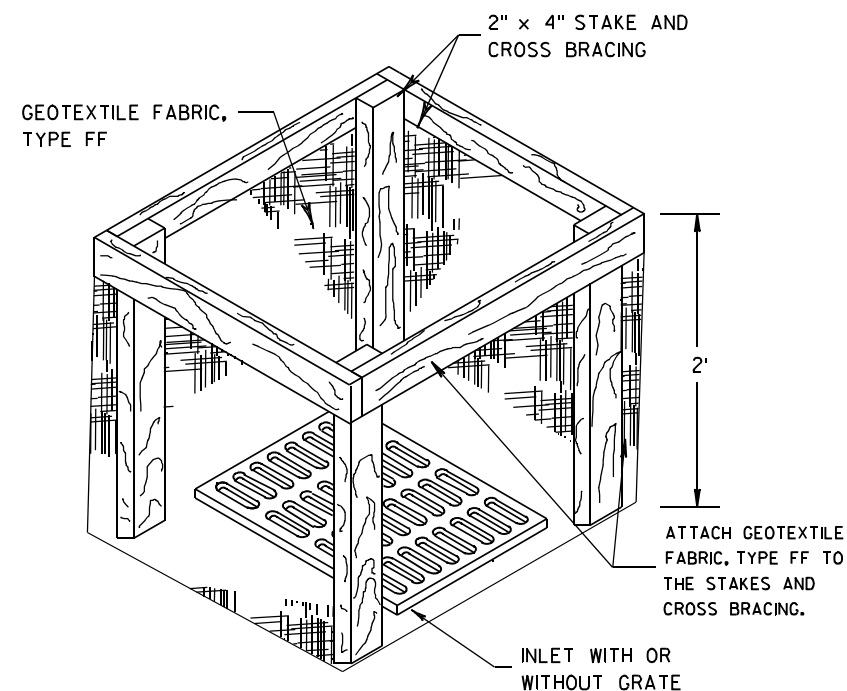
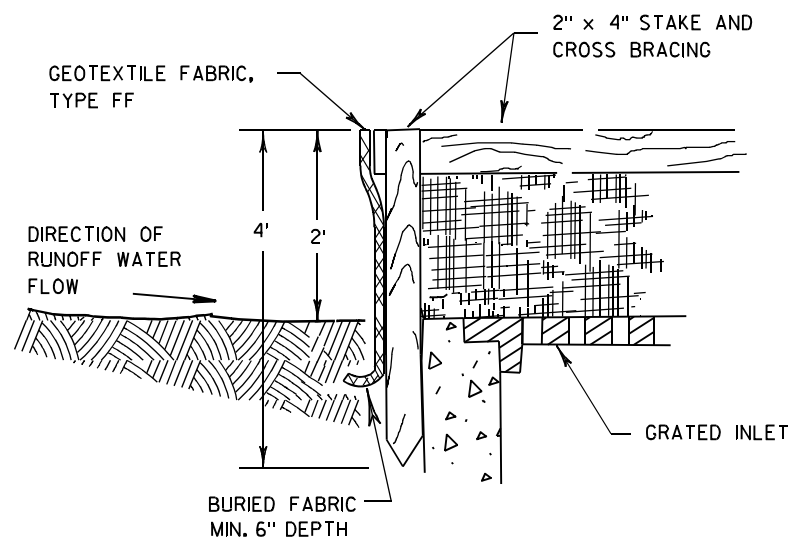
4-29-05

DATE

FHWA

/S/ Beth Conn
CHIEF ROADWAY DEVELOPER

ENGINEER



INLET PROTECTION, TYPE A

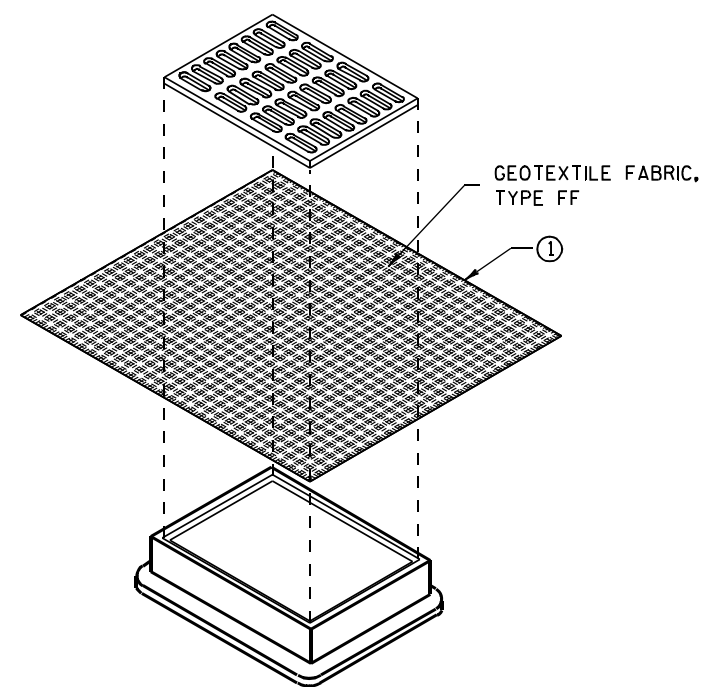
GENERAL NOTES

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

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

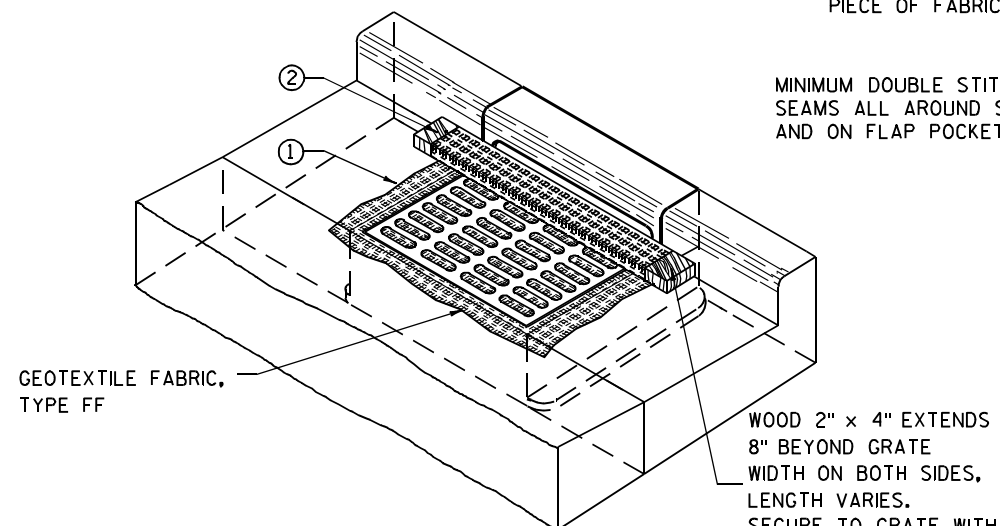
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

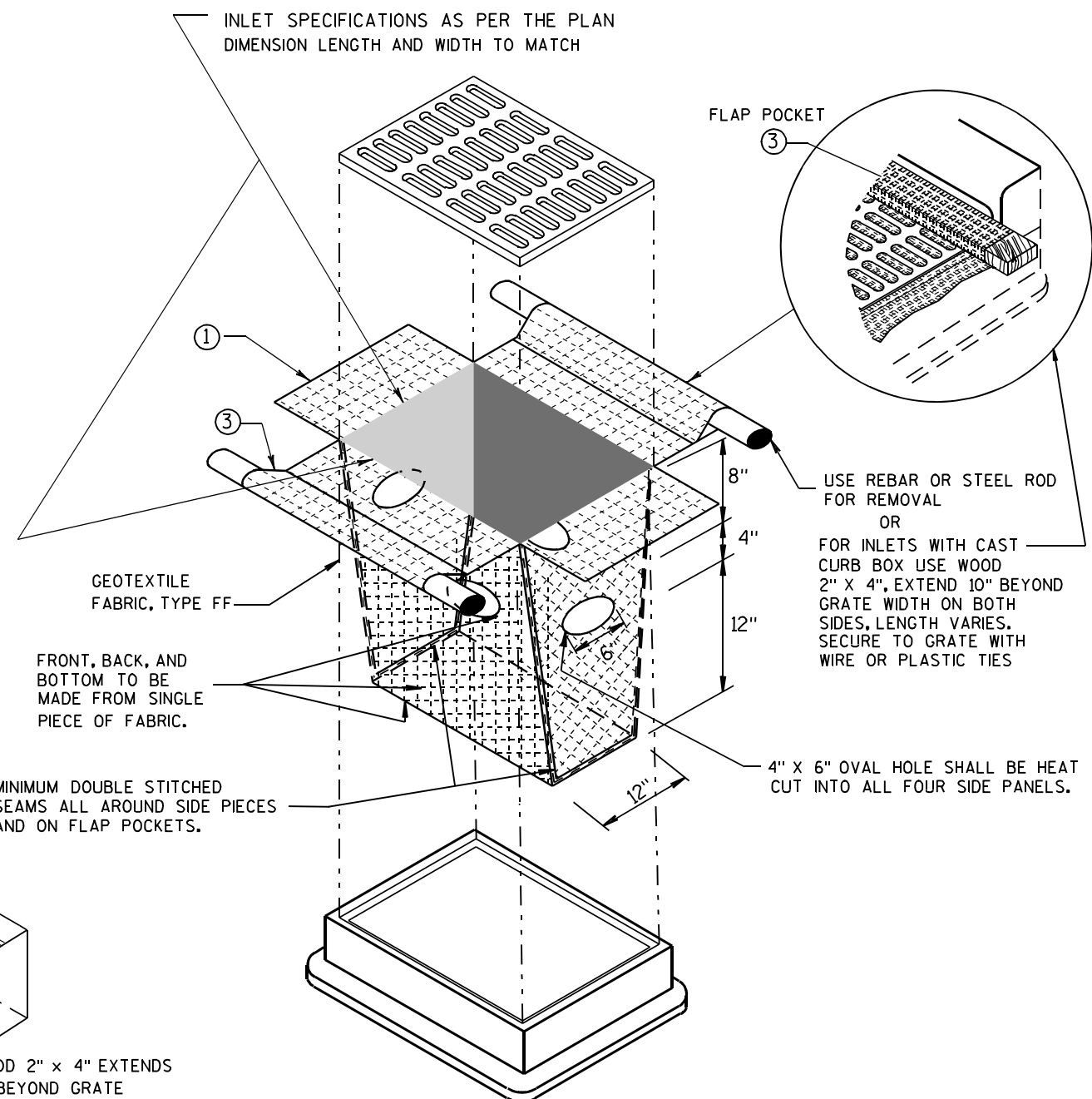
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

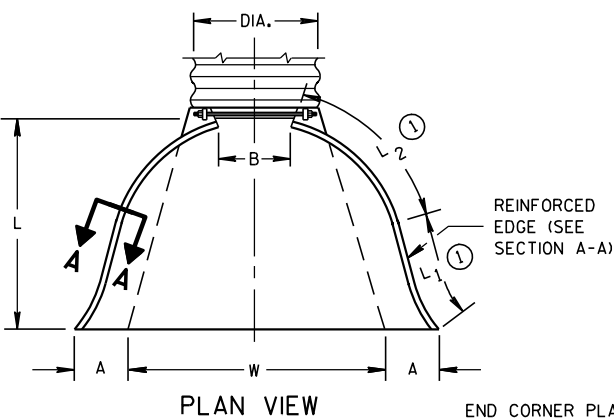
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

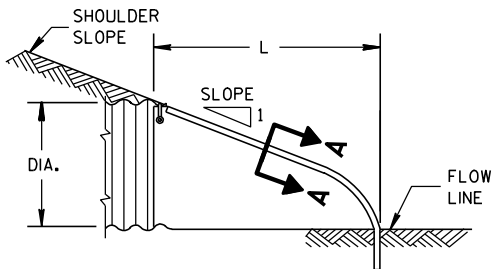
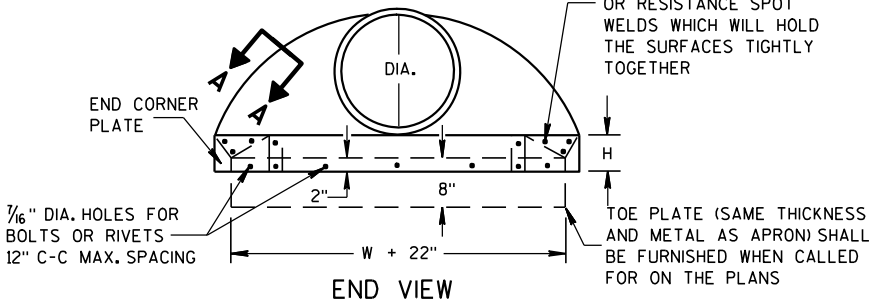
APPROVED
10/16/02 /S/ Beth Connolly
DATE 103
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

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

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



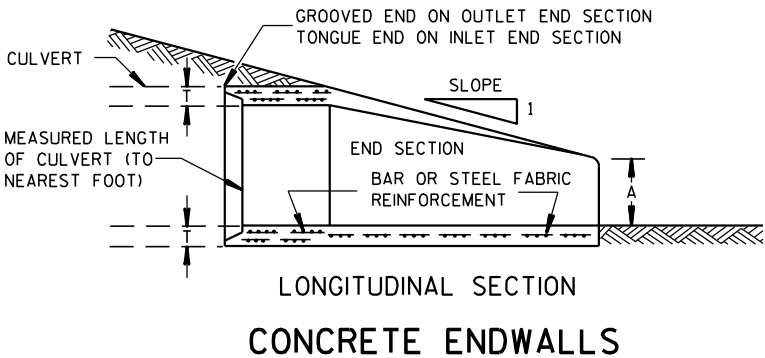
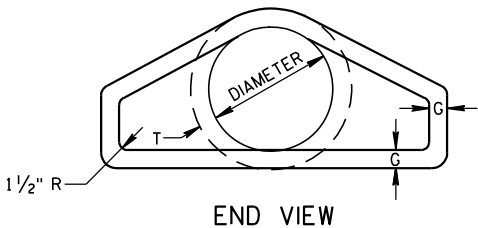
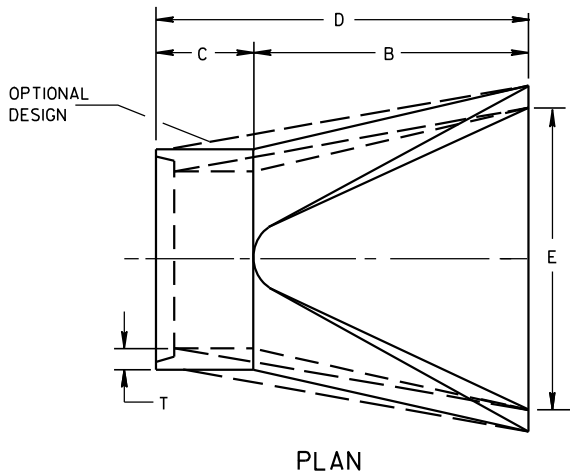
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



SIDE ELEVATION
METAL ENDWALLS

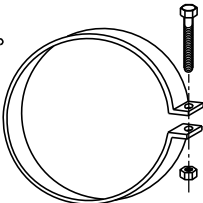
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

*MINIMUM
**MAXIMUM

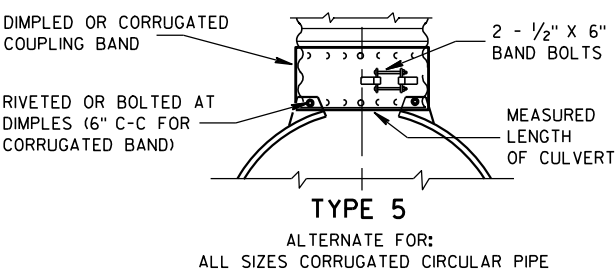
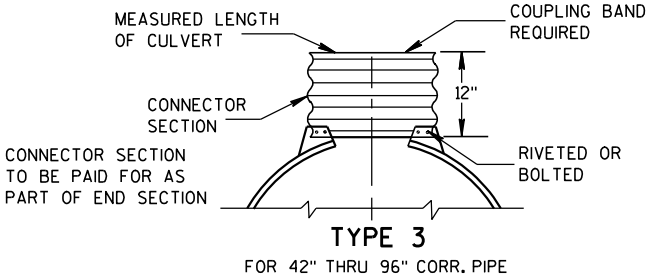
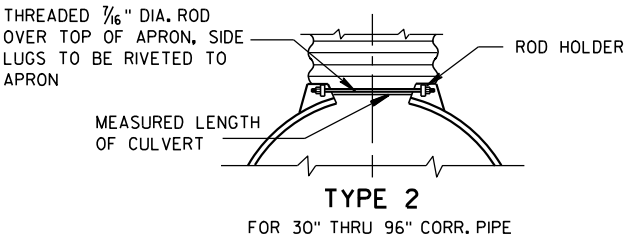
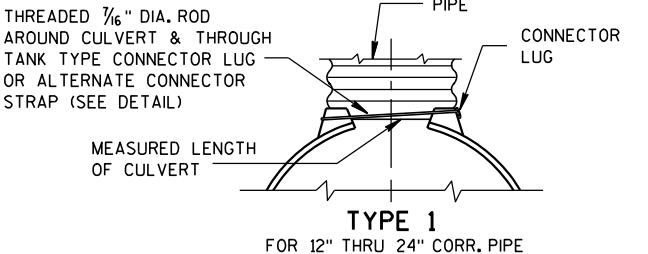


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



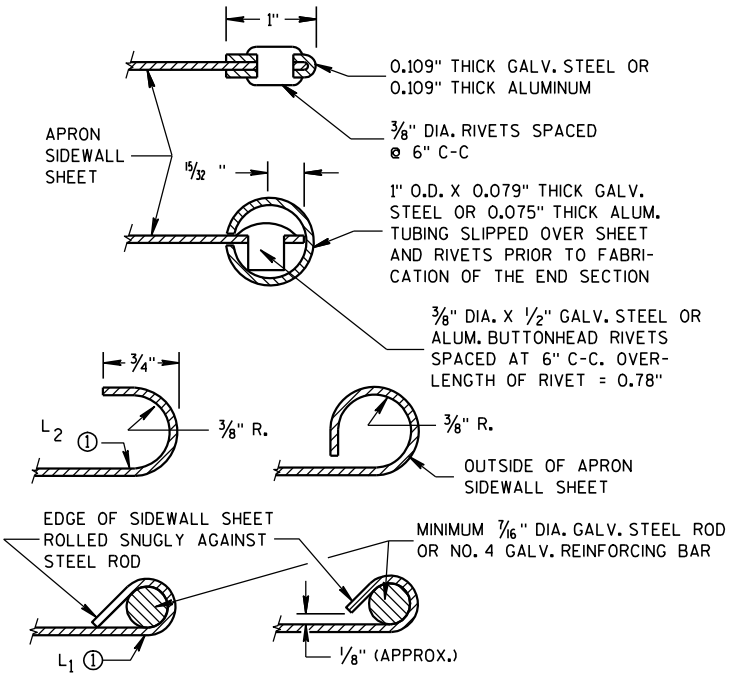
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

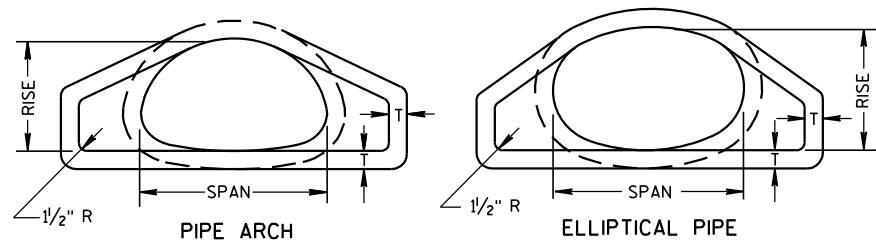
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

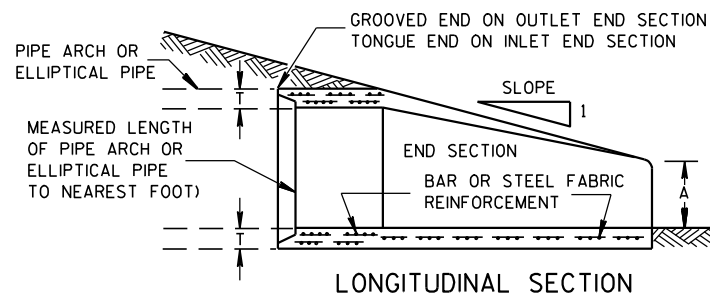
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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	104	NEER
FHWA			

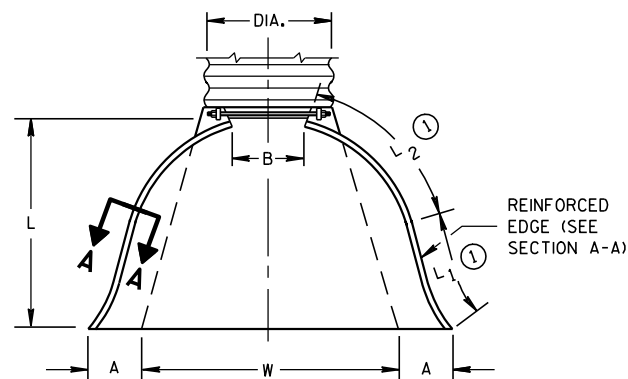


END VIEW



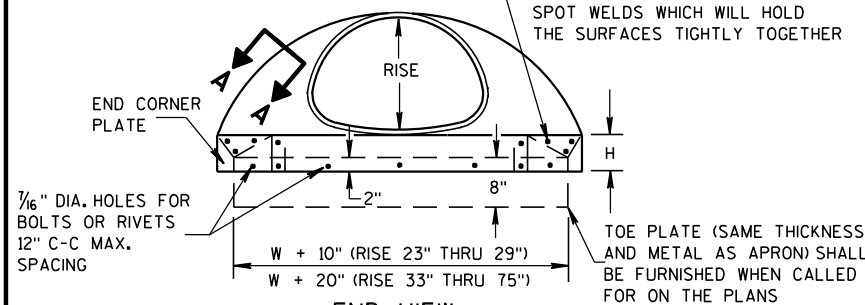
LONGITUDINAL SECTION

CONCRETE ENDWALLS

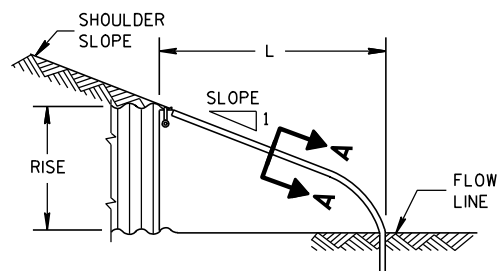
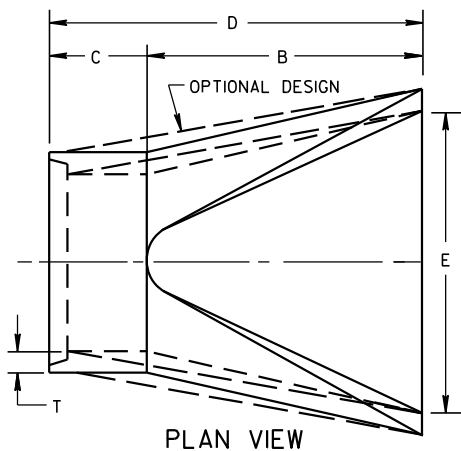


PLAN VIEW

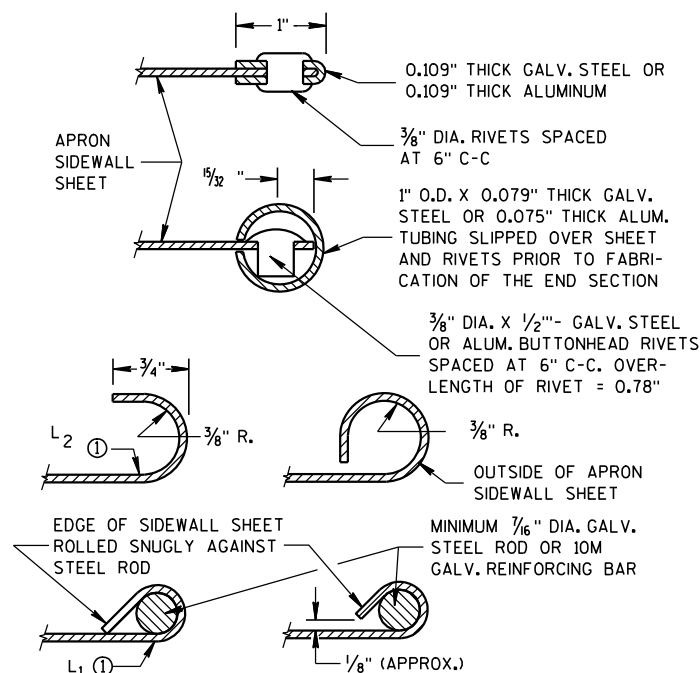
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW



SECTION A-A

2- 2 ² / ₃ " x 1 ¹ / ₂ " CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 ¹ / ₂ ")	L ₁ ①	L ₂ ①	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 ¹ / ₂ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 ³ / ₈	36	2 ¹ / ₂ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 ³ / ₄	42	2 ¹ / ₂ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 ¹ / ₂	48	2 ¹ / ₂ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 ⁵ / ₈	60	2 ¹ / ₂ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 ³ / ₈	75	2 ¹ / ₂ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 ³ / ₄	85	2 ¹ / ₂ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 ¹ / ₂ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 ³ / ₄	102	2 ¹ / ₄ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 ¹ / ₄	114	2 ¹ / ₄ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

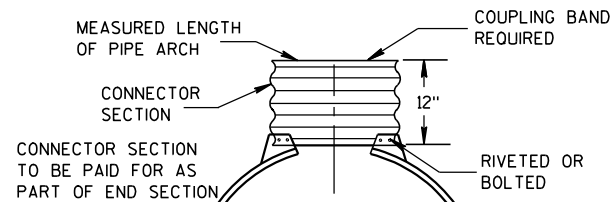
3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ⓪	L2 ⓪	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

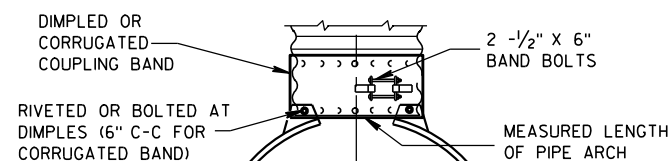
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHESNOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

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 APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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.

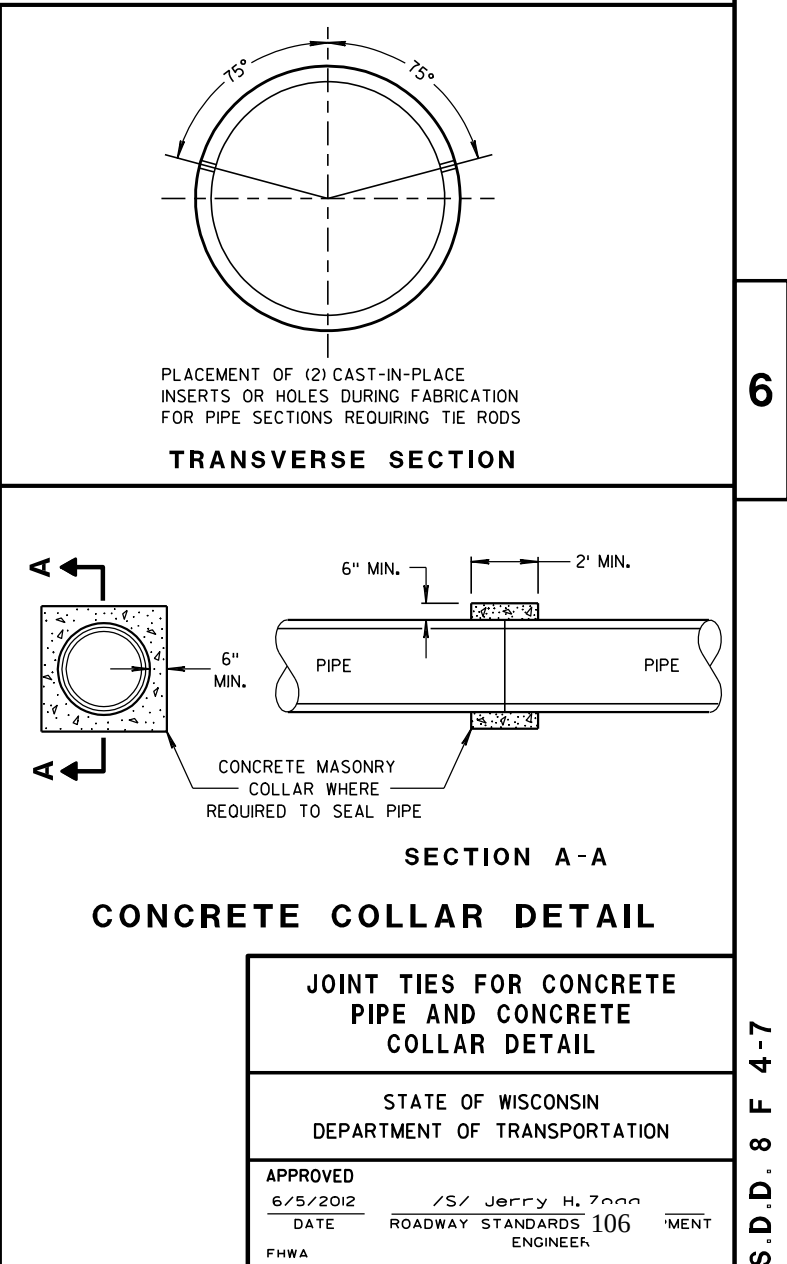
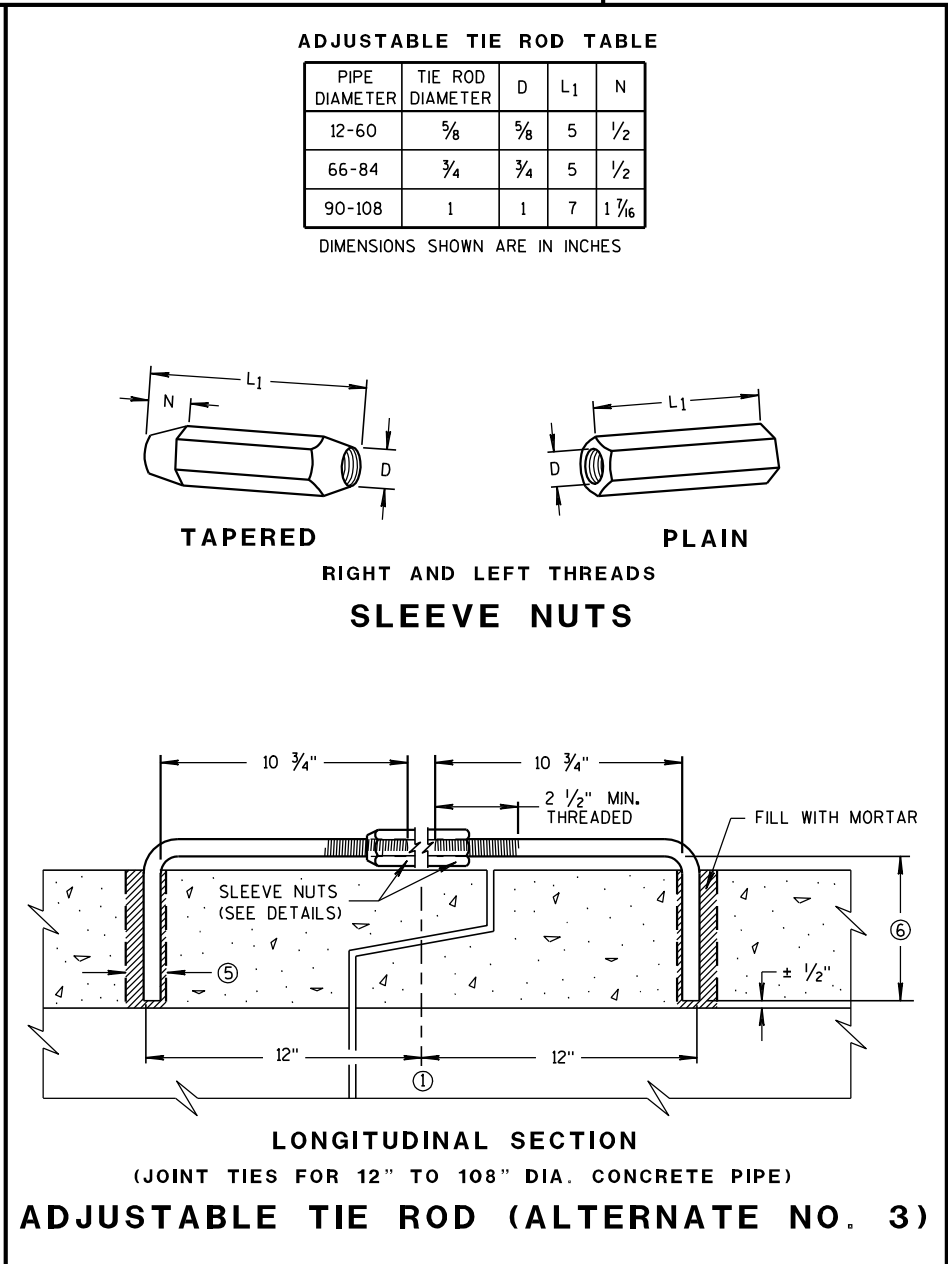
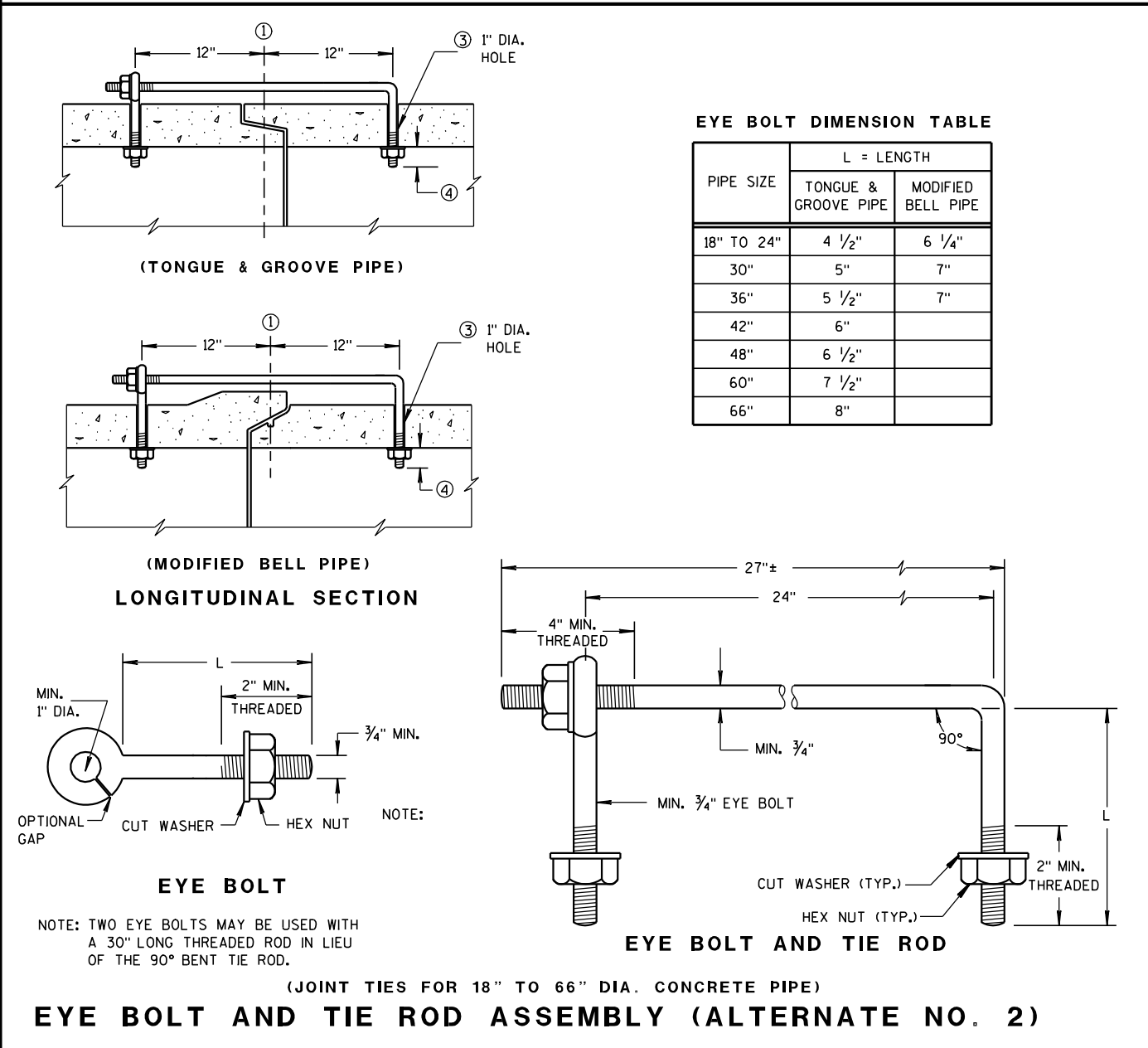
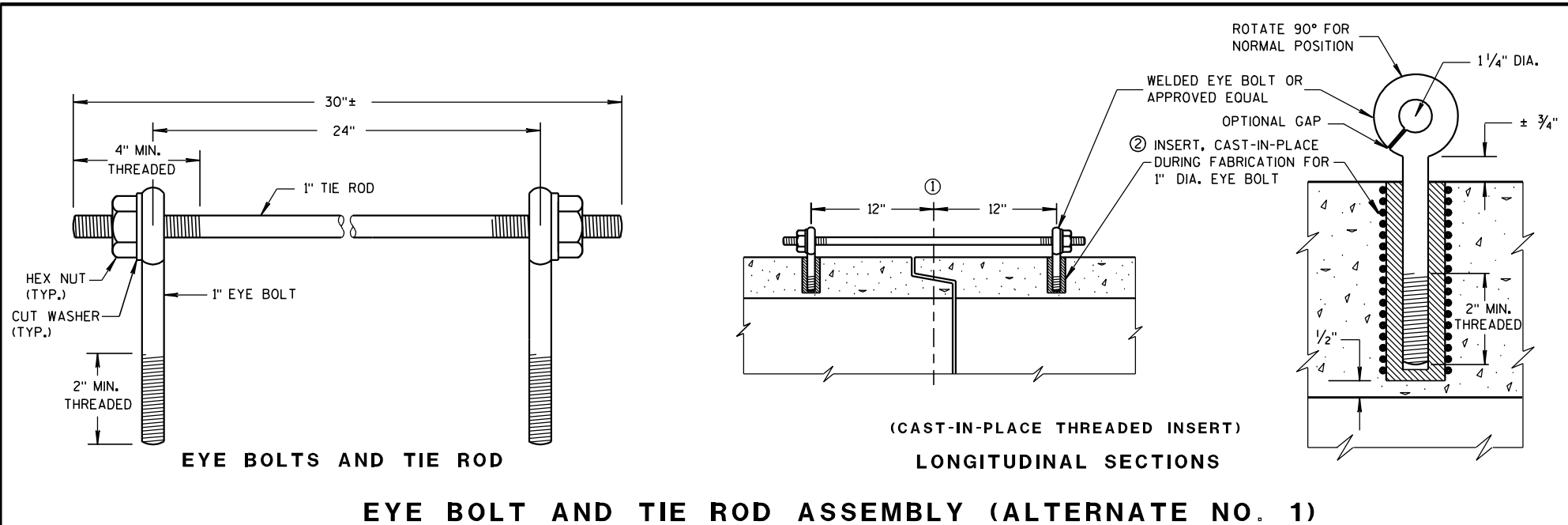
① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

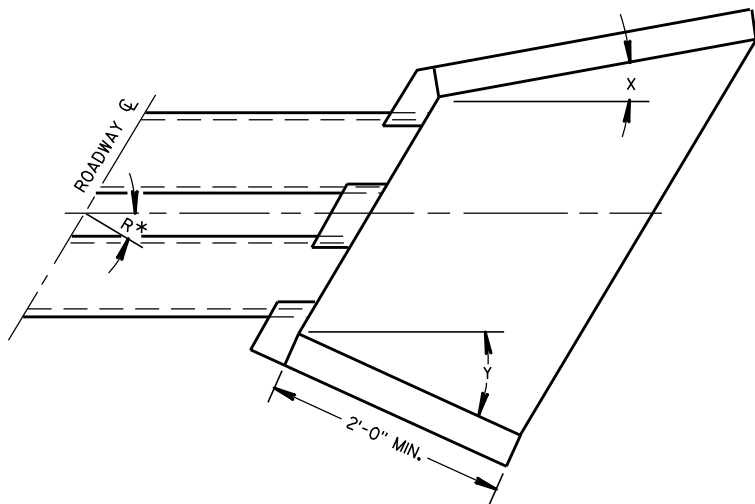
APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94
DATE/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPER

FHWA





WINGWALL ANGLE DETAILS

INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	"	16 - 45°	10°	"
23 - 37°	20°	"	46 - 75°	5°	"
38 - 52°	15°	"	OVER 75°	0°	"
53 - 67°	10°	"			
68 - 82°	5°	"			
OVER 82°	0°	"			

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

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.

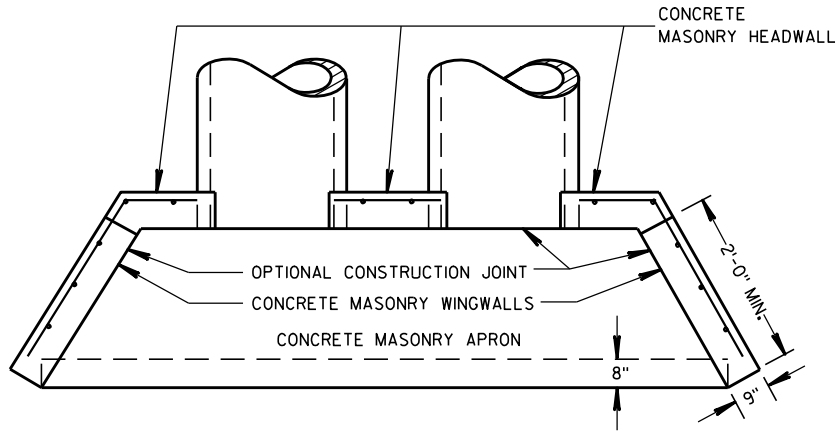
FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

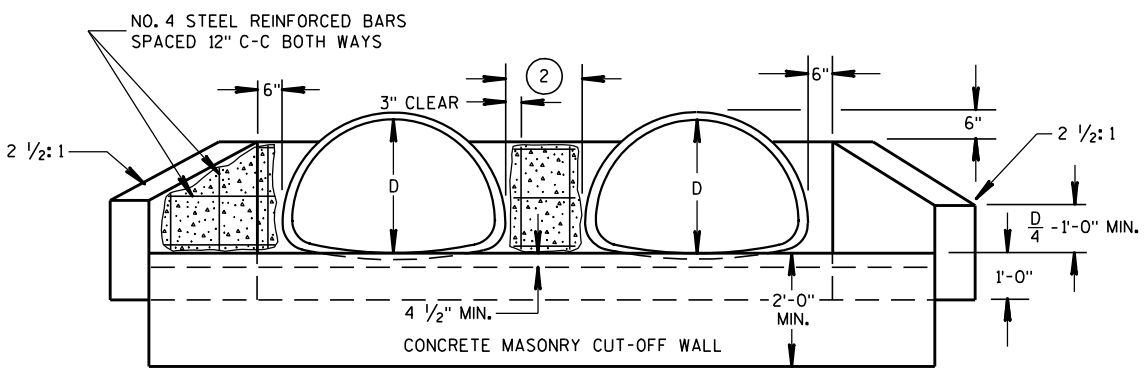
1 MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

2 THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

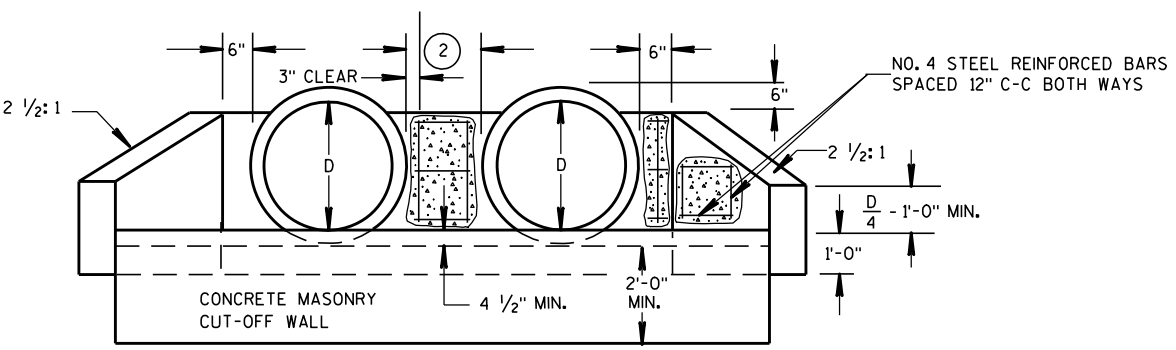
DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3'-0"



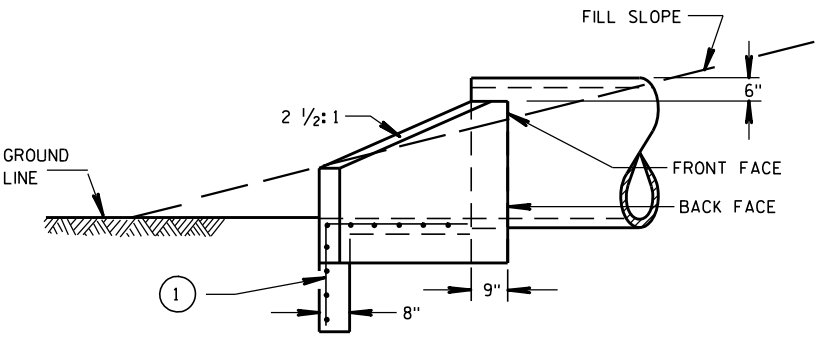
PLAN VIEW
CULVERT PIPE AND PIPE ARCH



END ELEVATION
PIPE ARCH



END ELEVATION
CULVERT PIPE

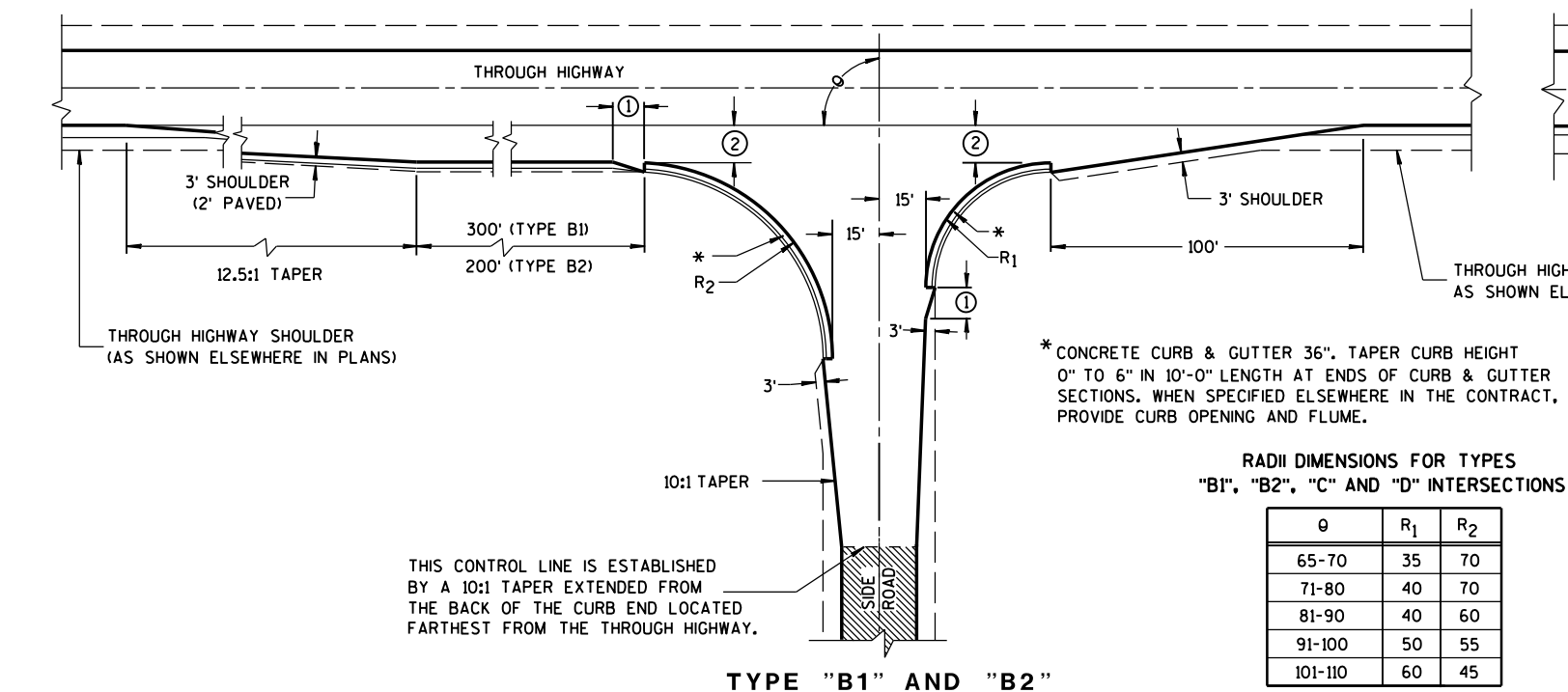


SIDE ELEVATION
CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS
FOR CULVERT PIPE AND
PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/98 DATE /S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

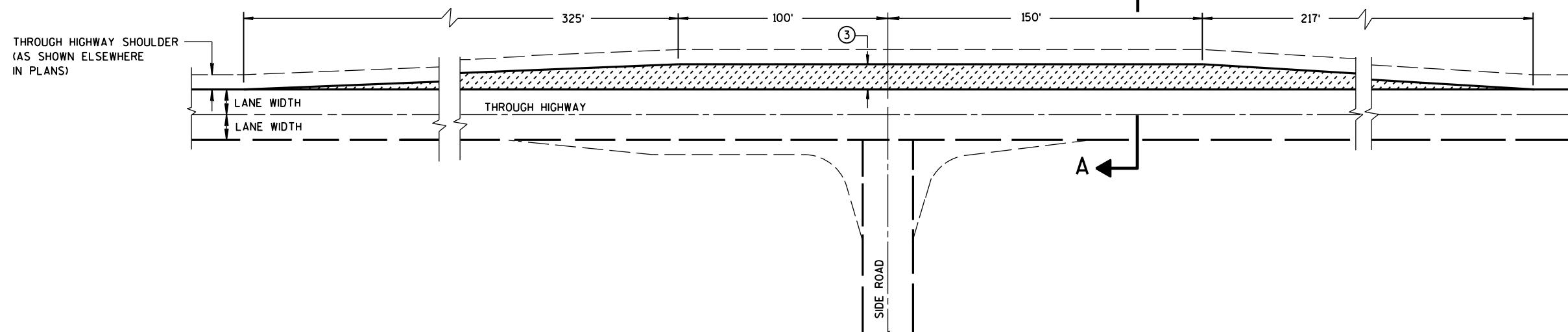
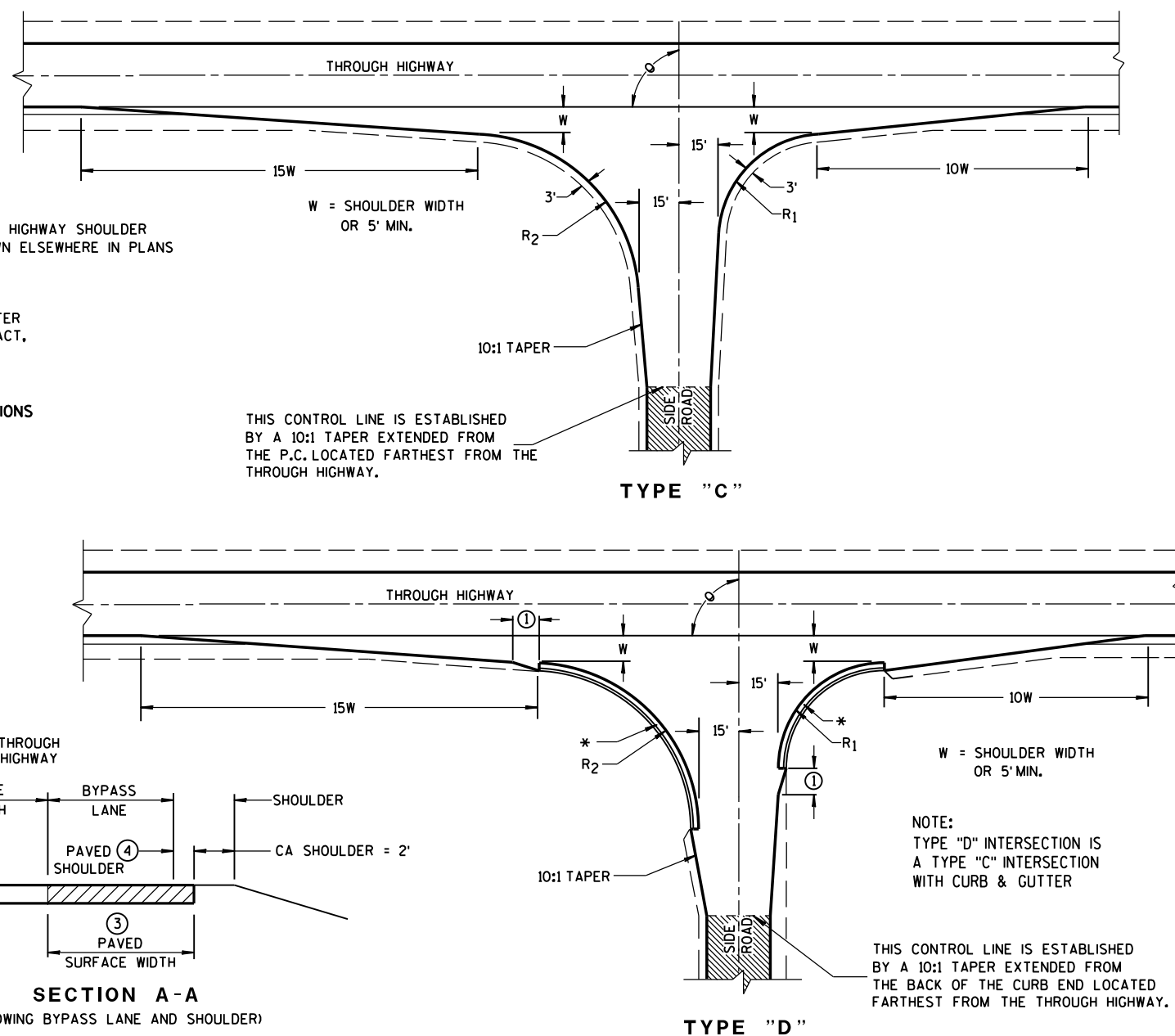
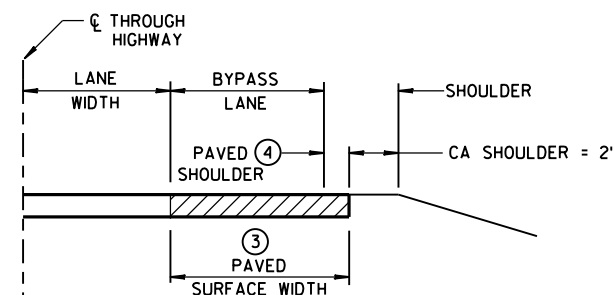
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

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

EXISTING PAVED SURFACE

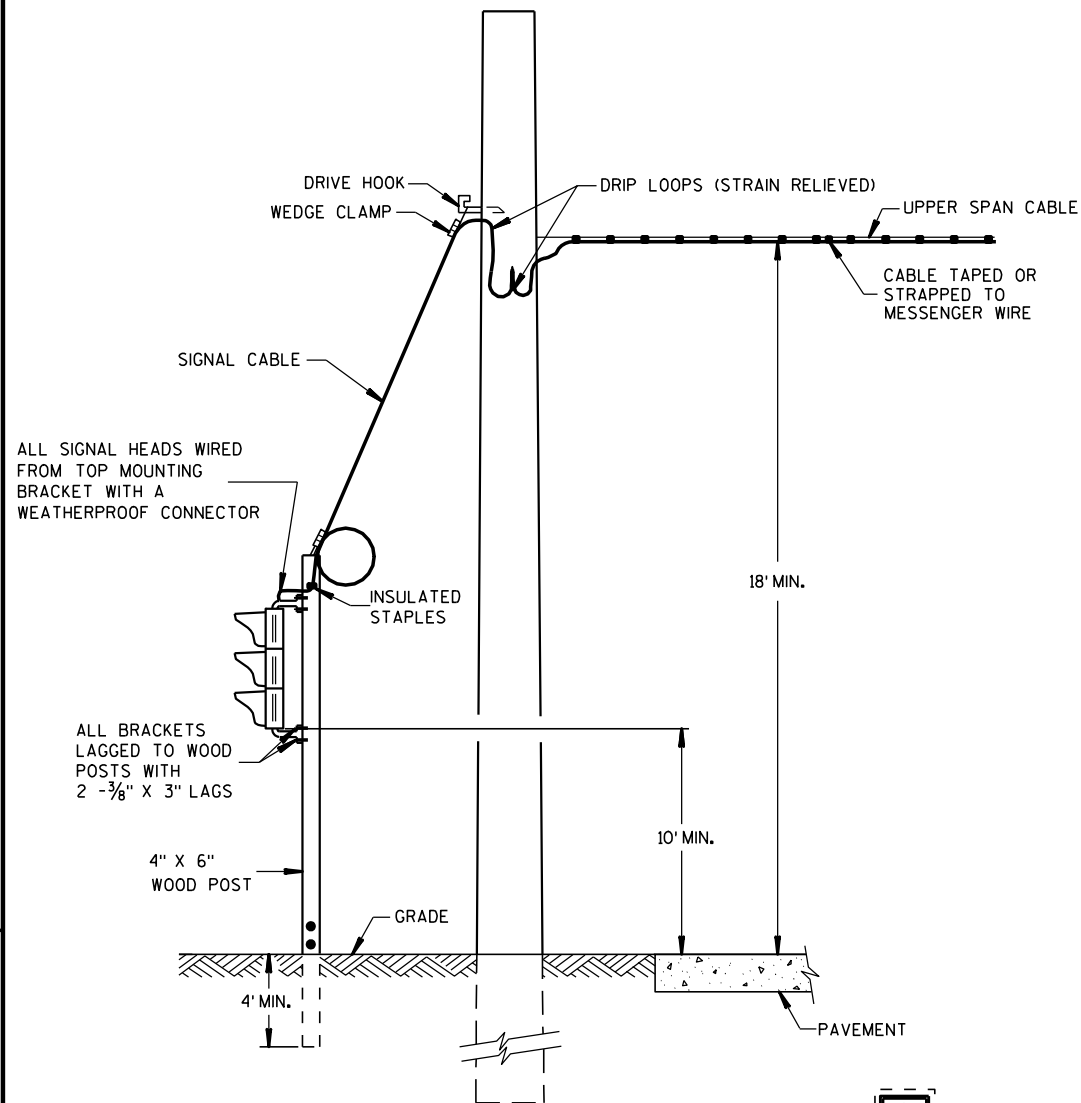
BYPASS LANE

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 108

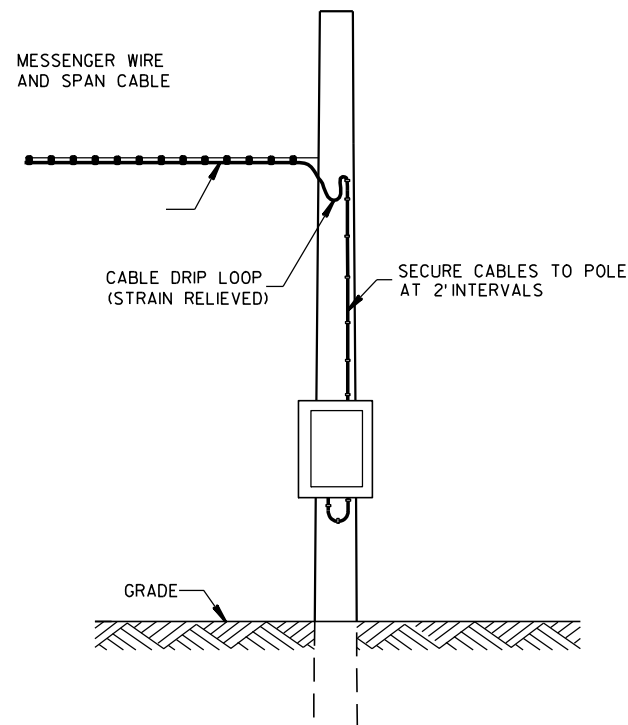


**TYPICAL DROP
TO TRAFFIC SIGNAL FACE**

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

**NOTE: OFFSET MEASURED FROM OUTER EDGE OF
OUTSIDE THRU LANE.

MINIMUM POLE LENGTHS	CLASS	MINIMUM BURIAL DEPTHS
25 FEET	V	5 FEET
30 FEET	V	6 FEET
35 FEET	IV	7 FEET
40 FEET	IV	8 FEET
45 FEET	IV	9 FEET



**POLE MOUNT
CABINET INSTALLATION**

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

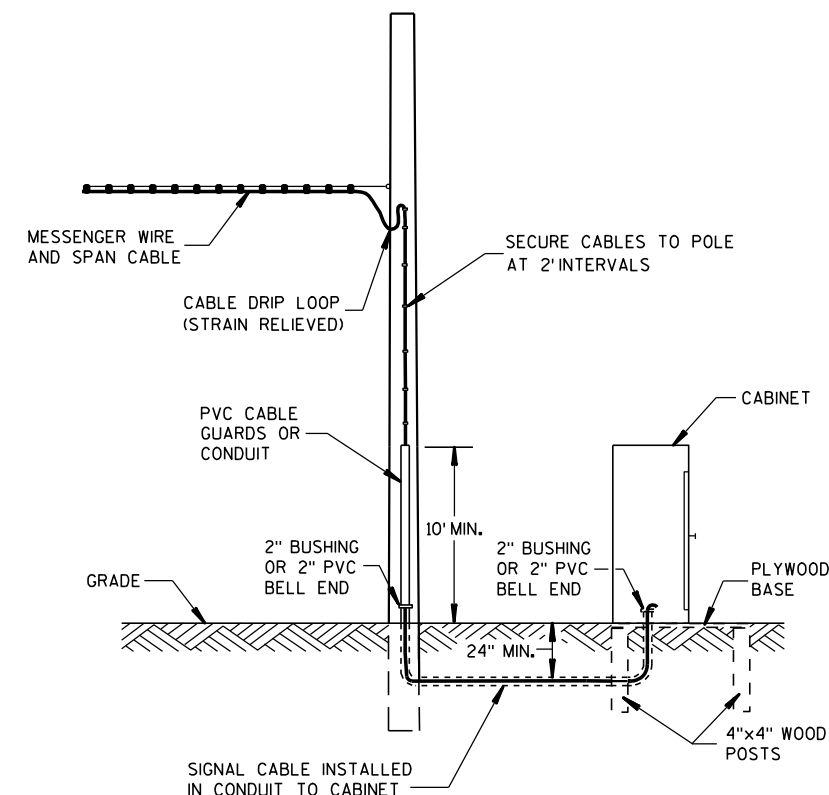
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

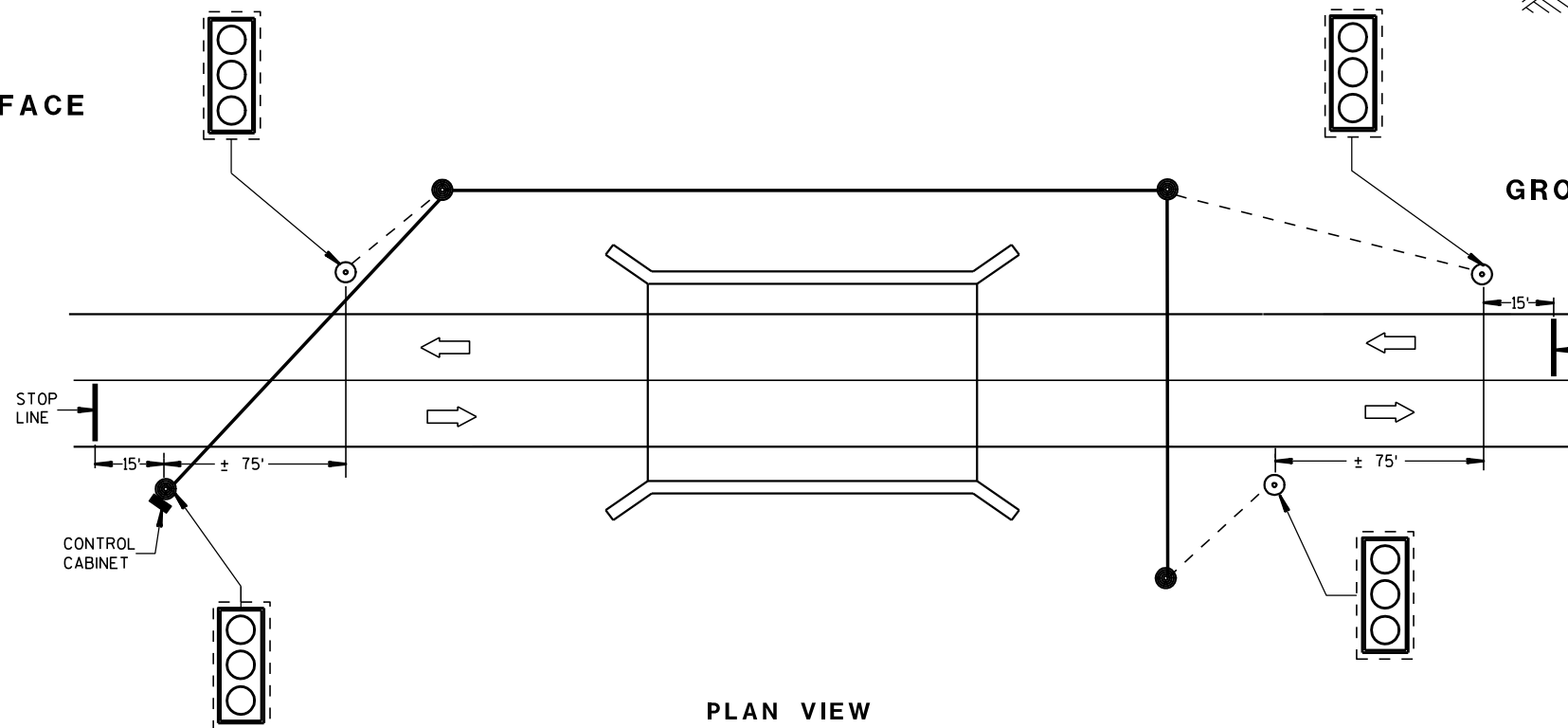
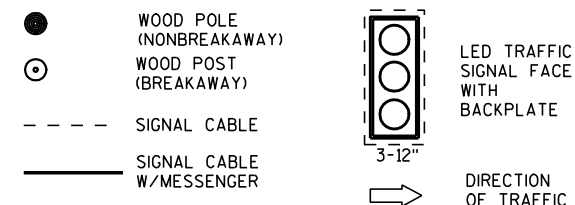
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



GROUND MOUNT CABINET INSTALLATION

LEGEND



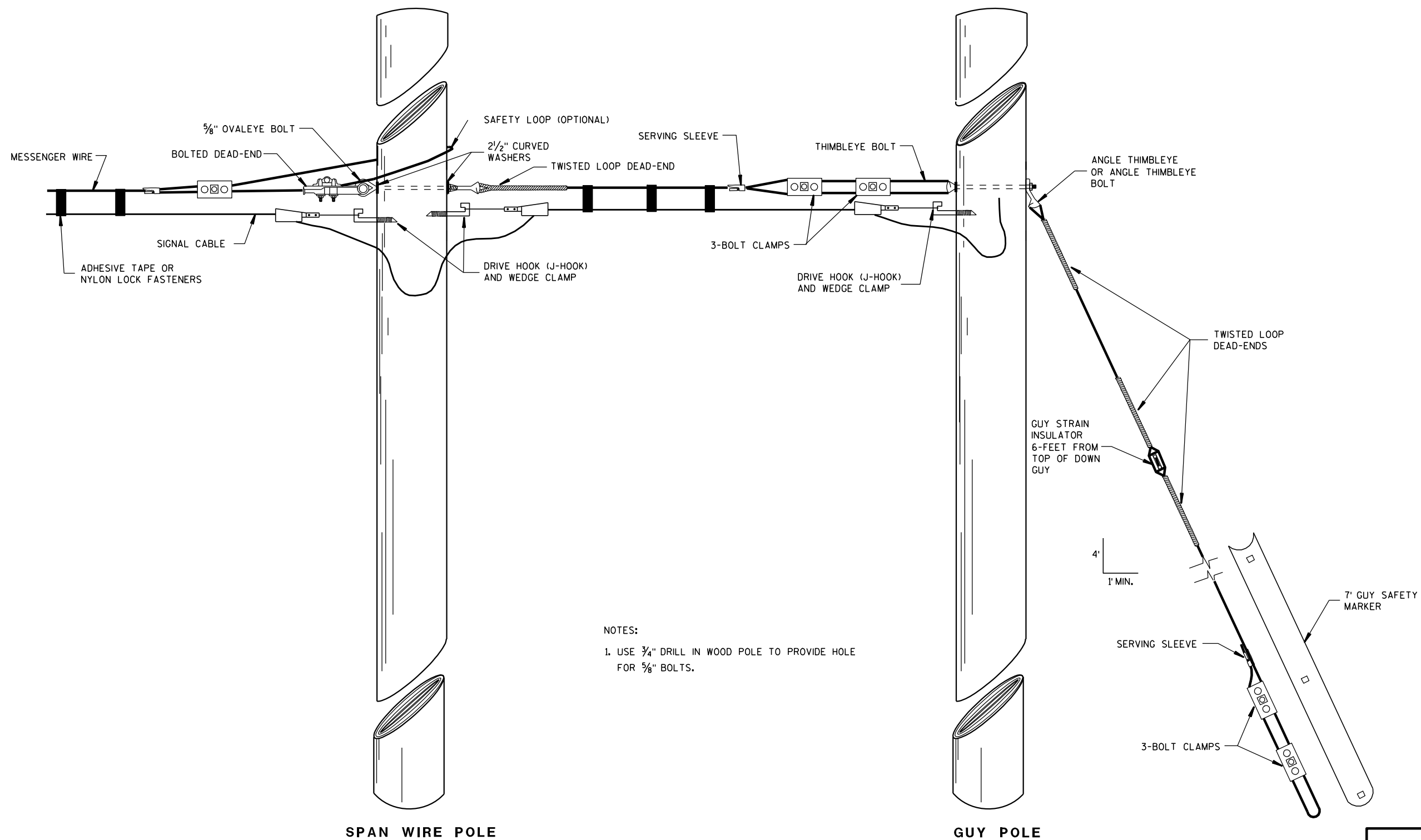
**PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION**

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE /S/ Thomas J. Gannon STATE ELECTRICAL ENGR 109 HWYS
FHWA



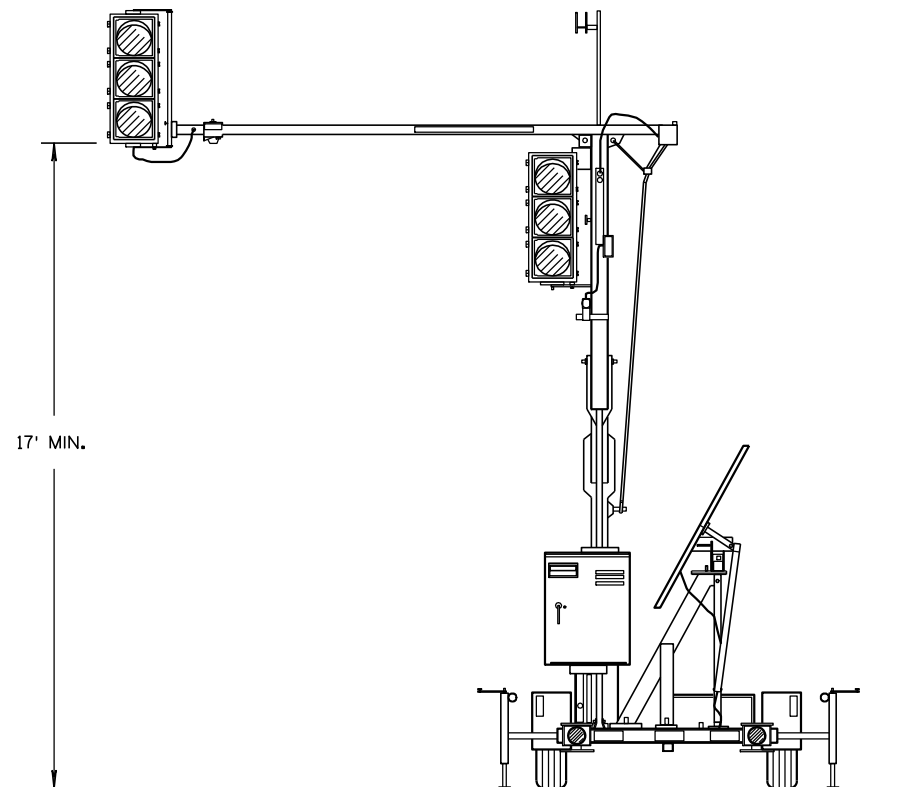
TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011
DATE/S/ Thomas J. G...
STATE ELECTRICAL ENGI 110 HWYS

FHWA

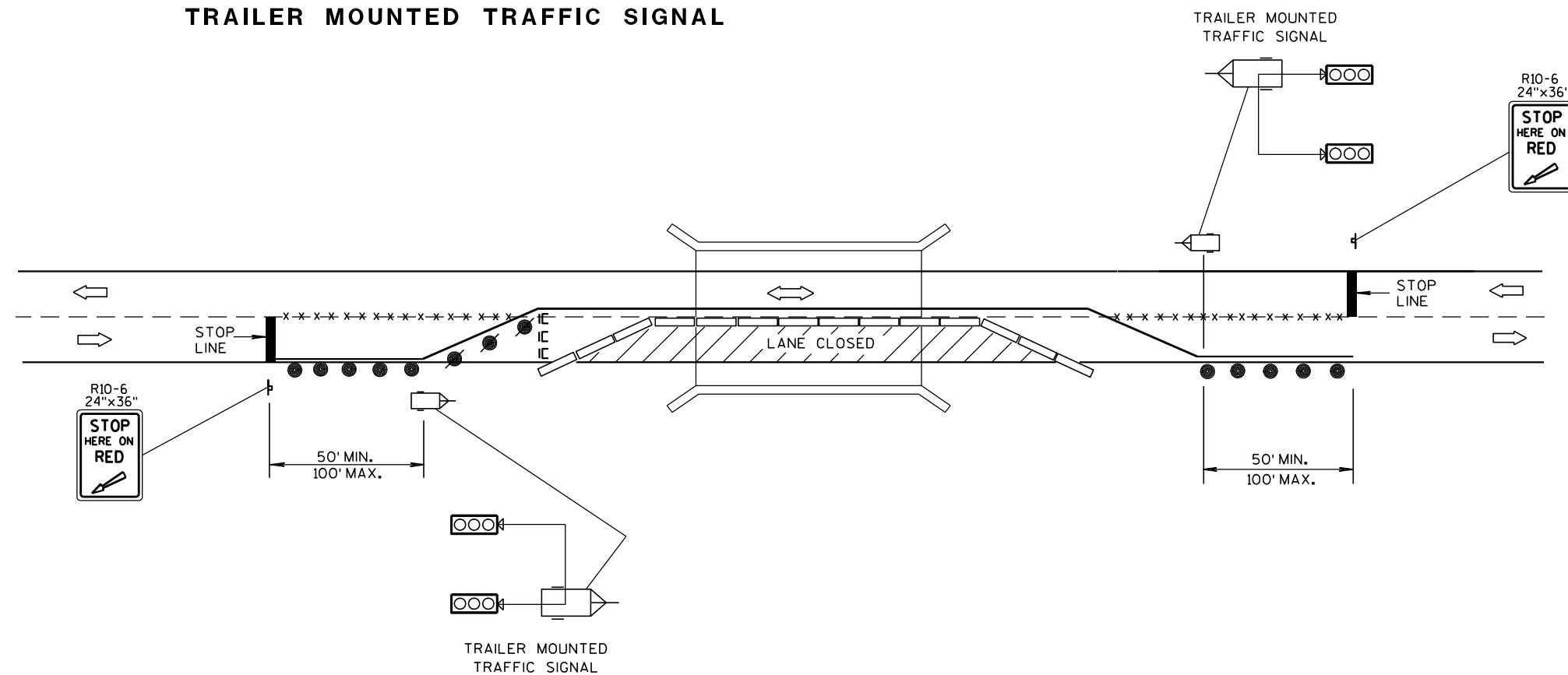


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 /S/ Thomas J. Gorman
DATE STATE ELECTRICAL ENGR 111 HWYS
FHWA

GENERAL NOTES

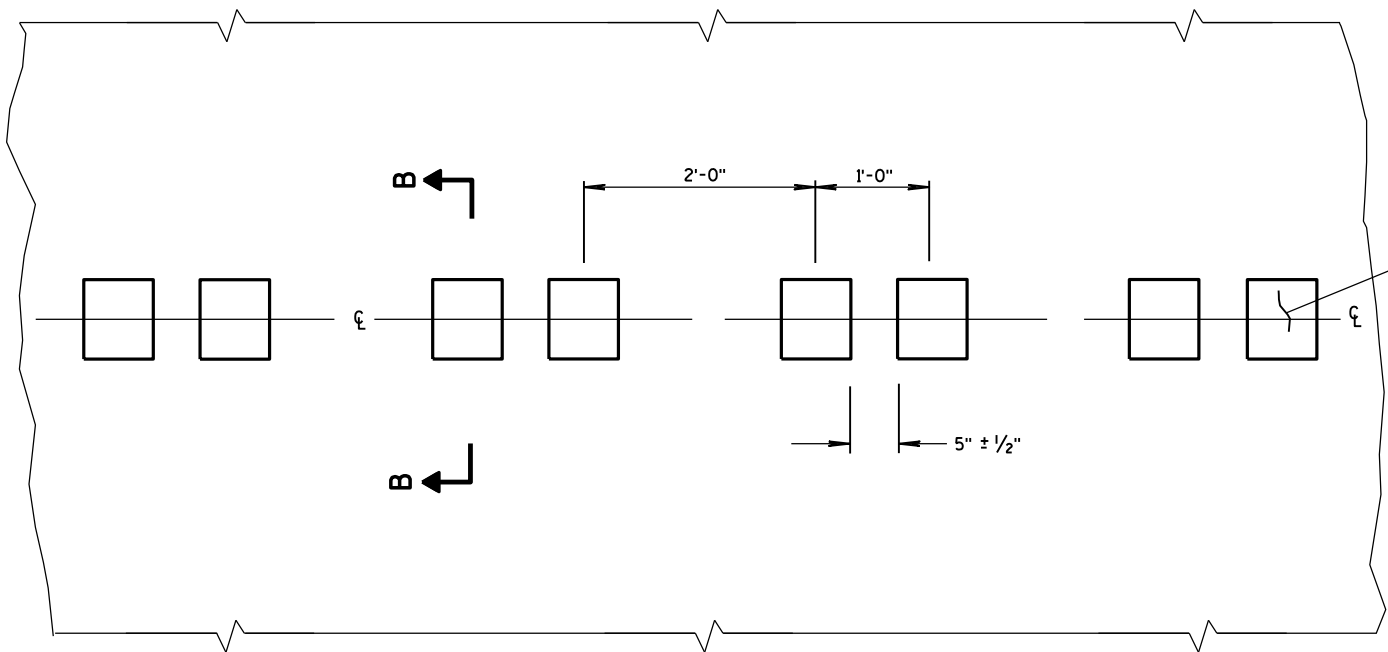
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

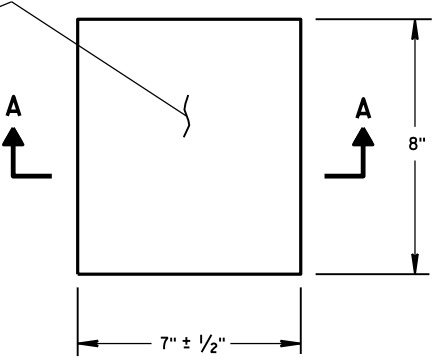
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

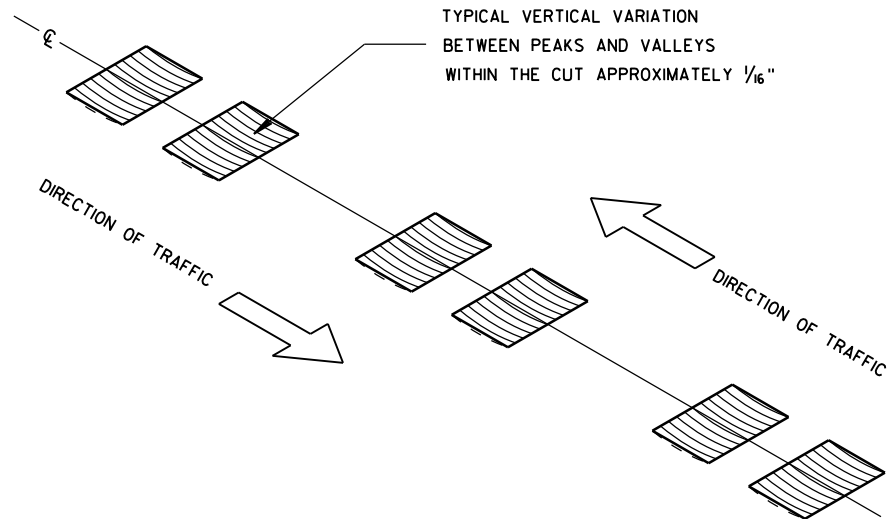
① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



PLAN VIEW
CENTER LINE WITH GROOVES

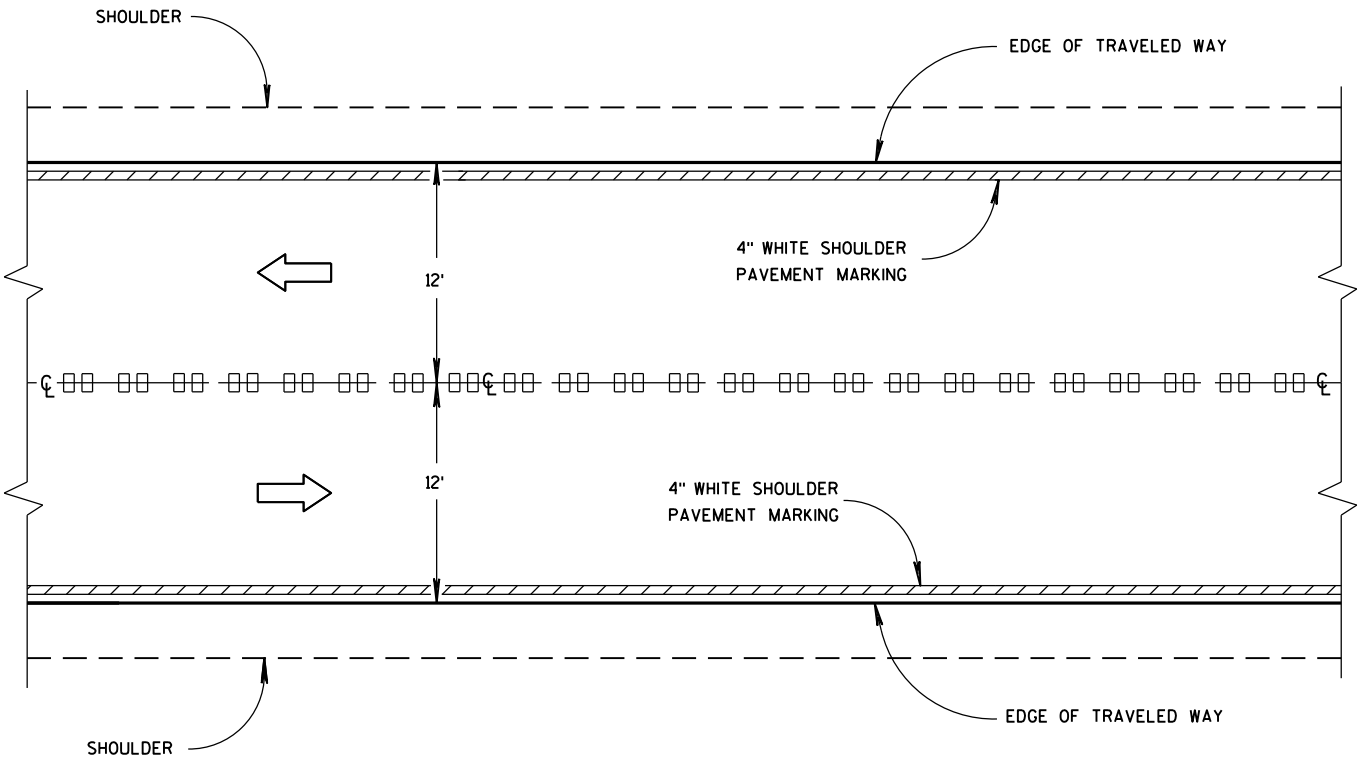


PLAN VIEW
(SINGLE GROOVE)

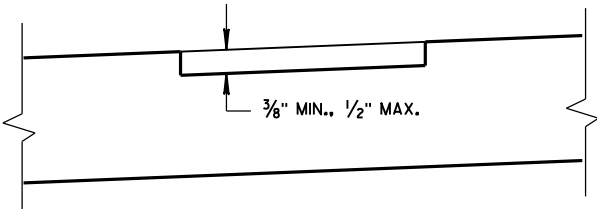


ISOMETRIC

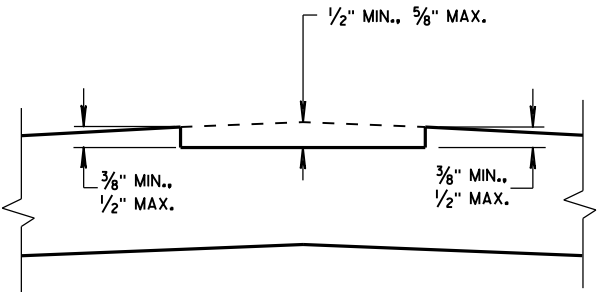
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



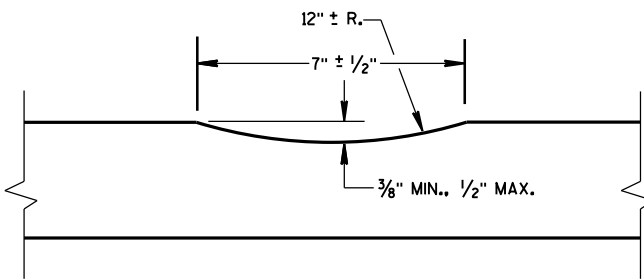
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY

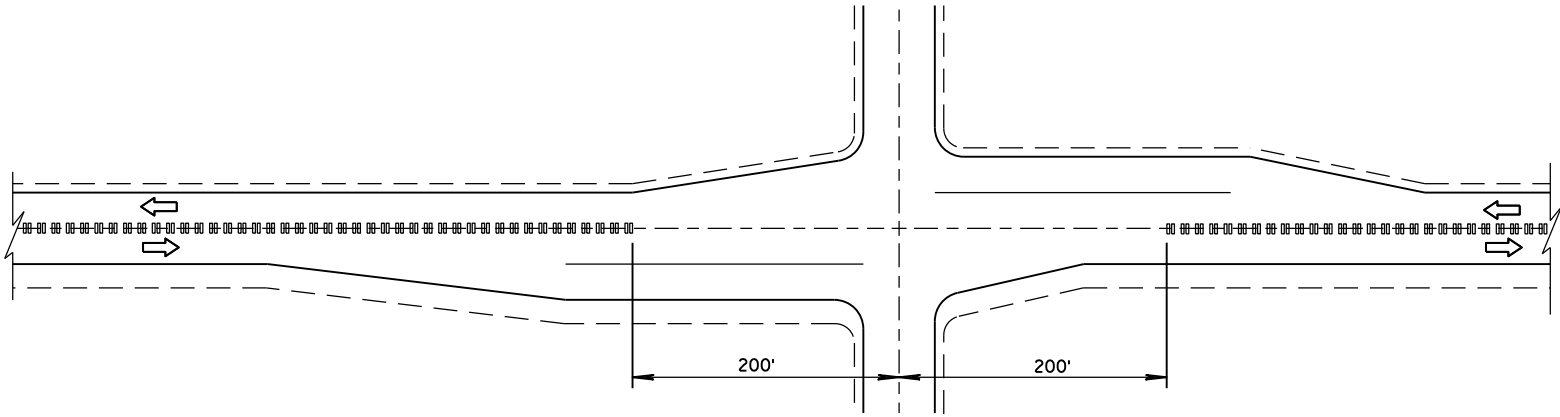


SECTION A-A

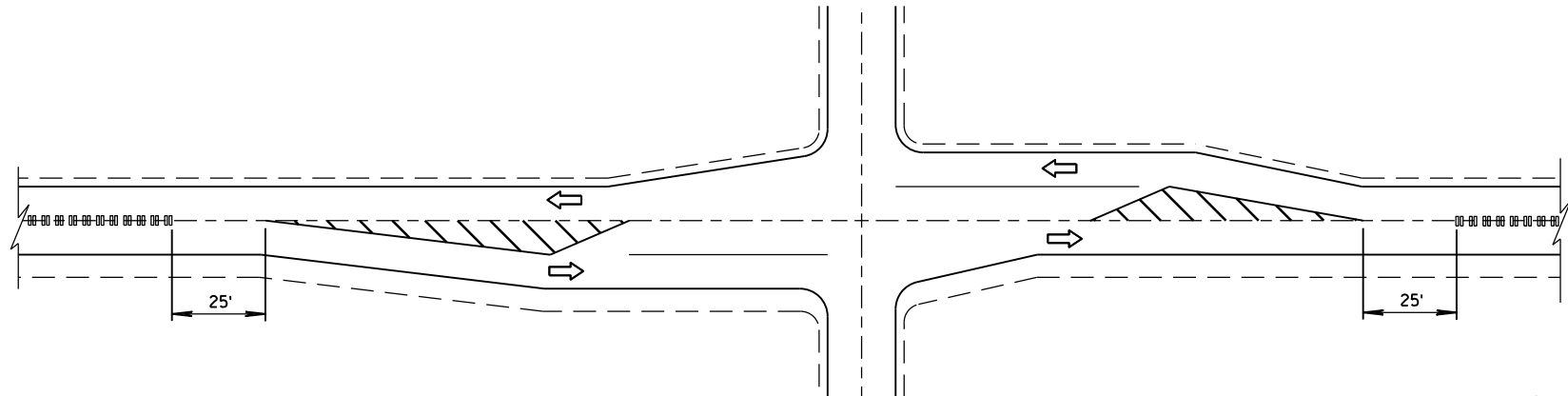
2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

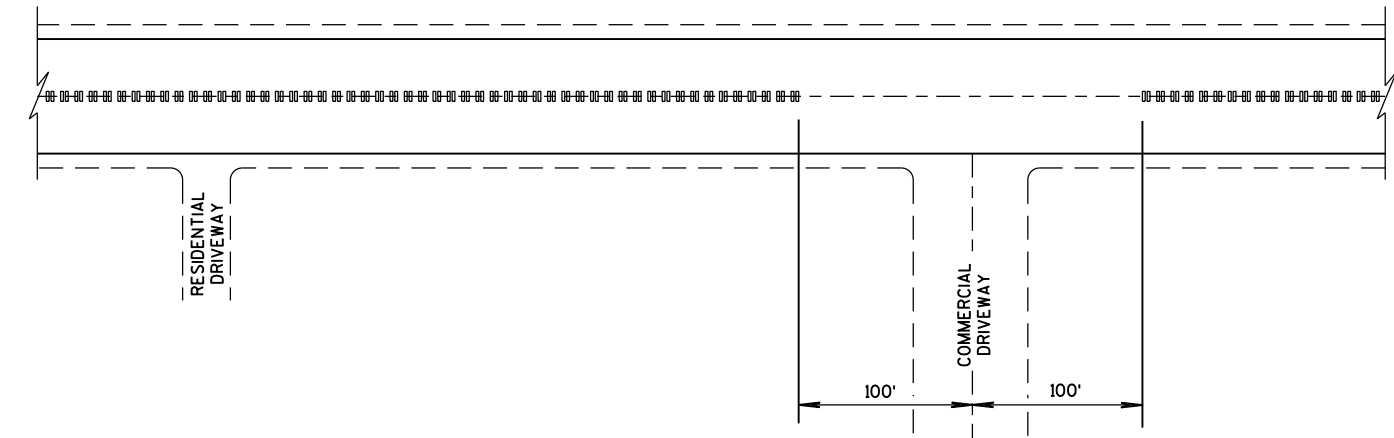
112



CENTER LINE GROOVES AT INTERSECTIONS

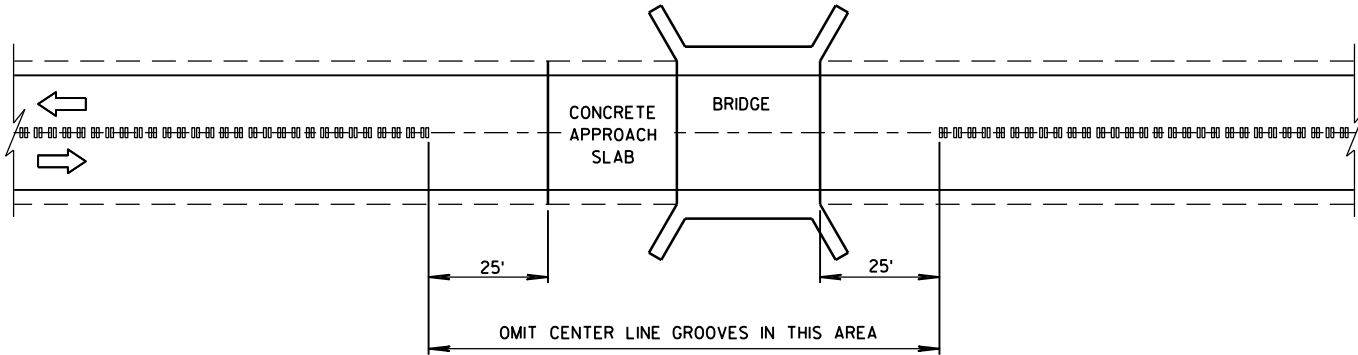


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

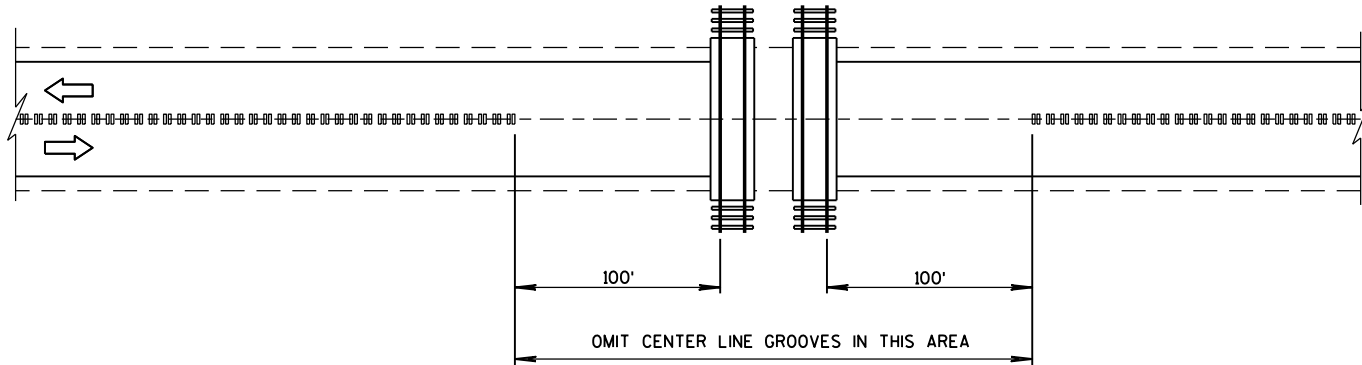


CENTER LINE GROOVES AT DRIVEWAYS¹

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

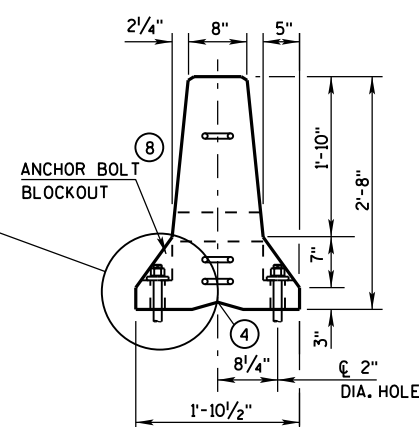
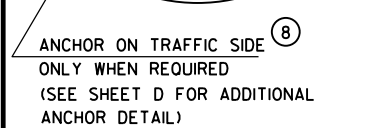


CENTER LINE GROOVES AT BRIDGES

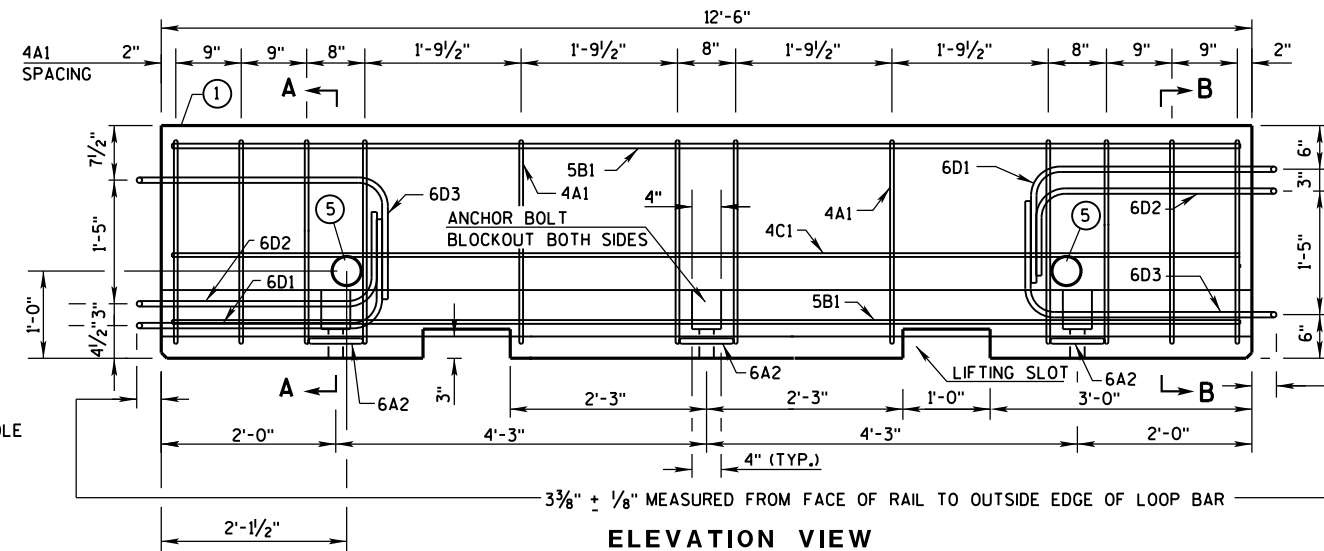


CENTER LINE GROOVES AT RAILROADS

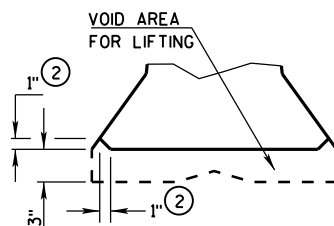
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 5/15/2013	/S/ Jerry H. Zoog ROADWAY STANDARDS ENGINEER 113 NT
FHWA	



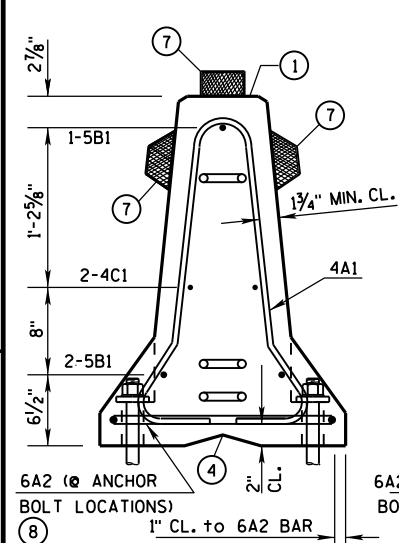
END VIEW



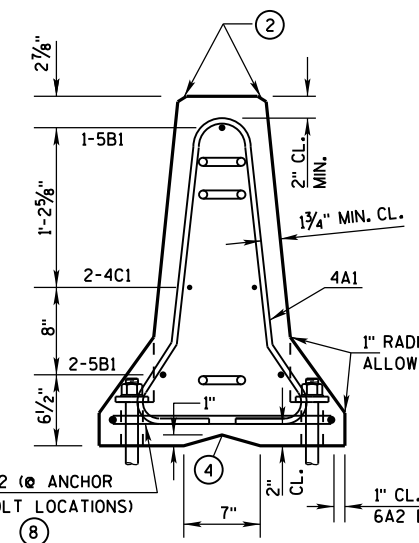
ELEVATION VIEW



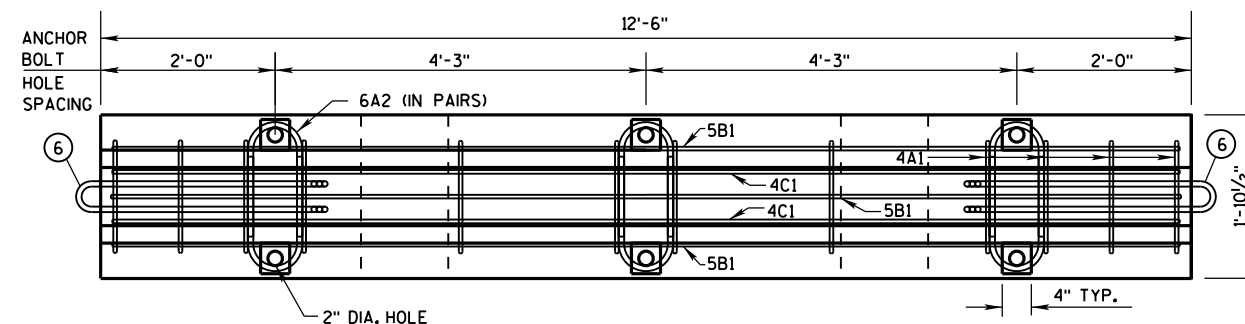
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

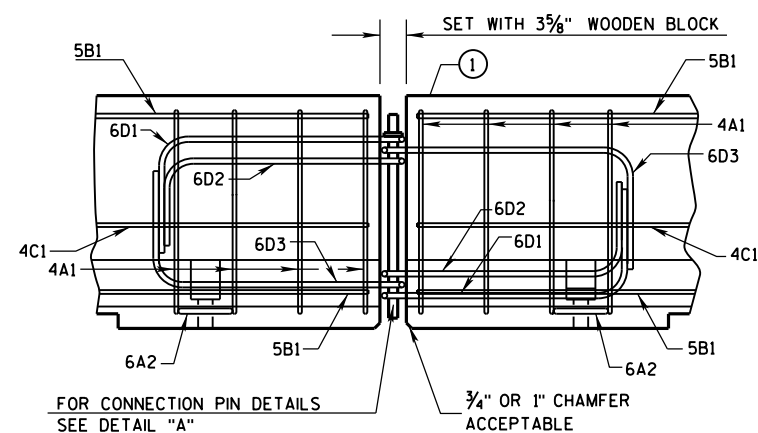


SECTION B-B
(STIRRUP PLACEMENT)

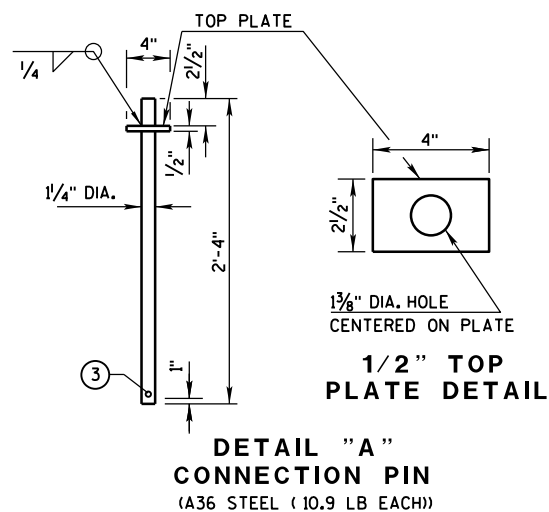


PLAN VIEW

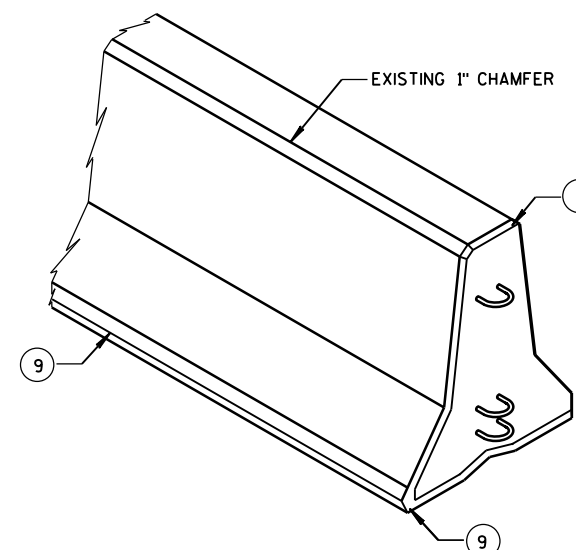
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(d) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE $\frac{3}{4}$ " SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3- $\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

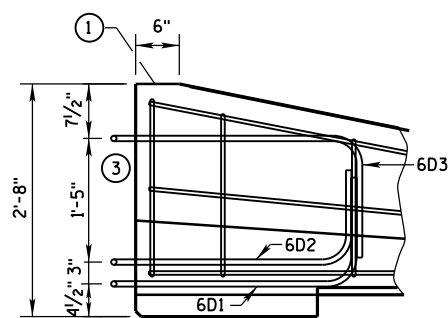
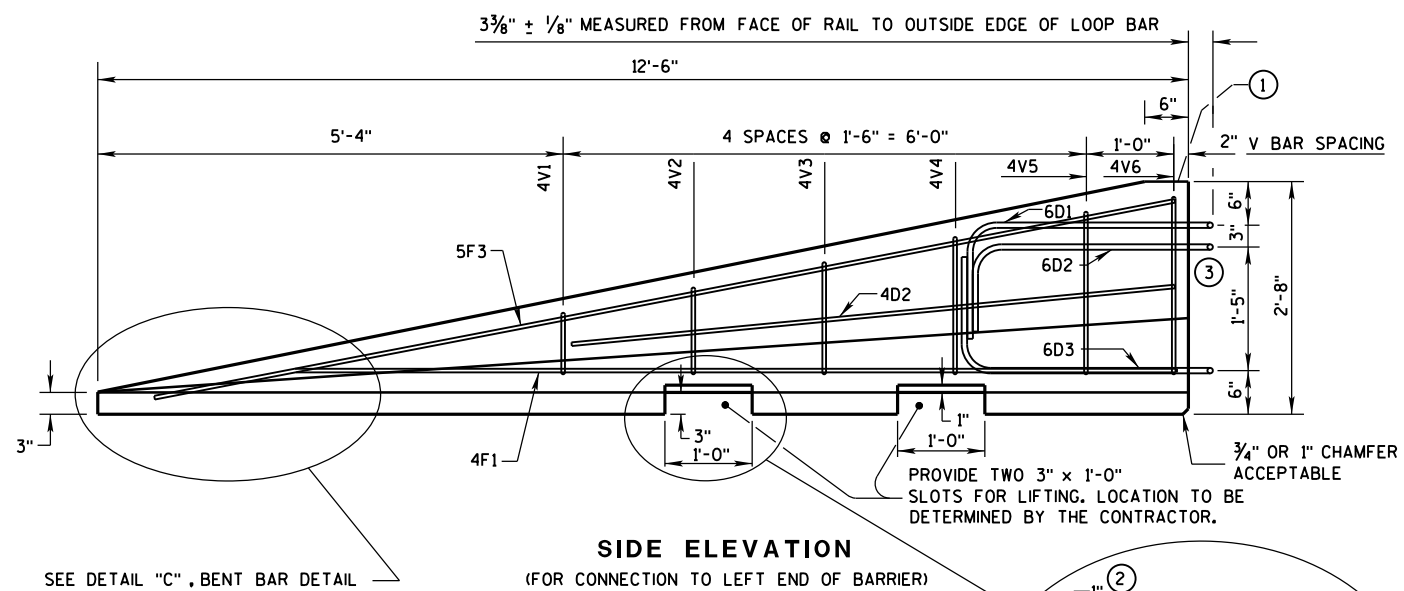
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURER'S INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 114

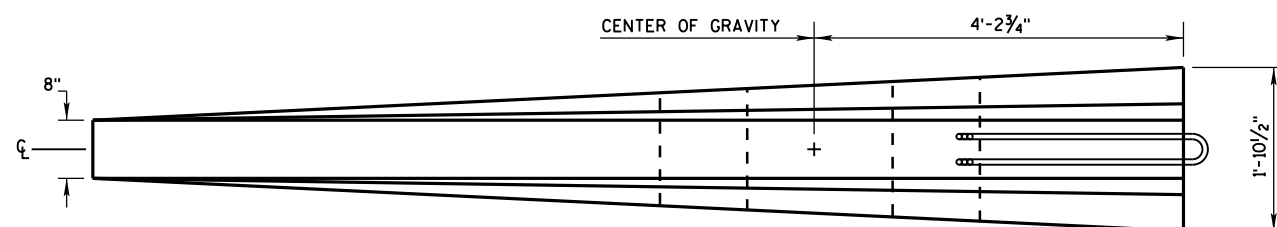
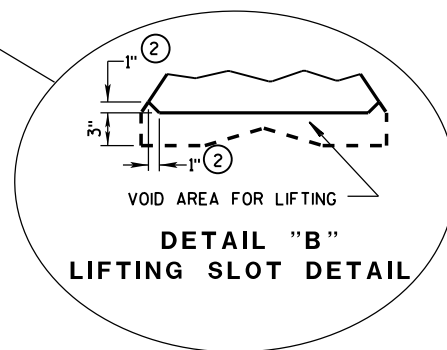


GENERAL NOTES

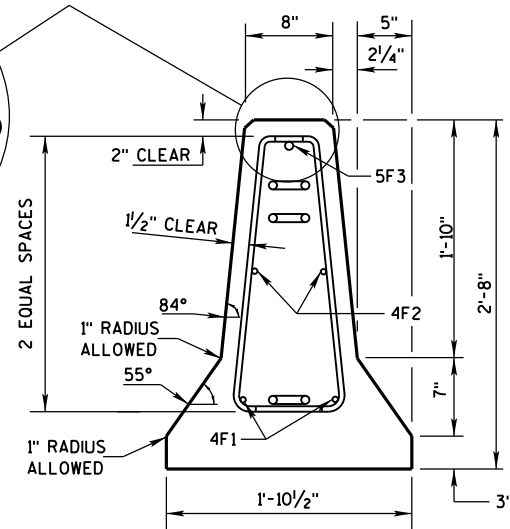
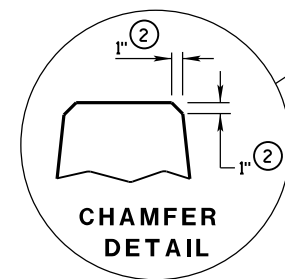
- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

SIDE ELEVATION

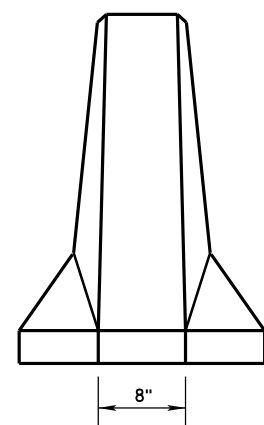
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)



PLAN VIEW

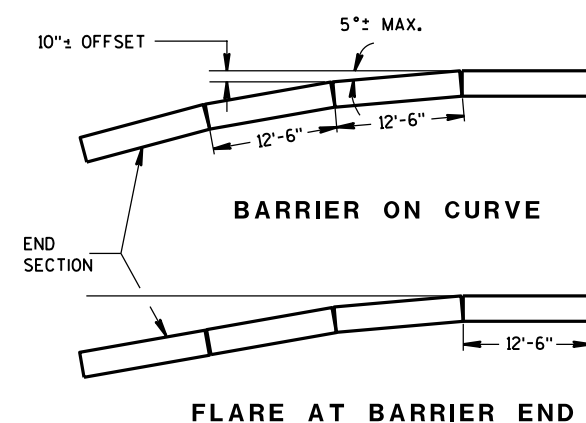


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

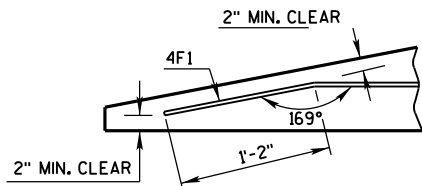
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 115

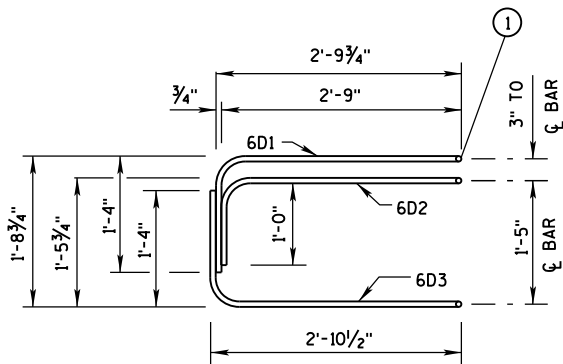
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

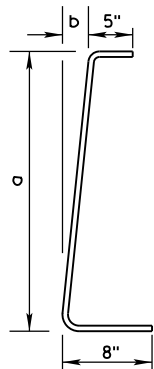
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

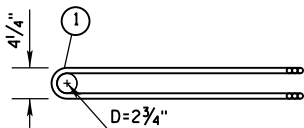
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

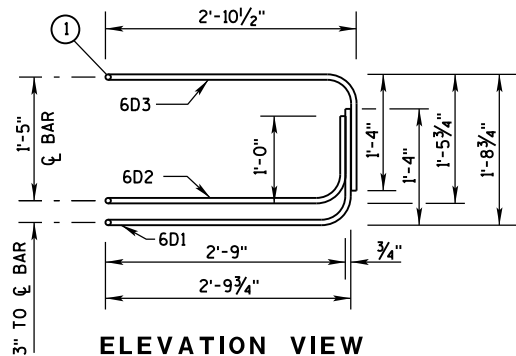
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

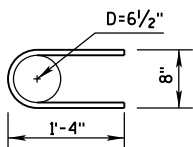


PLAN VIEW
LOOP BAR ASSEMBLY

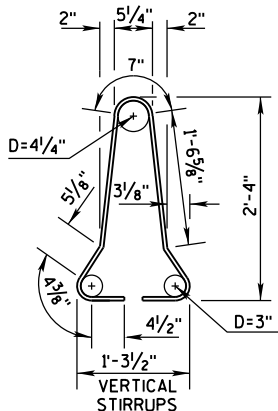
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

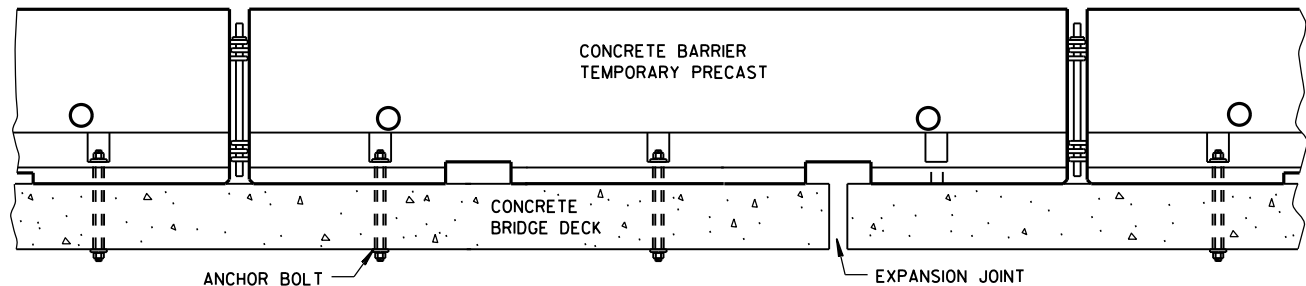
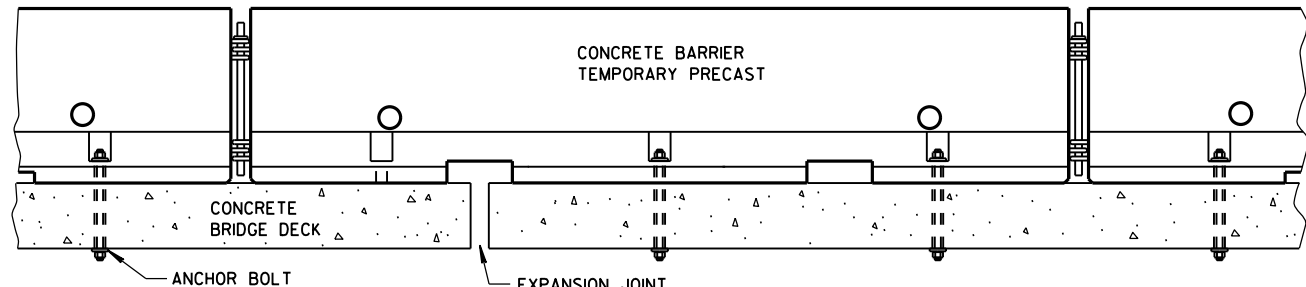


4A1

BARRIER SECTION

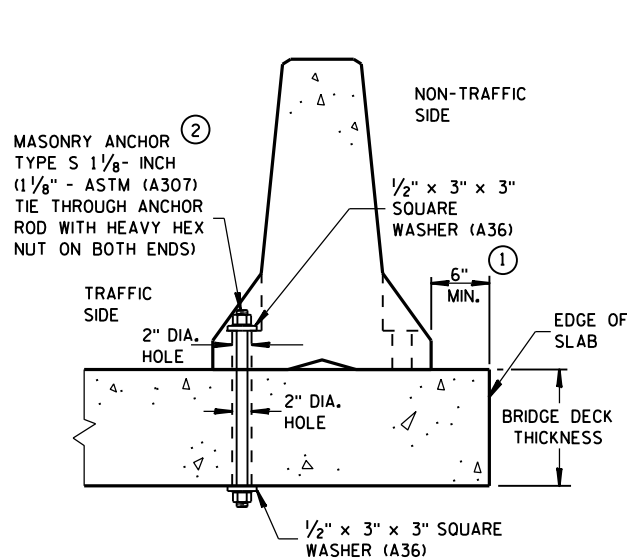
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 116



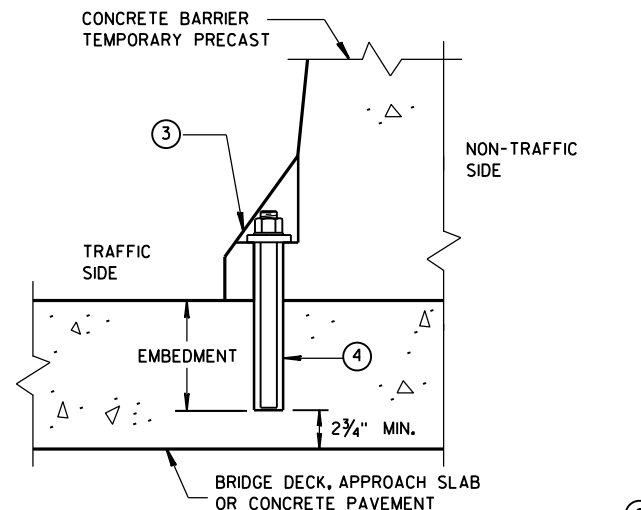
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



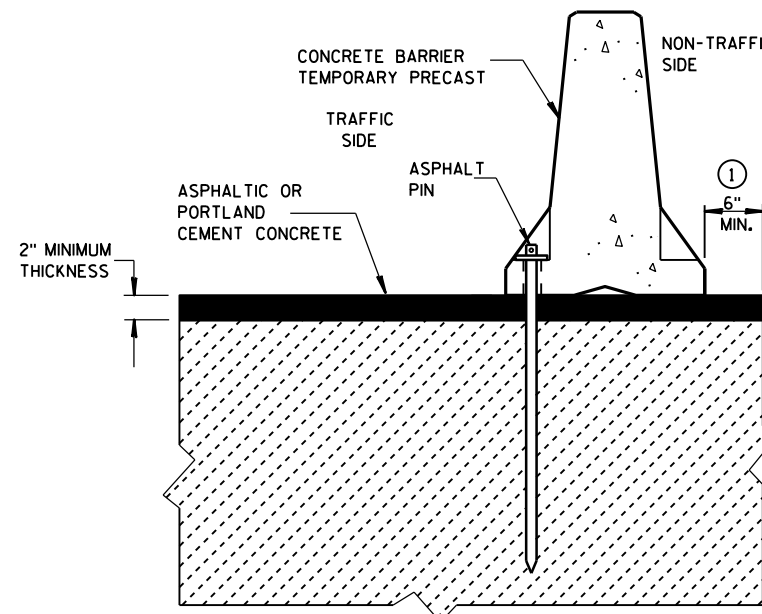
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



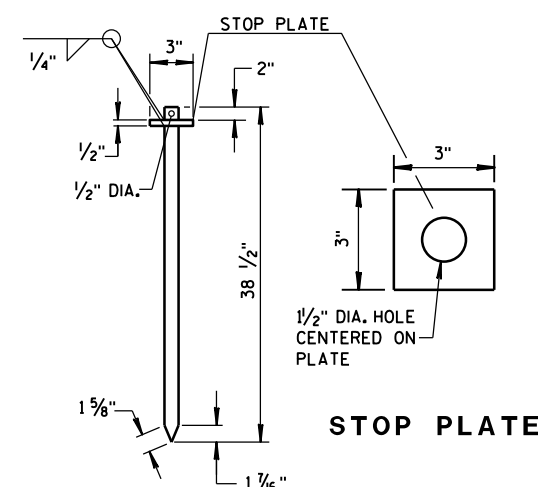
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

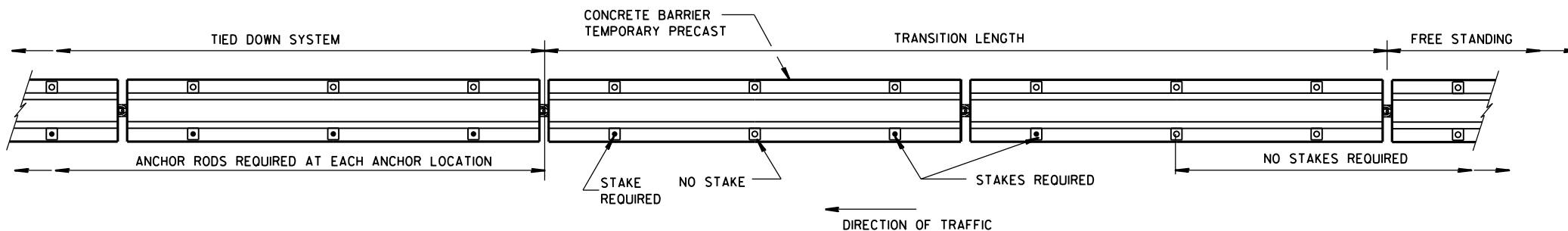


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN
(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

- CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

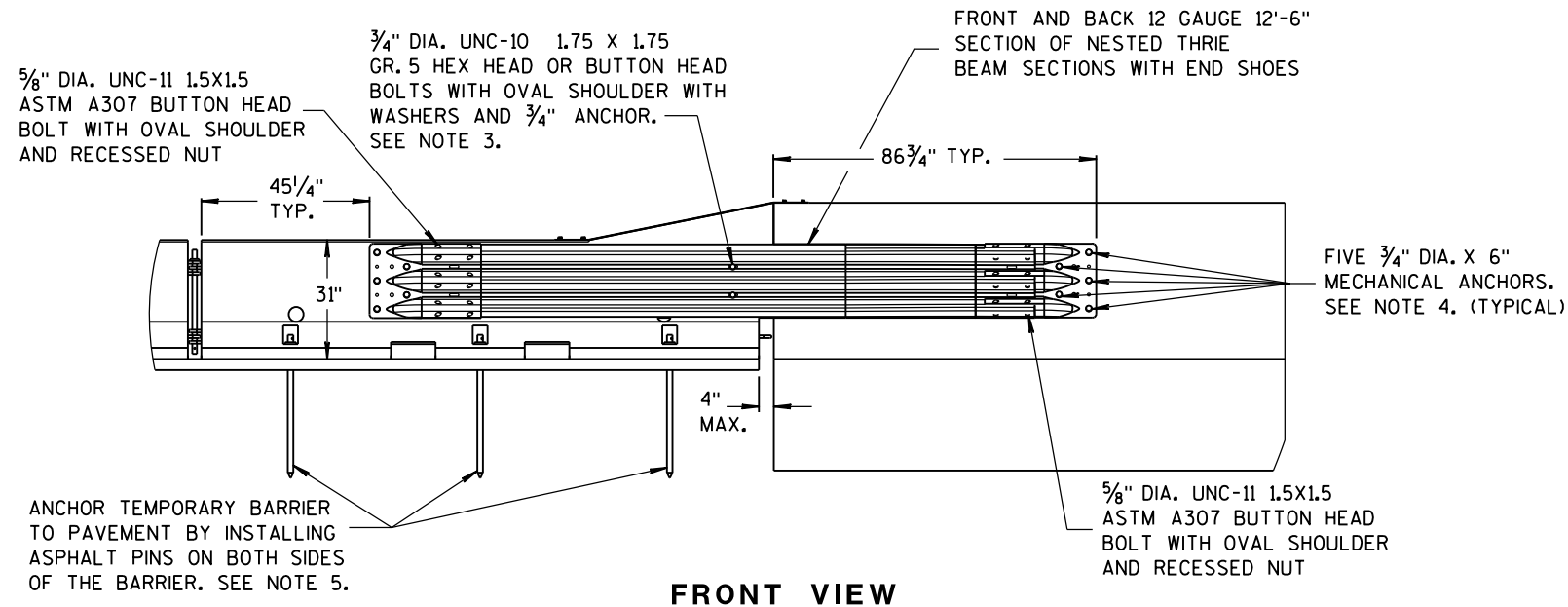
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- 1 1/8" DIAMETER A307 THREADED ROD, 1/2" x 3" x 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

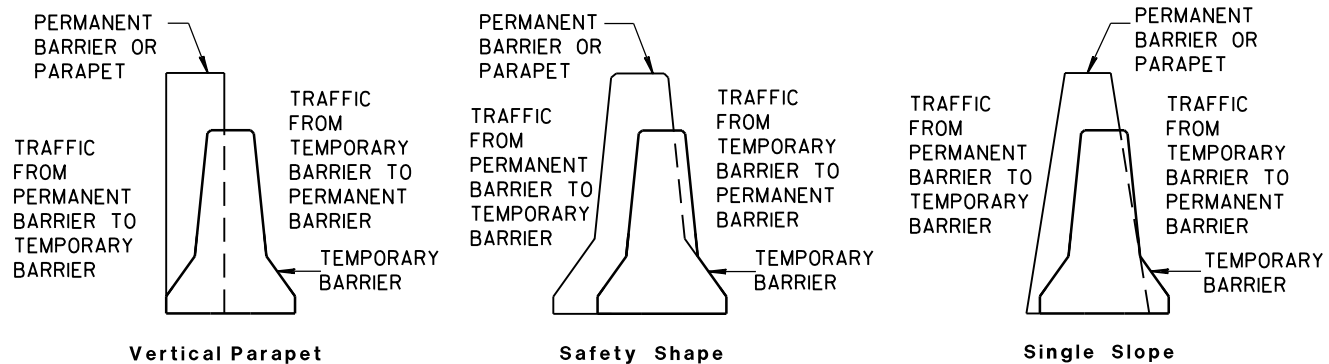
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

117



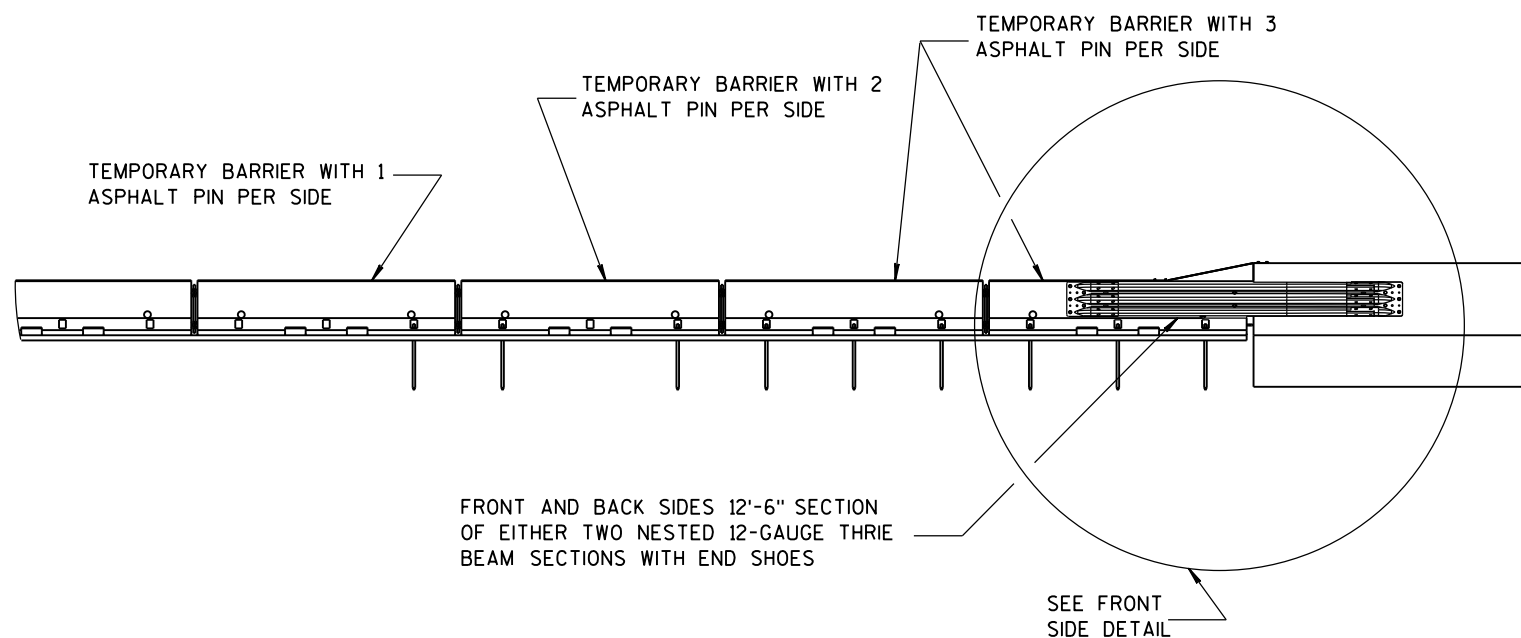
FRONT VIEW



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

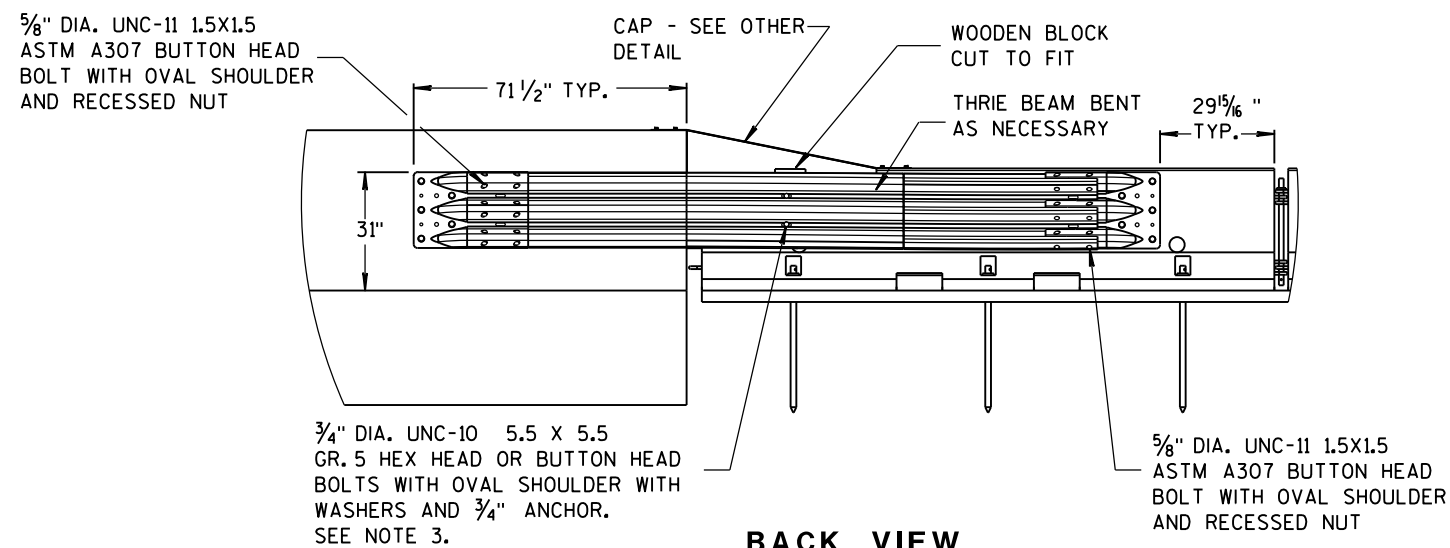
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

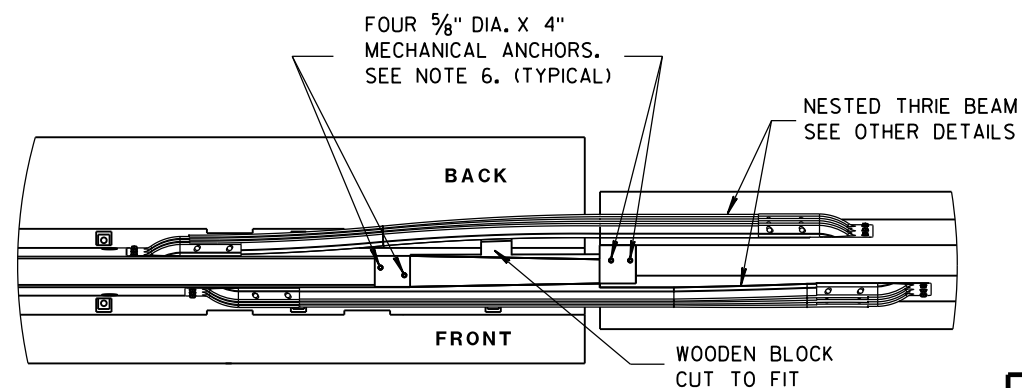


FRONT VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



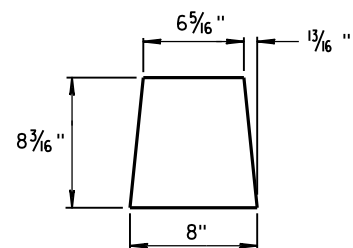
BACK VIEW



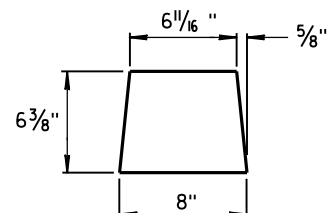
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

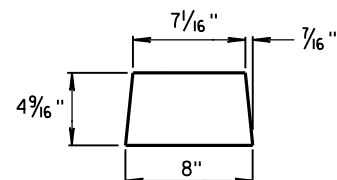
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 118



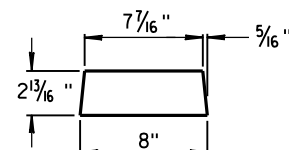
GUSSET 1



GUSSET 2

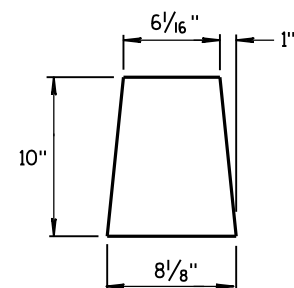


GUSSET 3

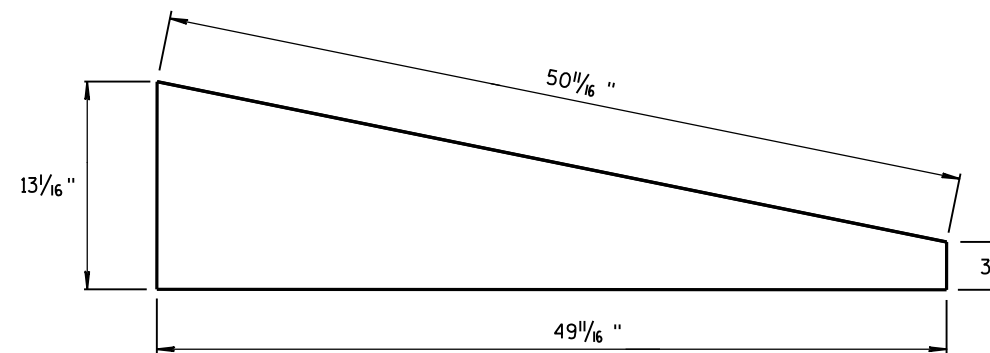


GUSSET 4

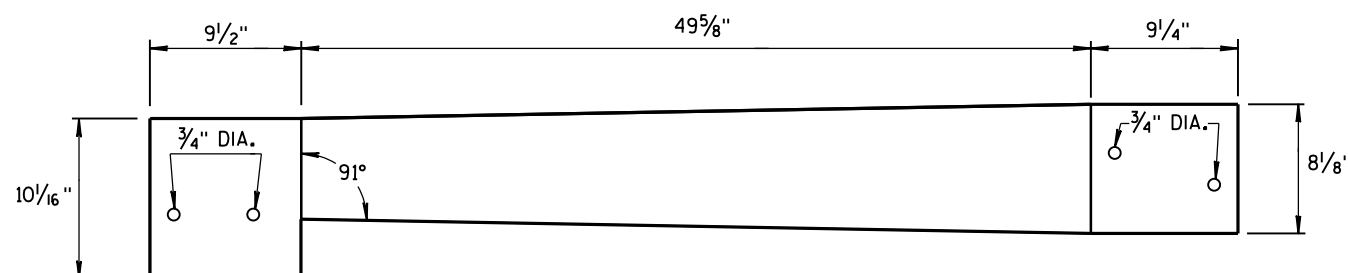
GUSSETS



END PLATE



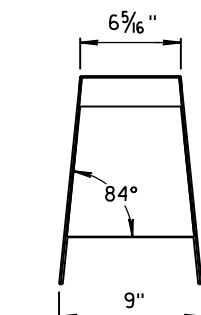
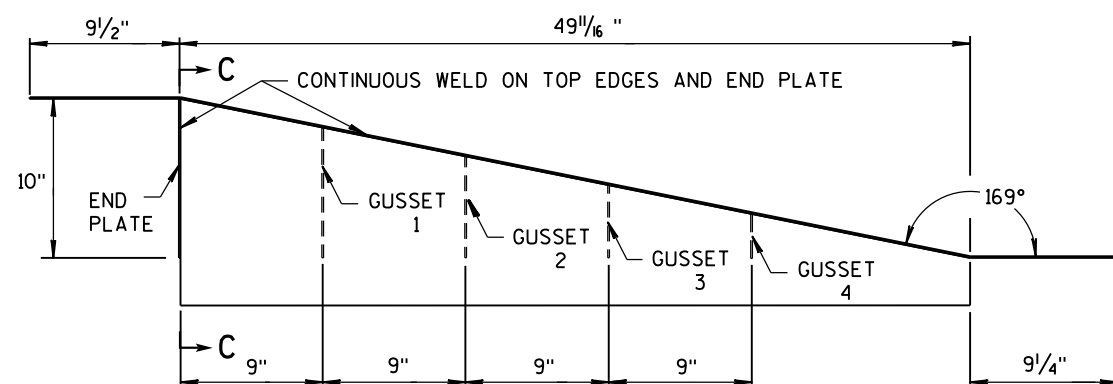
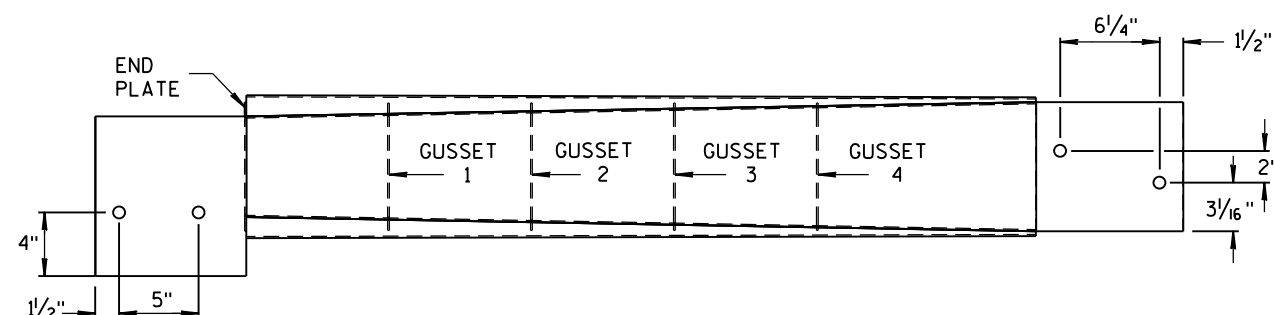
SIDE PLATE



TOP PLATE

**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C

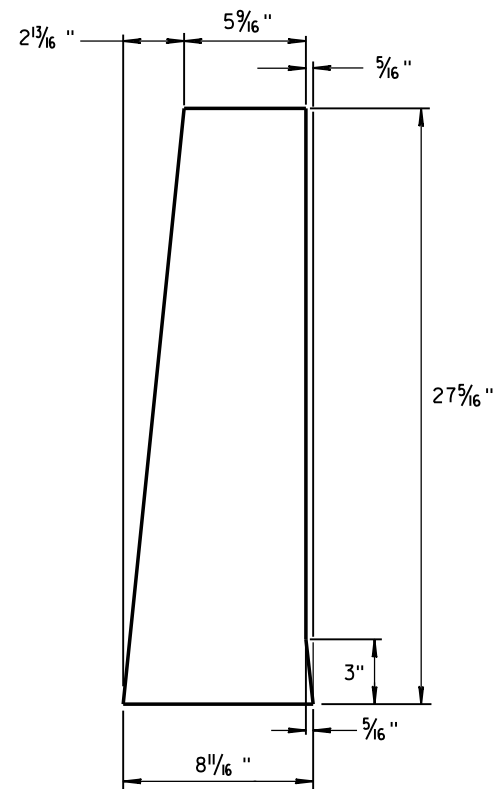
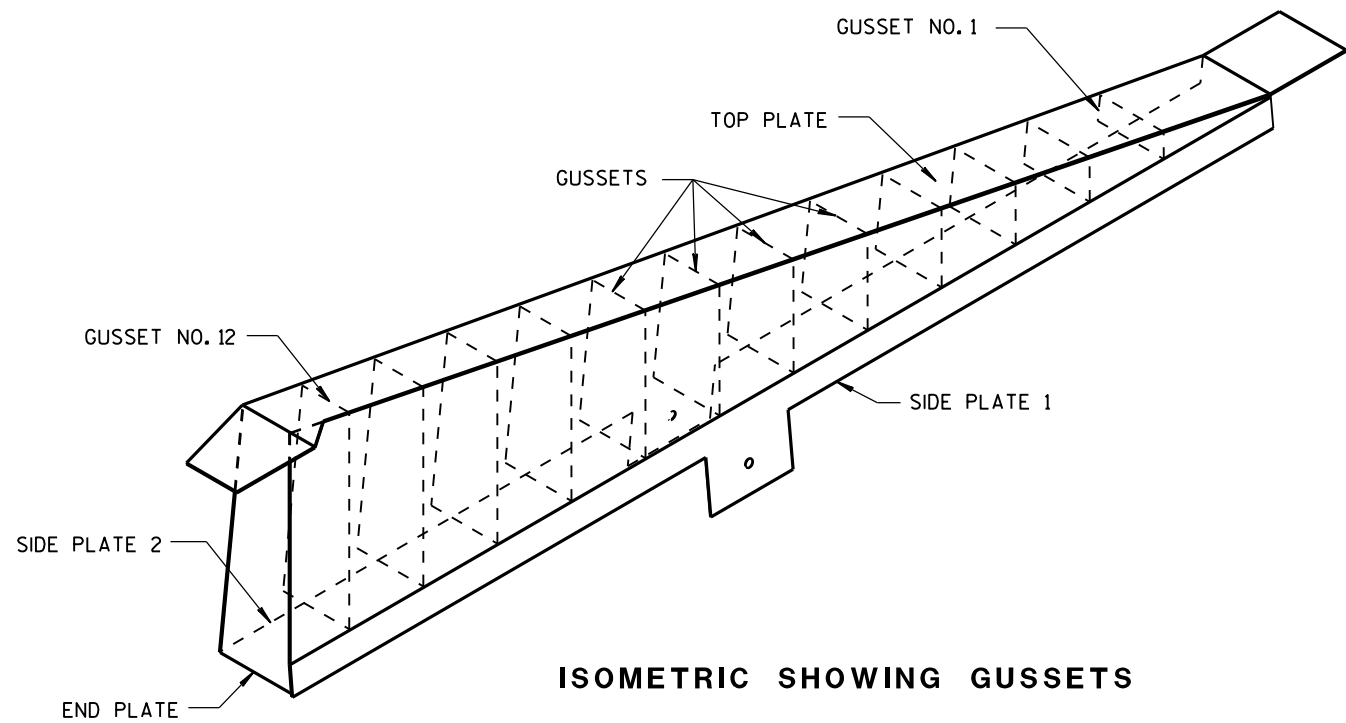
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

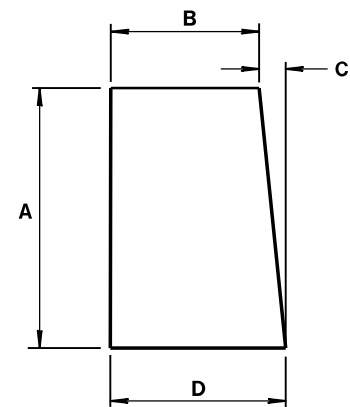
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 119



END PLATE
1/8" STEEL PLATE

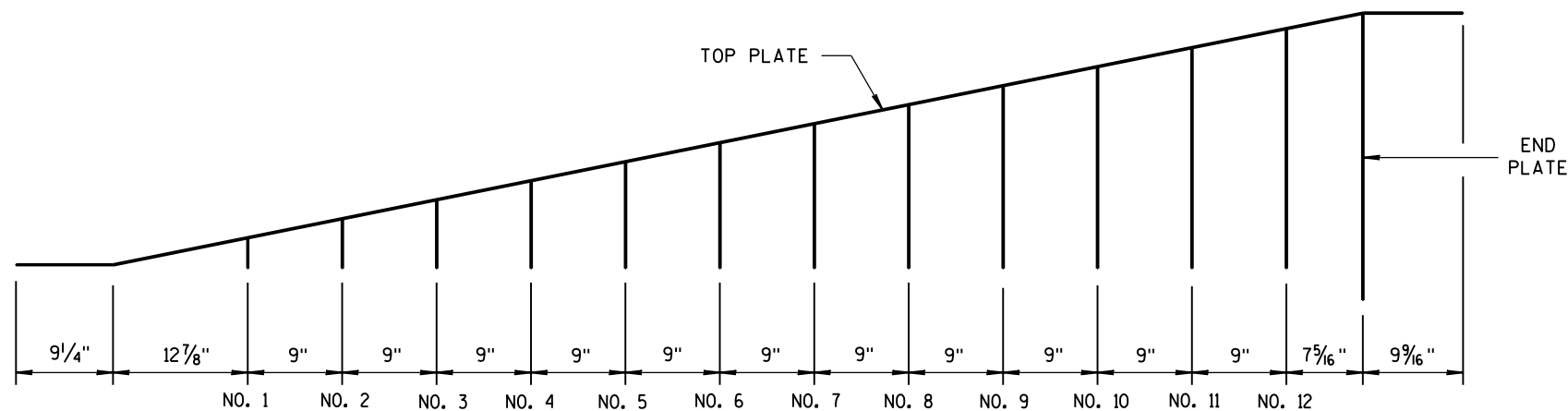


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 1/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8 "	1 1/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8 "	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8 "	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

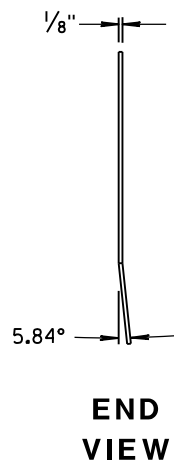
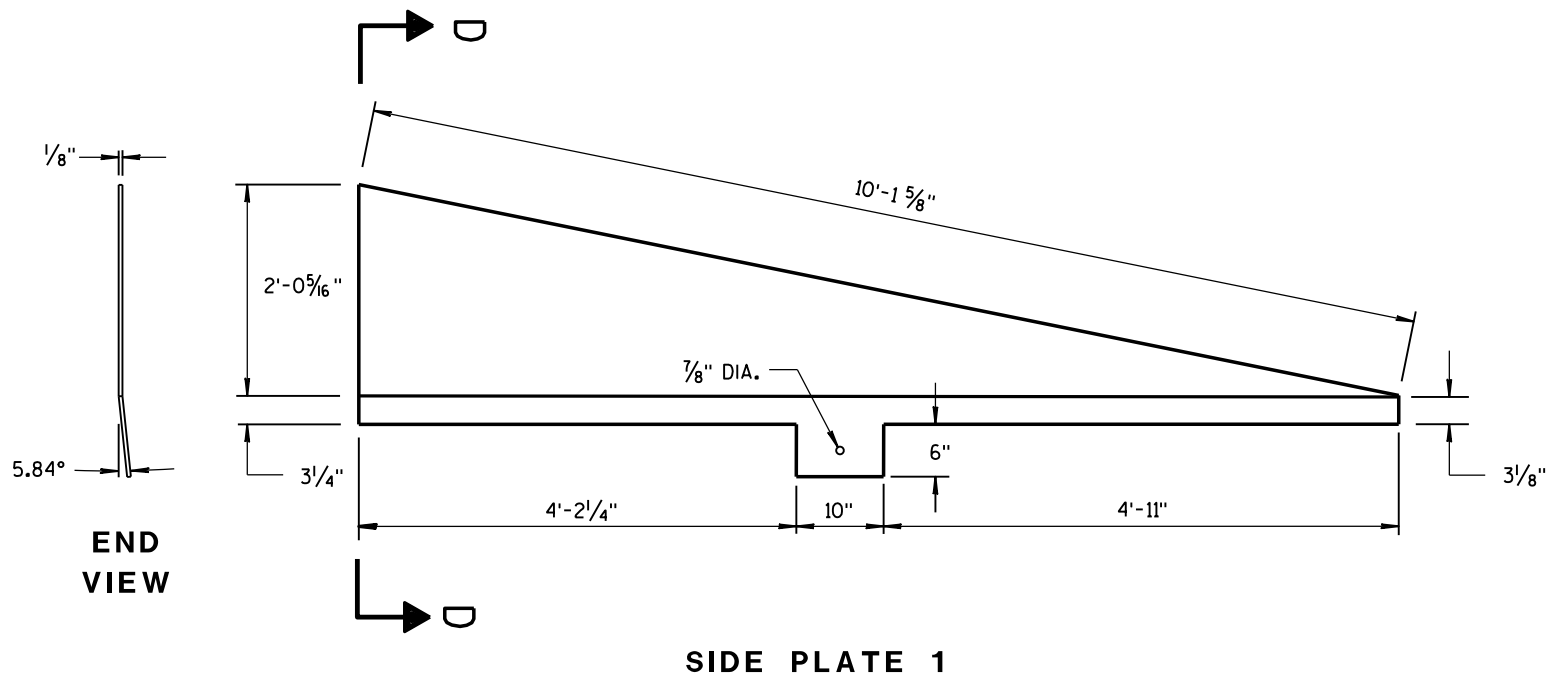
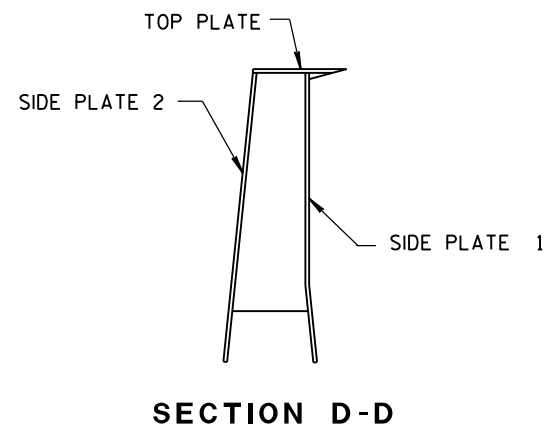
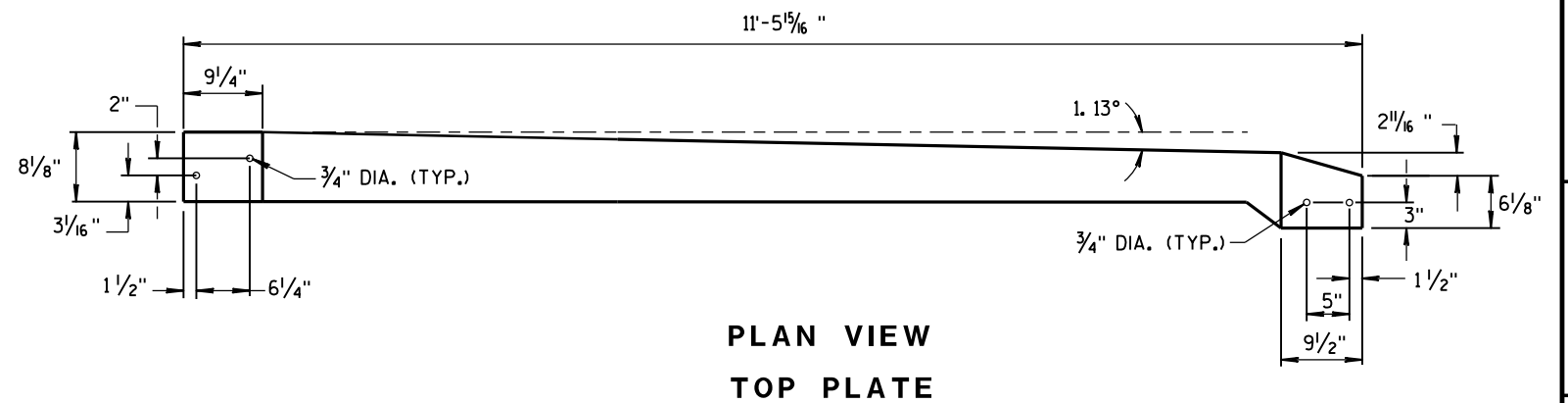
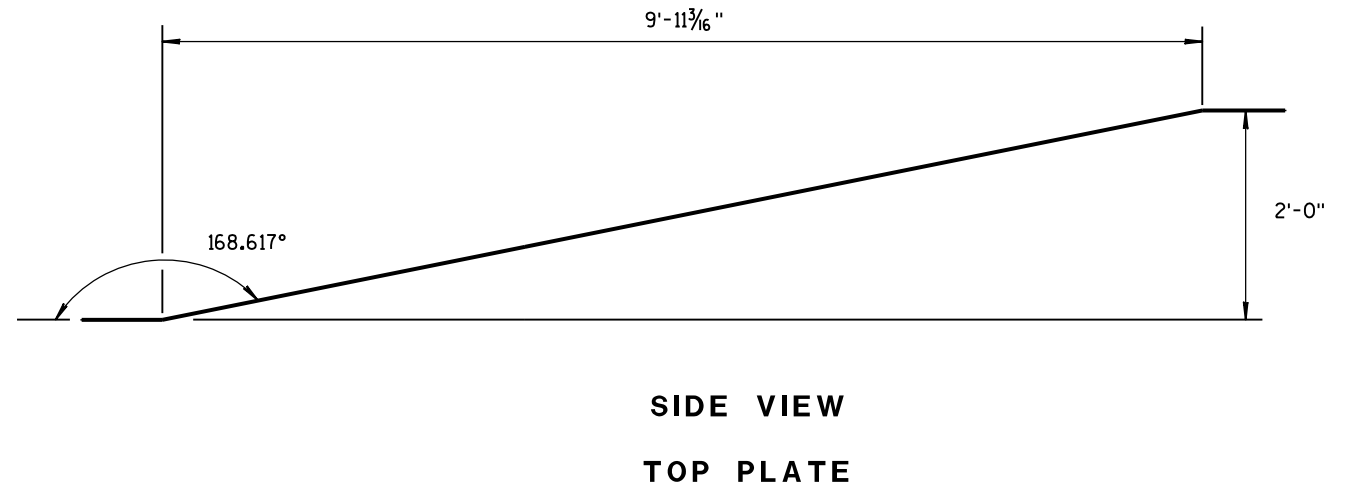
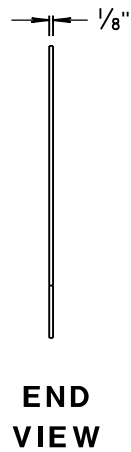
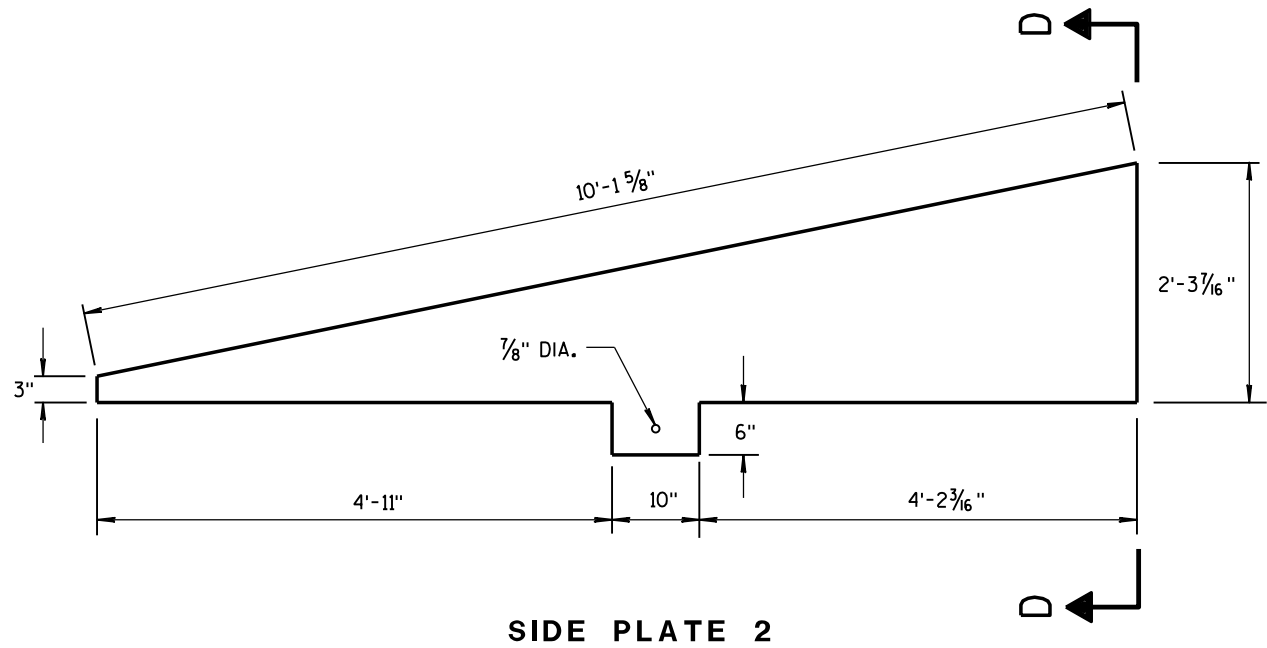
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

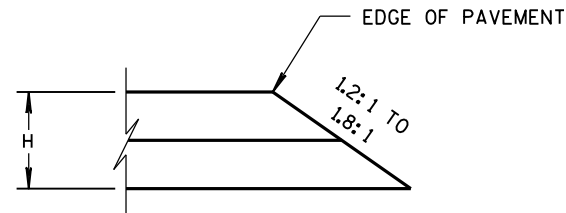
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 120

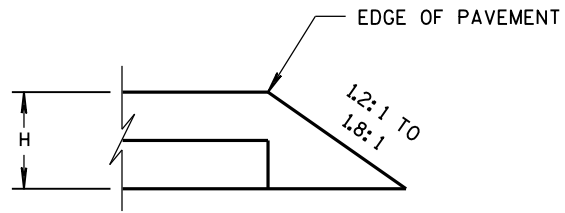


CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

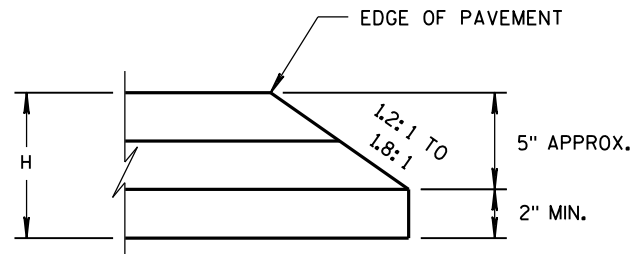
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
June 2014	/S/ Jerry H. Zoog		
DATE	ROADWAY STANDARD	121	INT
FHWA	ENGINEER		



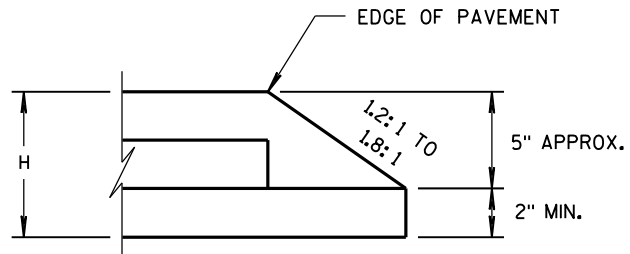
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

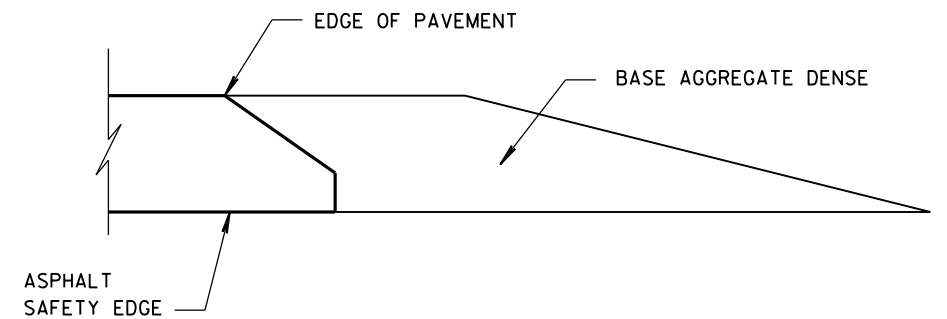


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



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

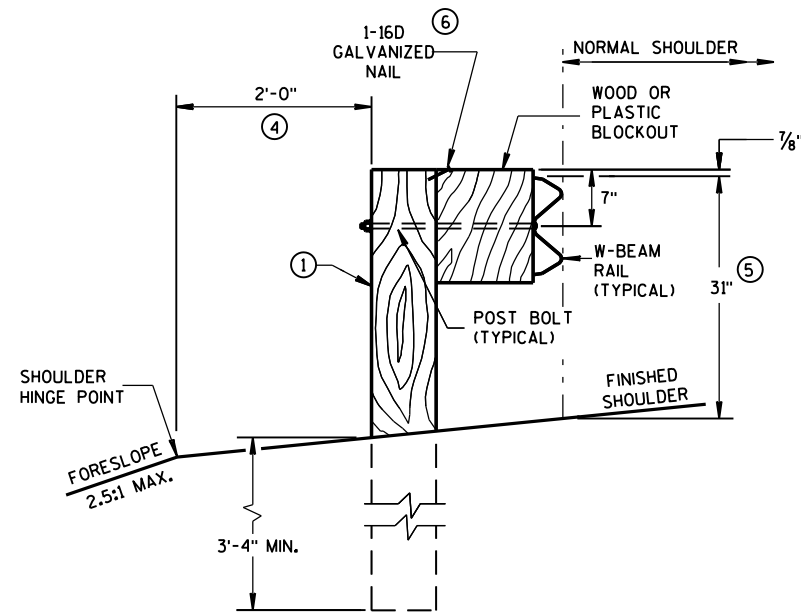
/s/ Jerry H. Zoaga
ROADWAY STANDARDS
ENGINEER

122

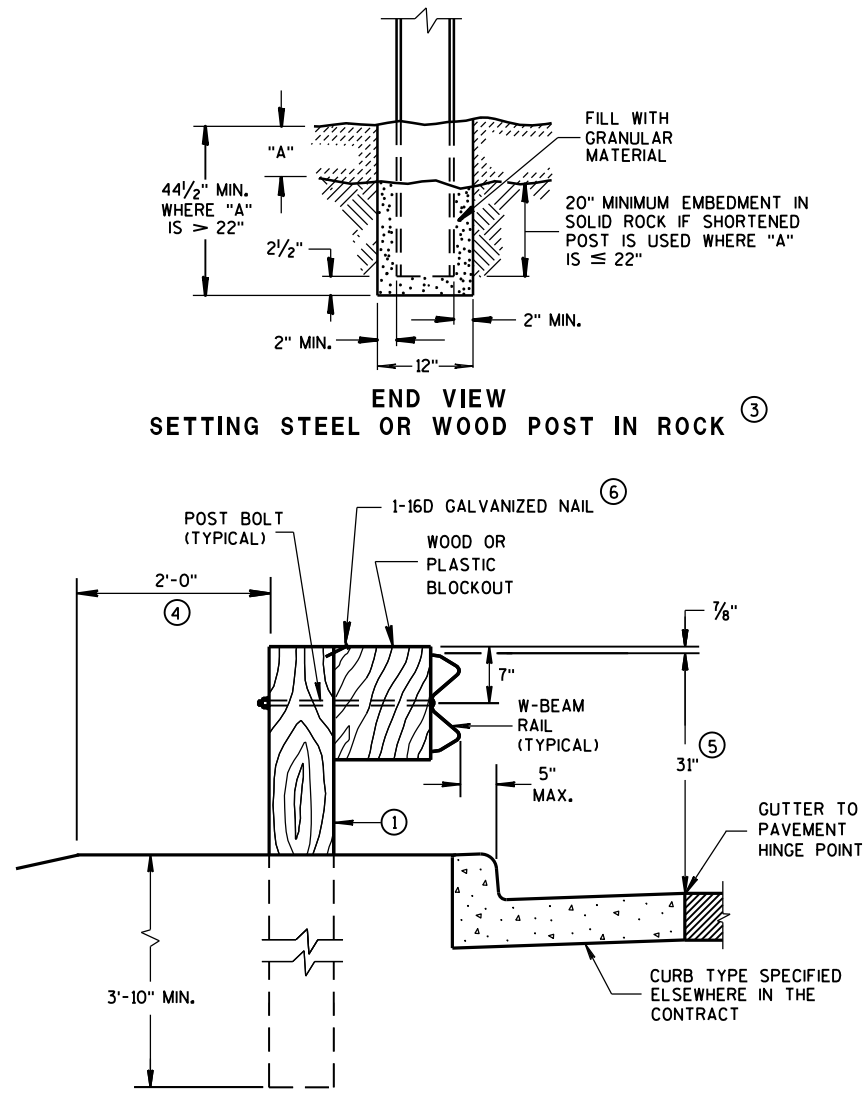
ENT

GENERAL NOTES

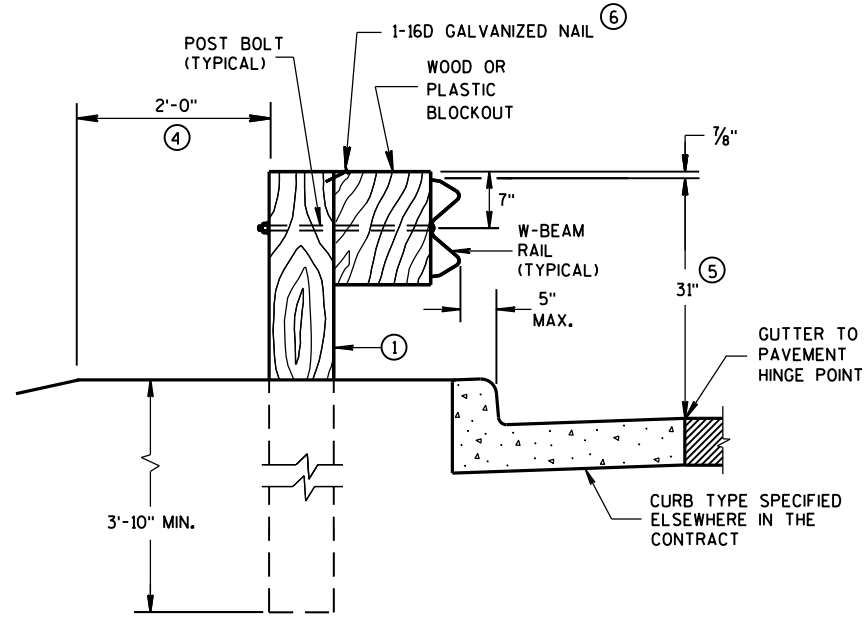
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL.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



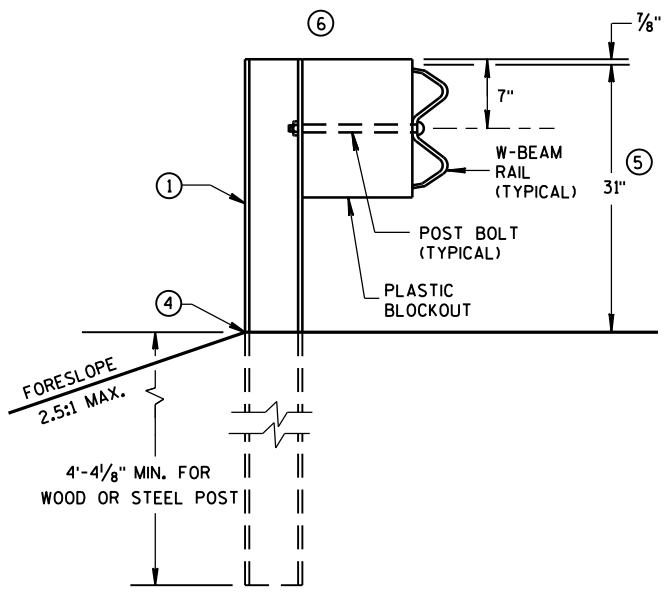
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



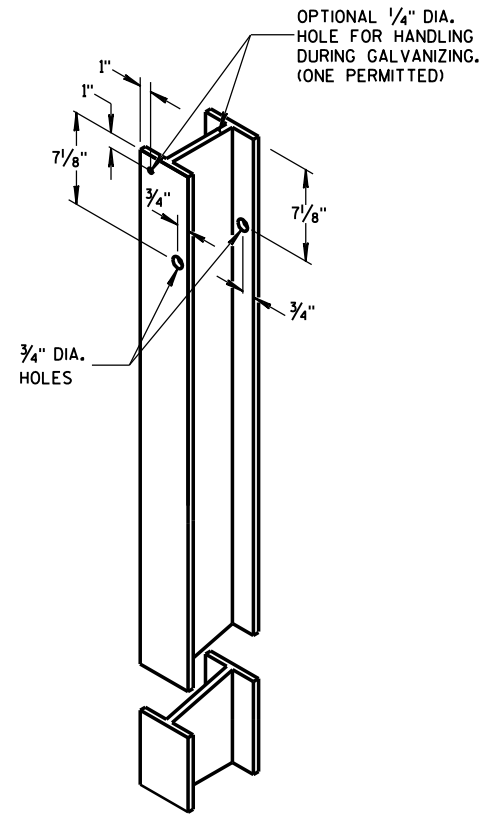
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



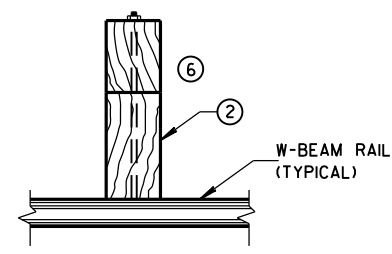
END VIEW
LOCATED ALONG A CURBED ROADWAY



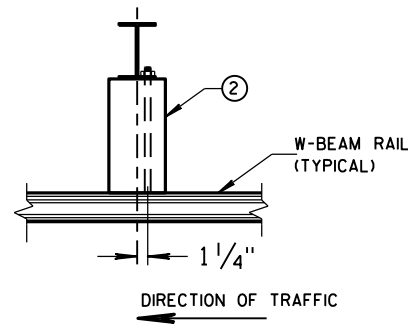
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



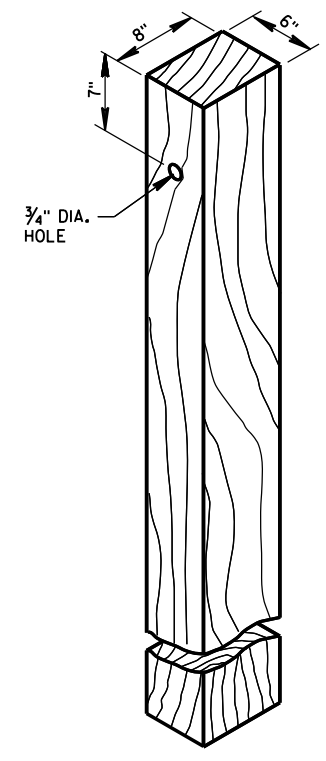
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



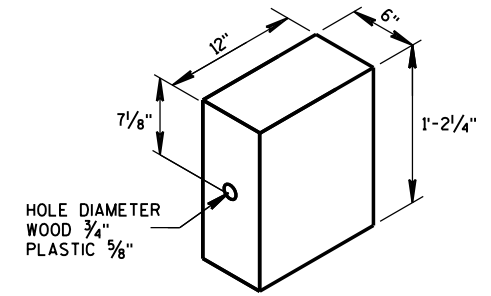
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



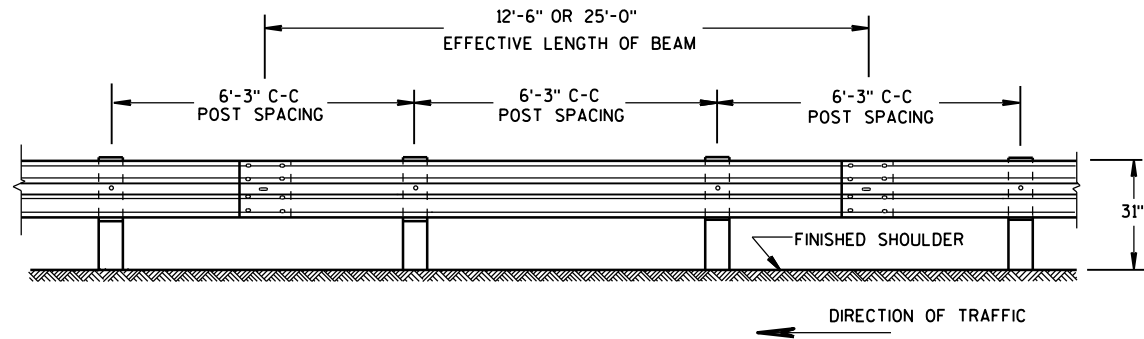
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST
(6" X 8") NOMINAL ①

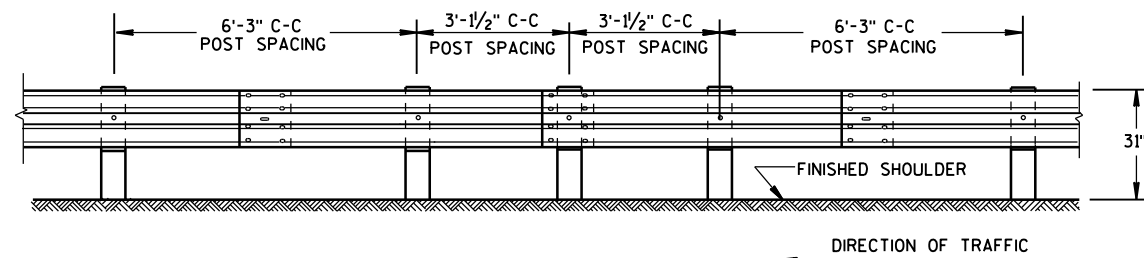


WOOD OR
PLASTIC BLOCKOUT ②



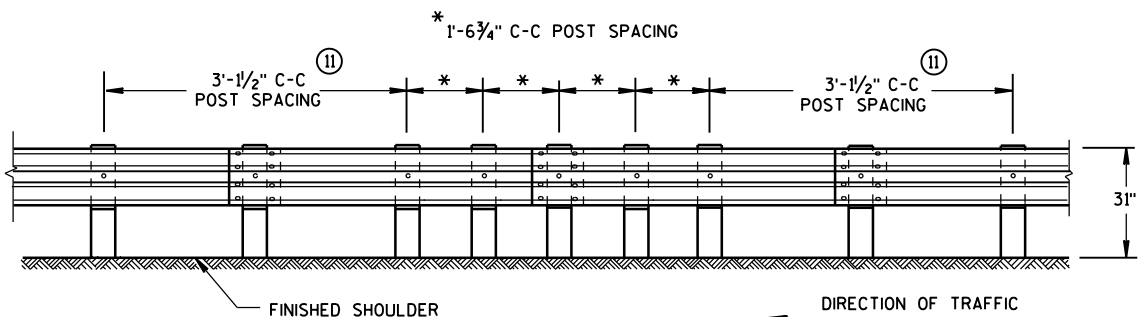
FRONT VIEW

POST SPACING STANDARD INSTALLATION



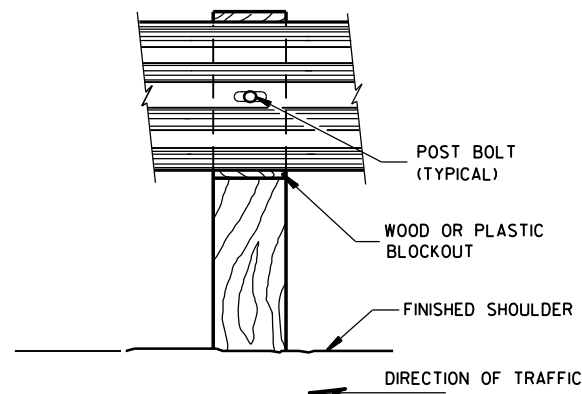
FRONT VIEW

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

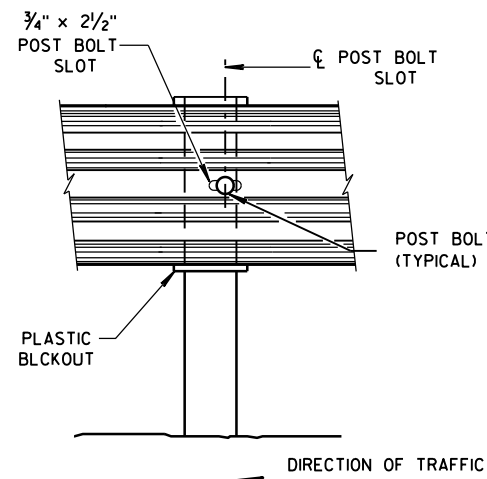


FRONT VIEW

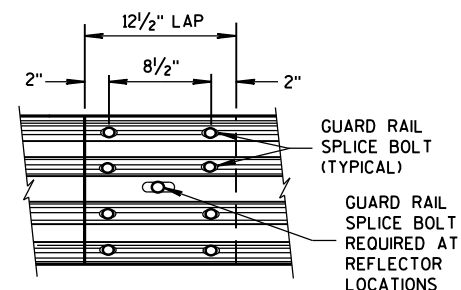
QUARTER POST SPACING (QS)



FRONT VIEW AT WOOD POST

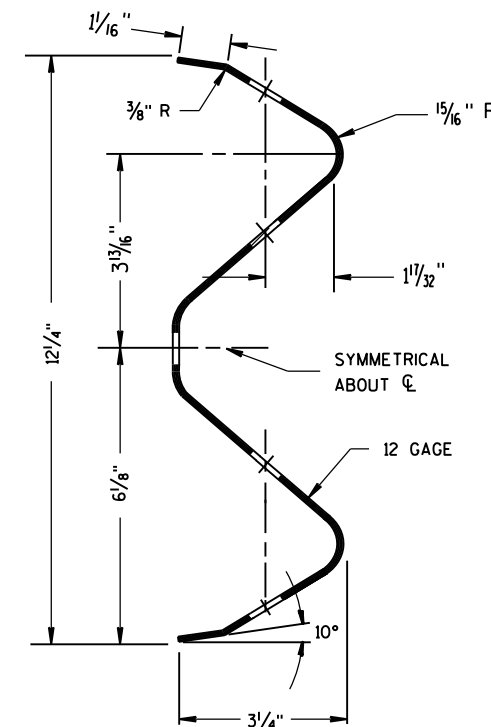


FRONT VIEW AT STEEL POST

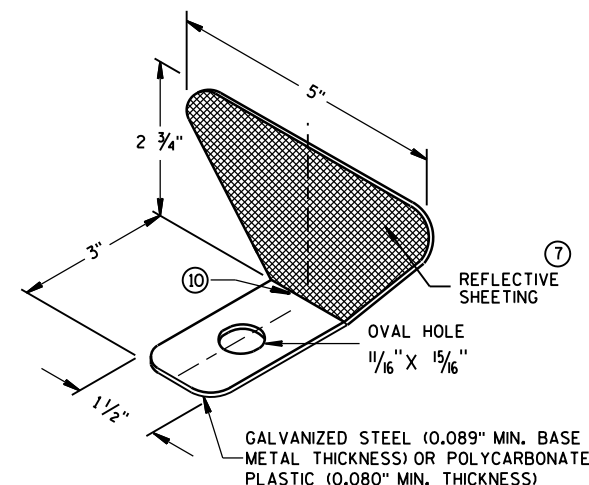
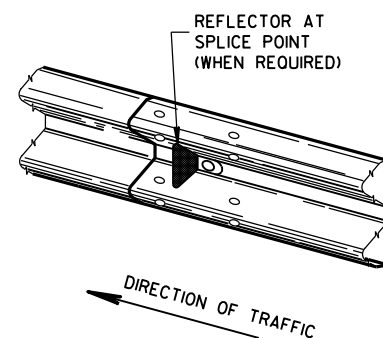


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

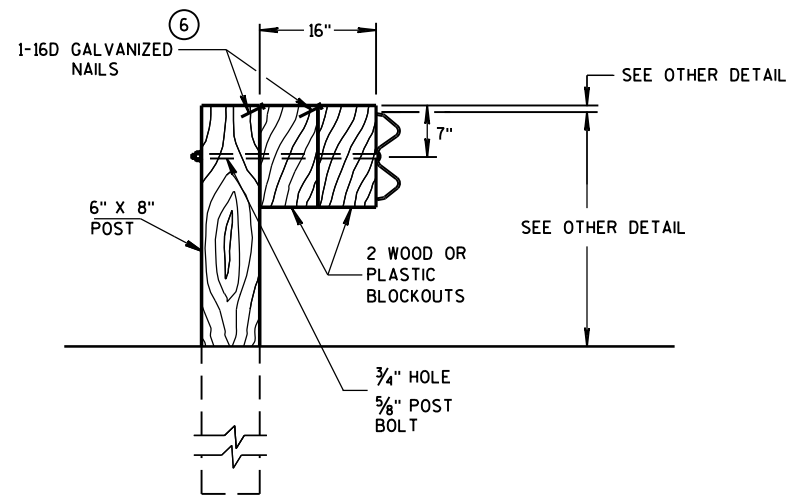
GENERAL NOTES

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

REFLECTOR SPACING ^⑧				
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ^⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^⑩	3
	> 200'	100' C-C	2	

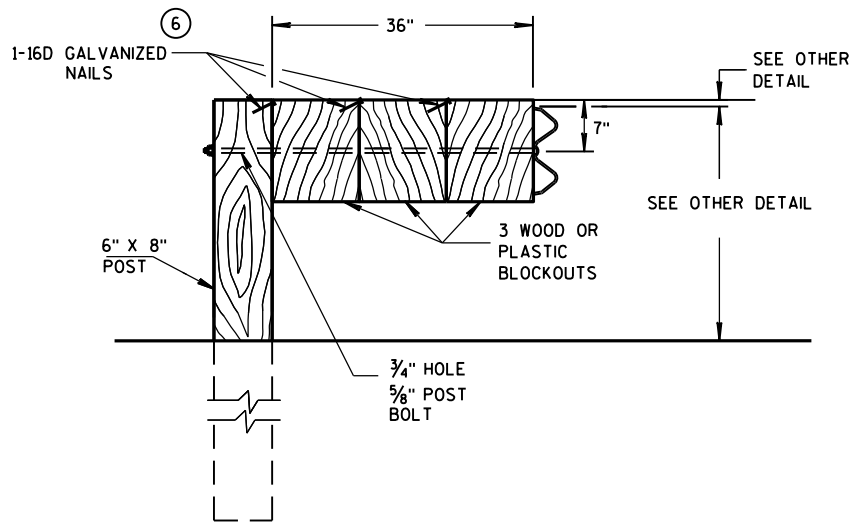
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

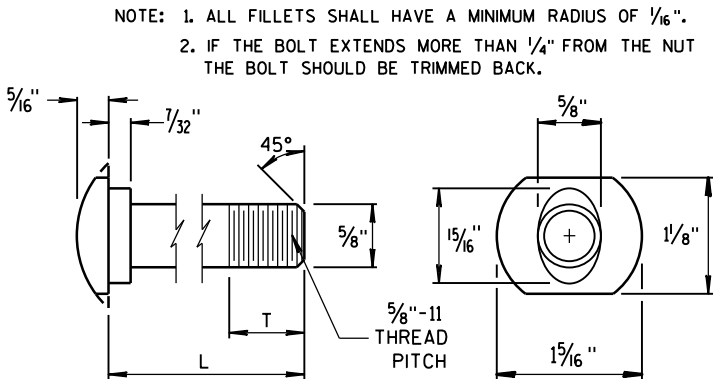
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

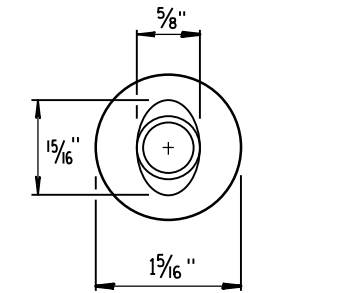
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

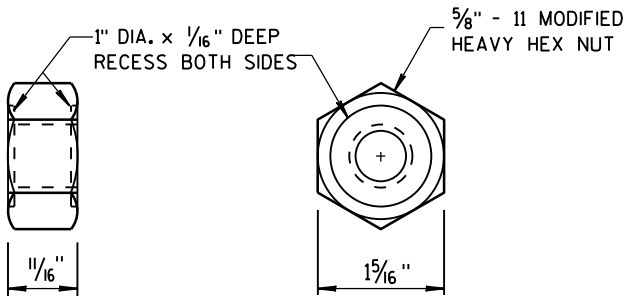


POST BOLT TABLE

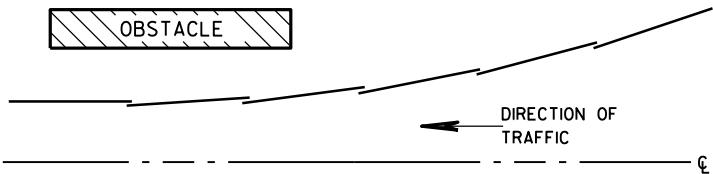
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



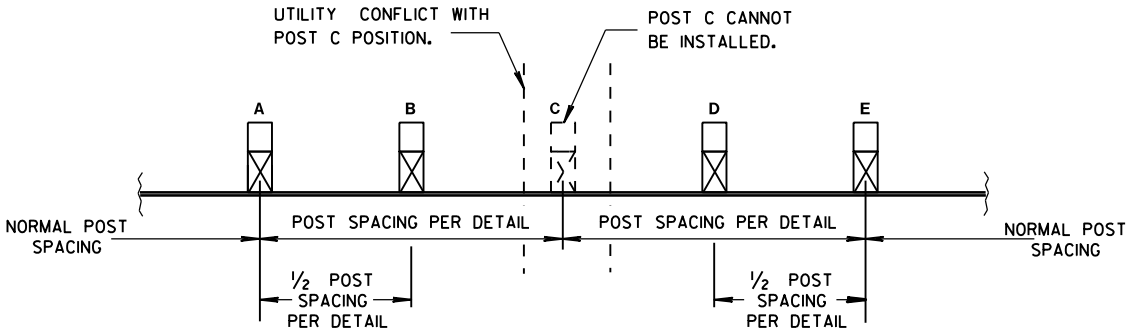
ALTERNATE BOLT HEAD



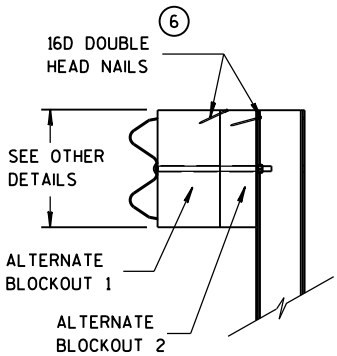
POST BOLT
AND RECESS NUT



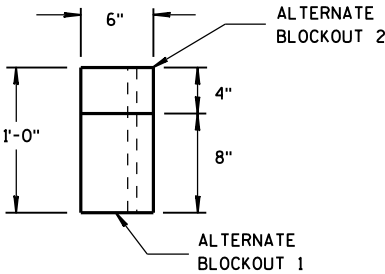
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

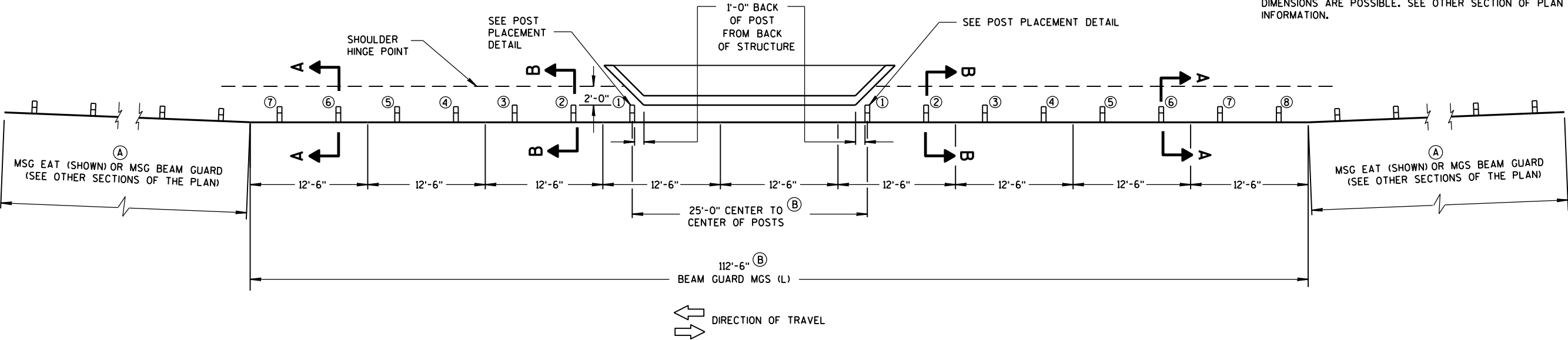
APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 125 INT
FHWA ENGINEER

GENERAL NOTES

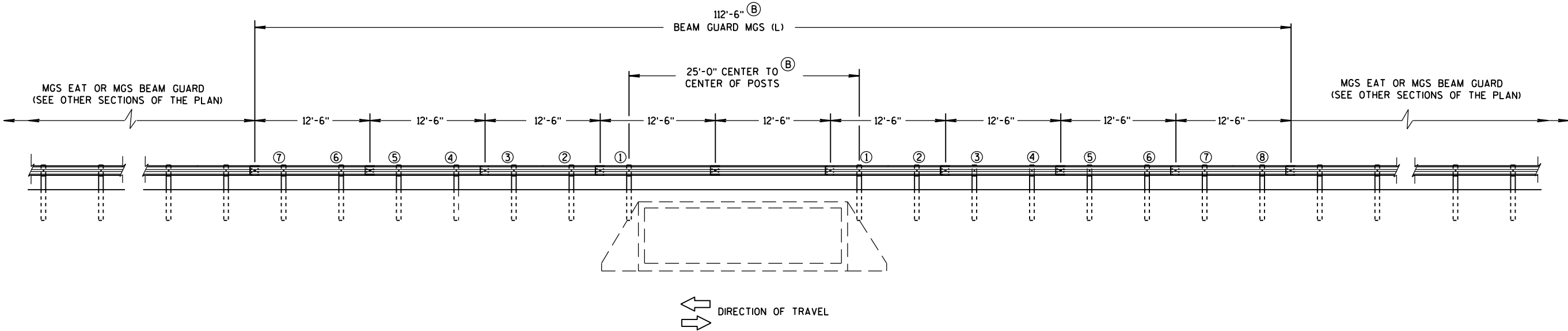
POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

SEE SDD 14 B 42 FOR MORE DETAILS.

- (A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.
- (B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.



PLAN VIEW



ELEVATION VIEW

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

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

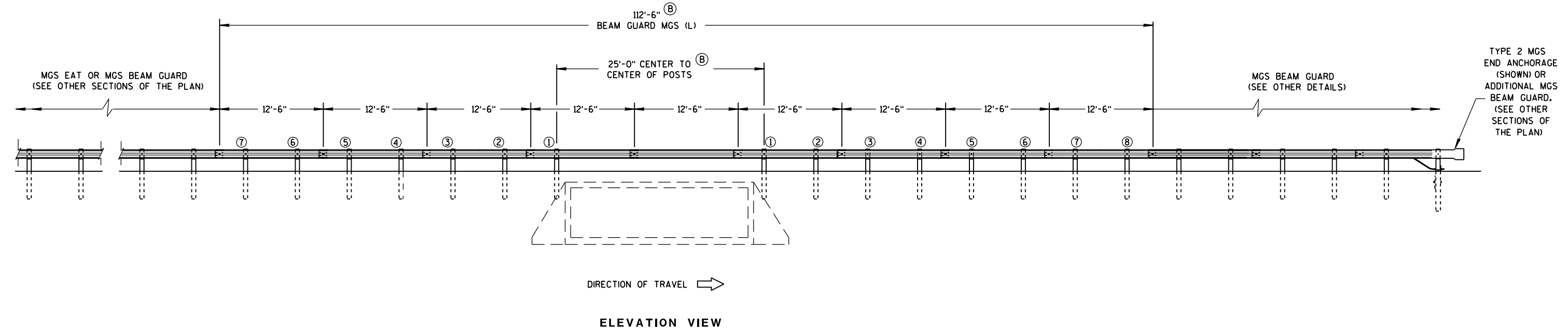
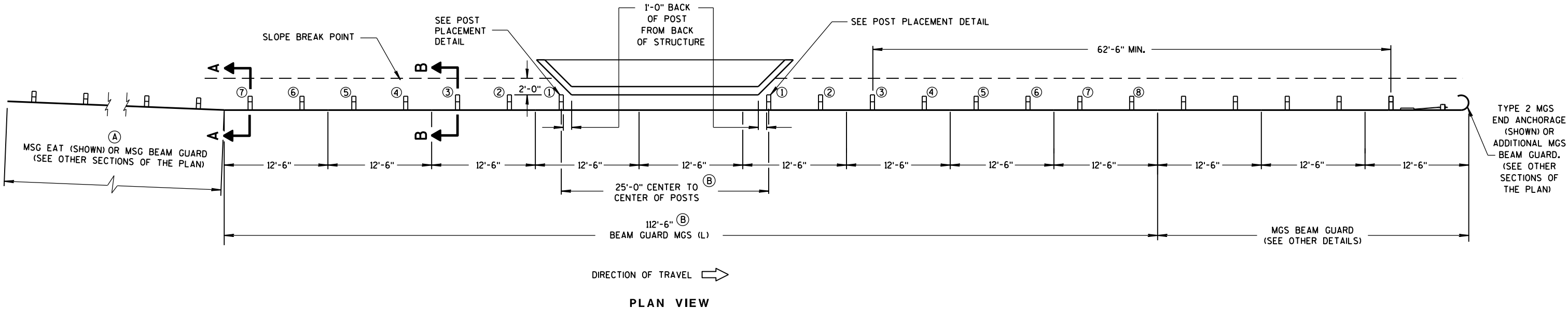
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 126

GENERAL NOTES

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

SEE SDD 14 B 42 FOR MORE DETAILS.

- (A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.
- (B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.

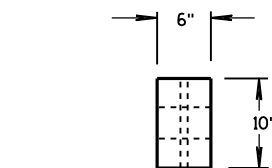


MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

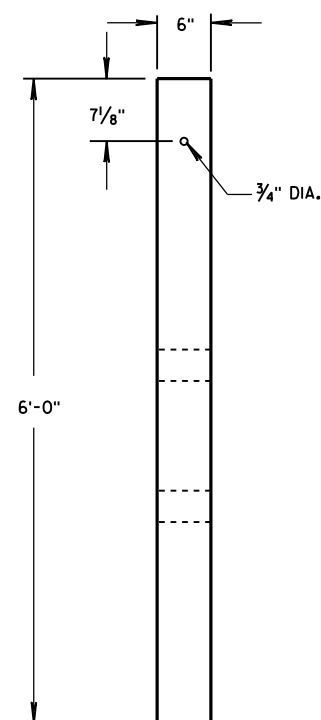
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

127

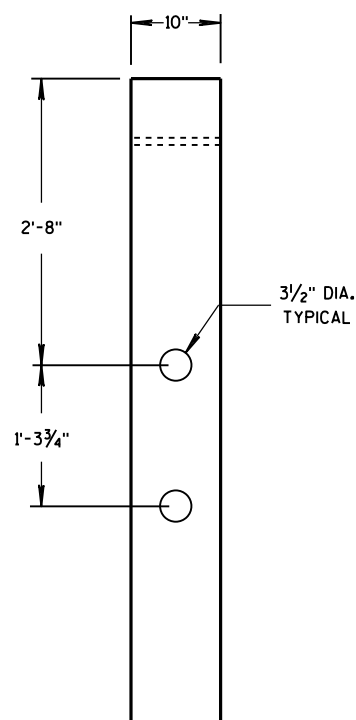


PLAN VIEW

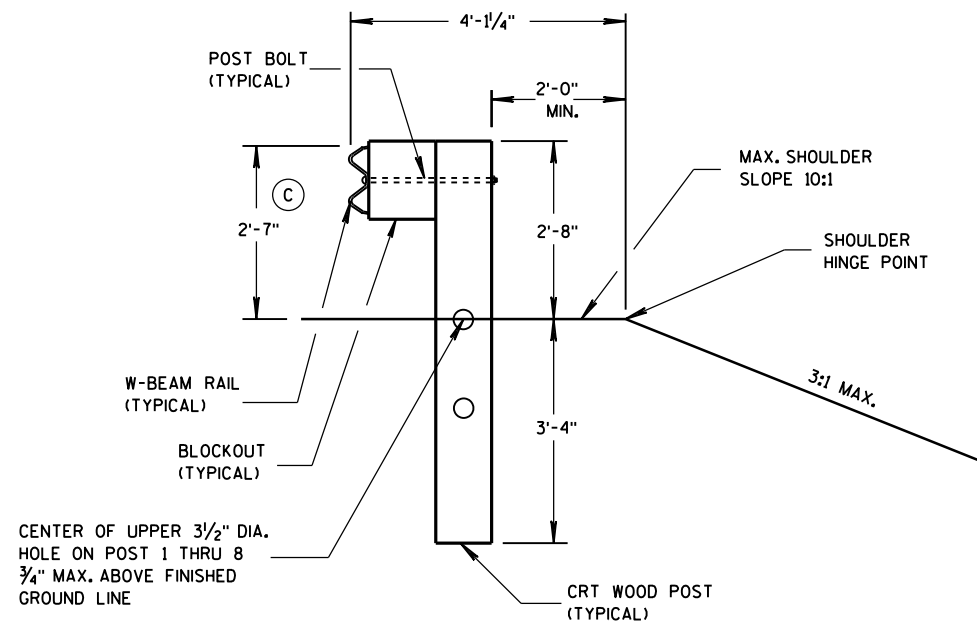


FRONT VIEW

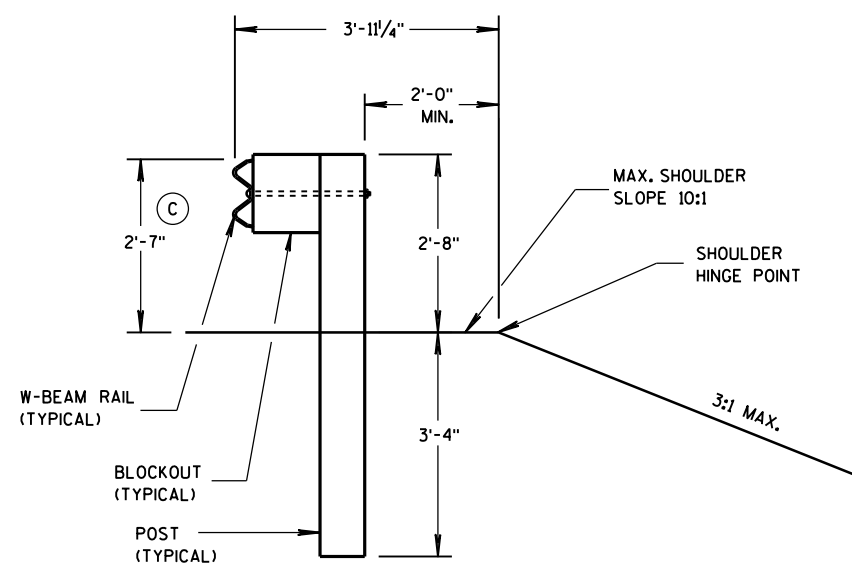
CRT WOOD POST



SIDE VIEW

SECTION B-B
POSTS NO. 1-3

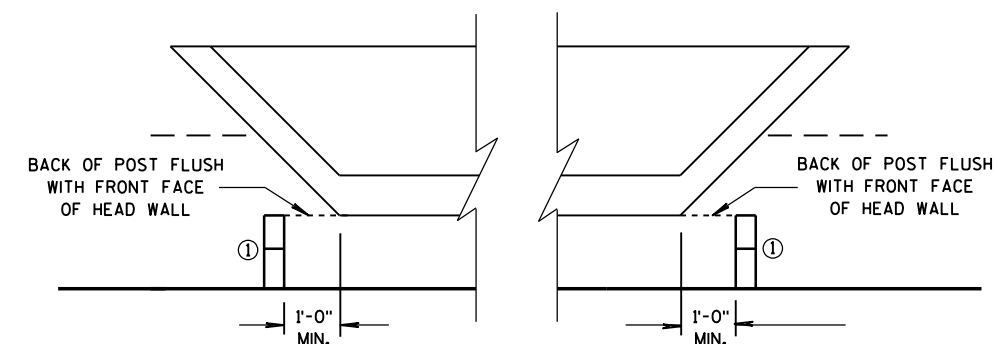
SEE OTHER DETAILS

SECTION A-A
POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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



POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS (128) ENGINEER

GENERAL NOTES

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

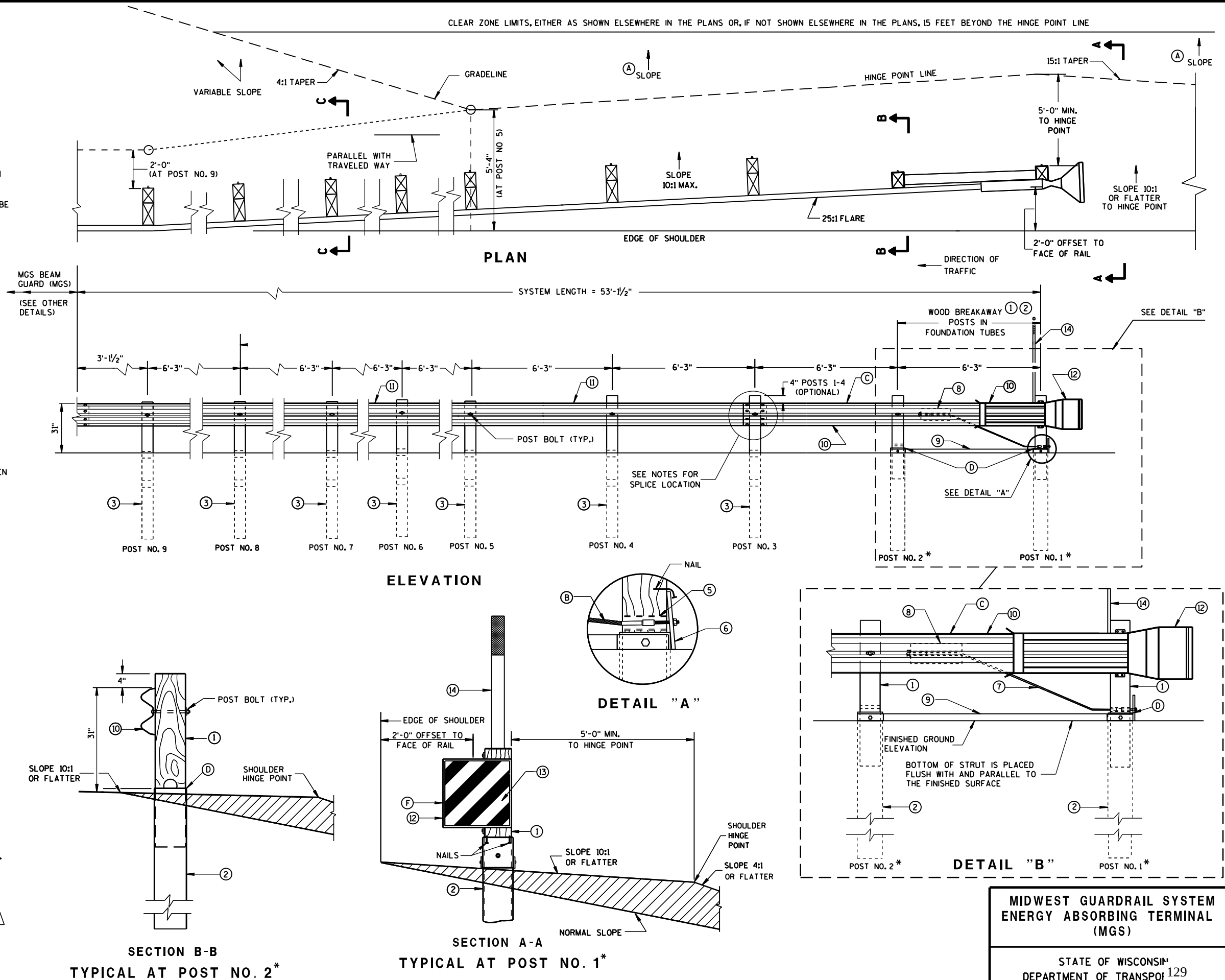
SEE SDD 14B42 FOR MORE INFORMATION.

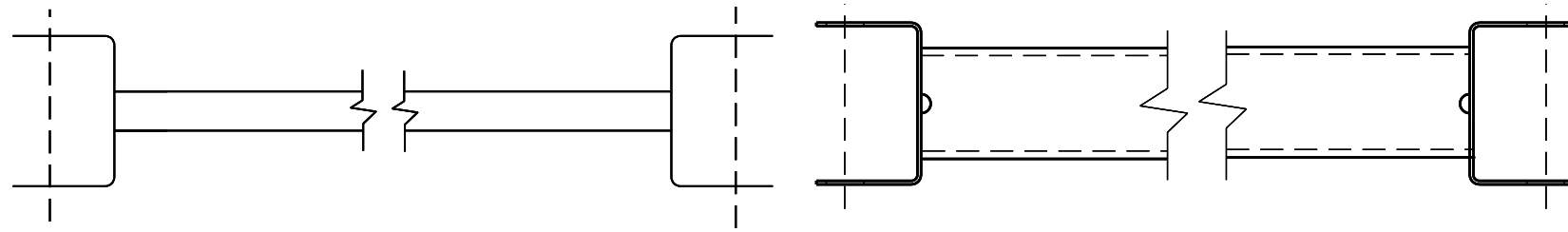
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

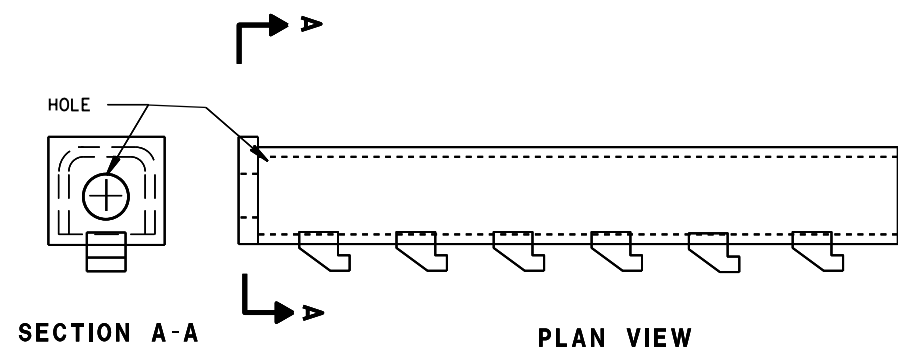
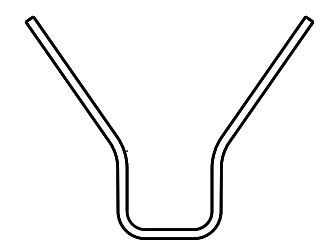
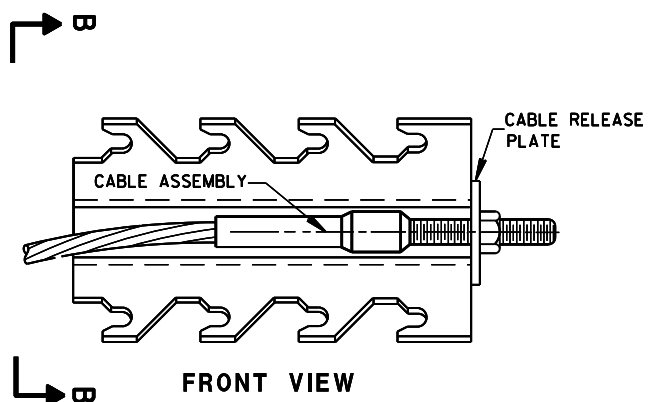
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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





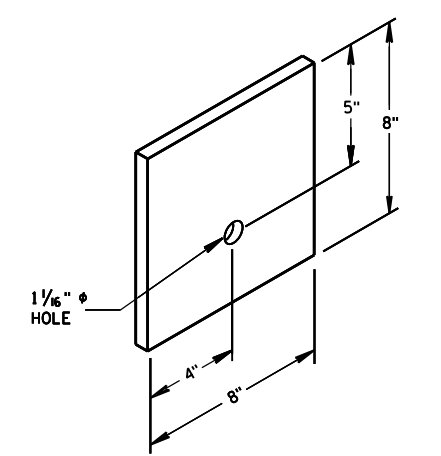
9 H
GENERIC GROUND STRUT



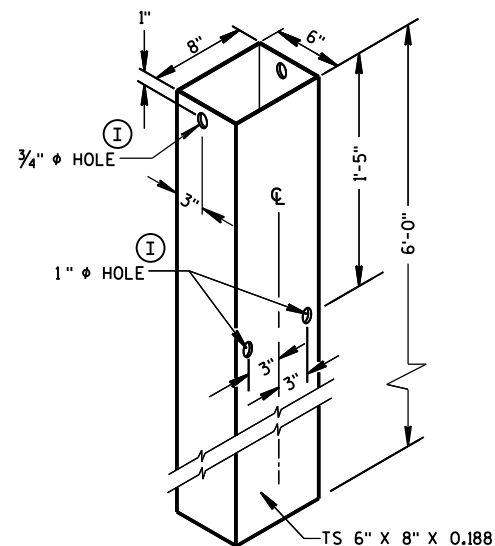
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

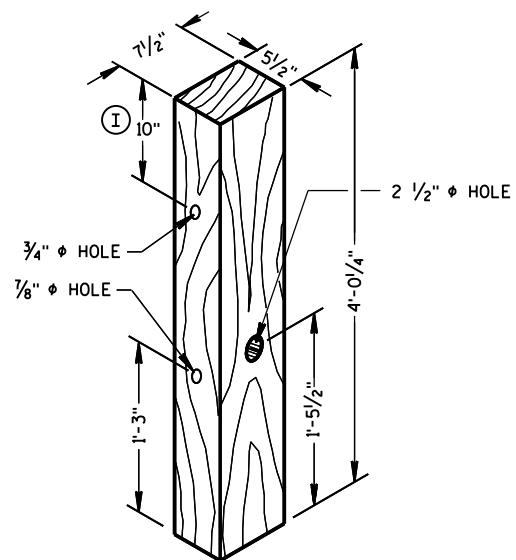
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND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



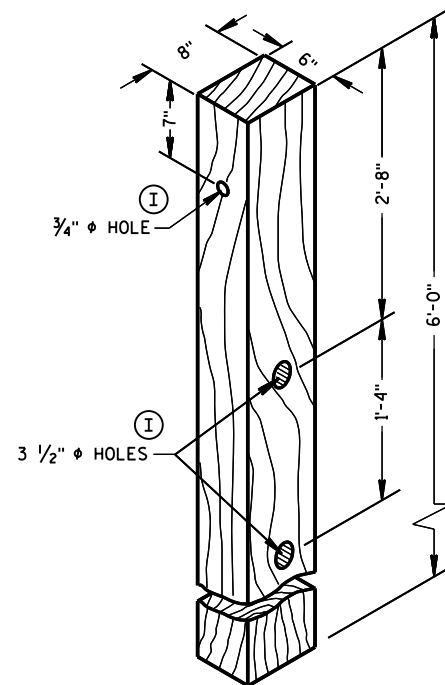
⑥
BEARING PLATE



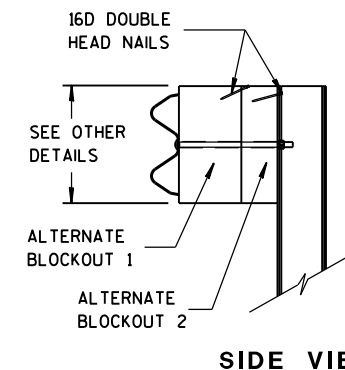
FOUNDATION TUBE ②



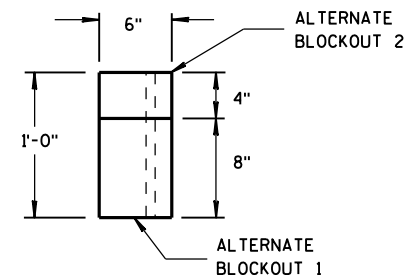
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

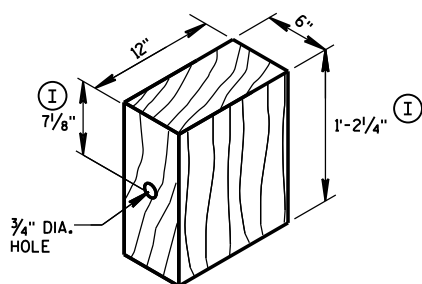


SIDE VIEW



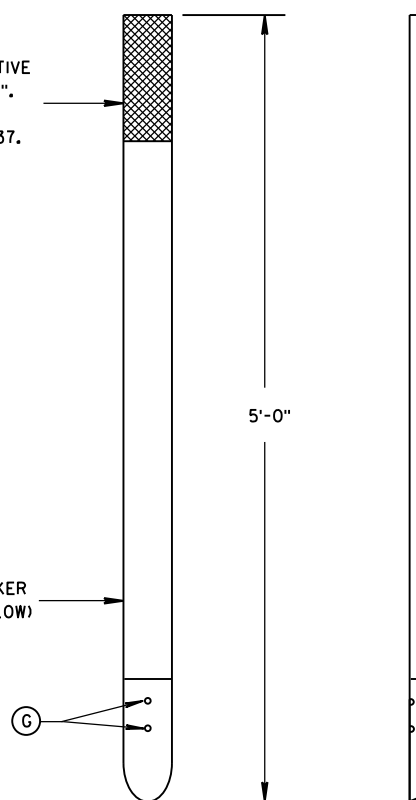
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL



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

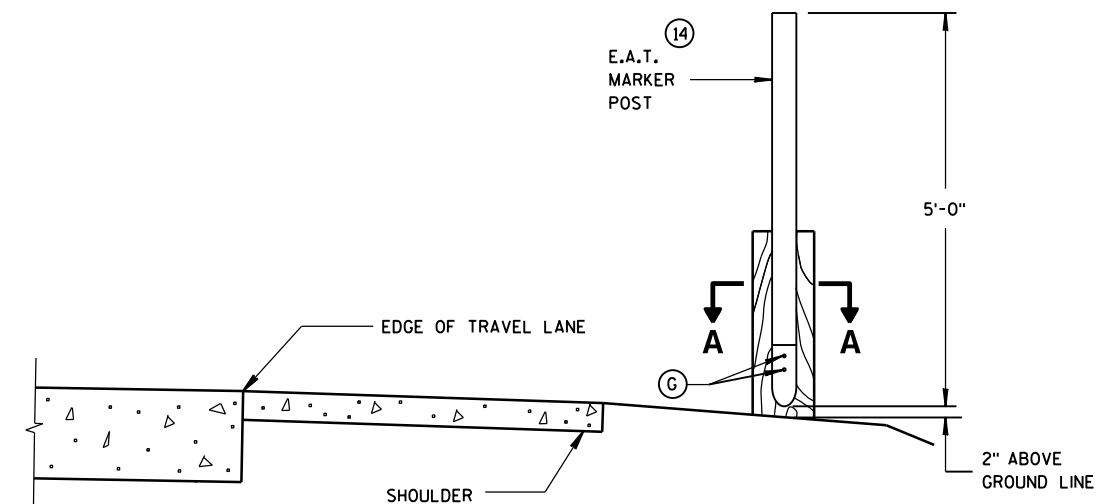
TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



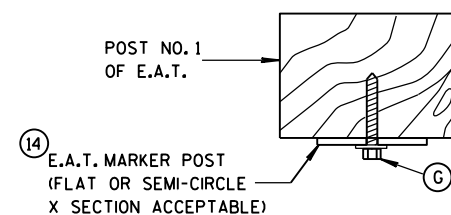
FRONT VIEW

SIDE VIEW

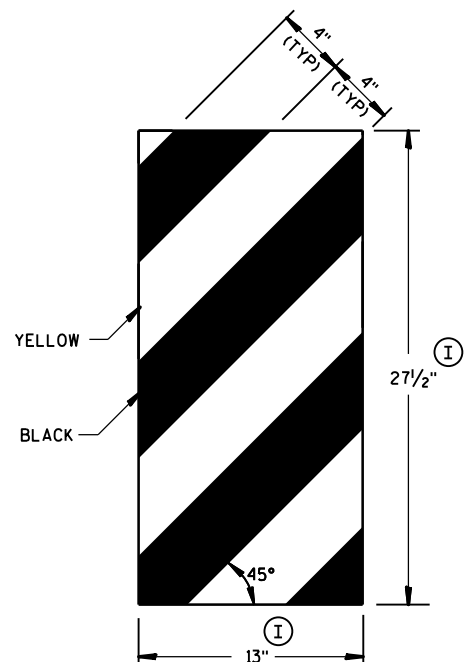
E.A.T. MARKER POST ⑭



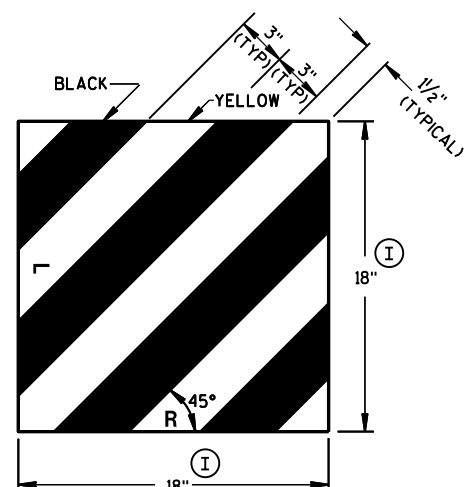
TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A



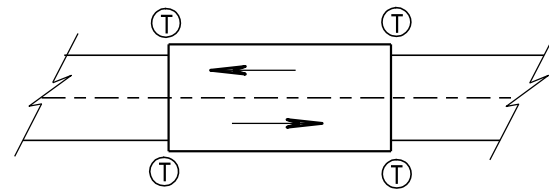
GENERIC REFLECTIVE SHEETING ⑬ ①



MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

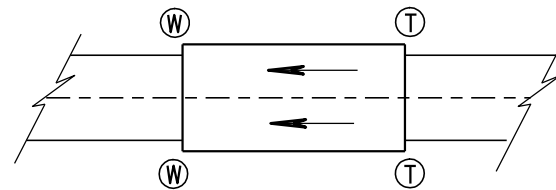
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 131 ENT
FHWA ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

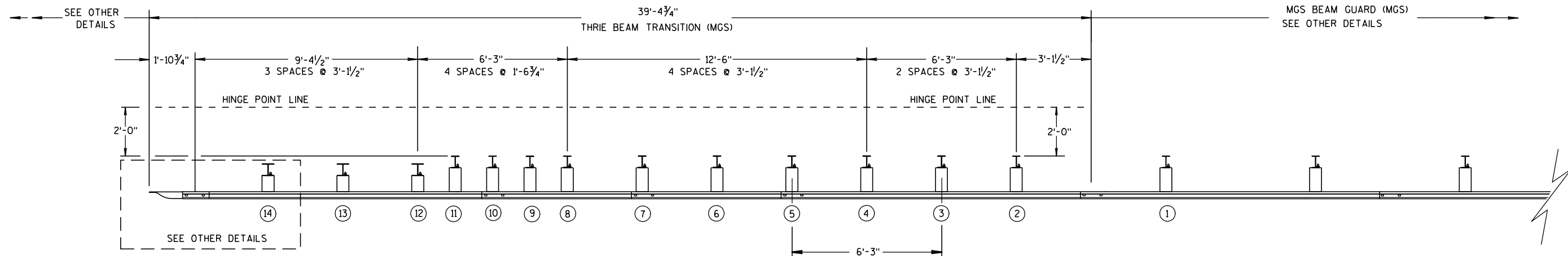
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

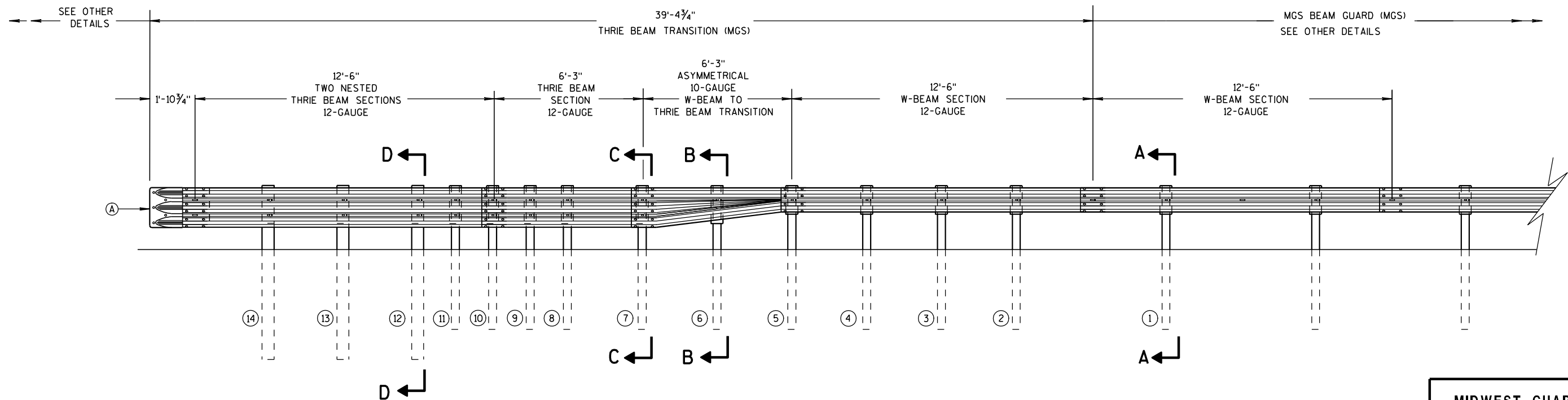
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

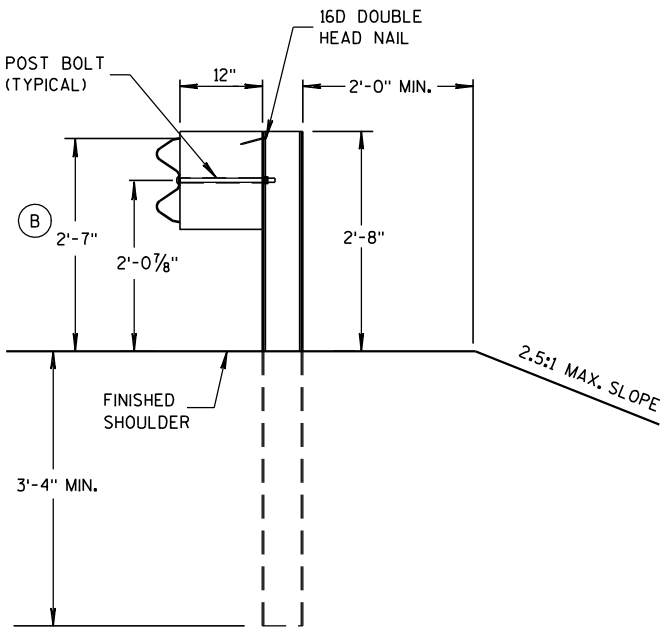
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

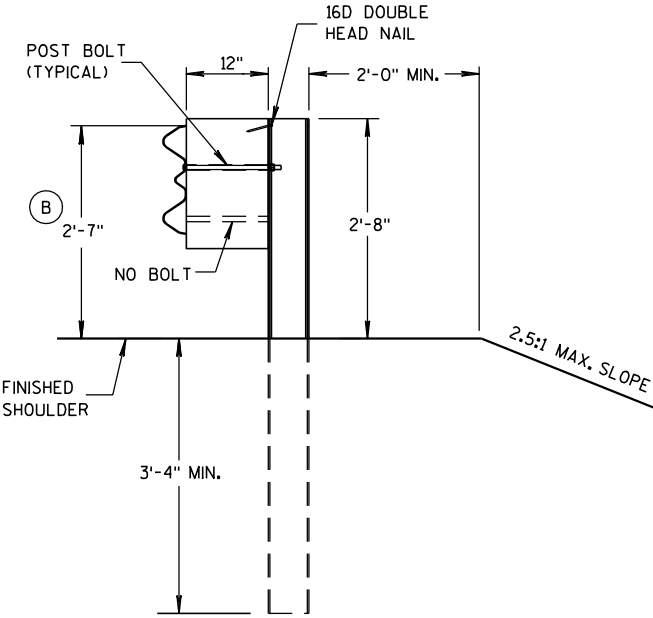
132

GENERAL NOTES

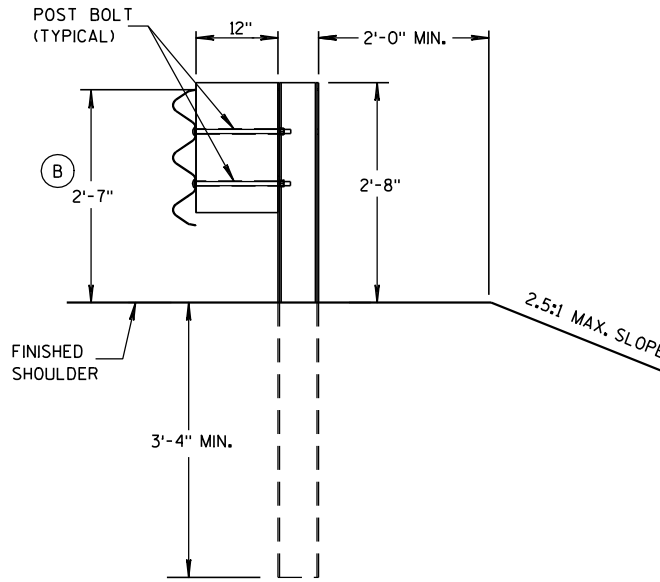
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



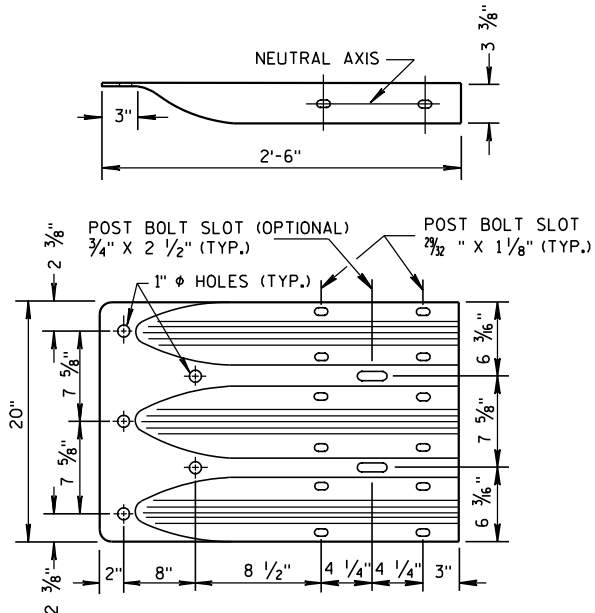
SECTION A-A
POSTS 1-5



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11



THRIE BEAM
TERMINAL CONNECTOR

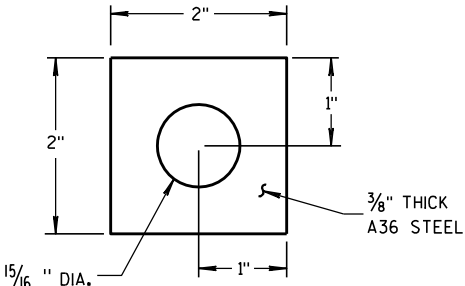
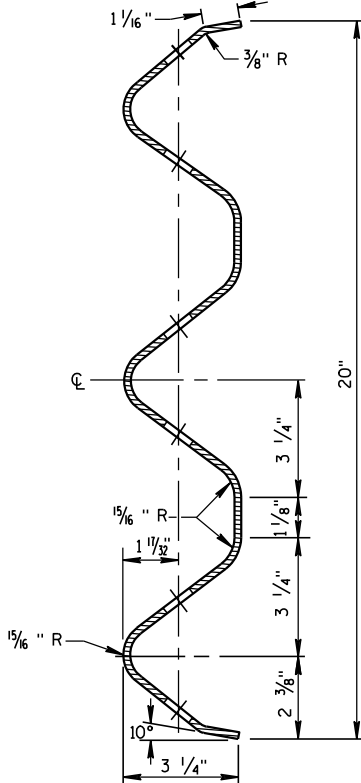
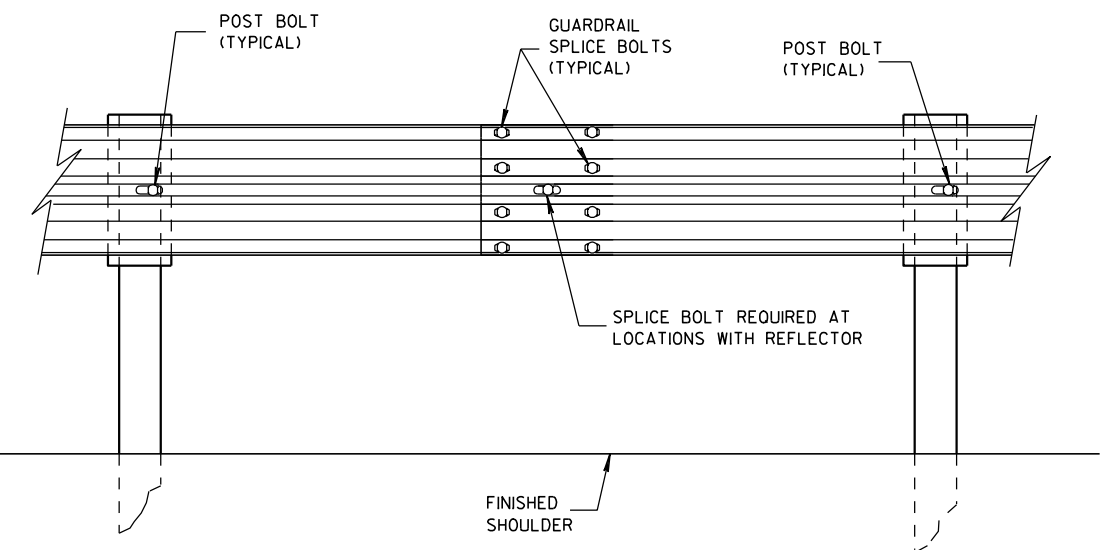


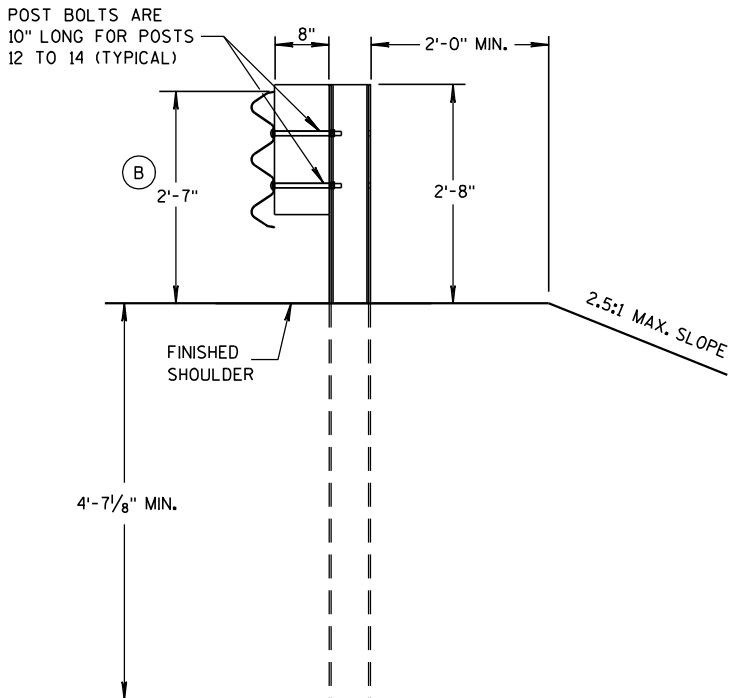
PLATE WASHER DETAIL



SECTION THRU THRIE
BEAM RAIL ELEMENT



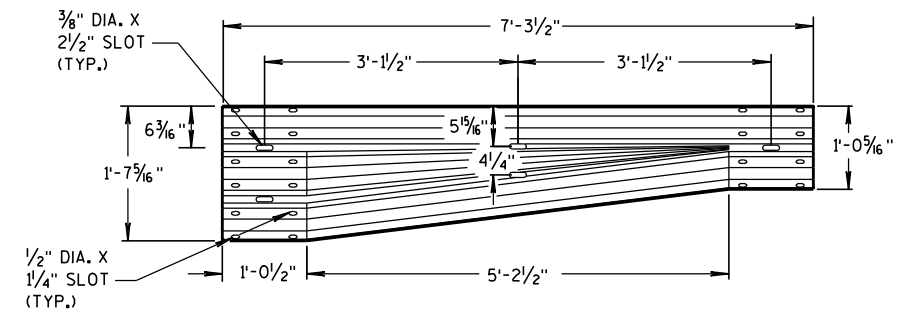
SPLICE DETAIL



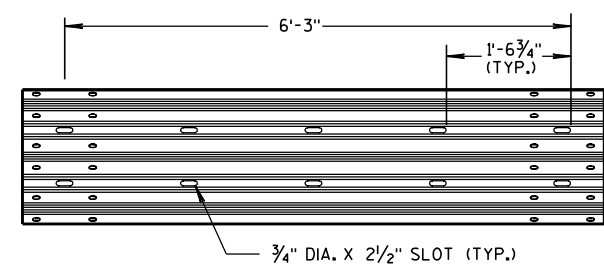
SECTION D-D
POSTS 12-14

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

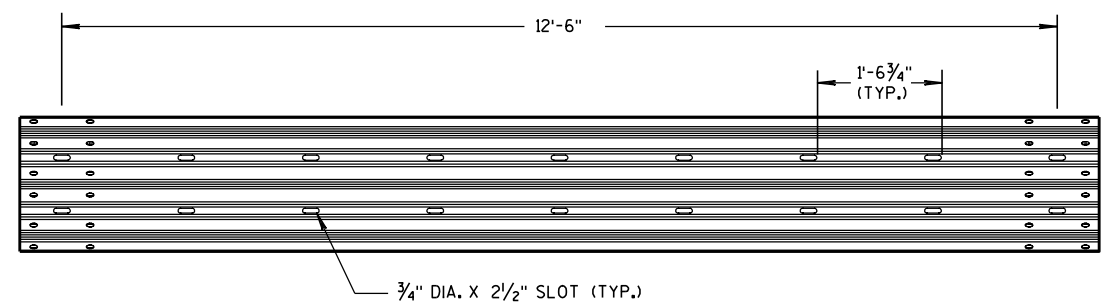
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



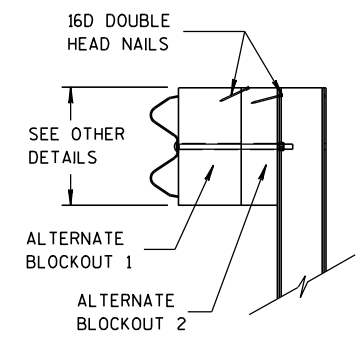
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

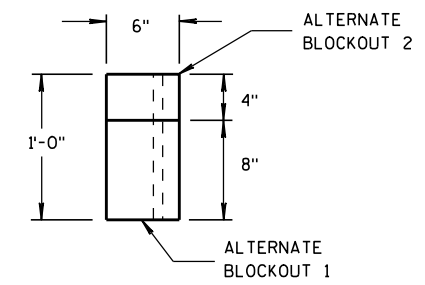


12'-6" THRIE BEAM SECTION

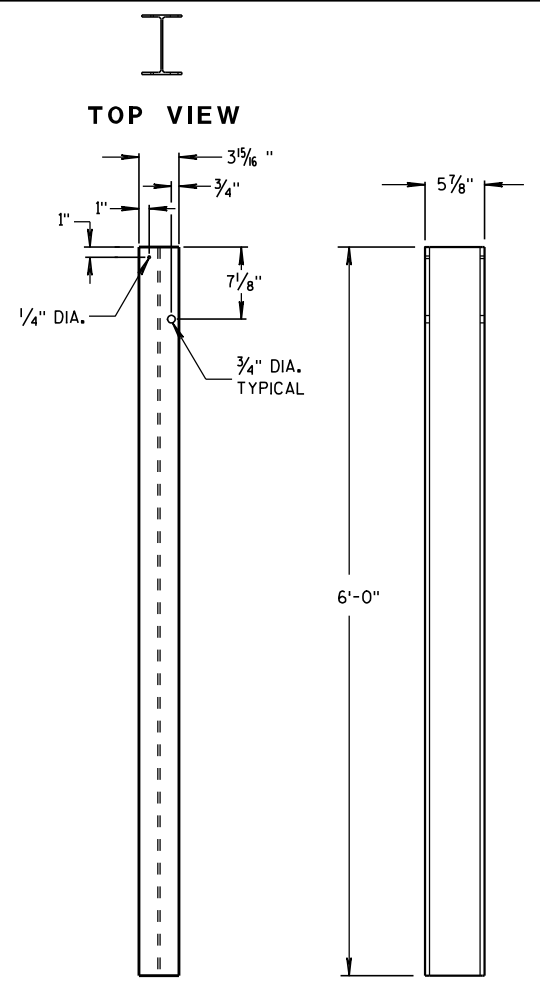


SIDE VIEW

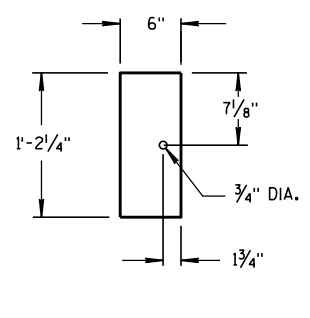
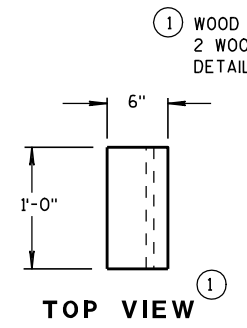
ALTERNATE WOOD BLOCKOUT DETAIL



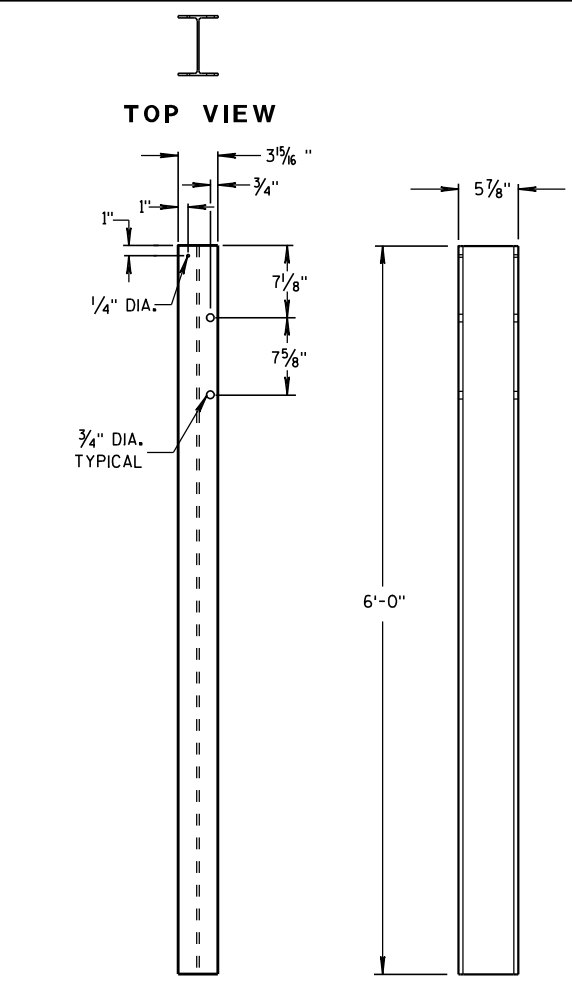
TOP VIEW



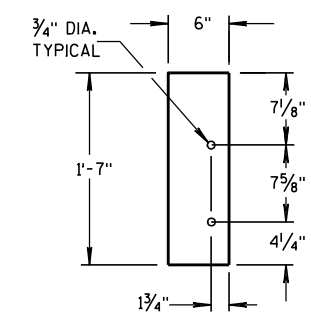
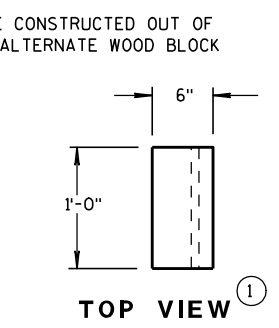
STEEL POSTS 1-5



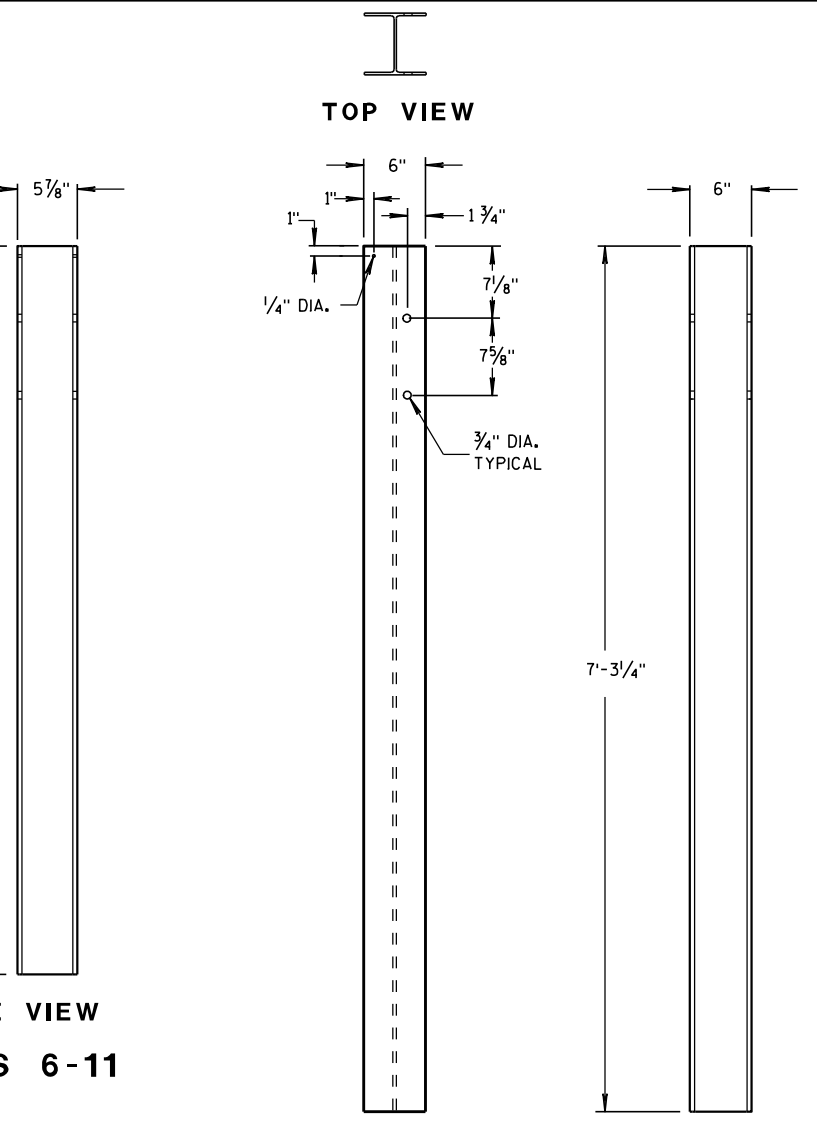
BLOCKOUT POSTS 1-5



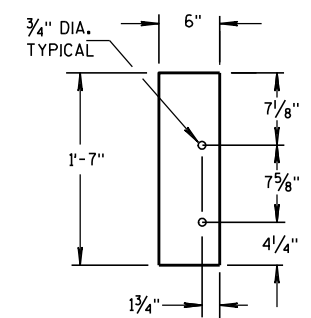
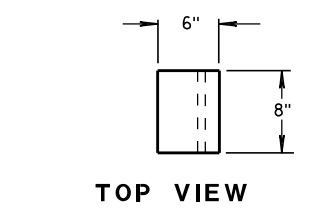
STEEL POSTS 6-11



BLOCKOUT POSTS 6-11



STEEL POSTS 12-14

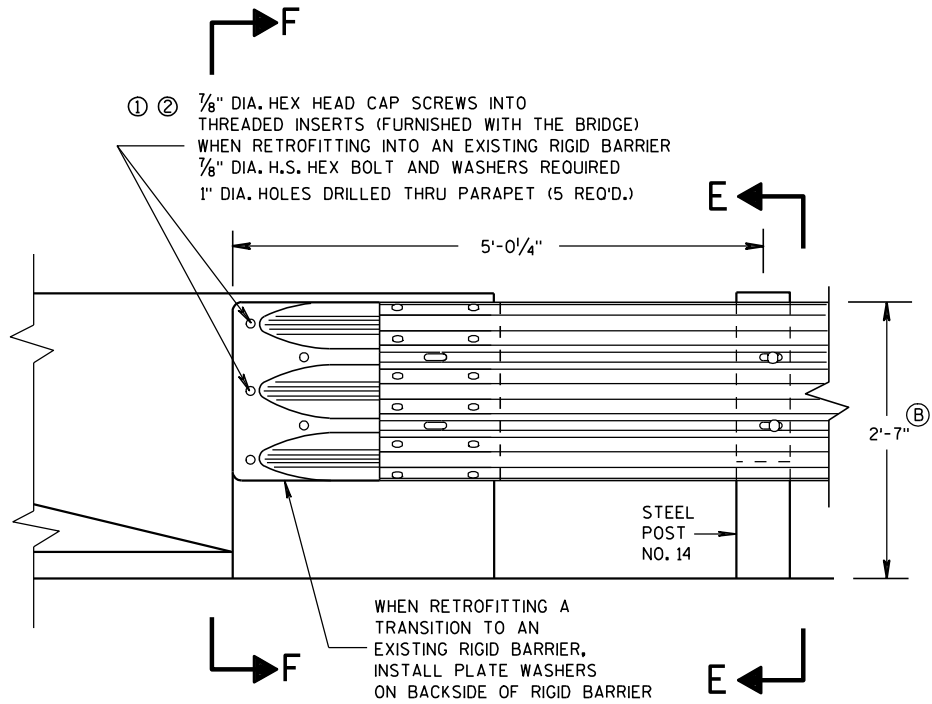


BLOCKOUT POSTS 12-14

STEEL POST SIZES

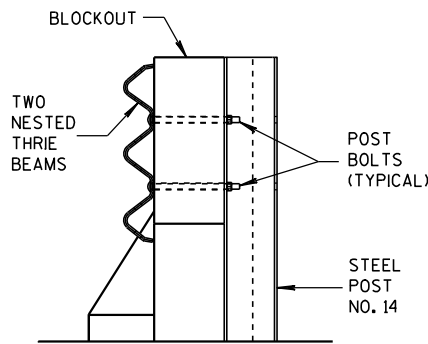
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)



FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS

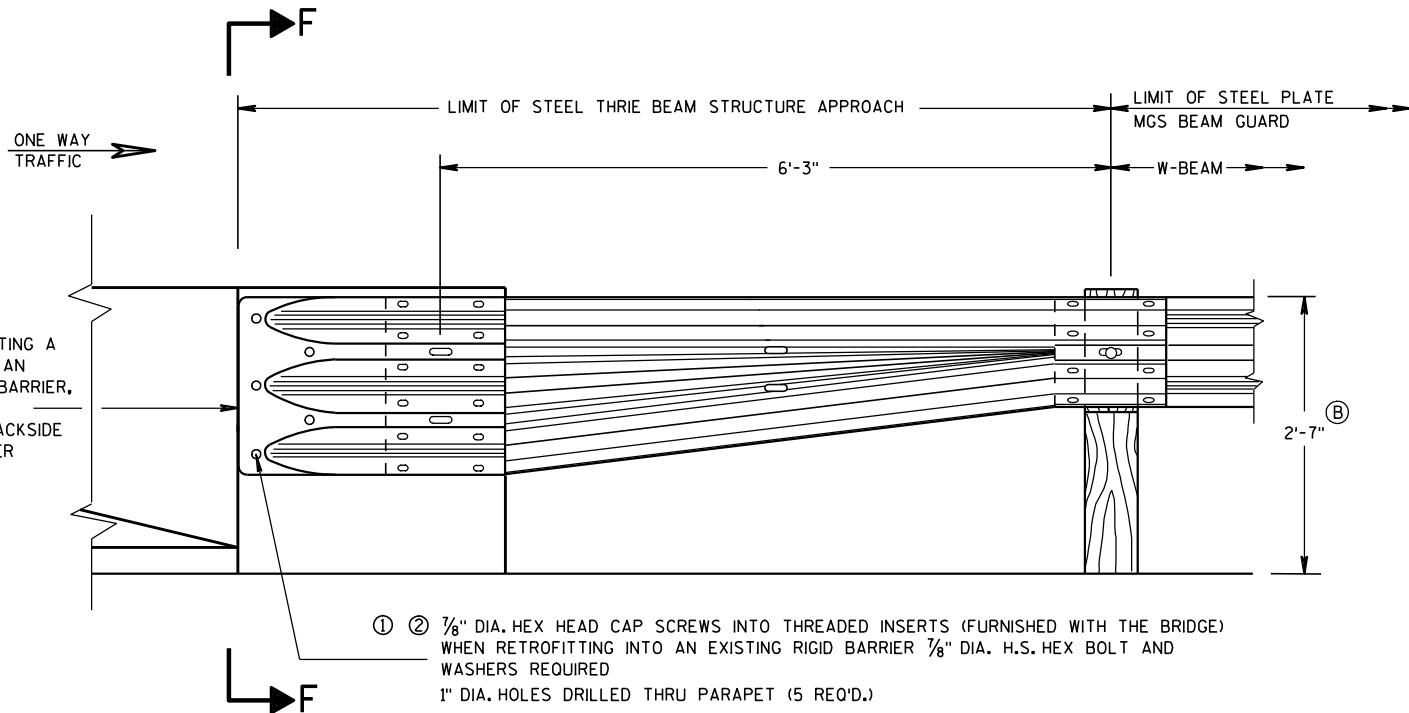


SECTION E-E

GENERAL NOTES

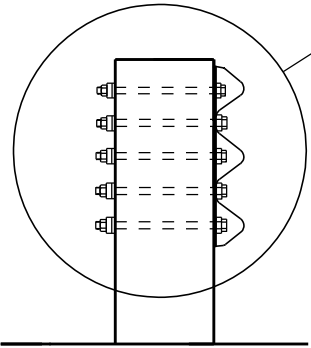
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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

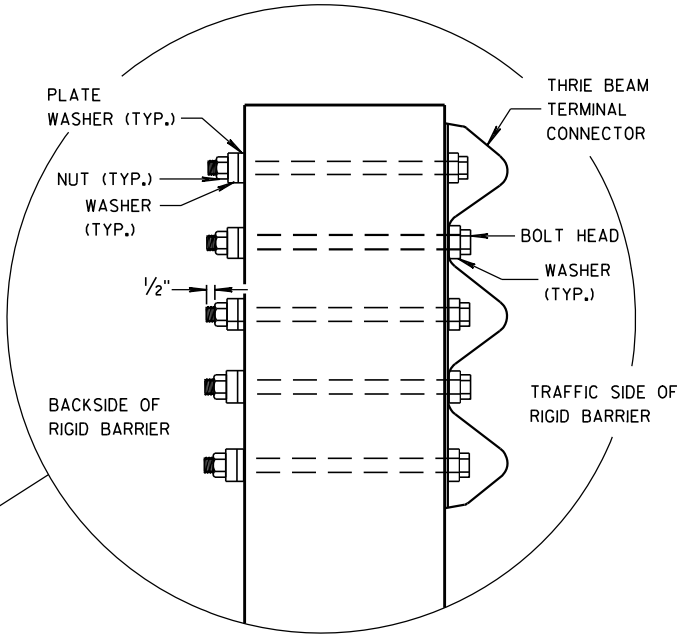


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

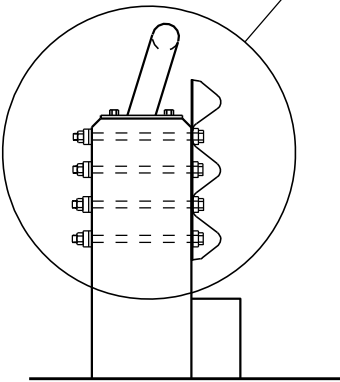
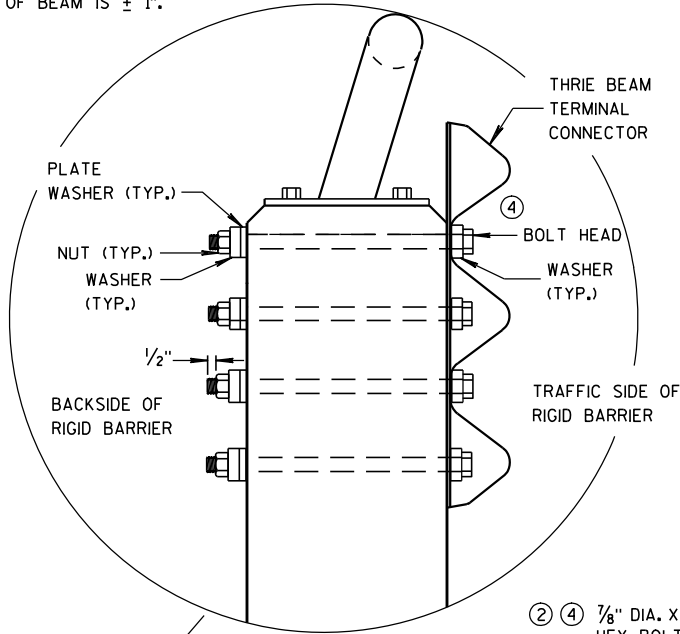


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zapp ROADWAY STANDARDS ENGINEER 135 ENT
FHWA	

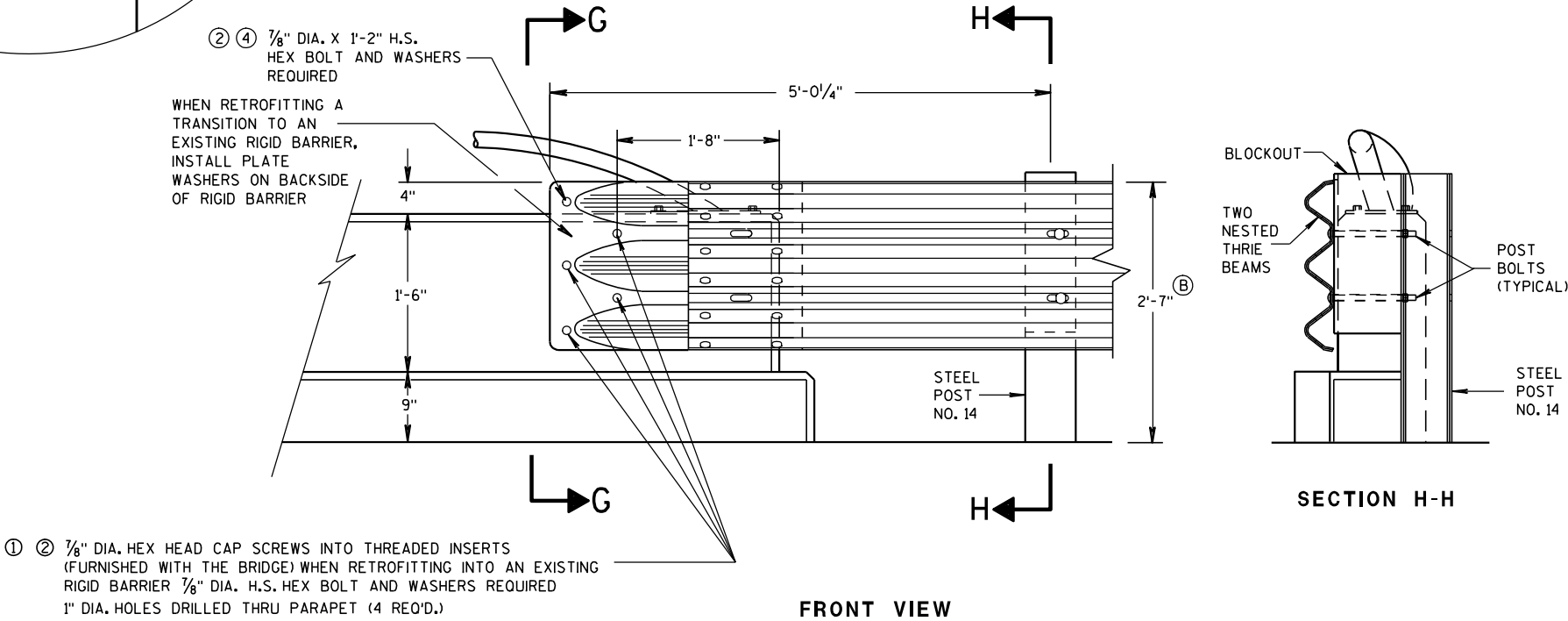
GENERAL NOTES

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

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

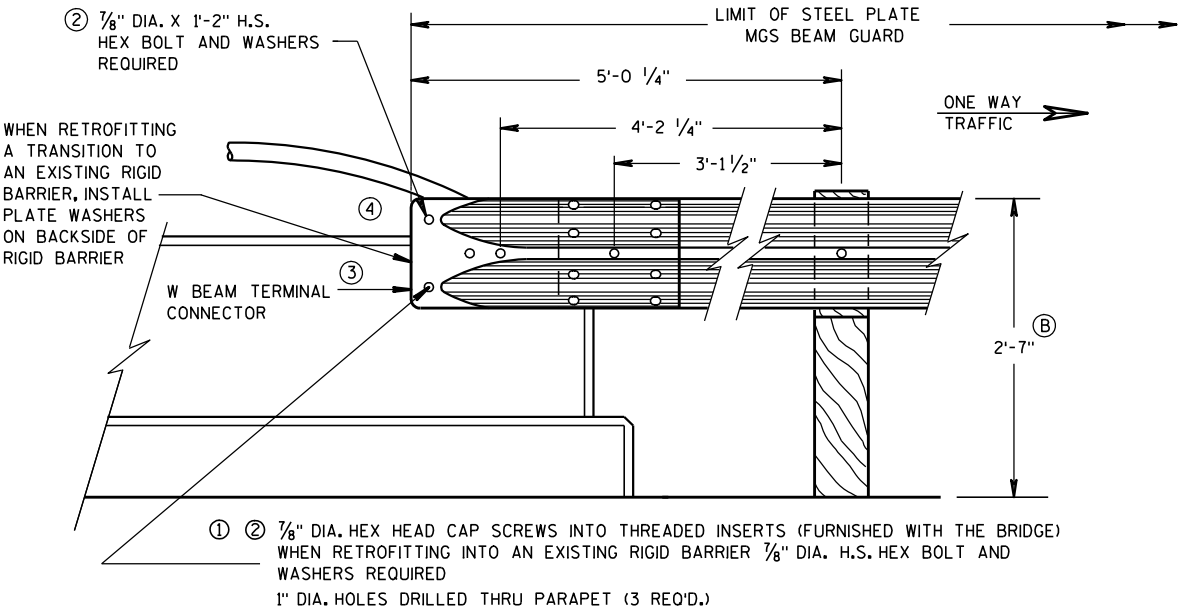


SECTION G-G



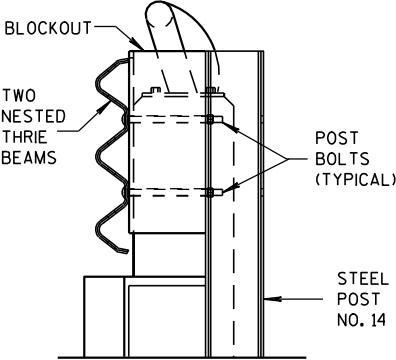
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

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

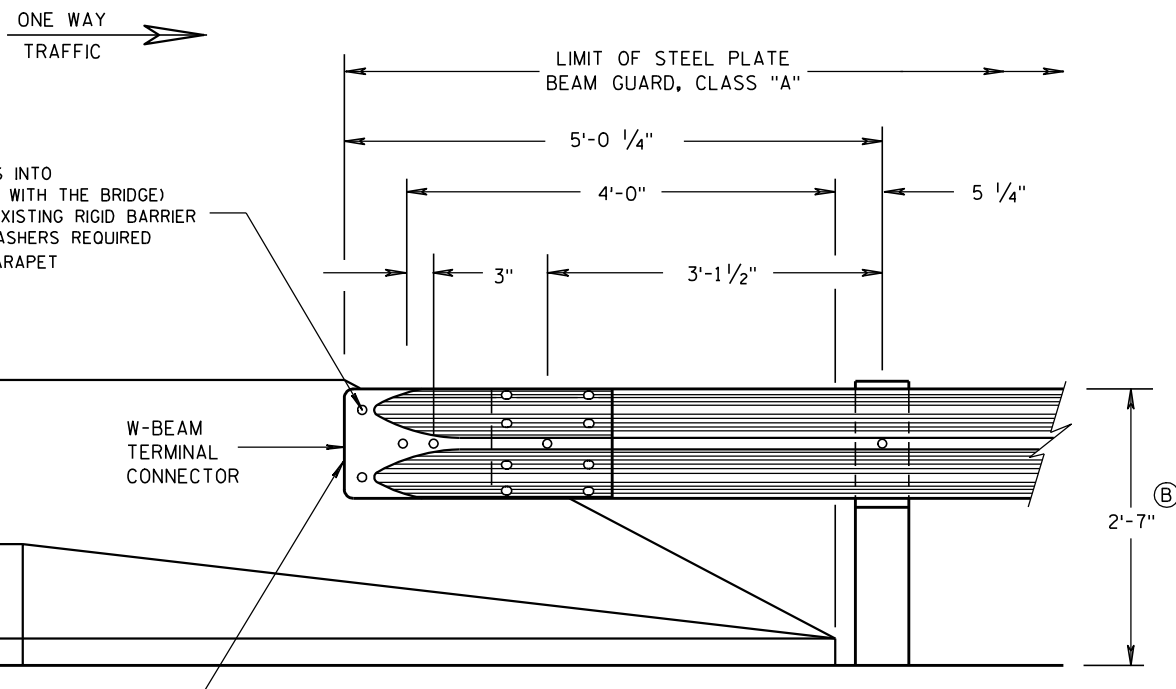


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 136 ENT
FHWA ENGINEER



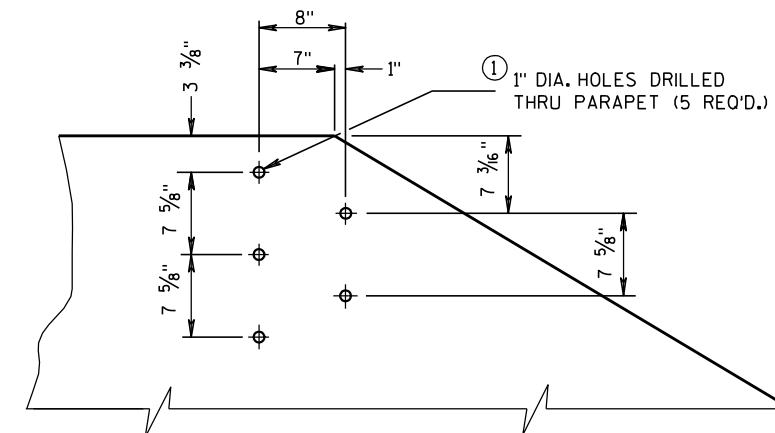
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

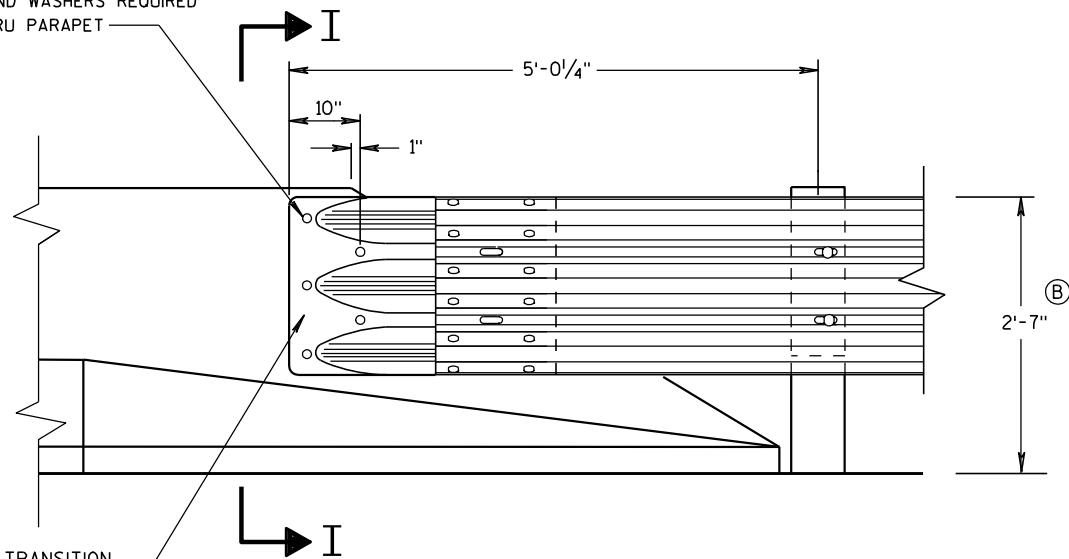
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



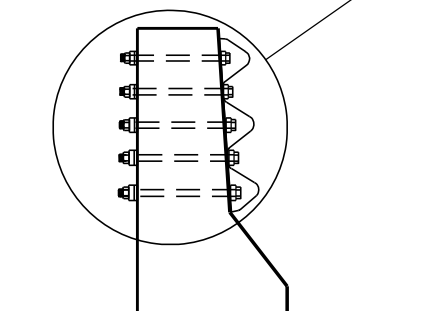
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)

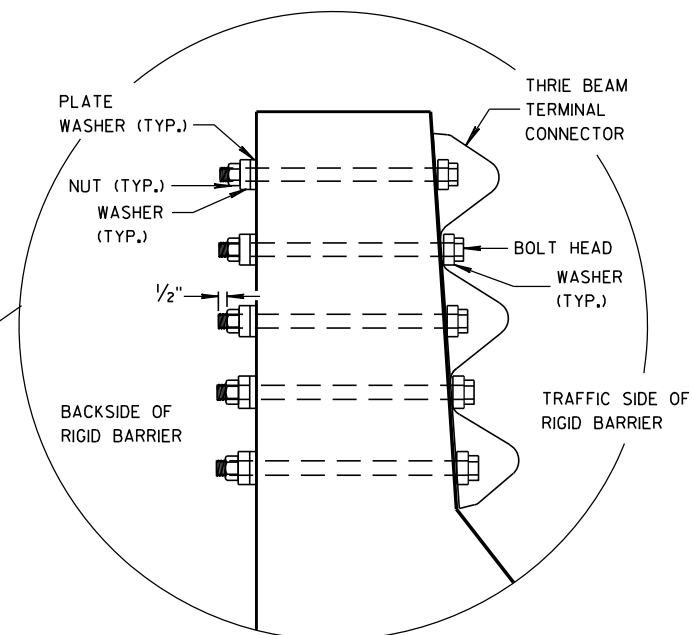


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I

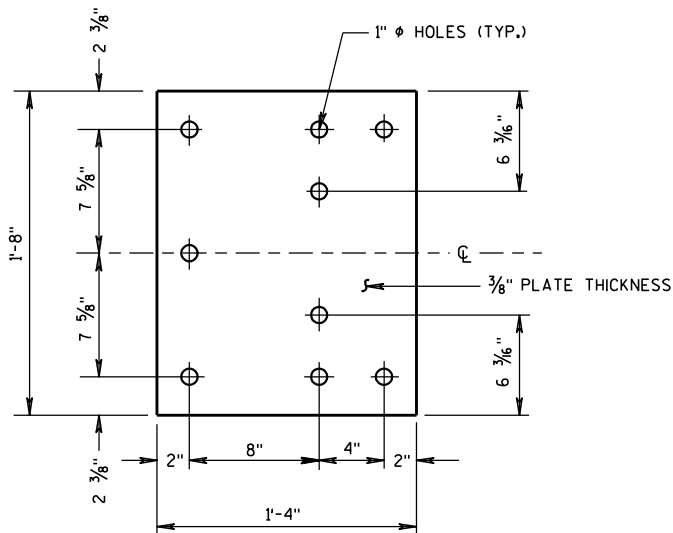


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

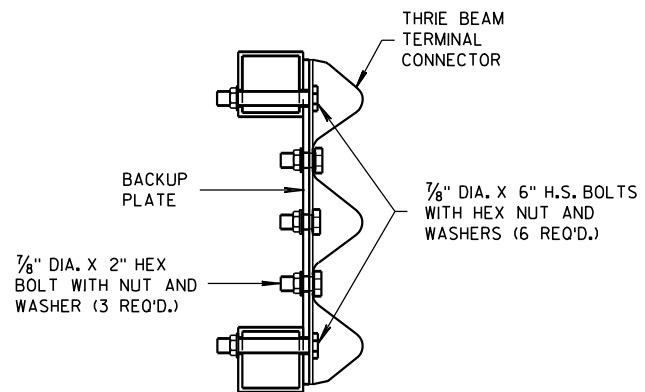
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

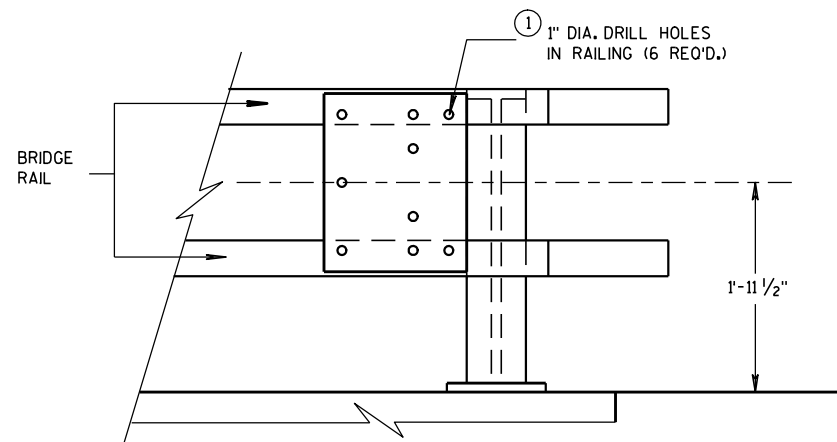
/S/ Jerry H. Zapp
ROADWAY STANDARDS 137 ENT
ENGINEER



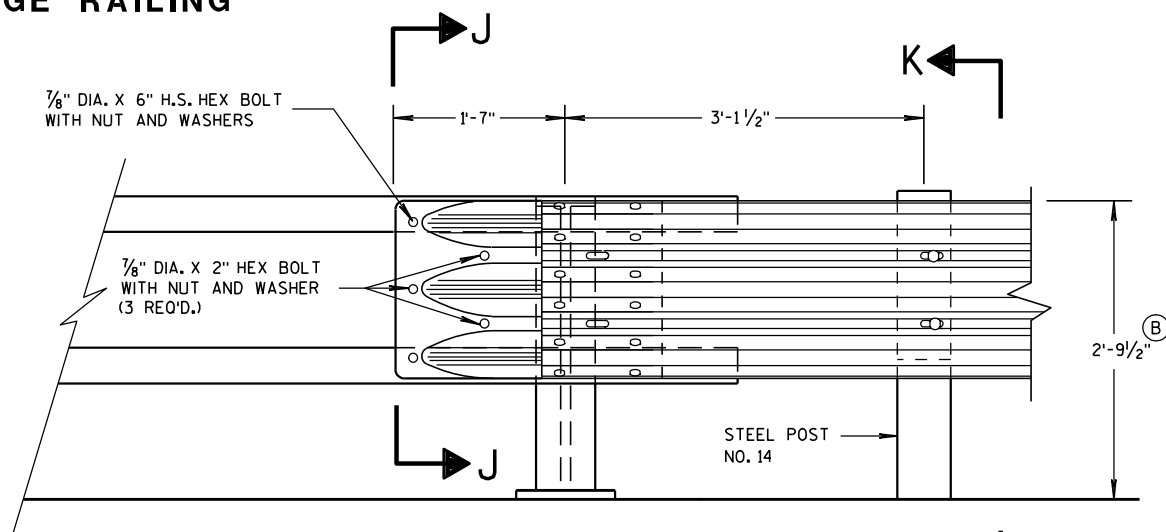
BACK-UP PLATE DETAIL



SECTION J-J

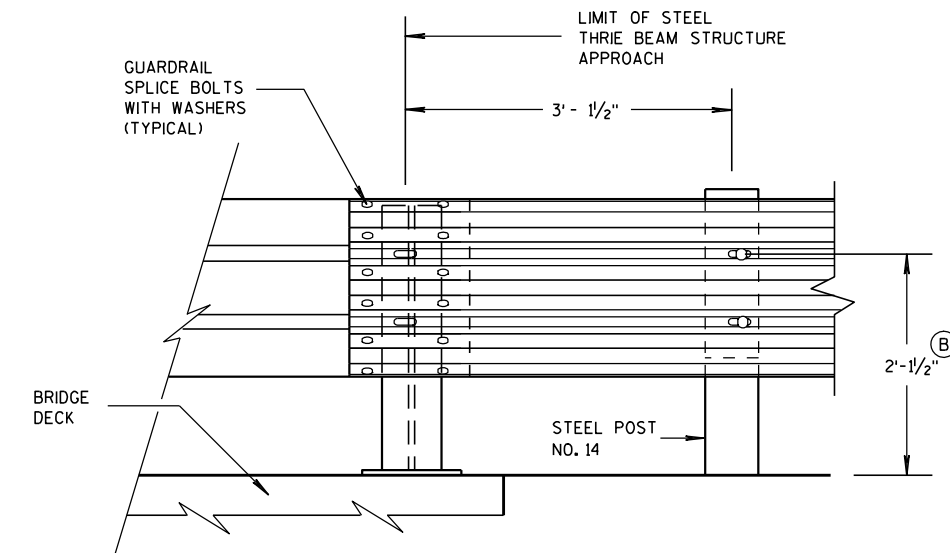


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



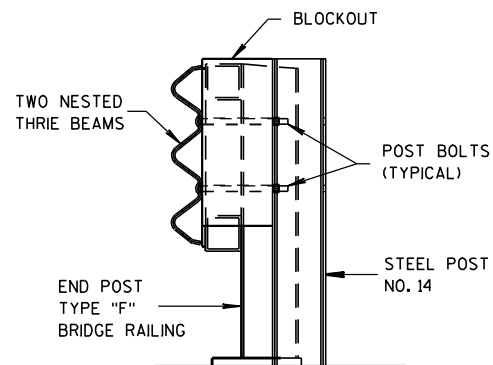
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

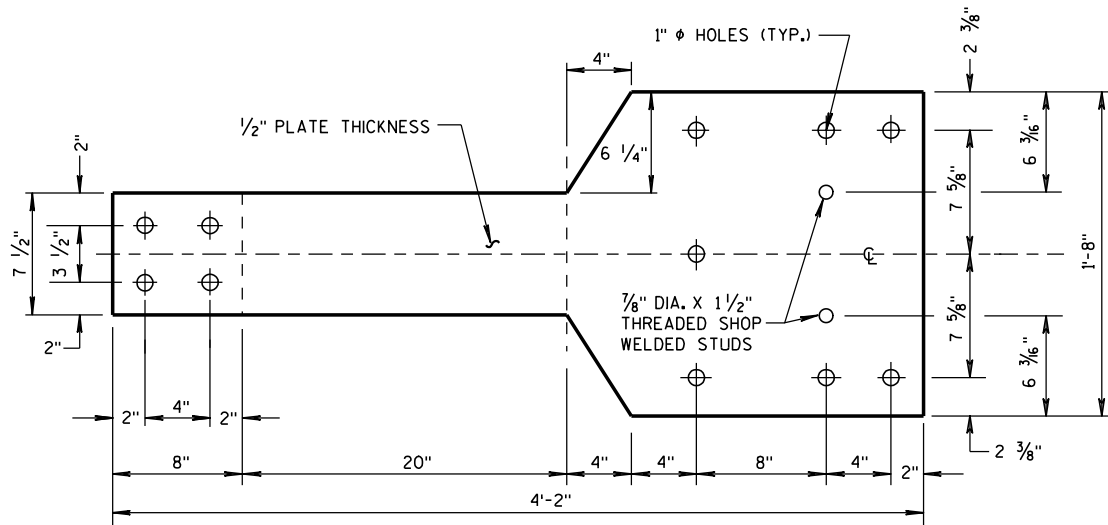
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

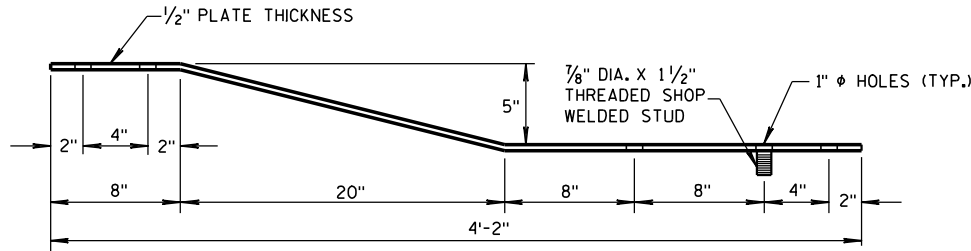
APPROVED
8/31/2012 DATE /S/ Jerry H. Zeng
ROADWAY STANDARDS 138 ENGINEER
FHWA

GENERAL NOTES

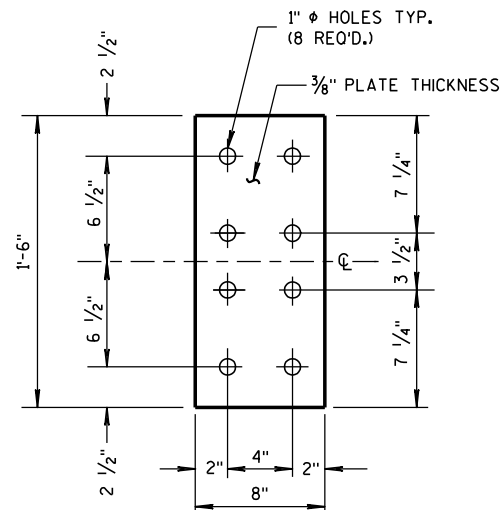
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

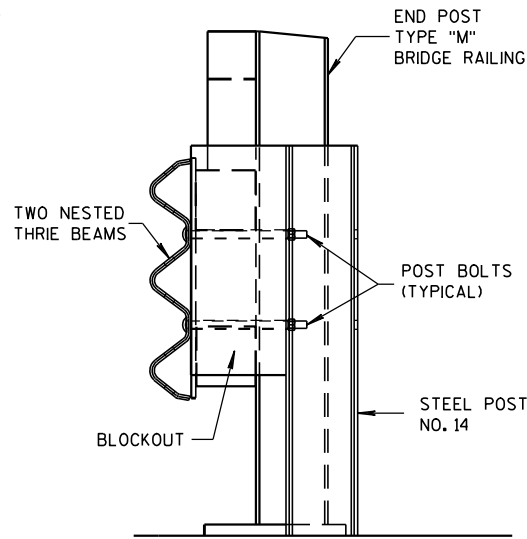


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

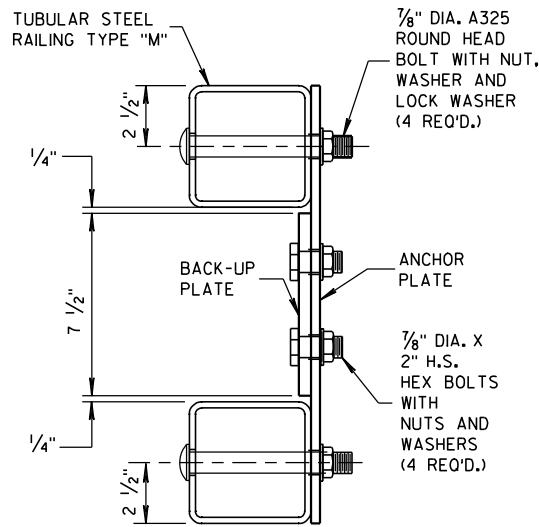


FRONT VIEW

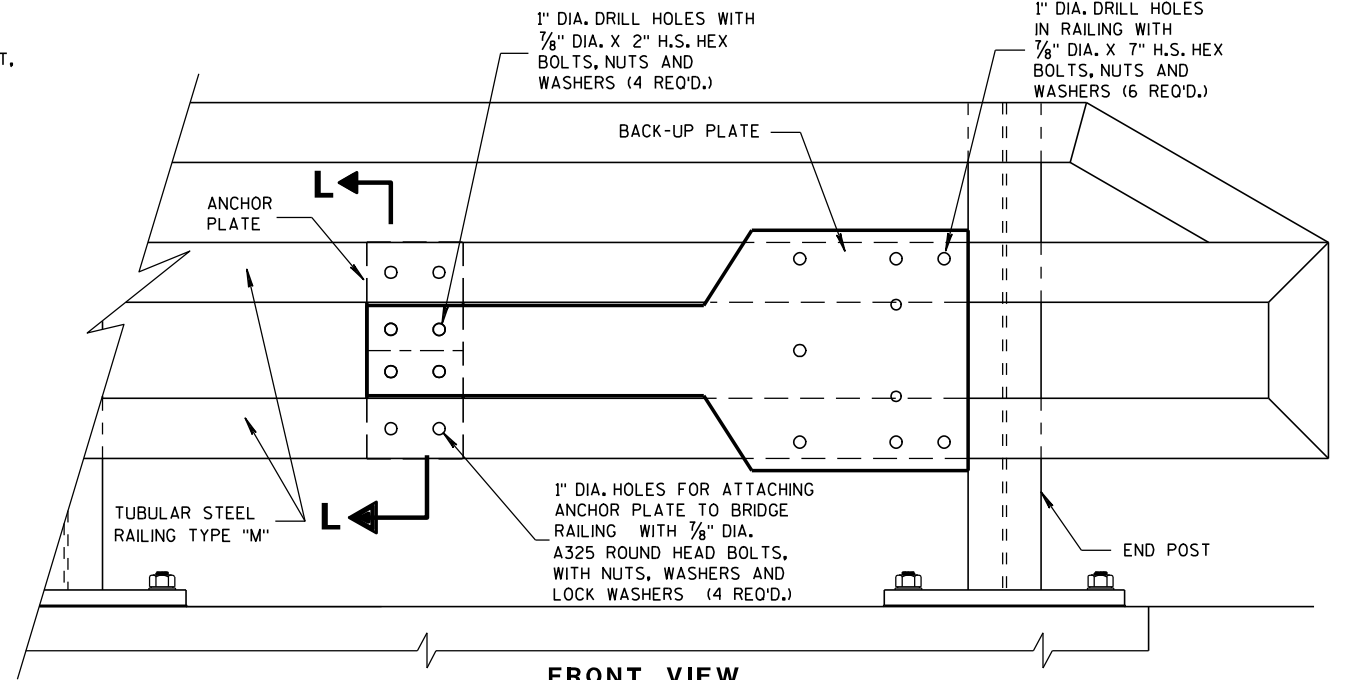
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

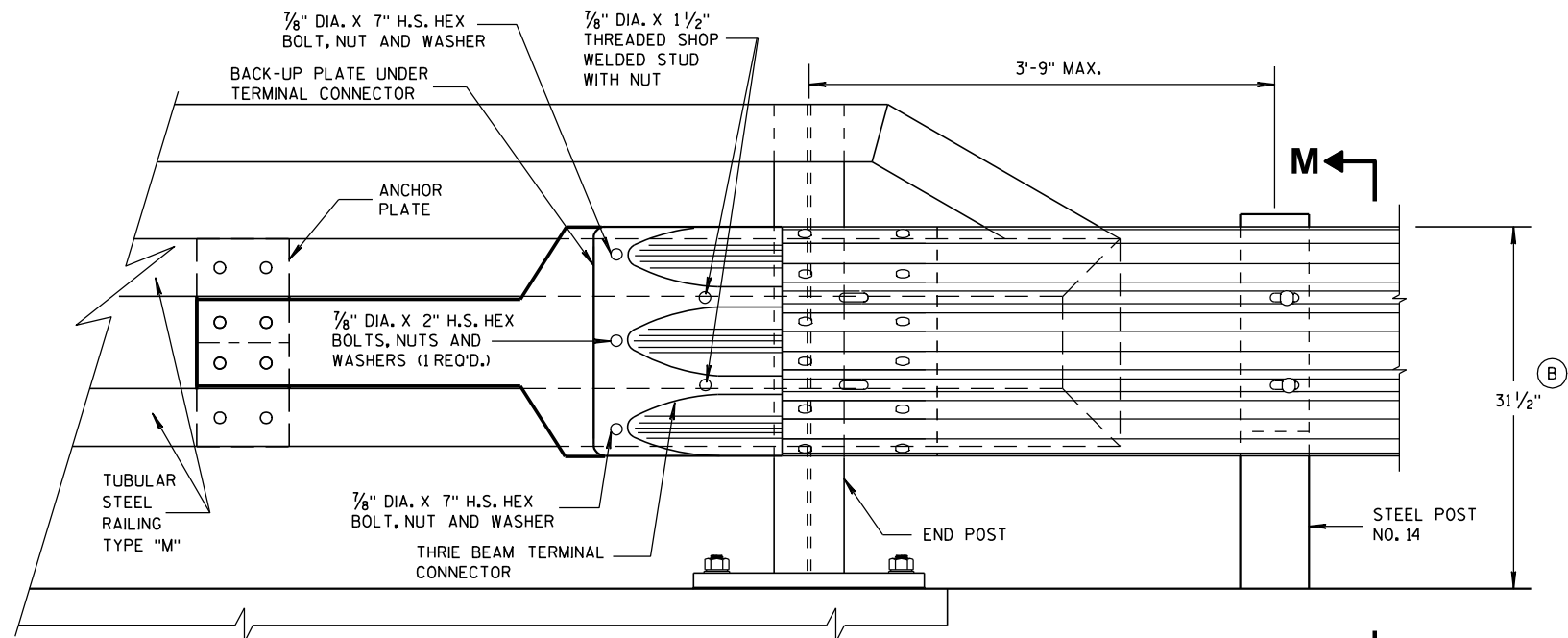


SECTION L-L

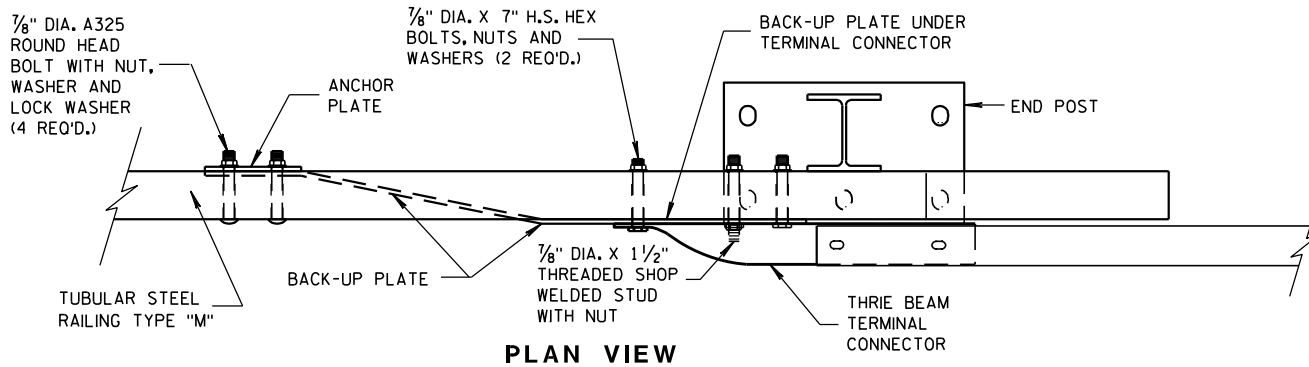


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

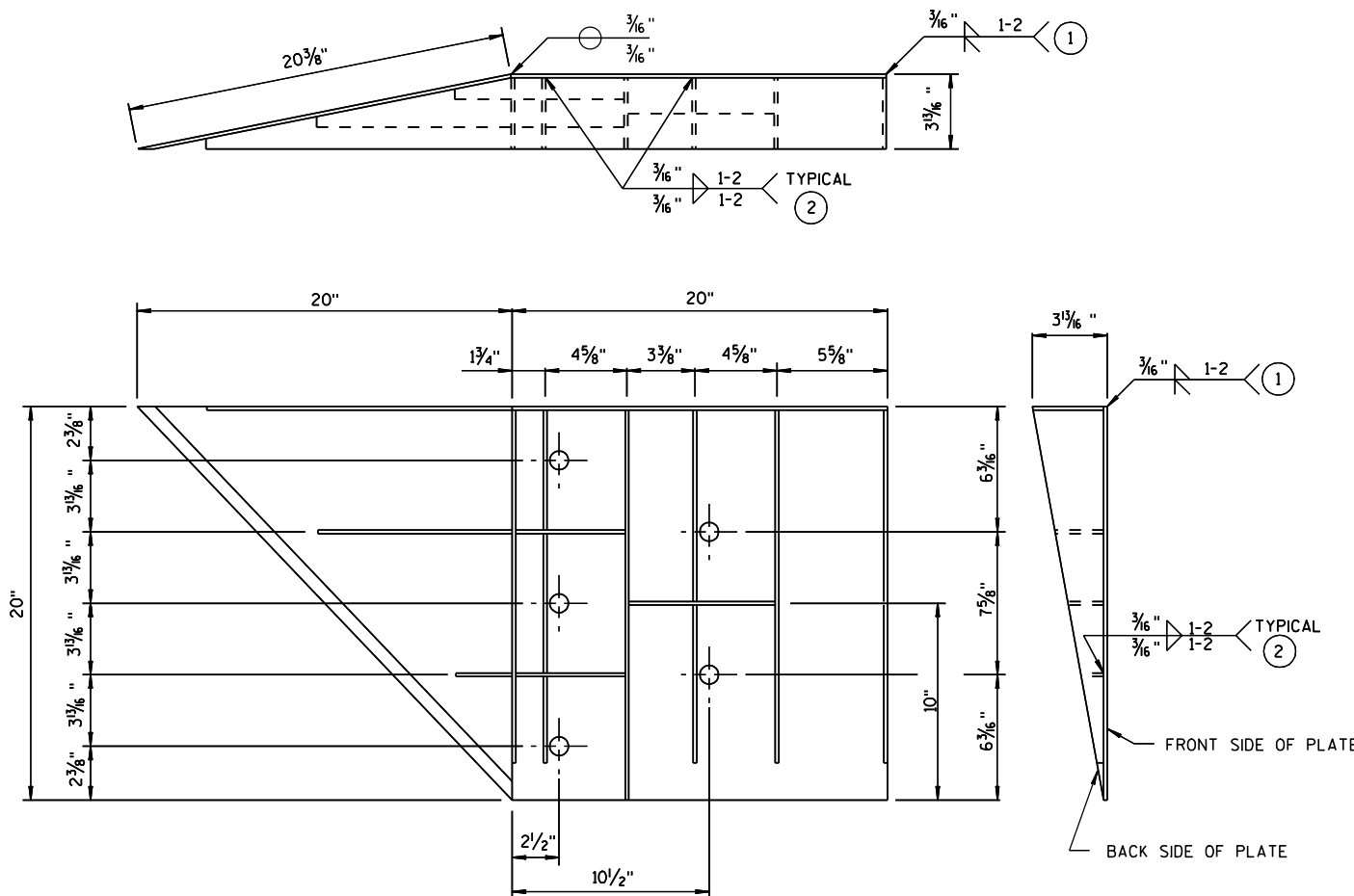
APPROVED

8-31-2012

DATE

FHWA

1/5/ Jerry H. 7000
ROADWAY STANDARDS 139
ENGINEER ENT

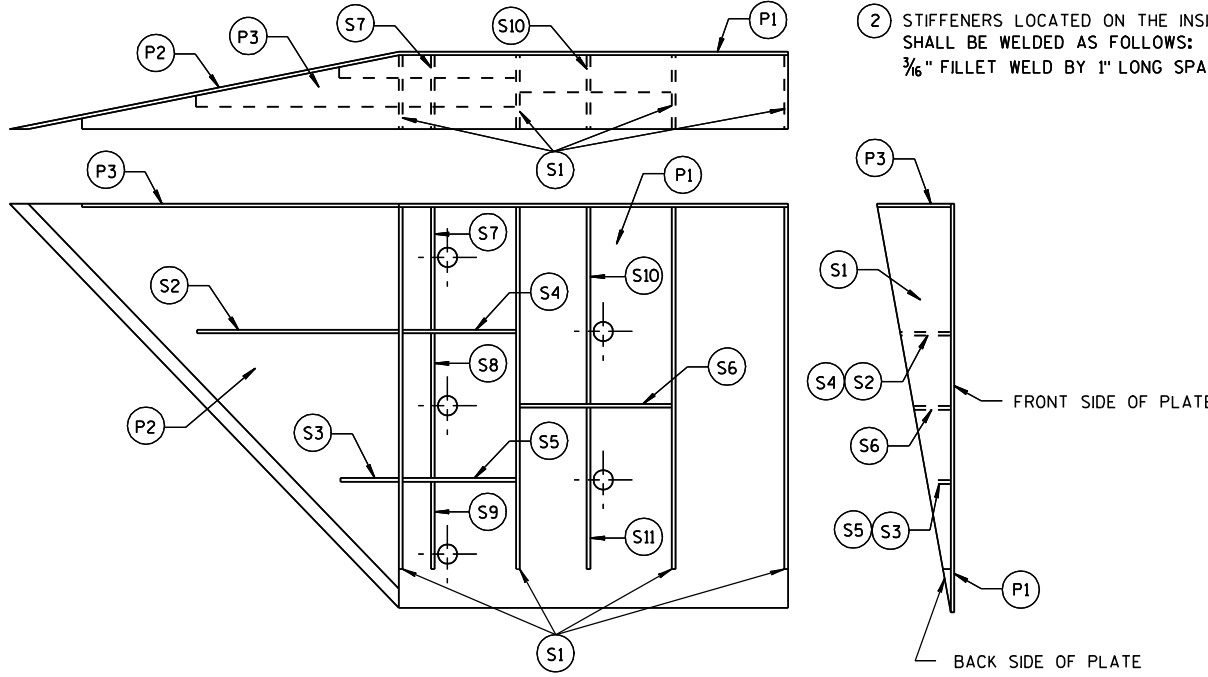


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 5/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 1/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 7/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

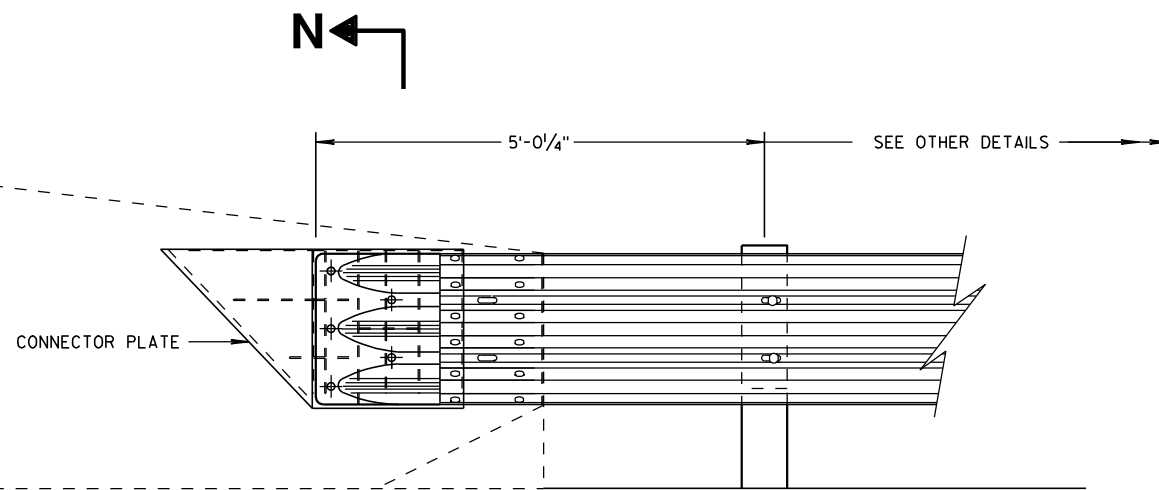
- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

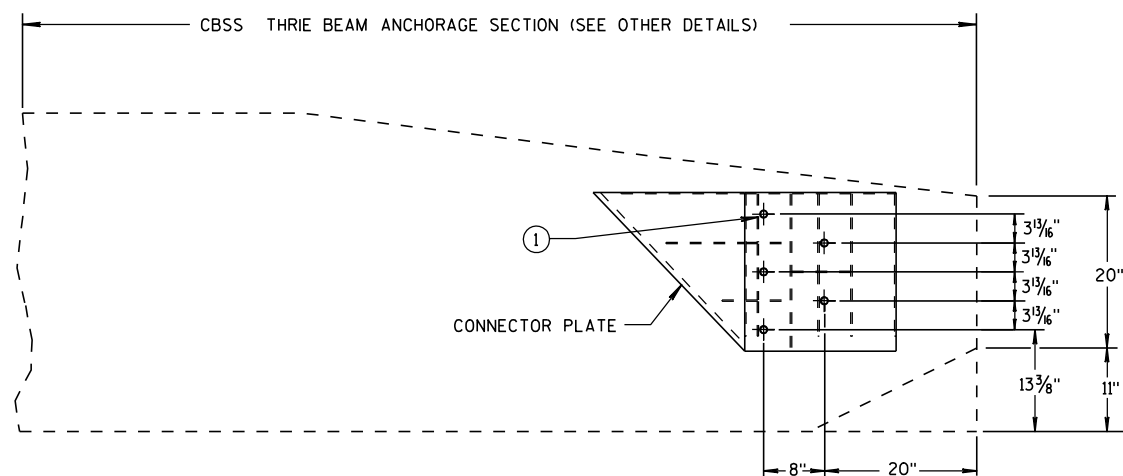
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. 7---
ROADWAY STANDARDS 140 WENT
ENGINEER
FHWA



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

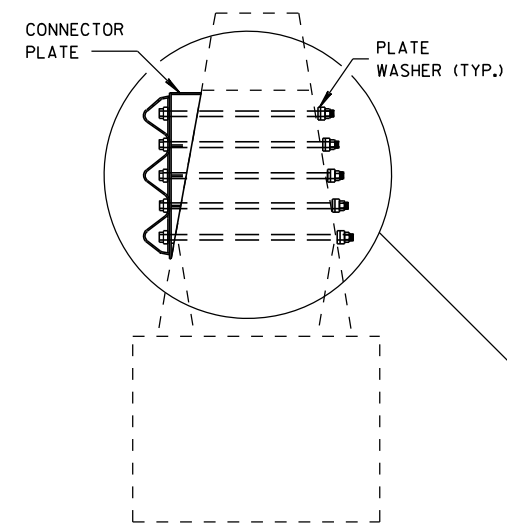


SINGLE SLOPE CONNECTION PLATE PLACEMENT

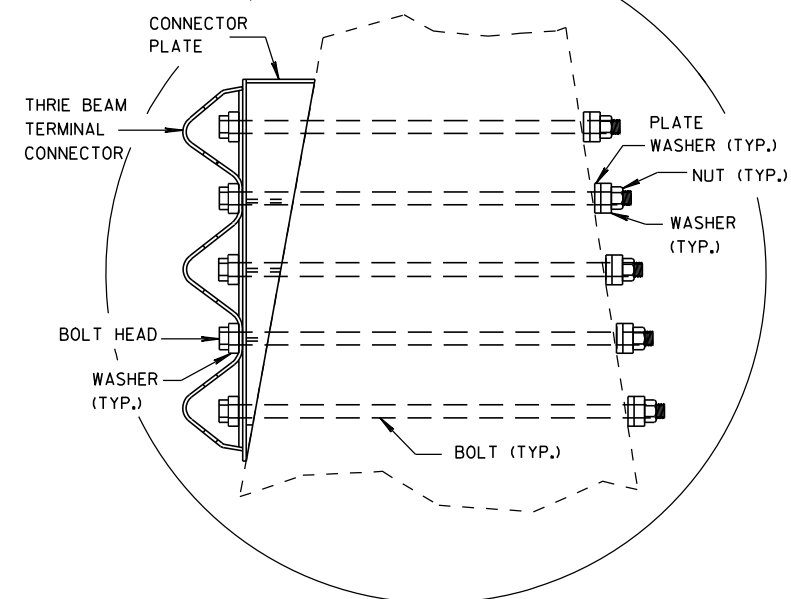
GENERAL NOTES

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

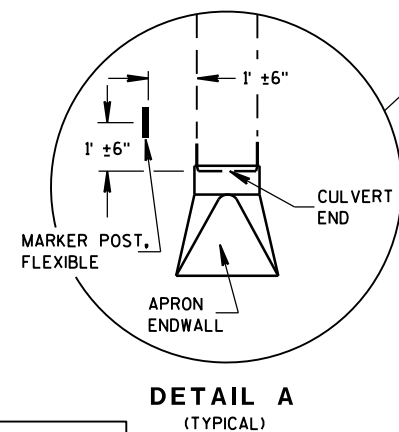
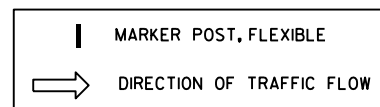
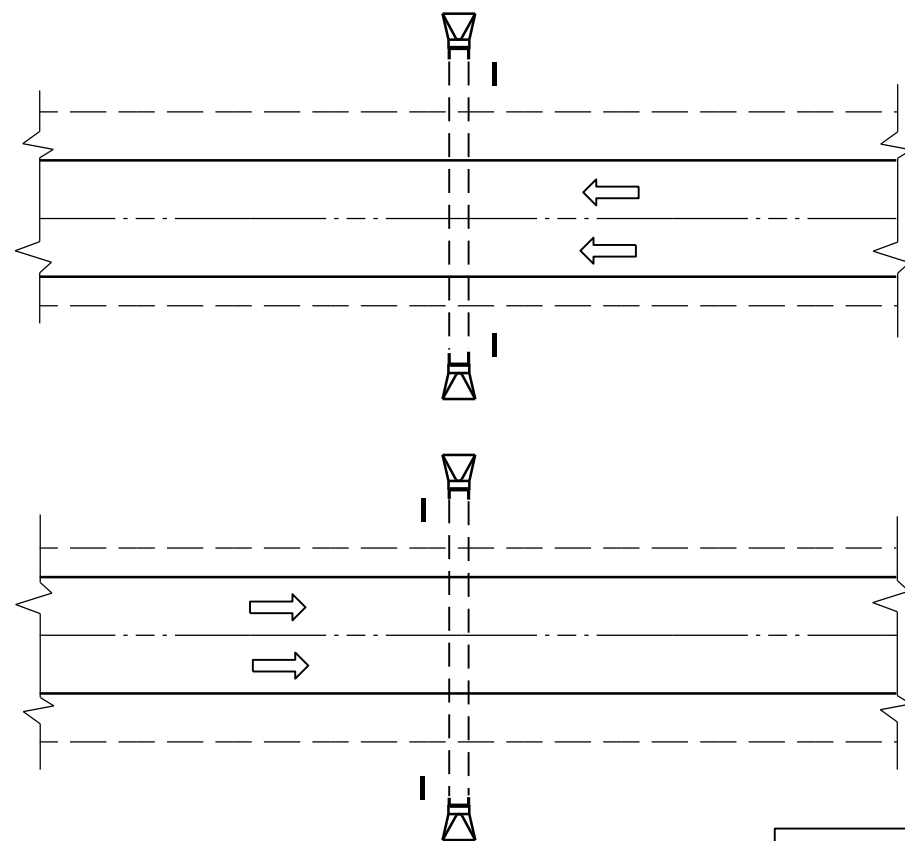
FHWA

/S/ Jerry H. [Signature]

ROADWAY STANDARDS 141

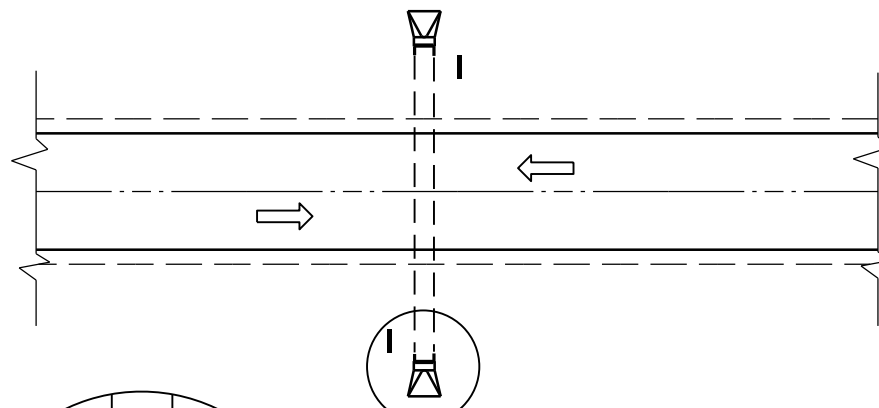
ENGINEER

PLAN VIEW
DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

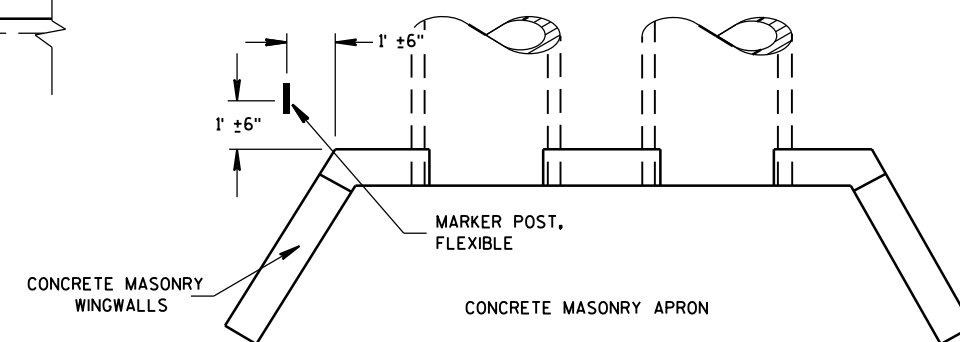
PLAN VIEW
UNDIVIDED HIGHWAY



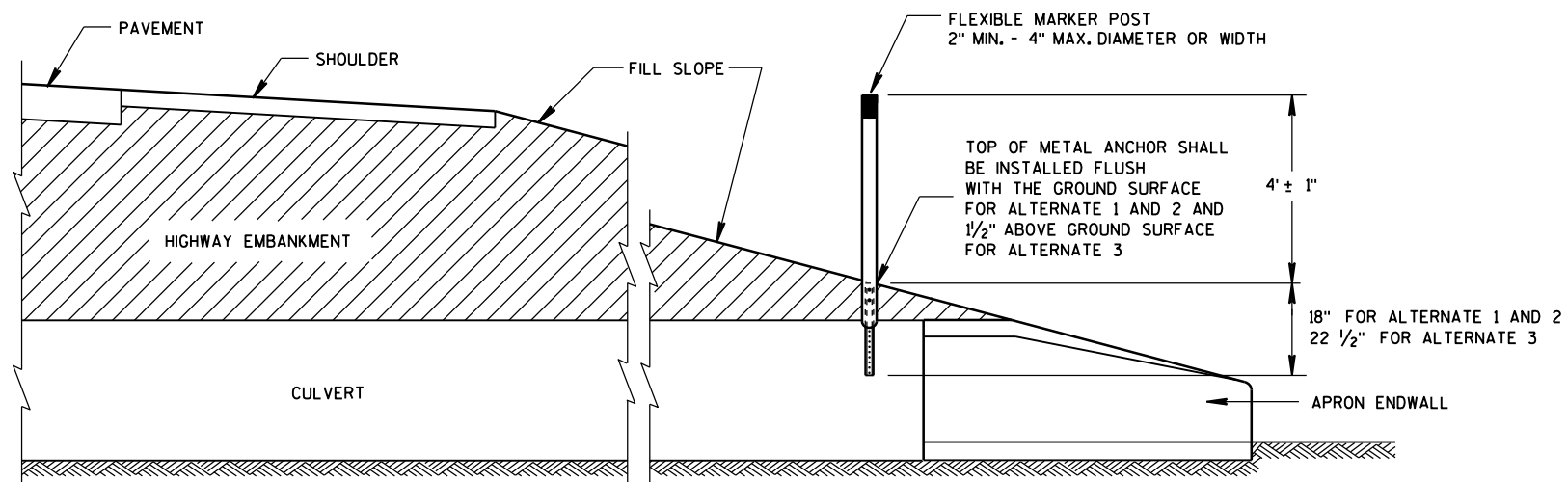
FLEXIBLE MARKER POST LOCATION

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.



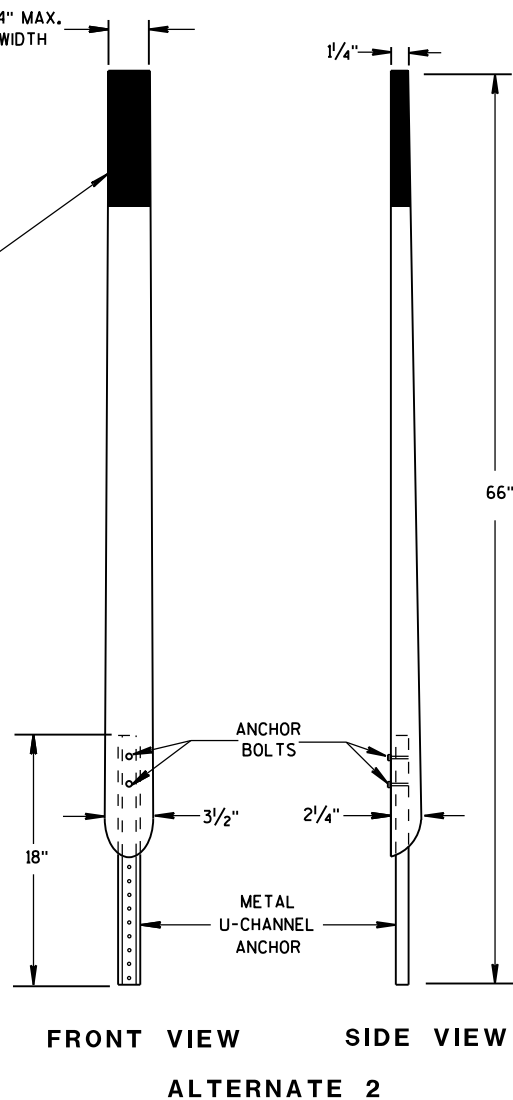
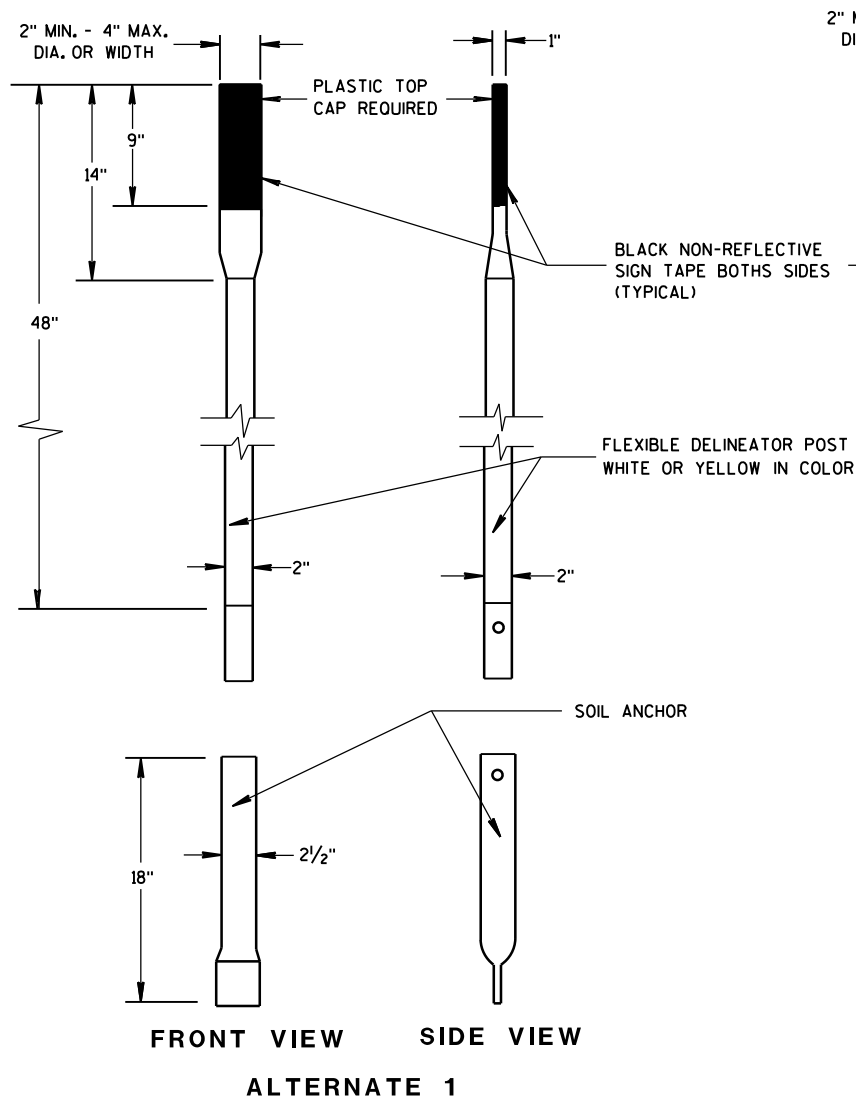
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



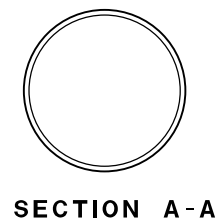
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

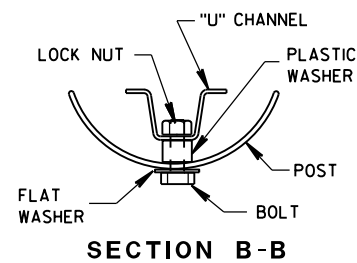
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 142



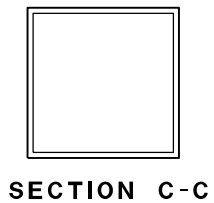
FLEXIBLE MARKER POSTS



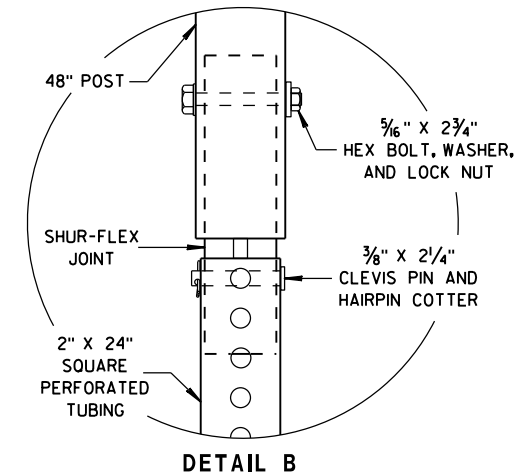
SECTION A-A



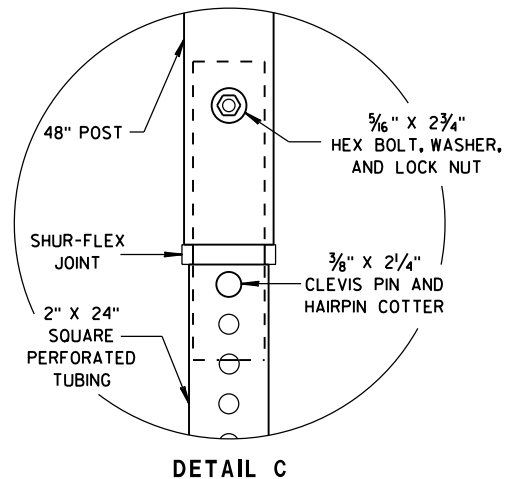
SECTION B-B



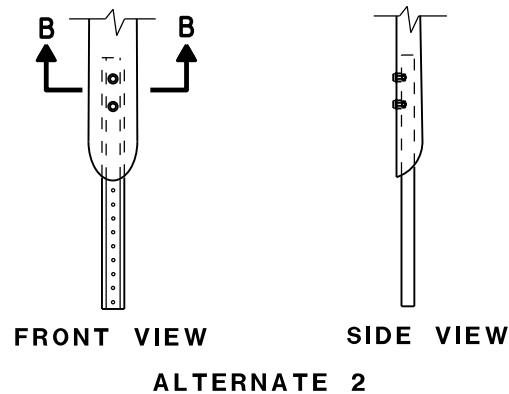
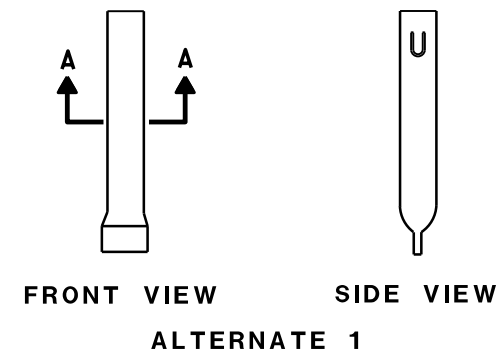
SECTION C-C



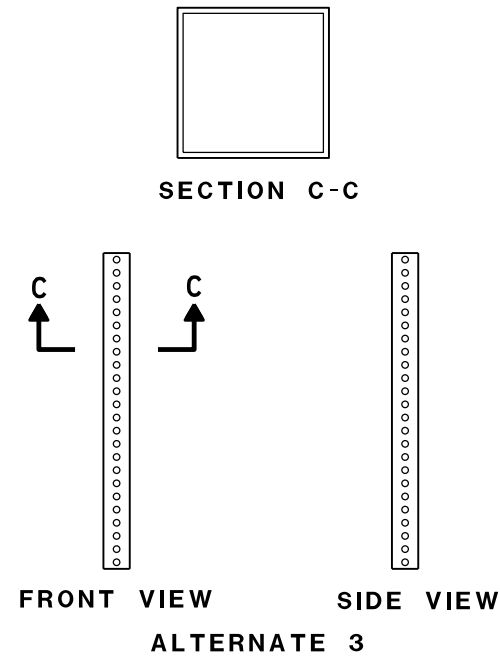
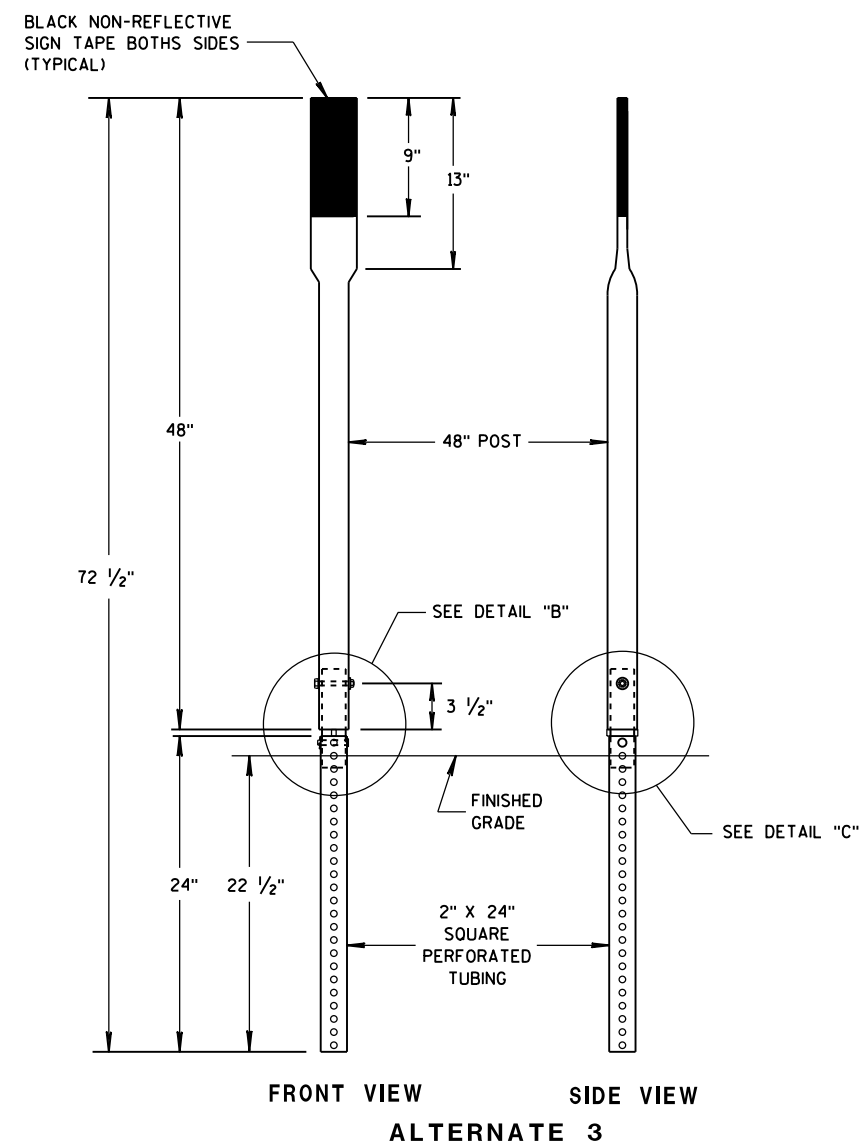
DETAIL B



DETAIL C



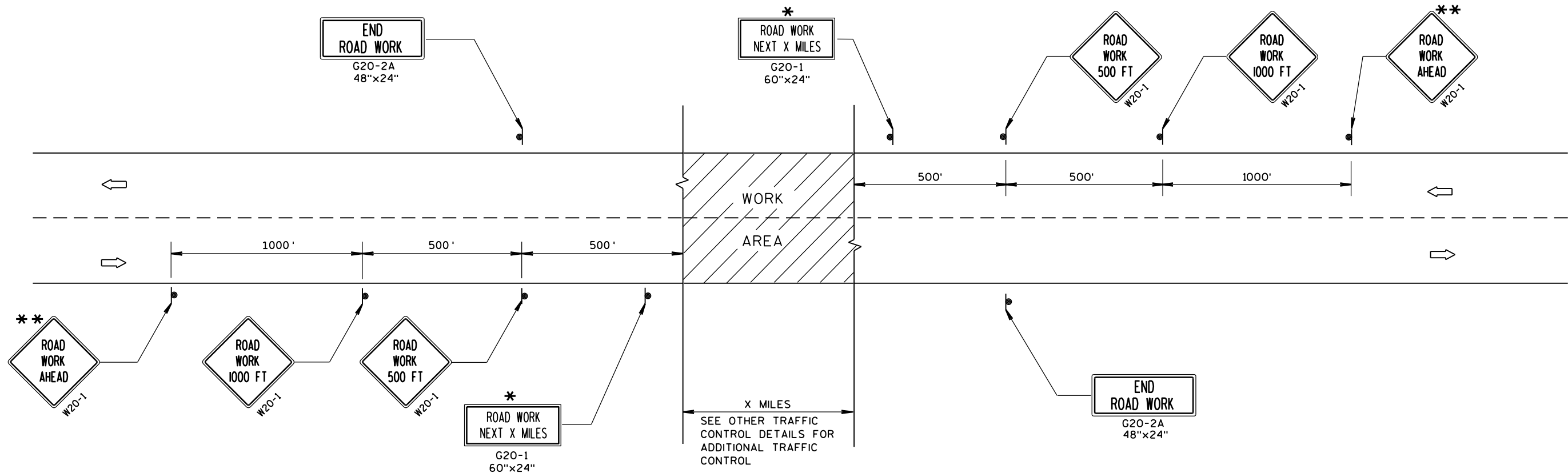
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 143 IGN
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

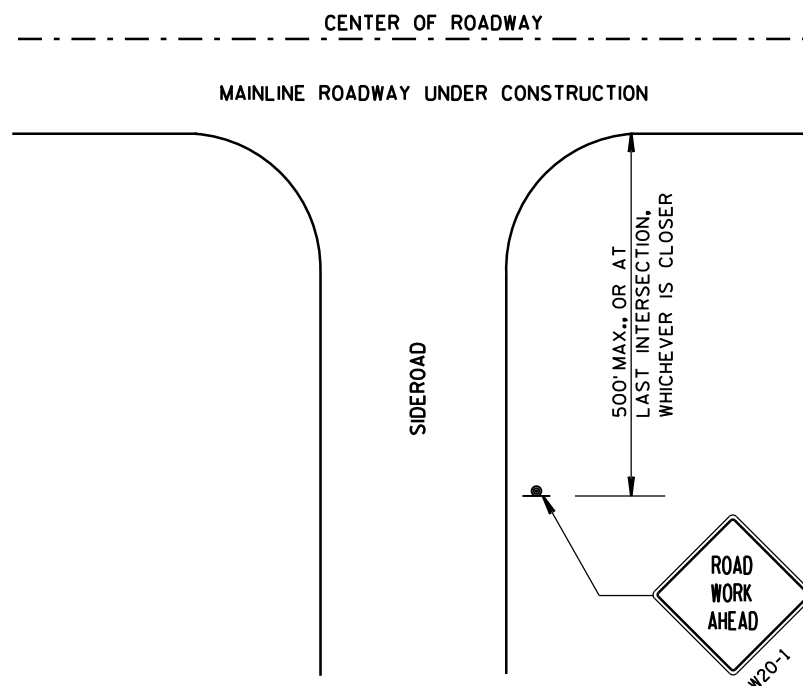
ALL SIGNS ARE 48" x 48" UNLESS OTHERWISE NOTED.

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

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

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

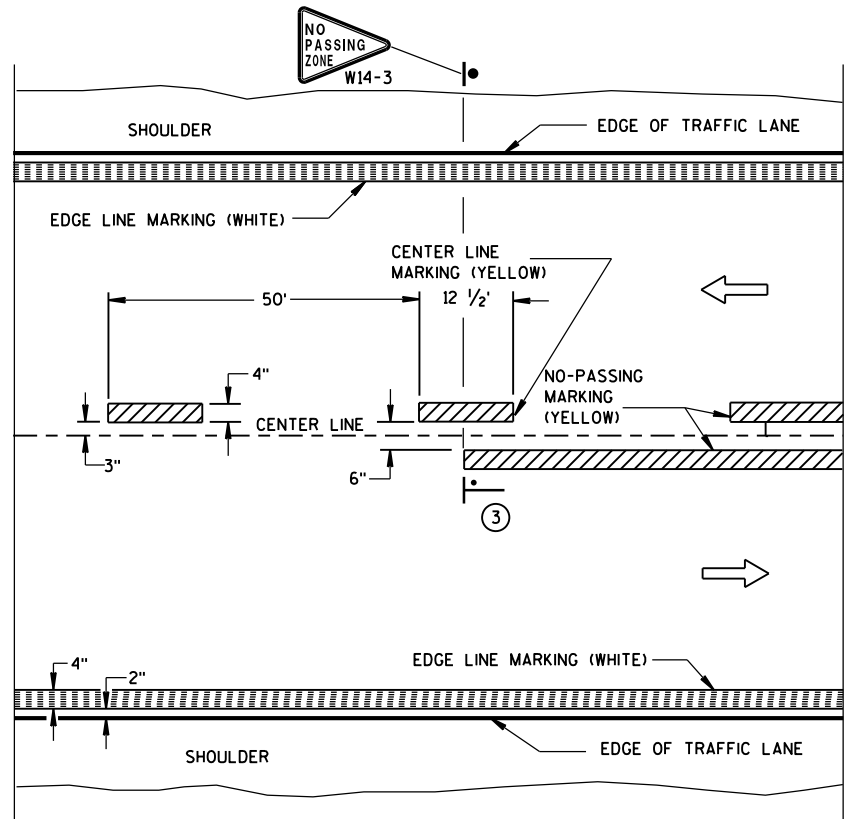
** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



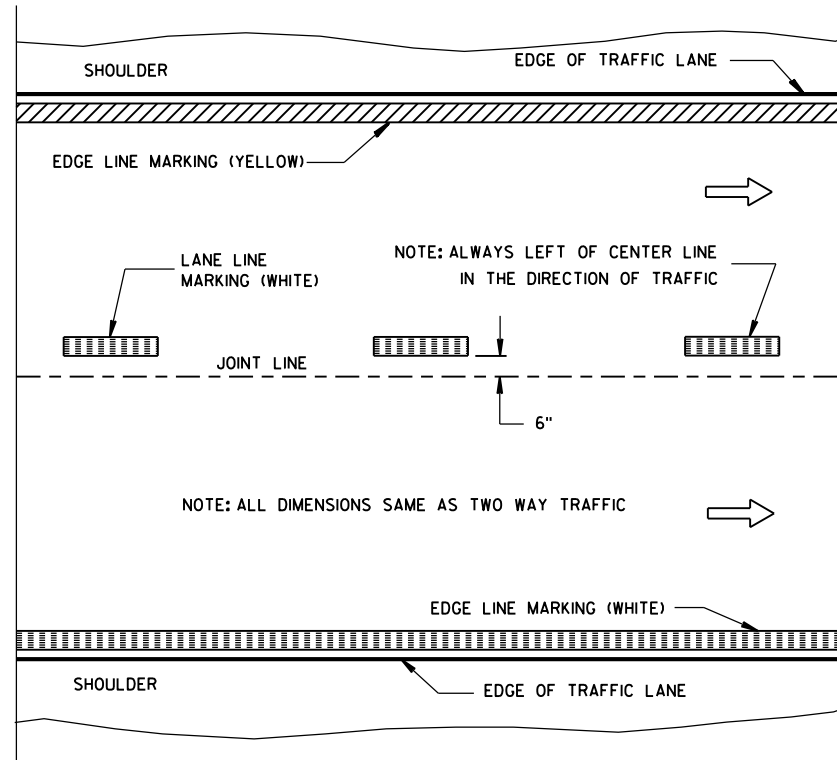
LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 144 SIGN
FHWA	

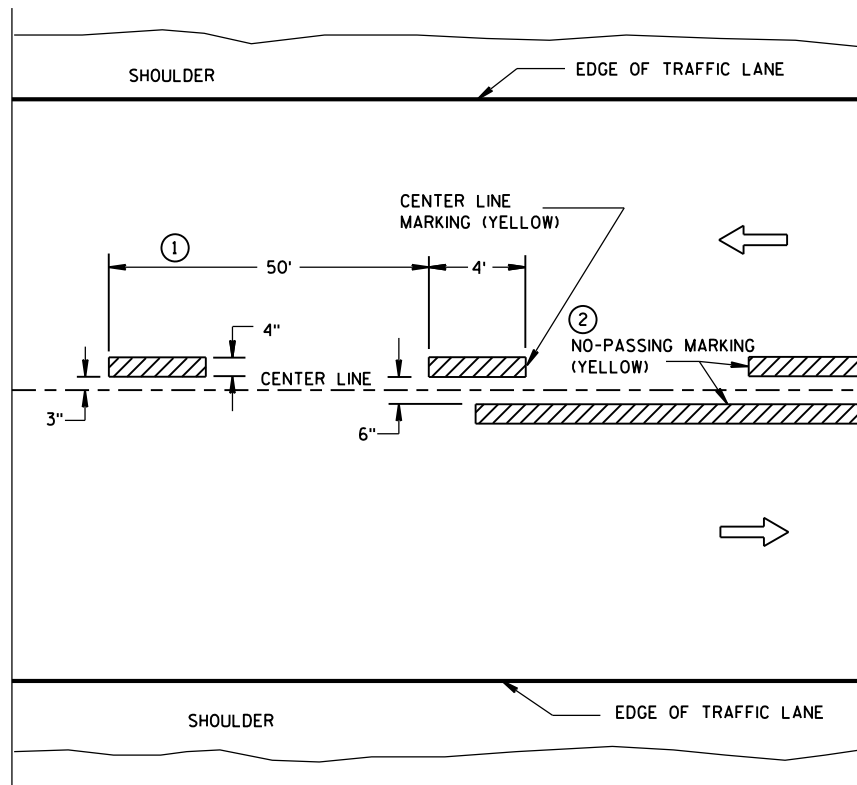


TWO WAY TRAFFIC

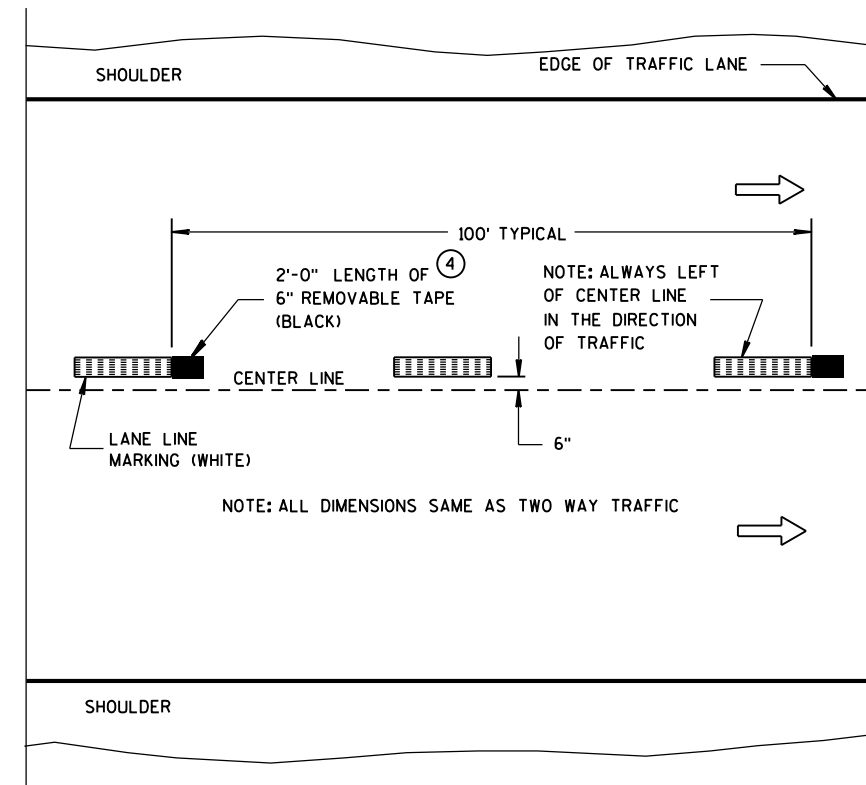


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

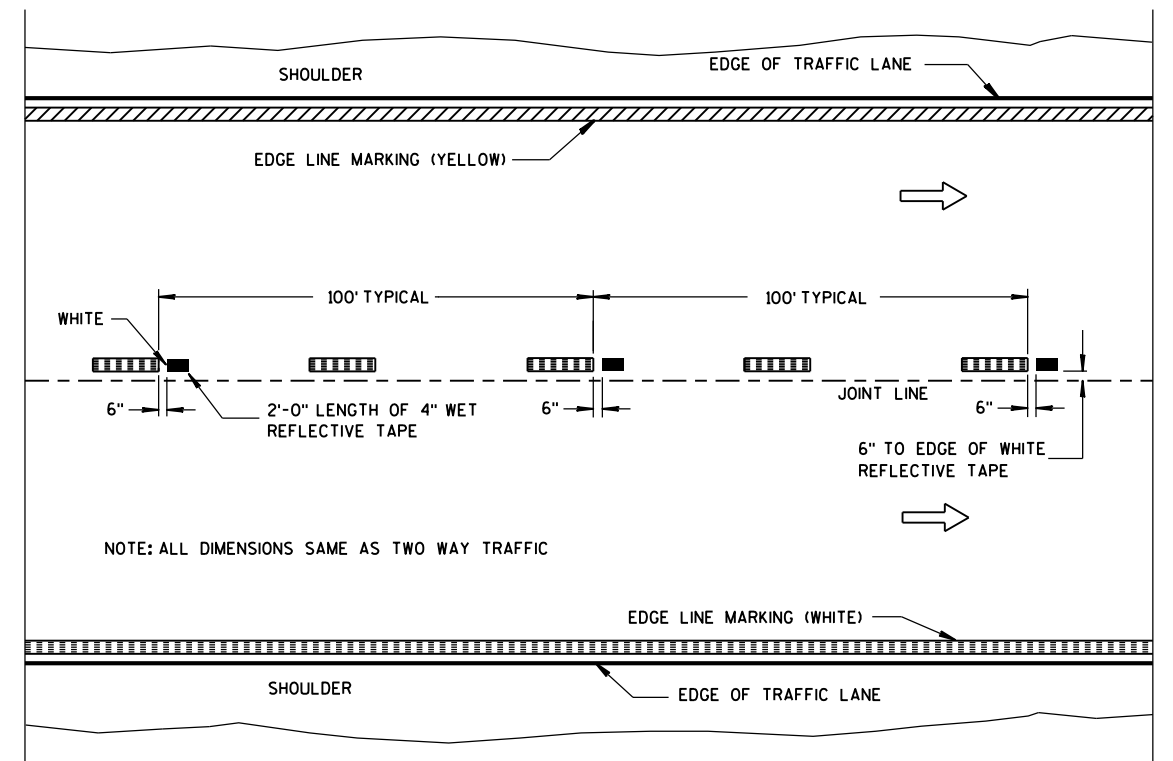
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

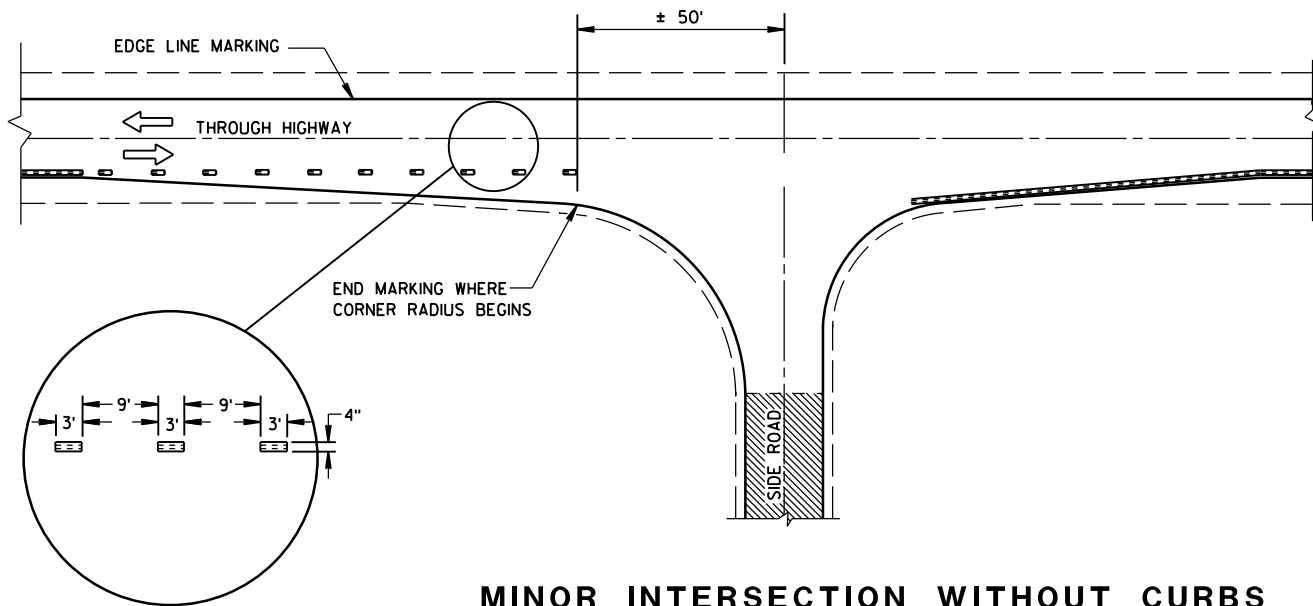
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

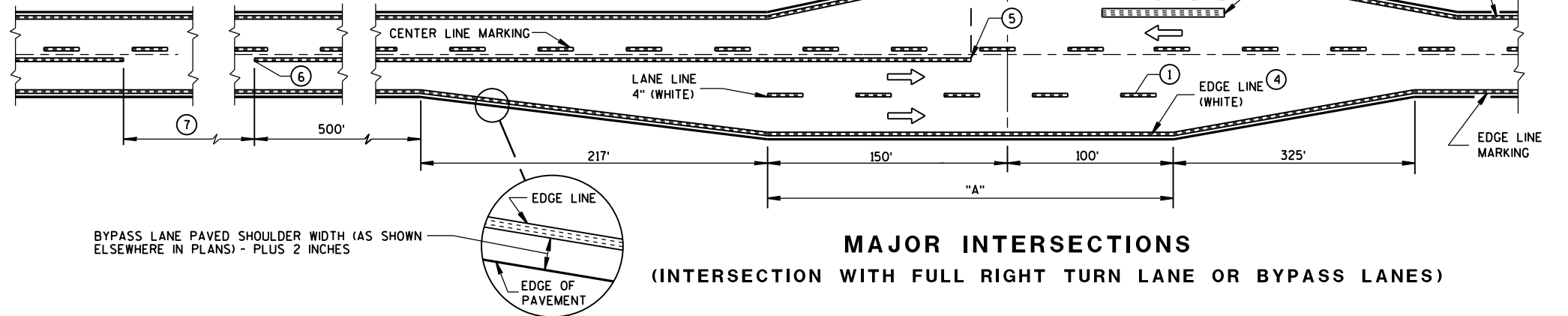
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC E 145
FHWA



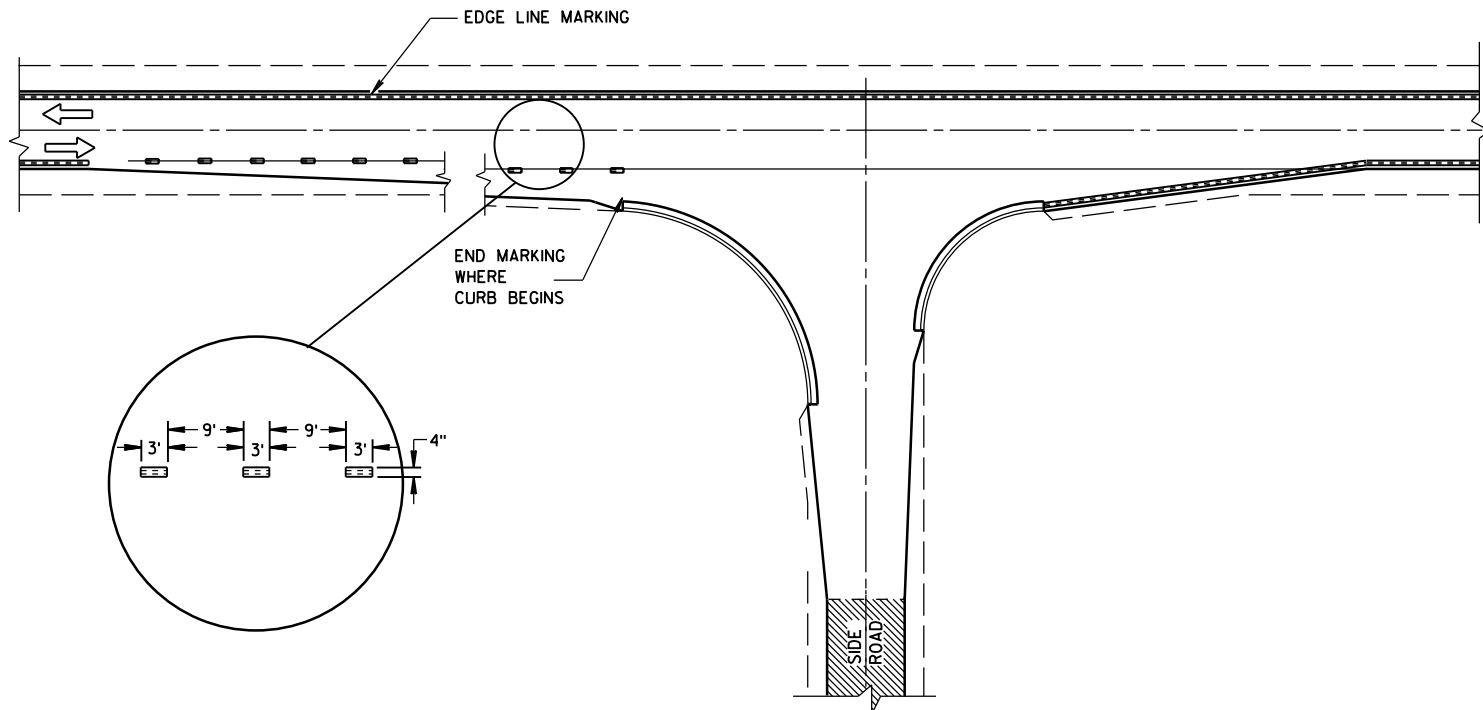
MINOR INTERSECTION WITHOUT CURBS

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

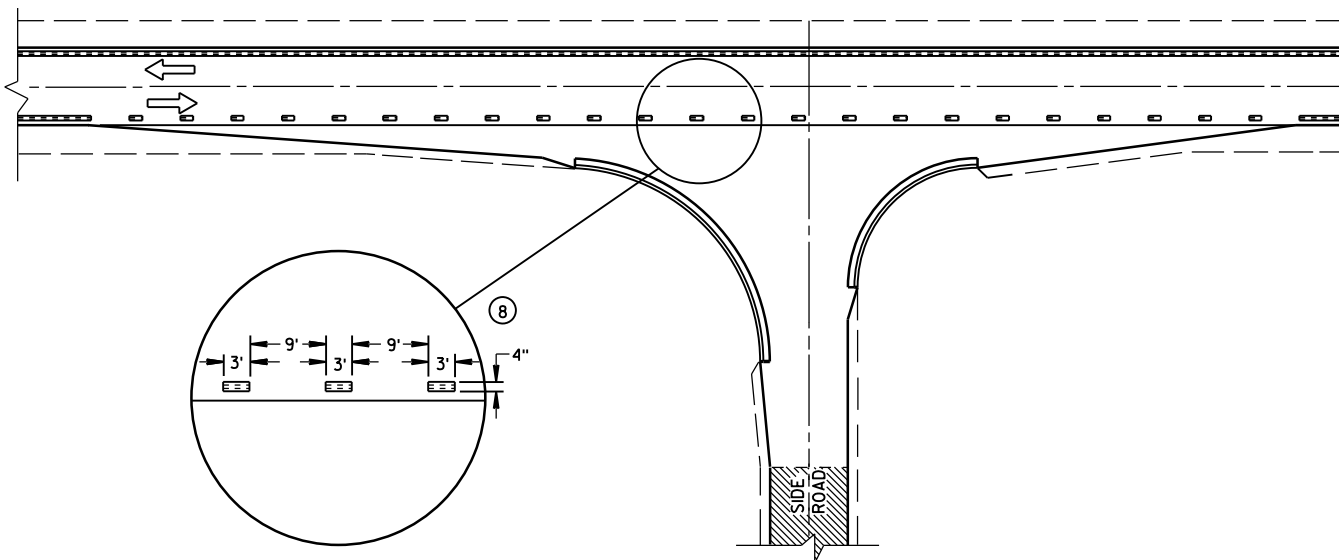


MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
(FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- 1 WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - 2 WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - 3 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - 4 THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - 5 BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - 6 BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - 7 IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - 8 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

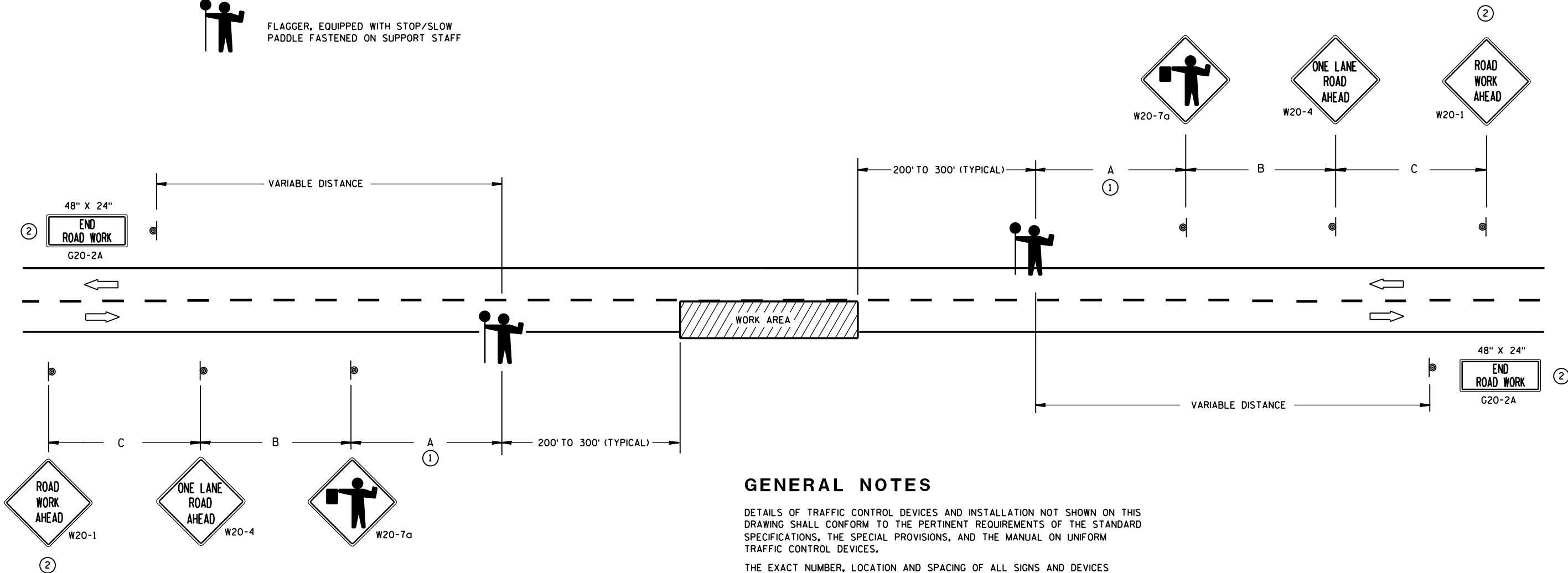
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

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



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



GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

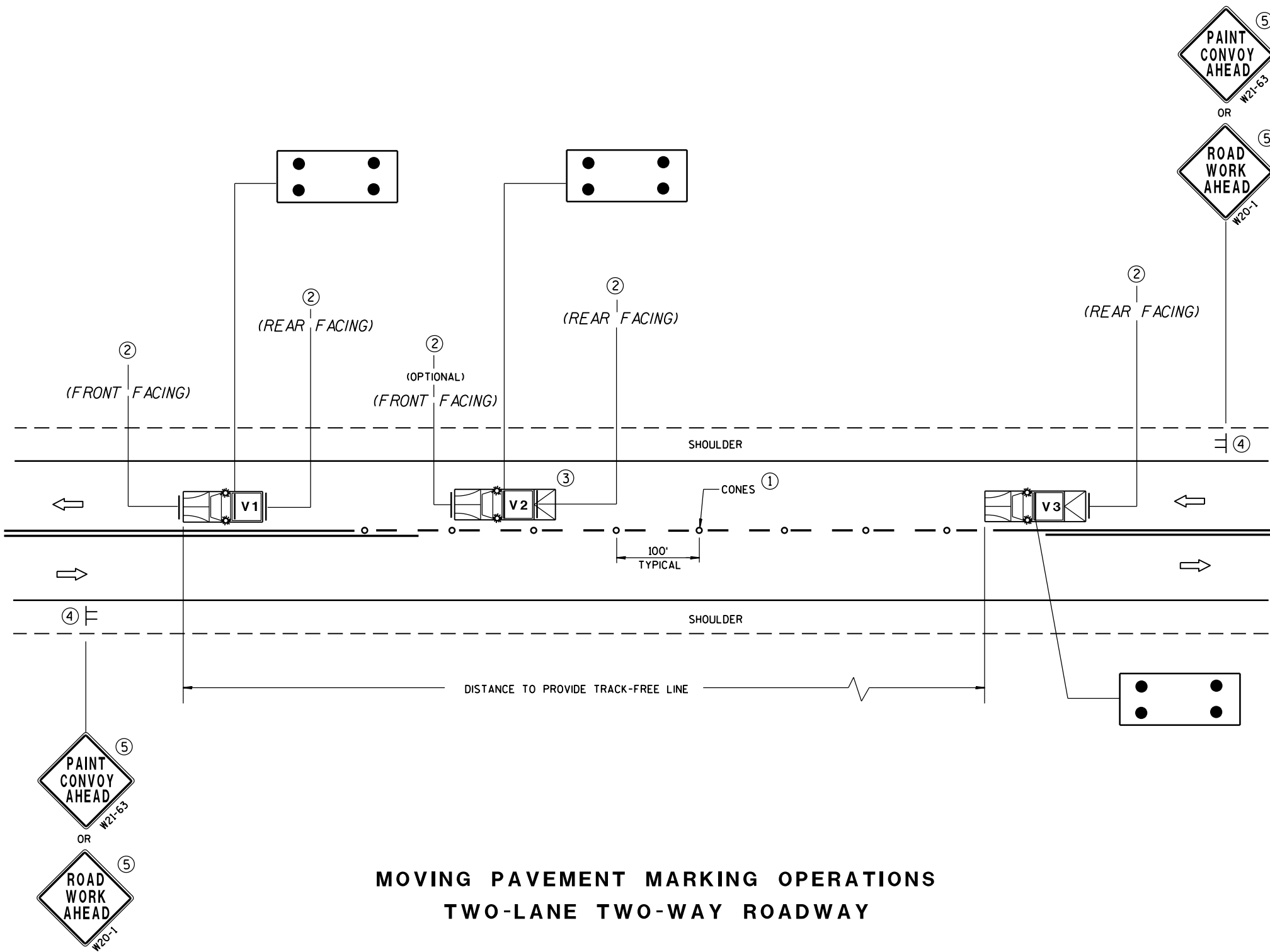
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 147 SIGN
FHWA



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

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

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

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

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

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
 OR 
W21-64 W21-64
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

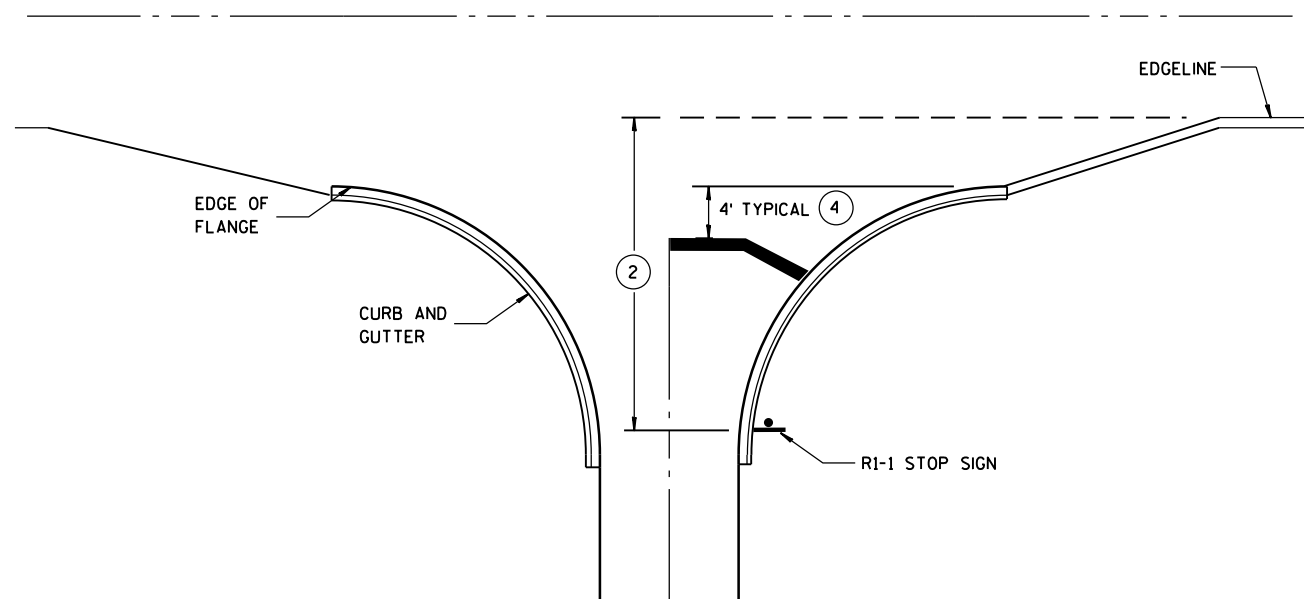
LEGEND

- V1 LEAD VEHICLE
- V2 SHADOW VEHICLE
- V3 TRAIL VEHICLE WITH TMA
- TMA TRUCK-MOUNTED ATTENUATOR
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  CONES
-  FLASHING ARROW PANEL (CAUTION)

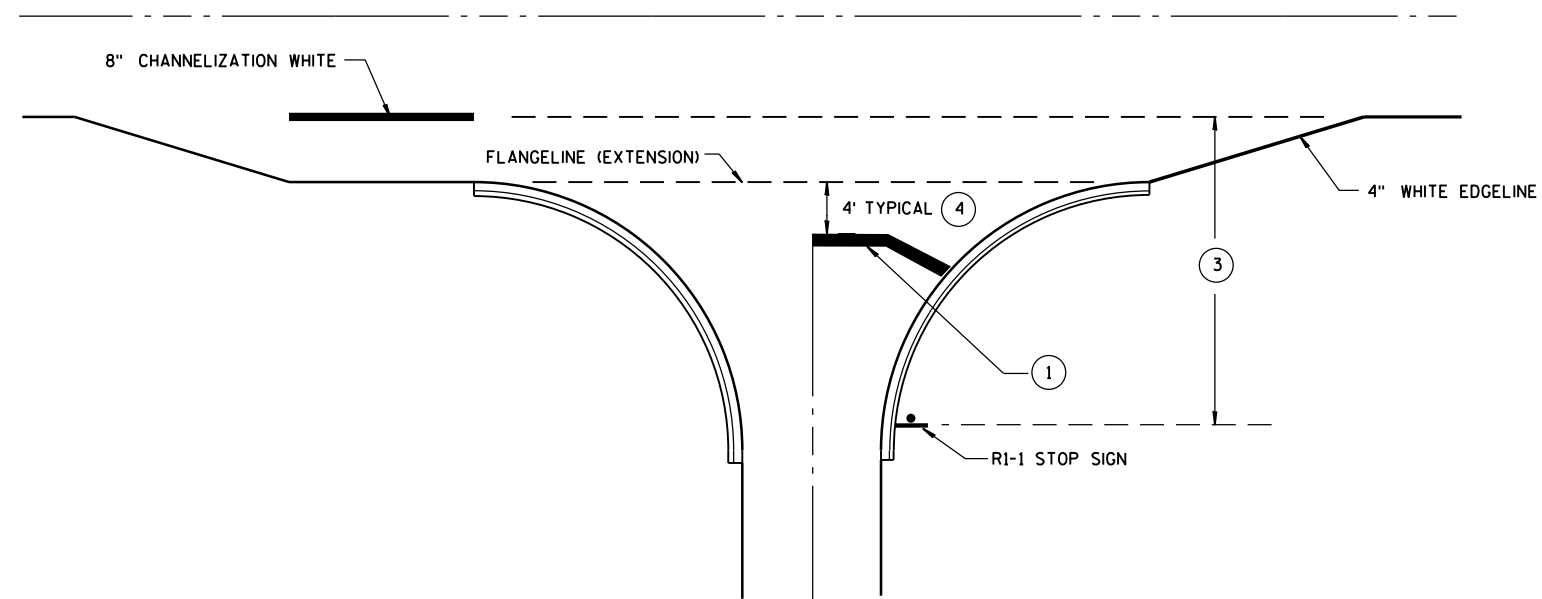
MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

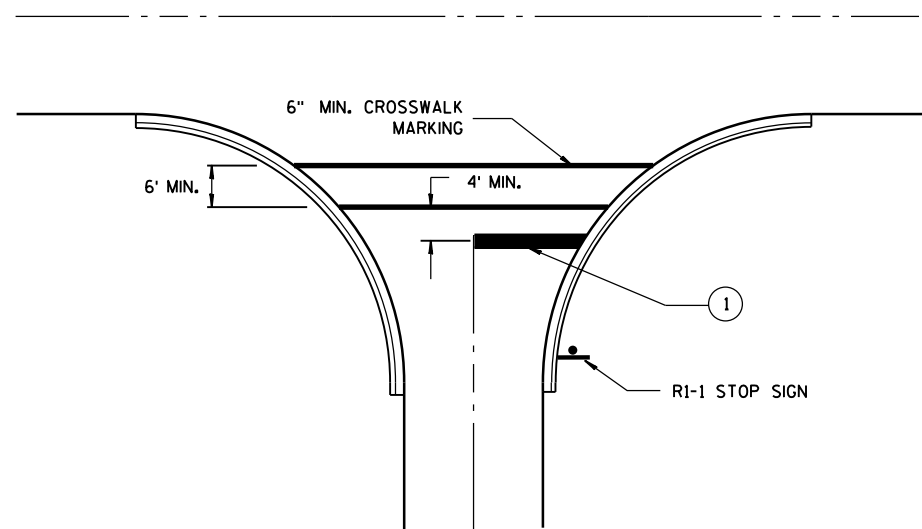
APPROVED
5/3/2013 /S/ Travis Feltes
DATE STATE TRAFFIC E 148
FHWA



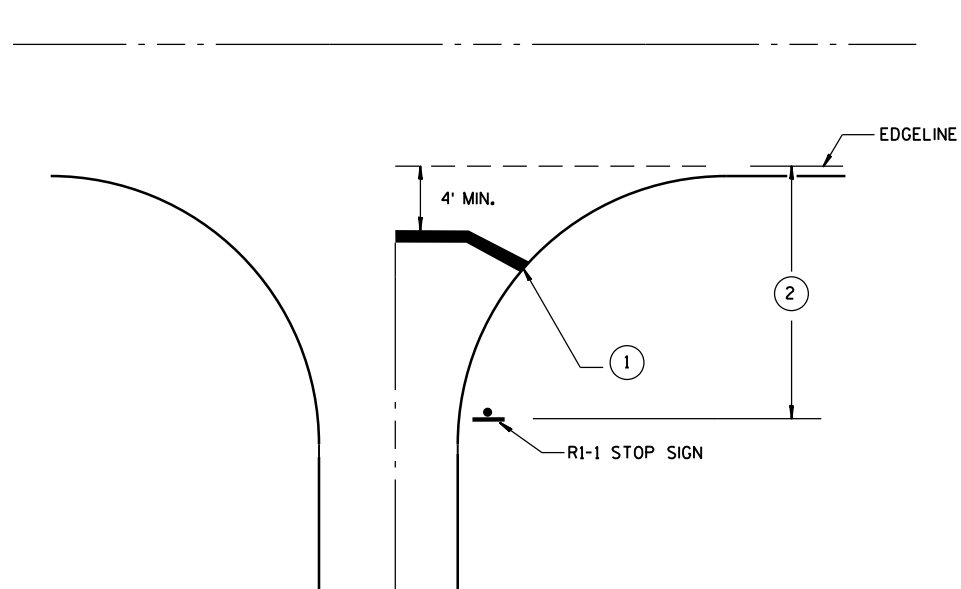
**TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING**



**TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER**

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

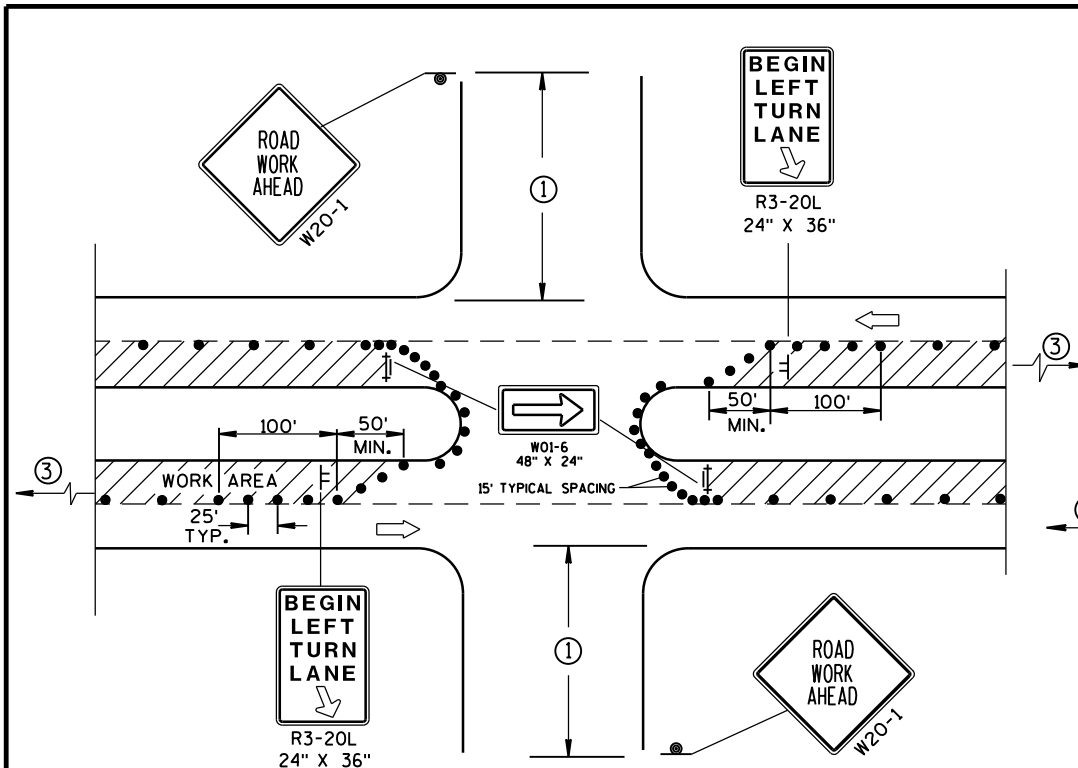
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

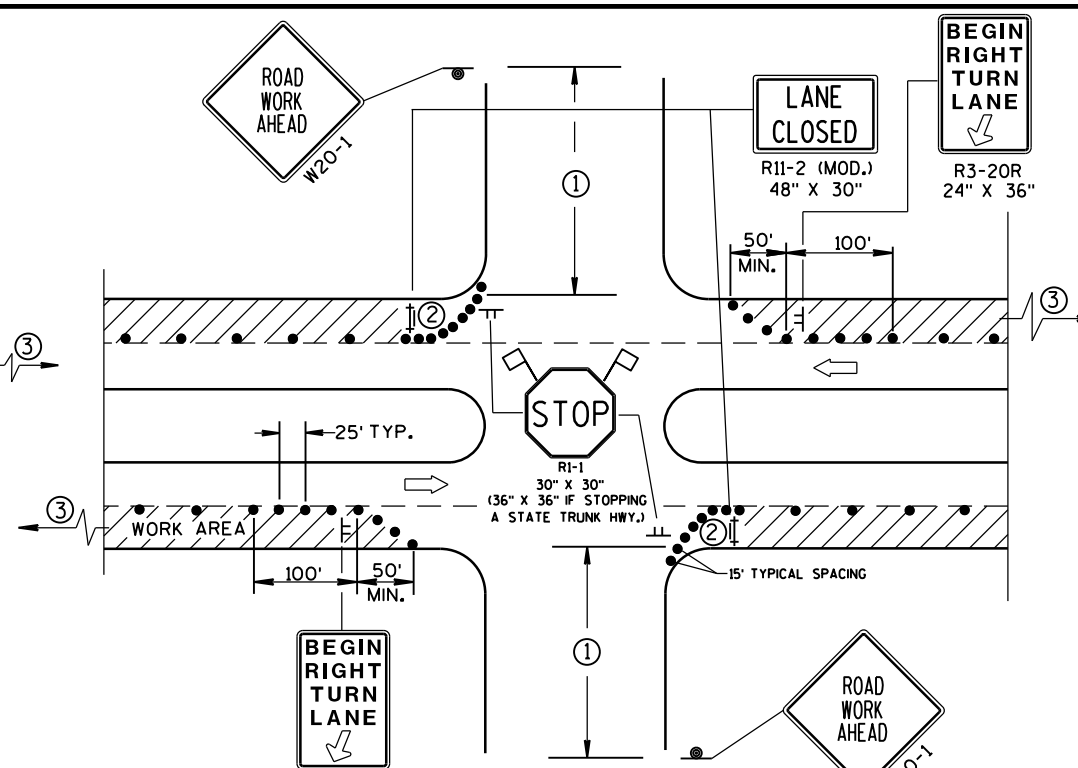
FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 149



DETAIL A
FOR LEFT LANE CLOSURE AT
INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT
INTERSECTIONS WHENEVER
STAGING OF WORK ALLOWS.
TAPER AND TURN LANE
LENGTHS BASED ON FIELD
CONDITIONS AS APPROVED
BY THE ENGINEER.



DETAIL B
FOR RIGHT LANE CLOSURE
AT INTERSECTION

GENERAL NOTES

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

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

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

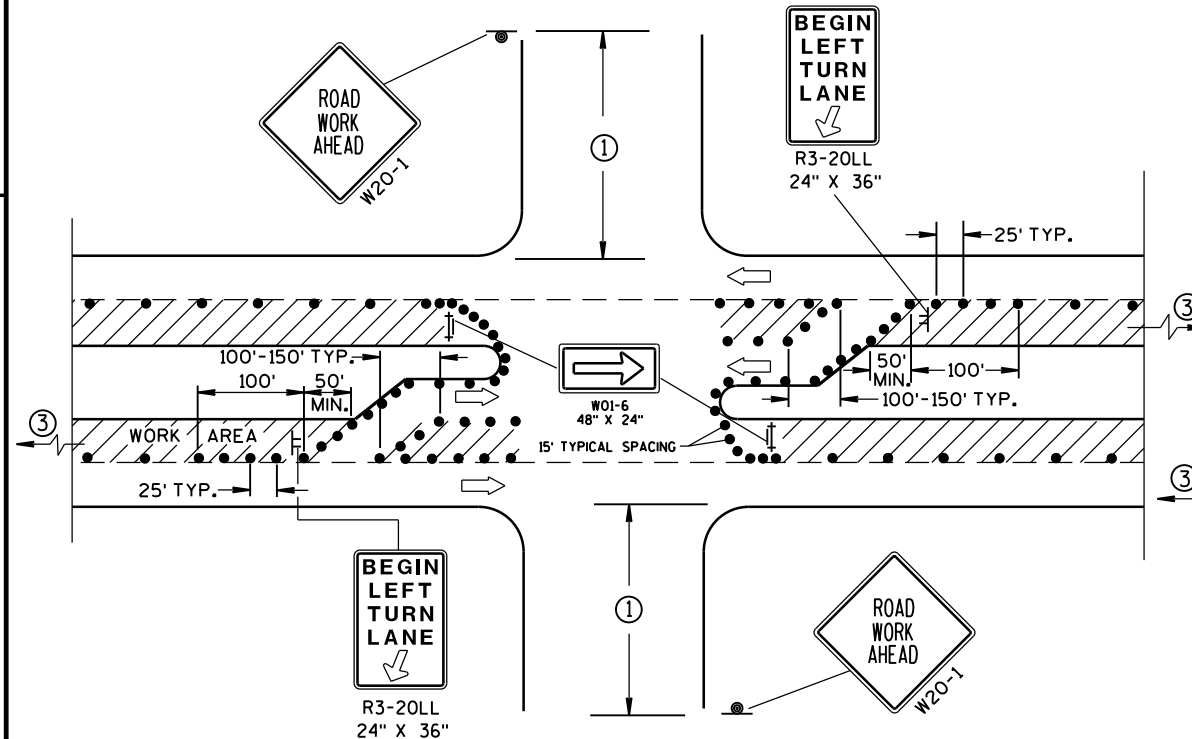
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE 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.

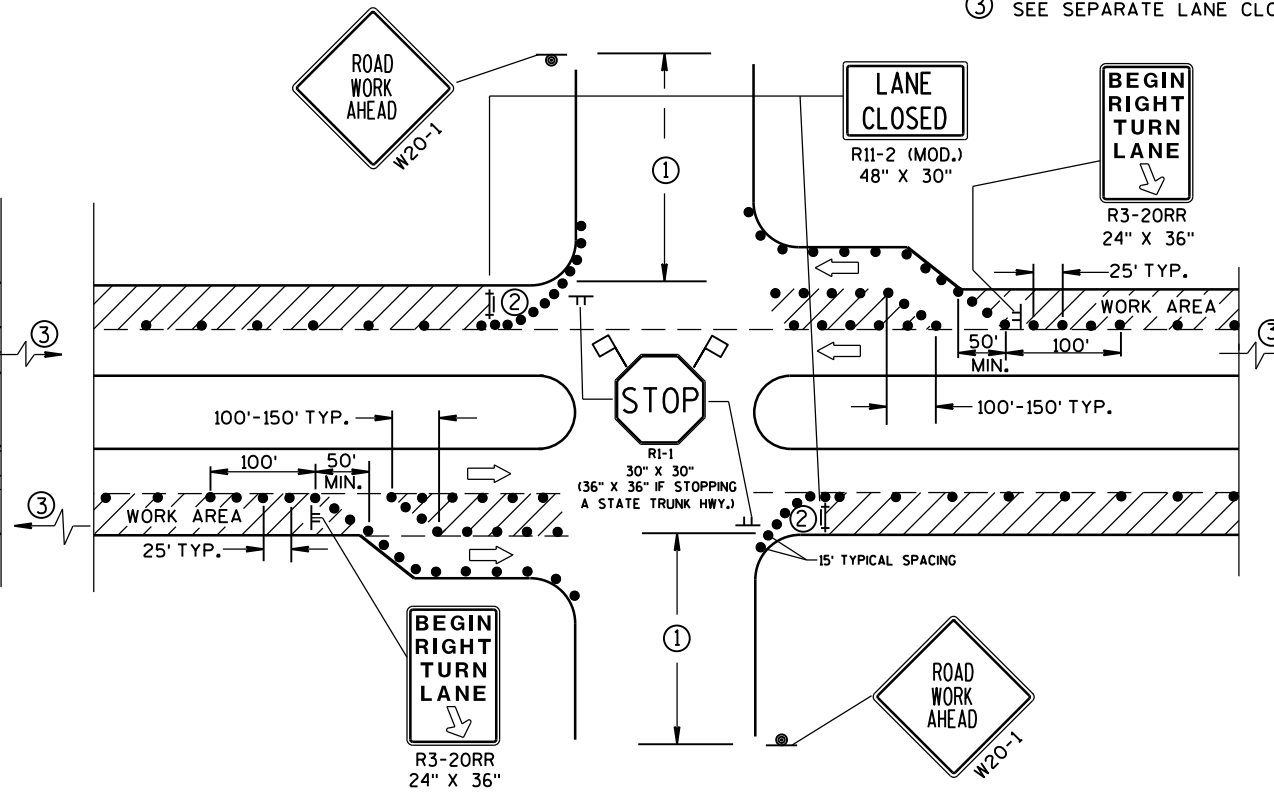
- 1 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.
- 2 ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- 3 SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- 🚩 FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA



DETAIL C
FOR LEFT LANE CLOSURE AT INTERSECTION OR
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D
FOR RIGHT LANE CLOSURE AT INTERSECTION
(WITH RIGHT TURN BAY OPEN)

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feites
DATE STATE TRAFFIC ENGINE 150 SIGN
FHWA

GENERAL NOTES

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

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

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

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

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

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

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

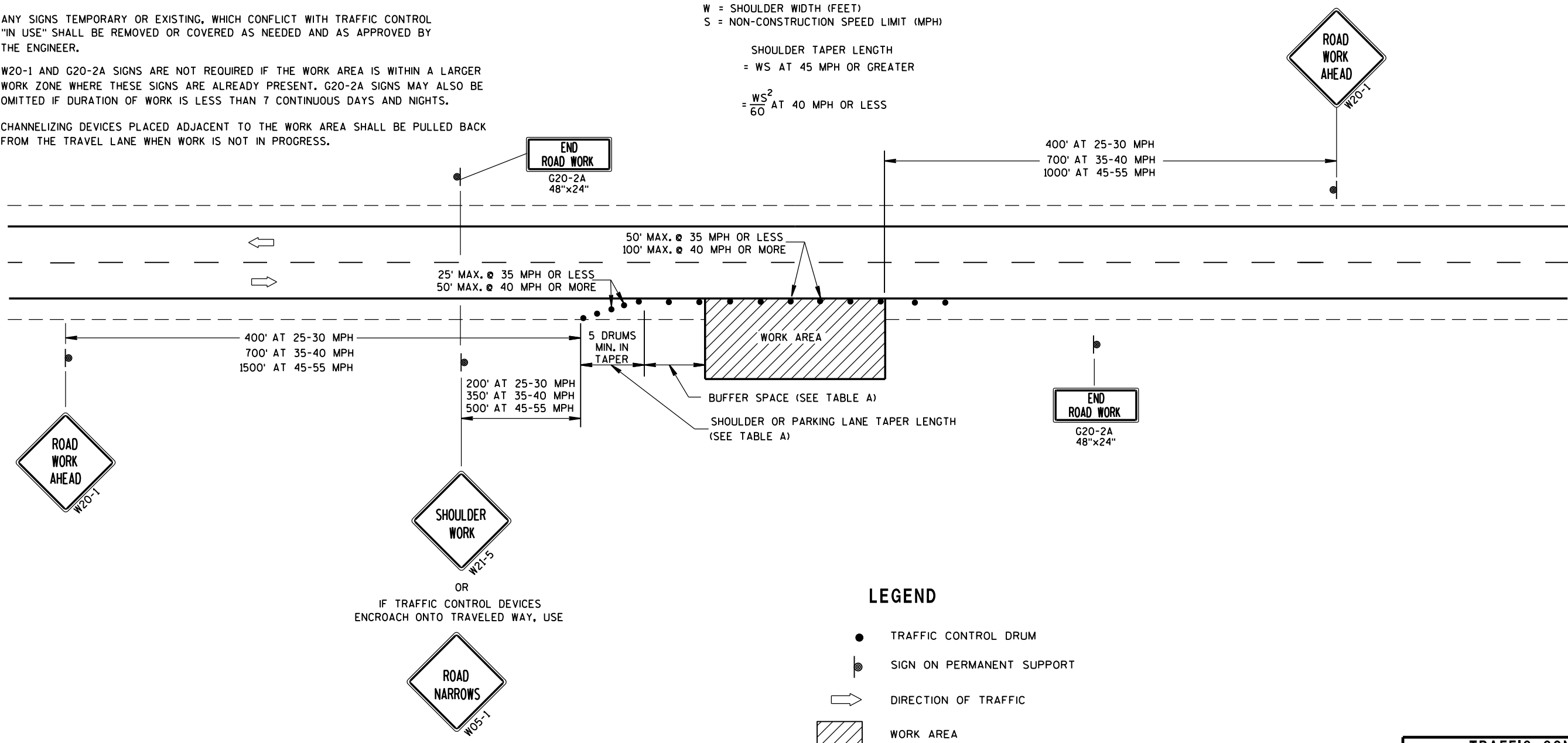
TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

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



LEGEND

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

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED 8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINE 151	ESIGN
FHWA		

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

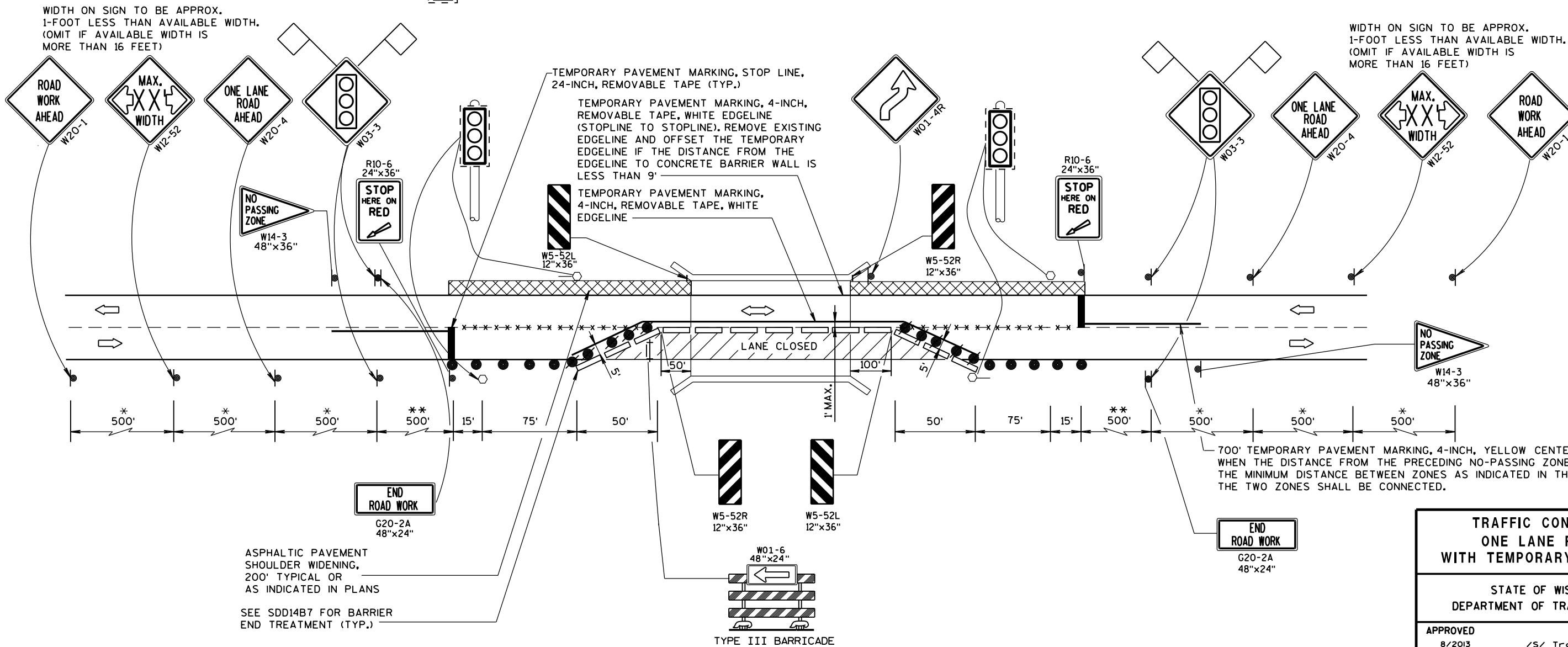
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.

6



6

TRAFFIC CONTROL,
ONE LANE ROAD
WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013

DATE

FHWA

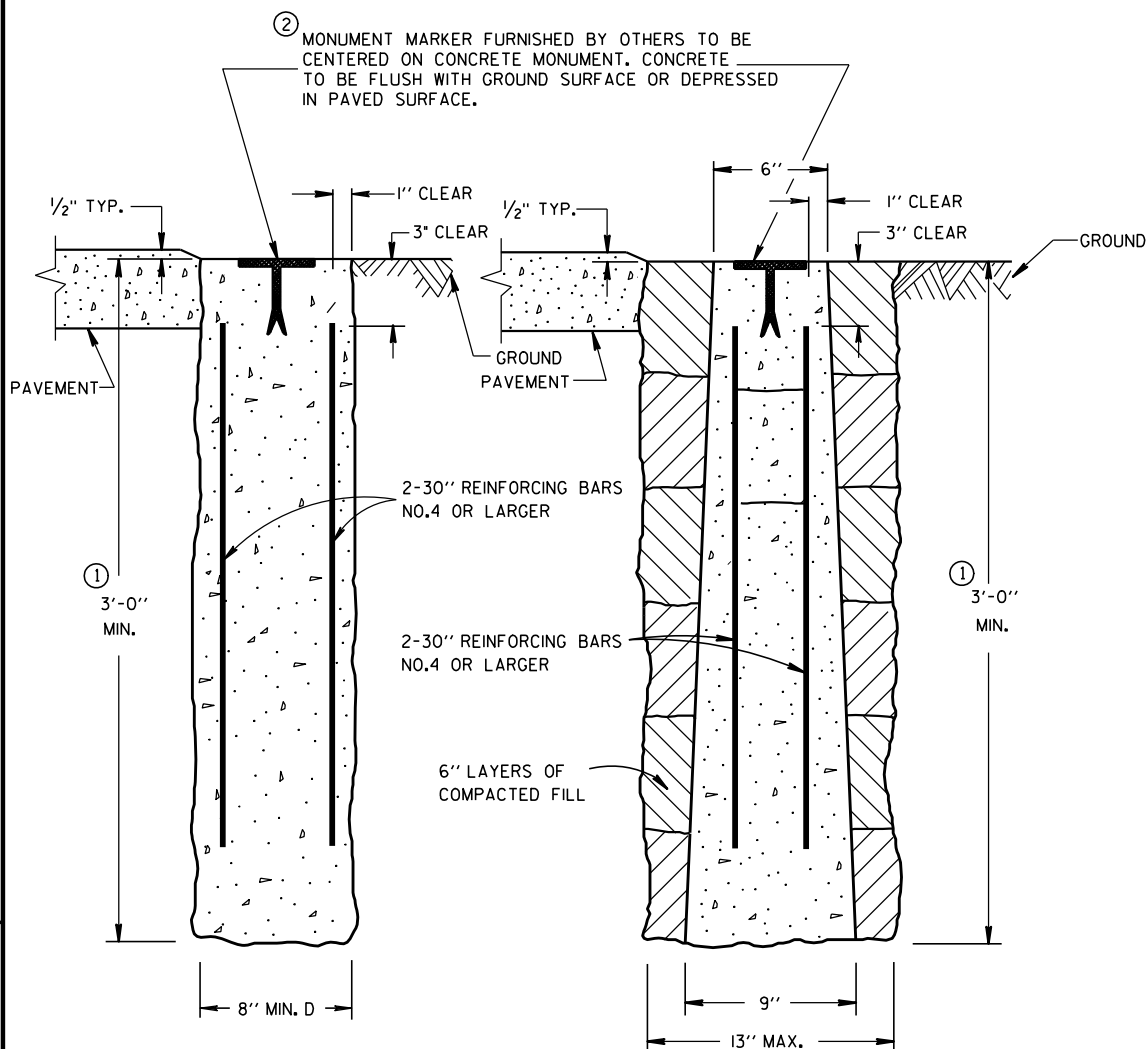
/S/ Travis Feltes

STATE TRAFFIC ENGINE 152

SIGN

S.D.D. 15 D 33-3

S.D.D. 15 D 33-3

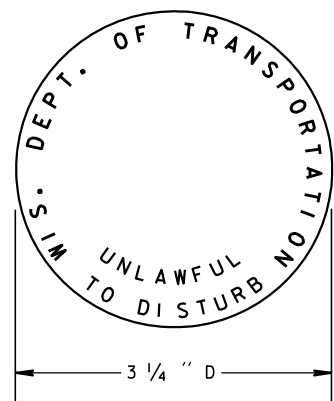


CAST-IN-PLACE

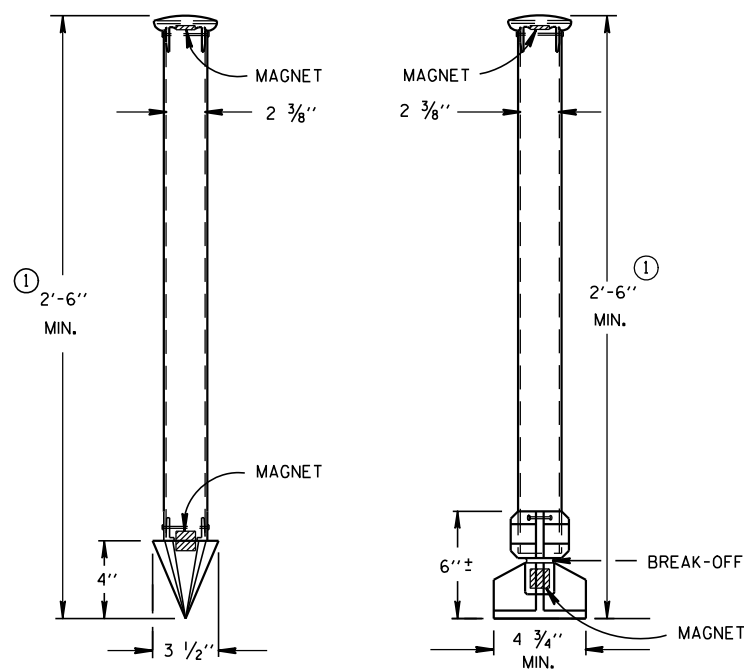
PRECAST

CONCRETE MONUMENTS

TYPE A



② WIS DOT MONUMENT MARKER LOGO
FOR TYPES "A", "C" & "D"



TYPE C

TYPE D

DRIVE-IN MONUMENT

BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

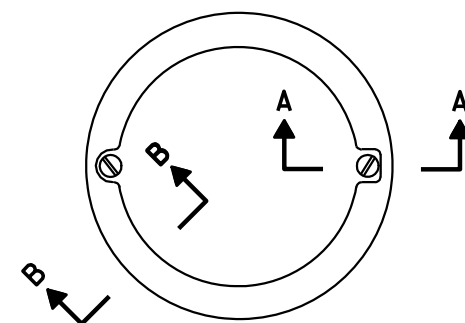
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

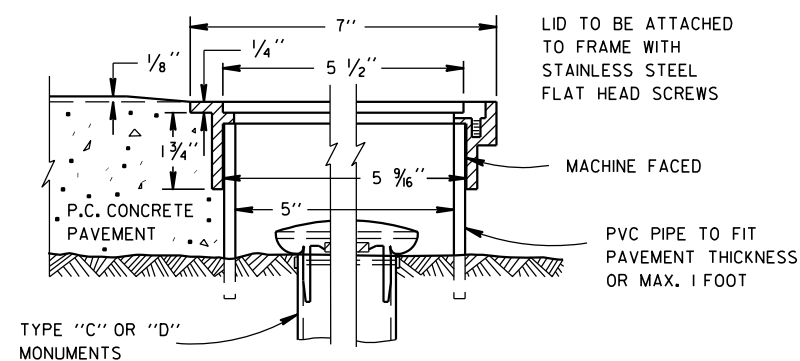
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

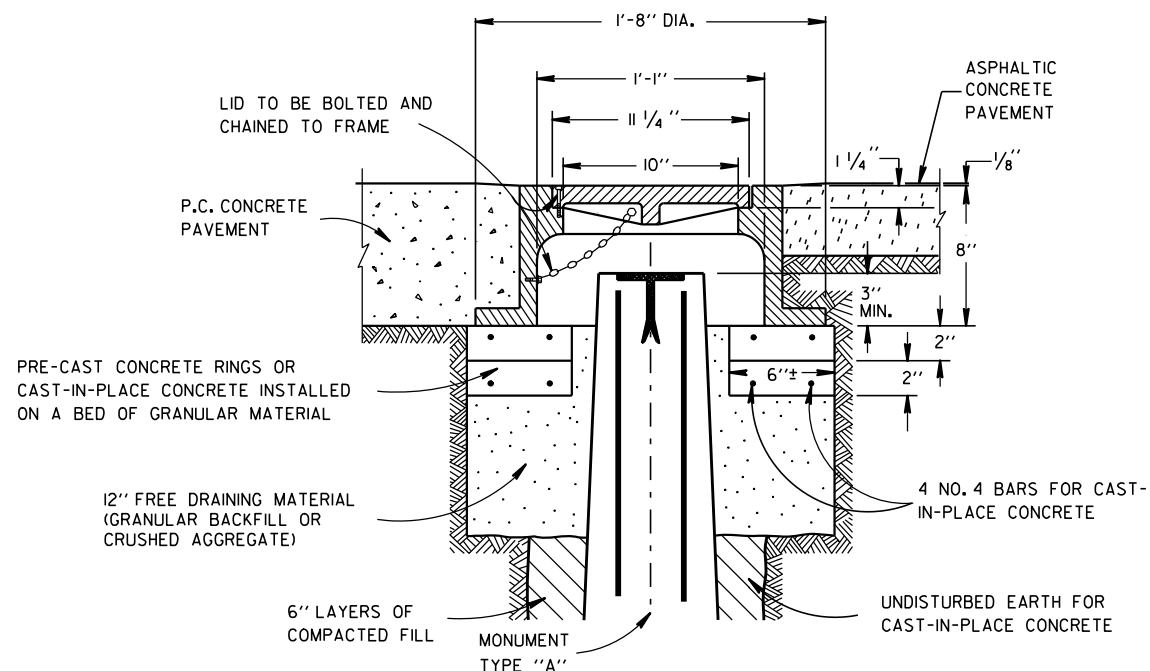
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

SECTION B-B SECTION A-A
ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)

LANDMARK REFERENCE
MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999

DATE

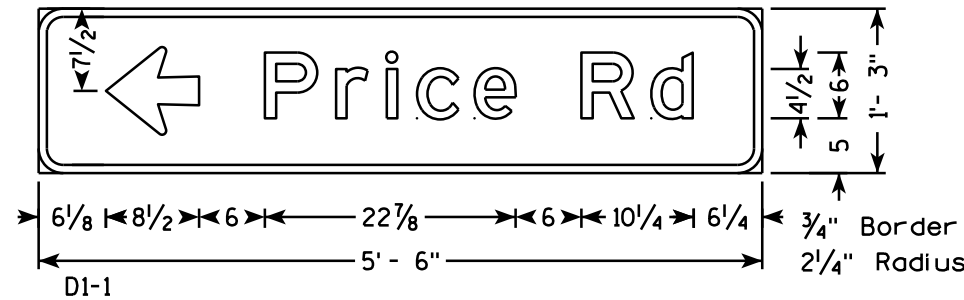
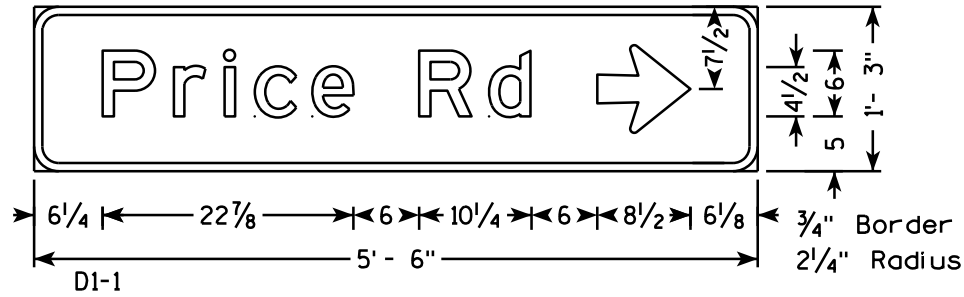
FHWA

/S/ Rory L. Rhinehart

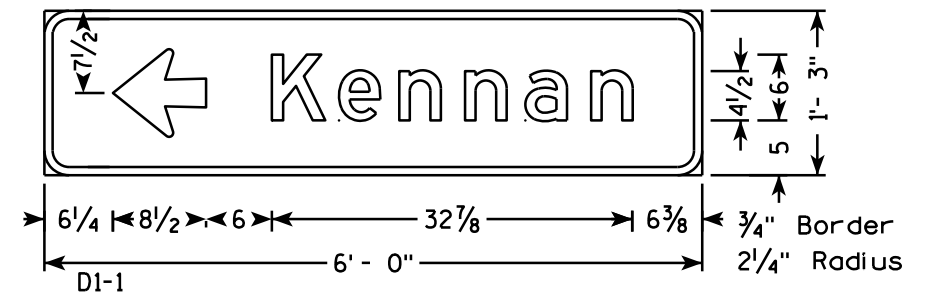
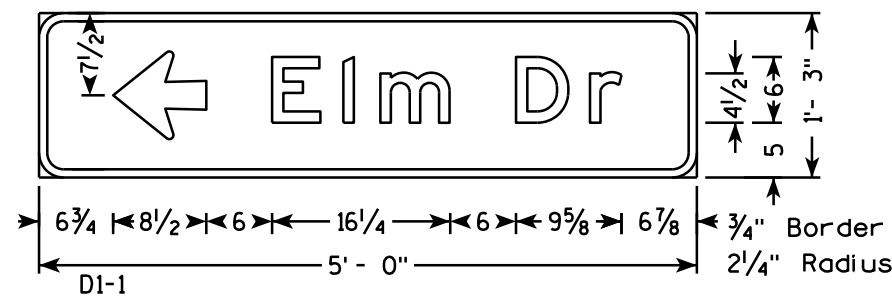
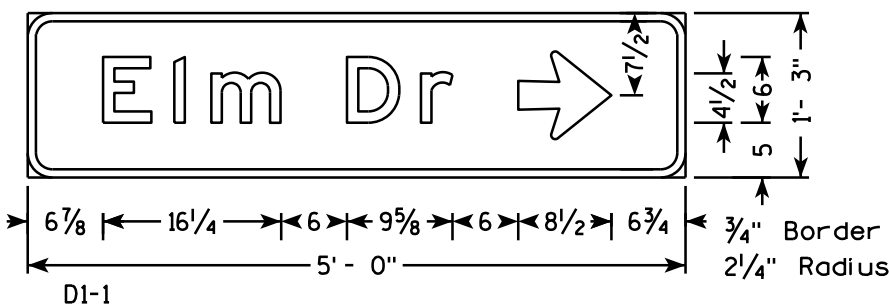
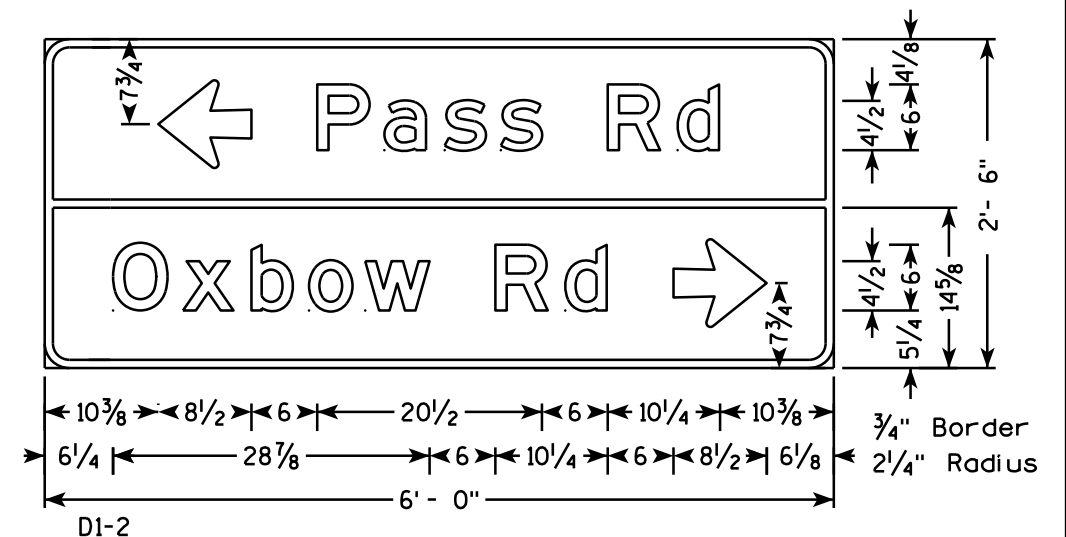
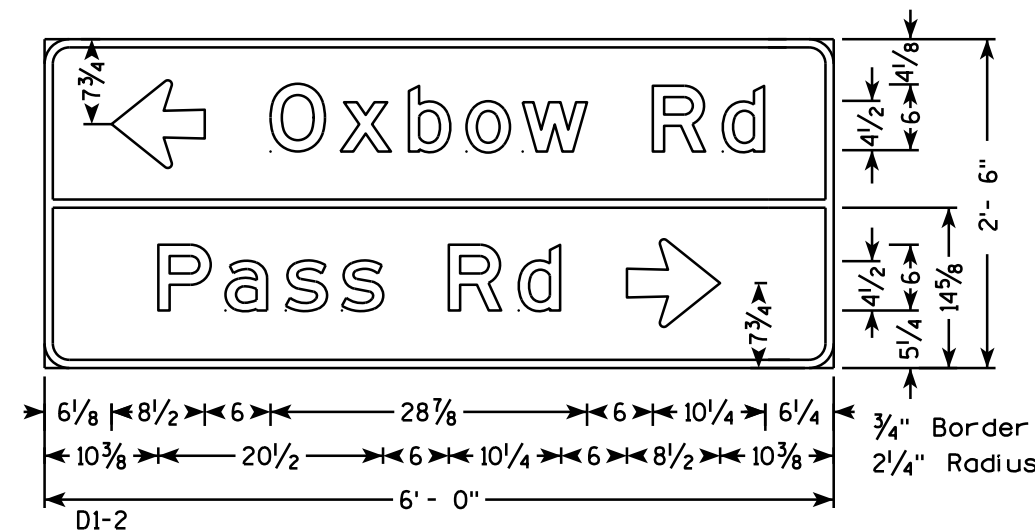
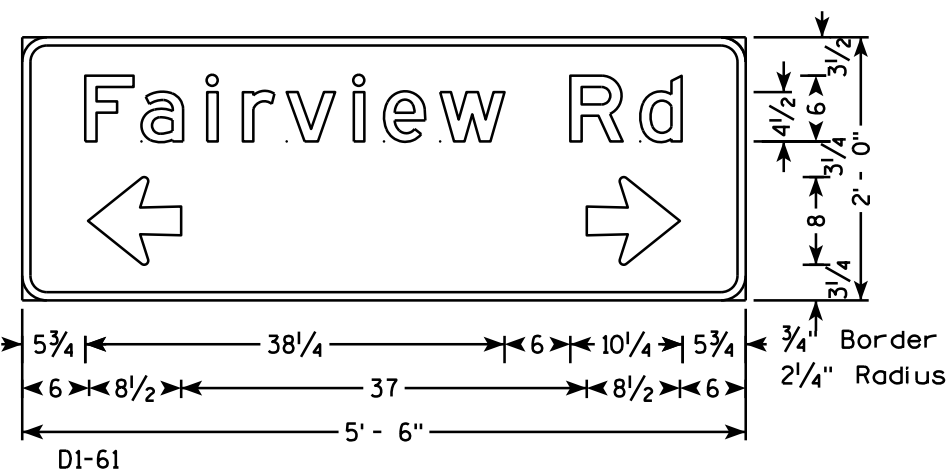
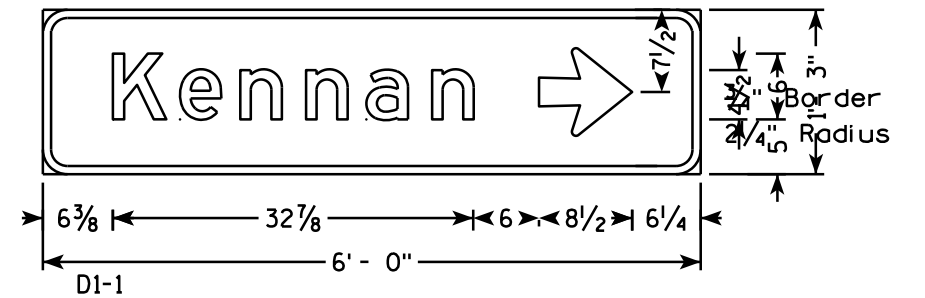
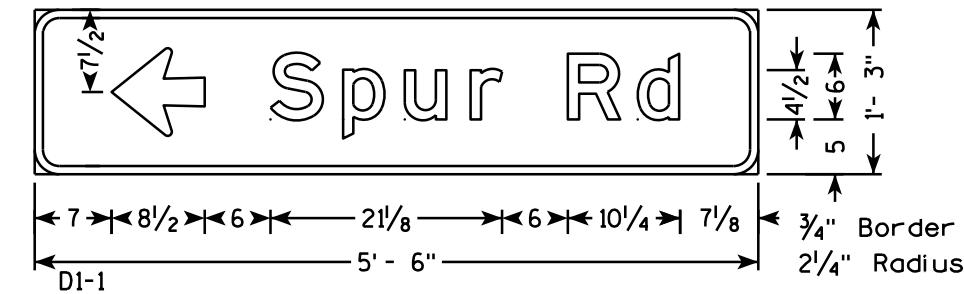
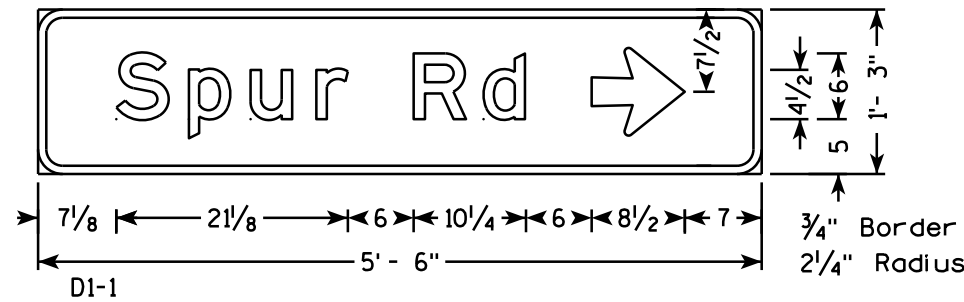
CHIEF ROADWAY DEVELOPER

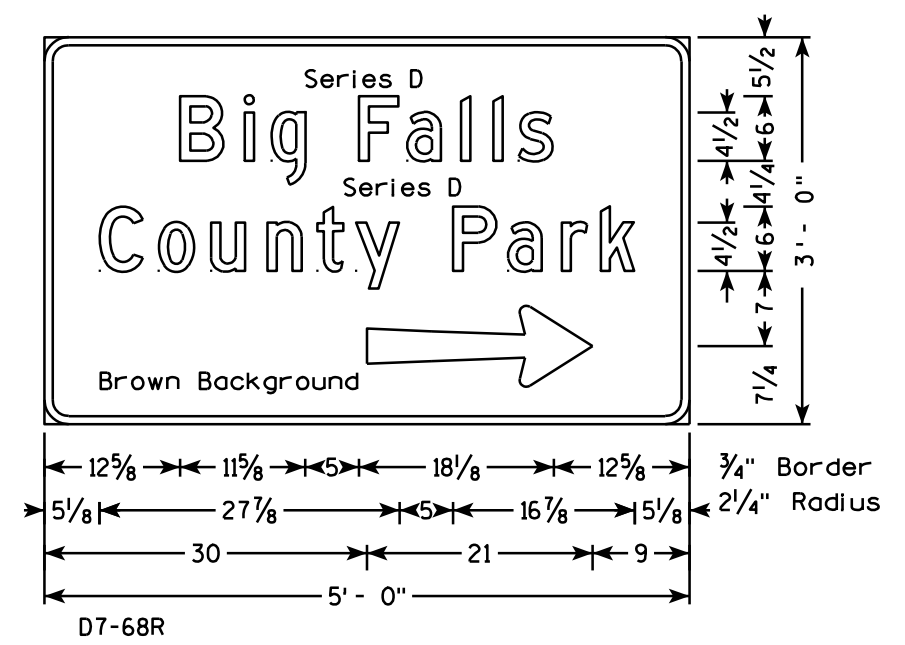
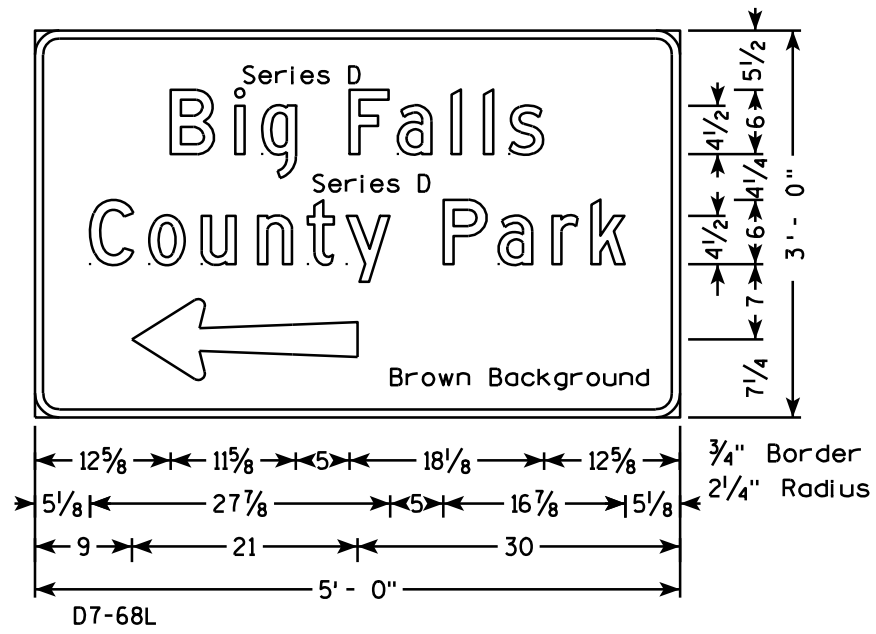
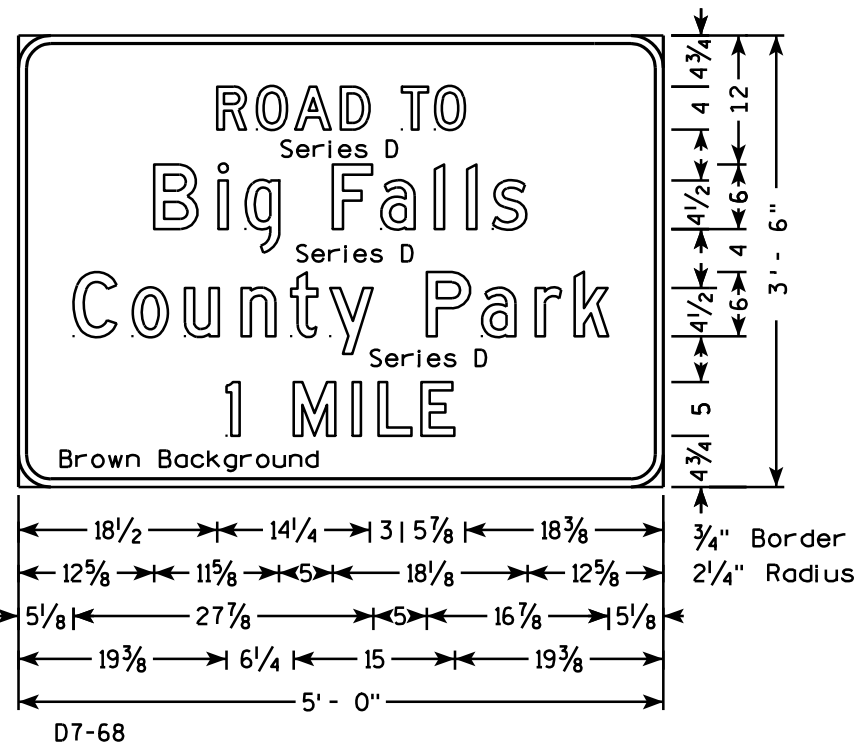
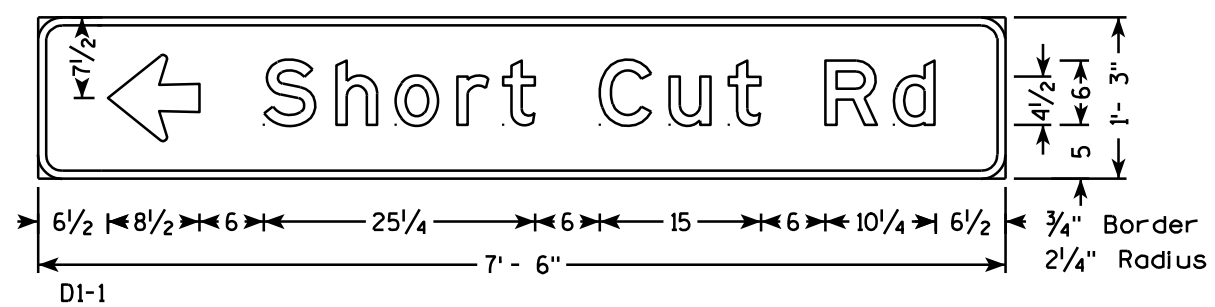
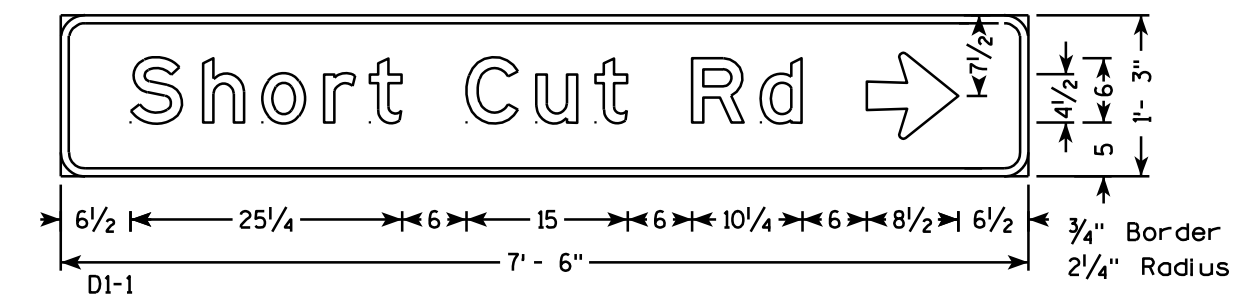
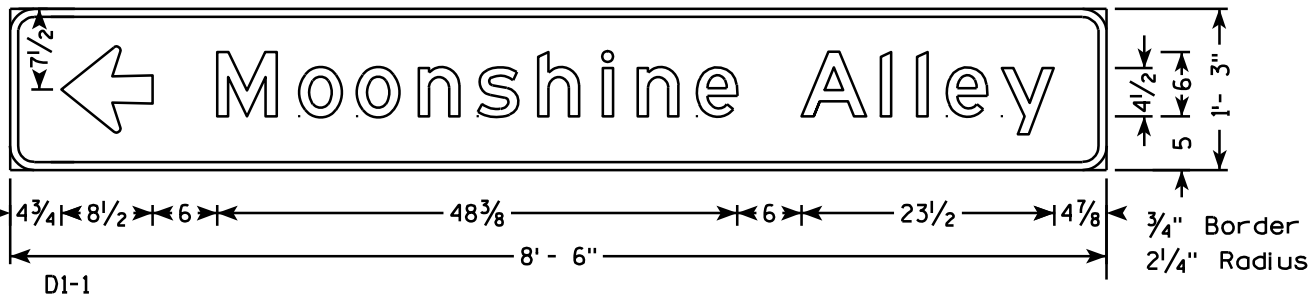
153

NEER



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





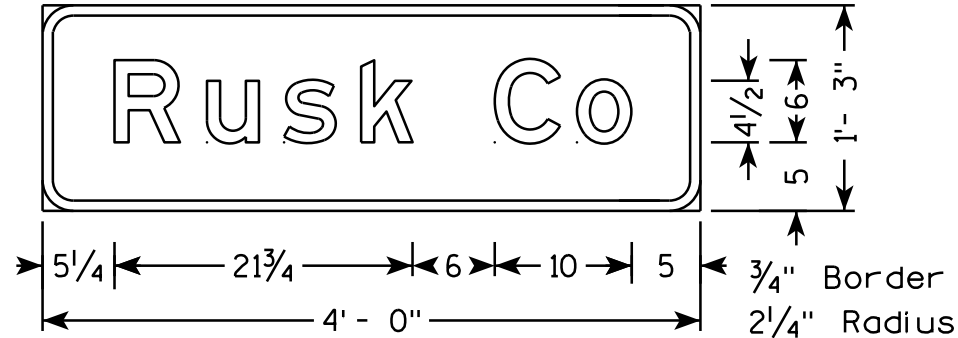
NOTES

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

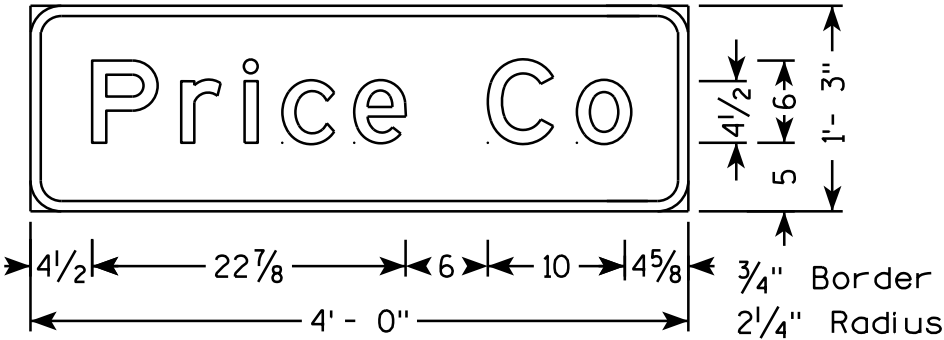
7



I3-1



I2-2



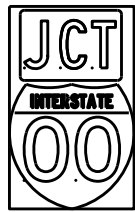
I2-2

NOTES

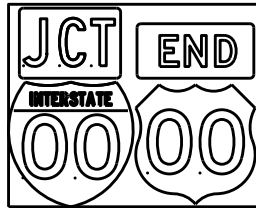
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Green
Message - White
3. Message Series - E

7

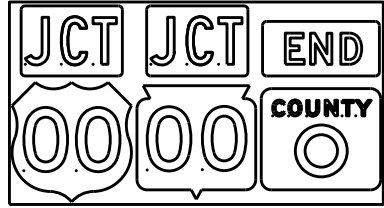
TYPICAL ASSEMBLIES



J1-1



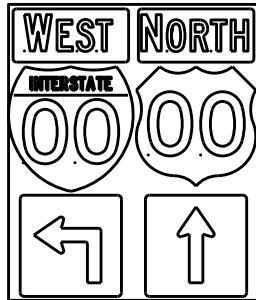
J1-2



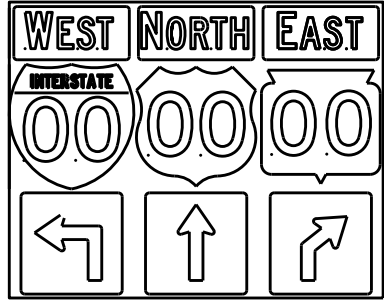
J1-3



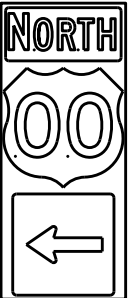
J2-1



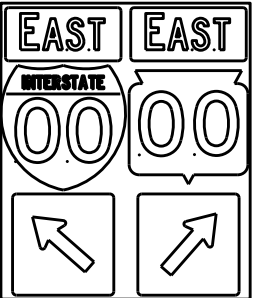
J2-2



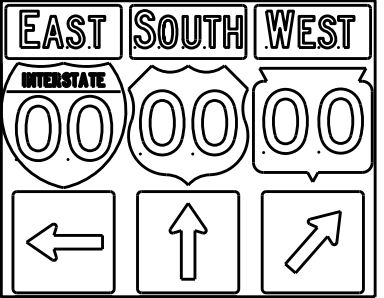
J2-3



J3-1



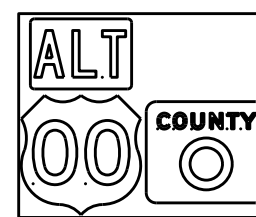
J3-2



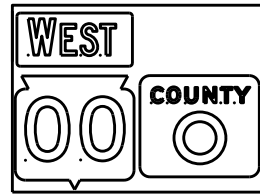
J3-3



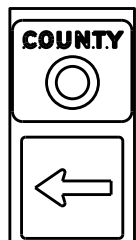
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

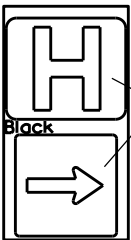


J22-1



JV

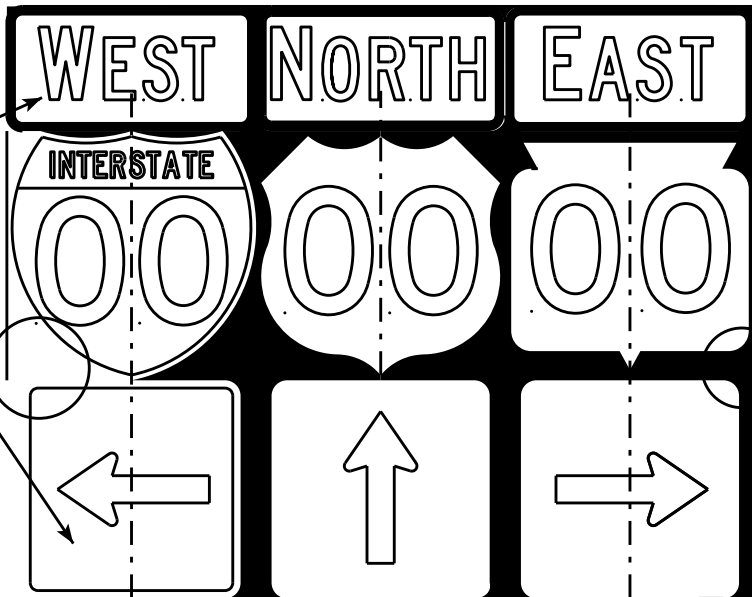
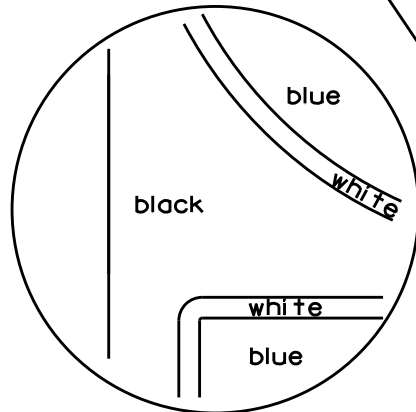
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

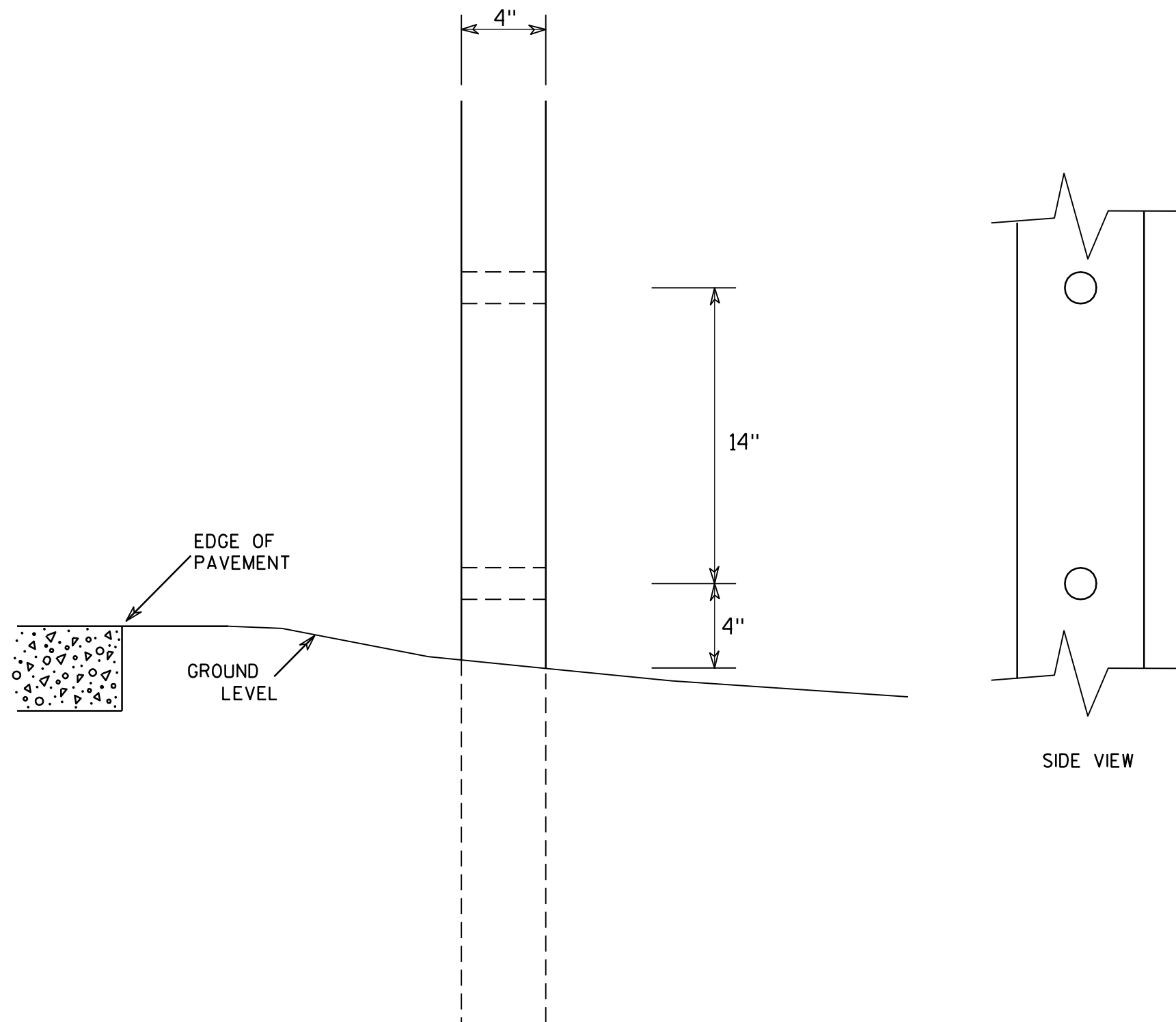
DATE 2/06/14 PL 158 A2-1S.8

SHEET NO: E

NOTES

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

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

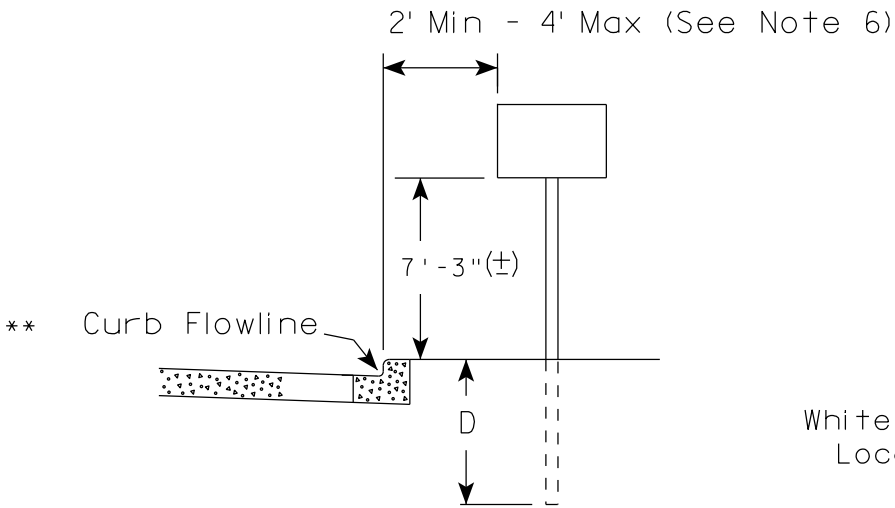
HWY:

COUNTY:

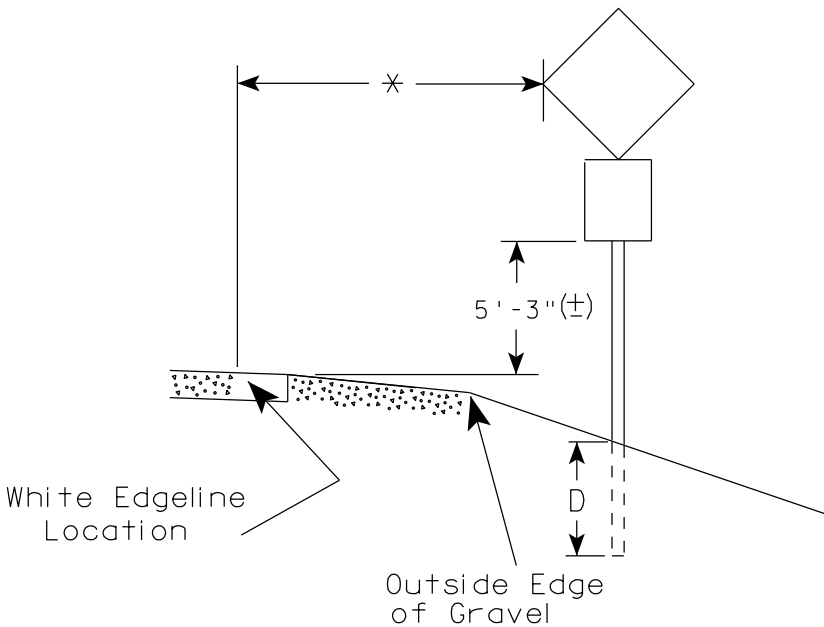
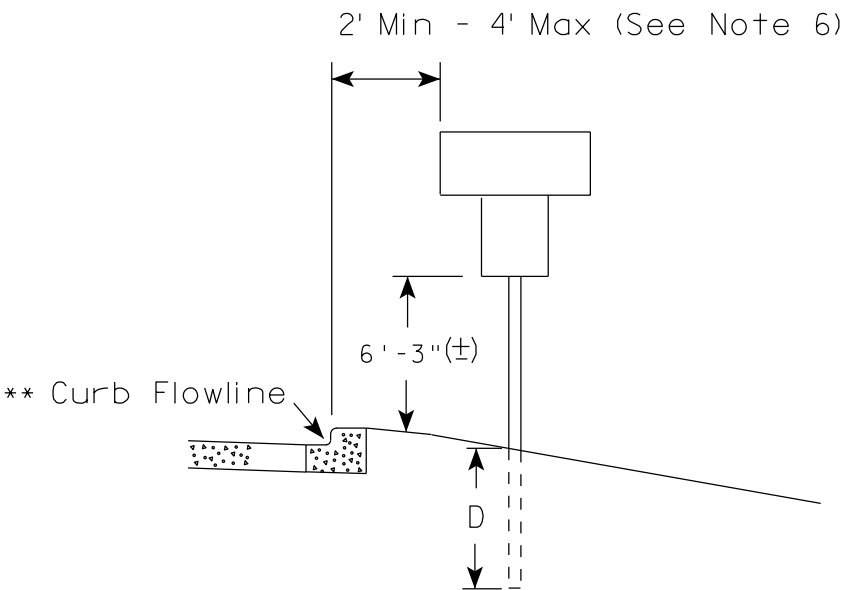
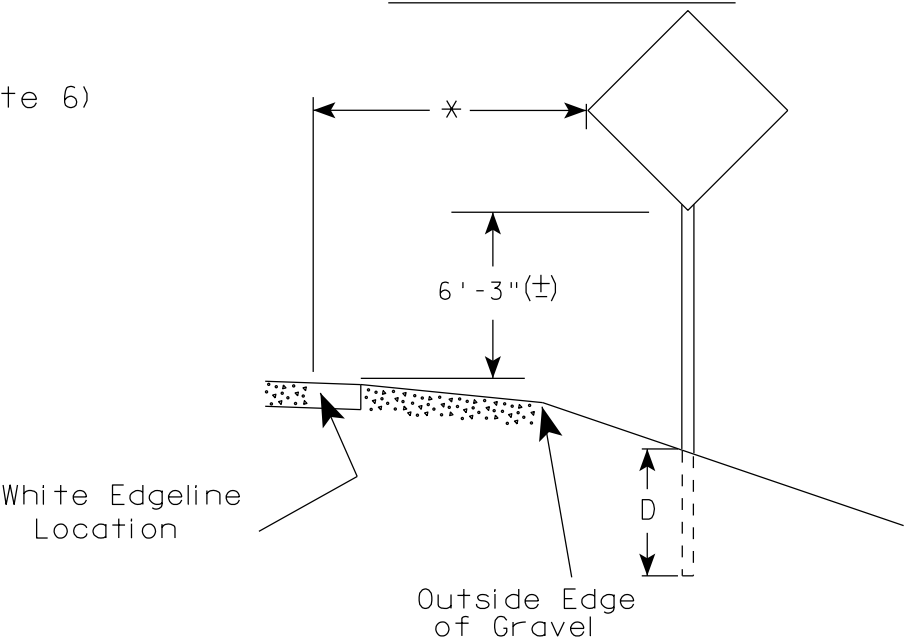
SHEET NO: 159

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE NO. A4-3.19

160

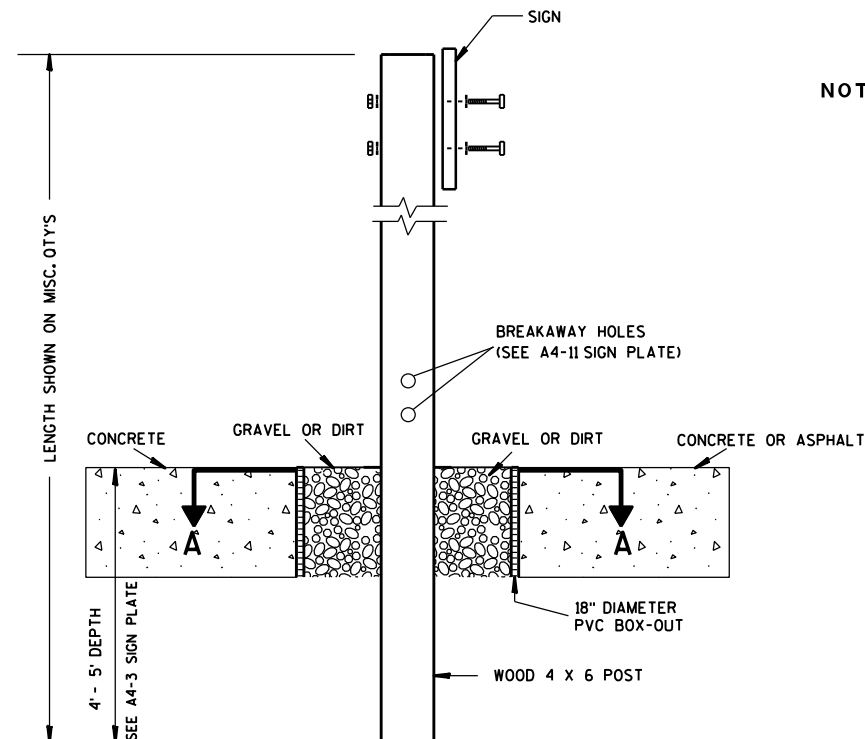
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

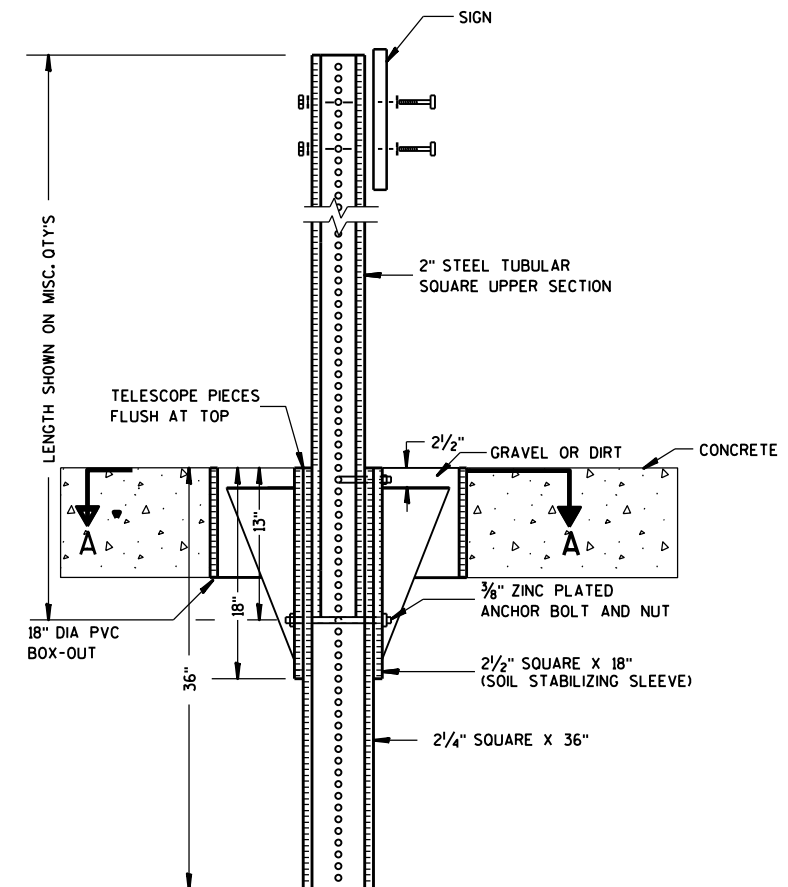
E



ELEVATION VIEW

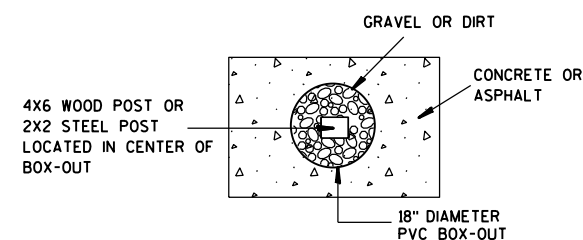
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 161 A4-3B.1

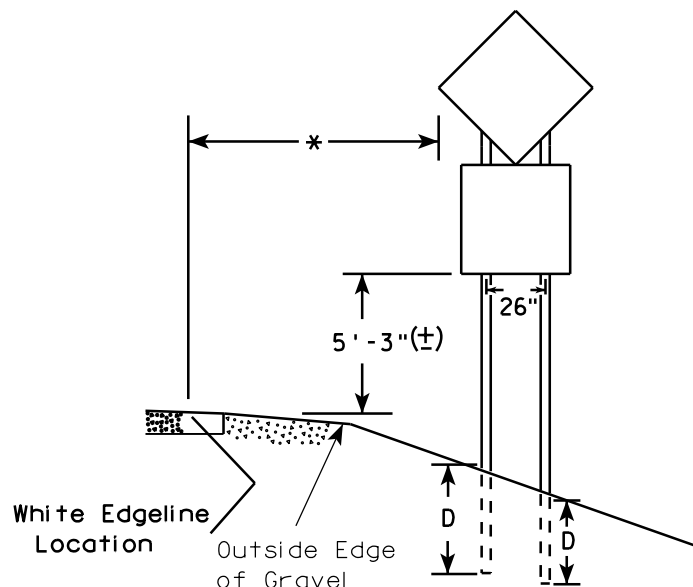
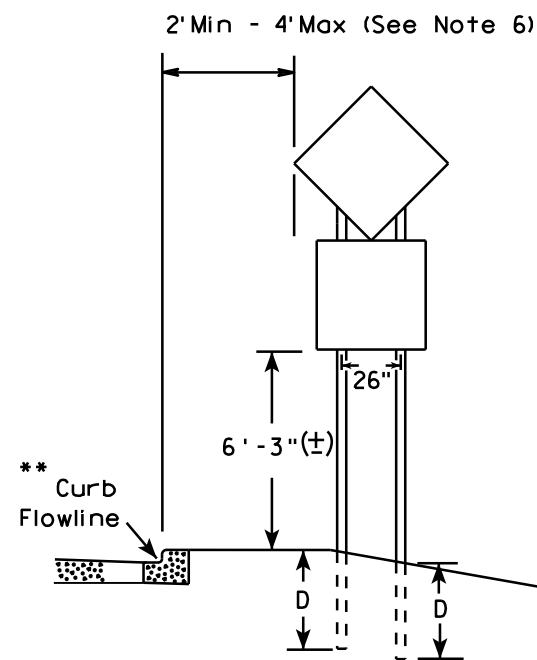
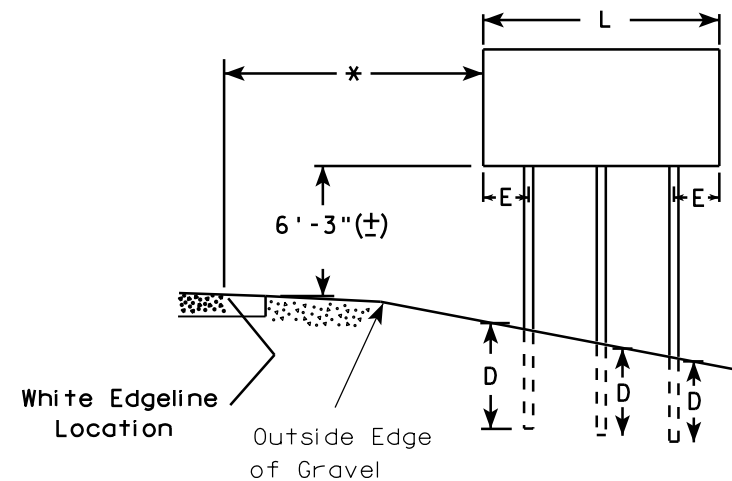
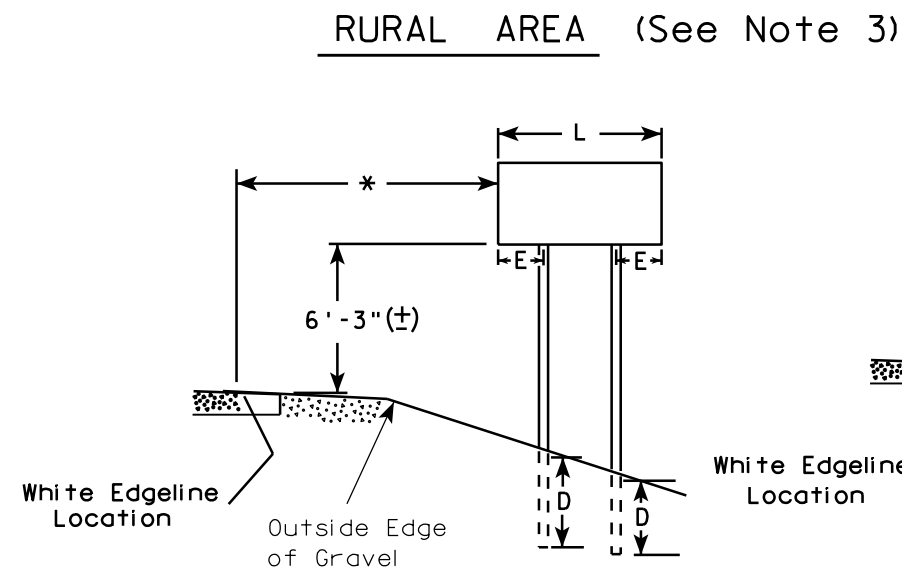
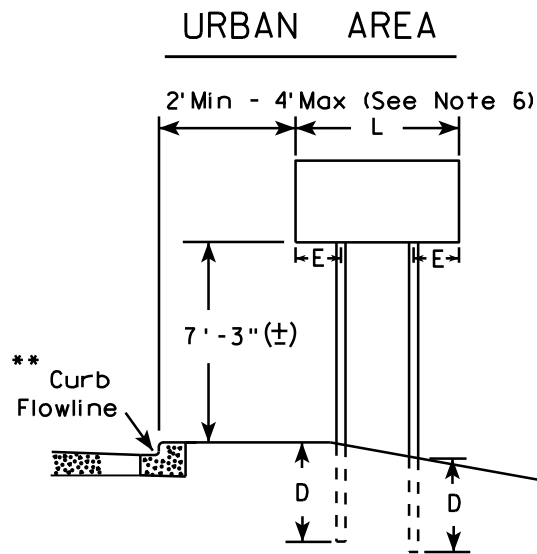
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND
(TWO POSTS REQUIRED)

L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND
(THREE POSTS REQUIRED)

L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND
(FOUR POSTS REQUIRED)

L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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

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

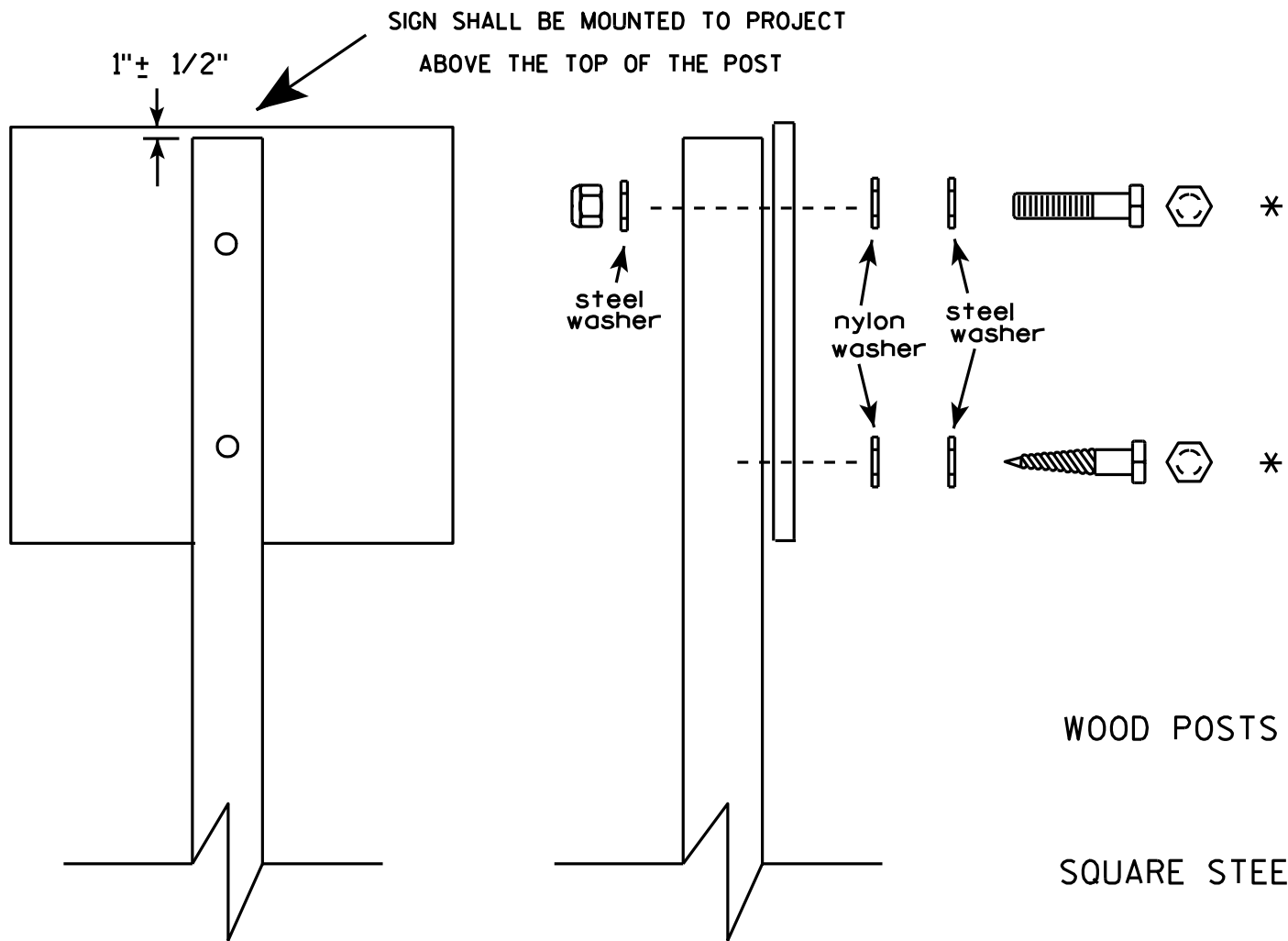
*** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE NO. 162 13

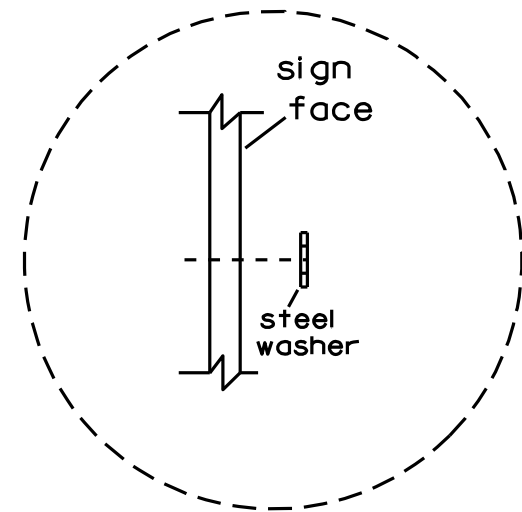


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

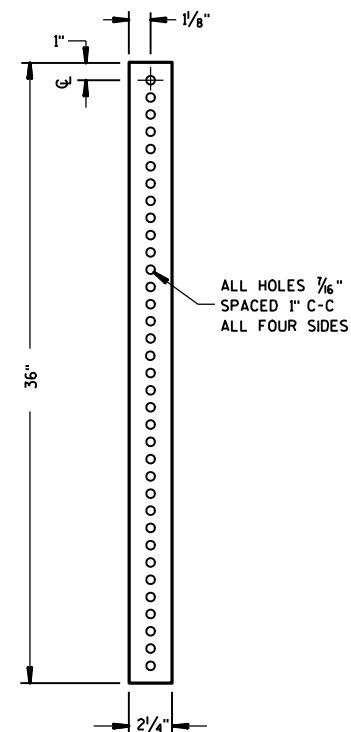


Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10	PLATE NO. A4-8.7

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



2 1/2" or 2 1/4" TELESPAR TUBE

4" x 12" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELESPAR TUBE

4"

2 1/2"

12"

3 1/2"

10'

Technical drawing of a 2x4 foot sign structure, showing side and end views with dimensions and material specifications.

Dimensions:

- Overall height: 48" (indicated by a vertical arrow on the left)
- Overall width: 48" (indicated by a horizontal arrow at the bottom)
- Top section height: 13"
- Gravel/dirt layer height: 18"
- Bottom section height: 36"
- Sign plate height: 18"
- Sign plate width: 36"

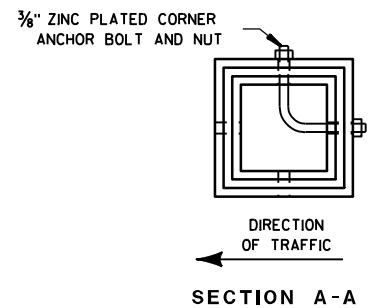
Materials and Components:

- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 2 $\frac{1}{2}$ " GRAVEL OR DIRT
- 18" DIA PVC BOX-OUT
- TELESCOPE PIECES FLUSH AT TOP
- 2 $\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)
- 2 $\frac{1}{4}$ " SQUARE X 36"
- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

Technical drawing of a signpost assembly, showing a cross-section and side view with dimensions and material specifications.

Dimensions and Components:

- Sign:** Indicated by an arrow pointing to the top section.
- Sign Plate:** SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL.
- 2" STEEL TUBULAR SQUARE UPPER SECTION:** The main vertical support.
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES:** Specification for the upper section's holes.
- TELESCOPE PIECES FLUSH AT TOP:** Indicated by an arrow pointing to the top section.
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT:** Used for securing the upper section.
- $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT:** Used for securing the lower section.
- $2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE):** The lower section of the post.
- $2\frac{1}{4}$ " SQUARE X 36":** The base section of the post.
- Vertical Dimensions (from top to bottom):**
 - 1"
 - 12"
 - 18"
 - 36"
- Horizontal Dimensions:**
 - 1" (width of the upper section)
 - 1" (width of the lower section)
- Labels:** A, A (pointing to the base of the post).
- Text:** LENGTH SHOWN ON MISC. QTY'S (vertical dimension line on the left).



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 5/30/12 PLATE NO. A4-9.7

PROJECT NO:

HWY:

COUNTY:

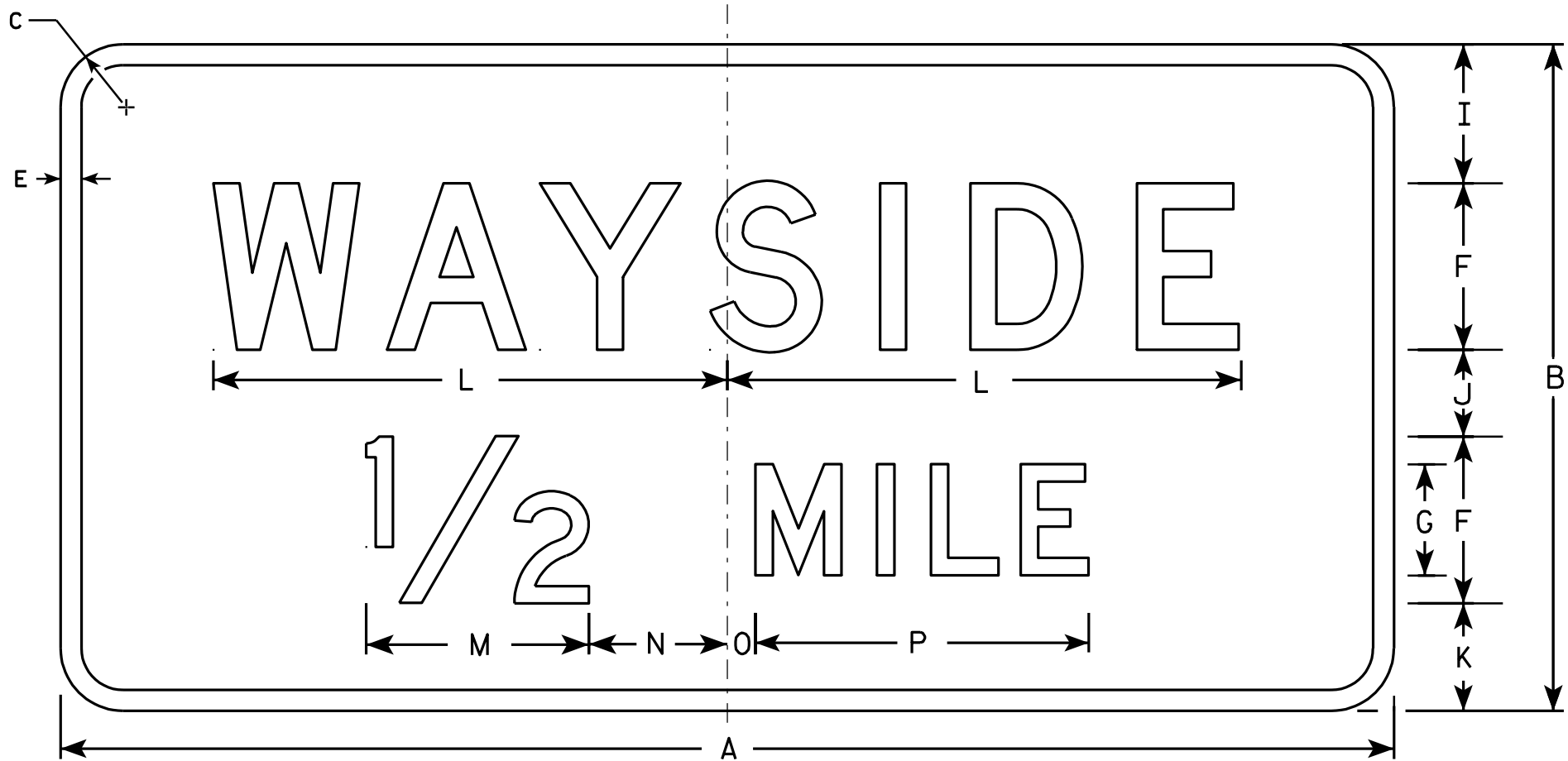
SHEET NO: 164

E

58, 59, 60, 61, 62, 63

7

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



D5-61

Metric equivalent
for this sign is:

SIZE	
1	
2	1200 mm X 600 mm
3	
4	1950 mm X 1050 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
1																												
2	48	24	2 1/4		3/4	6	4	6	5	3 1/8	3 7/8	18 1/2	8	5	1	12											8.0	0.72
3																												
4	78	42	3		1	10	7	10 1/2	8 3/4	5 3/4	7	30 1/8	14	8 3/4	1 3/4	21											22.8	2.05
5																												

STATE PROJECT NUMBER:

FILE NAME : D:\Users\Projects\tr_stdplate\D561.DGN

PLOT DATE : 09-JAN-2002 13:01

ORG DATE : 7/24/97

Originator : Don Kluever

STANDARD SIGN
D5-61

WISCONSIN DEPT OF TRANSPORTATION
APPROVED
Charles J. Spang
for State Traffic Engineer
DATE 1/09/02 PLATE NO. D5-61.9

SHEET NO: 165

E

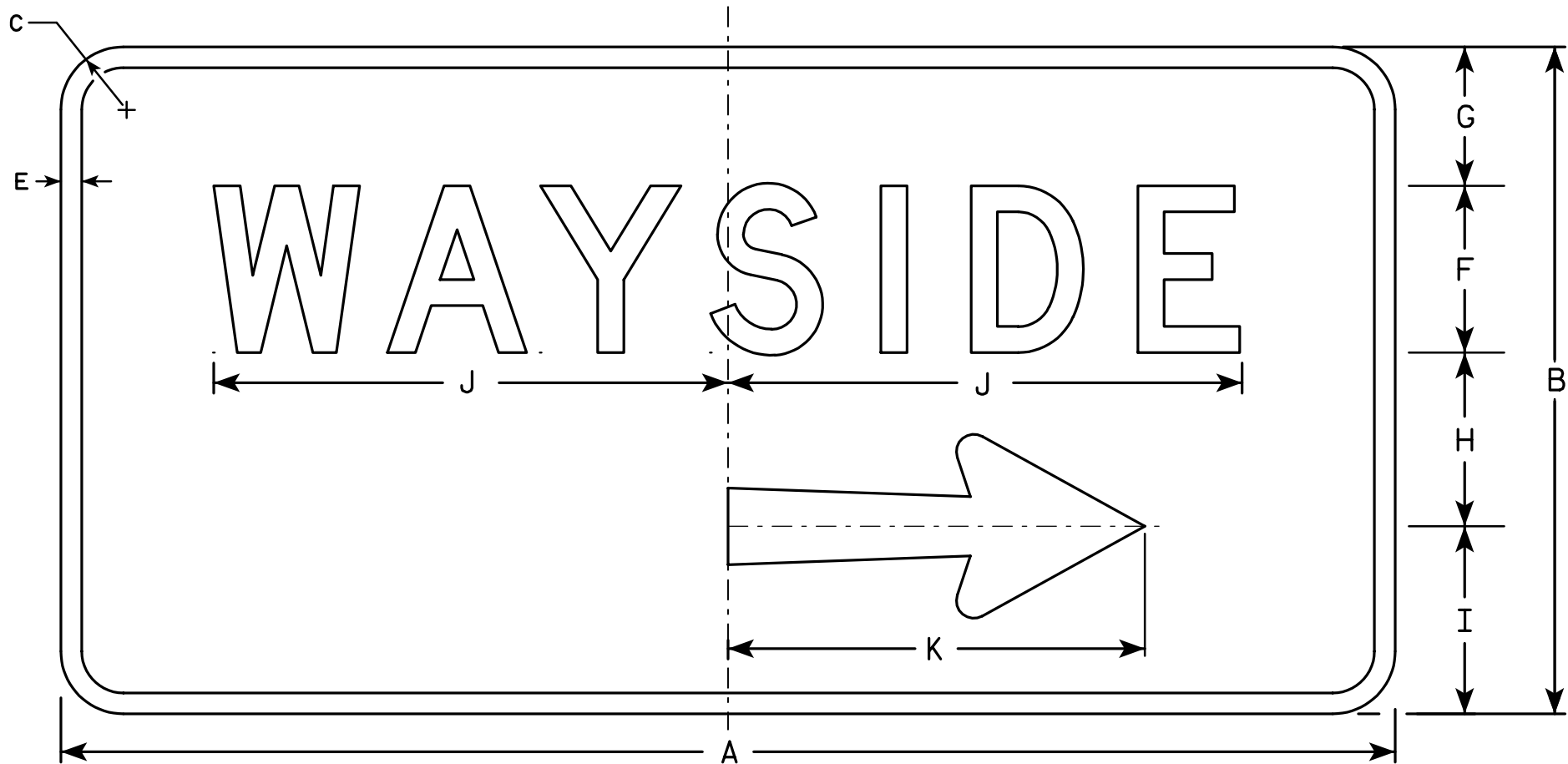
NOTES

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

58, 59, 60, 61, 62, 63

7

LEVELS ON - 2, 3, 5, 6, 14, 10, 14



D5-62R

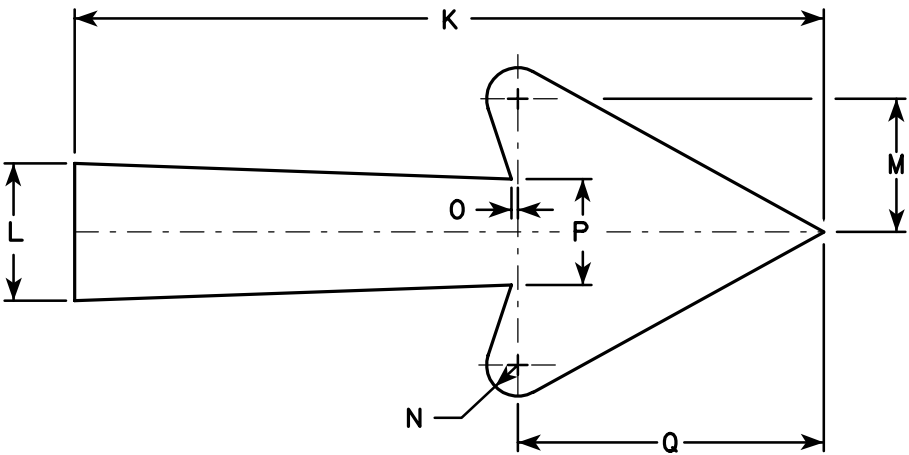
Metric equivalent
for this sign is:

SIZE	
1	
2	1200 mm X 600 mm
3	
4	1950 mm X 1050 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	48	24	2 1/4		3/4	6	4	6 1/4	6 3/4	18 1/2	15	2 3/4	3 1/8	5/8	1/8	2 1/8	6 1/8										8.0	0.72
3																												
4	78	42	3		1	10	8 3/4	11	12 1/4	30 1/8	26 1/4	4 3/4	4 5/8	1 1/8	1/4	3 3/4	10 3/4										22.8	2.05
5																												

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Blue
Message - White
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. D5-62L is the same as D5-62R except that the arrow is rotated 180° about the vertical center line.



Arrow Detail

STANDARD SIGN
D5-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Christa J. Spang
for State Traffic Engineer

DATE 1/09/02

PLATE NO. D5-62.10

STATE PROJECT NUMBER:

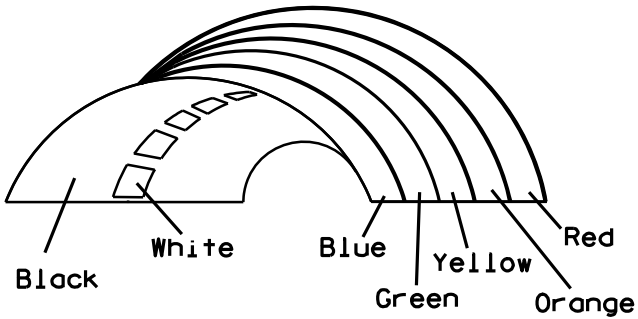
SHEET NO: 166

E



* VARIES

Background Colors of Symbol*



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

NOTES

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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 167

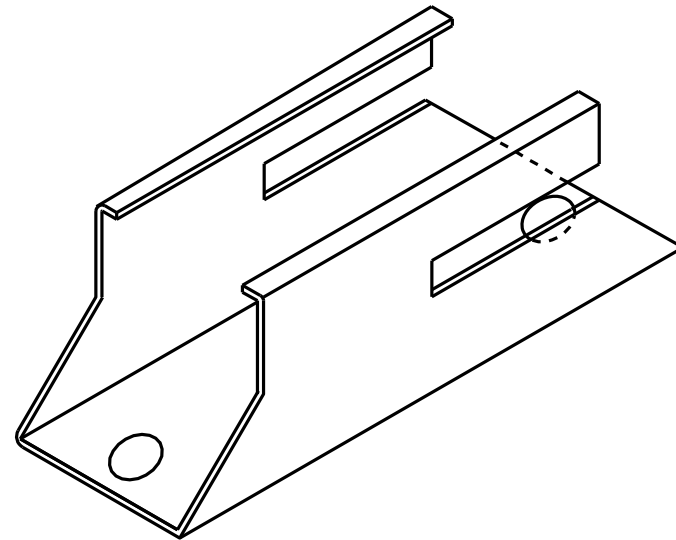
STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

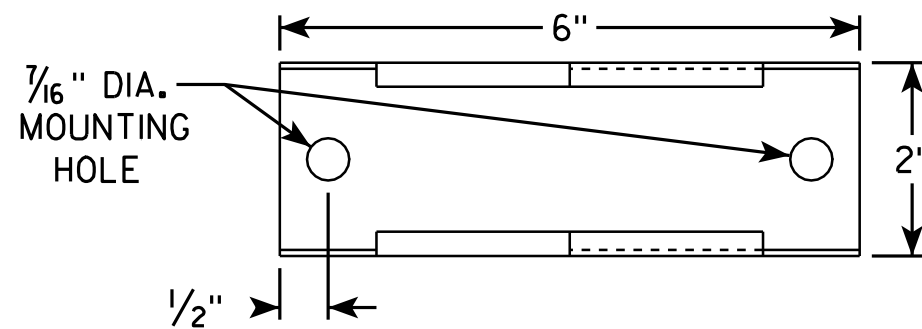
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

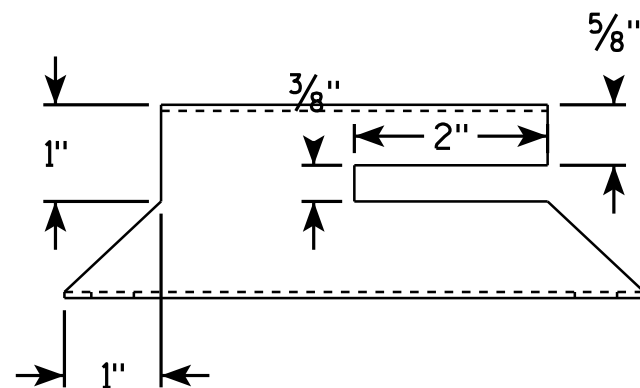
ISOMETRIC VIEW



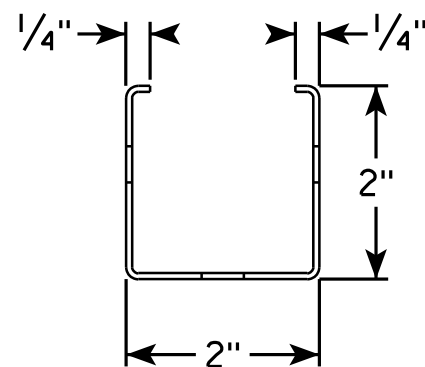
TOP VIEW



SIDE VIEW



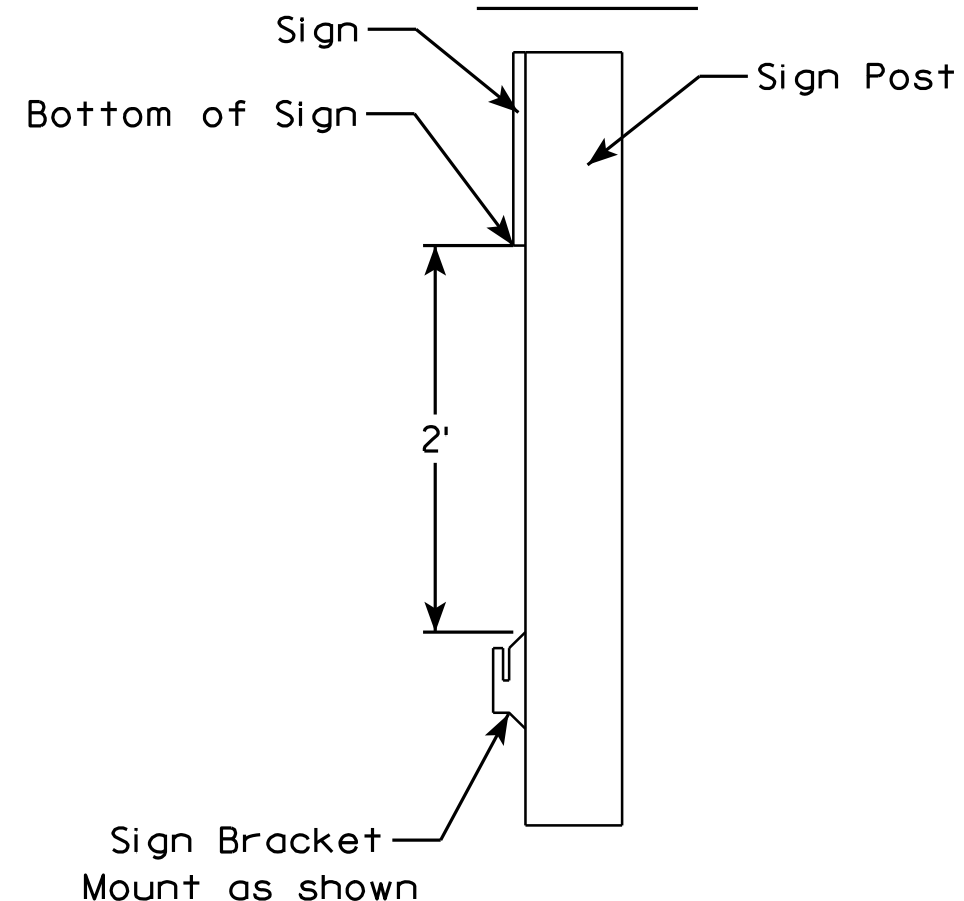
END VIEW



NOTES

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

SIDE VIEW



ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

PROJECT NO:

HWY:

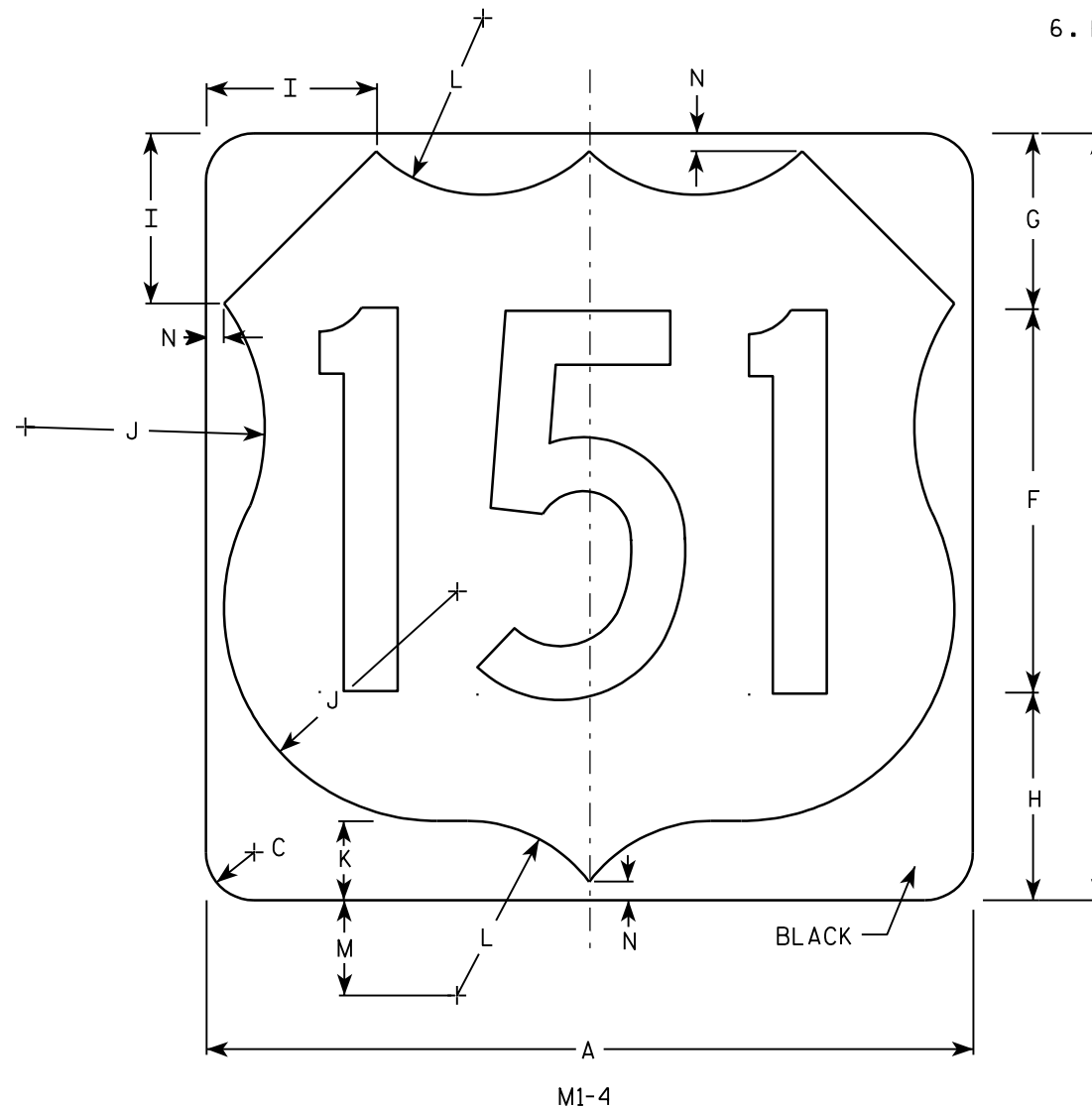
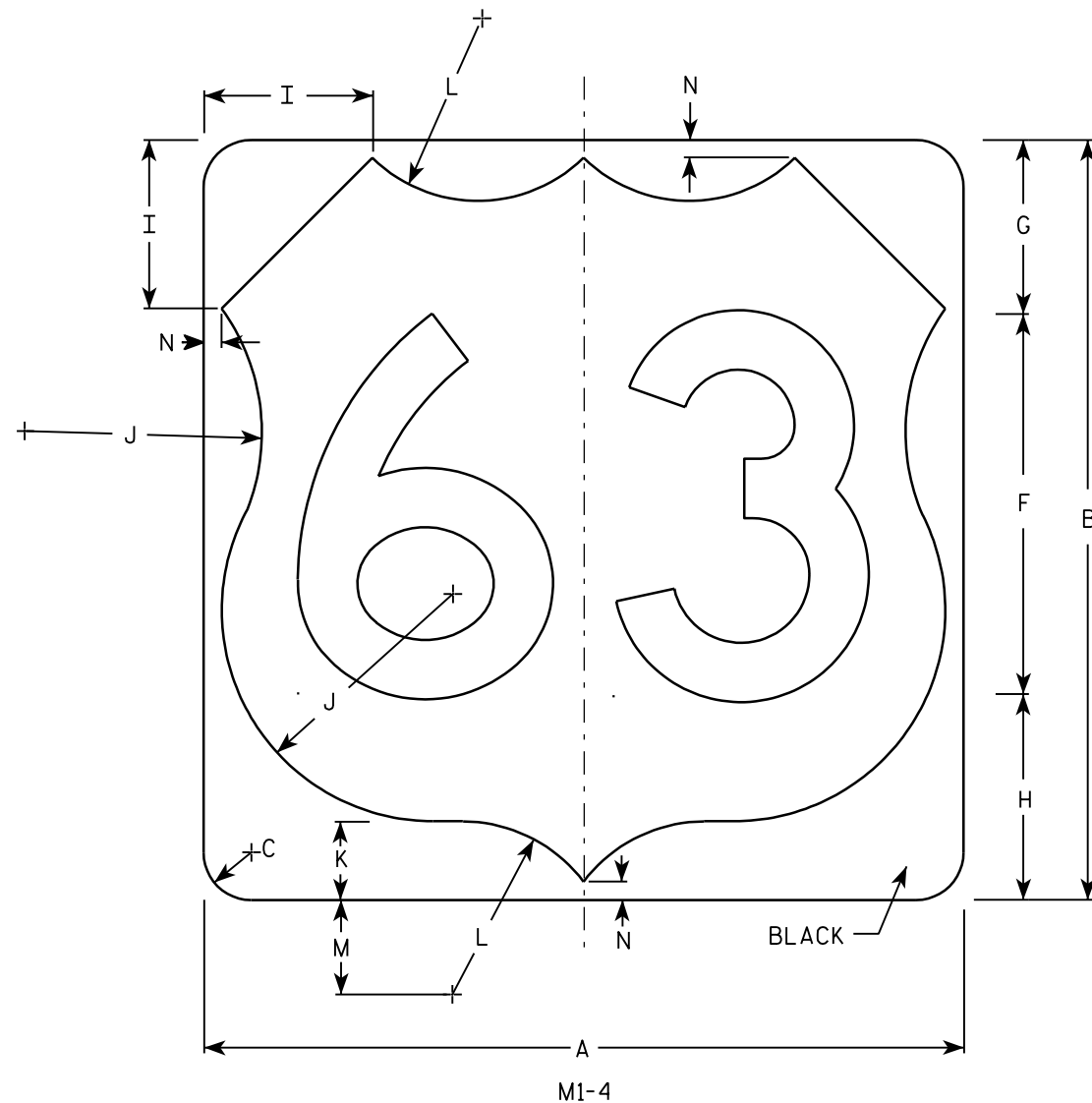
COUNTY:

SHEET NO: 168

E

NOTES

- Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 6
Message - Black
- Message Series - See note 5
- 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.
- Substitute appropriate numerals and adjust spacing as per Plate A10-1.
- Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



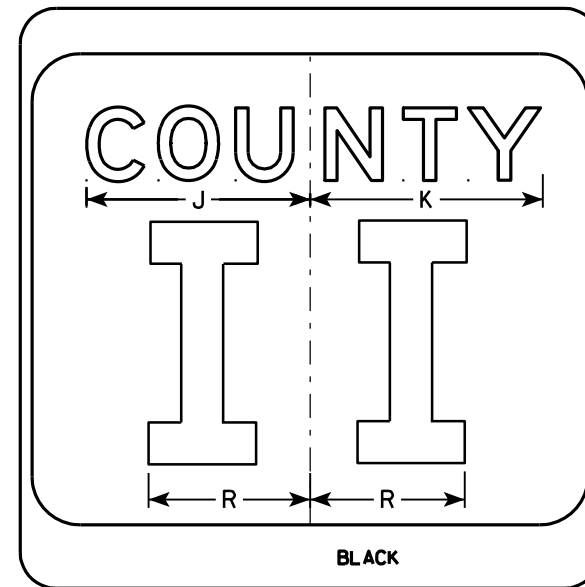
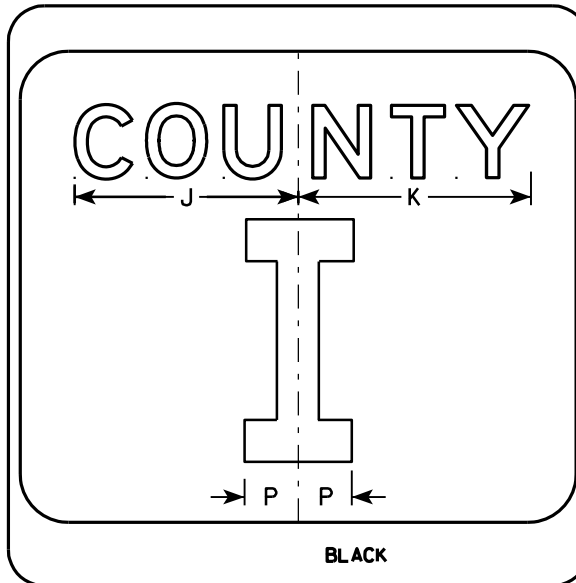
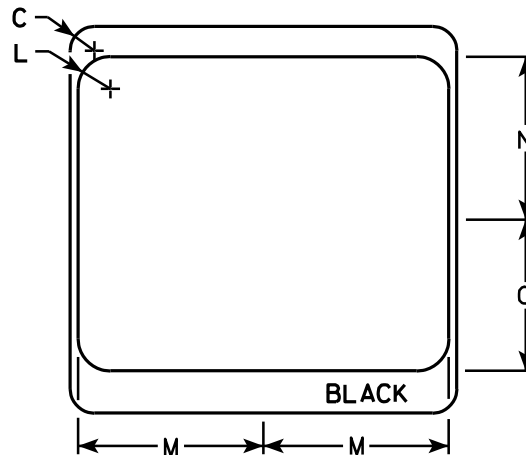
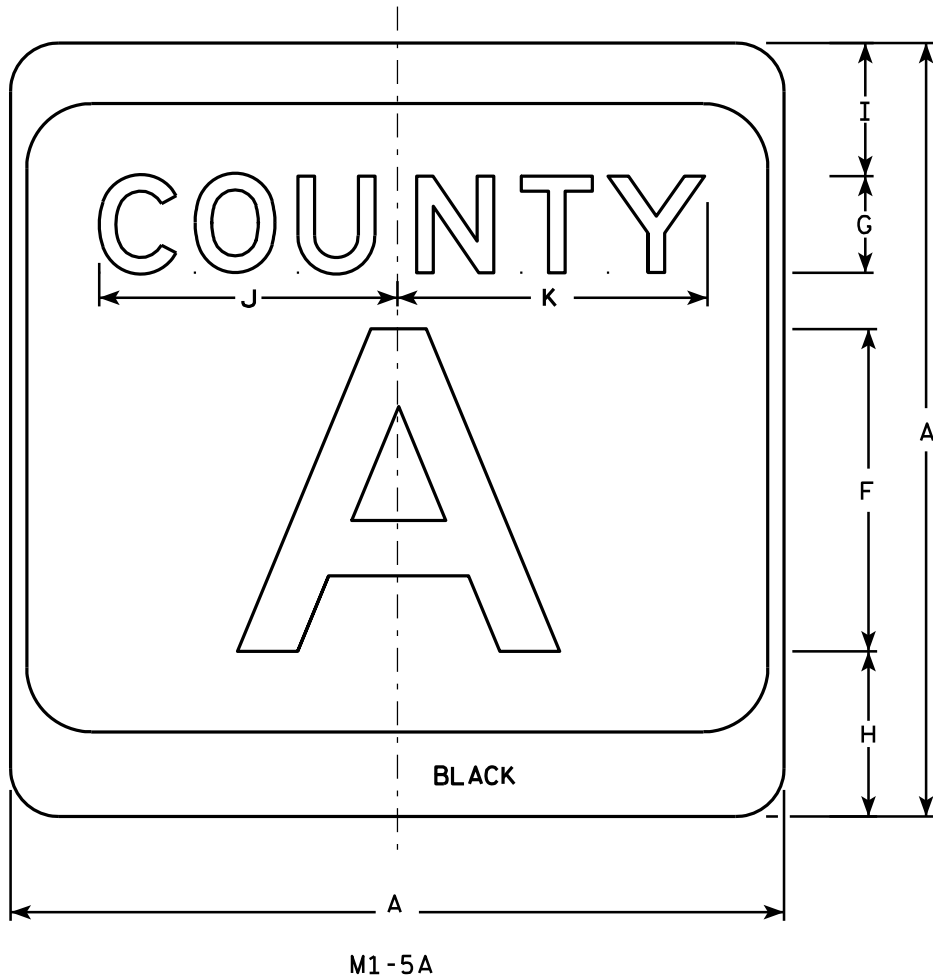
Metric equivalent
for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Area m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

PROJECT NO: HWY: COUNTY: SHEET NO: 169 E

7



NOTES

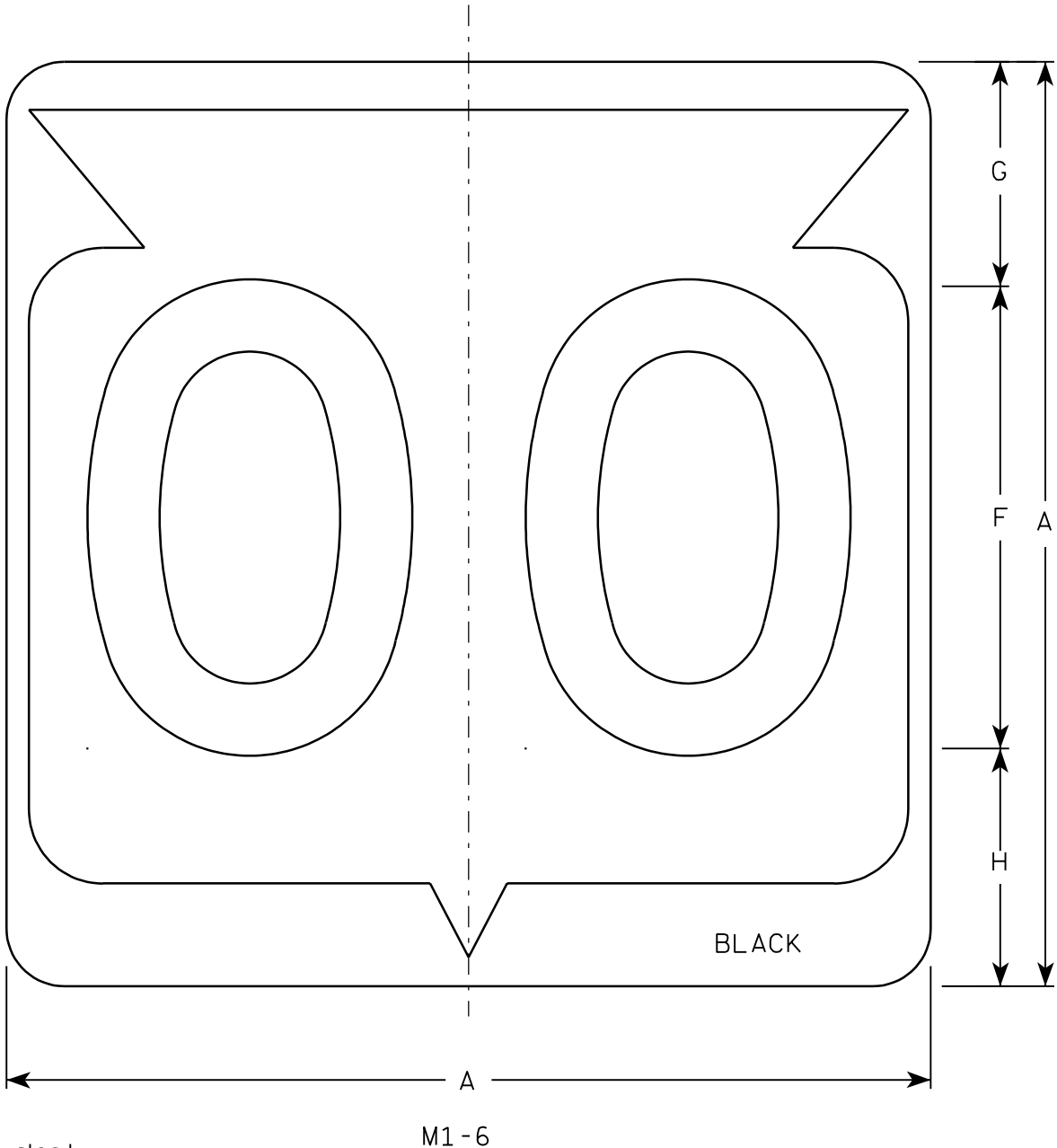
- Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 7
Message - Black
- Message Series - see Note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
- Substitute appropriate letters & optically center to achieve proper balance.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER	
M1-5A FOR ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/27/11	PLATE NO. M1-5A.8

7

7



Metric equivalent
for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

PROJECT NO:

HWY:

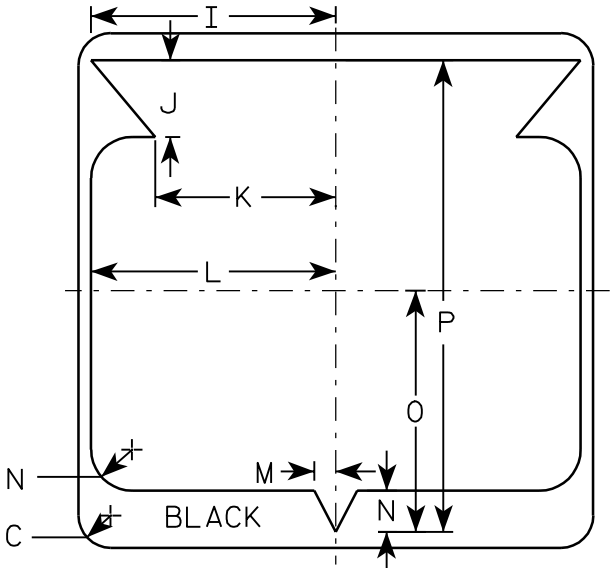
COUNTY:

SHEET NO: 171

E

NOTES

- Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 6
Message - Black
- Message Series - See note 5
- 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.
- Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

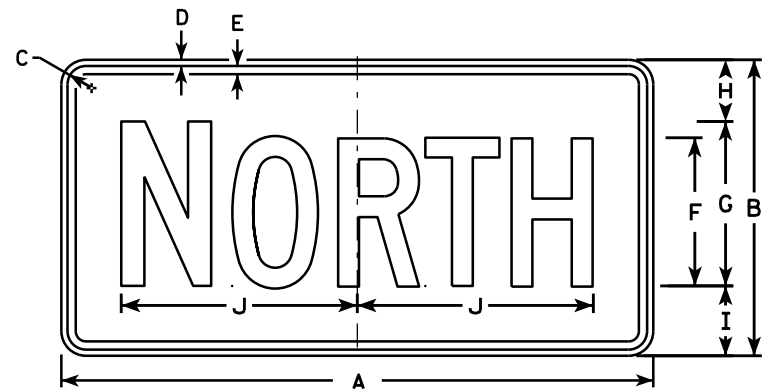
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

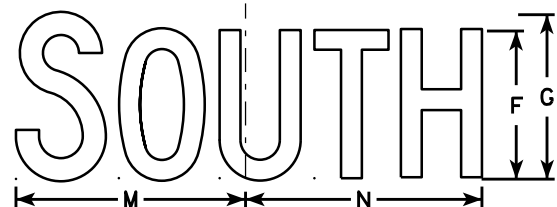
PLATE NO. M1-6.9



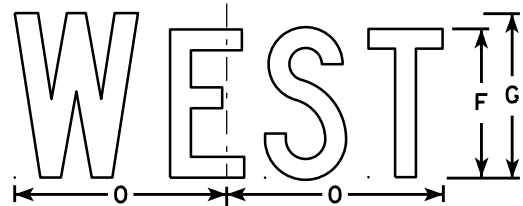
M3-1
MK3-1
MM3-1
MN3-1



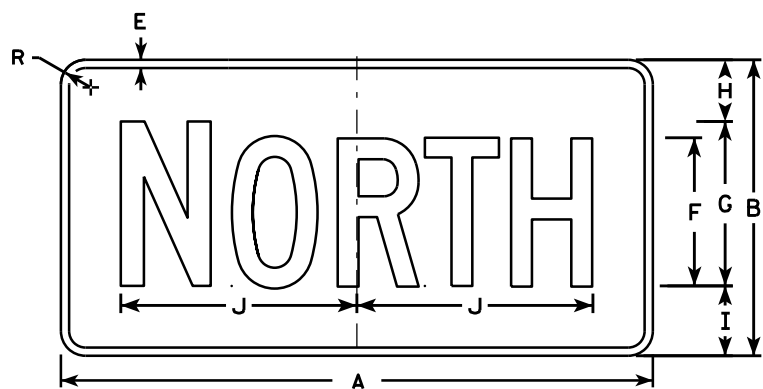
M3-2
MK3-2
MM3-2
MN3-2



M3-3
MK3-3
MM3-3
MN3-3



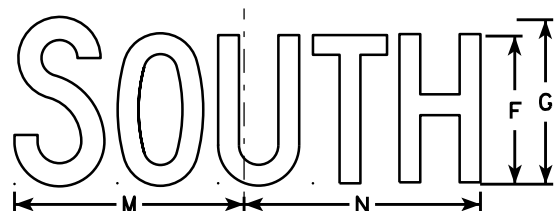
M3-4
MK3-4
MM3-4
MN3-4



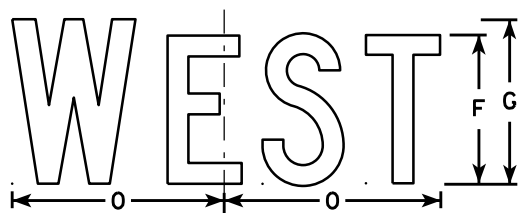
MB3-1



MB3-2



MB3-3



MB3-4

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
6. Note the first letter of each direction is larger than the remainder of the message.

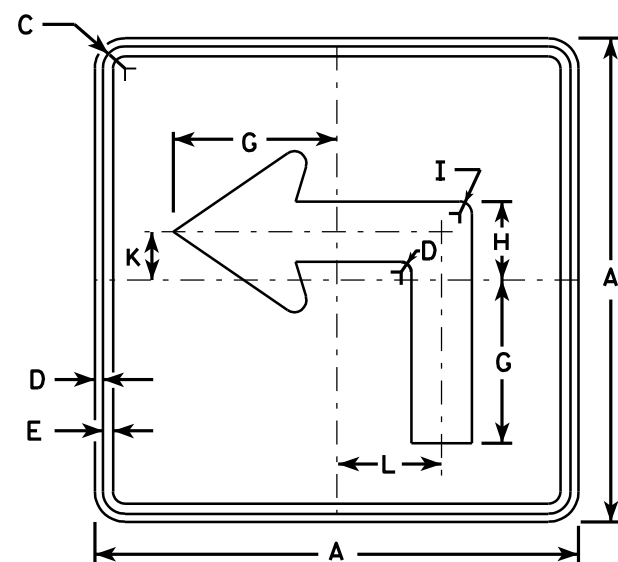
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8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

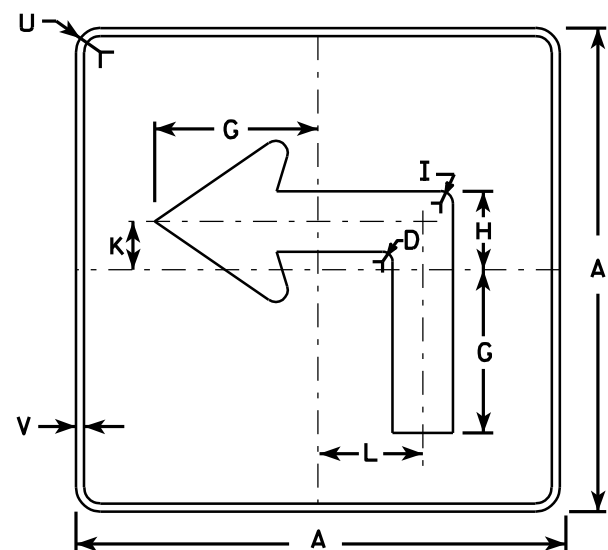
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

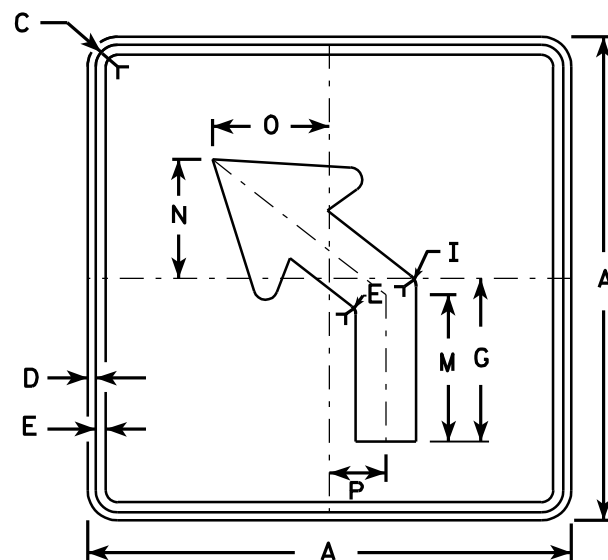
DATE 6/30/14 PLAT 172 M3-1.13



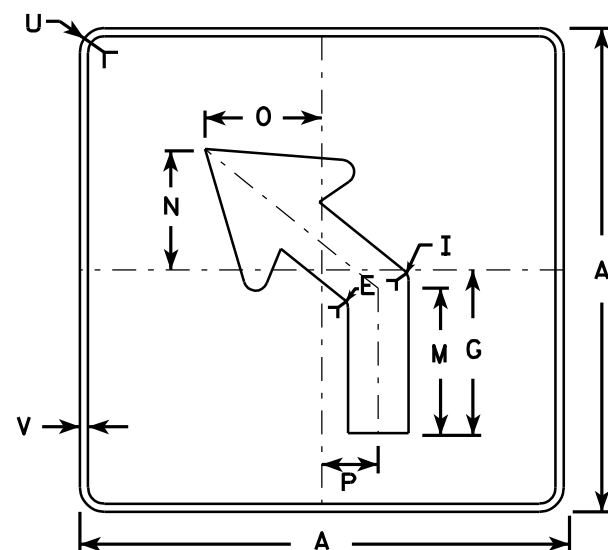
M5-1L
MK5-1L
MM5-1L
M05-1L
MP5-1L
MR5-1L



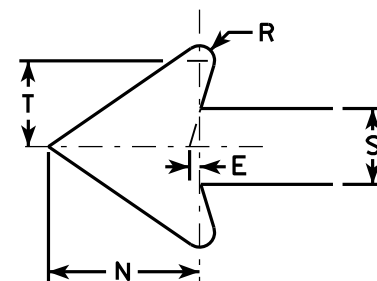
MB5-1L
MG5-1L
MN5-1L



M5-2L
MK5-2L
MM5-2L
M05-2L
MP5-2L
MR5-2L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - See note 4
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
Message - Black
MB5-1 and MB5-2 Background - Blue
Message - White - Type H Reflective
MG5-1 and MG5-2 Background - Green
Message - White - Type H Reflective
MK5-1 and MK5-2 Background - Green
Message - White Type H Reflective
MM5-1 and MM5-2 Background - White - Type H Reflective
Message - Green
MN5-1 and MN5-2 Background - Brown
Message - White - Type H Reflective
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 - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

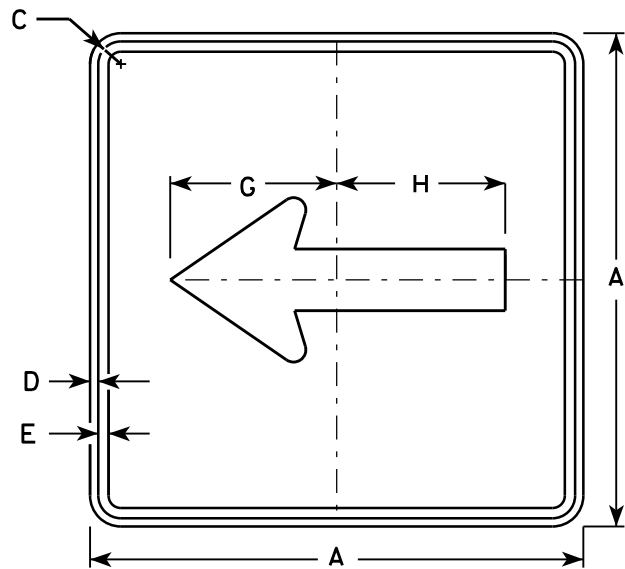
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25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

STANDARD SIGN
M5-1 & M5-2

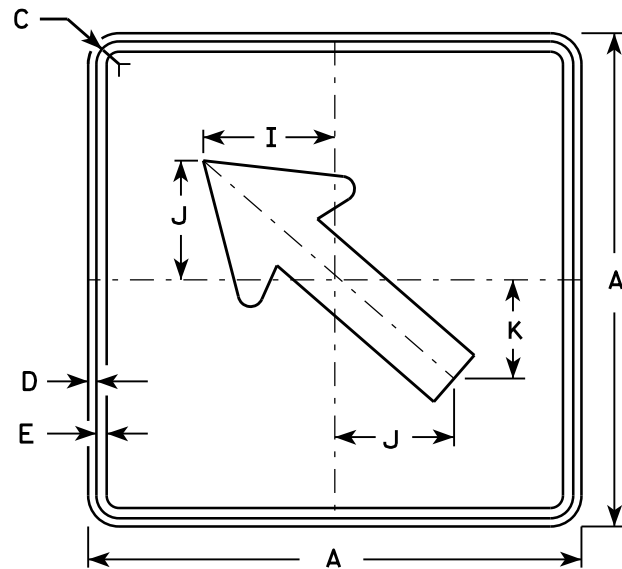
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

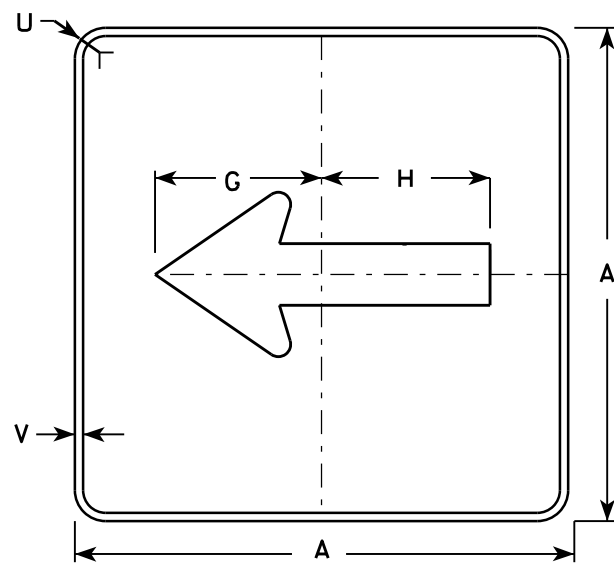
DATE 7/29/13 PLATE NO. M5-1.12



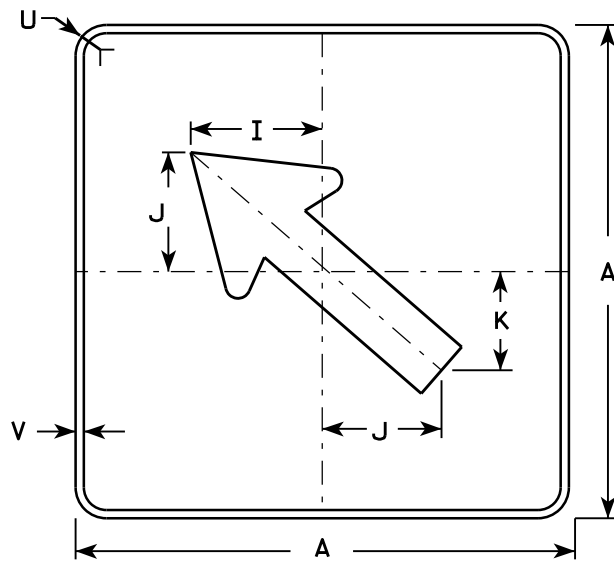
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



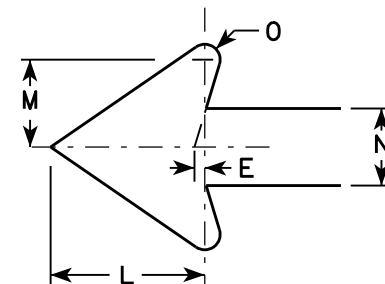
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 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
MG6-1 and MG6-2 Background - Green
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

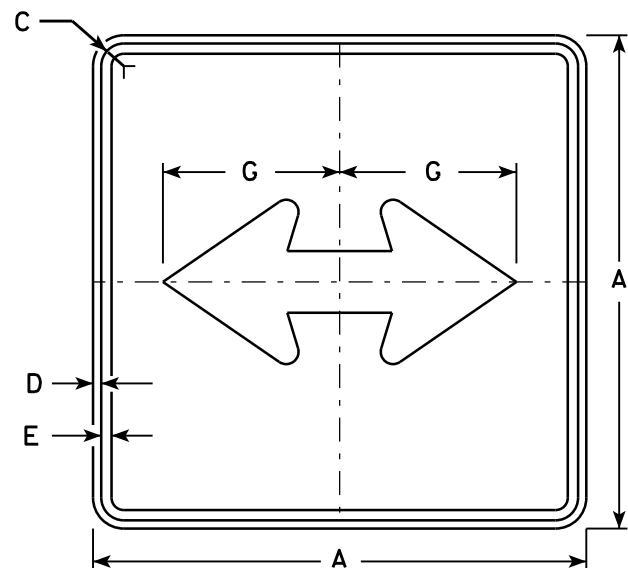
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10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

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

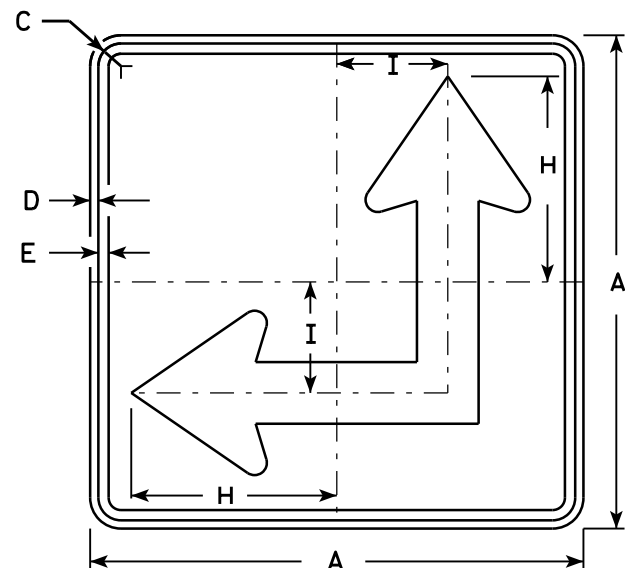
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

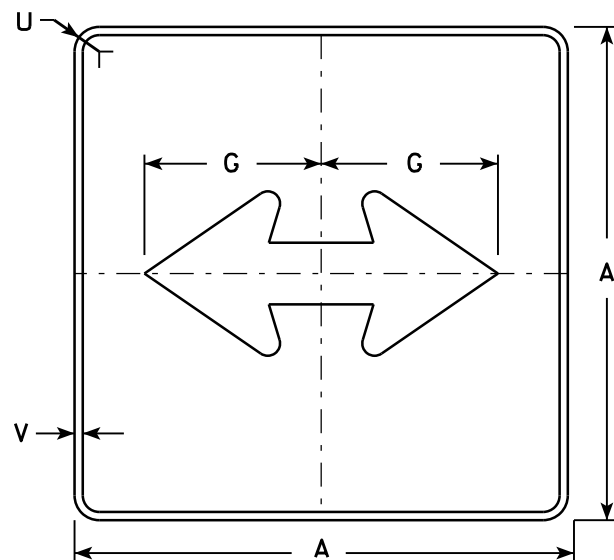
DATE 7/03/14 PLAT 174 M6-1.14



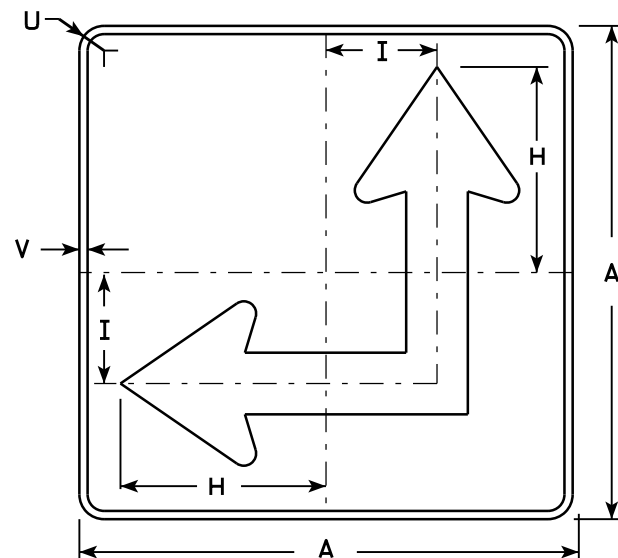
M6 - 4
MK6 - 4
MM6 - 4
MN6 - 4
MO6 - 4
MP6 - 4
MR6 - 4



M6 - 6
MK6 - 6
MM6 - 6
MN6 - 6
MO6 - 6
MP6 - 6
MR6 - 6



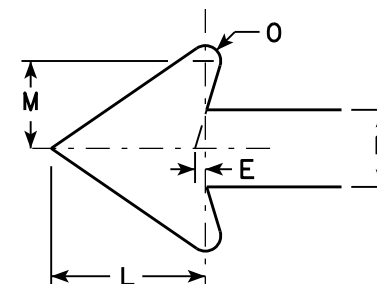
MB6 - 4



MB6 - 6

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.
- M6-4 and M6-6 Background - White
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White
MK6-4 and MK6-6 Background - Green
Message - White
MM6-4 and MM6-6 Background - White
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White
MO6-4 and MO6-6 Background - Orange - Type F Reflective
Message - Black
MP6-4 and MP6-6 Background - White
Message - Blue
MR6-4 and MR6-6 Background - Brown
Message - Yellow
- M6-6R same as M6-6L except arrow points ahead and 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 1/2	8 3/4	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	12 1/2	6 3/4			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	12 1/2	6 3/4			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	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

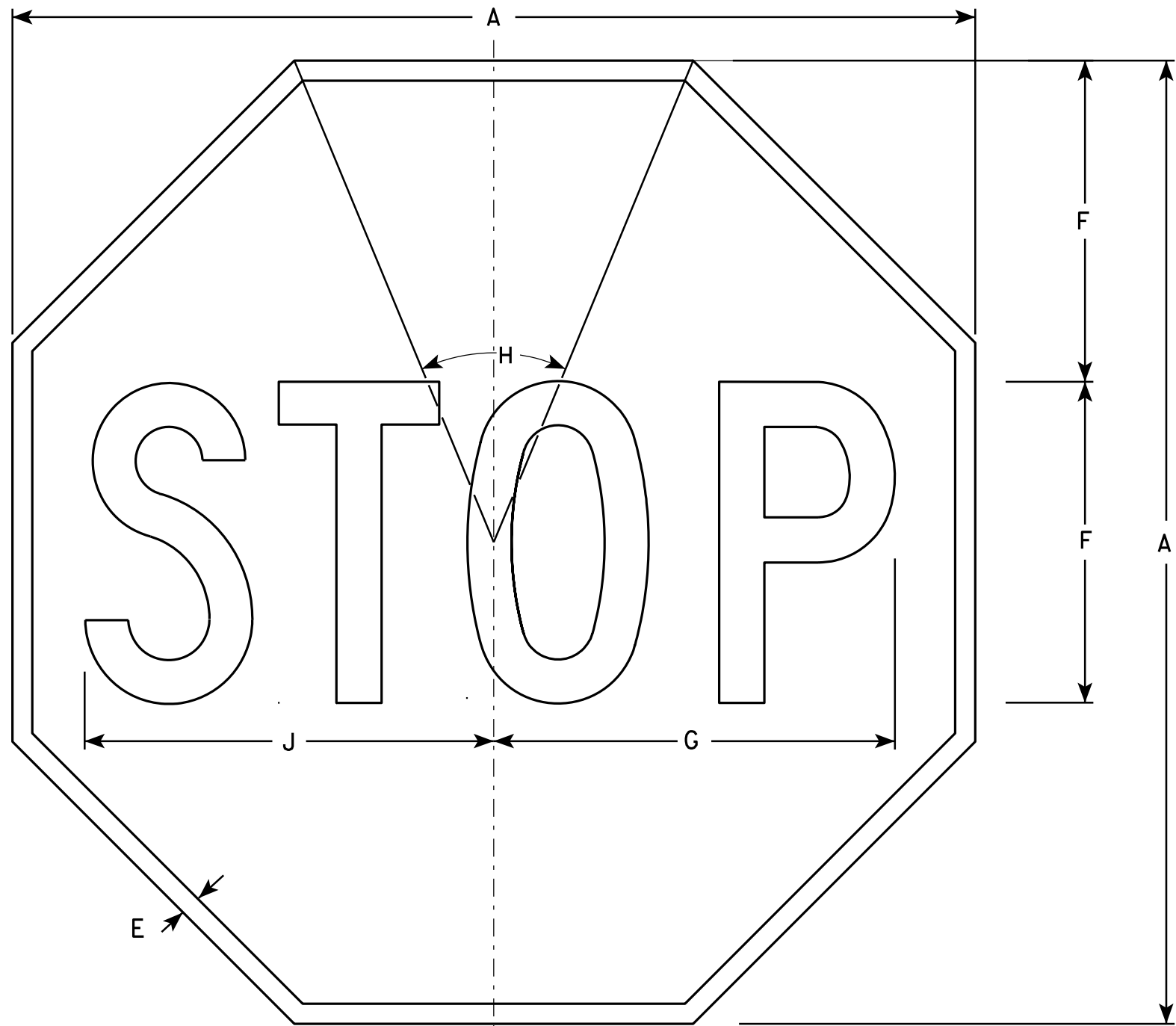
STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/03/14 PLAT 175 '16-4.9

SHEET NO: E



NOTES

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

R1-1

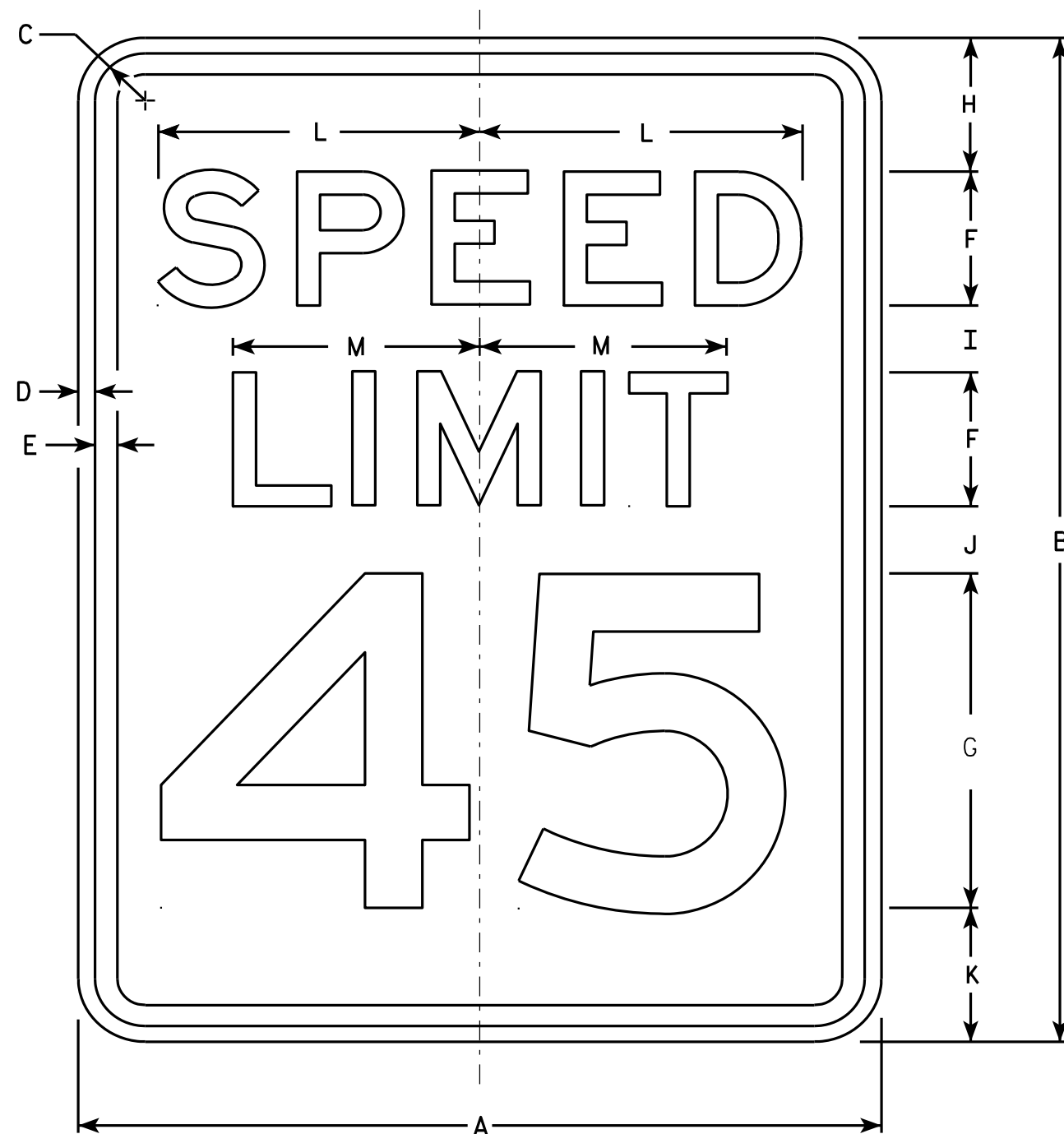
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12



R2-1

NOTES

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

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

STANDARD SIGN R2-1

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

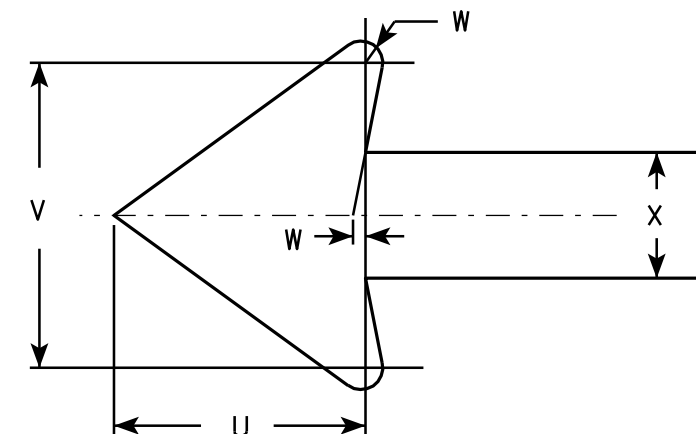
PROJECT NO: HWY: COUNTY: SHEET NO: 177 E



R7-1

NOTES

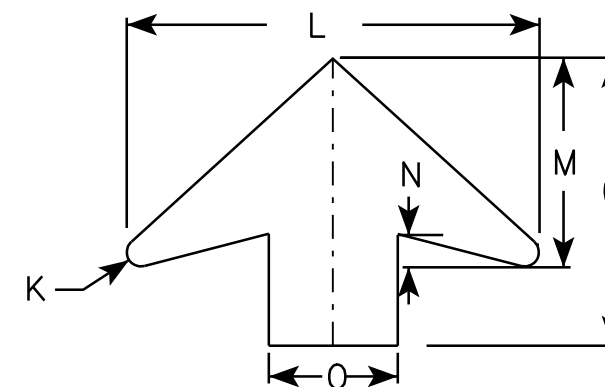
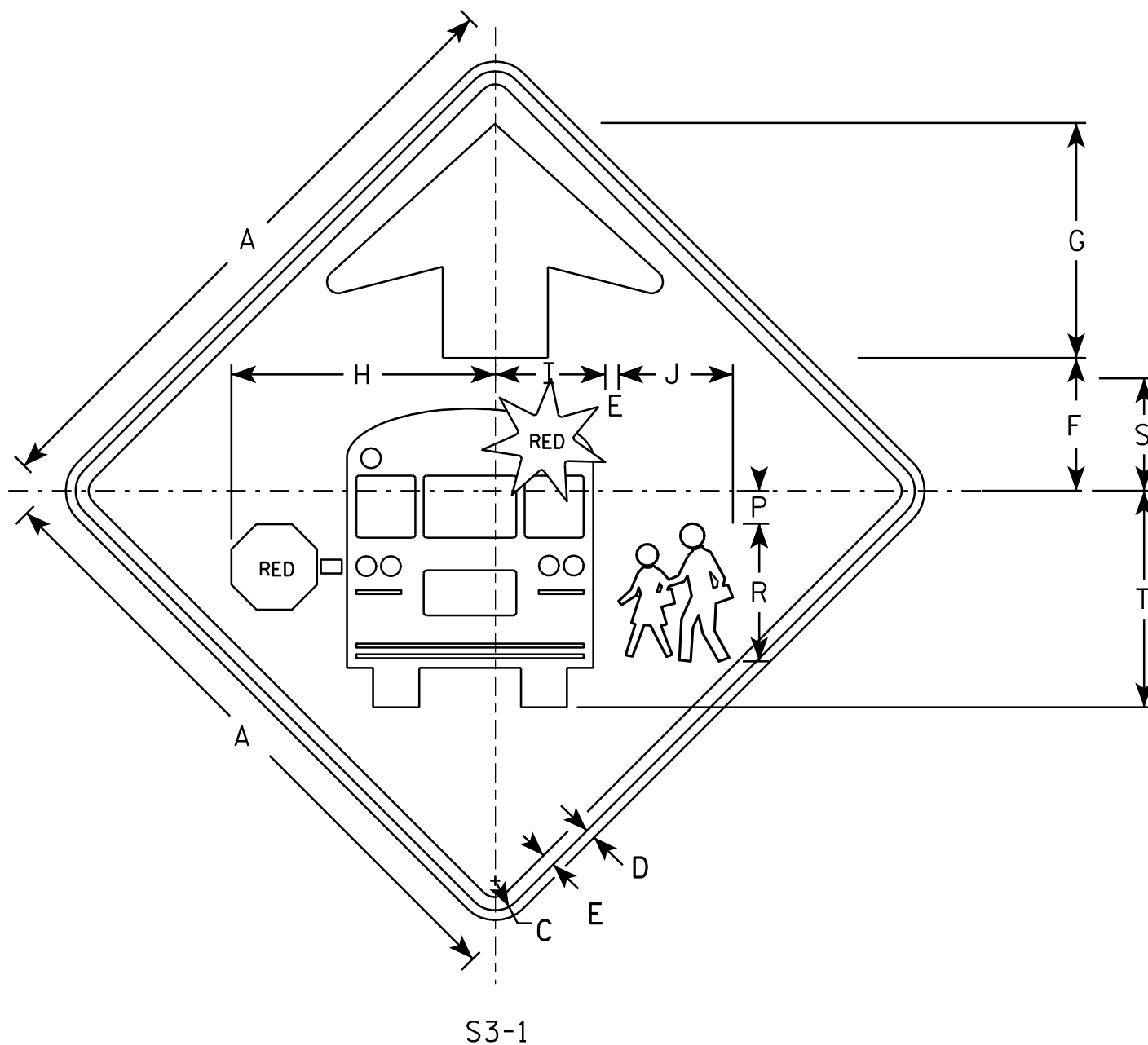
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
R7-1L (left arrow)
R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

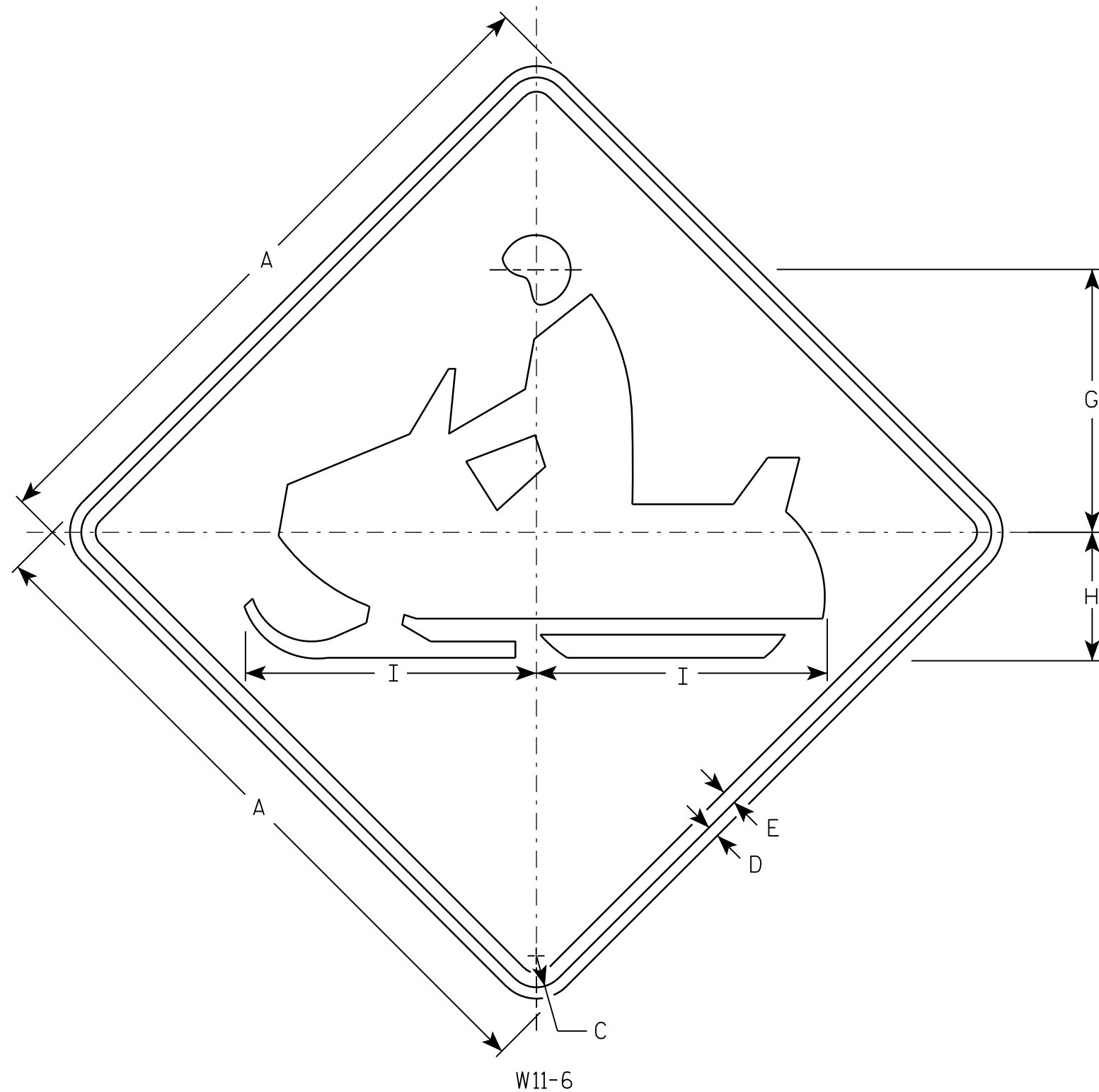
STANDARD SIGN R7-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/31/2011	PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 178	E
-------------	------	---------	---------------	---



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - YELLOW-GREEN
 - Message - BLACK except as noted
 - Circles except PEDS- RED BACKGROUND
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



NOTES

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

W11-6

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		9 1/2	4 1/2	10 1/4																		4.0
2S	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
2M	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
3	36		1 5/8	5/8	3/4		14 1/8	6 3/4	15 1/4																		9.0
4	48		2 1/4	3/4	1		19	9	20 1/2																		16.0
5																											

STANDARD SIGN W11-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W11-6.8

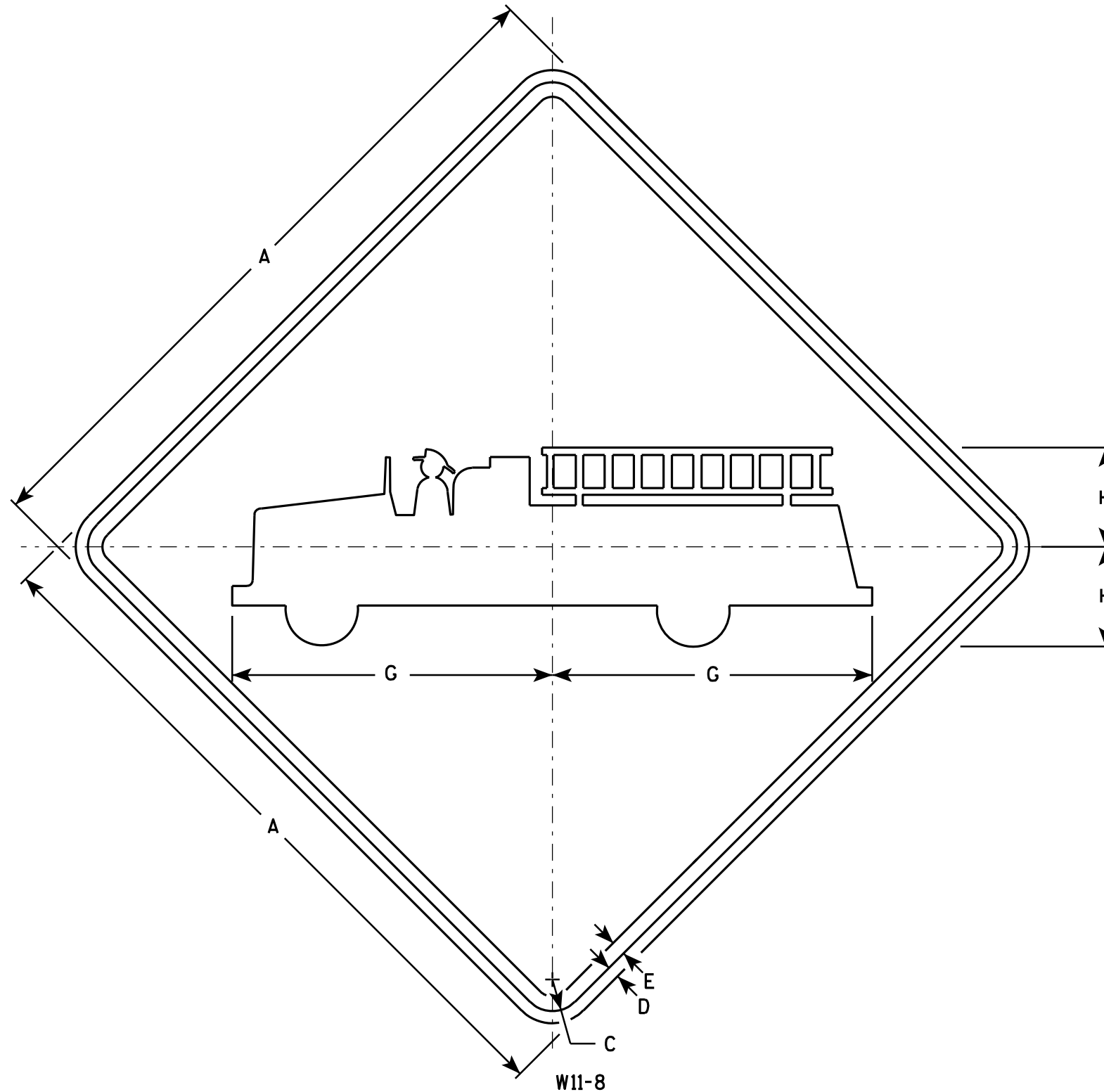
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 180

E



NOTES

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

W11-8

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	24		1 1/8	3/8	1/2		11	3 3/8																			4.0
2S	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
2M	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
3	36		1 5/8	5/8	3/4		16 1/2	5 1/4																			9.0
4	48		2 1/4	3/4	1		22	7																			16.0
5																											

STANDARD SIGN W11-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/13/13 PLATE NO. W11-8.7

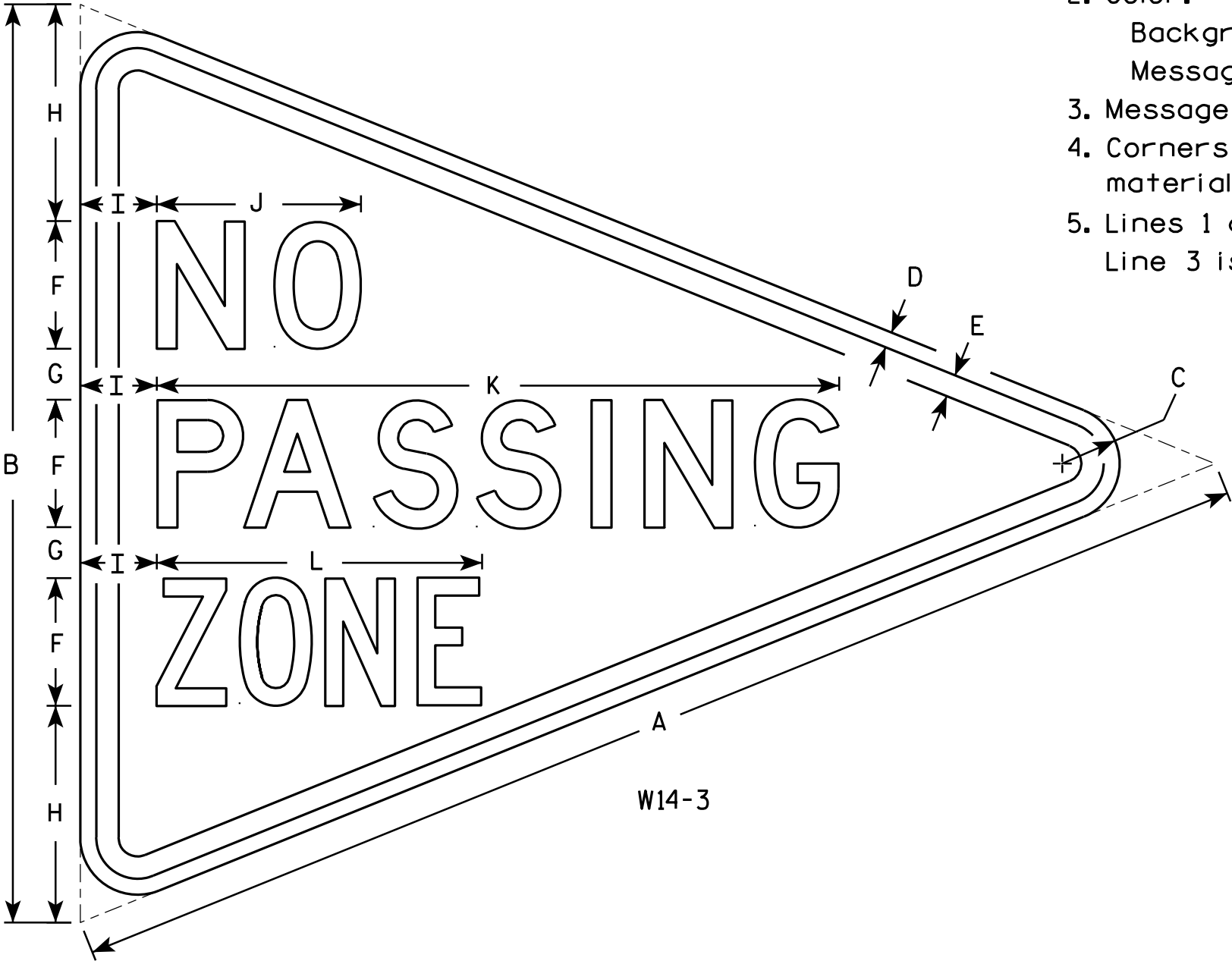
PROJECT NO:

SHEET NO: 181

E

NOTES

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



W14-3

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

STANDARD SIGN
W14-3

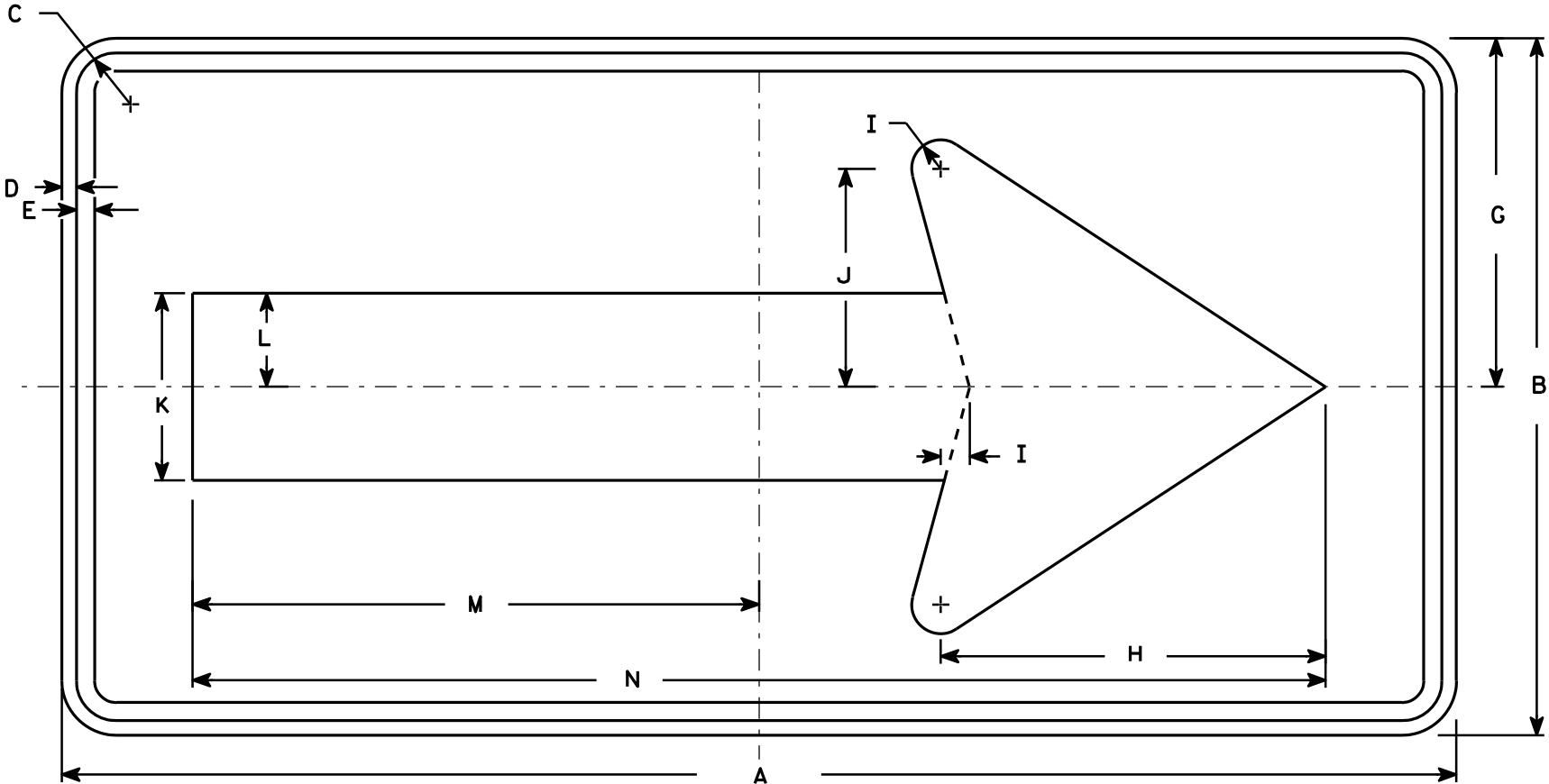
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

NOTES

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



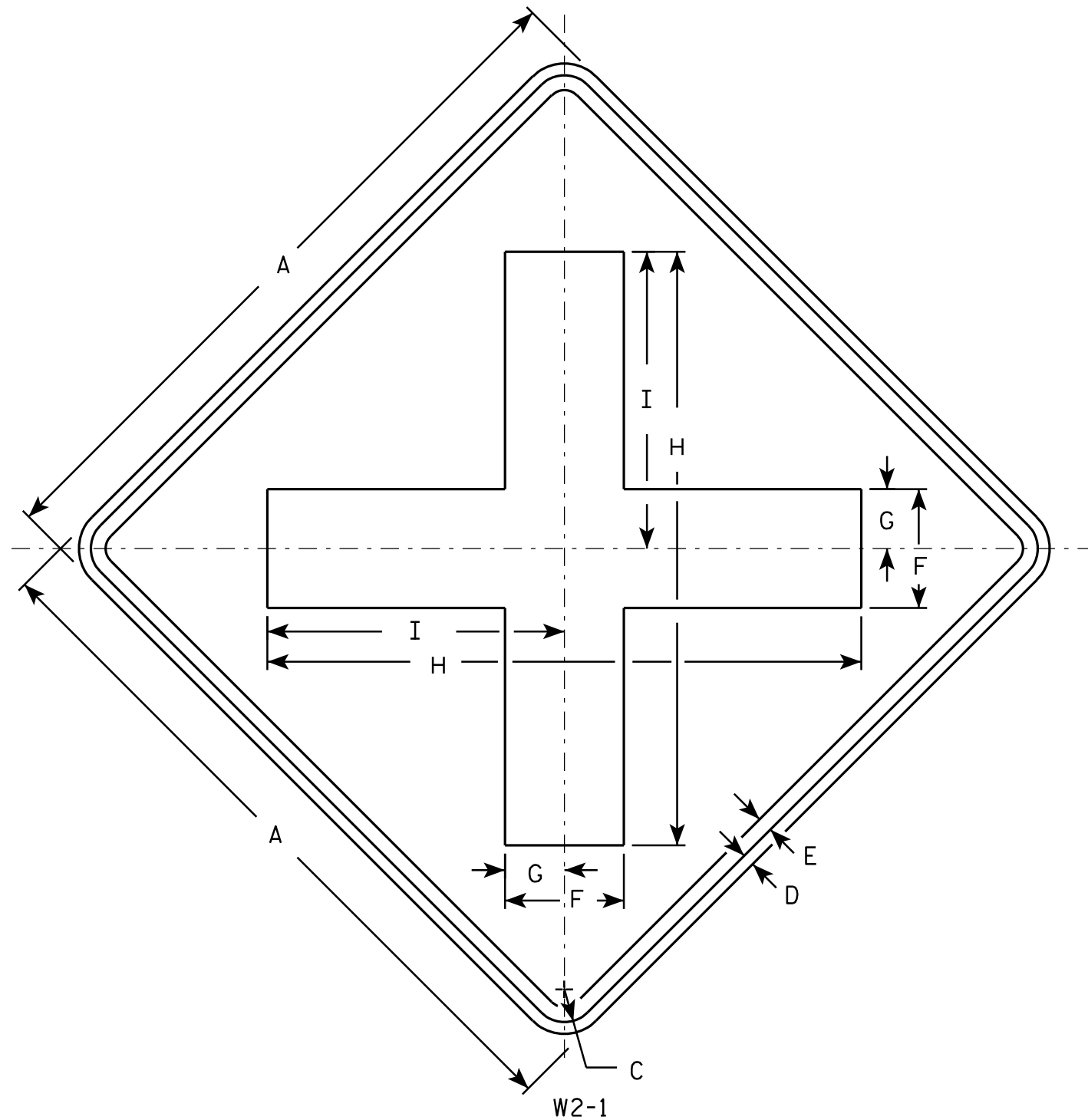
W1-6

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

STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W1-6.8



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2	20	10																		4.0
2S	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	2 1/2	25	12 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3	30	15																		9.0
4	48		2 1/4	3/4	1	8	4	40	20																		16.0
5																											

STANDARD SIGN

W2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-1.9

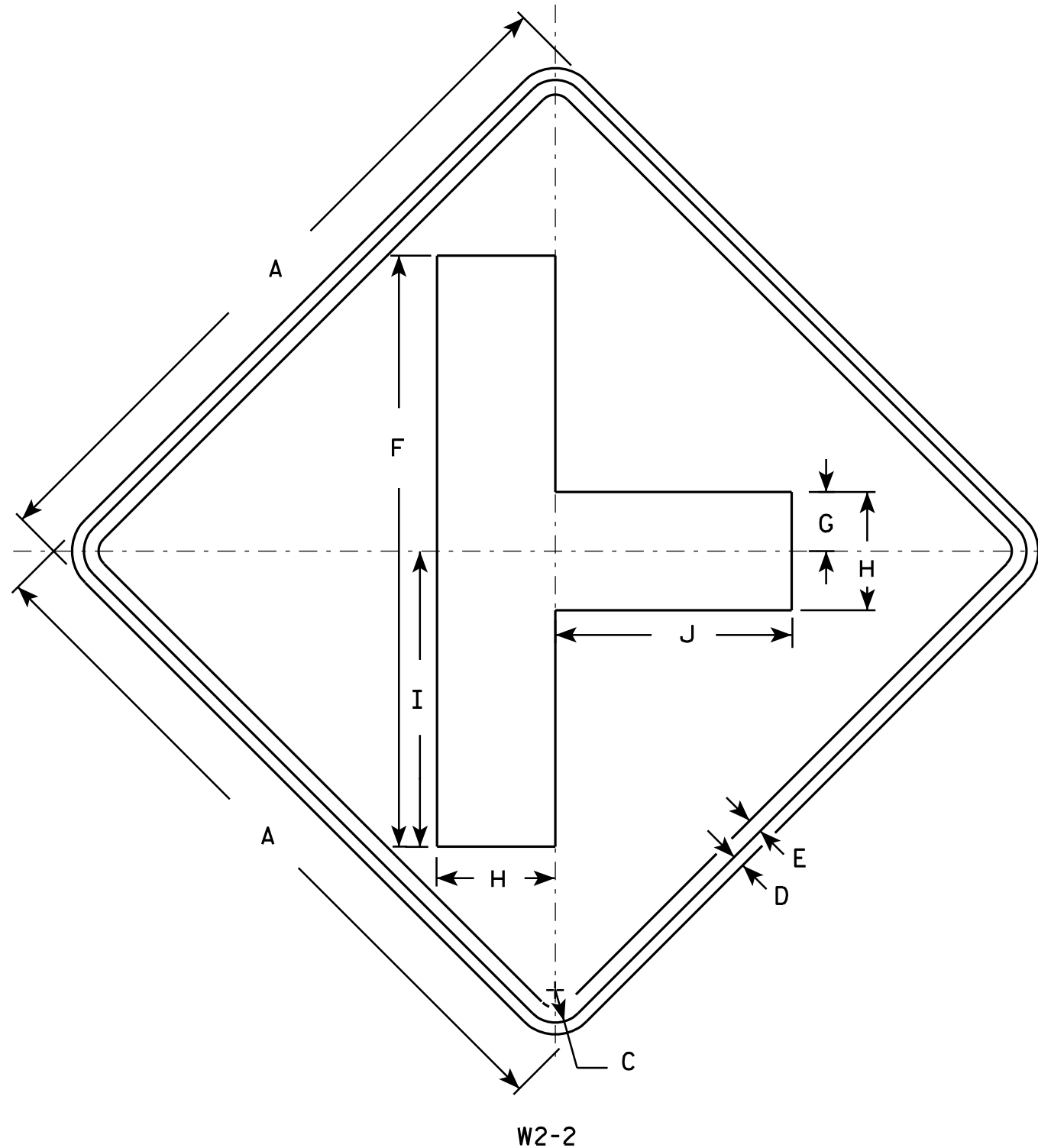
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 184

E



NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Yellow
Message - Black
- 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.

W2-2

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	20	2	4	10	8																	4.0
2S	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
2M	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
3	36		1 5/8	5/8	3/4	30	3	6	15	12																	9.0
4	48		2 1/4	3/4	1	40	4	8	20	16																	16.0
5																											

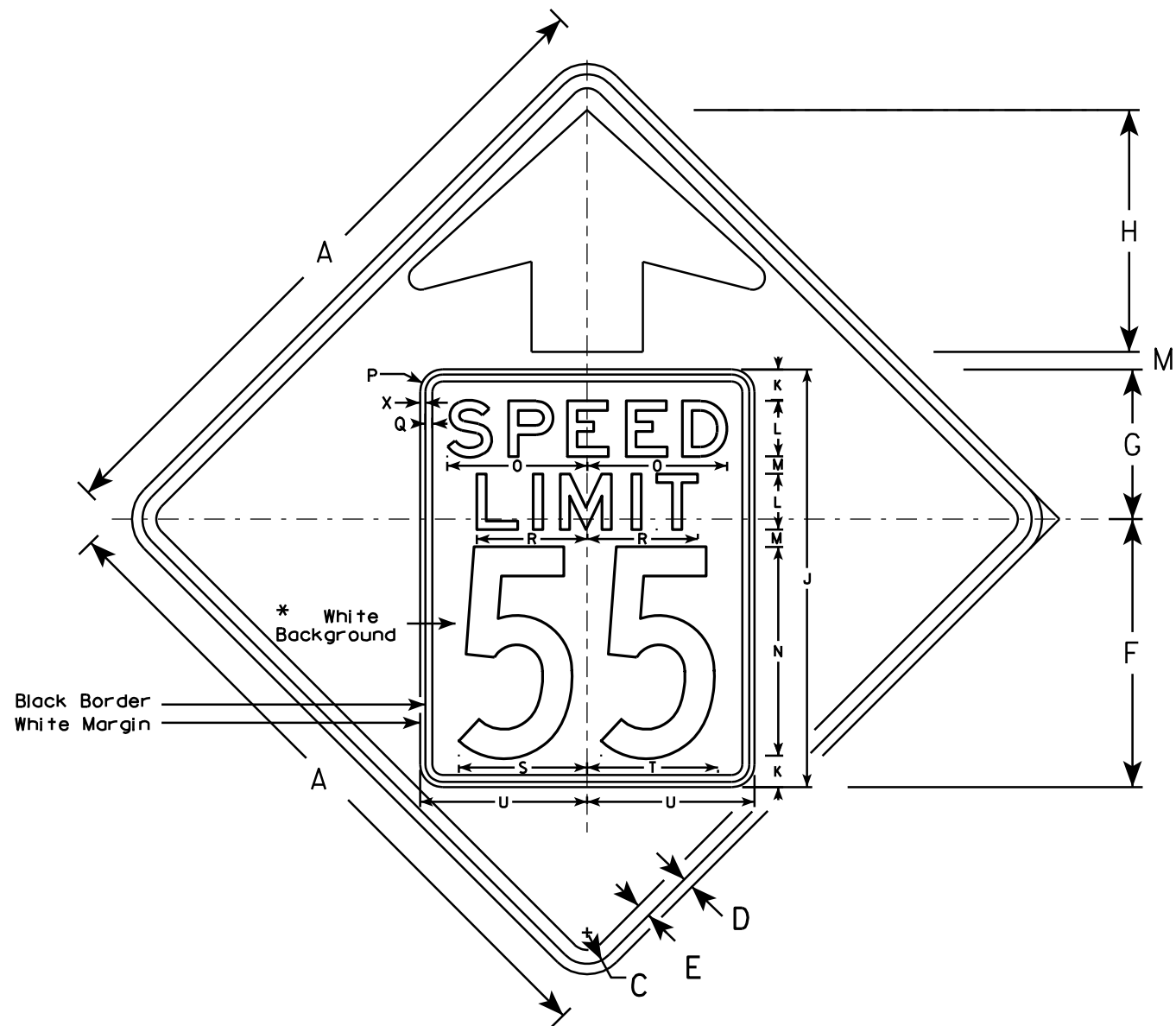
STANDARD SIGN W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-2.6

PROJECT NO: HWY: COUNTY: SHEET NO: 185 E

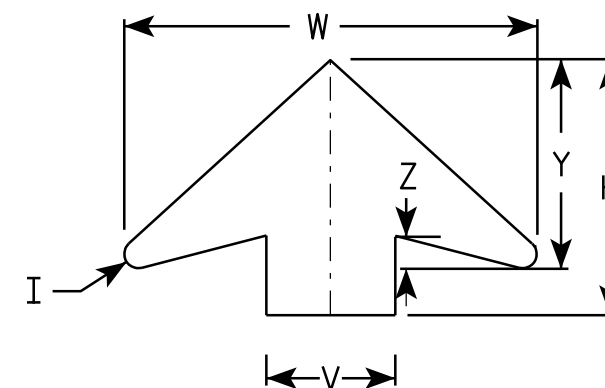


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
Background - YELLOW*
Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN

W3-5

WISCONSIN DEPT OF TRANSPORTATION

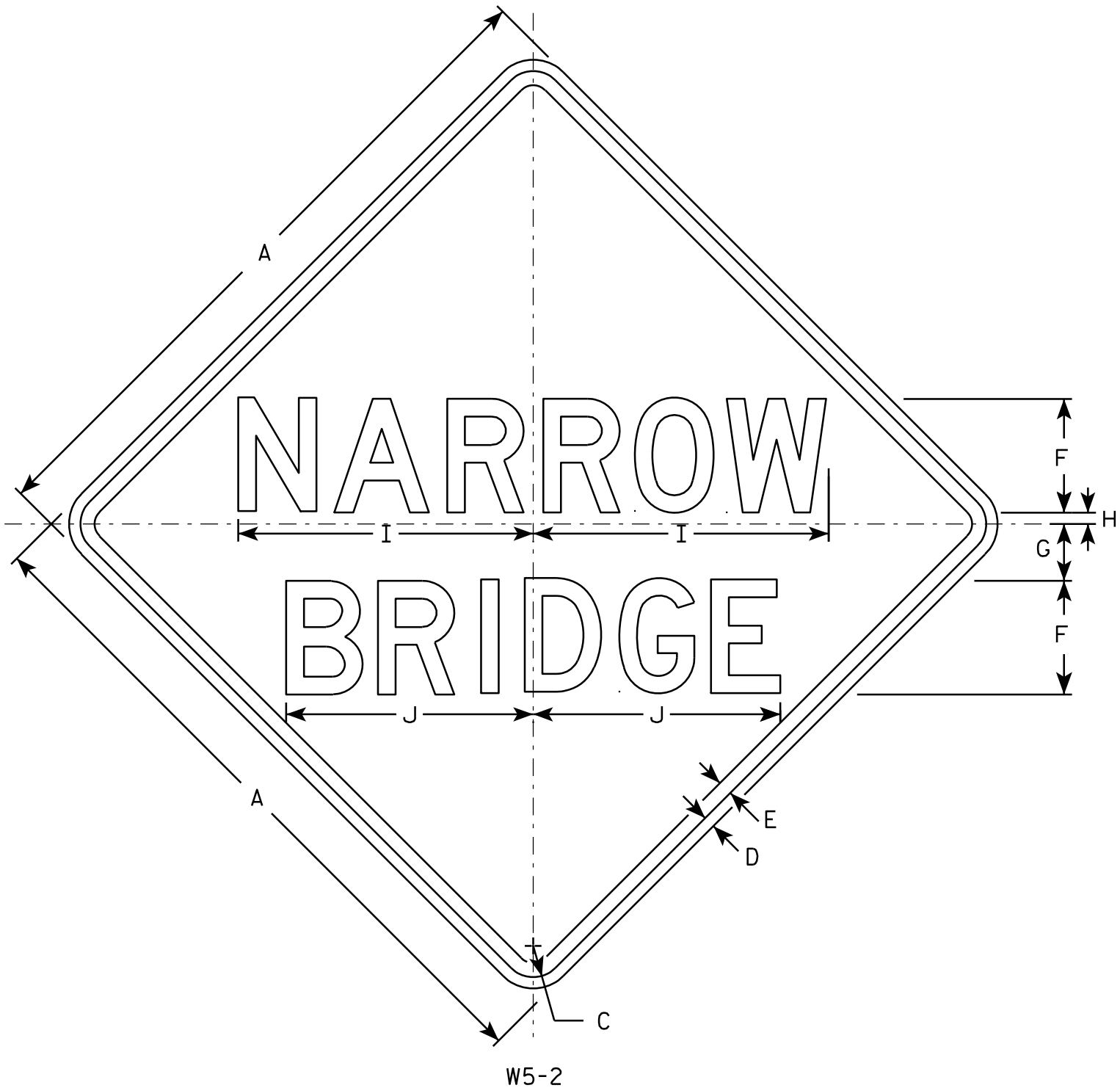
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 186

E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	2 1/2	1/2	13	10 7/8																	6.25
2S	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
2M	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
3	36		1 5/8	5/8	3/4	6	3	3/4	15 5/8	13 1/8																	9.0
4	48		2 1/4	3/4	1	8	4	3/4	20 3/4	17 3/8																	16.0
5																											

STANDARD SIGN

W5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W5-2.8

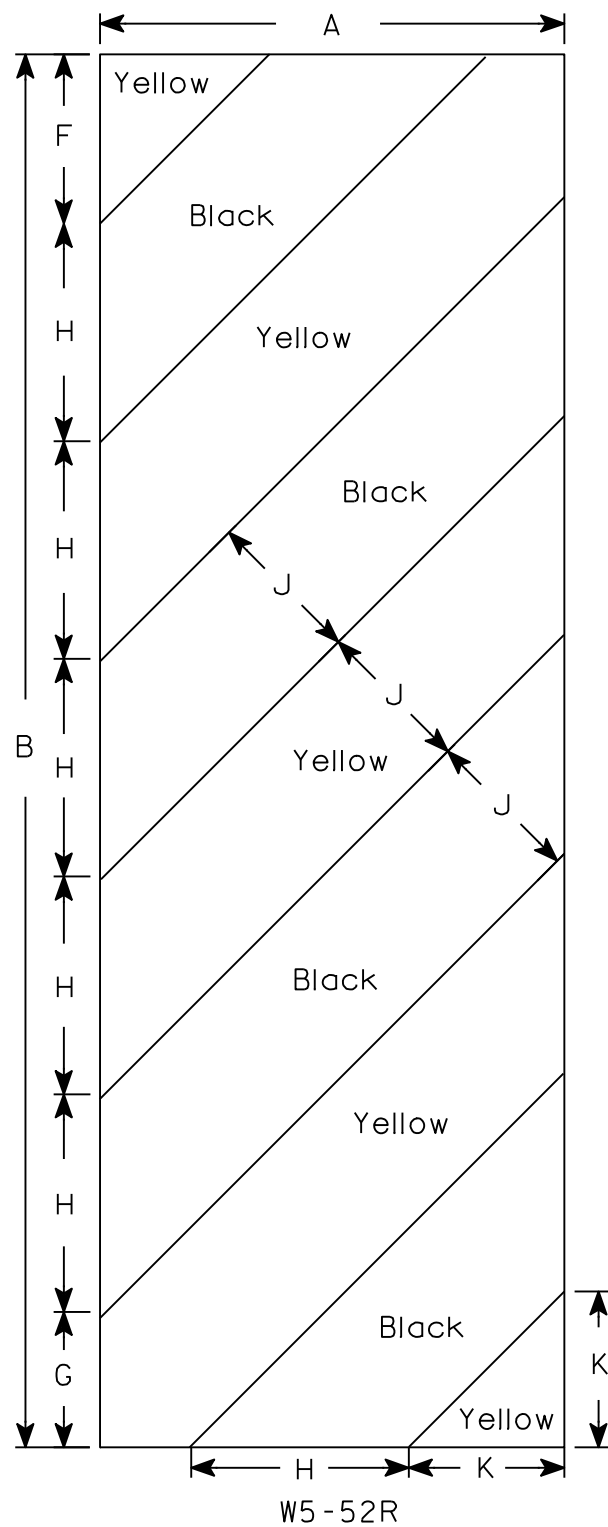
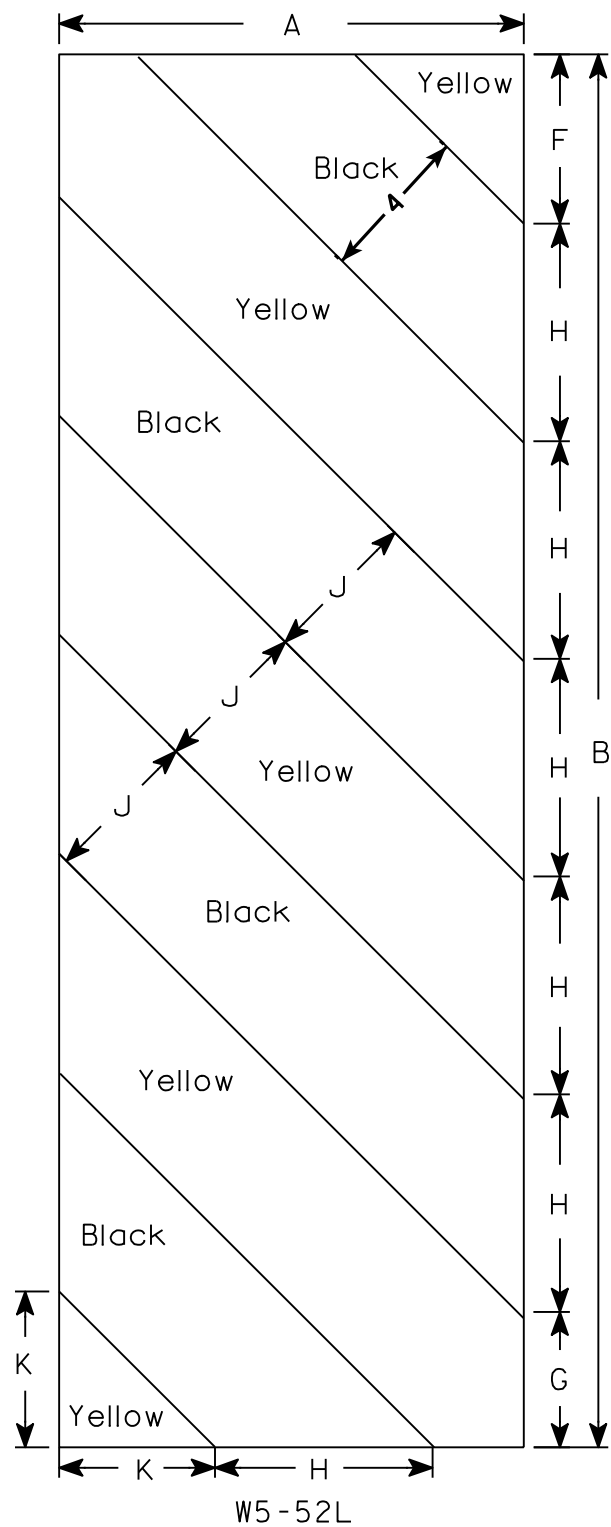
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 187

E



NOTES

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

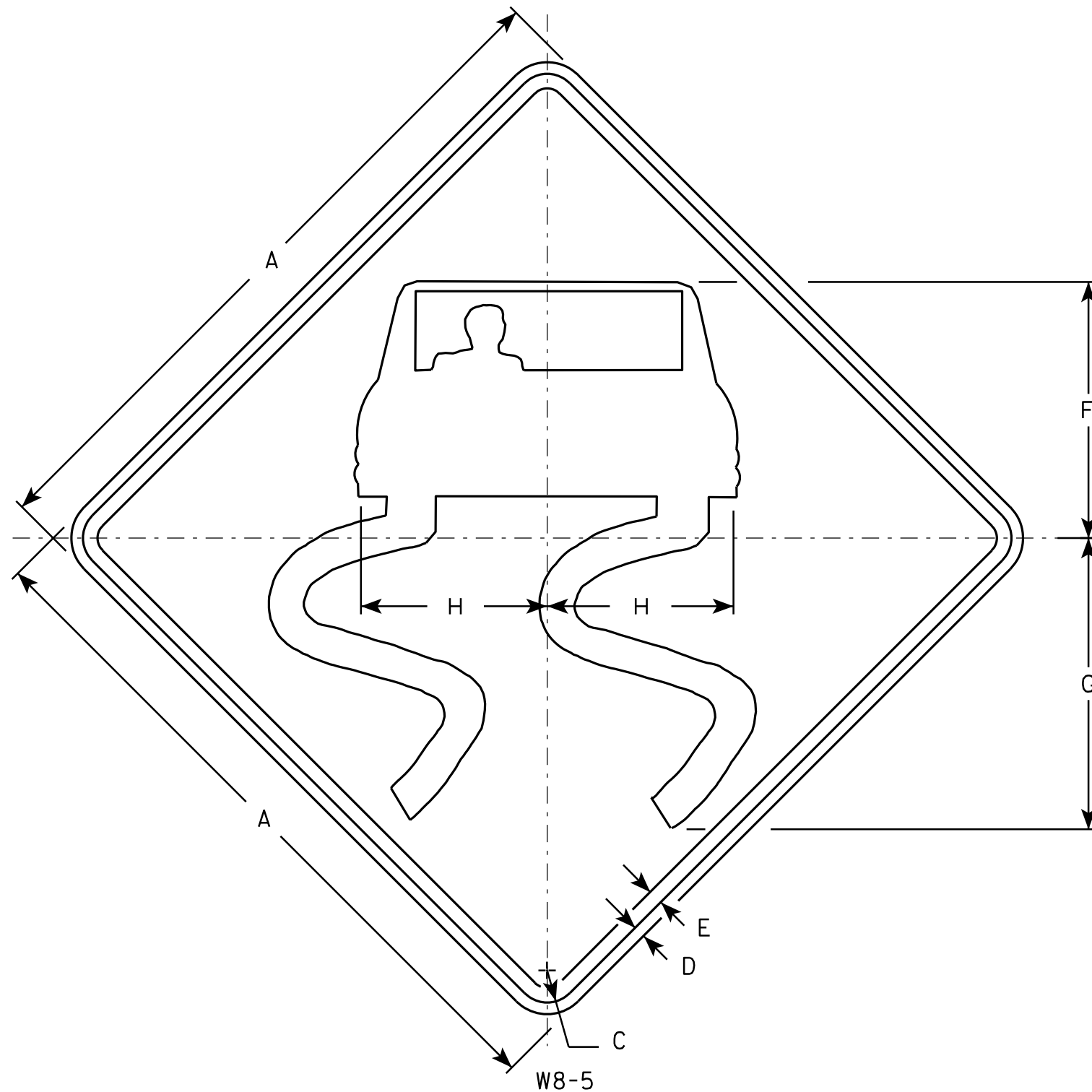
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
2M	12	36				4 3⁄8	3 1⁄2	5 5⁄8	45°	4	4																3.0
3	18	54				6	5 1⁄2	8 1⁄2	45°	6	6 5⁄16																6.75
4																											
5																											

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	8 3/4	9 7/8	6 3/8																			4.0
2S	30		1 3/8	1/2	5/8	11	12 1/2	8																			6.25
2M	36		1 5/8	5/8	3/4	13	14 7/8	9 1/2																			9.0
3	36		1 5/8	5/8	3/4	13	14 7/8	9 1/2																			9.0
4	36		1 5/8	5/8	3/4	13	14 7/8	9 1/2																			9.0
5	48		2 1/4	3/4	1	17 3/8	19 3/4	12 5/8																			16.0

STANDARD SIGN W8-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/14/13 PLATE NO. W8-5.12

PROJECT NO: HWY: COUNTY: SHEET NO: 189 E

- INDICATES PIPE NUMBER
 # INDICATES WING NUMBER
 ■ SEE CORNER DETAILS ON SHEETS 6 & 7.
 ▲ NAME PLATE. SEE DETAIL ON SHEET 7.
 ● BUILD APRON AT ENDS OF BOX LEVEL.
 * CONSTRUCTION JOINT

DESIGN DATA:

LIVE LOAD:

DESIGN LOADING: HL-93

EARTH LOAD:

THE STRUCTURE IS DESIGNED FOR AN EARTH LOAD OF 3.0 FEET.

ULTIMATE DESIGN STRESSES:

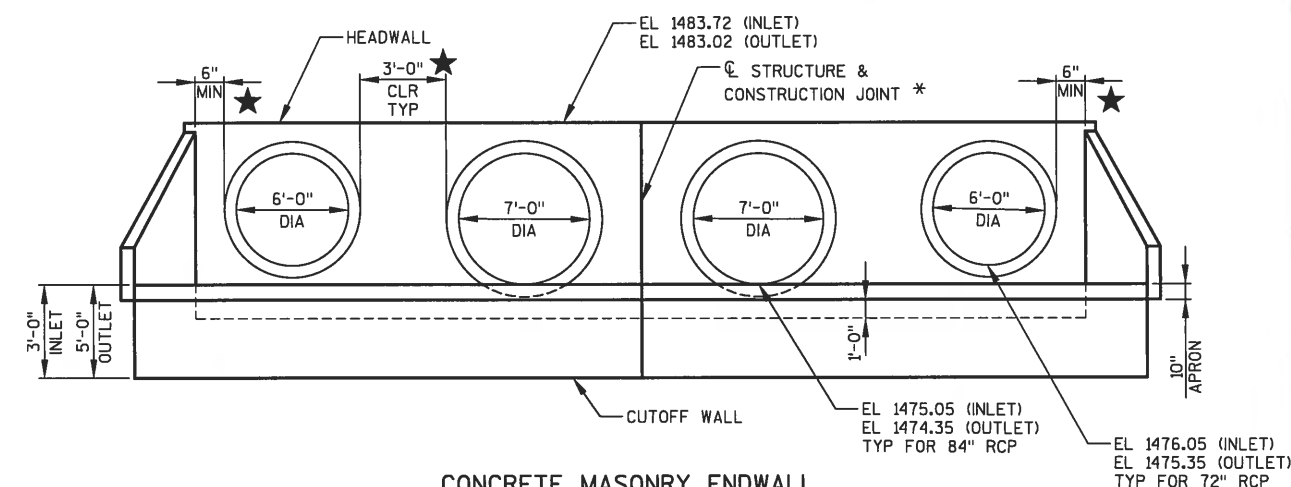
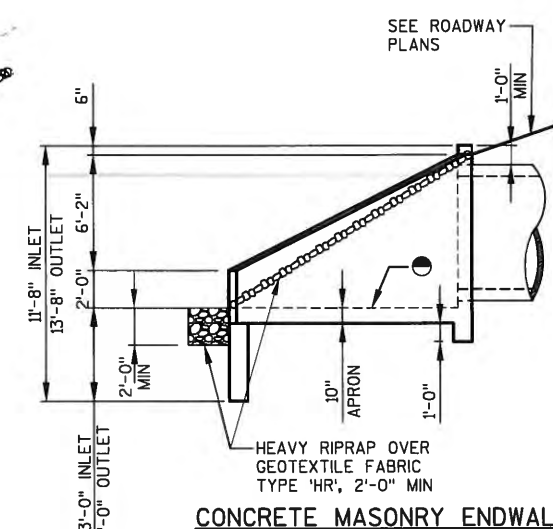
CONCRETE MASONRY $f'_c = 3,500$ psi
 HIGH STRENGTH BAR STEEL REINFORCEMENT $f_y = 60,000$ psi

TRAFFIC DATA:

ADT (2010) = 1800
 ADT (2033) = 2000
 DESIGN SPEED = 55 MPH

HYDRAULIC DATA:

100 YEAR FREQUENCY
 $Q_{100} = 580$ cfs
 STREAM VELOCITY = 5.82 f/s
 HIGH WATER EL. 1480.65
 WATERWAY AREA = 100 ft^2
 DRAINAGE AREA = 1.41 mi^2
 SCOUR CRITICAL CODE = N/A
 OVER TOPPING FREQUENCY = N/A
 2 YEAR FREQUENCY
 $Q_2 = 127$ cfs
 HIGH WATER EL. 1477.94



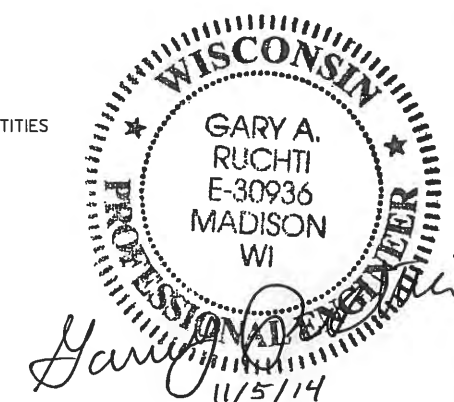
CONCRETE MASONRY ENDWALL

TYPICAL UNLESS NOTED

★ DIMENSION GIVEN PERPENDICULAR TO PIPE

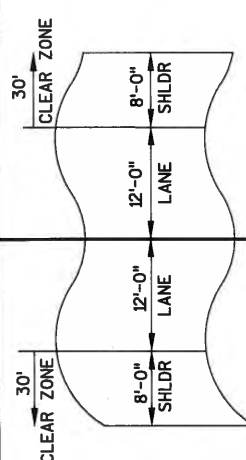
LIST OF DRAWINGS:

- 1 GENERAL PLAN
- 2 TYPICAL SECTION GENERAL NOTES & QUANTITIES
- 3 HEADWALL DETAILS
- 4 HEADWALL SECTIONS
- 5 APRON DETAILS
- 6 WING 1 & 2 DETAILS
- 7 WING 3 & 4 DETAILS
- 8 BILL OF BARS



BRIDGE OFFICE CONTACT
 WILLIAM DREHER, P.E.
 TELEPHONE: (608) 266-8489
 CONSULTANT CONTACT
 GARY RUCHTI, P.E.
 TELEPHONE: (608) 273-6380

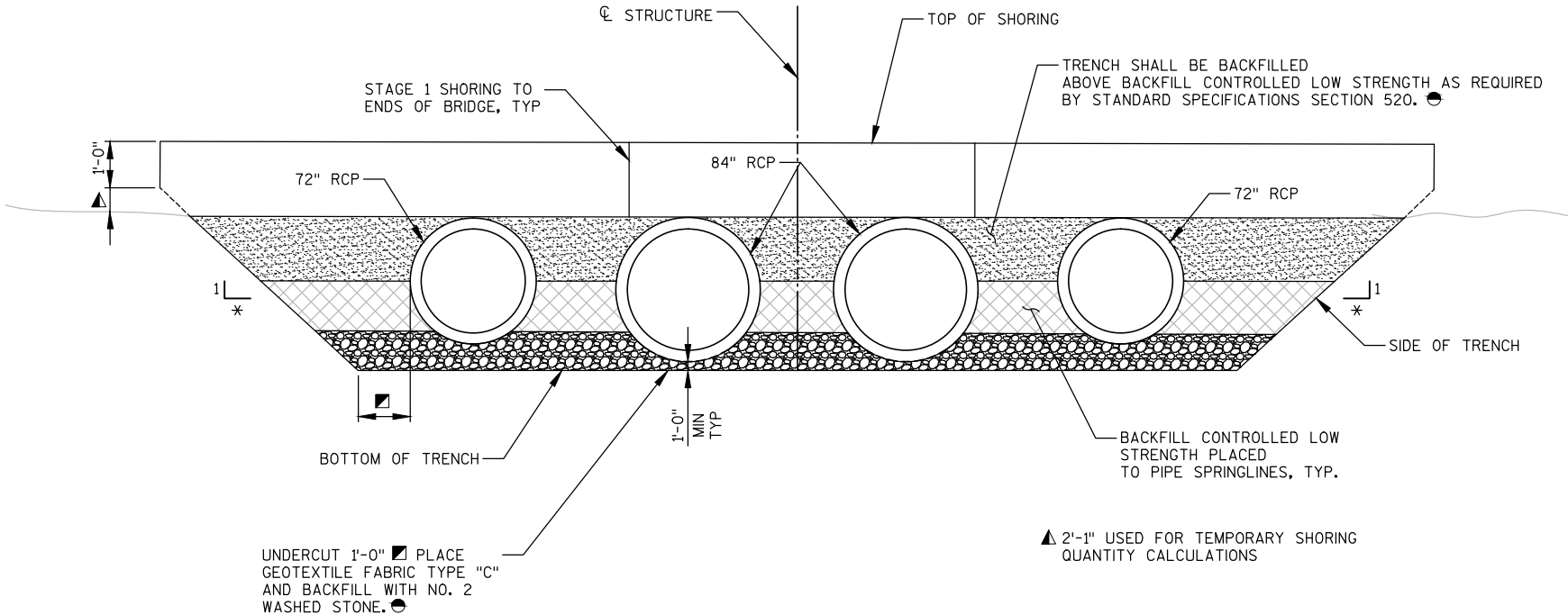
NO.	DATE	REVISION	BY
Mead & Hunt Mead & Hunt, Inc. 1345B North Road Green Bay, WI 54313 phone: 920-496-0500 meadhunt.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> KAR 11/06/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-50-83			
USH 8 OVER TRIBUTARY TO S. FORK MAIN CREEK			
COUNTY	PRICE	TOWN/CITY/VILLAGE	KENNA
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGN RCP	DRAWN BY	PLANS TAV
CK'D.	SAL	BY	CK'D. GAR
GENERAL PLAN			SHEET 1 OF 9
			190



PLAN
 (CULVERT PIPE REINFORCEMENT
 CONCRETE WITH MASONRY ENDWALL)

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- WITHIN THE LENGTH OF THE ENDWALL ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW PIPES SHALL BE BACKFILLED AS SHOWN ON THIS SHEET.
- GRANULAR BACKFILL CONFORMING TO 209.2 IS REQUIRED BEHIND ALL WINGS.
- THE EXISTING STRUCTURE TO BE REMOVED IS A SINGLE-SPAN STEEL GIRDER BRIDGE 20.3 FEET LONG BY 32.4 FEET WIDE, SUPPORTED ON CONCRETE ABUTMENTS (C-1966-47).
- THE CONCRETE IN CUT-OFF WALLS MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.
- THE ALTERNATIVE CUT OFF WALL MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUT OFF WALLS. SEE DETAIL ON SHEET 5.
- ALL STATIONS AND ELEVATIONS ARE IN FEET.
- ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD 88 (91).
- PAYMENT FOR EXCAVATION, GEOTEXTILE FABRIC TYPE 'C', NO. 2 WASHED STONE AND GRANULAR BACKFILL IS INCIDENTAL TO CULVERT PIPE BID ITEMS.
- EXCAVATION TO BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 520. 3'-0" WAS USED FOR QUANTITY CALCULATIONS OF TEMPORARY SHORING AND BACKFILL CONTROLLED LOW STRENGTH.

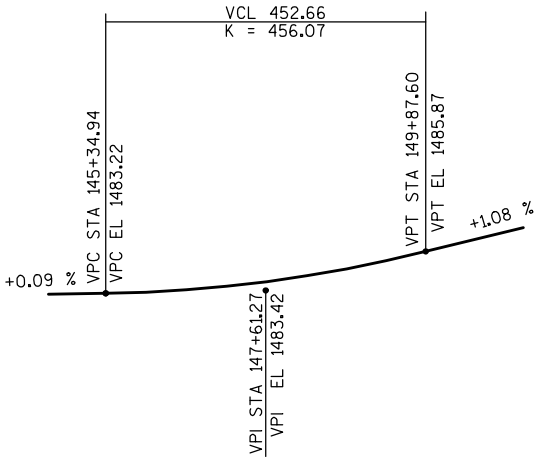


STRUCTURE BACKFILL AND SHORING DETAIL

* OSHA MINIMUM SLOPE, 1.5 TO 1 USED FOR BACKFILL CONTROLLED LOW STRENGTH AND TEMPORARY SHORING QUANTITY CALCULATIONS

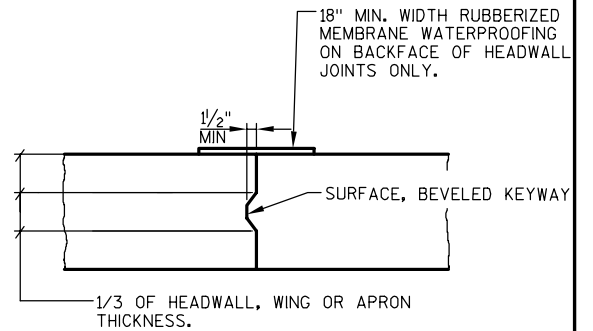
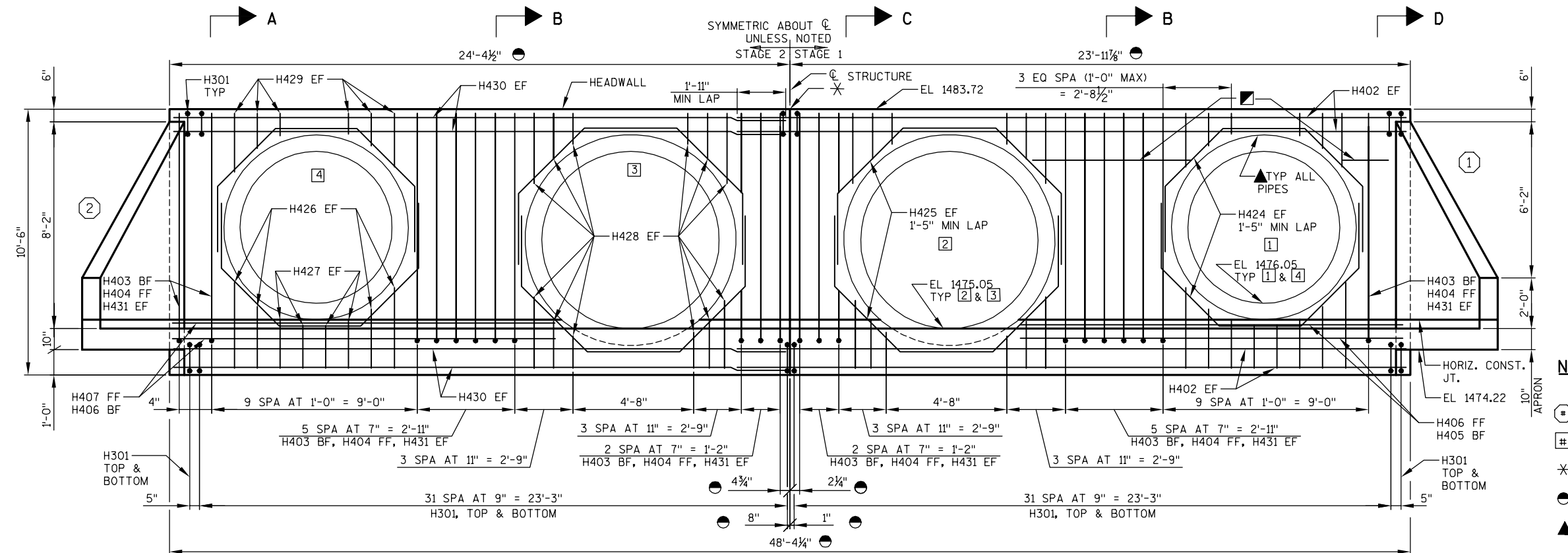
TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTALS
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 148+86	LS	1
209.0200.S	BACKFILL CONTROLLED LOW STRENGTH	CY	310
504.0900	CONCRETE MASONRY ENDWALLS	CY	102
511.1200	TEMPORARY SHORING B-50-83	SF	605
522.0172	CULVERT PIPE REINFORCED CONCRETE CLASS III 72-INCH	LF	200
522.0184	CULVERT PIPE REINFORCED CONCRETE CLASS III 84-INCH	LF	200
606.0300	RIPRAP HEAVY	CY	90
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	240
NON BID ITEMS			
	FILLER	SIZE	1/2"



PROFILE GRADE LINE - USH 8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-83			
DRAWN BY		TAV	PLANS CK'D. GAR
TYPICAL SECTION GENERAL NOTES & QUANTITIES		SHEET 2 OF 9 191	

**CONSTRUCTION JOINT ***
(HEADWALL, WINGS AND APRONS)**NOTES**

SEE SHEET 4 FOR SECTIONS THROUGH HEADWALL

① INDICATES WING NUMBER

INDICATES PIPE NUMBER

* OPTIONAL CONSTRUCTION JOINT

● DIMENSION IS ALONG BF OF HEADWALL.

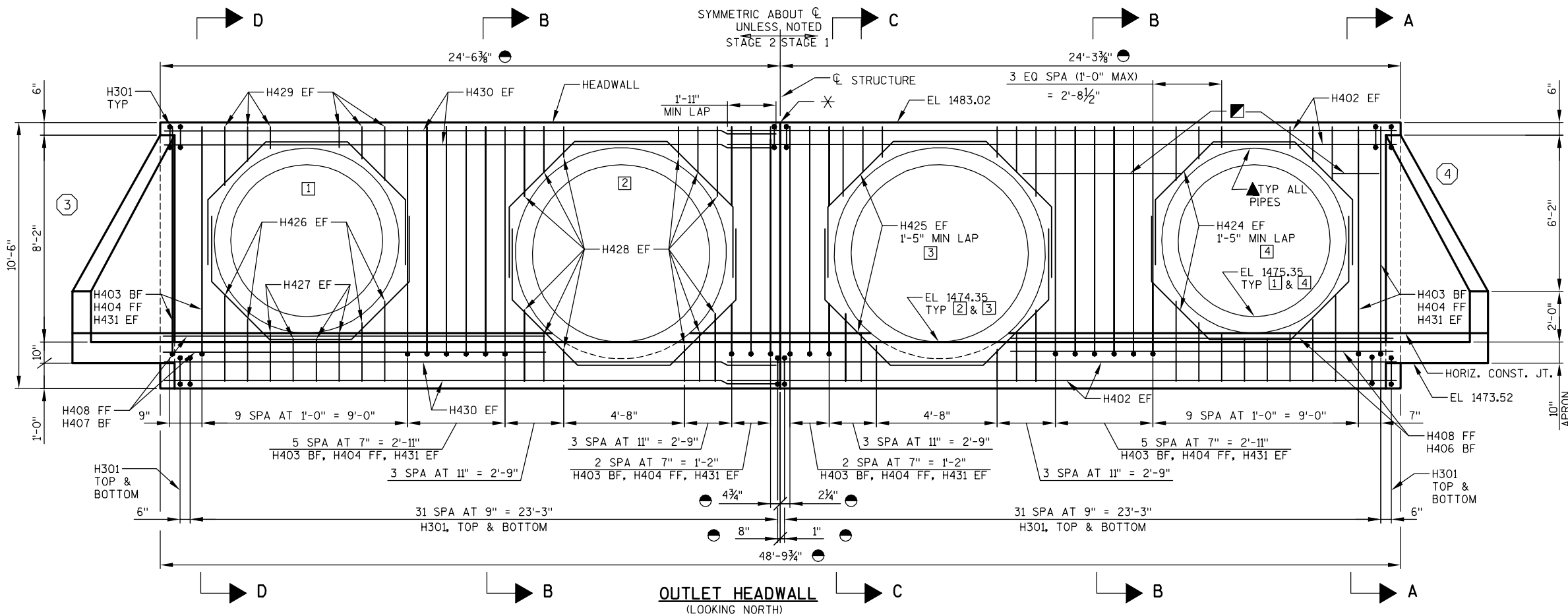
▲ 1/2" FILLER BETWEEN HEADWALL AND PIPES. SEAL ON BF WITH RUBBERIZED MEMBRANE WATERPROOFING. COST IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY ENDWALLS".

■ HORIZONTAL BARS BETWEEN PIPES AND AT ENDS OF HEADWALL NOT SHOWN. SEE HEADWALL SECTIONS ON SHEET 4.

FF - FRONT FACE

BF - BACK FACE

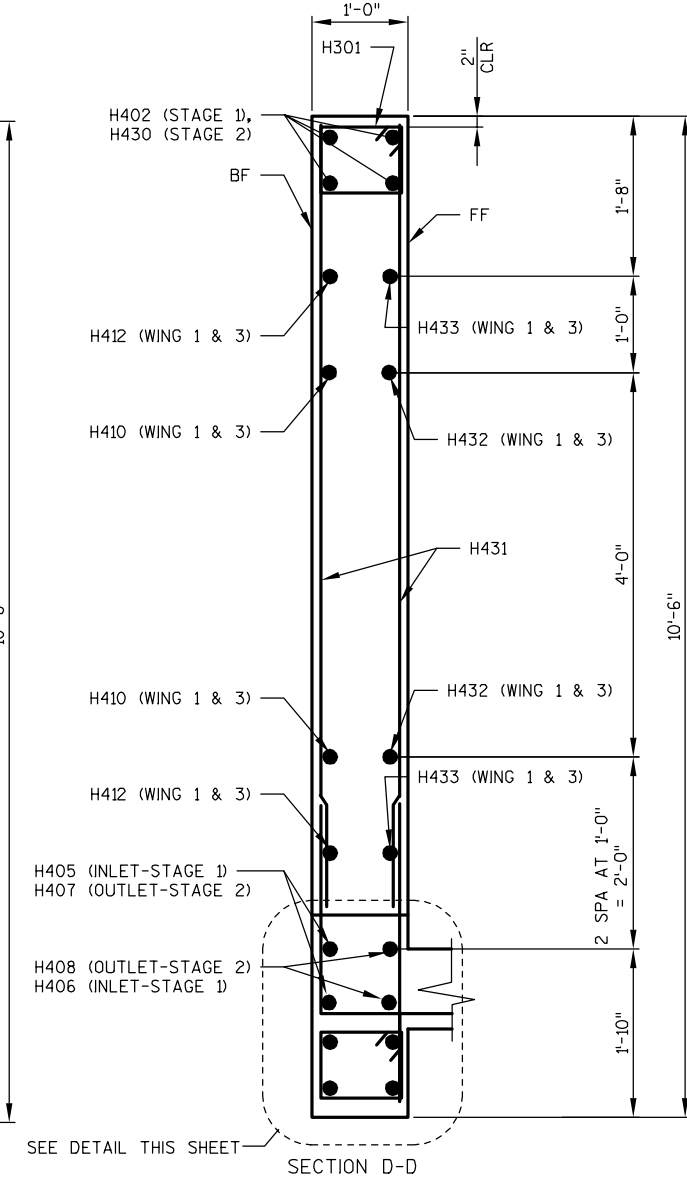
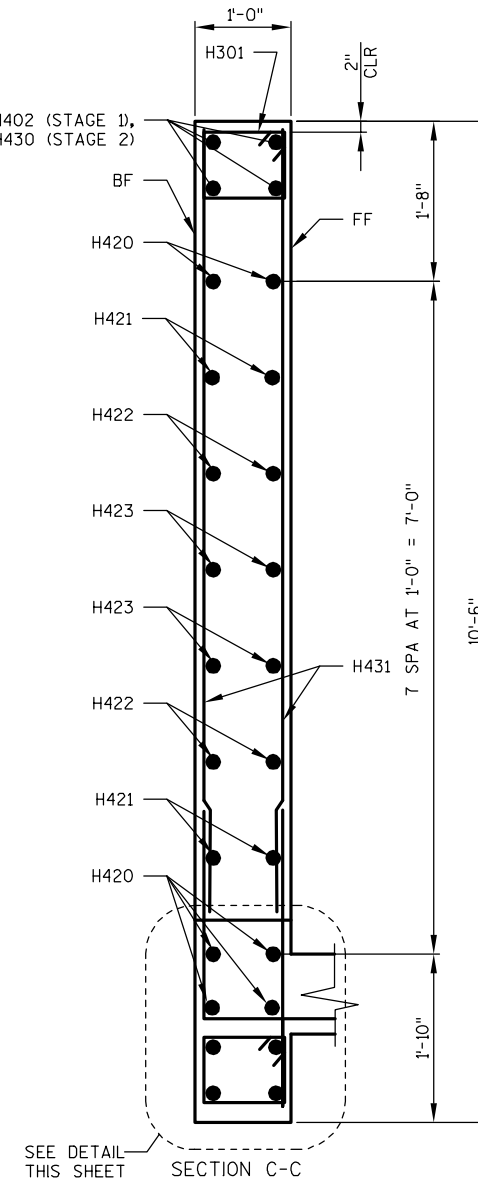
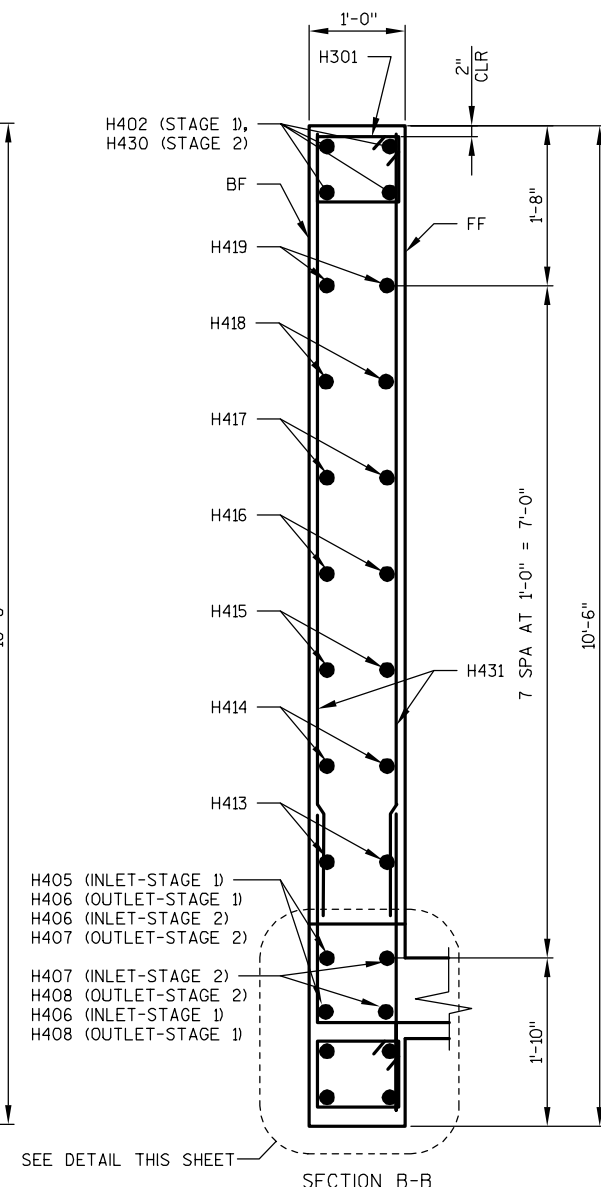
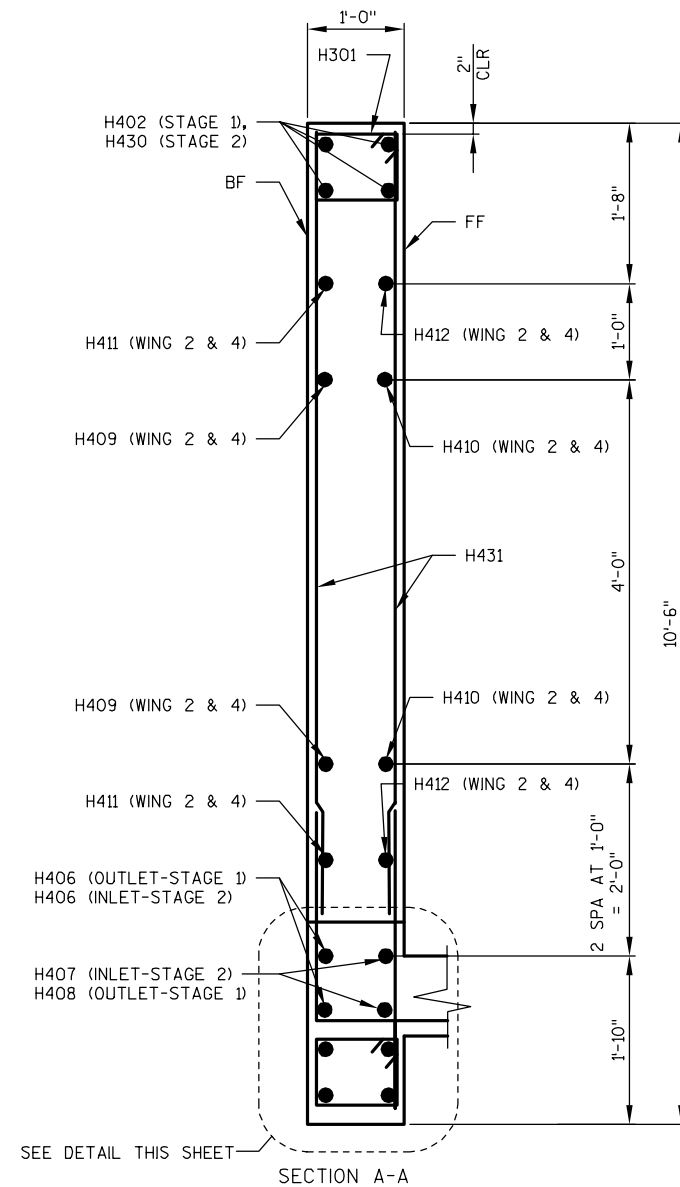
EF - EACH FACE



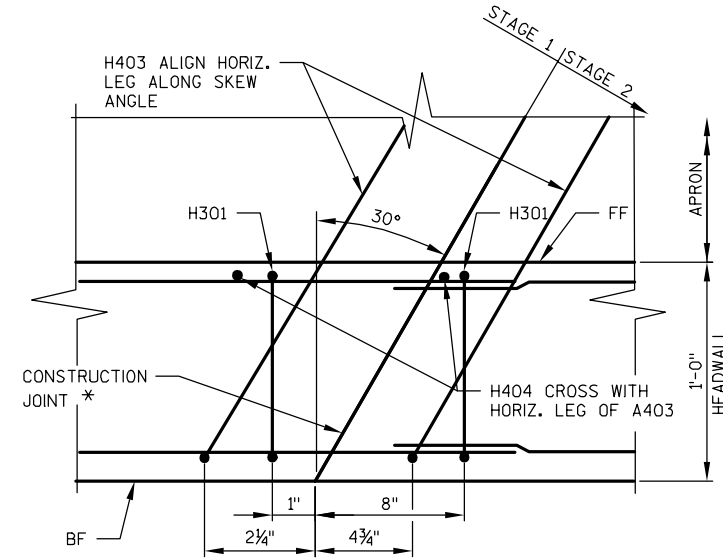
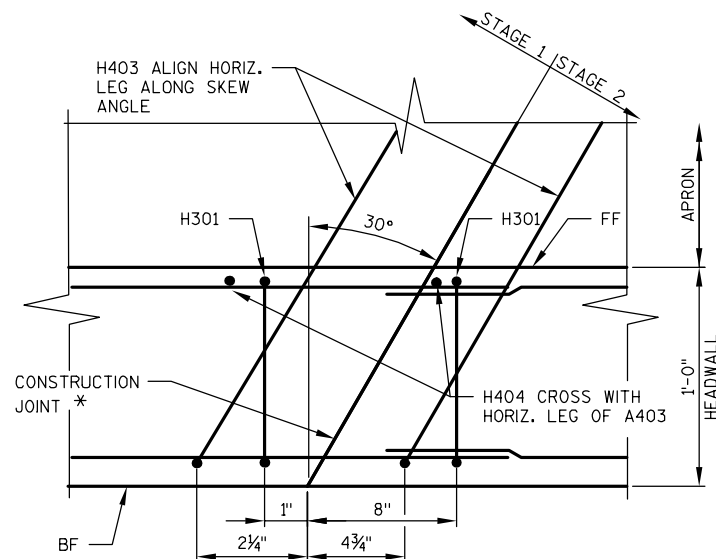
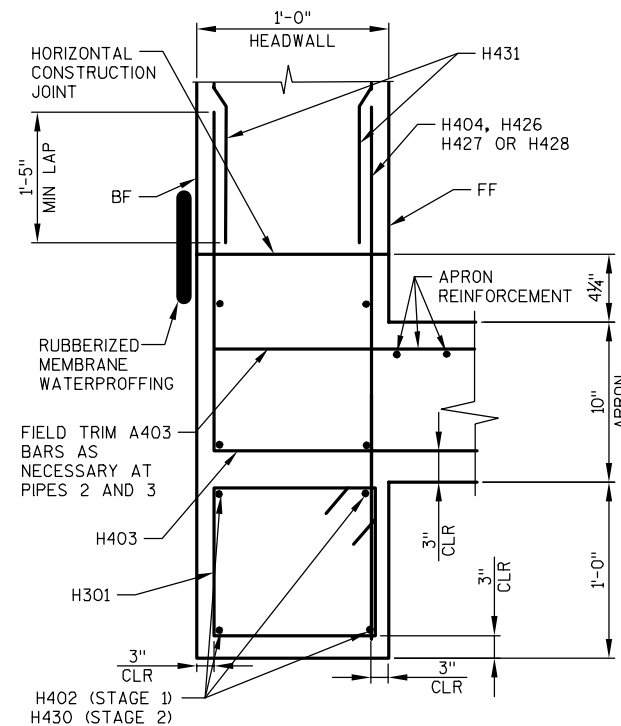
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-83			
DRAWN BY		TAV	PLANS CK'D. GAR
HEADWALL DETAILS		SHEET 3 OF 9 192	

NOTES

* CONSTRUCTION JOINT. SEE DETAIL ON SHEET 3.

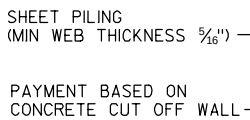
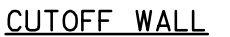
FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE

SECTIONS THRU HEADWALL



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-83			
DRAWN BY		TAV	PLANS CK'D. GAR
HEADWALL SECTIONS		SHEET 4 OF 9 193	

FF - FRONT FACE
BF - BACK FACE



ALTERNATE CUTOFF WALL

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-50-83					
		DRAWN BY	TAV	PLANS CK'D.	GAR
APRON DETAILS			SHEET 5 OF 9		
			194		



Diagram illustrating the reinforcement layout for Wing 1, showing a cross-section of a structure with various reinforcement bars and dimensions.

Dimensions:

- Overall width: 24'-0"
- Overall height: 9'-0"
- Top of pipe: 6"
- Level: 6"
- 7 SPA AT 1'-0" = 7'-0"
- 1'-5"
- 1'-0"
- 21 SPA AT 1'-0" = 21'-0"
- 1'-0"
- 1'-0"
- 3"

Reinforcement Details:

- W405 EF (Elevated Footing)
- 2-W503
- W401 FF TYP (Footing)
- A411 FF TYP (Footing)
- A411 (Footing)
- A517 BF (Bottom Footing)
- W404 EF (Elevated Footing)
- A416 BF (Bottom Footing)
- W402 FF LAP WITH A411 (Footing)
- HORIZ. CONST. JT. (Horizontal Construction Joint)
- A415
- 2-A414
- A405
- CUT OFF WALL
- APRON 2'-10"
- 10" APRON
- 1'-5"
- 1'-0"
- 1'-0"
- 3"

Notes:

- 7 SPA AT 1'-0" = 7'-0"
- 21 SPA AT 1'-0" = 21'-0"
- W401 FF (LAP WITH A411)

REINFORCEMENT WING 1

NOTES:

★ SEE SHEET 5 FOR APRON BAR SPACINGS

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY HEADWALLS".

▲ FIELD TRIM AS NECESSARY TO MAINTAIN 2" MINIMUM COVER

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

Diagram illustrating the structure and dimensions of a wing wall and wing 1. The diagram shows a cross-section of a wing wall and wing 1, with dimensions and labels indicating the structure and materials.

- Dimensions:**
 - W503 AT TOP
 - W404 AT BOTTOM
 - W405 IN TAPER
 - HEADWALL
 - WING 1
 - OUTSIDE WALL OF PIPE 4
 - 9'-0"
 - 1'-0"
- Labels:**
 - W503 AT TOP
 - W404 AT BOTTOM
 - W405 IN TAPER
 - HEADWALL
 - WING 1
 - OUTSIDE WALL OF PIPE 4

9"

W508 AT TOP
W409 AT BOTTOM
W410 IN TAPER

WING 2

HEADWALL

1' 0"

OUTSIDE WALL OF PIPE

1

9'-0" MAX

7 SPA AT 1'-0" = 7'-0"

7"

EF

BF

FF

W503 (WING 1)
W508 (WING 2)

W405 (WING 1)
W410 (WING 2)

A409, A510 (WING 1)
A416, A517 (WING 2)

W401, W402 (WING 1)
W406, W407 (WING 2)

W404 (WING 1)
W409 (WING 2)

1'-5" MIN LAP

1" FILLET, TYP

EL 1475.05 (LEVEL)

APRON REINFORCEMENT

HORIZ. CONST. JT.

A411

A414 (WING 1)
A407 (WING 2)

A415 (WING 1)
A408 (WING 2)

5'-2" LEG A416 (WING 1), A409 (WING 2)
6'-9" LEG A517 (WING 1), A510 (WING 2)

10" APRON SLAB

3" CLR

4 1/4"

9"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-83			
	DRAWN BY	TAV	PLANS CK'D. GAR
WING 1 & 2 DETAILS		SHEET 6 OF 9 195	

Technical drawing of Reinforcement Wing 3, showing a cross-section of a bridge deck with various reinforcement bars and dimensions.

Dimensions:

- Overall width: $20'-1\frac{1}{2}"$
- Overall height: $9'-0"$
- Top of pipe: $6"$
- Level: $6"$
- 7 SPA AT $1'-0" = 7'-0"$
- 1'-5"
- 1'-0"
- 3"
- 18 SPA AT $1'-0" = 18'-0"$
- W411 FF (LAP WITH A411)
- 1'-0"
- 3"

Reinforcement Bars:

- W415 EF
- 2-W513
- W411 FF TYP
- A411 FF TYP
- A411
- A532 BF
- W414 EF
- A431 BF
- A430
- 2-A429
- A421
- CUT OFF WALL

Other Labels:

- TOP OF PIPE
- 6" LEVEL
- 7 SPA AT $1'-0" = 7'-0"$
- W412 FF LAP WITH A411
- HORIZ CONST. JT
- 1'-5"
- 1'-0"
- 3"
- 18 SPA AT $1'-0" = 18'-0"$
- W411 FF (LAP WITH A411)
- 1'-0"
- 3"
- REINFORCEMENT WING 3

NOTES:

★ SEE SHEET 5 FOR APRON BAR SPACINGS

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY HEADWALLS".

▲ FIELD TRIM AS NECESSARY TO MAINTAIN 2" MINIMUM COVER

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

W513 AT TOP
W414 AT BOTTOM
W415 IN TAPER
HEADWALL
1'-0"
9%
WING CURB
OUTSIDE WALL OF PIPE
1

NAME PLATE FOR LOCATION SEE SHEET 1.

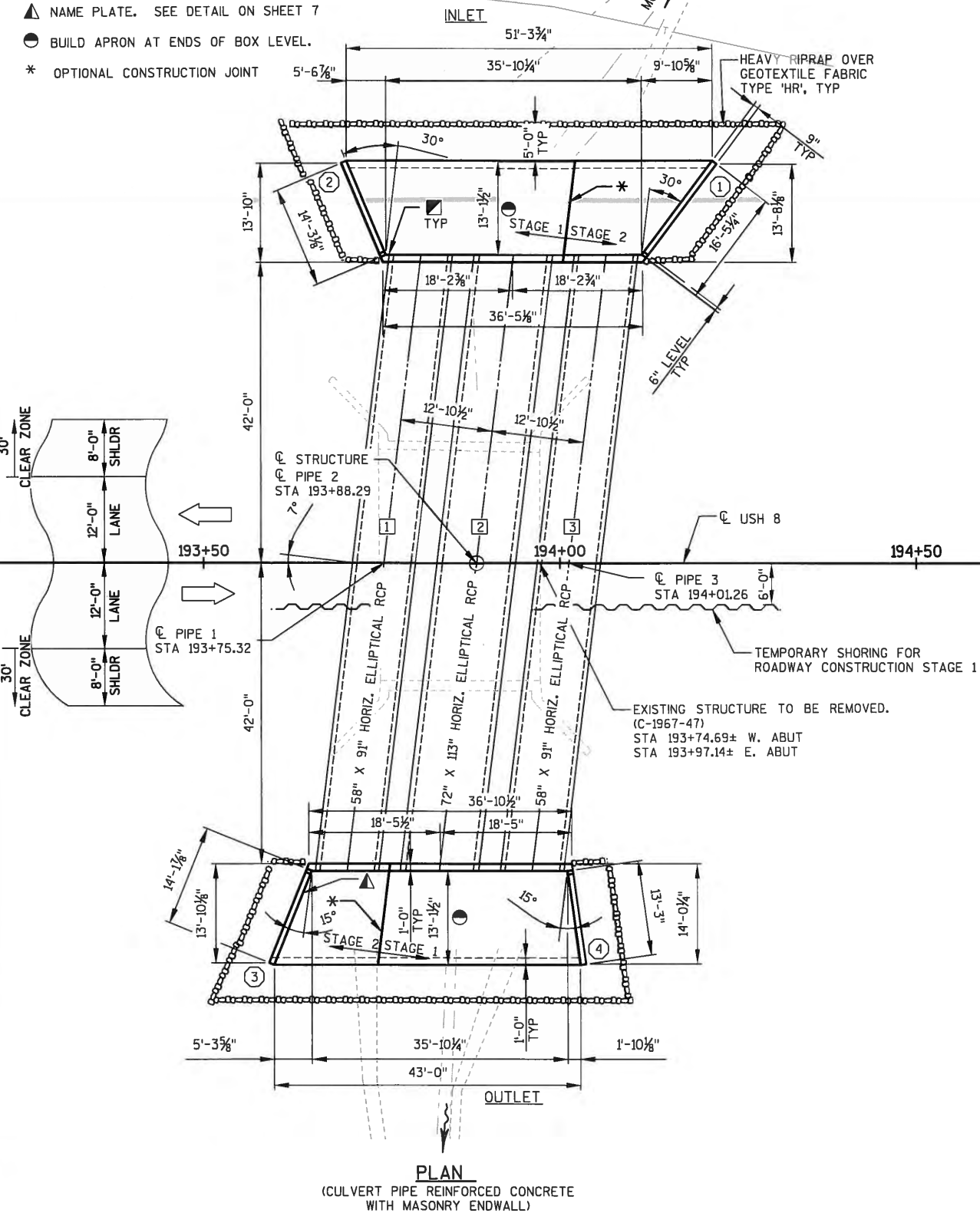
1'-0"

HEAD WALL

NAME PLATE LOCATION

ON WING 3

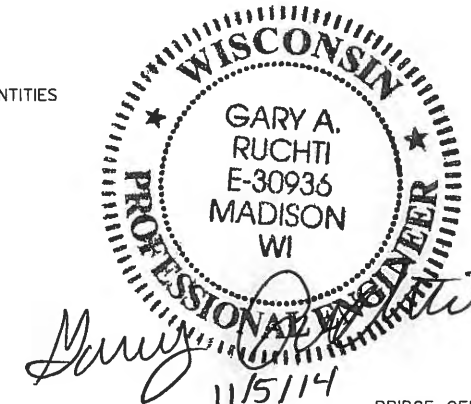
- ⊙ INDICATES WING NUMBER
⊠ INDICATES PIPE NUMBER
▣ SEE CORNER DETAILS ON SHEETS 6 & 7.
▲ NAME PLATE. SEE DETAIL ON SHEET 7
● BUILD APRON AT ENDS OF BOX LEVEL.
* OPTIONAL CONSTRUCTION JOINT



PLAN
(CULVERT PIPE REINFORCED CONCRETE
WITH MASONRY ENDWALL)

LIST OF DRAWINGS:

- 1 GENERAL PLAN
- 2 TYPICAL SECTION GENERAL NOTES & QUANTITIES
- 3 HEADWALL DETAILS
- 4 HEADWALL SECTIONS
- 5 APRON DETAILS
- 6 WING 1 & 2 DETAILS
- 7 WING 3 & 4 DETAILS
- 8 BILL OF BARS
- 9 72 X 113-INCH PIPE DETAILS



BRIDGE OFFICE CONTACT
WILLIAM DREHER, P.E.
TELEPHONE: (608) 266-8489
CONSULTANT CONTACT
GARY RUCHTI, P.E.
TELEPHONE: (608) 273-6380

STATE PROJECT NUMBER

1581-13-70

DESIGN DATA:

LIVE LOAD:

DESIGN LOADING HL-93

EARTH LOAD:

THE STRUCTURE IS DESIGNED FOR AN EARTH LOAD OF 3.5 FEET.

ULTIMATE DESIGN STRESSES:

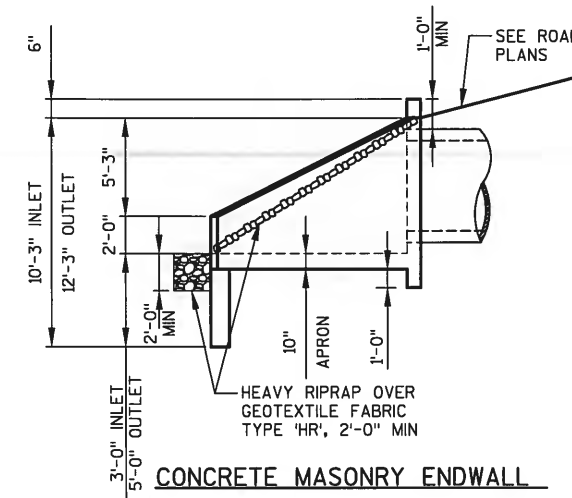
CONCRETE MASONRY $f'_c = 3,500$ psi
HIGH STRENGTH BAR STEEL REINFORCEMENT $f_y = 60,000$ psi

TRAFFIC DATA:

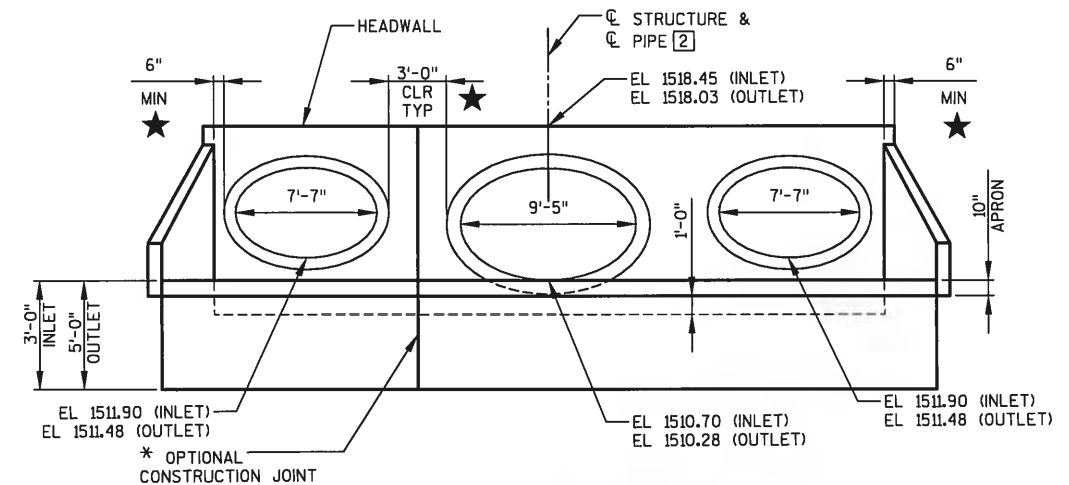
ADT (2010) = 1800
ADT (2033) = 2000
DESIGN SPEED = 55 MPH

HYDRAULIC DATA:

100 YEAR FREQUENCY
 $Q_{100} = 470$ cfs
STREAM VELOCITY 8.46 ft/s
HIGH WATER EL. 1515.82
WATERWAY AREA 56 ft²
DRAINAGE AREA 1.08 mi²
SCOUR CRITICAL CODE N/A
OVER TOPPING FREQUENCY N/A
2 YEAR FREQUENCY
 $Q_2 = 100$ cfs
HIGH WATER EL. 1513.50



CONCRETE MASONRY ENDWALL

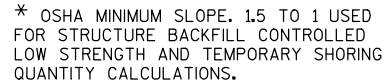


CONCRETE MASONRY ENDWALL

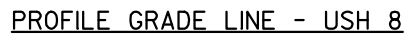
TYPICAL UNLESS NOTED
★ DIMENSIONS GIVEN PERPENDICULAR TO PIPE

NO.	DATE	REVISION	BY
Mead & Hunt Mead & Hunt, Inc. 1345B North Road Green Bay, WI 54313 phone: 920-496-0500 meadhunt.com			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> KAR 11/06/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-50-84			
USH 8 OVER MORGAN CREEK			
COUNTY	PRICE	TOWN/CITY/VILLAGE	KENNAN
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D. GAR
RCP		SAL	TAV
GENERAL PLAN			SHEET 1 OF 9
			198

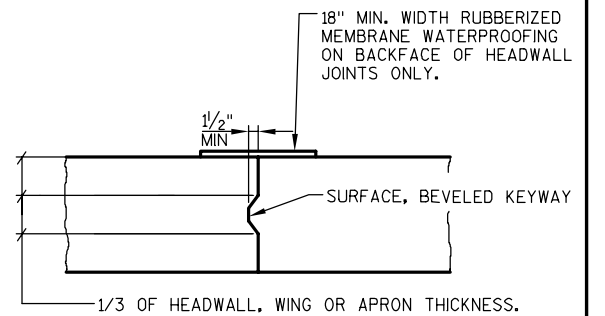
EXCAVATION TO BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 520. 3'-0" WAS USED FOR QUANTITY CALCULATIONS OF TEMPORARY SHORING AND BACKFILL CONTROLLED LOW STRENGTH.



ITEM NO.	BID ITEMS	UNIT	TOTALS
203.0500.S	REMOVING OLD STRUCTURE OVER WATERWAY STATION 193+86	LS	1
209.0200.S	BACKFILL CONTROLLED LOW STRENGTH	CY	210
504.0900	CONCRETE MASONRY ENDWALLS	CY	68
511.1200	TEMPORARY SHORING B-50-84	SF	430
523.0158	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 58X91-INCH	LF	174
606.0300	RIPRAP HEAVY	CY	70
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	190
SPV.0090.01	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 72X113-INCH	LF	87
	NON BID ITEMS		
	FILLER	SIZE	1/2"



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-84			
	DRAWN BY	TAV	PLANS CK'D. GAR
TYPICAL SECTION GENERAL NOTES & QUANTITIES		SHEET 2 OF 9 — 199 —	



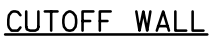
OPTIONAL CONSTRUCTION JOINT *

SEE SHEET 4 FOR SECTIONS THROUGH HEADWALL

-  INDICATES WING NUMBER
 -  INDICATES PIPE NUMBER
 -  OPTIONAL CONSTRUCTION JOINT
 -  DIMENSION IS ALONG BF HEADWALL.
 -  1/2" FILLER BETWEEN HEADWALL AND PIPES. SEAL ON BF WITH RUBBERIZED MEMBRANE WATERPROOFING. COST IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY ENDWALLS".
 -  HORIZONTAL BARS BETWEEN PIPES AND AT ENDS OF HEADWALL NOT SHOWN. SEE HEADWALL SECTIONS ON SHEET 4.
- FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE

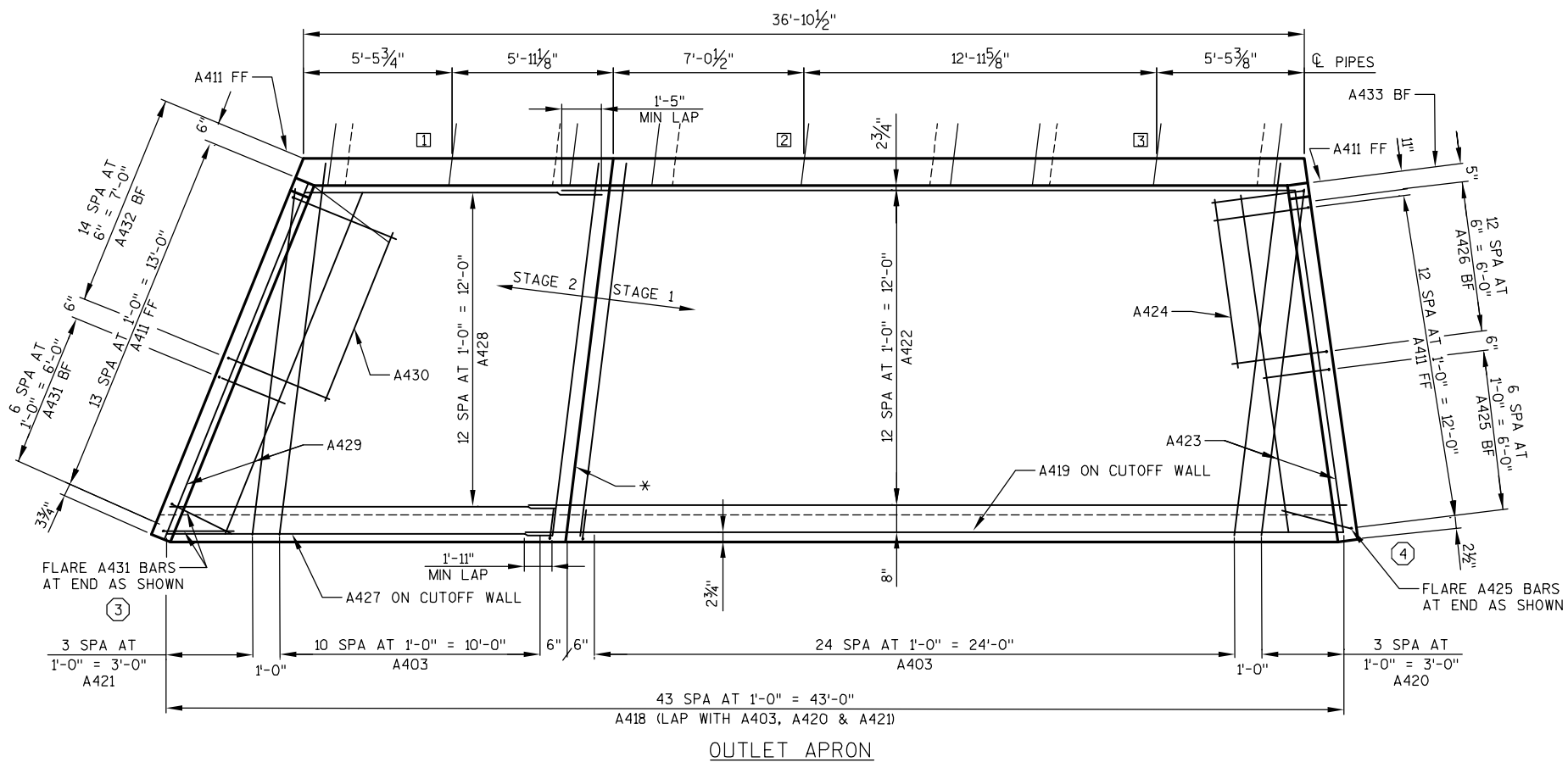
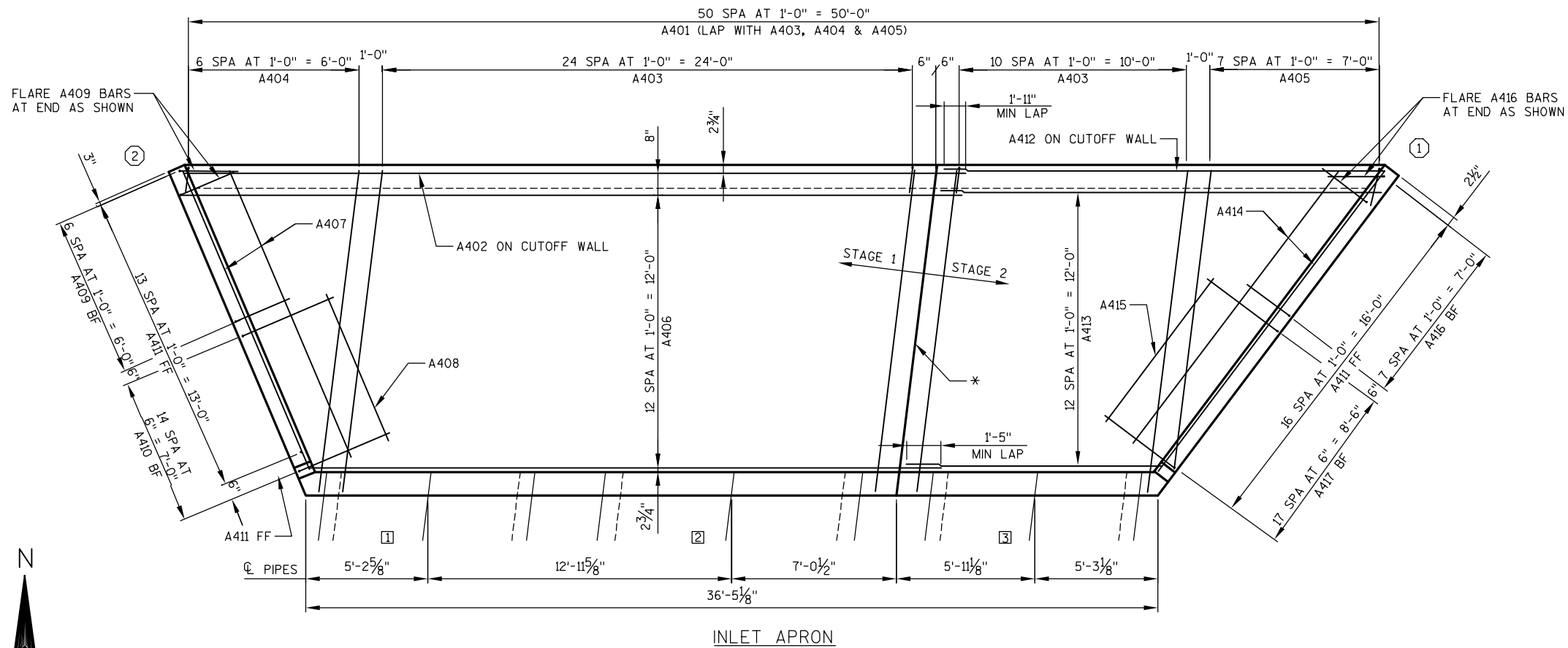
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-50-84					
		DRAWN BY	TAV	PLANS CK'D.	GAR
HEADWALL DETAILS			SHEET 3 OF 9 — 200 —		

FF - FRONT FACE
BF - BACK FACE



ALTERNATE CUTOFF WALL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-84			
		DRAWN BY	PLANS CK'D.
		TAV	GAR
APRON DETAILS		SHEET 5 OF 9 — 201 —	



FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE



SECTION C-C



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-84			
	DRAWN BY	TAV	PLANS CK'D. GAR
HEADWALL SECTIONS		SHEET 202	4 OF 9

Diagram illustrating the reinforcement layout for Wing 1, showing a cross-section of a sloped structure with various reinforcement bars and dimensions.

Dimensions:

- Overall width: 16'-5 1/4"
- Overall height: 8'-1"
- Top of pipe: 6"
- Bottom of pipe: 6"
- 6" SPA AT 1'-0" = 6'-0"
- 1'-7"
- 1'-0"
- 14 SPA AT 1'-0" = 14'-0"
- 1'-0"
- 2 1/2"
- 2'-10"
- 10" APRON

Reinforcement Details:

- W405 EF (Elongated Flat)
- 2-W503
- W401 FF TYP (Flat)
- A411 FF TYP (Flat)
- A417 BF (Bent Flat)
- A416 BF (Bent Flat)
- W404 EF (Elongated Flat)
- A415
- 2-A414
- A405
- CUT OFF WALL
- W402 FF LAP WITH A411
- HORIZ. CONST. JT. (Horizontal Construction Joint)
- 16'-5 1/4"
- 6" LEVEL
- 6"
- 6"
- 6" SPA AT 1'-0" = 6'-0"
- 1'-7"
- 1'-0"
- 14 SPA AT 1'-0" = 14'-0"
- W401 FF (LAP WITH A411)
- 1'-0"
- 2 1/2"
- 2'-10"
- 10" APRON

Labels:

- TOP OF PIPE
- 6" LEVEL
- W405 EF
- 2-W503
- W401 FF TYP
- A411 FF TYP
- A417 BF
- A416 BF
- W404 EF
- A415
- 2-A414
- A405
- CUT OFF WALL
- W402 FF LAP WITH A411
- HORIZ. CONST. JT.
- 16'-5 1/4"
- 6" LEVEL
- 6"
- 6"
- 6" SPA AT 1'-0" = 6'-0"
- 1'-7"
- 1'-0"
- 14 SPA AT 1'-0" = 14'-0"
- W401 FF (LAP WITH A411)
- 1'-0"
- 2 1/2"
- 2'-10"
- 10" APRON

REINFORCEMENT WING 1

NOTES:

★ SEE SHEET 5 FOR APRON BAR SPACINGS

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY ENDWALLS".

▲ FIELD TRIM AS NECESSARY TO MAINTAIN 2" MINIMUM COVER

FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE

W503 AT TOP
W404 AT BOTTOM
W405 IN TAPER

1'-0"

9"

WING

HEADWALL

OUTSIDE WALL OF PIPE

INSIDE WALL OF PIPE

3

Diagram illustrating the cross-section of a wing wall. The wall is shown with a sloped top surface and a vertical headwall. Reinforcement details are indicated:

- W508 AT TOP
- W409 AT BOTTOM
- W410 IN TAPER
- WING 2
- HEADWALL
- OUTSIDE WALL OF PIPE 1

Dimensions shown include a width of 9' at the top and a height of 11'-0" for the headwall section.

8'-1" MAX

6' SPA AT 1'-0" = 6'-0"

EF

BF

FF

W503 (WING 1)
W508 (WING 2)

W401, W402 (WING 1)
W406, W407 (WING 2)

W404 (WING 1)
W409 (WING 2)

1'-5" MIN LAP

1" FILLET, TYP

EL 1510.70 (LEVEL)

APRON REINFORCEMENT

10" APRON SLAB

3" CLR

3'-8" LEG A416 (WING 1), A409 (WING 2)
6'-1" LEG A417 (WING 1), A410 (WING 2)

A416, A417 (WING 1)
A409, A410 (WING 2)

A411

A414 (WING 1)
A407 (WING 2)

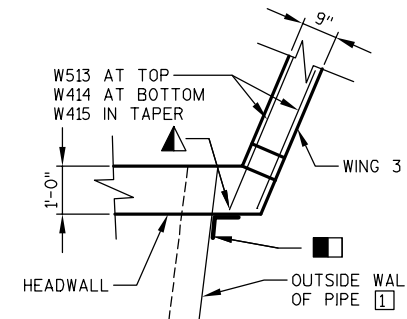
A415 (WING 1)
A408 (WING 2)

HORIZ. CONST. JT.

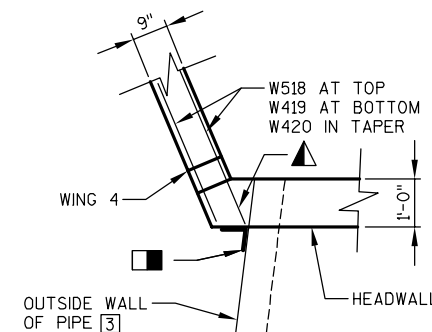
NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-50-84					
		DRAWN BY	TAV	PLANS CK'D.	GAR
WING 1 & 2 DETAILS			SHEET 6 OF 9		
			— 203 —		

NOTES:

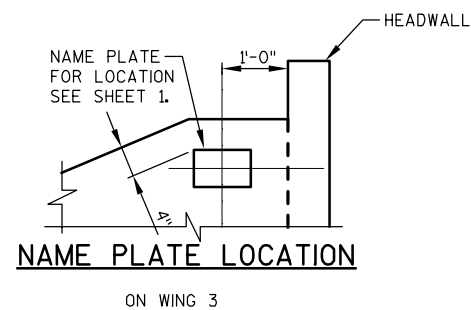
- ★ SEE SHEET 5 FOR APRON BAR SPACINGS
- 18" RUBBERIZED MEMBRANE WATERPROOFING. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY ENDWALLS".
- ▲ FIELD TRIM AS NECESSARY TO MAINTAIN 2" MINIMUM COVER
- FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE



WING 3 CORNER DETAIL

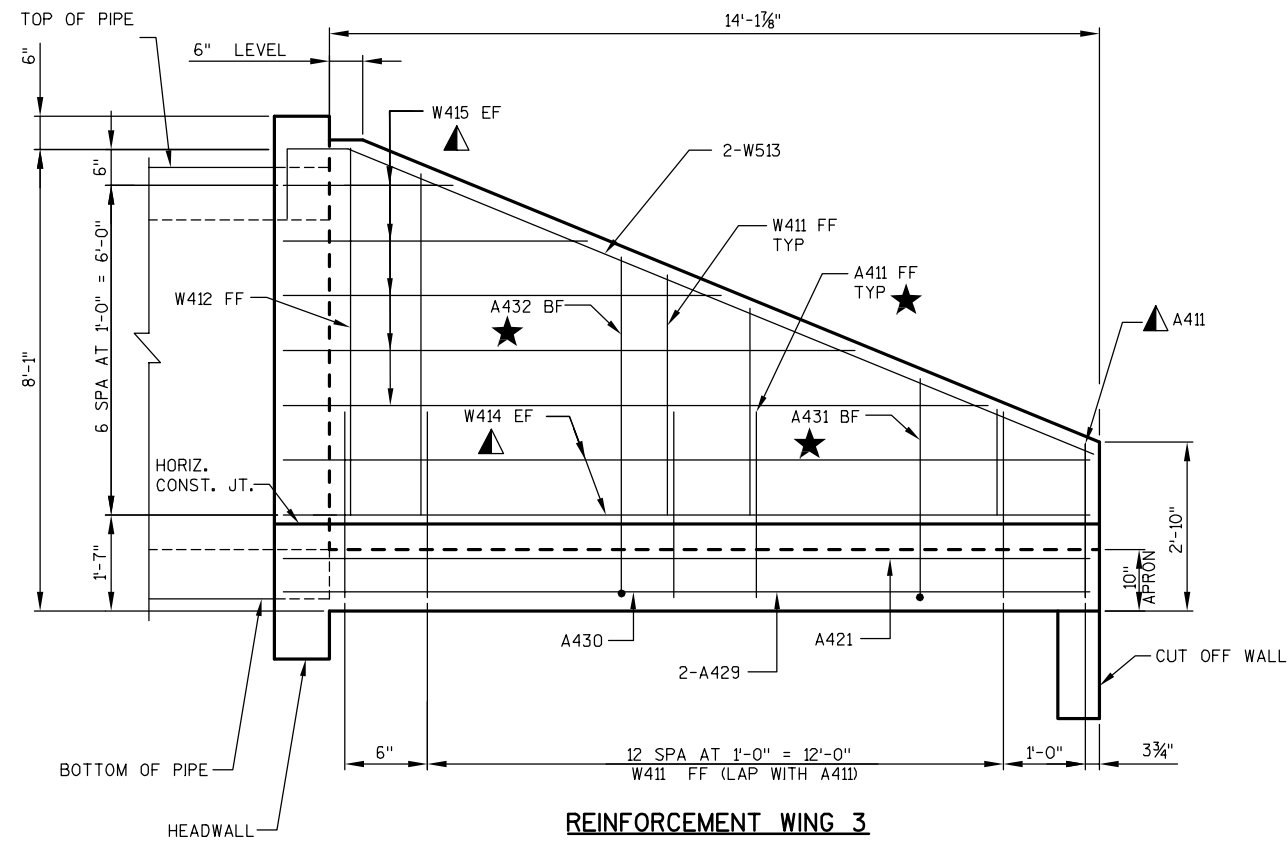


WING 4 CORNER DETAIL

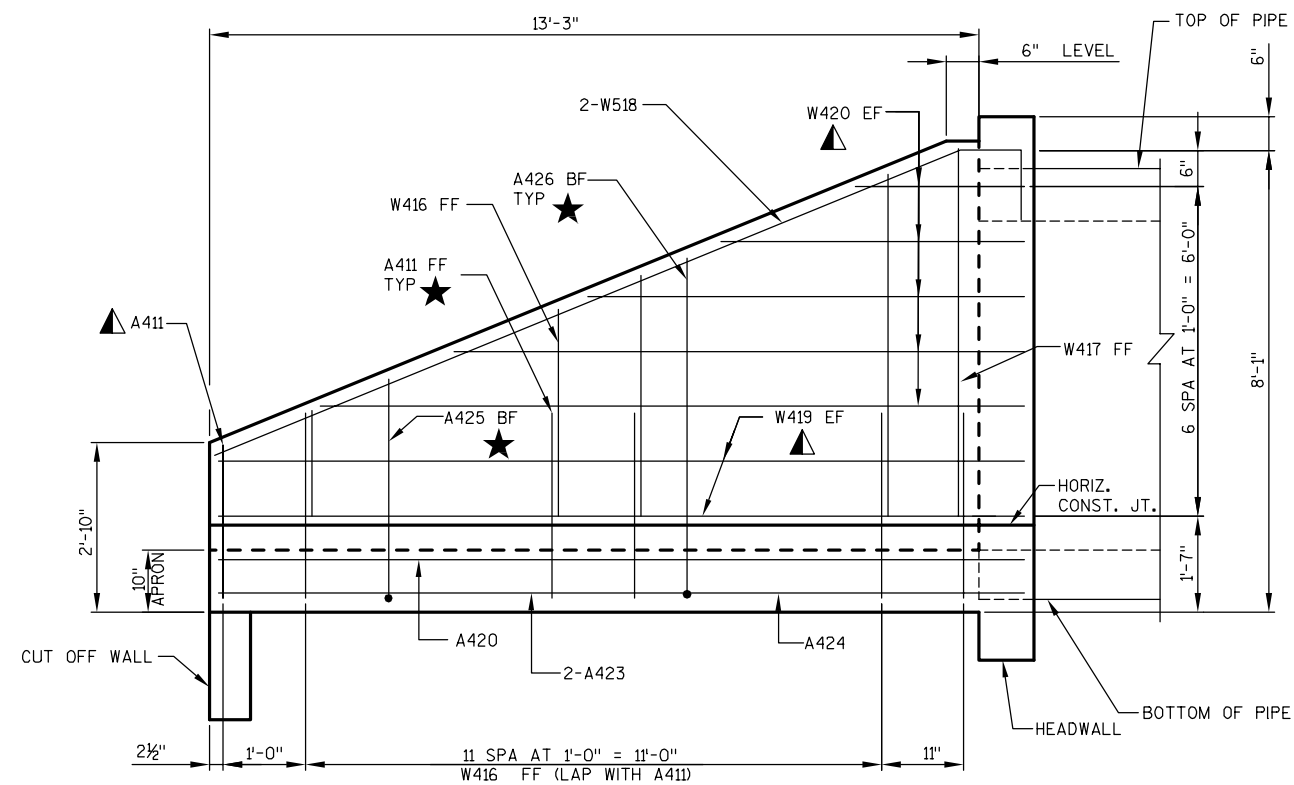


NAME PLATE LOCATION

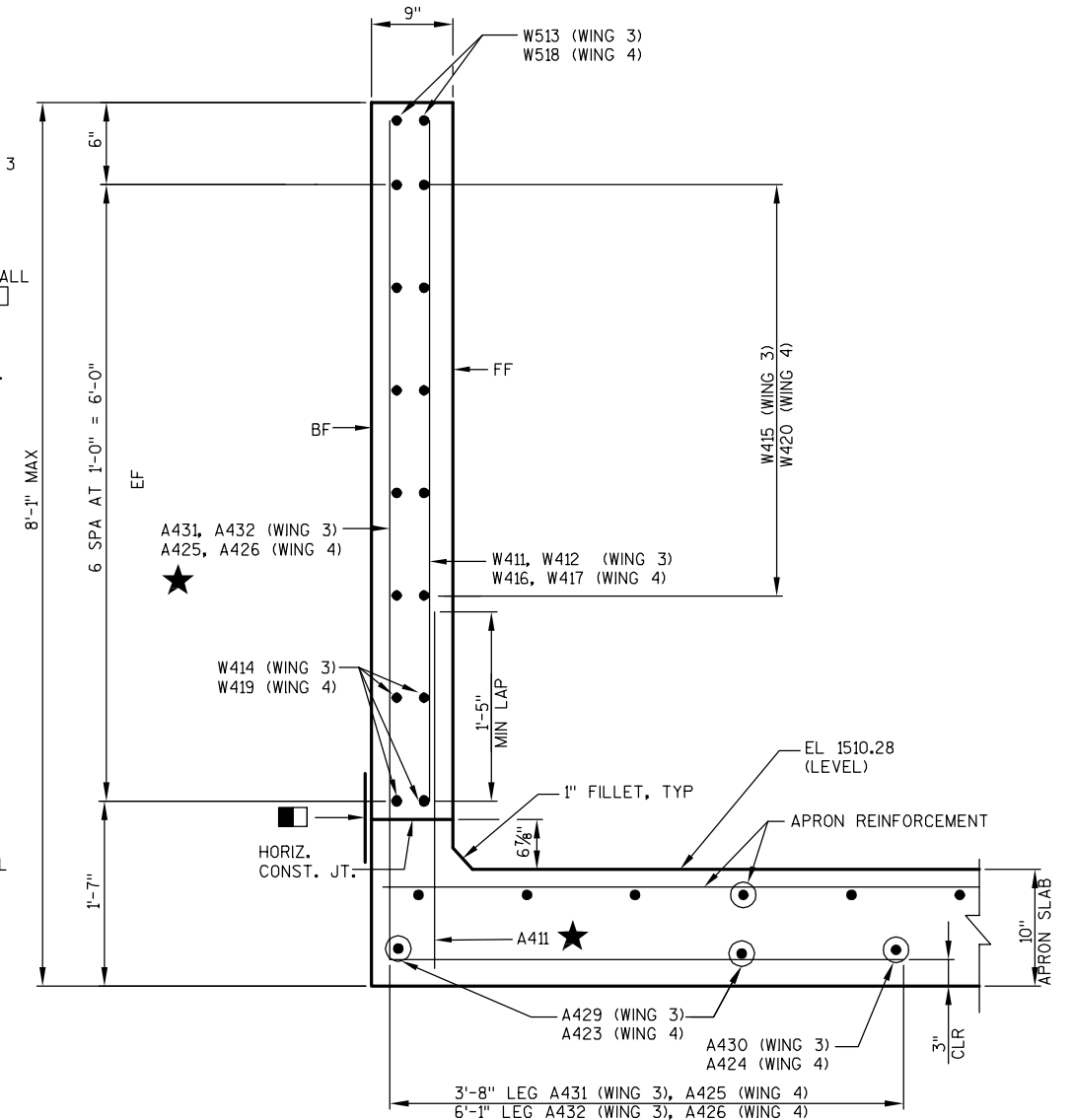
ON WING 3



REINFORCEMENT WING 3

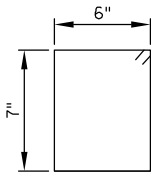


REINFORCEMENT WING 4

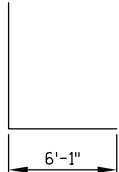


TYPICAL SECTION THRU WINGWALL

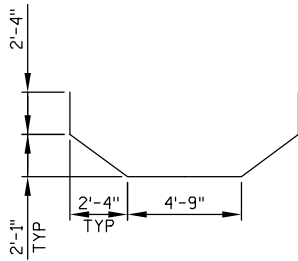
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-84			
DRAWN BY		TAV	PLANS CK'D. GAR
WING 3 & 4 DETAILS		SHEET 7 OF 9 204	



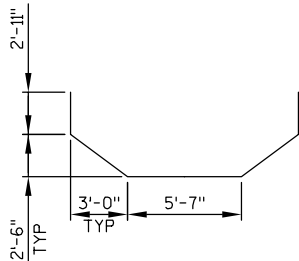
H301



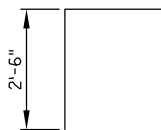
H403



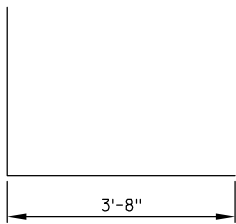
H421



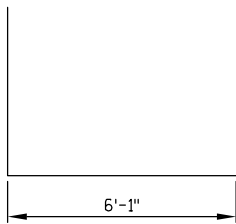
H422



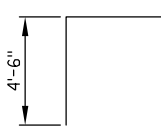
A401



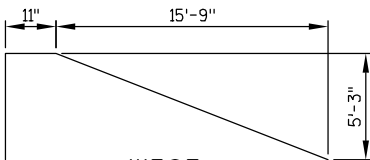
A409, A416, A425, A431



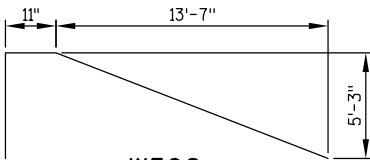
A410, A417, A426, A432, A433



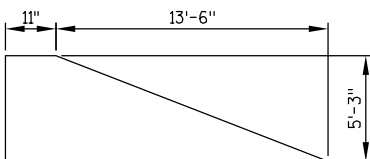
A418



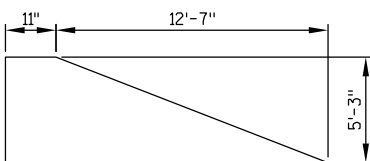
W503



W508



W513



W518

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTHS FOR EACH SERIES
W401	1 SERIES OF 15	1'-6" TO 6'-1"
W405	2 SERIES OF 5	2'-2" TO 14'-3"
W406	1 SERIES OF 13	1'-6" TO 6'-1"
W410	2 SERIES OF 5	2'-0" TO 12'-8"
W411	1 SERIES OF 13	1'-7" TO 6'-2"
W415	2 SERIES OF 5	1'-11" TO 12'-4"
W416	1 SERIES OF 12	1'-7" TO 6'-1"
W420	2 SERIES OF 5	1'-11" TO 11'-8"

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTHS FOR EACH SERIES
H423	16 SERIES OF 3	2'-2" TO 3'-4"
H425	16 SERIES OF 3	1'-0" TO 2'-0"
H426	16 SERIES OF 3	1'-1" TO 2'-4"

BAR SERIES TABLE

MARK	NO. REQ'D	LENGTHS FOR EACH SERIES
A404	1 SERIES OF 7	2'-3" TO 13'-3"
A405	1 SERIES OF 8	2'-0" TO 13'-2"
A406	1 SERIES OF 13	27'-4" TO 33'-11"
A409	1 SERIES OF 7	8'-1" TO 8'-4"
A410	1 SERIES OF 15	10'-11" TO 13'-7"
A413	1 SERIES OF 13	11'-7" TO 19'-1"
A416	1 SERIES OF 8	8'-0" TO 8'-4"
A417	1 SERIES OF 18	10'-11" TO 13'-8"
A420	1 SERIES OF 4	1'-10" TO 13'-4"
A421	1 SERIES OF 4	2'-2" TO 13'-0"
A422	1 SERIES OF 13	27'-3" TO 30'-5"
A425	1 SERIES OF 7	8'-1" TO 8'-8"
A426	1 SERIES OF 13	11'-2" TO 13'-7"
A428	1 SERIES OF 13	11'-5" TO 14'-8"
A431	1 SERIES OF 7	8'-1" TO 8'-5"
A432	1 SERIES OF 15	11'-0" TO 13'-6"

BILL OF BARS

HEADWALL (H), APRON (A) & WINGS (W)

COATED= 0 LBS.

UNCOATED= 5410 LBS.

MARK	NUMBER		LENGTH	BENT	BAR SERIES	LOCATION	
	COATED	UNCOATED					
							FT. - IN.
H 3 01		196	2 - 7	X		HEADWALL - TOP AND BOTTOM HEADER STIRRUP	VERT.
H 4 02		16	28 - 0			HEADWALL - STAGE 1 TOP AND BOTTOM HEADER	HORI.
H 4 03		20	8 - 9	X		HEADWALL - BF	VERT.
H 4 04		20	3 - 9			HEADWALL - FF	VERT.
H 4 05		4	15 - 1			HEADWALL - UNDER OUTSIDE PIPE	HORI.
H 4 06		4	15 - 3			HEADWALL - UNDER OUTSIDE PIPE	HORI.
H 4 07		8	15 - 5			HEADWALL - UNDER OUTSIDE PIPE	HORI.
H 4 08		4	3 - 3			HEADWALL - OUTSIDE PIPE 1 OR 3 - BF	HORI.
H 4 09		4	1 - 5			HEADWALL - OUTSIDE PIPE 1 OR 3 - BF	HORI.
H 4 10		8	3 - 7			HEADWALL - OUTSIDE PIPE 1 OR 3 - FF	HORI.
H 4 11		8	1 - 8			HEADWALL - OUTSIDE PIPE 1 OR 3 - FF	HORI.
H 4 12		4	3 - 5			HEADWALL - OUTSIDE PIPE 1 OR 3 - BF	HORI.
H 4 13		4	1 - 7			HEADWALL - OUTSIDE PIPE 1 OR 3 - BF	HORI.
H 4 14		4	6 - 7			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 15		4	3 - 11			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 16		4	2 - 10			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 17		4	2 - 8			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 18		4	3 - 3			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 19		4	4 - 11			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 20		4	8 - 9			HEADWALL - BETWEEN PIPES 1 & 2 AND PIPES 2 & 3 - EF	HORI.
H 4 21		16	15 - 9	X		HEADWALL - AROUND PIPES 1 AND 3 - EF	VERT.
H 4 22		8	19 - 3	X		HEADWALL - AROUND PIPE 2 - EF	VERT.
H 4 23		48	2 - 9		X	HEADWALL - BELOW PIPES 1 AND 3 - EF	VERT.
H 4 24		24	1 - 11			HEADWALL - BELOW PIPES 1 AND 3 - EF	VERT.
H 4 25		48	1 - 6		X	HEADWALL - ABOVE PIPES 1 AND 3 - EF	VERT.
H 4 26		48	1 - 9		X	HEADWALL - ABOVE PIPE 2 - EF	VERT.
H 4 27		16	10 - 11			HEADWALL - STAGE 2 TOP AND BOTTOM HEADER	HORI.
H 4 28		40	6 - 10			HEADWALL - FULL HEIGHT - FF	VERT.
A 4 01		51	3 - 5	X		INLET - CUTOFF WALL	VERT.
A 4 02		4	34 - 4			INLET - CUTOFF WALL - STAGE 1	TRANS.
A 4 03		72	13 - 10			INLET/OUTLET APRON	LONG.
A 4 04		7	7 - 9		X	INLET APRON - WINGWALL 2	LONG.
A 4 05		8	7 - 7		X	INLET APRON - WINGWALL 1	LONG.
A 4 06		13	30 - 8		X	INLET APRON - STAGE 1	TRANS.
A 4 07		2	13 - 8			INLET APRON - WINGWALL 2	LONG.
A 4 08		1	7 - 2			INLET APRON - WINGWALL 2	LONG.
A 4 09		7	7 - 3	X	X	INLET APRON - WINGWALL 2 TIE-IN BF	VERT.
A 4 10		15	12 - 3	X	X	INLET APRON - WINGWALL 2 TIE-IN BF	VERT.
A 4 11		61	2 - 8			INLET/OUTLET APRON - WINGWALL TIE-IN FF	VERT.
A 4 12		4	19 - 0			INLET - CUTOFF WALL - STAGE 2	TRANS.
A 4 13		13	15 - 4		X	INLET APRON - STAGE 2	TRANS.
A 4 14		2	16 - 2			INLET APRON - WINGWALL 1	LONG.
A 4 15		1	8 - 8			INLET APRON - WINGWALL 1	LONG.
A 4 16		8	7 - 2	X	X	INLET APRON - WINGWALL 1 TIE-IN BF	VERT.
A 4 17		18	12 - 4	X	X	INLET APRON - WINGWALL 1 TIE-IN BF	VERT.
A 4 18		44	5 - 5		X	OUTLET - CUTOFF WALL	VERT.
A 4 19		6	30 - 11			OUTLET - CUTOFF WALL - STAGE 1	TRANS.
A 4 20		4	7 - 7		X	OUTLET APRON - WINGWALL 4	LONG.
A 4 21		4	7 - 7		X	OUTLET APRON - WINGWALL 3	LONG.
A 4 22		13	28 - 10		X	OUTLET APRON - STAGE 1	TRANS.
A 4 23		2	13 - 1			OUTLET APRON - WINGWALL 4	LONG.
A 4 24		1	6 - 7			OUTLET APRON - WINGWALL 4	LONG.
A 4 25		7	7 - 4	X	X	OUTLET APRON - WINGWALL 4 TIE-IN BF	VERT.
A 4 26		13	12 - 5	X	X	OUTLET APRON - WINGWALL 4 TIE-IN BF	VERT.
A 4 27		6	14 - 6			OUTLET - CUTOFF WALL - STAGE 2	TRANS.
A 4 28		13	13 - 1		X	OUTLET APRON - STAGE 2	TRANS.
A 4 29		2	13 - 8			OUTLET APRON - WINGWALL 3	LONG.
A 4 30		1	7 - 2			OUTLET APRON - WINGWALL 3	LONG.
A 4 31		7	7 - 3	X	X	OUTLET APRON - WINGWALL 3 TIE-IN BF	VERT.
A 4 32		15	12 - 3	X	X	OUTLET APRON - WINGWALL 3 TIE-IN BF	VERT.
A 4 33		1	13 - 8	X		OUTLET APRON - WINGWALL 4 TIE-IN BF	VERT.
W 4 01		15	3 - 9		X	WING 1 - FF	VERT.
W 4 02		1	6 - 4			WING 1 - FF AT HEADWALL	VERT.
W 5 03		2	18 - 3		X	WING 1 - TOP	HORI.
W 4 04		4	16 - 10			WING 1 - EF AT BOTTOM	HORI.
W 4 05		10	8 - 3		X	WING 1 - EF	HORI.
W 4 06		13	3 - 10		X	WING 2 - FF	VERT.
W 4 07		1	6 - 4			WING 2 - FF AT HEADWALL	VERT.
W 5 08		2	18 - 3		X	WING 2 - TOP	HORI.
W 4 09		4	14 - 8			WING 2 - EF AT BOTTOM	HORI.
W 4 10		10	7 - 3		X	WING 2 - EF	HORI.
W 4 11		13	3 - 11		X	WING 3 - FF	VERT.
W 4 12		1	6 - 4			WING 3 - FF AT HEADWALL	VERT.
W 5 13		2	16 - 2		X	WING 3 - TOP	HORI.
W 4 14		4	14 - 7			WING 3 - EF AT BOTTOM	HORI.
W 4 15		10	7 - 2		X	WING 3 - EF	HORI.
W 4 16		12	3 - 10		X	WING 4 - FF	VERT.
W 4 17		1	6 - 4			WING 4 - FF AT HEADWALL	VERT.
W 5 18		2	15 - 4		X	WING 4 - TOP	HORI.
W 4 19		4	13 - 9			WING 4 - EF AT BOTTOM	HORI.
W 4 20		10	6 - 10		X	WING 4 - EF	HORI.

STATE PROJECT NUMBER

1581-13-70

FF - FRONT FACE
BF - BACK FACE
EF - EACH FACE

BAR DIMENSIONS IN BENDING ARE OUT TO OUT OF BARS.

ALL REINFORCING BARS ARE ENGLISH.

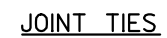
THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

▲ LENGTH SHOWN IS AN AVERAGE LENGTH FOR USE IN CALCULATING BAR WEIGHT ONLY. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

TAG AND BUNDLE EACH SERIES SEPERATELY.

★ BILL OF BARS IS GIVEN FOR INFORMATION ONLY.

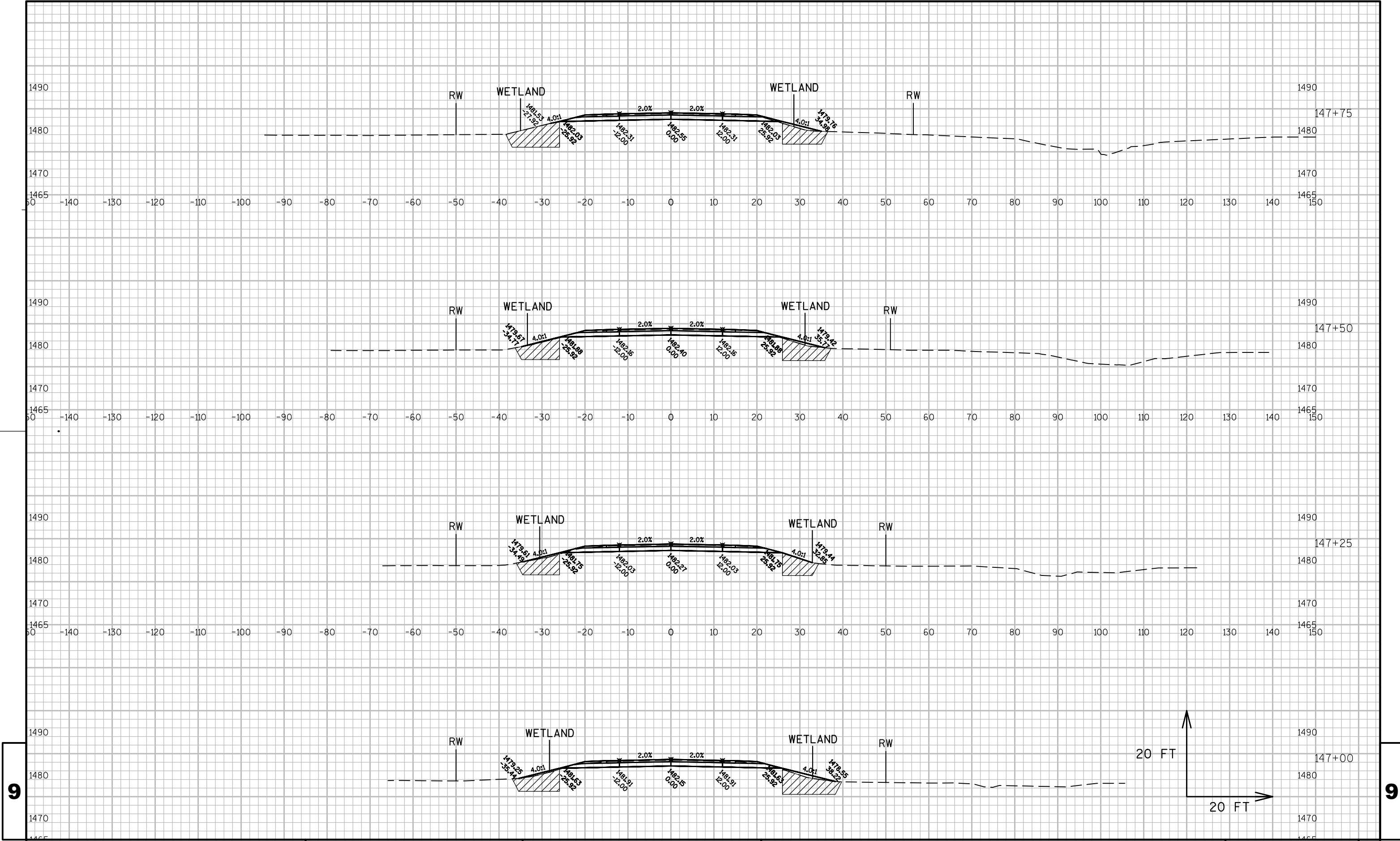
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-50-84			
DRAWN BY		TAV	PLANS CK'D. GAR
BILL OF BARS		SHEET 8 OF 9 - 205 -	



NOTES:

● DIMENSIONS GIVEN FOR INFORMATION ONLY.
DIMENSIONS TO BE VERIFIED BY THE PIPE
MANUFACTURER.

CONTINUOUS REINFORCEMENT	
INNER CAGE	OUTER CAGE
0.90	0.90



9

9

PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

CROSS SECTIONS: B-50-83

SHEET

208

E

FILE NAME : N:\PDS\C3D\15811330\SHEETS\PLAN\090101_XS_OLD.DWG

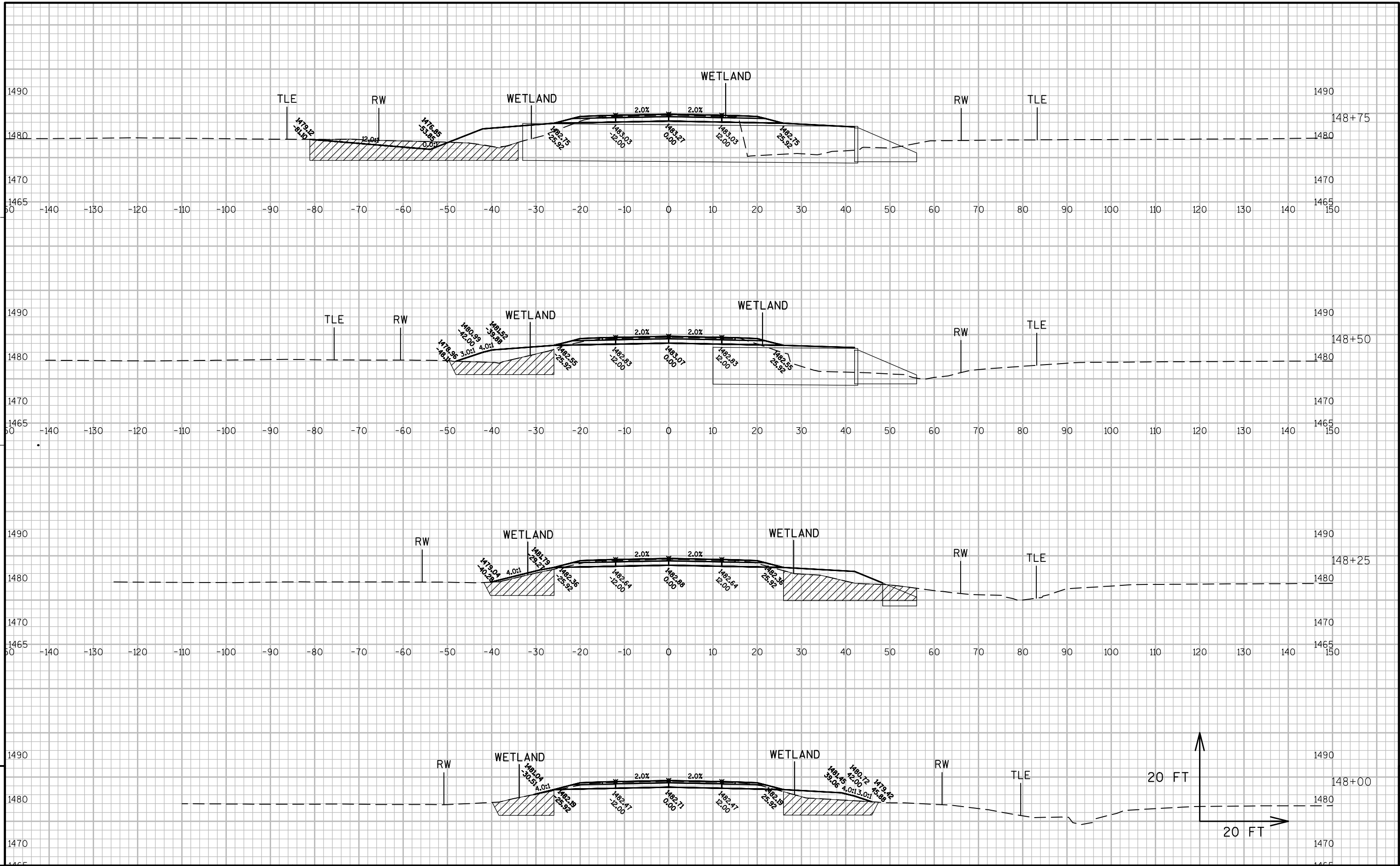
PLOT DATE : 1/29/2014 3:54 PM

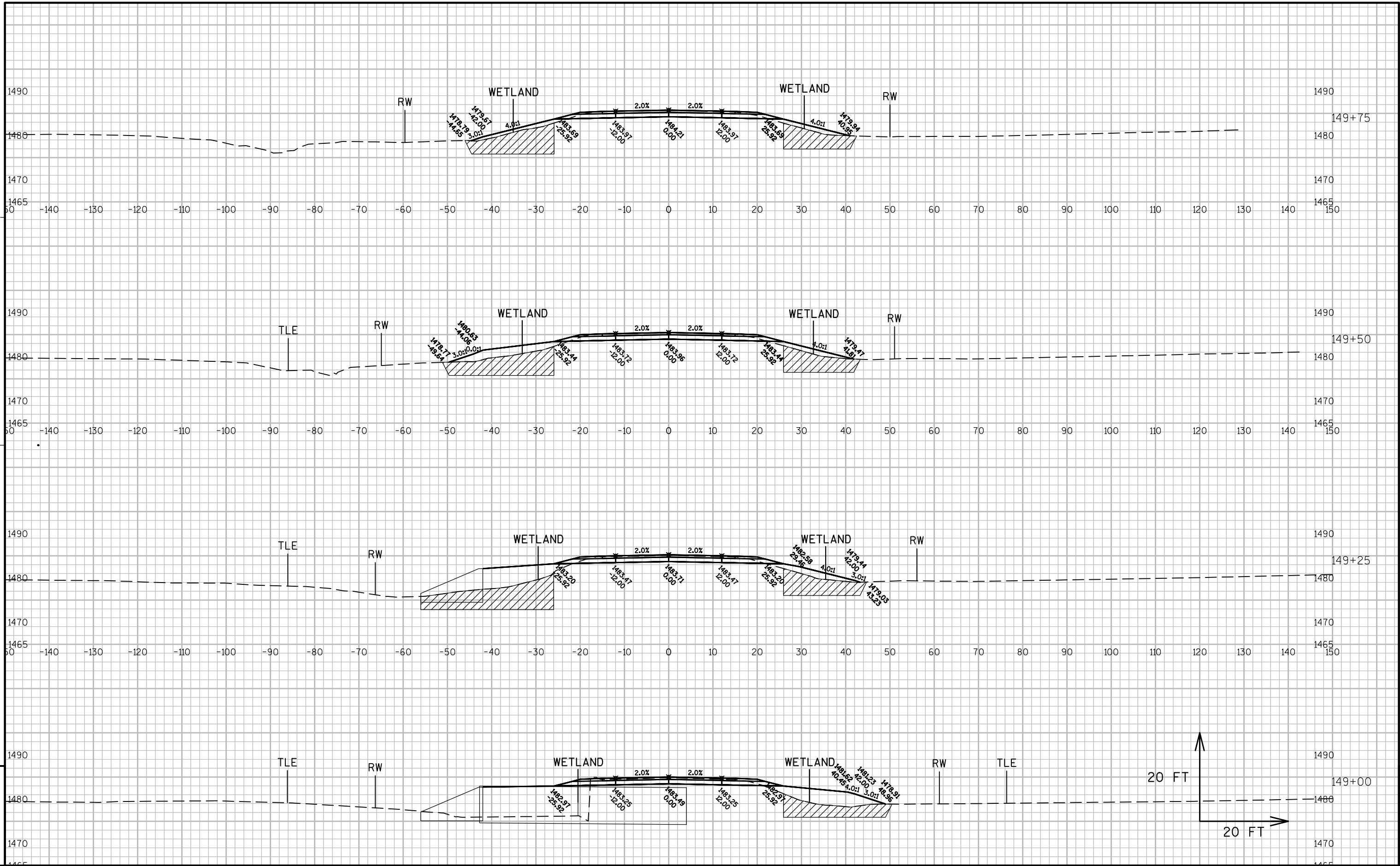
PLOT BY : HOMAN, CODY J

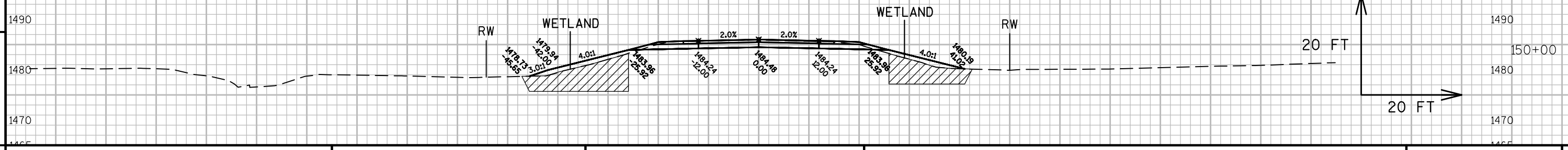
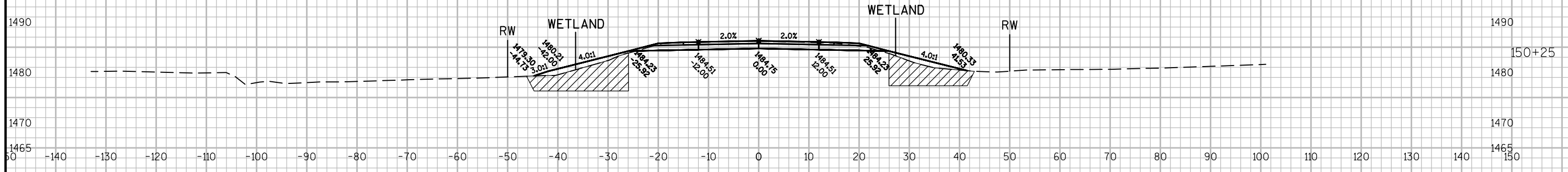
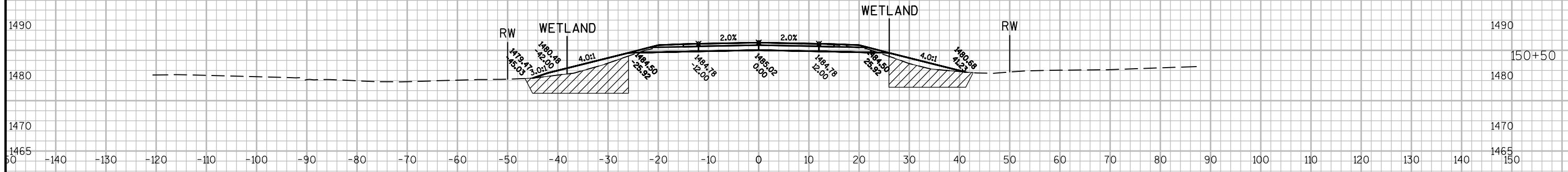
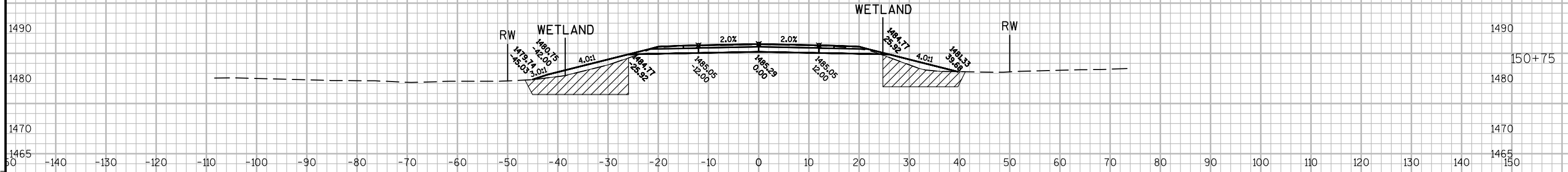
PLOT NAME :

PLOT SCALE : 1:20-XREF

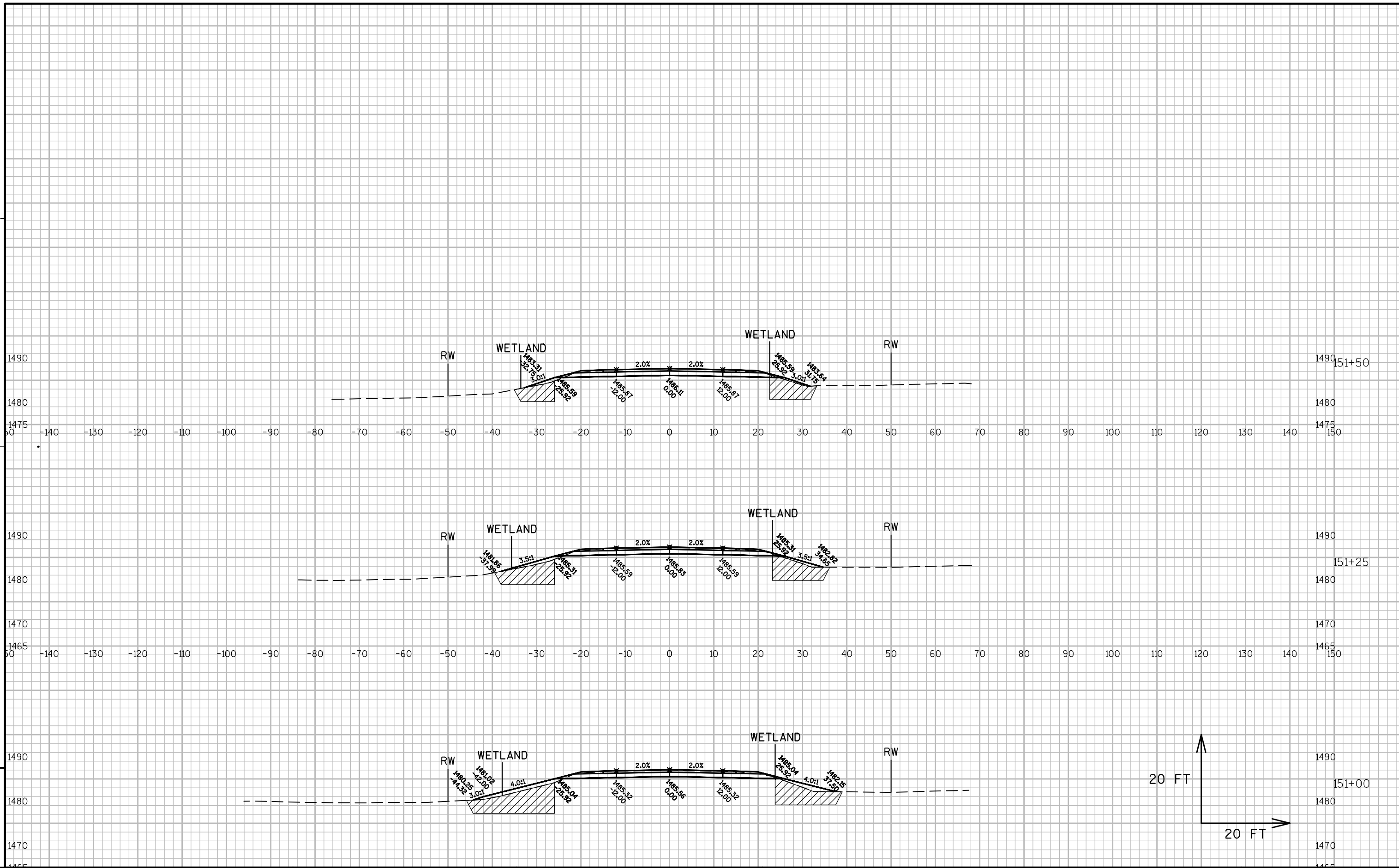
WISDOT/CADDs SHEET 49



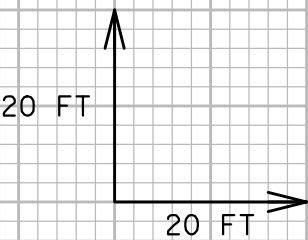
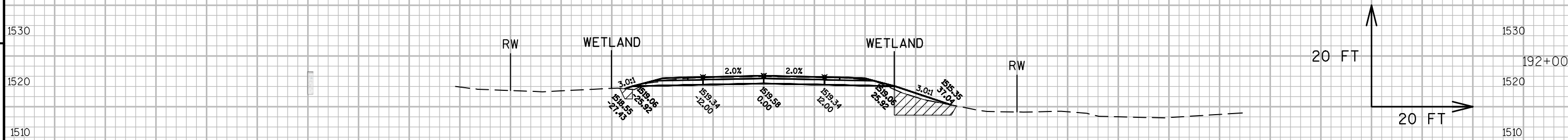
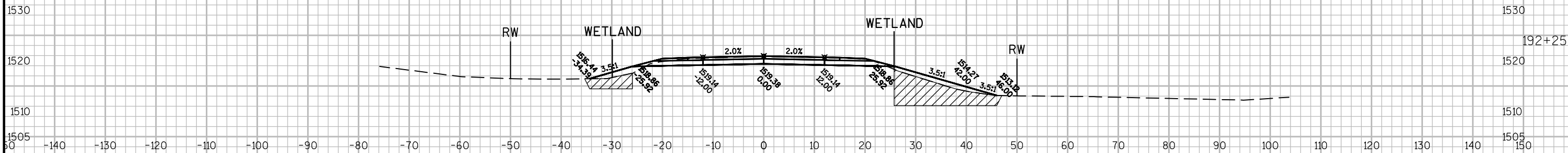
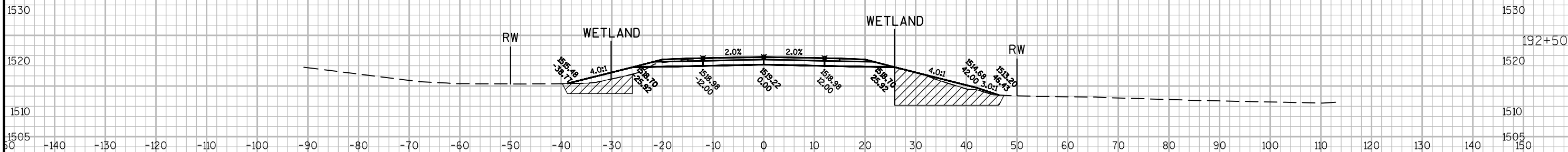
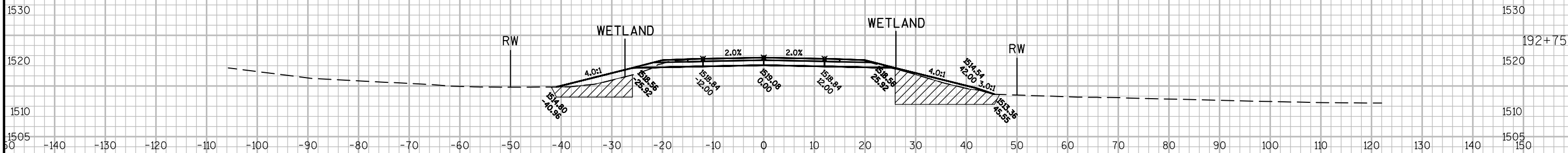


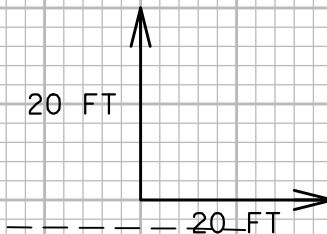
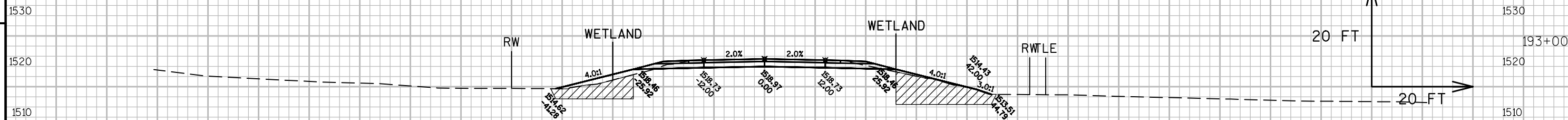
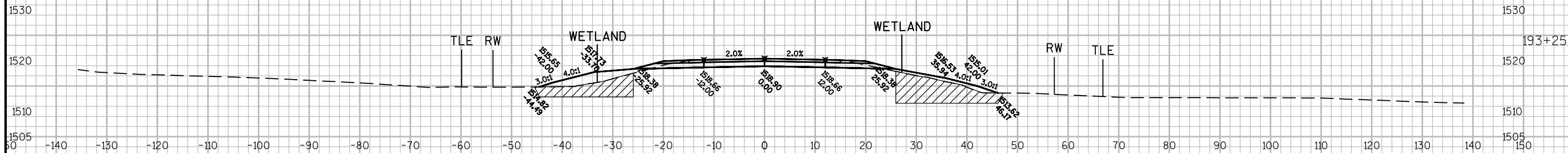
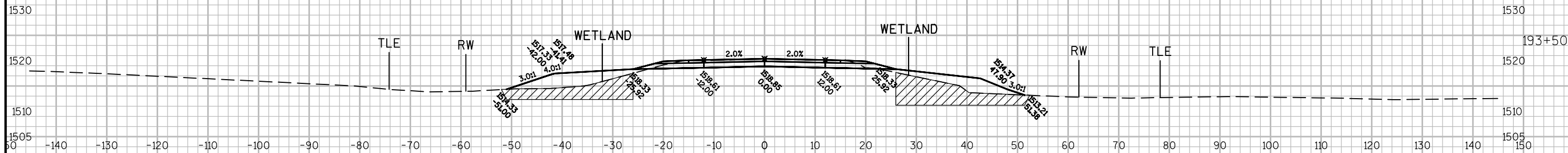
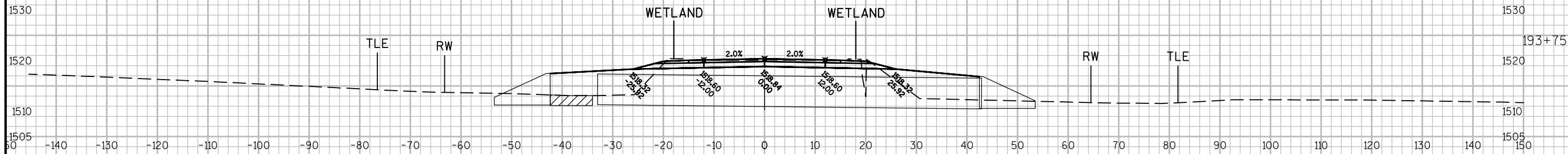


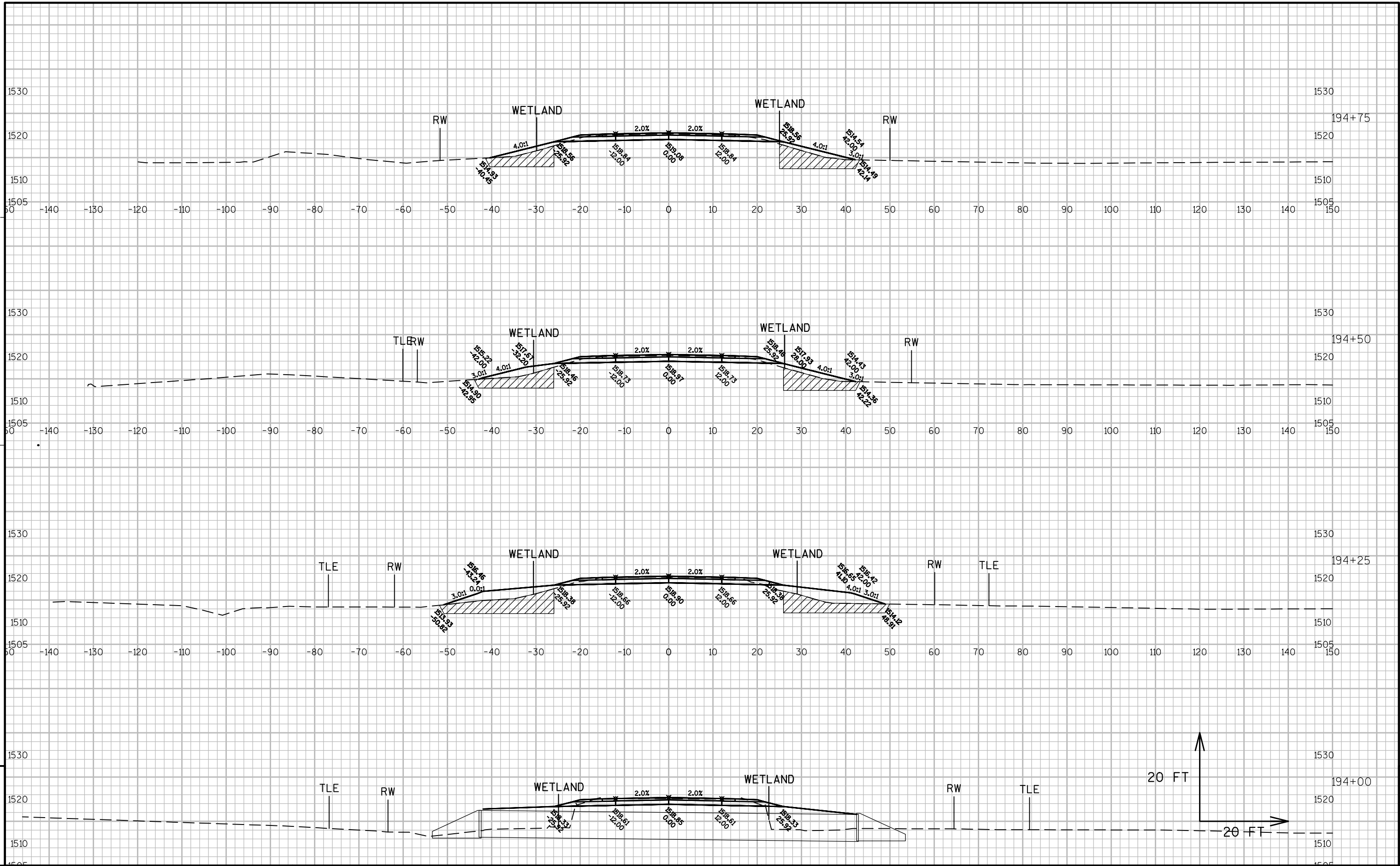
9

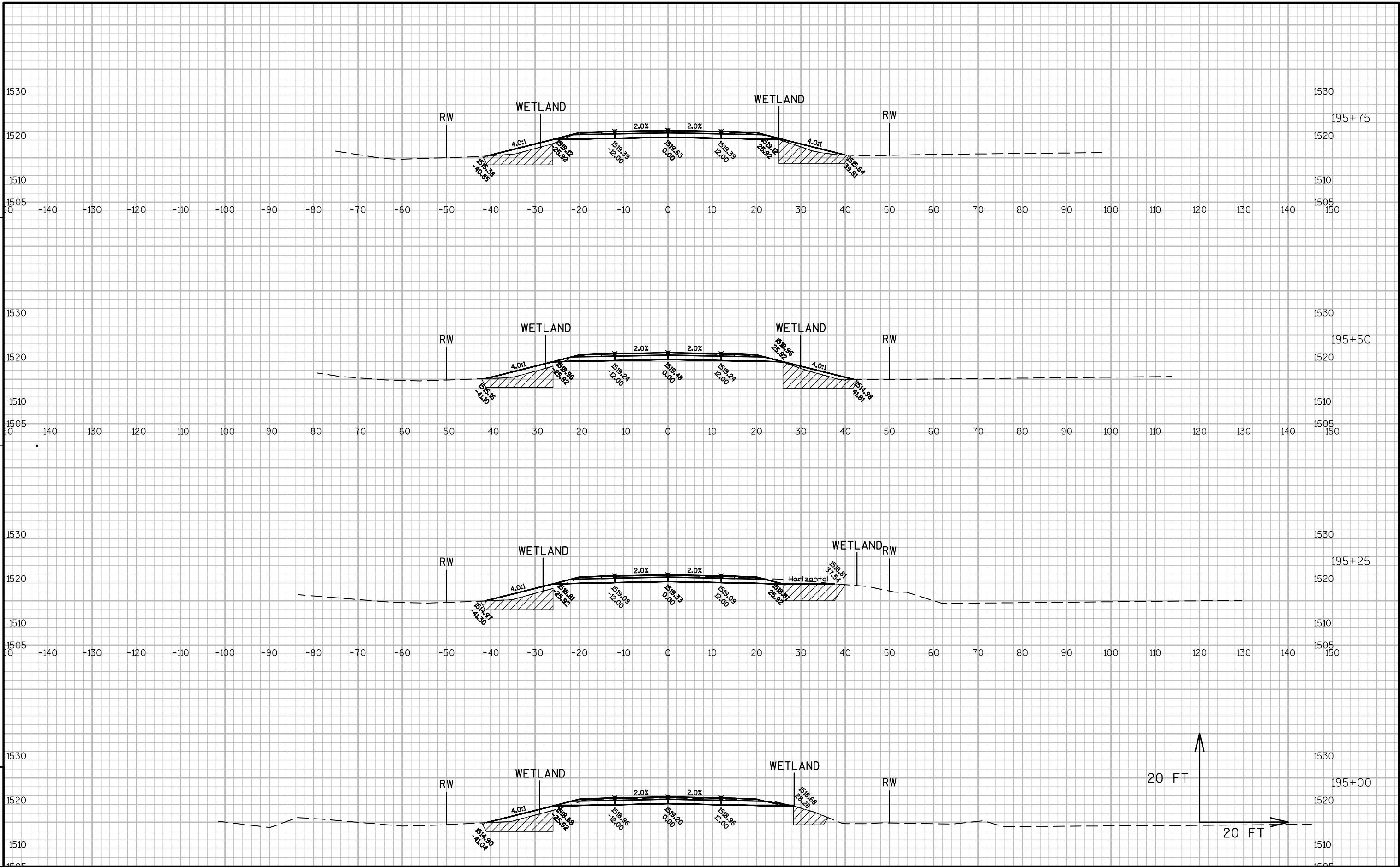


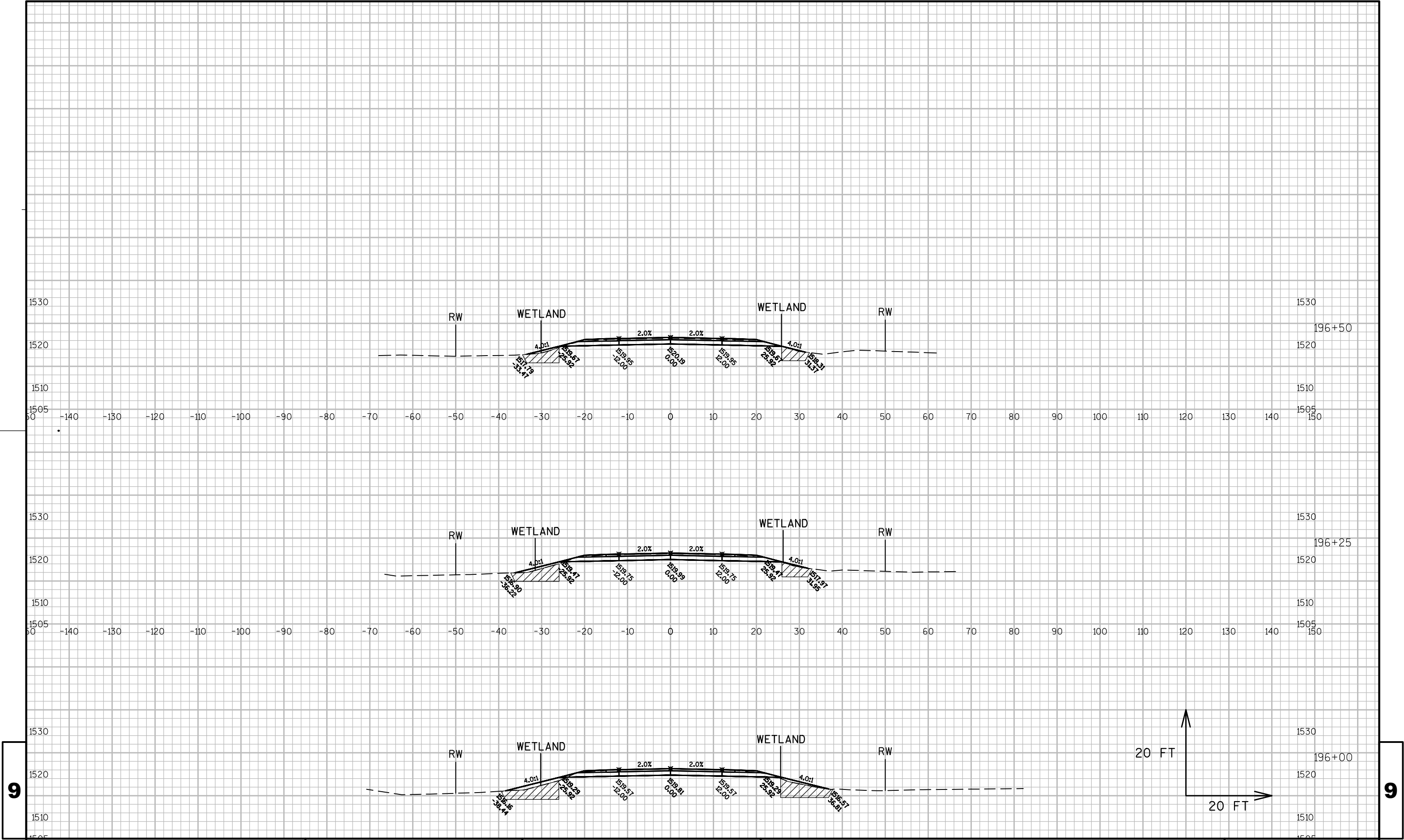
9

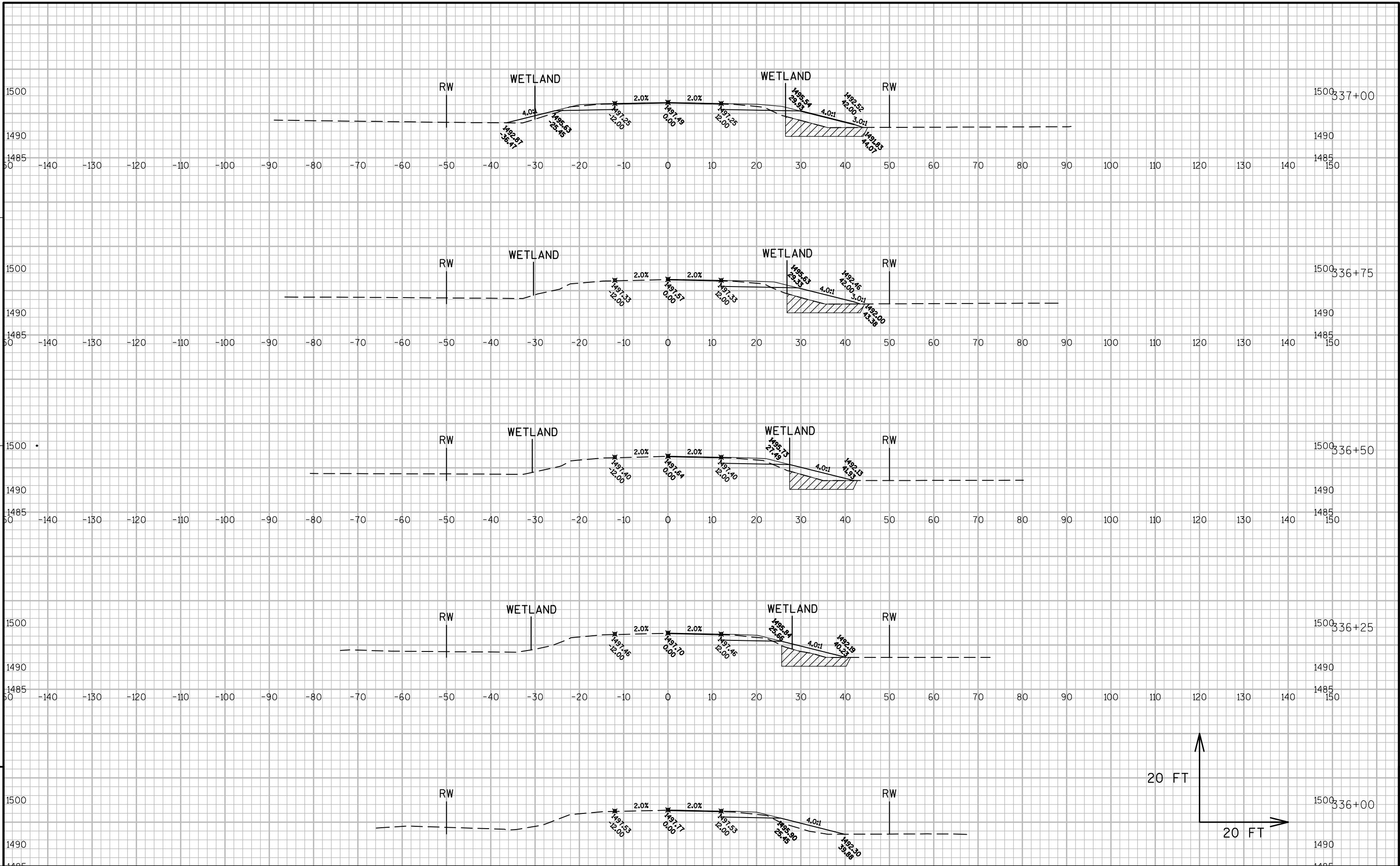








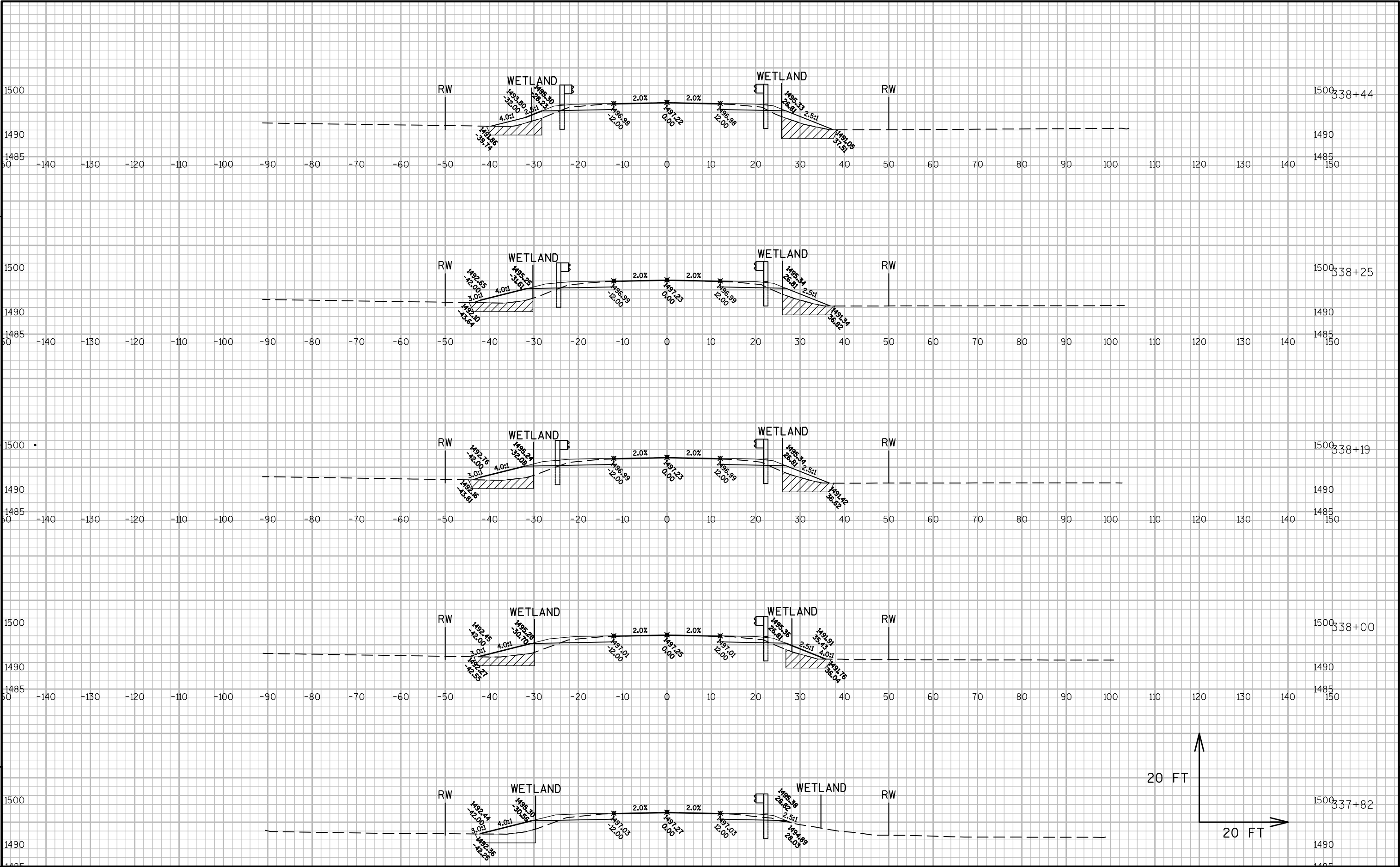




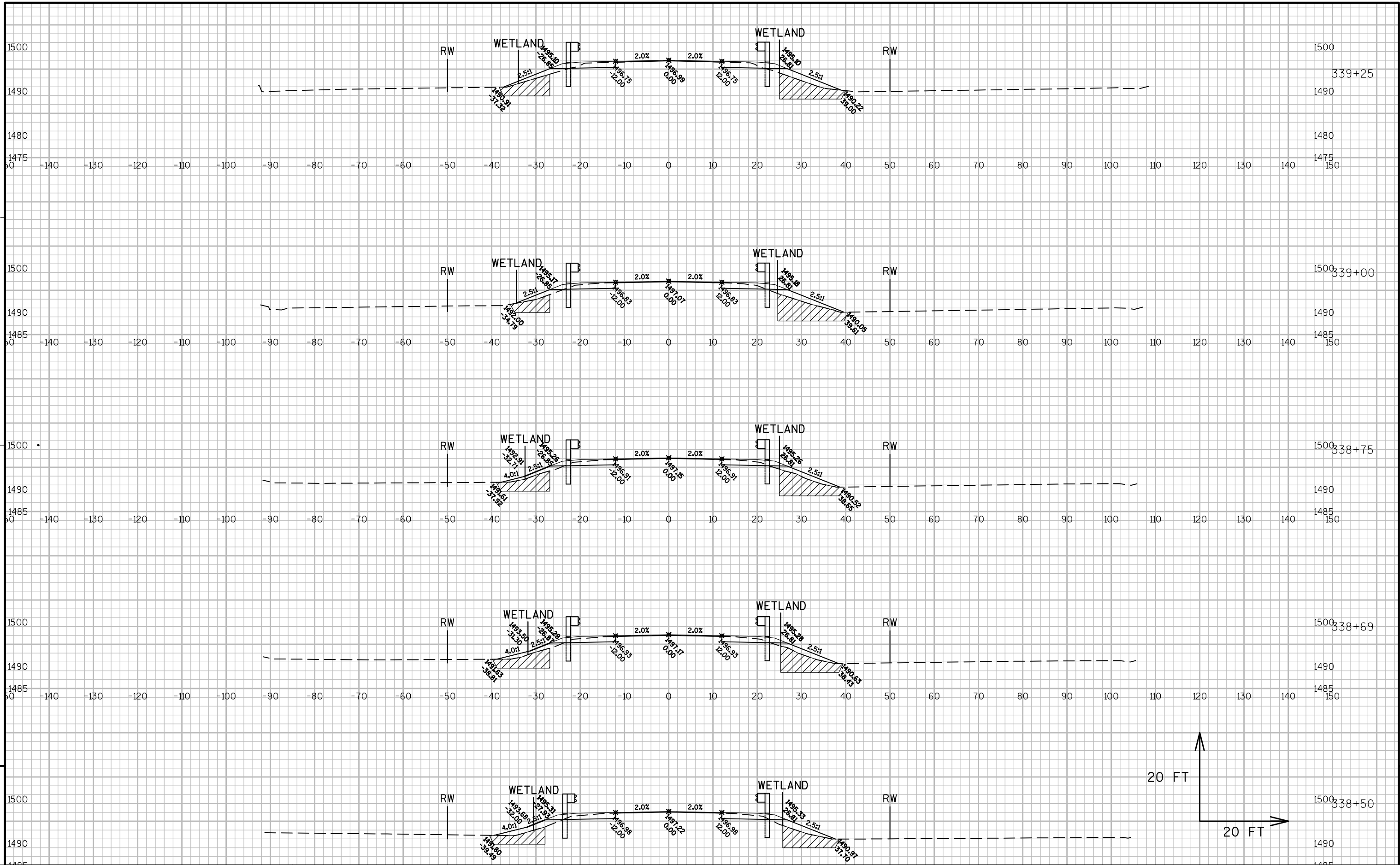
9

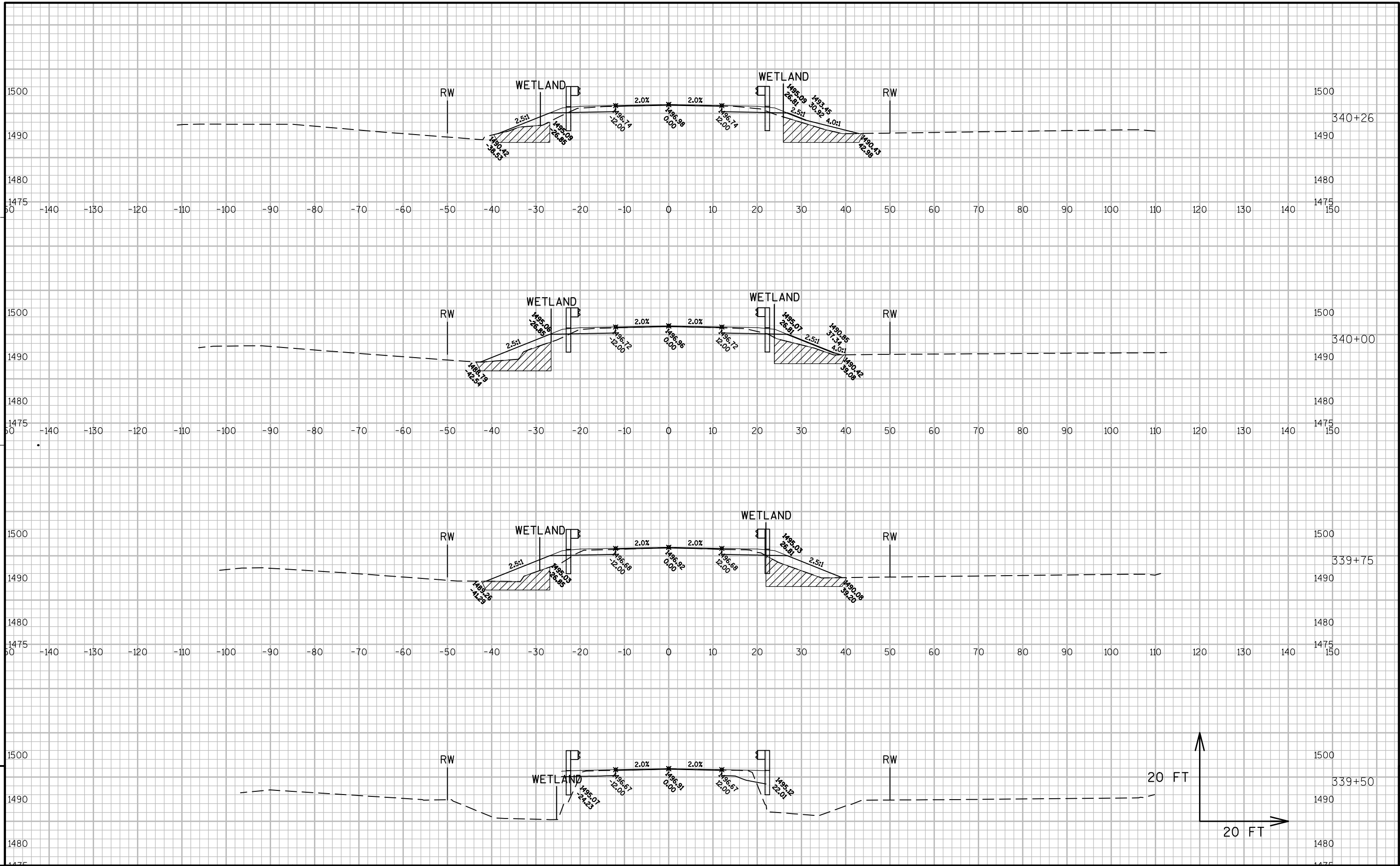
9

9

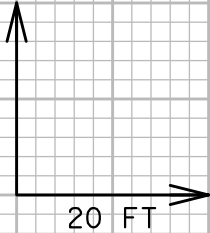
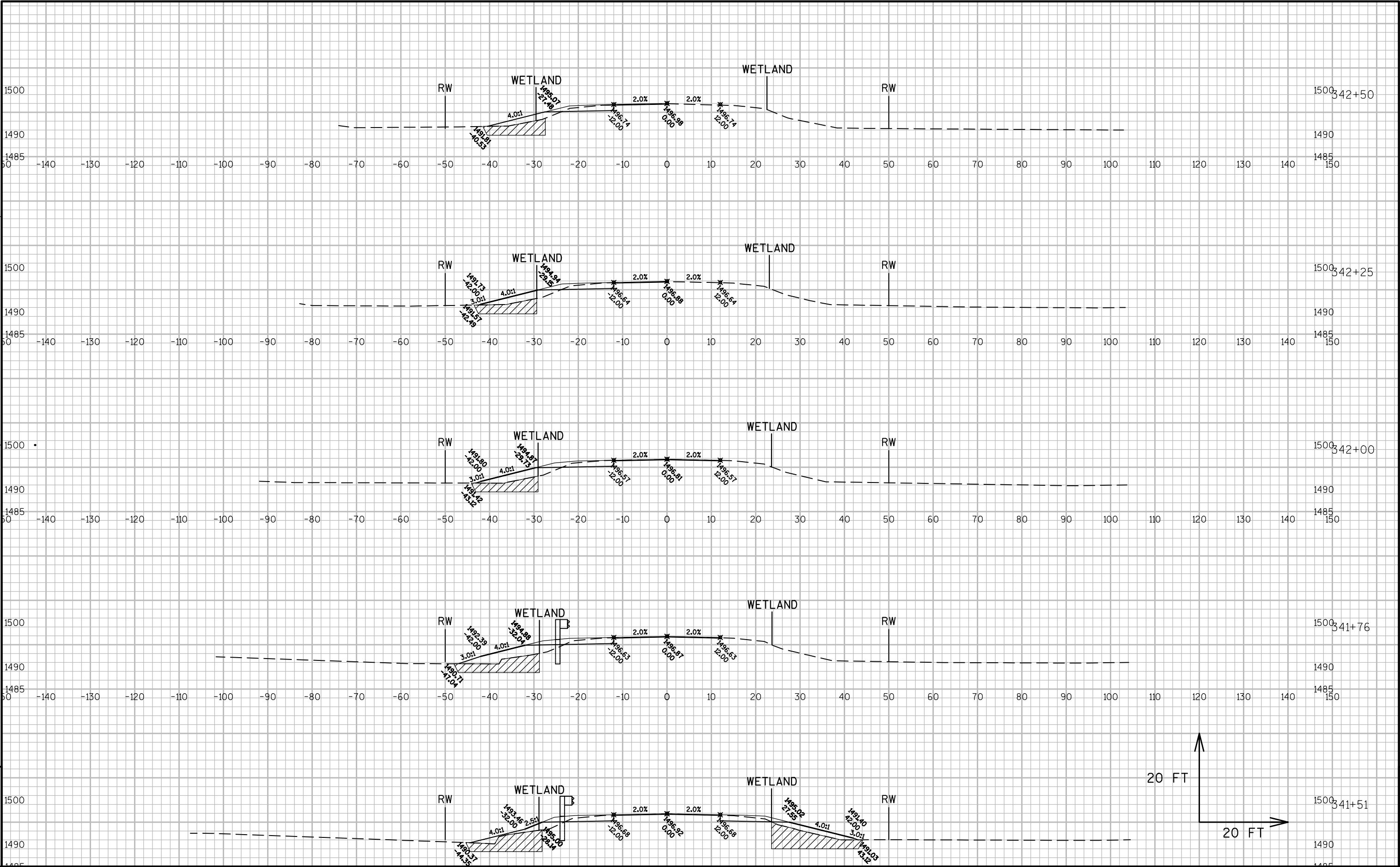


9

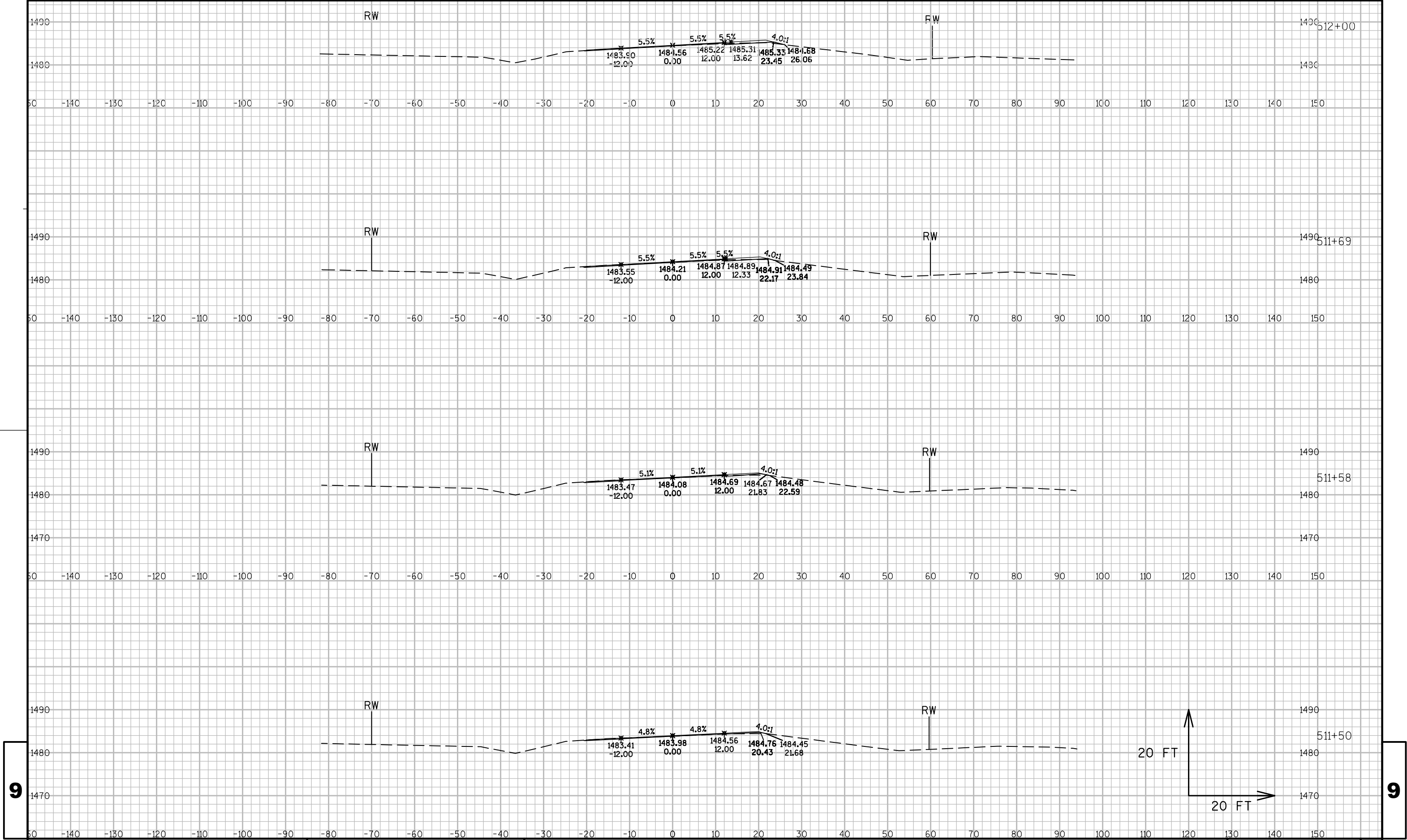




9

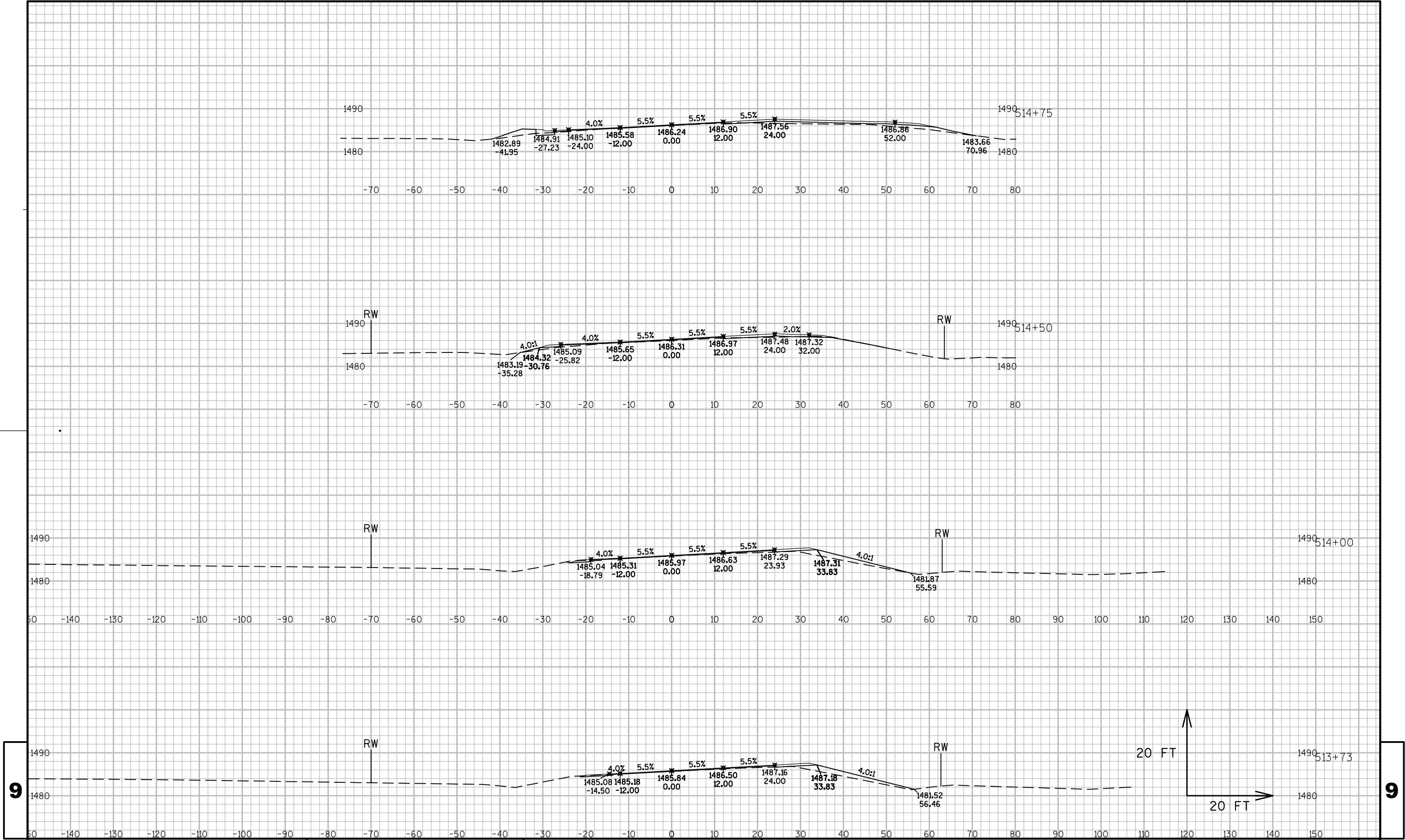


9



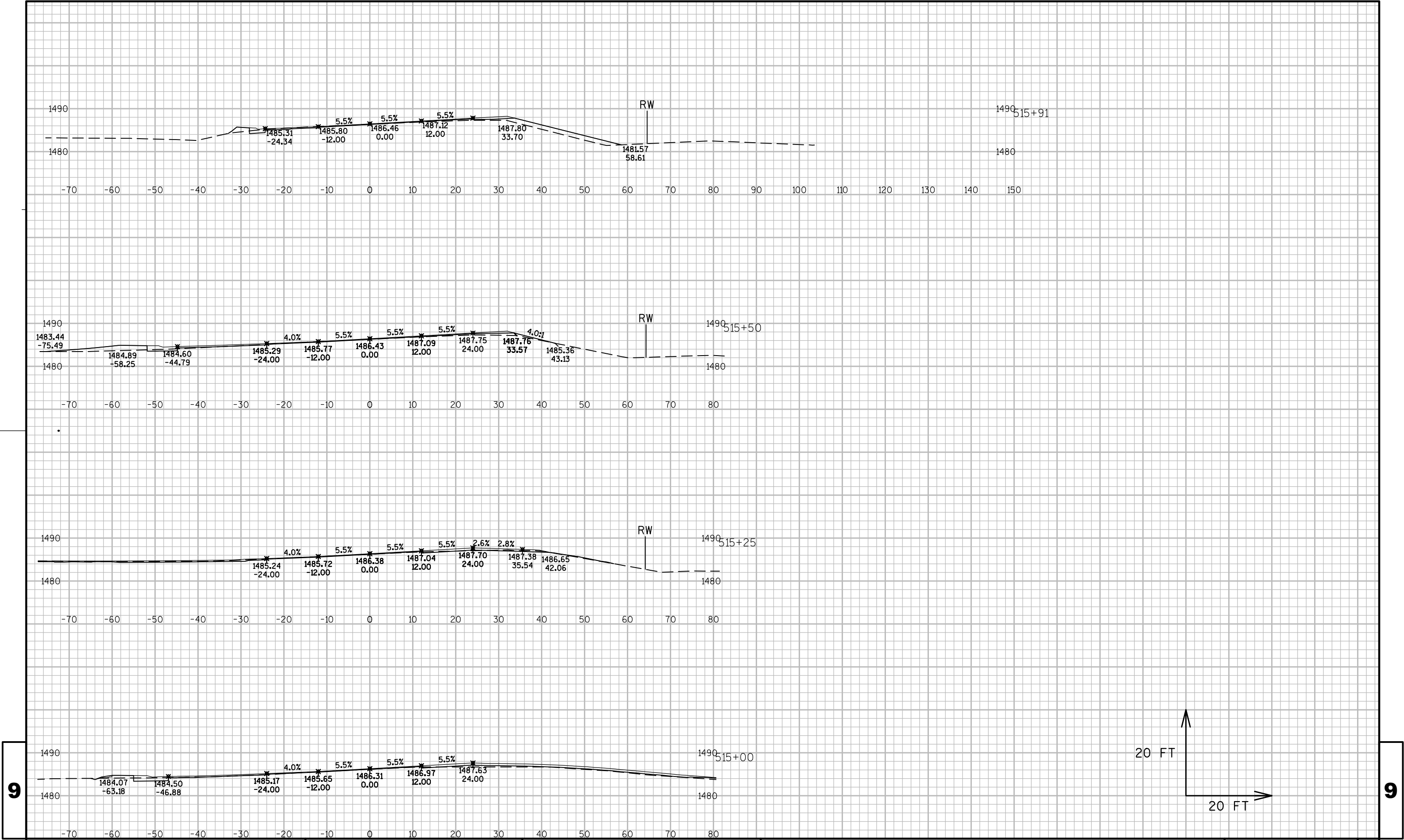
9

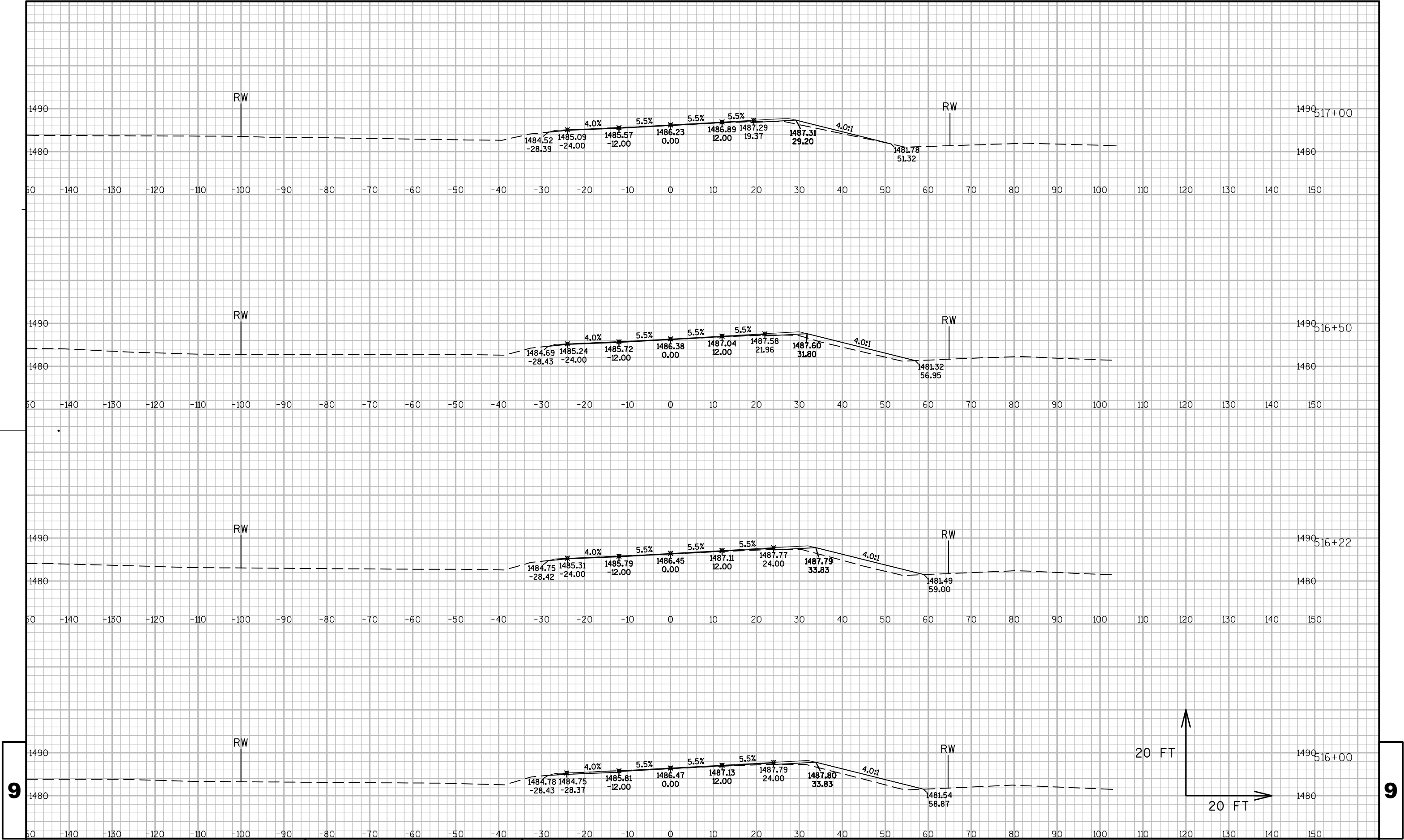
9



9

9





9

9

PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

CROSS SECTIONS: CURVE 4

SHEET

229

E

FILE NAME : N:\PDS\C3D\15811330\SHEETS\PLAN\090101_XS.DWG

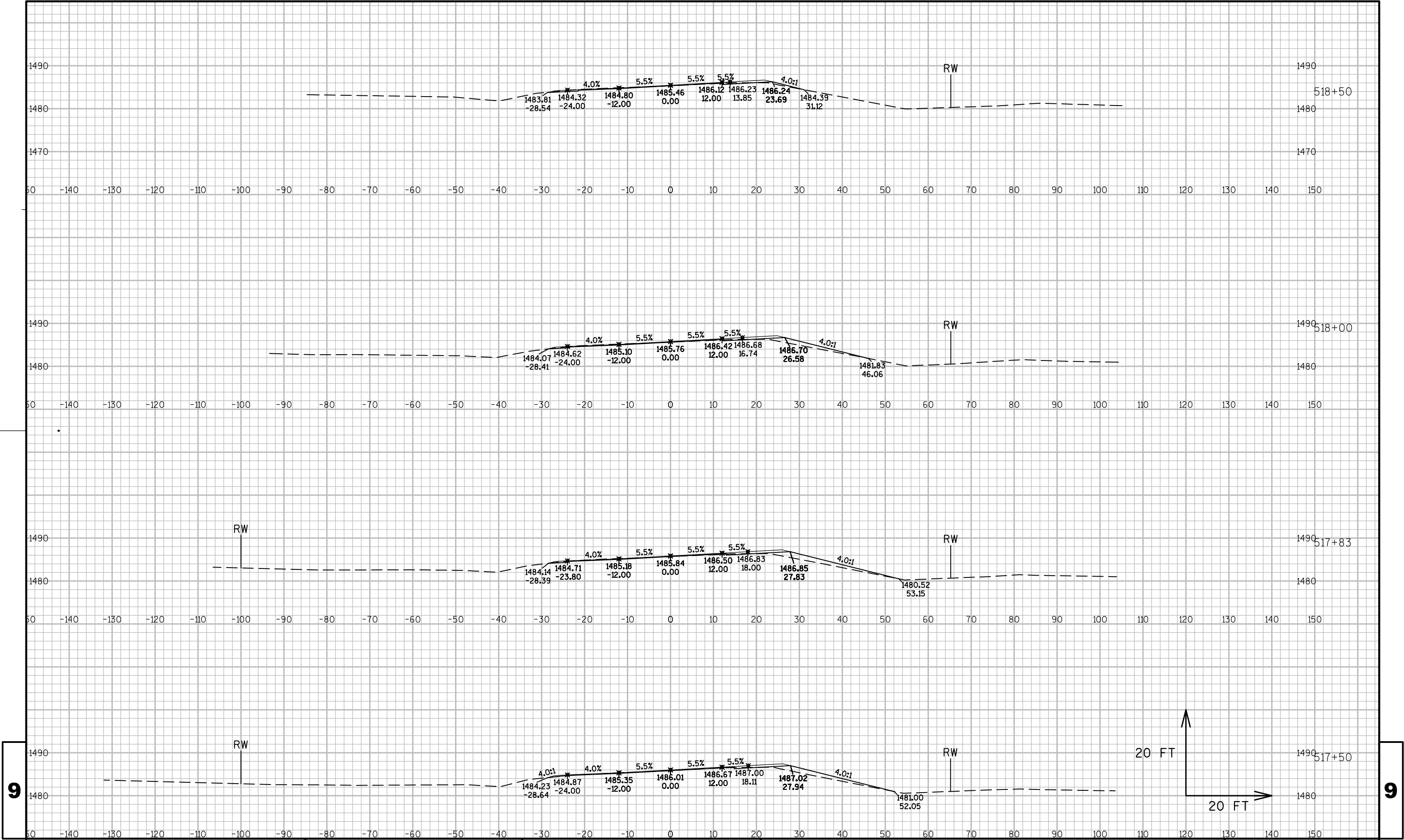
PLOT DATE : 1/6/2014 10:41 AM

PLOT BY : HOMAN, CODY J

PLOT NAME :

PLOT SCALE : 1" = 20' _XREF

WISDOT/CADDs SHEET 49



9

9

PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

CROSS SECTIONS: CURVE 4

SHEET

230

E

FILE NAME : N:\PDS\C3D\15811330\SHEETS\PLAN\090101_XS.DWG

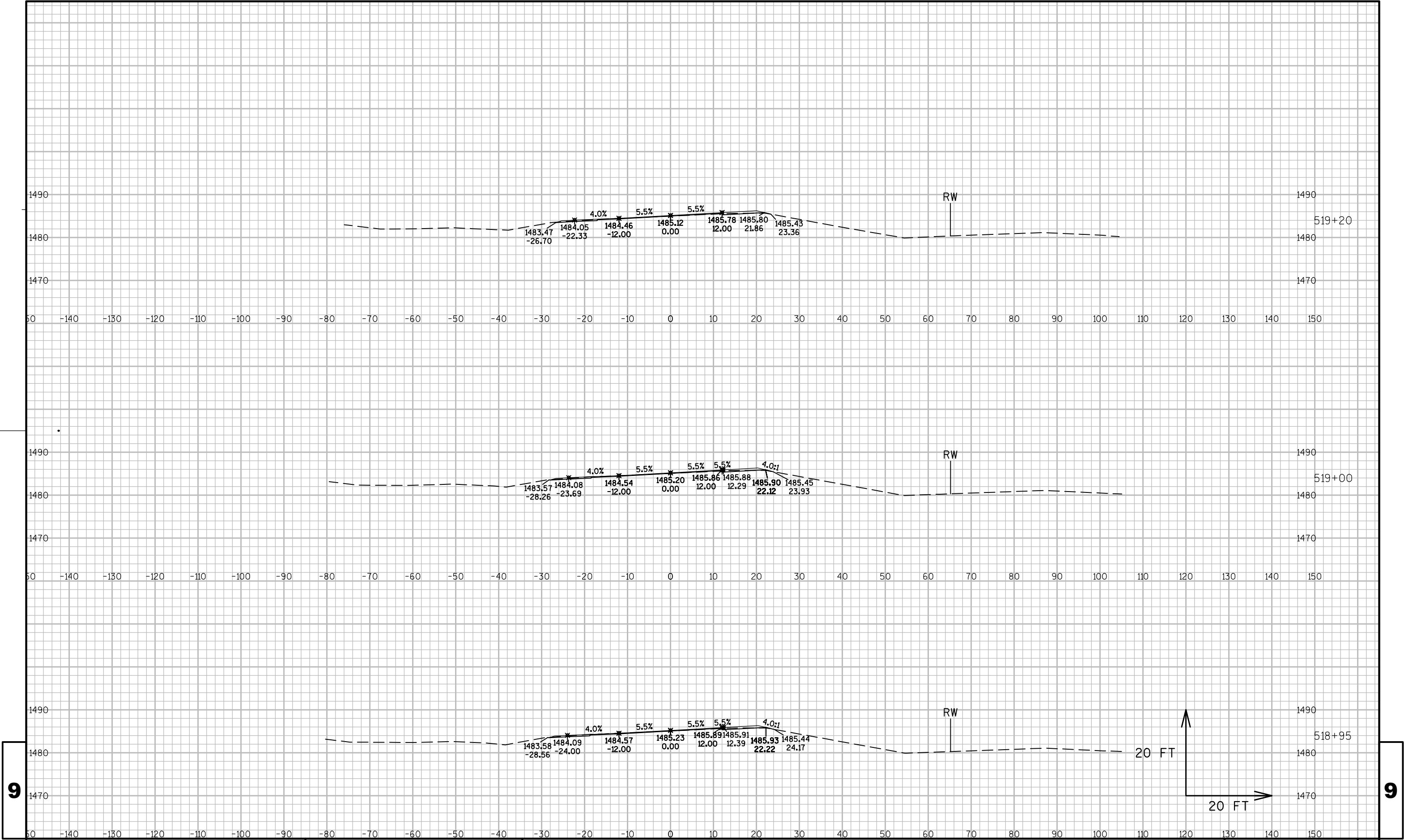
PLOT DATE : 1/6/2014 10:41 AM

PLOT BY : HOMAN, CODY J

PLOT NAME :

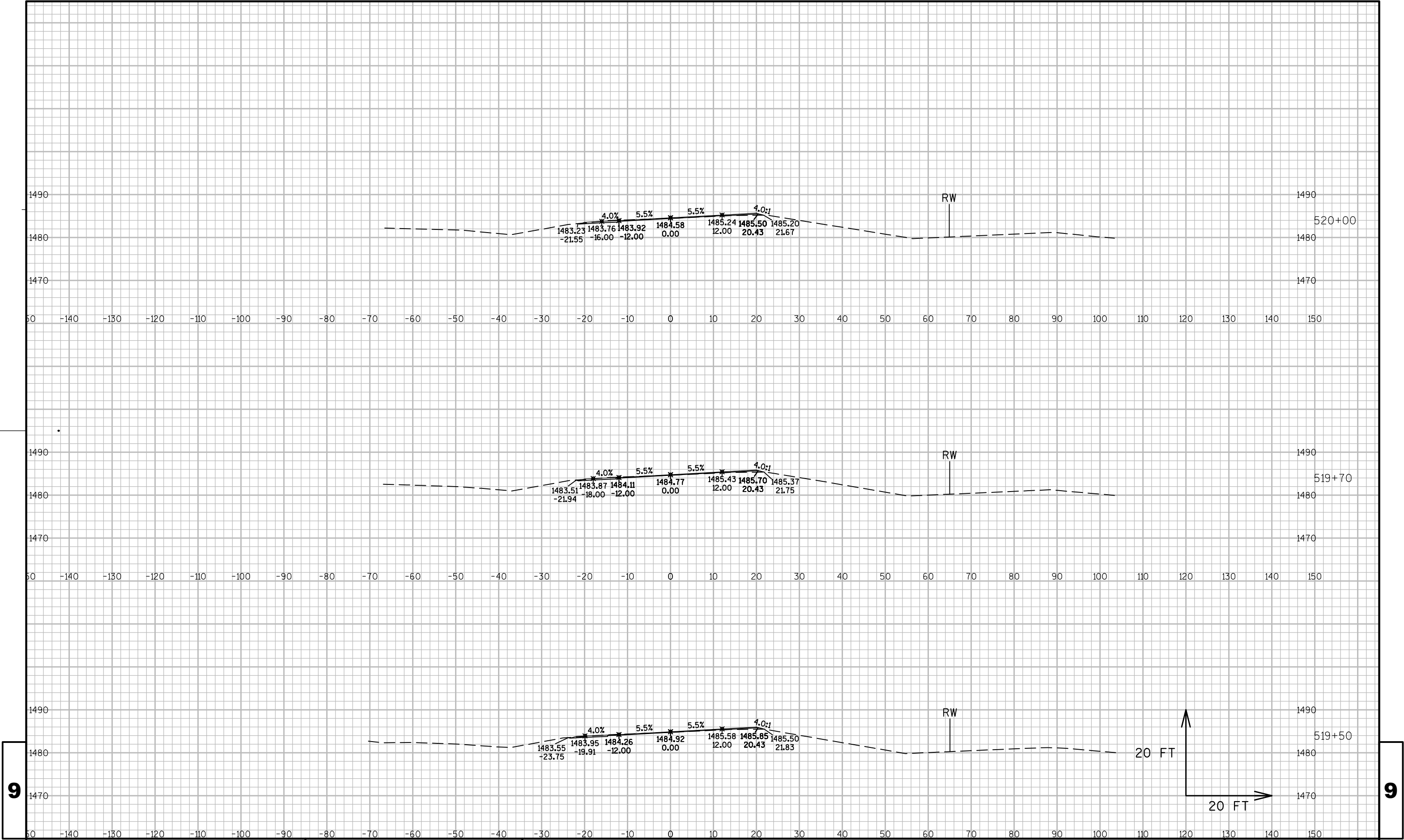
PLOT SCALE : 1" = 20' _XREF

WISDOT/CADDs SHEET 49



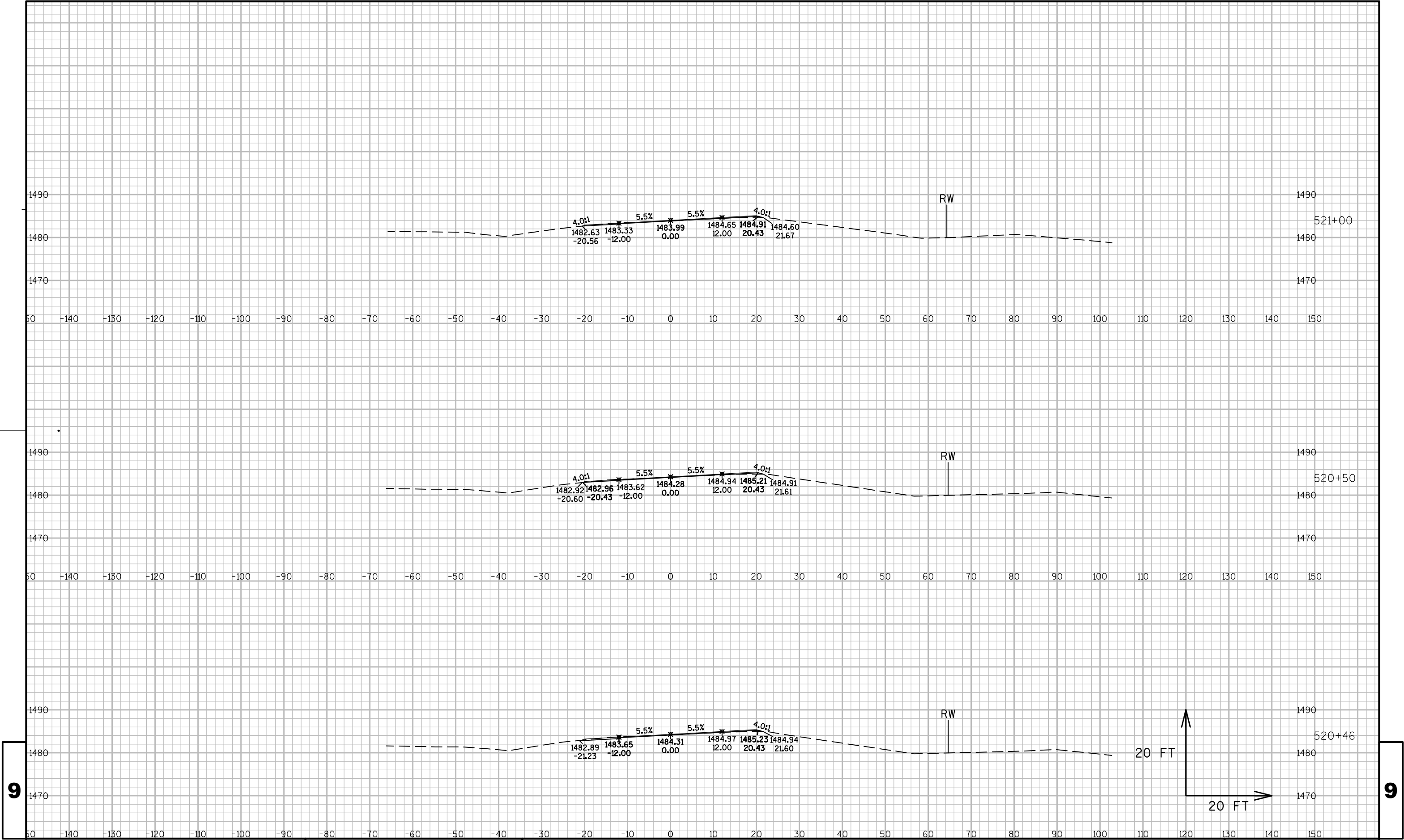
9

9



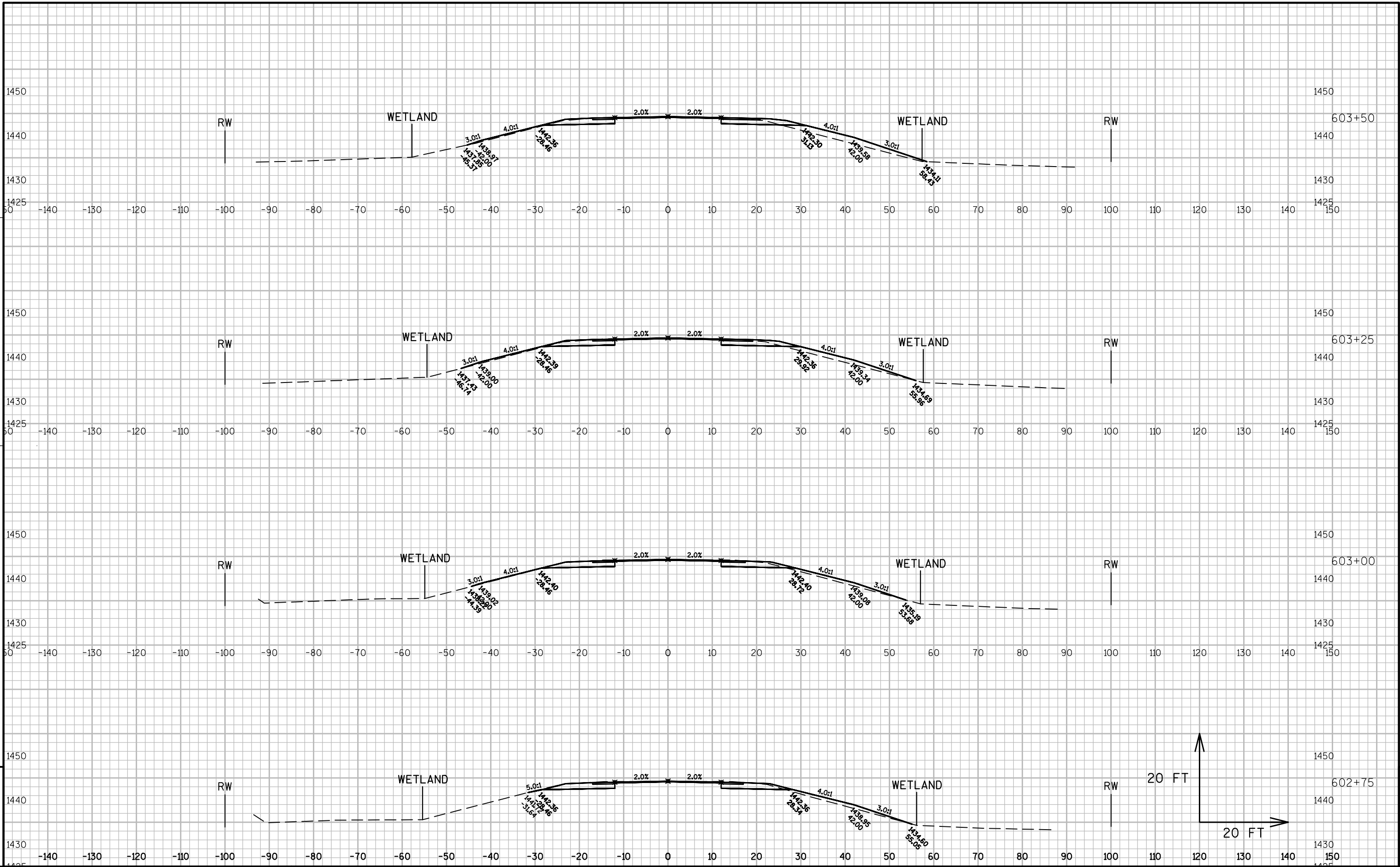
9

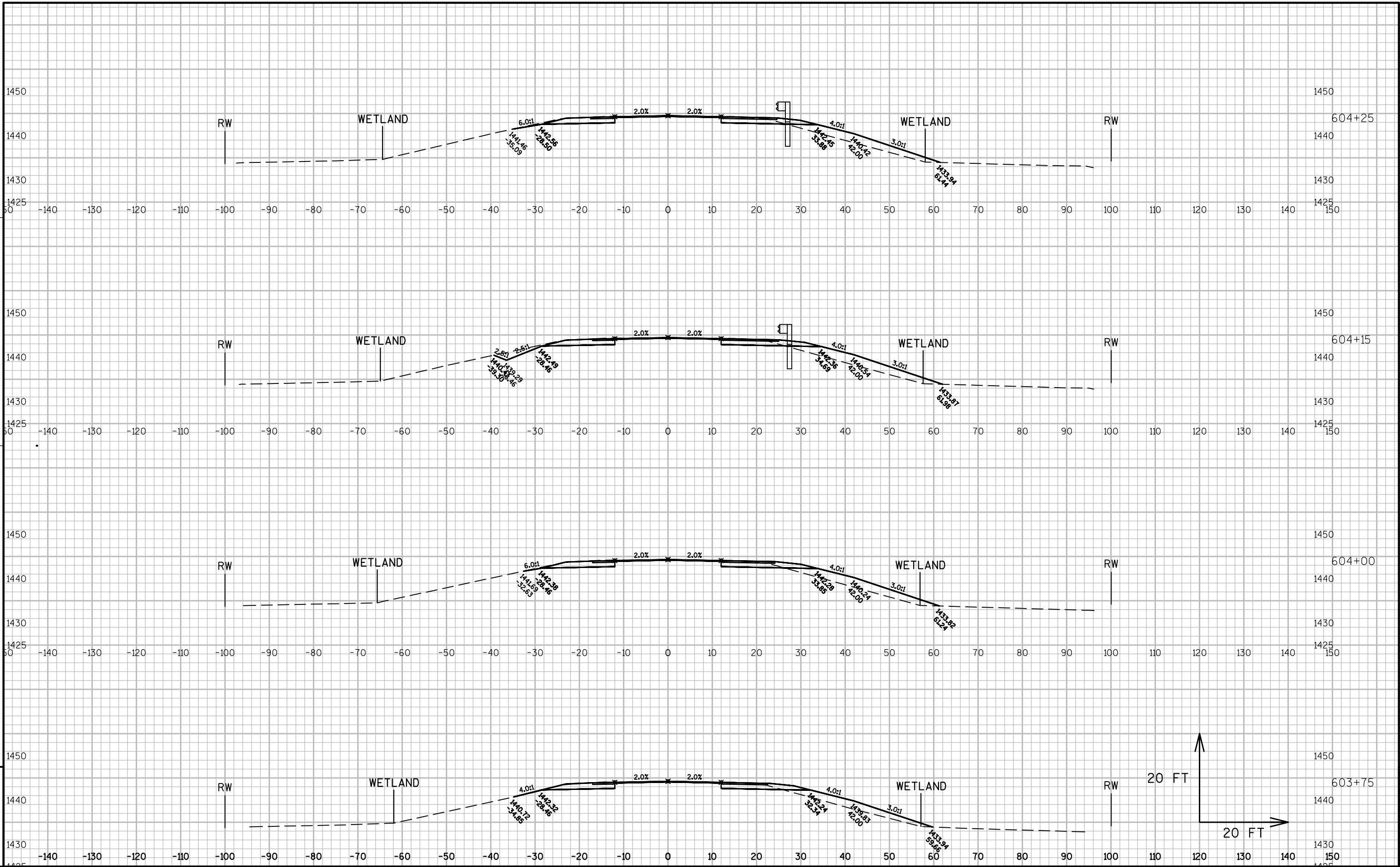
9

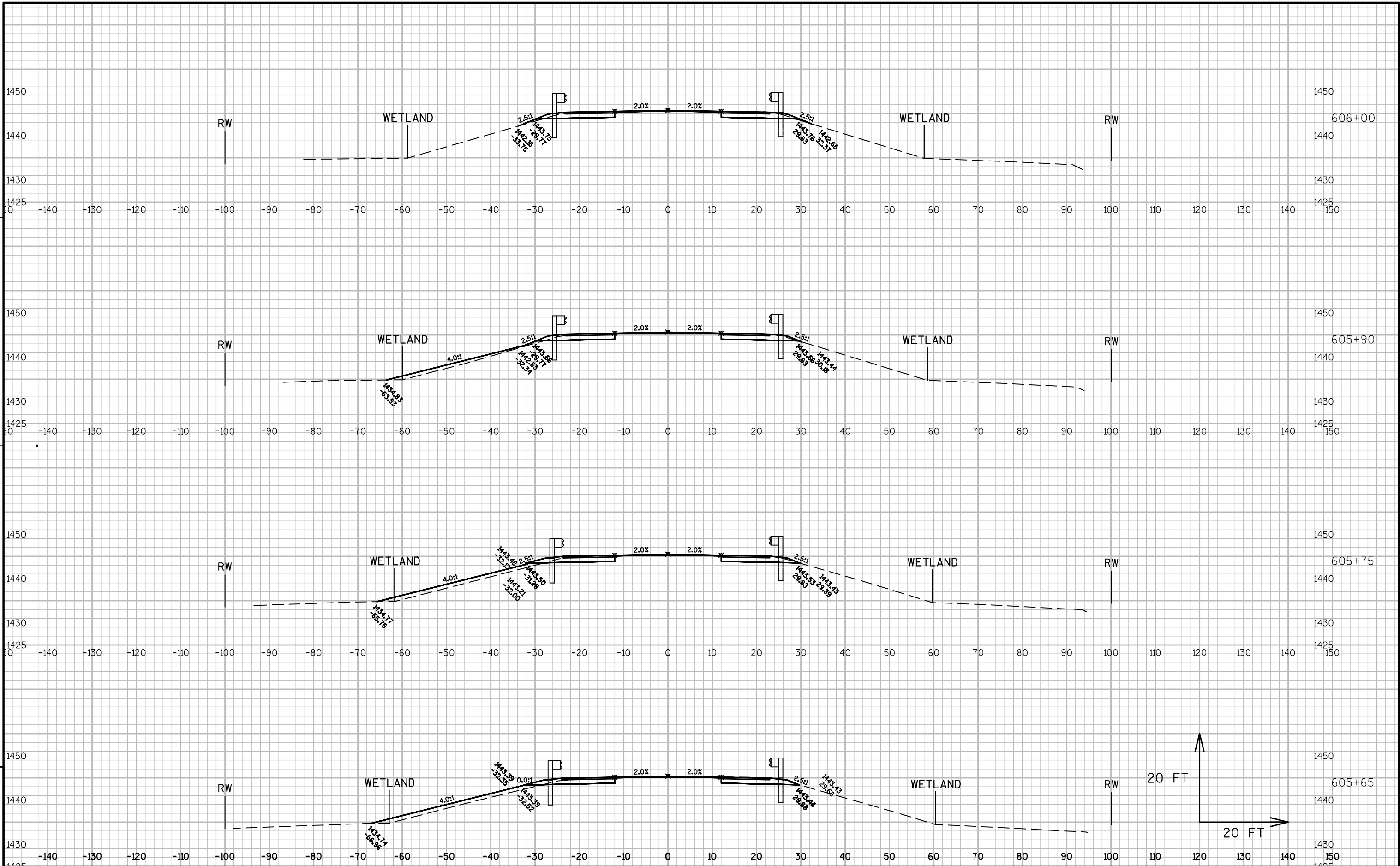


9

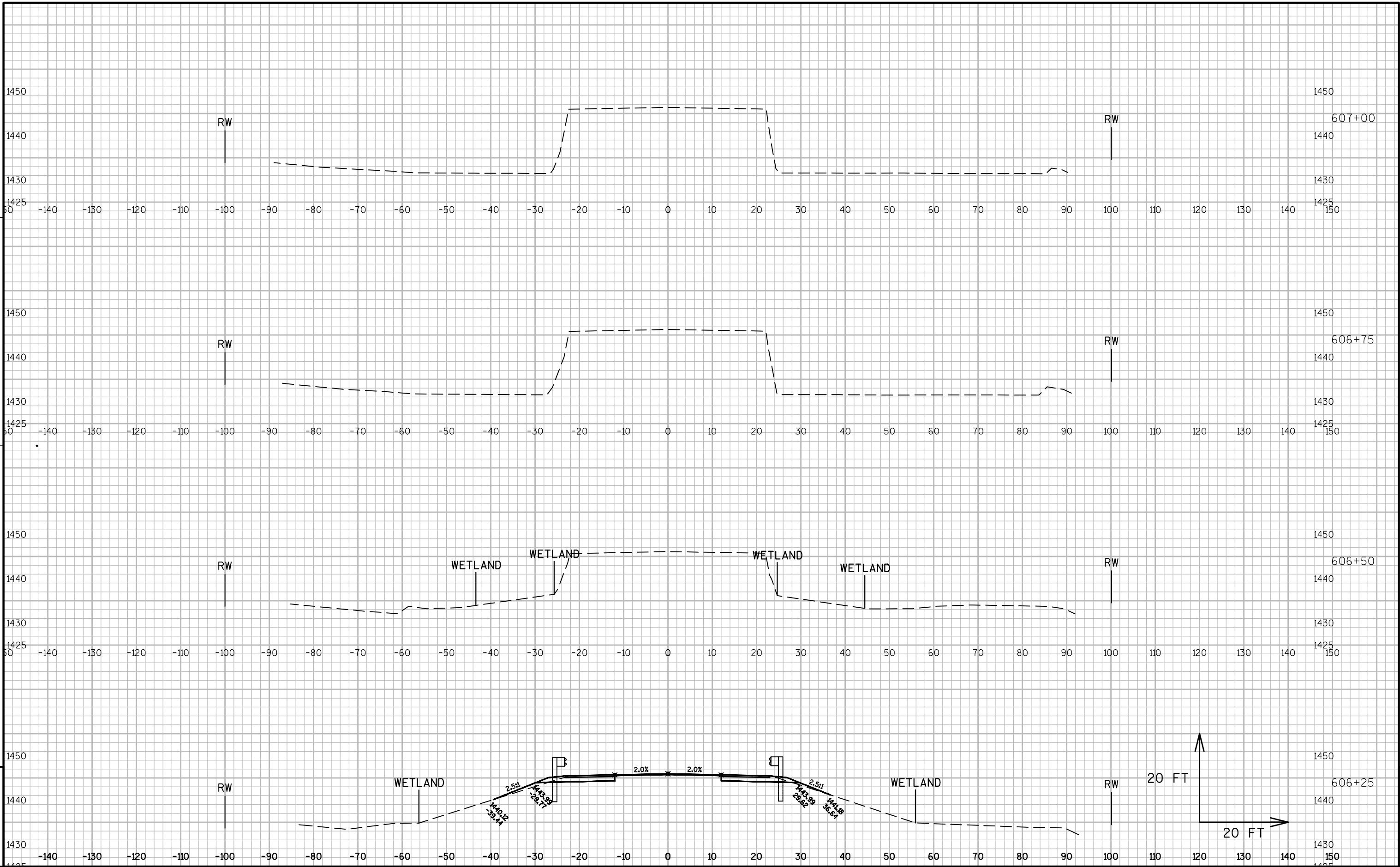
9



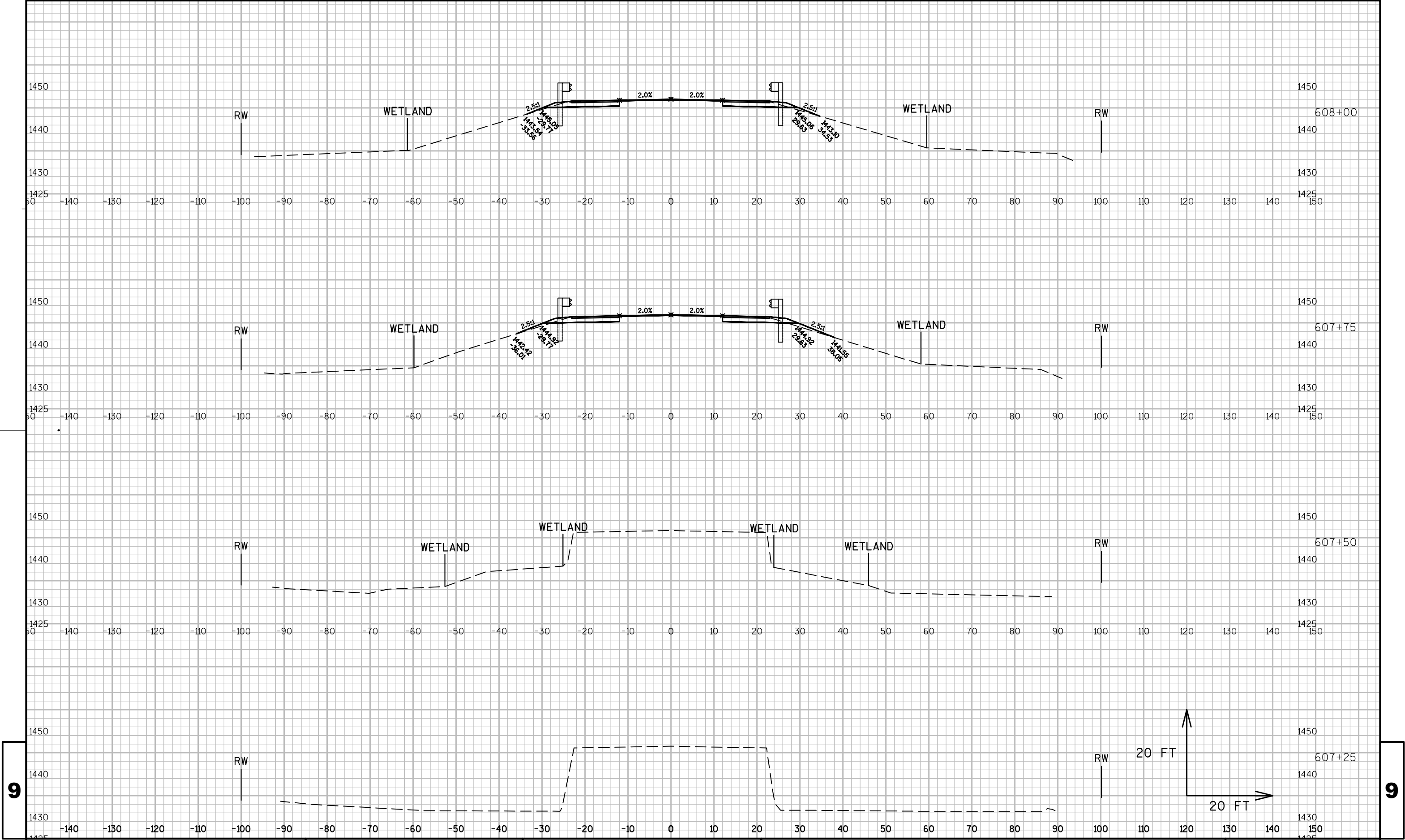




9



9



9

9

PROJECT NO:1581-13-70

HWY: USH 8

COUNTY: PRICE

CROSS SECTIONS: JUMP RIVER BRIDGE

SHEET

240

E

FILE NAME : N:\PDS\C3D\15811330\SHEETS\PLAN\090101_XS.DWG

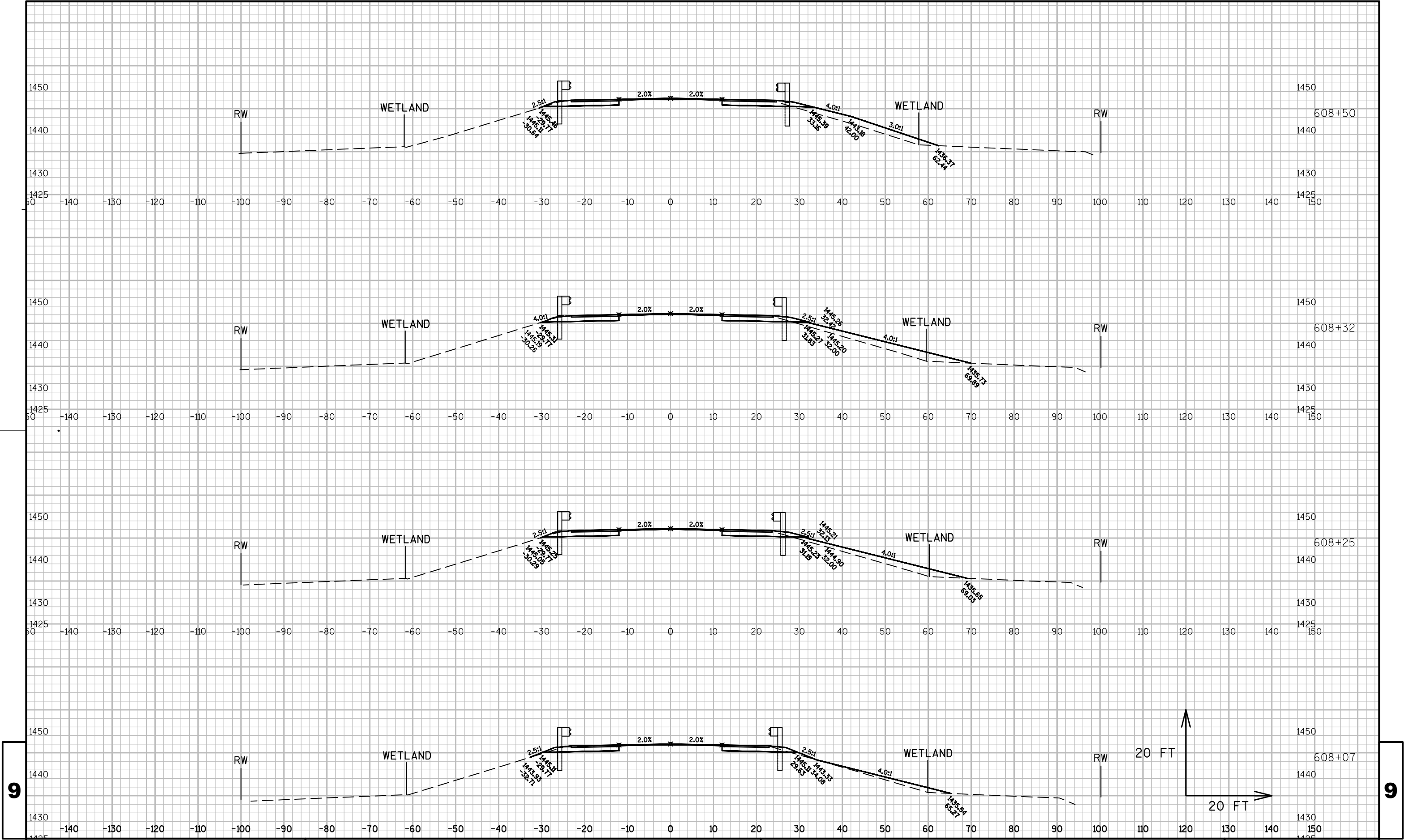
PLOT DATE : 5/30/2013 1:56 PM

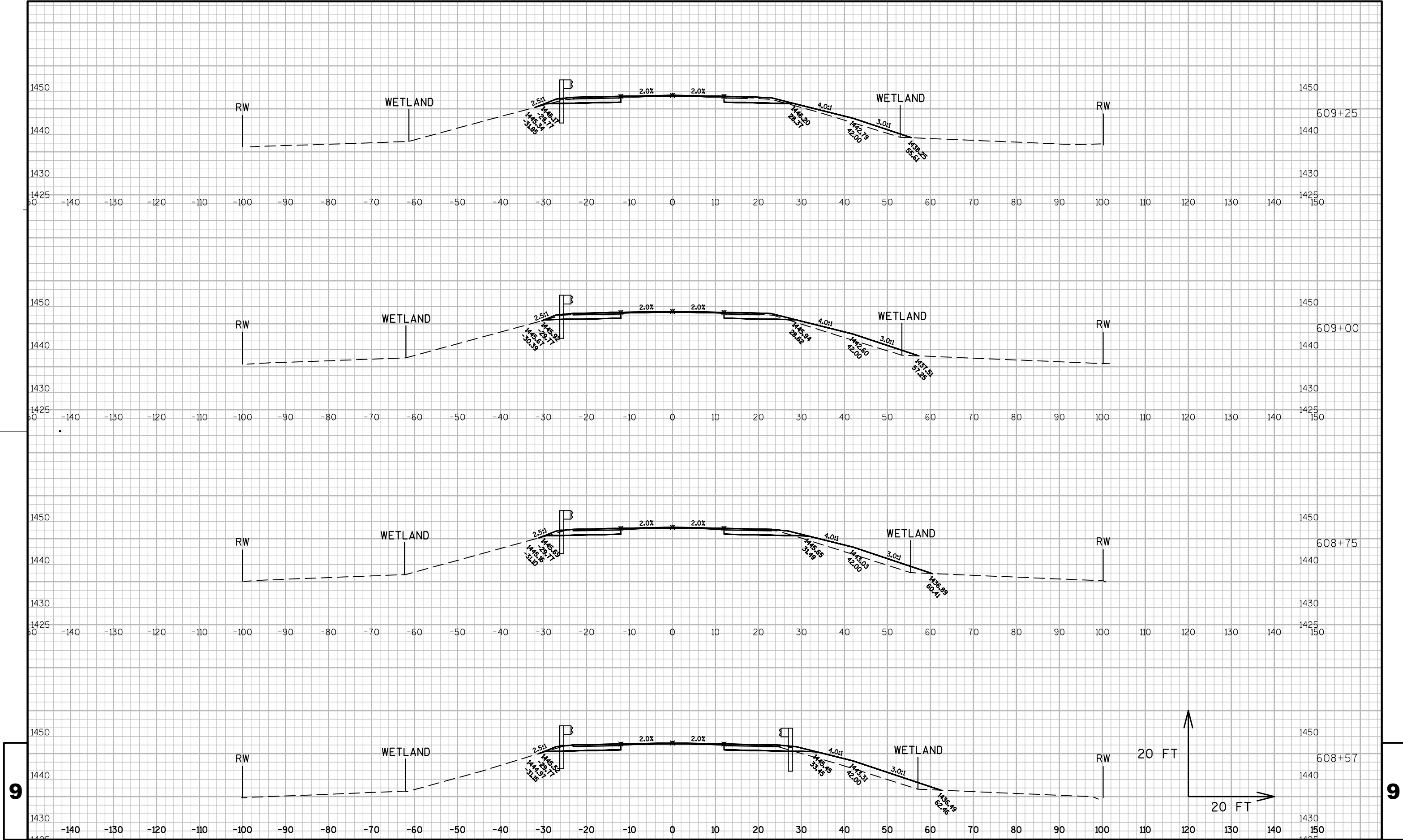
PLOT BY : HOMAN, CODY J

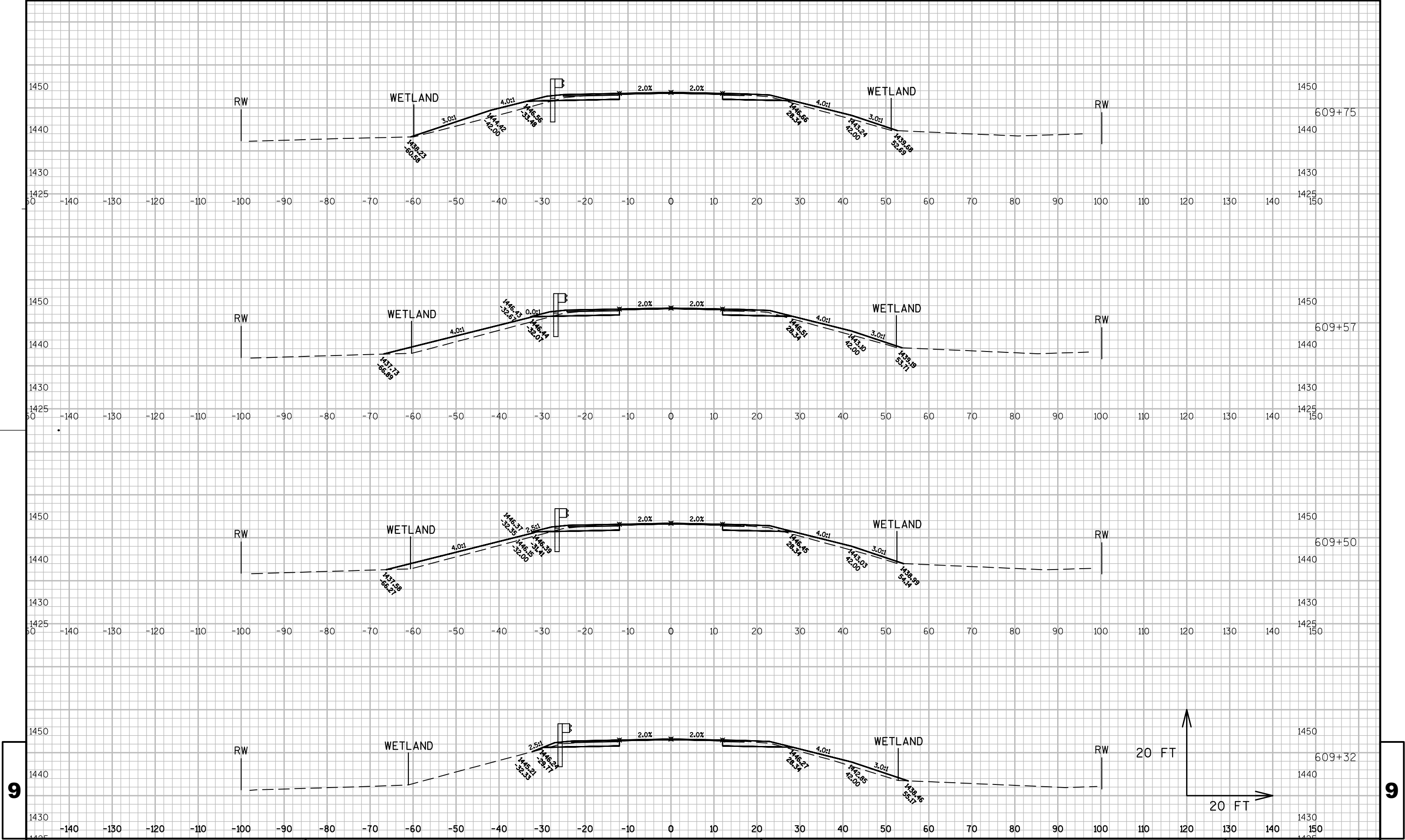
PLOT NAME :

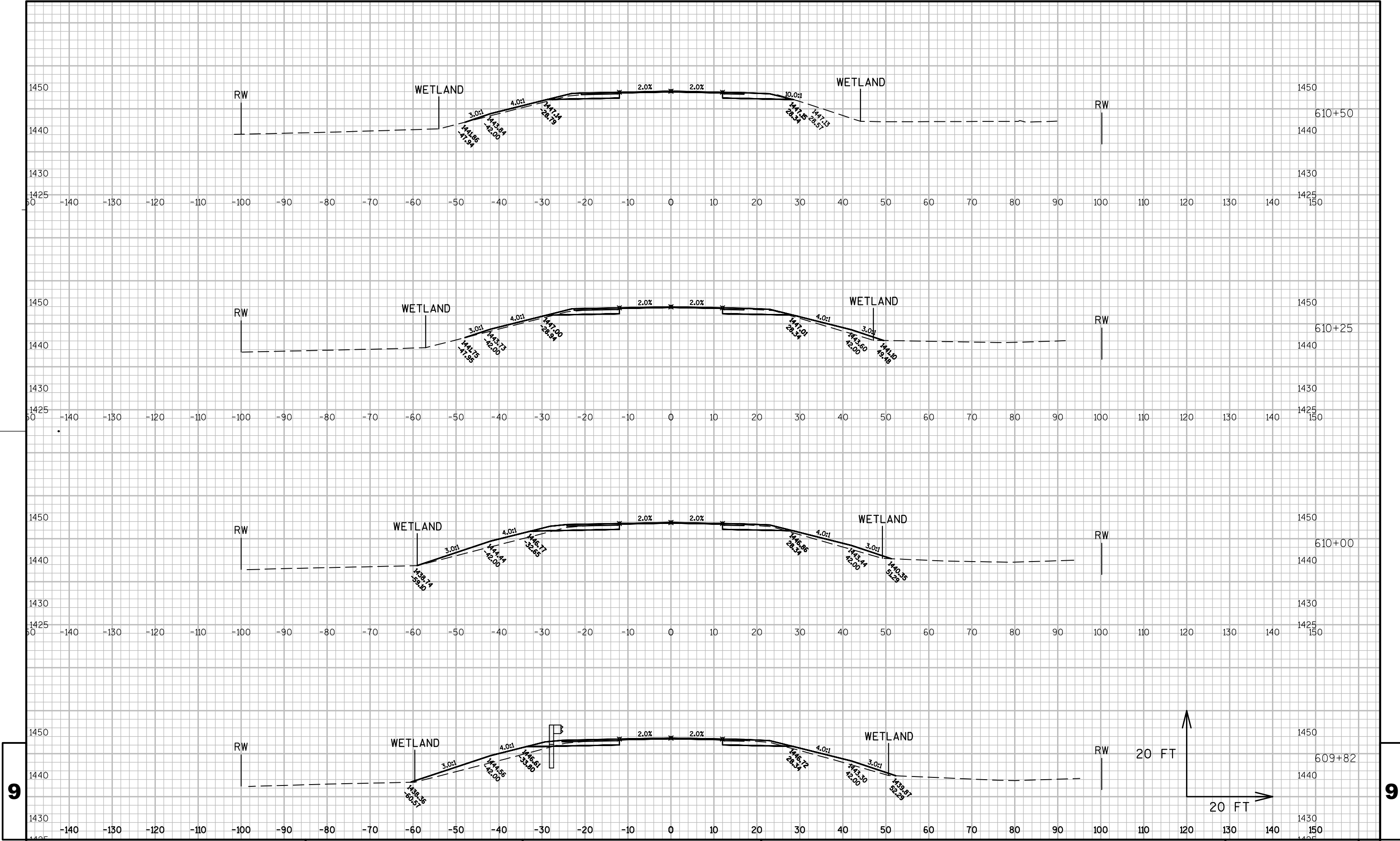
PLOT SCALE : 1" = 20' _XREF

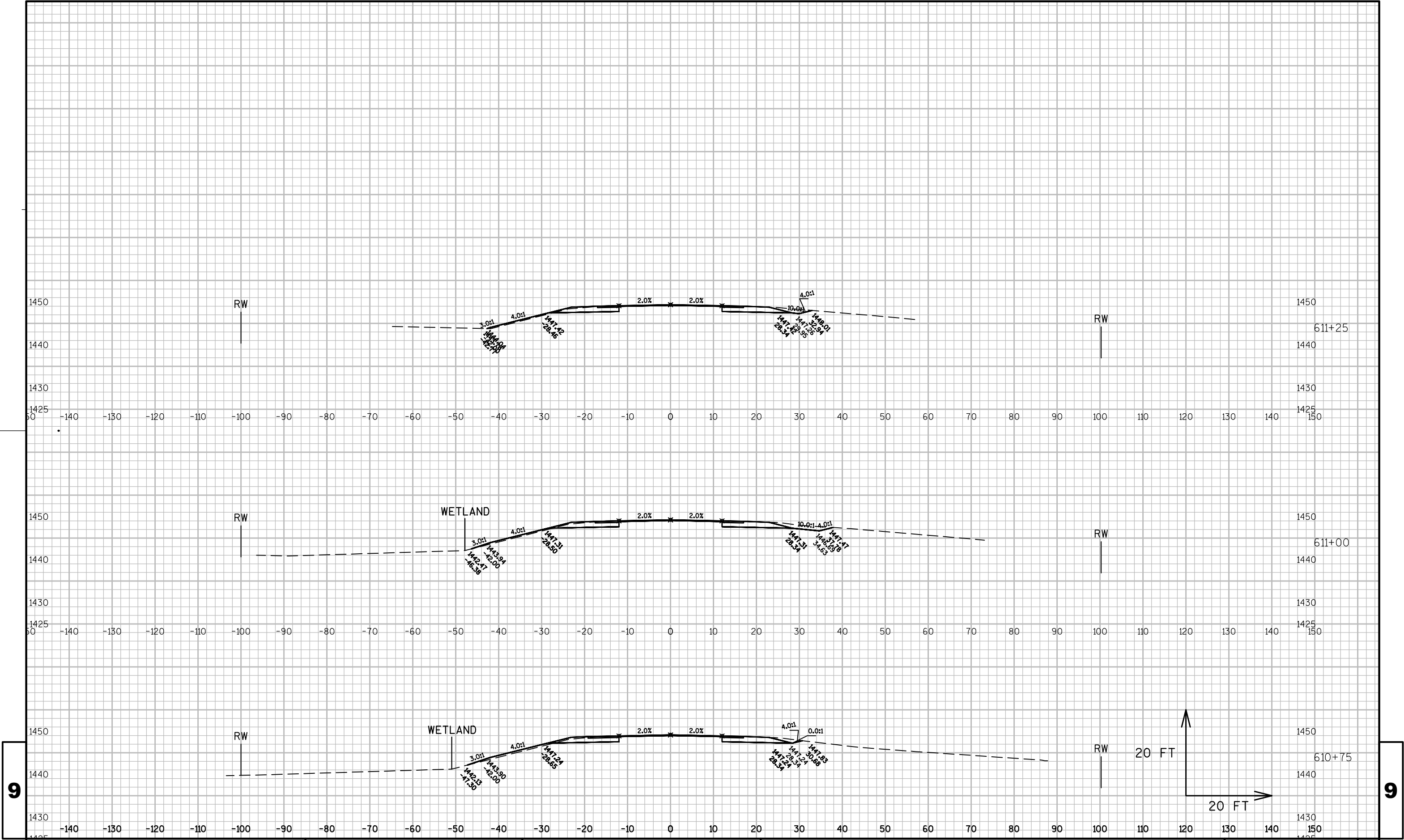
WISDOT/CADDs SHEET 49

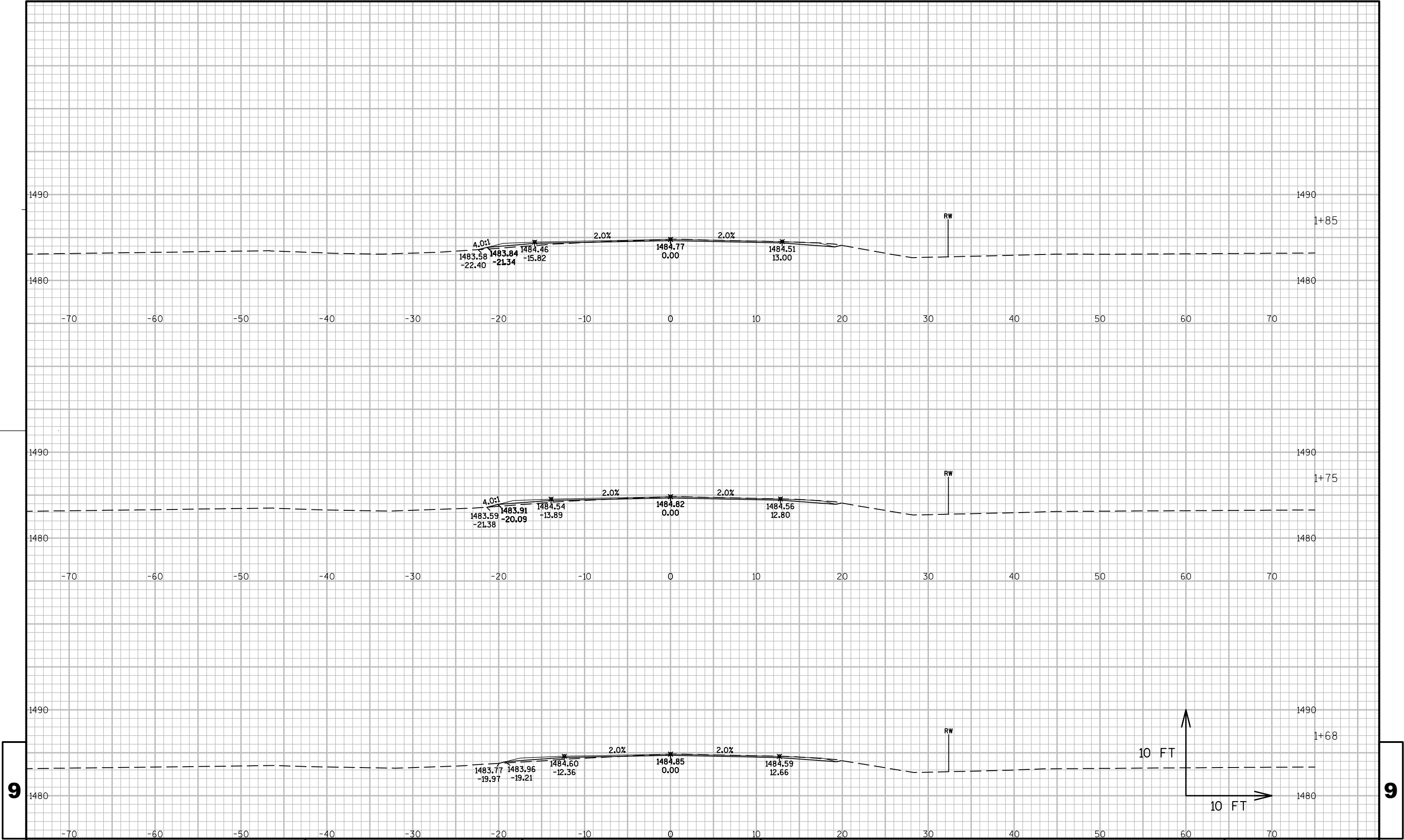






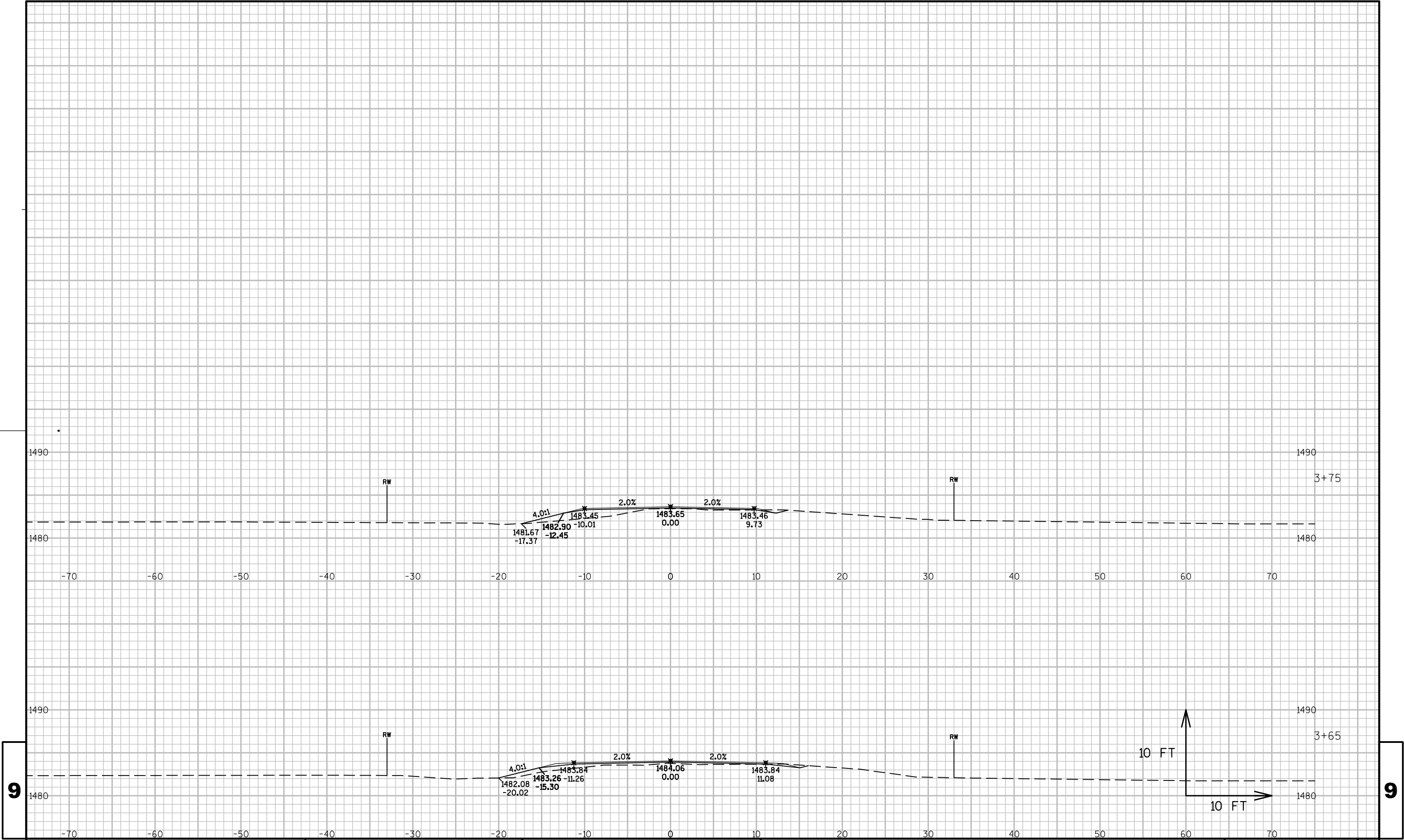






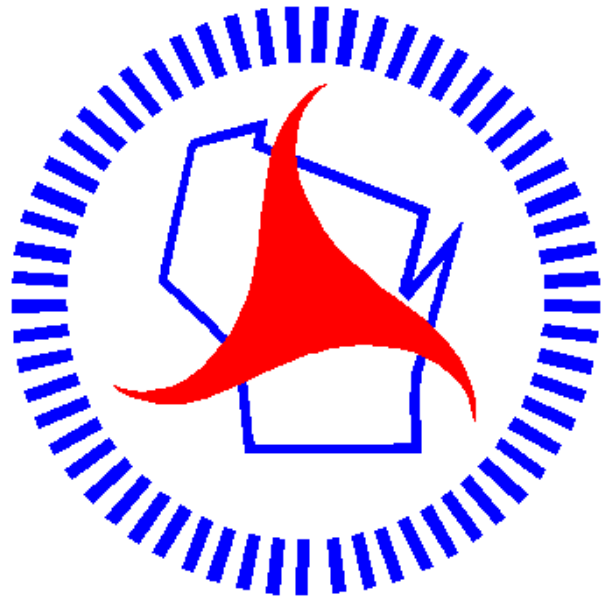
9

9



9

9



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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