

PROJECT ID: 1530-06-72
WITH: N/A

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 Plot
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 = 222

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

DURAND - MONDOVI

11TH AVENUE TO SOUTH COUNTY LINE

USH 10
PEPIN COUNTY

STATE PROJECT NUMBER
1530-06-72

STATE PROJECT

1530-06-72

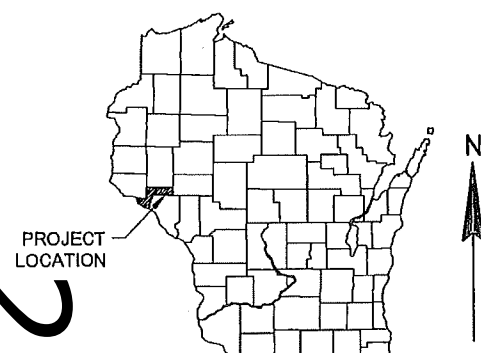
FEDERAL PROJECT

PROJECT

WISC 2015585

CONTRACT

1



DESIGN DESIGNATION

A.A.D.T. 2016	=	2900
A.A.D.T. 2036	=	3500
D.H.V.	=	6.6%
D.D.	=	60/40
T. (DHV)	=	7.8%
DESIGN SPEED	=	60 MPH
ESALS	=	N/A

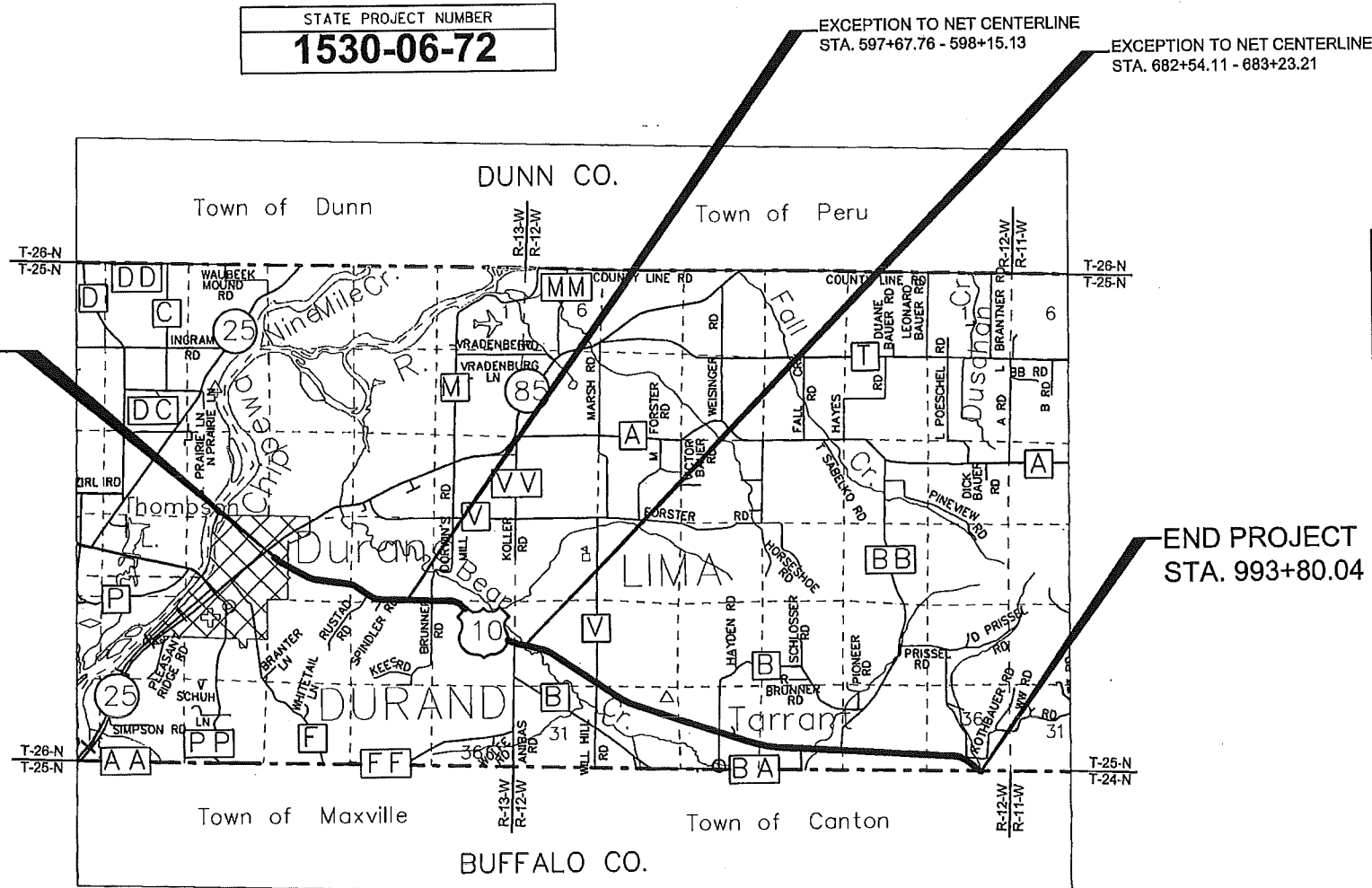
CONVENTIONAL SYMBOLS

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

PROFILE

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

BEGIN PROJECT
STA.515+47.29
X = 622488.4291
Y = 280848.5644



LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 9.037 MI.

"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), PEPIN COUNTY."

ORIGINAL PLANS PREPARED BY



DATE: 4/17/15

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	NWBE, INC
Surveyor	
Designer	H. HARRINGTON
Project Manager	W. MAYES
Regional Examiner	D. OJIBWAY
Regional Supervisor	TIM MASON
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 4/23/15
(Signature)

E

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES WHICH HAVE FACILITIES IN THE AREA.

WHEN THE QUANTITY OF BASE AGGREGATE DENSE AND HMA PAVEMENT ARE MEASURED FOR PAYMENT BY THE TON, THE THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND UPON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE LAYER THICKNESS FOR HMA PAVEMENT LAYERS SHALL BE 1.75" UPPER LAYER AND 1.5" LEVELING LAYER. THE LAYER THICKNESS FOR ASPHALTIC SURFACE (SHOULDER PAVEMENT 4-FOOT WIDTH) MAY BE PLACED IN ONE 3.25" LAYER.

PRIOR TO PLACEMENT OF STEEL PLATE BEAMGUARD COMPONENTS, THE SHOULDER SHALL BE IN PLACE, SHAPED, COMPACTED, AND FINISHED.

RESTORE SIDE ROAD INTERSECTIONS, DRIVEWAY AND OTHER ENTRANCES TO EXISTING SURFACE CONDITIONS UNLESS SHOWN OTHERWISE.

ALL DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND COVERED WITH EROSION MAT OR MULCH.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IT SHALL BE INSTALLED PRIOR TO CONSTRUCTION.

STATIONING, DISTANCES AND OFFSETS FOR PERMANENT SIGNS SHOWN ON THE PLAN ARE APPROXIMATE. ACTUAL LOCATIONS OF SIGNS ARE TO BE COORDINATED IN THE FIELD BY THE ENGINEER.

THE 3" REMOVING ASPHALTIC SURFACE MILLING DEPTH IS INTENDED TO REMOVE ALL OF THE EXISTING ASPHALT.

THE BENCHMARK IS LOCATED IN THE NW CORNER OF USH 10 AND STH 25. THE POINT NAME IS "DURAND GPS". X = 610197.679, Y = 281664.403, Z = 798.41.

DESIGN CONTACT

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WIDNR LIAISONS

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UTILITIES

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CHIPPEWA VALLEY CABLE INC - COMMUNICATION LINE
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DURAND, WI 54736
PHONE: (715) 672-5966

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GAS/PETROLEUM
3600 STH 157
P.O. BOX 429
LA CROSSE, WI 54602
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EMAIL: DOUGD@MIDWESTNATURALGAS.COM
EMERGENCY CONTACT: (877)-817-3119

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320 HELLER RD
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PHONE: (715) 323-7412
EMAIL: MEGAN.M.BOLDIG@XCELENERGY.COM

LIST OF STANDARD ABBREVIATIONS

ABUT.	ABUTMENT
AGG.	AGGREGATE
AH.	AHEAD
AADT	ANNUAL AVERAGE DAILY TRAFFIC
APPROX.	APPROXIMATE
A.E.W.	APRON END WALL
ASPH.	ASPHALTIC
BK.	BACK
BEG.	BEGIN
B.M.	BENCH MARK
C/L OR 	CENTER LINE
C.E.	COMMERCIAL ENTRANCE
CONC.	CONCRETE
CONSTR.	CONSTRUCTION
CO.	COUNTY
C.T.H.	COUNTY TRUNK HIGHWAY
X-SEC.	CROSS SECTION
CR.	CRUSHED
CULV.	CULVERT
C.P.	CULVERT PIPE
D.O.T.	DEPARTMENT OF TRANSPORATION
D.H.V.	DESIGN HOUR VOLUME
DIA.	DIAMETER
DISCH. OR DIS.	DISCHARGE
E.	EAST
XEAST	GRID COORDINATE
EB	EASTBOUND
EA.	EACH
ELEC.	ELECTRIC
EL. OR ELEV.	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
E.B.S.	EXCAVATION BELOW SUBGRADE
EXIST.	EXISTING
FERT.	FERTILIZE
F.E.	FIELD ENTRANCE
FIN.	FINISHED
F.L. OR F/L	FLOW LINE
HORIZ.	HORIZONTAL
INL.	INLET
INT.	INTERSECTION
INV.	INVERT
LT.	LEFT

L.H.F.	LEFT-HAND FORWARD
LIN. FT.	LINEAR FOOT
L.S.	LUMP SUM
MAX.	MAXIMUM
MISC.	MISCELLANEOUS
N.	NORTH
YNORTH	GRID COORDINATE
N.E.	NORTHEAST
N.W.	NORTHWEST
PAVT.	PAVEMENT
P.C.	POINT OF CURVATURE
P.I.	POINT OF INTERSECTION
P.T.	POINT OF TANGENCY
P.O.T.	POINT ON TANGENT
P.E.	PRIVATE ENTRANCE
PROJ.	PROJECT
R.	RANGE
REQD.	REQUIRED
R/L	REFERENCE LINE
RT.	RIGHT
R.H.F.	RIGHT-HAND FORWARD
R/W	RIGHT-OF-WAY
RD.	ROAD
SHLD.	SHOULDER
S.	SOUTH
S.D.D.	STANDARD DETAIL DRAWINGS
S.T.H.	STATE TRUNK HIGHWAYS
STA.	STATION
STRUCT.	STRUCTURE
TEL.	TELEPHONE
TEMP.	TEMPORARY
TN.	TOWN
T.	TRUCKS (PERCENT OF)
TYP.	TYPICAL
U.G.	UNDERGROUND
VAR.	VARIABLE
V.	VELOCITY OR DESIGN SPEED
V.C.	VERTICAL CURVE
W.	WEST
WB	WESTBOUND
W.A.	WORKING DAY
WZ	WORK ZONE

UTILITIES

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UTILITIES

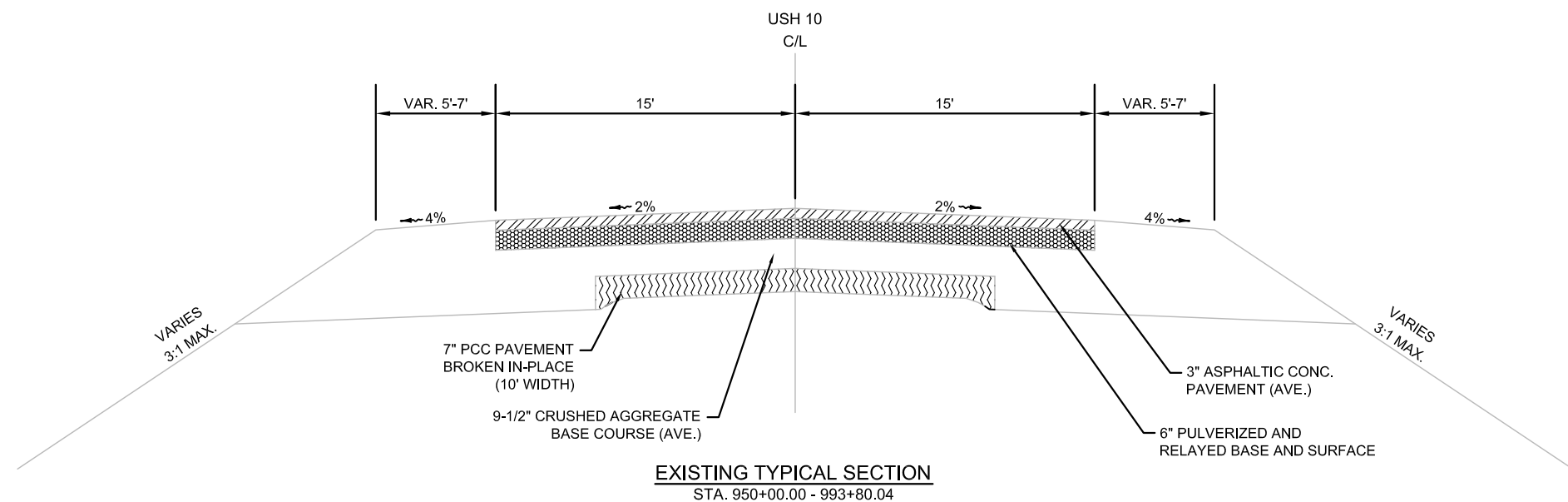
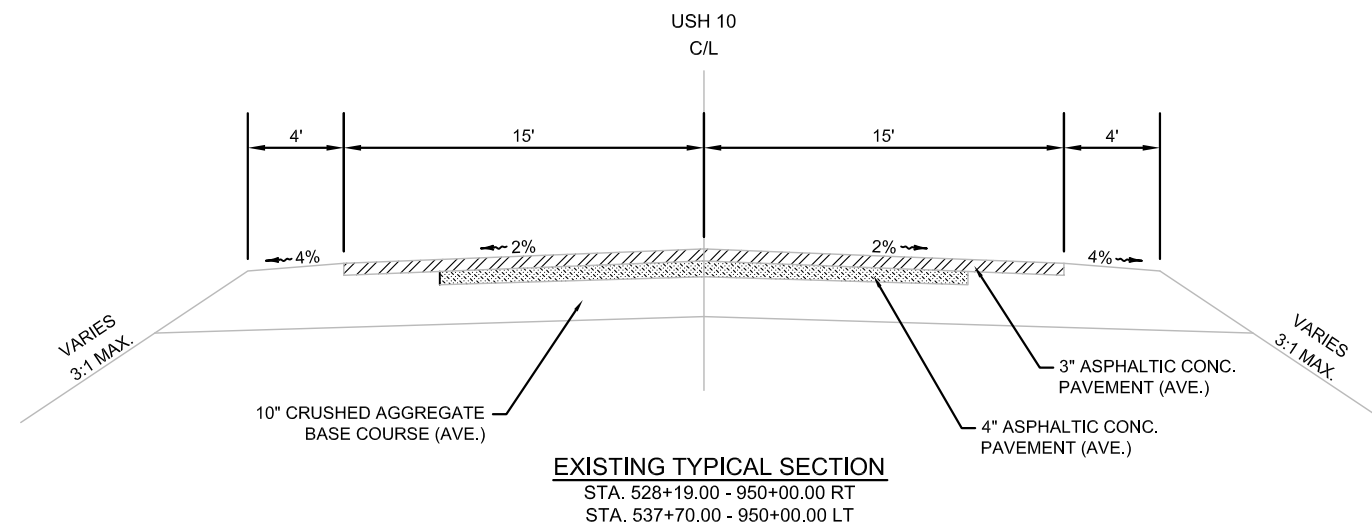
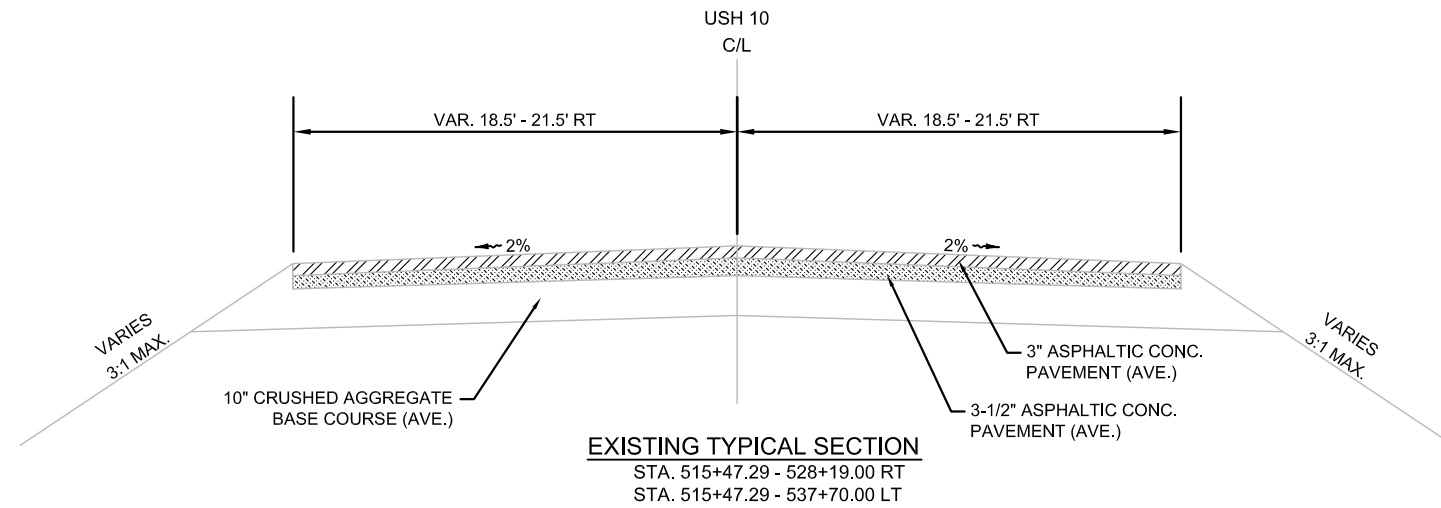
ED SABELKO
CITY OF DURAND - WATER
104 EAST MAIN STREET, PO BOX 202
DURAND, WI 54736

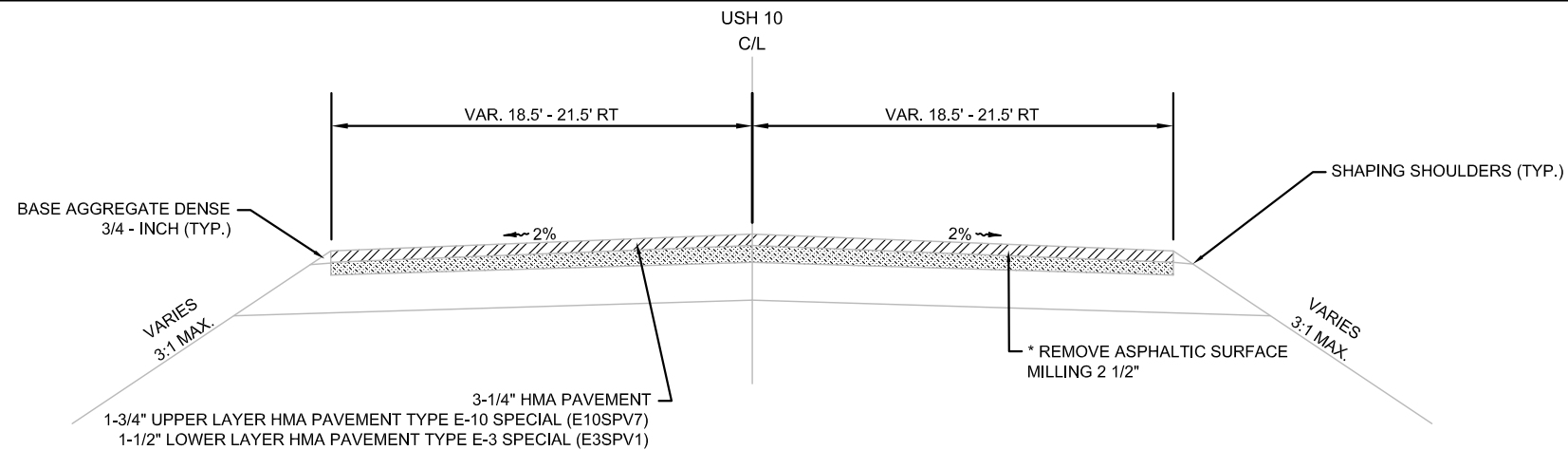
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EMERGENCY CONTACT: (800) 824-2877

NOTE:
EXISTING TYPICAL SECTION INFORMATION
DERIVED FROM PROJECT I.D. 1531-05-72. DATED 1993.

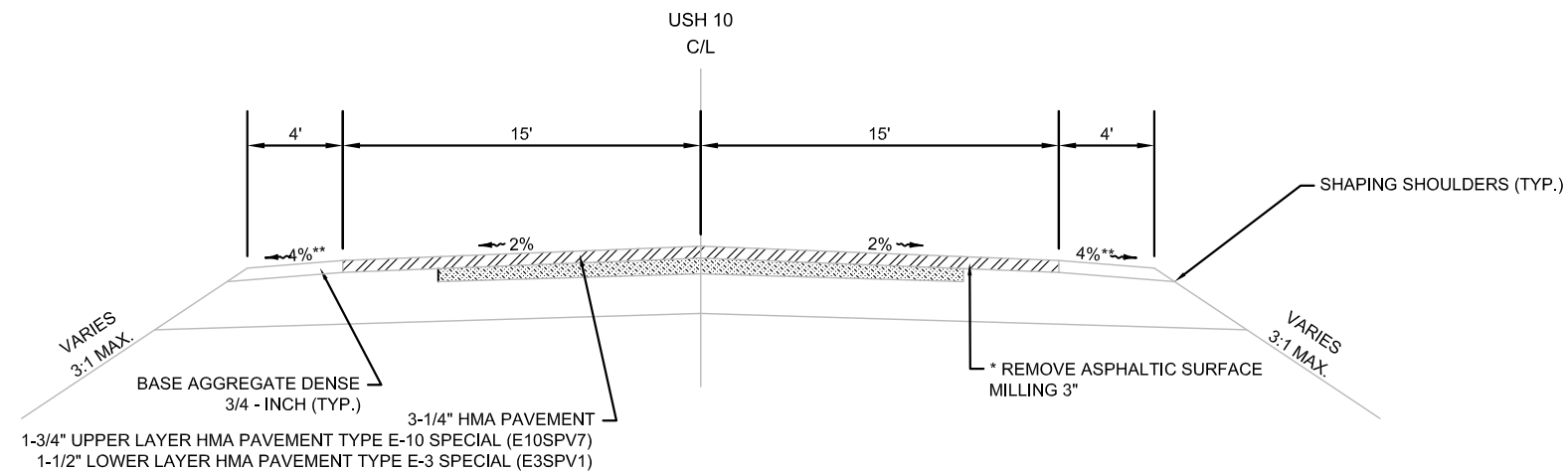


**TYPICAL FINISHED SECTION**

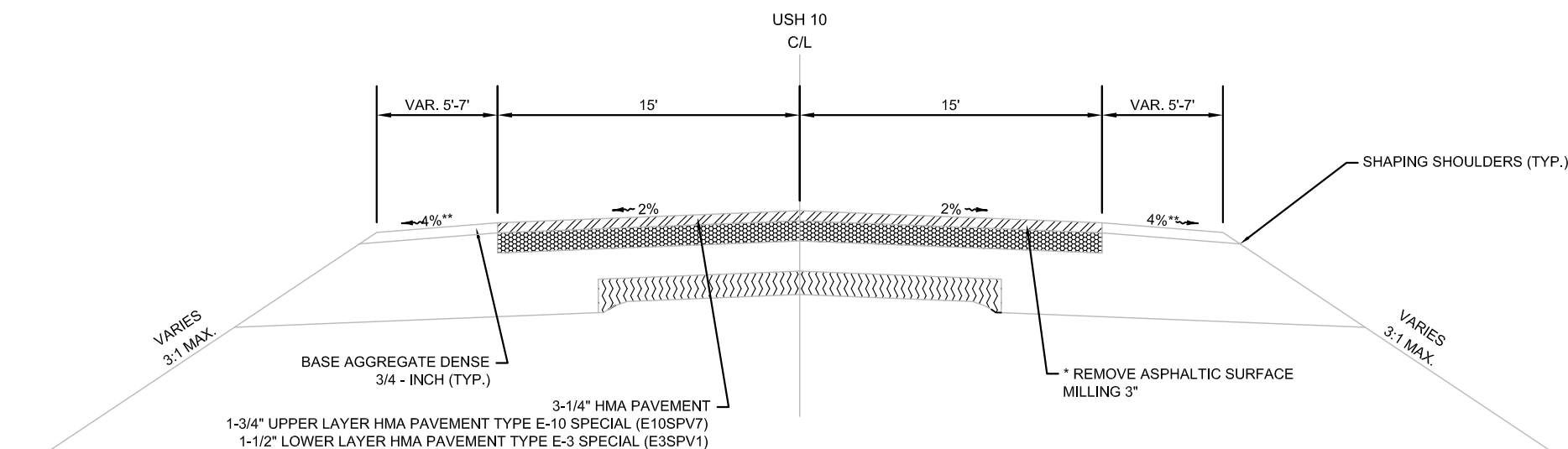
STA. 515+47.29 - 528+19.00 RT
STA. 515+47.29 - 537+70.00 LT

* NOTE: MEASURE MILLING DEPTH AT EDGE OF EXISTING 12-FT TRAFFIC LANE

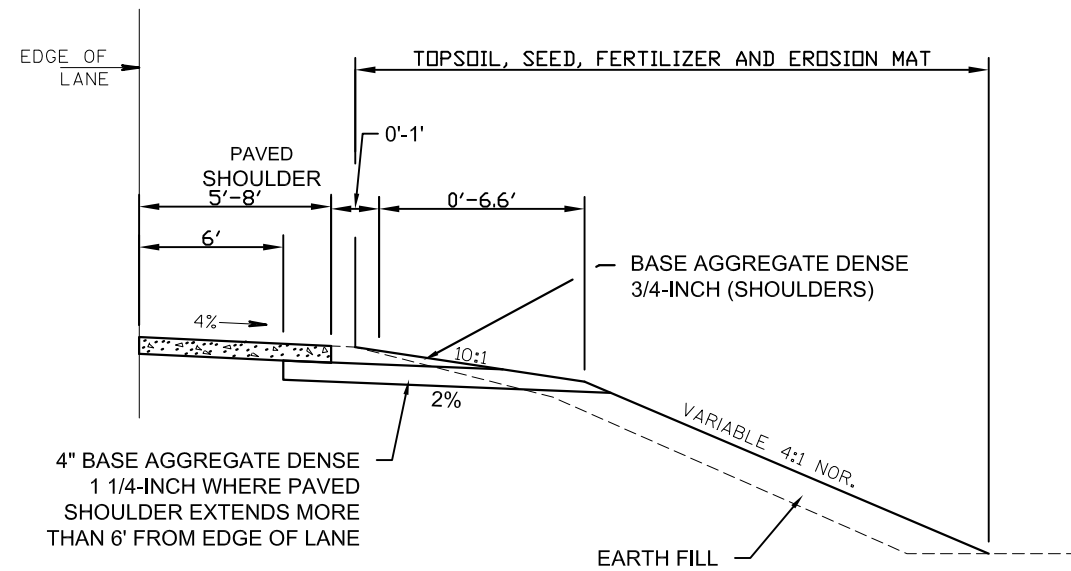
** NOTE: VARY FINISHED BASE AGGREGATE DENSE SHOULDER SLOPE AS NEEDED
TO MATCH EXISTING SHOULDER POINT. (6% MAX.)

**TYPICAL FINISHED SECTION**

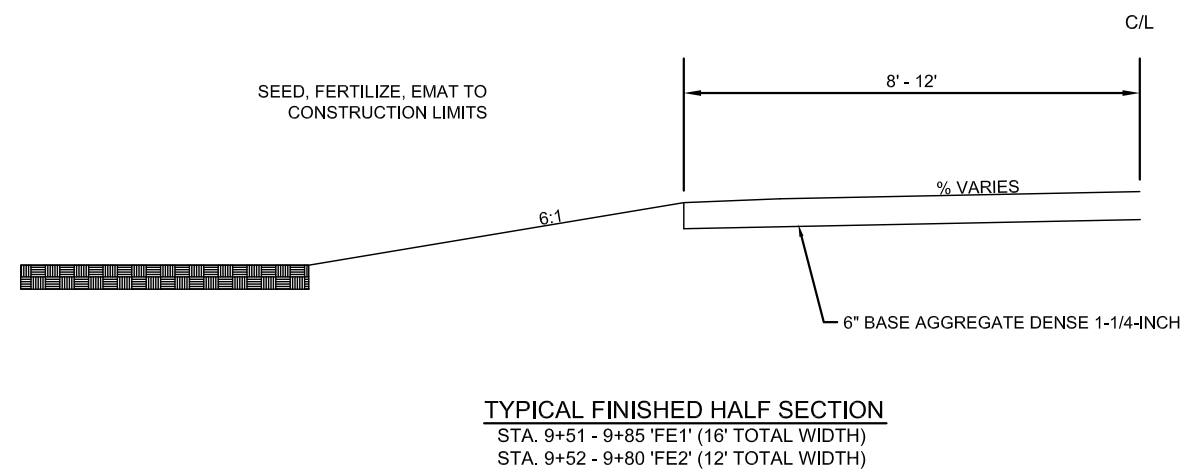
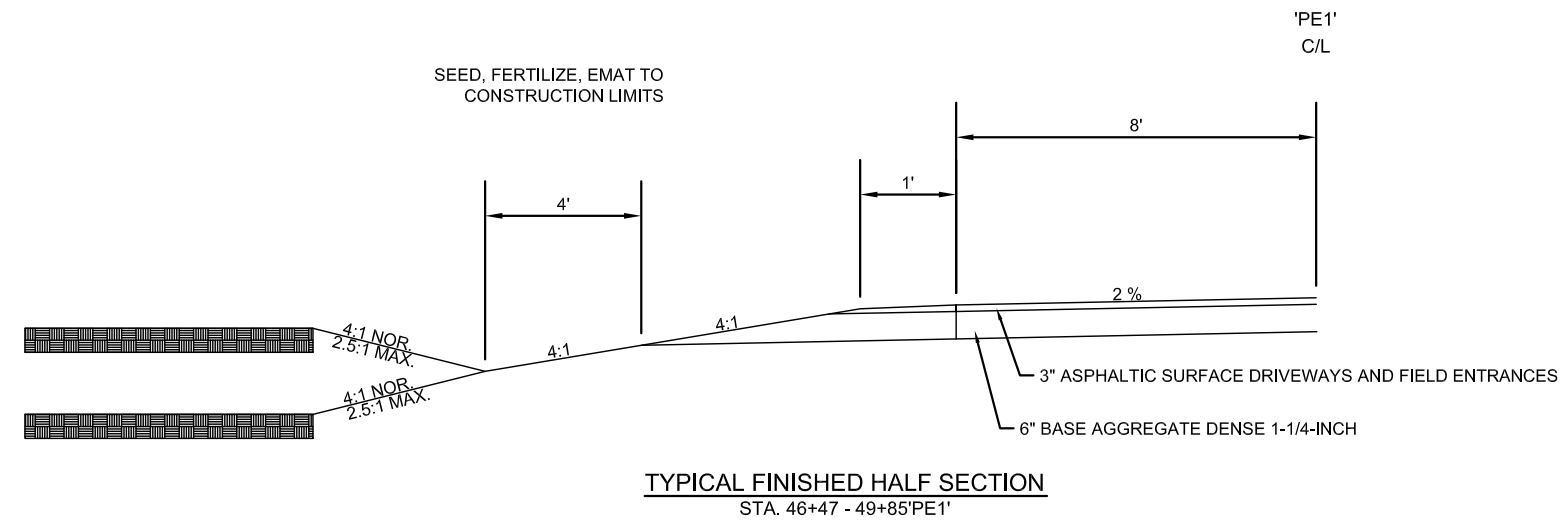
STA. 528+19.00 - 950+00.00 RT
STA. 537+70.00 - 950+00.00 LT

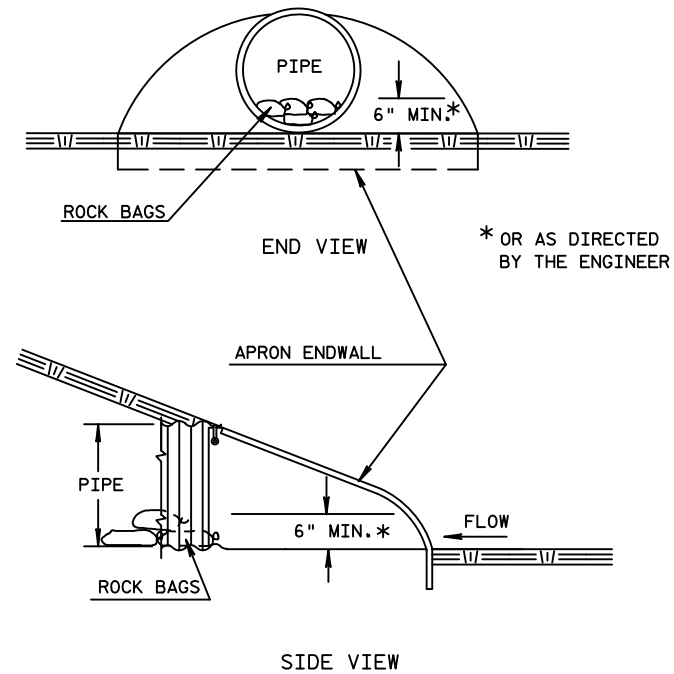
**TYPICAL FINISHED SECTION**

STA. 950+00.00 - 993+80.04

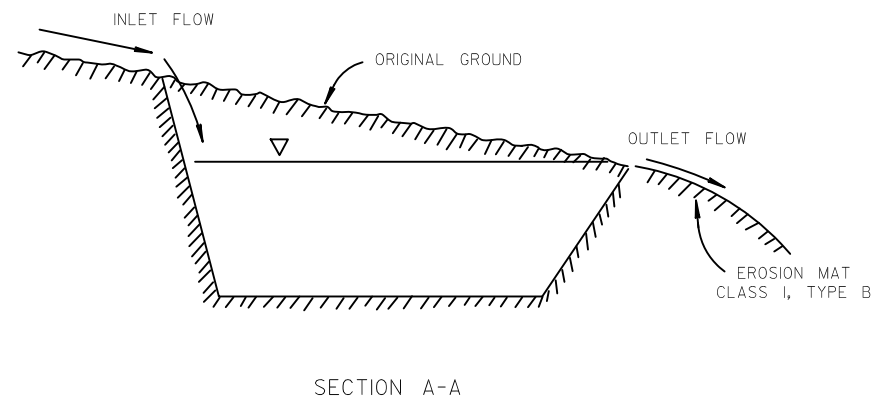
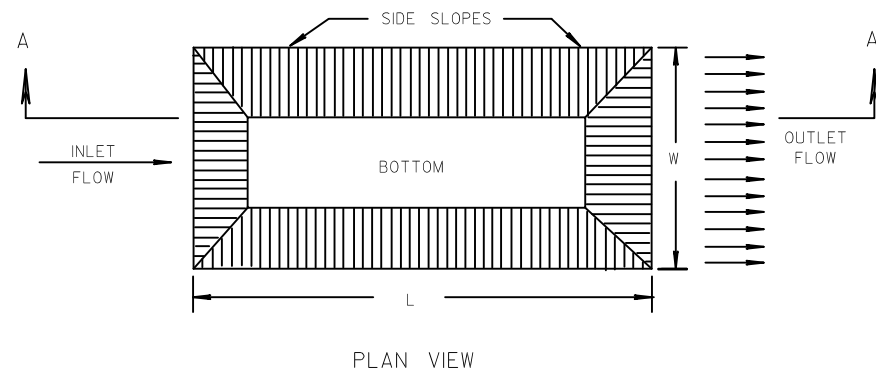


**TYPICAL GRADING HALF SECTION FOR
MGS TERMINALS**



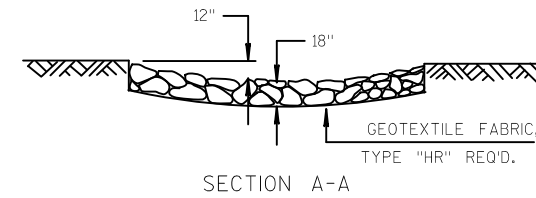


CULVERT PIPE CHECK

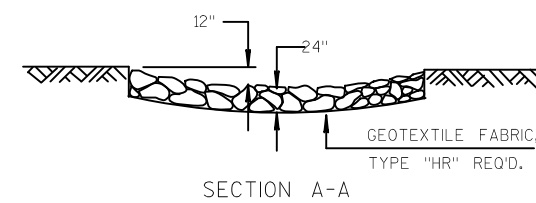
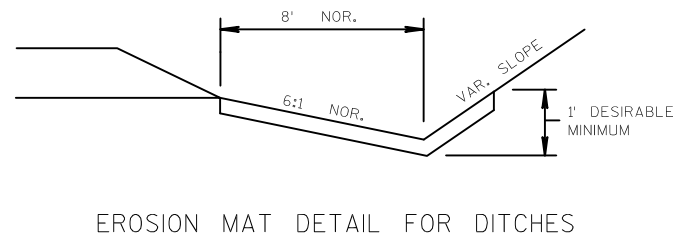
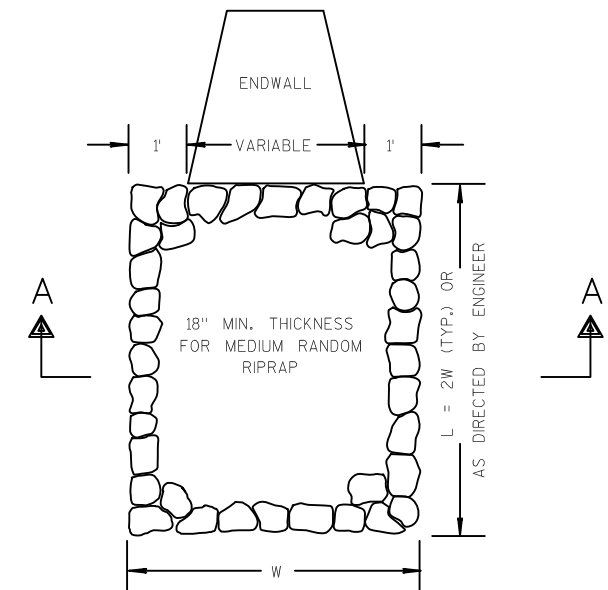


TEMPORARY SEDIMENT BASIN DETAIL

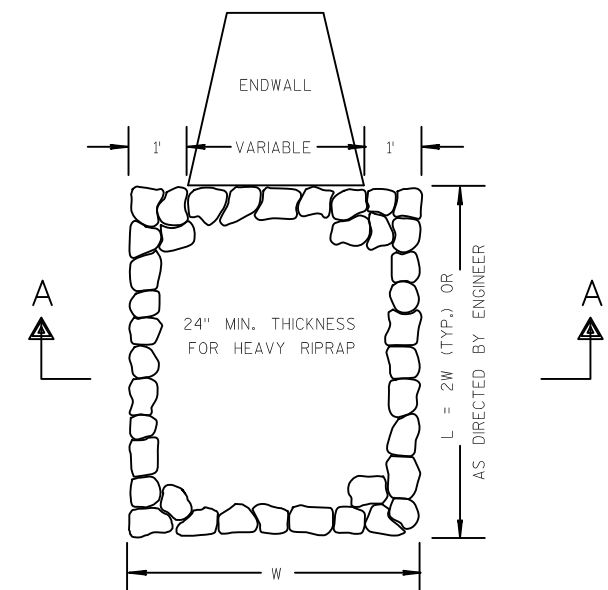
NOTE: EXCAVATION AND BACKFILL FOR SEDIMENT BASIN TO BE PAID FOR UNDER "EXCAVATION COMMON" ITEM. (EXACT LOCATIONS AND DIMENSIONS TO BE AS DIRECTED BY THE ENGINEER.)



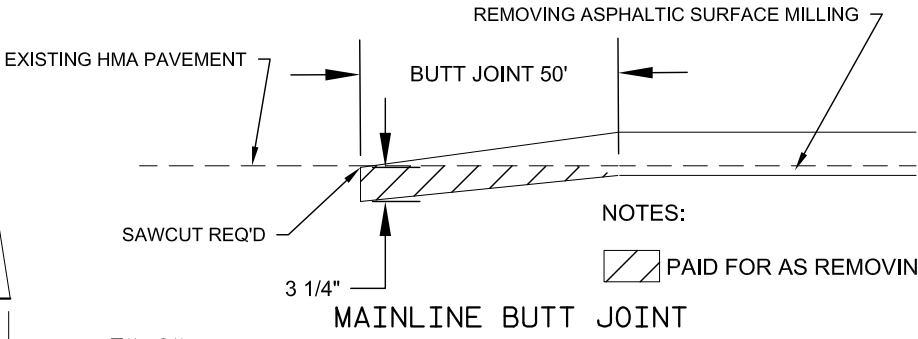
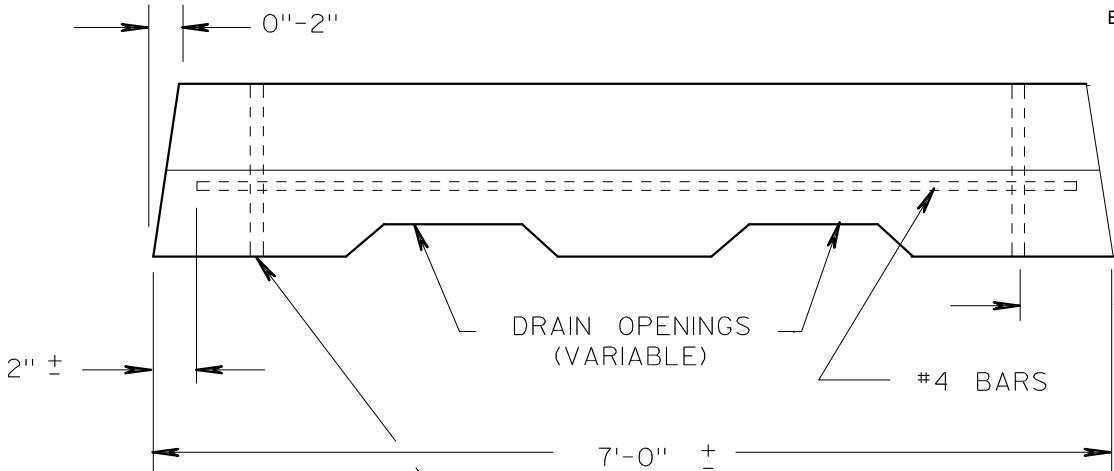
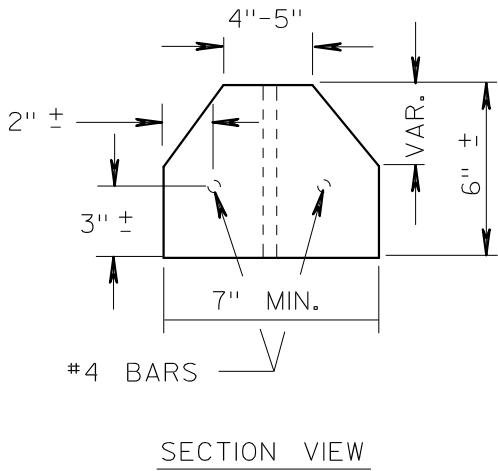
MEDIUM RIPRAP TREATMENT AT CULVERTS



HEAVY RIPRAP TREATMENT AT CULVERTS



PINS: 2 PER BLOCK
MINIMUM 1" X 18"
SHALL BE COUNTERSUNK
1" AND GROUTED

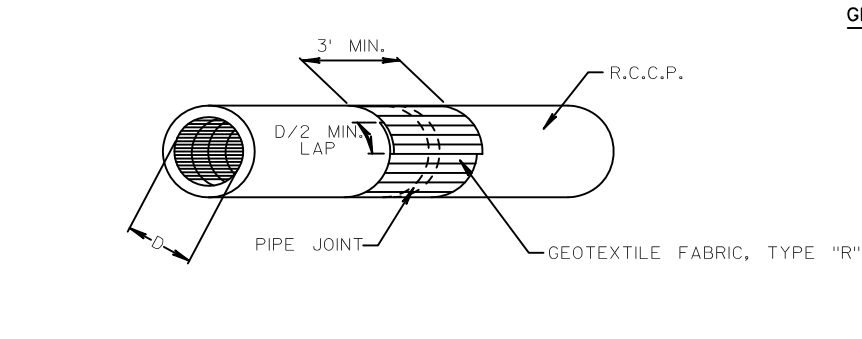


CONCRETE CURB PRECAST

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 42.4 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 42.4 ACRES (INCLUDING ROADWAYS)



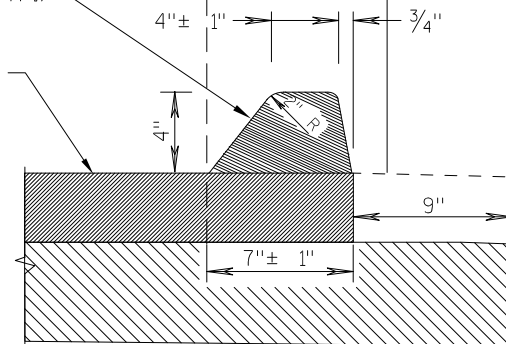
GEOTEXTILE FABRIC REQUIRED FOR PIPE JOINTS		
PIPE DIA. (IN.)	PIPE O.D. (IN.)	FABRIC/JOINT (S.Y.)
18	23	2.3
21	26.5	2.6
24	30	3.0
27	33.5	3.3
30	37	3.6
36	44	4.3
42	51	5.0
48	58	5.7
54	65	6.4
60	72	7.1
66	79	7.8
72	86	8.5

DETAIL OF WRAPPED PIPE JOINT
WRAP ALL JOINTS

NOTE: GEOTEXTILE FABRIC FOR PIPE JOINTS
IS INCIDENTAL TO THE PIPE ITEM.

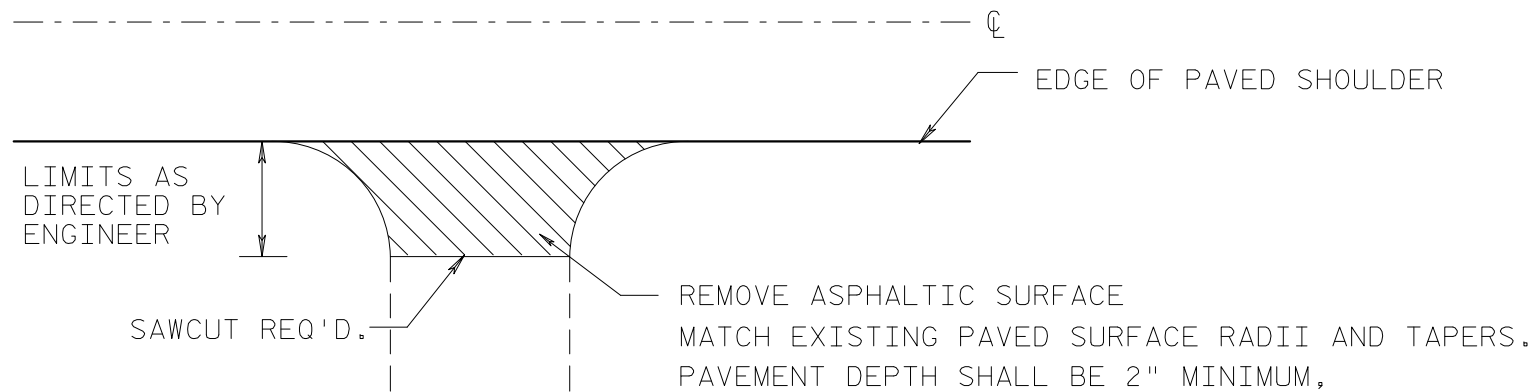
FLOW LINE FLUSH WITH
OR BEHIND GUARD FACE

ASPHALTIC CURB (TYP.)

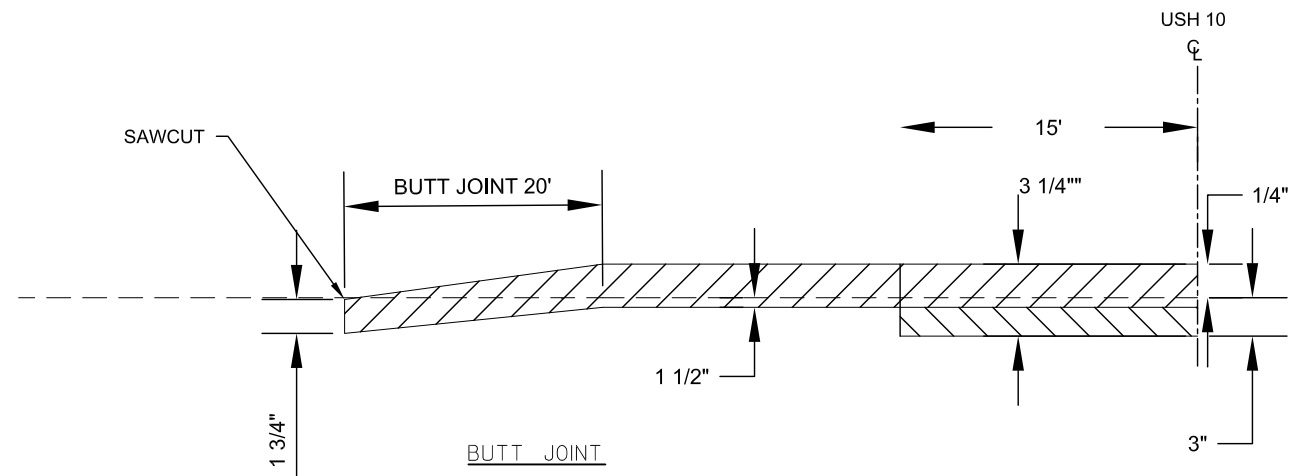


ASPHALTIC CURB DETAIL

RURAL DRIVEWAY DETAIL - ASPHALT

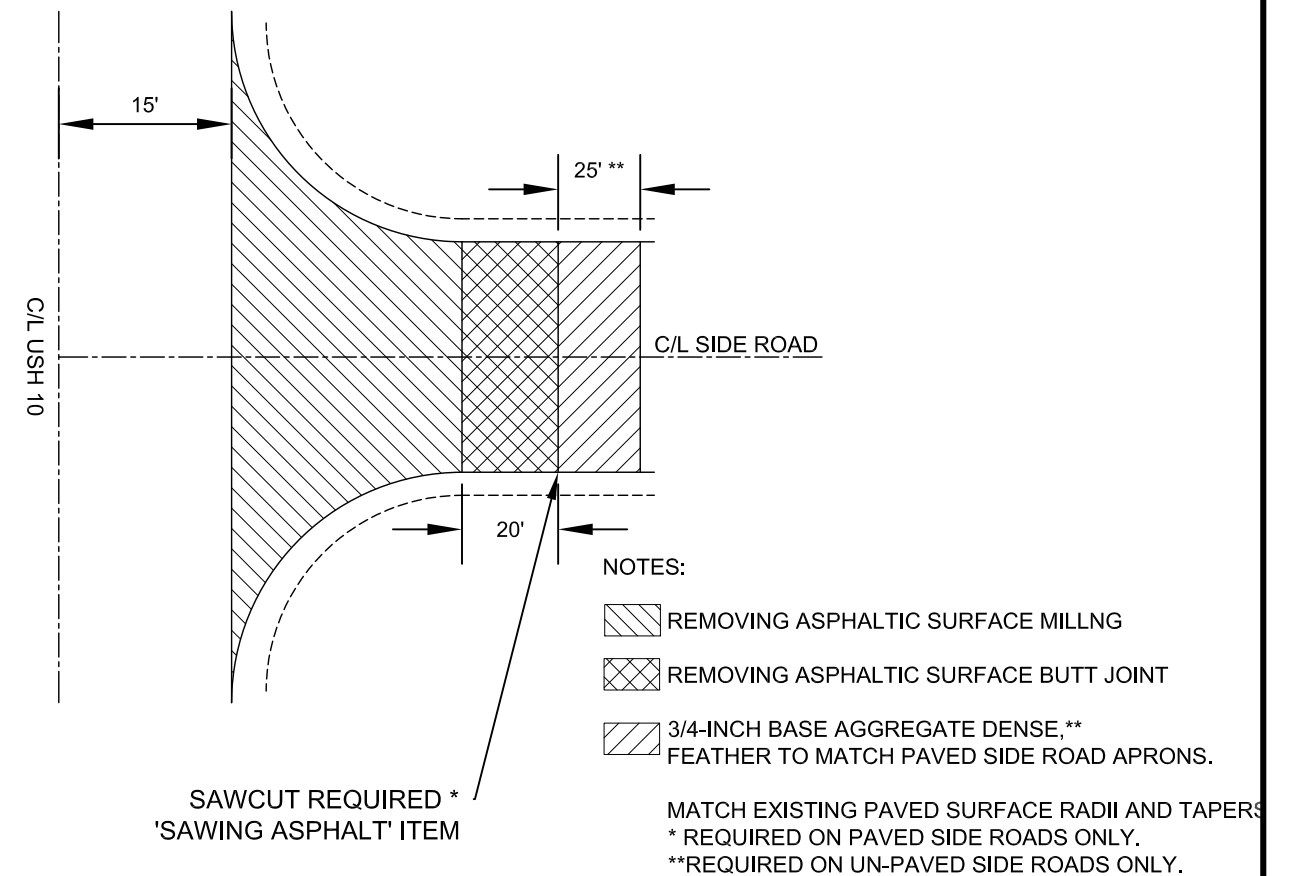


ANY ADDITIONAL BASE AGG. DENSE REQ'D. SHALL BE PAID
UNDER ITEM - "BASE AGGREGATE DENSE 1-1/4-INCH"



NOTES:

- UPPER LAYER 1-3/4" HMA PAVEMENT
- LOWER LAYER 1-1/2" HMA PAVEMENT



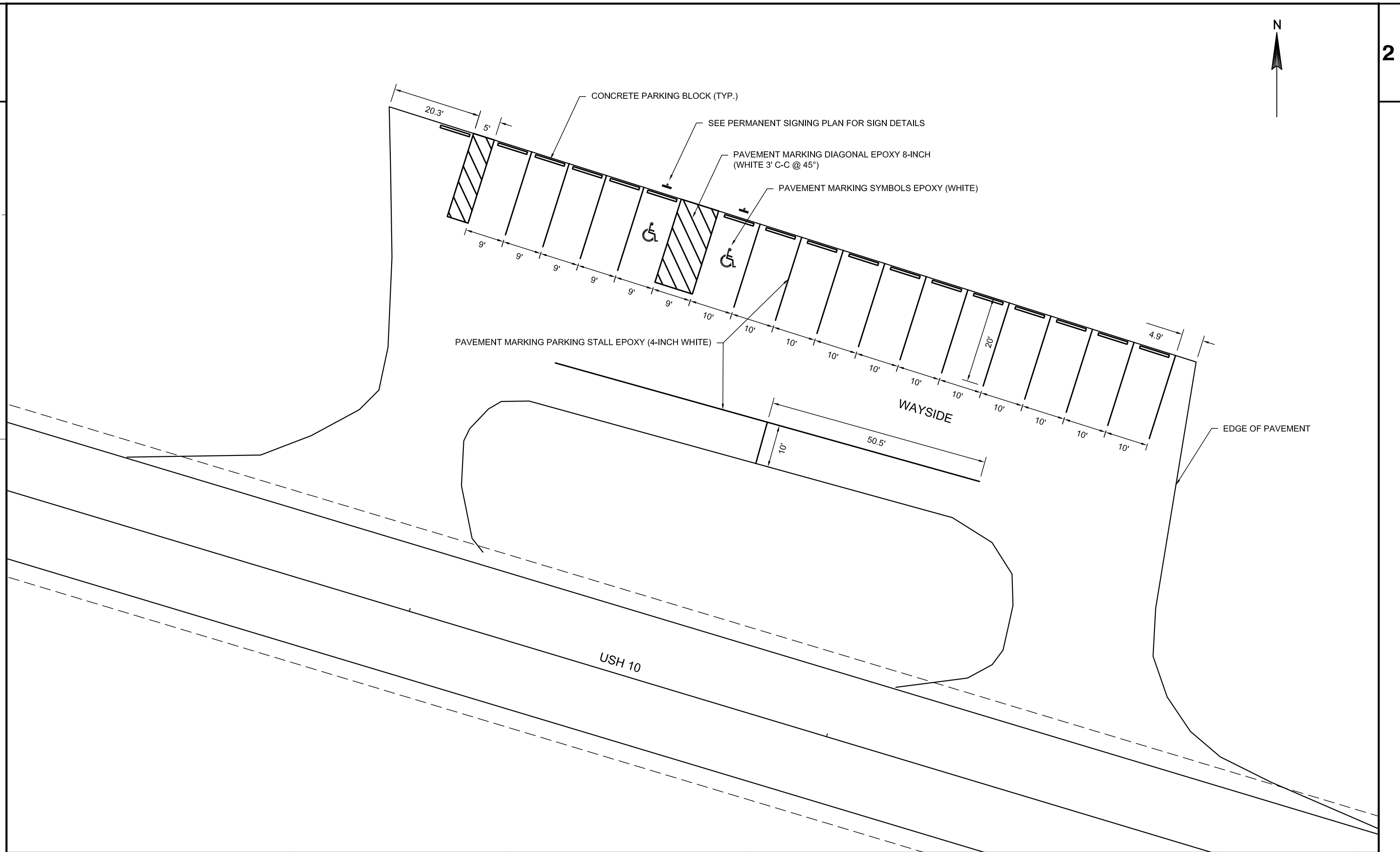
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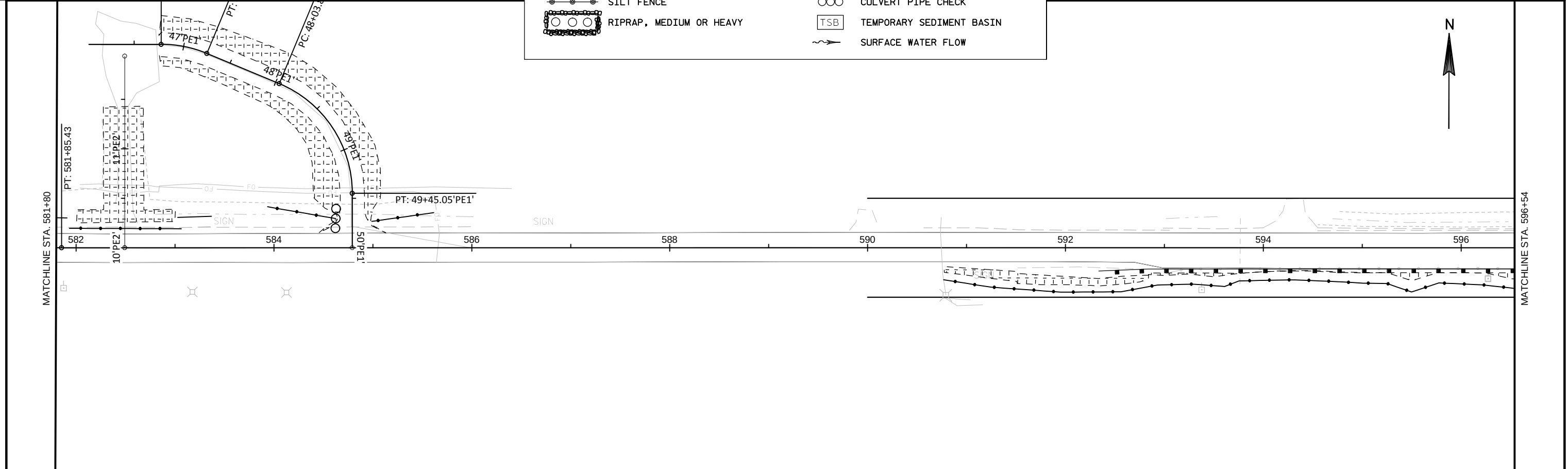
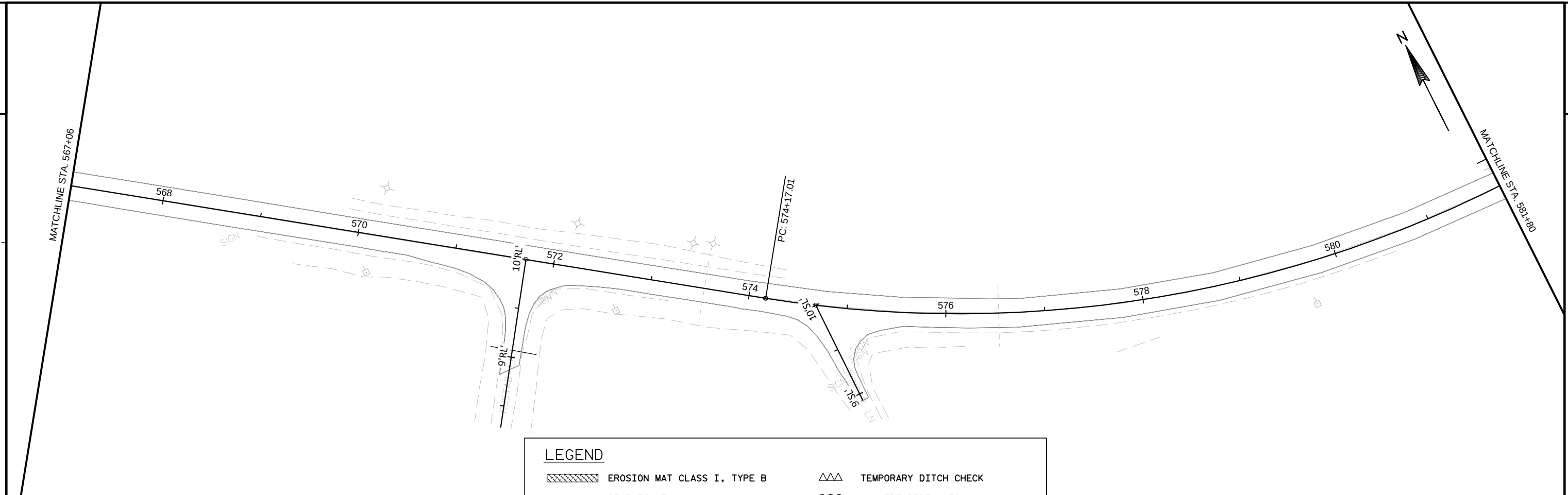
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING ASPHALTIC SURFACE BUTT JOINT
- 3/4-INCH BASE AGGREGATE DENSE,**
FEATHER TO MATCH PAVED SIDE ROAD APRONS.

MATCH EXISTING PAVED SURFACE RADII AND TAPERS
* REQUIRED ON PAVED SIDE ROADS ONLY.
**REQUIRED ON UN-PAVED SIDE ROADS ONLY.

SAWCUT REQUIRED *
'SAWING ASPHALT' ITEM

PAVED AND UN-PAVED SIDE ROADS DETAIL





MATCHLINE STA. 596+54

PI: 602+65.50



LEGEND

- | | | | |
|--|-----------------------------|--|--------------------------|
| | EROSION MAT CLASS I, TYPE B | | TEMPORARY DITCH CHECK |
| | SILT FENCE | | CULVERT PIPE CHECK |
| | RIPRAP, MEDIUM OR HEAVY | | TEMPORARY SEDIMENT BASIN |
| | | | SURFACE WATER FLOW |

MATCHLINE STA. 611+28

PI: 617+31.67

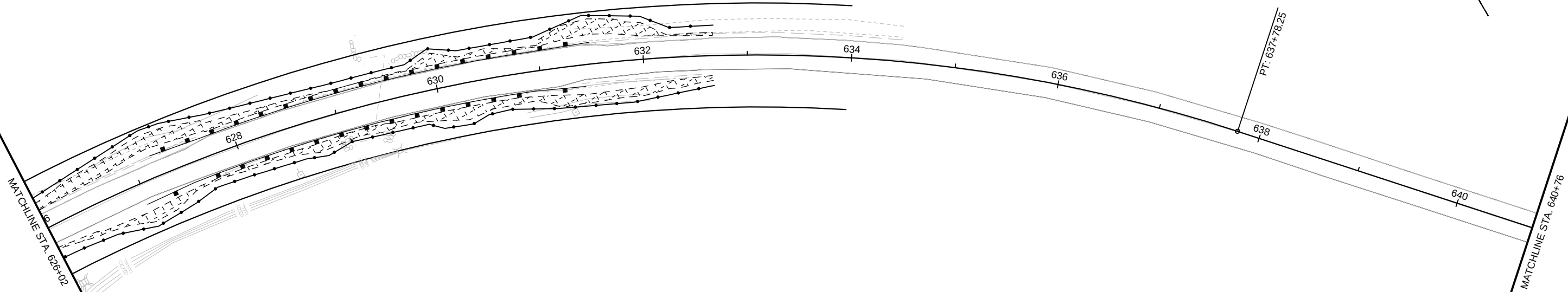


PC: 625+27.33

MATCHLINE STA. 626+02

2

2



LEGEND

	EROSION MAT CLASS I, TYPE B		TEMPORARY DITCH CHECK
	SILT FENCE		CULVERT PIPE CHECK
	RIPRAP, MEDIUM OR HEAVY		TEMPORARY SEDIMENT BASIN
			SURFACE WATER FLOW

MATCHLINE STA. 640+76

642

644

646

648

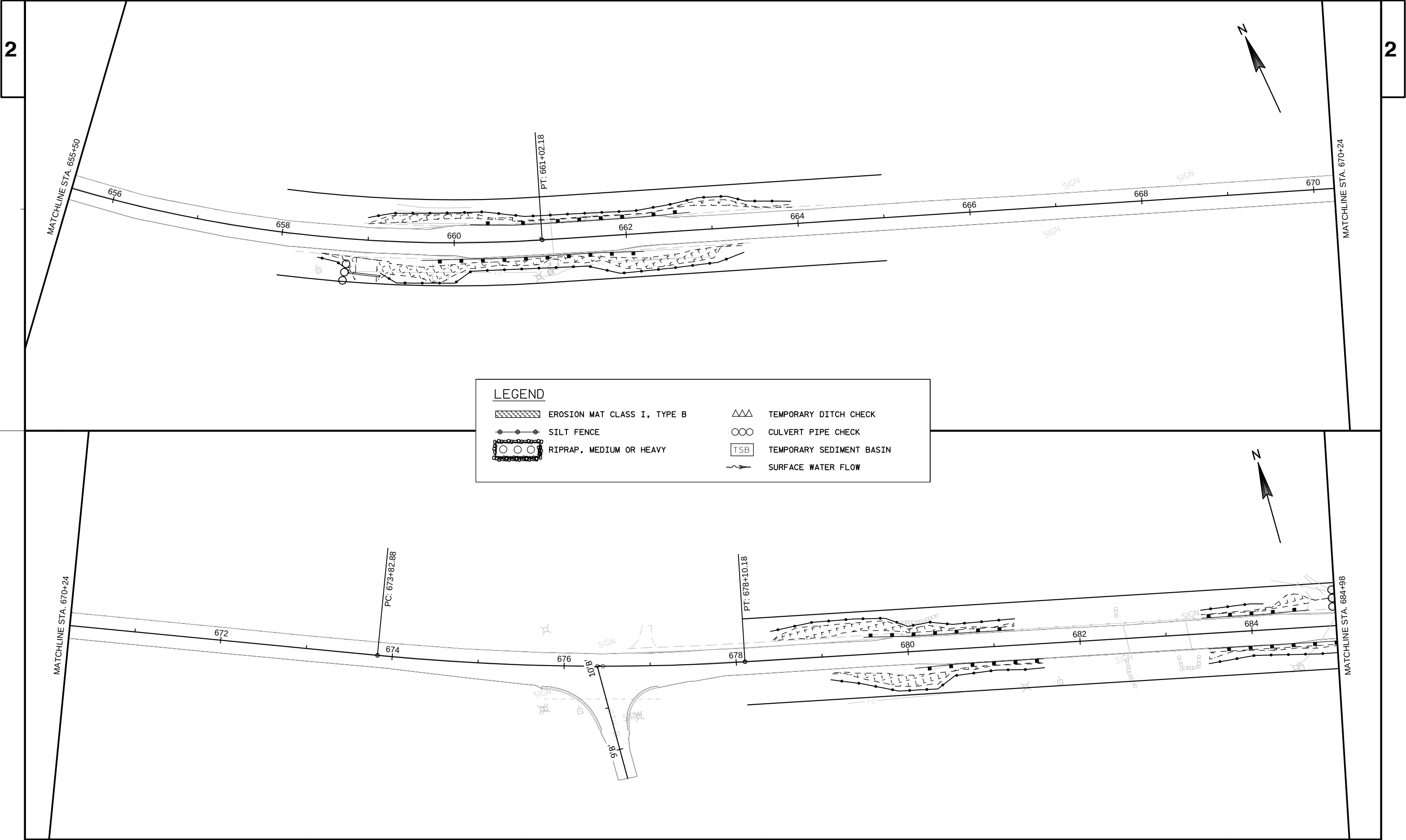
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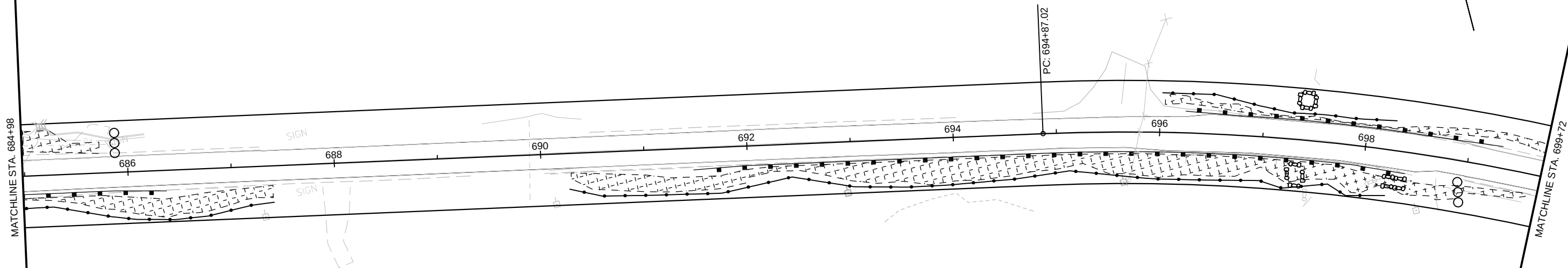
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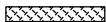
PC: 653+50.54

MATCHLINE STA. 655+50





LEGEND

 EROSION MAT CLASS I, TYPE B

 SILT FENCE

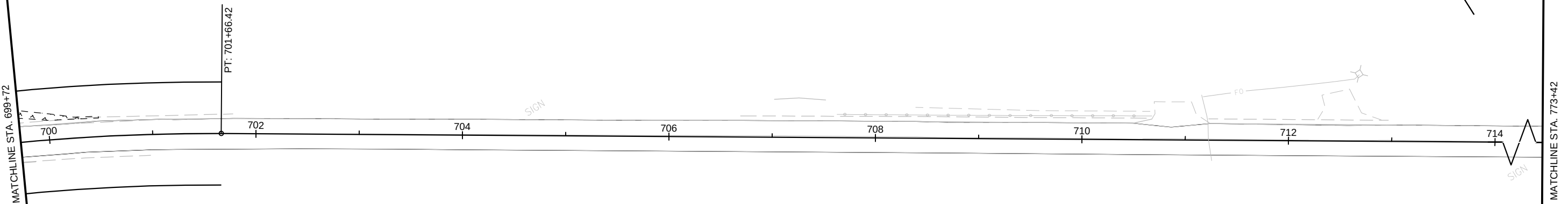
 RIPRAP, MEDIUM OR HEAVY

 TEMPORARY DITCH CHECK

 CULVERT PIPE CHECK

 TEMPORARY SEDIMENT BASIN

 SURFACE WATER FLOW



MATCHLINE STA. 714+46

MATCHLINE STA. 788+16

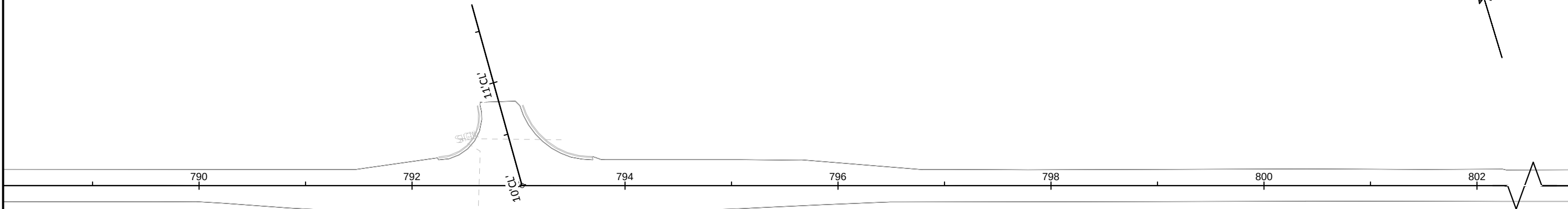


LEGEND

- | | | | |
|--|-----------------------------|--|--------------------------|
| | EROSION MAT CLASS I, TYPE B | | TEMPORARY DITCH CHECK |
| | SILT FENCE | | CULVERT PIPE CHECK |
| | RIPRAP, MEDIUM OR HEAVY | | TEMPORARY SEDIMENT BASIN |
| | | | SURFACE WATER FLOW |

MATCHLINE STA. 788+16

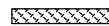
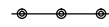
MATCHLINE STA. 861+86



MATCHLINE STA. 802+90

MATCHLINE STA. 876+60

LEGEND

- | | | | |
|---|-----------------------------|---|--------------------------|
|  | EROSION MAT CLASS I, TYPE B |  | TEMPORARY DITCH CHECK |
|  | SILT FENCE |  | CULVERT PIPE CHECK |
|  | RIPRAP, MEDIUM OR HEAVY |  | TEMPORARY SEDIMENT BASIN |
| | |  | SURFACE WATER FLOW |

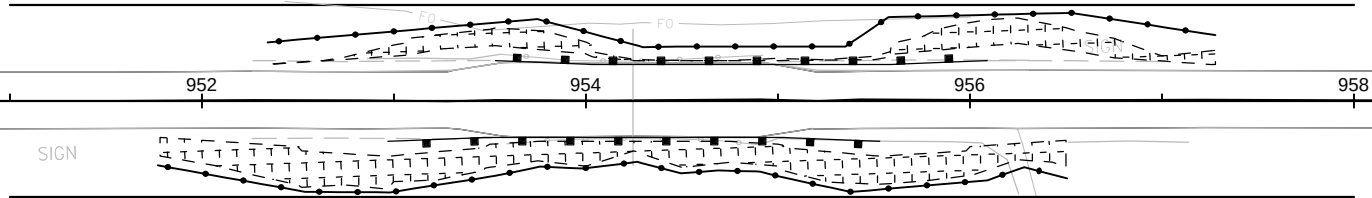


MATCHLINE STA. 876+60

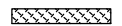
MATCHLINE STA. 950+30

MATCHLINE STA. 891+34

MATCHLINE STA. 965+04

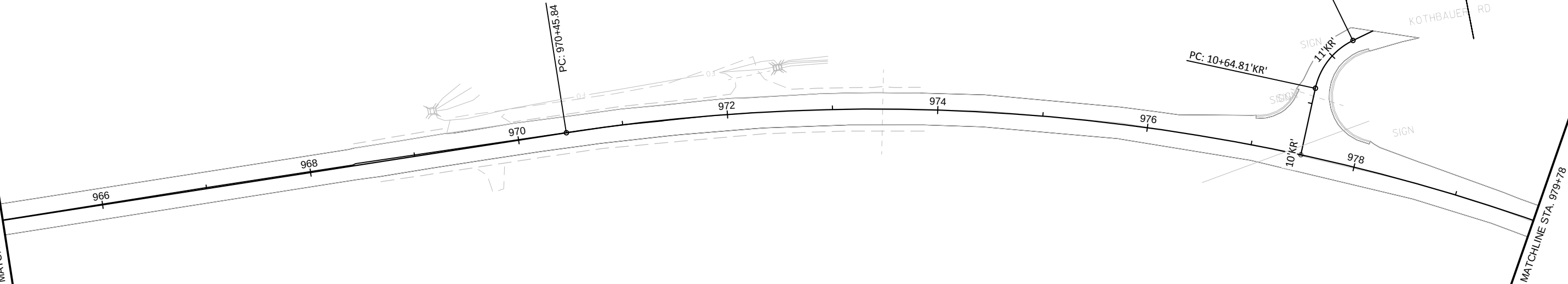


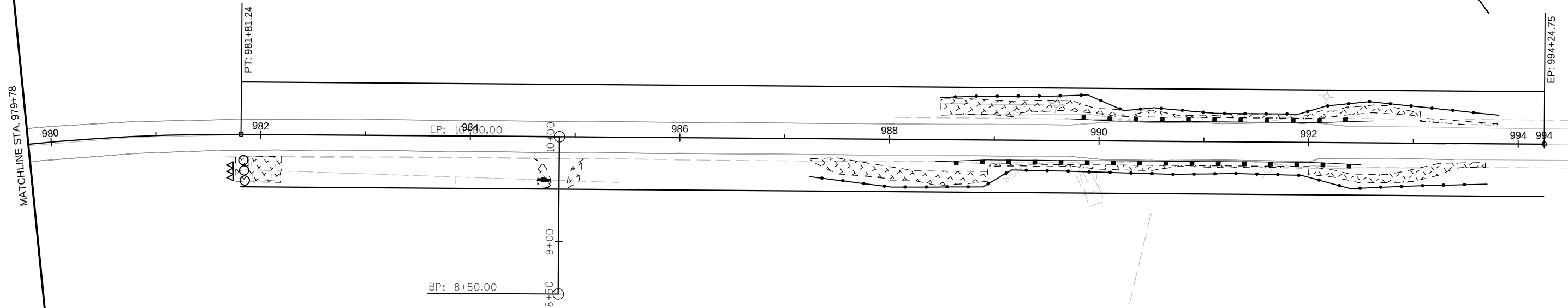
LEGEND

- | | |
|---|--|
|  EROSION MAT CLASS I, TYPE B |  TEMPORARY DITCH CHECK |
|  SILT FENCE |  CULVERT PIPE CHECK |
|  RIPRAP, MEDIUM OR HEAVY |  TEMPORARY SEDIMENT BASIN |
| |  SURFACE WATER FLOW |

MATCHLINE STA. 965+04

MATCHLINE STA. 979+78

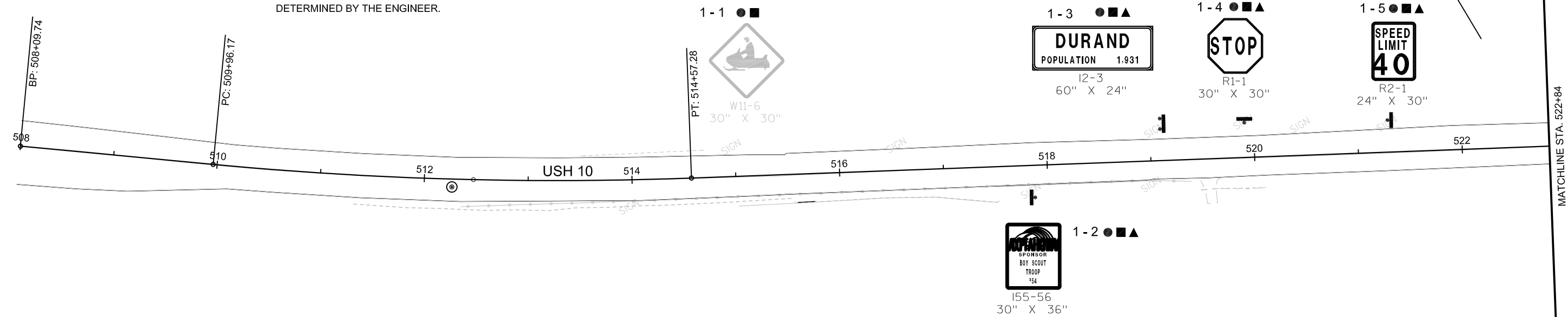




NOTES:

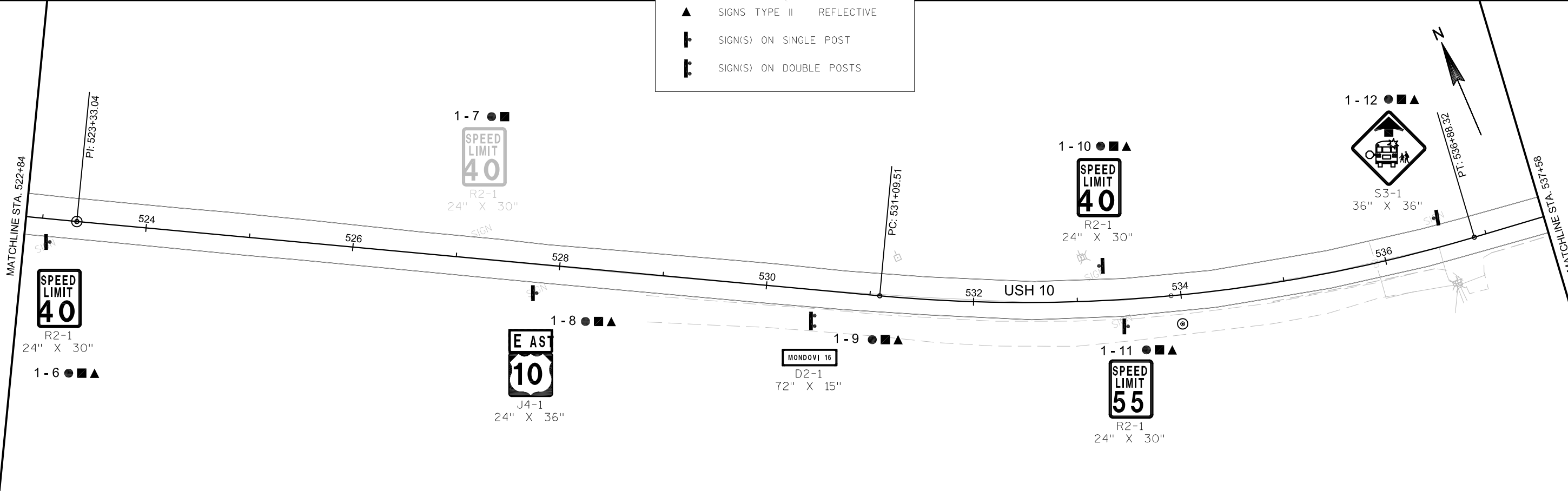
SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

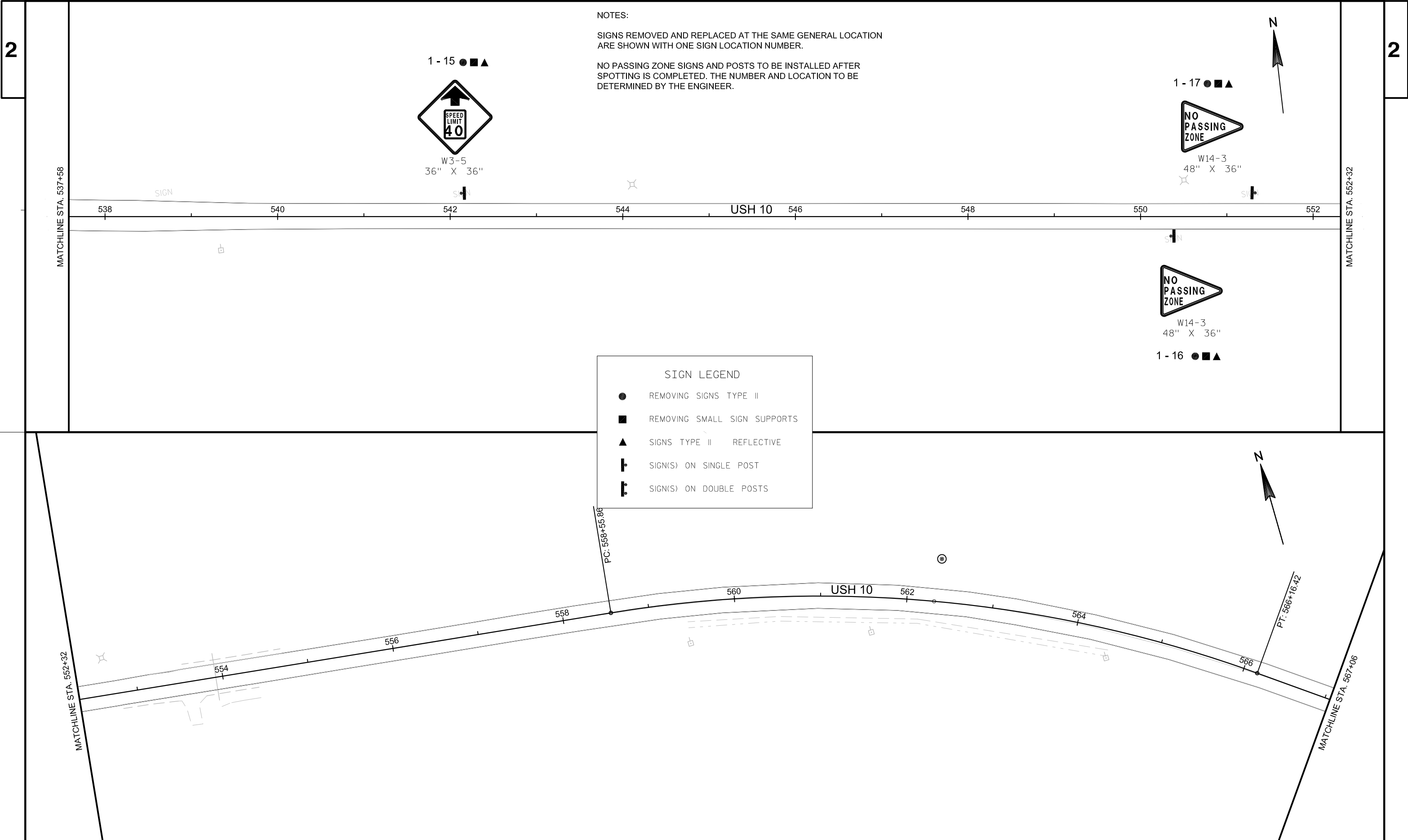
NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.

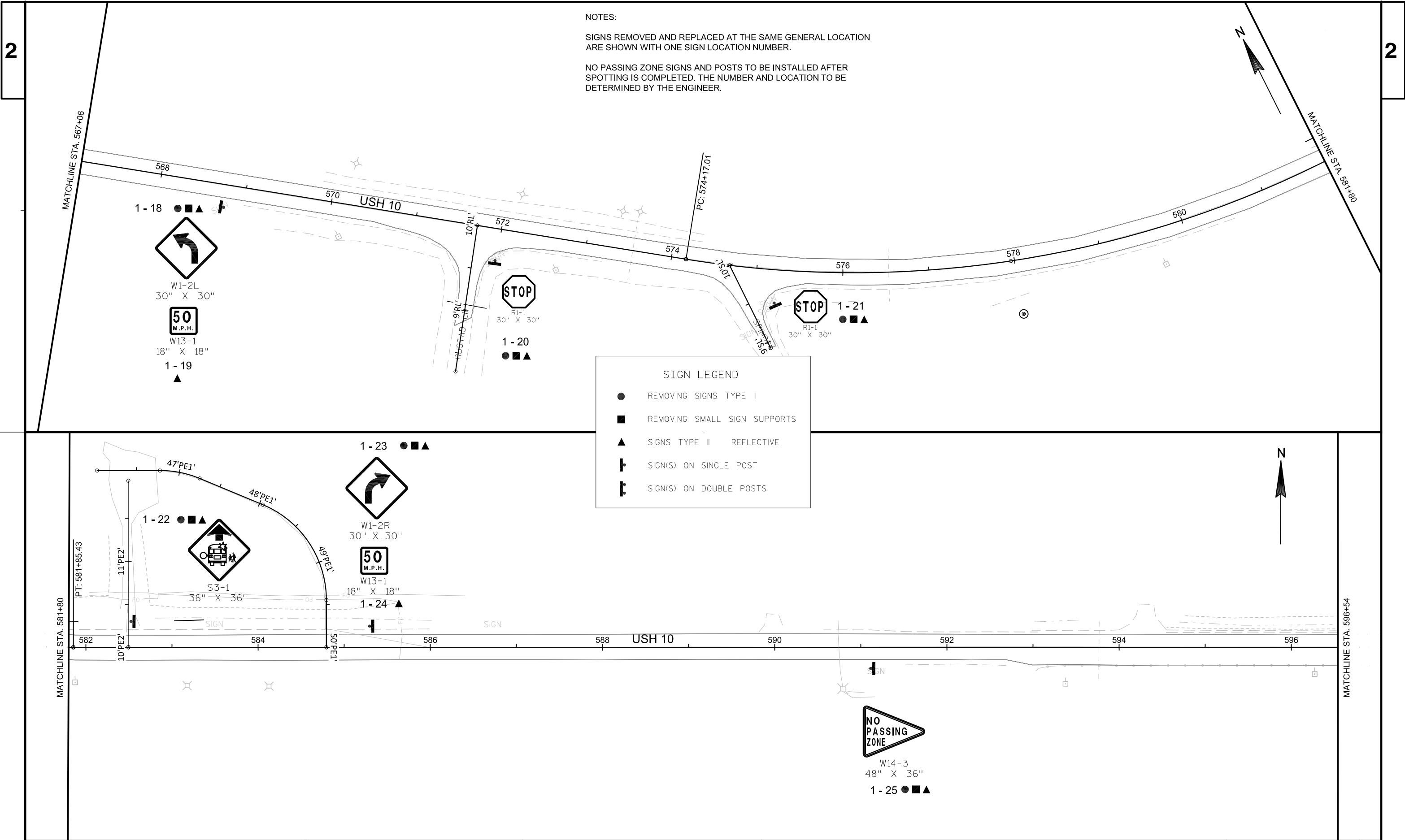


SIGN LEGEND

- REMOVING SIGNS TYPE II
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS TYPE II REFLECTIVE
- ┃ SIGN(S) ON SINGLE POST
- ┃ SIGN(S) ON DOUBLE POSTS







NOTES:

SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.



MATCHLINE STA. 596+54

MATCHLINE STA. 611+28

PI: 602+65.50

PI: 617+31.67

PC: 625+27.33

SIGN LEGEND

●

REMOVING SIGNS TYPE II

■

REMOVING SMALL SIGN SUPPORTS

▲

SIGNS TYPE II \ REFLECTIVE

┃

SIGN(S) ON SINGLE POST

┃┃

SIGN(S) ON DOUBLE POSTS



MATCHLINE STA. 611+28

MATCHLINE STA. 626+02

1 - 27 ●■▲



155-56
30" X 36"

1 - 28 ●■▲



30" X 30"

1 - 30 ●■▲



W14-3
48" X 36"



155-56
30" X 36"

1 - 26 ●■▲



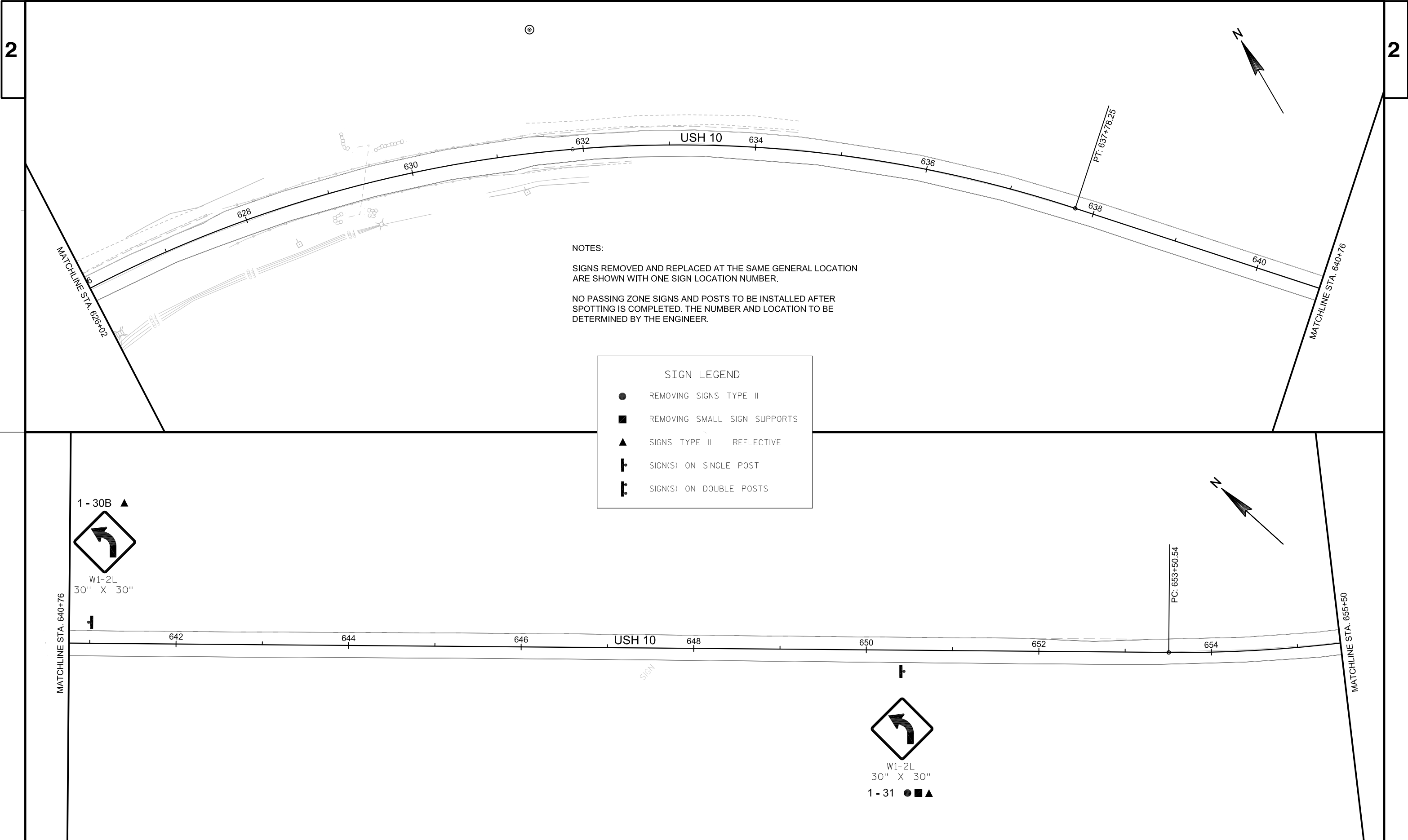
30" X 30"

1 - 29 ●■▲



W1-2R
30" X 30"

1 - 30A ▲



NOTES:

SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.

SIGN LEGEND

●

REMOVING SIGNS TYPE II

■

REMOVING SMALL SIGN SUPPORTS

▲

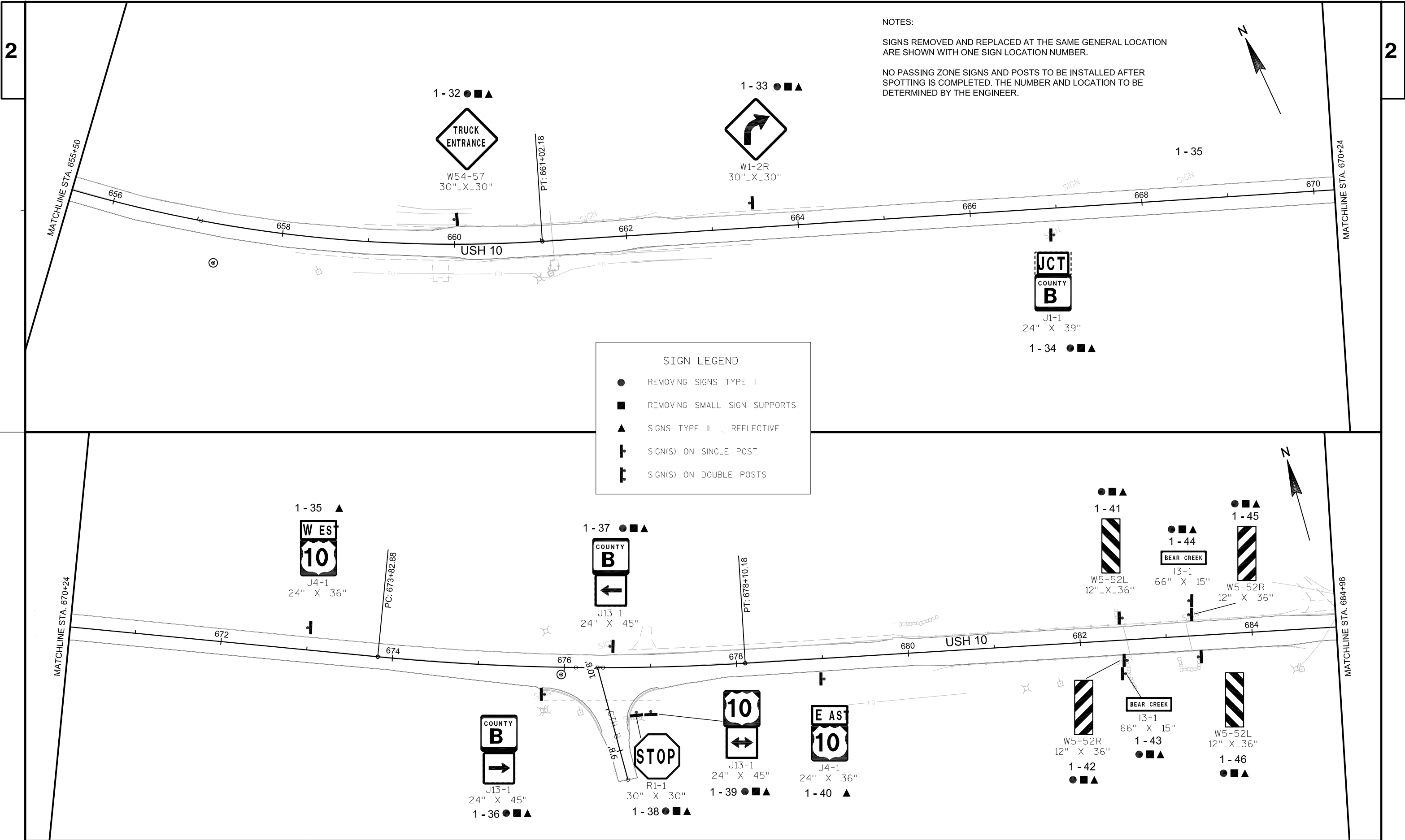
SIGNS TYPE II REFLECTIVE

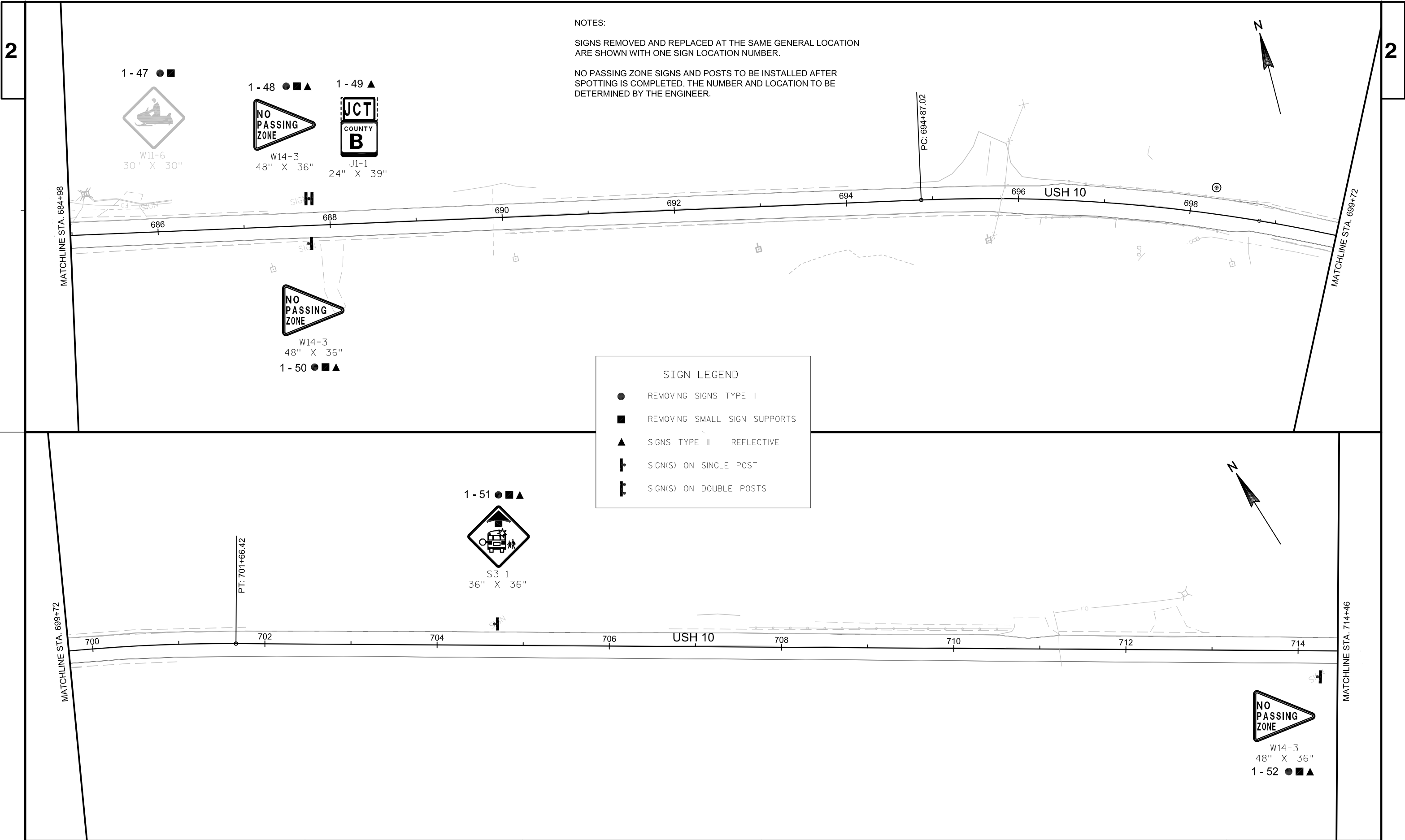
┃

SIGN(S) ON SINGLE POST

┃┃

SIGN(S) ON DOUBLE POSTS

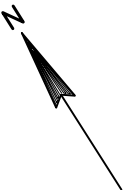




NOTES:

SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.



MATCHLINE STA. 714+46

MATCHLINE STA. 729+20

1 - 53 ●■▲
SPONSOR
DURAND
EDUCATION
ASSOCIATION
155-56
30" X 36"

PL 721+15.56

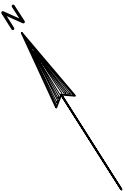
716 718 720 722 724 USH 10 726 728

J1-1
24" X 39"
1 - 54 ●■▲
JCT
COUNTY
V

PERMITTED SIGN
TO REMAIN IN PLACE

SIGN LEGEND

- REMOVING SIGNS TYPE II
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS TYPE II REFLECTIVE
- ┃ SIGN(S) ON SINGLE POST
- ┃ SIGN(S) ON DOUBLE POSTS



MATCHLINE STA. 729+20

MATCHLINE STA. 743+94

1 - 55 ●■▲
J4-1
24" X 36"
WEST
10

1 - 56 ●■▲
J13-2
48" X 45"
10 COUNTY
V
← →
↑

1 - 57 ●■▲
R1-1
30" X 30"
STOP

1 - 59 ●■▲
J13-1
24" X 45"
COUNTY
V
← →

PERMITTED SIGN
TO REMAIN IN PLACE

730 732 734 736 738 USH 10 740 742

1 - 58 ●■▲
J13-1
24" X 45"
COUNTY
V
← →

1 - 60 ●■▲
R1-1
30" X 30"
STOP

1 - 61 ●■▲
J13-2
48" X 45"
10 COUNTY
V
← →
↑

1 - 62 ●■▲
J4-1
24" X 36"
EAST
10

NOTES:

SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.

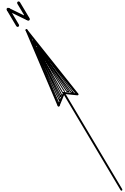
1 - 63 ●■▲



J1-1
24" X 39"

MATCHLINE STA. 743+94

MATCHLINE STA. 758+68



D5-61
48" X 24"
1 - 64 ●■▲

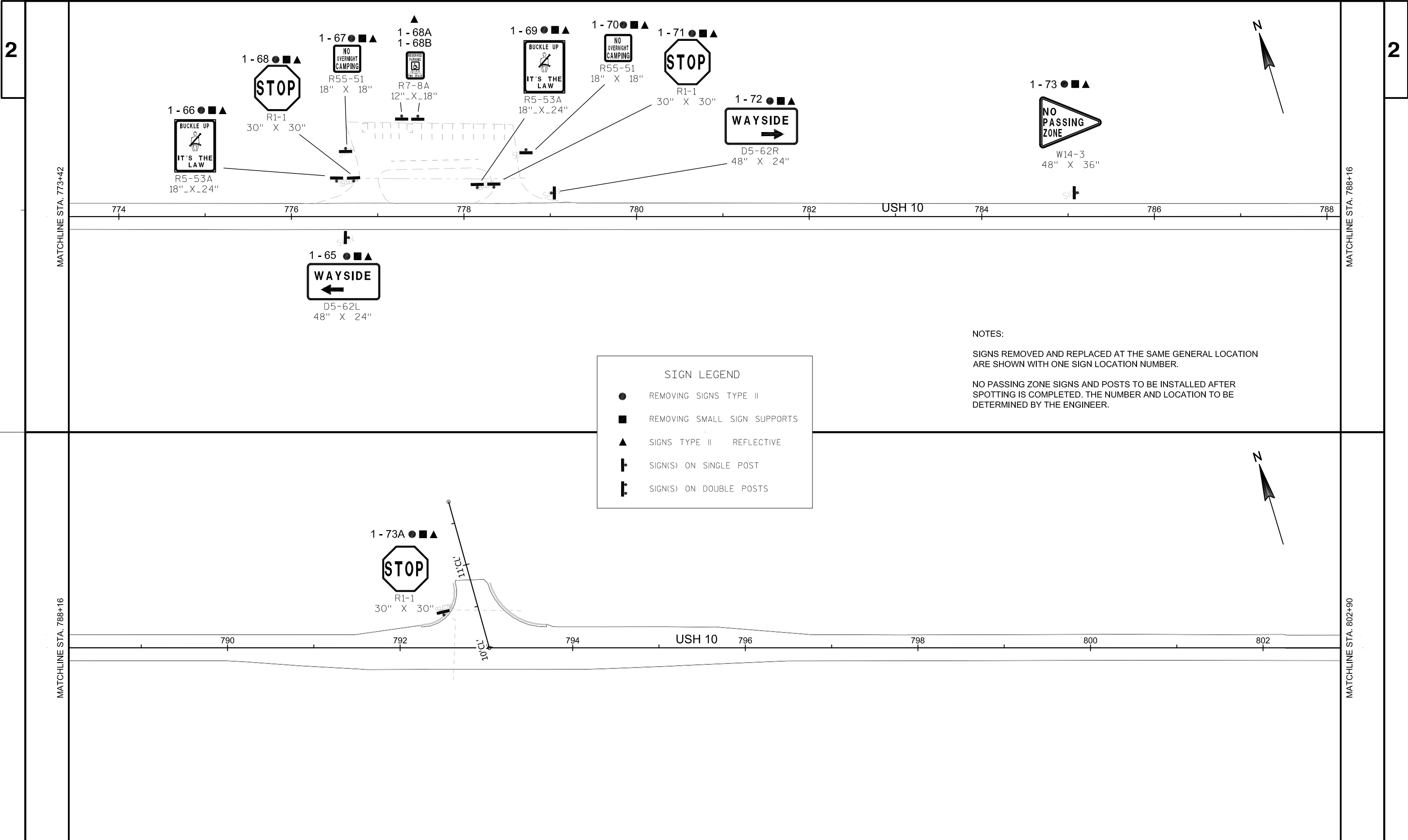
SIGN LEGEND

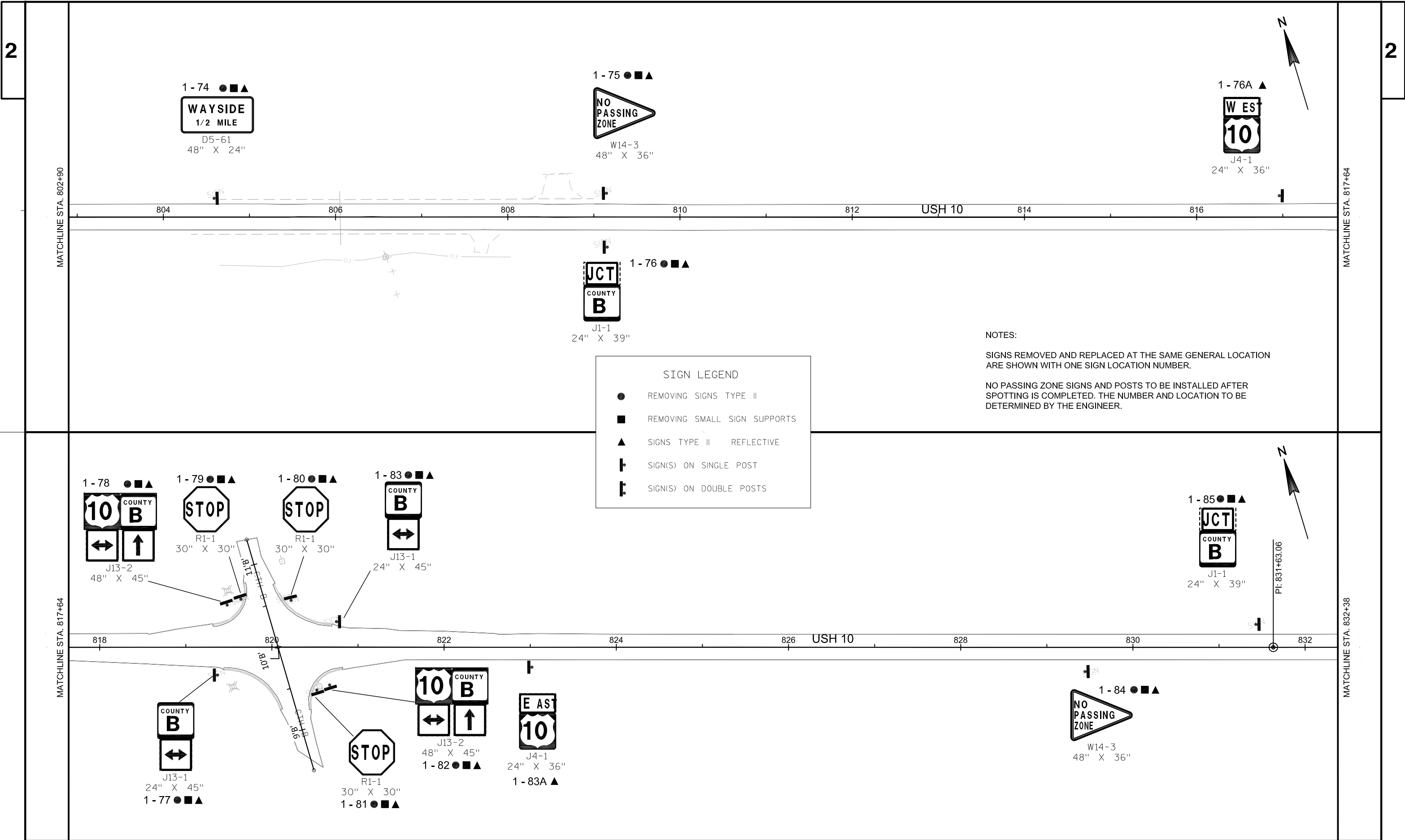
- REMOVING SIGNS TYPE II
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS TYPE II REFLECTIVE
- ┃ SIGN(S) ON SINGLE POST
- ┃┃ SIGN(S) ON DOUBLE POSTS

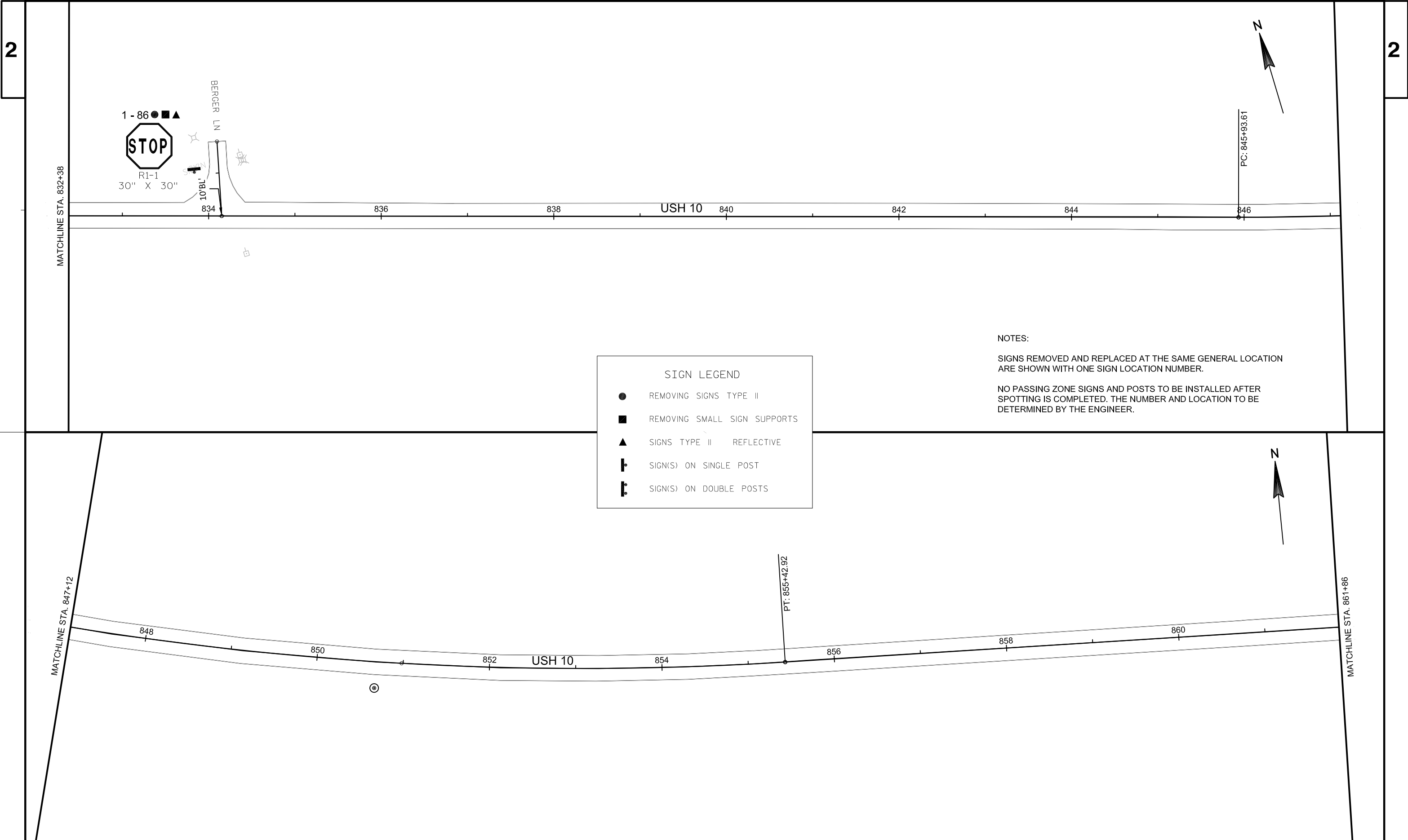
MATCHLINE STA. 758+68

MATCHLINE STA. 773+42









NOTES:

SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.

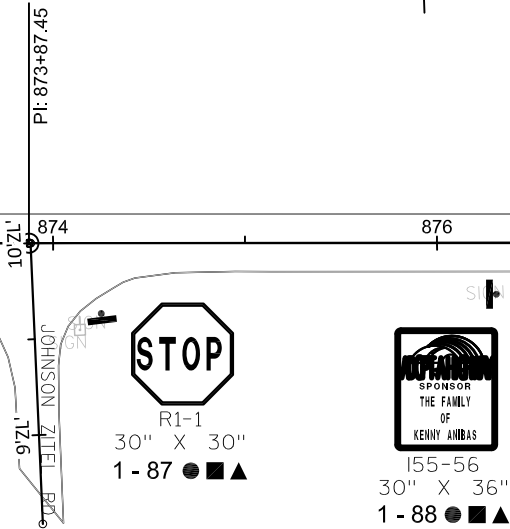


MATCHLINE STA. 861+86

MATCHLINE STA. 876+60

862 864 866 868 870 872 874 876

USH 10



SIGN LEGEND

●

REMOVING SIGNS TYPE II

■

REMOVING SMALL SIGN SUPPORTS

▲

SIGNS TYPE II REFLECTIVE

┃

SIGN(S) ON SINGLE POST

┃┃

SIGN(S) ON DOUBLE POSTS



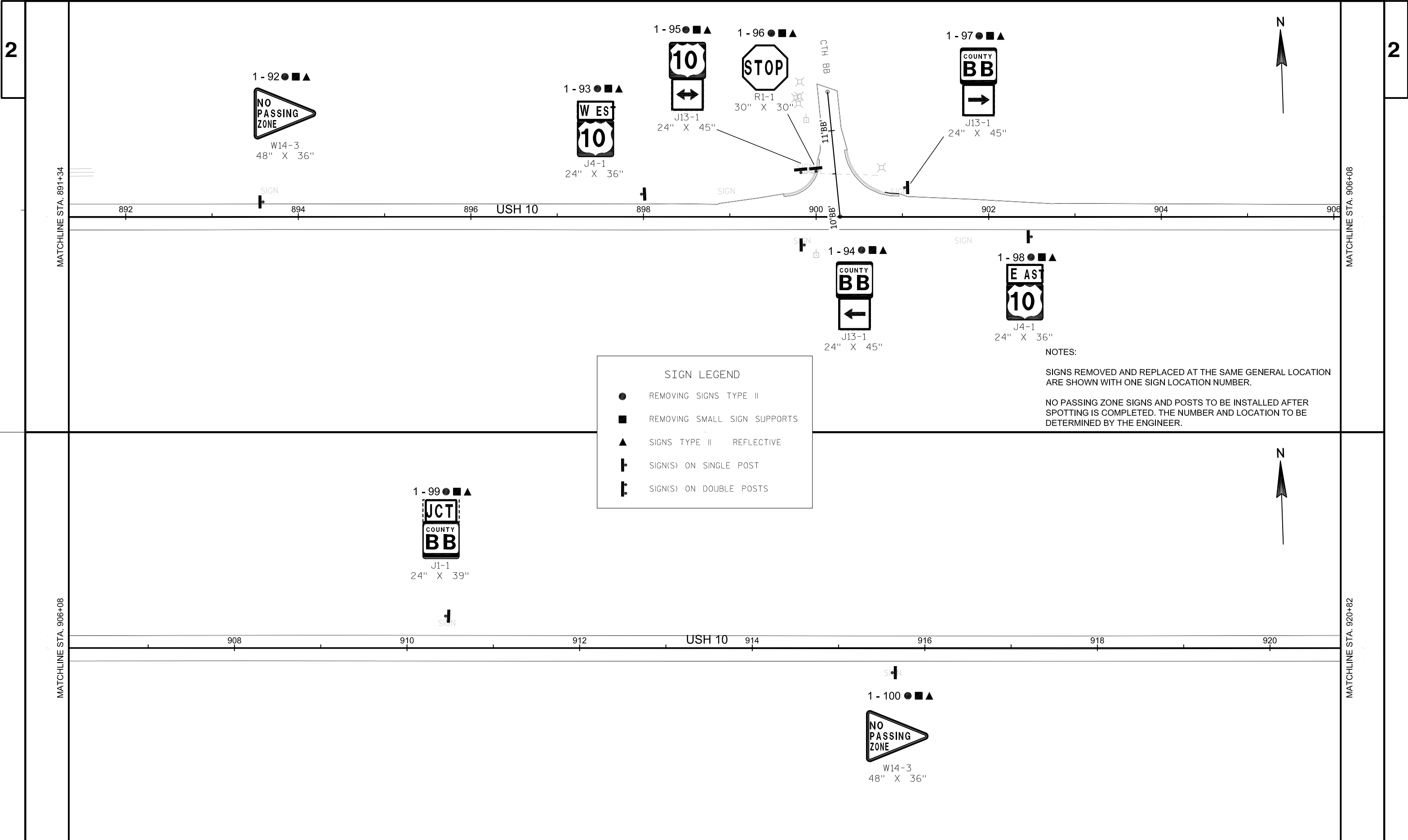
MATCHLINE STA. 876+60

MATCHLINE STA. 891+34

878 880 882 884 886 888 890

USH 10





MATCHLINE STA. 920+82

922

924

926

928

USH 10

930

932

934

1 - 101 ● ■ ▲



W14-3
48" X 36"

PI: 931+21.90

SIGN



SIGN LEGEND

- REMOVING SIGNS TYPE II
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS TYPE II REFLECTIVE
- ┆ SIGN(S) ON SINGLE POST
- ┆┆ SIGN(S) ON DOUBLE POSTS

NOTES:
SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.
NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.



MATCHLINE STA. 935+56

936

938

940

942

USH 10

944

946

948

950

MATCHLINE STA. 950+30

MATCHLINE STA. 950+30

MATCHLINE STA. 965+04

1 - 102 ● ■ ▲
NO
PASSING
ZONE
W14-3
48" X 36"

1 - 103 ● ■ ▲
NO
PASSING
ZONE
W14-3
48" X 36"

SIGN LEGEND

●

REMOVING SIGNS TYPE II

■

REMOVING SMALL SIGN SUPPORTS

▲

SIGNS TYPE II REFLECTIVE

┆

SIGN(S) ON SINGLE POST

┆┆

SIGN(S) ON DOUBLE POSTS

NOTES:

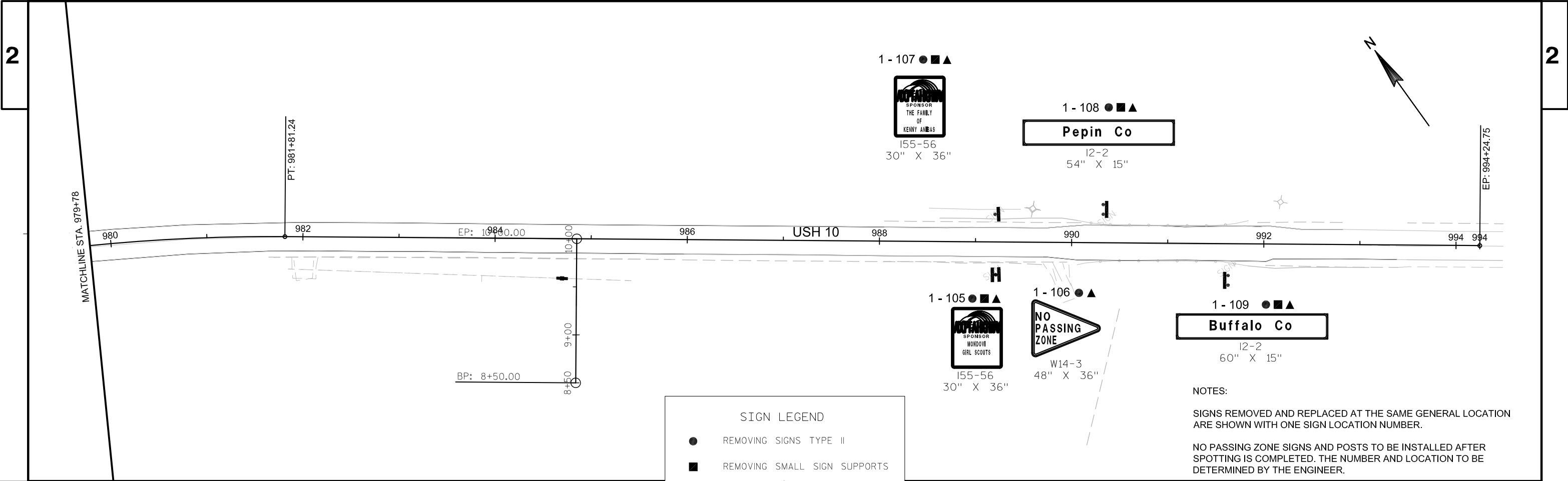
SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.

MATCHLINE STA. 965+04

MATCHLINE STA. 979+78

1 - 104 ● ■ ▲
STOP
R1-1
30" X 30"



SIGN LEGEND

●

REMOVING SIGNS TYPE II

■

REMOVING SMALL SIGN SUPPORTS

▲

SIGNS TYPE II REFLECTIVE

├

SIGN(S) ON SINGLE POST

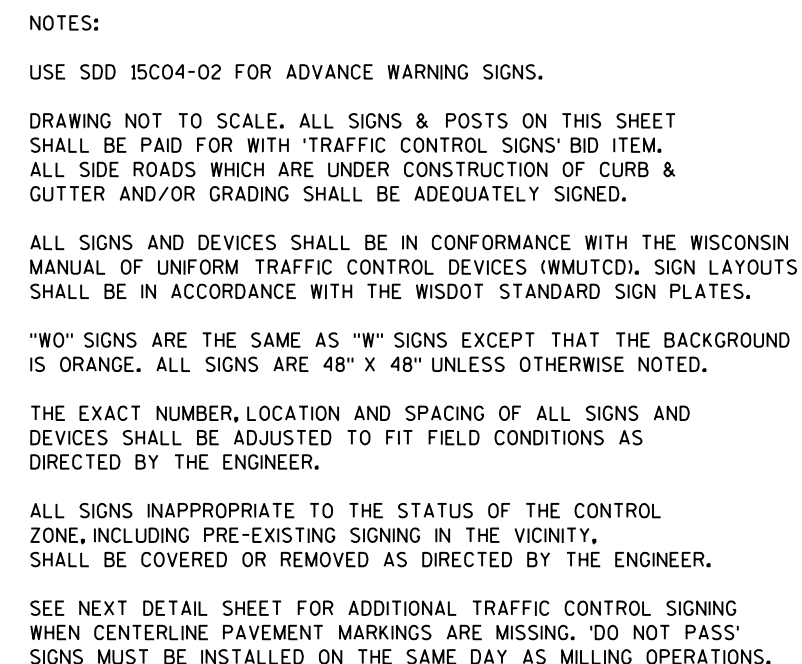
├├

SIGN(S) ON DOUBLE POSTS

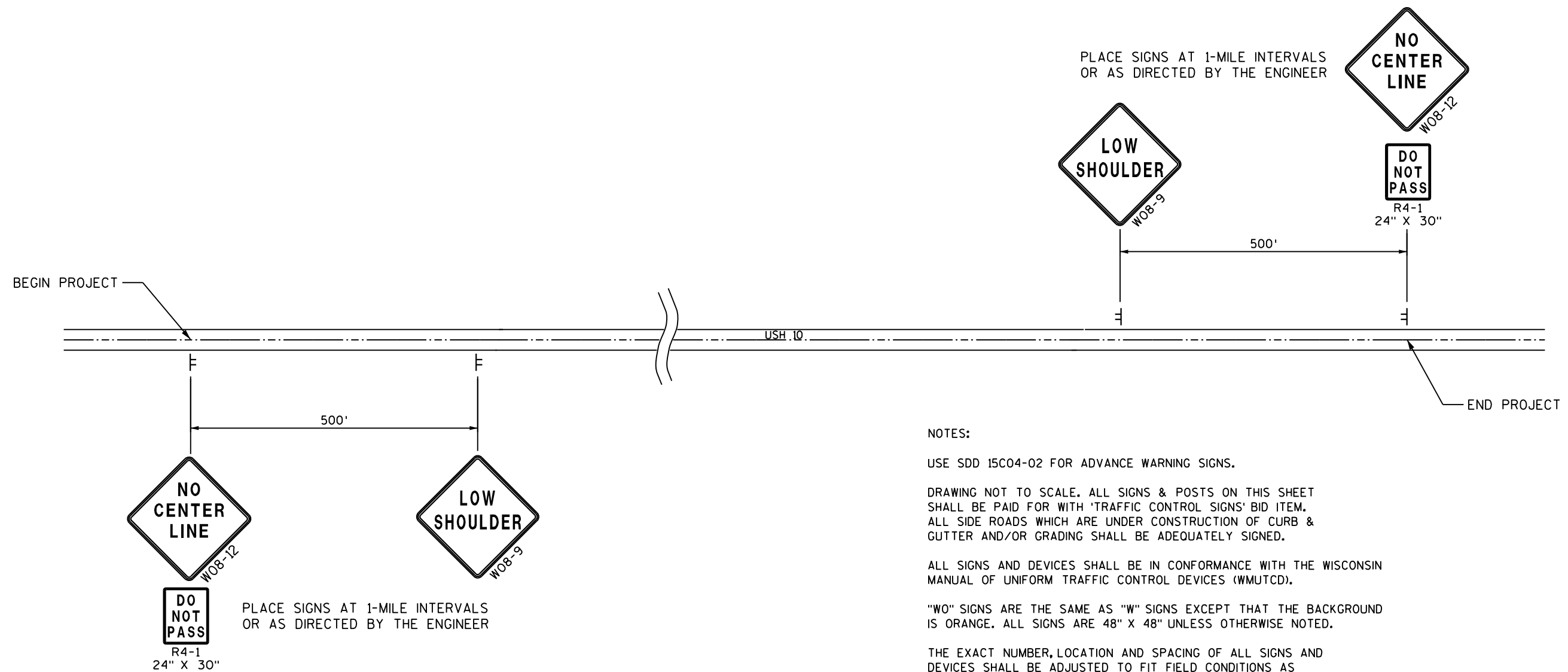
NOTES:

SIGNS REMOVED AND REPLACED AT THE SAME GENERAL LOCATION ARE SHOWN WITH ONE SIGN LOCATION NUMBER.

NO PASSING ZONE SIGNS AND POSTS TO BE INSTALLED AFTER SPOTTING IS COMPLETED. THE NUMBER AND LOCATION TO BE DETERMINED BY THE ENGINEER.



PROJECT NO:1530-06-72	HWY: USH 10	COUNTY: PEPIN	TRAFFIC CONTROL DETAILS		SHEET 37	E
FILE NAME : W:\NWBE_PROJECTS\DESIGN\1204_USH 10_11+H_AVE\C3D\025001-.tc.dgn			PLOT DATE : 12/5/2014		PLOT BY : NWBE	
			PLOT NAME :		PLOT SCALE : N/A	

**NOTES:**

USE SDD 15C04-02 FOR ADVANCE WARNING SIGNS.

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

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD).

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

REMOVE OR COVER W08-12 AND R4-1 SIGNS IMMEDIATELY FOLLOWING PLACEMENT OF TEMPORARY OR SAME-DAY PAVEMENT MARKINGS.

LOW SHOULDER SIGNS TO REMAIN INPLACE UNTIL AGGREGATE SHOULDER IS CONSTRUCTED AND COMPACTED TO CROSS SLOPE SHOWN ON TYPICAL SECTION.

DETAIL FOR SIGNING ON HMA PAVEMENT SURFACES

3

DATE 04AUG15		E S T I M A T E O F Q U A N T I T I E S			
LINE				1530-06-72	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0100	Removing Small Pipe Culverts	EACH	6.000	6.000
0020	204.0110	Removing Asphaltic Surface	SY	1,030.000	1,030.000
0030	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,662.000	1,662.000
0040	204.0120	Removing Asphaltic Surface Milling	SY	170,570.000	170,570.000
0050	204.0130	Removing Curb	LF	100.000	100.000
0060	204.9060.S	Removing (item description) 01. Parking Block	EACH	16.000	16.000
0070	205.0100	Excavation Common	CY	1,207.000	1,207.000
0080	208.0100	Borrow	CY	77.000	77.000
0090	213.0100	Finishing Roadway (project) 01. 1530-06-72	EACH	1.000	1.000
0100	214.0100	Obliterating Old Road	STA	1.000	1.000
0110	305.0110	Base Aggregate Dense 3/4-Inch	TON	10,482.000	10,482.000
0120	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,145.000	2,145.000
0130	305.0500	Shaping Shoulders	STA	954.000	954.000
0140	440.4410.S	Incentive IRI Ride	DOL	36,150.000	36,150.000
0150	455.0605	Tack Coat	GAL	9,958.000	9,958.000
0160	460.2000	Incentive Density HMA Pavement	DOL	20,600.000	20,600.000
0170	465.0105	Asphaltic Surface	TON	500.000	500.000
0180	465.0110	Asphaltic Surface Patching	TON	50.000	50.000
0190	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	222.000	222.000
0200	465.0310	Asphaltic Curb	LF	275.000	275.000
0210	465.0315	Asphaltic Flumes	SY	29.000	29.000
0220	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	39,162.000	39,162.000
0230	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	156.000	156.000
0240	521.0721	Pipe Arch Corrugated Steel 21x15-Inch	LF	62.000	62.000
0250	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	6.000	6.000
0260	521.1221	Apron Endwalls for Pipe Arch Steel 21x15-Inch	EACH	4.000	4.000
0270	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	6.000	6.000
0280	601.0199.S	Concrete Curb Precast	EACH	17.000	17.000
0290	606.0200	Riprap Medium	CY	15.000	15.000
0300	606.0300	Riprap Heavy	CY	4.000	4.000
0310	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0320	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0330	614.0010	Barrier System Grading Shaping Finishing	EACH	29.000	29.000
0340	614.0305	Steel Plate Beam Guard Class A	LF	537.500	537.500
0350	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	4.000	4.000
0360	614.0920	Salvaged Rail	LF	3,678.000	3,678.000
0370	614.2300	MGS Guardrail 3	LF	2,425.000	2,425.000
0380	614.2330	MGS Guardrail 3 K	LF	975.000	975.000
0390	614.2500	MGS Thrie Beam Transition	LF	118.500	118.500
0400	614.2610	MGS Guardrail Terminal EAT	EACH	25.000	25.000
0410	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1530-06-72	EACH	1.000	1.000
0420	619.1000	Mobilization	EACH	1.000	1.000
0430	623.0200	Dust Control Surface Treatment	SY	153,617.000	153,617.000
0440	625.0100	Topsoil	SY	656.000	656.000
0450	625.0500	Salvaged Topsoil	SY	1,427.000	1,427.000
0460	628.1104	Erosion Bales	EACH	5.000	5.000

3

3

DATE 04AUG15		E S T I M A T E O F Q U A N T I T I E S			
LINE					1530-06-72
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0470	628.1504	Silt Fence	LF	8,520.000	8,520.000
0480	628.1520	Silt Fence Maintenance	LF	8,520.000	8,520.000
0490	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0500	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0510	628.2004	Erosion Mat Class I Type B	SY	2,083.000	2,083.000
0520	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0530	628.7504	Temporary Ditch Checks	LF	10.000	10.000
0540	628.7555	Culvert Pipe Checks	EACH	24.000	24.000
0550	629.0210	Fertilizer Type B	CWT	1.300	1.300
0560	630.0120	Seeding Mixture No. 20	LB	56.700	56.700
0570	630.0200	Seeding Temporary	LB	56.700	56.700
0580	633.5200	Markers Culvert End	EACH	71.000	71.000
0590	634.0410	Posts Wood 4x4-Inch X 10-FT	EACH	2.000	2.000
0600	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	109.000	109.000
0610	637.2210	Signs Type II Reflective H	SF	495.370	495.370
0620	637.2230	Signs Type II Reflective F	SF	198.250	198.250
0630	638.2602	Removing Signs Type II	EACH	102.000	102.000
0640	638.3000	Removing Small Sign Supports	EACH	104.000	104.000
0650	642.5001	Field Office Type B	EACH	1.000	1.000
0660	643.0100	Traffic Control (project) 01. 1530-06-72	EACH	1.000	1.000
0670	643.0300	Traffic Control Drums	DAY	5,580.000	5,580.000
0680	643.0900	Traffic Control Signs	DAY	570.000	570.000
0690	645.0120	Geotextile Fabric Type HR	SY	61.000	61.000
0700	646.0106	Pavement Marking Epoxy 4-Inch	LF	141,765.000	141,765.000
0710	646.0126	Pavement Marking Epoxy 8-Inch	LF	203.000	203.000
0720	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	47,528.000	47,528.000
0730	647.0256	Pavement Marking Symbols Epoxy	EACH	2.000	2.000
0740	647.0656	Pavement Marking Parking Stall Epoxy	LF	525.000	525.000
0750	647.0716	Pavement Marking Diagonal Epoxy 8-Inch	LF	110.000	110.000
0760	648.0100	Locating No-Passing Zones	MI	9.060	9.060
0770	649.0200	Temporary Pavement Marking Reflective Paint 4-Inch	LF	45,786.000	45,786.000
0780	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0790	650.4500	Construction Staking Subgrade	LF	350.000	350.000
0800	650.5000	Construction Staking Base	LF	350.000	350.000
0810	650.6000	Construction Staking Pipe Culverts	EACH	5.000	5.000
0820	650.8000	Construction Staking Resurfacing Reference	LF	47,833.000	47,833.000
0830	650.9910	Construction Staking Supplemental Control (project) 01. 1530-06-72	LS	1.000	1.000
0840	650.9920	Construction Staking Slope Stakes	LF	350.000	350.000
0850	690.0150	Sawing Asphalt	LF	917.000	917.000
0860	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0870	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	630.000	630.000
0880	SPV.0060	Special 01. Salvage Flasher Assembly	EACH	1.000	1.000
0890	SPV.0090	Special 01. Regrade Ditch	LF	227.000	227.000
0900	SPV.0105	Special 01. Material Transfer Vehicle	LS	1.000	1.000
0910	SPV.0105	Special 02. Milling and Removing Temporary Joint	LS	1.000	1.000
0920	SPV.0105	Special 03. Preparation of Foundation for Asphaltic Paving Special	LS	1.000	1.000
0930	SPV.0170	Special 01. Reheating HMA Pavement Longitudinal Joints Special	STA	477.000	477.000

3

DATE 04AUG15			E S T I M A T E O F Q U A N T I T I E S			
LINE			1530-06-72			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0940	SPV.0195	Special 01. HMA Pavement Type E-3 Special	TON	14,598.000	14,598.000	
0950	SPV.0195	Special 02. HMA Pavement Type E-10 Special	TON	17,581.000	17,581.000	

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

REMOVING SMALL PIPE CULVERTS

203.0100 REMOVING SMALL PIPE CULVERTS		
STATION	LOCATION	EACH
553+95	USH 10 RT	1
659+64	USH 10 RT	1
684+80	USH 10 LT	1
685+65	USH 10 LT	1
698+55	USH 10 RT	1
891+58	USH 10 RT	1
TOTAL		6

REMOVING ASPHALTIC SURFACE

204.0110 REMOVING ASPHALTIC SURFACE		
STATION		SY
521+22	RT	22
521+56	RT	22
521+90	LT	29
523+31	LT	13
523+62	RT	14
524+31	LT	18
524+76	LT	18
524+98	RT	11
526+65	LT	13
527+24	RT	25
527+88	LT	12
528+61	LT	31
530+04	LT	11
532+62	LT	14
536+77	RT	22
538+45	RT	29
589+97	LT	28
606+62	LT	34
611+43	RT	26
617+46	LT	36
635+91	LT	28
652+63	LT	83
665+46	LT	48
666+60	LT	29
698+72	RT	30
703+32	RT	44
710+86	LT	76
739+23	RT	33
810+10	LT	44
834+15	LT	100
906+37	LT	31
942+84	LT	28
969+40	LT	28
TOTALS		1030

REMOVING ASPHALTIC SURFACE MILLING

204.0120 REMOVING ASPHALTIC SURFACE MILLING				
STATION	-	STATION	ALIGNMENT	SY
CAT. 0010				
515+97	-	993+30	USH10	162289
9+20	-	9+85	'RL'	347
9+15	-	9+80	'SL'	239
3+15	-	3+65	'DM'	242
0+86	-	2+30	'BR'	193
9+20	-	9+85	'B'	550
9+05	-	9+82	'V'	636
10+17	-	11+03	'V'	657
9+20	-	9+84	'B'	574
10+15	-	10+83	'B'	602
10+15	-	10+60	'BL'	176
9+25	-	9+85	'JZR'	339
10+15	-	10+76	'BB'	554
10+15	-	11+35	'KR'	649
515+47	-	993+80	USH10	1030
CAT. 0010 TOTAL				169076
CAT. 0020				
776+85	-	778+45	USH10	1494
CAT. 0020 TOTAL				1494
PROJECT TOTAL				170570

OBLITERATING OLD ROAD

214.0100 OBLITERATING OLD ROAD			
STATION	-	STATION	STA
10+15	-	11+15	PE2 1.0
TOTAL			1.0

ASPHALTIC CURB

204.0140 REMOVING CURB				
465.0310 ASPHALTIC CURB				
STATION	-	STATION	LOCATION	LF
696+50	-	697+50	USH 10 RT	100
695+25	-	698+00	USH 10 RT	-
TOTALS				100

REMOVING BUTT JOINTS

204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS			
STATION	-	STATION	SY
515+47	-	515+97	USH 10 222
597+18	-	597+68	USH 10 167
598+15	-	598+65	USH 10 167
682+04	-	682+54	USH 10 167
683+26	-	683+76	USH 10 167
993+30	-	993+80	USH 10 80
9+00	-	9+20	'RL' 60
8+95	-	9+05	'SL' 43
3+65	-	3+85	'DM' 45
1+80	-	2+00	'BR' 45
9+00	-	9+20	'B' 58
8+85	-	9+05	'V' 49
11+03	-	11+25	'V' 49
10+80	-	11+00	'CL' 45
9+00	-	9+20	'B' 49
10+83	-	11+03	'B' 49
10+60	-	10+80	'BL' 32
9+05	-	9+25	'JZR' 58
10+75	-	10+95	'BB' 54
11+35	-	11+55	'KR' 56
			1662

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

			205.0100 EXCAVATION COMMON															208.0100 BORROW	
Division	From/To Station	Location	Common Excavation (1)		Salvaged / Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6)	Rock Excavation (7)	Reduced Marsh in Fill (8)	Reduced EBS in Fill (9)	Expanded Marsh Backfill (10)	Expanded EBS Backfill (11)	Expanded Rock (12)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow	Comment:
			Cut (2)	EBS Excavation (3)					Factor 0.60	Factor 0.80	Factor 1.50	Factor 1.30	Factor 1.10		Factor 1.25				
	46+47 - 49+85	PE2	1163	0	0	1163	0	0	0	0	0	0	0	13	16	1147	1147	0	-
	9+52 - 9+80	FE2	0	0	0	5	0	0	0	0	0	0	0	57	71	-66	0	66	-
	659+64	FE RT	20	0	0	20	0	0	0	0	0	0	0	0	0	20	20	0	REMOVE FE
	982+00	FE RT	20	0	0	20	0	0	0	0	0	0	0	0	0	20	20	0	REMOVE FE
	9+51 - 9+85	FE1	4	0	0	4	0	0	0	0	0	0	0	12	15	-11	0	11	-
Division 1 Subtotal			1207	0	0	1212	0	0	0	0	0	0	0	82	103	1110	1187	77	
Grand Total			1207	0	0	1212	0	0	0	0	0	0	0	82	103	1110	1187	77	
			Total Com. Exc 1207		0														

- 1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unusable Pavement Material is included in Cut.
- 3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusable Pavement Material
- 6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
- 7) Rock Excavation item number 205.0200
- 8) Reduced Marsh in Fill - Excavated Marsh material is usable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
- 9) Reduced EBS in Fill - Excavated EBS material is usable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
- 10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
- 11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
- 12) Expanded Rock - Factor = 1.1.
- 13) Expanded Fill. Factor = 1.25
- Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**

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

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

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

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

BASE AGGREGATE DENSE 3/4-INCH

STATION - STATION		LOCATION	BASE AGGREGATE DENSE 3/4-INCH 305.0110 TON
515+47	- 597+80	LT	823
598+22	- 602+31	LT, BEAMGUARD AREA	45
515+47	- 590+78	RT	753
590+78	- 600+65	RT, BEAMGUARD AREA	45
600+65	- 613+40	RT	128
616+78	- 625+78	RT	90
625+78	- 632+63	RT, BEAMGUARD AREA	48
602+31	- 613+64	LT	113
616+01	- 626+02	LT	100
626+02	- 632+67	LT, BEAMGUARD AREA	40
632+63	- 658+52	RT	259
658+52	- 663+36	RT, BEAMGUARD AREA	40
632+67	- 658+98	LT	263
658+98	- 663+94	LT, BEAMGUARD AREA	45
663+36	- 679+09	RT	157
679+09	- 685+97	RT, BEAMGUARD AREA	30
663+94	- 678+44	LT	145
678+44	- 685+78	LT, BEAMGUARD AREA	40
685+78	- 695+08	LT	93
695+08	- 700+48	LT, BEAMGUARD AREA	25
685+97	- 690+29	RT	43
690+29	- 699+57	RT, BEAMGUARD AREA	45
699+57	- 881+32	RT	1817
881+32	- 886+51	RT, BEAMGUARD AREA	40
700+48	- 952+34	LT	2519
952+34	- 957+28	LT, BEAMGUARD AREA	30
886+51	- 951+78	RT	653
951+78	- 956+72	RT, BEAMGUARD AREA	30
956+72	- 987+25	RT	305
957+28	- 988+49	LT	312
987+25	- 993+69	RT, BEAMGUARD AREA	35
988+49	- 993+80	LT, BEAMGUARD AREA	45
**		DRIVEWAYS & FIELD ENTRANCES	1325
TOTAL			10482
** QUANTITIES SHOWN IN DRIVEWAYS SUMMARY TABLE			

SHAPING SHOULDERS

STATION - STATION		LOCATION	305.0500 SHAPING SHOULDERS STA
515+47	- 597+68	USH 10 LT & RT	164
598+15	- 682+54	USH 10 LT & RT	169
683+26	- 993+80	USH 10 LT & RT	621
		TOTAL	954

BASE AGGREGATE DENSE 1 1/4-INCH

STATION - STATION		LOCATION	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
46+47	- 49+66	PE1	205
9+51	- 9+85	FE1	30
9+52	- 9+84	FE2	40
590+78	- 600+65	USH 10 RT	125
596+27	- 602+31	USH 10 LT	70
625+78	- 632+63	USH 10 RT	115
626+02	- 632+67	USH 10 LT	105
658+52	- 663+36	USH 10 RT	95
658+98	- 663+94	USH 10 LT	85
679+09	- 685+97	USH 10 RT	55
678+44	- 685+97	USH 10 LT	70
690+29	- 699+57	USH 10 RT	155
695+08	- 700+48	USH 10 LT	85
881+32	- 886+51	USH 10 LT	105
952+34	- 957+28	USH 10 LT	65
951+78	- 956+72	USH 10 RT	95
987+25	- 993+69	USH 10 RT	45
988+49	- 993+80	USH 10 LT	100
UNDISTRIBUTED		USH 10	500
		TOTAL	2145

ASPHALTIC ITEMS

STATION - STATION		ALIGNMENT	SPV.0195.02 HMA PAVEMENT TYPE E-10 SPECIAL TON	SPV.0195.01 HMA PAVEMENT TYPE E-3 SPECIAL TON	455.0605 TACK COAT GAL **	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	COMMENTS
CAT. 0010								
515+47	- 993+80	USH10	16767	14598	9385	-	-	MAINLINE
9+00	- 9+85	'RL'	40	-	29	-	-	RUSTAD LN
8+95	- 9+80	'SL'	28	-	20	-	-	SPINLER LN
3+15	- 3+65	'DM'	28	-	21	-	-	DORWIN'S MILL RD
1+80	- 2+30	'BR'	23	-	17	-	-	BRUNNER RD
9+00	- 9+85	'B'	60	-	43	-	-	CTH B
8+85	- 9+82	'V'	67	-	48	-	-	CTH V
10+17	- 11+25	'V'	69	-	50	-	-	CTH V
10+15	- 11+00	'CL'	41	-	29	-	-	COOPERATIVE LN
9+00	- 9+84	'B'	61	-	44	-	-	CTH B
10+15	- 11+03	'B'	64	-	46	-	-	CTH B
10+15	- 10+80	'BL'	20	-	15	-	-	BERGER LN
9+05	- 9+85	'JTR'	39	-	28	-	-	JOHNSON ZITEL RD
10+15	- 10+95	'BB'	60	-	43	-	-	CTH BB
10+15	- 11+55	'KR'	69	-	50	-	-	KOTHBAUER RD
46+46	- 49+85	'PE1'	-	-	-	-	107	SPINDLER DW
DRIVEWAYS		-	-	-	-	-	115	-
515+47	- 998+80	USH10	-	-	-	500	-	LEVELING AND WEDGING
CAT. 0010 TOTALS			17435	14598	9868	500	222	
CAT. 0020								
776+85	- 778+45	USH10	146	-	90	-	-	WAYSIDE (1.75-INCH)
CAT. 0020 TOTALS			146	0	90	0	0	
PROJECT TOTALS			17581	14598	9958	500	222	

ASPHALTIC SURFACE PATCHING

STATION		LOCATION	465.0110 ASPHALTIC SURFACE PATCHING TONS
UNDISTRIBUTED		USH 10	50
		TOTAL	50

ASPHALTIC FLUMES

STATION		LOCATION	465.0315 ASPHALTIC FLUMES SY
695+25	RT	USH 10	9
696+25	RT	USH 10	10
697+25	RT	USH 10	10
		TOTAL	29

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

DRIVEWAYS

305.0110			465.0120			305.0110			465.0120			305.0110			465.0120		
BASE			ASPHALTIC			BASE			ASPHALTIC			BASE			ASPHALTIC		
AGGREGATE			SURFACE			AGGREGATE			SURFACE			AGGREGATE			SURFACE		
DENSE 3/4-			DRIVEWAYS AND			DENSE 3/4-			DRIVEWAYS AND			DENSE 3/4-			DRIVEWAYS AND		
INCH			FIELD ENTRANCES			INCH			FIELD ENTRANCES			INCH			FIELD ENTRANCES		
STATION		TON		TON		STATION		TON		TON		STATION		TON		TON	
519+54	RT	10	-	-	-	635+91	LT	-	-	3	-	825+37	LT	20	-	-	-
520+06	LT	20	-	-	-	644+25	LT	20	-	-	-	834+15	LT	-	-	11	-
521+22	RT	-	-	2	-	644+81	RT	20	-	-	-	836+84	LT	20	-	-	-
521+56	RT	-	-	2	-	652+63	LT	-	-	9	-	840+36	RT	-	-	-	-
521+90	LT	-	-	3	-	656+57	LT	20	-	-	-	855+03	RT	20	-	-	-
523+31	LT	-	-	1	-	659+85	RT	25	-	-	-	855+06	LT	20	-	-	-
523+62	RT	-	-	2	-	665+44	RT	20	-	-	-	860+74	LT	20	-	-	-
524+31	LT	-	-	2	-	665+46	LT	-	-	5	-	860+84	RT	10	-	-	-
524+76	LT	-	-	2	-	666+60	LT	-	-	3	-	880+56	LT	10	-	-	-
524+98	RT	-	-	1	-	676+28	LT	20	-	-	-	893+66	RT	10	-	-	-
525+43	RT	10	-	-	-	676+95	LT	20	-	-	-	895+89	LT	10	-	-	-
526+65	LT	-	-	1	-	684+79	LT	20	-	-	-	896+59	LT	10	-	-	-
527+24	RT	-	-	3	-	685+54	LT	20	-	-	-	897+98	LT	20	-	-	-
527+88	LT	-	-	1	-	688+37	LT	20	-	-	-	906+37	LT	-	-	3	-
528+61	LT	-	-	3	-	695+63	LT	20	-	-	-	917+60	LT	20	-	-	-
530+04	LT	-	-	1	-	698+72	RT	-	-	3	-	918+34	RT	20	-	-	-
532+62	LT	-	-	2	-	703+32	RT	-	-	5	-	920+45	RT	20	-	-	-
533+46	LT	10	-	-	-	710+86	LT	-	-	8	-	932+87	LT	20	-	-	-
535+46	RT	20	-	-	-	712+57	LT	20	-	-	-	939+95	RT	20	-	-	-
536+77	RT	-	-	2	-	719+02	RT	10	-	-	-	942+84	LT	-	-	3	-
538+35	LT	20	-	-	-	739+07	LT	20	-	-	-	946+88	LT	20	-	-	-
538+45	RT	-	-	3	-	739+23	RT	-	-	4	-	948+57	LT	20	-	-	-
546+10	LT	20	-	-	-	750+77	RT	20	-	-	-	950+13	RT	20	-	-	-
546+14	RT	20	-	-	-	763+02	LT	20	-	-	-	956+25	RT	20	-	-	-
553+39	LT	20	-	-	-	765+50	LT	20	-	-	-	969+40	LT	-	-	3	-
553+61	RT	20	-	-	-	769+54	LT	20	-	-	-	969+55	LT	20	-	-	-
567+70	LT	20	-	-	-	775+57	LT	20	-	-	-	969+73	RT	20	-	-	-
589+97	LT	-	-	3	-	775+58	RT	20	-	-	-	972+26	LT	25	-	-	-
594+32	LT	20	-	-	-	779+25	LT	20	-	-	-	975+75	RT	20	-	-	-
597+19	LT	20	-	-	-	779+29	RT	20	-	-	-	3+67 'DM'	LT	25	-	-	-
599+37	RT	20	-	-	-	787+53	RT	10	-	-	-	SUBTOTALS	460	21	-	-	-
600+96	RT	20	-	-	-	787+54	LT	20	-	-	-	TOTALS	1325	115	-	-	-
605+23	RT	10	-	-	-	800+40	RT	20	-	-	-						
606+62	LT	-	-	4	-	801+51	LT	20	-	-	-						
611+43	RT	-	-	3	-	807+70	RT	20	-	-	-						
616+33	RT	20	-	-	-	808+56	LT	20	-	-	-						
617+46	LT	-	-	4	-	810+10	LT	-	-	5	-						
625+79	RT	20	-	-	-	821+48	LT	20	-	-	-						
SUBTOTALS		300	-	48	-	SUBTOTALS		565	-	47	-						

RIPRAP ITEMS

		606.0200		606.0300		645.0120	
		RIPRAP		RIPRAP		GEOTEXTILE	
		MEDIUM		HEAVY		FABRIC TYPE HR	
STATION	LOCATION		CY		CY		SY
697+68	USH 10 LT		1		-		4
697+98	USH 10 RT		-		4		15
698+30	USH 10 RT		14		-		42
TOTALS			15		4		61

ASPHALTIC CENTER LINE RUMBLE STRIPS

			465.0475
			ASPHALTIC CENTER LINE
			RUMBLE STRIP 2-LANE RURAL
STATION -	STATION	LF	
536+88 -	569+72	3284	
576+68 -	593+31	1663	
595+31 -	597+43	212	
598+40 -	612+71	1431	
616+71 -	651+78	3507	
653+78 -	674+39	2061	
678+39 -	682+29	390	
683+51 -	709+90	2639	
713+57 -	732+85	1928	
736+85 -	775+81	3896	
779+59 -	790+27	1068	
797+01 -	818+07	2106	
822+07 -	832+15	1008	
834+85 -	871+87	3702	
875+87 -	898+28	2241	
902+28 -	968+62	6634	
970+62 -	971+34	72	
973+34 -	975+48	214	
979+48 -	990+54	1106	
TOTAL		39162	

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

PIPE CULVERTS

		521.0118	521.0721	521.1018	521.1221	522.0130	611.0642	611.3901	650.4000	650.6000	COMMENTS
		CULVERT PIPE	PIPE ARCH	APRON	APRON	CULVERT PIPE	INLET	INLET	CONSTRUCTION	CONSTRUCTION	
		CORRUGATED	CORRUGATED	ENDWALLS FOR	ENDWALLS FOR	REINFORCED	COVERS	MEDIAN 1	STAKING	STAKING PIPE	
		STEEL 18-INCH	STEEL 21X15-INCH	CULVERT PIPE	PIPE ARCH STEEL	CONCRETE CLASS III	TYPE MS	GRATE	STORM SEWER	CULVERTS	
STATION	LOCATION	LF	LF	EACH	EACH	LF	EACH	EACH	EACH	EACH	
684+80	USH 10 LT	44	-	2	-	-	-	-	-	1	
685+65	USH 10 LT	64	-	2	-	-	-	-	-	1	
698+65	USH 10 RT	40	-	2	-	-	-	-	-	1	
891+58	USH 10	-	-	-	-	6	-	-	-	-	REMOVE AND REPLACE 6 LF
984+70	USH 10	8	-	-	-	-	1	1	1	-	
49+66	PE1	-	26	-	2	-	-	-	-	1	
9+60	FE2	-	36	-	2	-	-	-	-	1	
TOTALS		156	62	6	4	6	1	1	1	5	

* NOTE: ALL CULVERT PIPE CORRUGATED STEEL PIPE THICKNESS TO BE 0.064-INCHES

BARRIER SYSTEM GRADING SHAPING FINISHING

614.0010													
BARRIER SYSTEM				EXCAVATION COMMON*	FILL ADJUSTED (X1.25)*	BORROW*	SALVAGED TOPSOIL*	FERTILIZER TYPE B*	SEEDING MIXTURE NO. 20*	SEEDING TEMPORARY*	EROSION MAT CLASS I TYPE B*		
GRADING SHAPING													
FINISHING													
STATION	-	STATION	LOCATION	EACH	CY	CY	CY	SY	CWT	LB	LB	SY	COMMENTS
592+33.65	-	597+63.70	RT	1	165	145	-20	343	0.3	5	10	343	POST #1 TO STRUCTURE
598+03.60	-	599+08.60	RT	1	75	31	-44	117	0.1	2	4	117	STRUCTURE TO POST #1
598+20.10	-	600+62.60	LT	1	126	90	-36	262	0.2	4	8	262	STRUCTURE TO POST #1
626+98.65	-	631+42.35	RT	2	135	177	42	465	0.3	7	13	465	POST #1 TO POST #1
627+18.90	-	631+50.10	LT	2	133	208	75	550	0.4	8	15	550	POST #1 TO POST #1
659+62.90	-	662+19.10	RT	2	100	294	194	476	0.3	7	13	476	POST #1 TO POST #1
660+18.90	-	662+75.10	LT	2	104	34	-70	161	0.2	3	5	161	POST #1 TO POST #1
679+49.35	-	681+24.35	LT	1	31	83	52	225	0.2	4	7	225	POST #1 TO BEAM GUARD
680+06.78	-	681+56.78	RT	1	48	37	-11	150	0.1	3	5	150	POST #1 TO BEAM GUARD
683+42.48	-	684+67.50	LT	1	37	61	24	183	0.2	3	5	183	POST #1 TO BEAM GUARD
683+49.00	-	686+36.50	RT	1	38	178	140	360	0.3	5	10	360	POST #1 TO BEAM GUARD
691+47.50	-	698+41.20	RT	2	226	540	314	1518	1.0	21	41	1518	POST #1 TO POST #1
696+24.90	-	699+31.10	LT	2	69	97	28	215	0.2	3	6	215	POST #1 TO POST #1
882+50.90	-	885+32.10	RT	2	107	135	28	426	0.3	6	12	426	POST #1 TO POST #1
952+96.90	-	955+53.10	RT	2	45	311	266	684	0.5	10	19	684	POST #1 TO POST #1
953+52.90	-	956+09.10	LT	2	100	84	-16	296	0.2	4	8	296	POST #1 TO POST #1
988+43.90	-	992+50.10	RT	2	131	115	-16	445	0.3	7	13	445	POST #1 TO POST #1
989+67.65	-	992+61.35	LT	2	129	65	-64	366	0.3	5	10	366	POST #1 TO POST #1
TOTALS				29	1799	2685	886	7242	5.4	107	204	7242	

* ITEMS & QUANTITIES LISTED FOR BID INFORMATION ONLY

3

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

STEEL PLATE BEAMGUARD

614.0305 STEEL PLATE BEAM GUARD CLASS A				
STATION	-	STATION	LOCATION	LF
679+99.4	-	681+24.4	USH 10 LT	125.0
680+56.8	-	681+56.8	USH 10 RT	100.0
683+42.5	-	684+17.5	USH 10 LT	75.0
683+49.0	-	685+86.5	USH 10 RT	237.5
TOTAL				537.5

ENERGY ABOSORBING TERMINALS

614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL			614.2610 MGS GUARDRAIL TERMINAL EAT
STATION	LOCATION	EACH	EACH
592+33.7	USH 10 RT	-	1
599+08.6	USH 10 RT	-	1
600+62.6	USH 10 LT	-	1
626+98.7	USH 10 RT	-	1
627+18.9	USH 10 LT	-	1
631+42.4	USH 10 RT	-	1
631+50.1	USH 10 LT	-	1
659+62.9	USH 10 RT	-	1
660+18.9	USH 10 LT	-	1
662+19.1	USH 10 RT	-	1
662+75.1	USH 10 LT	-	1
679+49.4	USH 10 LT	1	-
680+06.8	USH 10 RT	1	-
684+67.5	USH 10 LT	1	-
686+36.5	USH 10 RT	1	-
691+47.5	USH 10 RT	-	1
696+24.9	USH 10 LT	-	1
698+41.2	USH 10 RT	-	1
699+31.1	USH 10 LT	-	1
882+50.9	USH 10 RT	-	1
885+32.1	USH 10 RT	-	1
952+96.9	USH 10 RT	-	1
953+52.9	USH 10 LT	-	1
955+53.1	USH 10 RT	-	1
956+09.1	USH 10 LT	-	1
988+43.9	USH 10 RT	-	1
989+67.7	USH 10 LT	-	1
992+50.1	USH 10 RT	-	1
992+61.4	USH 10 LT	-	1
TOTALS		4	25

SALVAGED RAIL

614.0920 SALVAGED RAIL LF				
STATION	-	STATION	LOCATION	
593+03.1	-	597+61.8	USH 10 RT	459
598+05.5	-	598+89.5	USH 10 RT	84
598+22.0	-	600+81.1	USH 10 LT	259
627+70.2	-	631+25.9	USH 10 RT	356
627+78.7	-	631+37.9	USH 10 LT	359
660+00.0	-	662+36.9	USH 10 LT	237
660+26.4	-	661+87.6	USH 10 RT	161
679+82.0	-	681+24.4	USH 10 LT	142
680+27.2	-	681+56.8	USH 10 RT	130
683+42.5	-	684+54.4	USH 10 LT	112
683+49.0	-	684+61.5	USH 10 RT	113
696+08.0	-	698+48.9	USH 10 RT	241
696+52.4	-	698+90.3	USH 10 LT	238
883+39.2	-	885+00.8	USH 10 RT	162
953+55.5	-	954+92.1	USH 10 LT	137
953+58.7	-	954+90.5	USH 10 RT	132
990+05.8	-	991+83.9	USH 10 RT	178
990+05.9	-	991+83.9	USH 10 LT	178
TOTAL				3678

MGS GUARDRAIL

			614.2300 MGS GUARDRAIL 3	614.2330 MGS GUARDRAIL 3 K
STATION	-	STATION	LOCATION	LF
592+86.8	-	593+54.3	USH 10 RT	67.5
593+54.3	-	594+79.3	USH 10 RT	-
594+79.3	-	597+24.3	USH 10 RT	245.0
598+43.0	-	598+55.5	USH 10 RT	12.5
598+59.5	-	600+09.5	USH 10 LT	150.0
627+51.8	-	628+89.3	USH 10 RT	137.5
628+89.3	-	629+51.8	USH 10 RT	-
629+51.8	-	630+89.3	USH 10 RT	137.5
627+72.0	-	630+97.0	USH 10 LT	325.0
660+16.0	-	661+66.0	USH 10 RT	150.0
660+78.5	-	661+53.5	USH 10 RT	-
661+53.5	-	661+66.0	USH 10 RT	12.5
660+72.0	-	662+22.0	USH 10 LT	150.0
692+00.6	-	697+88.1	USH 10 RT	-
696+78.0	-	698+03.0	USH 10 LT	-
698+03.0	-	698+78.0	USH 10 LT	75.0
883+04.0	-	884+79.0	USH 10 RT	175.0
953+50.0	-	955+00.0	USH 10 RT	150.0
954+06.0	-	955+56.0	USH 10 LT	150.0
988+97.0	-	991+97.0	USH 10 RT	300.0
990+20.8	-	992+08.3	USH 10 LT	187.5
TOTALS			2425.0	975.0

DUST CONTROL

623.0200 DUST CONTROL SURFACE TREATMENT SY			
STATION	-	STATION	LOCATION
CAT. 0010			
532+95	-	993+80	USH 10
PROJECT TOTAL			153617

MGS THRIE BEAM TRANSITION

614.2500 MGS THRIE BEAM TRANSITION LF				
STATION	-	STATION	LOCATION	
597+24.30	-	597+63.70	USH 10 RT	39.5
598+03.60	-	598+43.00	USH 10 RT	39.5
598+20.10	-	598+59.50	USH 10 LT	39.5
TOTAL				118.5

3

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LANDSCAPING ITEMS

				625.0100	625.0500	628.2004	629.0210	630.0120	630.0200	COMMENTS
				TOPSOIL	SALVAGED TOPSOIL	EROSION MAT CLASS I	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SEEDING TEMPORARY	
STATION	- STATION	LOCATION		SY	SY	SY	CWT	LB	LB	
CAT. 0010										
981+80	- 982+20	USH 10 RT		116	-	116	0.07	3	3	FE REMOVAL
9+51	- 9+85	'FE1'			48	48	0.03	1	1	-
10+15	- 11+15	'PE2'	-	300	309	609	0.38	16	16	'PE2' REMOVAL
46+97	- 49+85	'PE1'	-	-	1070	1070	0.67	29	29	-
CAT. 0010 TOTALS				416	1427	1843	1.15	49.7	49.7	
CAT. 0020										
777+00	- 778+50	USH 10 LT		240	-	240	0.15	7	7	WAYSIDE
CAT. 0020 TOTALS				240	0	240	0.15	7	7	
PROJECT TOTALS				656	1427	2083	1.30	56.2	56.2	

MOBILIZATIONS EROSION CONTROL

				628.1905	628.1910
				MOBILIZATION EROSION CONTROL EACH	MOBILIZATION EMERGENCY EROSION CONTROL EACH
STATION	- STATION				
515+47	- 993+80	USH 10		3	2
TOTALS				3	2

INLET PROTECITON

			628.7005
			INLET PROTECTION TYPE A EACH
STATION	LOCATION		
984+70	USH 10 RT		1
TOTAL			1

EROSION BALES

		628.1108
		EROSION BALES EACH
STATION	LOCATION	
UNDISTRIBUTED	USH 10	5
TOTAL		5

SILT FENCE ITEMS

				628.1504	628.1905
				SILT FENCE LF	SILT FENCE MAINTENANCE LF
STATION	- STATION	LOCATION			
581+93	- 583+06	USH 10 LT		115	115
583+94	- 583+63	USH 10 LT		70	70
584+99	- 585+62	USH 10 LT		65	65
590+77	- 597+62	USH 10 RT		690	690
598+05	- 598+55	USH 10 RT		50	50
598+22	- 602+32	USH 10 LT		410	410
625+58	- 632+69	USH 10 RT		700	700
626+02	- 632+70	USH 10 LT		690	690
658+42	- 663+38	USH 10 RT		470	470
658+98	- 663+94	USH 10 LT		490	490
678+43	- 681+24	USH 10 LT		285	285
679+07	- 681+59	USH 10 RT		255	255
683+41	- 685+00	USH 10 LT		120	120
683+47	- 687+42	USH 10 RT		400	400
690+26	- 698+25	USH 10 RT		800	800
696+00	- 698+00	USH 10 LT		205	205
884+00	- 886+51	USH 10 RT		525	525
951+78	- 956+73	USH 10 RT		495	495
952+34	- 957+28	USH 10 LT		500	500
988+47	- 993+81	USH 10 LT		535	535
988+56	- 993+71	USH 10 RT		650	650
TOTALS				8520	8520

TEMPORARY DITCH CHECKS

		628.7504
		TEMPORARY DITCH CHECKS LF
STATION	LOCATION	
981+80	USH 10 RT	10
TOTAL		10

CULVERT PIPE CHECKS

			628.7555
			CULVERT PIPE CHECKS EACH
STATION	LOCATION		
684+80	USH 10 LT		3
685+65	USH 10 LT		3
698+65	USH 10 RT		3
891+58	USH 10 LT		6
981+85	USH 10 RT		3
49+45	PE1		3
9+60	FE2		3
TOTAL			24

TRAFFIC CONTROL DEVICES

643.0300					643.0900		
TRAFFIC CONTROL					TRAFFIC CONTROL		
DRUMS					SIGNS		
STAGE	LOCATION	DRUMS (AVE. # DAYS)	(COUNT)	DAY	(AVE. # DAYS)	(COUNT)	DAY
1	USH 10	7	80	560	7	10	70
2	USH 10	17	80	1360	17	10	170
3	USH 10	19	80	1520	19	10	190
4	USH 10	8	80	640	8	10	80
UNDISTRIBUTED		30	50	1500	30	2	60
TOTALS				5580	570		

CONSTRUCTION STAKING ROADWAY ITEMS

		650.4500	650.5000	650.8000	650.9920	COMMENTS
		CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING RESURFACE REFERENCE LF	CONSTRUCTION STAKING SLOPE STAKES LF	
STATION	- STATION LOCATION					
515+47	- 993+80	USH 10 -	-	47833	-	-
46+97	- 49+85	'PE1'	-	-	288	SPINDLERS DW
09+52	- 09+80	'FE2'	-	-	28	FE 2
09+51	- 09+85	'FE1'	-	-	34	FE 1
TOTALS		350	350	47833	350	

PAVEMENT MARKING SYMBOLS EPOXY

				647.0256
				PAVEMENT MARKING SYMBOLS EPOXY EACH
STATION	- STATION	LOCATION		
CAT. 0020				
776+75	- 778+00	USH 10 LT-WAYSIDE		2
TOTAL				2
				HANDICAP PARKING SYMBOL

LOCATING NO-PASSING ZONES

			648.0100
			LOCATING NO-PASSING ZONES MI
STATION	- STATION	LOCATION	
515+47	- 993+80	USH 10	9.06
TOTAL			9.06

SALVAGE FLASHER ASSEMBLY

			SPV.0060.01
			SALVAGE FLASHER ASSEMBLY EACH
STATION	LOCATION		
533+19	USH 10 LT		1
TOTAL			1

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

3

SAWING ASPHALT

690.0150 SAWING ASPHALT		
STATION	LOCATION	LF
515+47	USH 10	40
521+22	RT	18
521+56	RT	19
521+90	LT	16
523+64	RT	23
524+31	LT	17
524+76	LT	15
524+98	RT	12
526+65	LT	20
527+24	RT	12
527+88	LT	19
528+61	LT	25
530+04	LT	15
532+62	LT	13
538+45	RT	15
571+72	'RL'	27
574+68	'SL'	19
589+97	LT	21
606+62	LT	17
611+43	RT	13
614+68	'DM'	20
614+74	'BR'	20
617+46	LT	18
635+91	LT	12
652+63	LT	28
665+46	LT	16
666+60	LT	13
676+39	'B'	26
698+72	RT	20
703+32	RT	16
710+86	LT	40
734+85	'V' RT	22
734+85	'V' LT	22
739+23	RT	12
793+03	'CL'	20
810+10	LT	14
820+07	'B' LT	22
820+07	'B' RT	22
834+15	'BL'	20
873+88	'ZR'	26
900+28	'BB'	24
906+37	LT	11
942+84	LT	14
969+40	LT	30
977+48	KOTHBAUER RD	25
993+80	USH10	30
TOTAL		917

PERMANENT SIGNING ITEMS

					SIGN SIZE W X L (INCHES)	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	634.0410 POSTS WOOD 4X4-INCH X 10-FT EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
STATION	LOCATION	SIGN NUMBER	SIGN CODE	SIGN MESSAGE								
CAT. 0010												
514+97	LT	1-1	---	SNOWMOBILE CROSSING	- x -	-	-	-	-	1	1	
517+84	RT	1-2	I-55-56	ADOPT A HIGHWAY	30 x 36	7.50	-	1	-	1	1	BOY SCOUT TROOP #54
519+05	LT	1-3	I-2-3	DURAND POPULATION 1931	60 x 24	10.00	-	2	-	1	2	
519+91	LT	1-4	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
521+29	LT	1-5	R2-1	SPEED LIMIT 40	24 x 30	5.00	-	1	-	1	1	
523+06	RT	1-6	R2-1	SPEED LIMIT 40	24 x 30	5.00	-	1	-	1	1	
527+23	LT	1-7	---	SPEED LIMIT 40	- x -	-	-	-	-	1	1	
527+81	RT	1-8	J4-1	EAST 10	24 x 36	6.00	-	1	-	1	1	
530+46	RT	1-9	D2-1	MONDOVI 16	72 x 18	7.50	-	2	-	1	2	
533+19	LT	1-10	R2-1	SPEED LIMIT 40	24 x 30	5.00	-	1	-	1	1	FLASHING LIGHT
533+42	RT	1-11	R2-1	SPEED LIMIT 55	24 x 30	5.00	-	1	-	1	1	
536+57	LT	1-12	S3-1	SCHOOL BUS STOP AHEAD	36 x 36	-	9.00	1	-	1	1	
542+14	LT	1-15	W3-5	SPEED LIMIT 40 AHEAD	36 x 36	-	9.00	1	-	1	1	
550+39	RT	1-16	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
551+28	LT	1-17	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
568+74	RT	1-18	W1-2L	LEFT CURVE	30 x 30	-	6.25	1	-	1	1	
568+74	RT	1-19	W13-1	50 MPH	18 x 18	-	2.25	-	-	-	-	SHARES POST WITH SIGN 1-18
571+96	RT	1-20	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
575+16	RT	1-21	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
582+50	LT	1-22	S3-1	SCHOOL BUS STOP AHEAD	36 x 36	-	9.00	1	-	1	1	
585+25	LT	1-23	W1-2R	RIGHT CURVE	30 x 30	-	6.25	1	-	1	1	
585+25	LT	1-24	W13-1	50 MPH	18 x 18	-	2.25	-	-	-	-	SHARES POST WITH SIGN 1-23
591+19	RT	1-25	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
612+51	RT	1-26	I-55-56	ADOPT A HIGHWAY	30 x 36	7.50	-	1	-	1	1	DURAND EDUCATION ASSOCIATION
612+51	LT	1-27	I-55-56	ADOPT A HIGHWAY	30 x 36	7.50	-	1	-	1	1	BOY SCOUT TROOP #54
614+46	LT	1-28	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
614+94	RT	1-29	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
618+93	LT	1-30	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
622+00	RT	1-30A	W1-2R	RIGHT CURVE	30 x 30	-	6.25	1	-	-	-	
641+00	RT	1-30B	W1-2L	LEFT CURVE	30 x 30	-	6.25	1	-	-	-	
651+00	RT	1-31	W1-2L	LEFT CURVE	30 x 30	-	6.25	1	-	1	1	
660+00	LT	1-32	W54-57	TRUCK ENTRANCE	30 x 30	-	6.25	1	-	1	1	
663+50	LT	1-33	W1-2R	RIGHT CURVE	30 x 30	-	6.25	1	-	1	1	
666+95	RT	1-34	J1-1	JCT COUNTY B	24 x 39	6.50	-	1	-	1	1	
673+00	LT	1-35	J4-1	WEST 10	24 x 36	6.00	-	1	-	-	-	
675+77	RT	1-36	J13-1	COUNTY B & DIRECTIONAL ARROW	24 x 45	7.50	-	1	-	1	1	
676+50	LT	1-37	J13-1	COUNTY B & DIRECTIONAL ARROW	24 x 45	7.50	-	1	-	1	1	
676+78	RT	1-38	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
676+81	RT	1-39	J13-1	10 & ARROWS	24 x 45	7.50	-	1	-	1	1	
679+00	RT	1-40	J4-1	EAST 10	24 x 36	6.00	-	1	-	-	-	
682+45	LT	1-41	W5-52L	CLEARANCE MARKER	12 x 36	-	3.00	1	-	1	1	
682+51	RT	1-42	W5-52R	CLEARANCE MARKER	12 x 36	-	3.00	1	-	1	1	
682+51	RT	1-43	I-3-1	BEAR CREEK	66 x 15	6.88	-	1	-	1	1	
683+31	LT	1-44	I-3-1	BEAR CREEK	66 x 15	6.88	-	1	-	1	1	
683+31	LT	1-45	W5-52R	CLEARANCE MARKER	12 x 36	-	3.00	1	-	1	1	
683+40	RT	1-46	W5-52L	CLEARANCE MARKER	12 x 36	-	3.00	1	-	1	1	
SUB-TOTAL						151.83	111.25	44	0	40	42	

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PERMANENT SIGNING ITEMS CONT'D

					SIGN SIZE W	637.2210	637.2230	634.0616	634.0410	638.2602	638.3000	COMMENTS
					X L (INCHES)	SIGNS TYPE II	SIGNS TYPE II	POSTS WOOD	POSTS WOOD	REMOVING	REMOVING	
						REFLECTIVE H	REFLECTIVE F	4X6-INCH X 16-FT	4X4-INCH X 10-FT	SIGNS TYPE II	SMALL SIGN	
STATION	LOCATION	SIGN	SIGN	SIGN MESSAGE		SF	SF	EACH	EACH	EACH	SUPPORTS	
CAT. 0010												
685+92	LT	1-47	—	SNOWMOBILE CROSSING	- x -	-	-	-	-	1	1	SHARES POST WITH SIGN 1-48
687+66	LT	1-48	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
687+66	LT	1-49	J1-1	JCT COUNTY B	24 x 39	6.50	-	-	-	-	-	
687+73	RT	1-50	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
704+71	LT	1-51	S3-1	SCHOOL BUS STOP AHEAD	36 x 36	-	9.00	1	-	1	1	DURAND EDUCATION ASSOCIATION
714+23	RT	1-52	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
720+04	LT	1-53	I-55-56	ADOPT A HIGHWAY	30 x 36	7.50	-	1	-	1	1	
724+68	RT	1-54	J1-1	JCT & COUNTY V	24 x 39	6.50	-	1	-	1	1	
732+00	LT	1-55	J4-1	WEST 10	24 x 36	6.00	-	1	-	1	1	
734+16	LT	1-56	J13-2	10, ARROWS, COUNTY V, ARROW	48 x 45	15.00	-	1	-	1	1	
734+18	LT	1-57	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
734+43	RT	1-58	J13-1	COUNTY V & ARROWS	24 x 45	7.50	-	1	-	1	1	
735+26	LT	1-59	J13-1	COUNTY V & ARROW	24 x 45	7.50	-	1	-	1	1	
735+56	RT	1-60	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
735+60	RT	1-61	J13-2	10, ARROWS, COUNTY V, ARROW	48 x 45	15.00	-	1	-	1	1	
737+50	RT	1-62	J4-1	EAST 10	24 x 36	6.00	-	1	-	1	1	
745+10	LT	1-63	J1-1	JCT COUNTY V	24 x 39	6.50	-	1	-	1	1	
750+25	RT	1-64	D5-61	WAYSIDE 1/2 MILE	48 x 24	8.00	-	1	-	1	1	
776+63	RT	1-65	D5-62L	WAYSIDE ARROW	48 x 24	8.00	-	1	-	1	1	
779+03	LT	1-72	D5-62R	WAYSIDE ARROW	48 x 24	8.00	-	1	-	1	1	
785+05	LT	1-73	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
792+25	LT	1-73A	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
804+61	LT	1-74	D5-61	WAYSIDE 1/2 MILE	48 x 24	8.00	-	1	-	1	1	
809+11	LT	1-75	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
809+11	RT	1-76	J1-1	JCT COUNTY B	24 x 39	6.50	-	1	-	1	1	
817+00	LT	1-76A	J4-1	WEST 10	24 x 36	6.00	-	1	-	-	-	
819+36	RT	1-77	J13-1	COUNTY B & ARROWS	24 x 45	7.50	-	1	-	1	1	
819+60	LT	1-78	J13-2	10, ARROWS, COUNTY B, ARROW	48 x 45	15.00	-	1	-	1	1	
819+64	LT	1-79	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
820+16	LT	1-80	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
820+50	RT	1-81	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
820+54	RT	1-82	J13-2	10, ARROWS, COUNTY B, ARROW	48 x 45	15.00	-	1	-	1	1	
821+10	LT	1-83	J13-1	COUNTY B & ARROWS	24 x 45	7.50	-	1	-	1	1	
823+00	RT	1-83A	J4-1	EAST 10	24 x 36	6.00	-	1	-	-	-	
829+52	RT	1-84	W14-3	NO PASSING ZONE	48 x 36	-	6.00	1	-	1	1	
831+44	LT	1-85	J1-1	JCT & COUNTY B	24 x 39	6.50	-	1	-	1	1	
833+88	LT	1-86	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
874+09	RT	1-87	R1-1	STOP	30 x 30	5.18	-	1	-	1	1	
876+26	RT	1-88	I-55-56	ADOPT A HIGHWAY	30 x 36	7.50	-	1	-	1	1	
SUB-TOTAL						234.94	45.00	37	0	36	36	

NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

PERMANENT SIGNING ITEMS CONT'D

						637.2210		637.2230		634.0616		634.0410		638.2602		638.3000		COMMENTS
						SIGNS TYPE II		SIGNS TYPE II		POSTS WOOD		POSTS WOOD		REMOVING		REMOVING		
						REFLECTIVE H		REFLECTIVE F		4X6-INCH X 16-FT		4X4-INCH X 10-FT		SIGNS TYPE II		SMALL SIGN		
STATION	LOCATION	SIGN NUMBER	SIGN CODE	SIGN MESSAGE	SIGN SIZE W X L (INCHES)		SF	SF	EACH	EACH	EACH	EACH						
CAT. 0010																		
884+06	RT	1-89	W5-52R	CLEARANCE MARKER	12	x 36	-	3.00	1	-	1	1						
884+33	RT	1-90	W5-52L	CLEARANCE MARKER	12	x 36	-	3.00	1	-	1	1						
889+07	RT	1-91	J1-1	JCT & COUNTY BB	24	x 39	6.50	-	1	-	1	1						
893+68	LT	1-92	W14-3	NO PASSING ZONE	48	x 36	-	6.00	1	-	1	1						
898+00	LT	1-93	J4-1	WEST 10	24	x 36	6.00	-	1	-	1	1						
899+85	RT	1-94	J13-1	COUNTY BB & ARROW	24	x 45	7.50	-	1	-	1	1						
899+89	LT	1-95	J13-1	10 & ARROWS	24	x 45	7.50	-	1	-	1	1						
899+97	LT	1-96	R1-1	STOP	30	x 30	5.18	-	1	-	1	1						
900+97	LT	1-97	J13-1	COUNTY BB & ARROW	24	x 45	7.50	-	1	-	1	1						
902+50	RT	1-98	J4-1	EAST 10	24	x 36	6.00	-	1	-	1	1						
910+47	LT	1-99	J1-1	JCT & COUNTY BB	24	x 39	6.50	-	1	-	1	1						
915+64	RT	1-100	W14-3	NO PASSING ZONE	48	x 36	-	6.00	1	-	1	1						
931+23	LT	1-101	W14-3	NO PASSING ZONE	48	x 36	-	6.00	1	-	1	1						
951+26	RT	1-102	W14-3	NO PASSING ZONE	48	x 36	-	6.00	1	-	1	1						
956+71	LT	1-103	W14-3	NO PASSING ZONE	48	x 36	-	6.00	1	-	1	1						
977+25	LT	1-104	R1-1	STOP	30	x 30	5.18	-	1	-	1	1						
989+18	RT	1-105	I-55-56	ADOPT A HIGHWAY	30	x 36	7.50	-	1	-	1	1						
989+18	RT	1-106	W14-3	NO PASSING ZONE	48	x 36	-	6.00	-	-	-	-						
989+21	LT	1-107	I-55-56	ADOPT A HIGHWAY	30	x 36	7.50	-	1	-	1	1						
990+37	LT	1-108	I2-2	PEPIN COUNTY	54	x 15	5.63	-	2	-	1	1						
991+62	RT	1-109	I2-2	BUFFALO CO	60	x 15	6.25	-	2	-	1	1						
SUB-TOTAL							84.74	42.00	22	0	20	20						
CAT. 0010 TOTALS							471.51	198.25	103	0	96	98						
CAT. 0020																		
776+65	LT	1-66	R5-53A	BUCKLE UP IT'S THE LAW	18	x 24	3.00	-	1	-	1	1						
776+66	LT	1-67	R55-51	NO OVERNIGHT CAMPING	18	x 18	2.25	-	1	-	1	1						
776+68	LT	1-68	R1-1	STOP	30	x 30	5.18	-	1	-	1	1						
777+28	LT	1-68A	R7-8A	RESERVED PARKING	12	x 18	1.50	-	-	1	-	-						
777+47	LT	1-68B	R7-8A	RESERVED PARKING	12	x 18	1.50	-	-	1	-	-						
778+24	LT	1-69	R5-53A	BUCKLE UP IT'S THE LAW	18	x 24	3.00	-	1	-	1	1						
778+67	LT	1-70	R55-51	NO OVERNIGHT CAMPING	18	x 18	2.25	-	1	-	1	1						
778+27	LT	1-71	R1-1	STOP	30	x 30	5.18	-	1	-	1	1						
CAT. 0020 TOTALS							23.86	0.00	6	2	6	6						
PROJECT TOTALS							495.37	198.25	109	2	102	104						

MARKERS CULVERT END

STATION	LOCATION	633.5200 MARKERS CULVERT END
		EACH
517+82	USH 10	2
539+76	USH 10	2
547+84	USH 10	2
552+99	USH 10	2
573+54	USH 10	2
576+53	USH 10	2
592+94	USH 10	2
597+07	USH 10	2
629+26	USH 10	2
629+38	USH 10	2
630+04	USH 10	2
661+14	USH 10	2
664+00	USH 10	2
687+20	USH 10	2
689+89	USH 10	2
697+68	USH 10	2
722+03	USH 10	2
738+72	USH 10	2
744+75	USH 10	2
766+10	USH 10	2
781+27	USH 10	2
792+57	USH 10	2
806+02	USH 10	2
832+48	USH 10	2
848+98	USH 10	2
861+97	USH 10	2
884+37	USH 10	2
891+58	USH 10	2
900+79	USH 10	2
918+98	USH 10	2
927+23	USH 10	2
946+24	USH 10	2
954+53	USH 10	2
973+82	USH 10	2
981+84	USH 10	1
984+70	USH 10	1
985+41	USH 10	1
TOTAL		71

CONCRETE CURB PRECAST

			204.9060.S.01	601.0199.S
			REMOVING	CONCRETE CURB
			PARKING BLOCKS	PRECAST
STATION	- STATION	LOCATION	EACH	EACH
CAT. 0020				
777+00	- 778+50	WAYSIDE	16	17
TOTALS			16	17

REGRADE DITCH

STATION	- STATION	LOCATION	SPV.0090.01 REGRADE DITCH
			LF
553+85	- 554+00	USH 10 RT	15
582+00	- 583+00	USH 10 LT	100
658+50	- 658+82	USH 10 RT	32
659+20	- 660+00	USH 10 RT	80
TOTAL			227

REHEATING HMA LONGITUDINAL JOINTS SPECIAL

STATION	- STATION	LOCATION	SPV.0170.01 REHEATING HMA
			STA
515+47	- 597+68	USH 10	82
598+15	- 682+54	USH 10	84
683+26	- 993+80	USH 10	311
TOTAL			477

PAVEMENT MARKING EPOXY

				646.0106	646.0406	646.0126	647.0656	647.0716		
				PAVEMENT	PAVEMENT	PAVEMENT	PARKING	PAVEMENT		
				MARKING EPOXY	MARKING	MARKING	STALL	MARKING		
				4-INCH	SAME DAY	EPOXY 8-INCH	EPOXY	DIAGONAL		
					EPOXY 4-INCH			EPOXY 8-INCH		
STATION	- STATION	LOCATION		WHITE LF	YELLOW LF	YELLOW LF	WHITE LF	WHITE LF	WHITE LF	COMMENTS
CAT. 0010										
515+47	- 539+75	USH 10		4856	4856	4856	-	-	-	DOUBLE YELLOW
539+75	- 550+39	USH 10		2128	1339	1339	-	-	-	EB PASSING ZONE
550+39	- 551+28	USH 10		178	25	25	-	-	-	PASSING ZONE
551+28	- 561+74	USH 10		2092	1309	1309	-	-	-	WB PASSING ZONE
561+74	- 571+16	USH 10		1884	1884	1884	-	-	-	DOUBLE YELLOW
571+16	- 572+09	USH 10		93	186	186	-	-	-	RUSTAD LN., DOUBLE YELLOW
572+09	- 574+36	USH 10		454	454	454	-	-	-	DOUBLE YELLOW
574+36	- 575+32	USH 10		96	192	192	-	-	-	SPINDLER LN., DOUBLE YELLOW
575+32	- 580+80	USH 10		1096	1096	1096	-	-	-	DOUBLE YELLOW
580+80	- 591+12	USH 10		2064	1295	1295	-	-	-	EB PASSING ZONE
591+12	- 614+31	USH 10		4638	588	588	-	-	-	PASSING ZONE
614+31	- 615+01	USH 10		0	25	25	-	-	-	DORWINS MILL RD. & BRUNNER RD., PASSING ZONE
615+01	- 618+92	USH 10		782	100	100	-	-	-	PASSING ZONE
618+92	- 629+37	USH 10		2090	1308	1308	-	-	-	WB PASSING ZONE
629+37	- 675+99	USH 10		9324	9324	9324	-	-	-	DOUBLE YELLOW
675+99	- 677+11	USH 10		112	150	150	-	-	-	CTH B, EB PASSING ZONE
677+11	- 687+67	USH 10		2112	1331	1331	-	-	-	EB PASSING ZONE
687+67	- 700+55	USH 10		2576	1613	1613	-	-	-	WB PASSING ZONE
700+55	- 702+66	USH 10		422	422	422	-	-	-	DOUBLE YELLOW
702+66	- 714+26	USH 10		2320	1460	1460	-	-	-	EB PASSING ZONE
714+26	- 733+88	USH 10		3924	500	500	-	-	-	PASSING ZONE
733+88	- 734+40	USH 10		52	25	25	-	-	-	PASSING ZONE
734+40	- 735+28	USH 10		0	25	25	-	-	-	CTH V, PASSING ZONE
735+28	- 735+81	USH 10		53	25	25	-	-	-	PASSING ZONE
735+81	- 785+03	USH 10		9844	1238	1238	-	-	-	PASSING ZONE
785+03	- 792+25	USH 10		1444	910	910	-	-	-	WB PASSING ZONE
792+25	- 793+70	USH 10		145	38	38	-	-	-	COOP LN., BYPASS LANE, PASSING ZONE
793+70	- 795+73	USH 10		-	-	-	203	-	-	WB COMMERCIAL ENTRANCE TURN LANE
793+70	- 809+10	USH 10		3080	388	388	-	-	-	PASSING ZONE
809+10	- 818+27	USH 10		1834	1155	1155	-	-	-	WB PASSING ZONE
818+57	- 819+31	USH 10		74	25	25	-	-	-	PASSING ZONE
819+31	- 820+75	USH 10		0	38	38	-	-	-	CTH B, PASSING ZONE
820+75	- 829+52	USH 10		1754	1102	1102	-	-	-	EB PASSING ZONE
829+52	- 893+67	USH 10		12830	1613	1613	-	-	-	PASSING ZONE
893+67	- 899+60	USH 10		1186	743	743	-	-	-	WB PASSING ZONE
898+90	- 900+96	USH 10		206	269	269	-	-	-	CTH BB, WB PASSING ZONE
900+96	- 903+52	USH 10		512	331	331	-	-	-	WB PASSING ZONE
903+52	- 905+51	USH 10		398	398	398	-	-	-	DOUBLE YELLOW
905+51	- 915+65	USH 10		2028	1277	1277	-	-	-	EB PASSING ZONE
915+65	- 931+22	USH 10		3114	400	400	-	-	-	PASSING ZONE
931+22	- 940+38	USH 10		1832	1154	1154	-	-	-	WB PASSING ZONE
940+38	- 951+25	USH 10		2174	1362	1362	-	-	-	EB PASSING ZONE
951+25	- 956+71	USH 10		1092	138	138	-	-	-	PASSING ZONE
956+71	- 967+84	USH 10		2226	1401	1401	-	-	-	WB PASSING ZONE
967+84	- 978+62	USH 10		2156	2156	2156	-	-	-	DOUBLE YELLOW
978+62	- 989+19	USH 10		2114	1332	1332	-	-	-	EB PASSING ZONE
989+19	- 990+54	USH 10		270	38	38	-	-	-	PASSING ZONE
9+18	- 9+58	CTH B		80	80	80	-	-	-	DOUBLE YELLOW
8+93	- 9+44	CTH V		102	76	76	-	-	-	SB PASSING ZONE
10+48	- 11+02	CTH V		108	79	79	-	-	-	NB PASSING ZONE
9+06	- 9+52	CTH B		92	59	59	-	-	-	SB PASSING ZONE
10+48	- 10+99	CTH B		102	102	102	-	-	-	DOUBLE YELLOW
10+44	- 10+91	CTH BB		94	94	94	-	-	-	DOUBLE YELLOW
CAT. 0010 TOTALS				141765	47528		203	0	0	
CAT. 0020										
775+50	- 779+50	WAYSIDE		-	-	-	-	525	110	HANDICAP / PARKING STALLS
CAT. 0020 TOTALS				0	0		0	525	110	
PROJECT TOTALS				141765	47528		203	525	110	

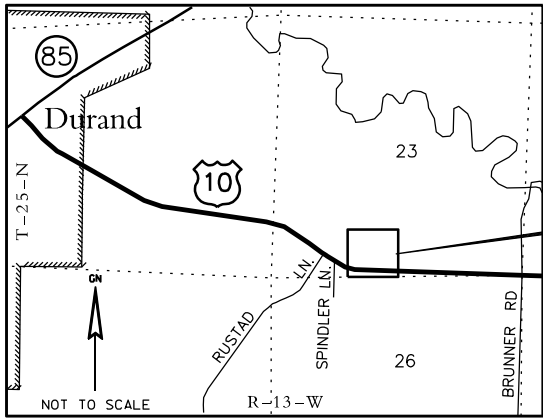
NOTE: ALL CATEGORIES ARE 0010 UNLESS SPECIFIED OTHERWISE.

TEMPORARY PAVEMENT MARKING

				649.0200		
				TEMPORARY PAVEMENT		
				MARKING REFLECTIVE PAINT		
				4-INCH		
				YELLOW LF		
STATION	- STATION	LOCATION				COMMENTS
515+47	- 539+75	USH 10		9712		DOUBLE YELLOW
539+75	- 550+39	USH 10		1149		EB PASSING ZONE
550+39	- 551+28	USH 10		7		PASSING ZONE
551+28	- 561+74	USH 10		1130		WB PASSING ZONE
561+74	- 571+16	USH 10		1884		DOUBLE YELLOW
571+16	- 572+09	USH 10		186		RUSTAD LN., DOUBLE YELLOW
572+09	- 574+36	USH 10		454		DOUBLE YELLOW
574+36	- 575+32	USH 10		192		SPINDLER LN., DOUBLE YELLOW
575+32	- 580+80	USH 10		1096		DOUBLE YELLOW
580+80	- 591+12	USH 10		1115		EB PASSING ZONE
591+12	- 614+31	USH 10		186		PASSING ZONE
614+31	- 615+01	USH 10		76		DORWINS MILL RD. & BRUNNER RD., PASSING ZONE
615+01	- 615+16	USH 10		1		PASSING ZONE
615+16	- 618+92	USH 10		30		PASSING ZONE
618+92	- 629+37	USH 10		1129		WB PASSING ZONE
629+37	- 675+99	USH 10		9324		DOUBLE YELLOW
675+99	- 677+11	USH 10		121		CTH B, EB PASSING ZONE
677+11	- 687+67	USH 10		1140		EB PASSING ZONE
687+67	- 700+55	USH 10		1391		WB PASSING ZONE
700+55	- 702+66	USH 10		422		DOUBLE YELLOW
702+66	- 714+26	USH 10		1253		EB PASSING ZONE
714+26	- 733+88	USH 10		157		PASSING ZONE
733+88	- 734+40	USH 10		4		PASSING ZONE
734+40	- 735+28	USH 10		7		CTH V, PASSING ZONE
735+28	- 735+81	USH 10		4		PASSING ZONE
735+81	- 785+03	USH 10		394		PASSING ZONE
785+03	- 792+25	USH 10		780		WB PASSING ZONE
792+25	- 793+70	USH 10		12		COOP LN., BYPASS LANE, PASSING ZONE
793+70	- 809+10	USH 10		123		PASSING ZONE
809+10	- 818+27	USH 10		990		WB PASSING ZONE
818+27	- 819+31	USH 10		8		PASSING ZONE
819+31	- 820+75	USH 10		12		CTH B, PASSING ZONE
820+75	- 829+52	USH 10		947		EB PASSING ZONE
829+52	- 893+67	USH 10		513		PASSING ZONE
893+67	- 899+60	USH 10		640		WB PASSING ZONE
899+60	- 900+96	USH 10		147		CTH BB, WB PASSING ZONE
900+96	- 903+52	USH 10		276		WB PASSING ZONE
903+52	- 905+51	USH 10		398		DOUBLE YELLOW
905+51	- 915+65	USH 10		1095		EB PASSING ZONE
915+65	- 931+22	USH 10		125		PASSING ZONE
931+22	- 940+38	USH 10		989		WB PASSING ZONE
940+38	- 951+25	USH 10		1174		EB PASSING ZONE
951+25	- 956+71	USH 10		44		PASSING ZONE
956+71	- 967+84	USH 10		1202		WB PASSING ZONE
967+84	- 978+62	USH 10		2156		DOUBLE YELLOW
978+62	- 989+19	USH 10		1142		EB PASSING ZONE
989+19	- 990+54	USH 10		11		PASSING ZONE
9+18	- 9+58	CTH B		80		DOUBLE YELLOW
8+93	- 9+44	CTH V		55		SB PASSING ZONE
10+48	- 11+02	CTH V		58		NB PASSING ZONE
9+06	- 9+52	CTH B		50		SB PASSING ZONE
10+48	- 10+99	CTH B		102		DOUBLE YELLOW
10+44	- 10+91	CTH BB		94		DOUBLE YELLOW
TOTAL				45786		

4

4



SHEET LOCATION

PLSS TIE TABLE				
FROM	TO	BEARING	DIST.	
N23	S23	S 00°12'03" E	5235.54'	
S23	SW23	S 89°49'53" W	2632.42'	
SW23	903	N 89°49'53" E	1989.54'	
903	151	N 00°13'28" W	48.52'	

COURSE TABLE				
FROM	TO	BEARING	DIST.	
151	152	N 89°46'32" E	614.57'	
152	901	S 00°13'28" E	50.00'	
901	153	S 00°13'28" E	50.00'	
153	154	S 89°46'32" W	614.57'	
154	902	N 00°13'28" W	50.00'	
902	151	N 00°13'28" W	50.00'	

SCHEDULE OF LANDS & INTERESTS REQUIRED				OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.		
PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED			TLE ACRES REQUIRED
			NEW	EXISTING	TOTAL	
1	ARNOLD A. SPINDLER	TLE	0.00	0.00	0.00	0.69

UTILITY INTERESTS REQUIRED		
UTILITY NUMBER	OWNERS	INTEREST REQUIRED
10	NELSON TELEPHONE COOP.	RELEASE OF RIGHTS

UTILITY EASEMENT INFORMATION		
PARCEL 1	NELSON TELEPHONE COOPERATIVE	121101 / V. 214, P. 778
PARCEL 1	NELSON TELEPHONE COOPERATIVE	103867 / V. 137, P. 342

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, PEPIN 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.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (3/4" O.D. X 24" IRON PIPE WITH CAP).

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: RIGHT-OF-WAY FOR USH 10 ESTABLISHED FROM PREVIOUS STATE PROJECT NO. 6221.

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. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

DIMENSIONING FOR EXISTING RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO A NEW REFERENCE LINE.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION NORTHWEST REGIONAL OFFICE.

CONVENTIONAL SYMBOLS	
FOUND IRON PIPE/PIPE	IF (IF UNLESS NOTED)
R/W MONUMENT	• (SET)
R/W STANDARD	Δ (SET)
SIGN	ISIGN
SECTION CORNER MONUMENT	•
SECTION CORNER SYMBOL	•
FEE (HATCH VARIES)	•
TEMPORARY LIMITED EASEMENT	•
PERMANENT LIMITED EASEMENT	•
R/W BOUNDARY POINT	•
PARCEL NUMBER	102
UTILITY INTEREST	40
SIGN NUMBER (OFF PREMISE)	21
BUILDING	•

CONVENTIONAL ABBREVIATIONS	
ACCESS POINT/ DRIVEWAY CONNECTION	AP
ACCESS RIGHTS	AR
ACRES	AC.
AND OTHERS	ET.AL.
CENTERLINE	C/L
CERTIFIED SURVEY MAP	CSM
CORNER	COR.
DOCUMENT	DOC.
EASEMENT	EASE.
HIGHWAY EASEMENT	H.E.
LAND CONTRACT	LC
MONUMENT	MON.
PAGE	P.
PERMANENT LIMITED EASEMENT	PLE
PROPERTY LINE	PL
RECORDED AS	(100')

CONVENTIONAL UTILITY SYMBOLS	
WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	—
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
POWER POLE	•
TELEPHONE POLE	•
TELEPHONE PEDESTAL	•
ELECTRIC TOWER	•



TRANSPORTATION PROJECT PLAT NO: 1530-06-20-4.01

PART OF THE SE 1/4 - SW 1/4 OF SECTION 23, T 25 N, R 13 W, TOWN OF DURAND, PEPIN COUNTY, WISCONSIN.

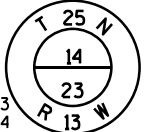
RELOCATION ORDER USH 10 DURAND - MONDOVI (11TH AVENUE TO SOUTH COUNTY LINE) PEPIN COUNTY

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), 84.09 AND 84.30, 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.

POINT TABLE - STA. OFFSET & COORDS.				
POINT#	STATION	DIST.	Y (N)	X (E)
USH 10				
902	581+85.43	0.00'	278500.69	628630.12
903	581+85.43	-1.48'	278502.17	628630.11
151	581+85.43	-50.00'	278550.69	628629.92
154	581+85.43	50.00'	278450.69	628630.31
116	582+29.00	-50.00'	278550.86	628673.49
117	582+29.00	-150.00'	278650.86	628673.10
106	582+45.00	-220.00'	278720.92	628688.83
105	582+45.00	-190.00'	278690.92	628688.94
118	582+69.00	-150.00'	278651.02	628713.10
119	582+69.00	-50.00'	278551.02	628713.49
107	582+85.00	-250.00'	278751.08	628728.71
104	582+85.00	-170.00'	278671.08	628729.02
108	583+50.00	-235.00'	278736.34	628793.77
103	583+90.00	-130.00'	278631.49	628834.18
102	584+20.00	-95.00'	278596.61	628864.31
109	584+25.00	-210.00'	278711.63	628868.86
101	584+25.00	-50.00'	278551.63	628869.49
110	584+75.00	-170.00'	278671.83	628919.02
111	585+15.00	-110.00'	278611.98	628959.25
112	585+25.00	-50.00'	278552.02	628969.49
152	588+00.00	-50.00'	278553.10	629244.49
901	588+00.00	0.00'	278503.10	629244.68
153	588+00.00	50.00'	278453.10	629244.88

N23 FOUND
1" IRON PIPE
Y = 283739.573
X = 629254.634



LINE

QUARTER P.L.



Y = 278504.064
X = 629272.987



I, ROY E. WILLIAMS, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF WISCONSIN DEPT. OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1530-06-20-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



DATE AUGUST 12, 2014
ROY E. WILLIAMS REGISTRATION NO. 81354
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
DATE AUGUST 13, 2014
MICHAEL PILLER

STA. 46+47 - 49+85'PE1'
CONSTRUCT PE
3-INCH - ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
6-INCH - BASE AGGREGATE DENSE 1 1/4-INCH

BENCHMARK POINT NAME: DURAND GPS
X = 610197.679
Y = 281664.403
Z = 798.41

CONSTRUCTION LIMITS
STA. 46+47

STA. 10+15 - 11+45'PE2'
OBLITERATE OLD ROAD

PI STA = 47+01.22'PE1'
Y = 278706.58
X = 628753.91
DELTA = 22°35'11"
D = 47°44'47"
T = 23.96
L = 47.30
R = 120.00
PC STA = 46+77.26'PE1'
PT STA = 47+24.56'PE1'

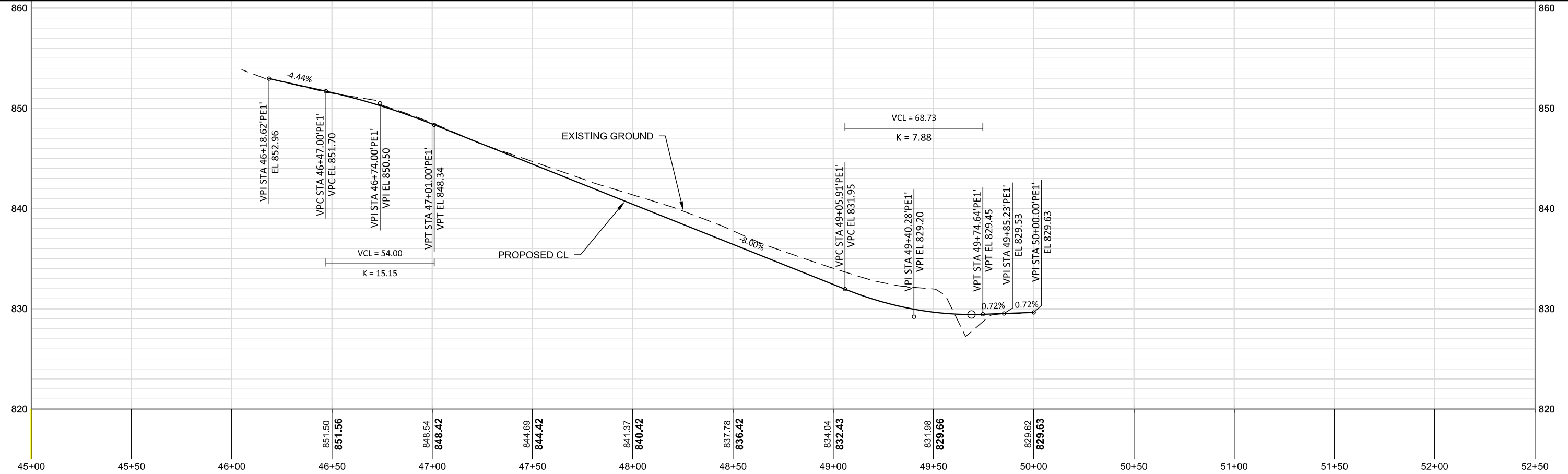
SLOPE INTERCEPT (TYP.)

PI STA = 48+83.91'PE1'
Y = 278636.84
X = 628923.44
DELTA = 67°24'49"
D = 47°44'47"
T = 80.05
L = 141.19
R = 120.00
PC STA = 48+03.86'PE1'
PT STA = 49+45.05'PE1'

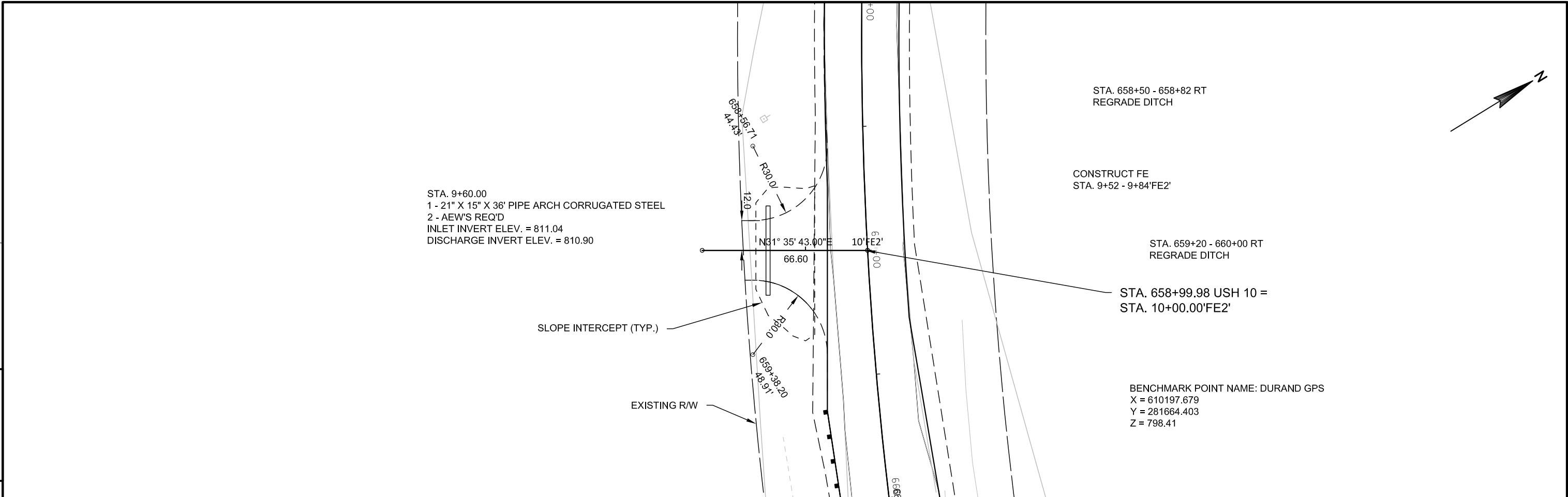
STA. 49+66
1 - PACS 21X15-INCH X 26"
2 - AEW'S FOR PACS 21X15-INCH REQ'D

5

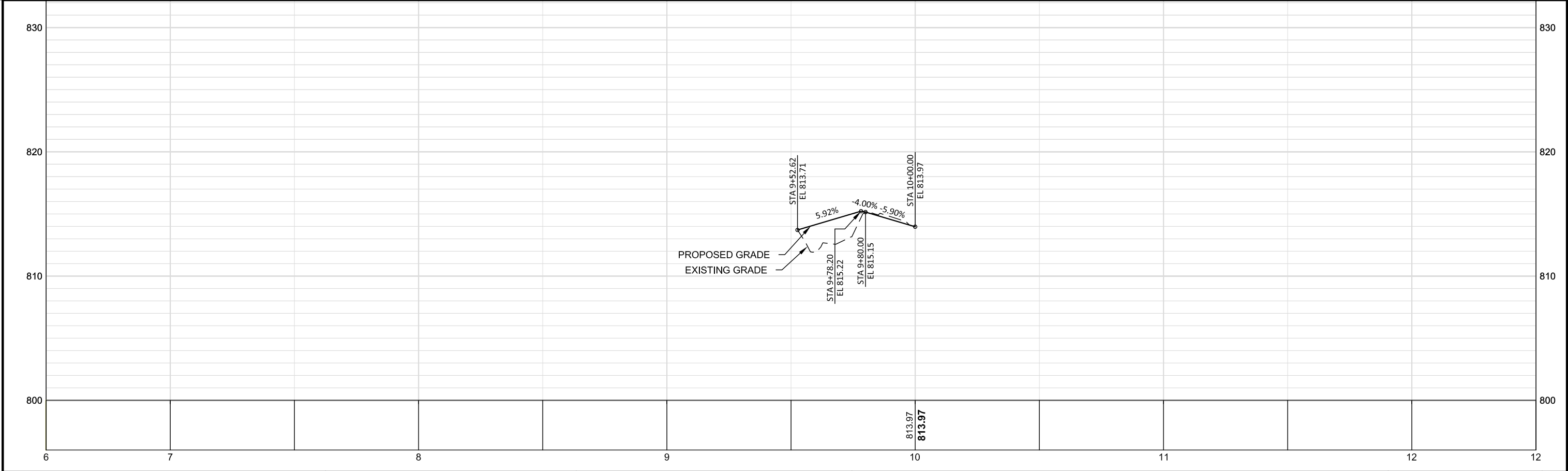
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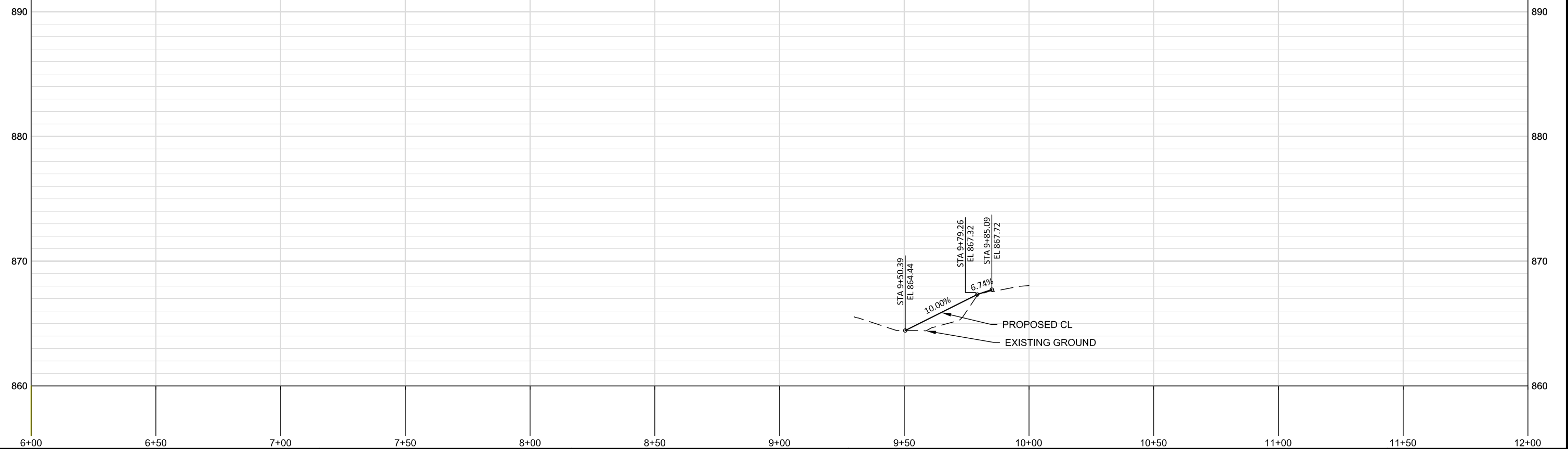
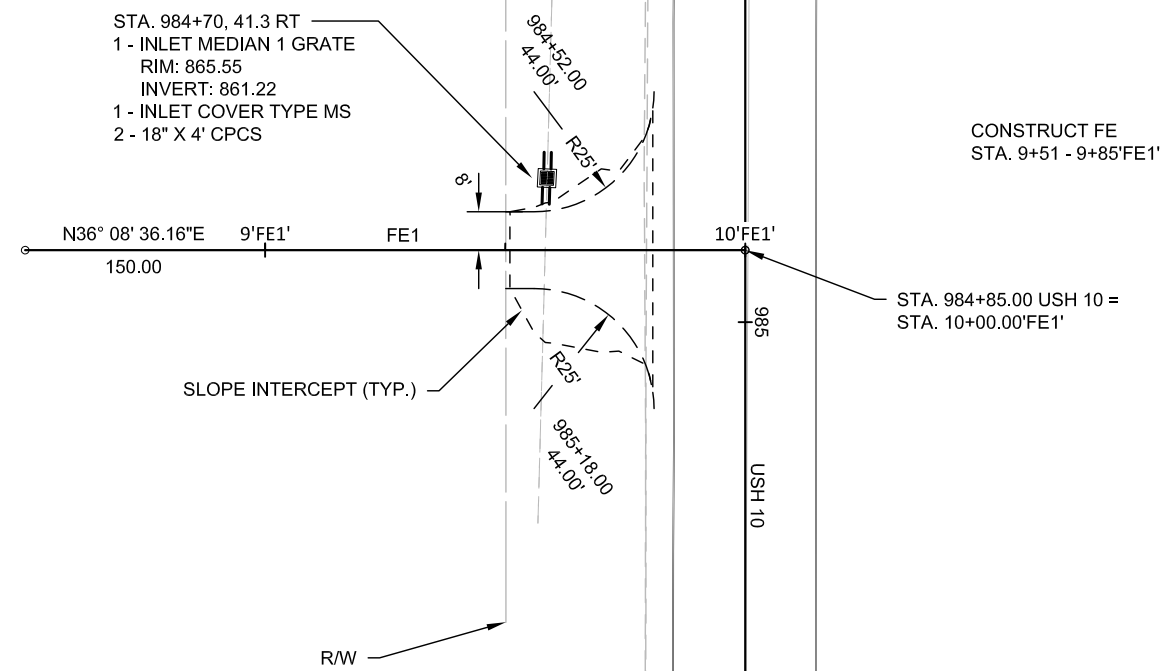
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5



BENCHMARK POINT NAME: DURAND GPS
X = 610197.679
Y = 281664.403
Z = 798.41



PROJECT NO:1530-06-72

HWY: USH 10

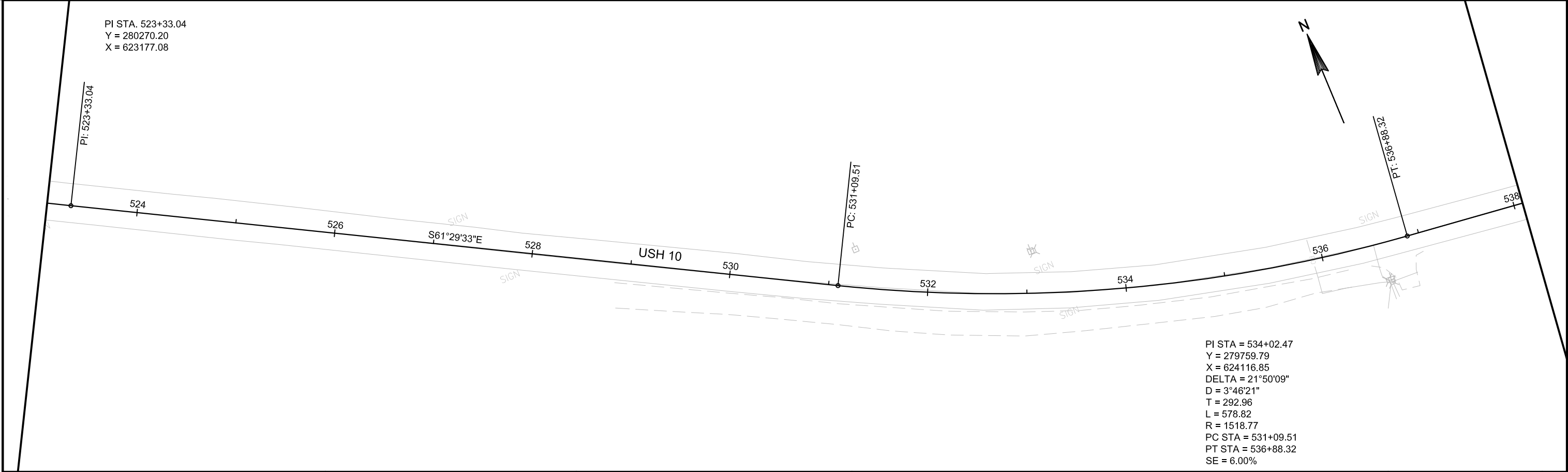
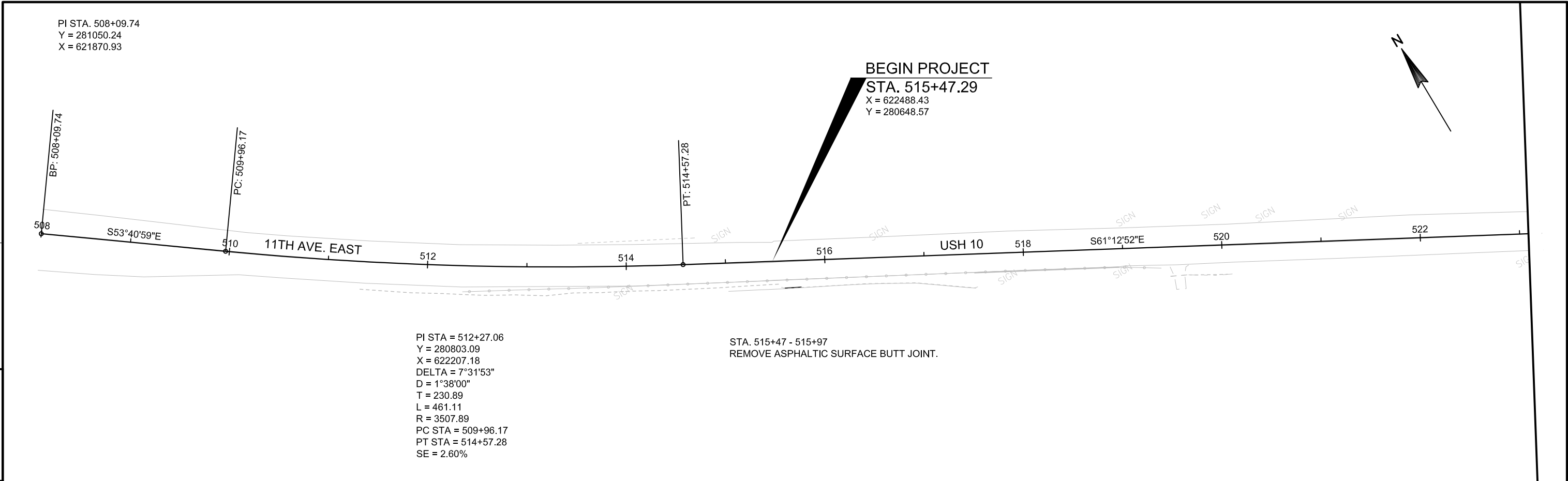
COUNTY: PEPIN

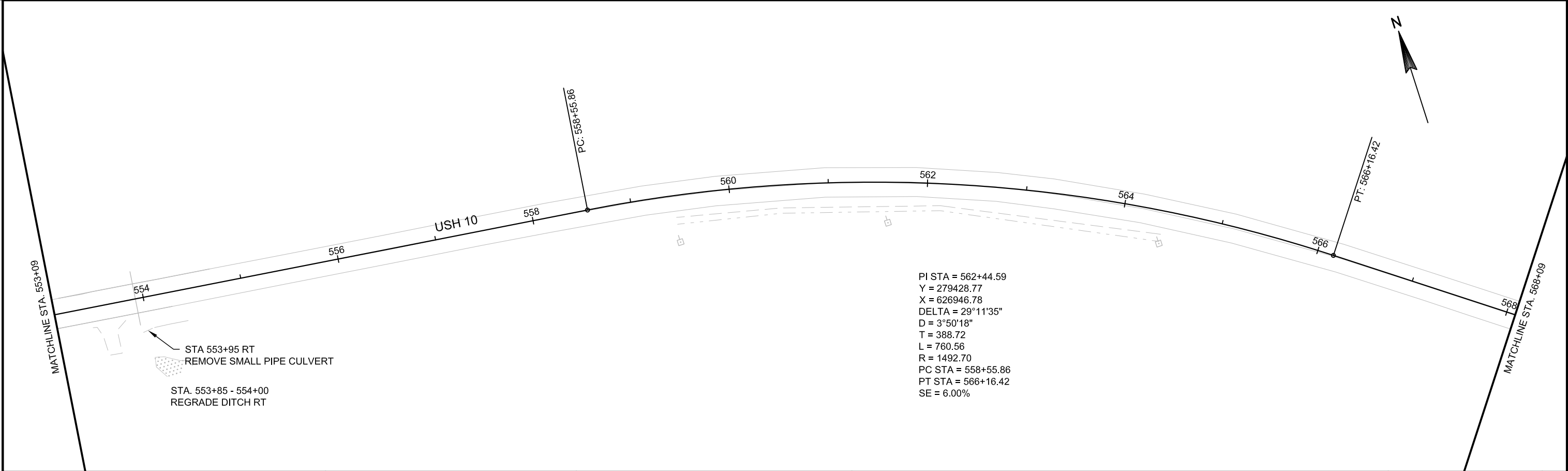
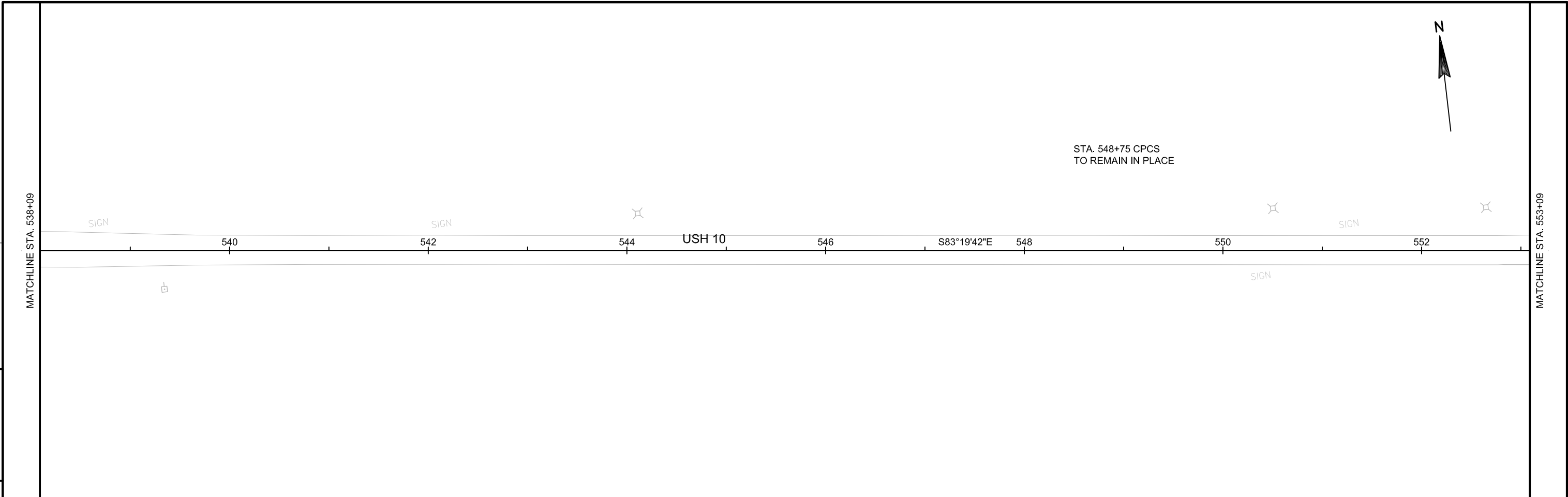
PLAN AND PROFILE: 'FE1'

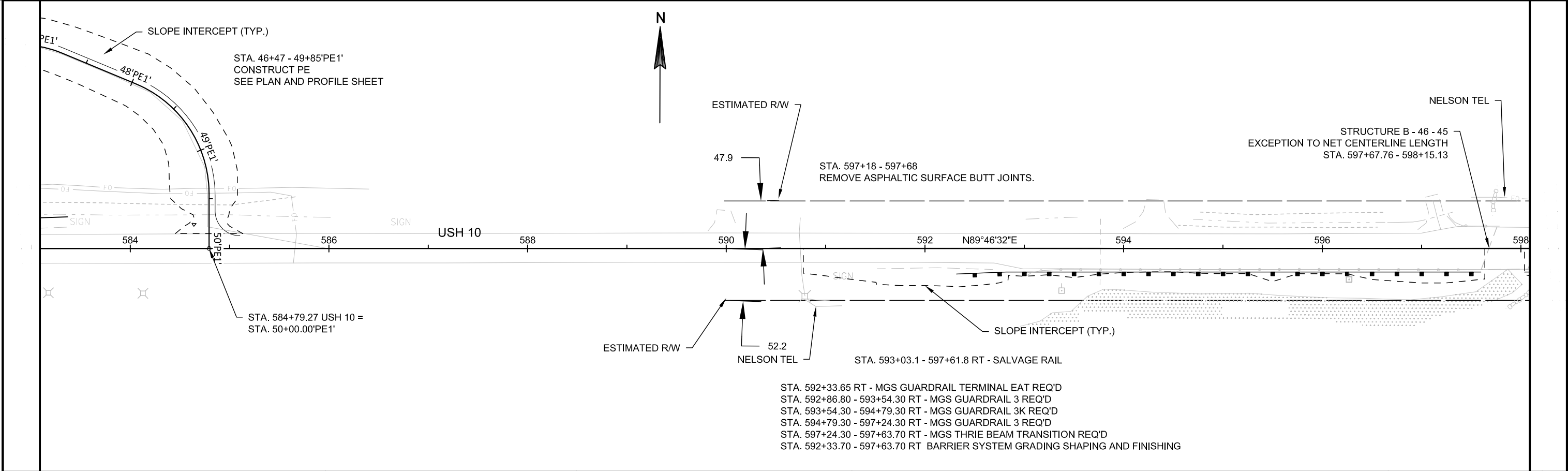
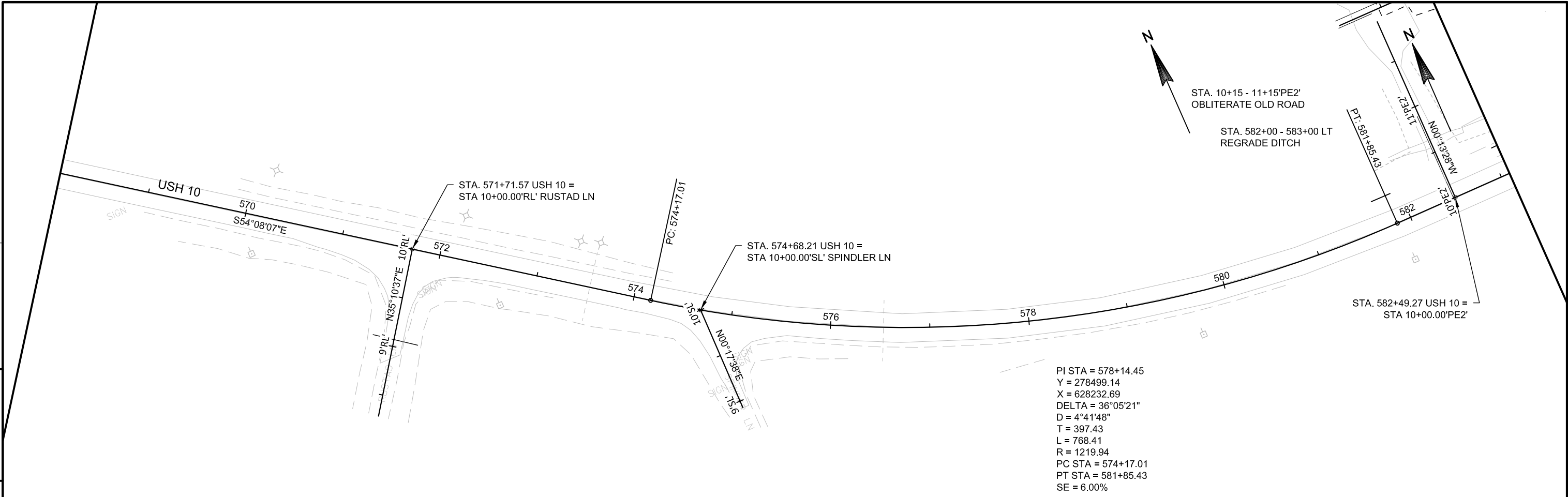
SHEET

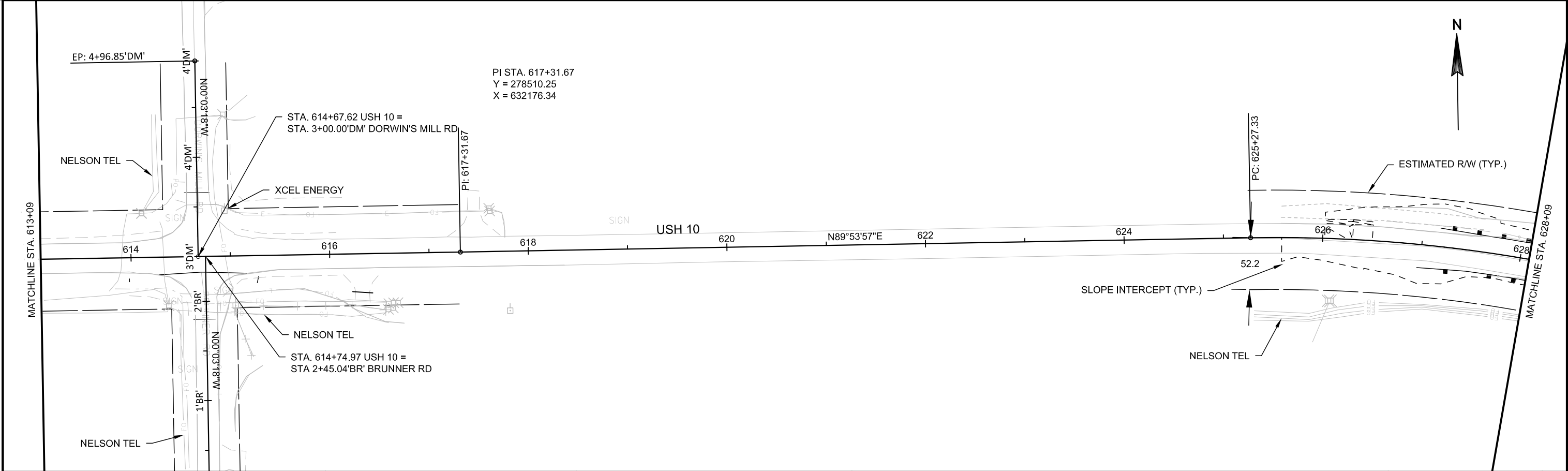
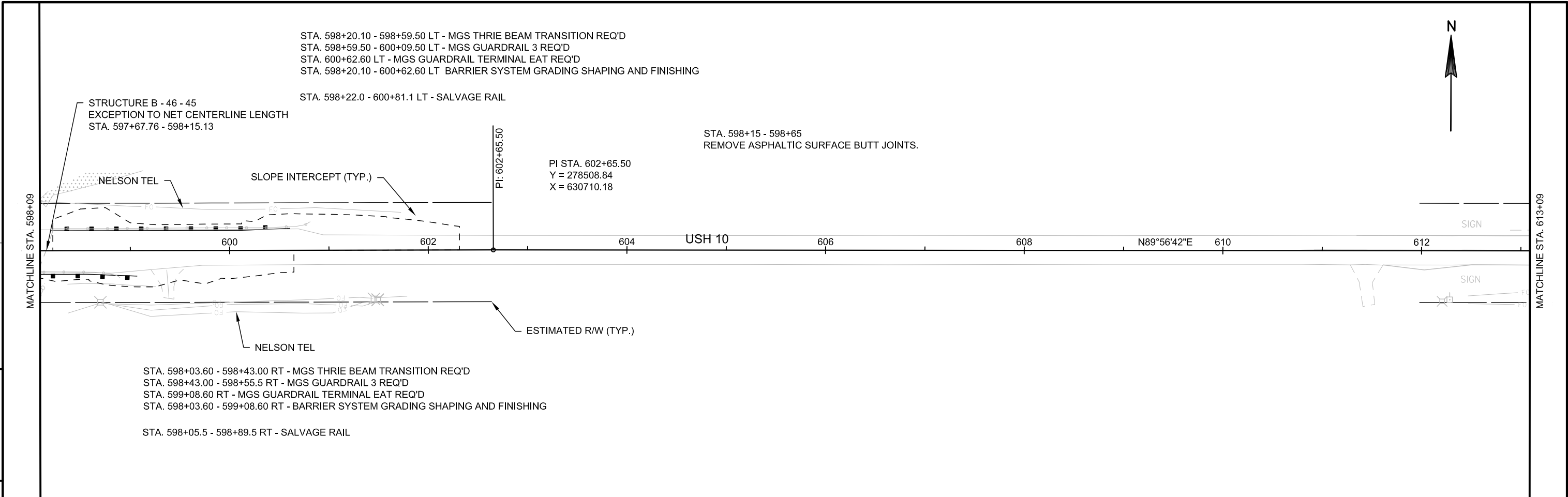
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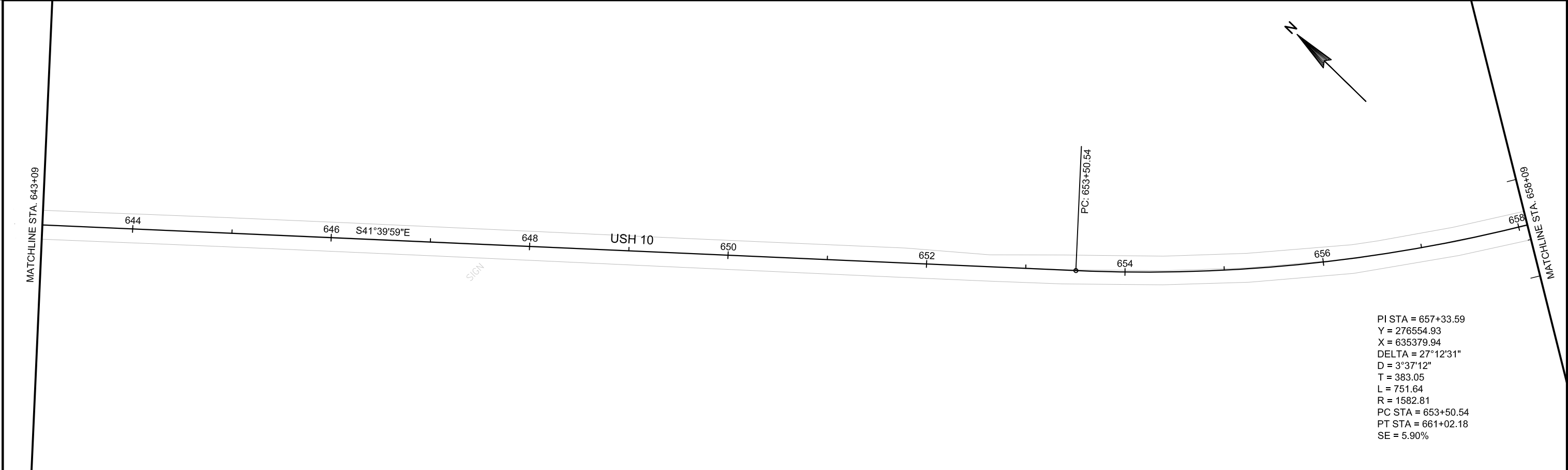
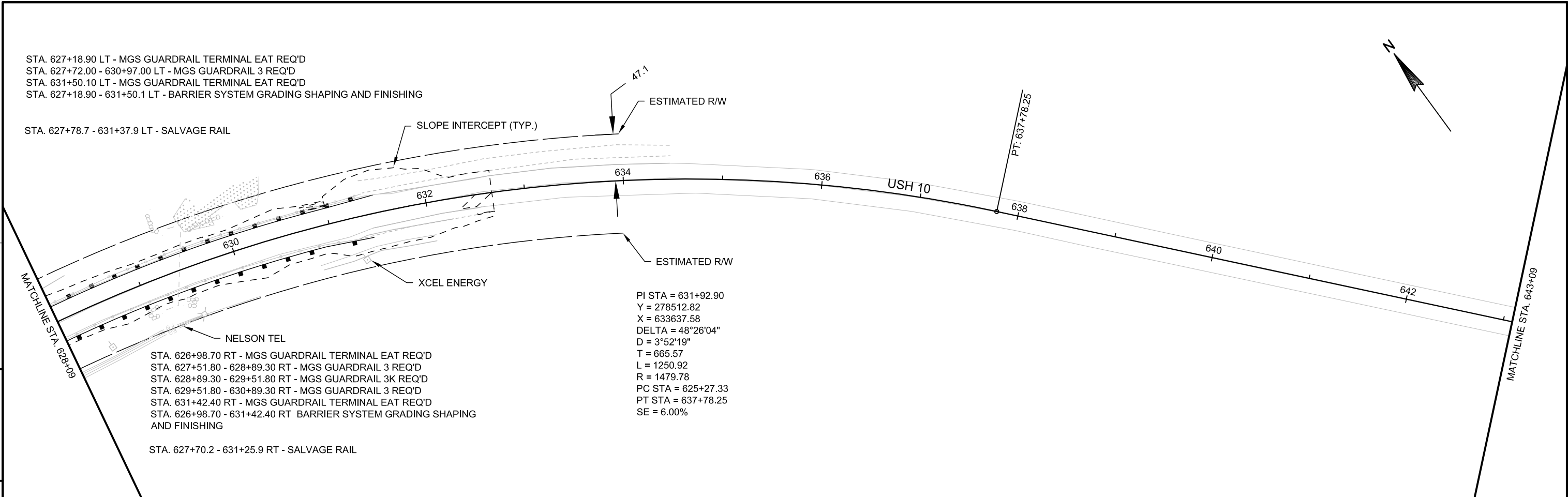
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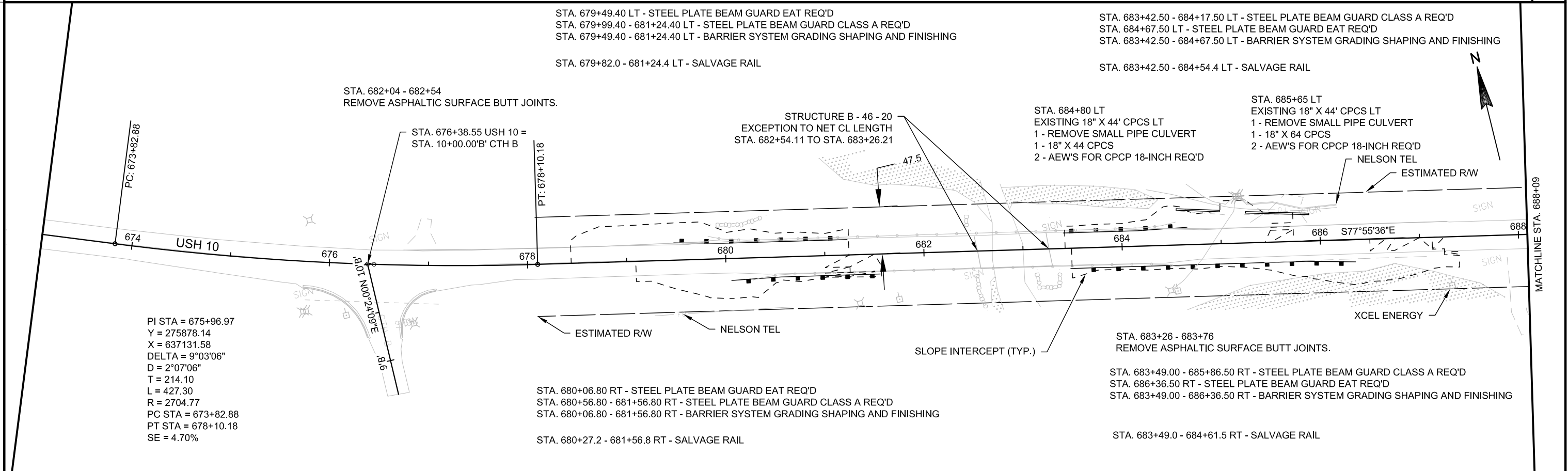
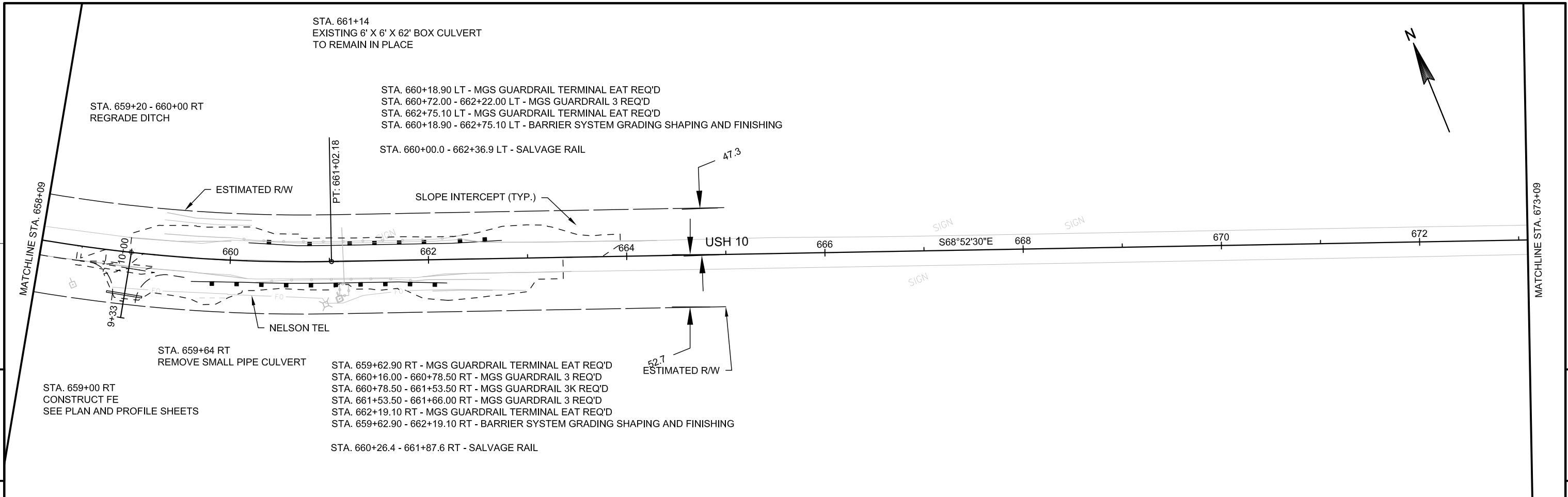


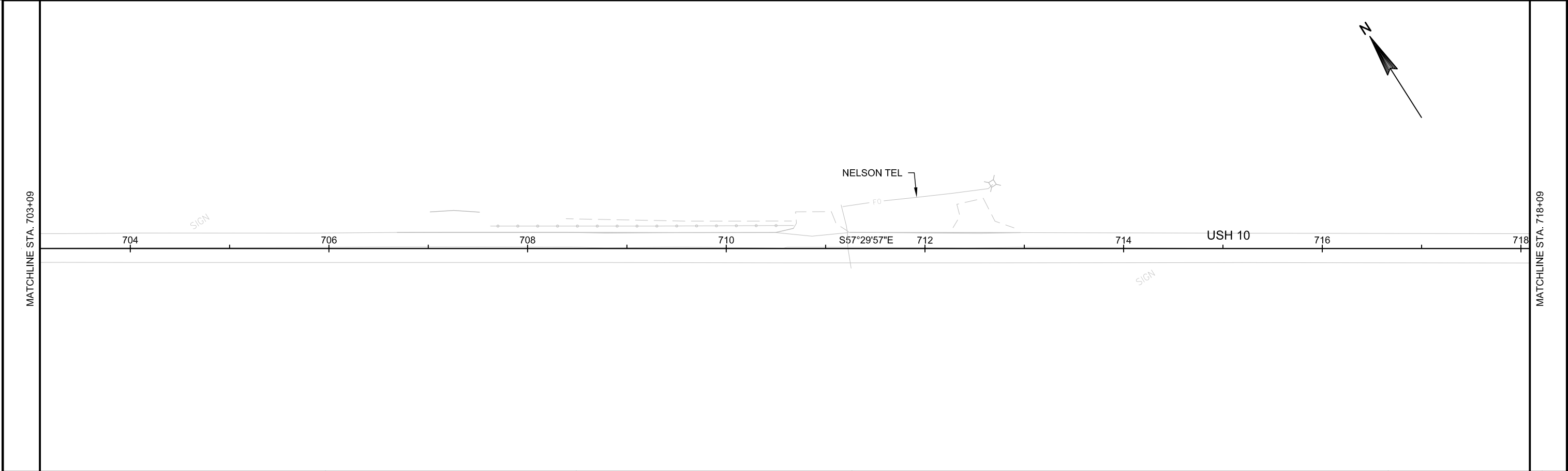
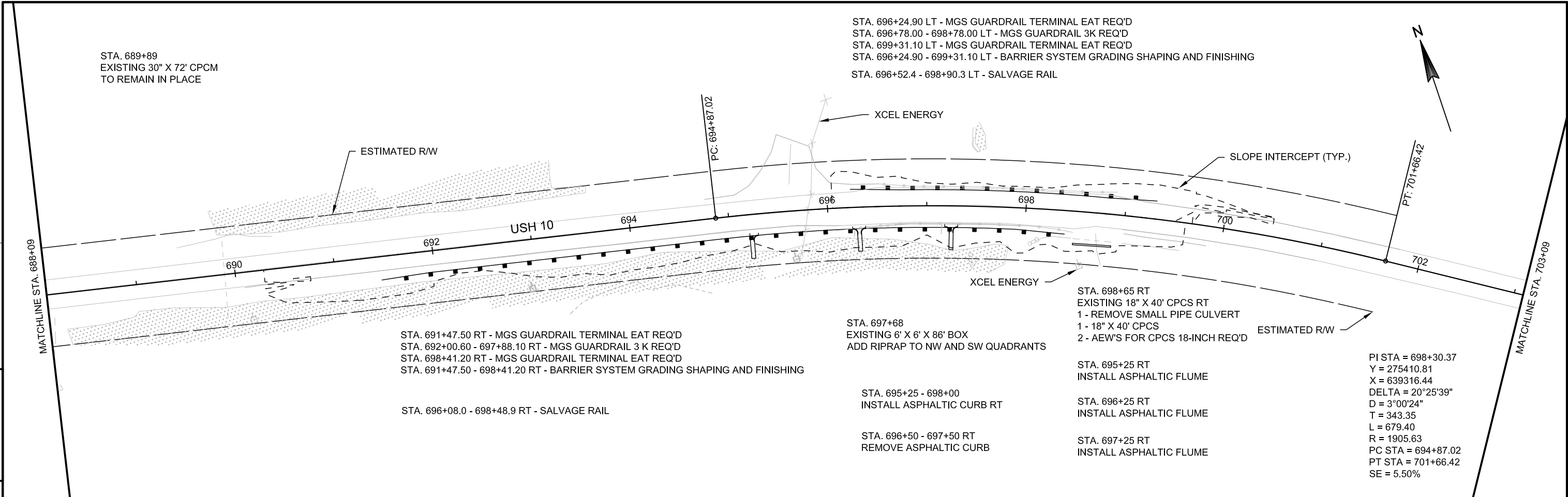


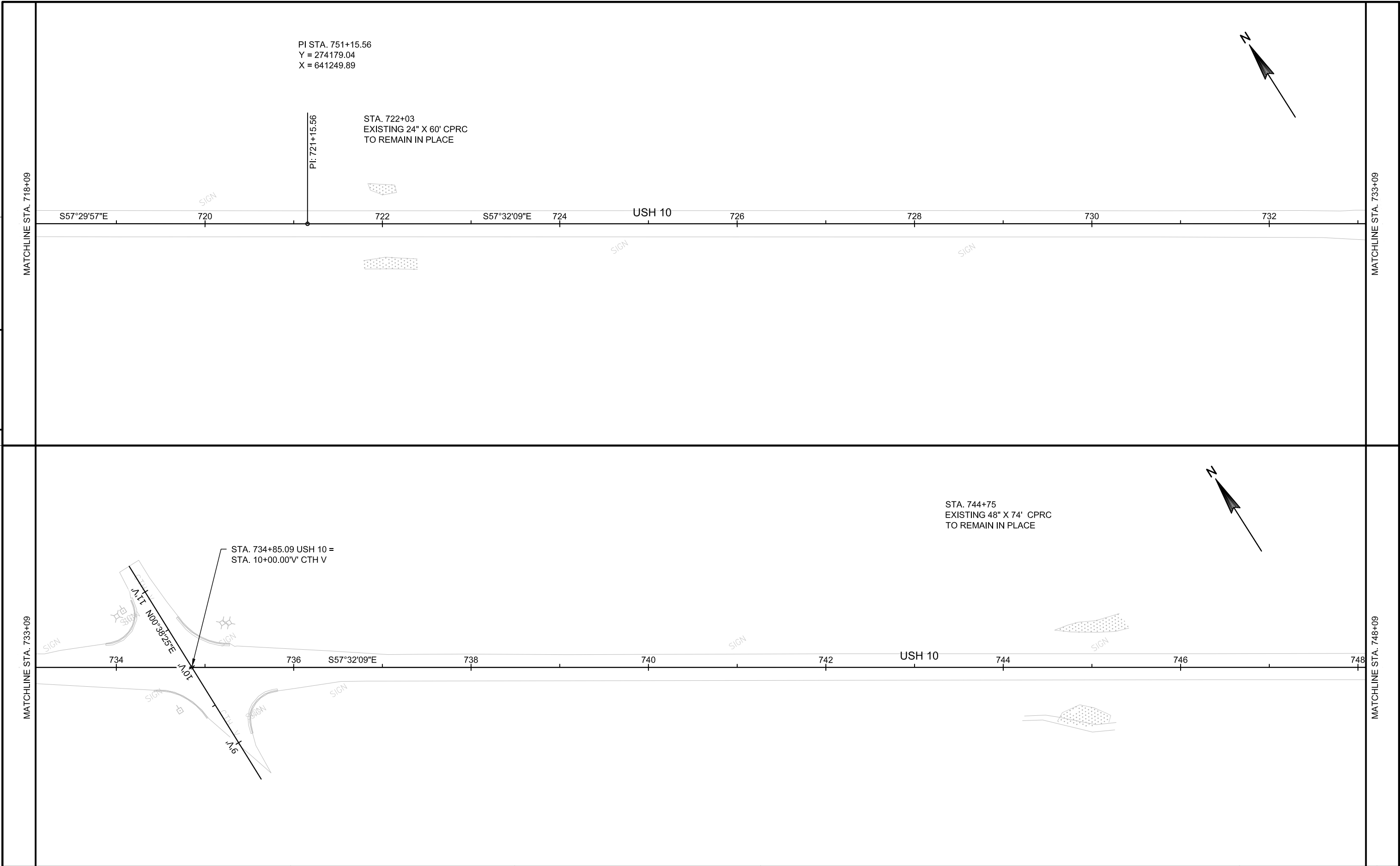


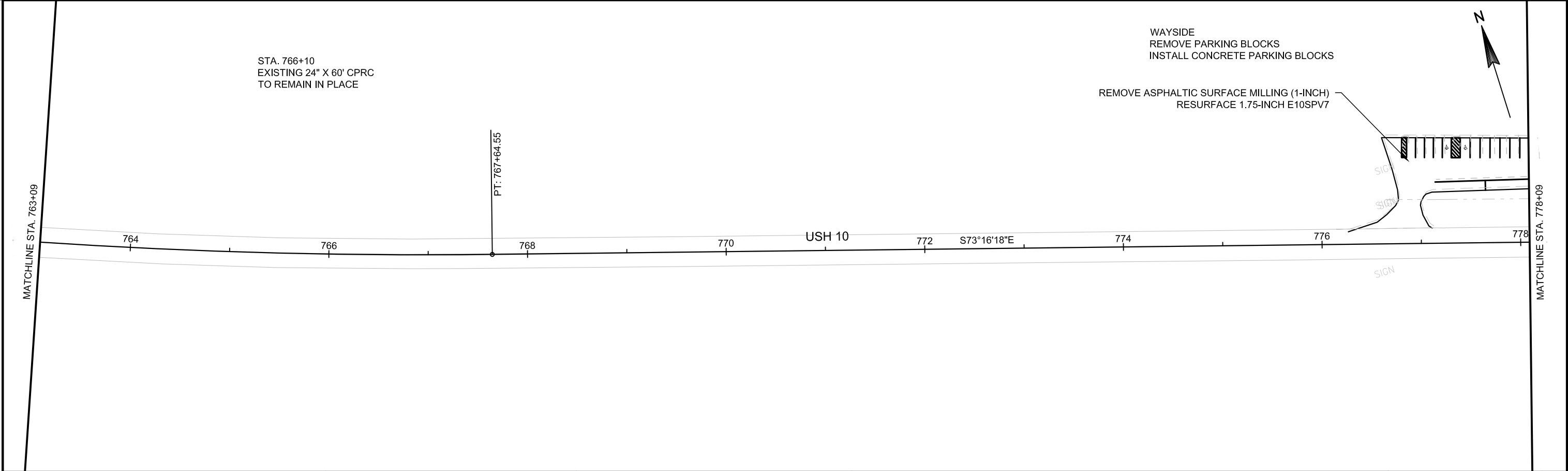
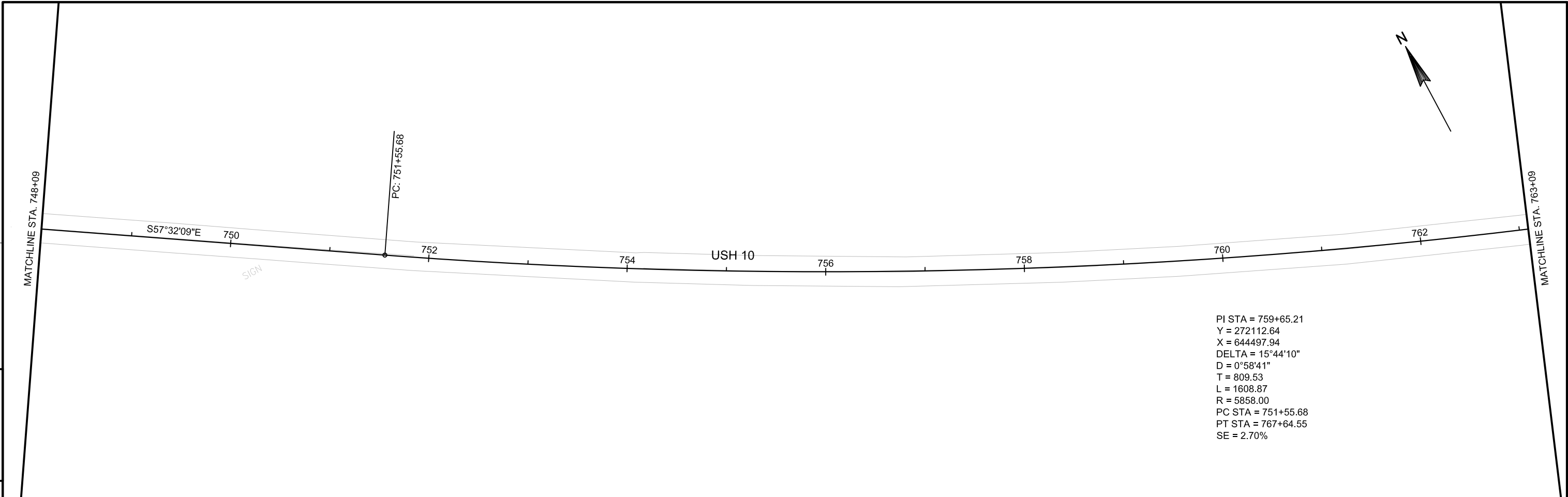


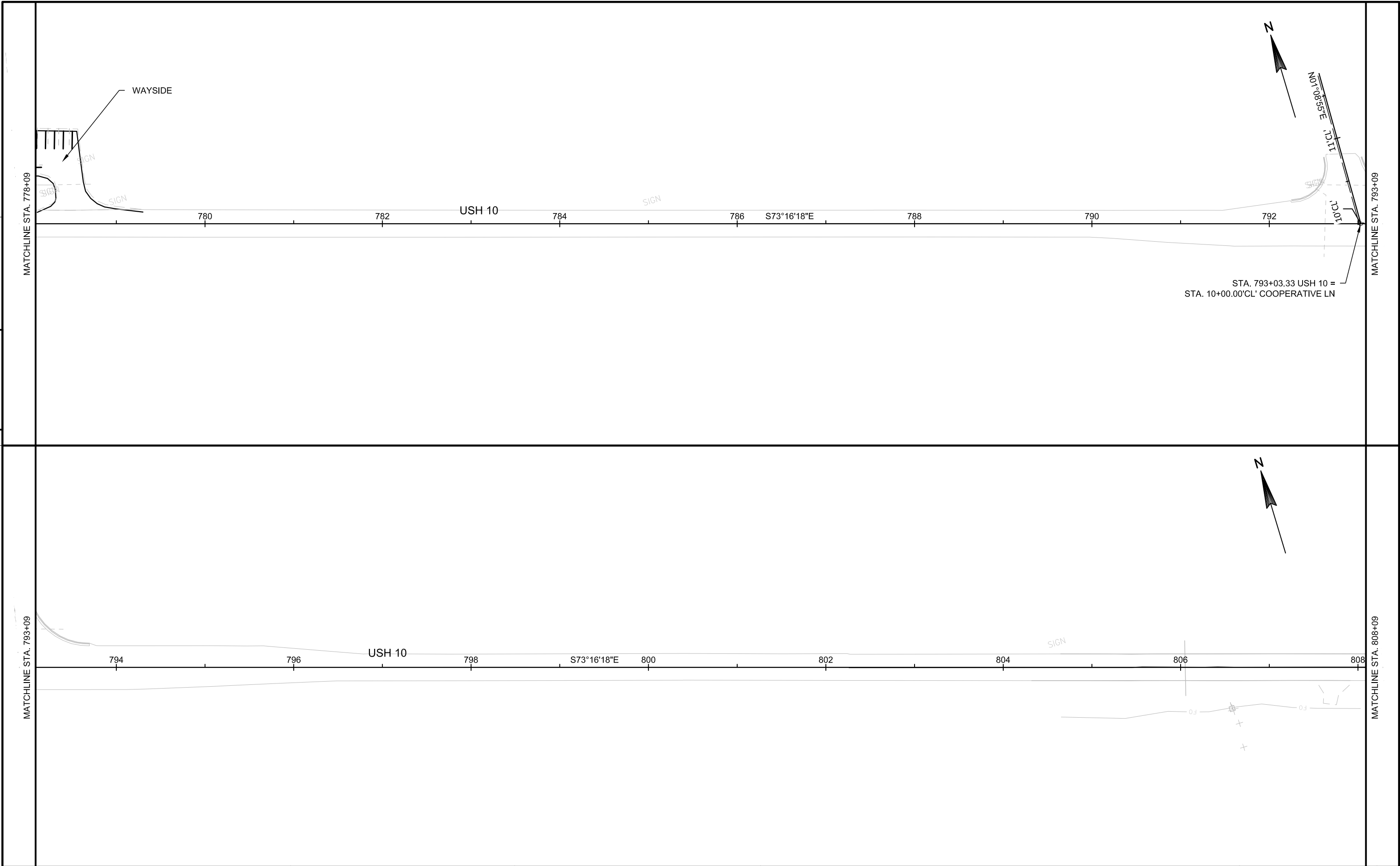


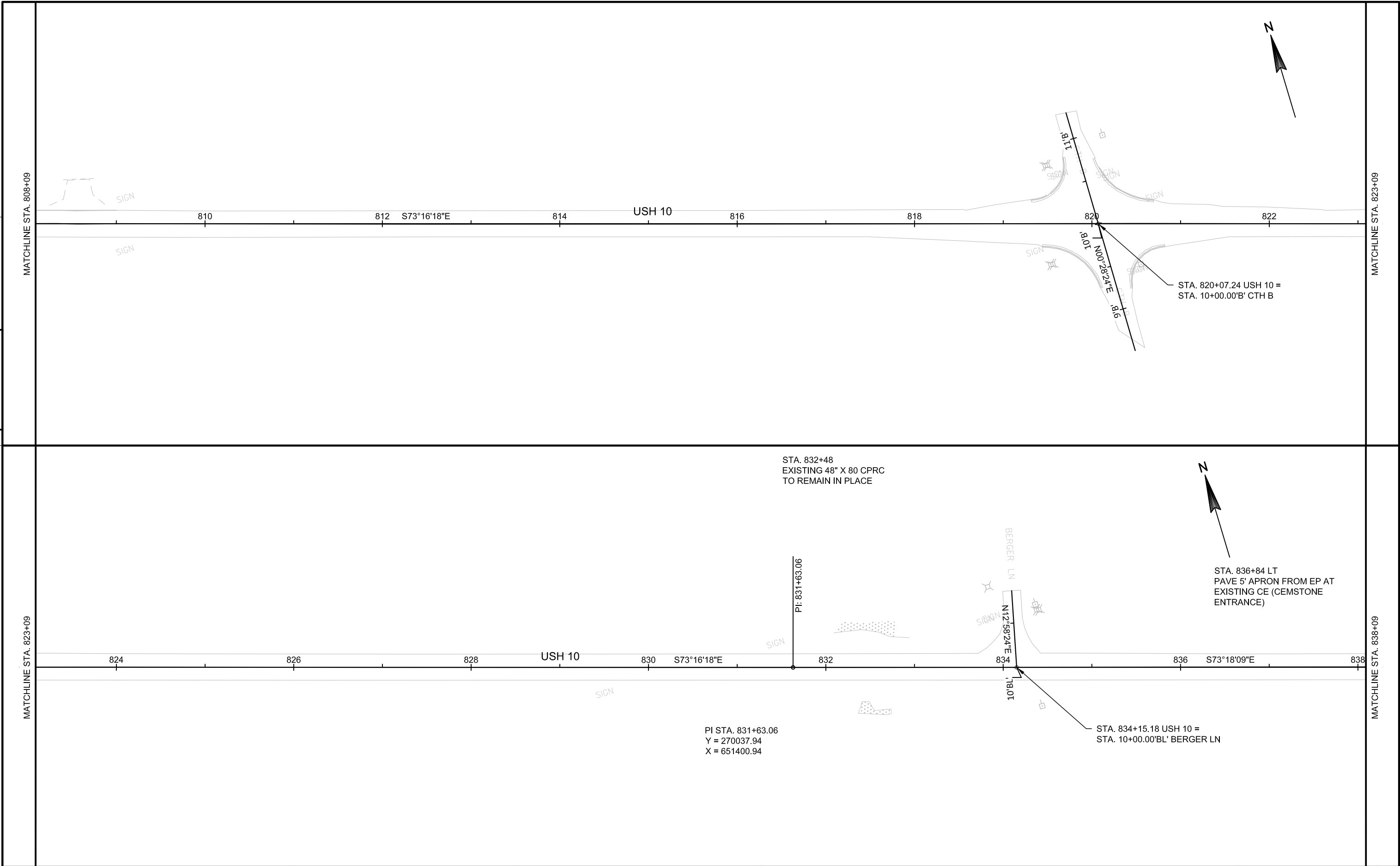


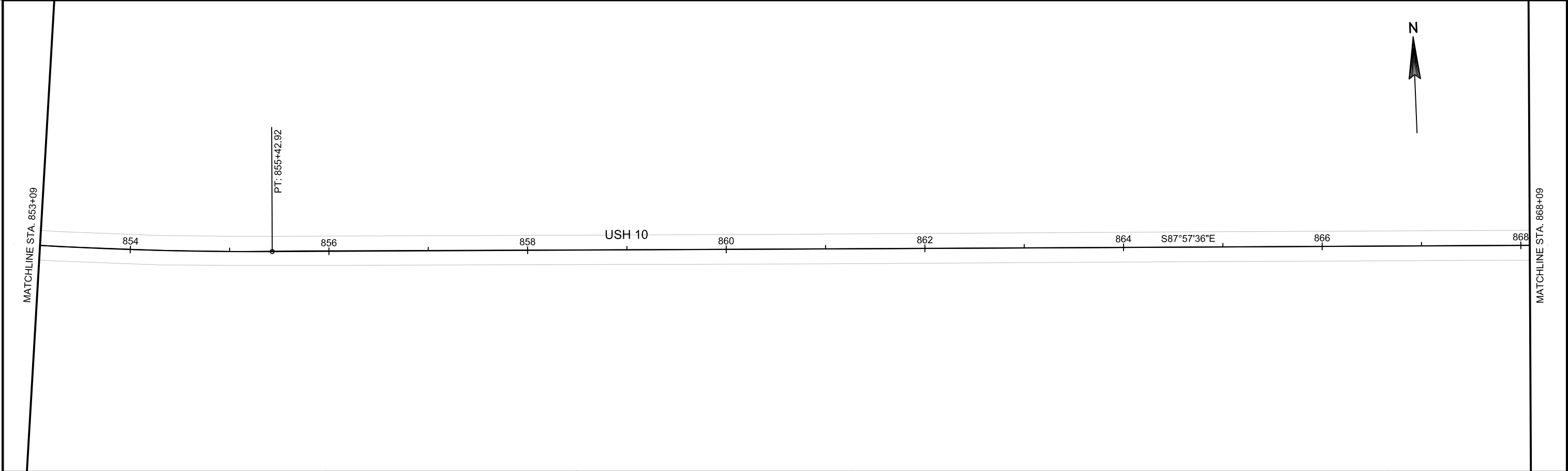
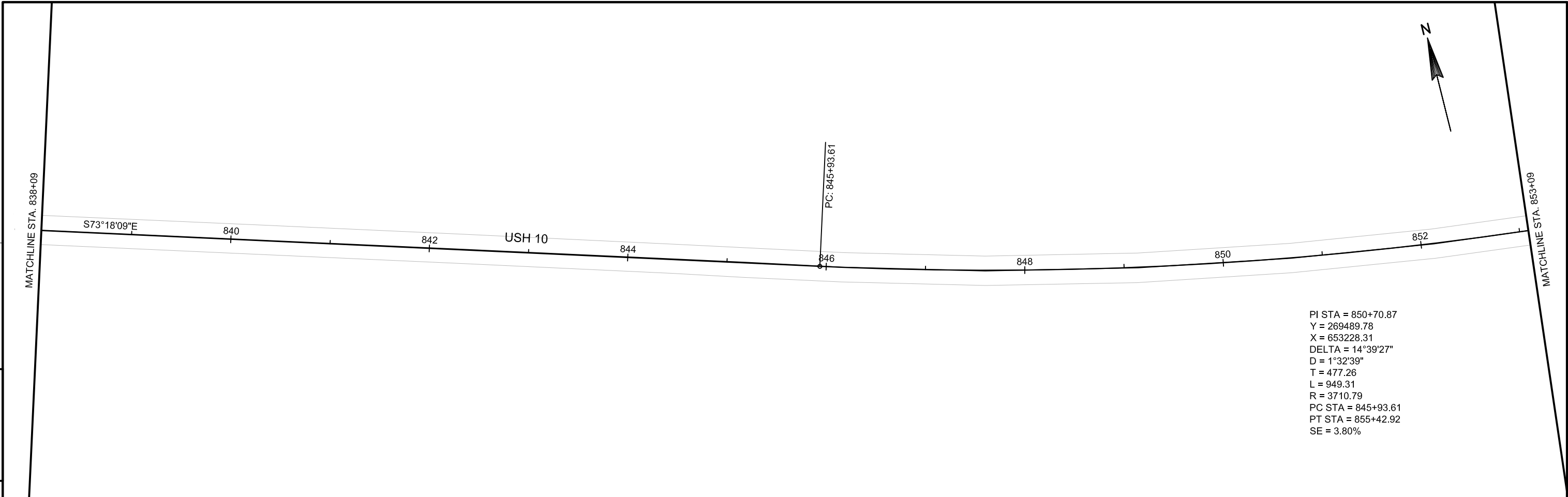


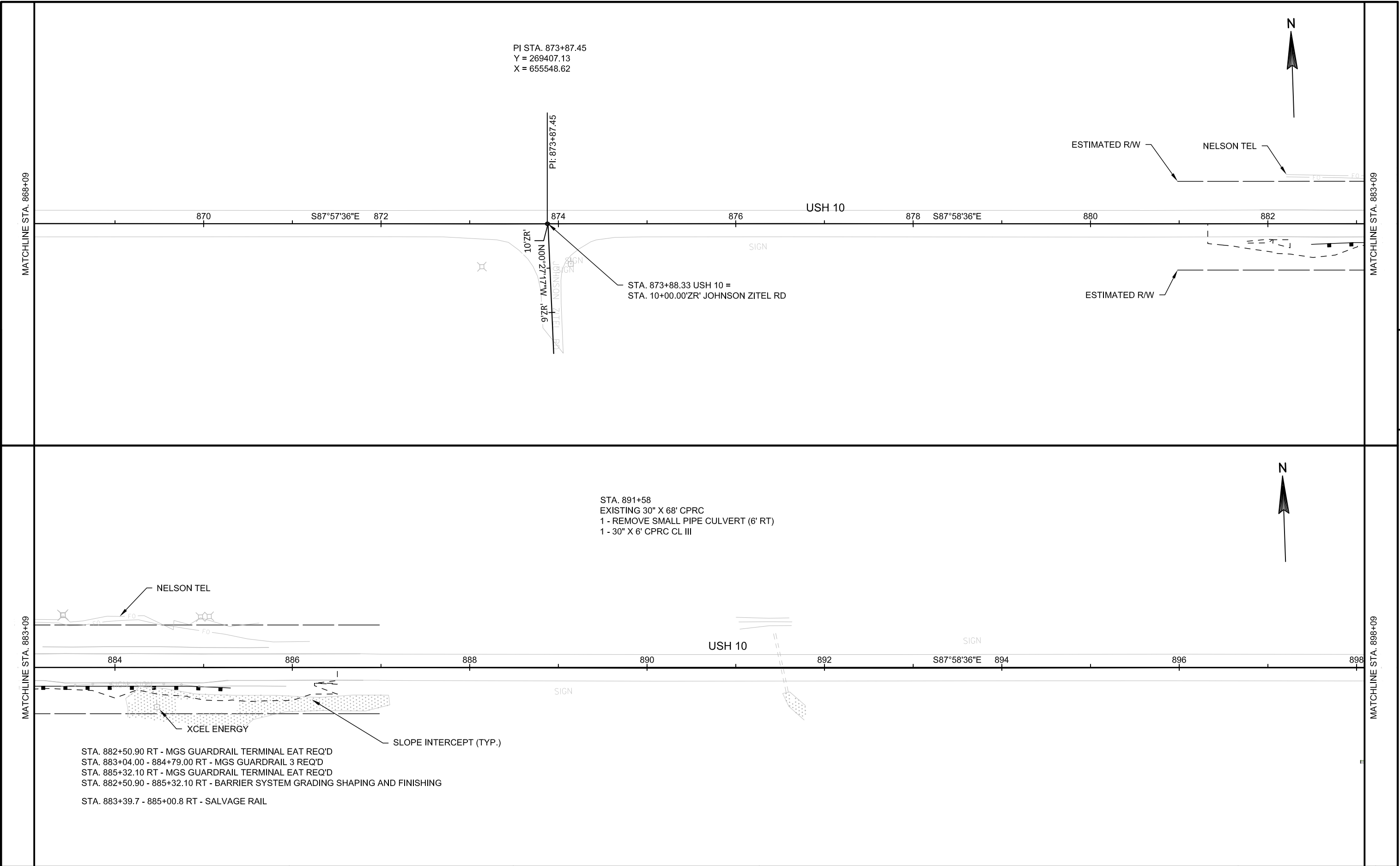






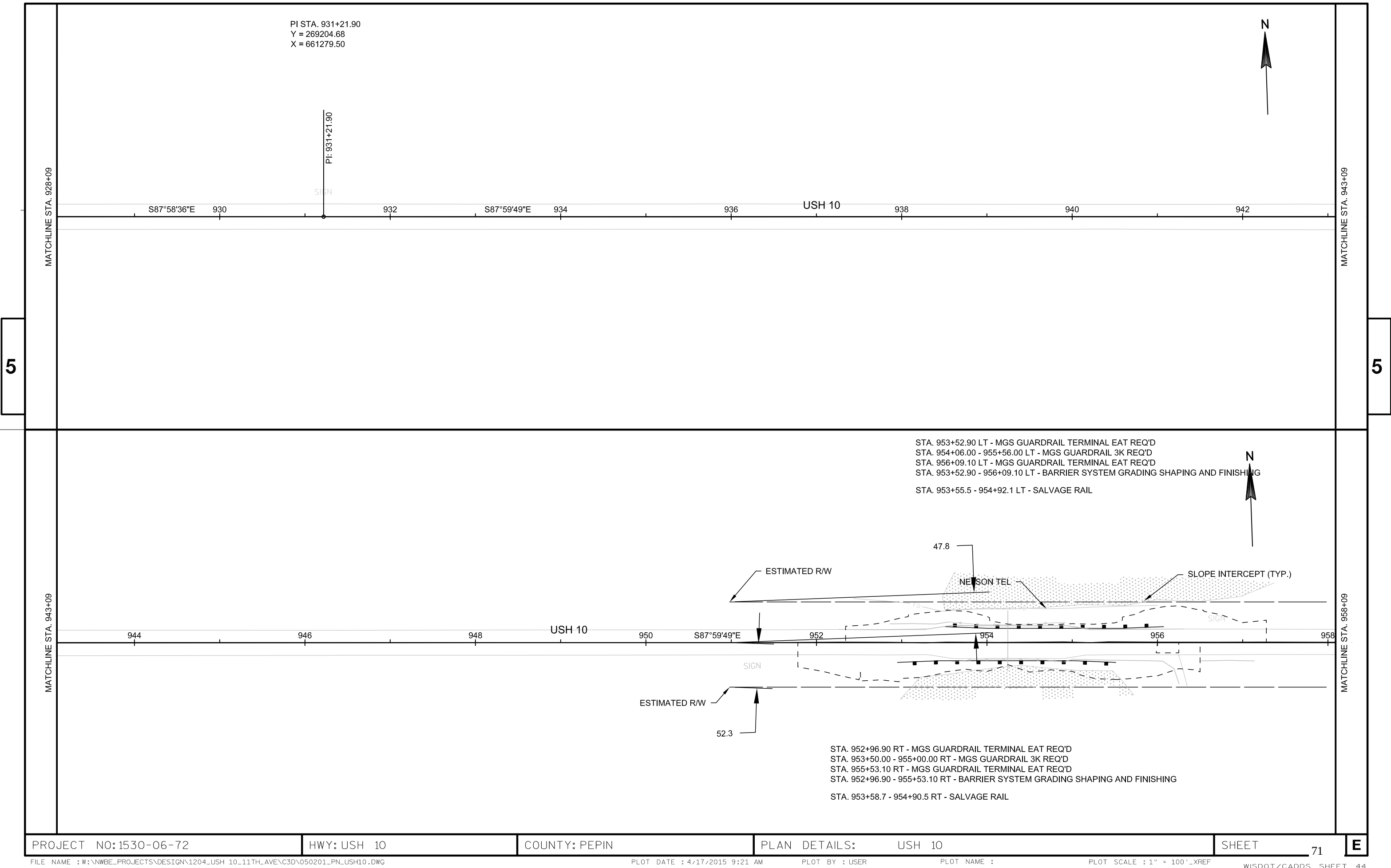




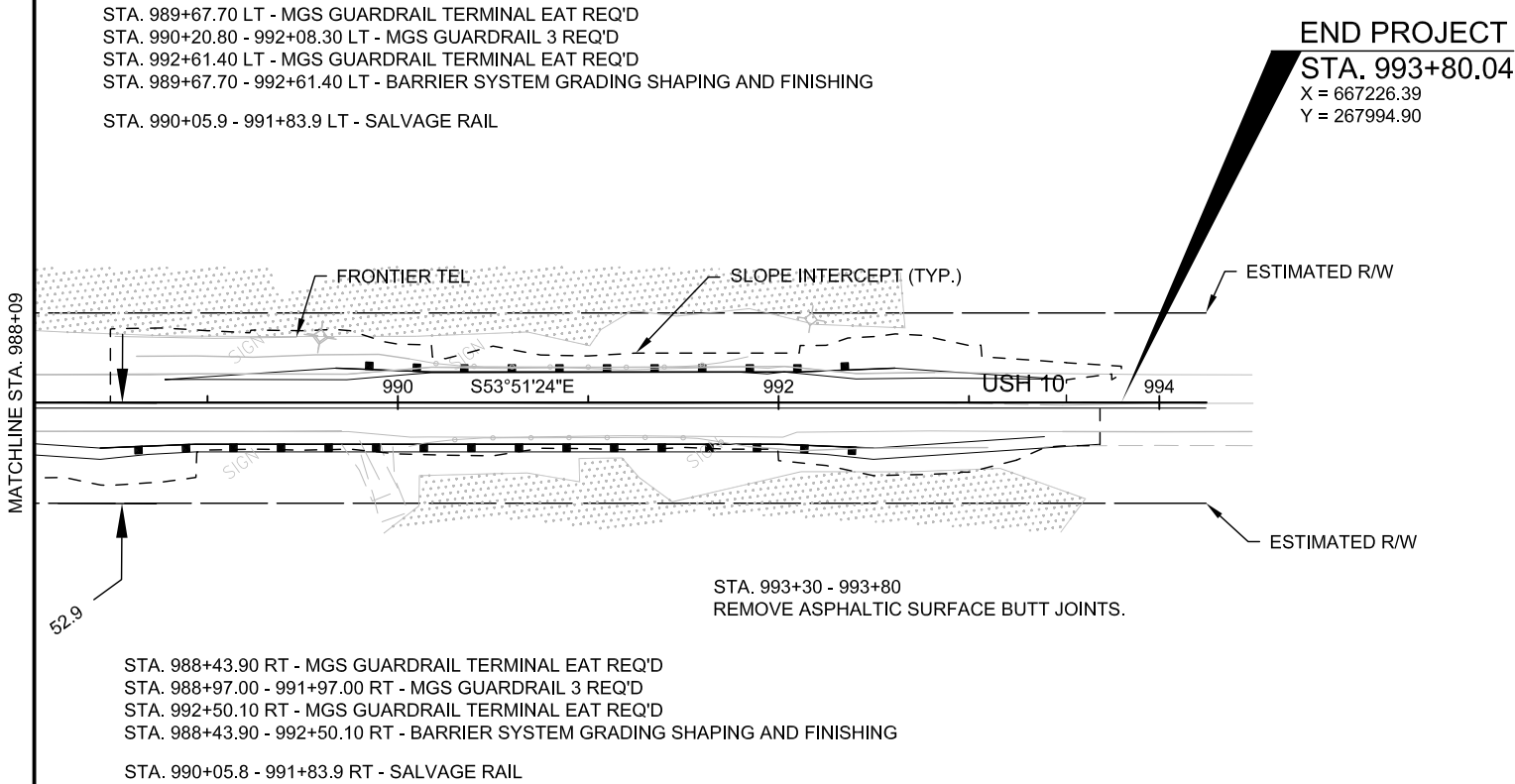




PROJECT NO:1530-06-72	HWY: USH 10	COUNTY: PEPIN	PLAN DETAILS: USH 10	SHEET 70	E
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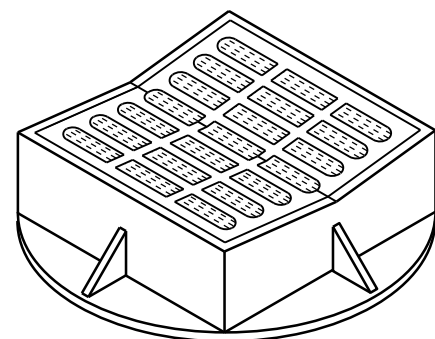
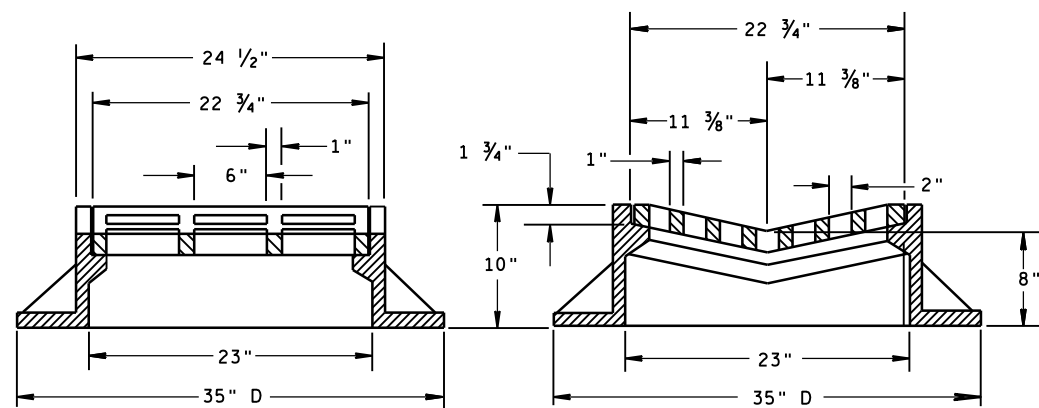
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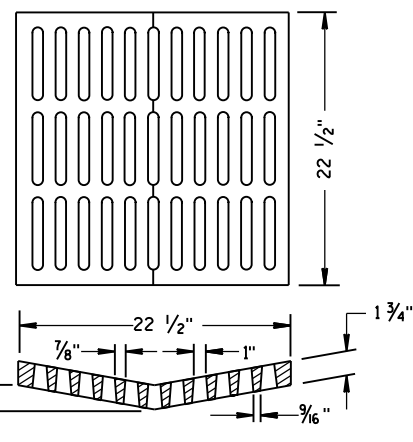
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Standard Detail Drawing List

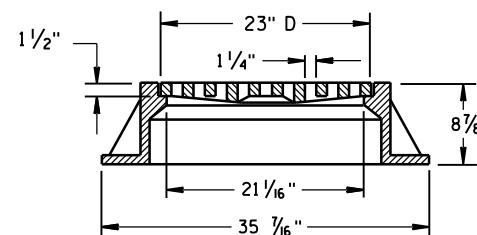
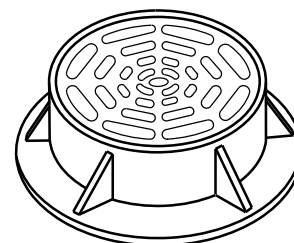
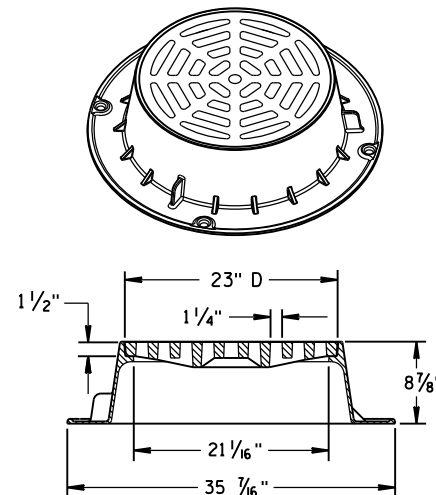
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B15-08A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-08C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	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
15C07-12A	PAVEMENT MARKING SYMBOLS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

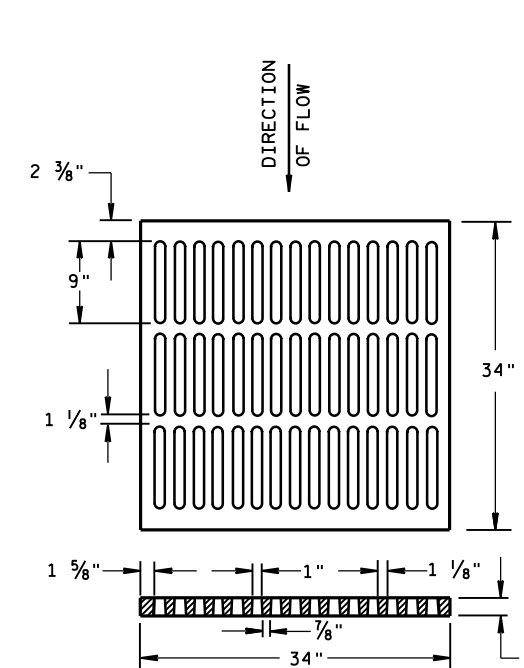
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

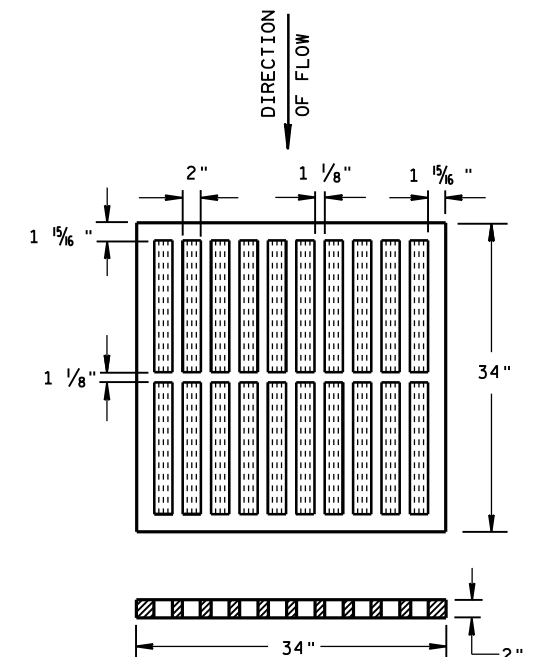
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



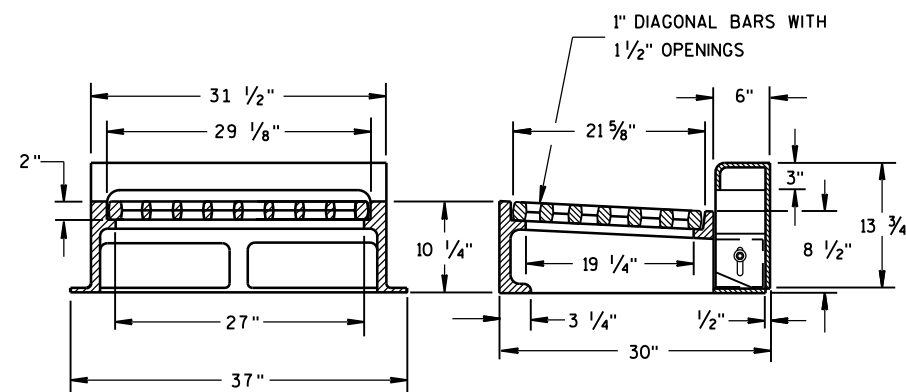
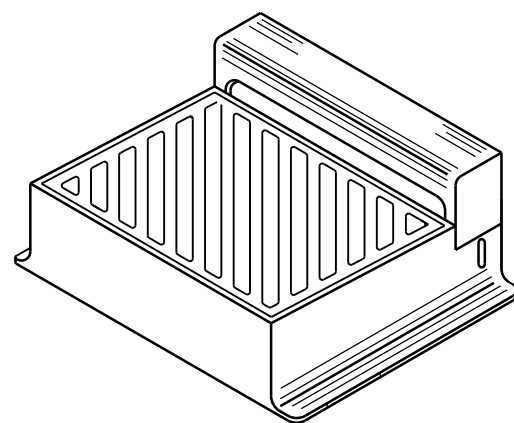
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
 NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
 NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED
 TO THE DIRECTION OF FLOW AS ILLUSTRATED.
 GRATES ARE MANUFACTURED TO BE REVERSIBLE.

DIRECTION
OF FLOW

INLET COVERS
 TYPE B, B-A, C,
 MS, MS-A, & WM

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

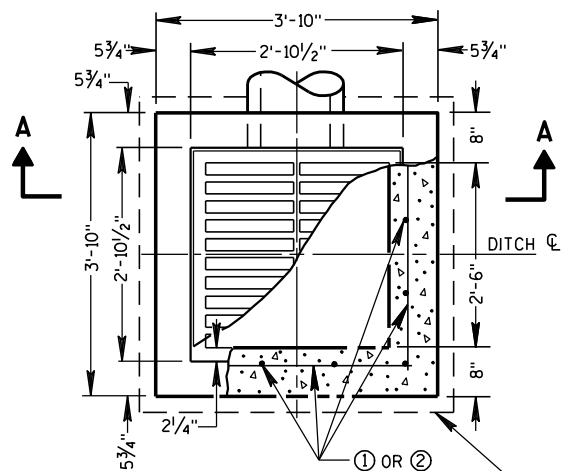
APPROVED

11/27/2013
 DATE

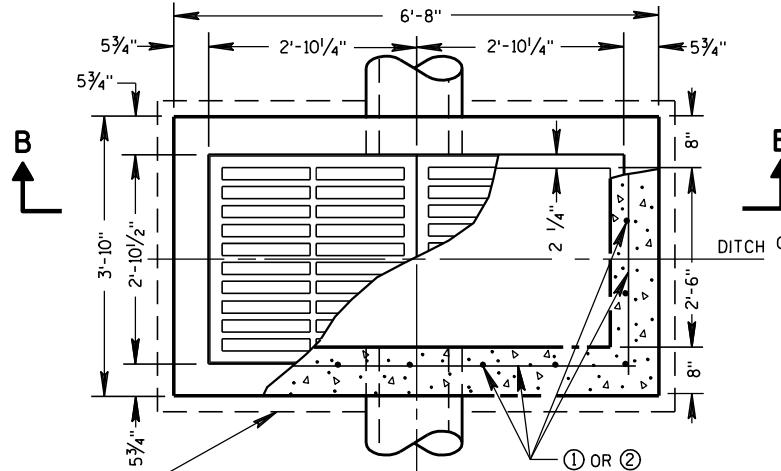
FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS ENGINEER

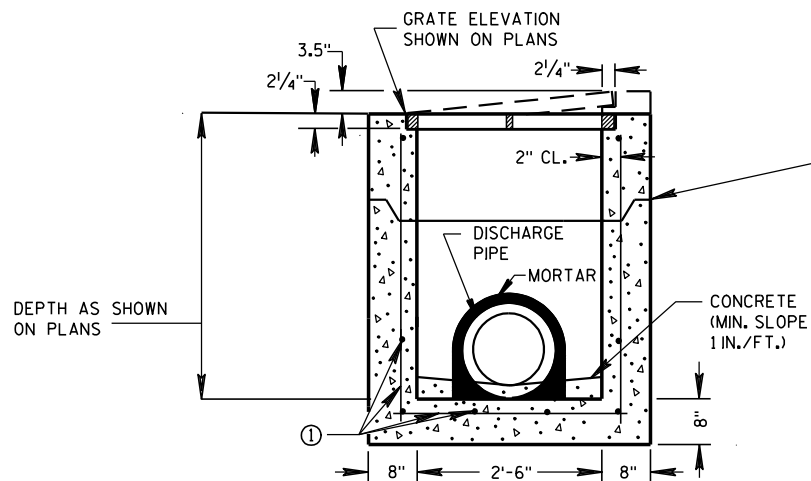
75 :NT



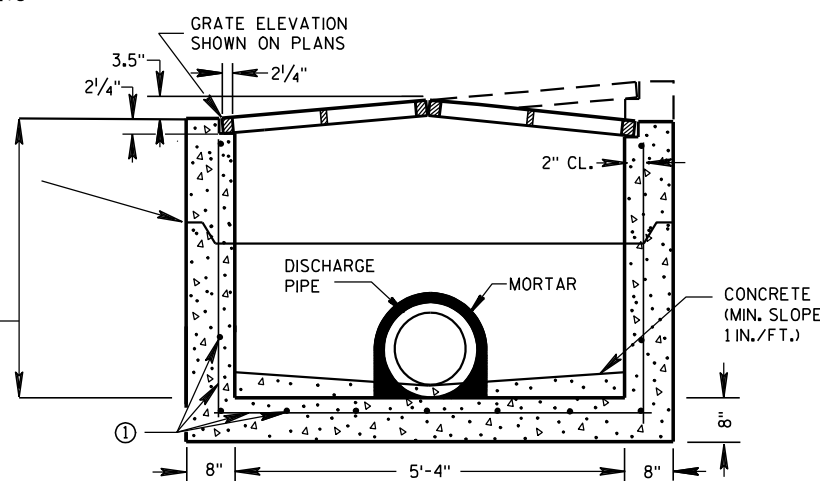
PLAN VIEW



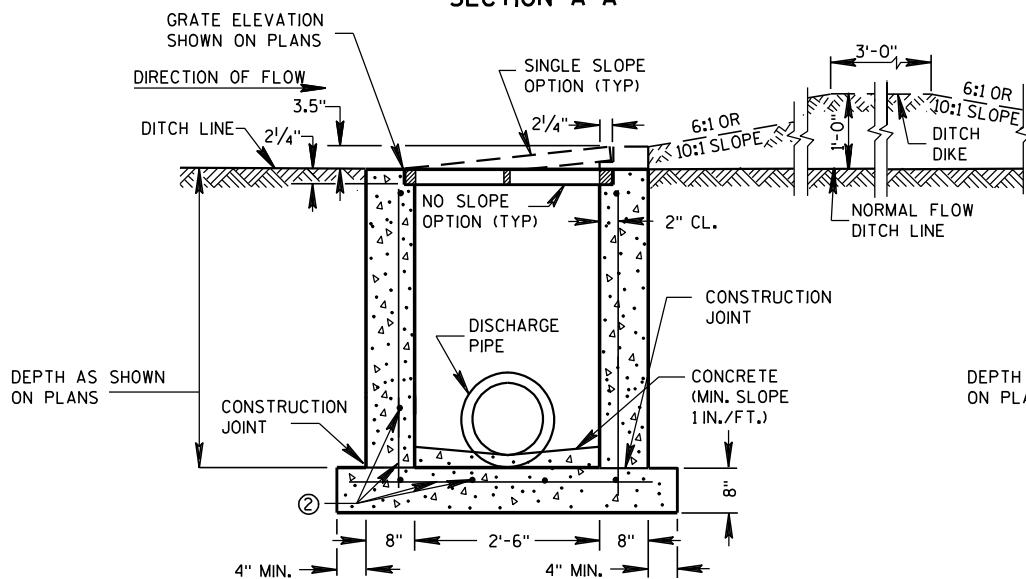
PLAN VIEW



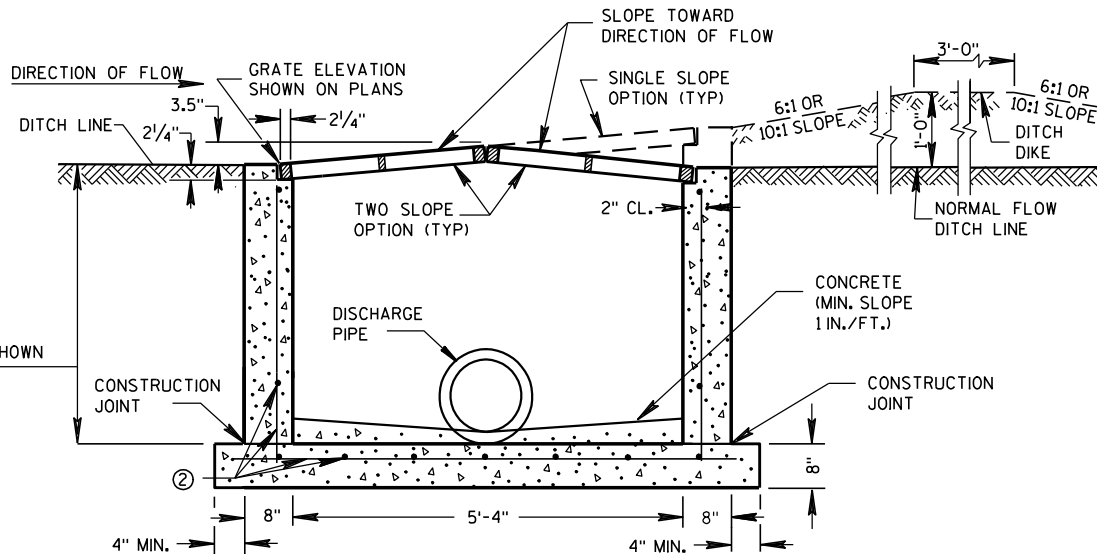
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

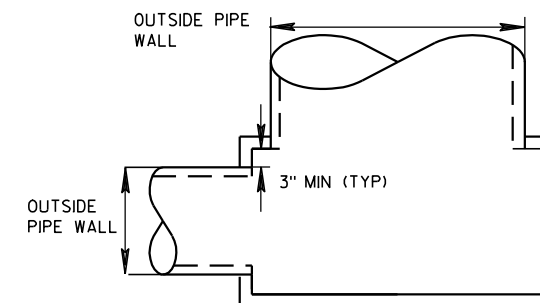
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

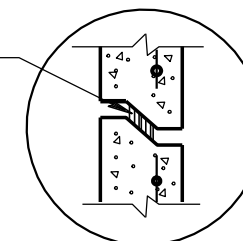
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

DATE

FHWA

/s/ Jerry H. Zoon

ROADWAY STANDARDS 76

ENGINEER

INT

6



6

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

EXPANSION JOINT

CONCRETE CURB AND GUTTER

8'-0"

4'-0"

EDGE OF PAVEMENT

2" MIN. CURB HEIGHT

4' R

3'-0" MIN.

SURFACE DRAIN IS SYMMETRICAL WHEN CURB AND GUTTER IS CONTINUED

TAPER CURB TO FLOW LINE

SHOULDER OR BERM HINGE POINT

JOINTS

W3 WIRE MESH (SEE SECTION D-D)

RIPRAP

DITCH

6'-0"

OR AS REQUIRED

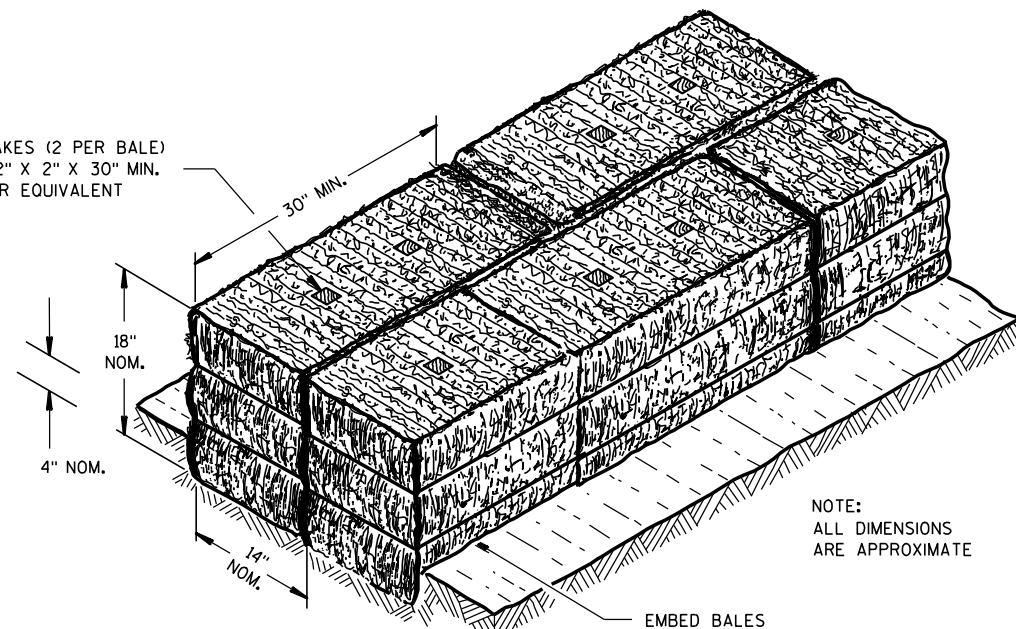
1'-0" ON CUT SLOPE

PLAN VIEW



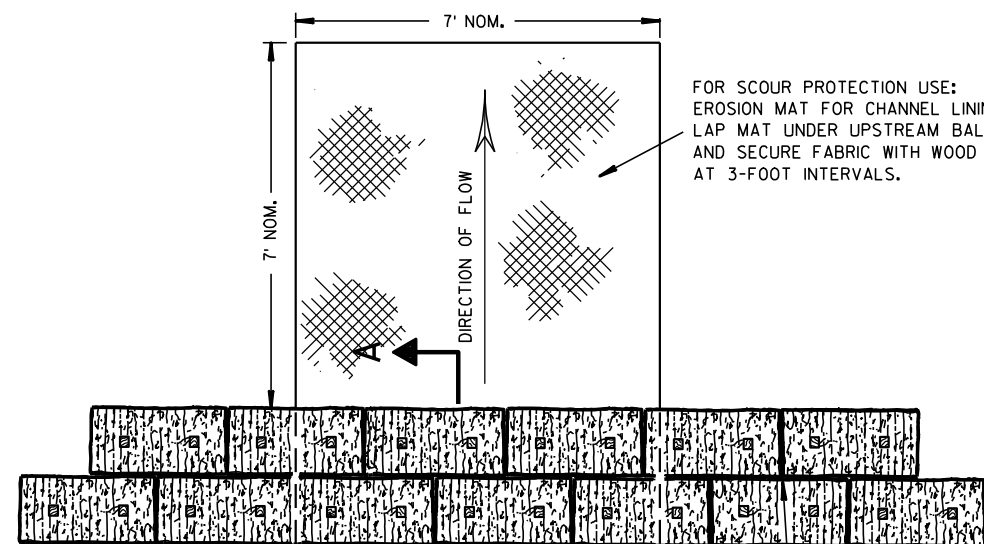
APPROVED
9-4-08 /S/ Jerry H. Zorn
DATE ROADWAY STANDARDS 77 MENT
ENGINEER
FHWA

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



SECTION A-A

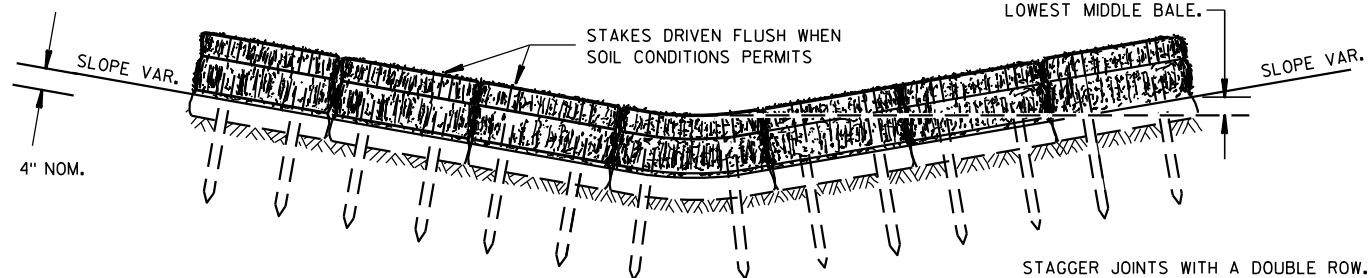
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

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



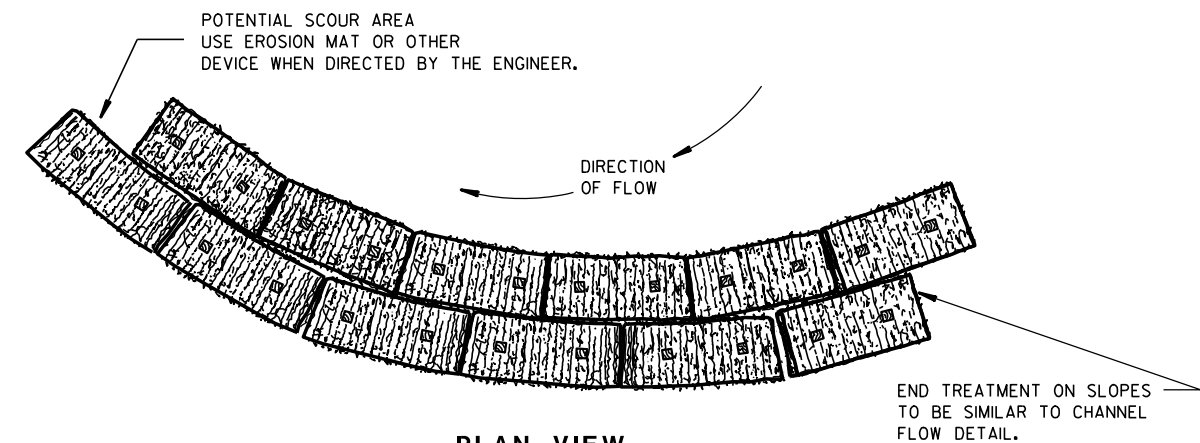
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

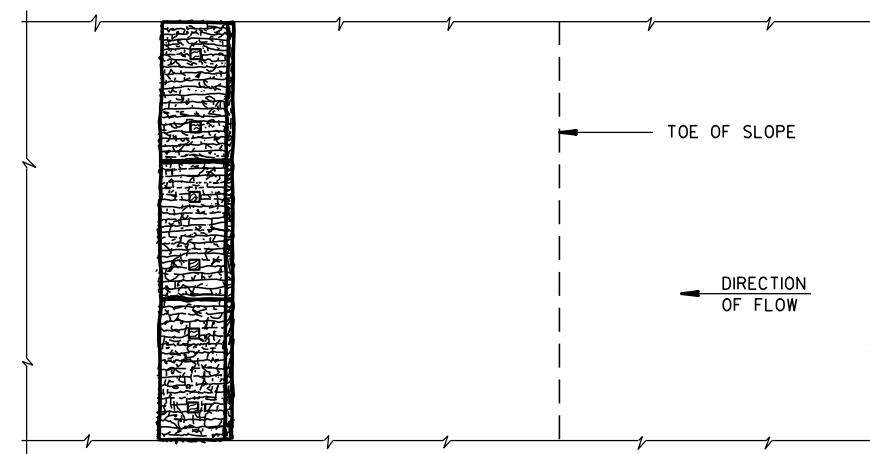
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

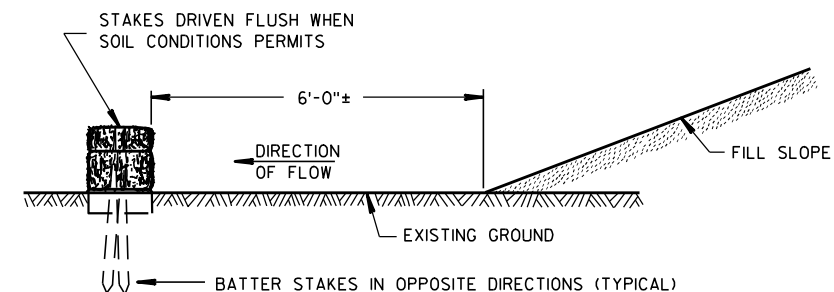


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPER

ENGINEER

FHWA



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

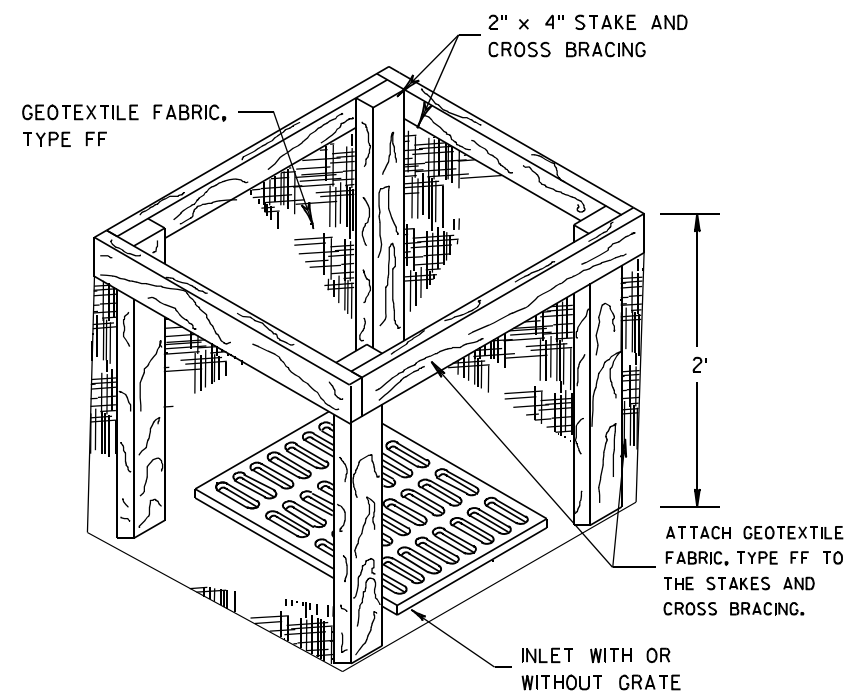
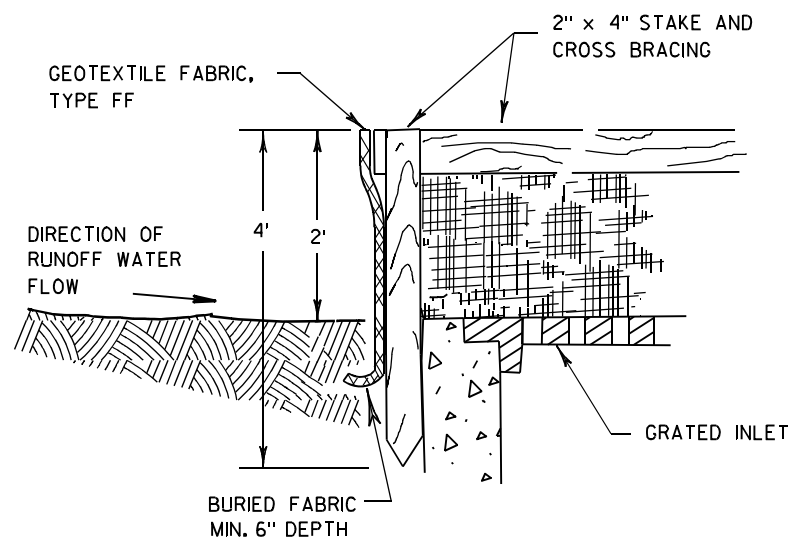


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Connolly
DATE CHIEF ROADWAY DEVELOPER 79 INEER

FHWA



INLET PROTECTION, TYPE A

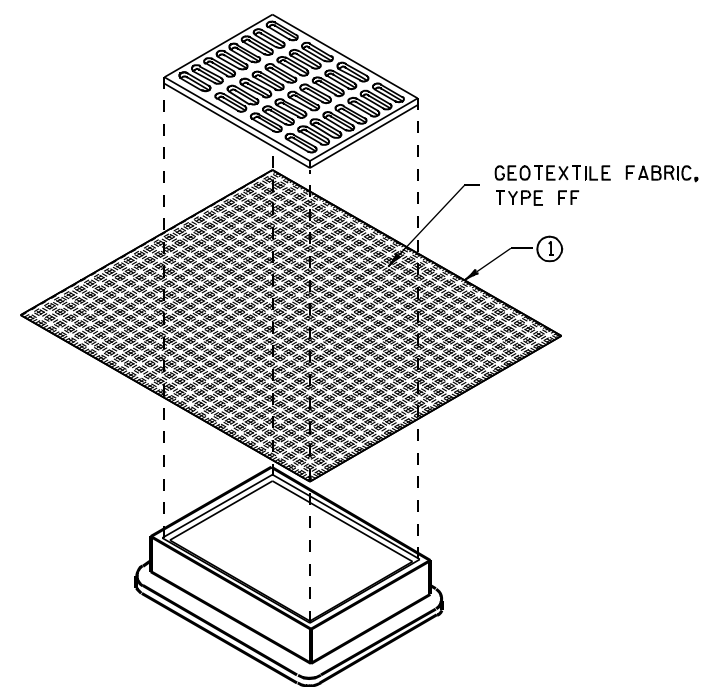
GENERAL NOTES

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

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

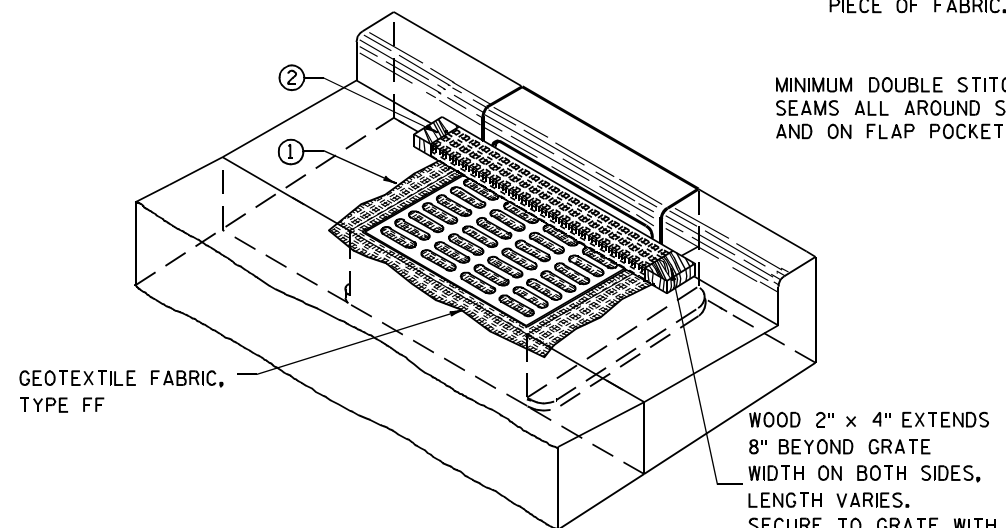
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

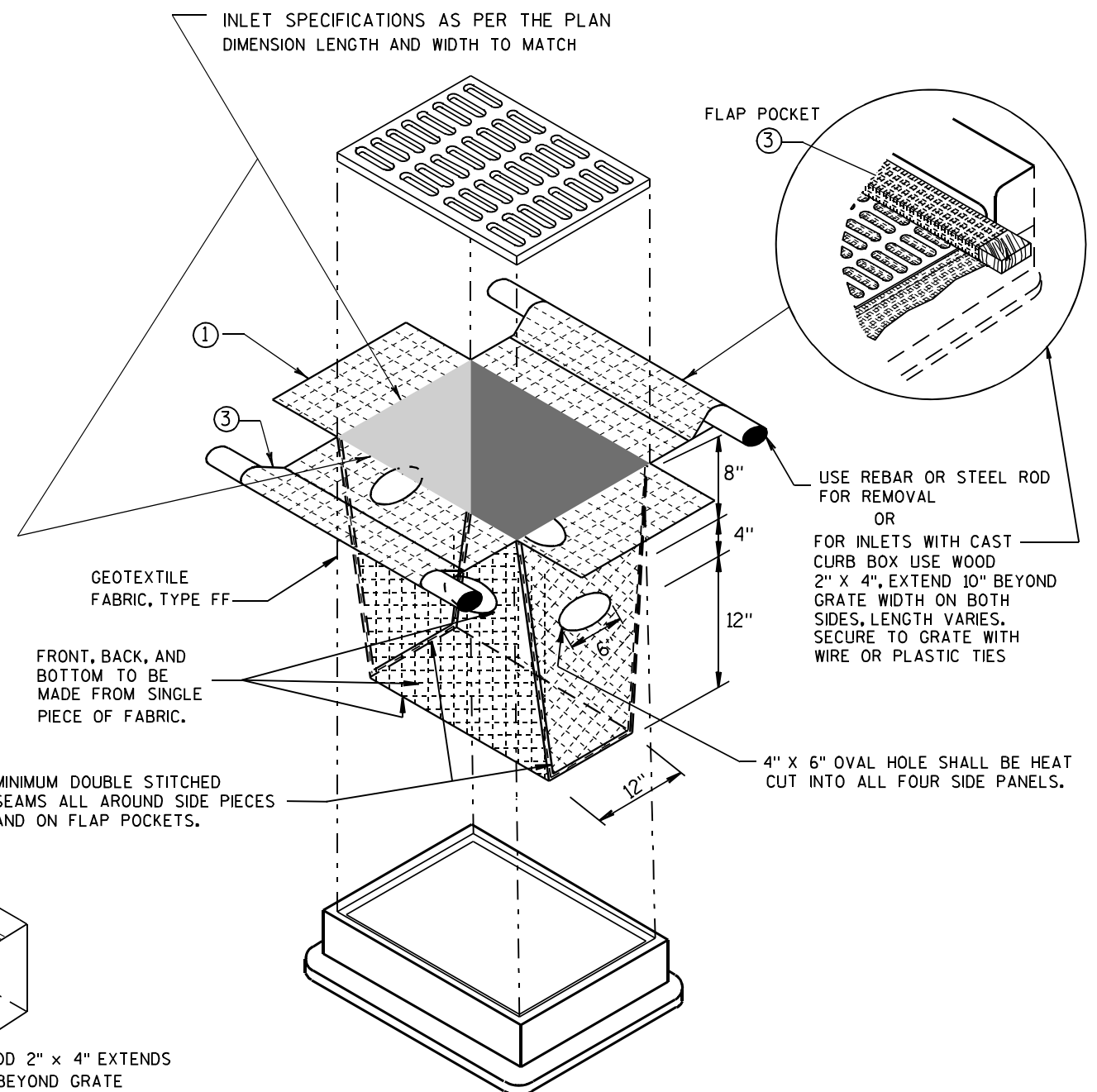
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

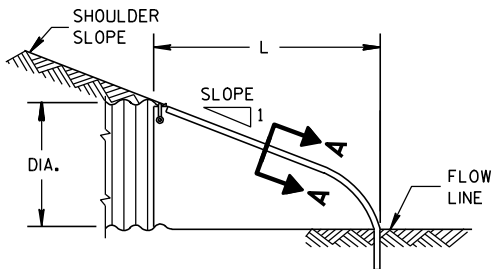
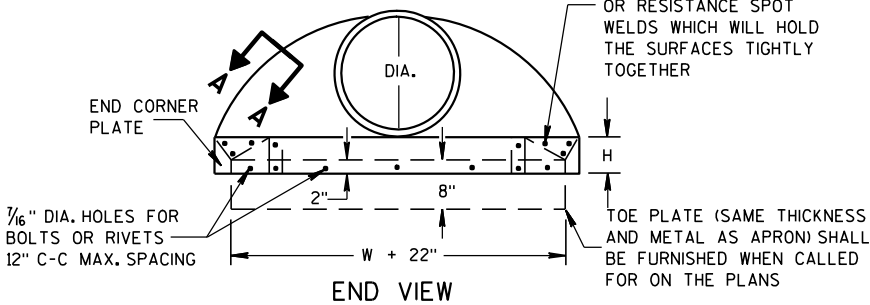
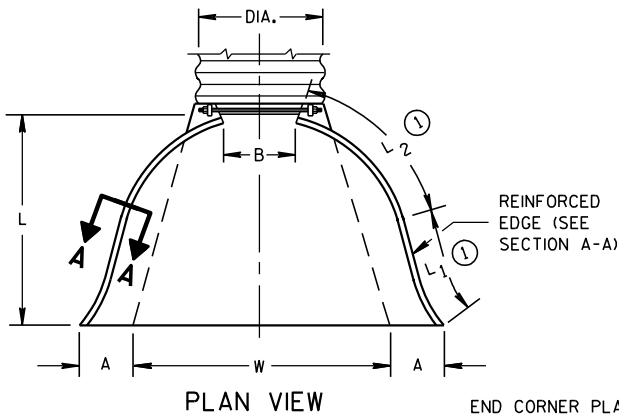
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 80
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")	L ₁ ①	L ₂ ①			W (±2")
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

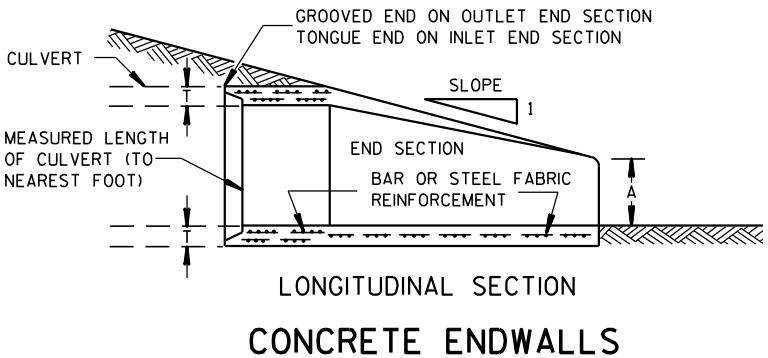
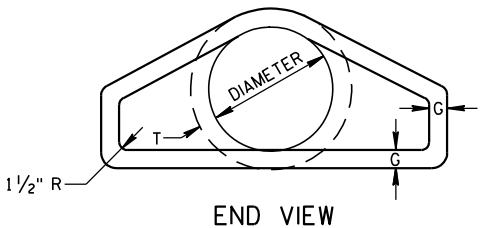
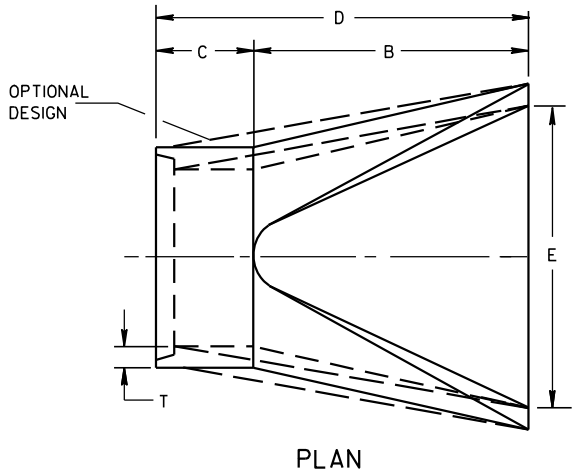
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



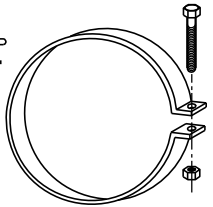
METAL ENDWALLS

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

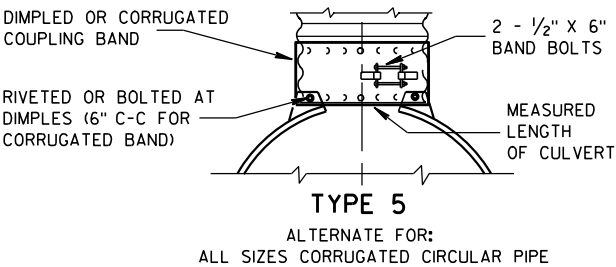
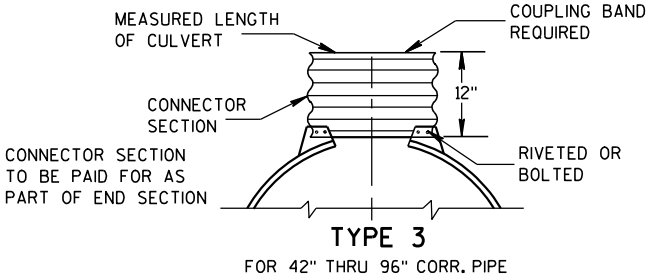
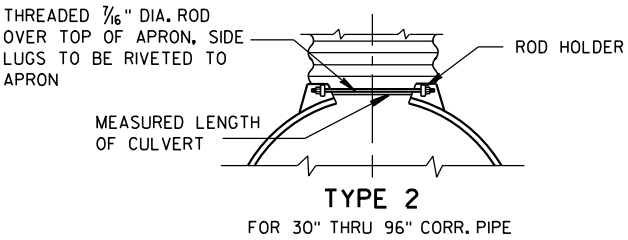
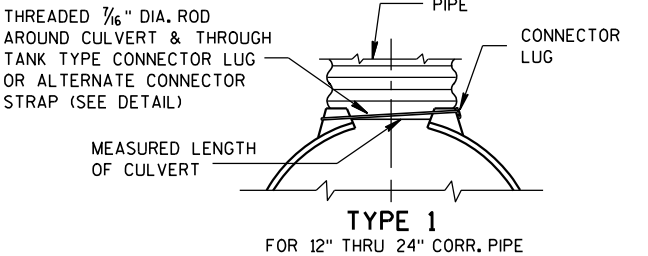
* MINIMUM
** MAXIMUM



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



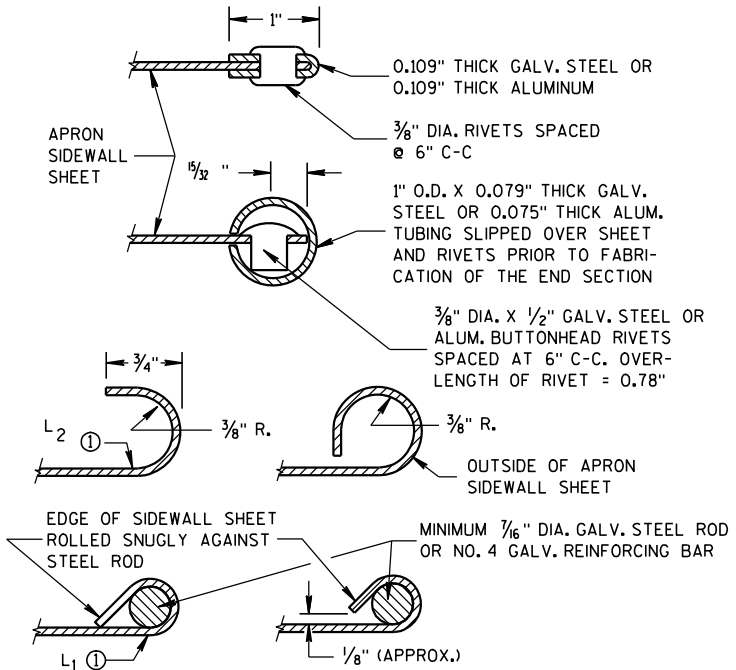
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

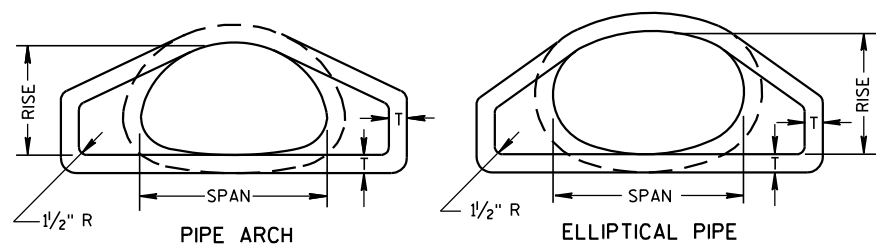
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

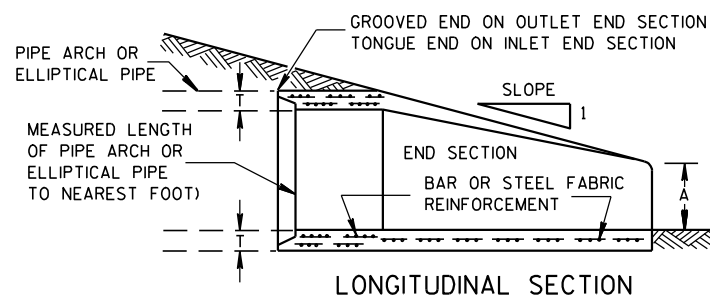
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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. Rhinehart CHIEF ROADWAY DEVELOPER	NEER	
FHWA			

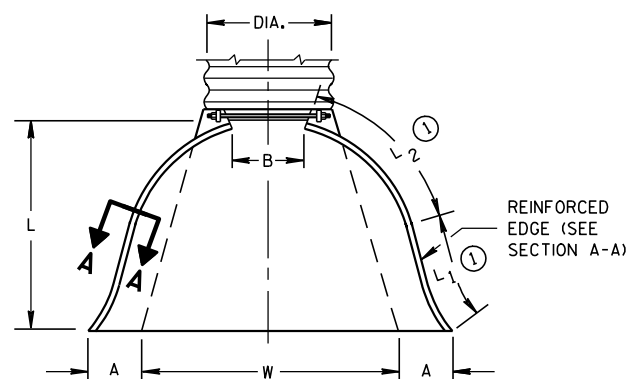


END VIEW



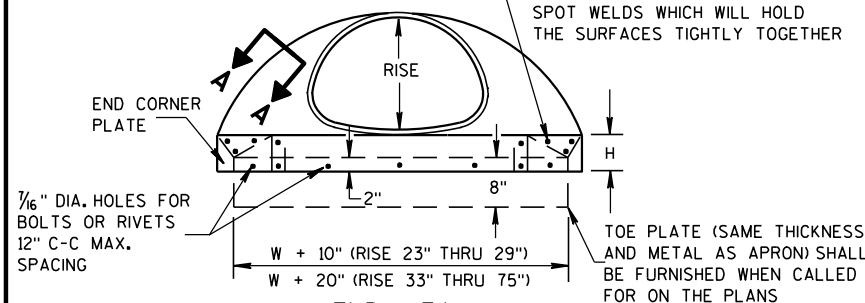
LONGITUDINAL SECTION

CONCRETE ENDWALLS

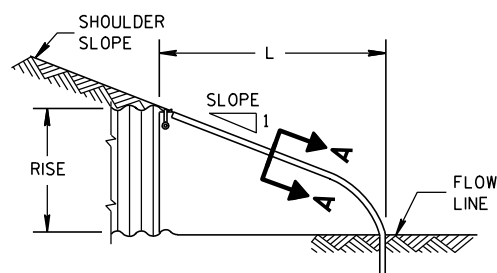
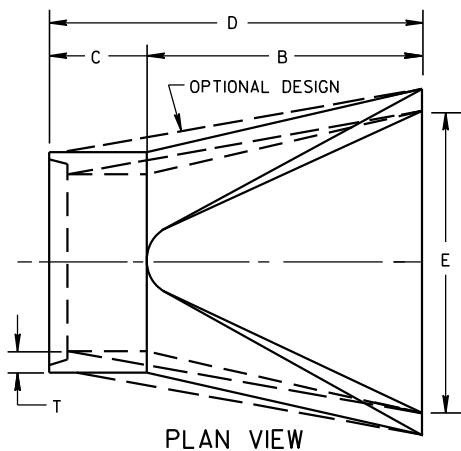


PLAN VIEW

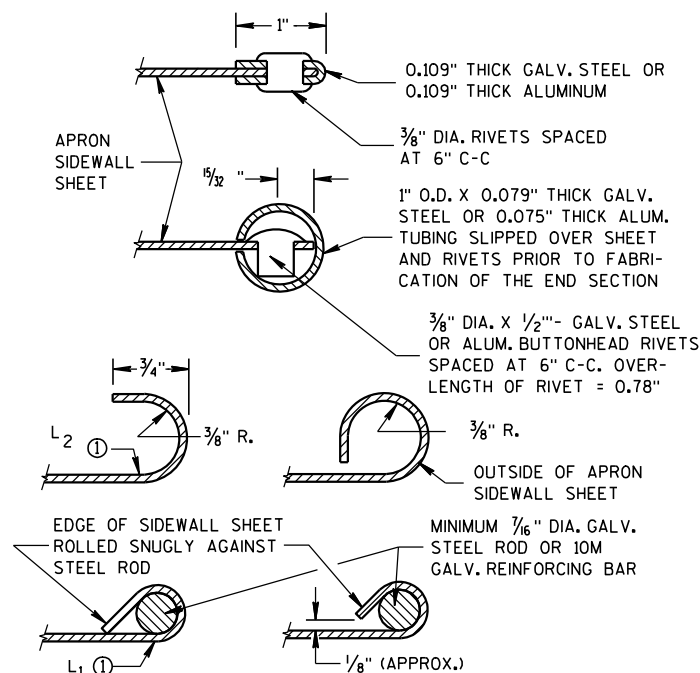
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW

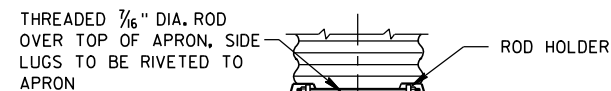


SECTION A-A

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.

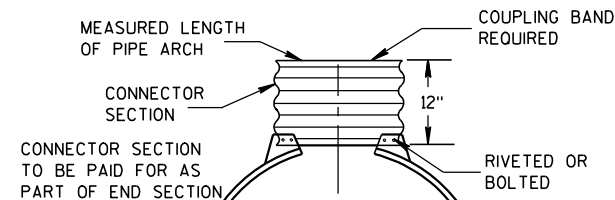
3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ⓪	L ₂ ⓪	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	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

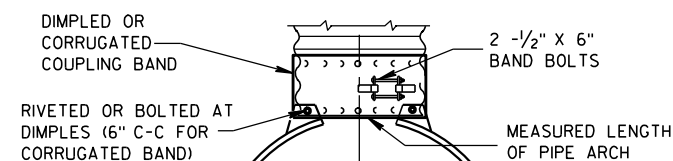
TYPE 2

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.

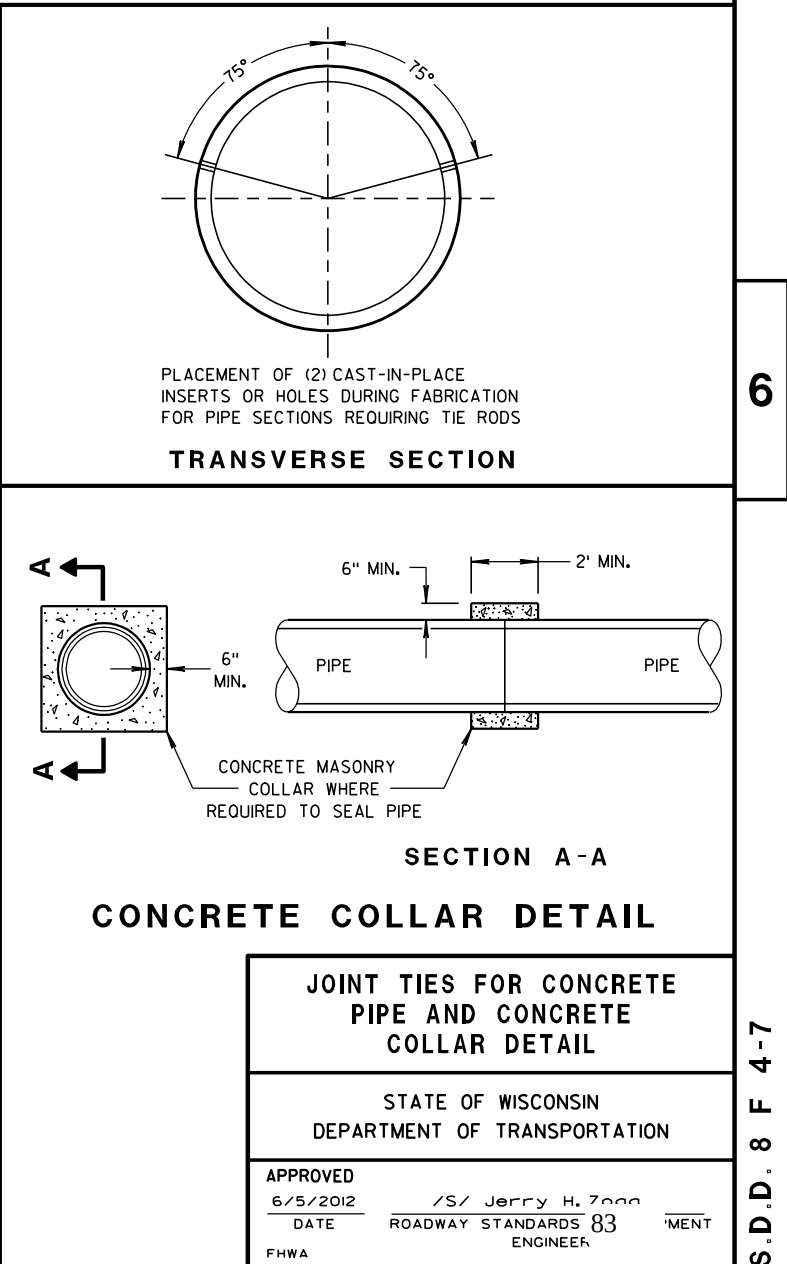
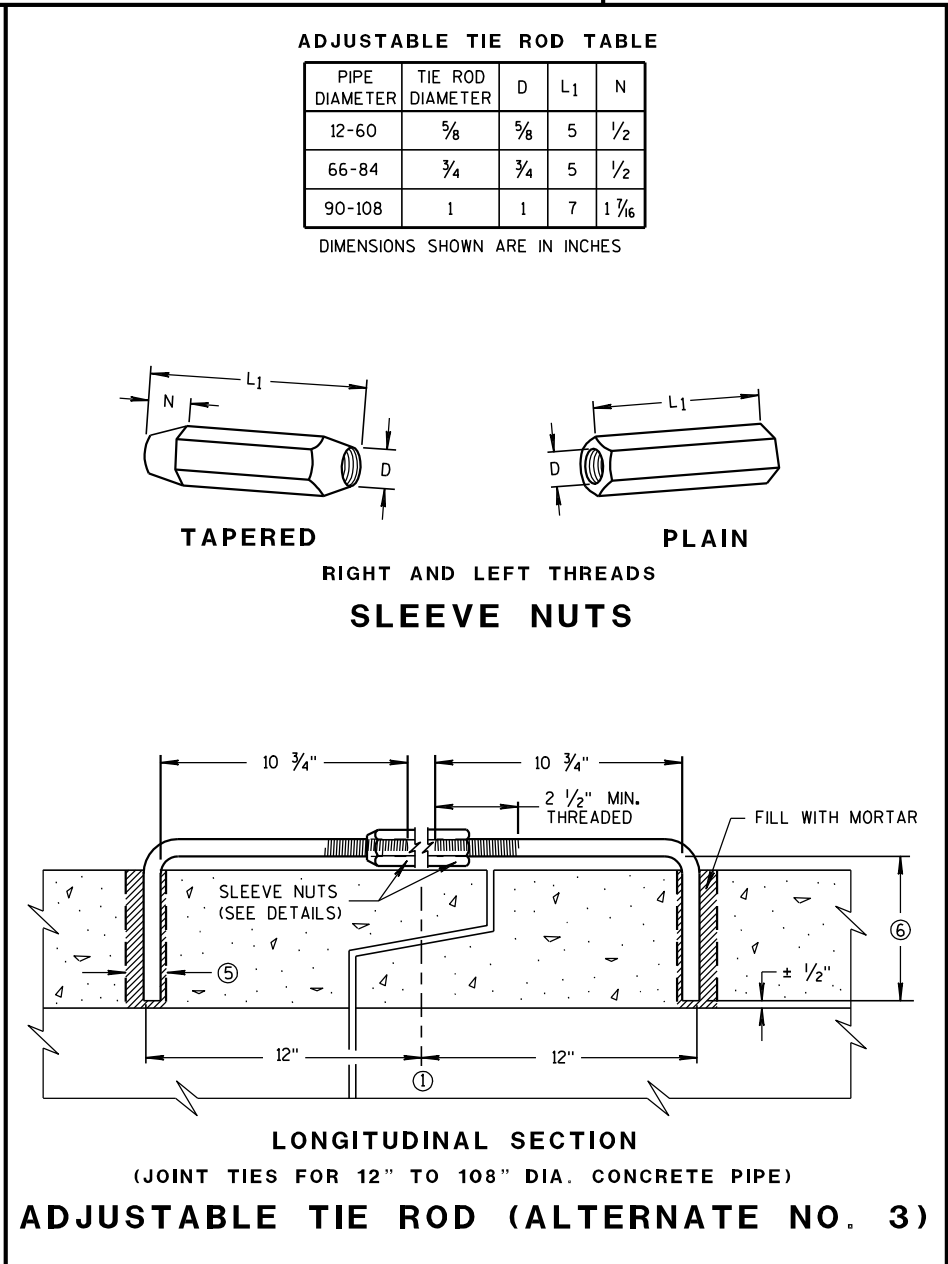
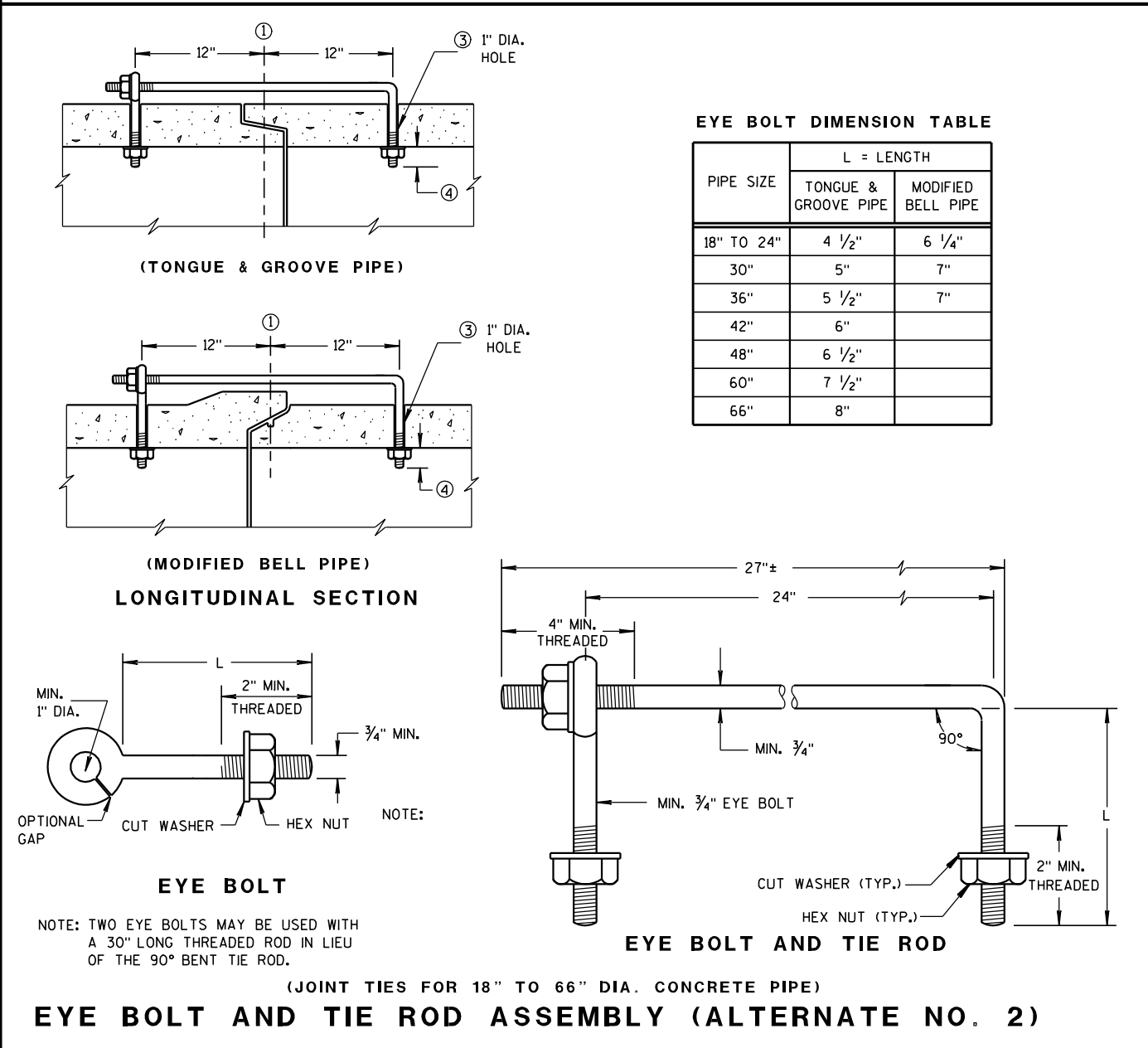
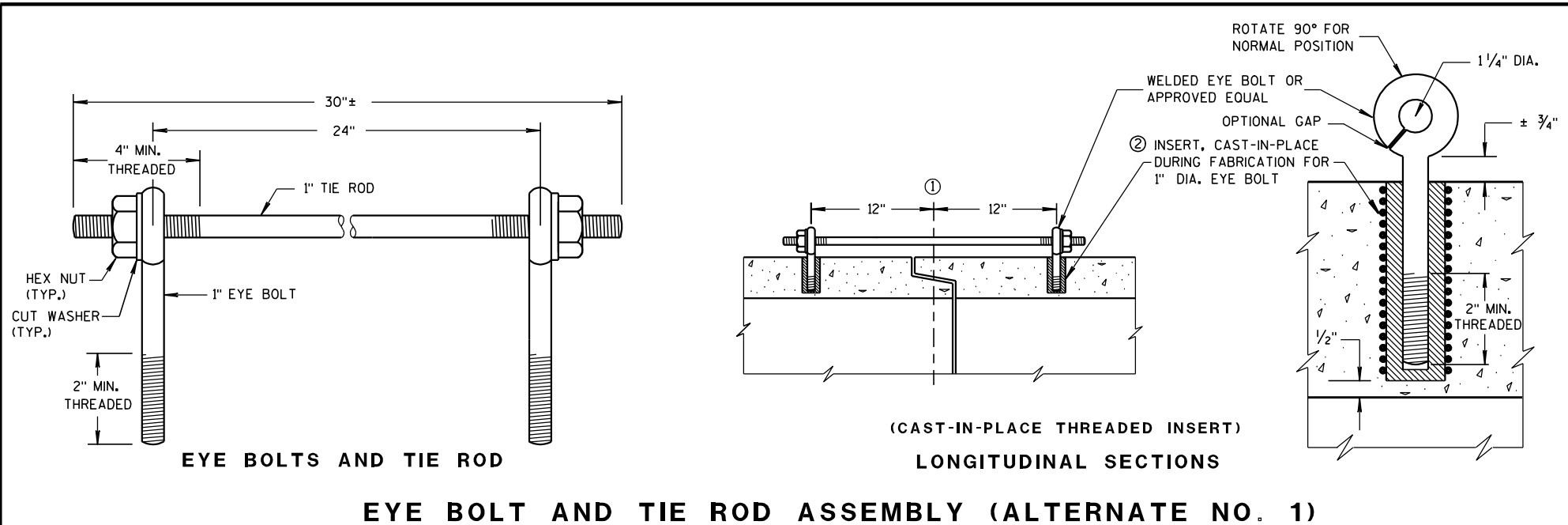
APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA

ENGINEER



GENERAL NOTES

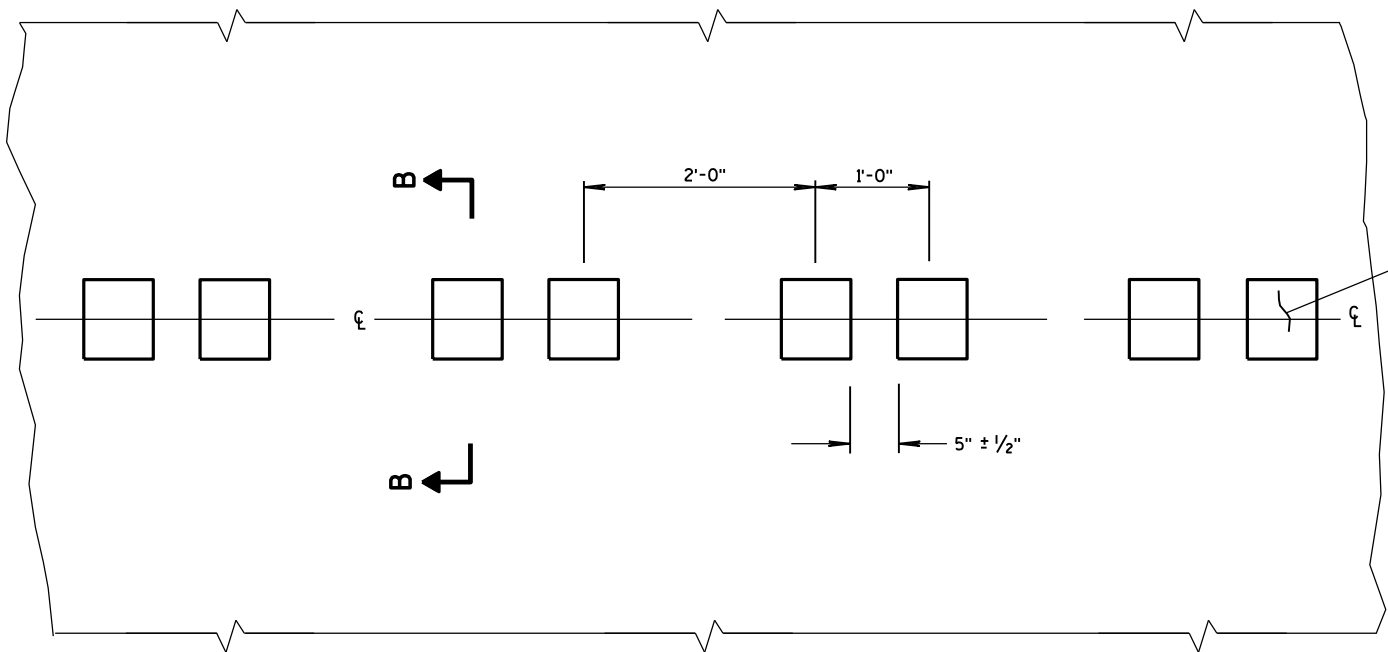
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

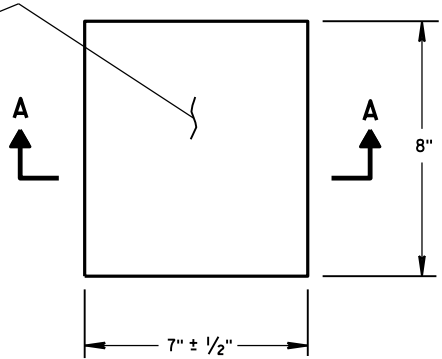
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

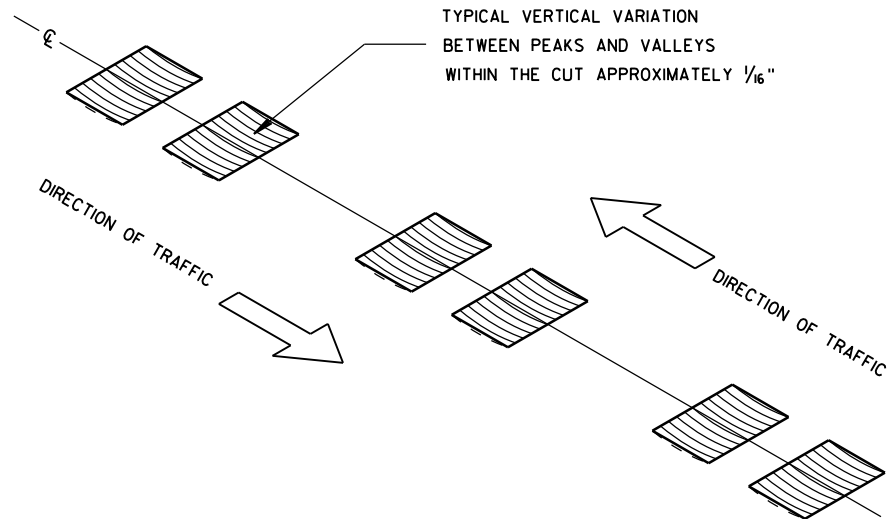
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



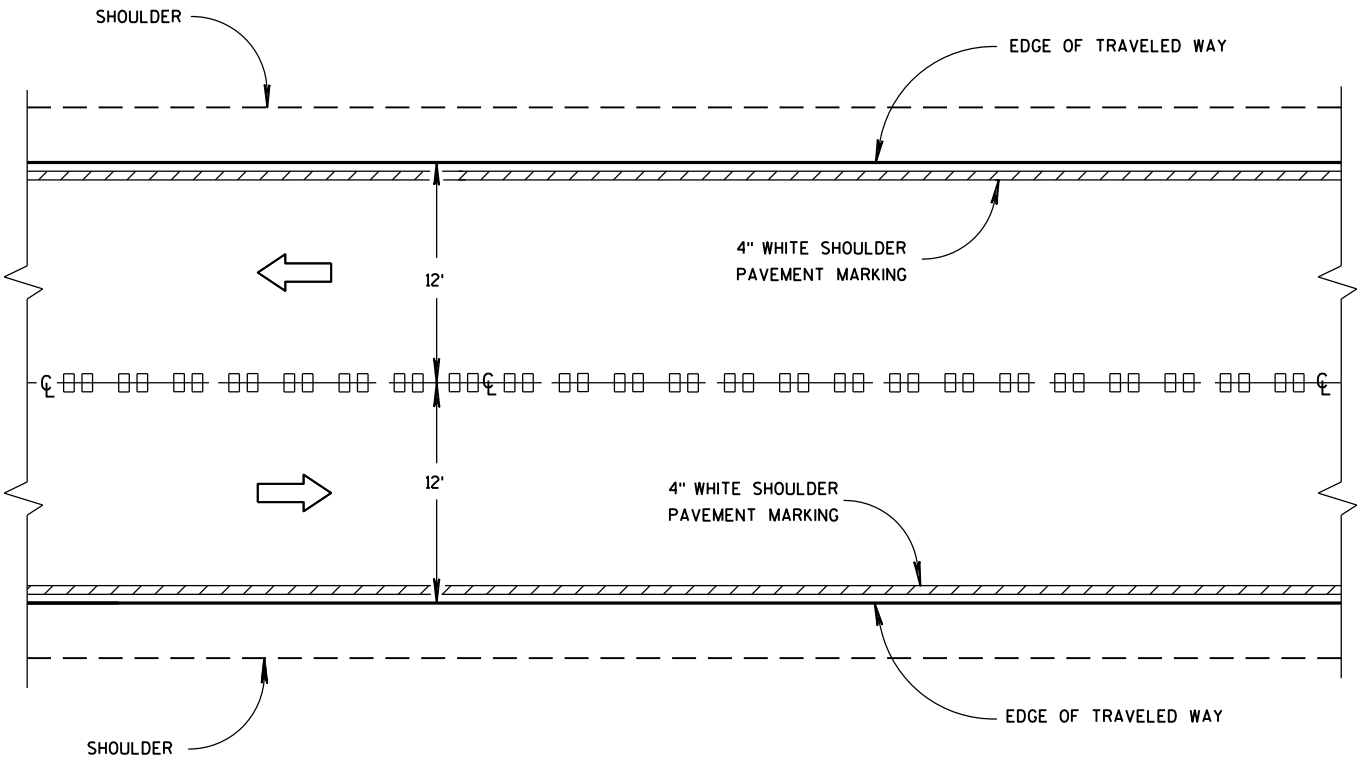
PLAN VIEW
CENTER LINE WITH GROOVES



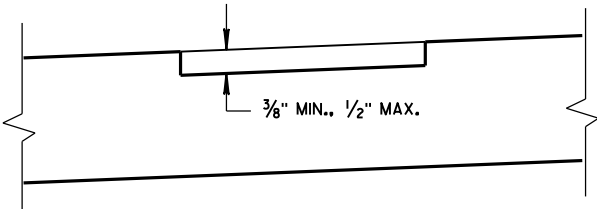
PLAN VIEW
(SINGLE GROOVE)



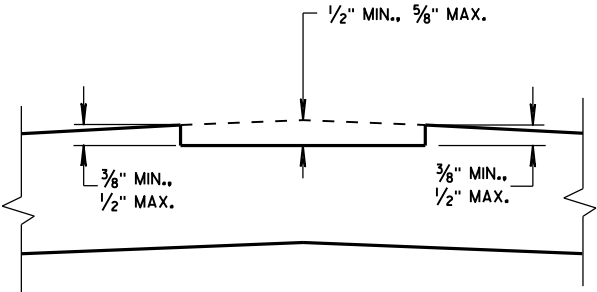
ISOMETRIC



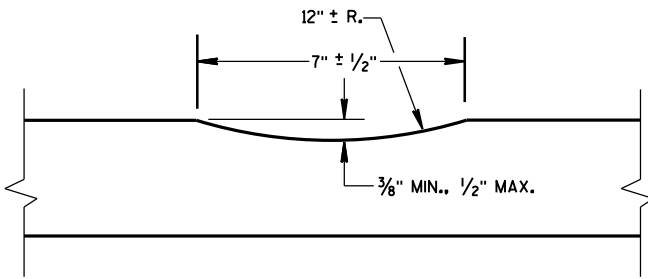
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



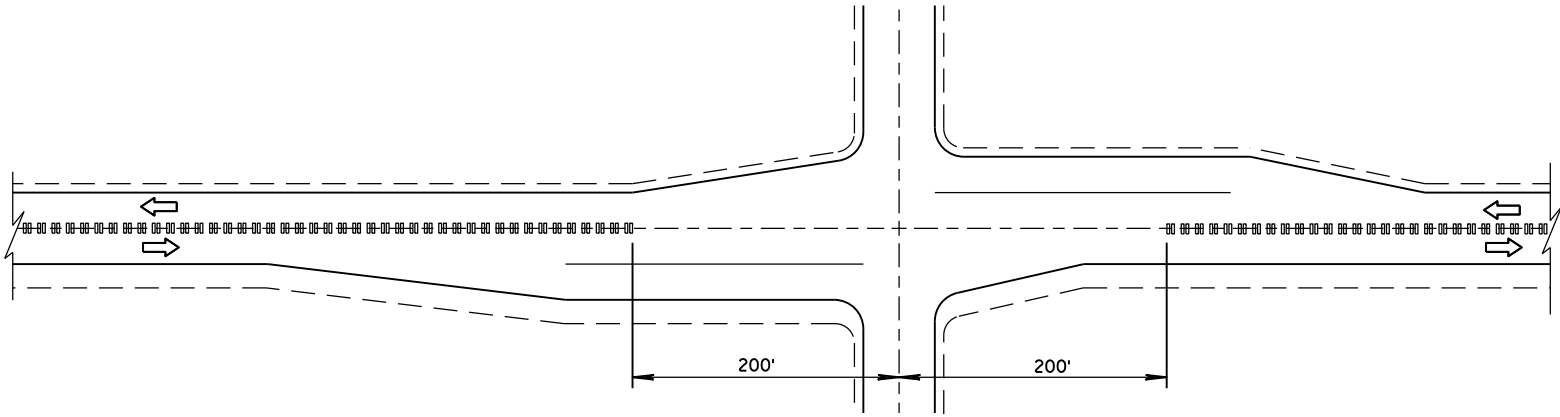
SECTION B-B
CROWNED ROADWAY



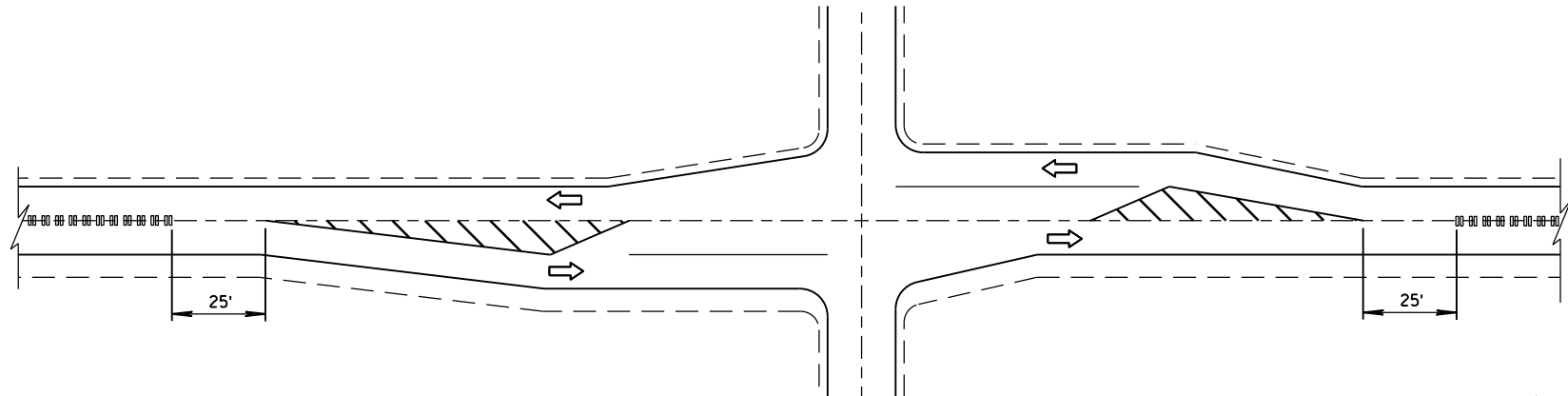
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

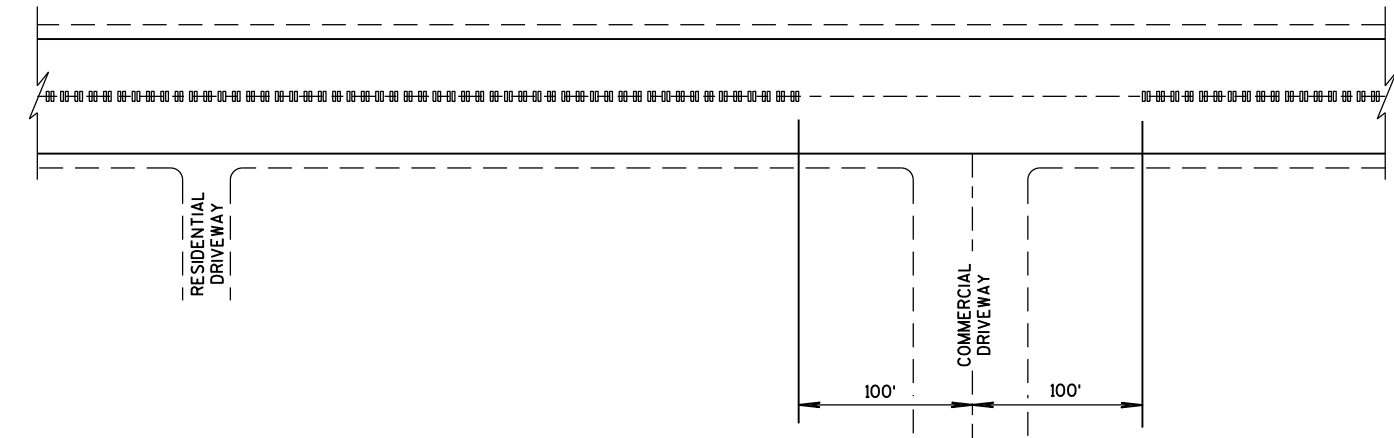
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

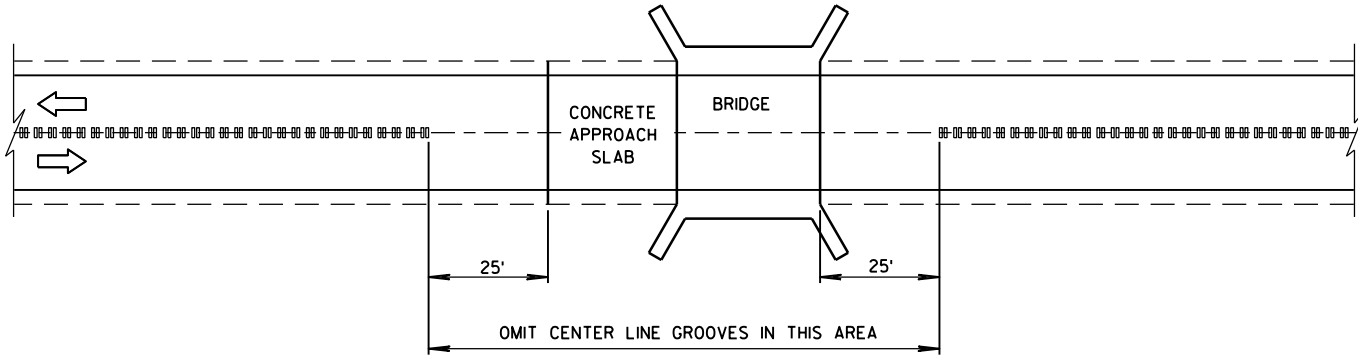


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

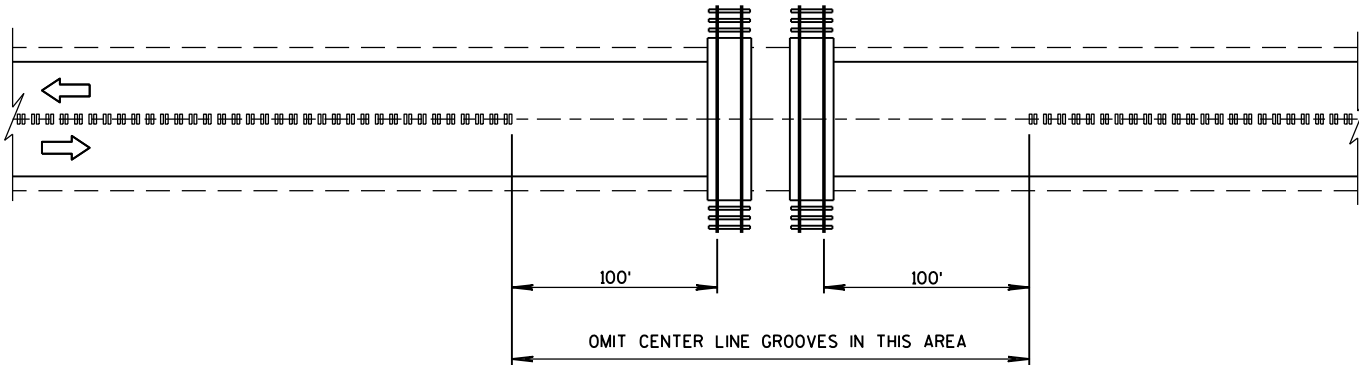


CENTER LINE GROOVES AT DRIVEWAYS^①

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



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

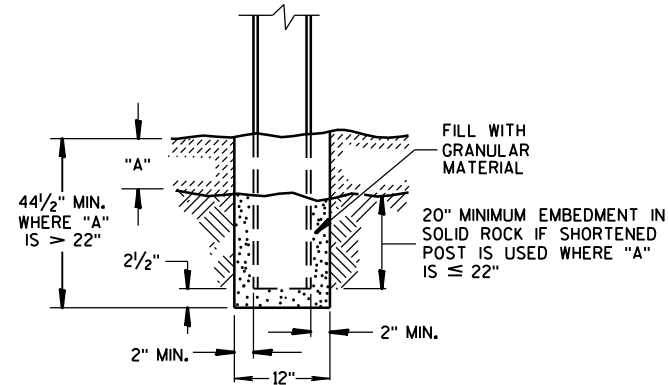
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 5/15/2013	/S/ Jerry H. Zoog ROADWAY STANDARDS ENGINEER
FHWA	

GENERAL NOTES

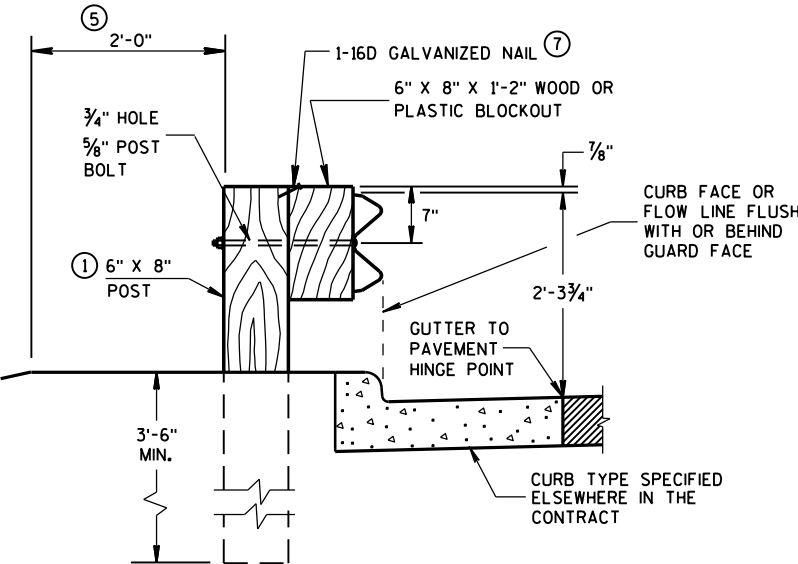
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND THE APPLICABLE SPECIAL PROVISIONS.

- ① W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- ② USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111 EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
- ③ INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ④ USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- ⑤ IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- ⑥ IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
- ⑦ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

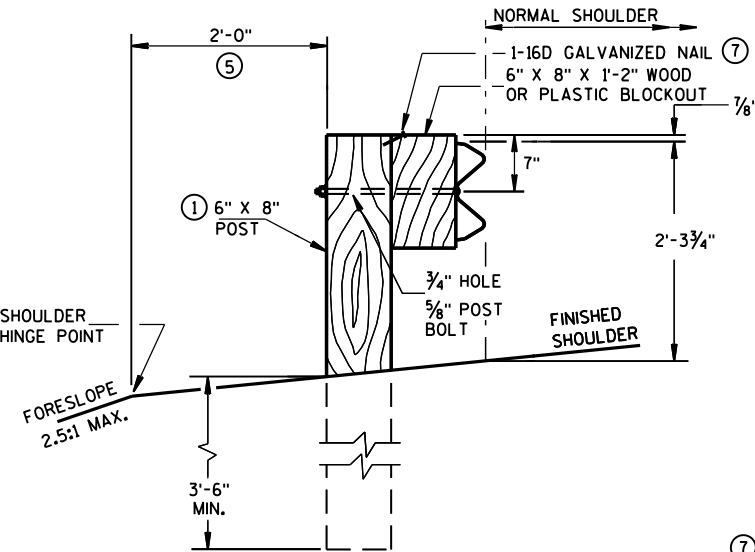
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



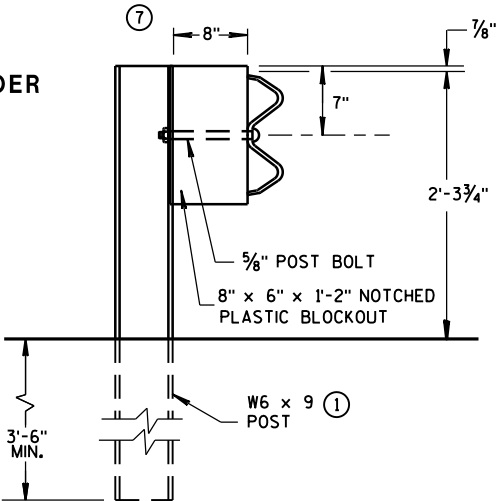
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



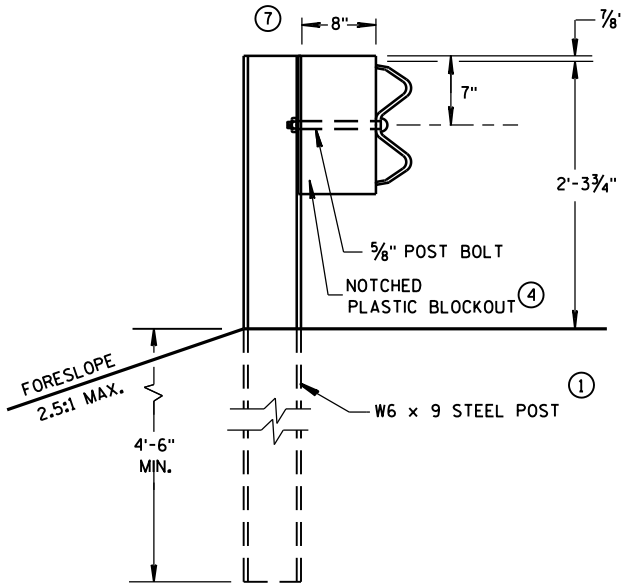
END VIEW
LOCATED ALONG A CURBED ROADWAY



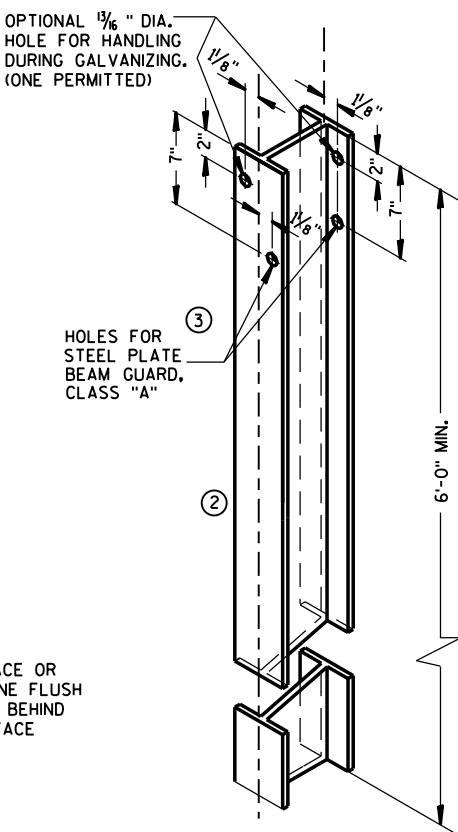
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



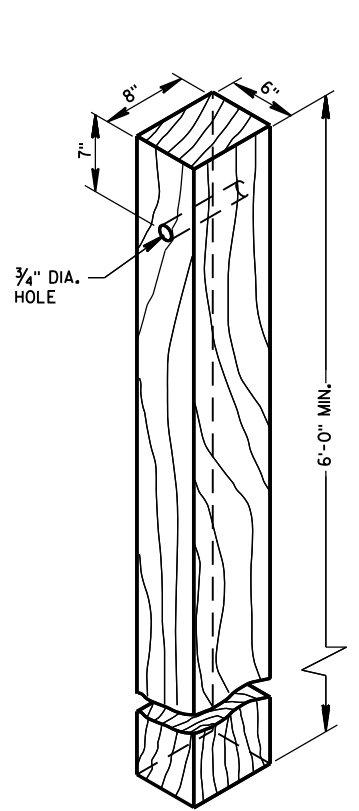
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



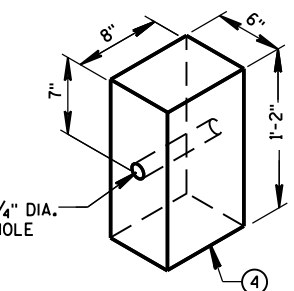
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



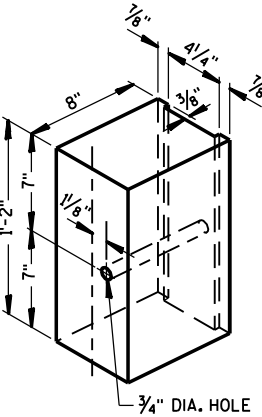
STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①
ALL HOLES 1 3/8" DIAMETER EXCEPT AS NOTED



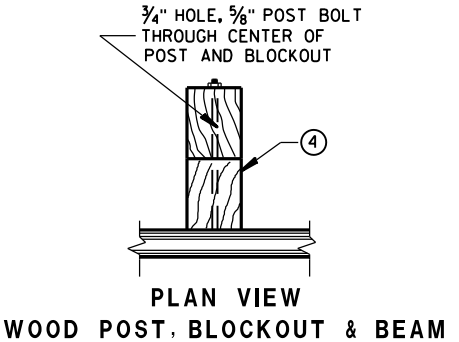
WOOD POST
(6" X 8") NOMINAL



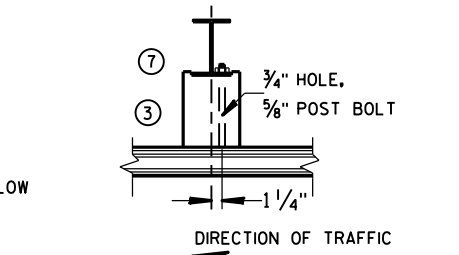
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS ①



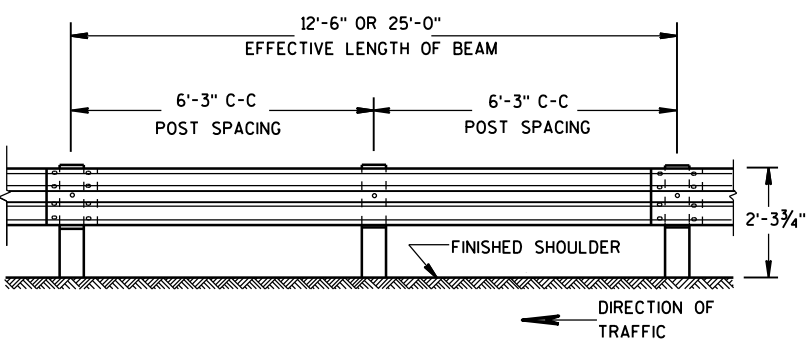
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

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

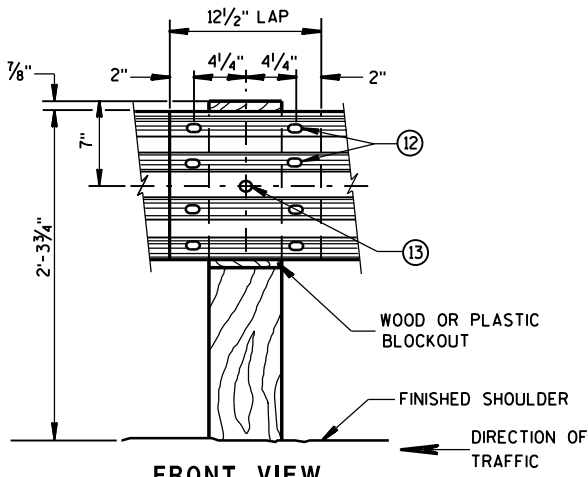
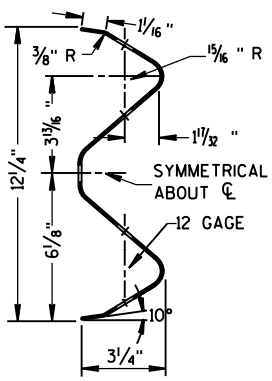
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 86



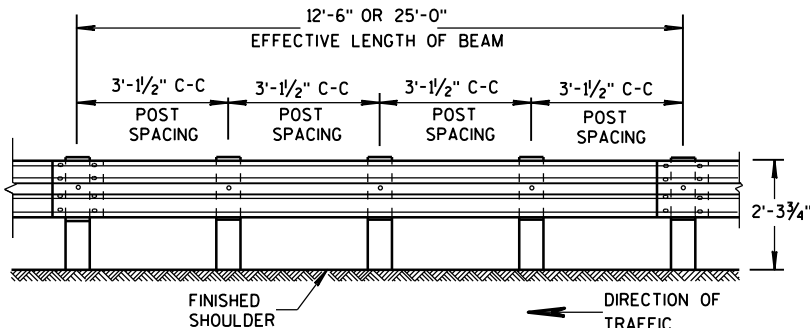
FRONT VIEW

POST SPACING STANDARD INSTALLATION

SECTION THRU W BEAM

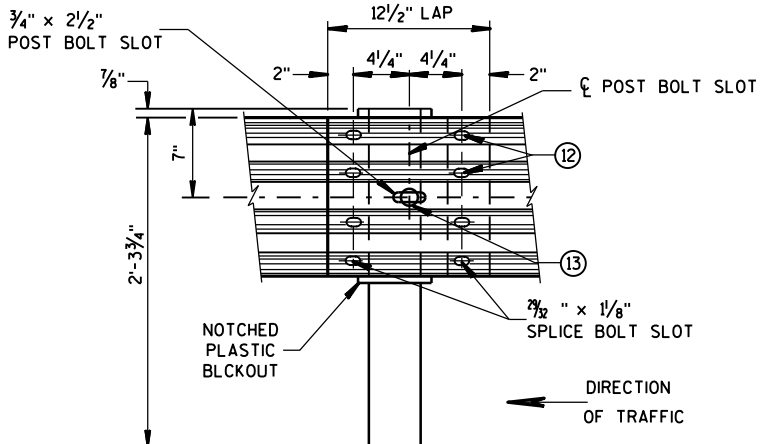


FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL



FRONT VIEW

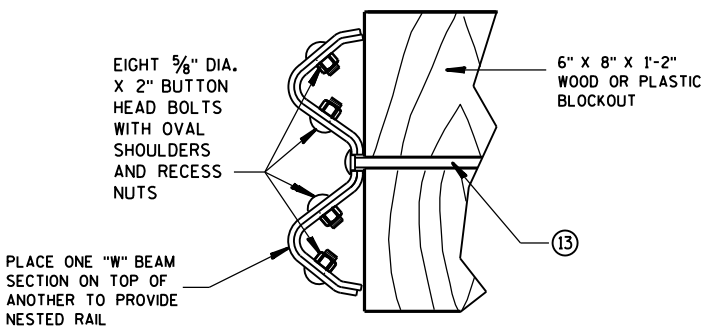
POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)



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

GENERAL NOTES

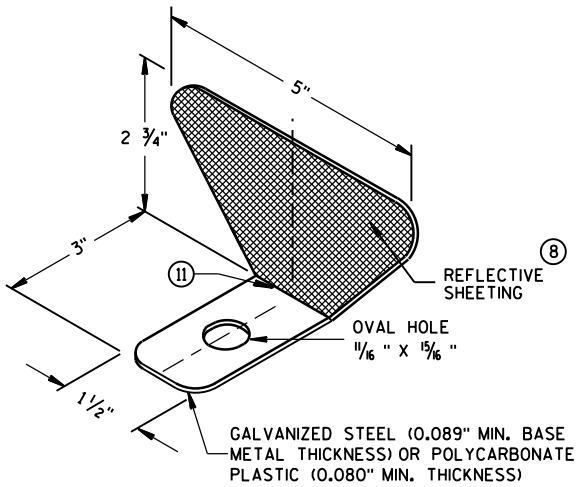
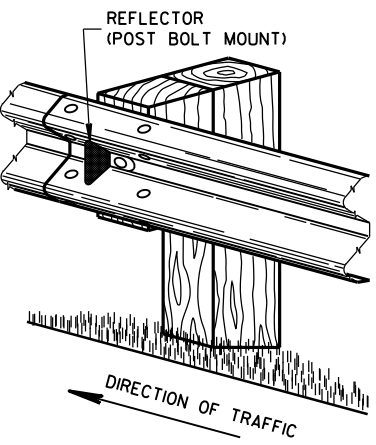
- ⑧ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
- ⑩ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ⑪ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



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

REFLECTOR SPACING ⑨

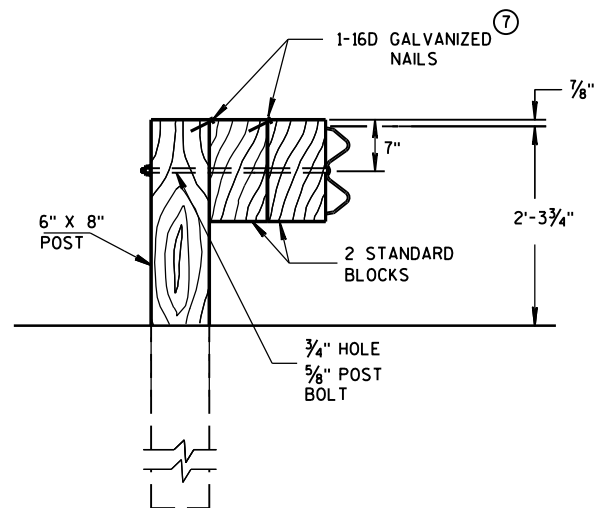
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑩	6
	> 200'	50' C-C	1 ⑩	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑪	3
	> 200'	100' C-C	2 ⑪	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

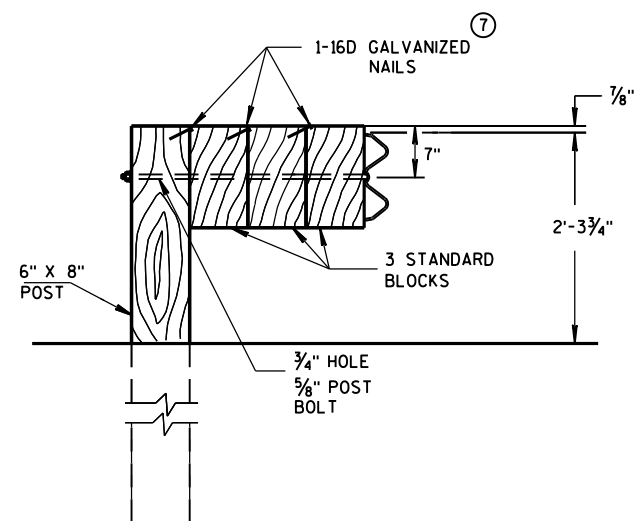
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

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

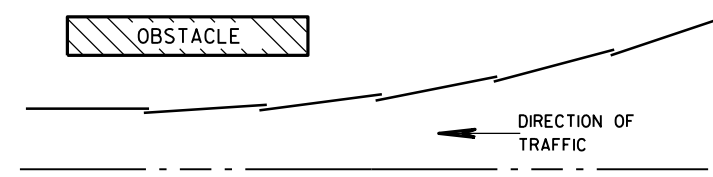


DETAIL FOR TRIPLE BLOCKS

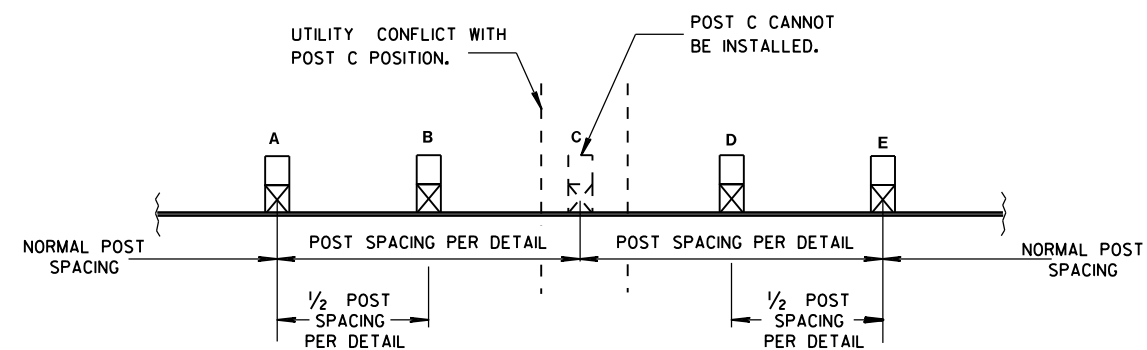
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

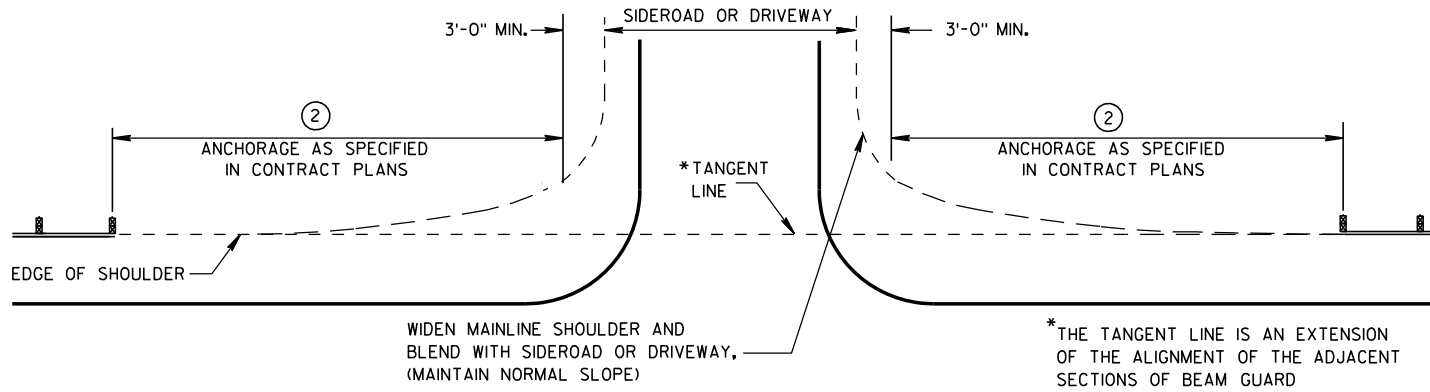
APPROVED

June 2014
DATE

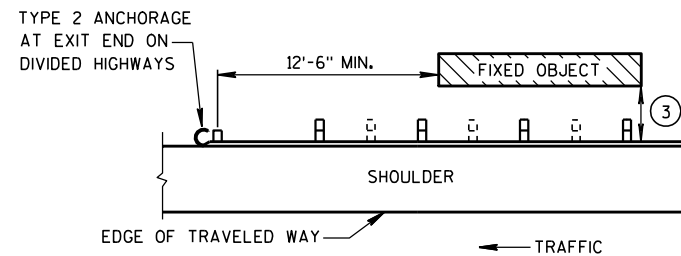
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

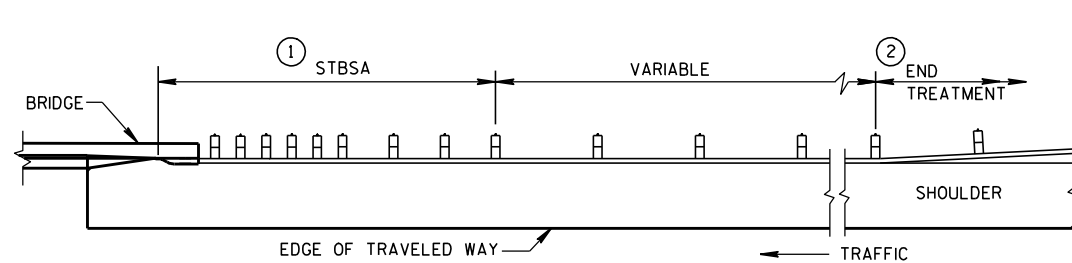
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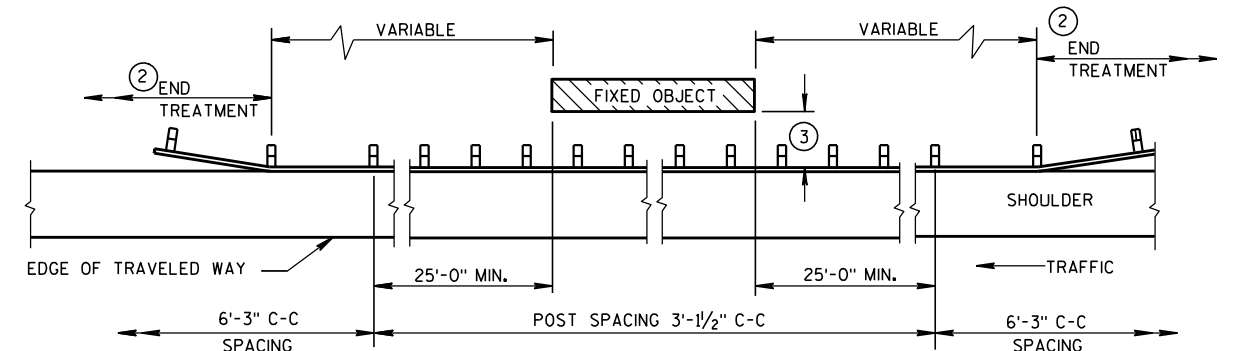
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES

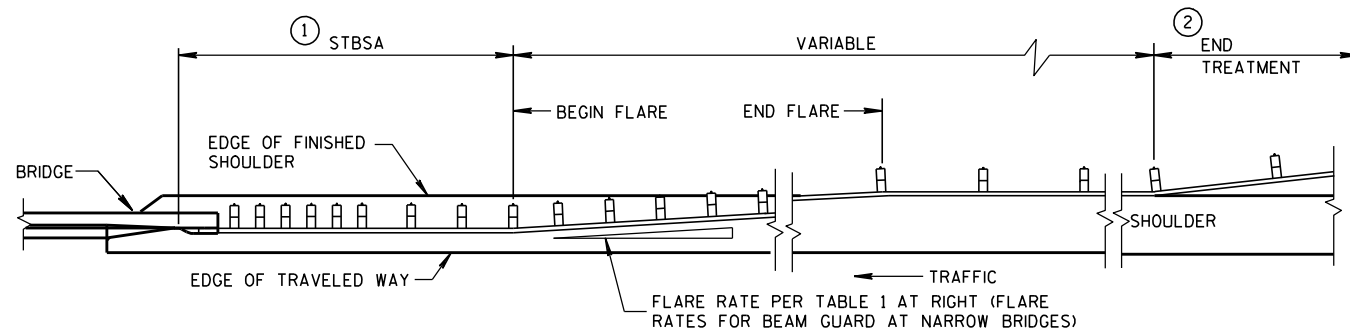


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")

TABLE 1
FLARE RATES FOR BEAM
GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1



BEAM GUARD AT NARROW BRIDGES (FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

- STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.
- USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1 1/2"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD
CLASS "A"
AT BRIDGES, OBSTACLES
AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-21-07 /S/ Jerry H. Zoon
DATE ROADWAY STANDARDS (89) INT
FHWA ENGINEER

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANTITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANTITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X 1/4" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6 1/2" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE BEAM: 12 GA. 13'-6 1/2"
⑬	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
⑭	1	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑮	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS, IF NONE ARE AVAILABLE, INSTALL 3/8" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(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) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.

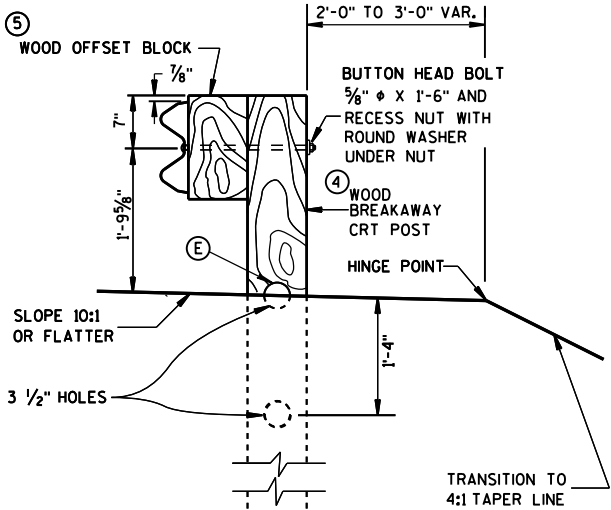
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

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

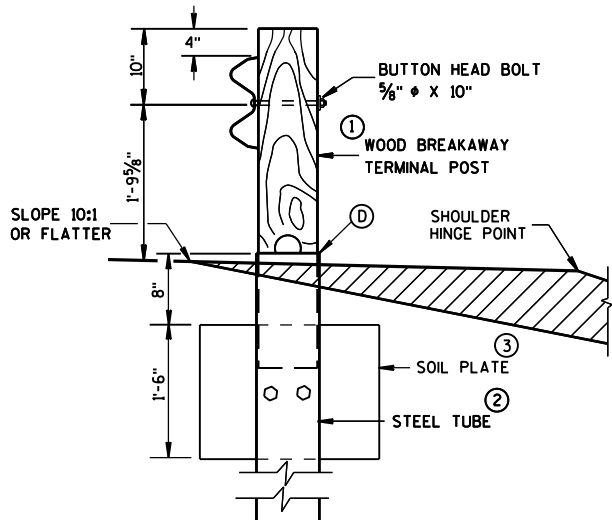
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

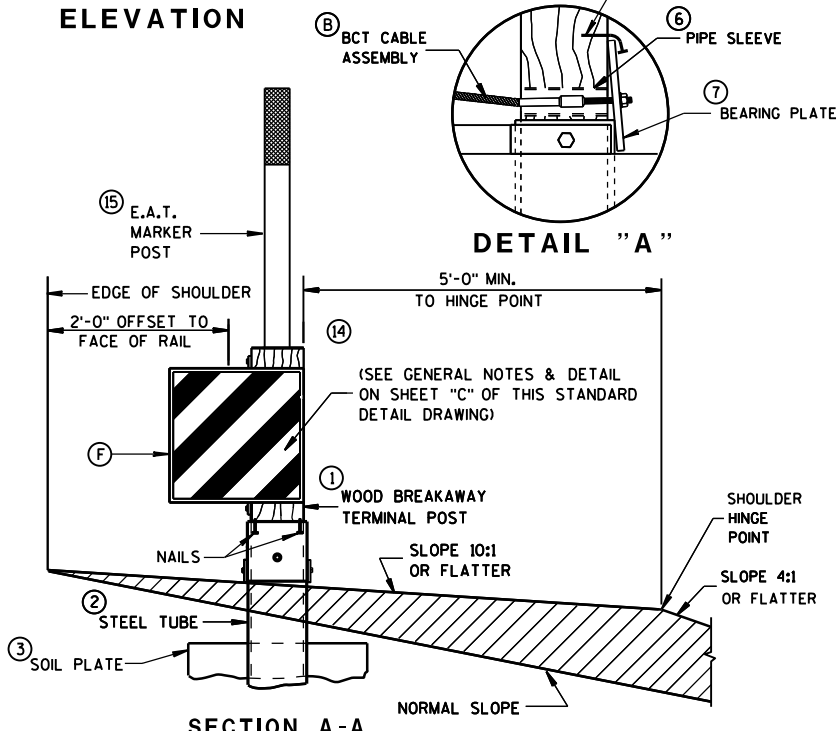
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.



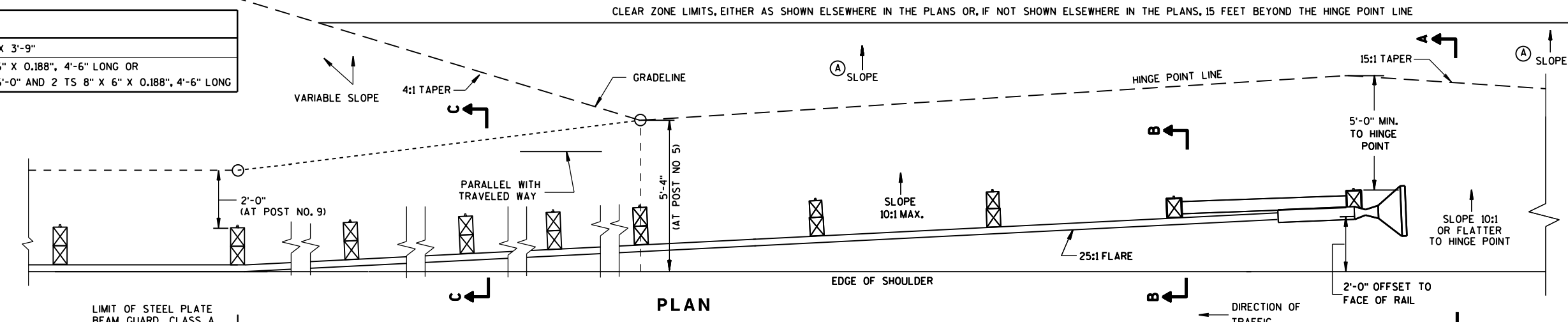
SECTION C-C
TYPICAL AT POST NOS. 6, 8



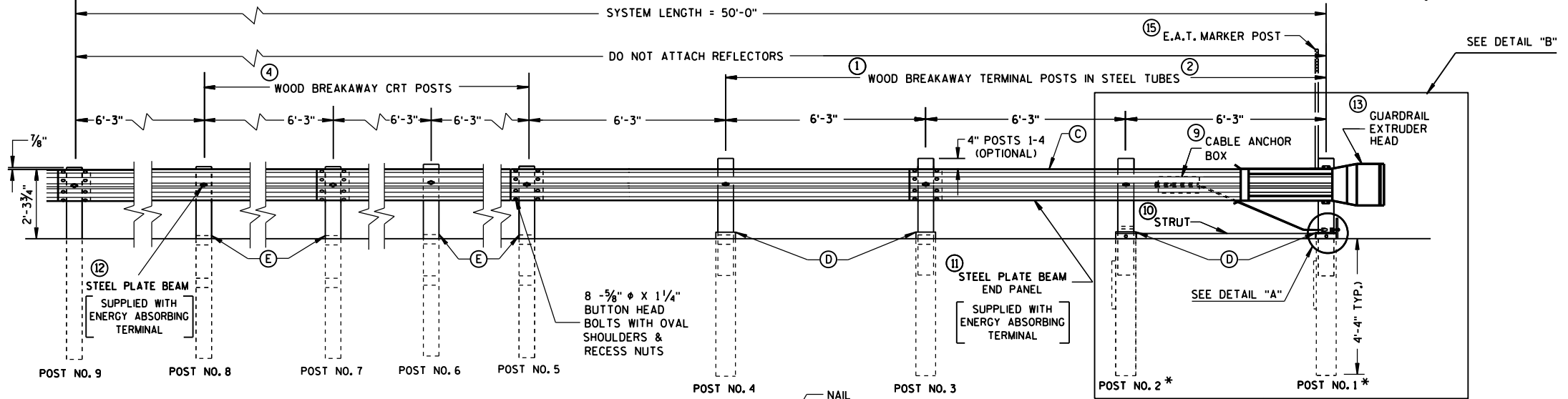
SECTION B-B
TYPICAL AT POST NO. 2 *



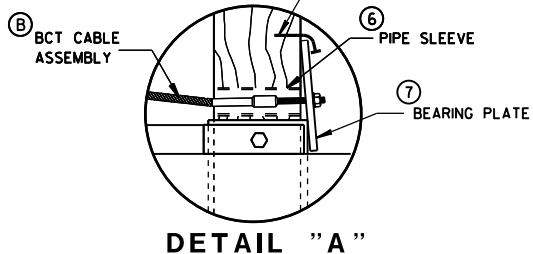
SECTION A-A
TYPICAL AT POST NO. 1 *



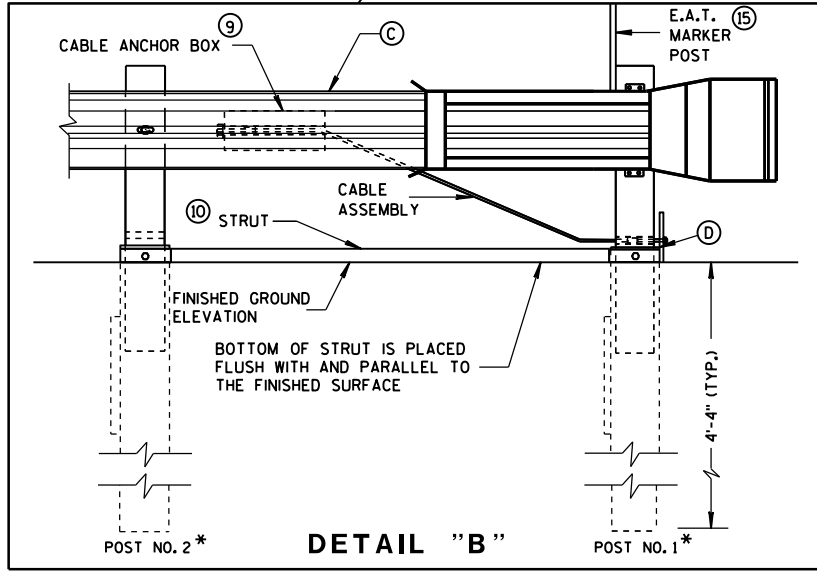
PLAN



ELEVATION



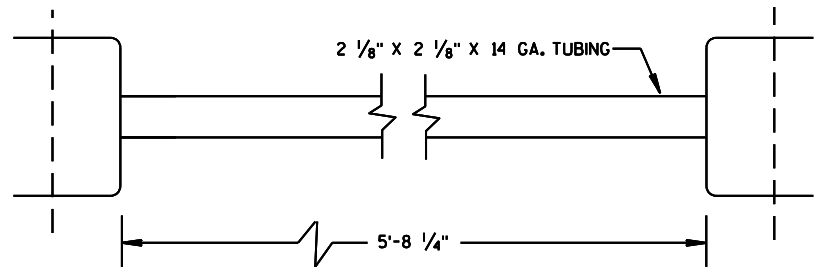
DETAIL "A"



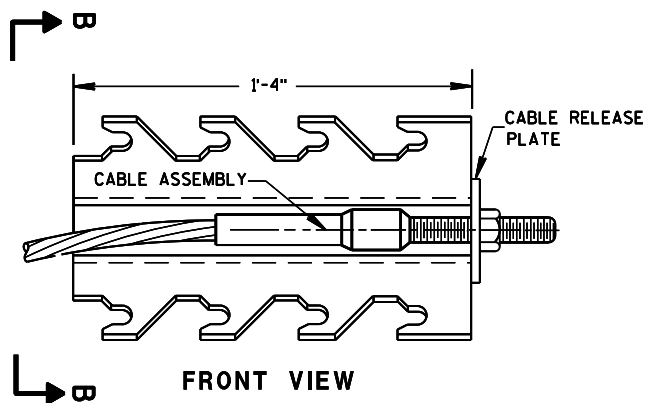
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

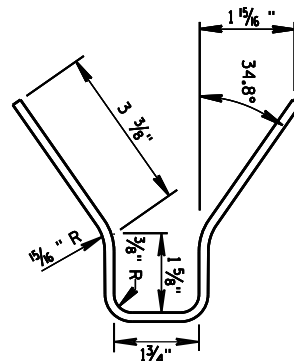
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



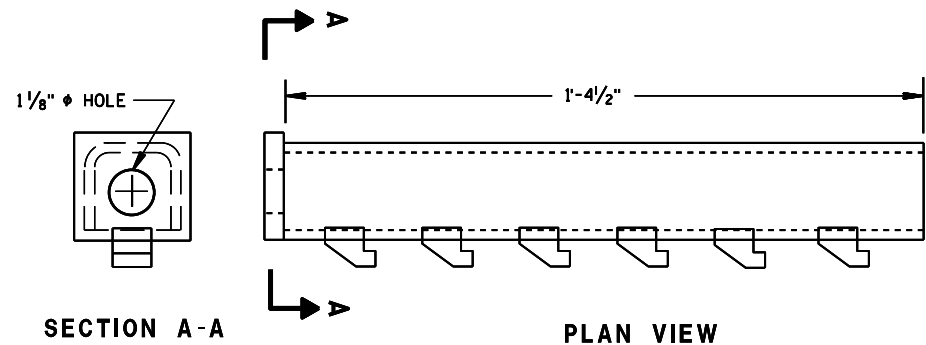
⑩ STRUT DETAIL (SKT-350)



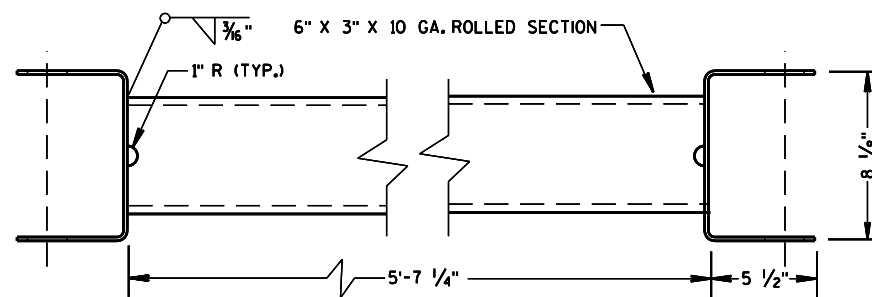
⑨ CABLE ANCHOR BOX (SKT-350)
(SKT-350)



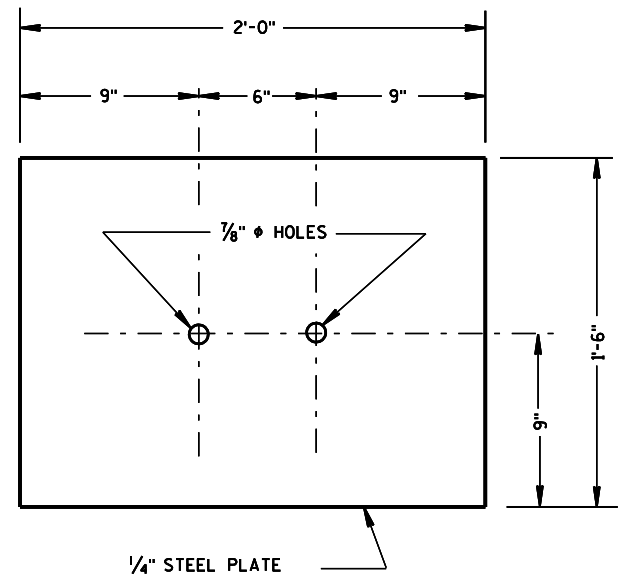
SECTION B-B



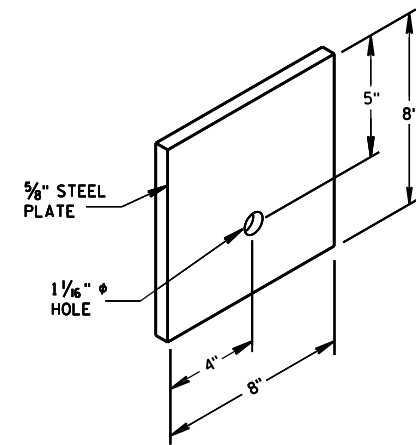
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)
(ET-2000/ET-2000 PLUS)



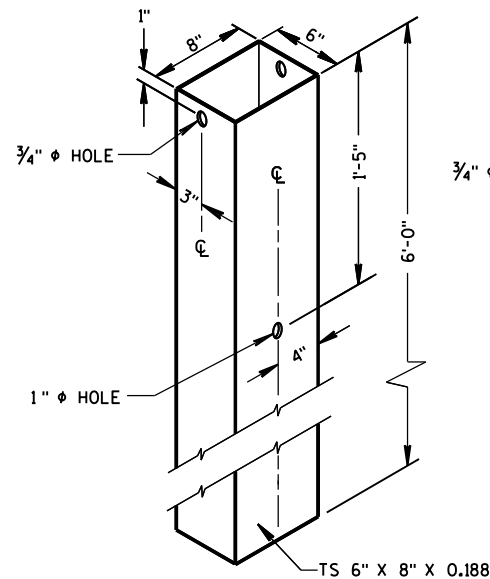
③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)



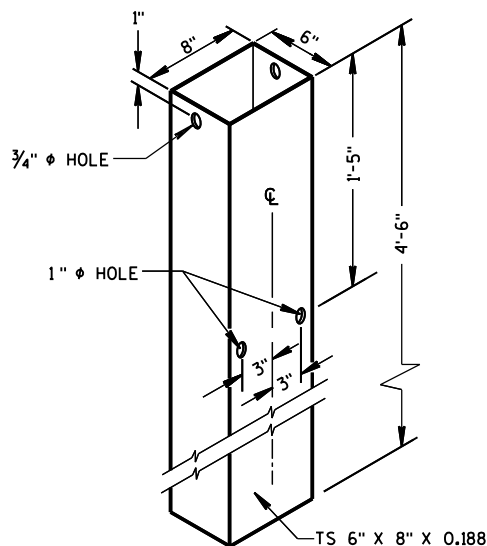
⑦ STEEL BEARING PLATE
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

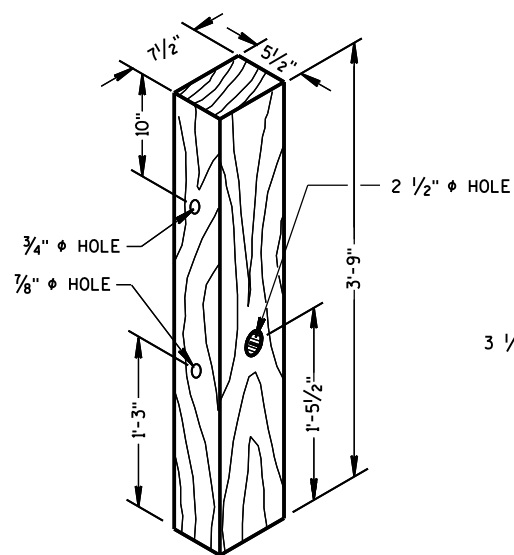
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



② **72" STEEL TUBE**
(POSTS NO. 1-4)

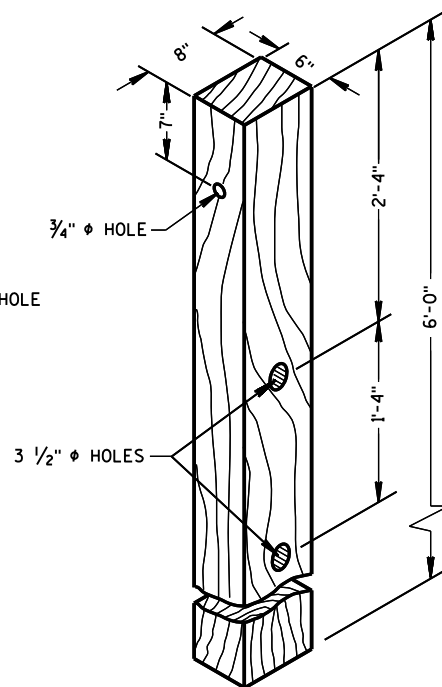


② **54" STEEL TUBE**
(POSTS NO. 1-4)



① **TERMINAL POST**
(POSTS NO. 1-4)

WOOD BREAKAWAY POSTS



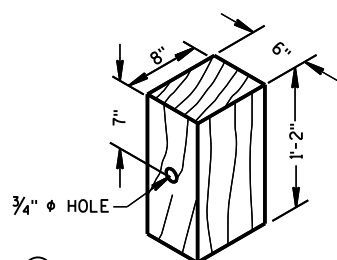
④ **CRT POST**
(POSTS NO'S 5-8)

GENERAL NOTES

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

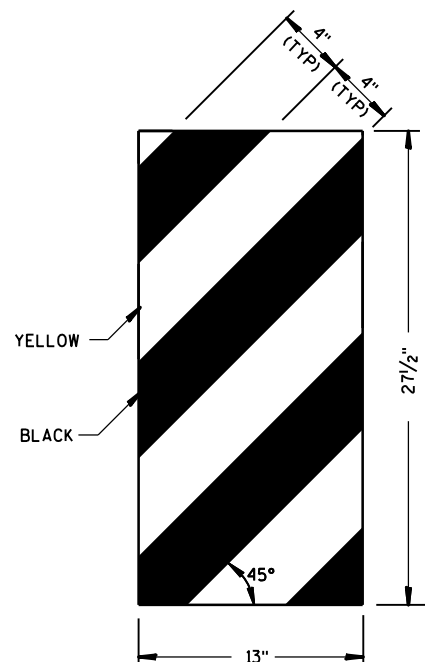
SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

ⓐ 1/2" DIA. X 3" LAG BOLT WITH WASHER.

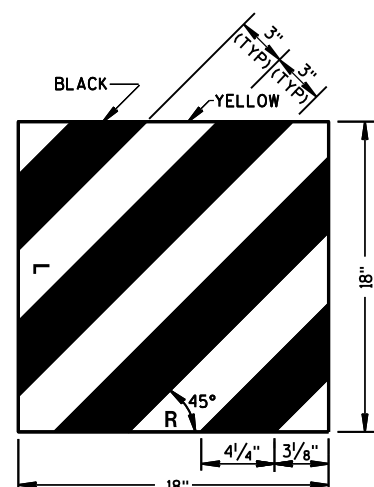


⑤ **WOOD OFFSET BLOCK**
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

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

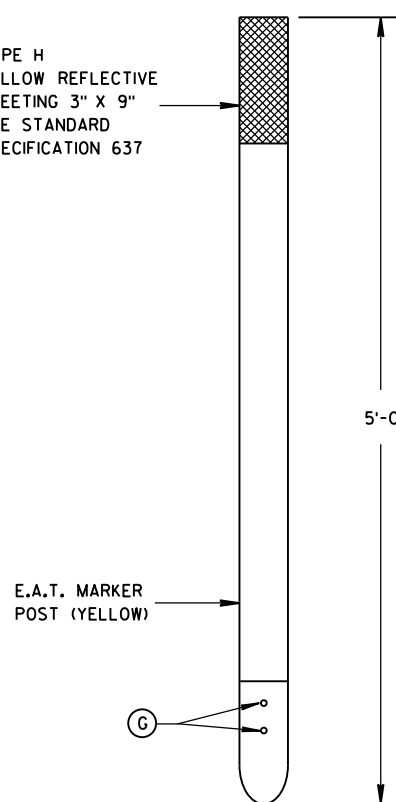


ET-2000 PLUS ONLY

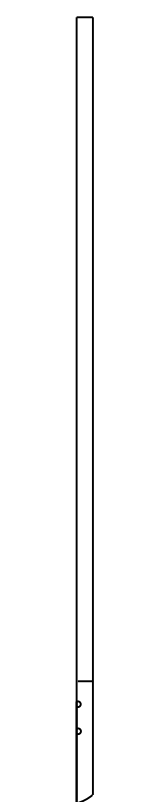


ET-2000 AND SKT-350

⑭ **REFLECTIVE SHEETING DETAILS**

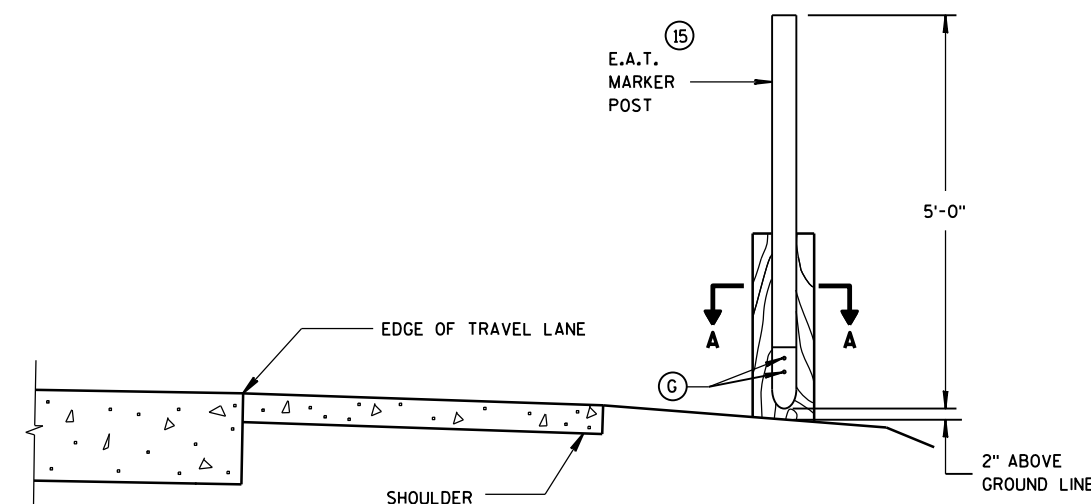


FRONT VIEW

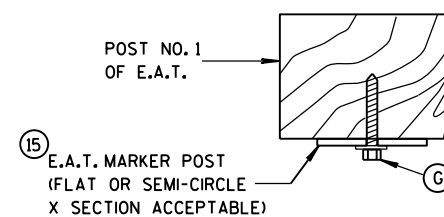


SIDE VIEW

⑮ **E.A.T. MARKER POST**



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



SECTION A-A

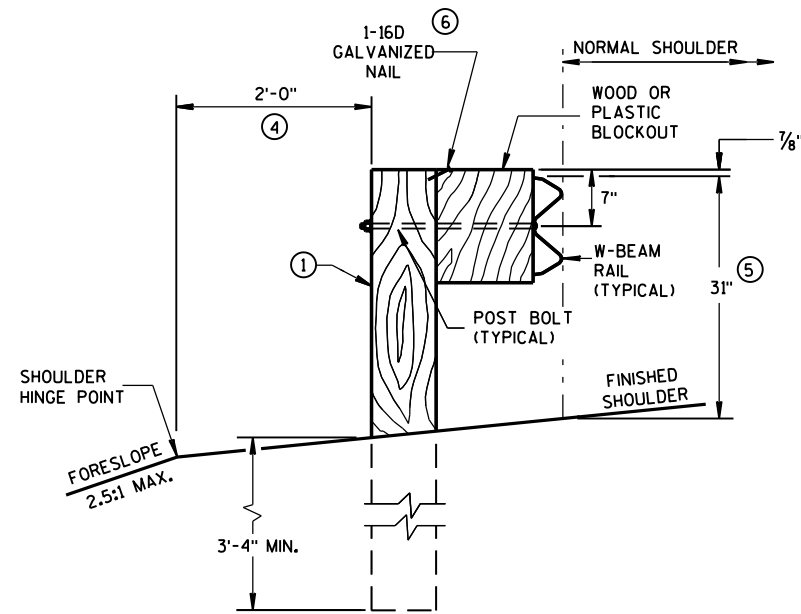
**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

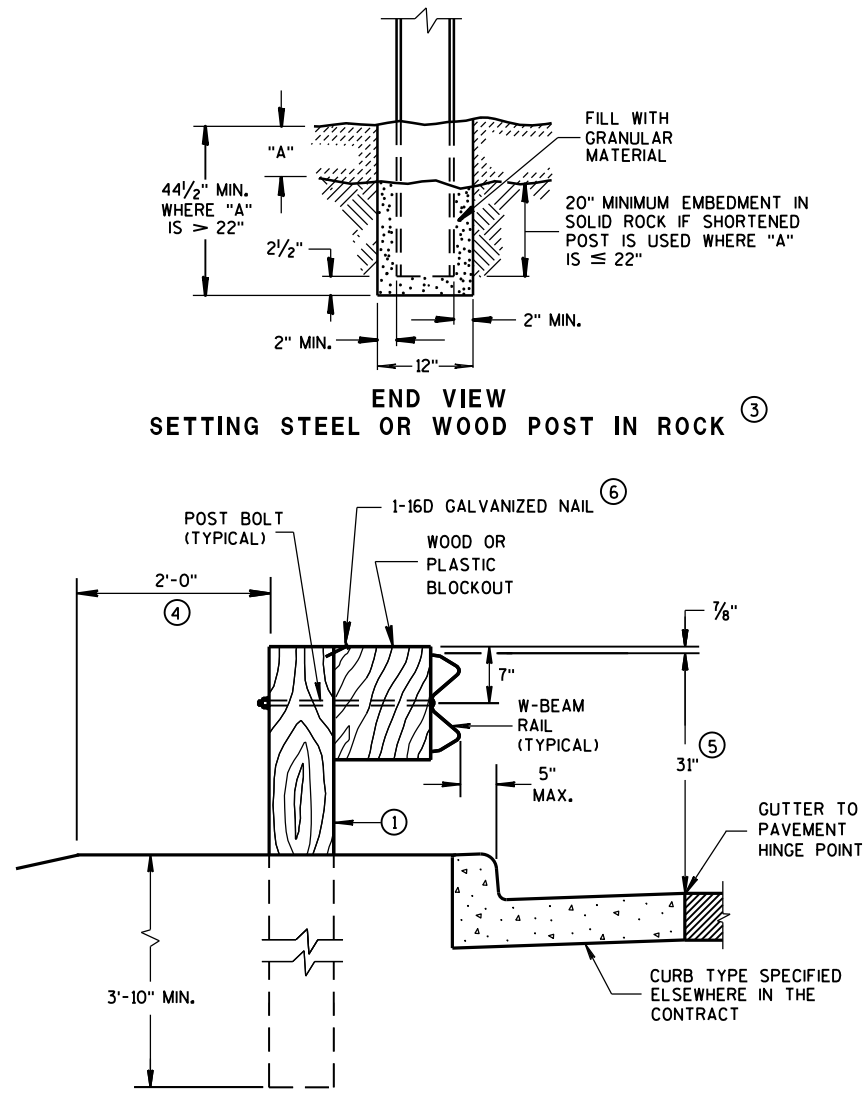
APPROVED
June 2014 /S/ Jerry H. Zoog
DATE ROADWAY STANDARDS 192 ENT
FHWA ENGINEER

GENERAL NOTES

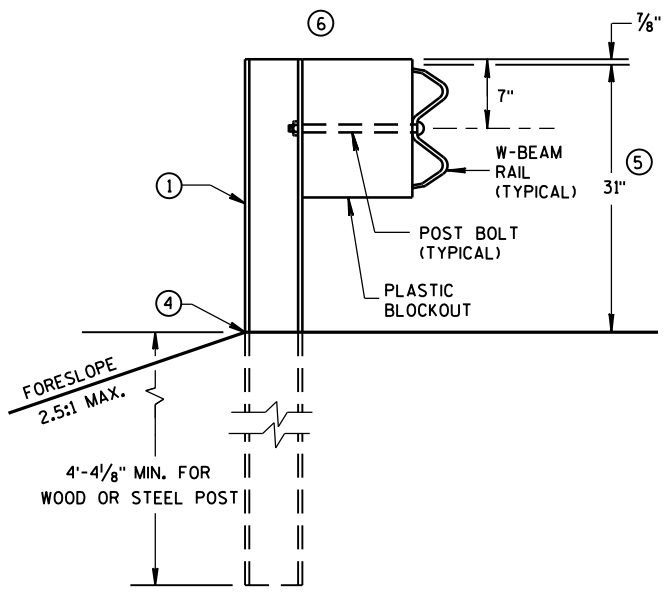
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL.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



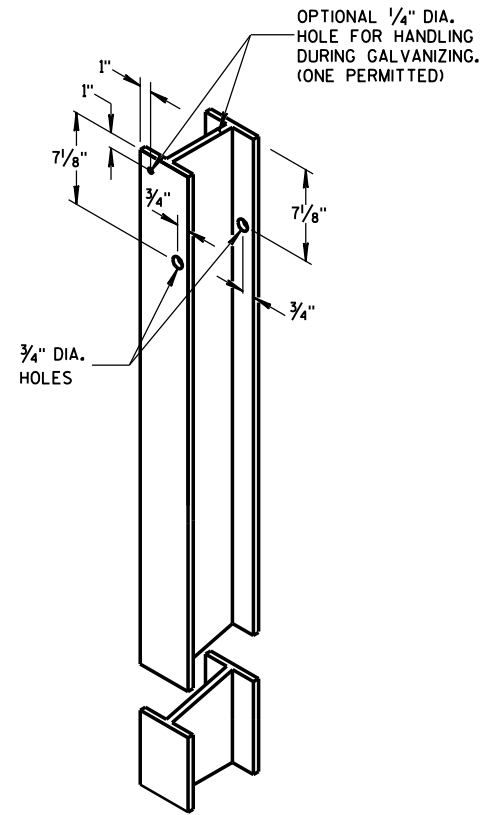
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



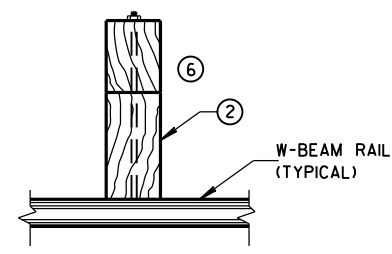
END VIEW
LOCATED ALONG A CURBED ROADWAY



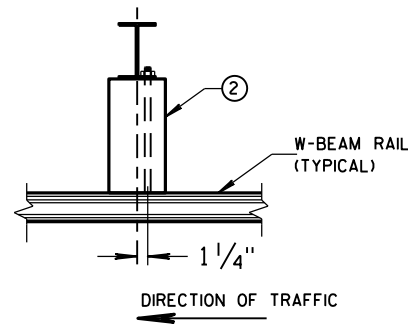
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



STEEL POST &
HOLE PUNCHING DETAIL
(w6X9)



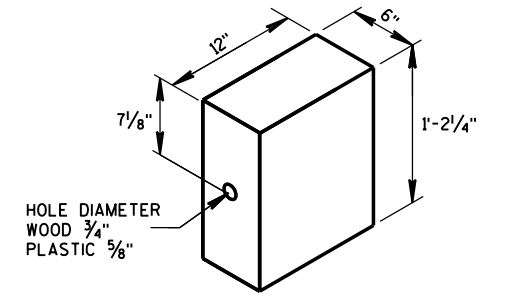
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



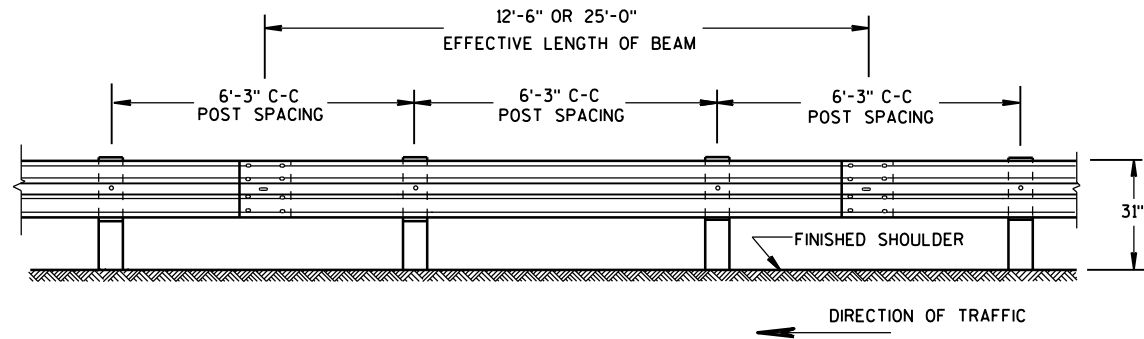
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST
(6" X 8") NOMINAL

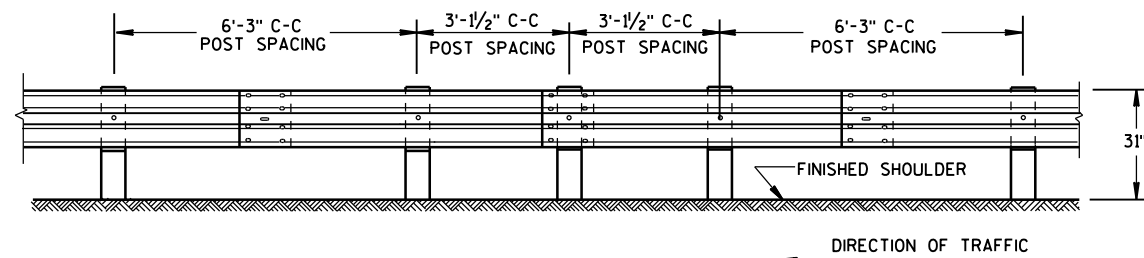


WOOD OR
PLASTIC BLOCKOUT



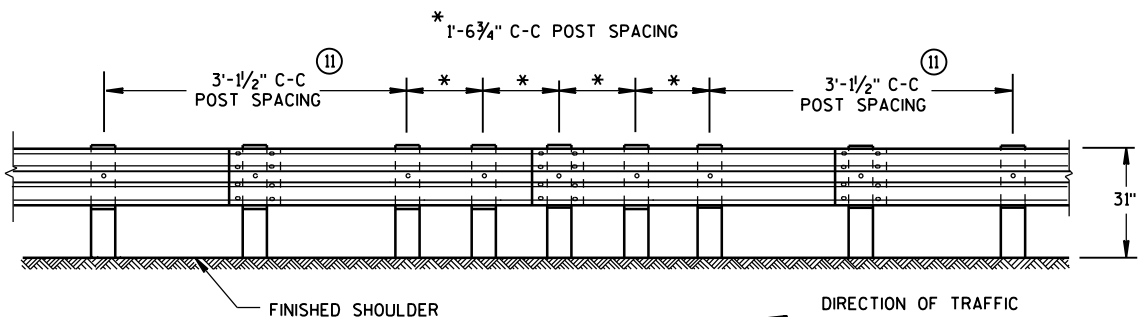
FRONT VIEW

POST SPACING STANDARD INSTALLATION



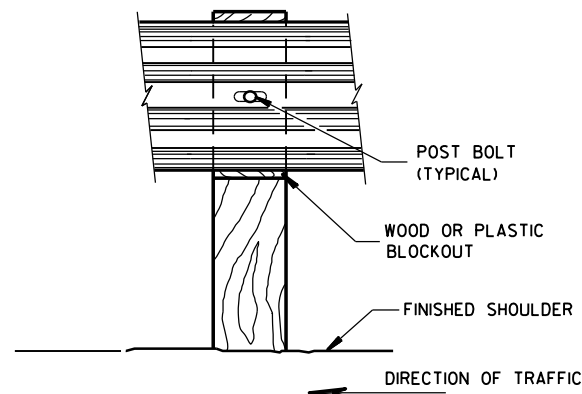
FRONT VIEW

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

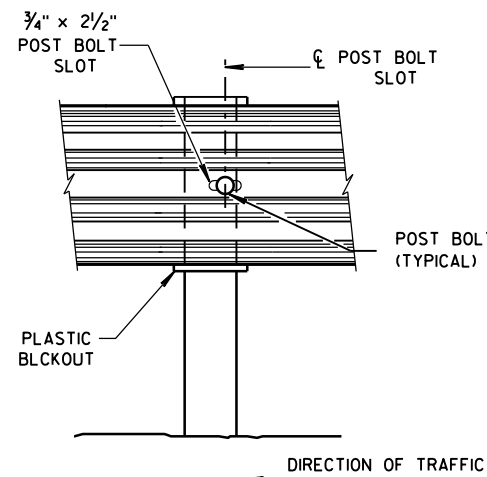


FRONT VIEW

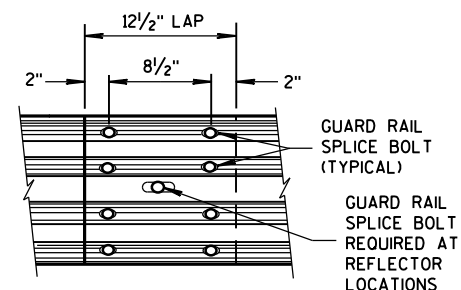
QUARTER POST SPACING (QS)



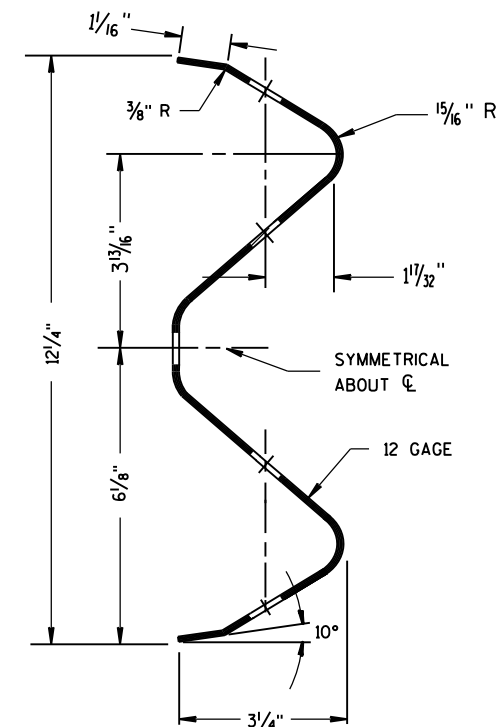
FRONT VIEW AT WOOD POST



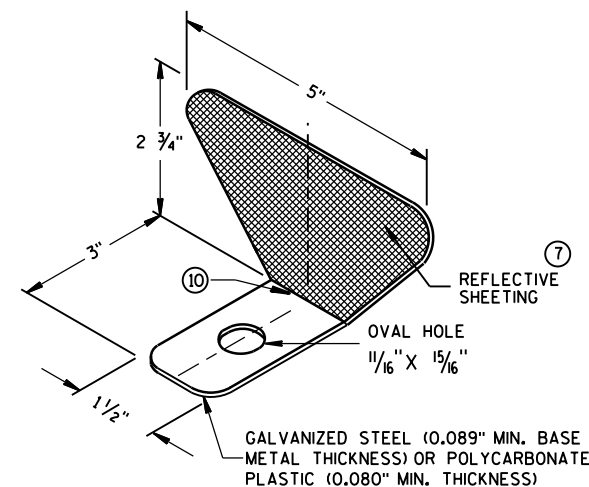
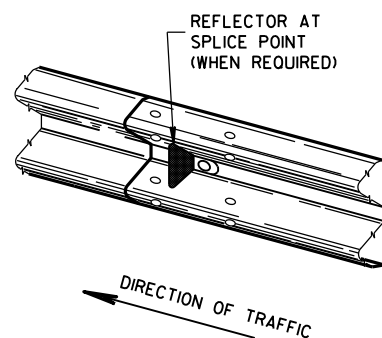
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

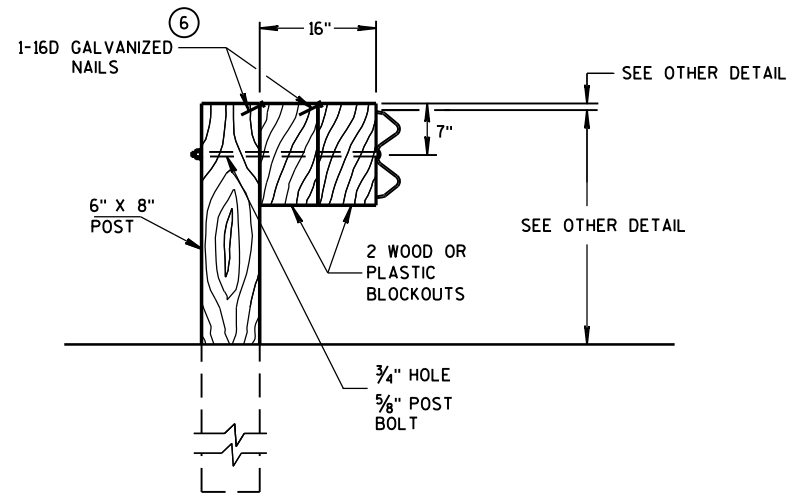
GENERAL NOTES

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

REFLECTOR SPACING ^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	

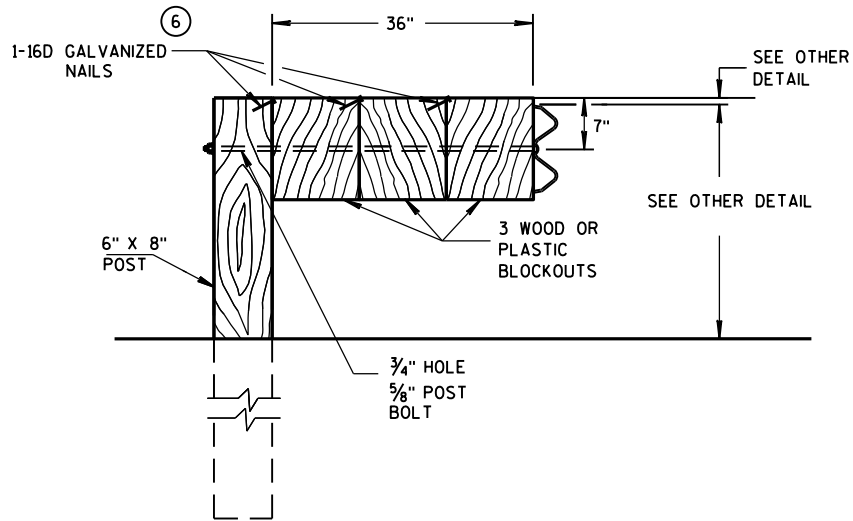
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION⁹⁴



DETAIL FOR 16" BLOCKOUT DEPTH

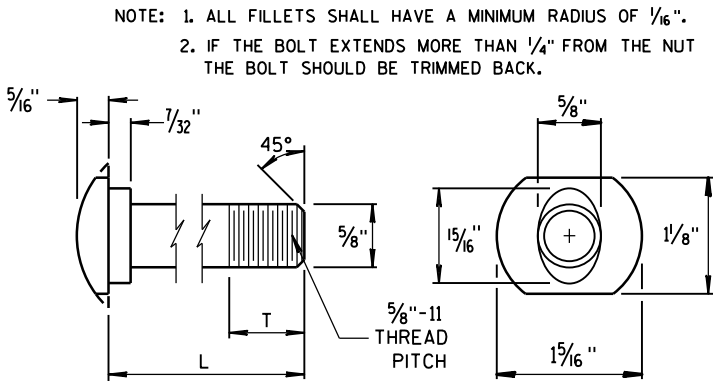
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

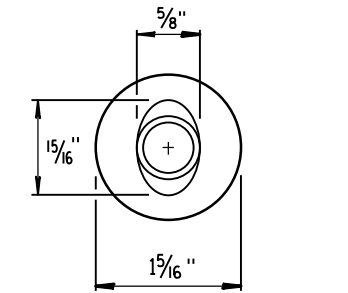
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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.

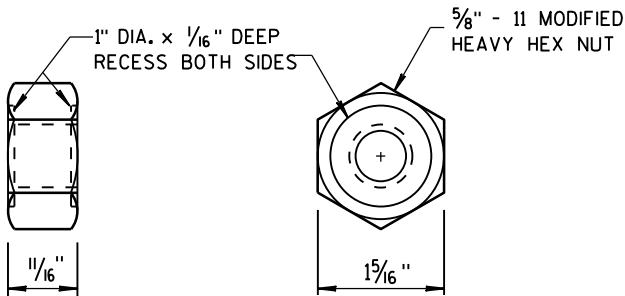


POST BOLT TABLE

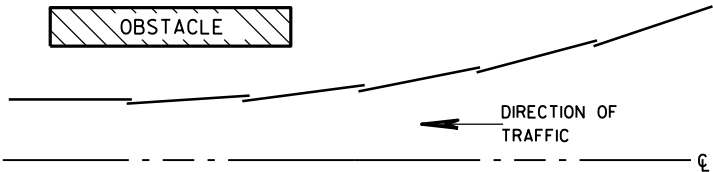
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



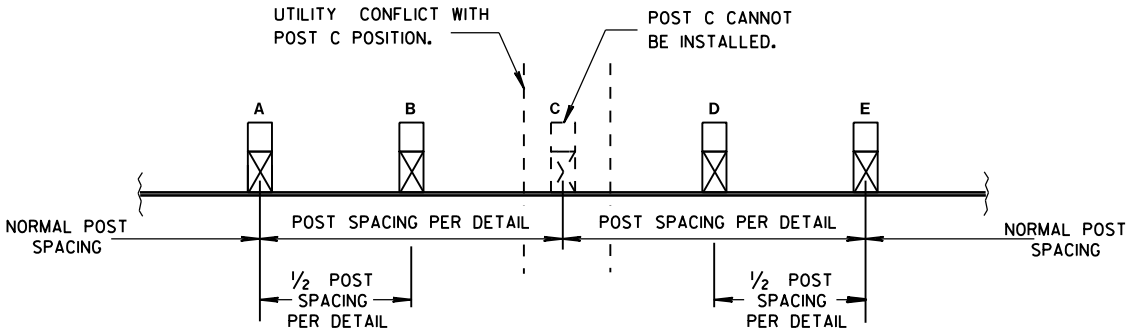
ALTERNATE BOLT HEAD



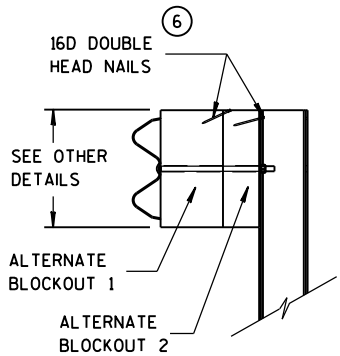
POST BOLT AND RECESS NUT



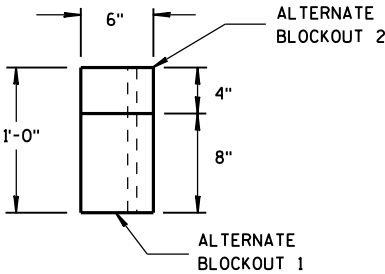
PLAN VIEW BEAM LAPPING DETAIL



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 195 ENT
FHWA 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.

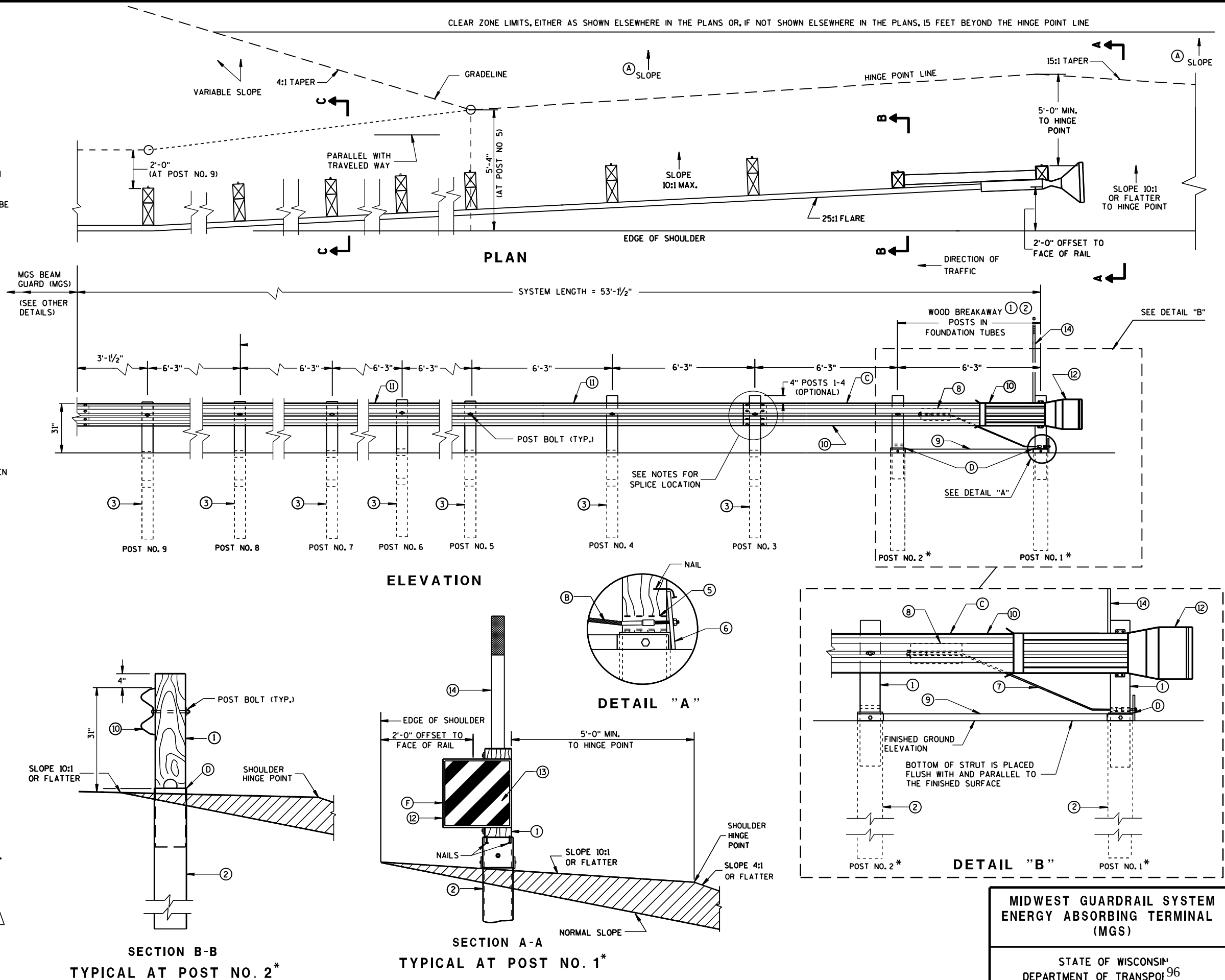
SEE SDD 14B42 FOR MORE INFORMATION.

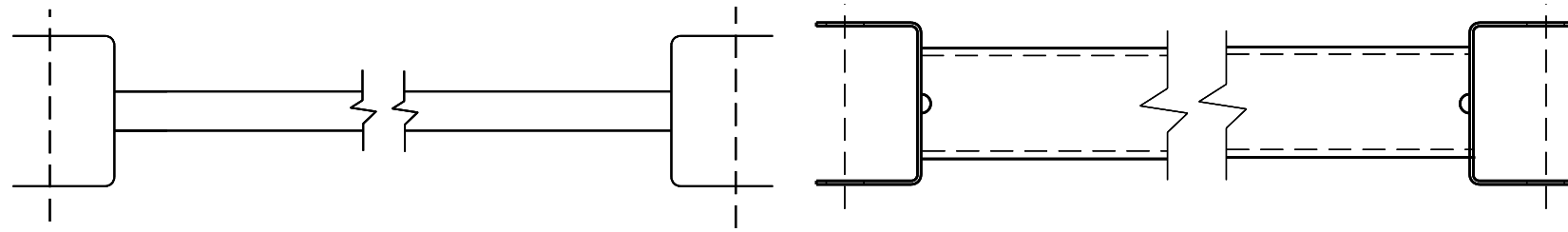
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

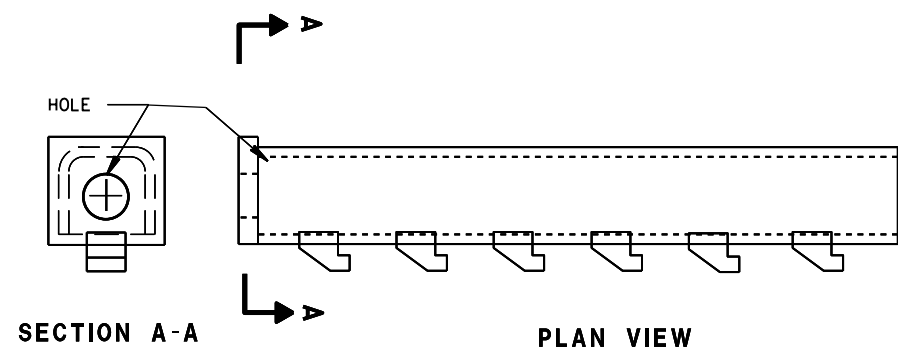
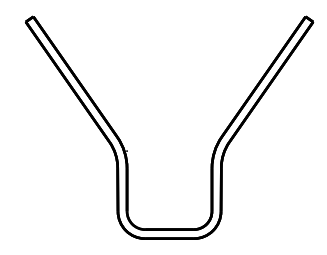
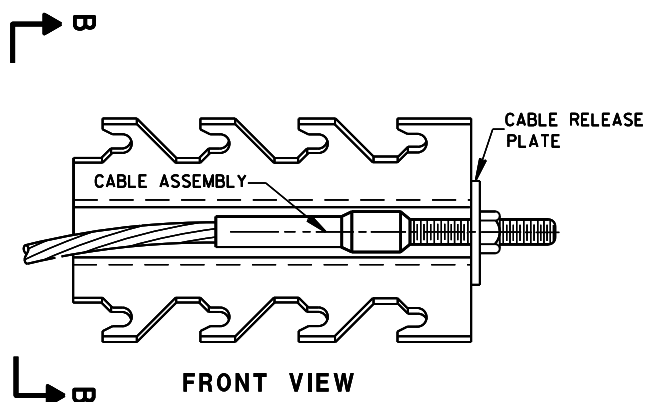
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.





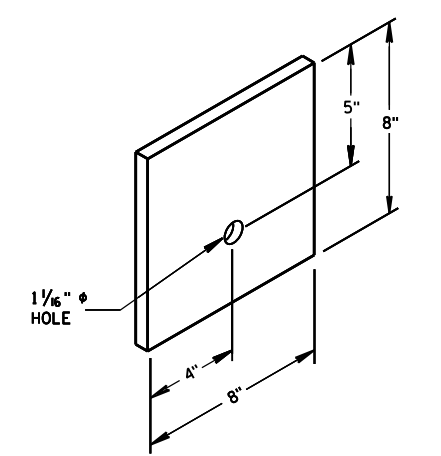
9 H
GENERIC GROUND STRUT



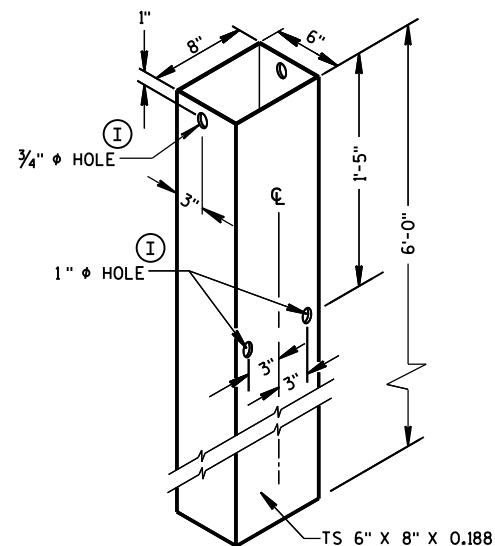
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

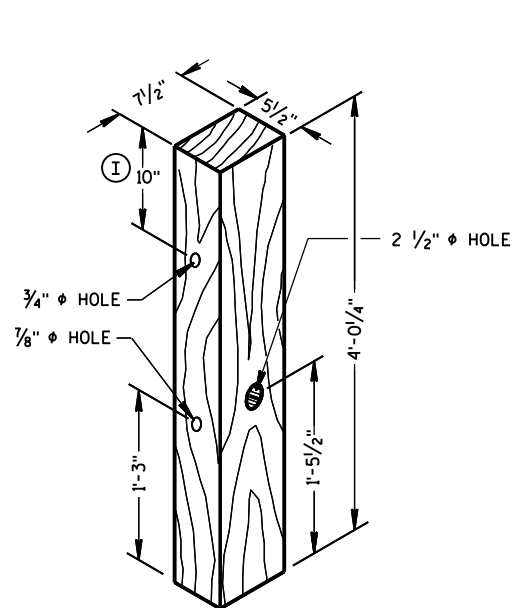
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND 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)



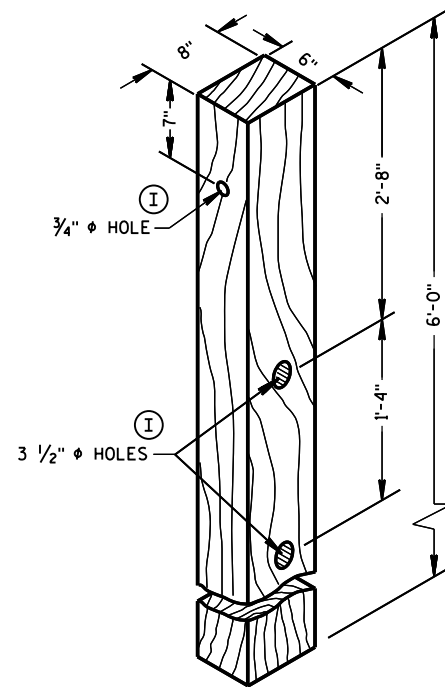
⑥
BEARING PLATE



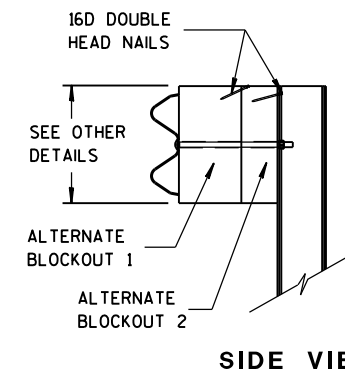
FOUNDATION TUBE ②



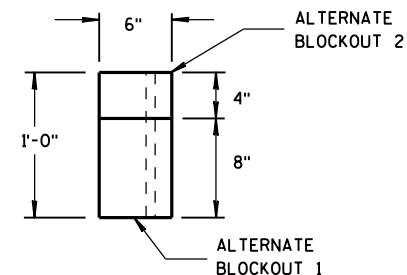
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

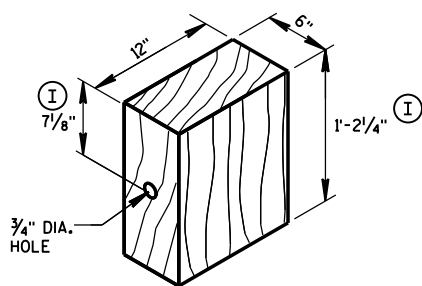


SIDE VIEW



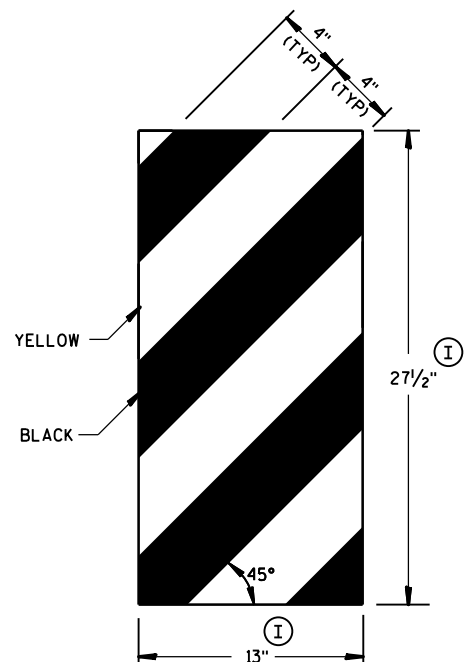
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

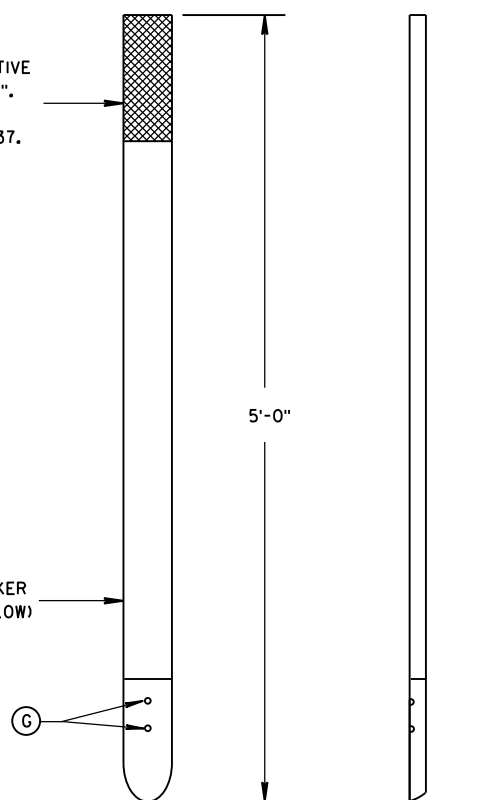
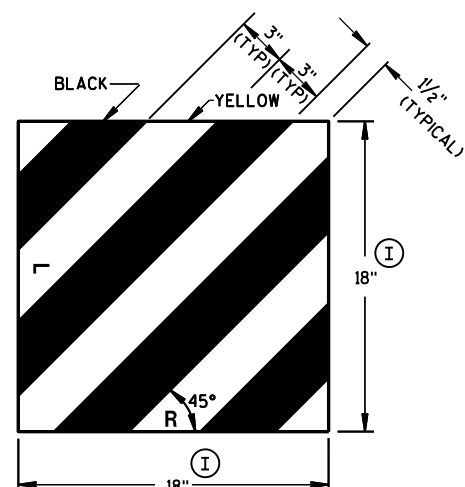


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

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



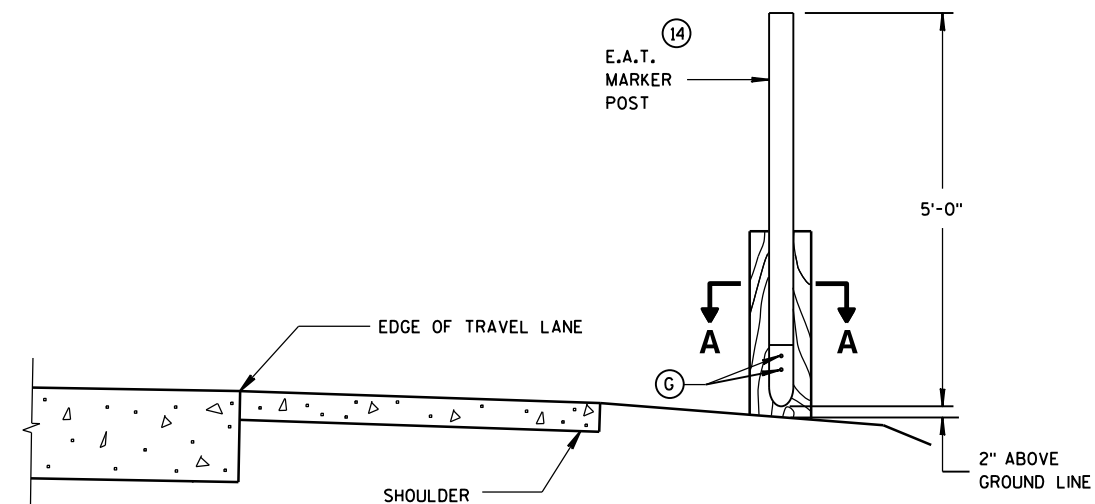
GENERIC REFLECTIVE SHEETING ⑬ ①



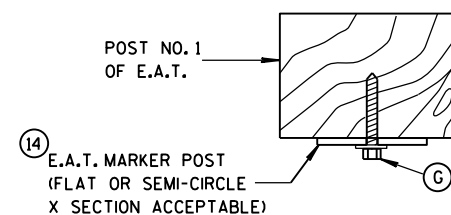
FRONT VIEW

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)

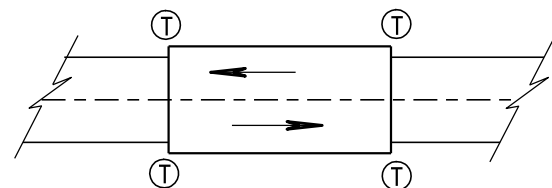


SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

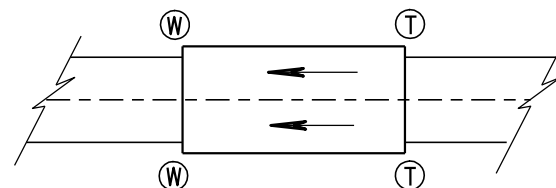
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 98 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".

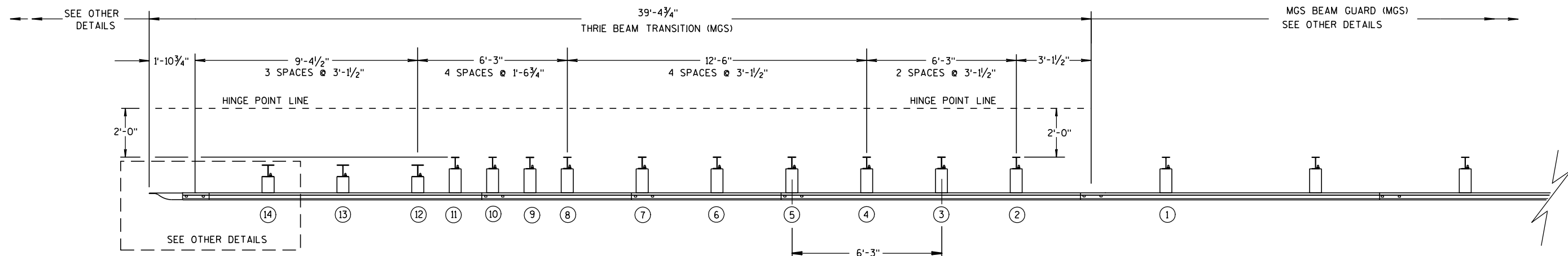
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

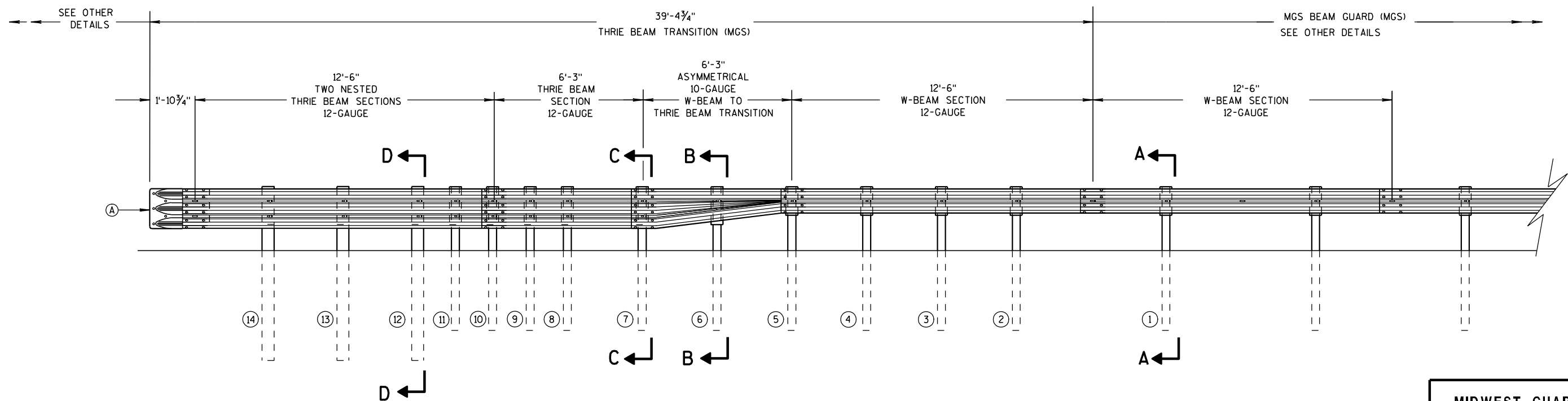
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ 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

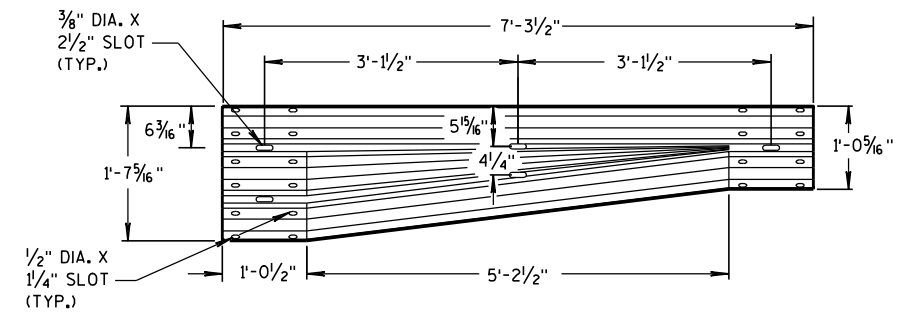
6

S.D.D. 14 B 45-3b

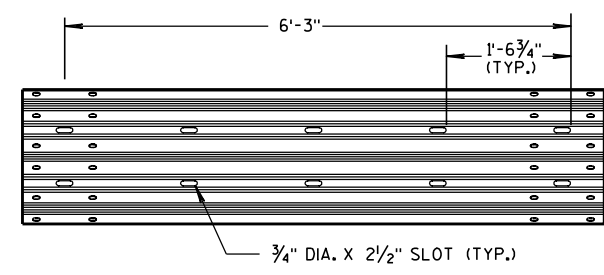


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

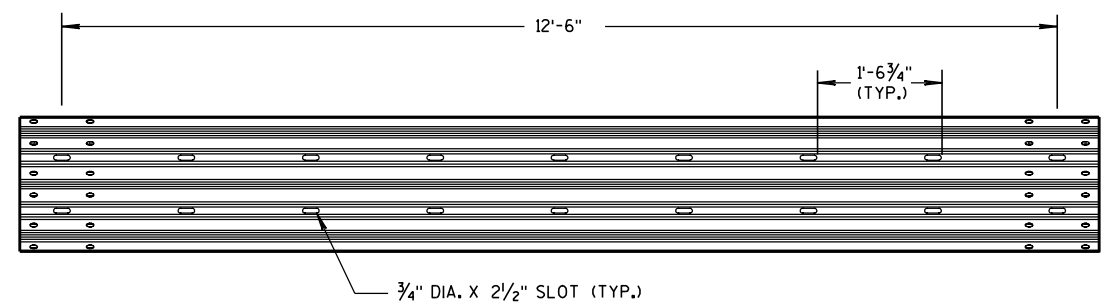
S.D.D. 14 B 45-3b



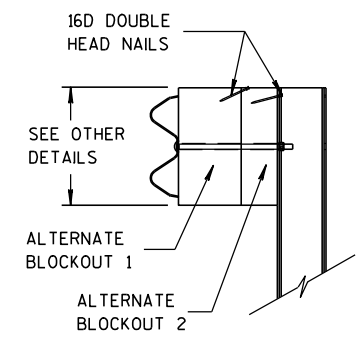
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

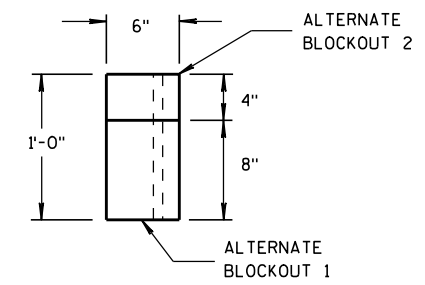


12'-6" THRIE BEAM SECTION

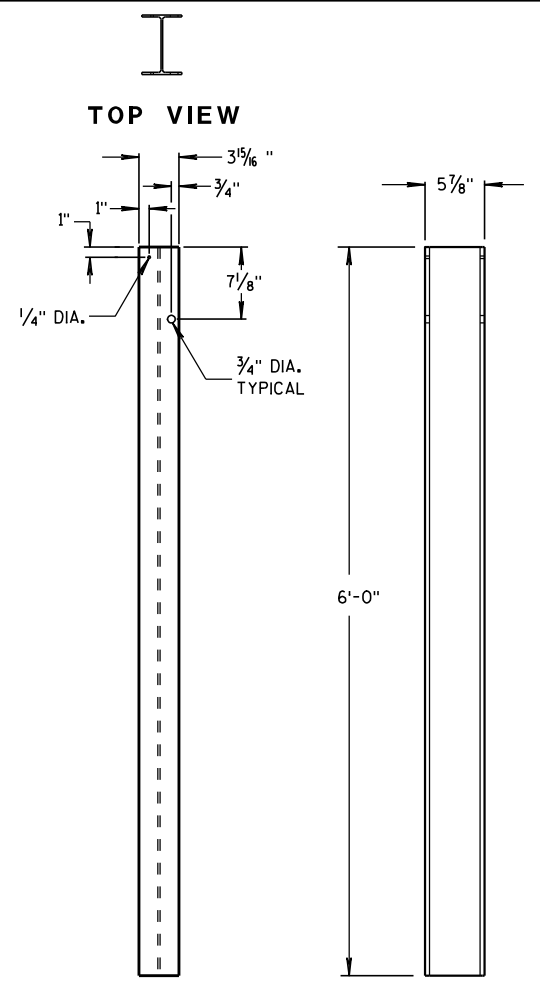


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



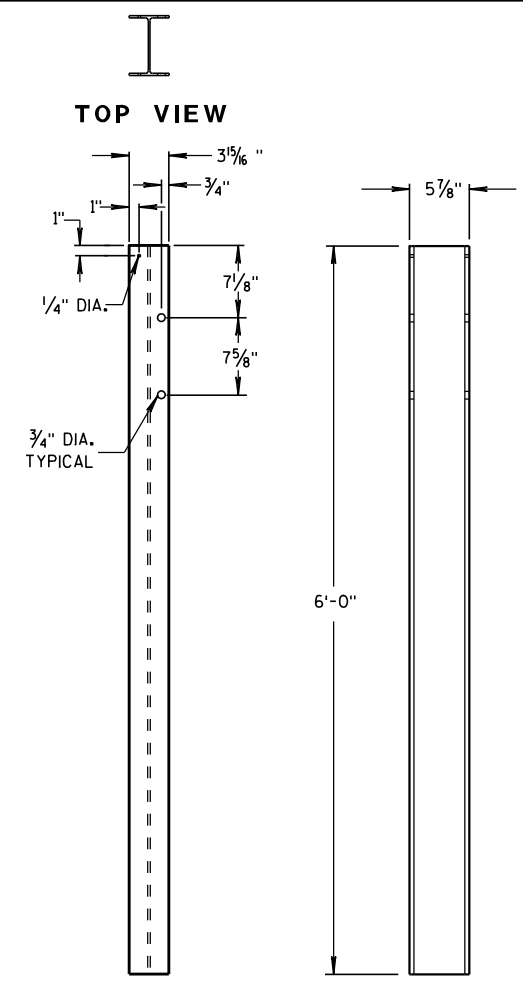
TOP VIEW



FRONT VIEW

SIDE VIEW

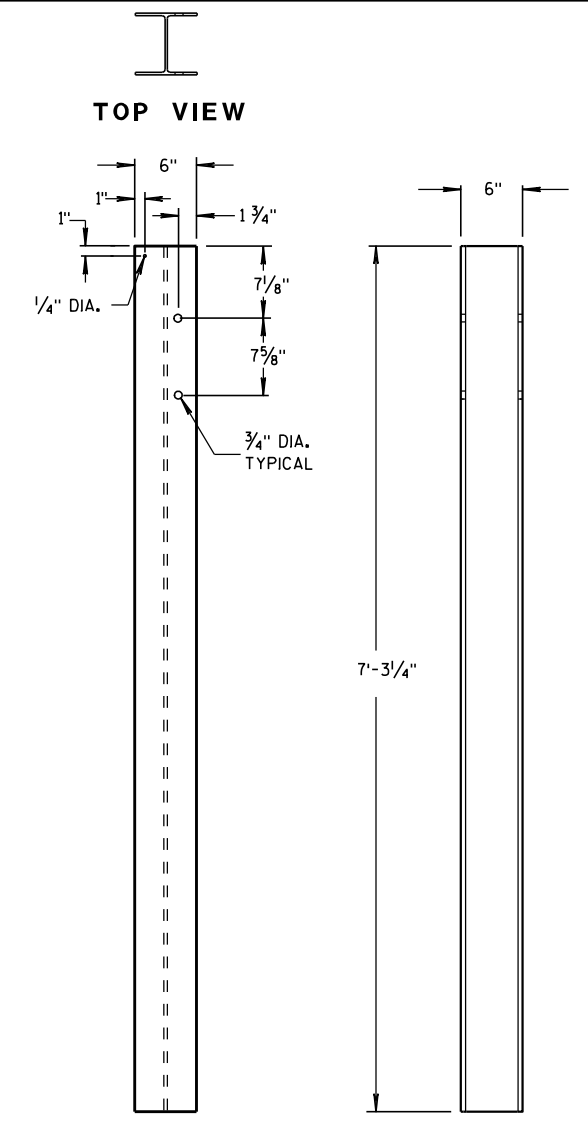
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

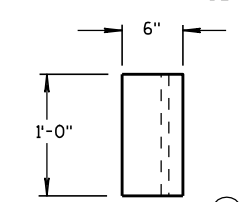


FRONT VIEW

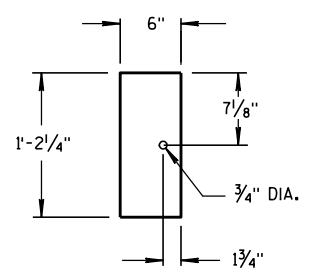
SIDE VIEW

STEEL POSTS 12-14

① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

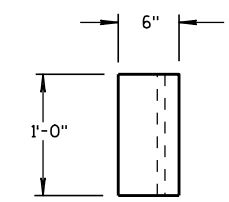


TOP VIEW

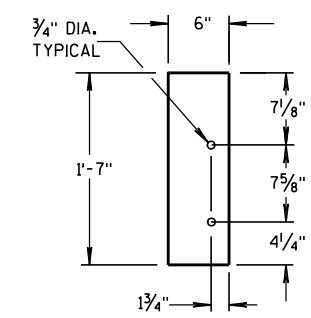


FRONT VIEW

BLOCKOUT POSTS 1-5

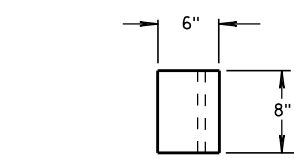


TOP VIEW

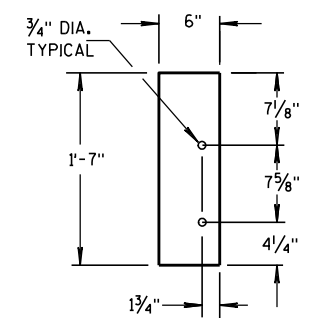


FRONT VIEW

BLOCKOUT POSTS 6-11



TOP VIEW



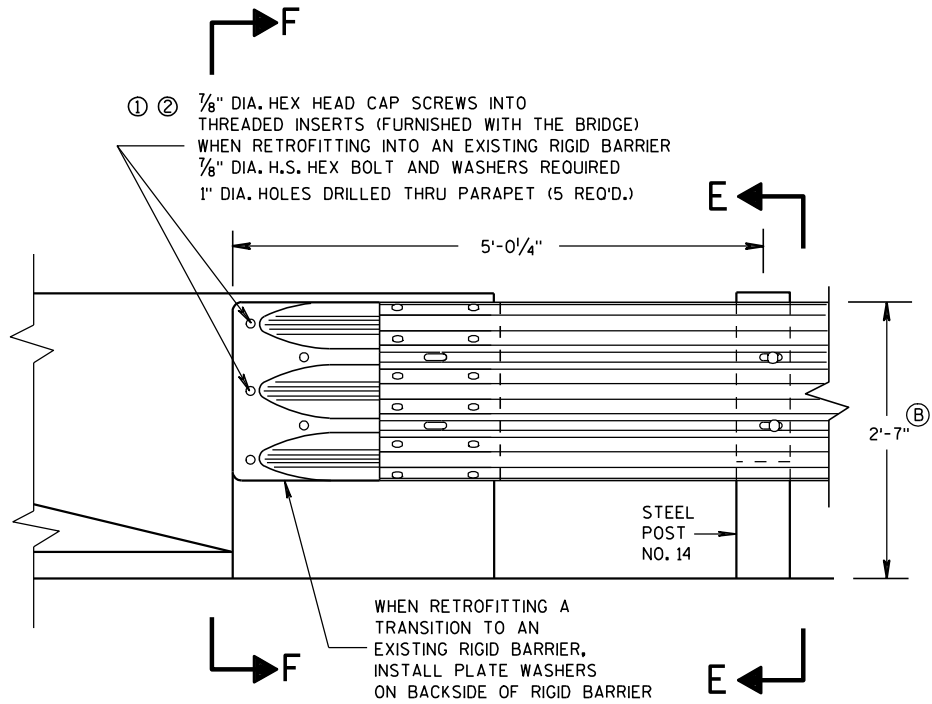
FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

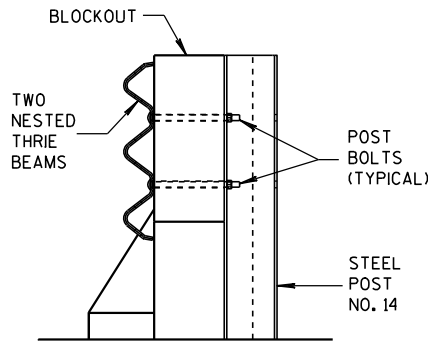
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)



FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS

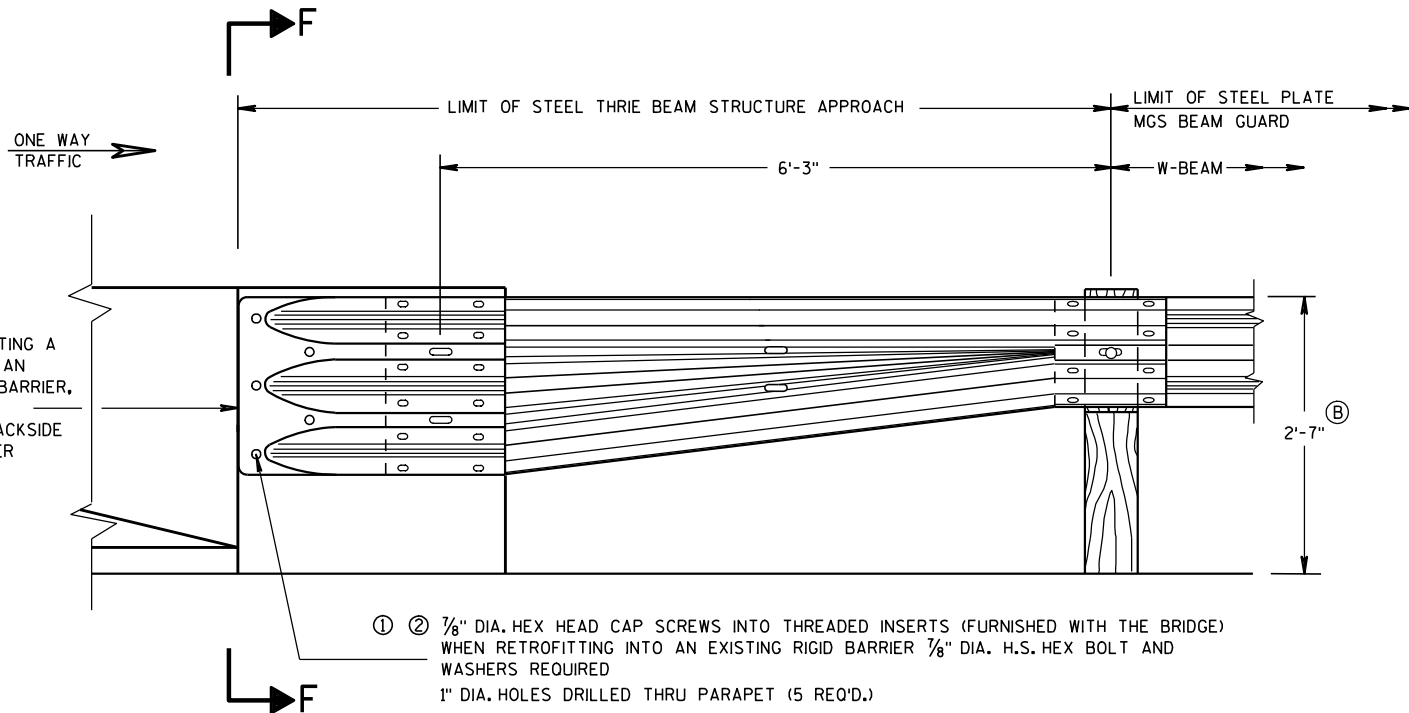


SECTION E-E

GENERAL NOTES

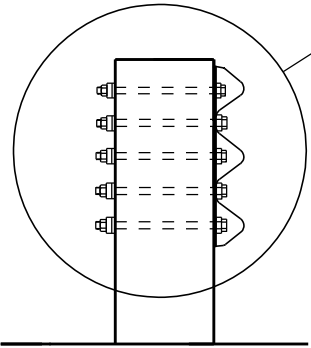
THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

- 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".

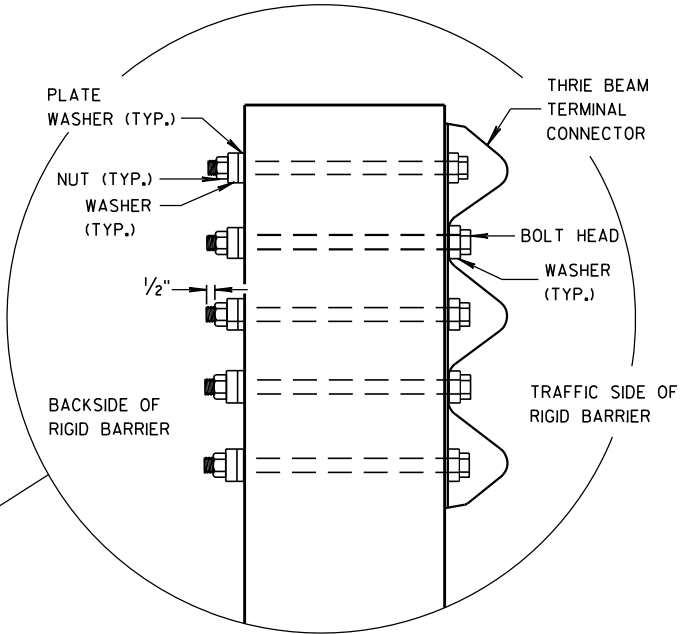


FRONT VIEW

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

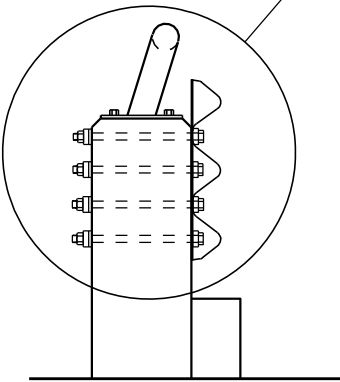
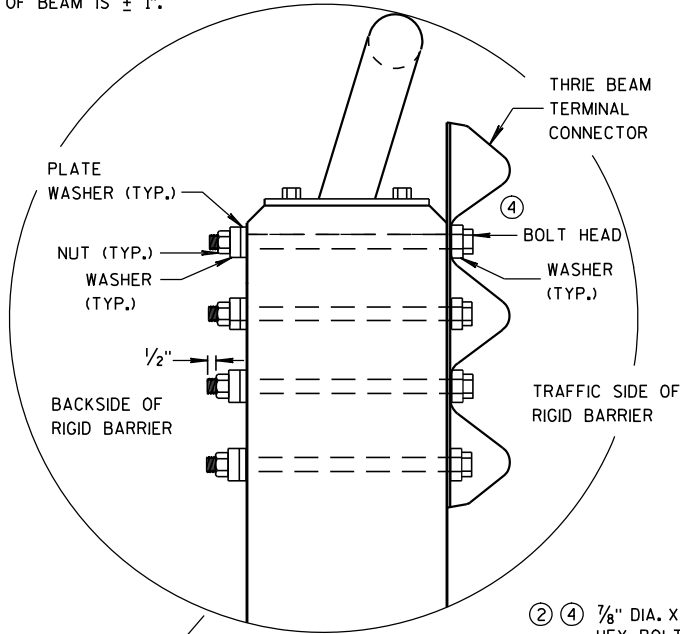


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zapp ROADWAY STANDARDS 102 ENGINEER
FHWA	

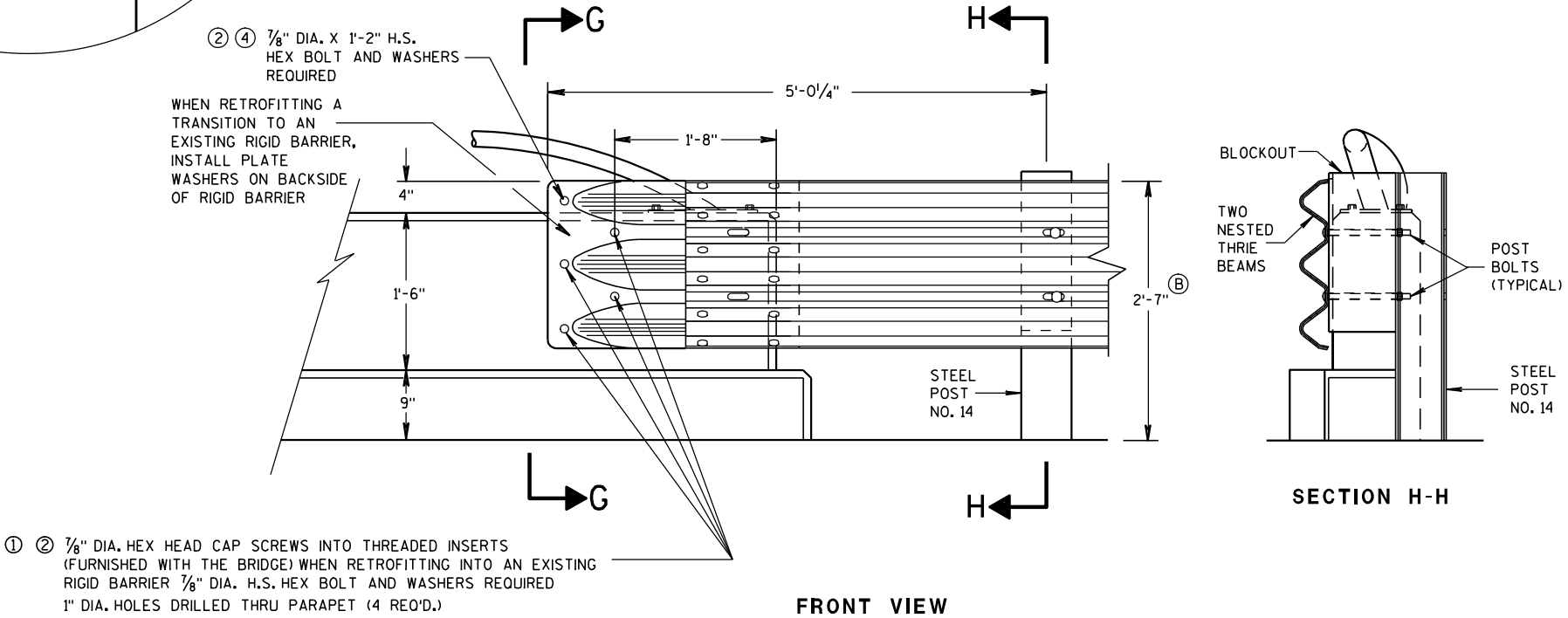
GENERAL NOTES

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 $\pm 1"$.

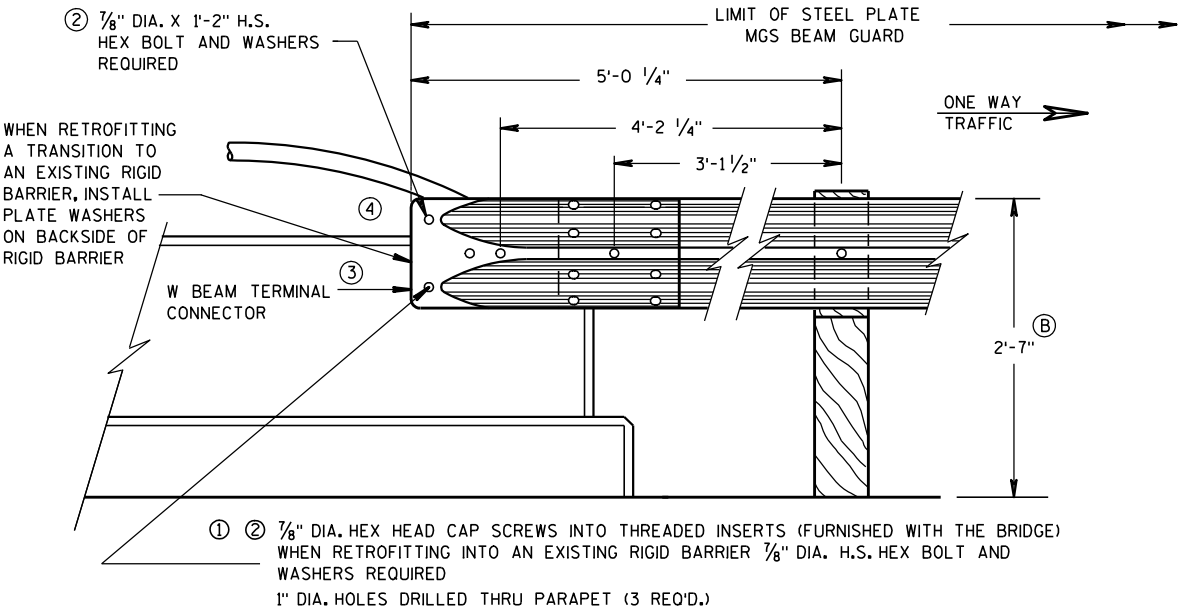


SECTION G-G



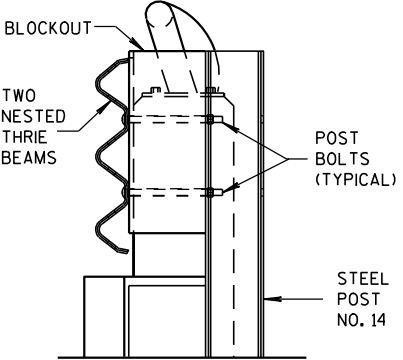
FRONT VIEW

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)

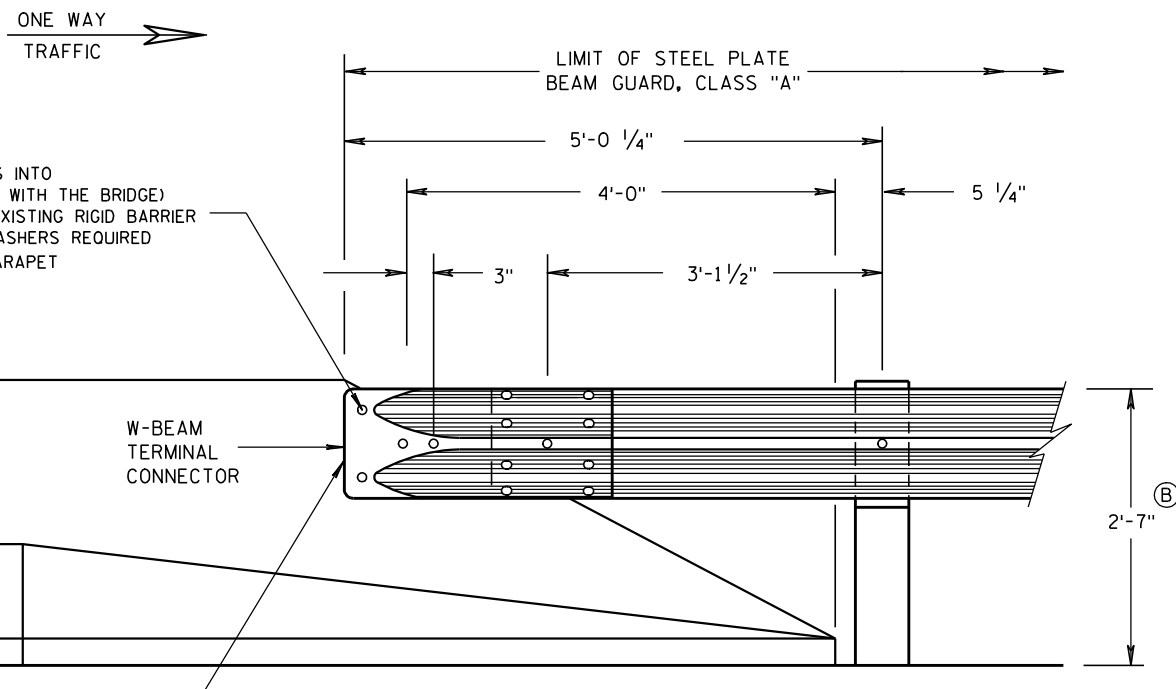


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 103 ENT
FHWA ENGINEER



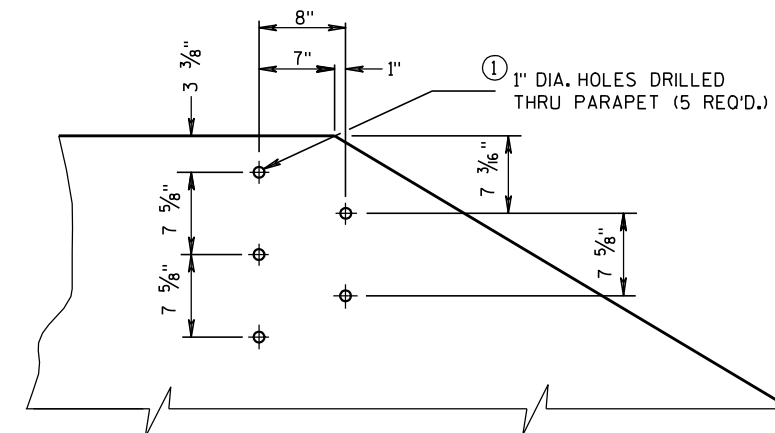
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

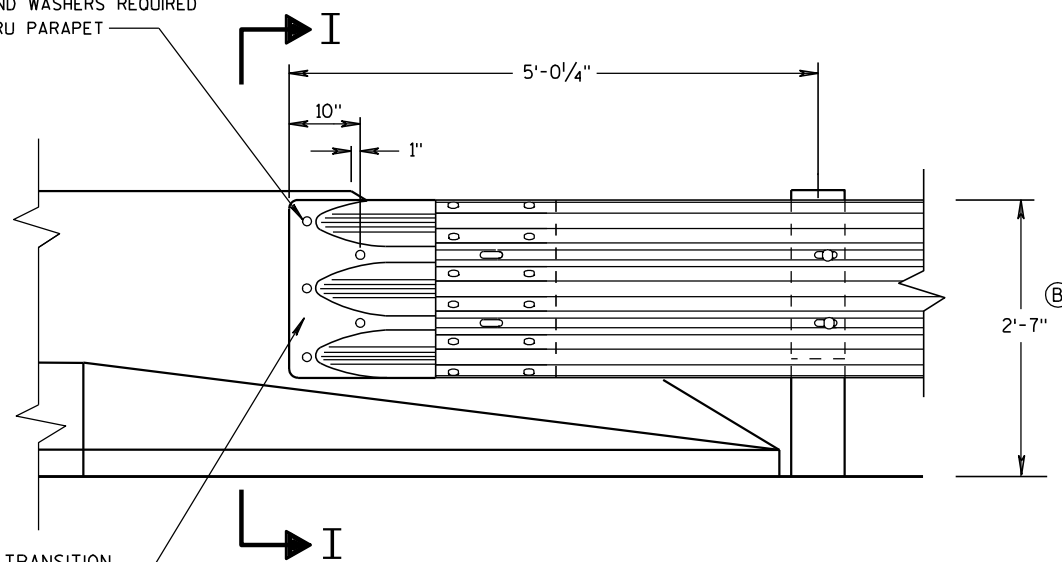
GENERAL NOTES

- 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 $\pm 1"$.



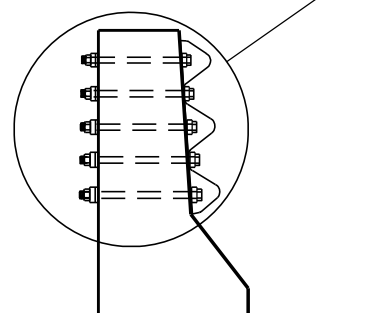
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- 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.)

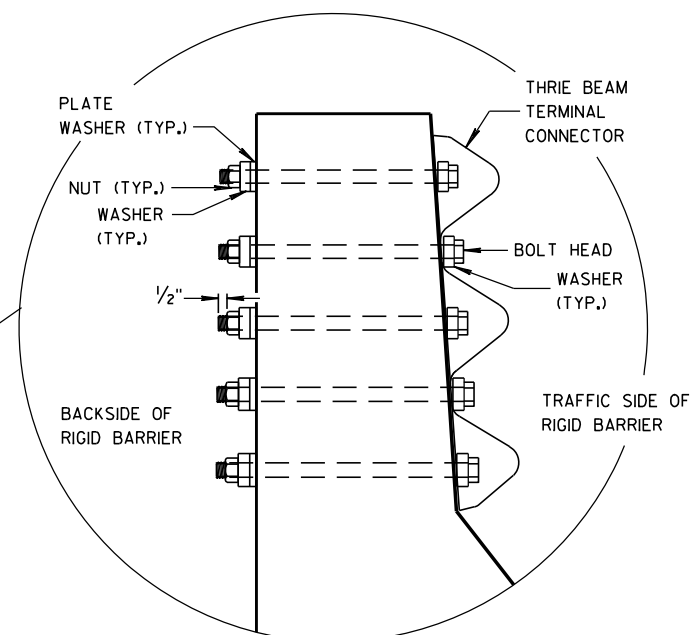


FRONT VIEW

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

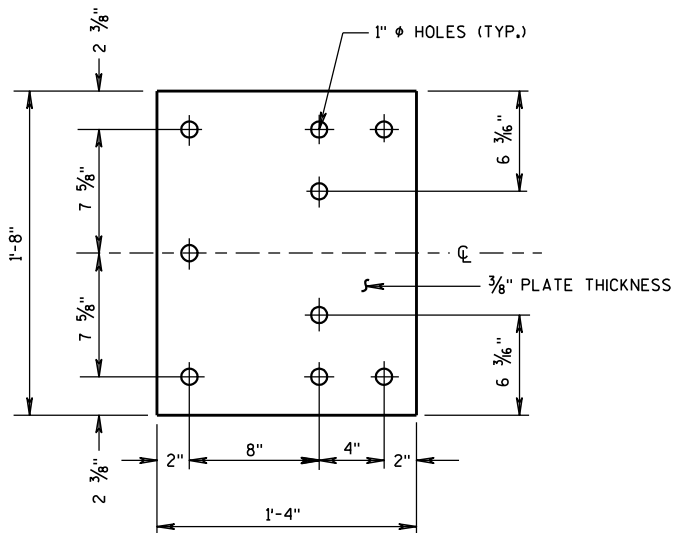
DATE

FHWA

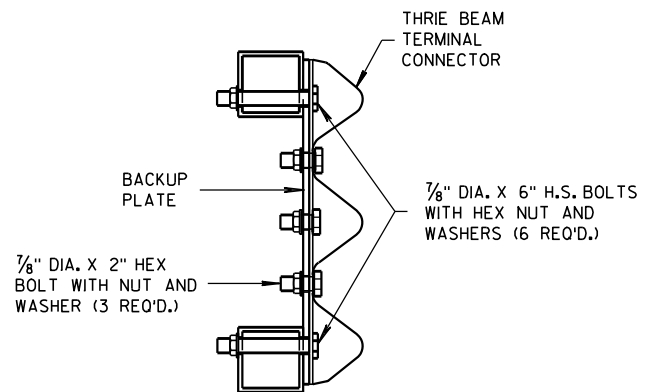
/S/ Jerry H. Zopp

ROADWAY STANDARDS 104

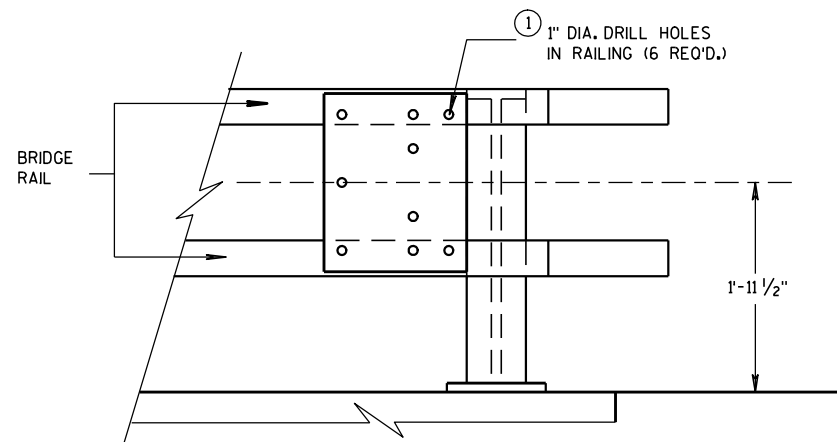
ENGINEER



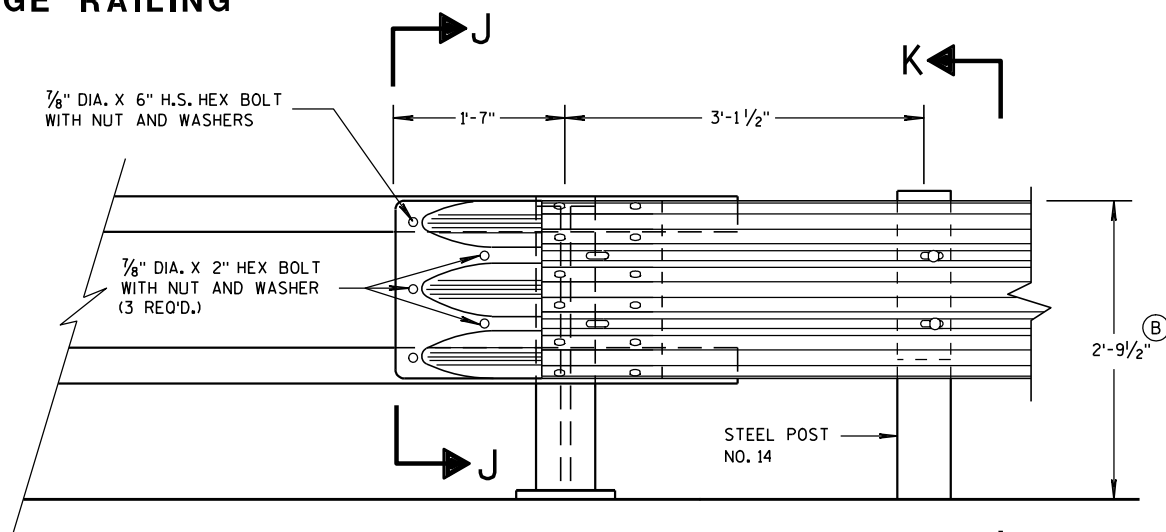
BACK-UP PLATE DETAIL



SECTION J-J

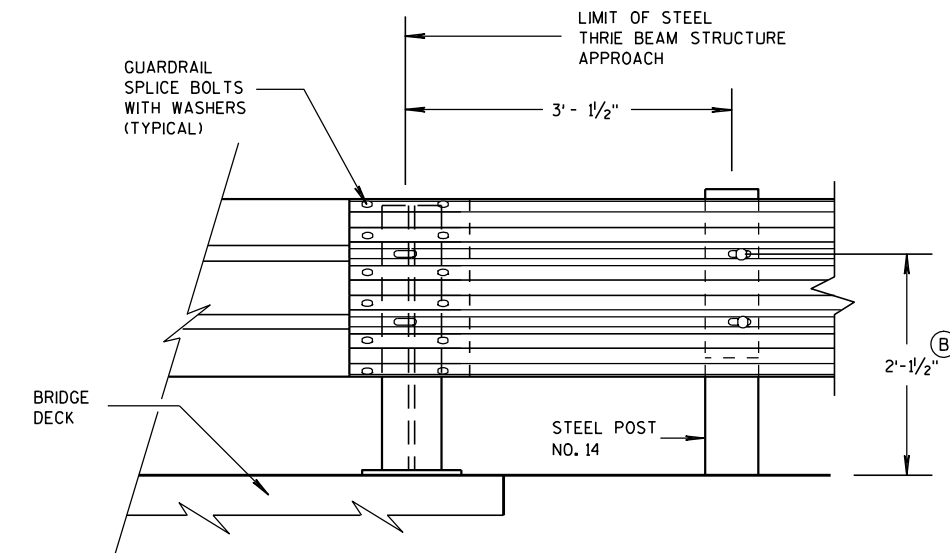


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



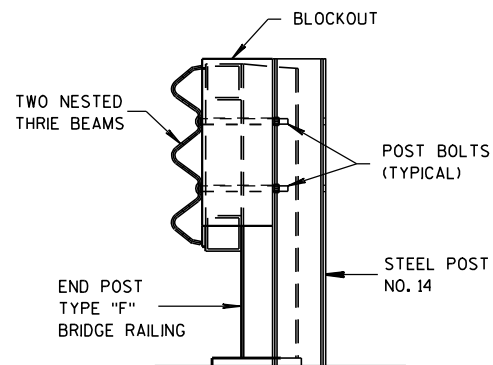
FRONT VIEW

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 $\pm 1"$.

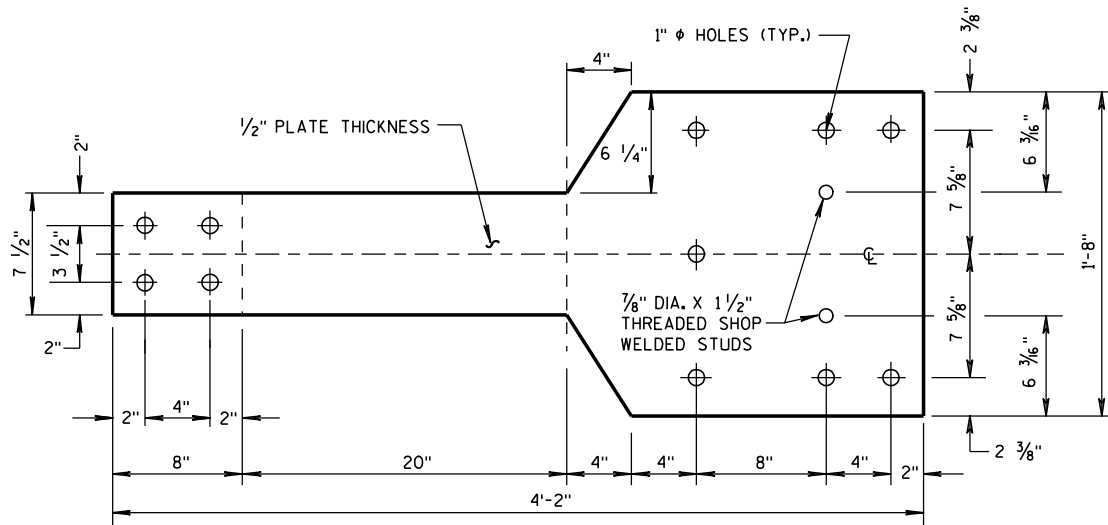
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

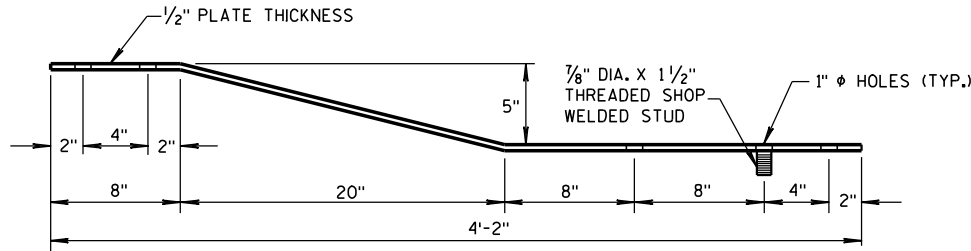
APPROVED
8/31/2012 DATE /S/ Jerry H. Zeng
ROADWAY STANDARDS 105 ENGINEER
FHWA

GENERAL NOTES

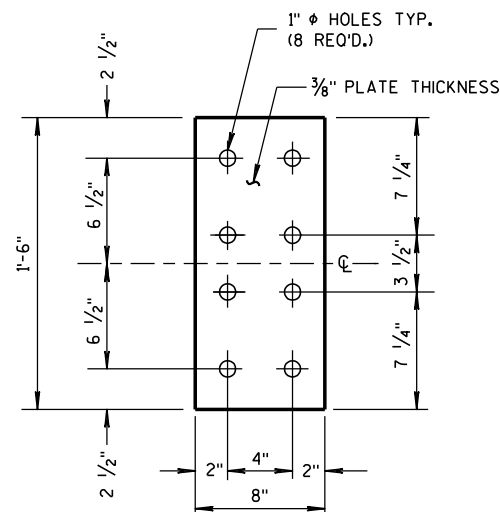
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

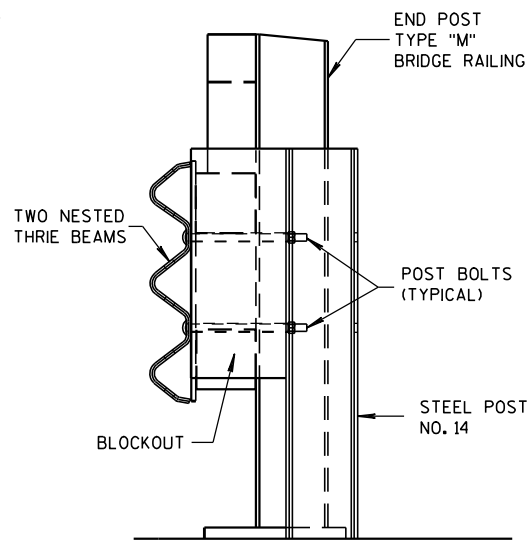


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

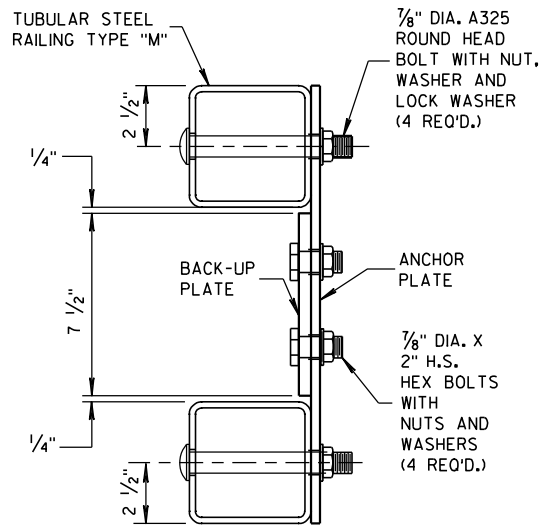


FRONT VIEW

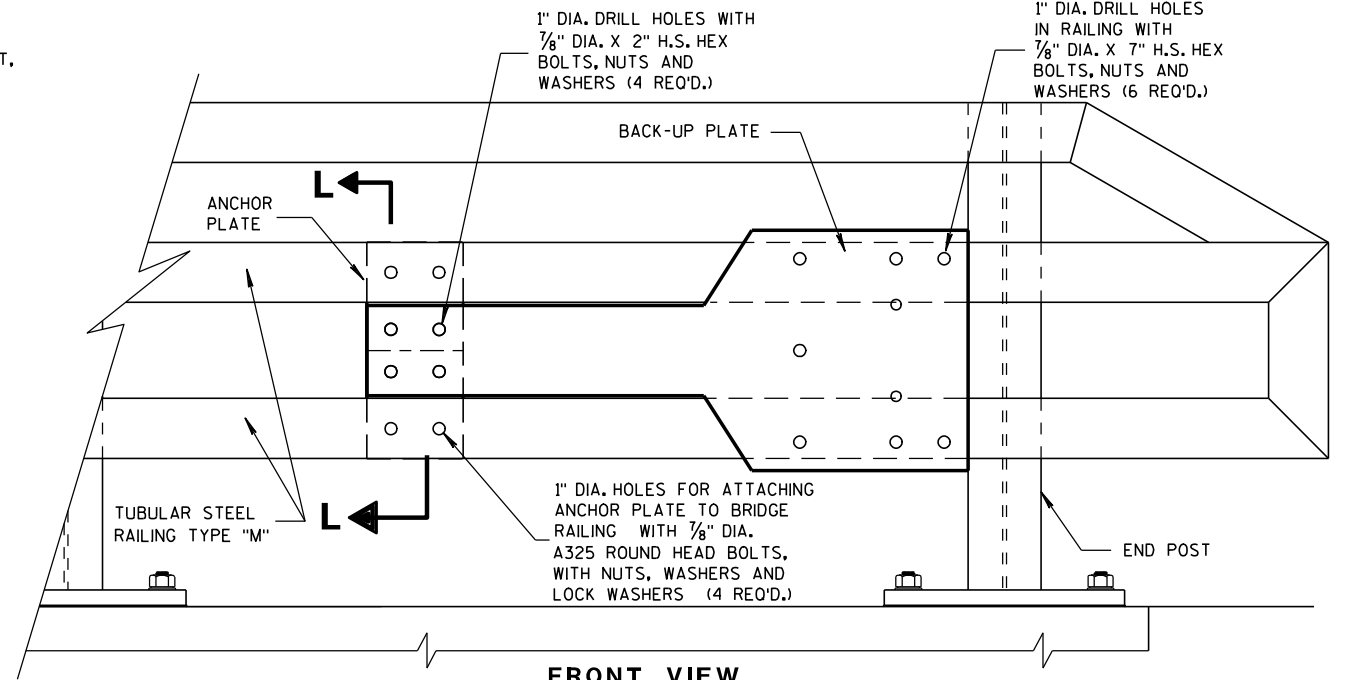
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

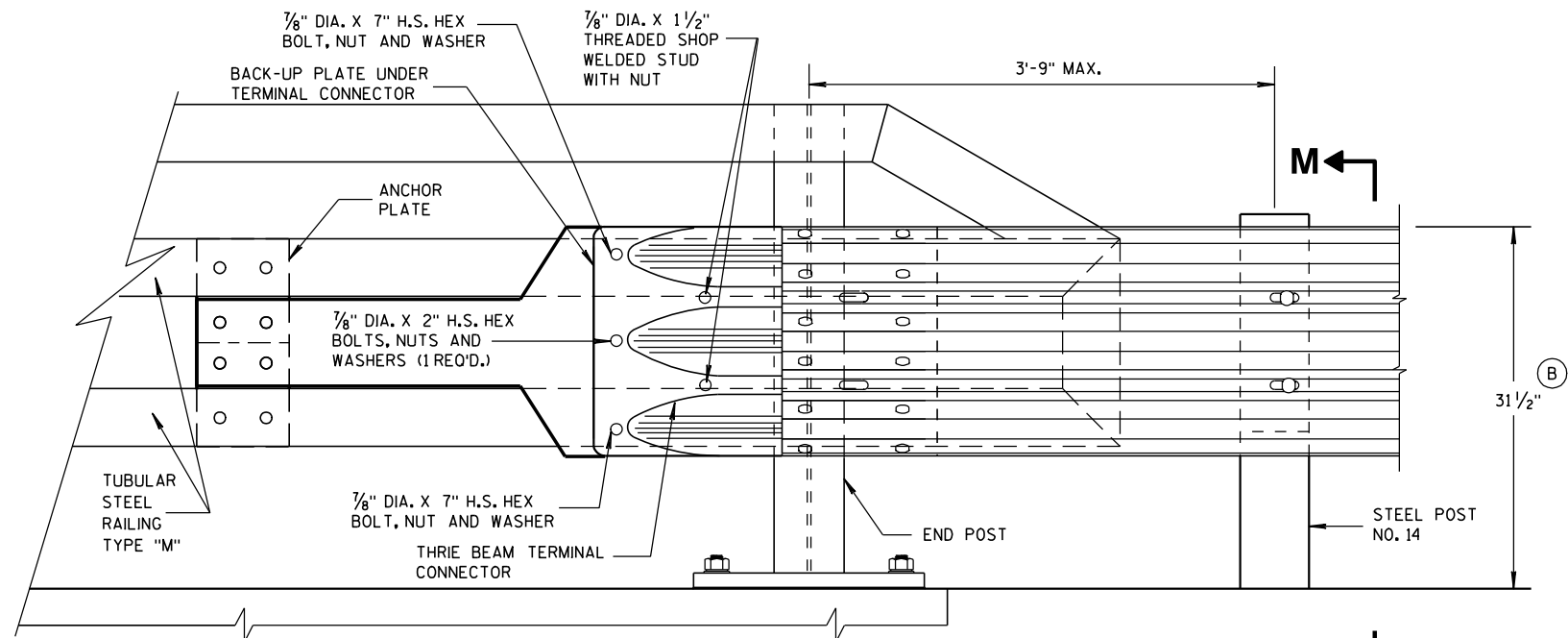


SECTION L-L

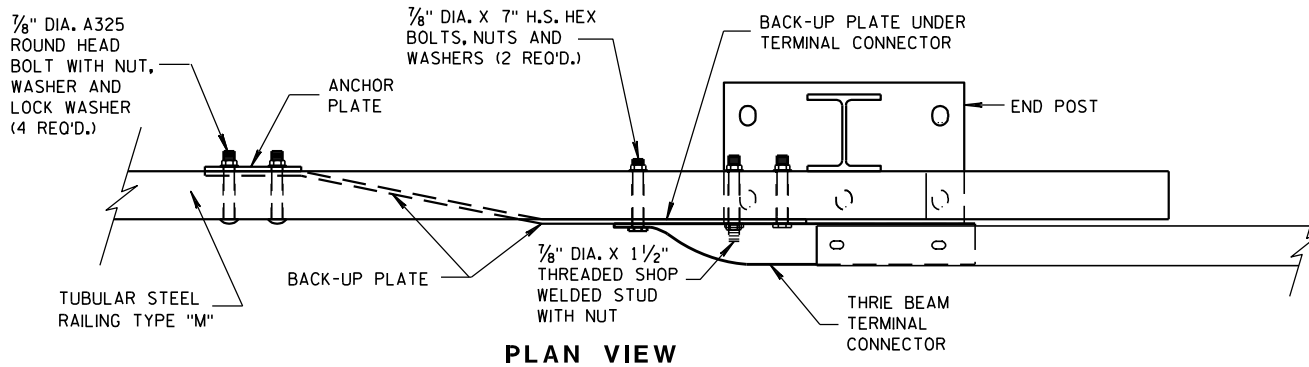


FRONT VIEW

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

/S/ Jerry H. Z...

ROADWAY STANDARDS 106

ENGINEER

ENT



SINGLE SLOPE CONNECTION PLATE

COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.

ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.

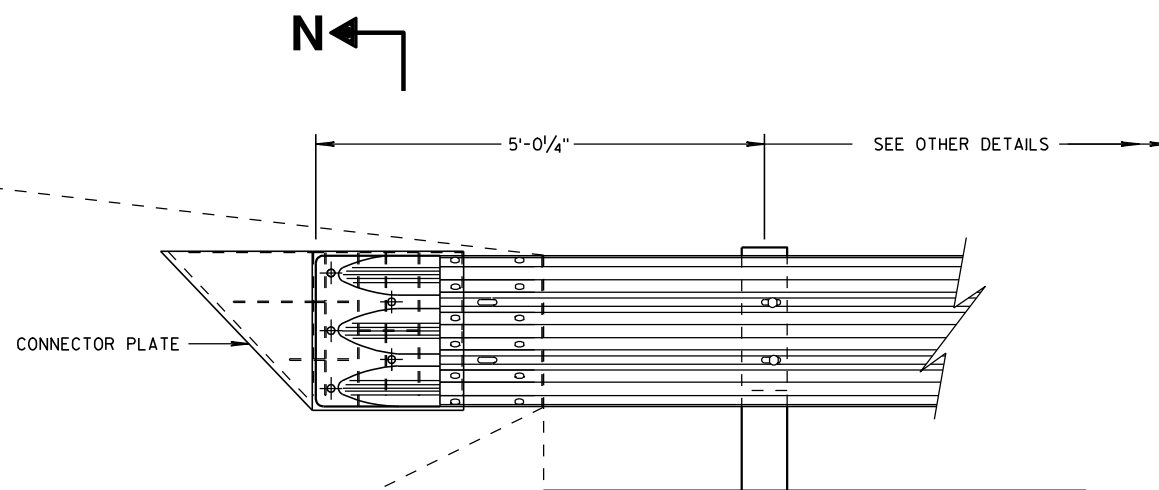
CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

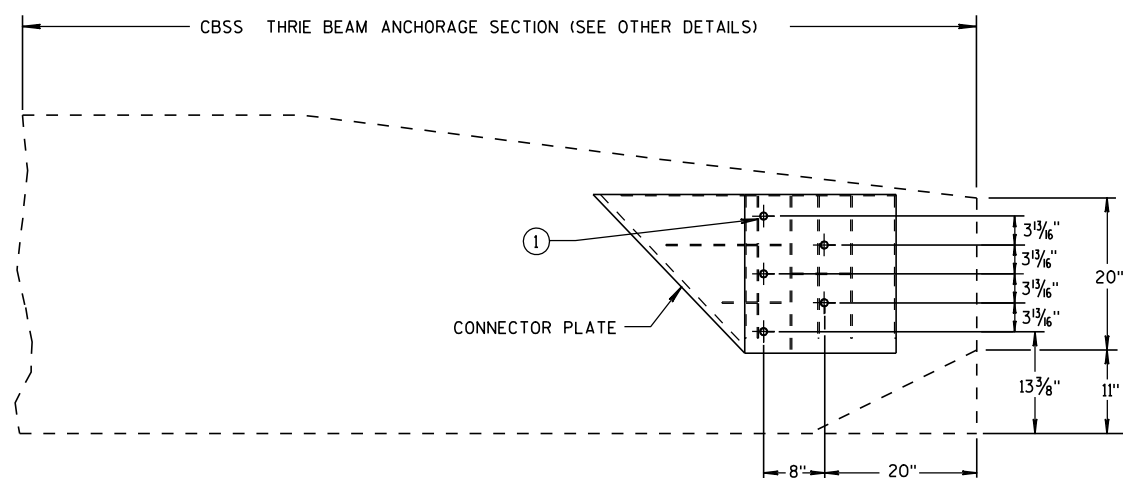
ALL HOLE DIAMETERS SHALL BE 1".

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 $\frac{3}{8}$ " 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:
 $\frac{3}{8}$ " FILLET WELD BY 1" LONG SPACED AT 2".



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

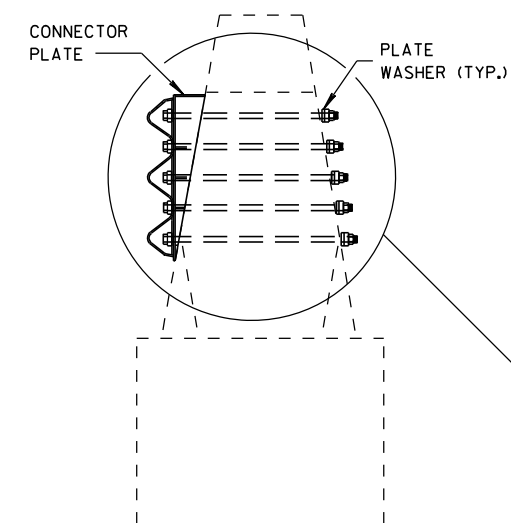


SINGLE SLOPE CONNECTION PLATE PLACEMENT

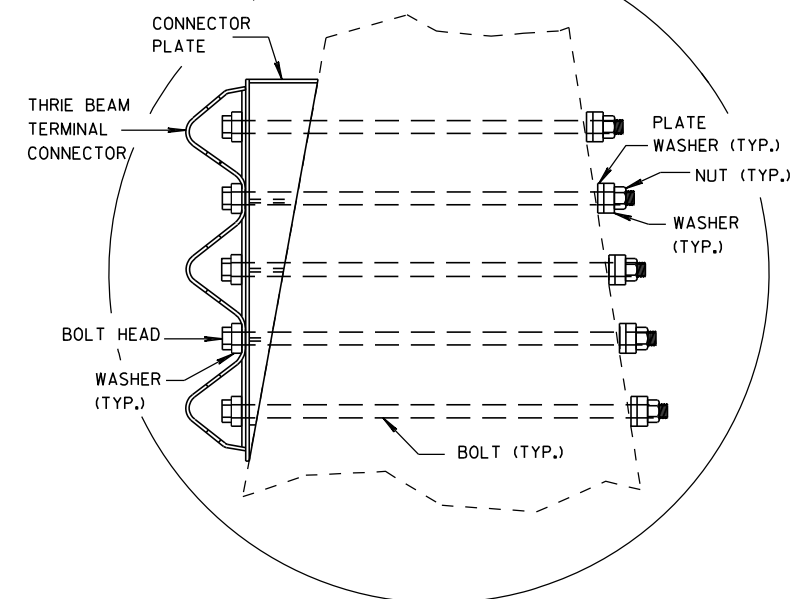
GENERAL NOTES

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

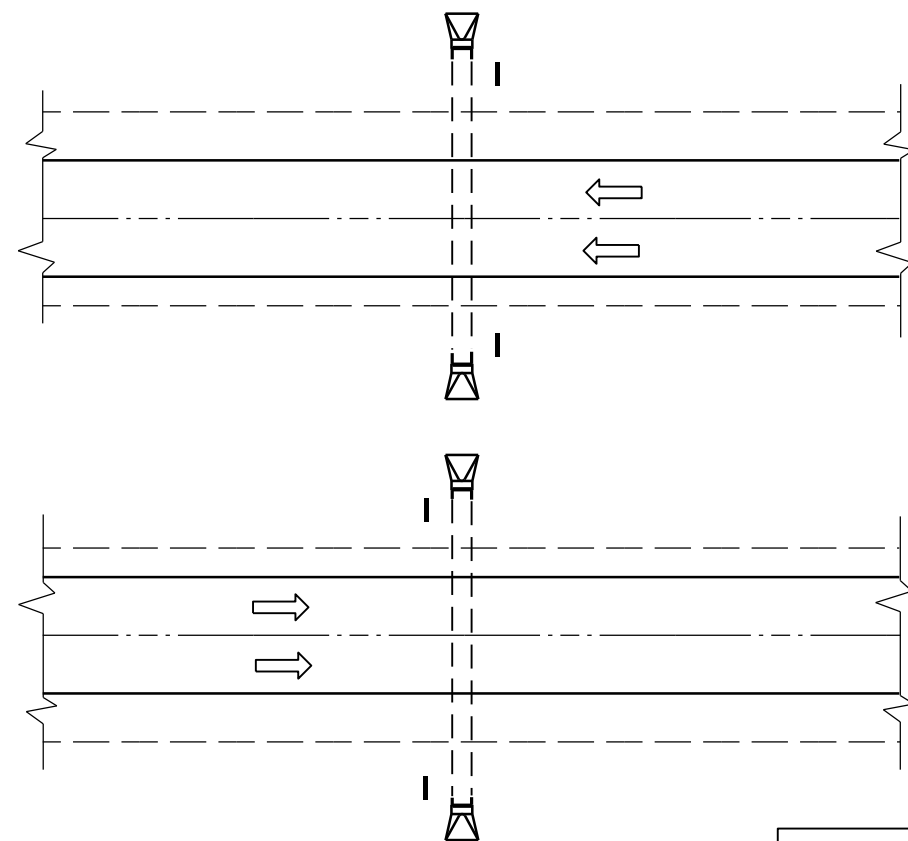
APPROVED

8/31/2012

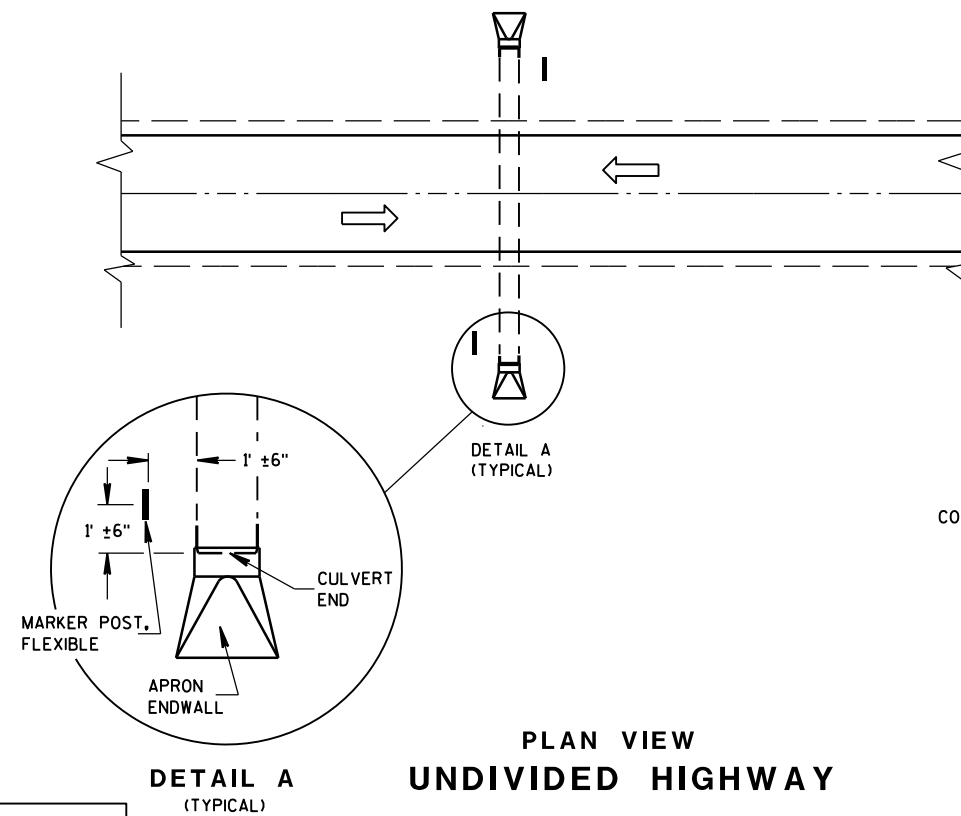
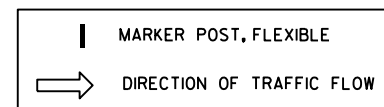
DATE

FHWA

/S/ Jerry H. [Signature]
ROADWAY STANDARDS i 108 ENT
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

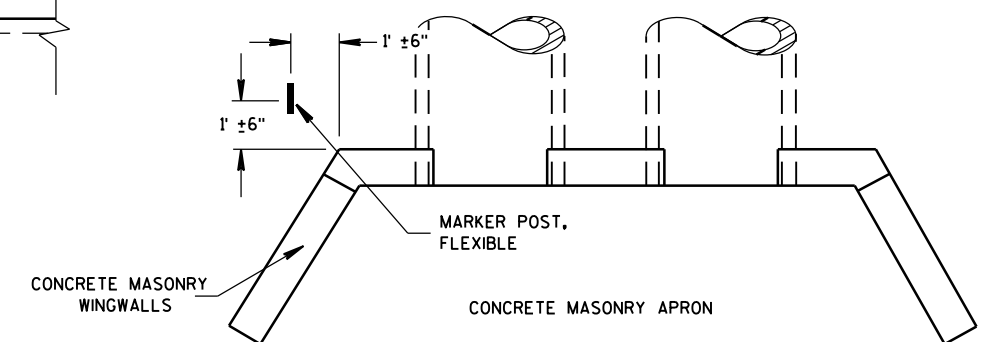


PLAN VIEW
UNDIVIDED HIGHWAY

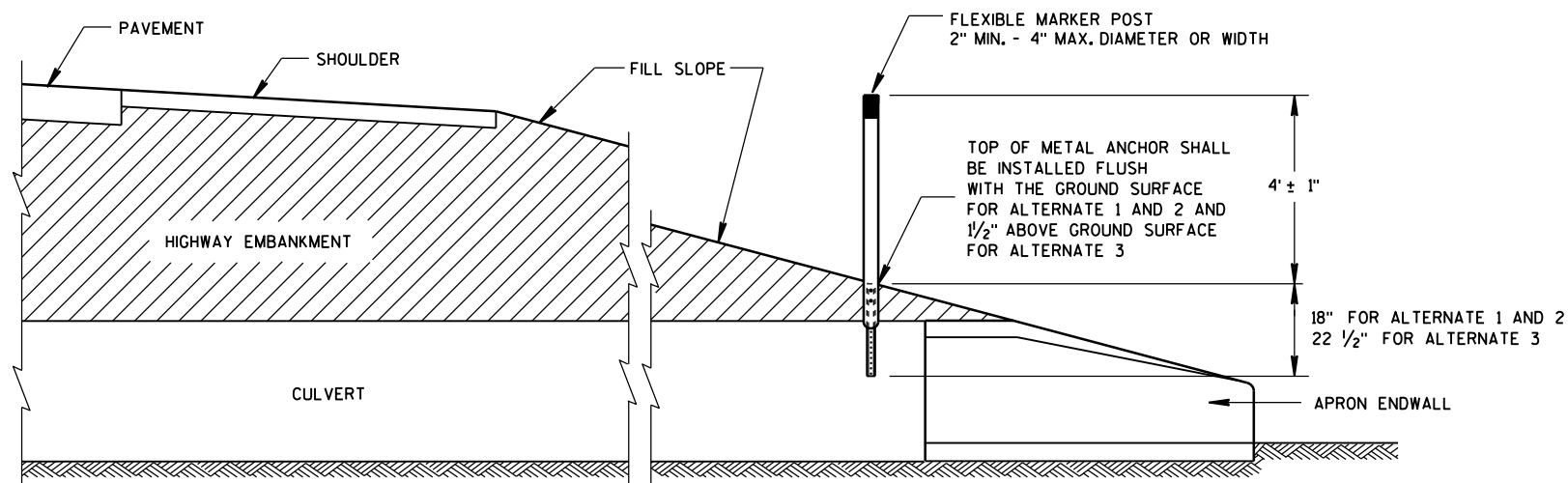
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



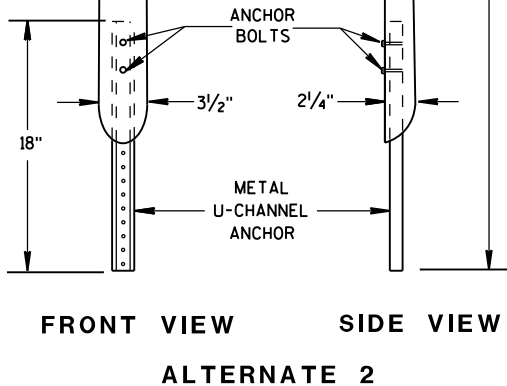
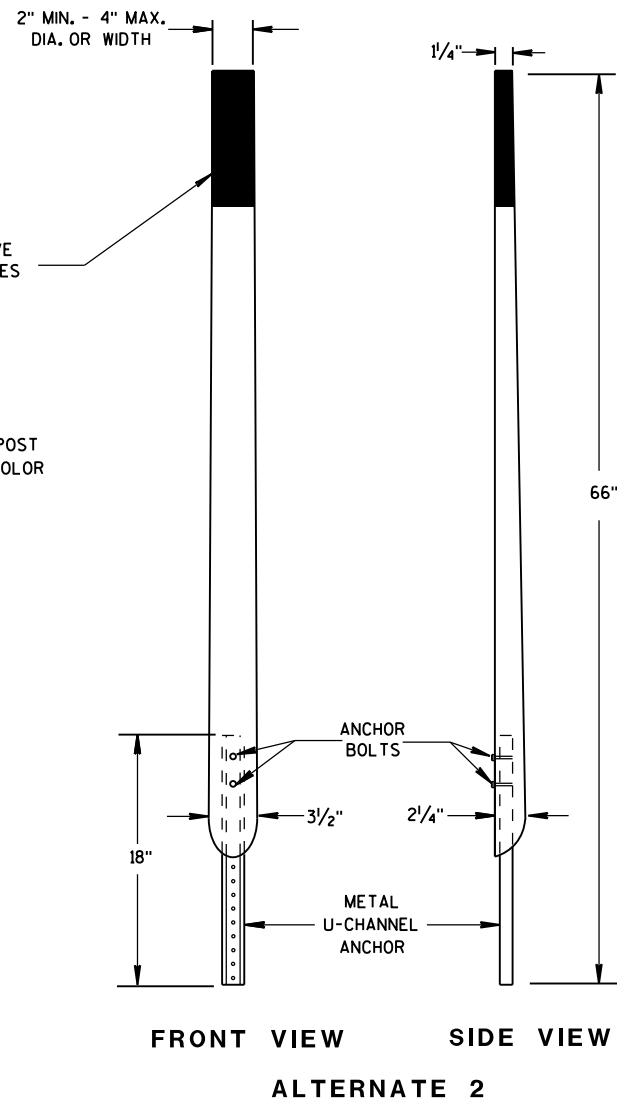
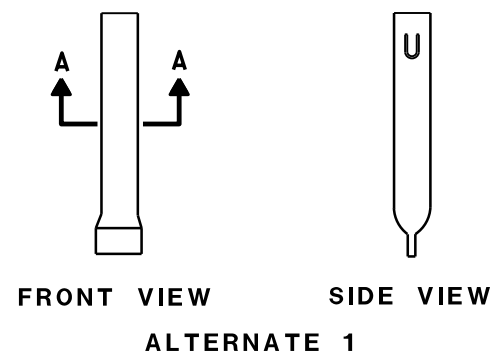
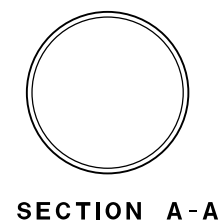
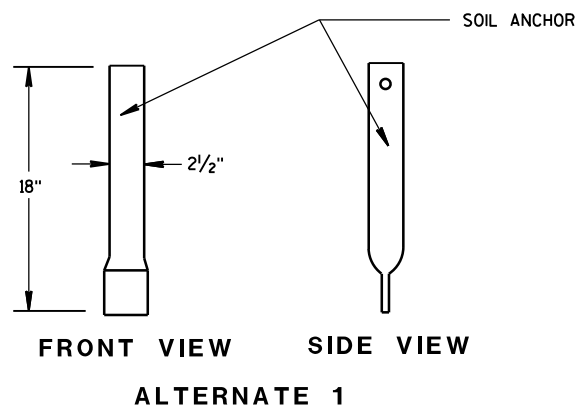
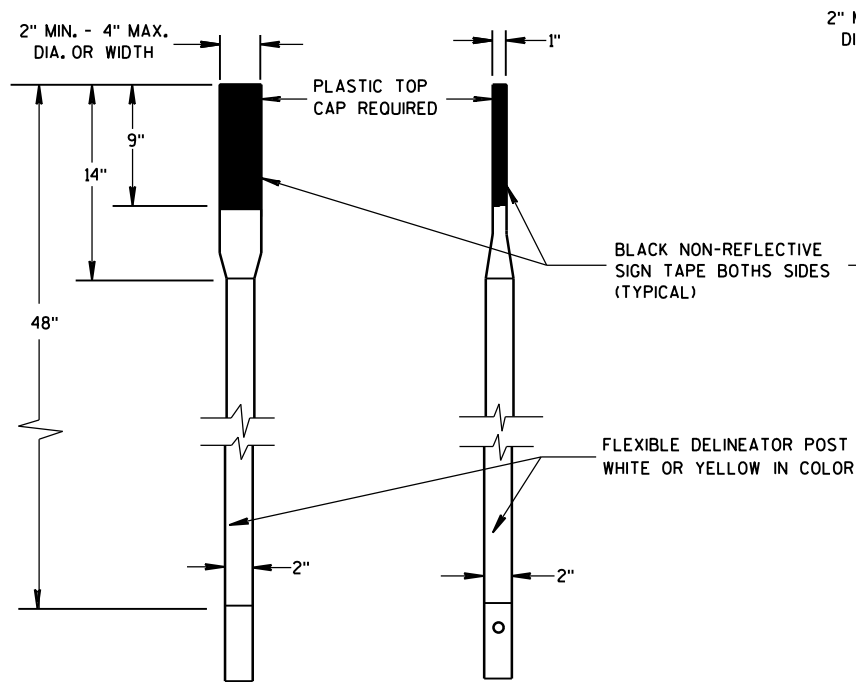
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



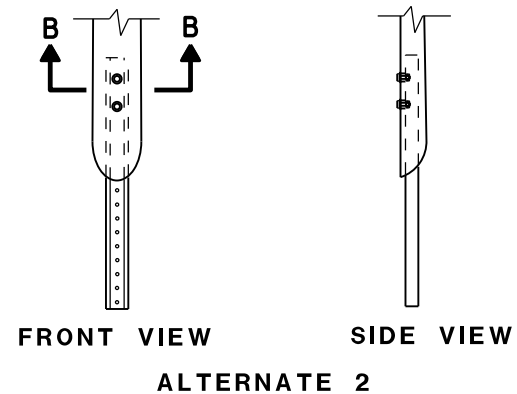
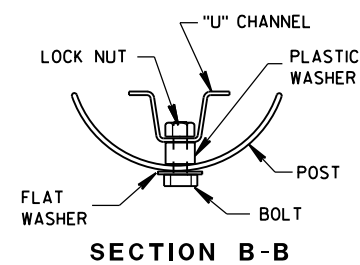
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

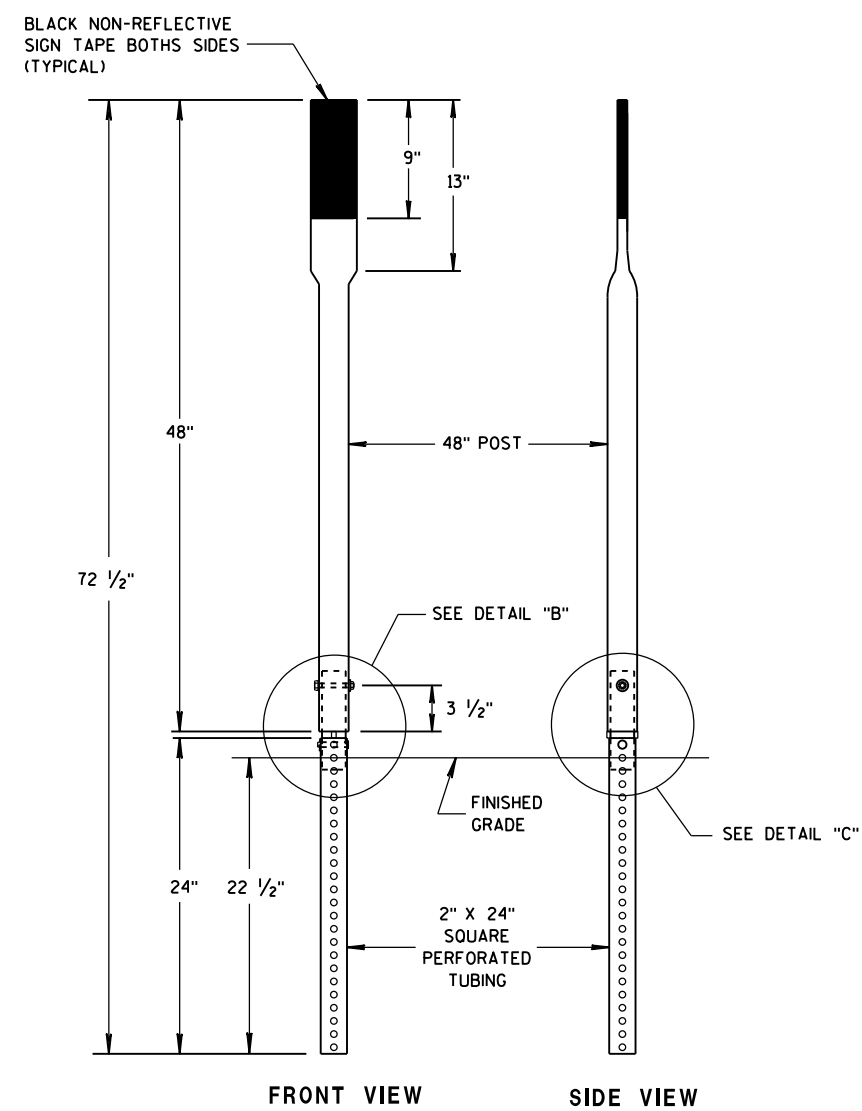
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 109



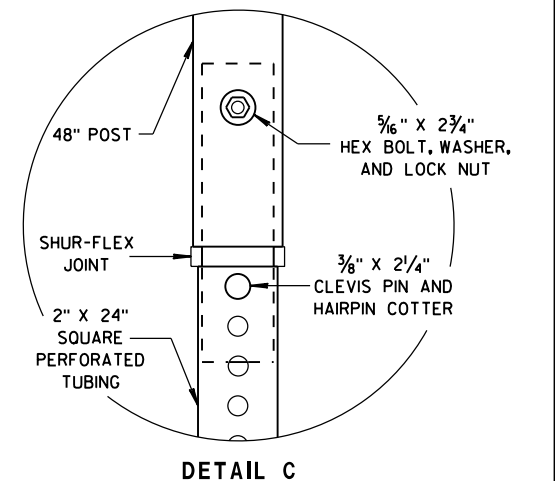
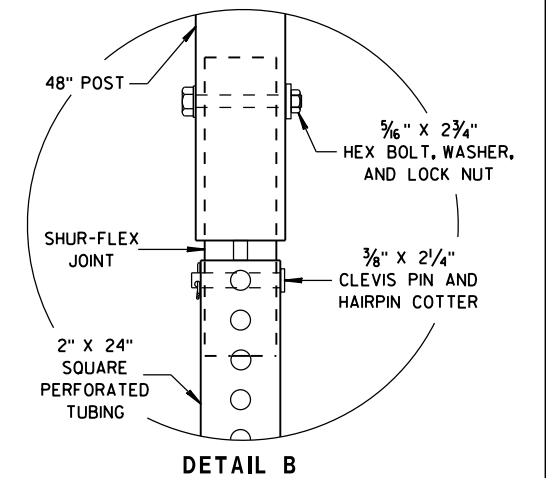
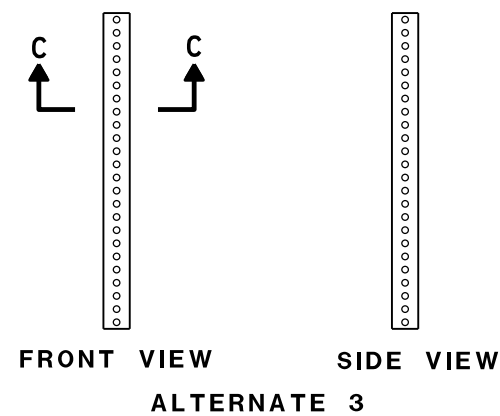
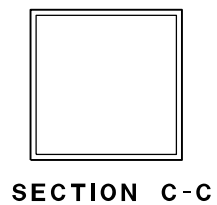
FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW
ALTERNATE 3



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

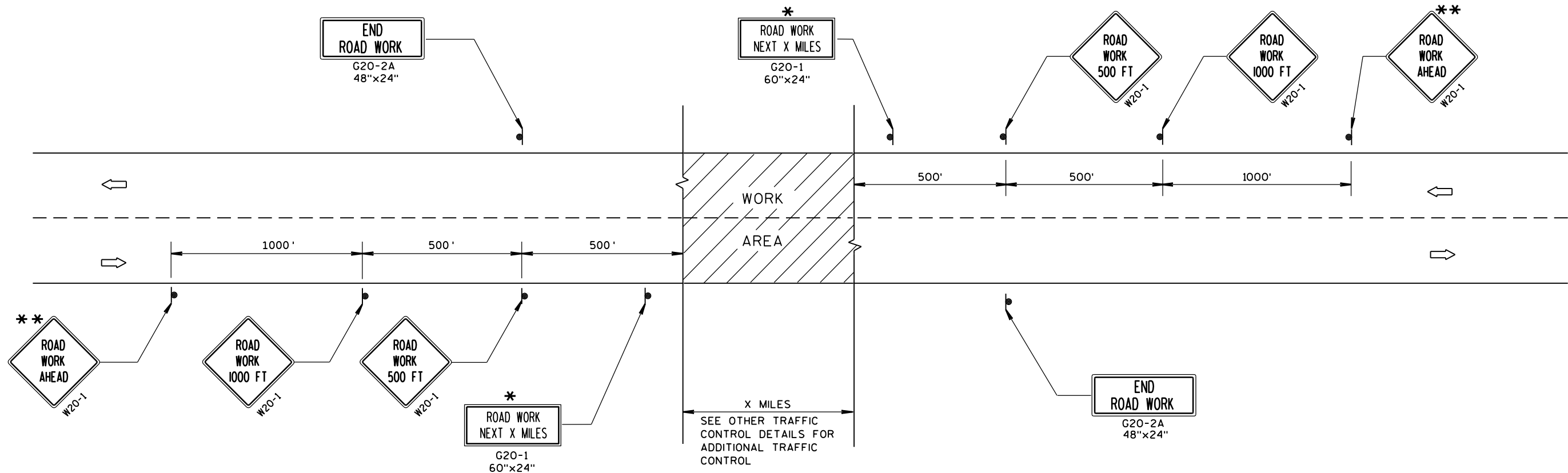
APPROVED

10/1/2012

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 110 IGN



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

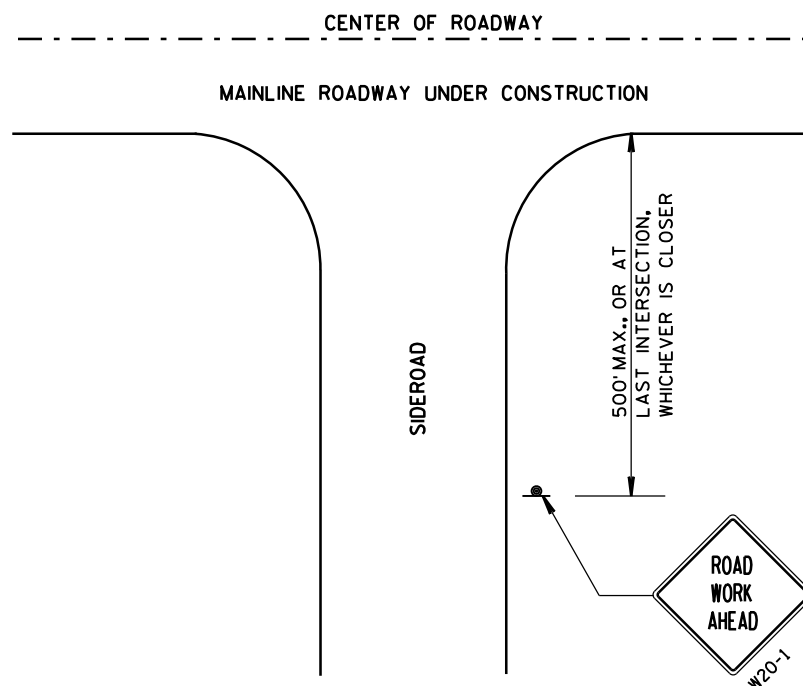
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



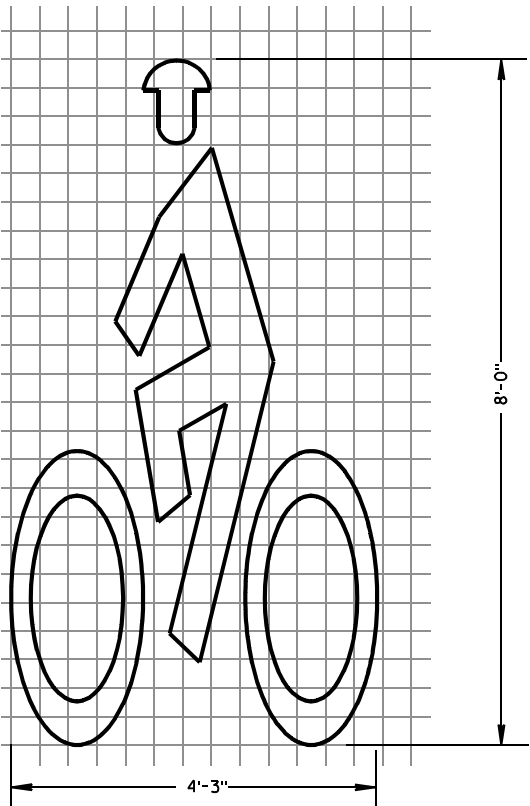
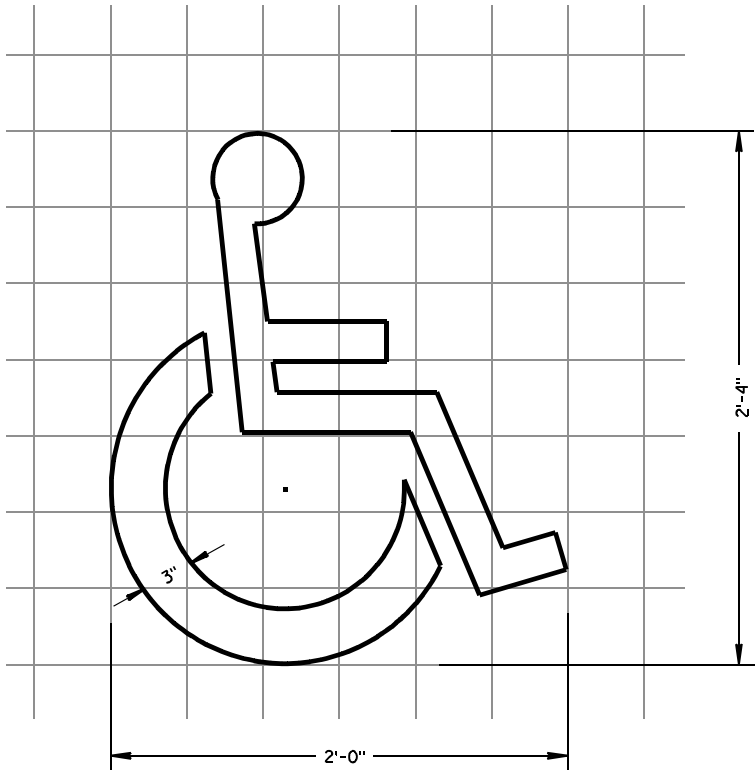
LEGEND

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

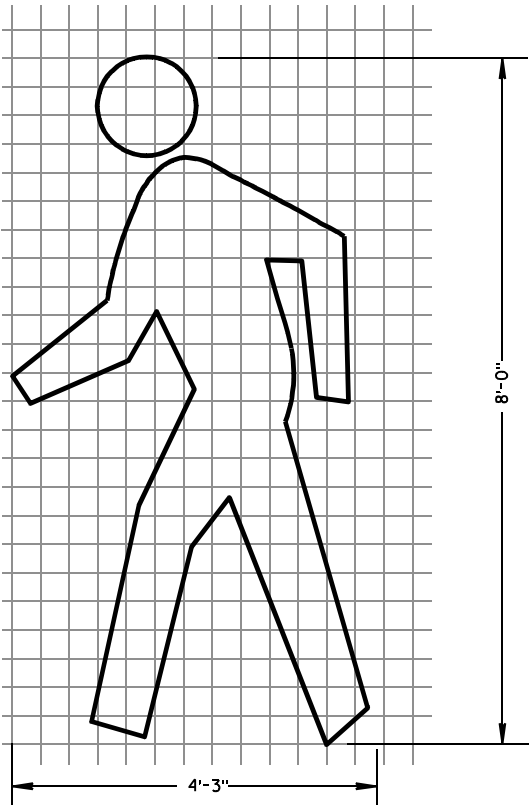
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

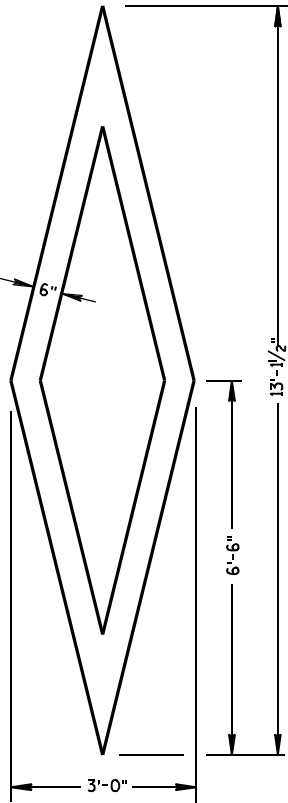
APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 111 SIGN
FHWA



BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL
LANE SYMBOL

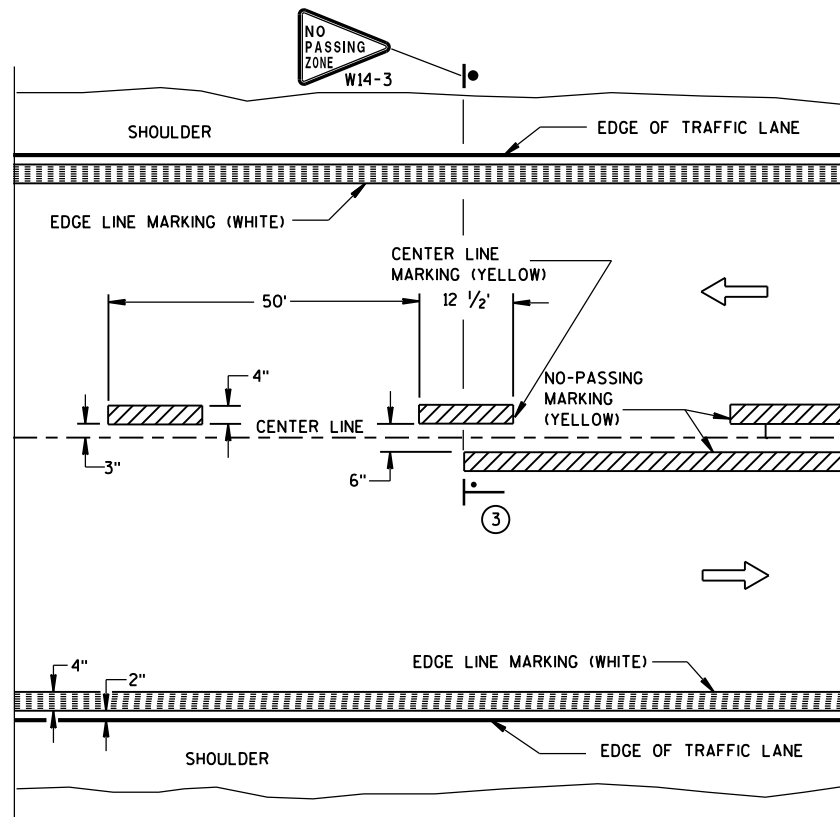
GENERAL NOTES

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

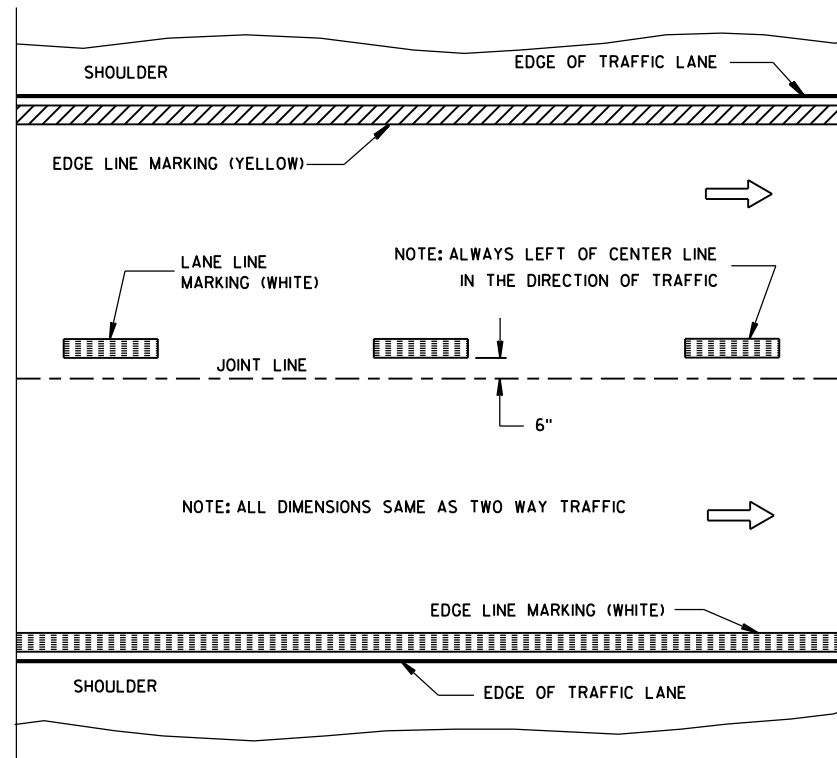
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

PAVEMENT MARKING SYMBOLS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
7/1/11	/S/ Thomas N. Nathan		
DATE	STATE TRAFFIC ENGINEER		112
IGN			
FHWA			

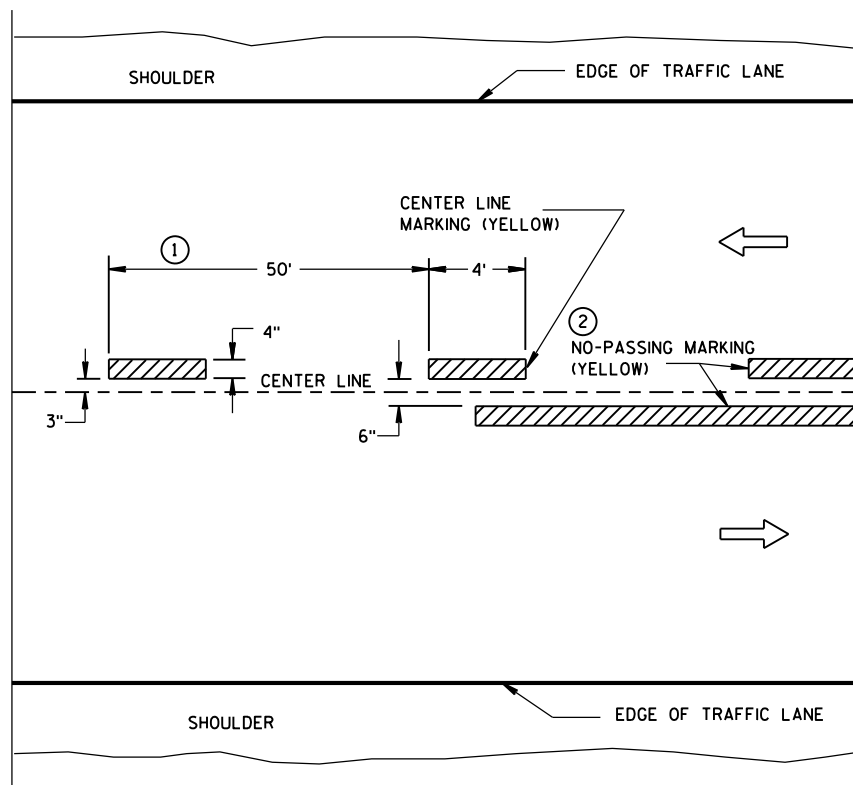


TWO WAY TRAFFIC

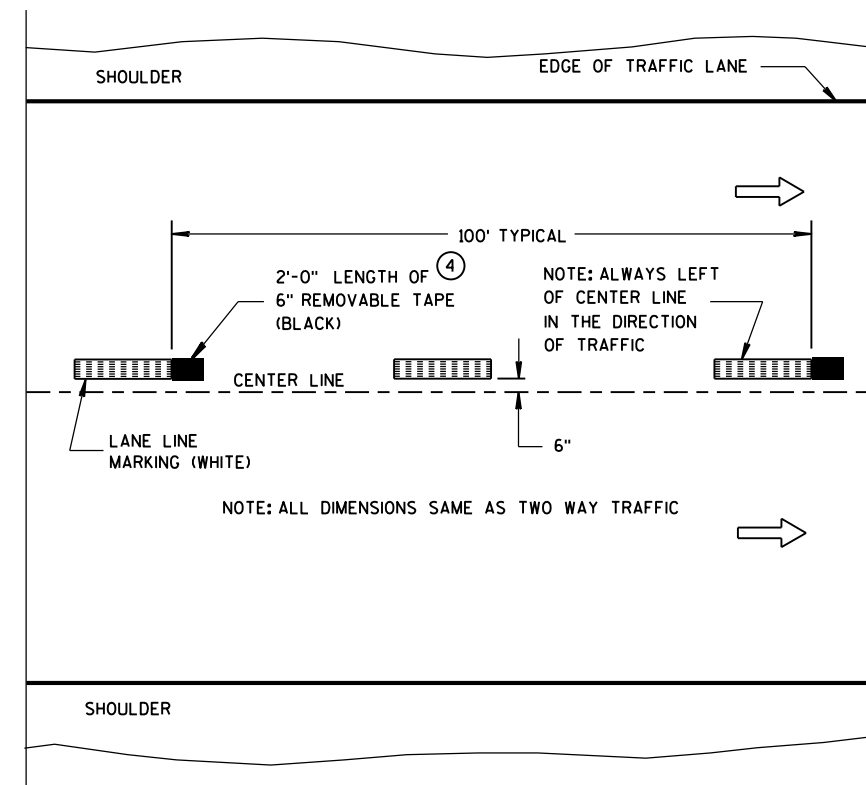


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

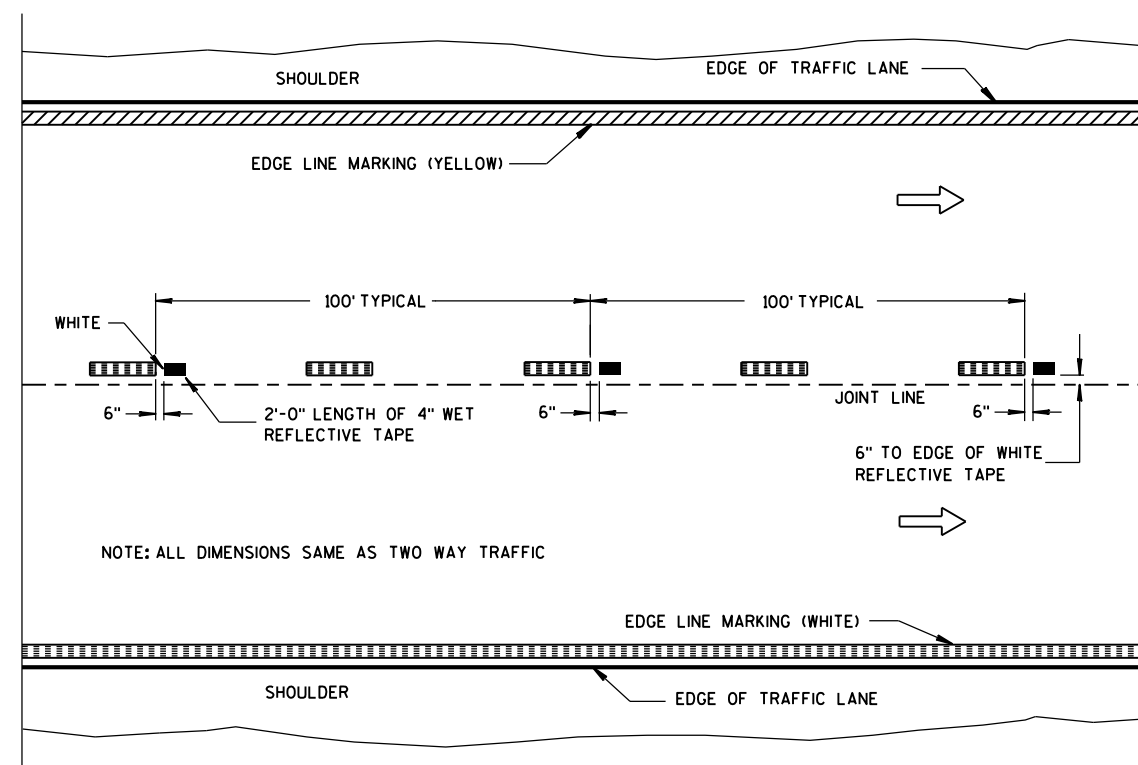
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC E 113

LEGEND

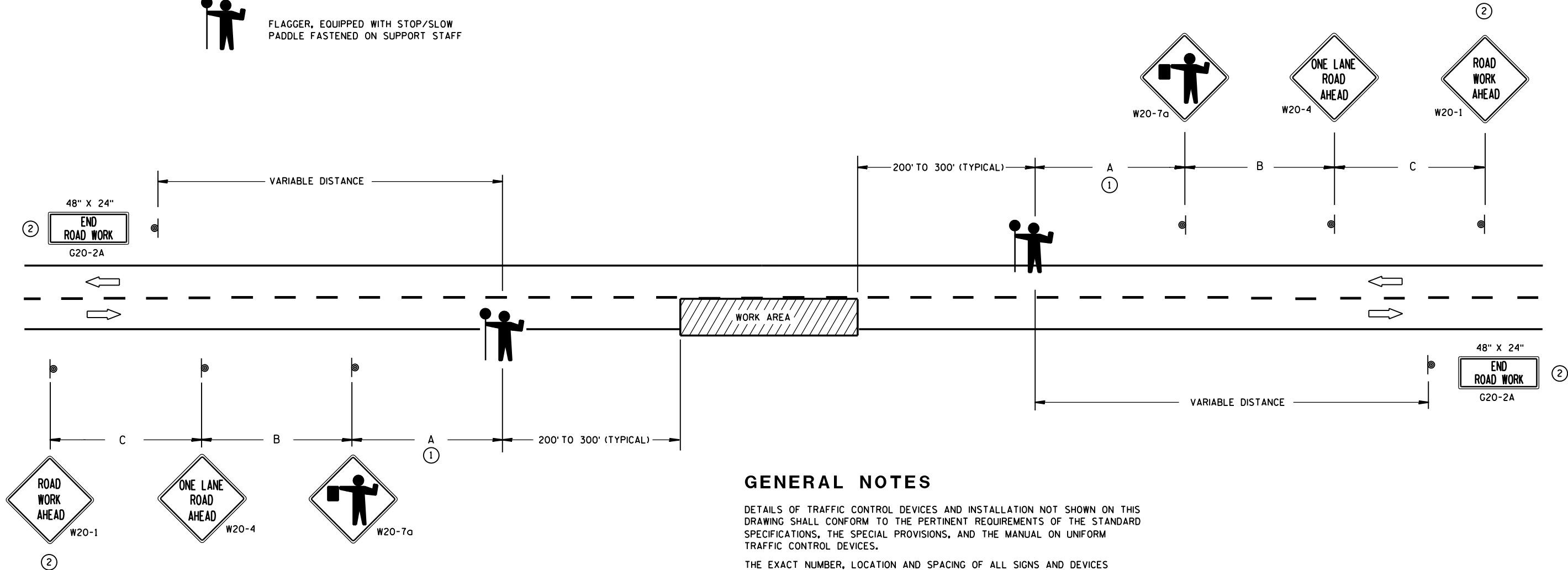
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

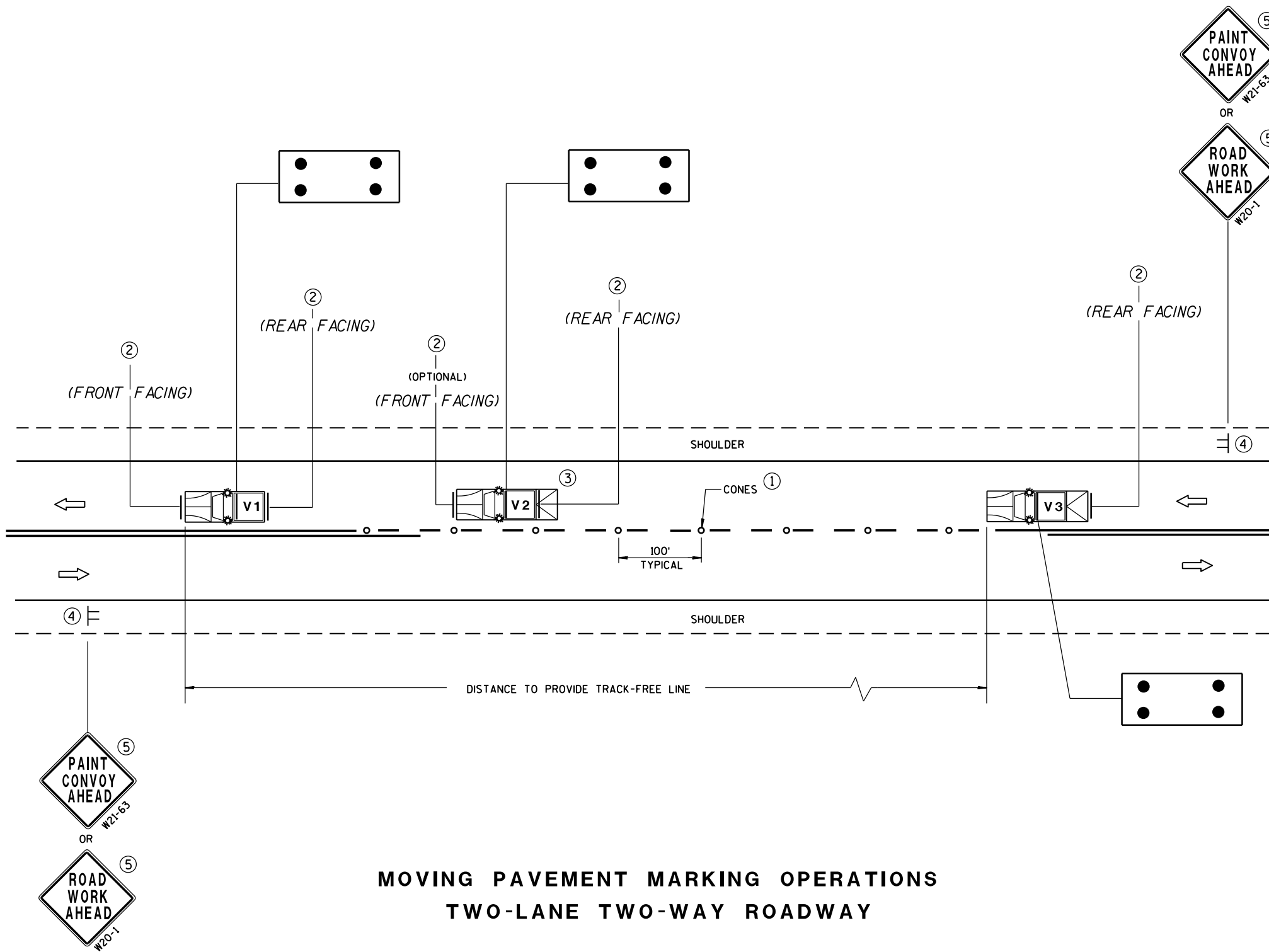
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- 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 114 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.

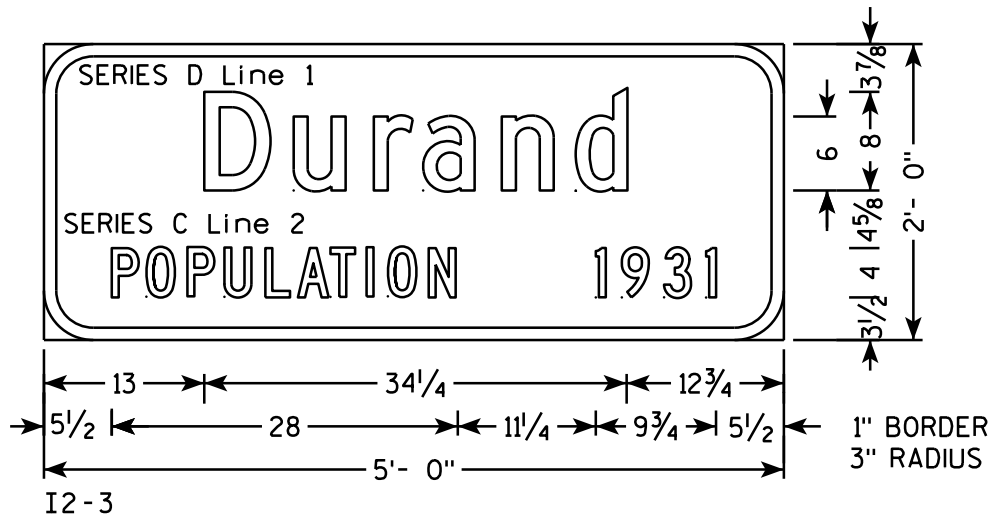
LEGEND

- 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)

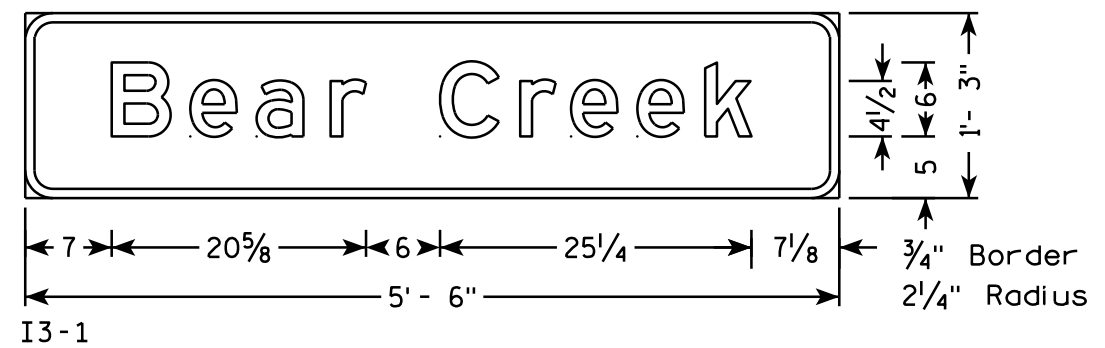
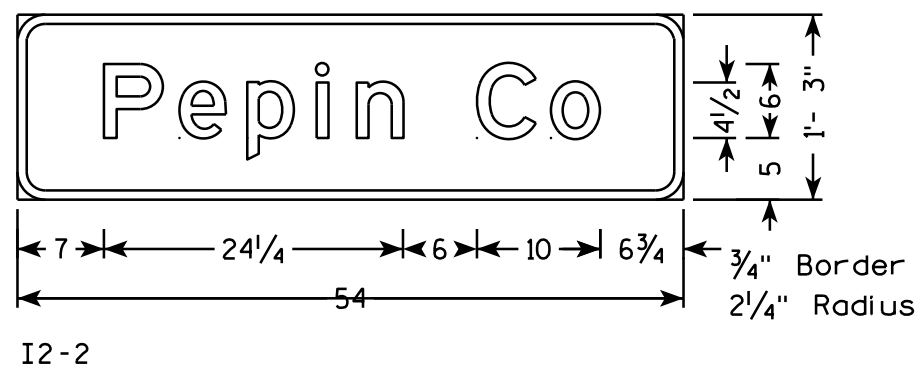
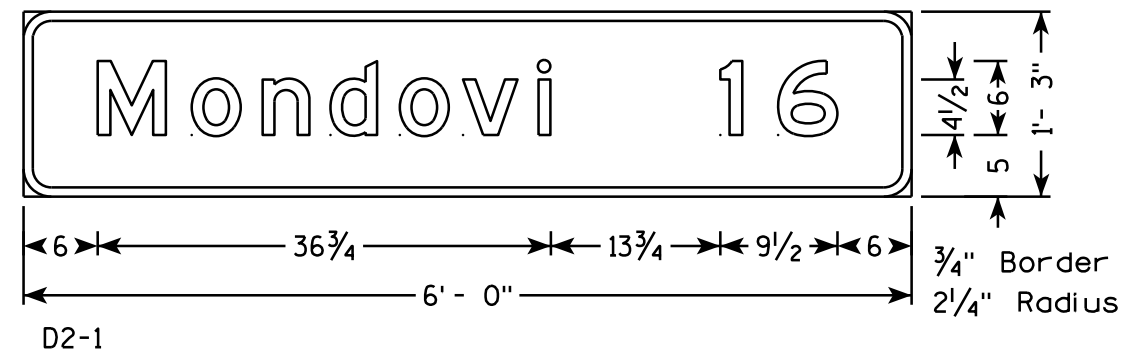
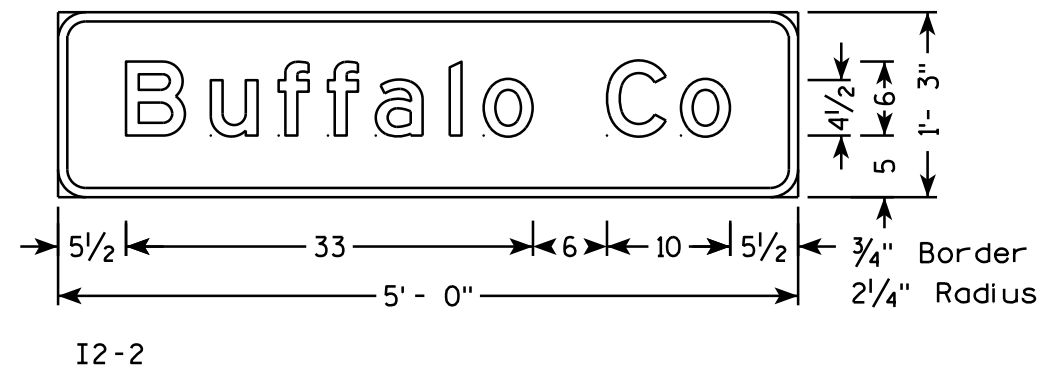
MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

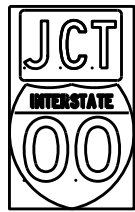
APPROVED
5/3/2013 /S/ Travis Feltes
DATE STATE TRAFFIC E 115
FHWA



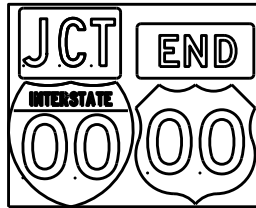
- NOTES
1. All Signs Type II - Type H Reflective
 2. Color:
Background - GREEN
Message - WHITE
 3. Message Series - E except as Shown



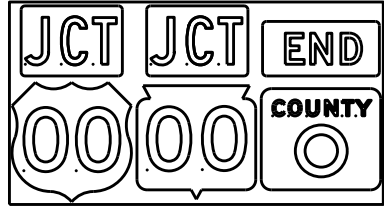
TYPICAL ASSEMBLIES



J1-1



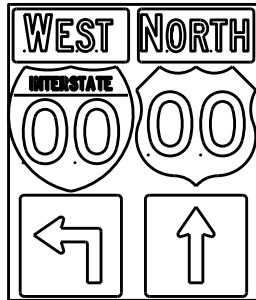
J1-2



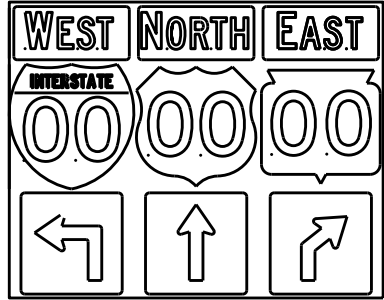
J1-3



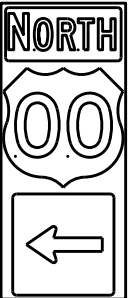
J2-1



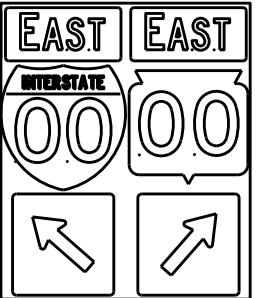
J2-2



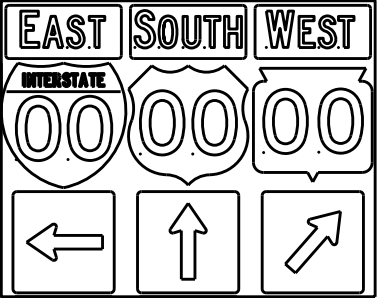
J2-3



J3-1



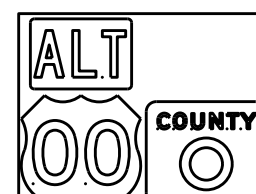
J3-2



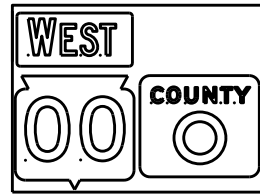
J3-3



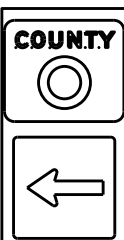
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

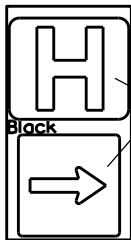


J22-1



JV

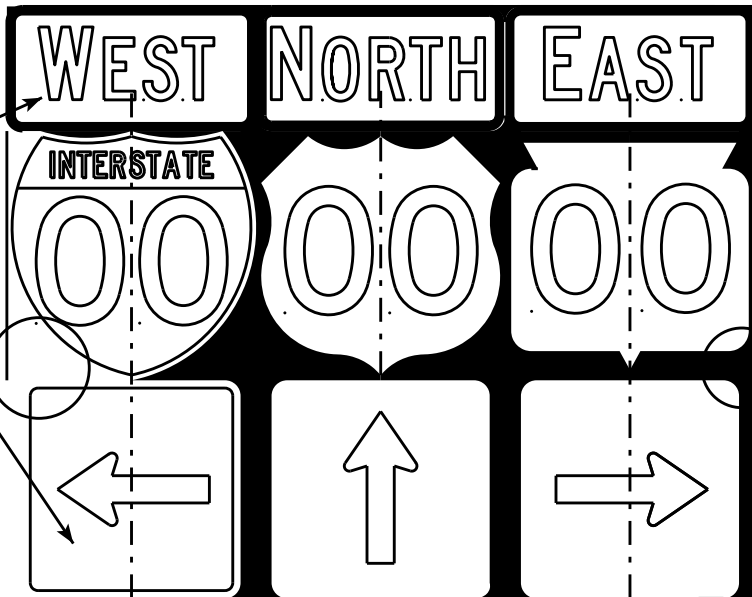
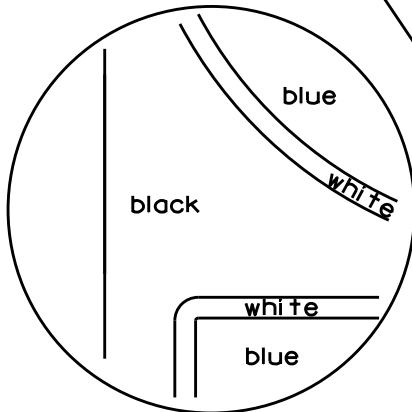
(Typical Vertical J-Assembly
See Note 10 and 11)



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

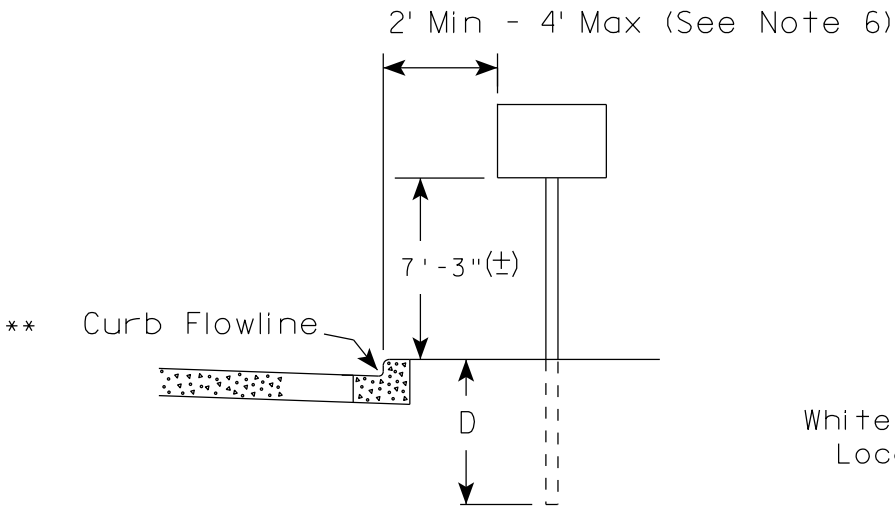
DATE 2/06/14 PL 117 A2-1S.8

SHEET NO: E

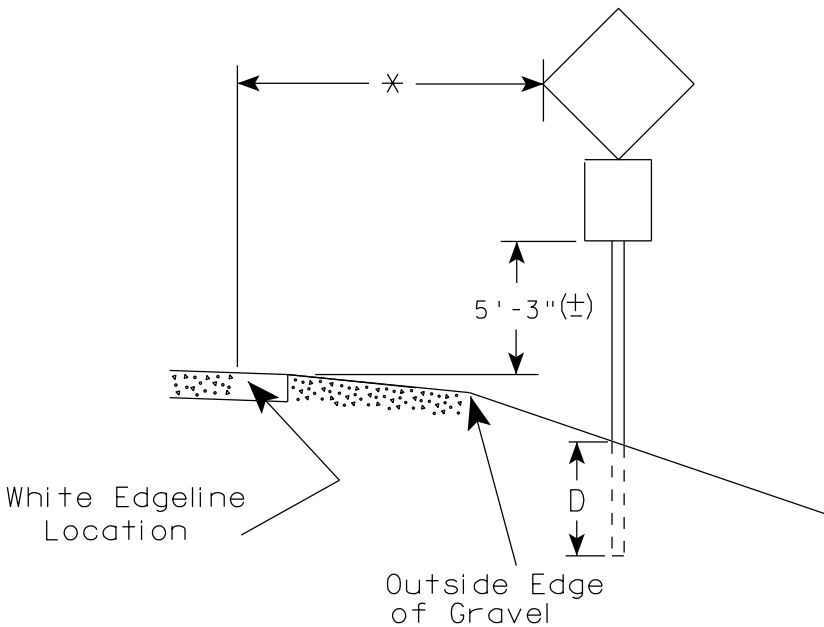
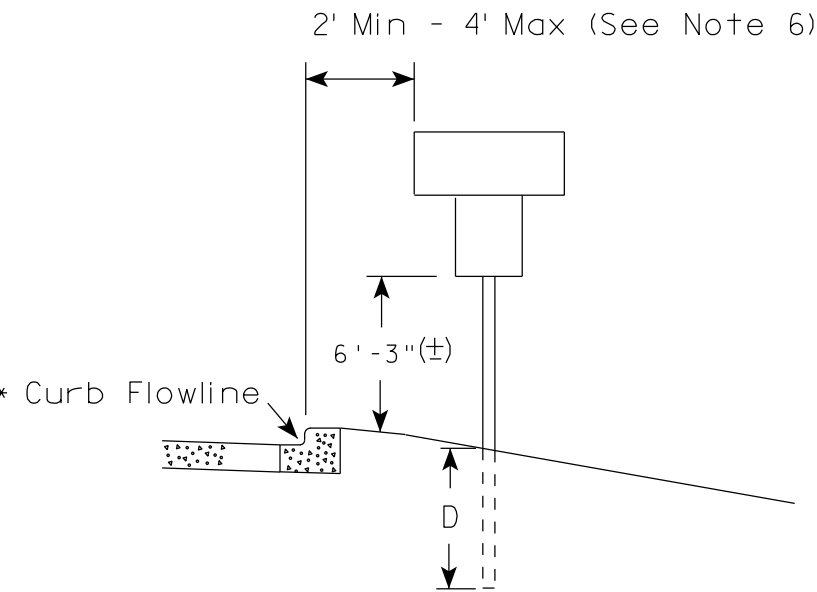
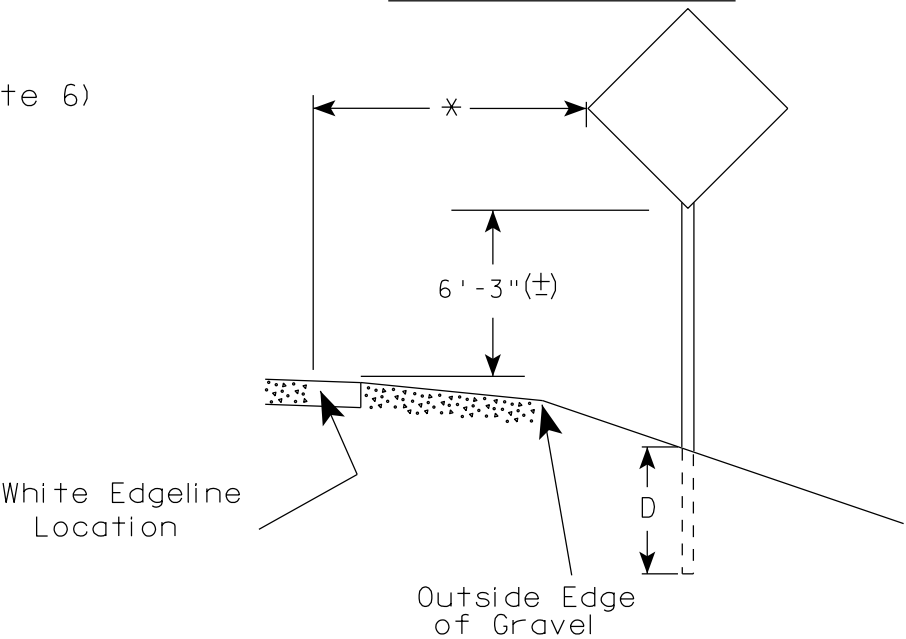
NOTES

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

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

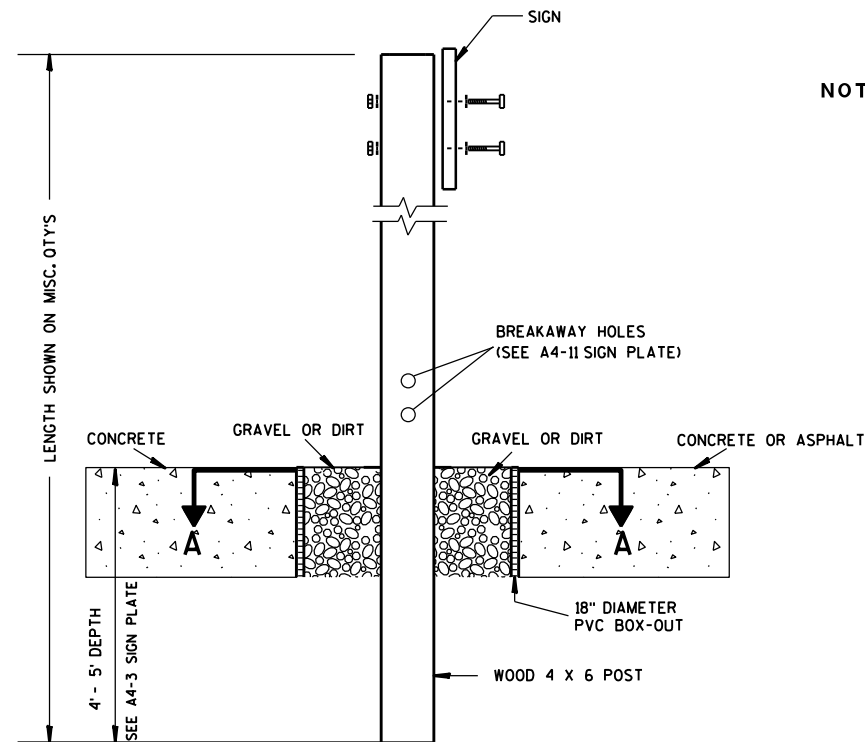
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

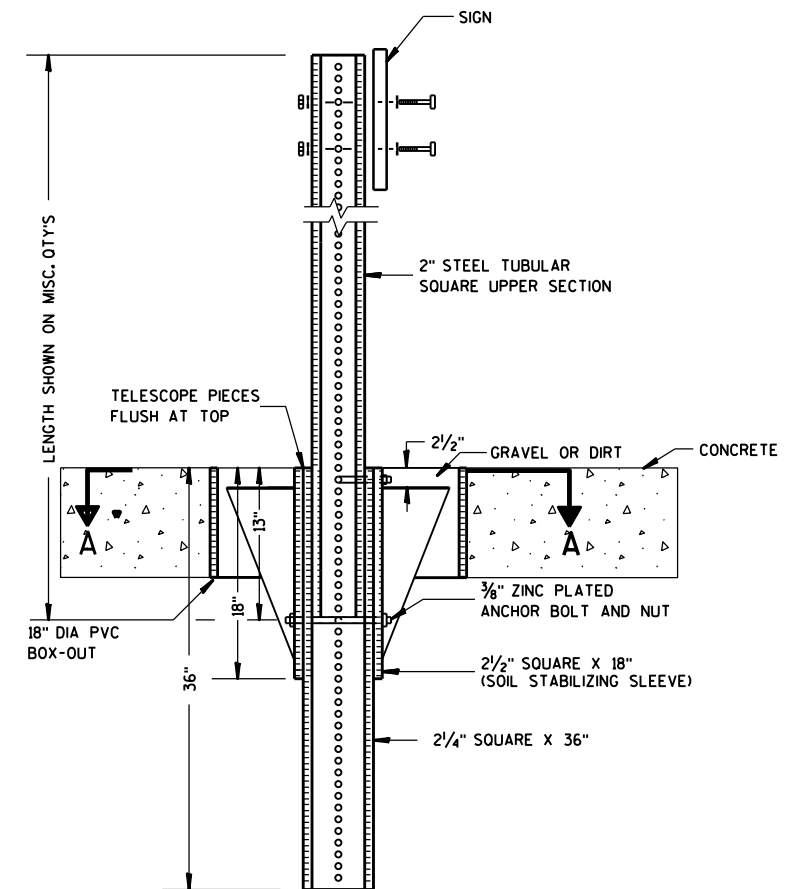
DATE 11/12/14 PLATE NO. A4-3.19



ELEVATION VIEW

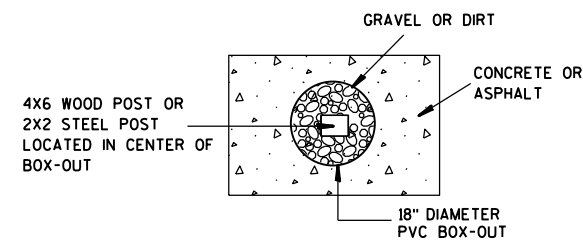
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 119 A4-3B.1

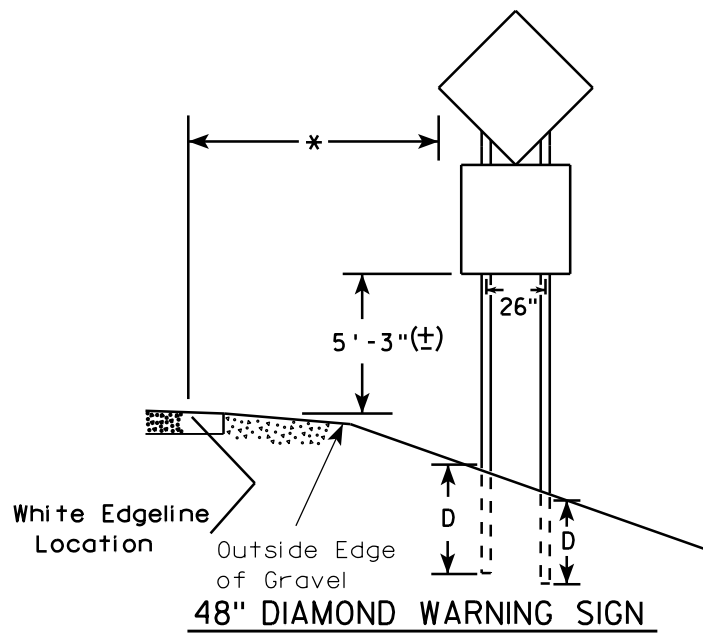
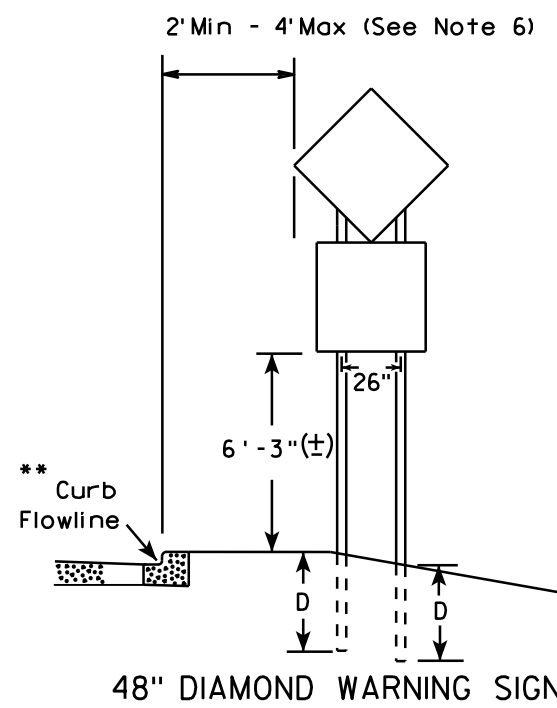
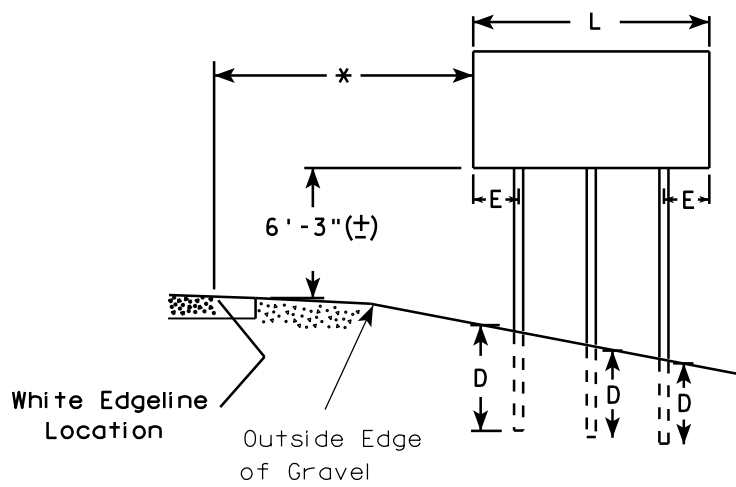
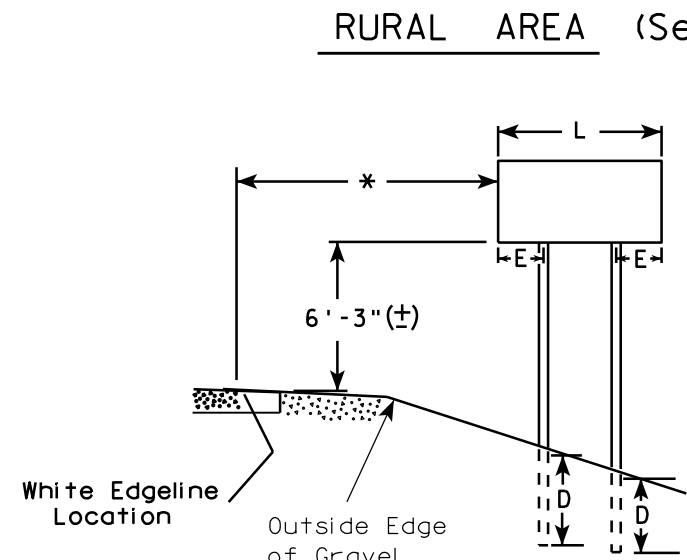
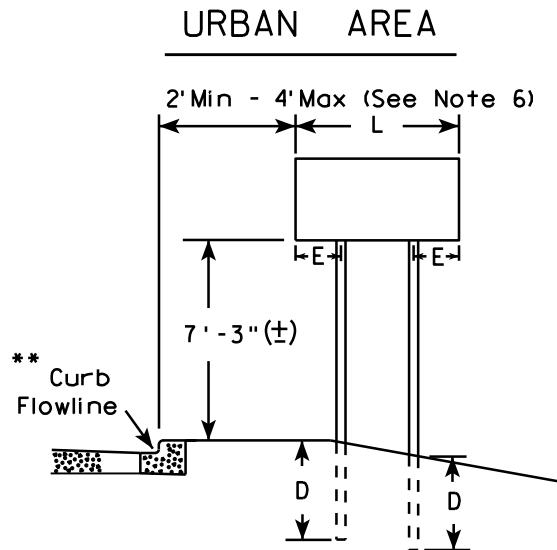
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

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

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

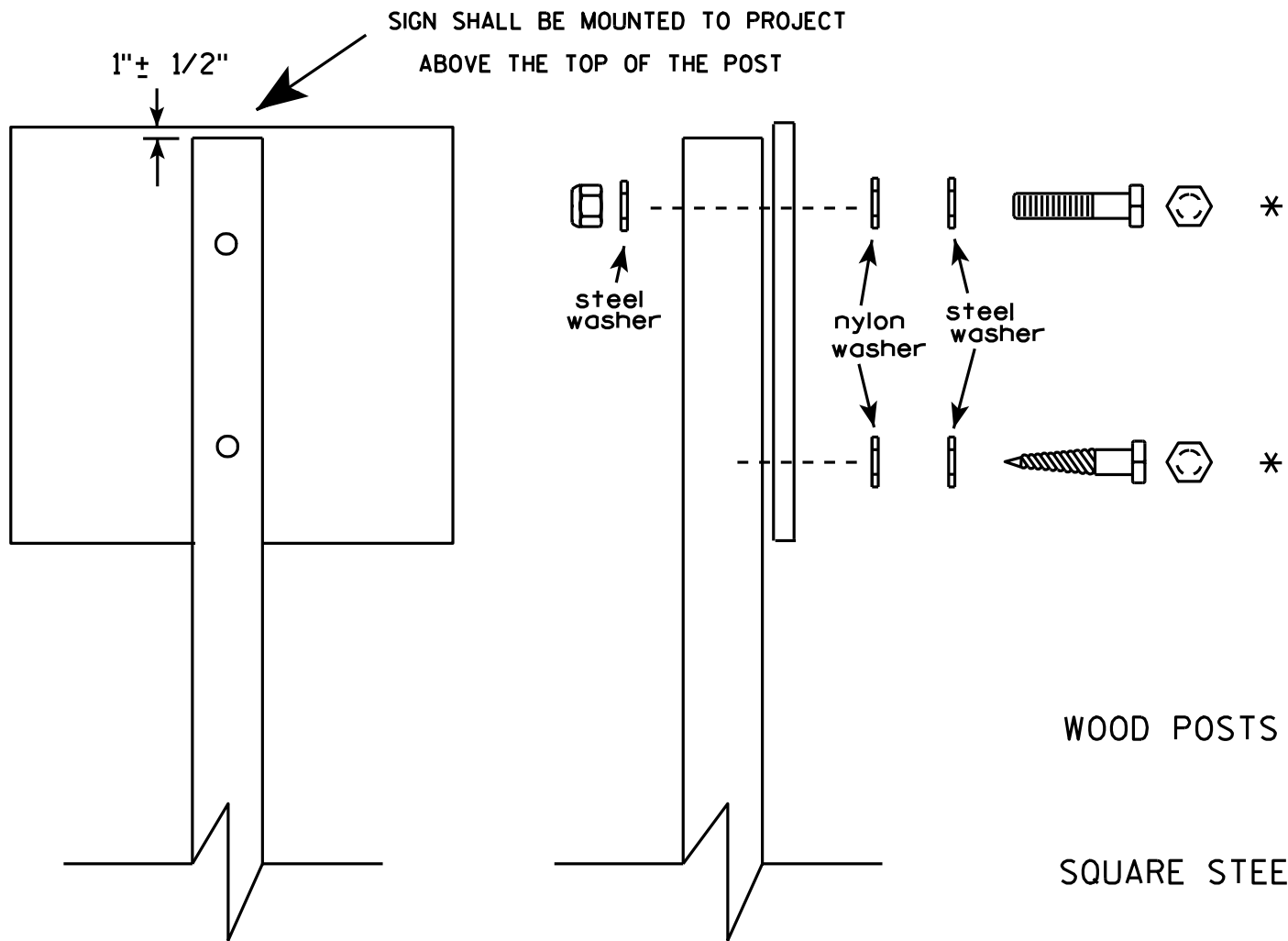
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

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

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

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/12/14	PLATE NO. ^{A4-A} 13 120

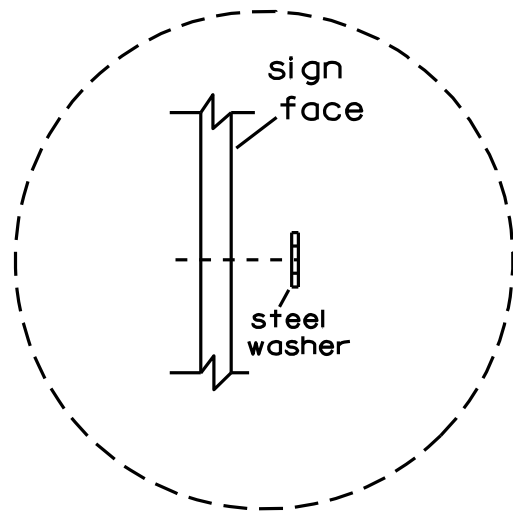


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

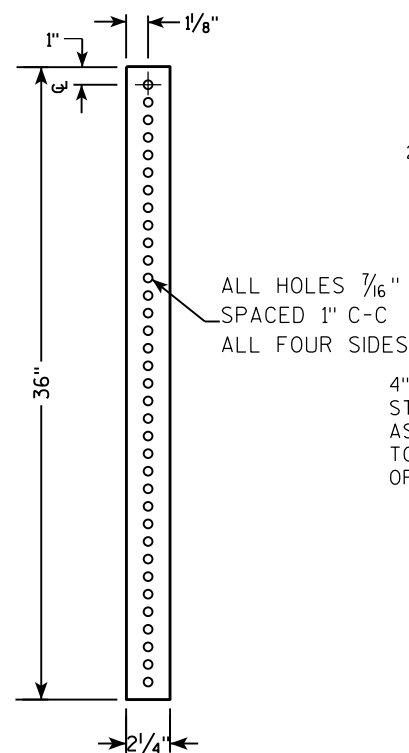


Washer Placement when Sign Has Other Than Type H or Type F Face

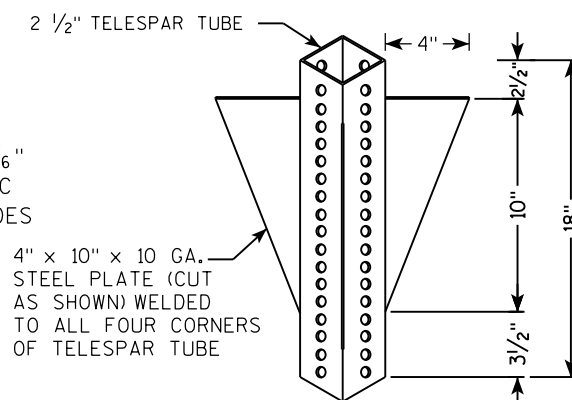
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require 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" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



TELESCOPE PIECES
FLUSH AT TOP

18" DIA SCHEDULE
40 PVC
BOX-OUT

36"

13"

18"

2 1/2" GRAVEL OR DIRT

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

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

2 1/4" SQUARE X 36"

2" STEEL TUBULAR
SQUARE UPPER SECTION

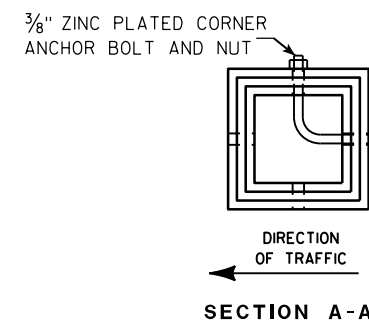
ALL HOLES 7/16"
SPACED 1" C-C
ALL FOUR SIDES

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

SIGN

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- Dimensions:**
 - Overall height: LENGTH SHOWN ON MISC. QTYS
 - Section A-A: 36" (total), 18" (upper), 12" (lower)
 - Section B-B: 1"
- Components:**
 - SIGN
 - SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 - 2" STEEL TUBULAR SQUARE UPPER SECTION
 - ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C
 - ALL FOUR SIDES
 - $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 - $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 - 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 - 2 1/4" SQUARE X 36"
 - TELESCOPE PIECES FLUSH AT TOP



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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI 122 14-9.9

SHEET NO: E

PROJECT NO:

HWY:

COUNTY:

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

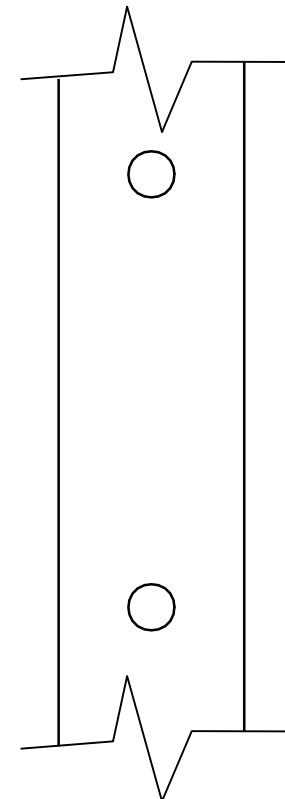
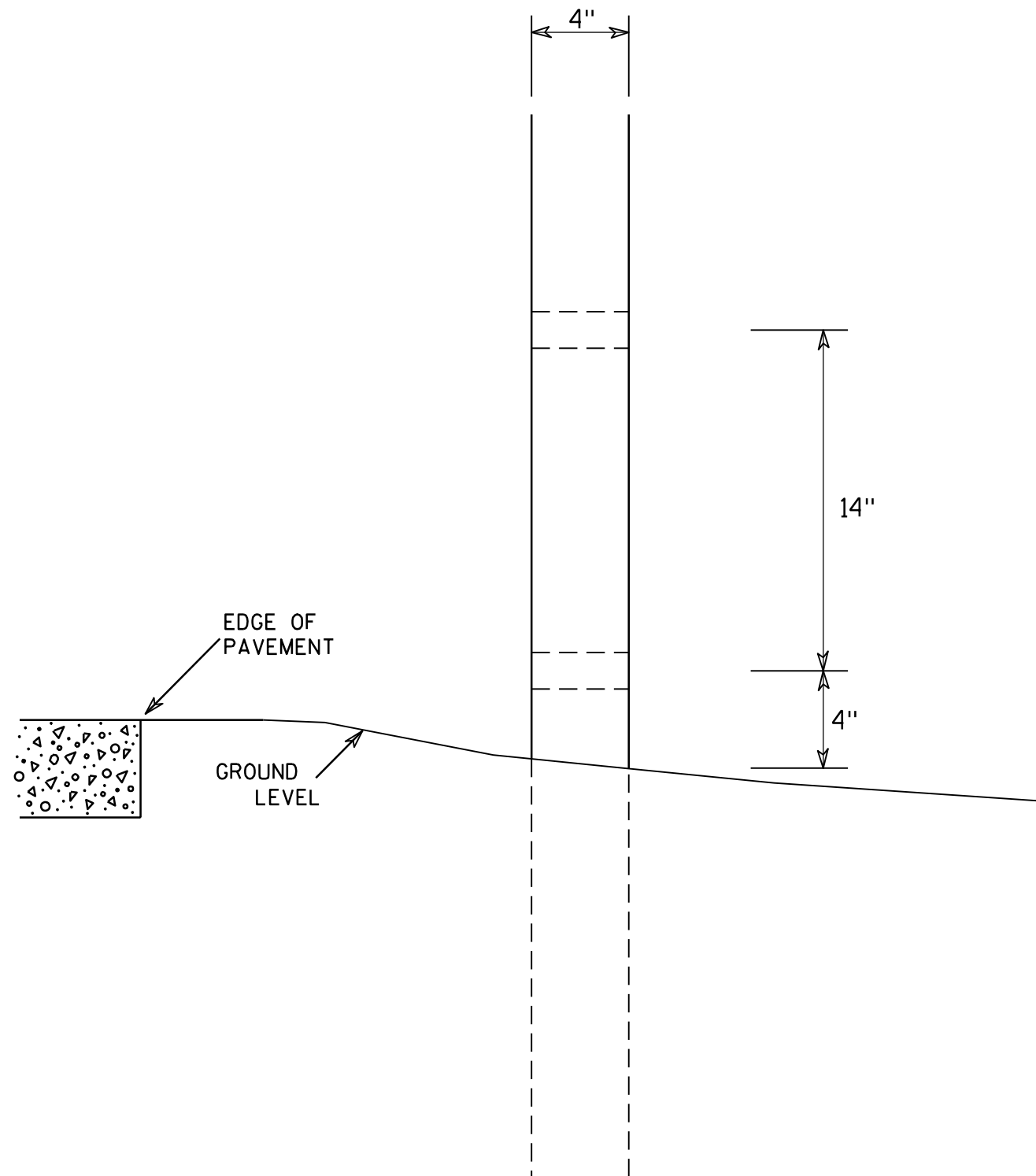
PLOT DATE : 05-FEB-2015 17:09

PLOT BY : mscs_ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

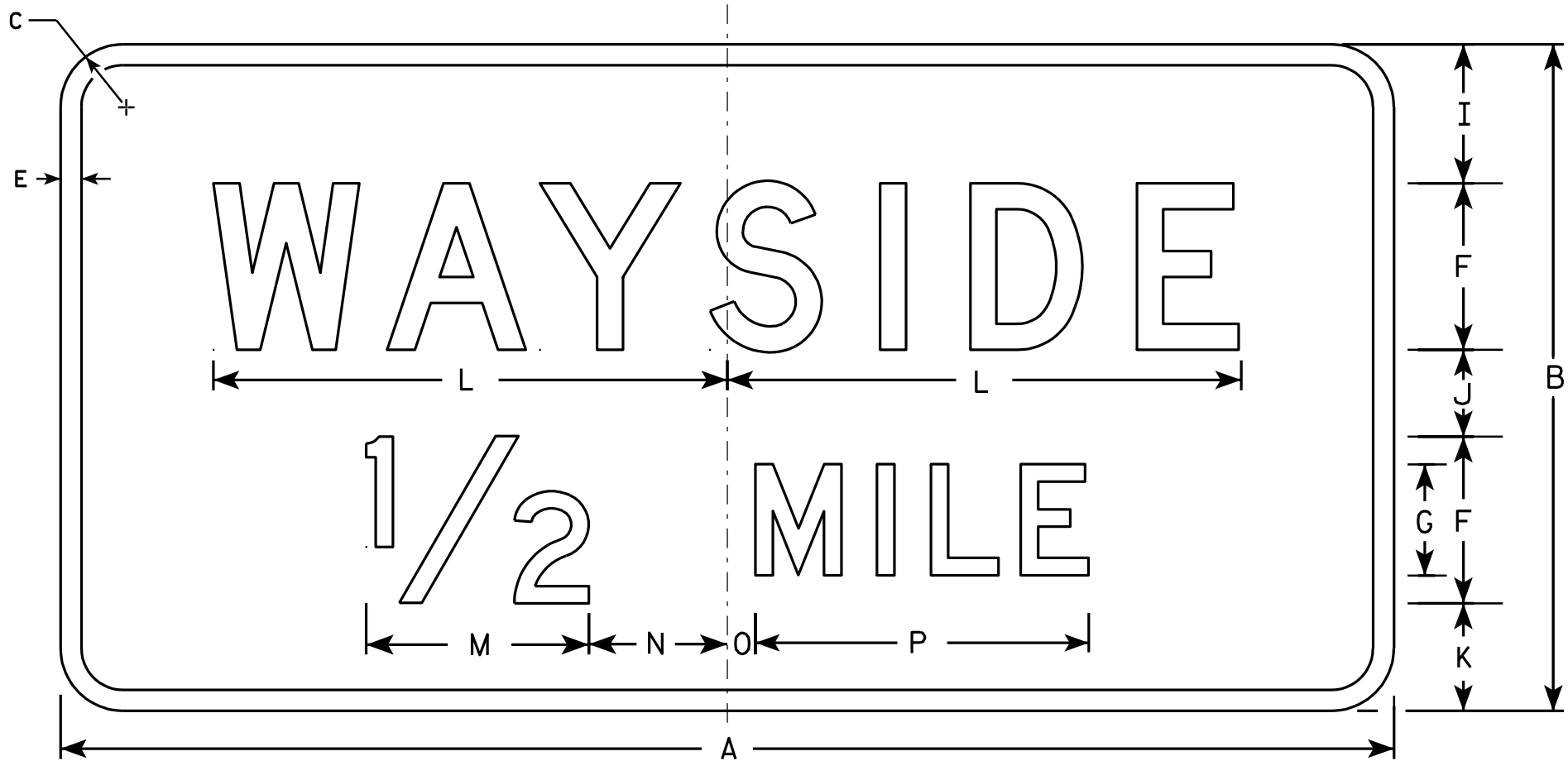
SHEET NO: 123

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	<i>Charles J. Spang</i> for State Traffic Engineer
DATE 1/09/02	PLATE NO. D5-61.9

SHEET NO: 124

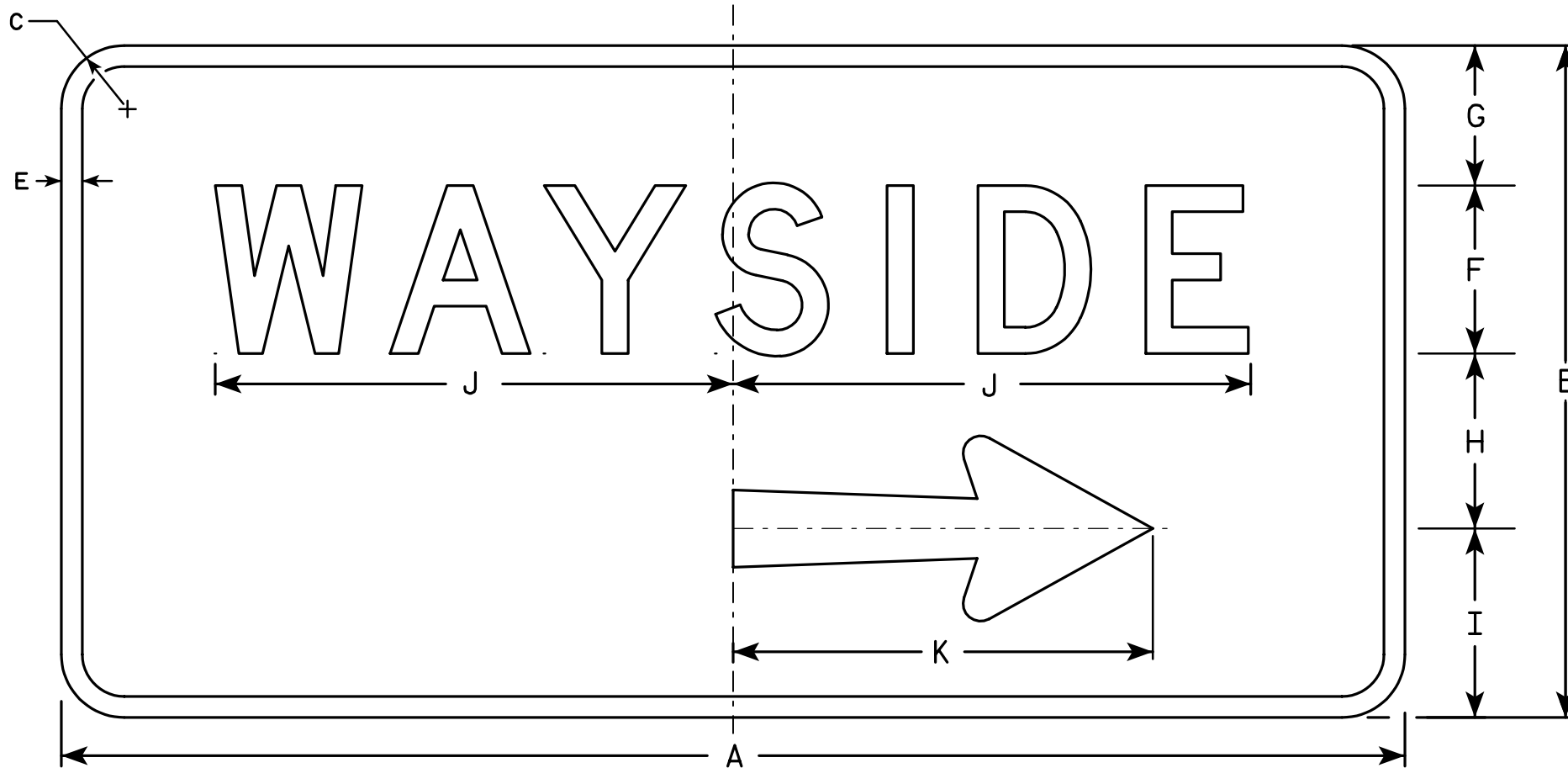
E

- 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,



D5-62R

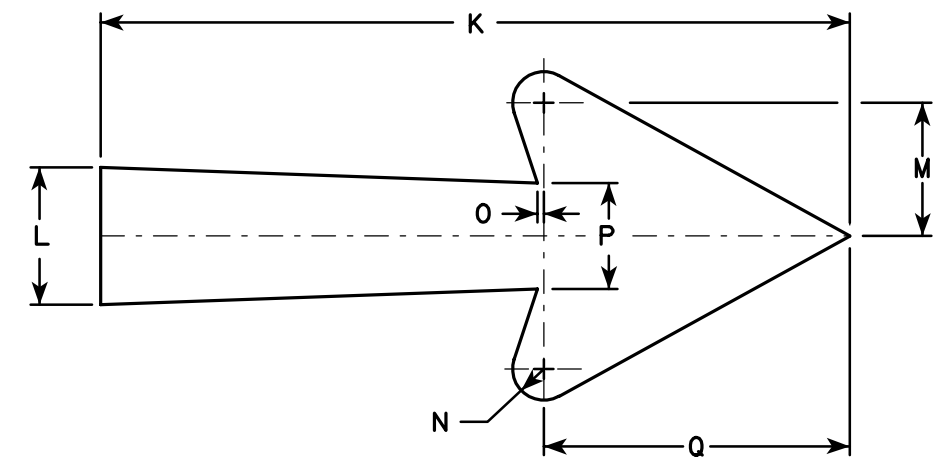
Metric equivalent
for this sign is:

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 m2
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

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

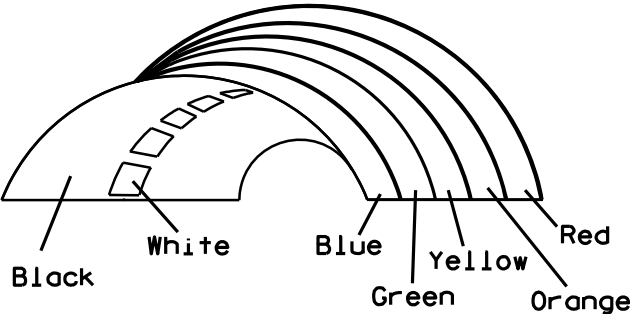
SHEET NO: 125

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: 126

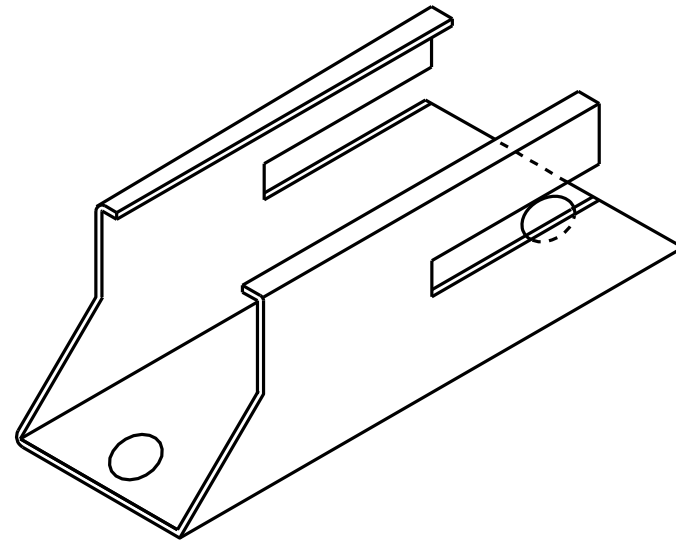
STANDARD SIGN
I55-56

WISCONSIN DEPT OF TRANSPORTATION

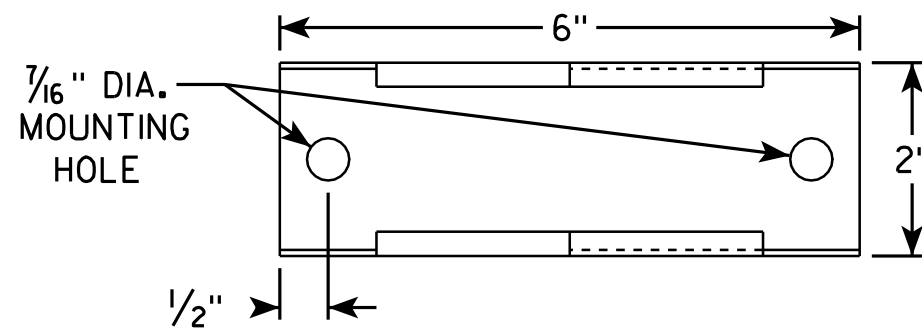
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

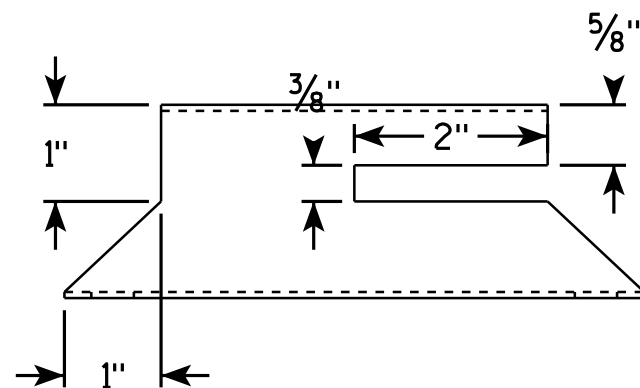
ISOMETRIC VIEW



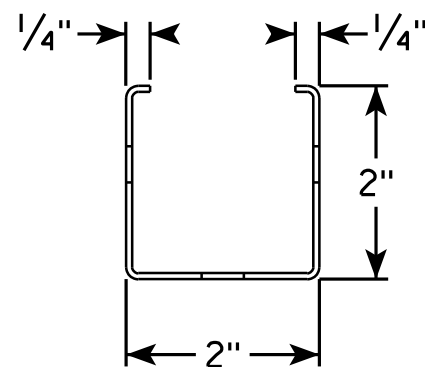
TOP VIEW



SIDE VIEW



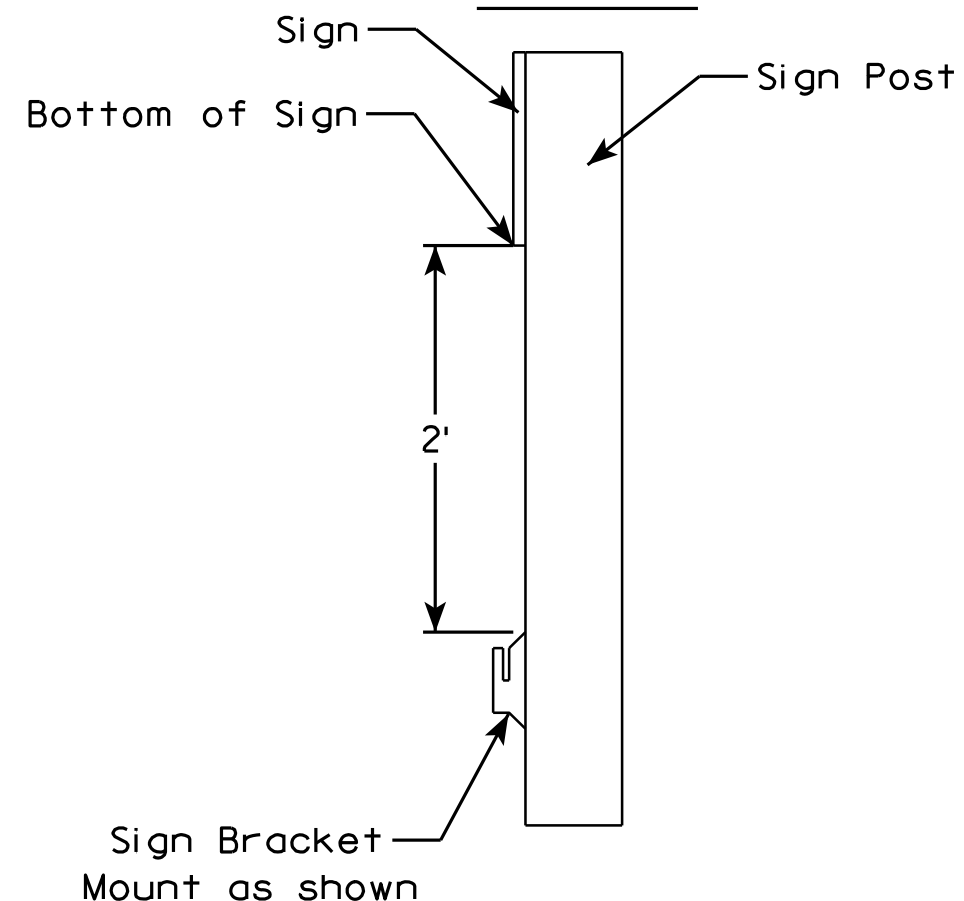
END VIEW



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:

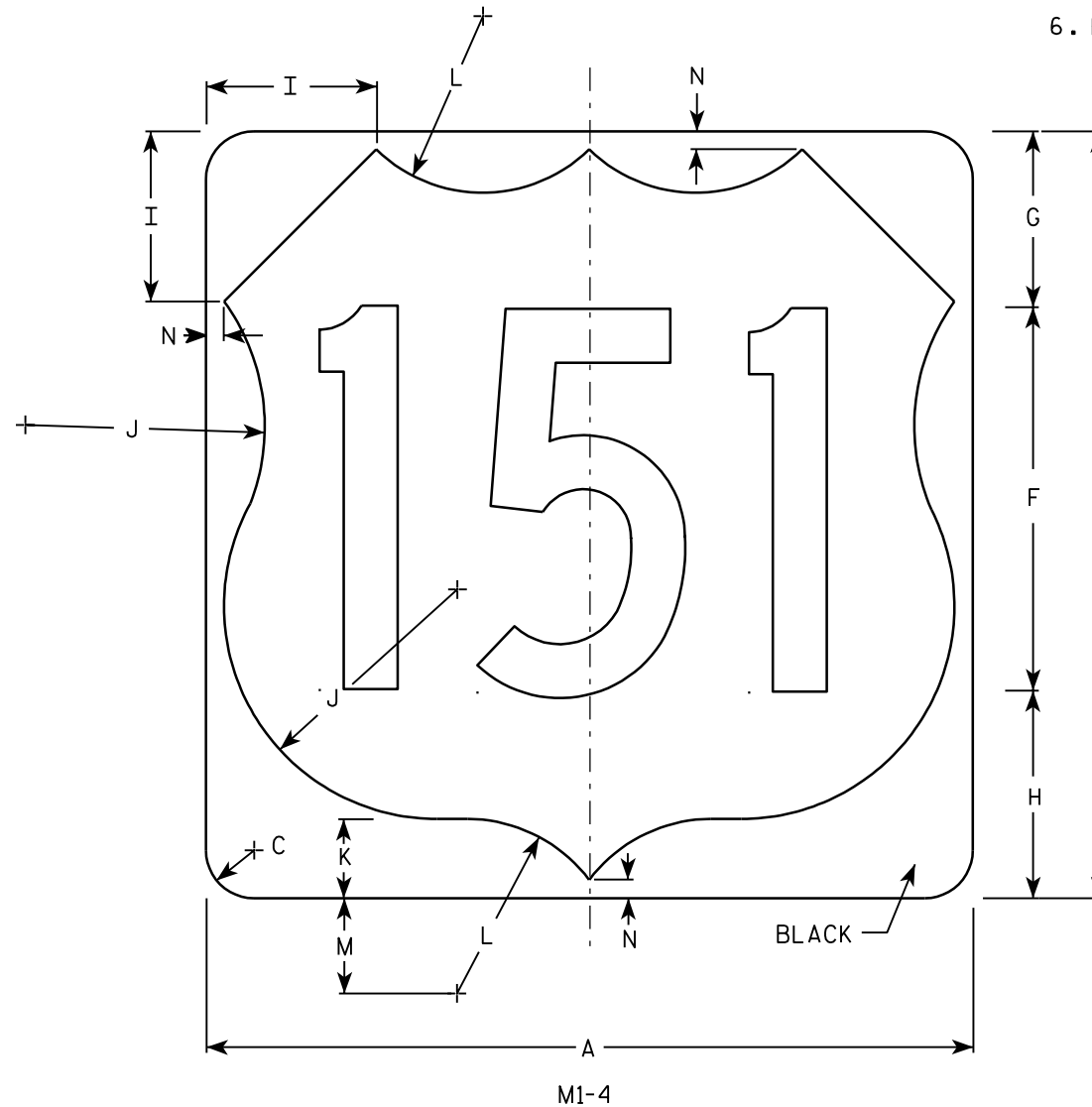
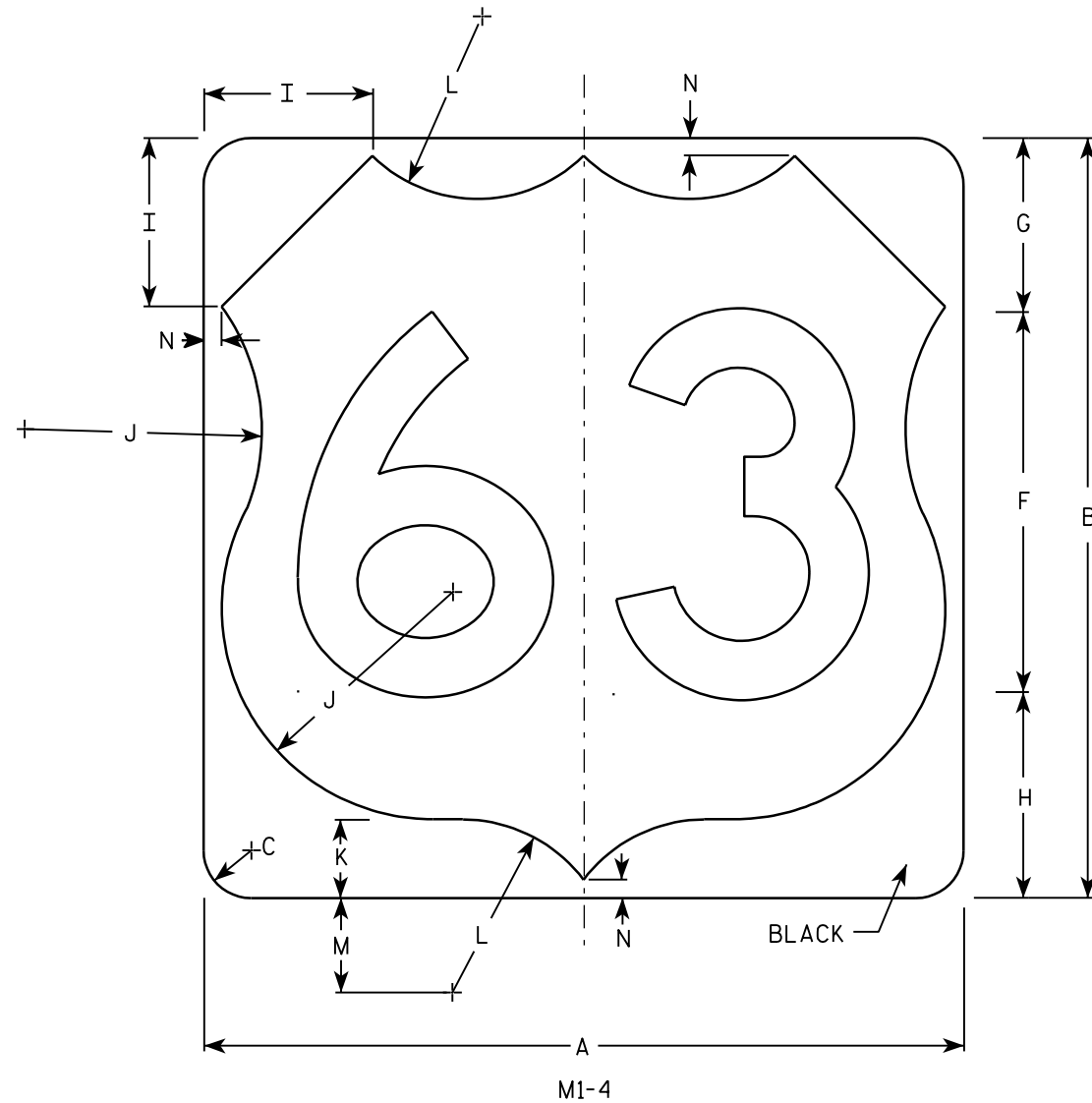
COUNTY:

SHEET NO: 127

E

NOTES

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



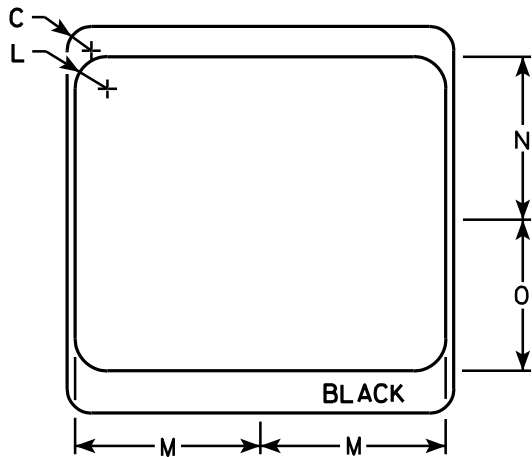
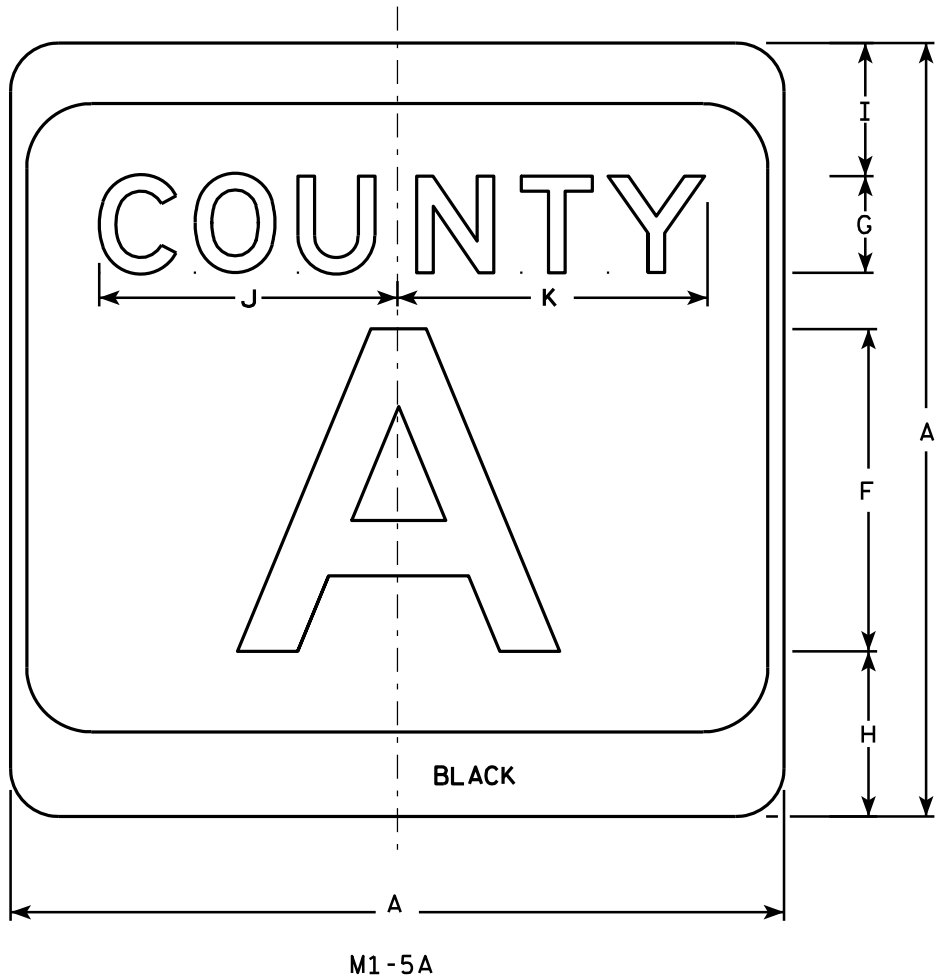
Metric equivalent
for this sign is:

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

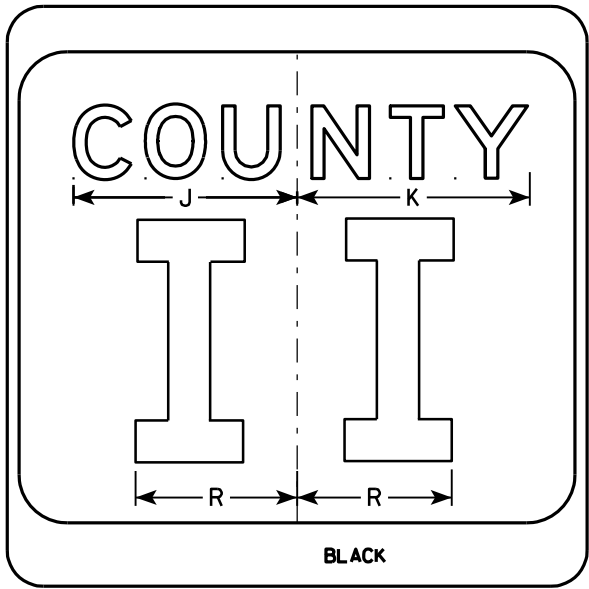
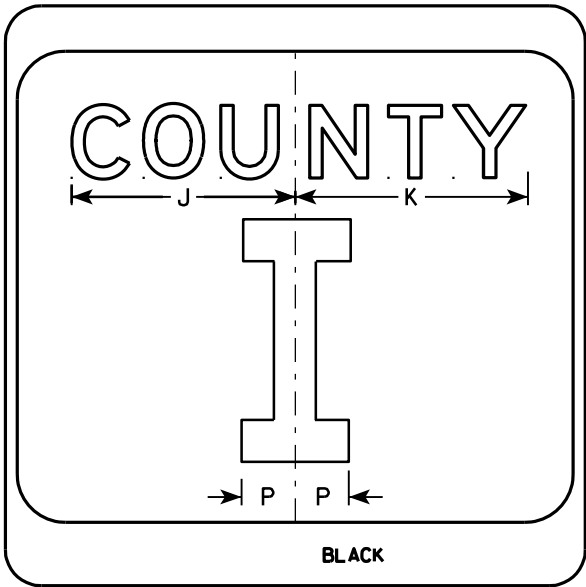
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Area m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	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: 128 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

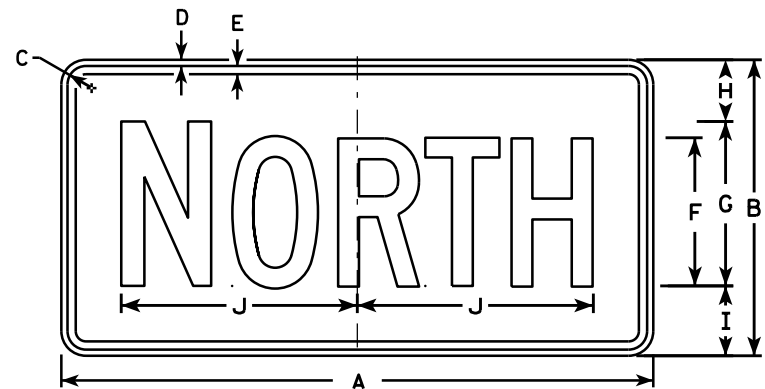


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5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

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 129	E
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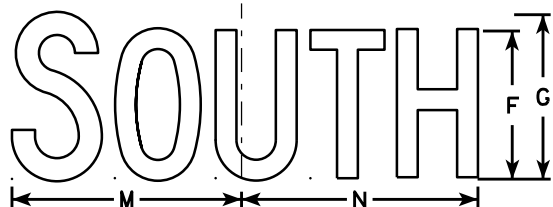
7



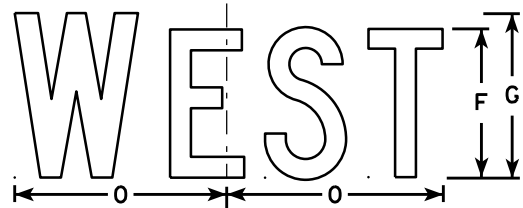
M3-1
MK3-1
MM3-1
MN3-1



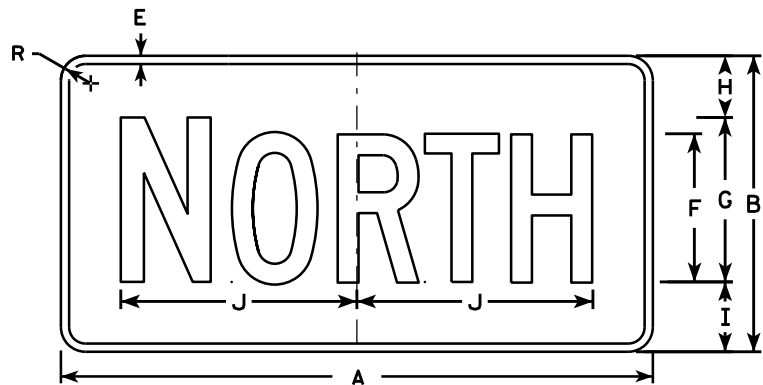
M3-2
MK3-2
MM3-2
MN3-2



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



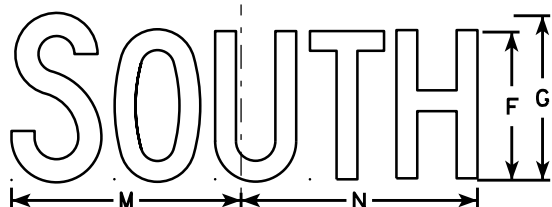
M3-4
MK3-4
MM3-4
MN3-4



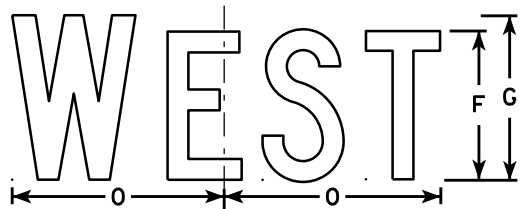
MB3-1



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.

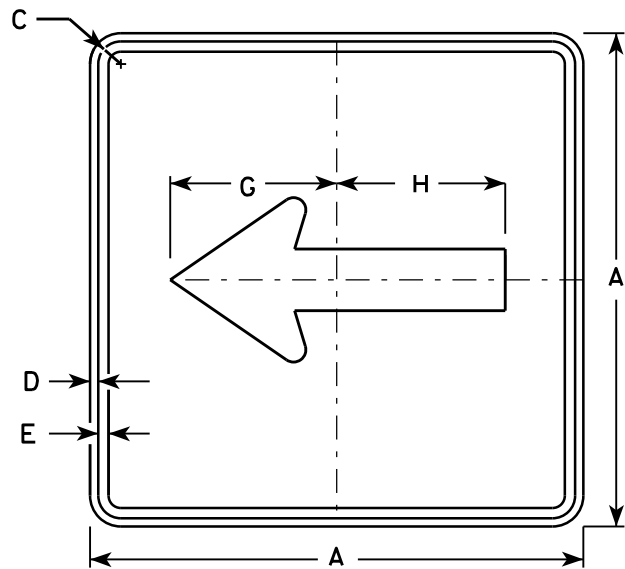
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8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

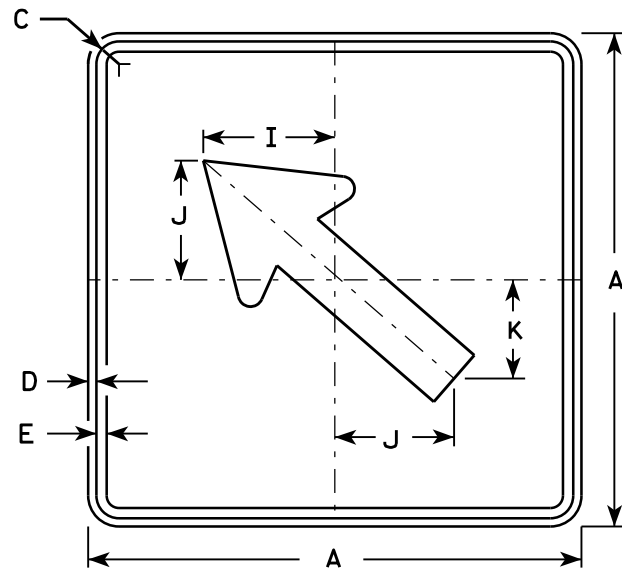
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

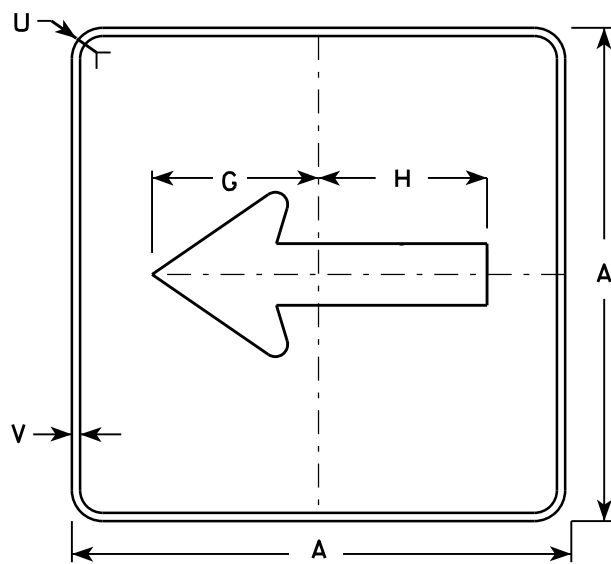
DATE 6/30/14 PLAT 130 M3-1.13



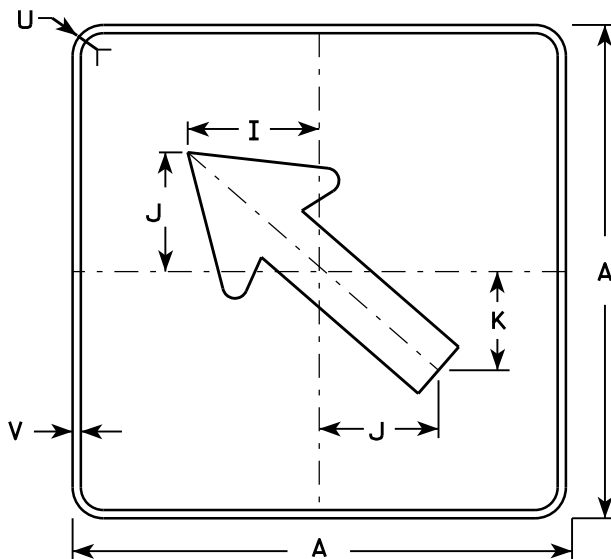
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



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



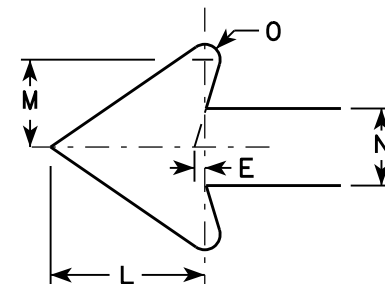
MB6 - 1



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



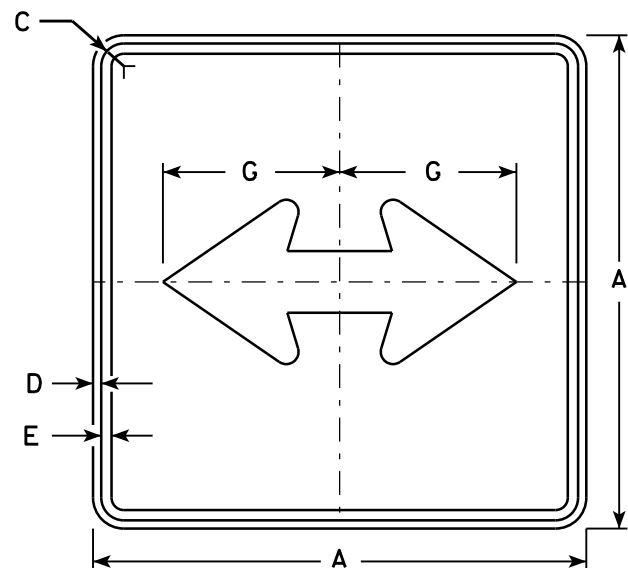
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10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

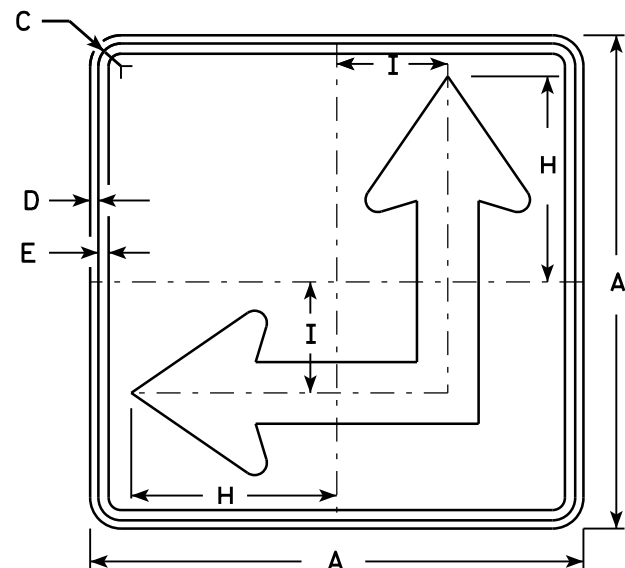
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

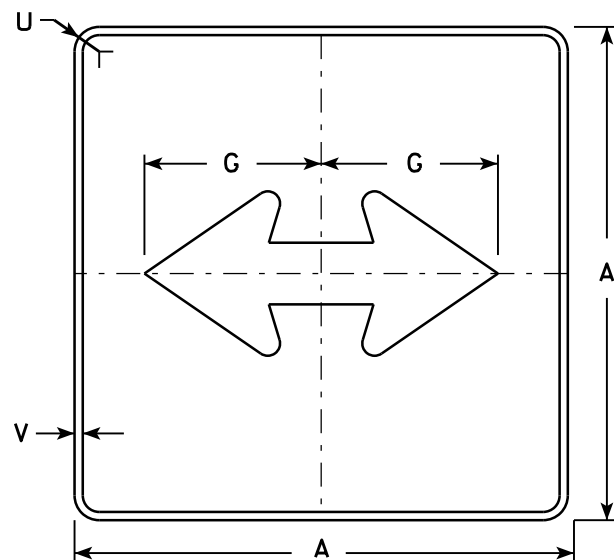
DATE 7/03/14 PLAT 131 M6-1.14



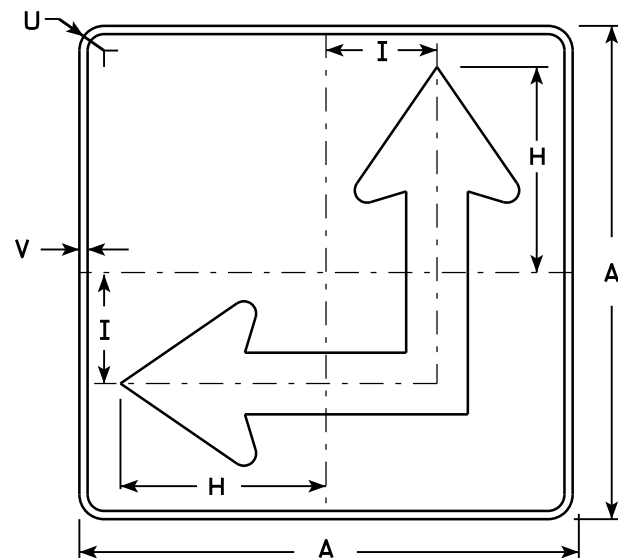
M6 - 4
MK6 - 4
MM6 - 4
MN6 - 4
MO6 - 4
MP6 - 4
MR6 - 4



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



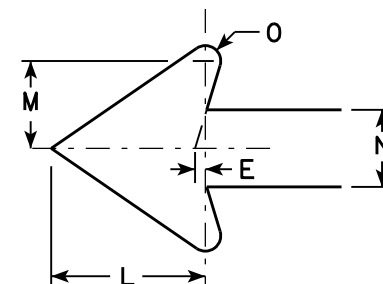
MB6 - 4



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

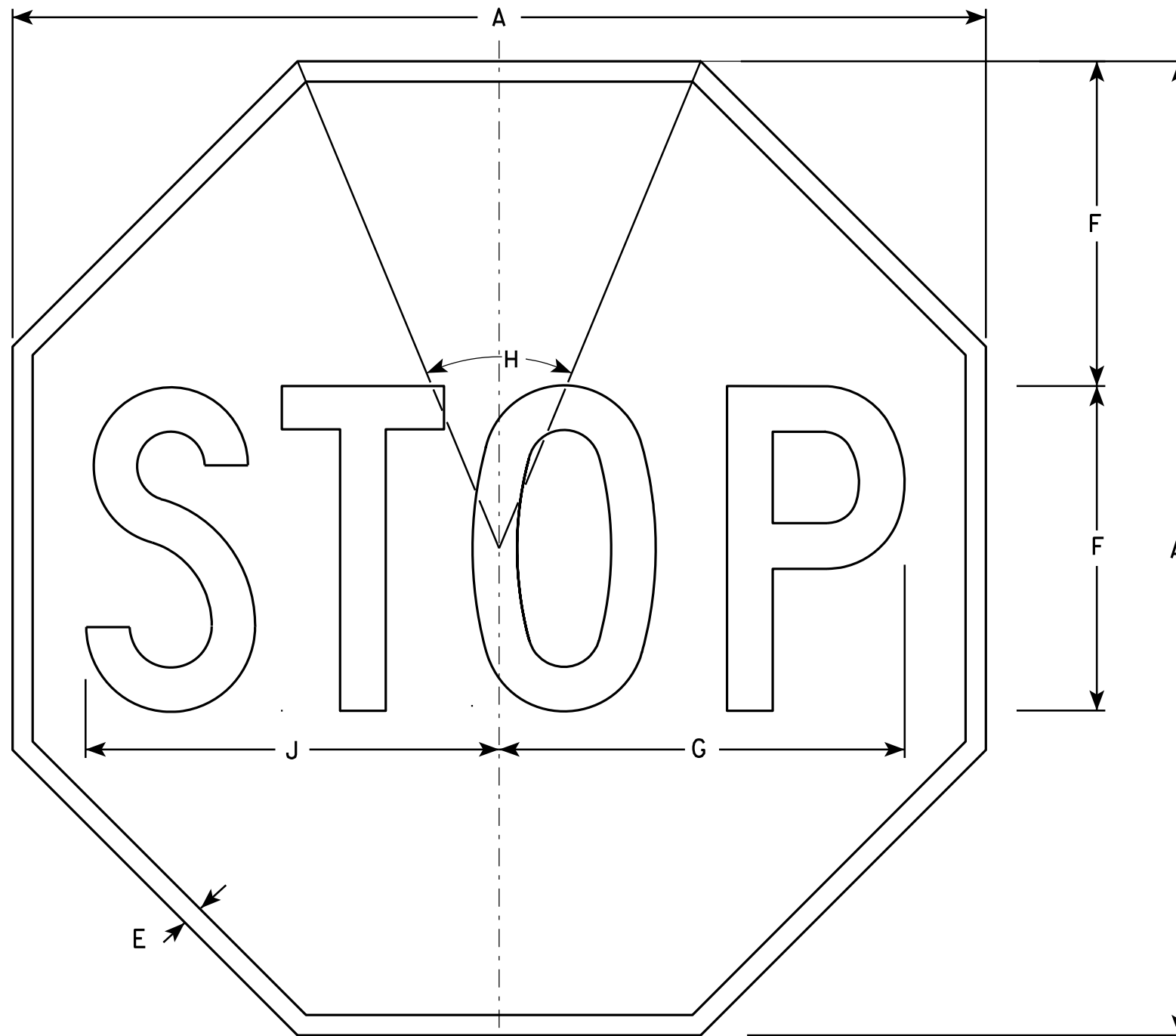
PROJECT NO:	HWY:	COUNTY:											SHEET NO:	E
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STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/03/14 PLAT 132 '16-4.9



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

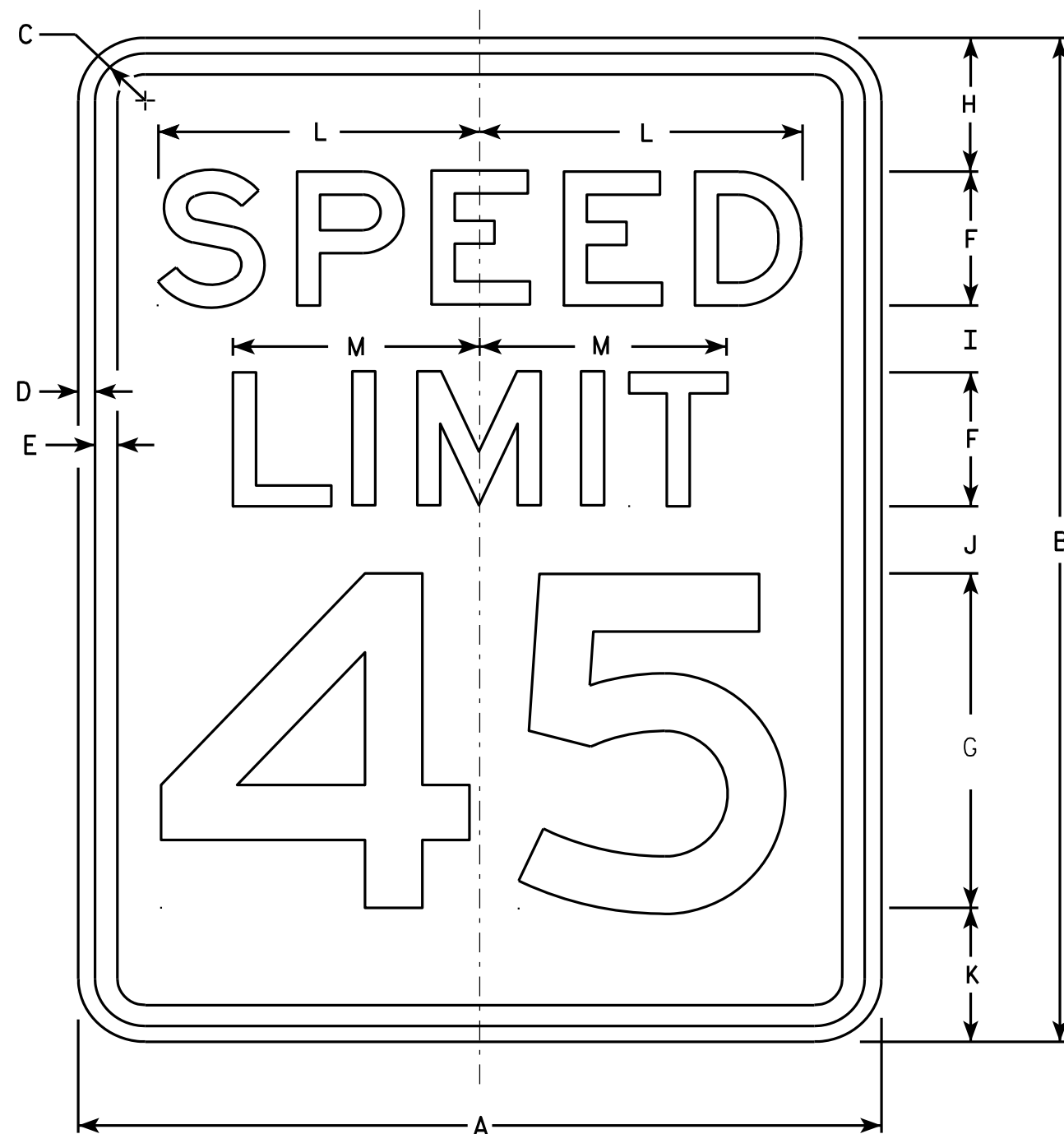
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 133

E



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

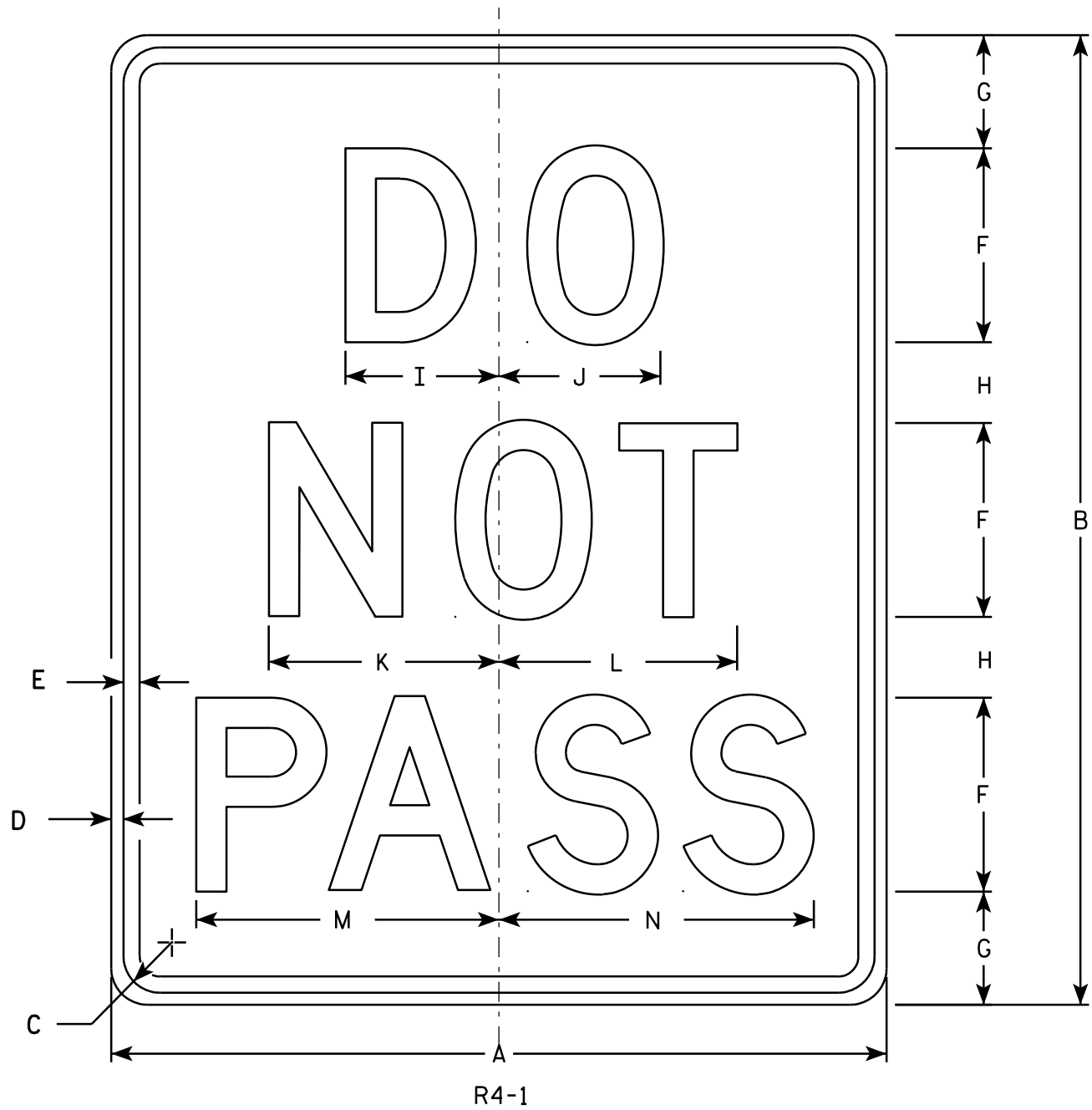
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 134 E

7



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 - 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.

7

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	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 7/8	12 1/4	15 5/8	16 1/4													20.0

STANDARD SIGN
R4 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

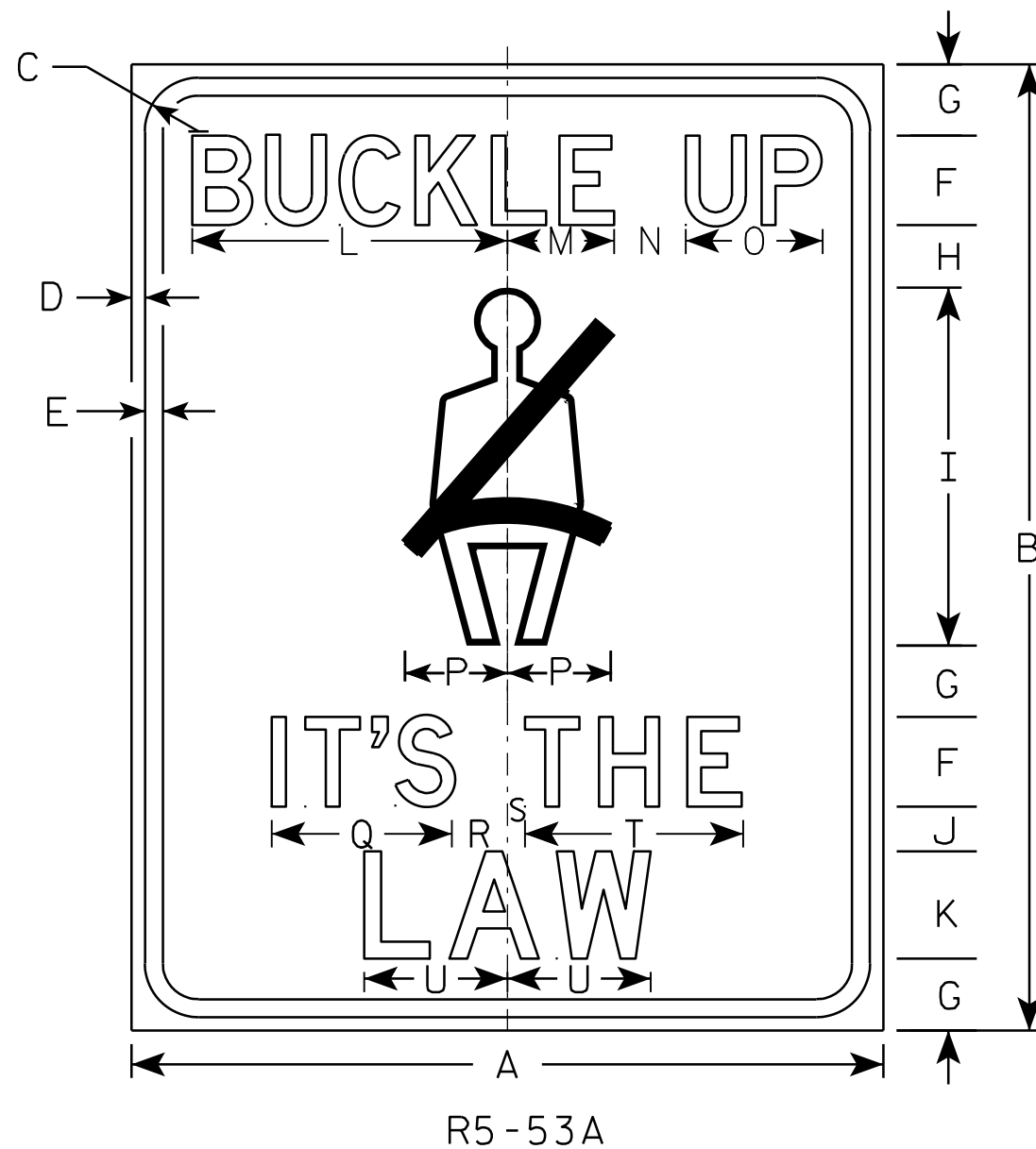
PROJECT NO:

HWY:

COUNTY:

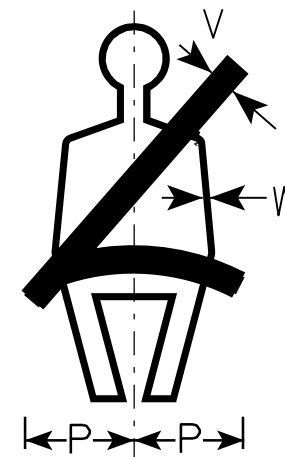
SHEET NO: 135

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 - White
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																											
2S	18	24	1 1/8	3/8	3/8	2	1 3/4	1 1/2	9	1 1/4	3	6 3/4	2 1/4	1 1/2	2 7/8	2 1/2	3 7/8	1 1/4	3/8	4 5/8	3 7/8	5/8	1/8				3.00
2M	18	24	1 1/8	3/8	3/8	2	1 3/4	1 1/2	9	1 1/4	3	6 3/4	2 1/4	1 1/2	2 7/8	2 1/2	3 7/8	1 1/4	3/8	4 5/8	3 7/8	5/8	1/8				3.00
3																											
4																											
5	42	54	2 1/4	3/4	1	5	4	3 1/2	20	2 1/2	6	17 5/8	6	4	7 5/8	5 3/4	10	3 1/2	1	12 1/4	8	1 1/2	3/8				15.75

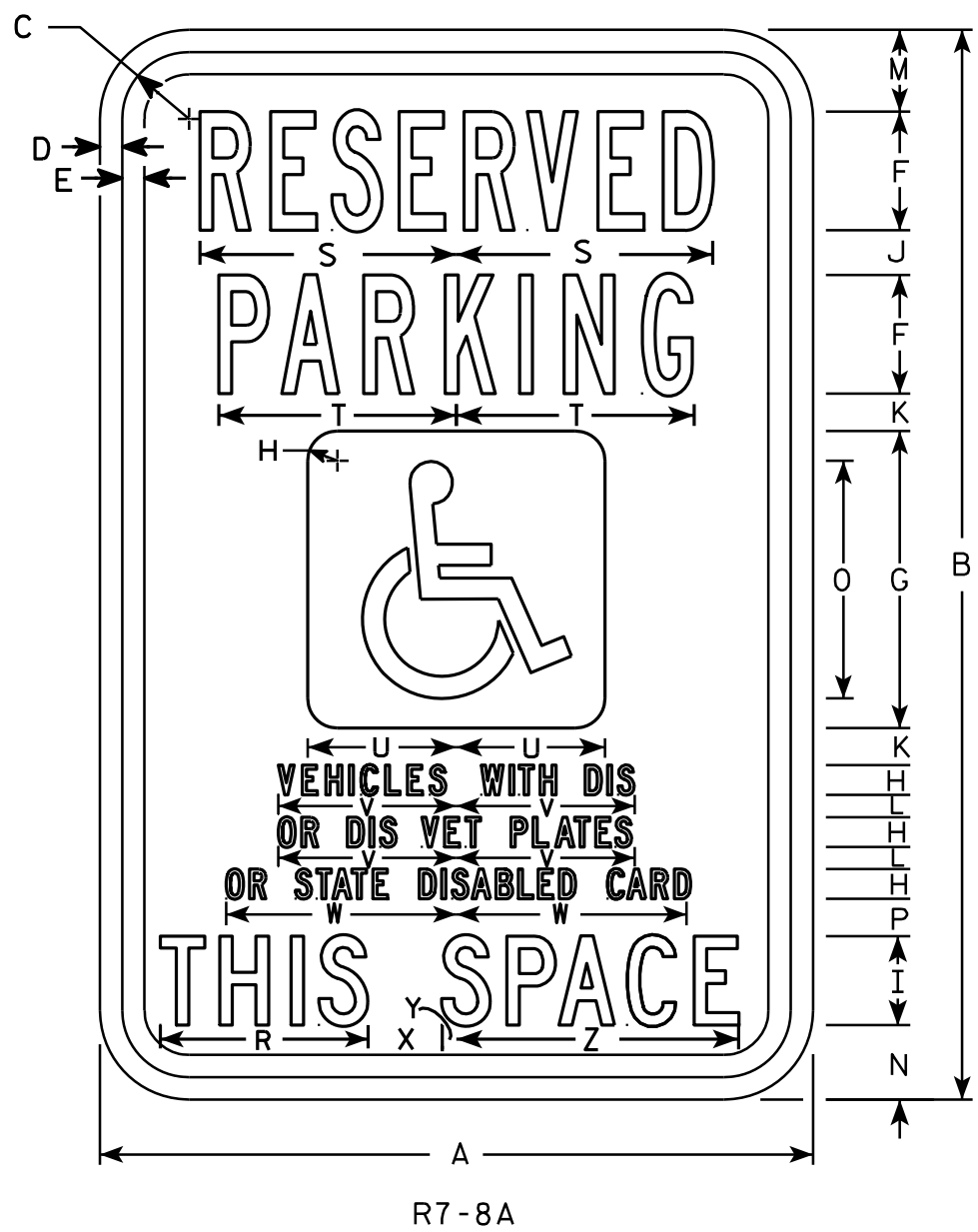
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E
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STANDARD SIGN
R5-53A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-53A.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 - Sign is white Type H Reflective; paraplegic background is blue.
 - Message - Legend and border are green; paraplegic symbol is white
- 3. Message Series - Lines 1 & 2 are Series B
Lines 3, 4, 5 & 6 are Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	18	1 1/8	3/8	3/8	2	5	1/2	1 1/2	3/4	5/8	3/8	1 3/8	1 1/4	4	5/8		3 1/2	4 3/8	4	2 1/2	3	3 7/8	1 1/4	1/4	4 3/4	1.5
2M	18	24	1 1/8	3/8	1/2	3	6	3/4	2	7/8	5/8	1/2	1 7/8	2	5	3/4		4 5/8	6 1/2	5 3/8	3	4 1/2	5 7/8	1 1/2	1/4	6 3/8	3.0
3	18	24	1 1/8	3/8	1/2	3	6	3/4	2	7/8	5/8	1/2	1 7/8	2	5	3/4		4 5/8	6 1/2	5 3/8	3	4 1/2	5 7/8	1 1/2	1/4	6 3/8	3.0
4																											
5																											

STANDARD SIGN
R7-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/25/2011 PLATE NO. R7-8A.6



R55-51

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	18		1 1/2	3/8	3/8	4	3	2	1 1/2	2	2 1/8	6 7/8	7	7 1/4													2.25
2M	18		1 1/2	3/8	3/8	4	3	2	1 1/2	2	2 1/8	6 7/8	7	7 1/4													2.25
3																											
4																											
5																											

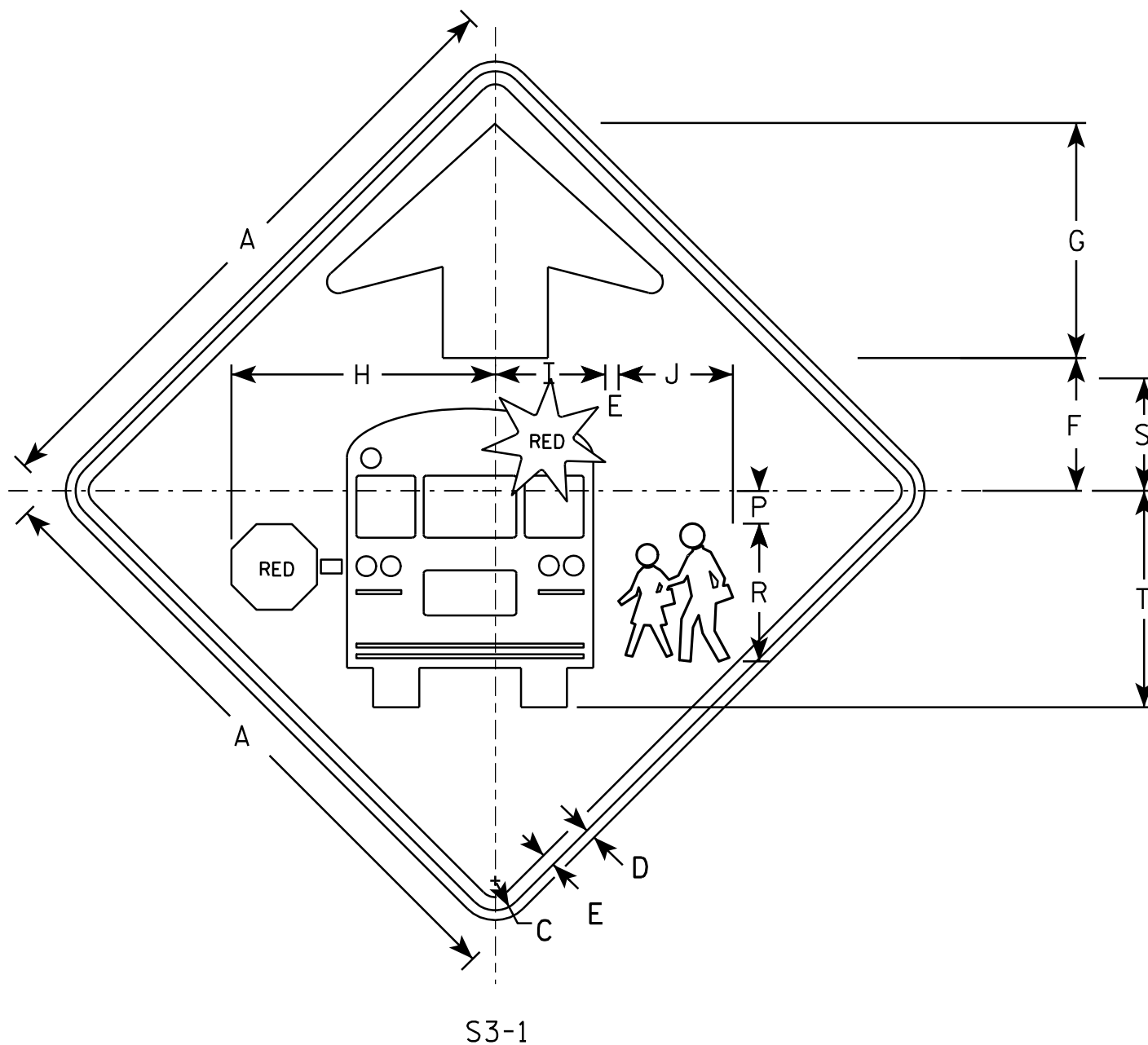
STANDARD SIGN

R55-51

WISCONSIN DEPT OF TRANSPORTATION

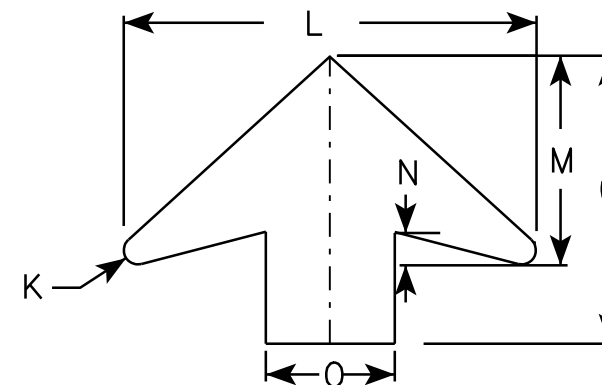
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/30/11 PLATE NO. R55-51.5



NOTES

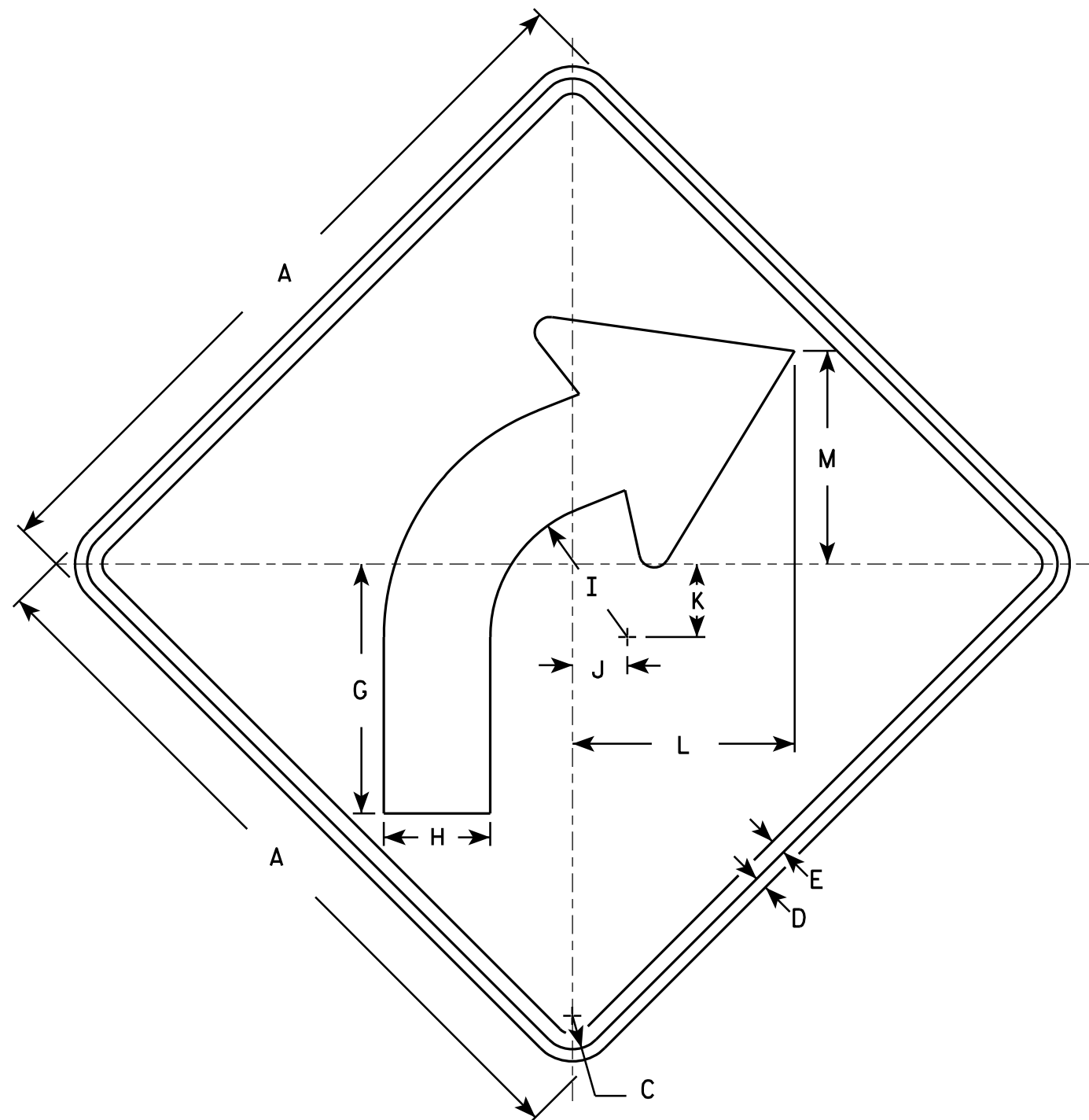
1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - YELLOW-GREEN
 - Message - BLACK except as noted
 - Circles except PEDS- RED BACKGROUND
3. Corners may be square or rounded when base material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

[illegible]

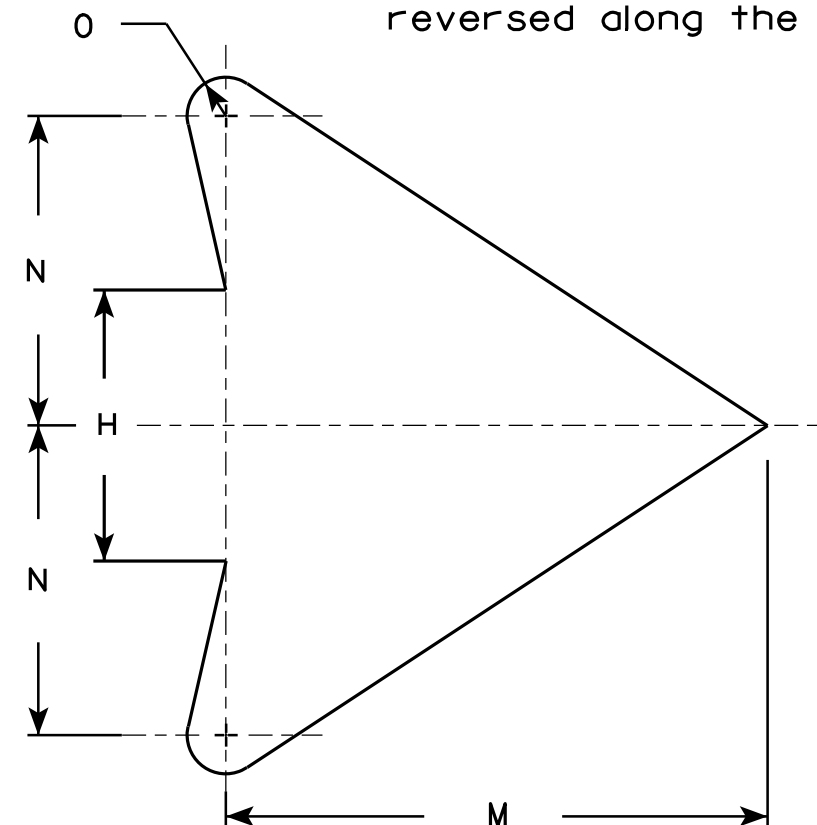
STANDARD SIGN	
S3-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<u>Matthew R. Rauch</u> for State Traffic Engineer
DATE <u>6/8/10</u>	PLATE NO. <u>S3-1.6</u>

NOTES

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



W1-2R



ARROW DETAIL

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

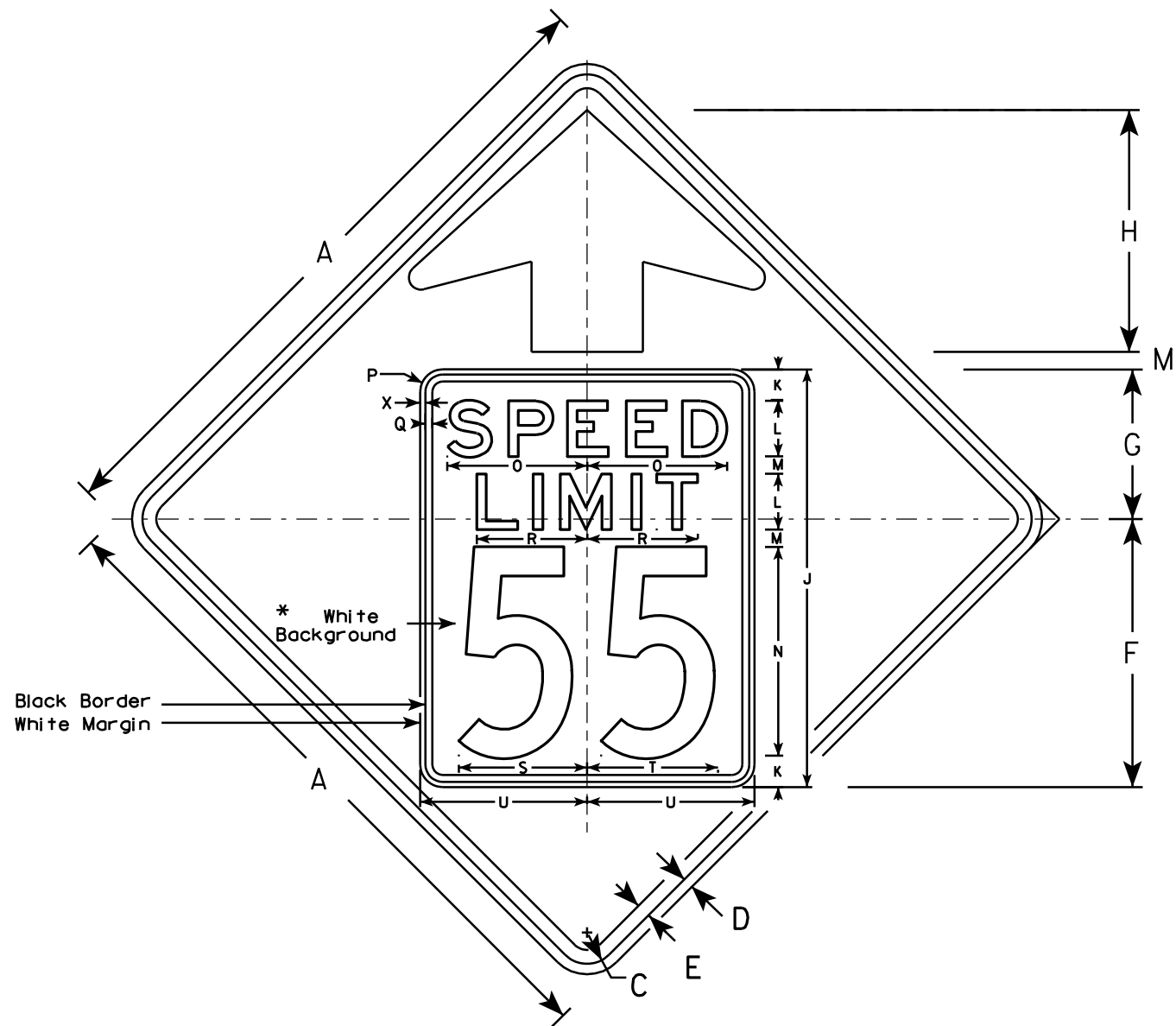
STANDARD SIGN W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO: HWY: COUNTY: SHEET NO: 140 E

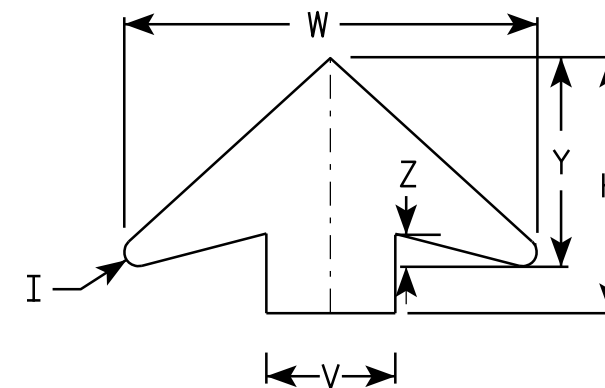


W3-5

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

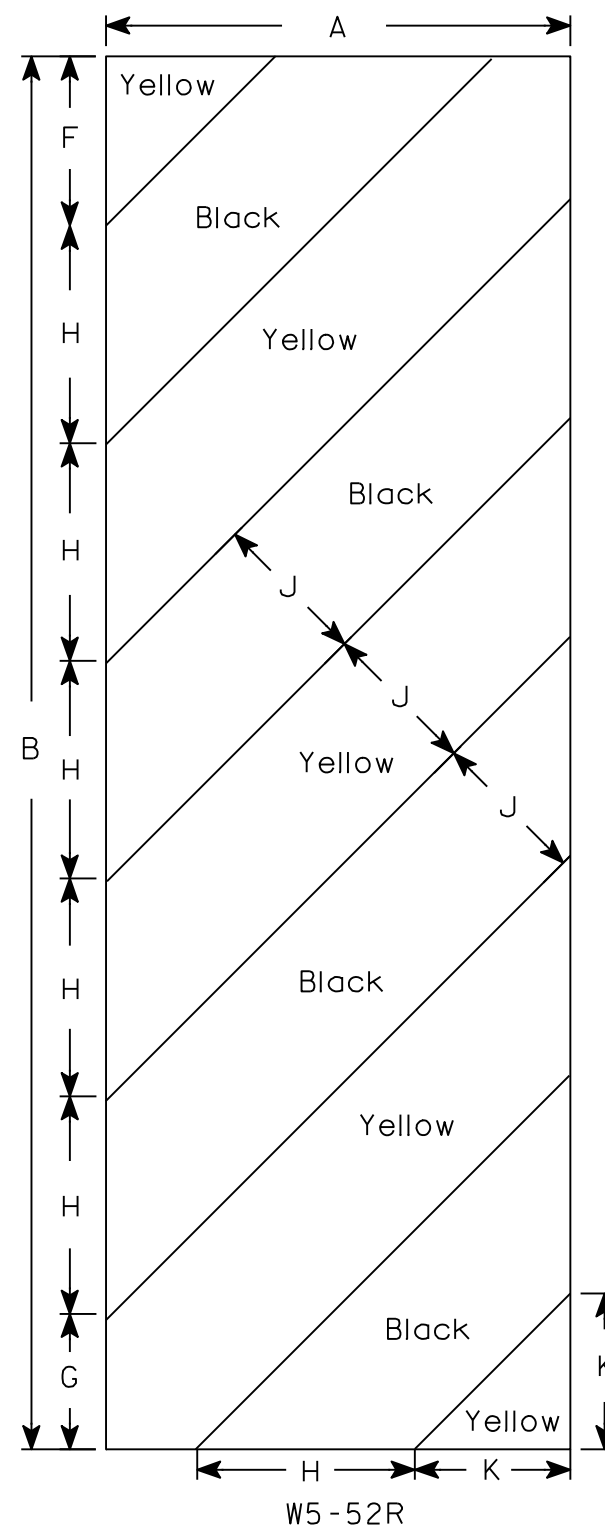
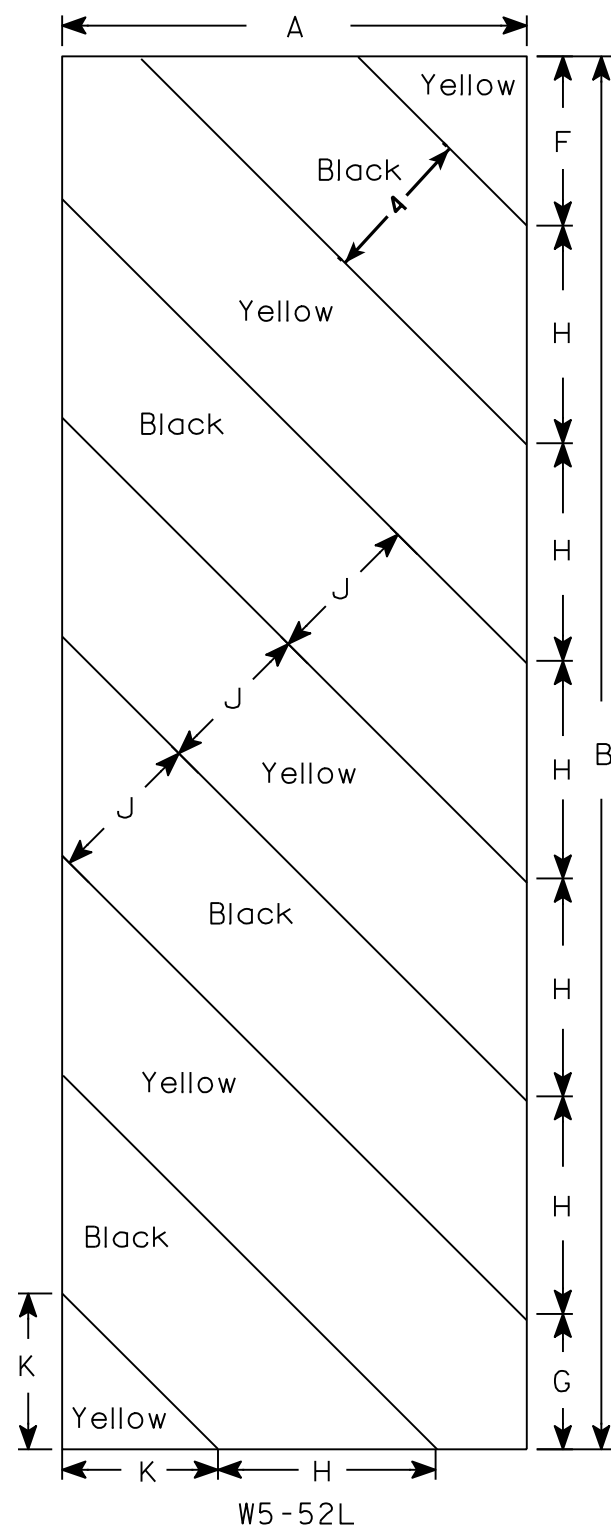
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

SHEET NO: 141

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.

[illegible]

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

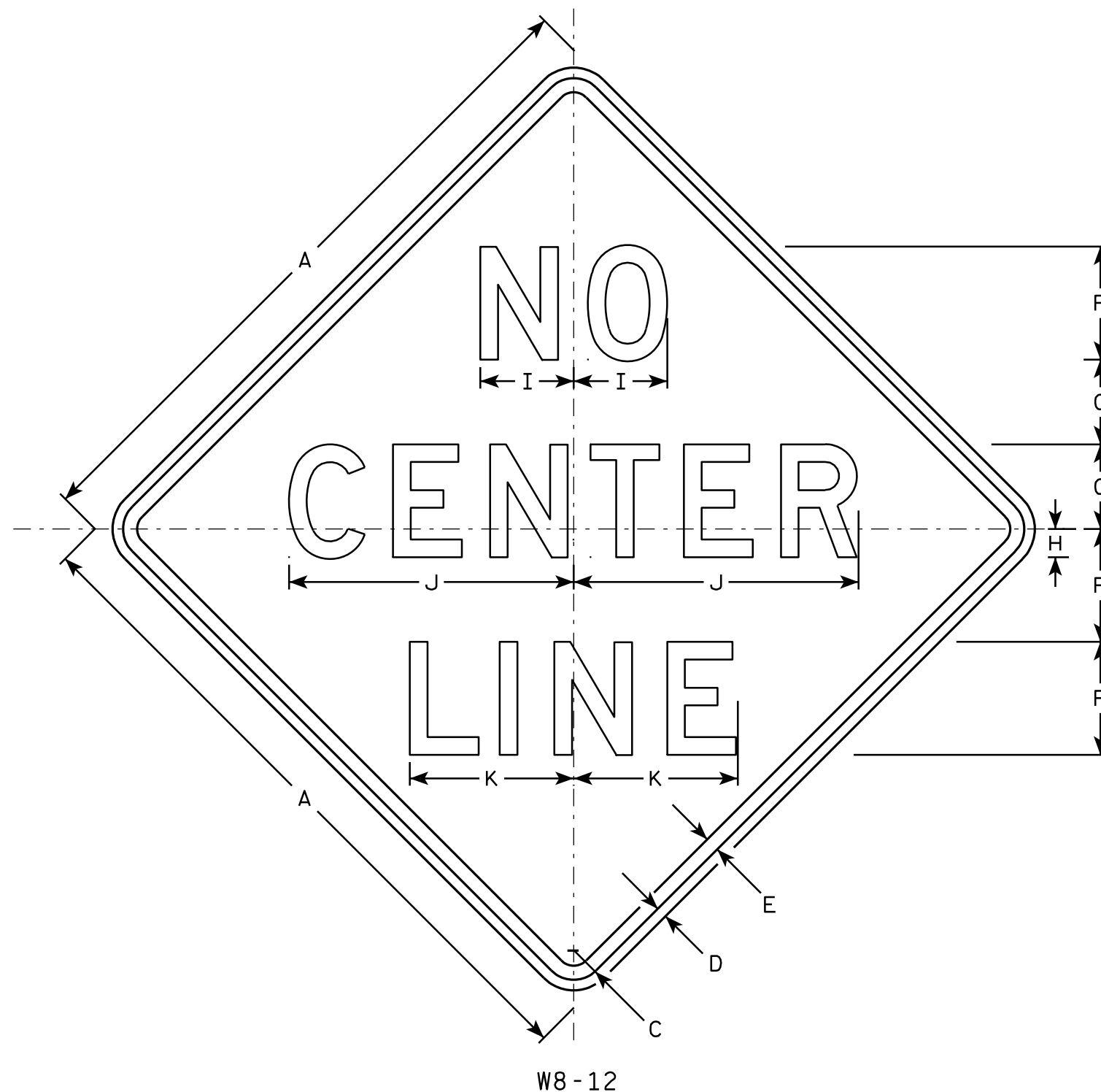
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 142

E



NOTES

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

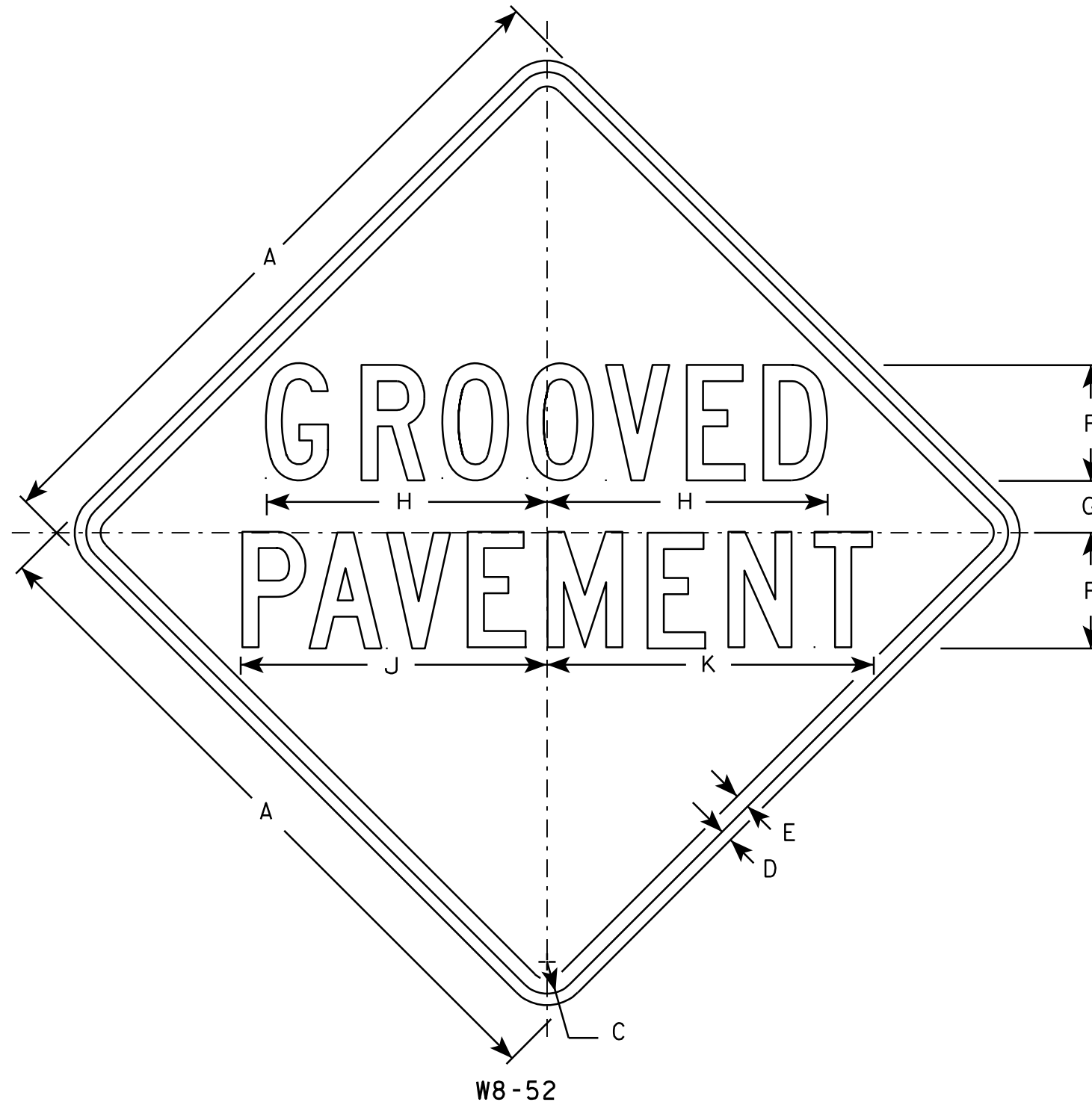
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5⁄8	5⁄8	3⁄4	6	4 1⁄2	1 1⁄2	5 1⁄8	16	9																9.0
2M	36		1 5⁄8	5⁄8	3⁄4	6	4 1⁄2	1 1⁄2	5 1⁄8	16	9																9.0
3	48		2 1⁄4	3⁄4	1	8	6	2	6 5⁄8	20 1⁄4	11 5⁄8																16.0
4	48		2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

STANDARD SIGN W8-12

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 8/24/10 PLATE NO. W8-12.3

PROJECT NO: HWY: COUNTY: SHEET NO: 143 E



W8-52

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
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																											
2S	30		1 ³ / ₈	1/2	5/8	5	2 1/4	12 1/8		13 1/4	14 1/8																6.25
2M	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
3	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
4	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
5	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0

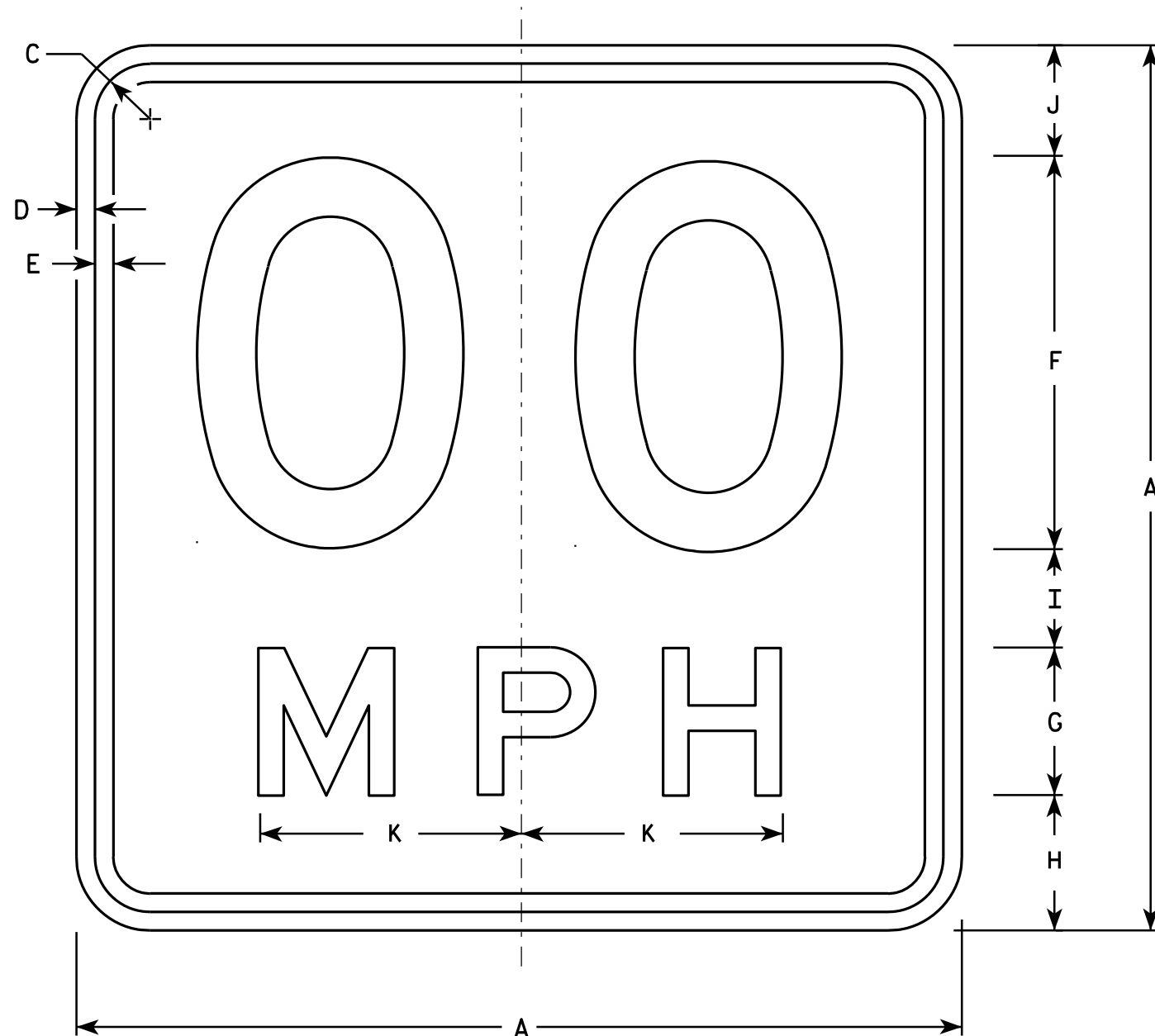
STANDARD SIGN W8-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/14/13 PLATE NO. W8-52.8

PROJECT NO: HWY: COUNTY: SHEET NO: 144 E



NOTES

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

W13-1

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

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

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO:

HWY:

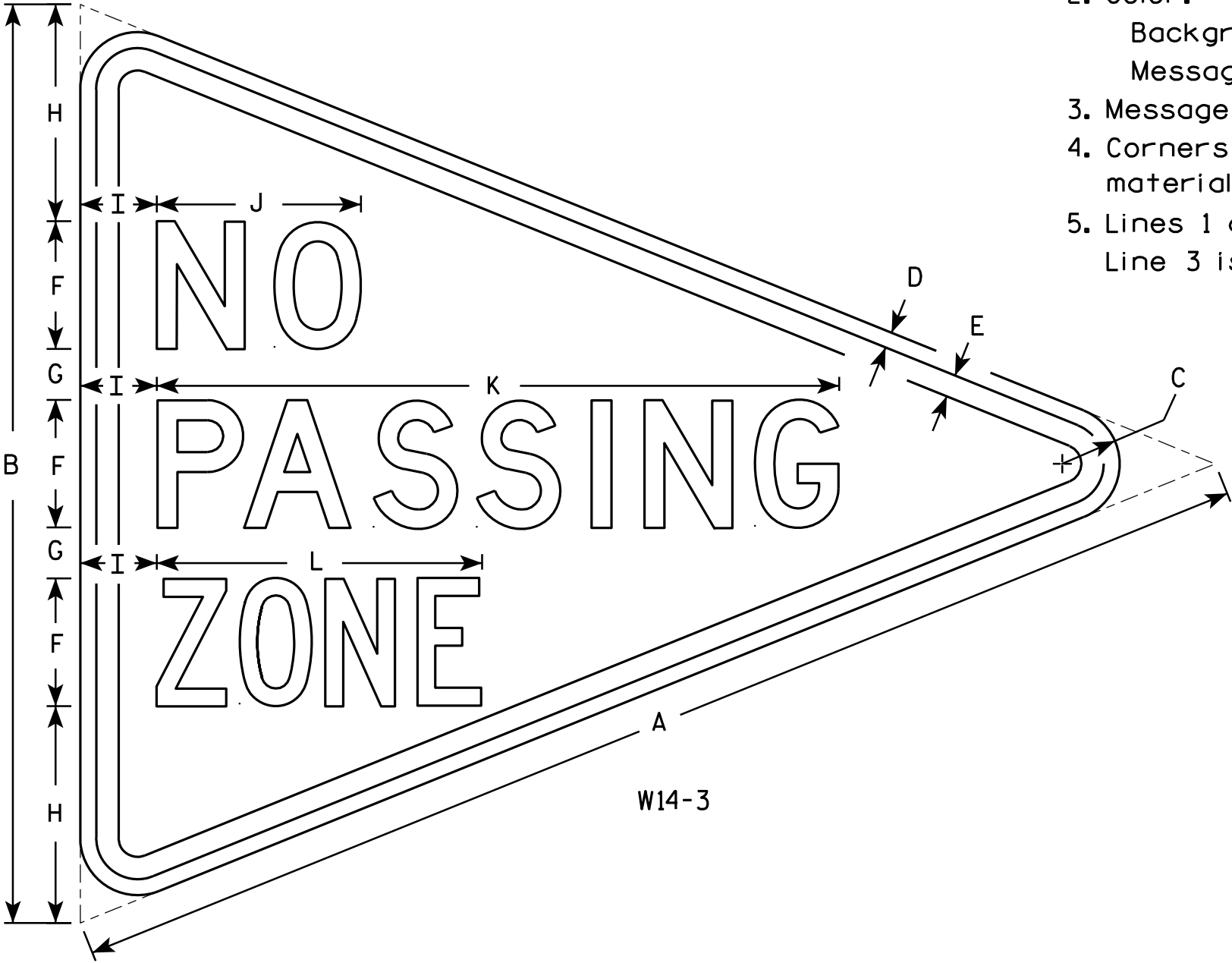
COUNTY:

SHEET NO: 145

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

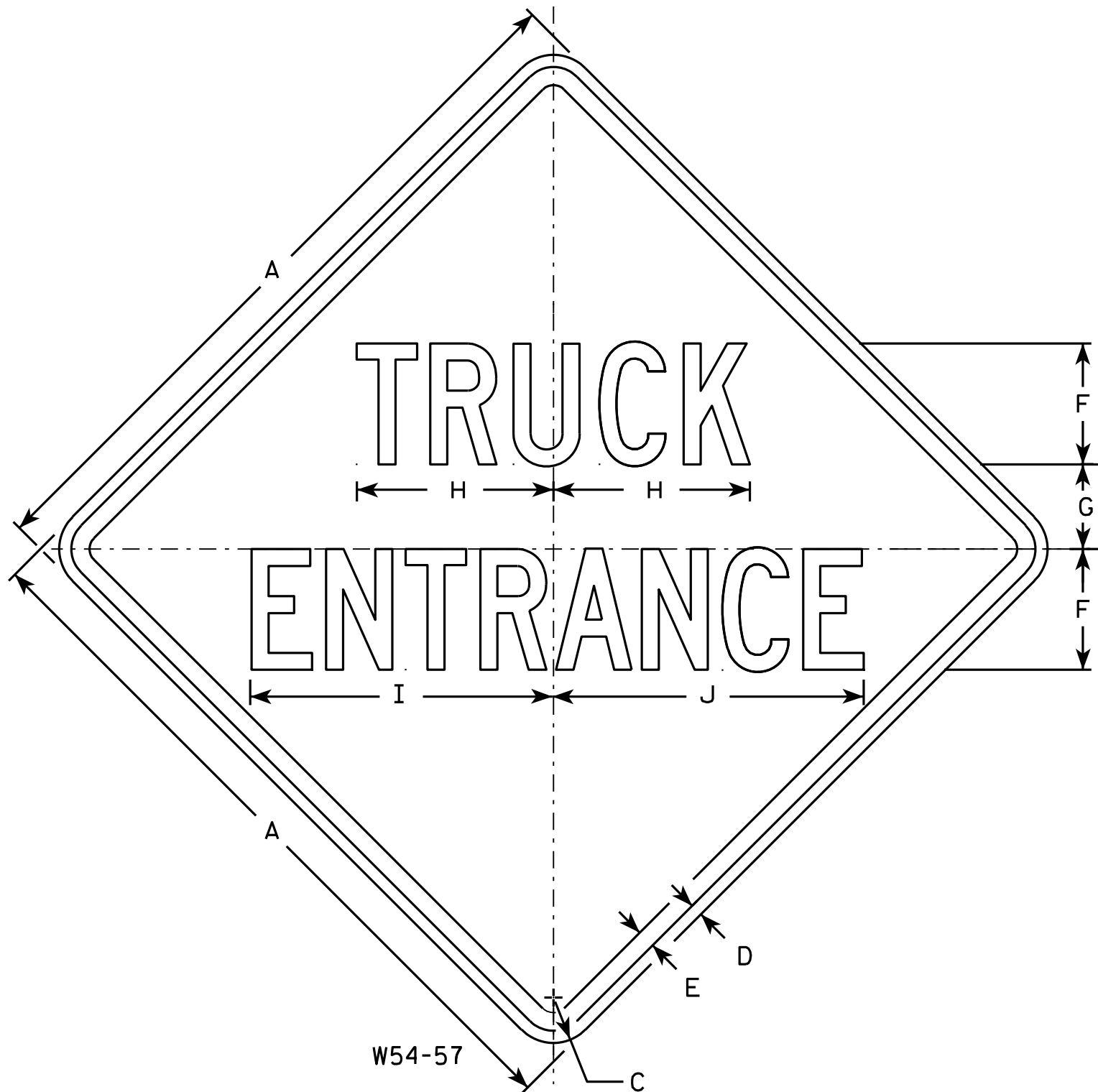
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															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. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 ³ / ₈	¹ / ₂	⁵ / ₈	5	3 ¹ / ₂	8 ¹ / ₈	12 ¹ / ₂	12 ⁷ / ₈																	6.25
2M	36		1 ⁵ / ₈	⁵ / ₈	³ / ₄	6	4 ¹ / ₄	9 ⁵ / ₈	15	15 ³ / ₈																	9.00
3	36		1 ⁵ / ₈	⁵ / ₈	³ / ₄	6	4 ¹ / ₄	9 ⁵ / ₈	15	15 ³ / ₈																	9.00
4																											
5																											

STANDARD SIGN

W54-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/13/13 PLATE NO. W54-57.9

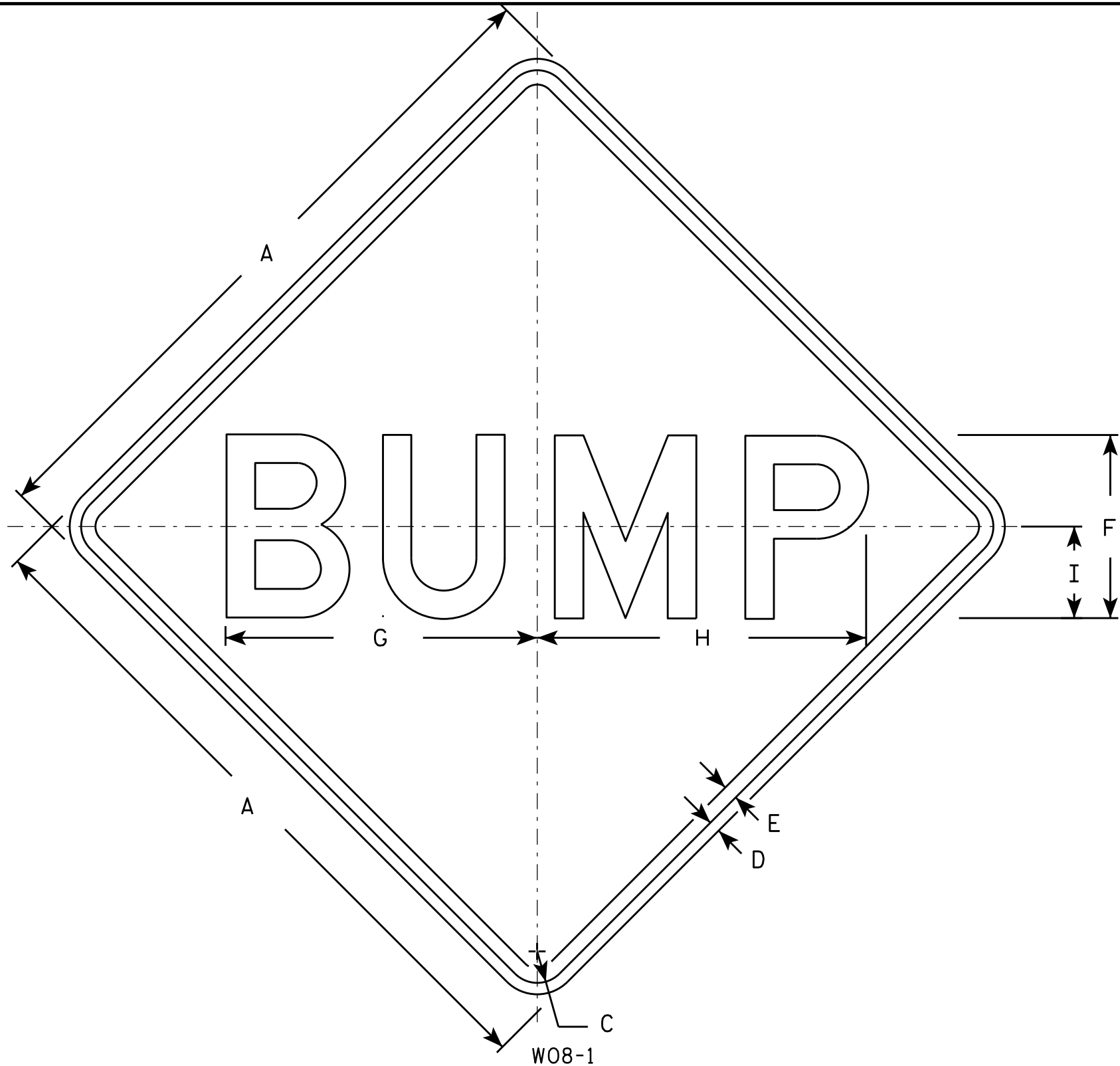
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 147

E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	10	16 7/8	17 7/8	5																		9.0
2S	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
2M	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
3	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
4	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
5	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0

PROJECT NO:

HWY:

COUNTY:

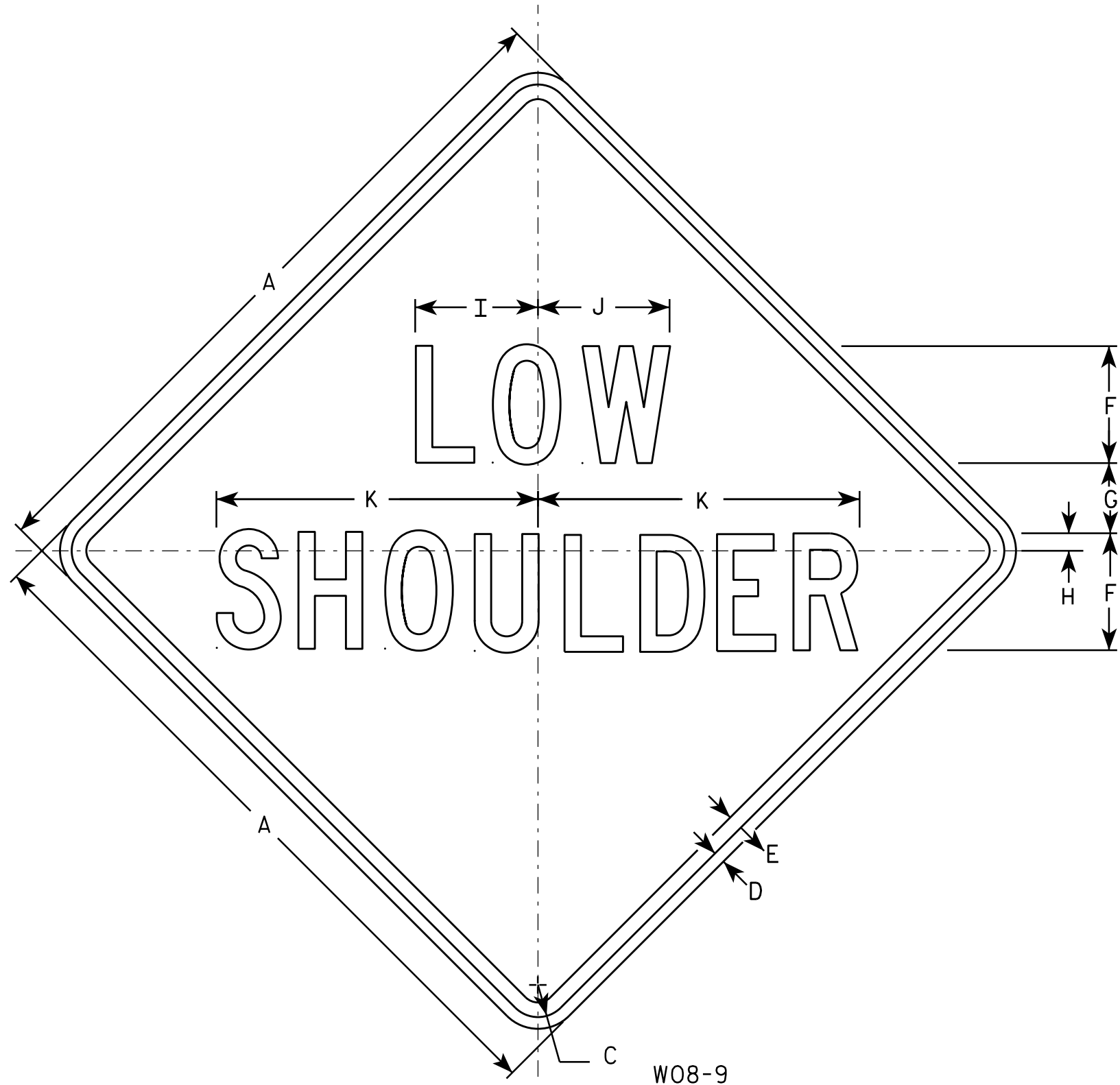
DATE 11/20/13

PLATE 148

W08-1.1

SHEET NO:

E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	3 1/2	1	6 1/4	6 3/4	16 1/2																9.0
2S	48		2 1/4	3/4	1	8	5	1 1/4	8 1/4	9	21 7/8																16.0
2M	48		2 1/4	3/4	1	8	5	1 1/4	8 1/4	9	21 7/8																16.0
3	48		2 1/4	3/4	1	8	5	1 1/4	8 1/4	9	21 7/8																16.0
4	48		2 1/4	3/4	1	8	5	1 1/4	8 1/4	9	21 7/8																16.0
5	48		2 1/4	3/4	1	8	5	1 1/4	8 1/4	9	21 7/8																16.0

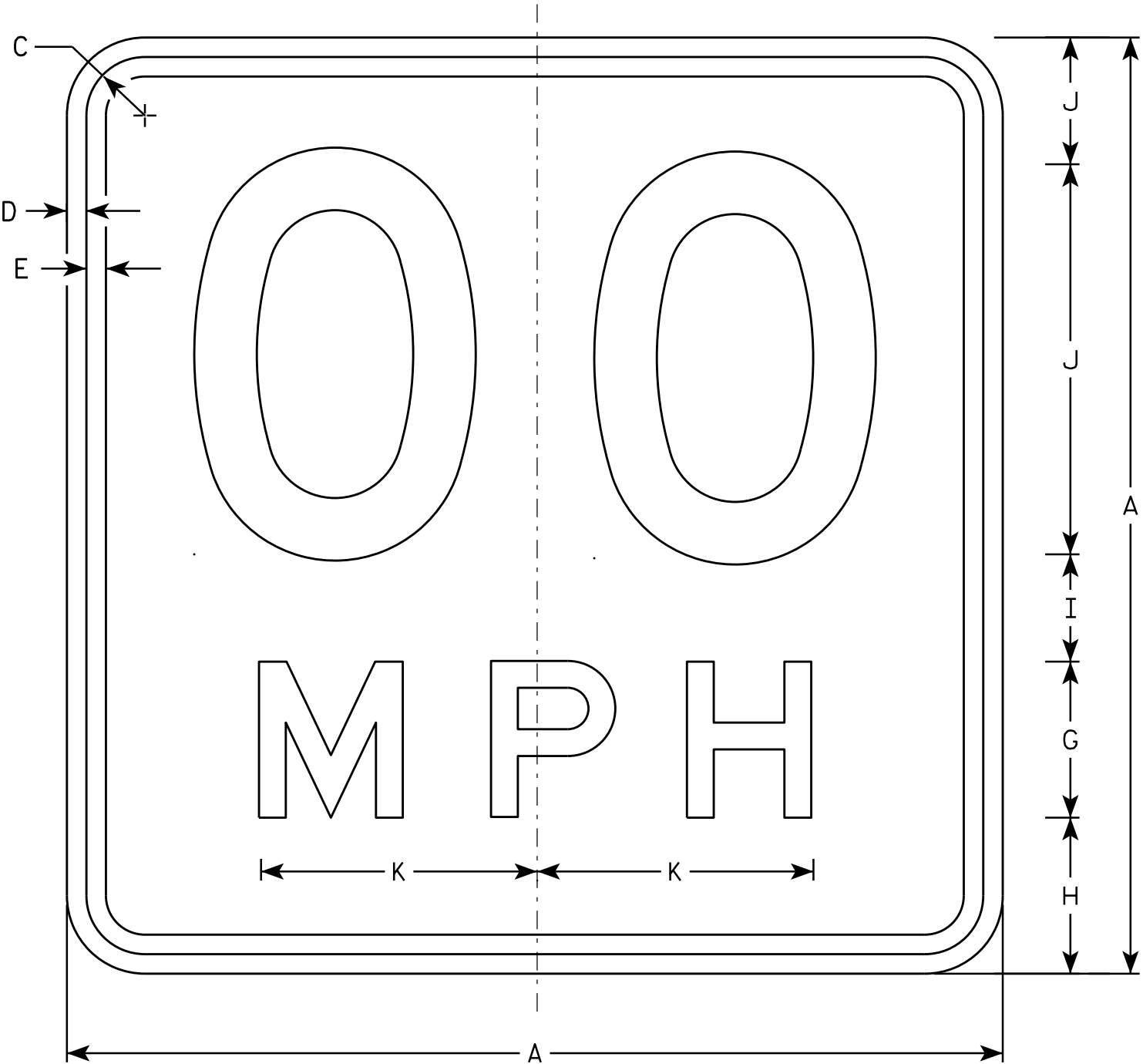
STANDARD SIGN
W08-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/20/13 PLATE *W08-9.1*
149

PROJECT NO: HWY: COUNTY: SHEET NO: E



W013-1

NOTES

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

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	10	4	4	2 3/4	3 1/4	7 1/8																4.00
2S	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
2M	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
3	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 11/21/13 PLATE 150 W013-1.1

PROJECT NO:

HWY:

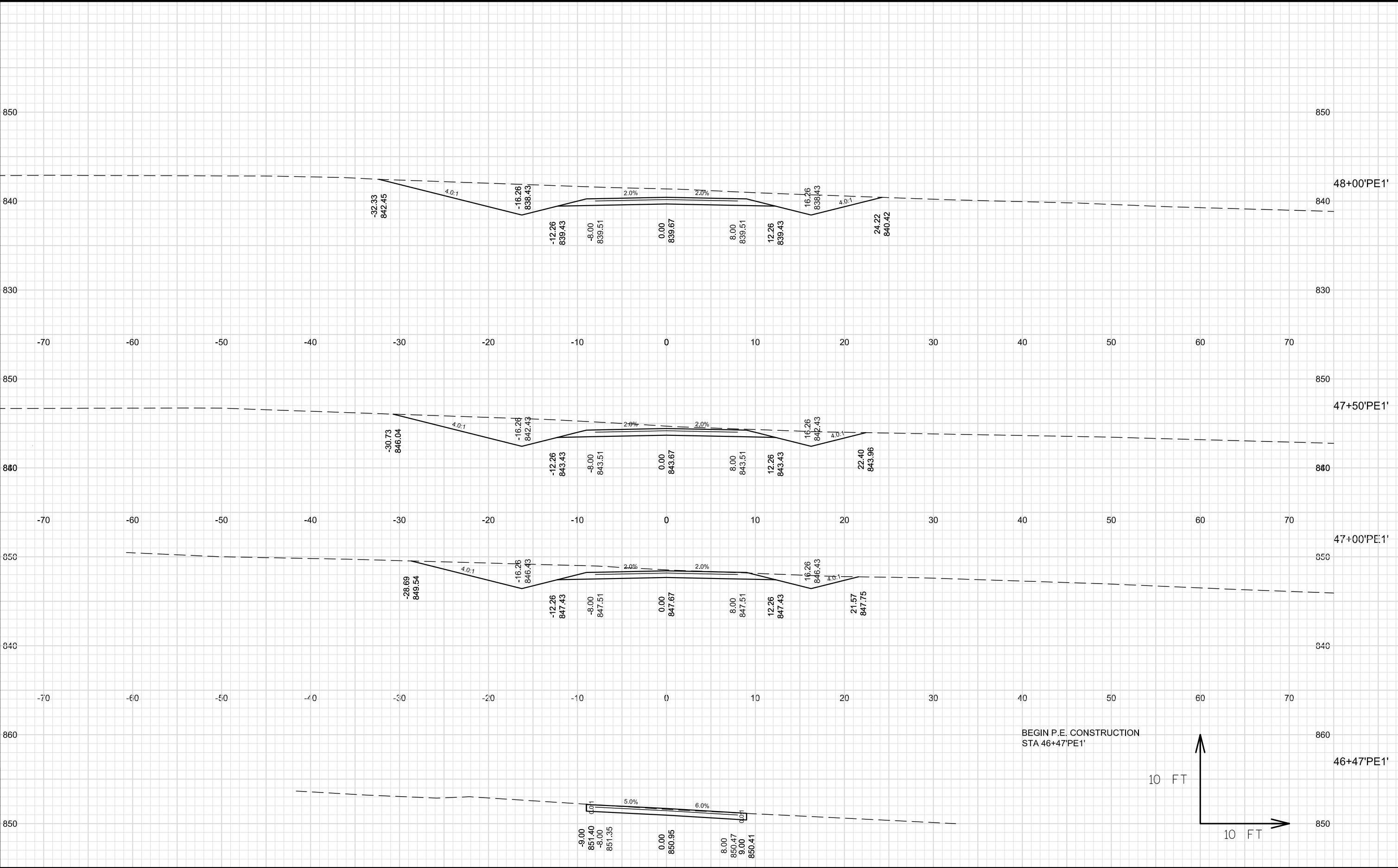
COUNTY:

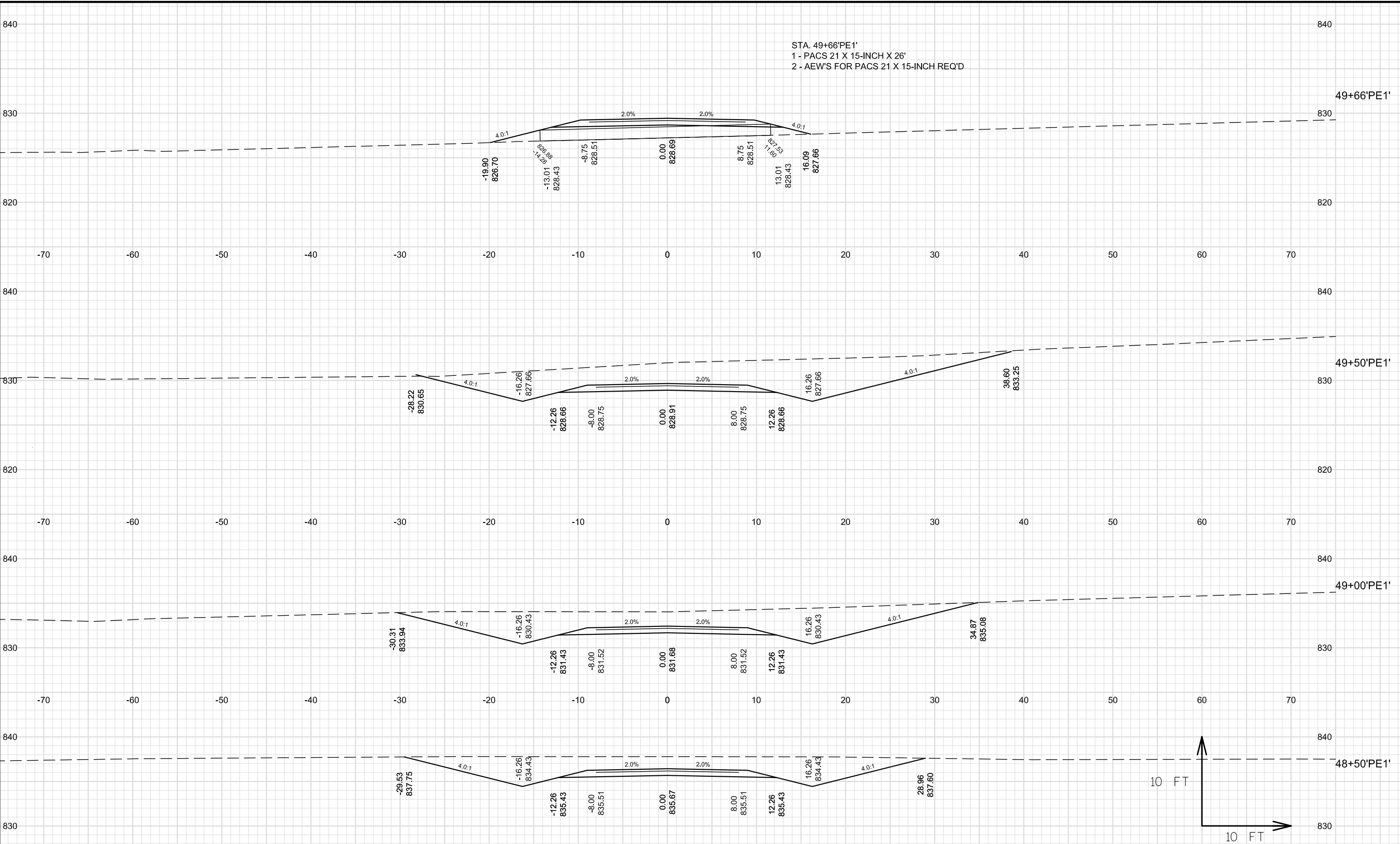
SHEET NO:

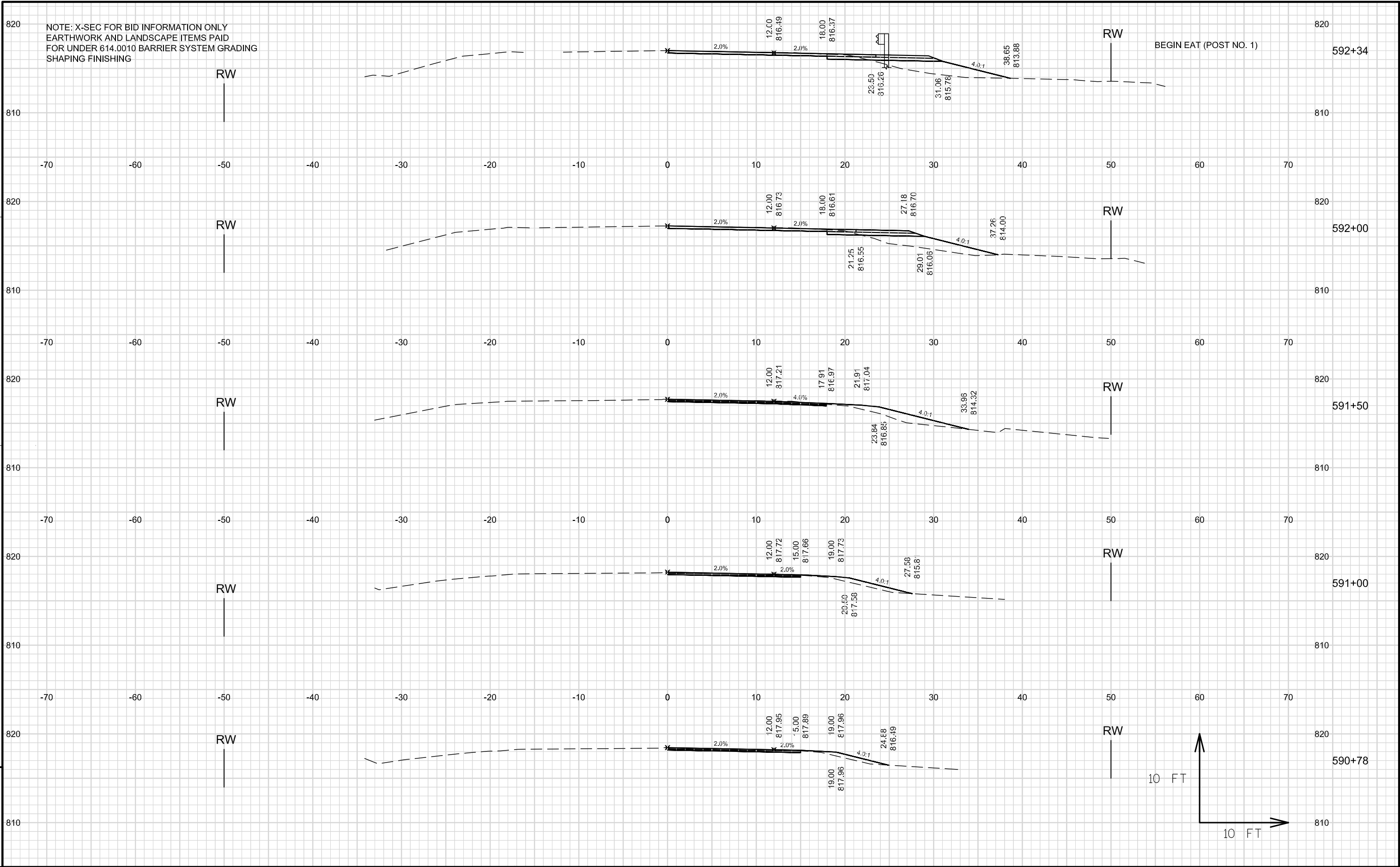
E

EARTHWORK - 'PE1'

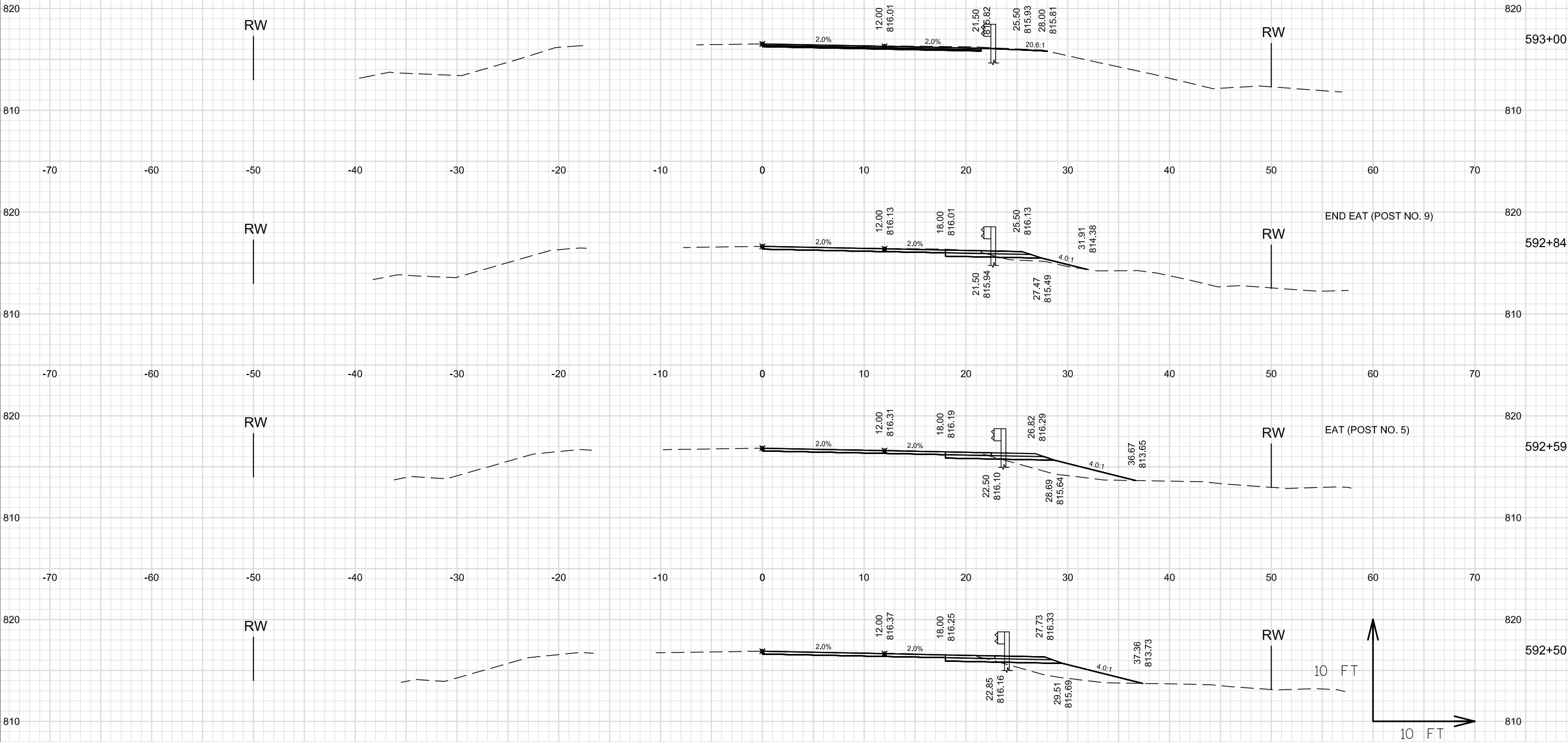
STATION	CUT END AREA	FILL END AREA	CUT RAW VOLUME	FILL RAW VOLUME	(ADJUSTED) FILL RAW VOLUME * 1.25	CUMULATIVE CUT VOLUME	(ADJUSTED) CUMULATIVE FILL VOLUME	MASS ORDINATE
	SF	SF	CY	CY	9	CY	CY	CY
46+47	12.8	0.4	-	-	-	-	-	-
47+00	59.1	0.0	71	0	0	71	0	70
47+50	72.1	0.0	122	0	0	192	1	191
48+00	99.1	0.0	159	0	0	351	1	350
48+50	120.9	0.0	204	0	0	554	1	554
49+00	152.5	0.0	253	0	0	807	1	807
49+50	175.3	0.0	304	0	0	1111	1	1110
49+66	0.0	41.0	52	12	15	1163	16	1147
TOTALS			1163	13	16			







NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



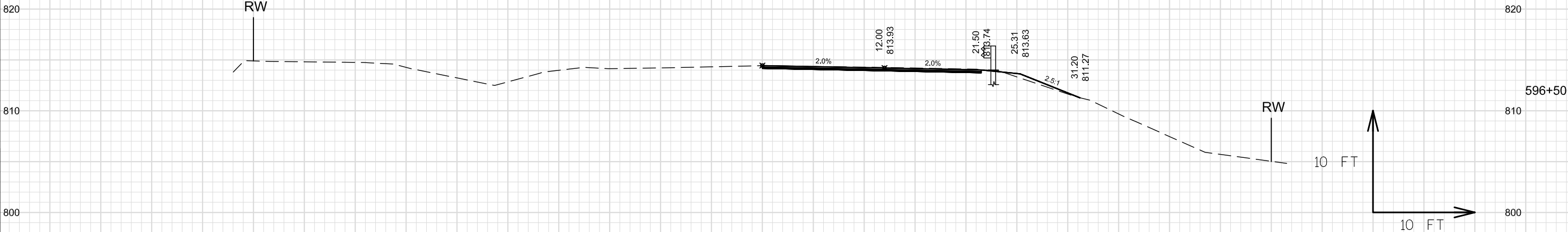
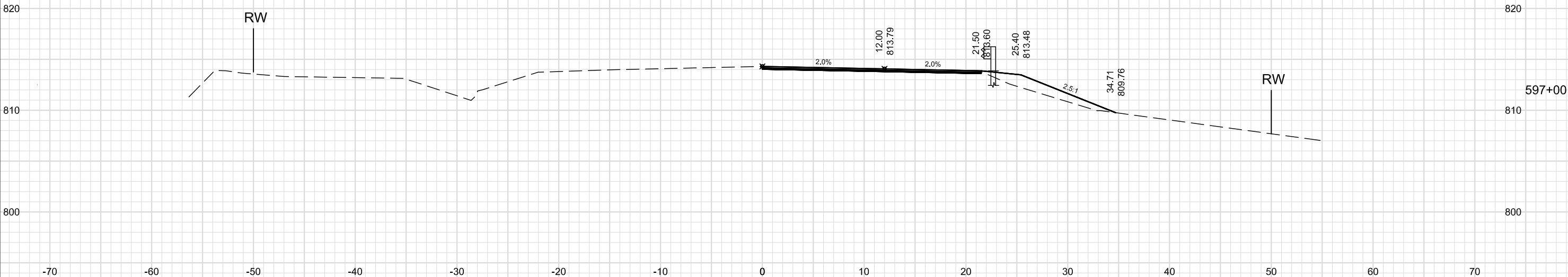
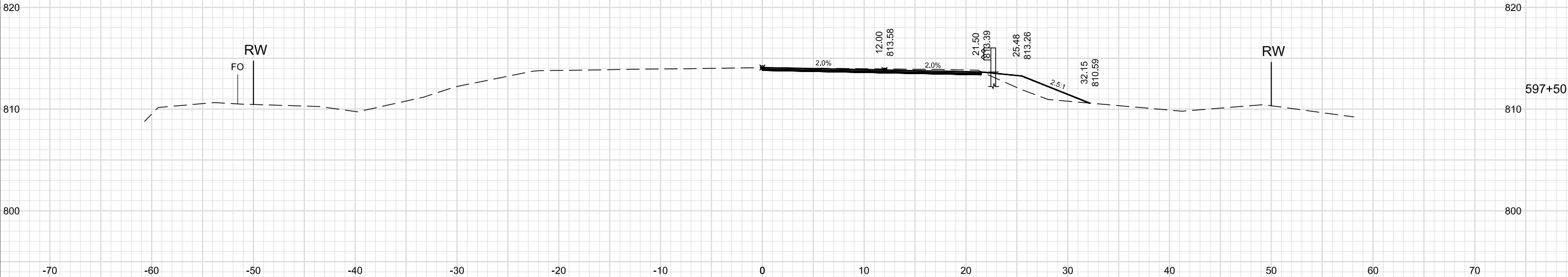
9

9

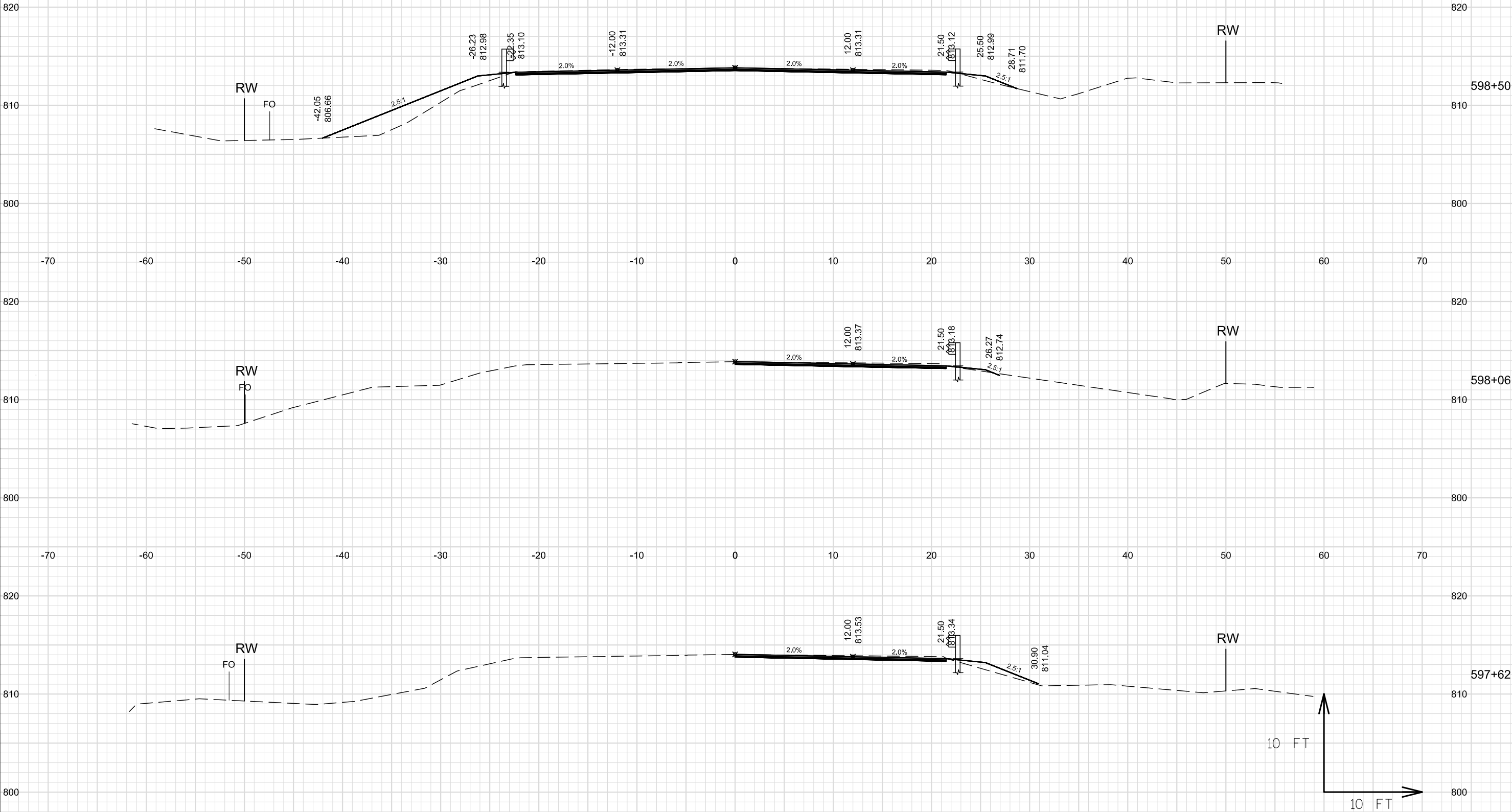
NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



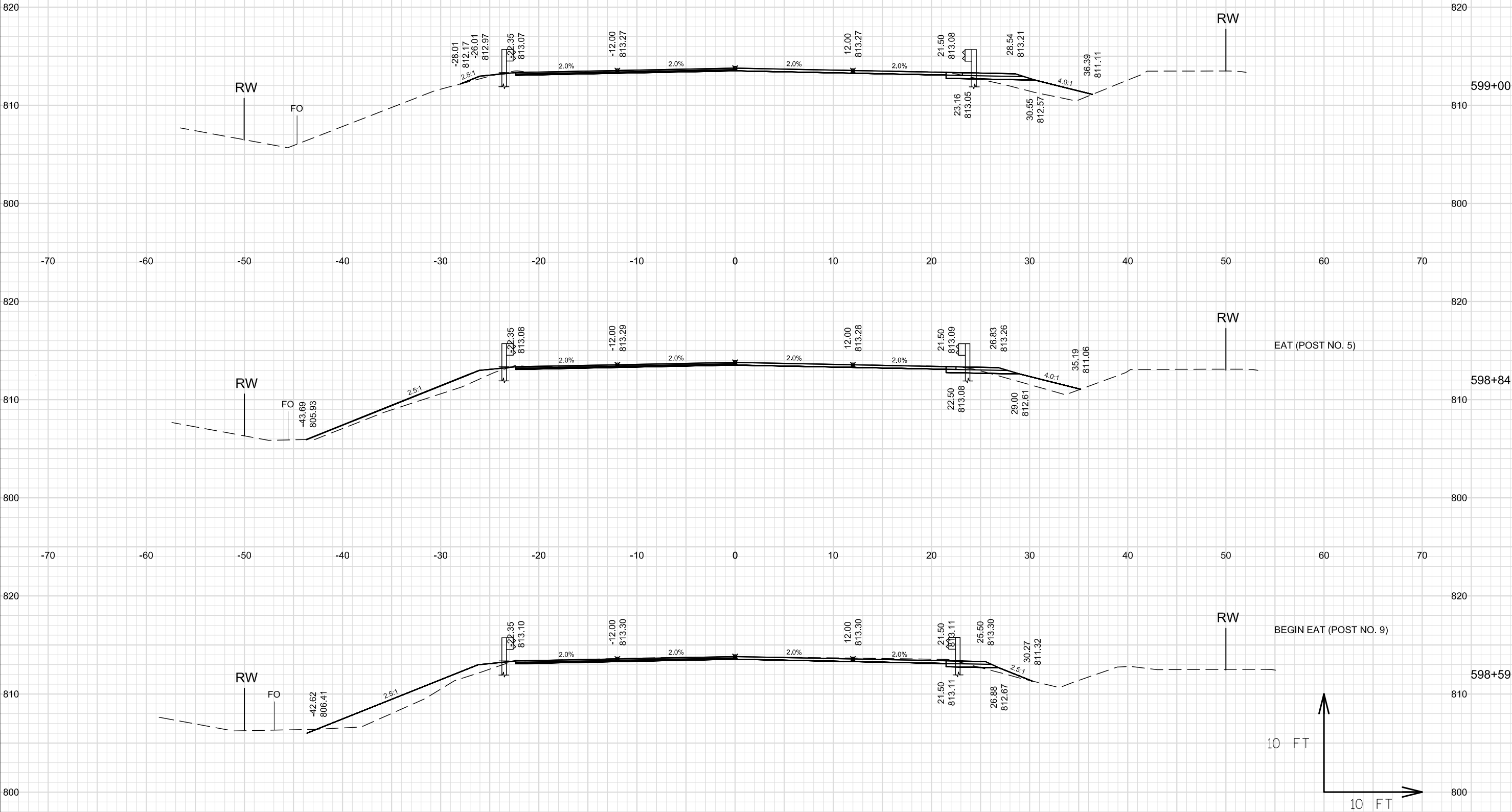
NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



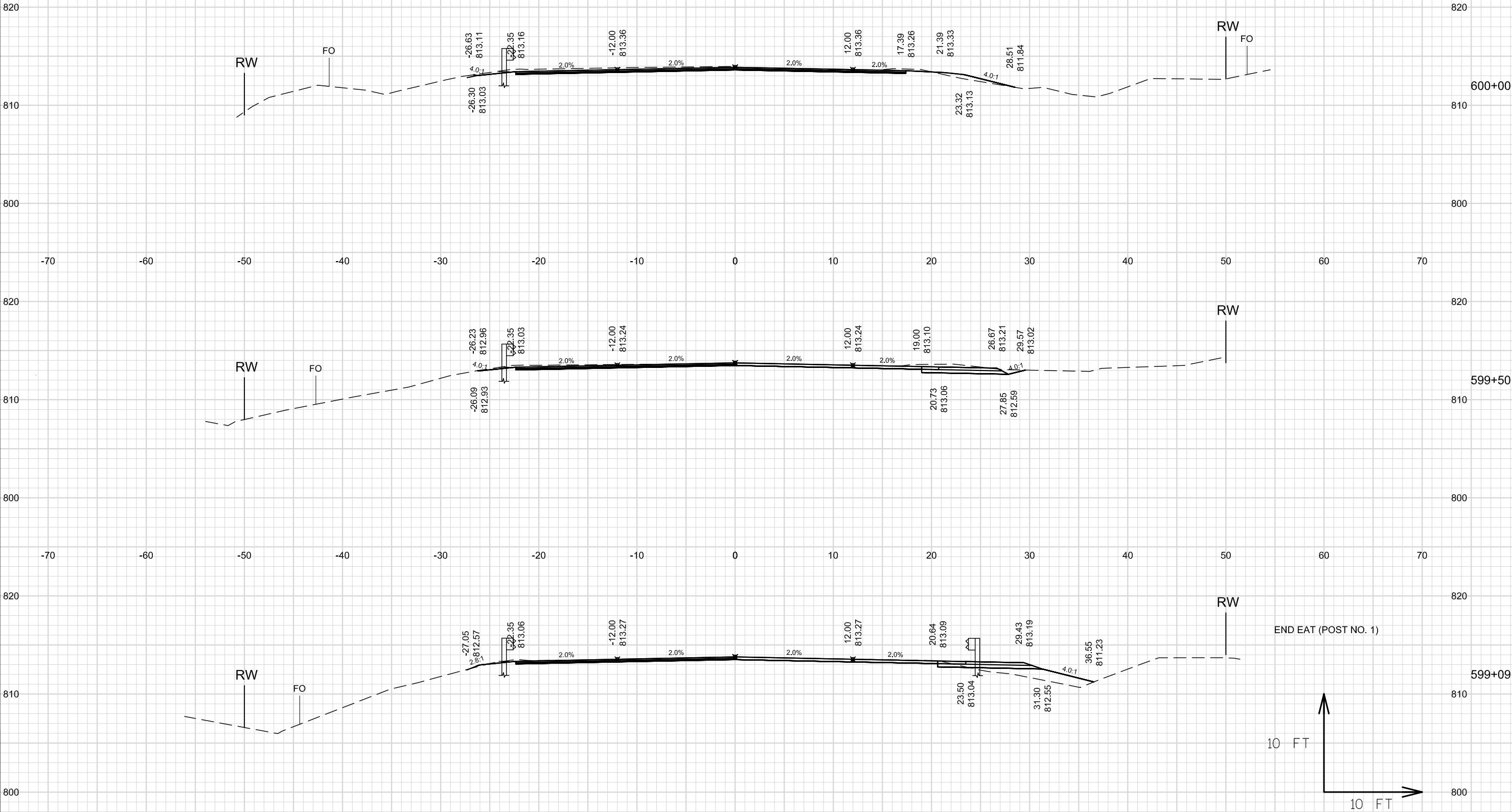
NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

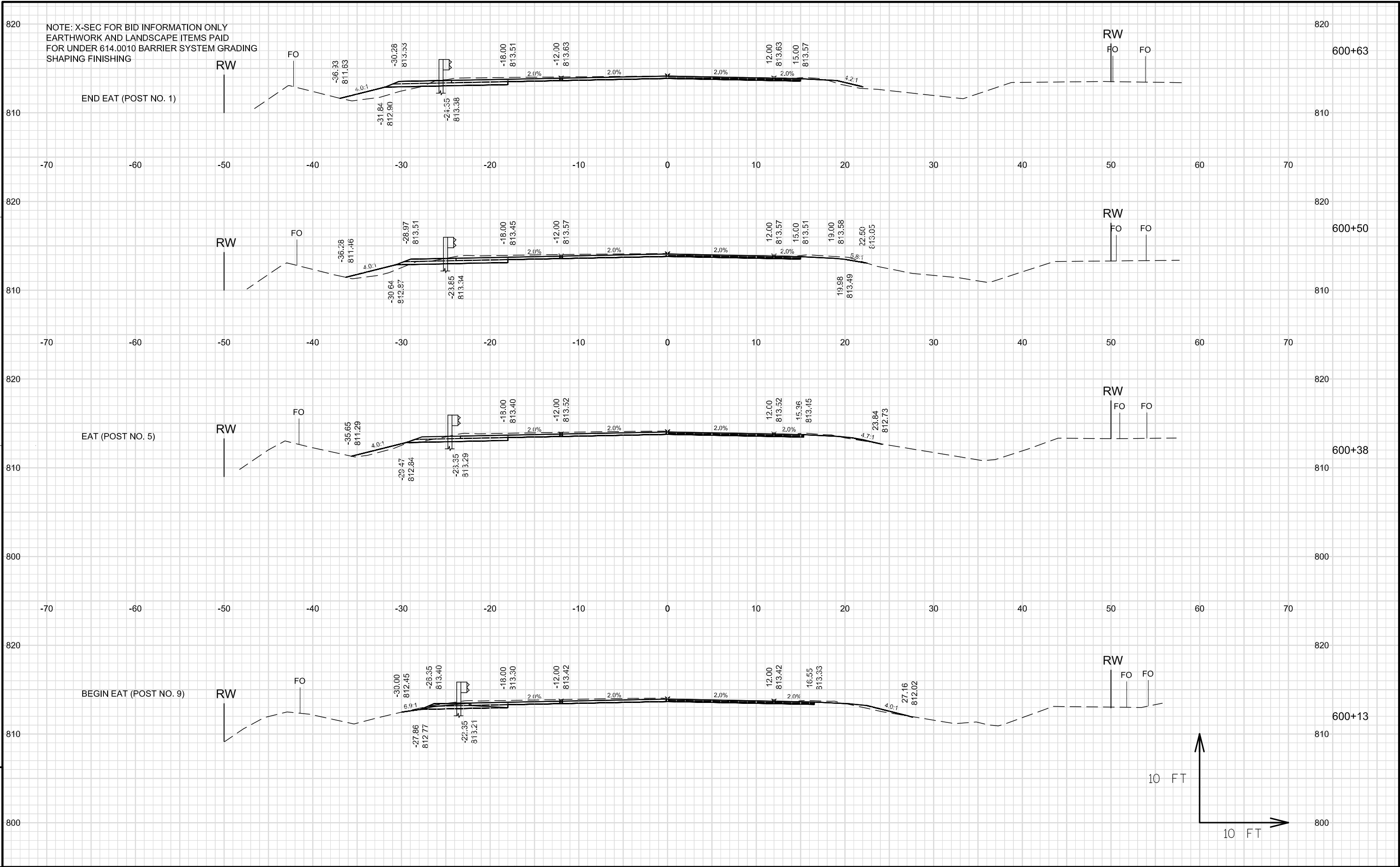


NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

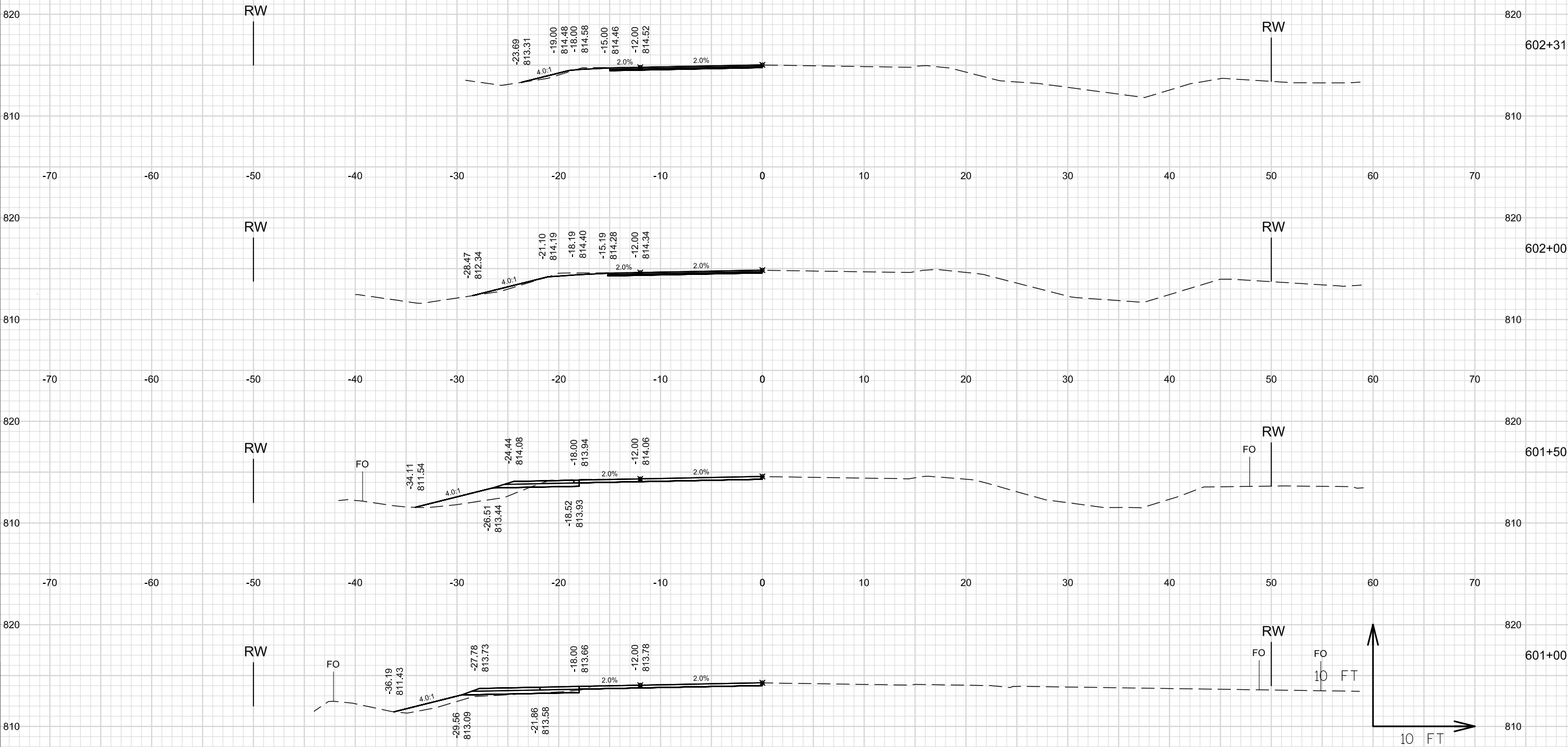


NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

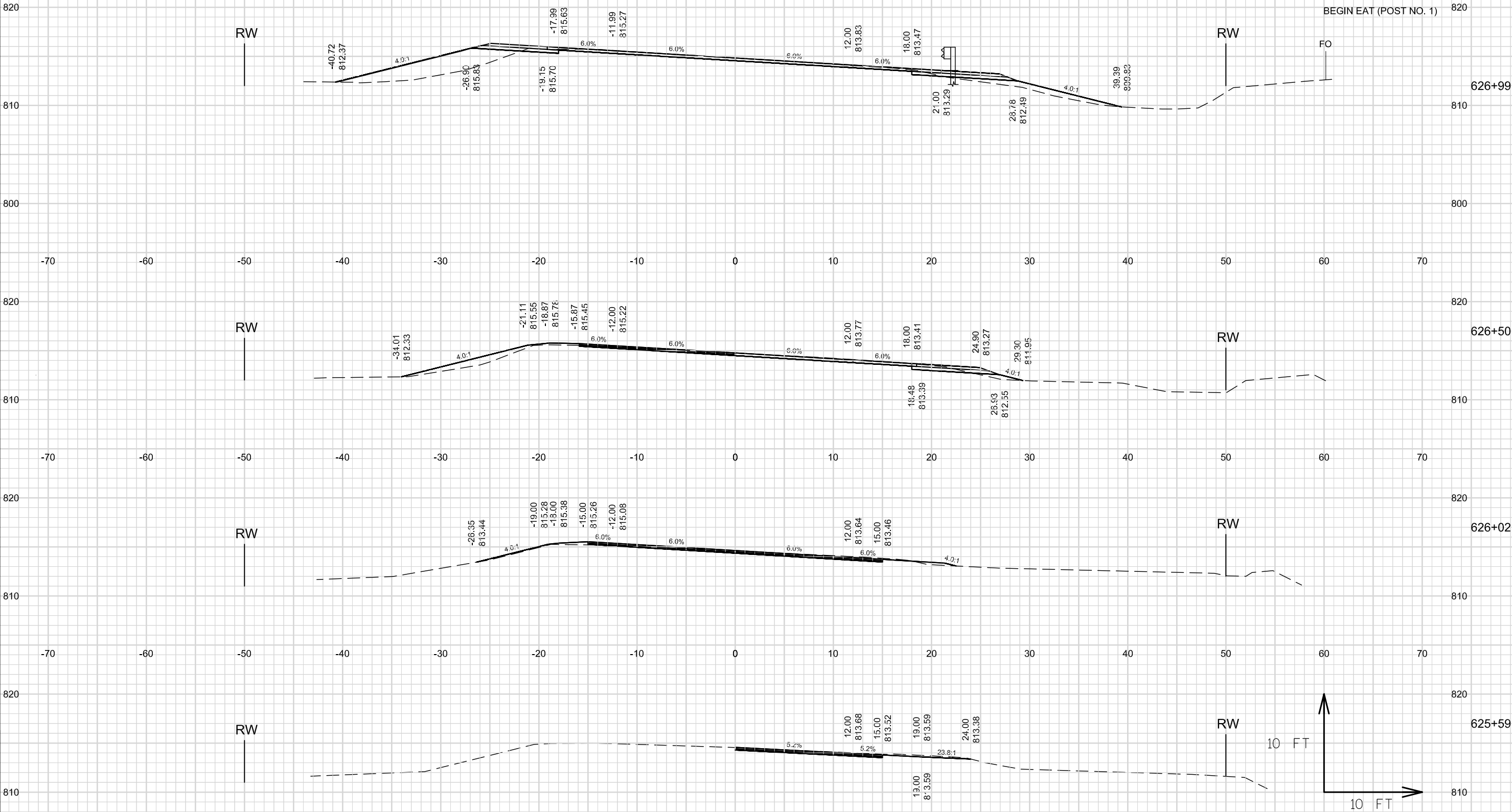




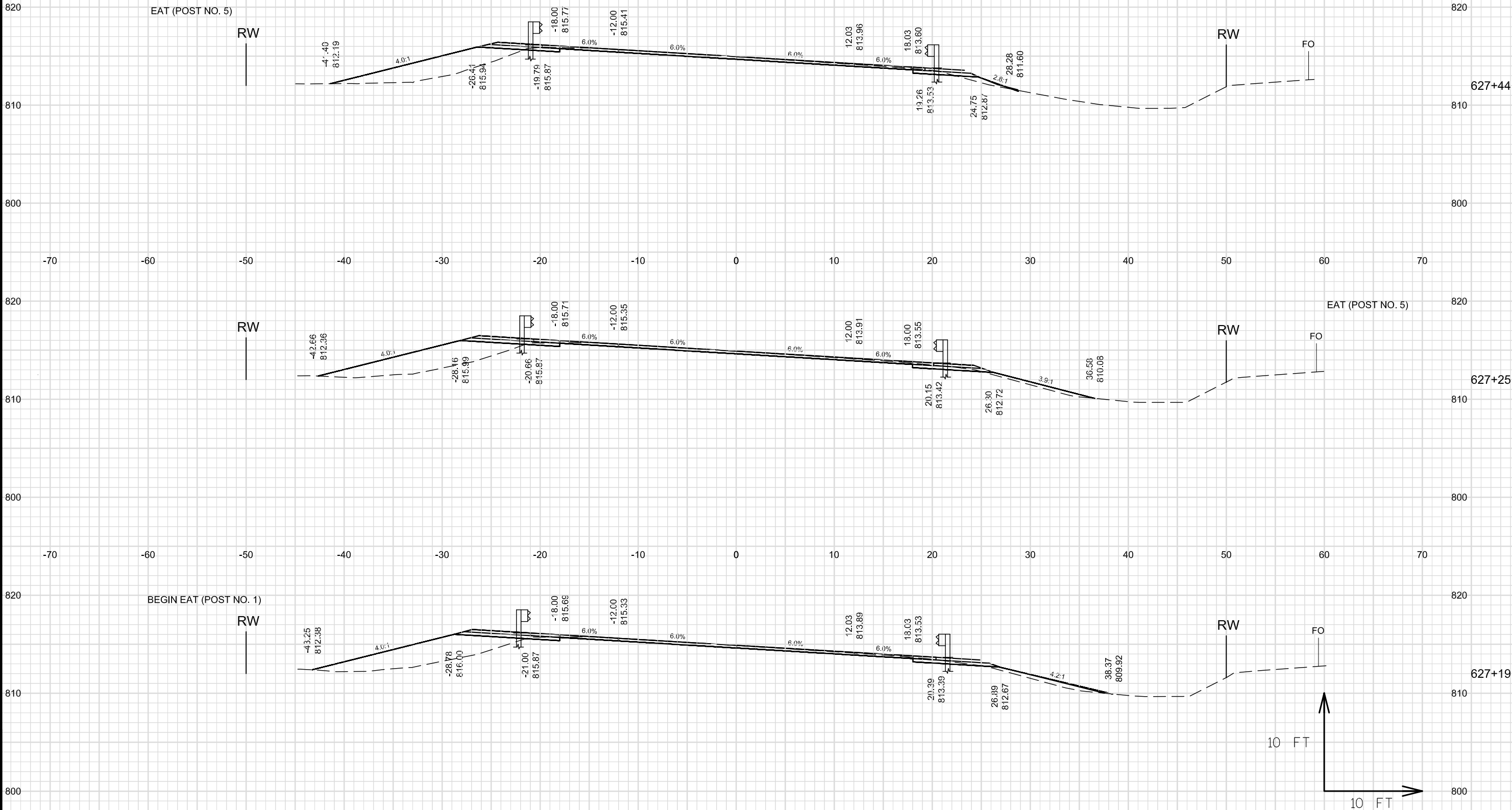
NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING AND FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING AND FINISHING



PROJECT NO:1530-06-72

HWY: USH 10

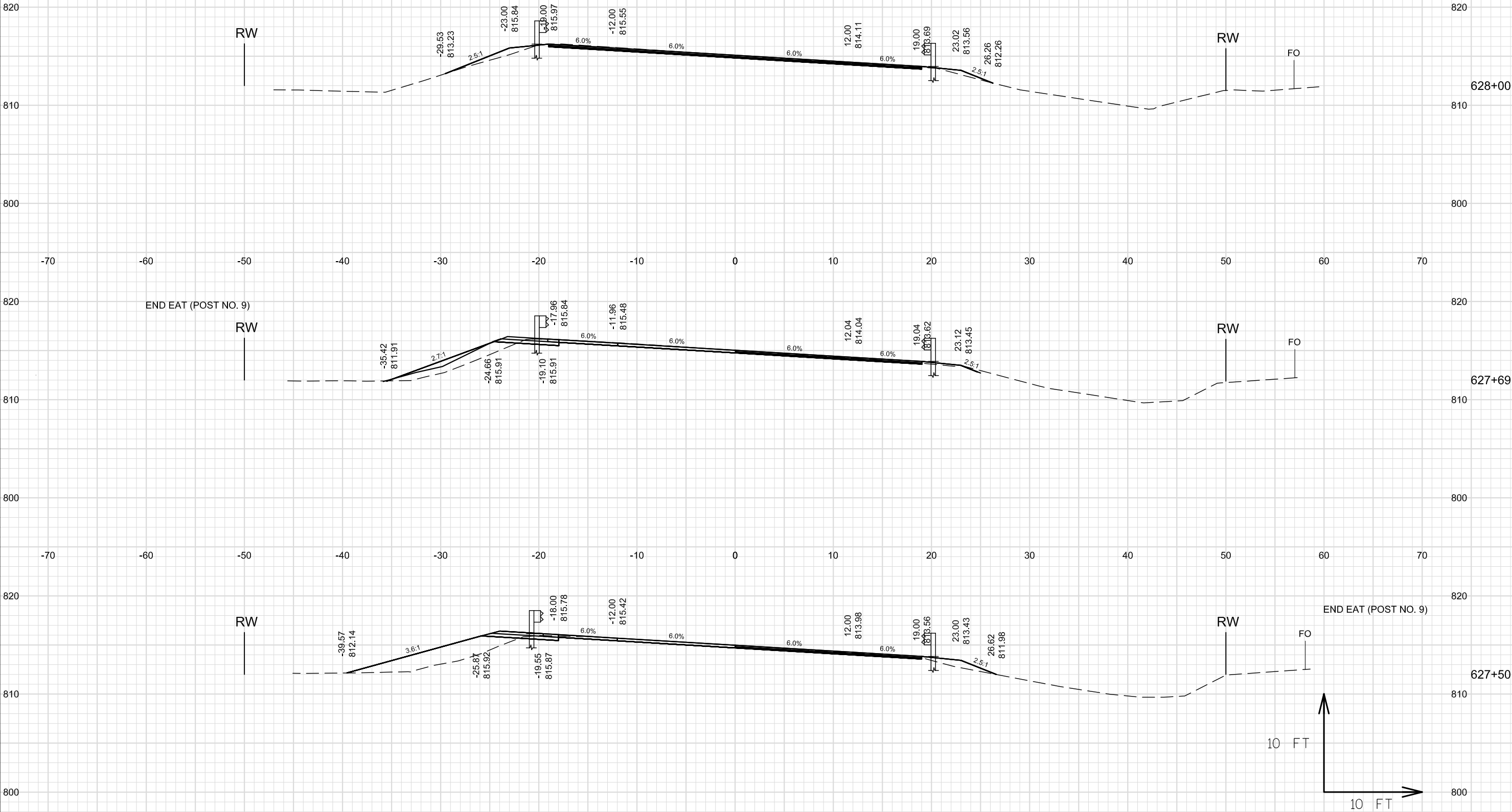
COUNTY: PEPIN

CROSS SECTIONS: USH 10

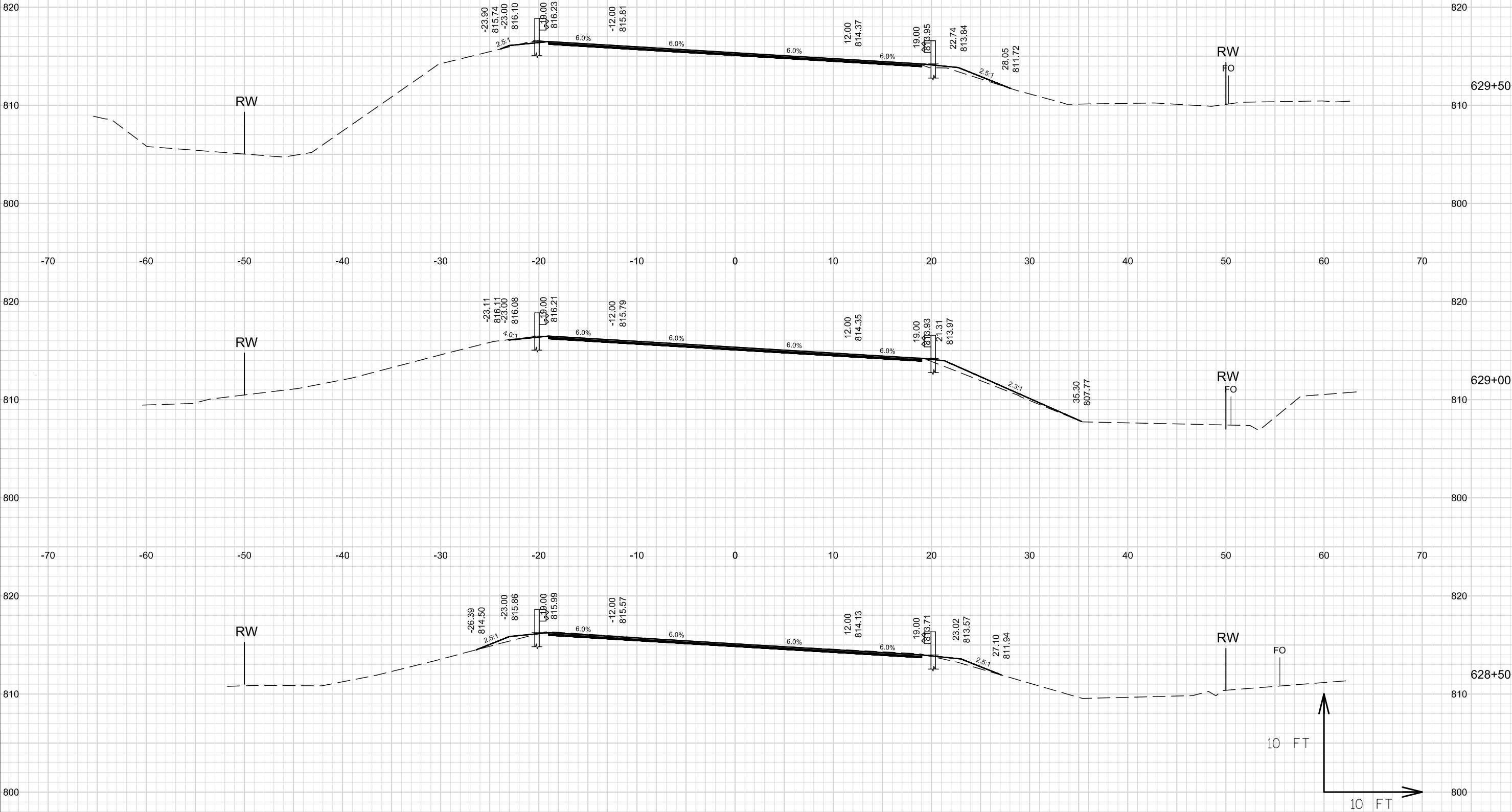
SHEET 165

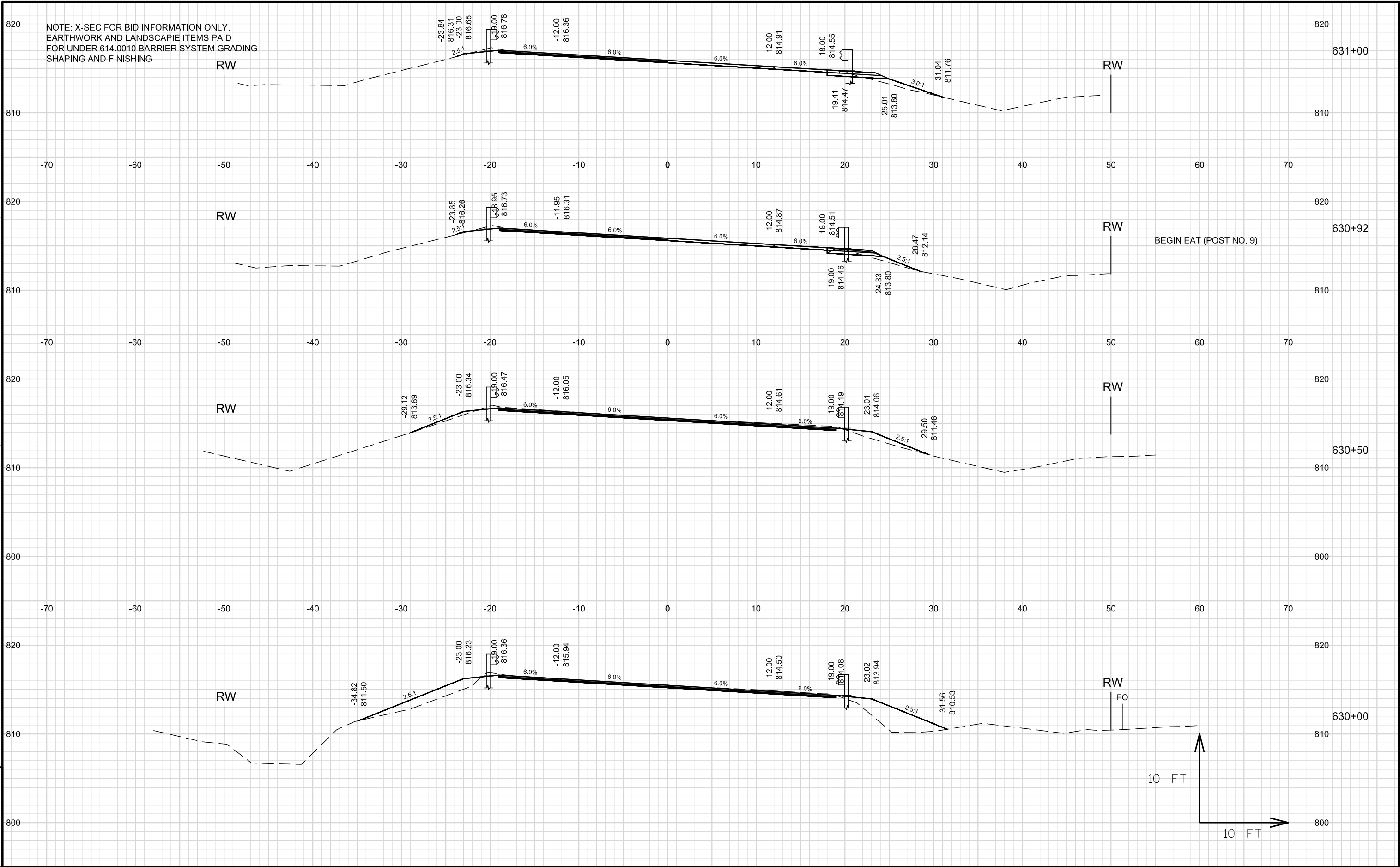
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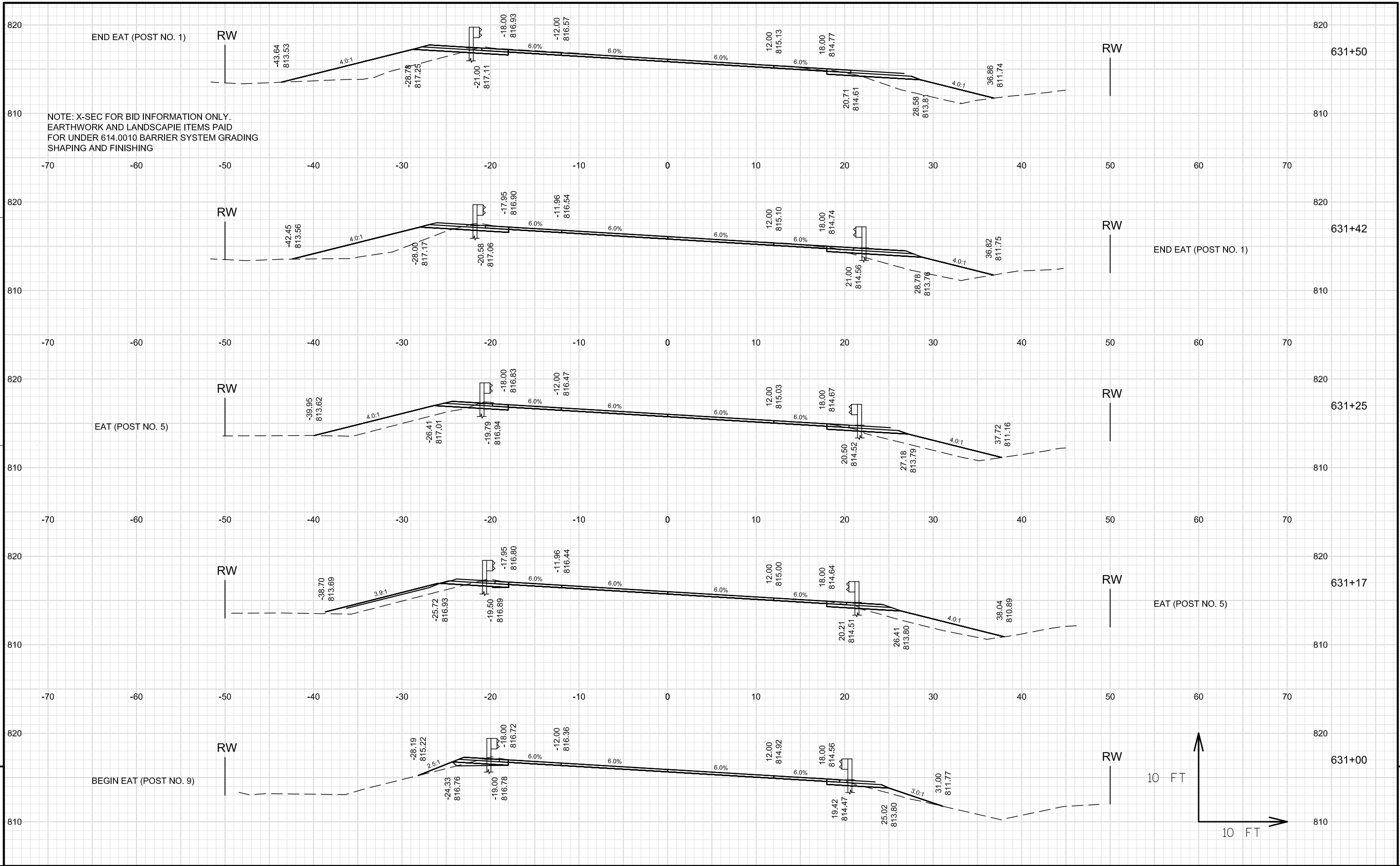
NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING AND FINISHING



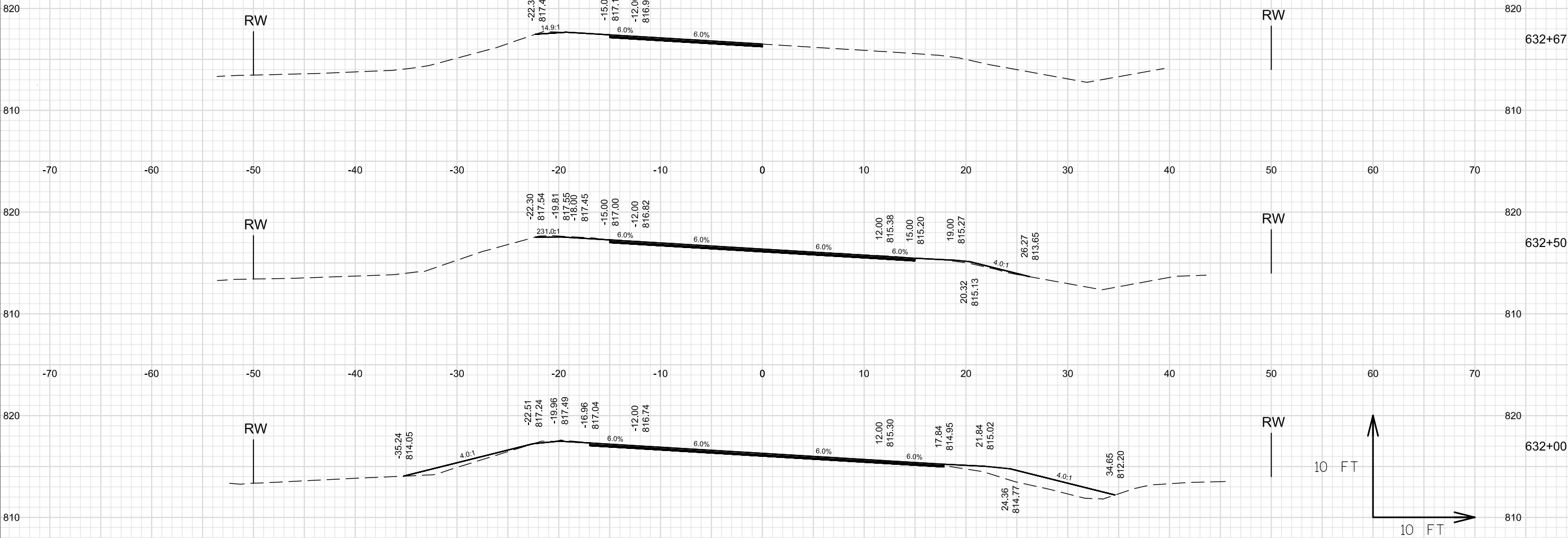
NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING AND FINISHING

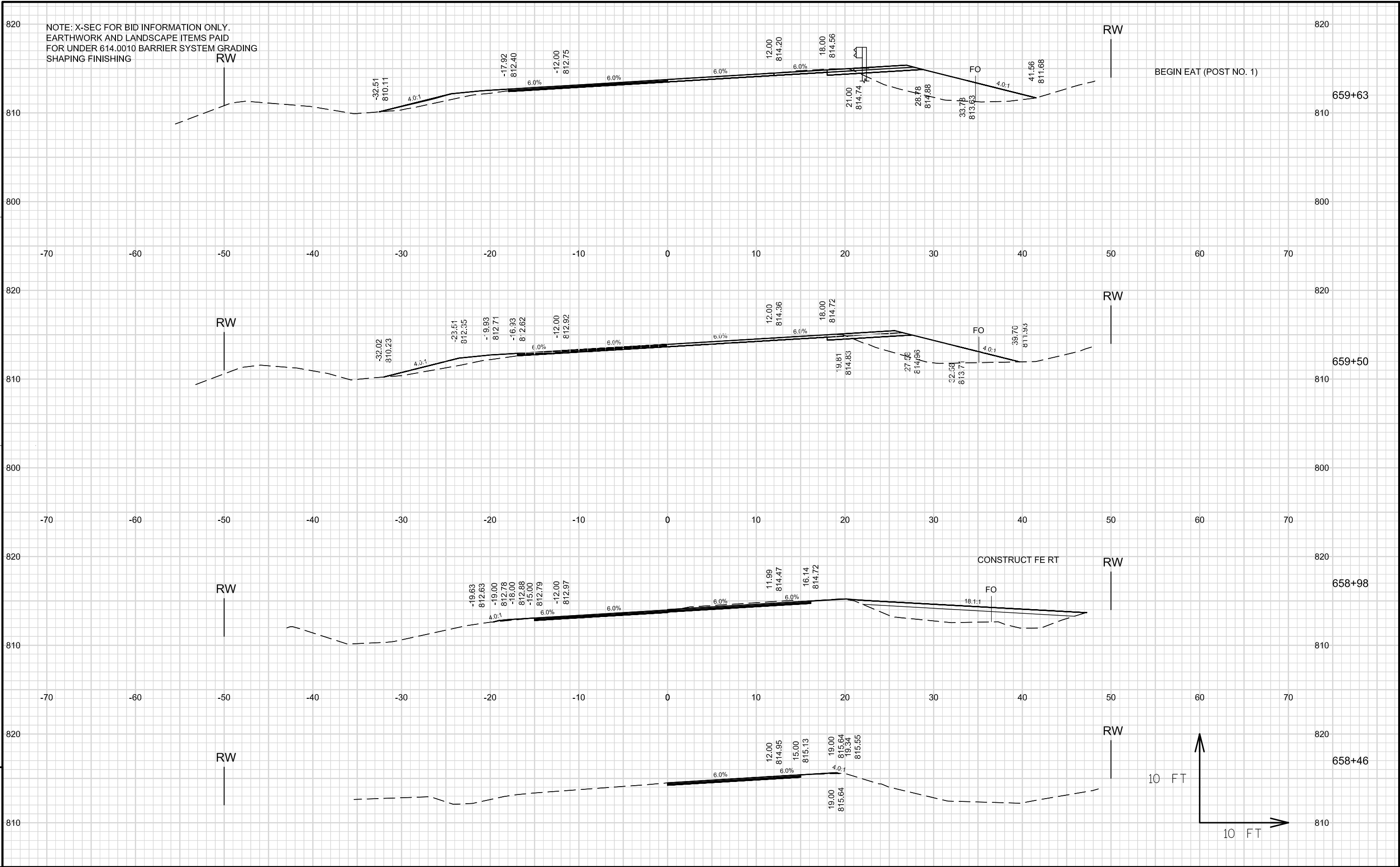




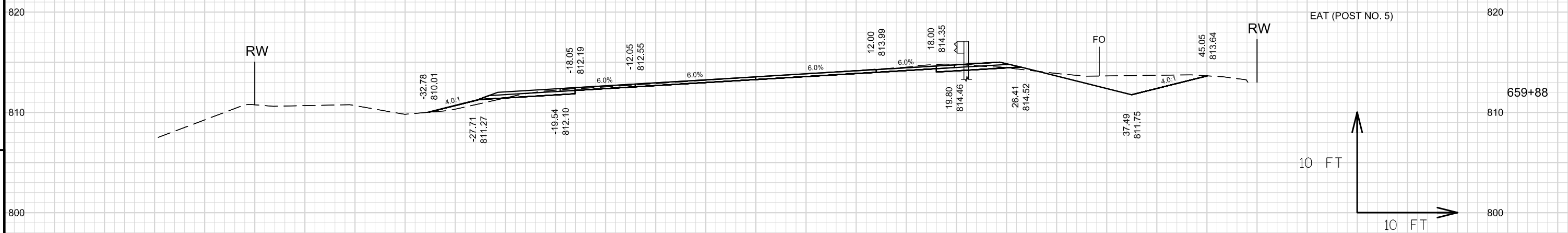
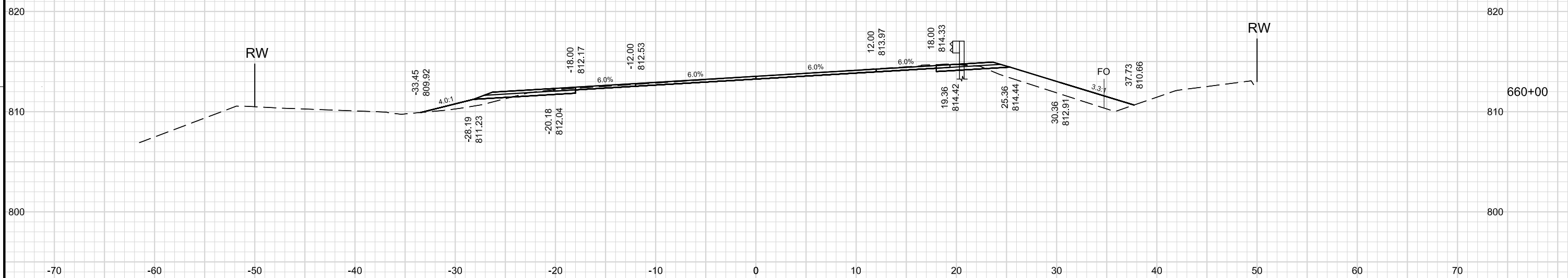
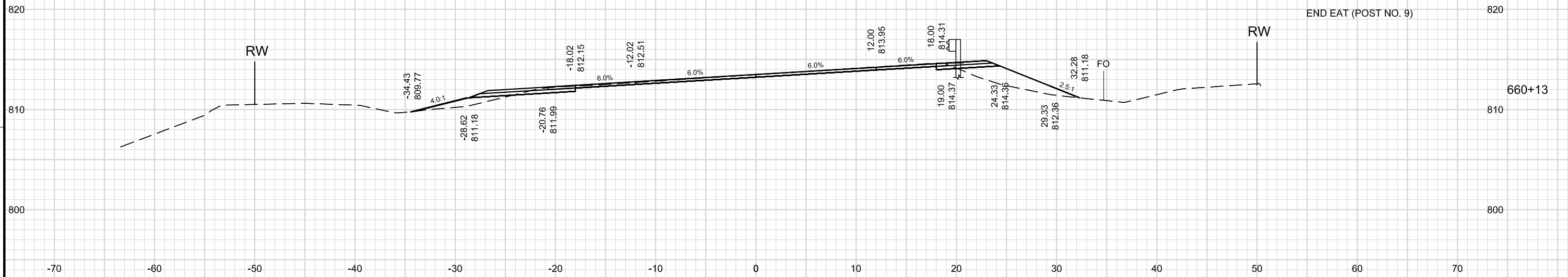


NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING AND FINISHING





NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



PROJECT NO:1530-06-72

HWY: USH 10

COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET
172

FILE NAME : W:\NWBE_PROJECTS\DESIGN\1204_USH 10_11TH_AVE\C3D\090203_XS_BG_INFO_ONLY.DWG

PLOT DATE : 1/31/2015 5:13 PM

PLOT BY : USER

PLOT NAME :

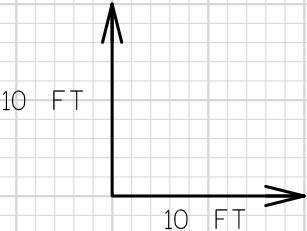
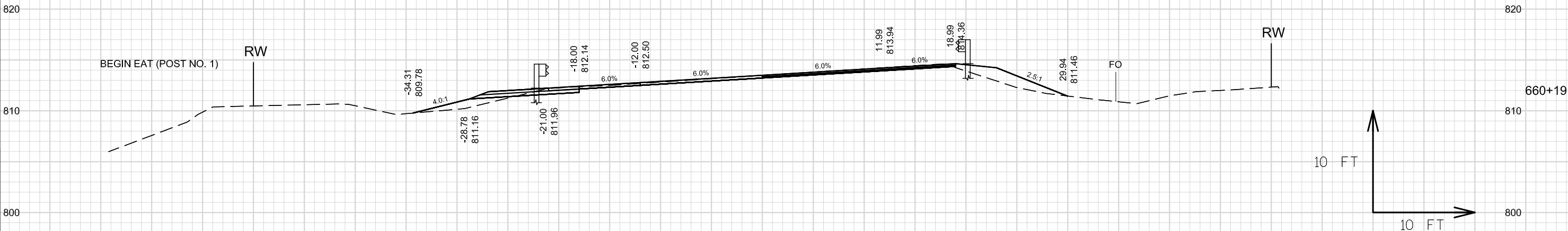
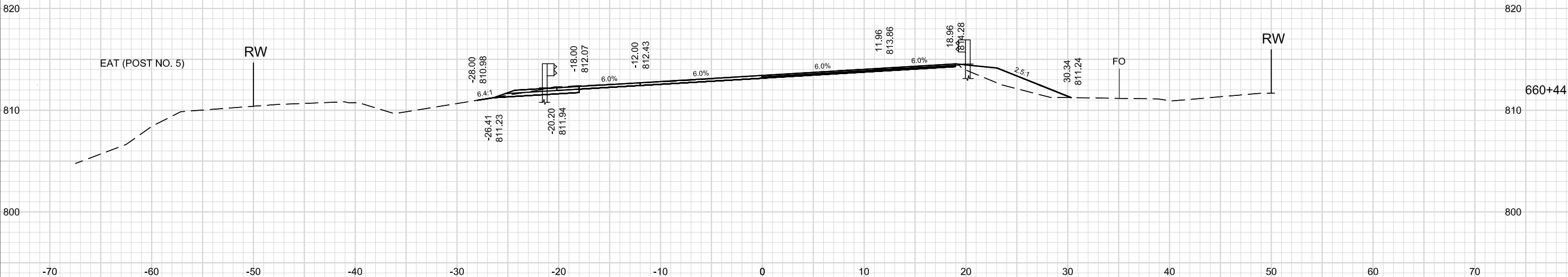
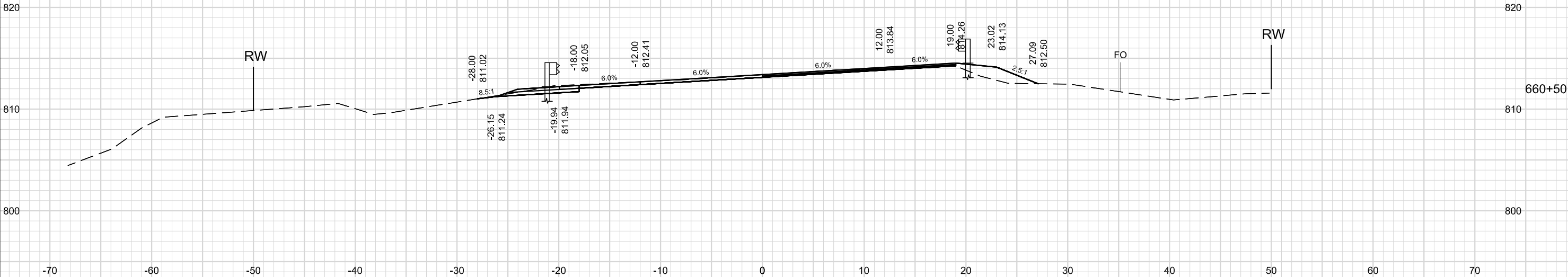
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

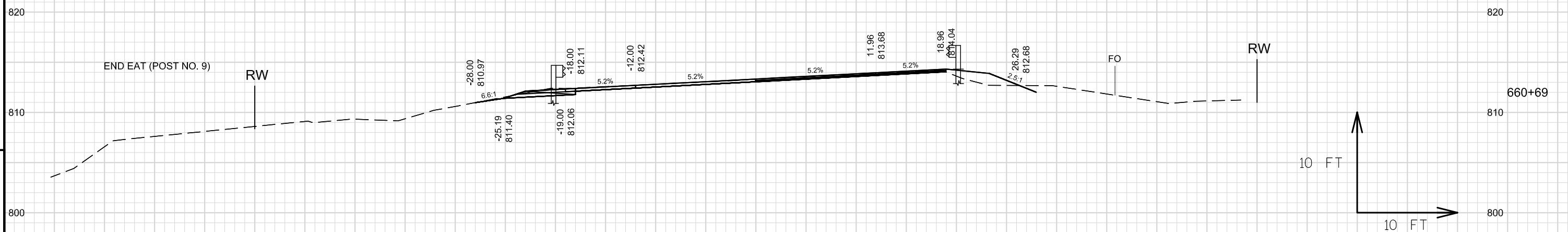
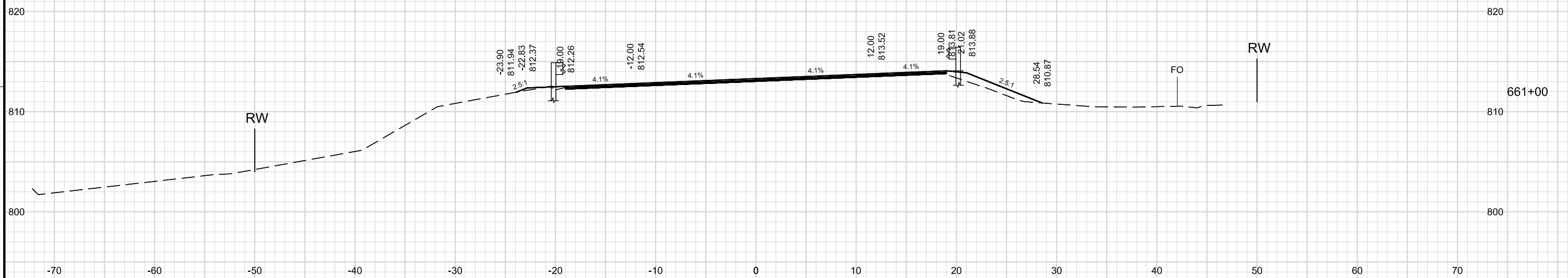
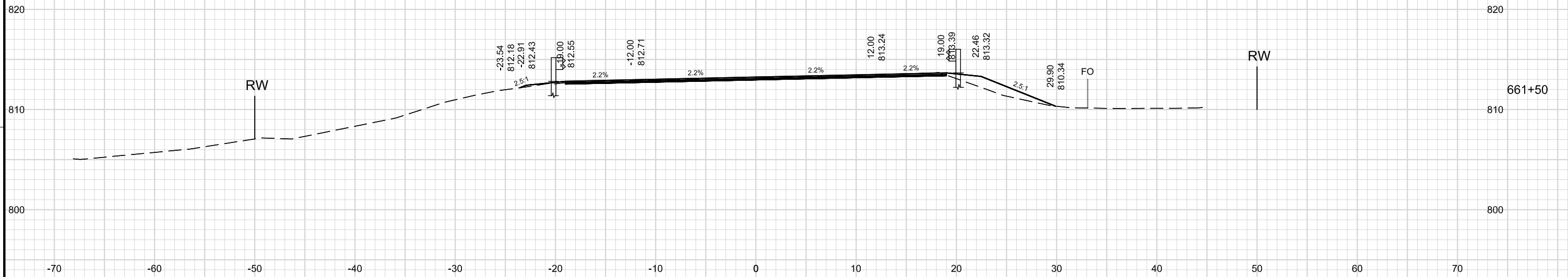
9

9

NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



PROJECT NO: 1530-06-72

HWY: USH 10

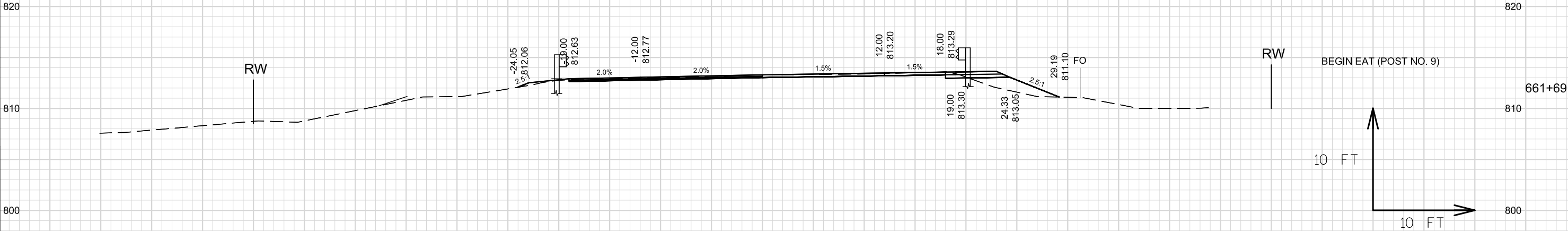
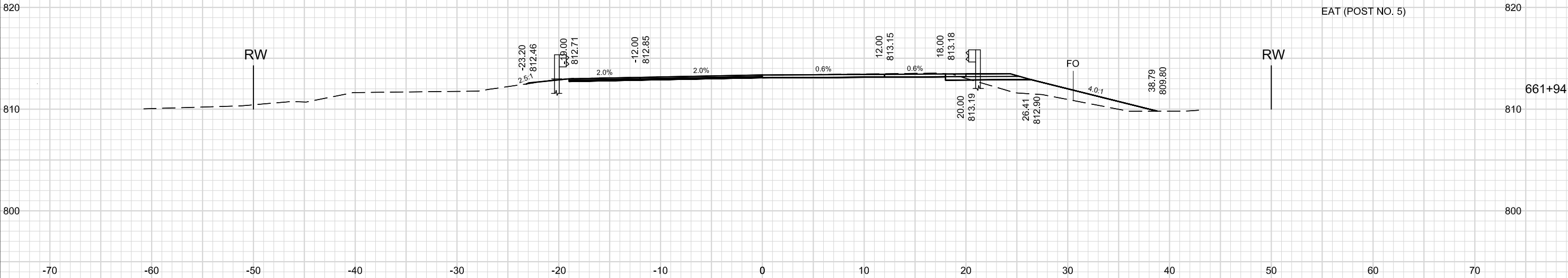
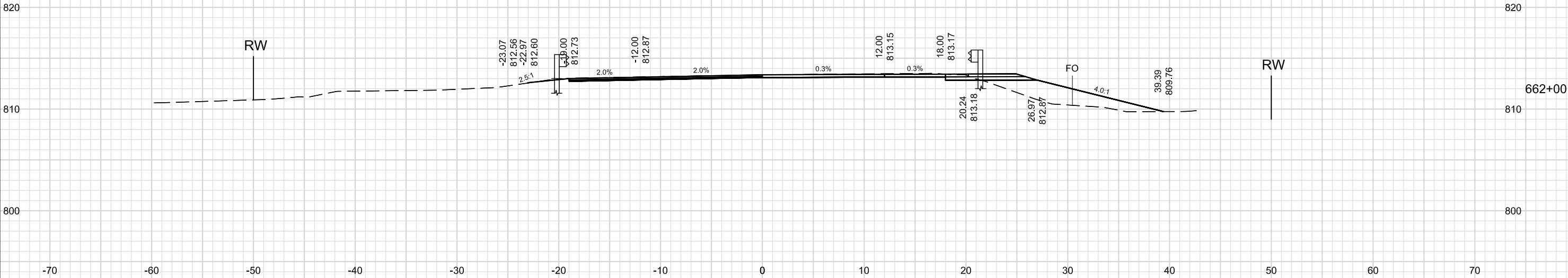
COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET 174

1

NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



BEGIN EAT (POST NO. 9)

10 FT

10 FT

PROJECT NO: 1530-06-72

HWY: USH 10

COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET

175

E

FILE NAME : W:\NWBE_PROJECTS\DESIGN\1204_USH 10_11TH_AVE\C3D\090203_XS_BG_INFO_ONLY.DWG

PLOT DATE : 1/31/2015 5:16 PM

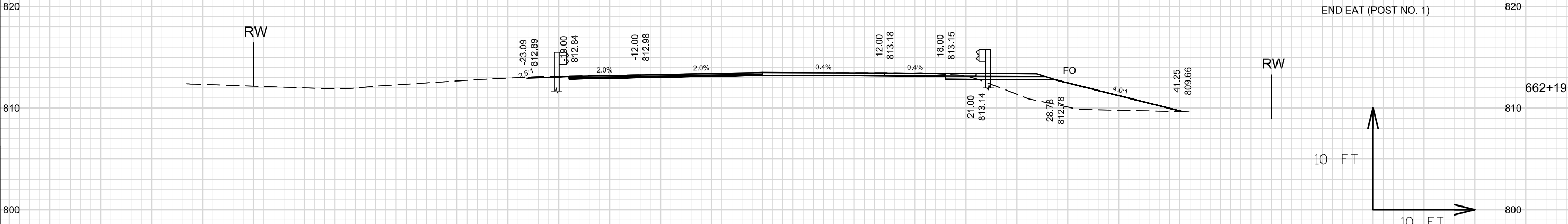
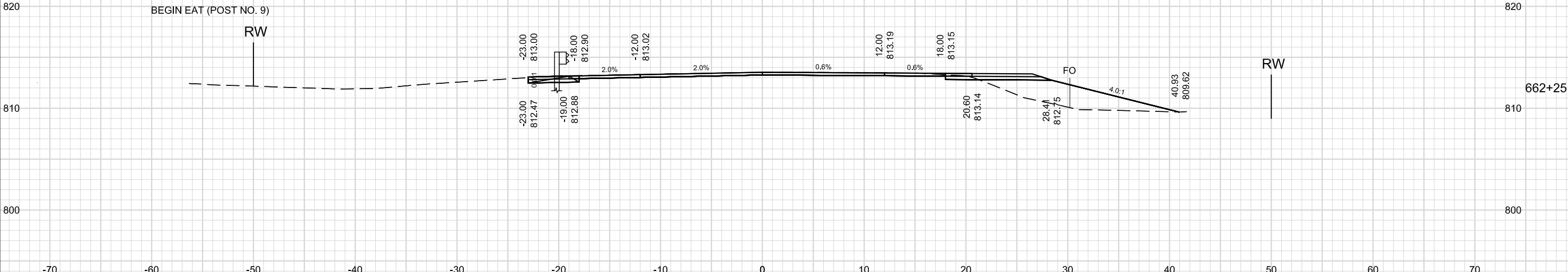
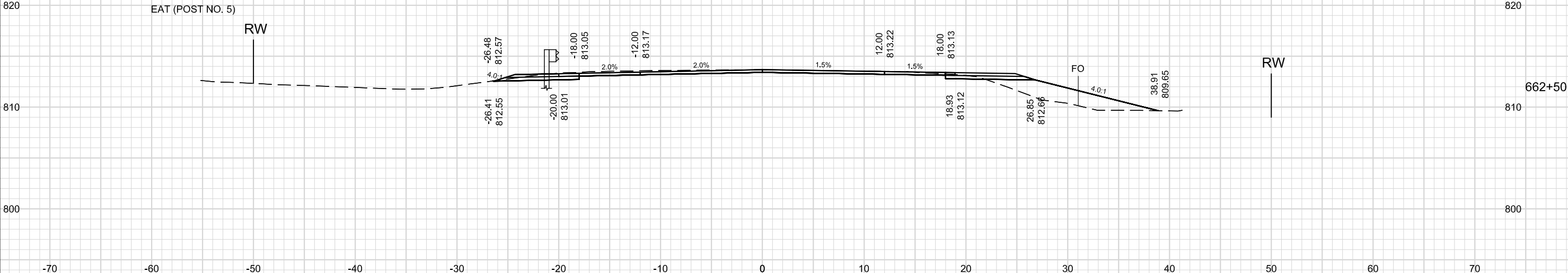
PLOT BY : USER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



PROJECT NO:1530-06-72

HWY: USH 10

COUNTY: PEPIN

CROSS SECTIONS: USH 1C

SHEET 176

FILE NAME : W:\NWBE_PROJECTS\DESIGN\1204_USH 10_11TH_AVE\C3D\090203_XS_BG_INFO_ONLY.DWG

PLOT DATE : 1/31/2015 5:17 PM

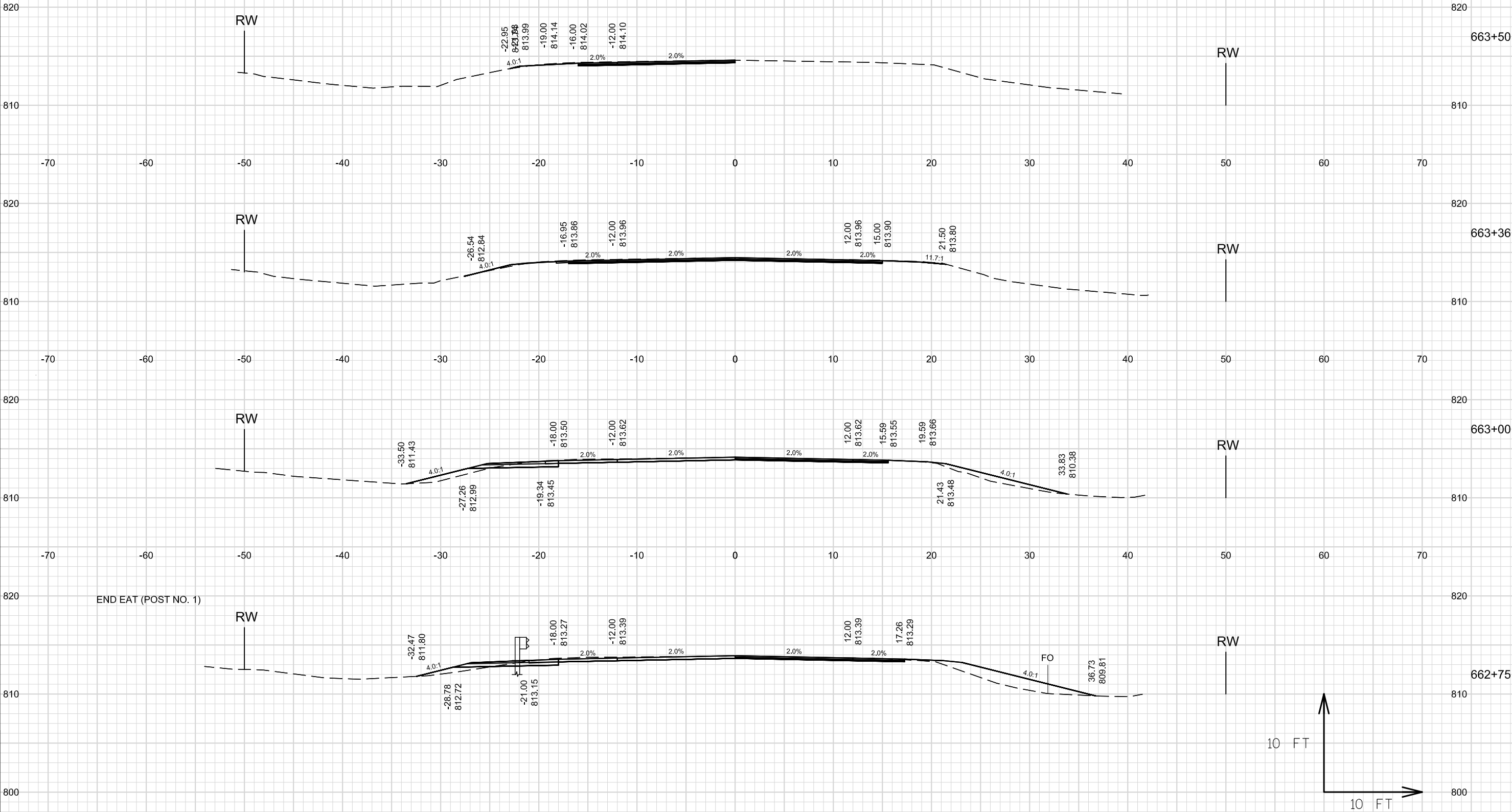
PLOT BY : USER

PLOT NAME :

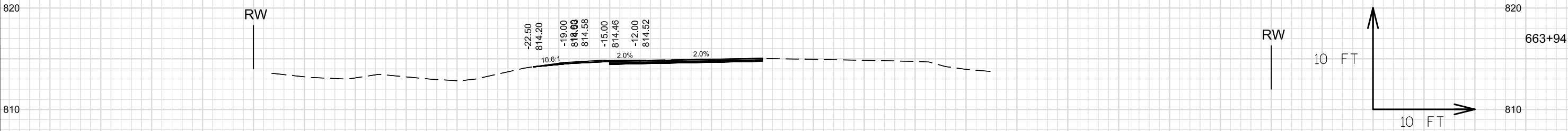
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



PROJECT NO: 1530-06-72

HWY: USH 10

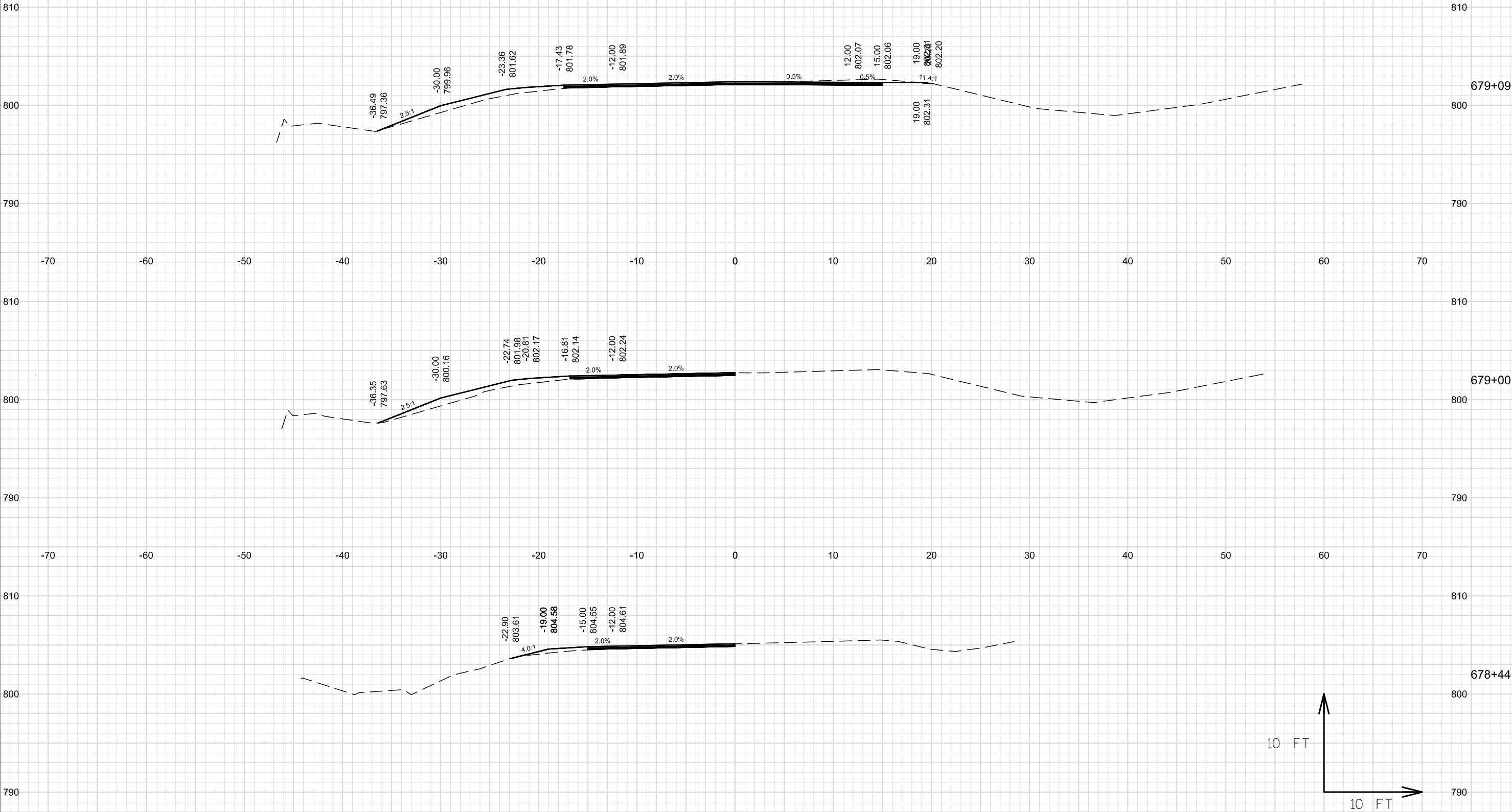
COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET 178

E

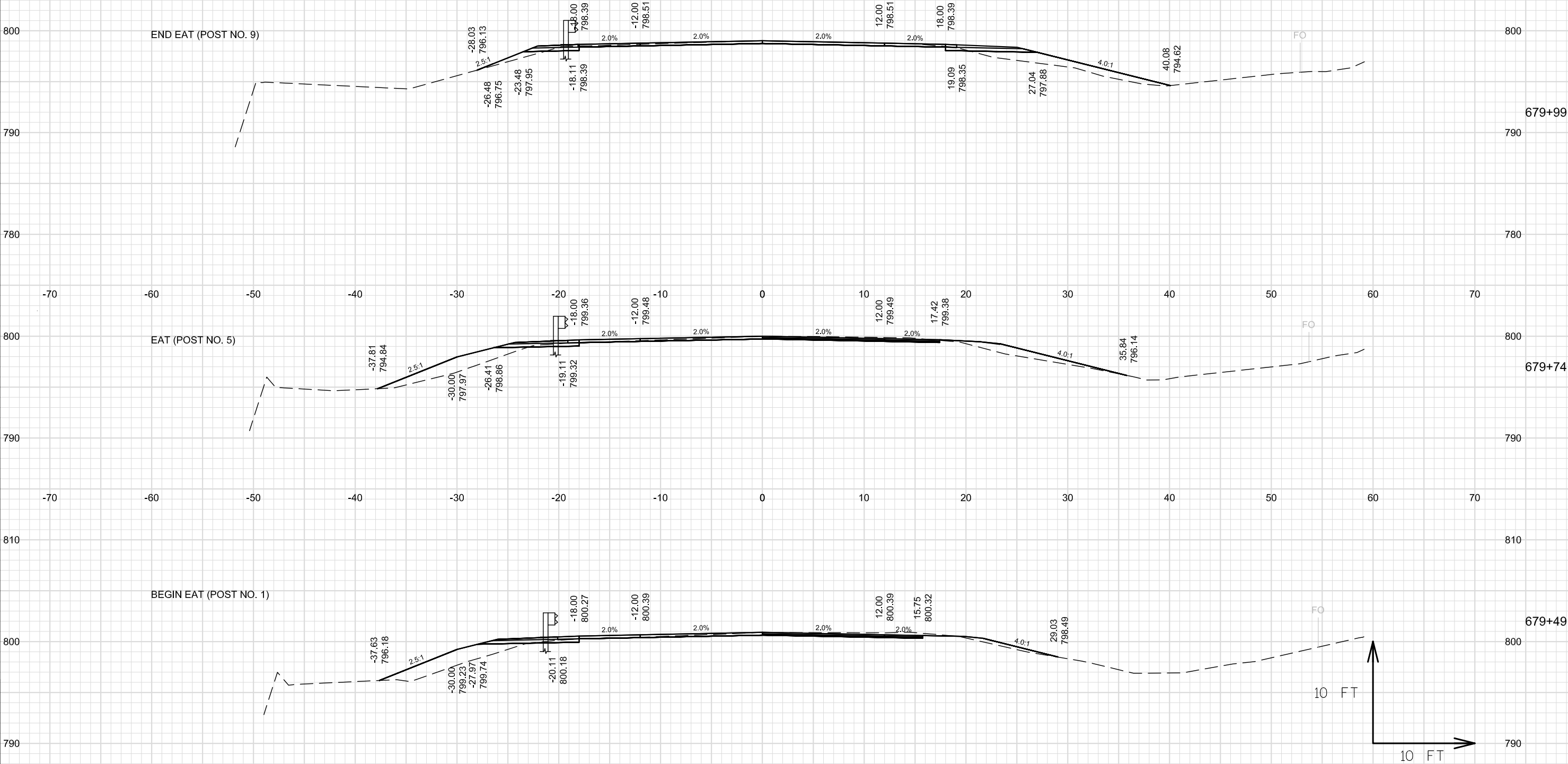
NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



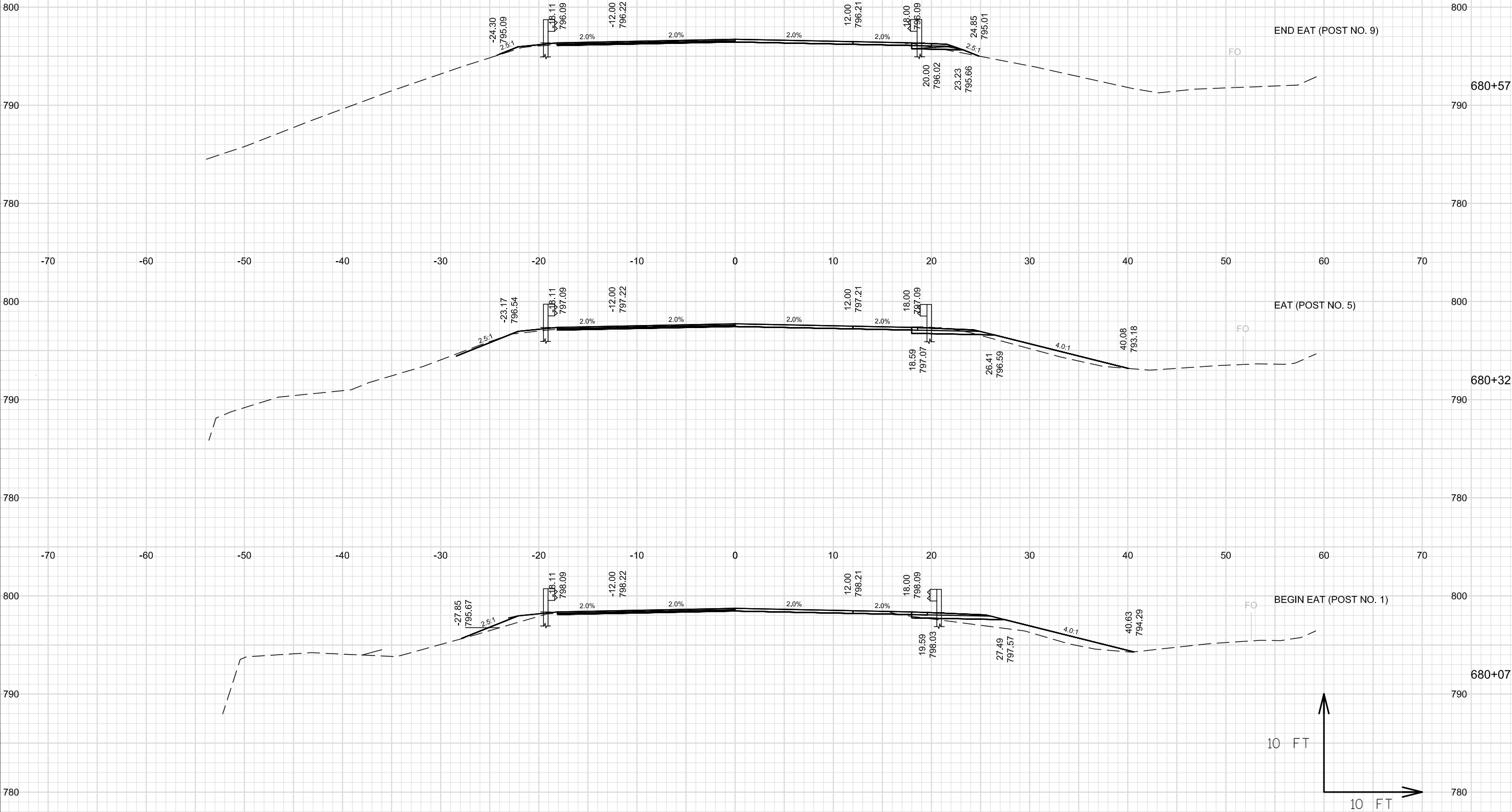
9

9

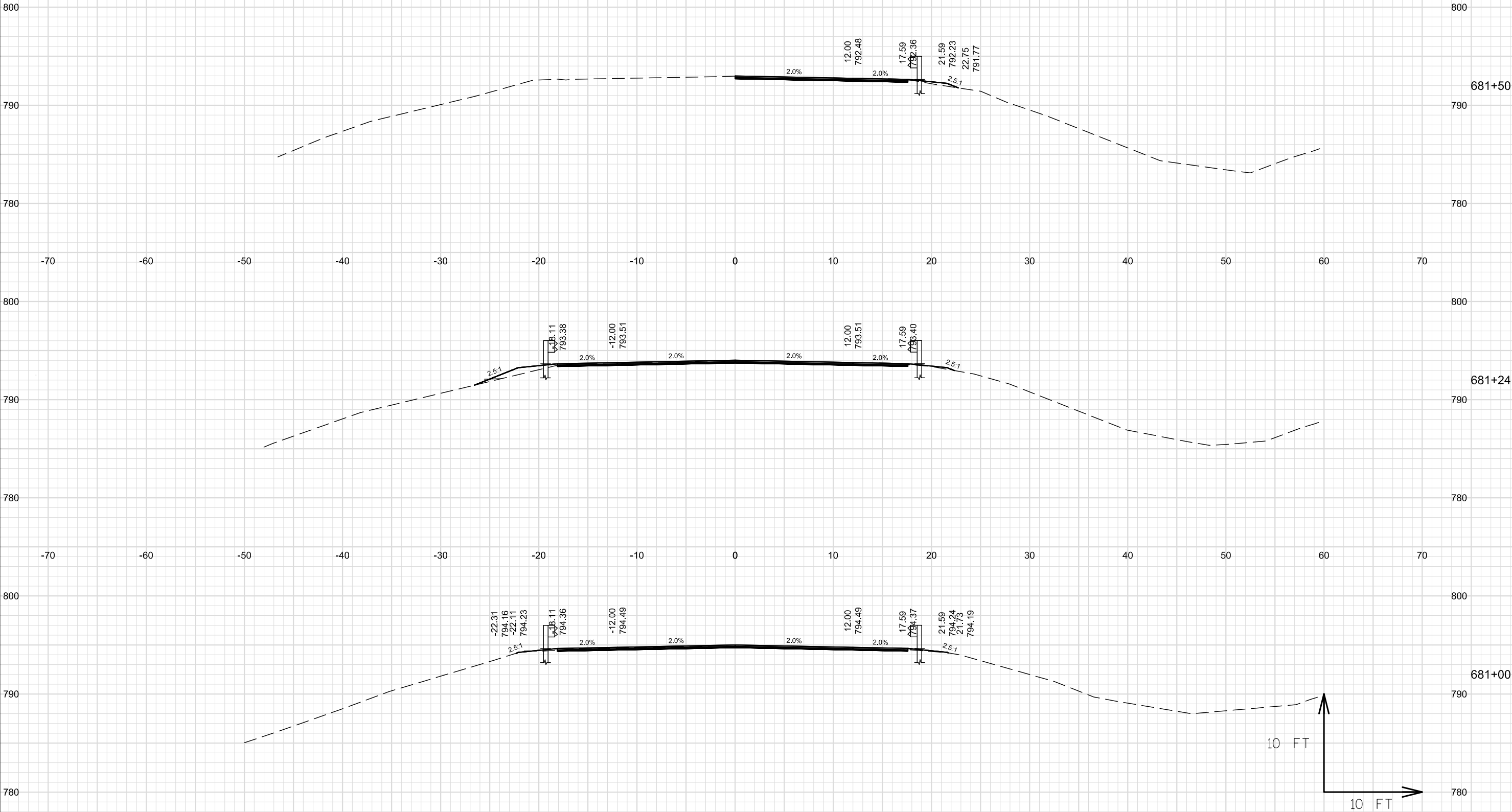
NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



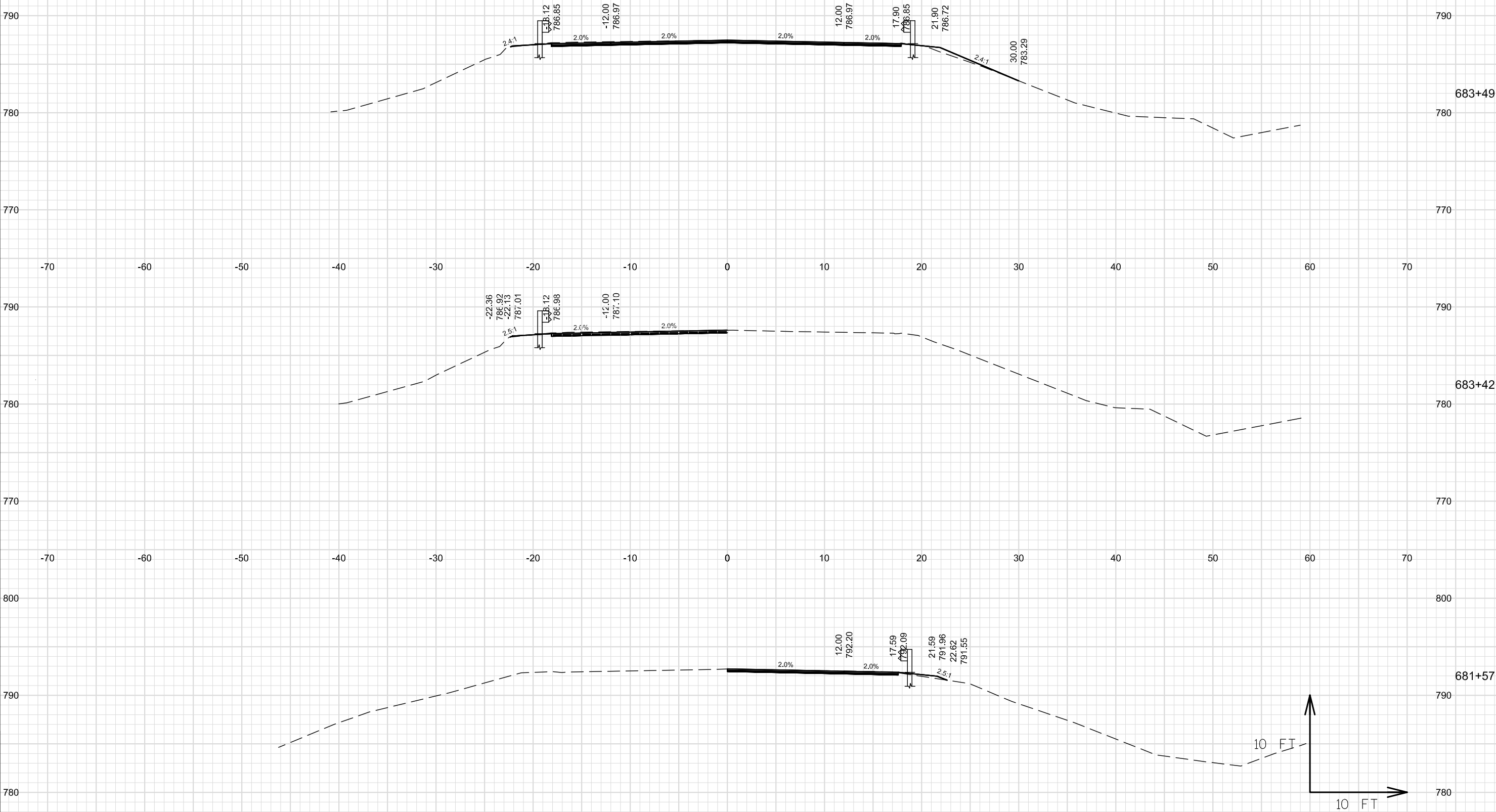
NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



9

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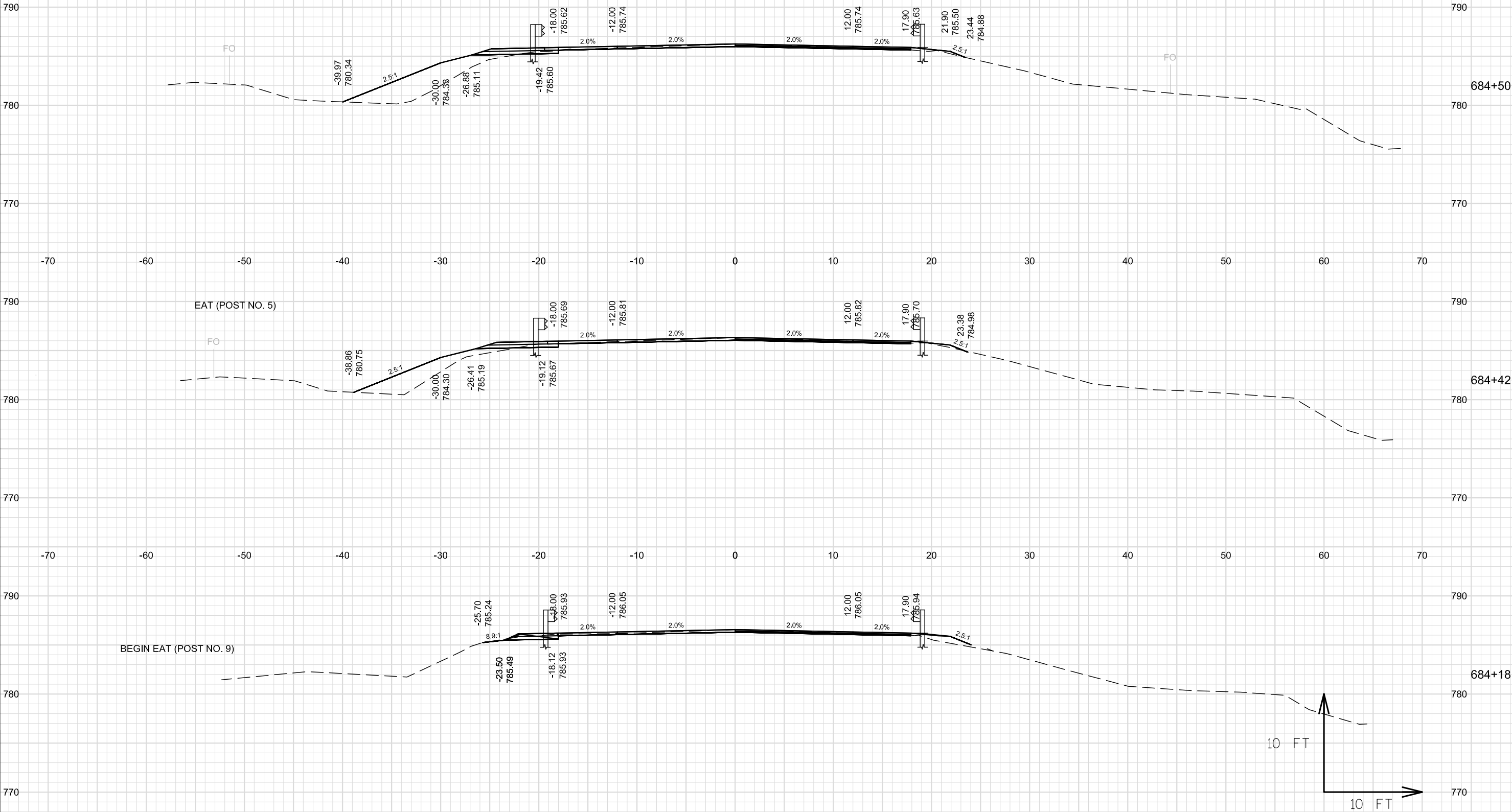
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SHAPING FINISHING



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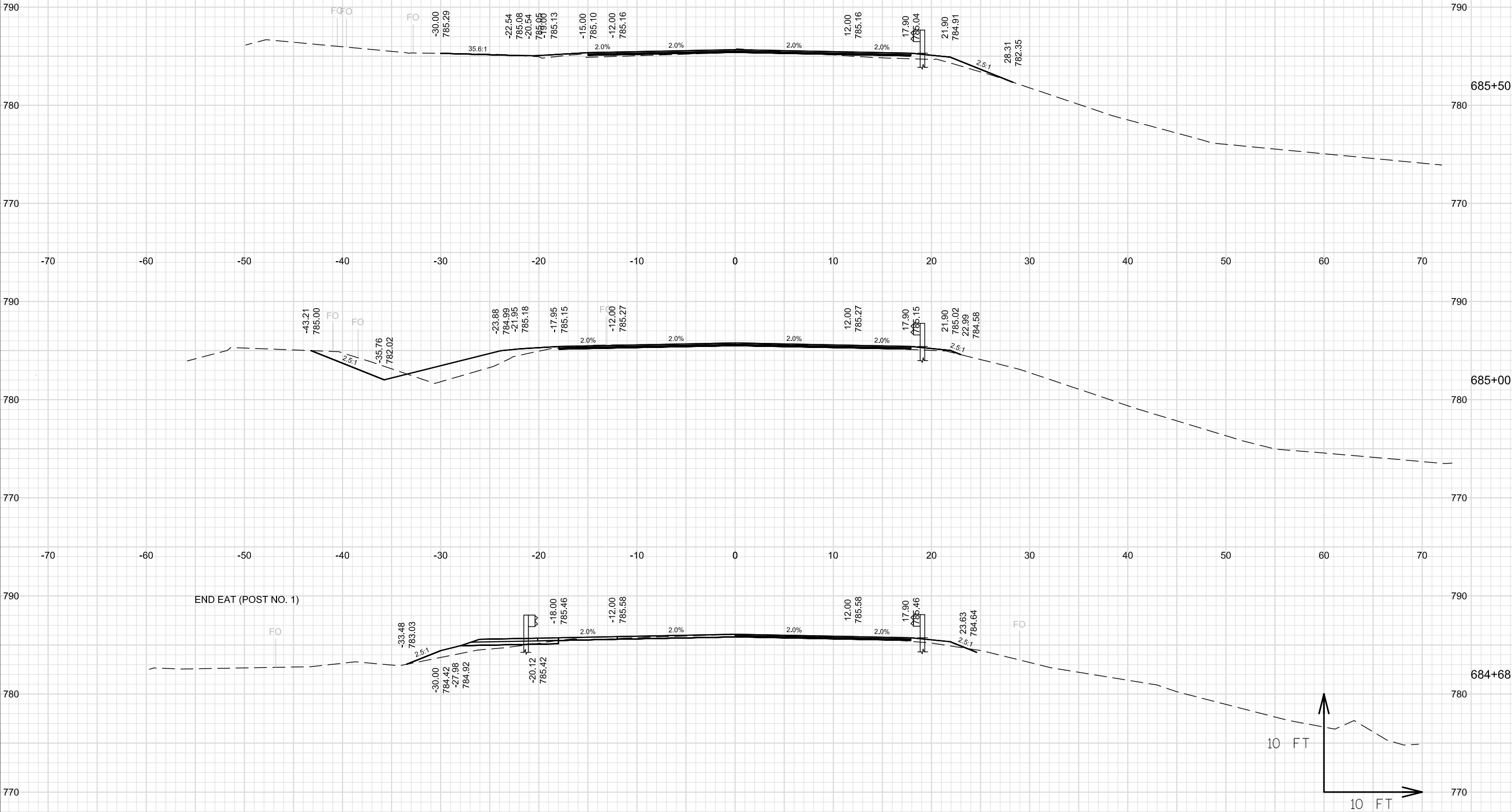
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SHAPING FINISHING



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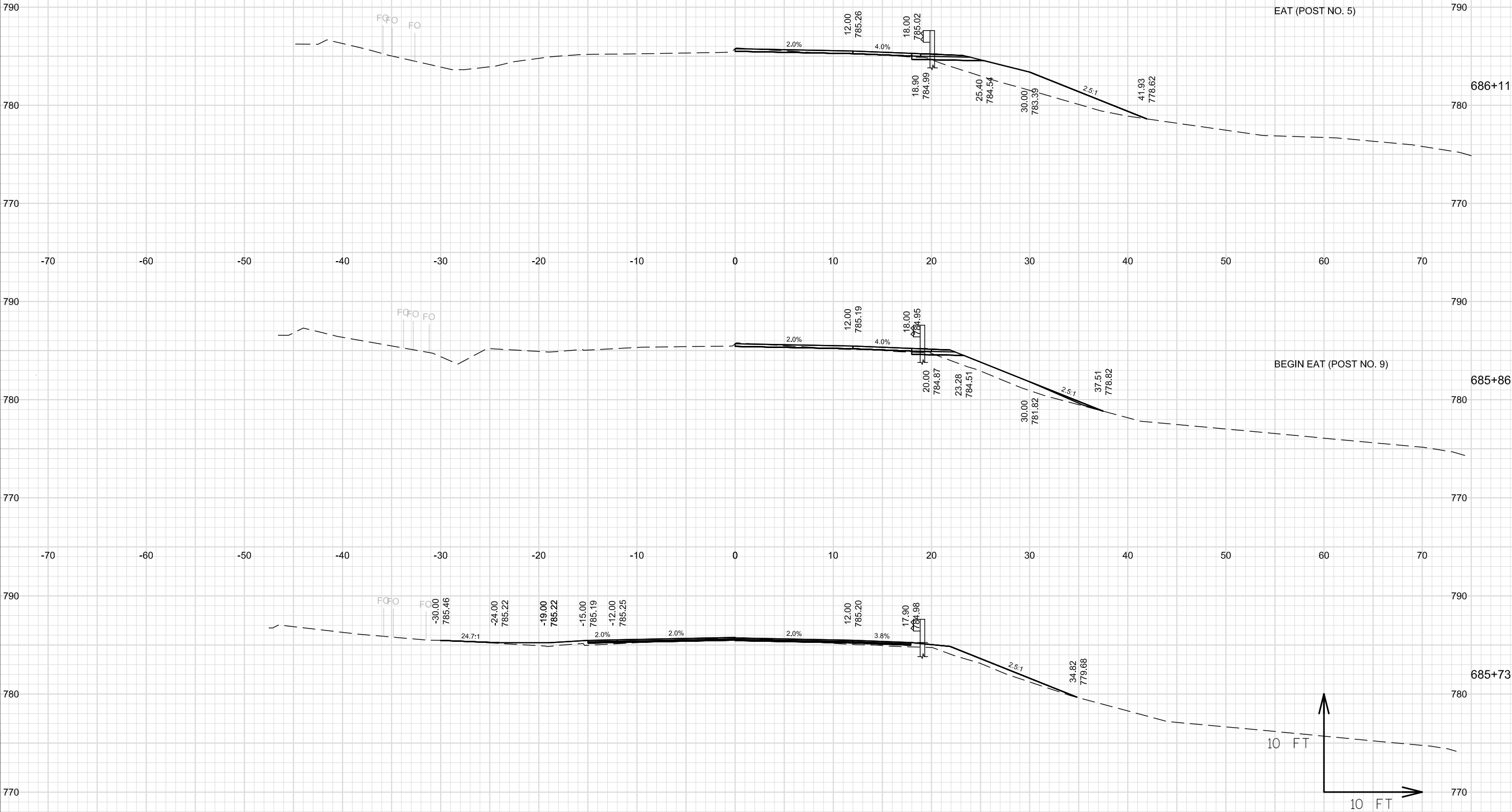
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EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



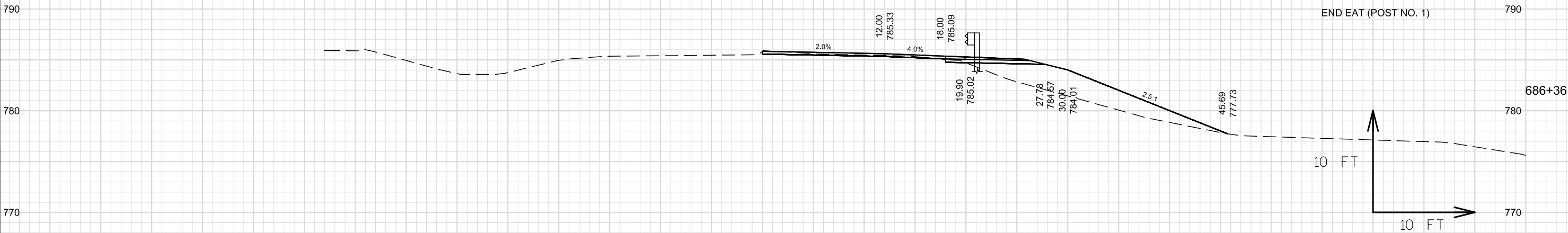
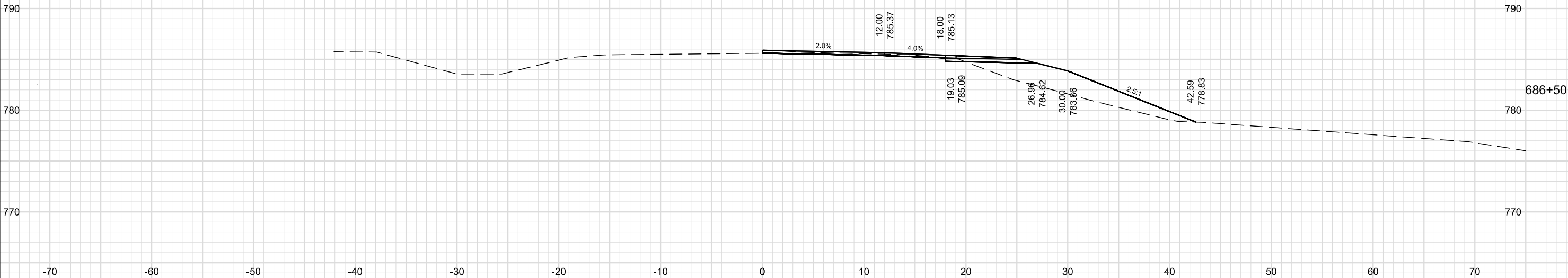
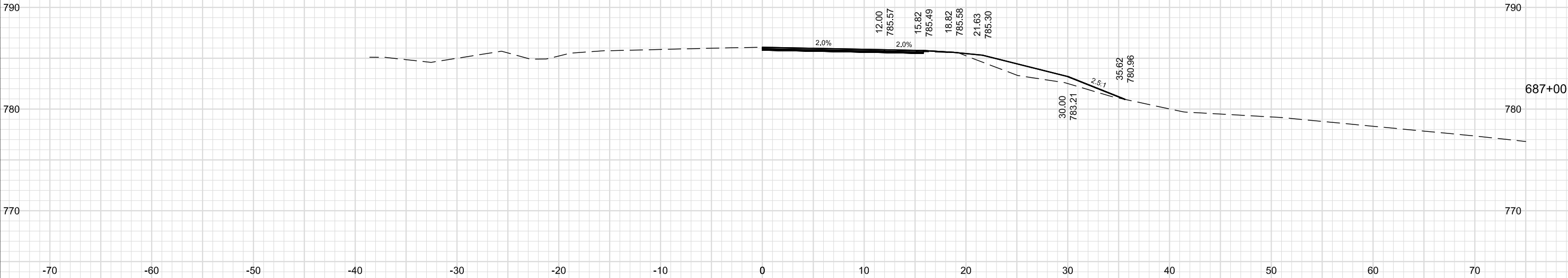
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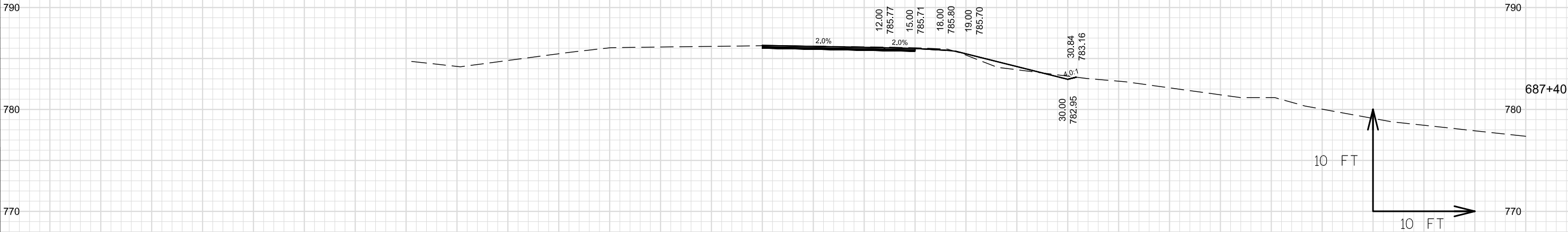
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EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

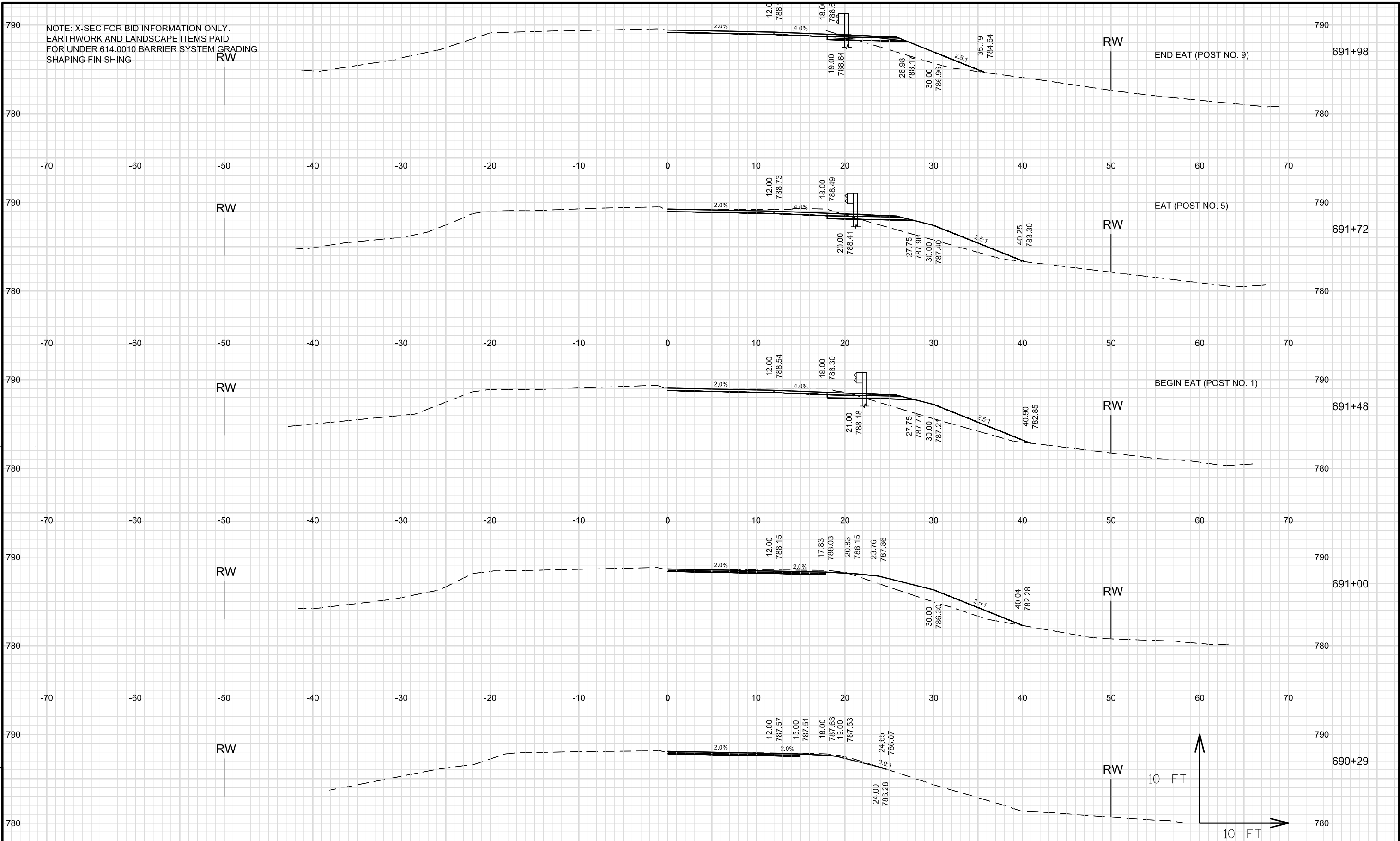


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SHAPING FINISHING

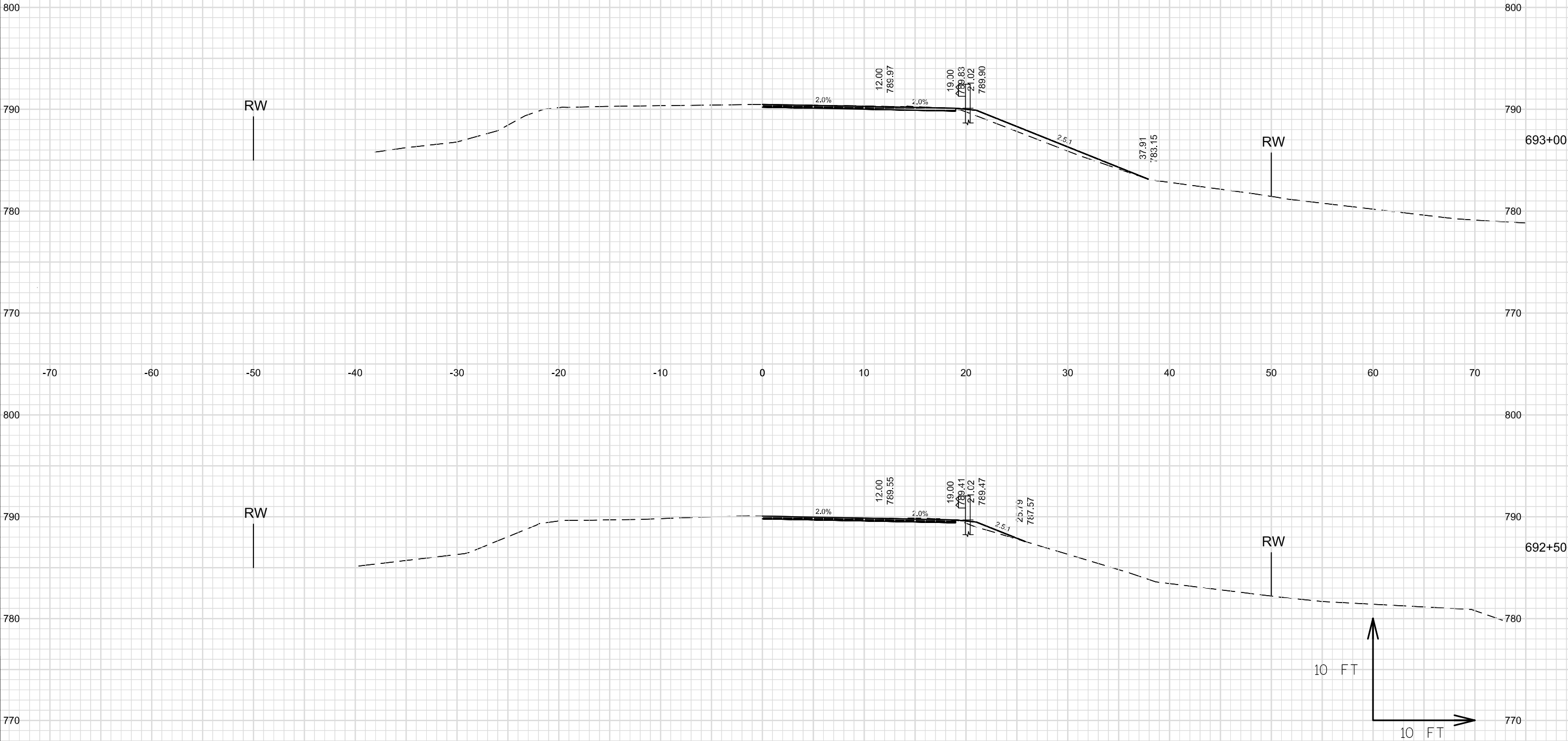


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EARTHWORK AND LANDSCAPE ITEMS PAID
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SHAPING FINISHING

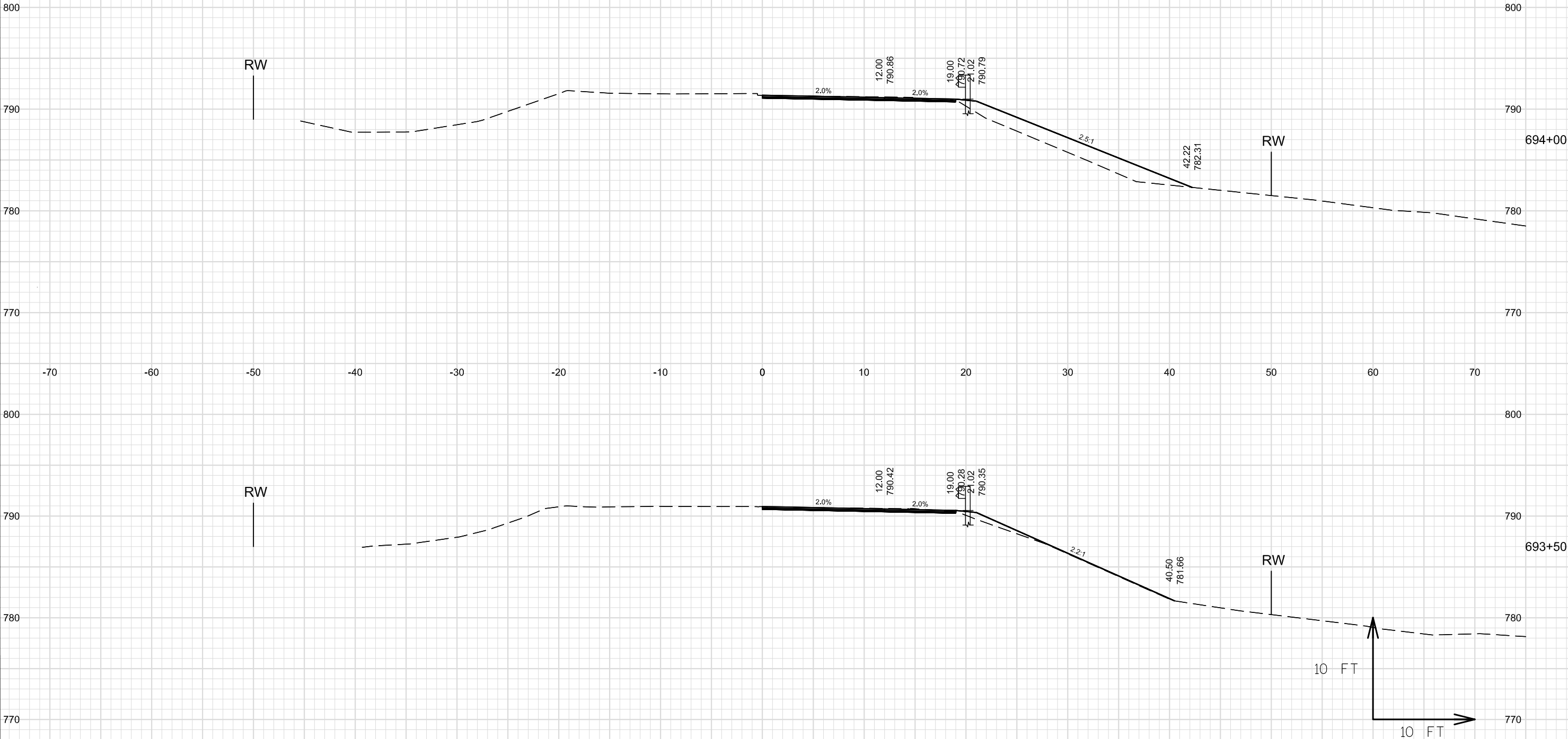




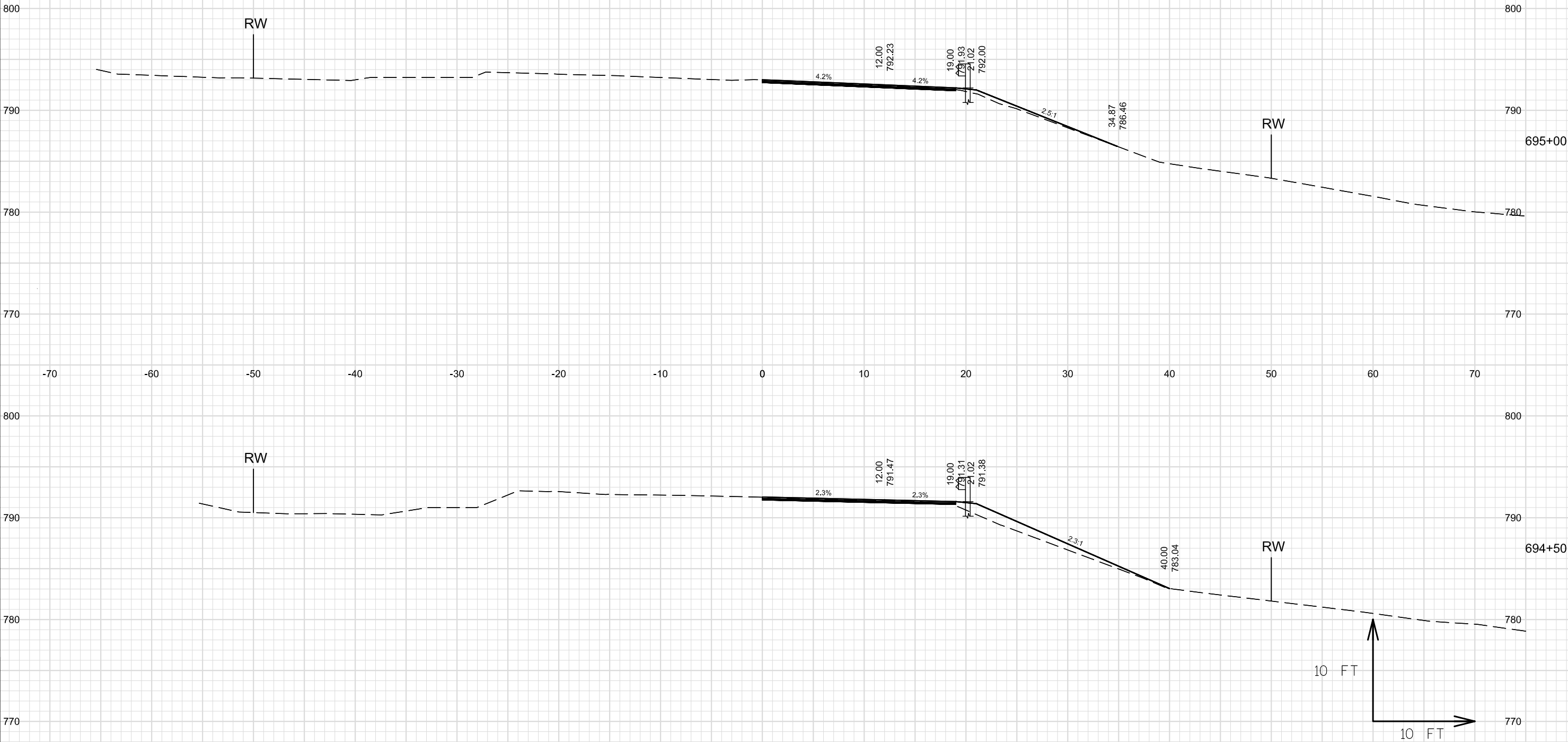
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EARTHWORK AND LANDSCAPE ITEMS PAID
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SHAPING FINISHING



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EARTHWORK AND LANDSCAPE ITEMS PAID
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SHAPING FINISHING

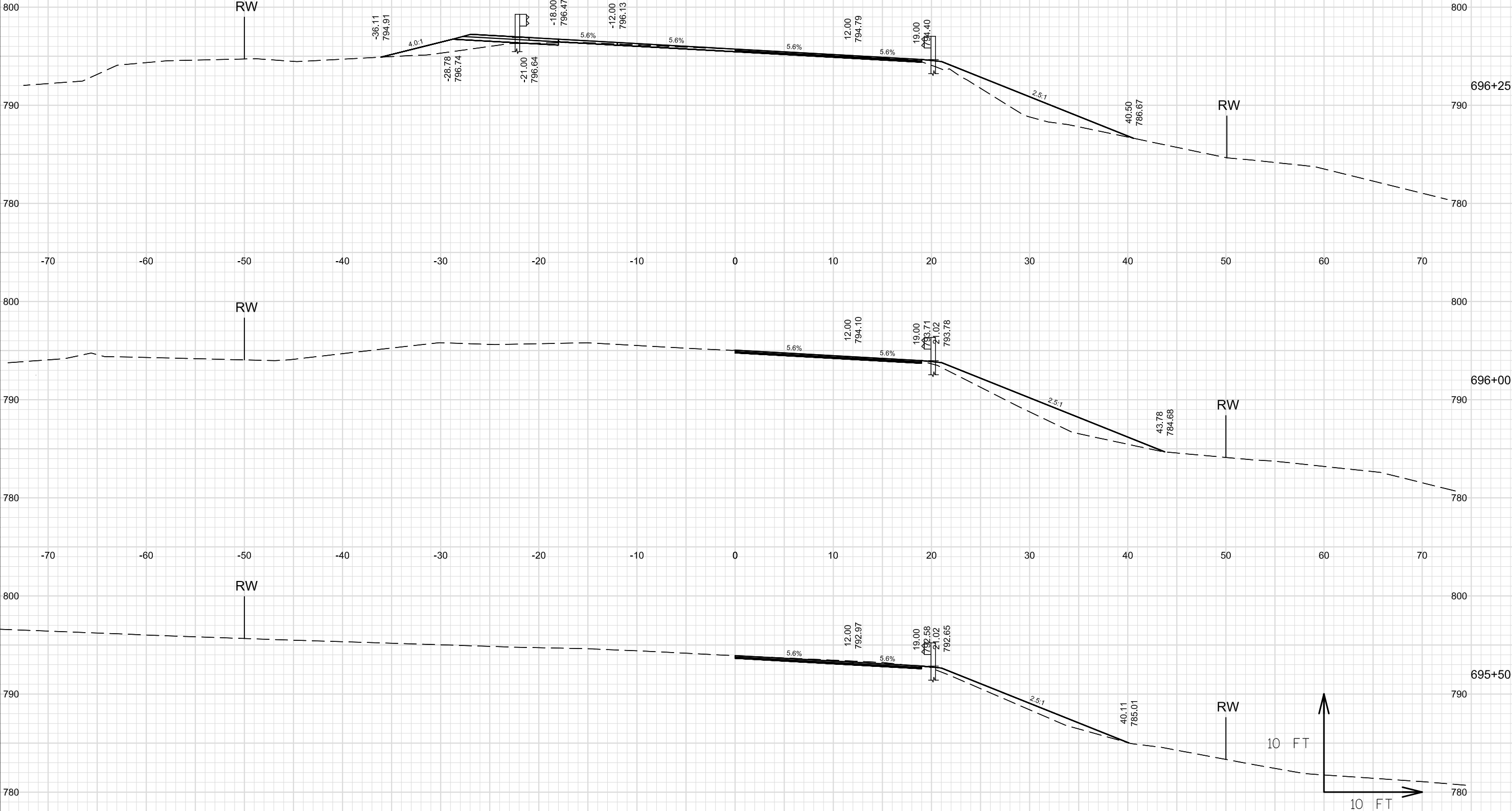


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SHAPING FINISHING

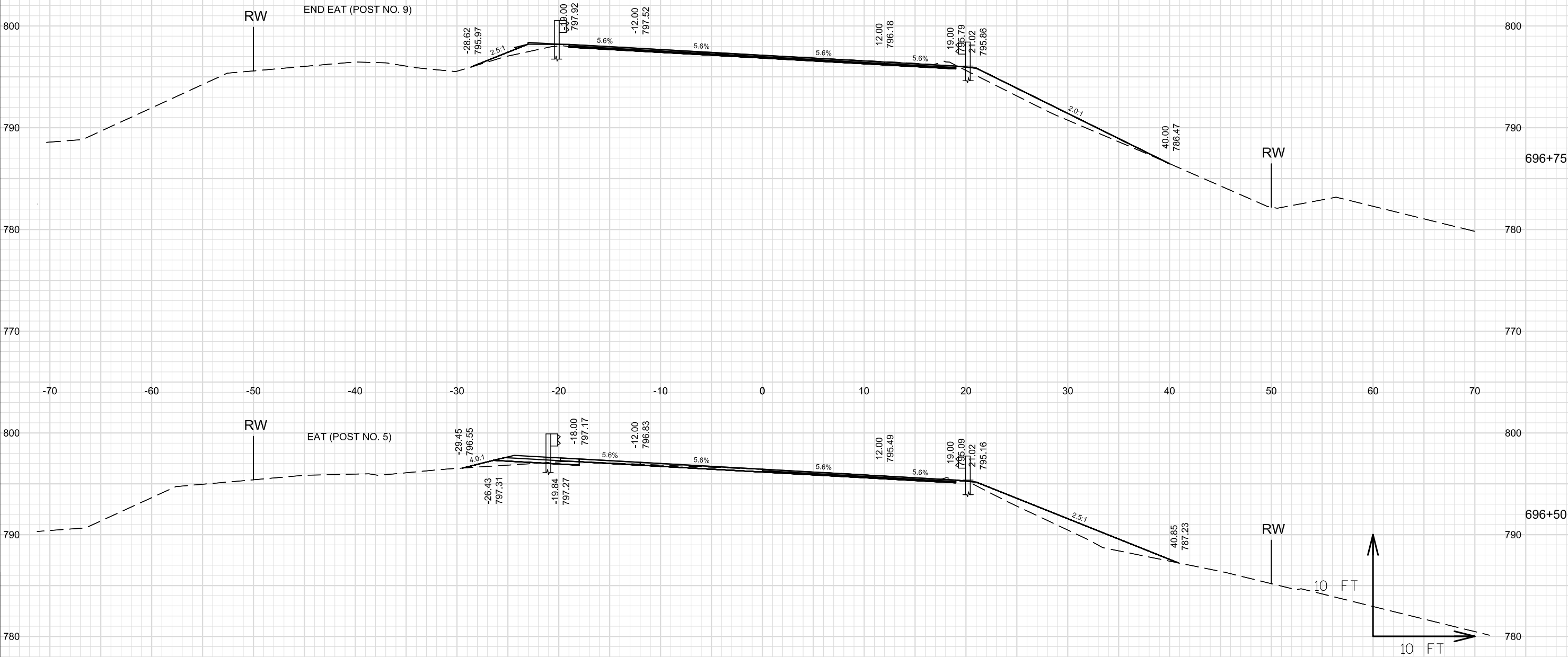


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FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

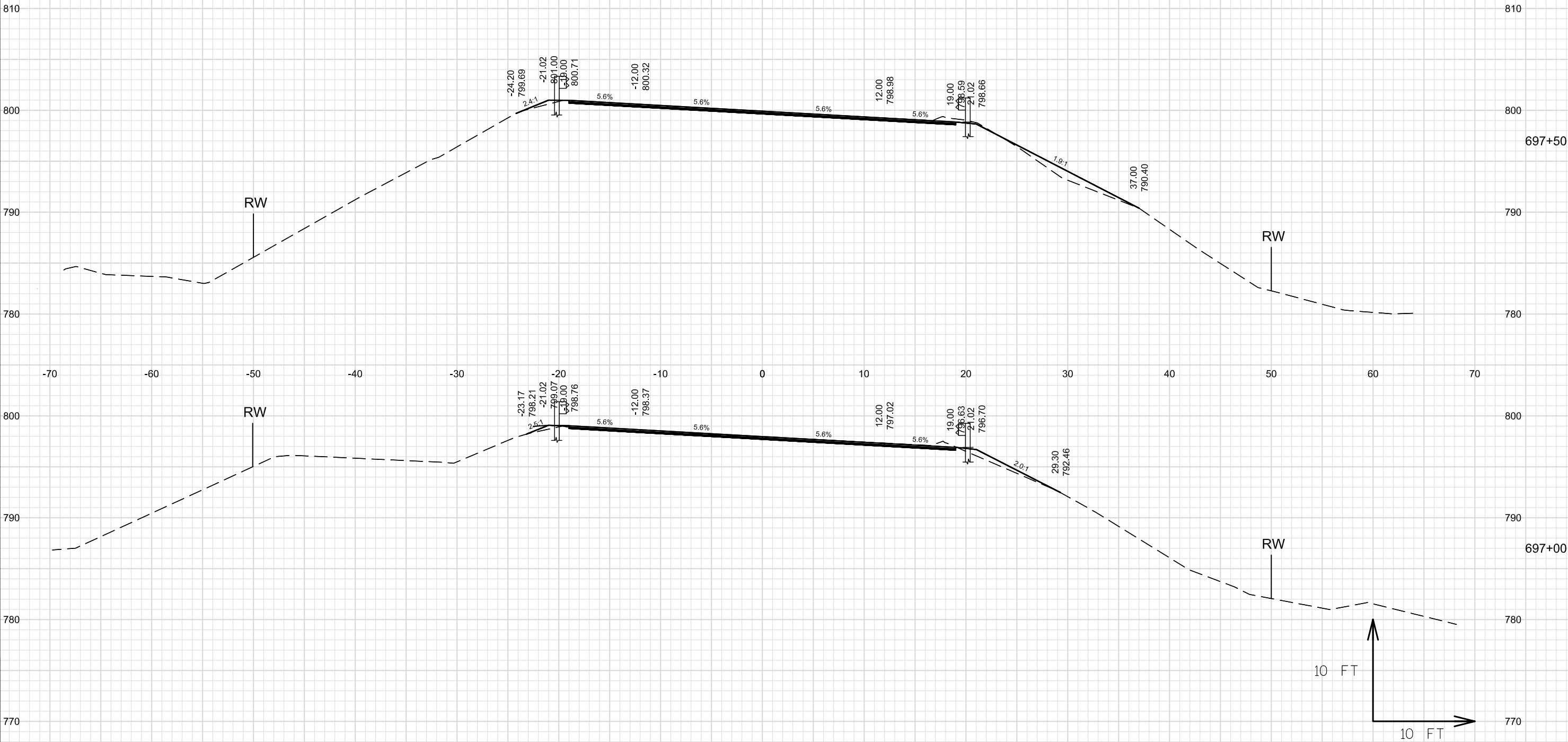
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NOTE: X-SEC FOR BID INFORMATION ONLY.
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

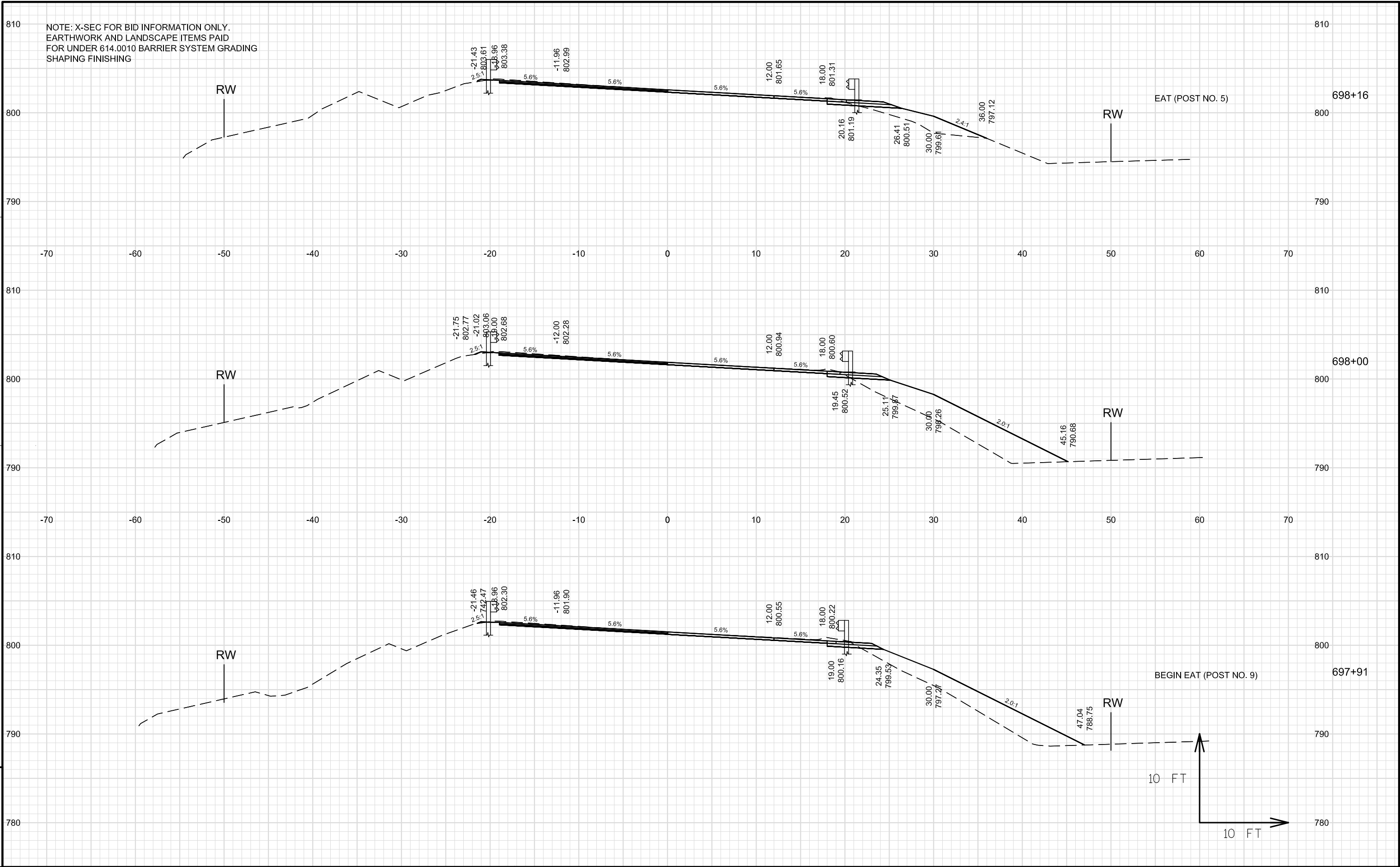


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FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING

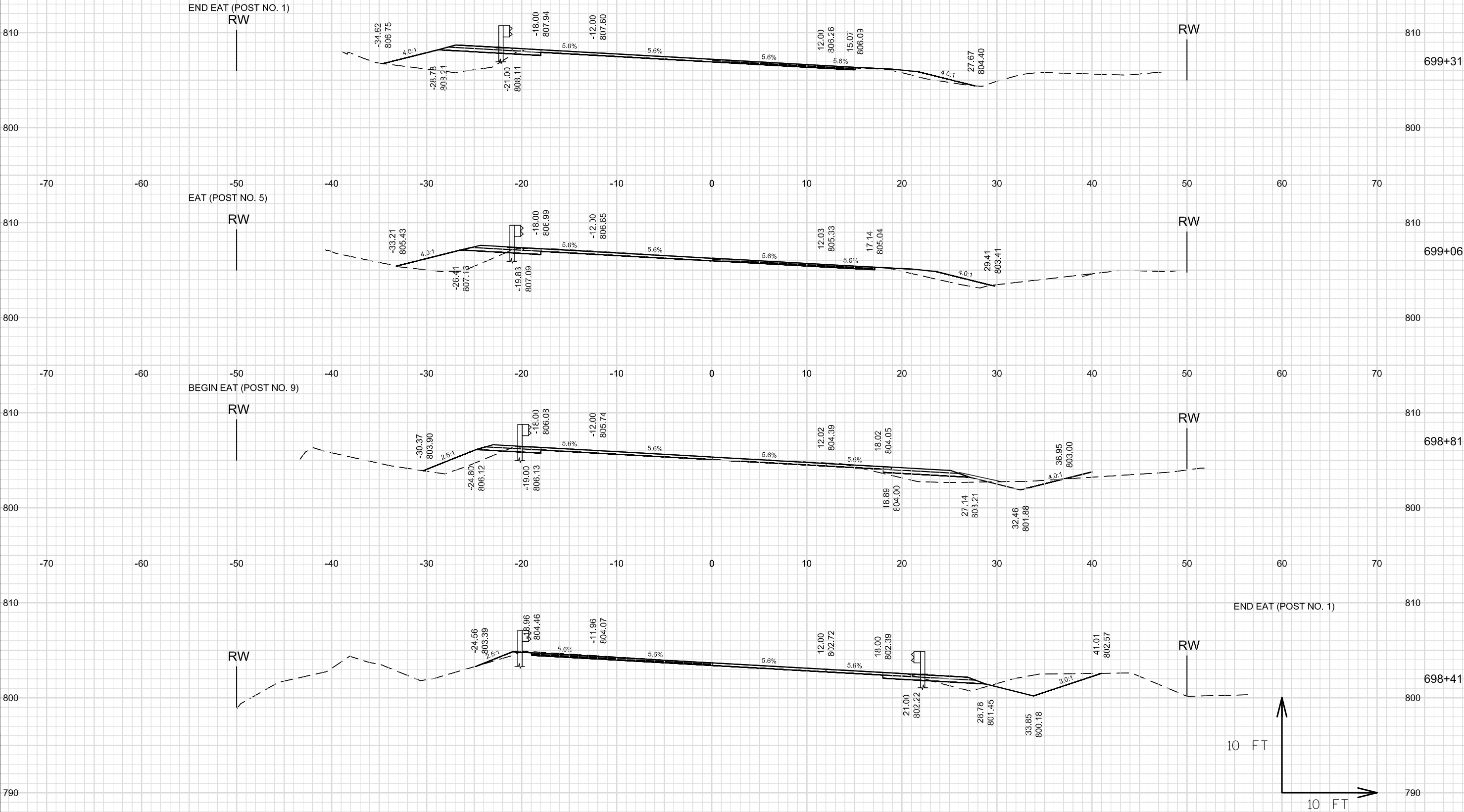


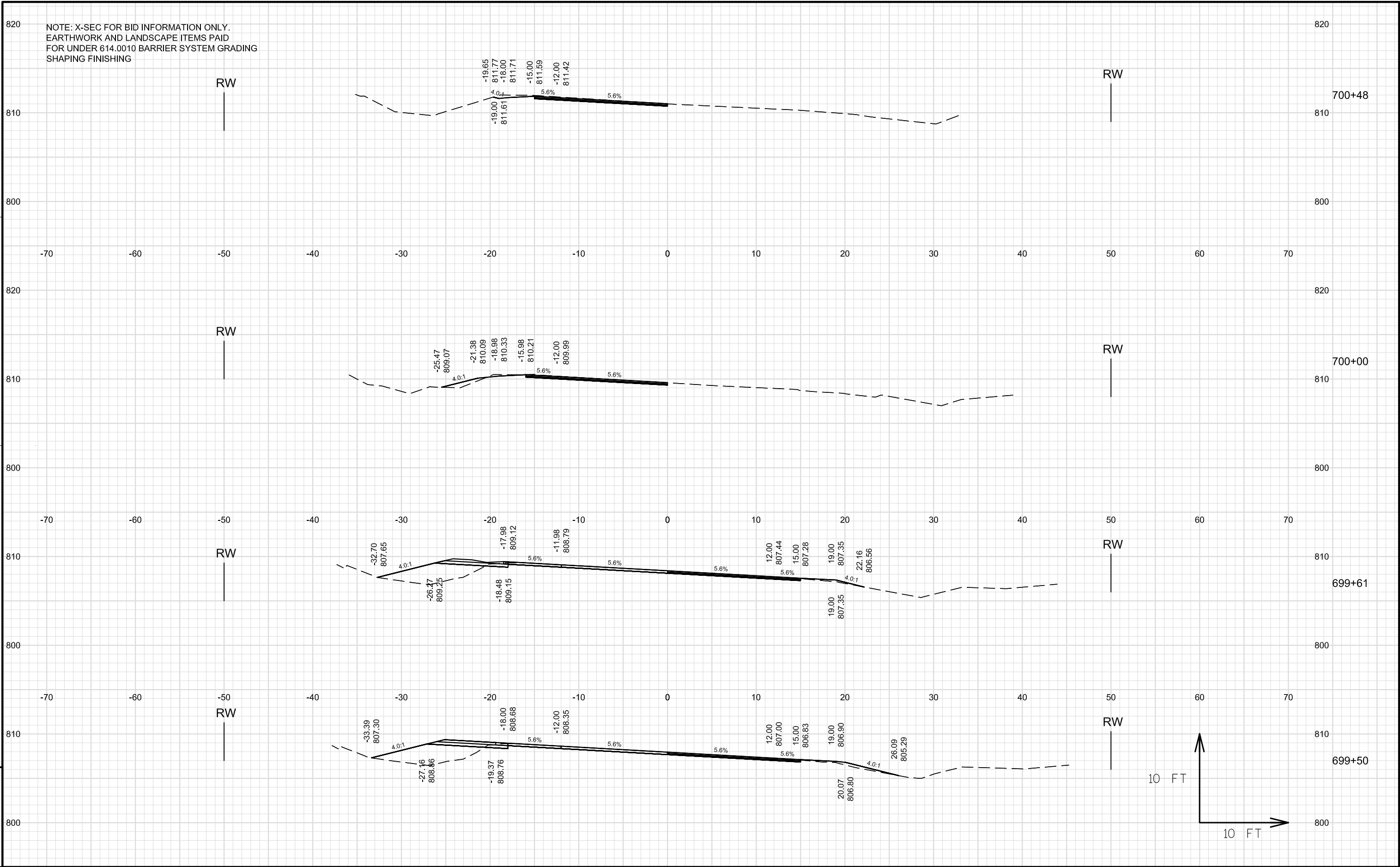
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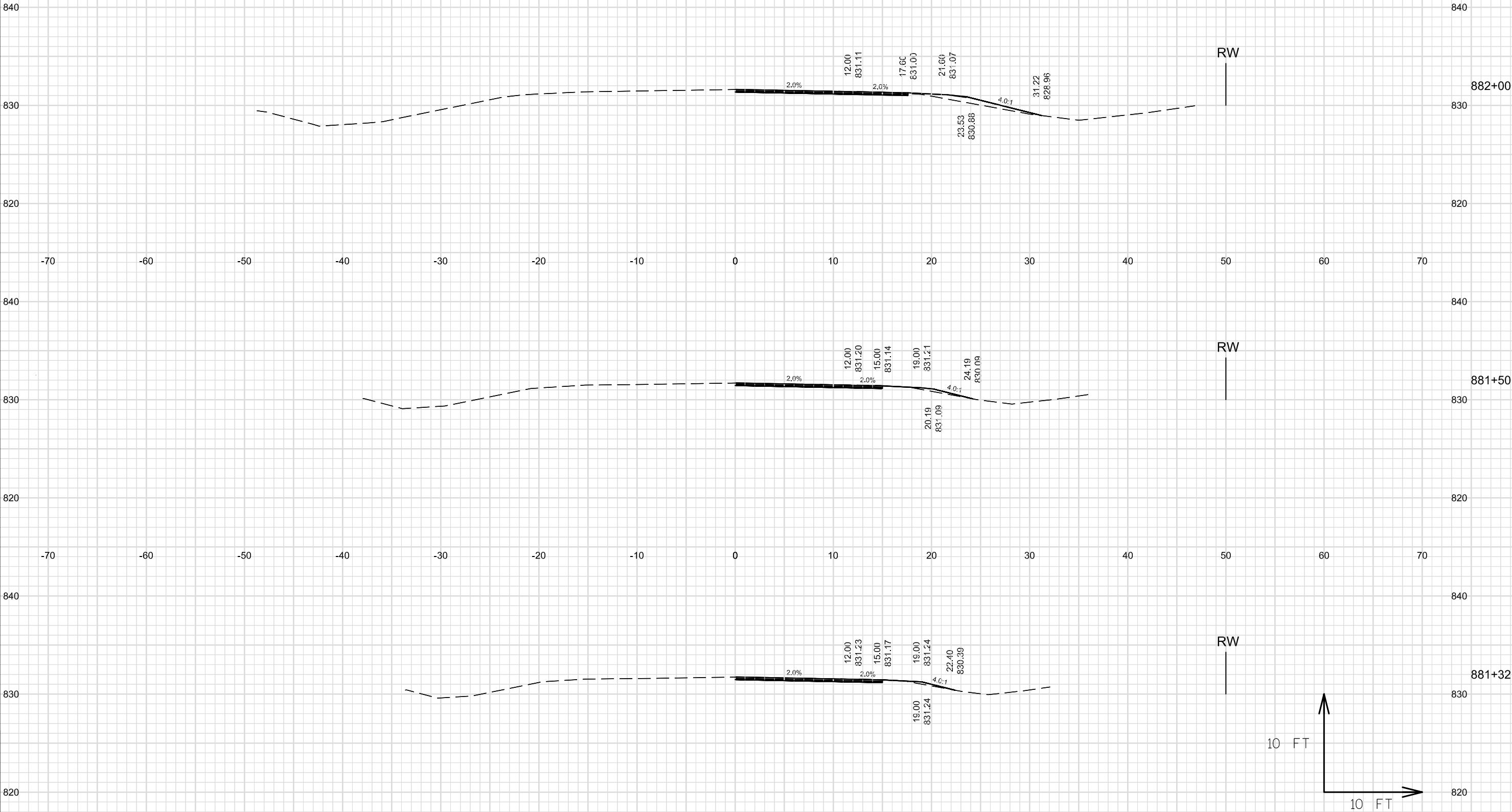


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EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING





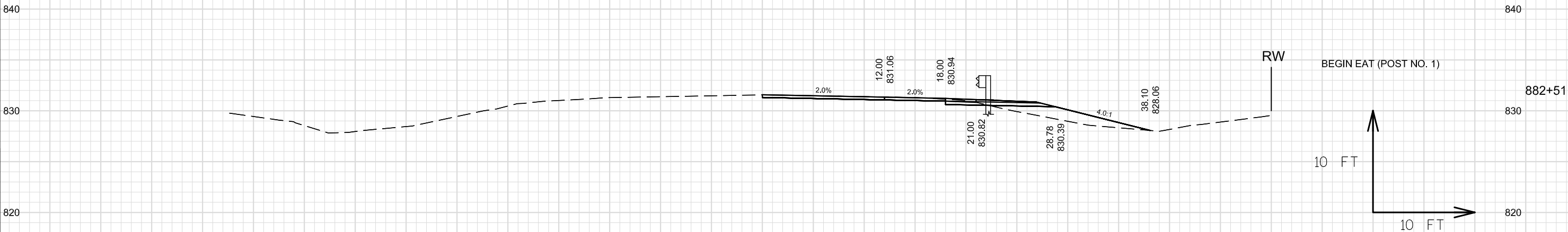
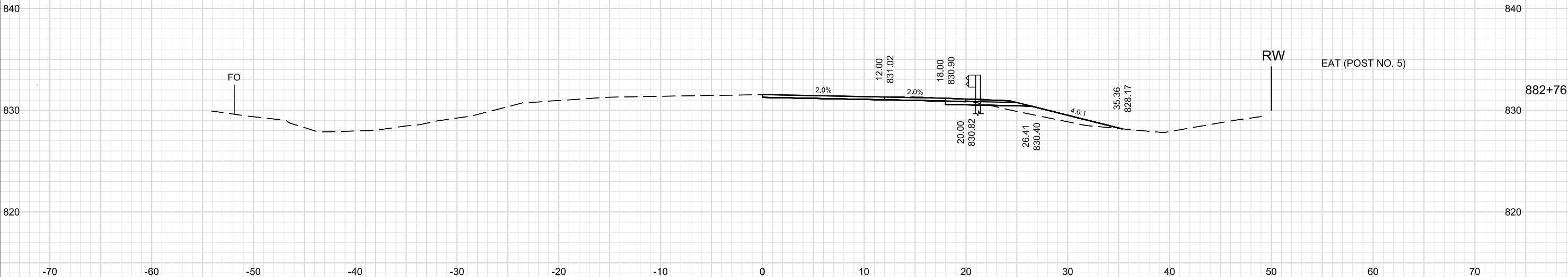
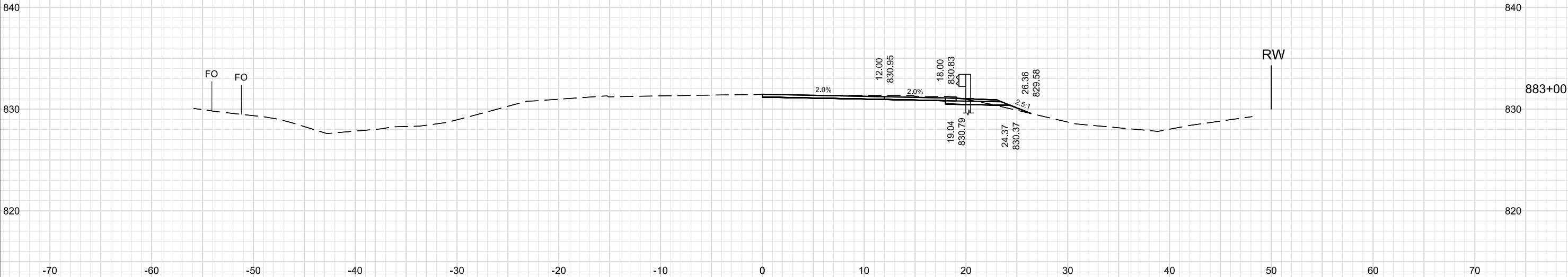
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SHAPING FINISHING



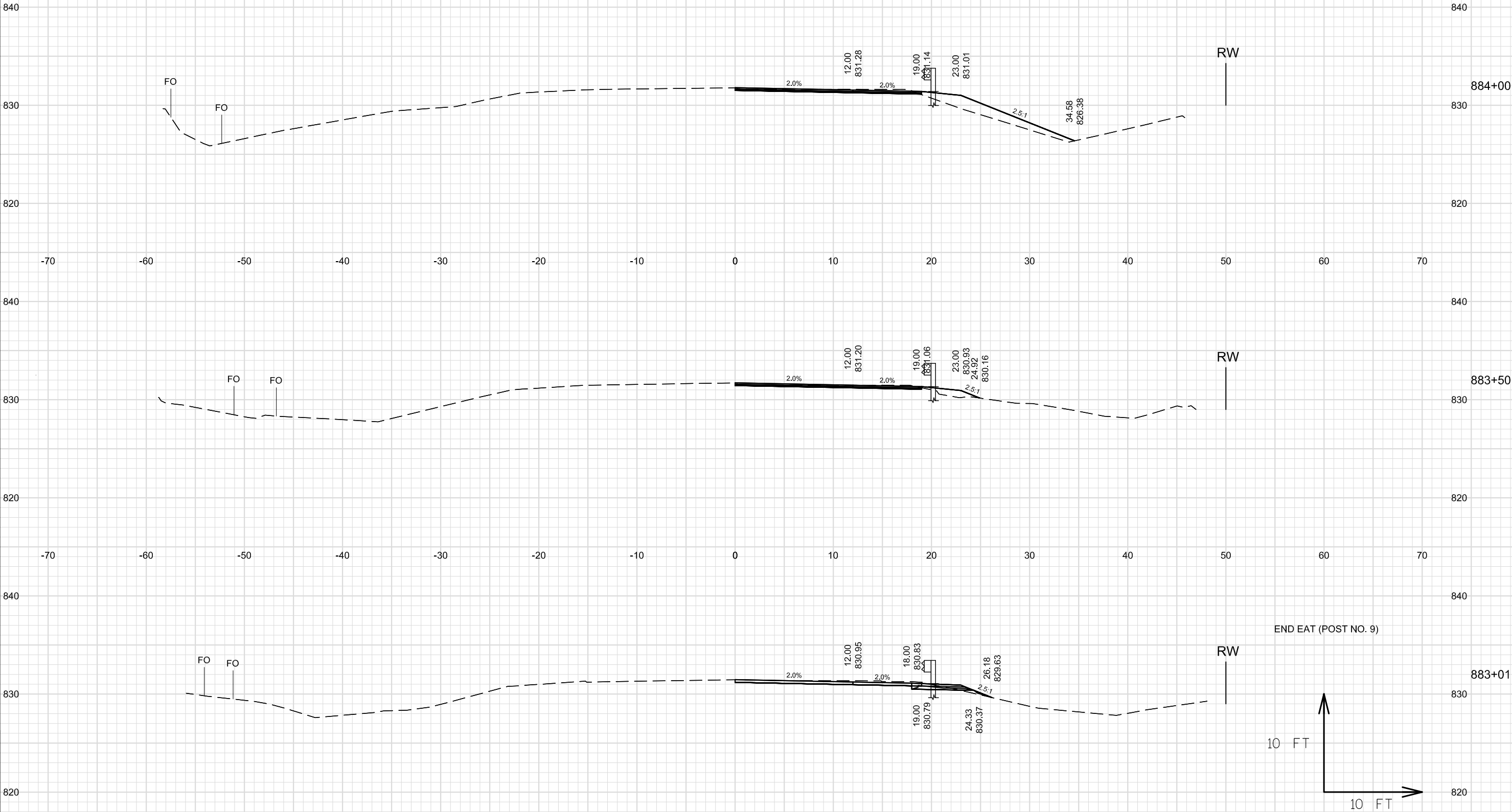
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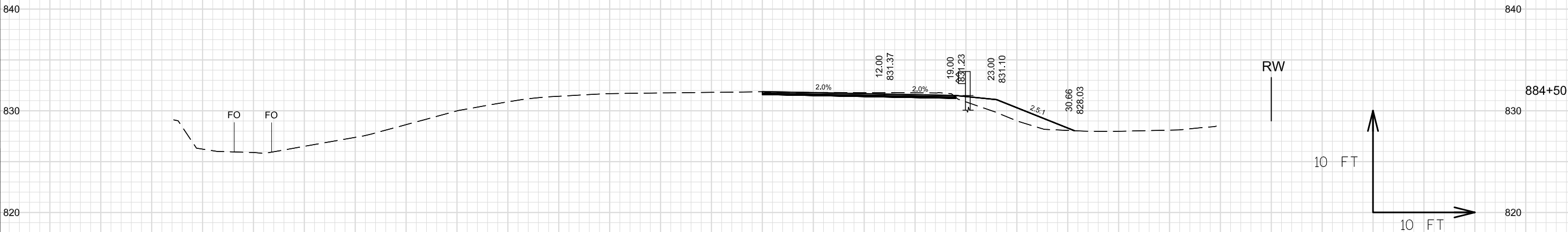
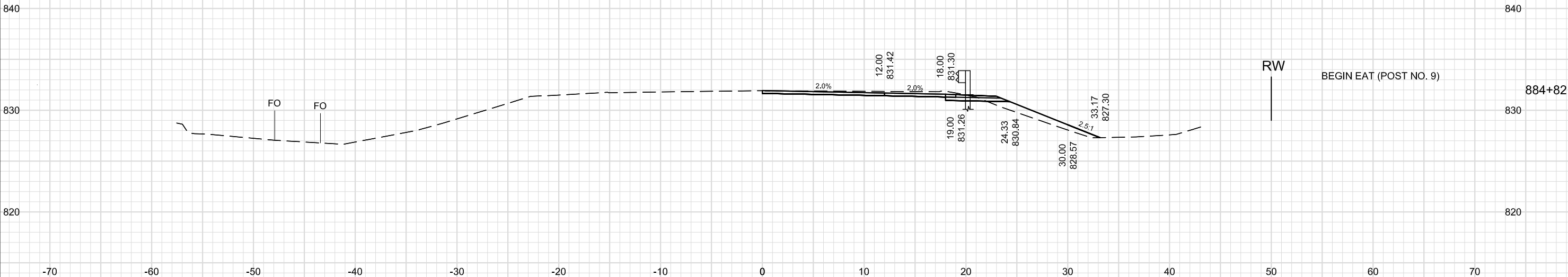
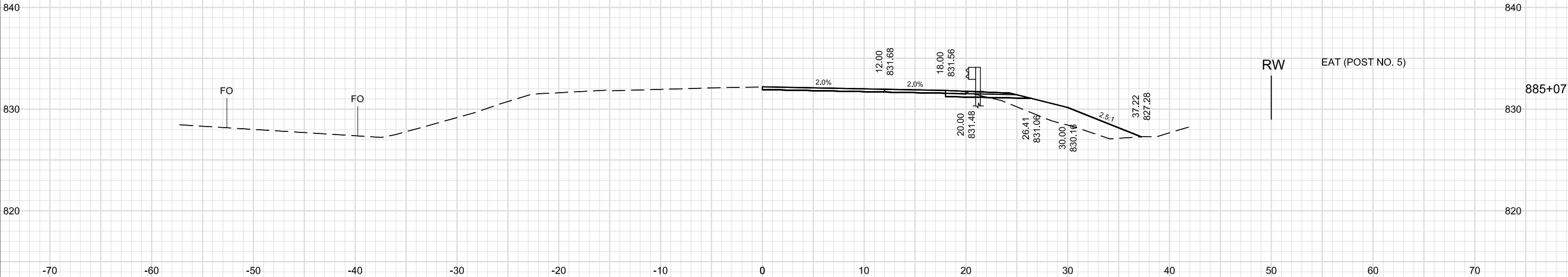
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EARTHWORK AND LANDSCAPE ITEMS PAID
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SHAPING FINISHING



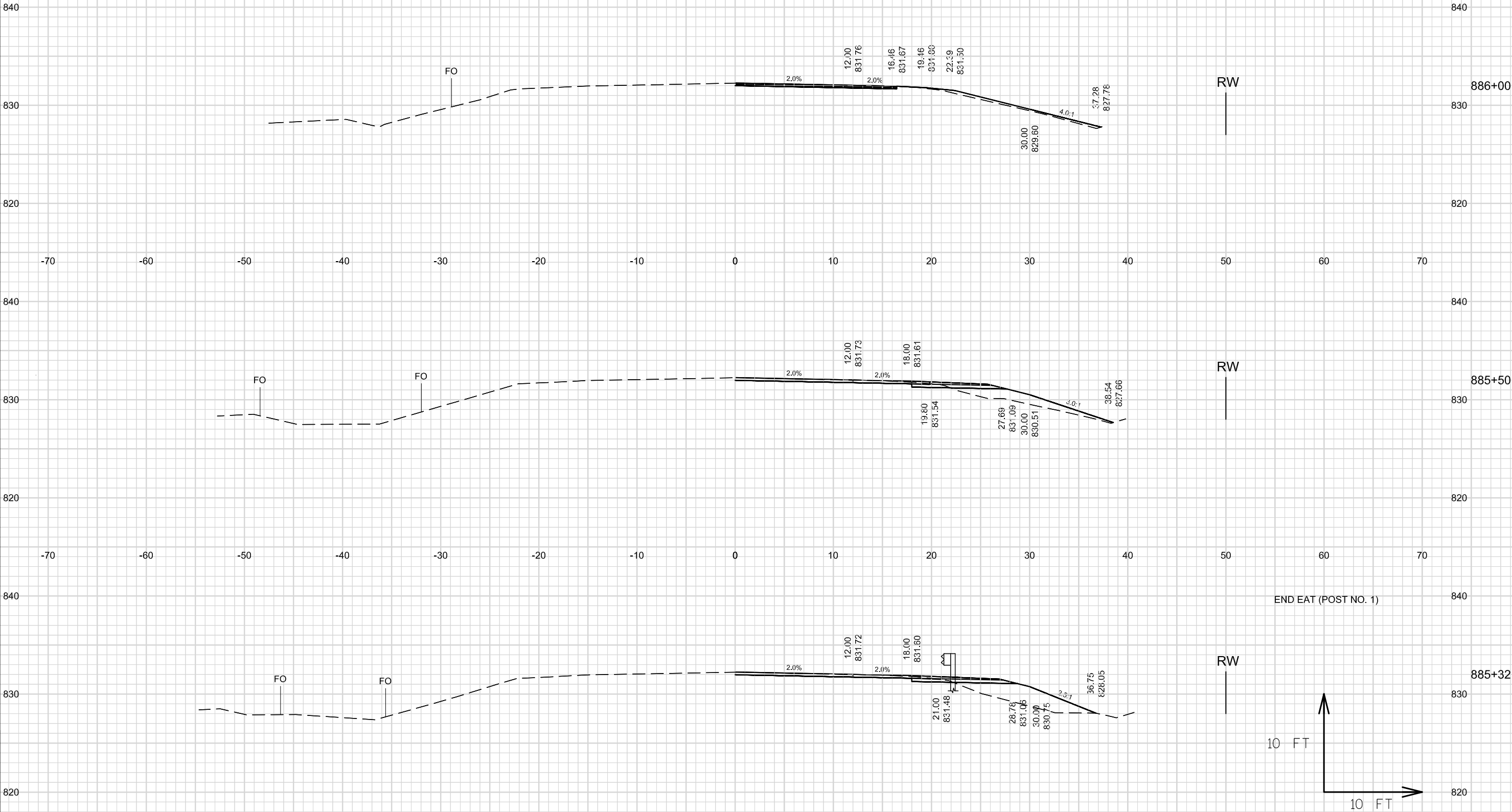
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SHAPING FINISHING



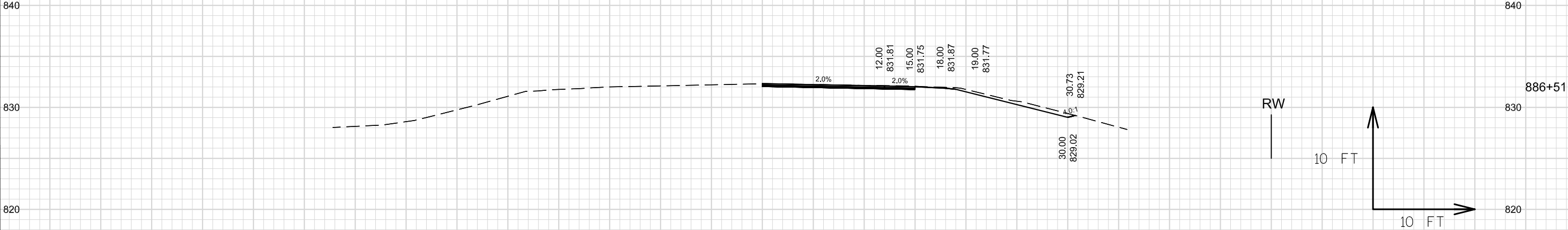
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SHAPING FINISHING



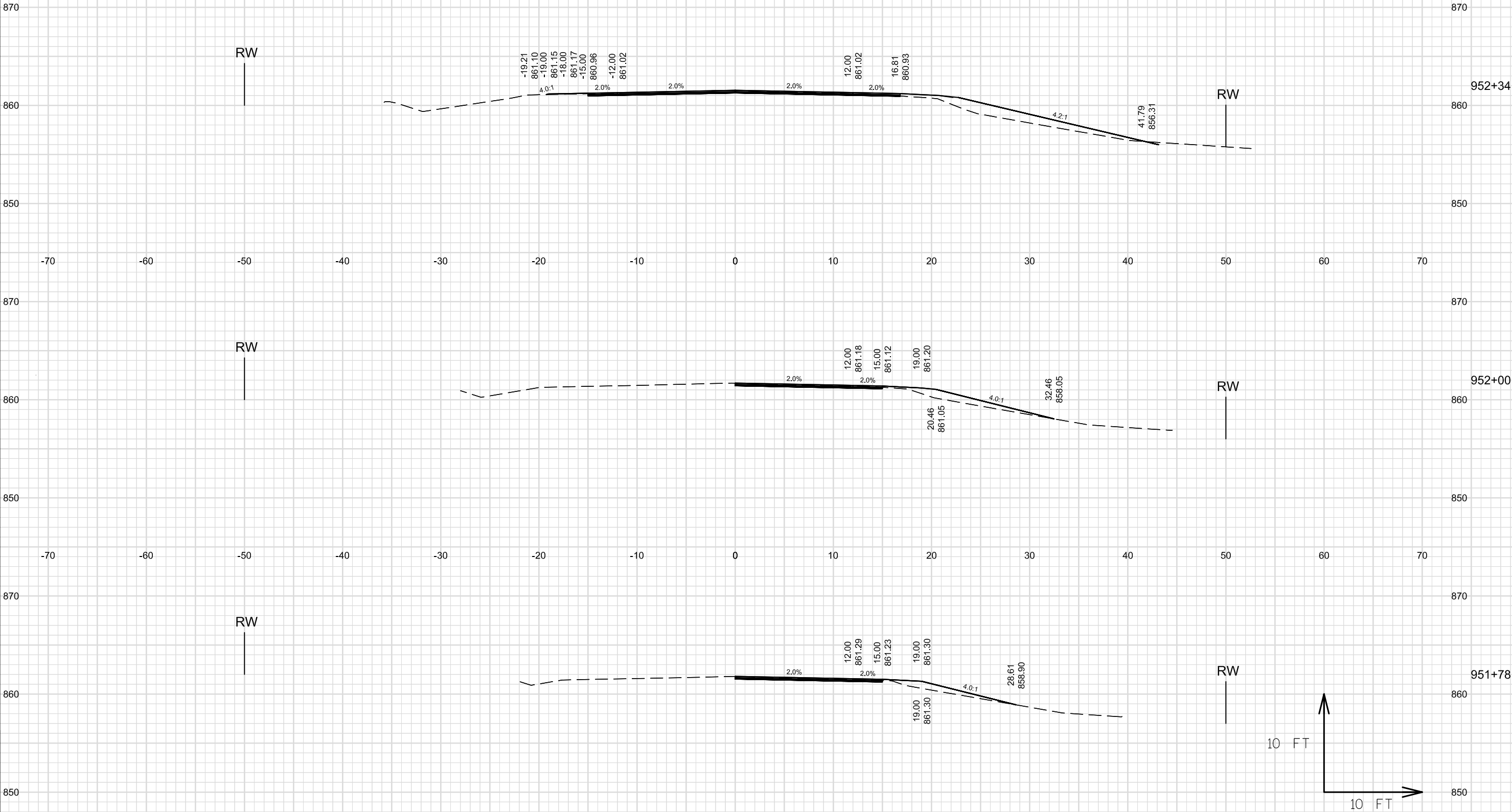
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SHAPING FINISHING



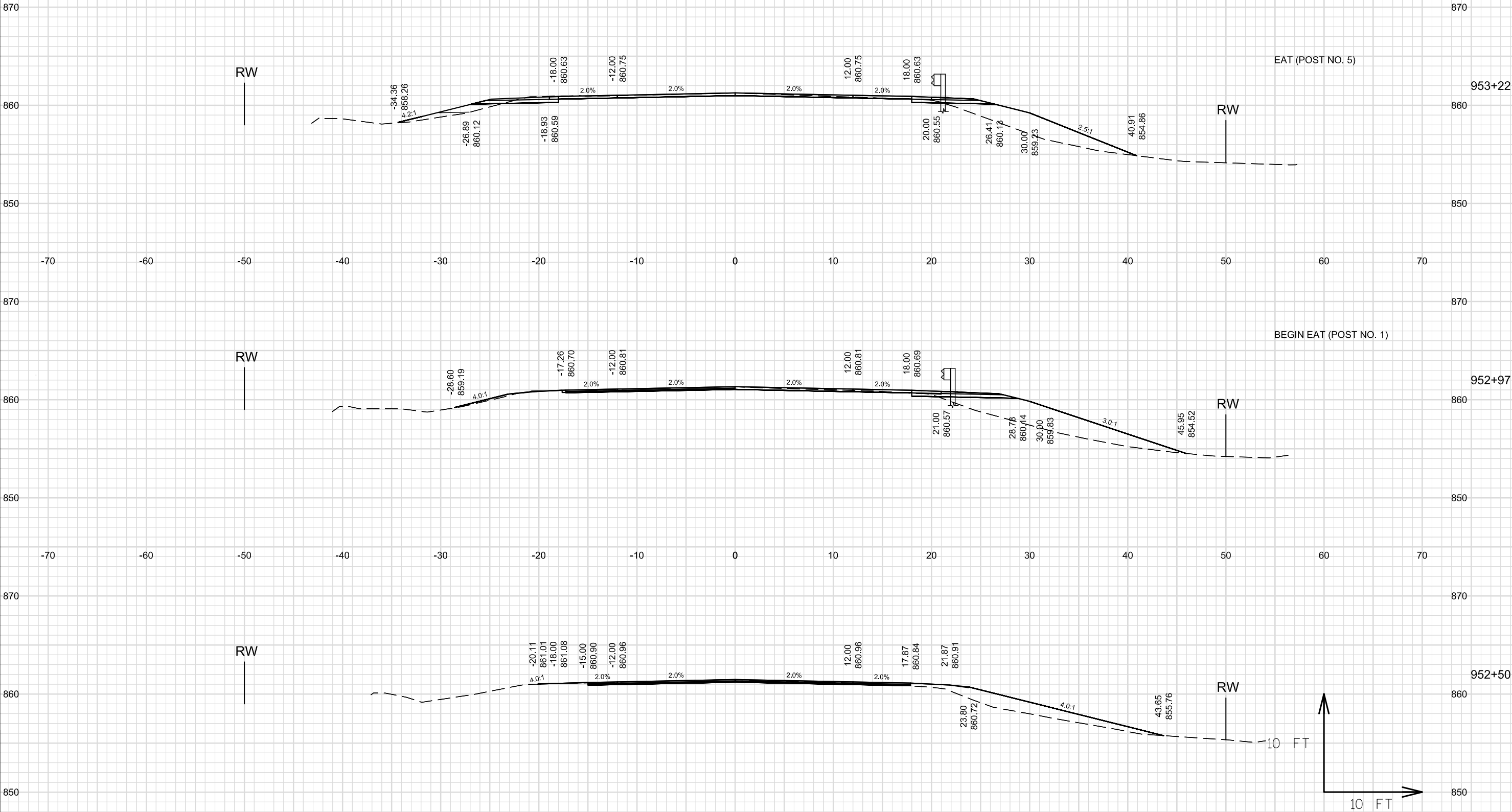
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EARTHWORK AND LANDSCAPE ITEMS PAID
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SHAPING FINISHING



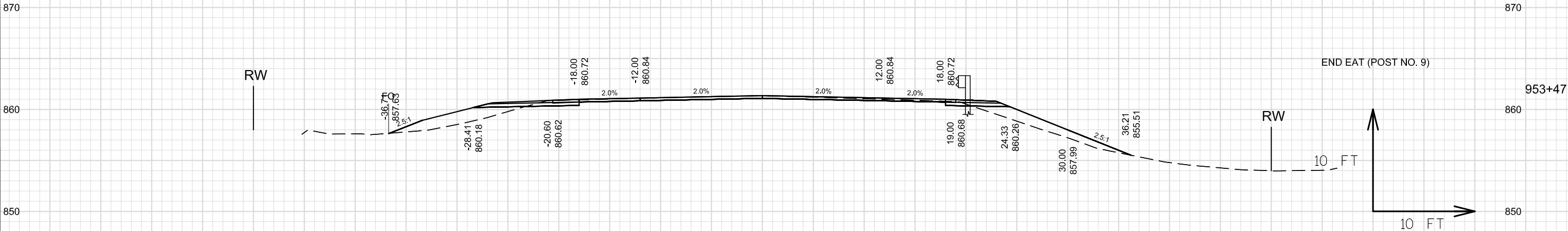
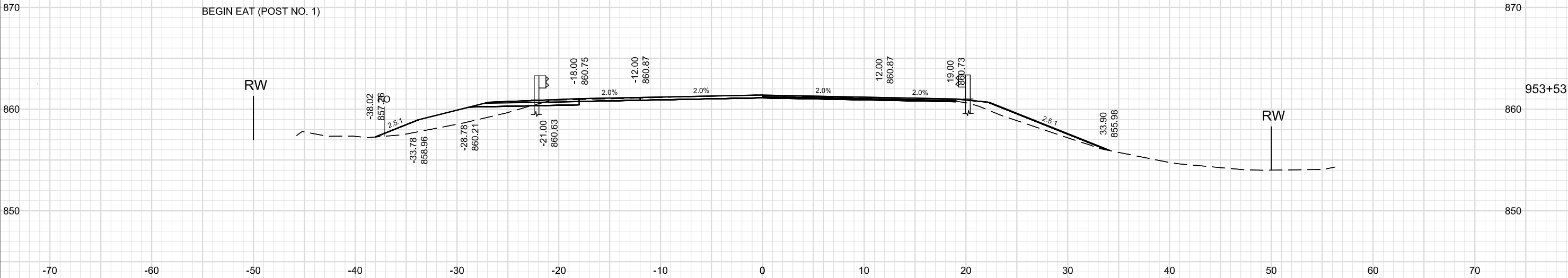
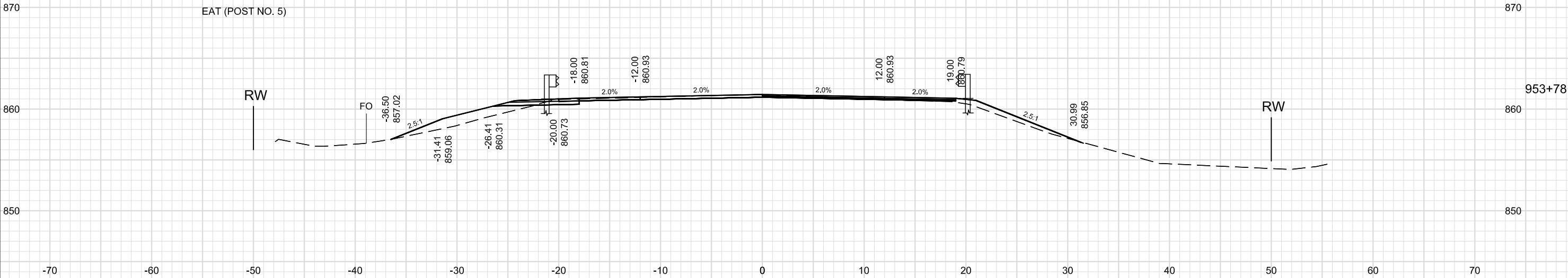
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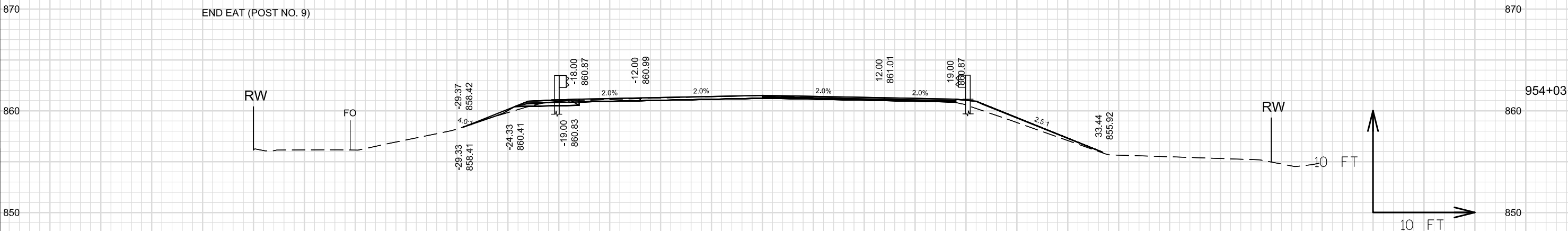
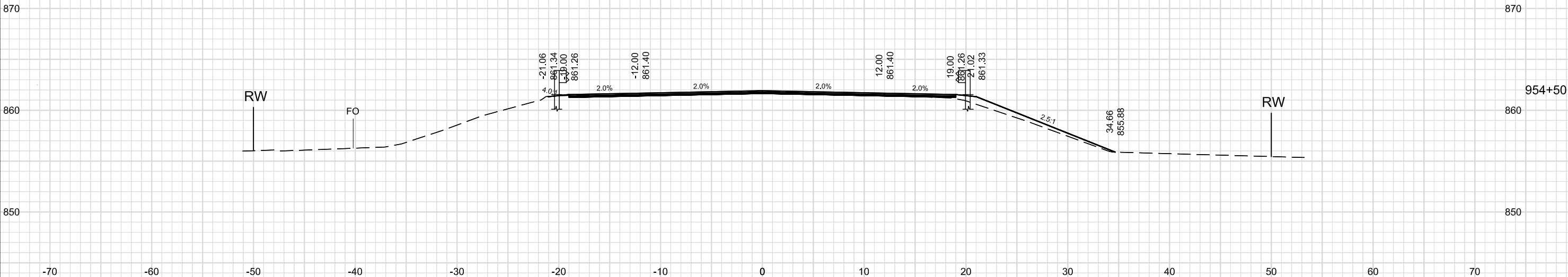
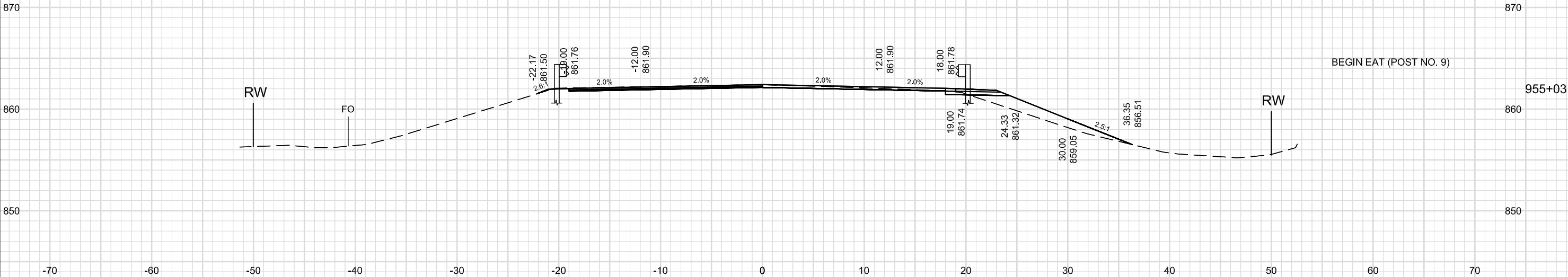
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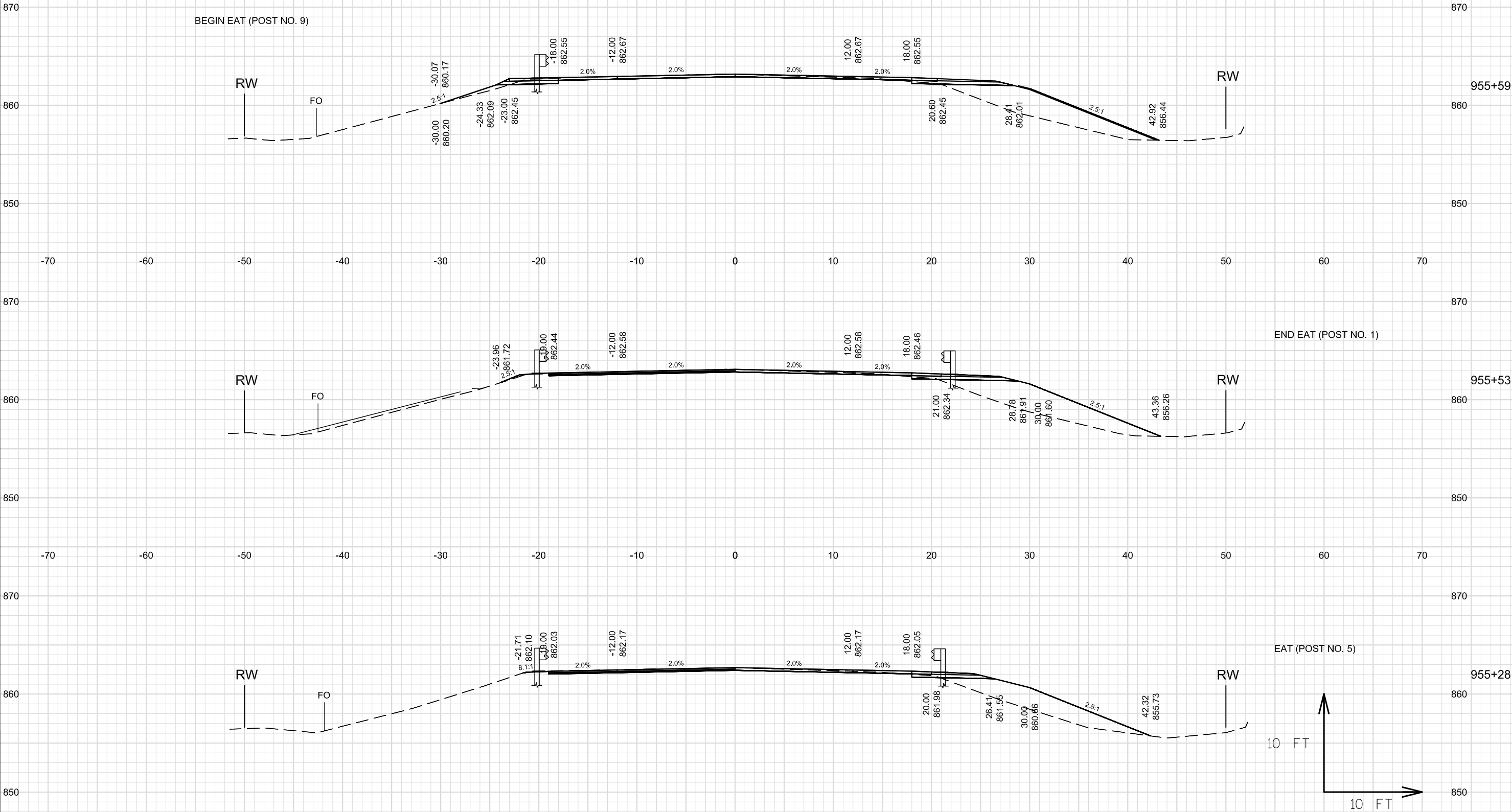
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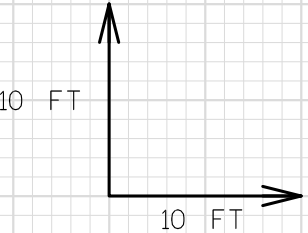
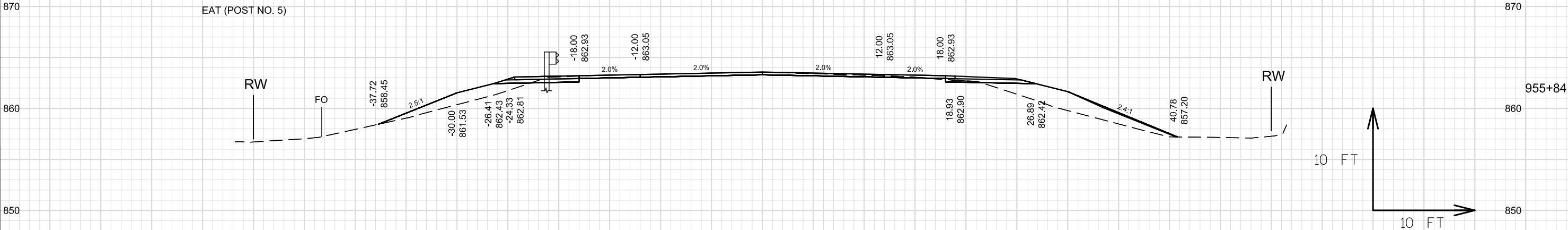
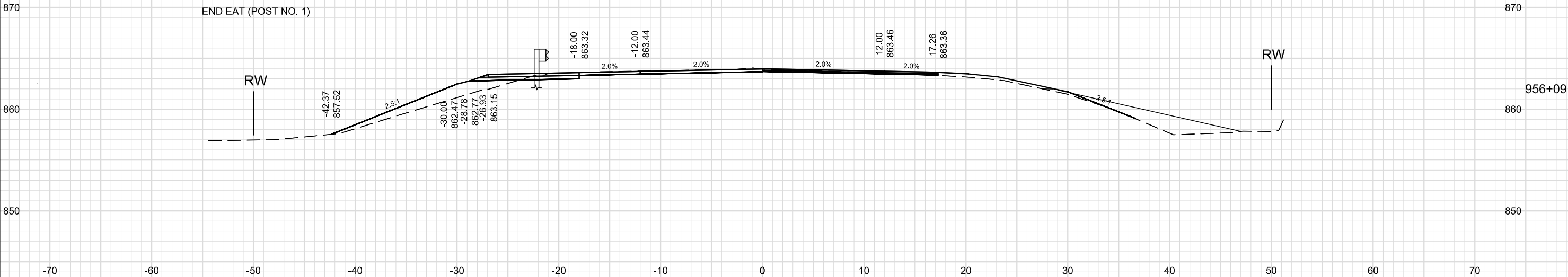
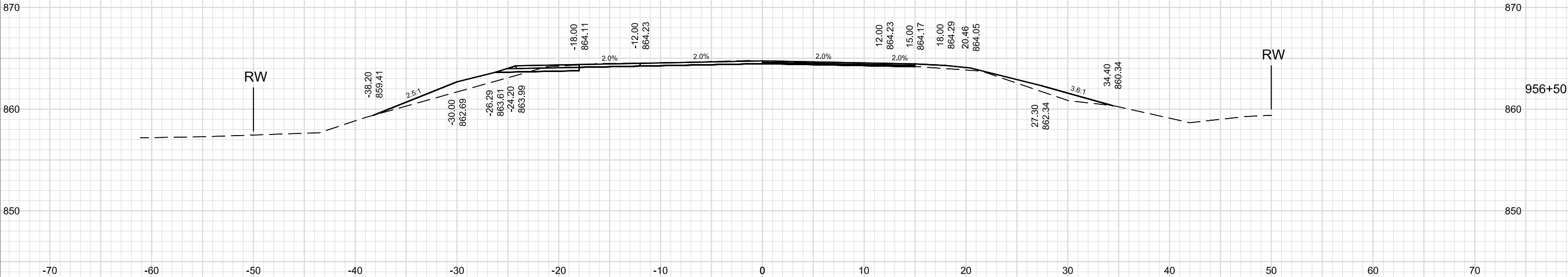
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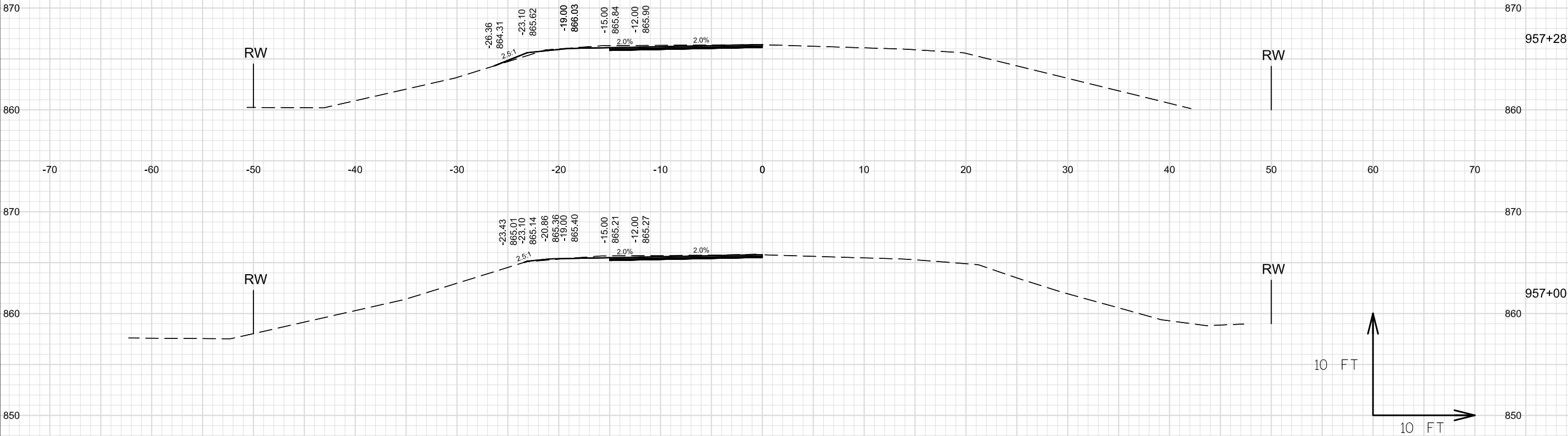
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SHAPING FINISHING



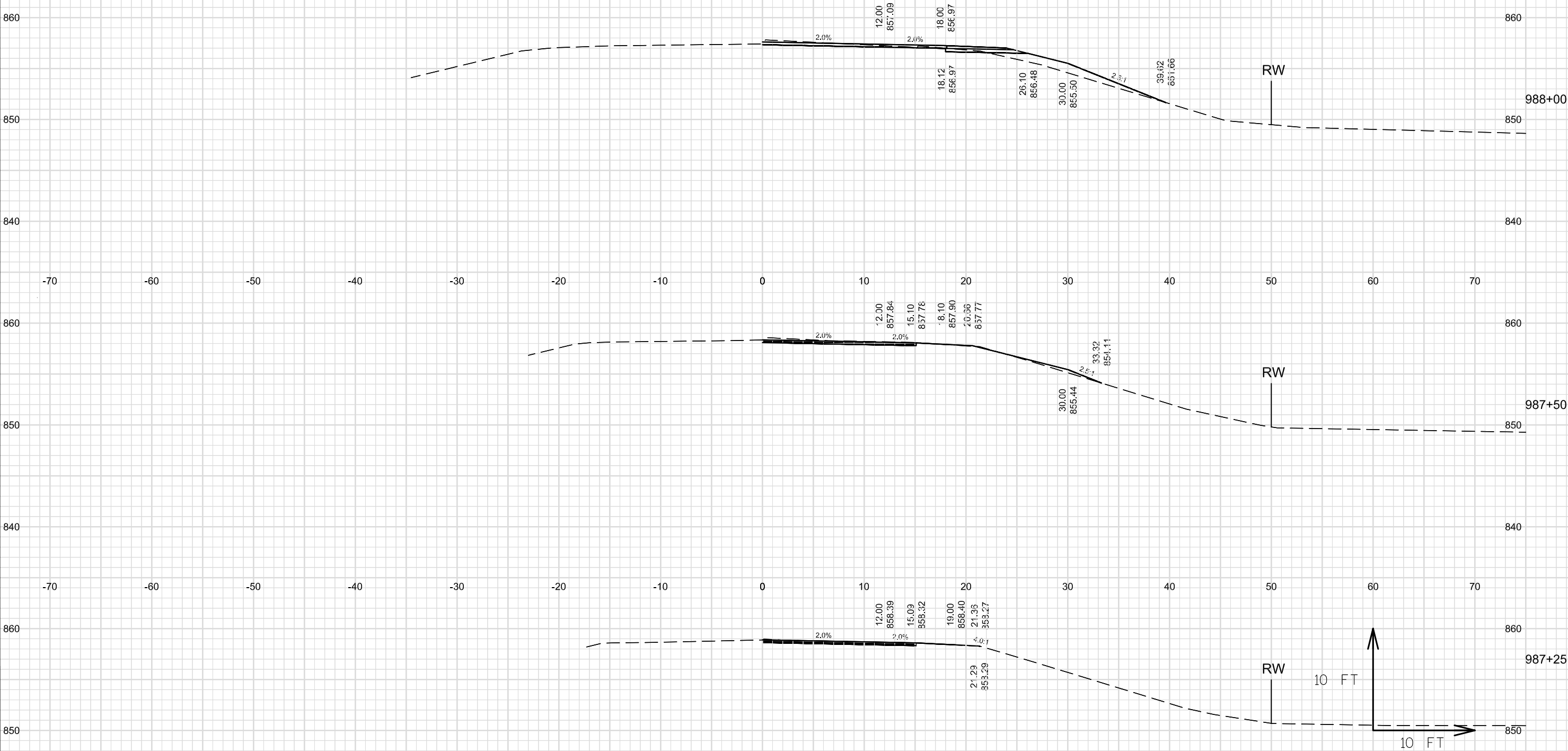
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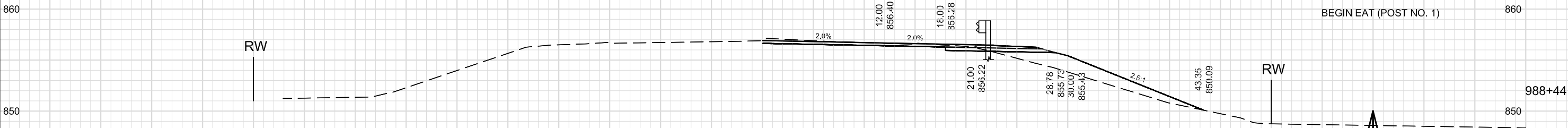
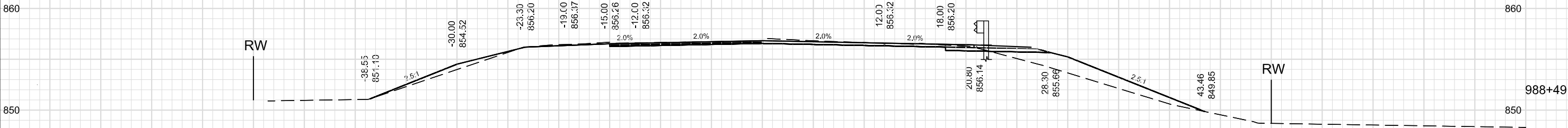
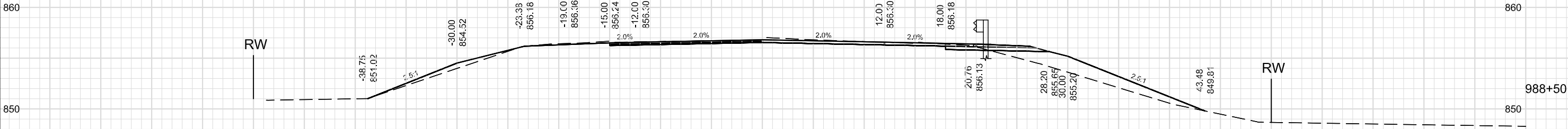
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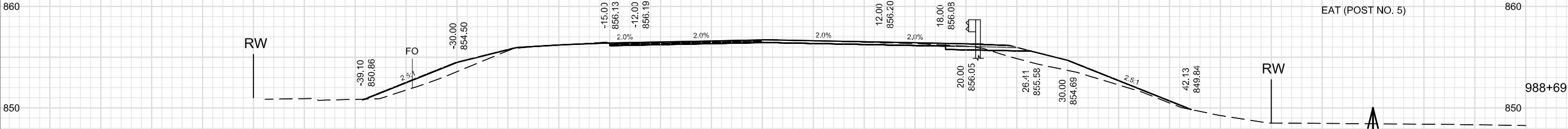
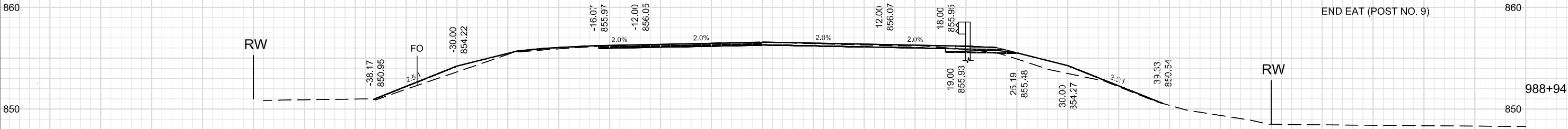
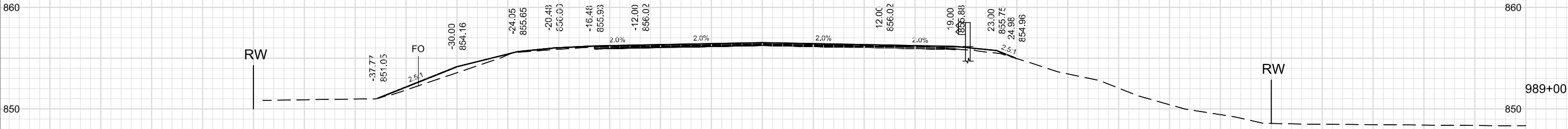
NOTE: X-SEC FOR BID INFORMATION ONLY
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EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



10 FT

10 FT

PROJECT NO: 1530-06-72

HWY: USH 10

COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET 214

E

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PLOT DATE : 2/2/2015 11:38 AM

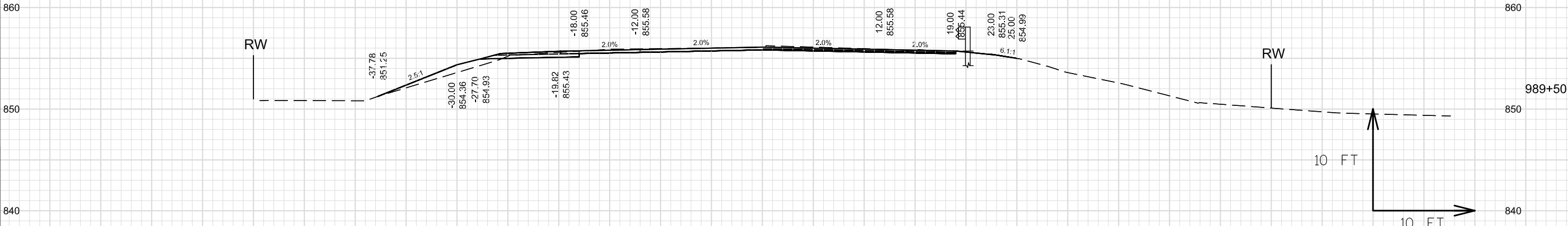
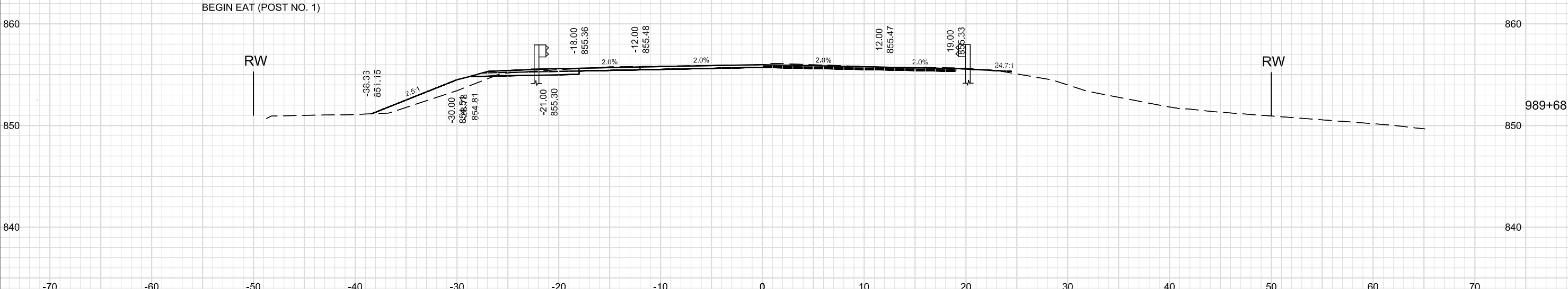
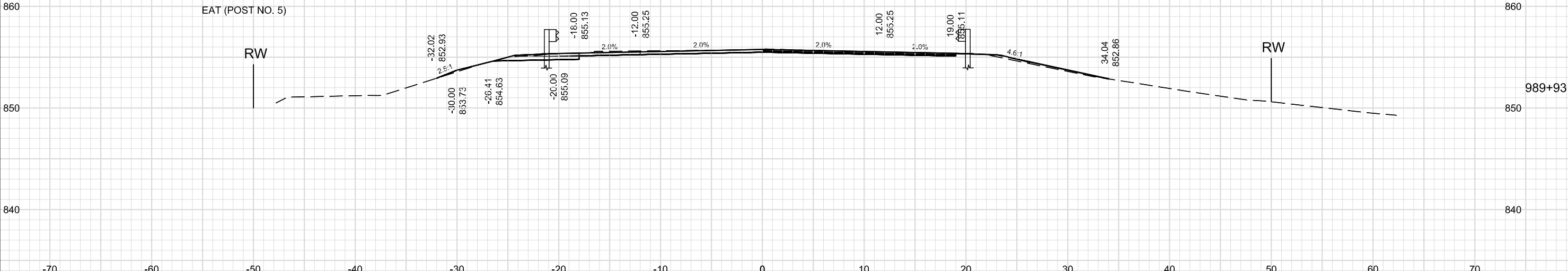
PLOT BY : USER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



PROJECT NO: 1530-06-72

HWY: USH 10

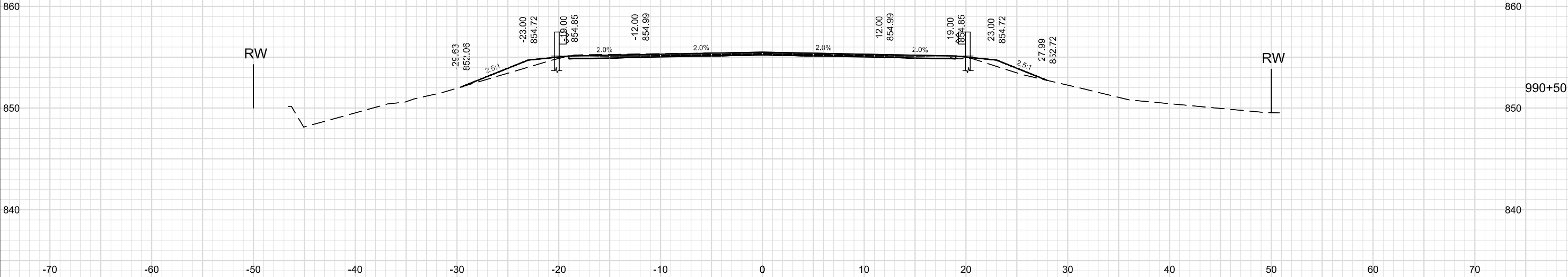
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CROSS SECTIONS: USH 10

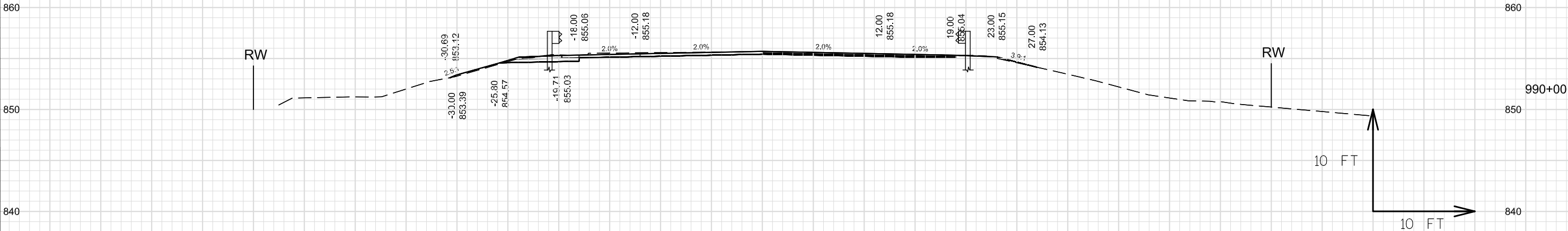
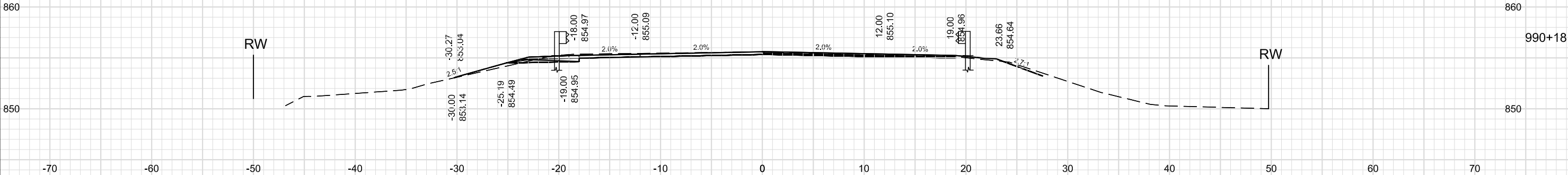
SHEET 215

I

NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



END EAT (POST NO. 9



PROJECT NO:1530-06-72

HWY: USH 10

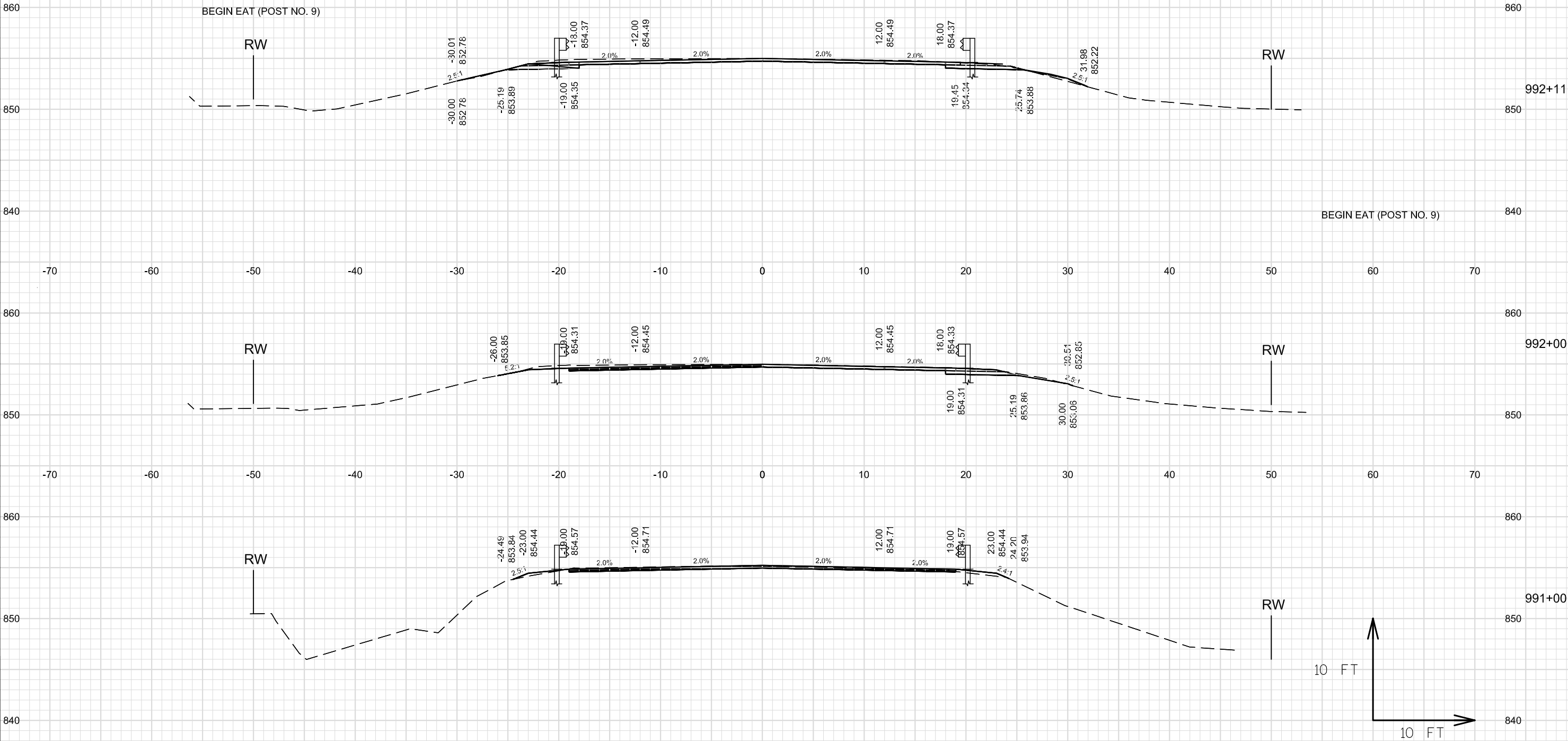
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CROSS SECTIONS: USH 1C

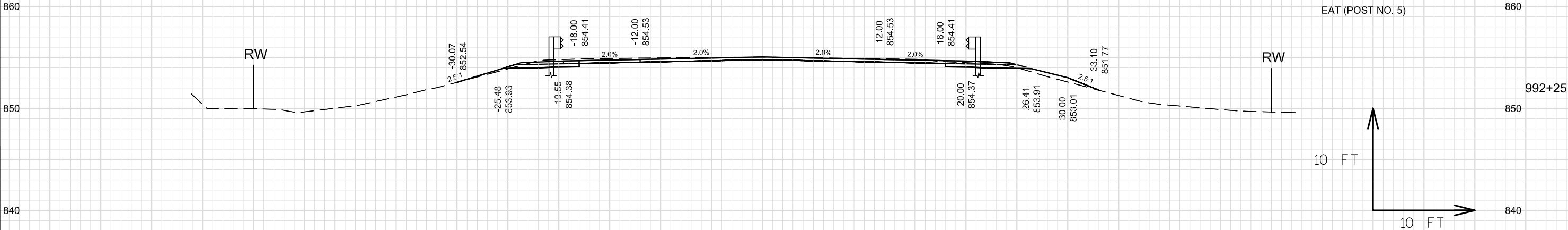
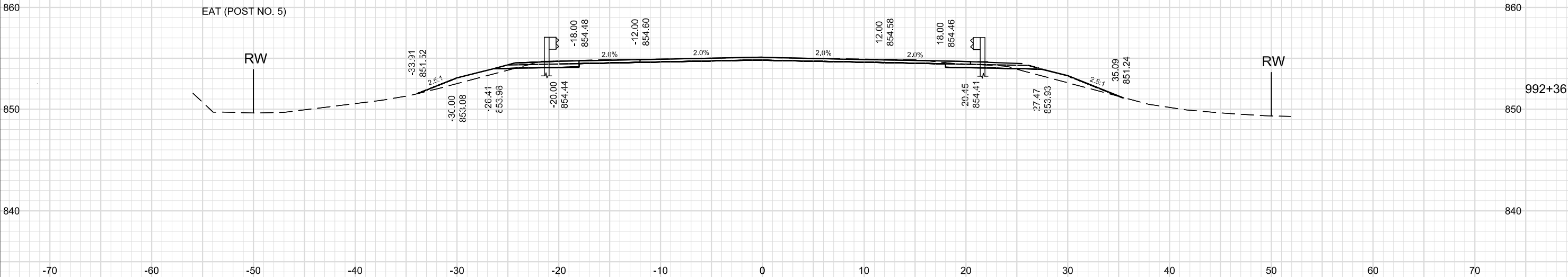
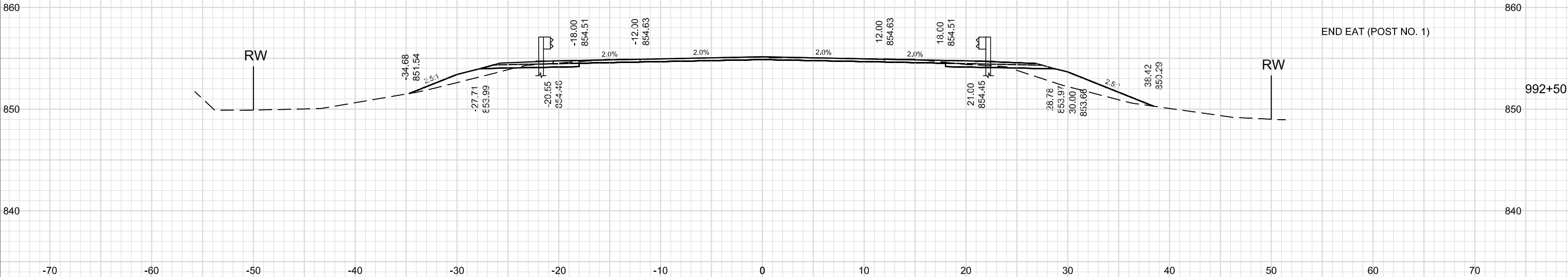
SHEET 216

E

NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
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SHAPING FINISHING



10 FT

10 FT

PROJECT NO: 1530-06-72

HWY: USH 10

COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET

218

E

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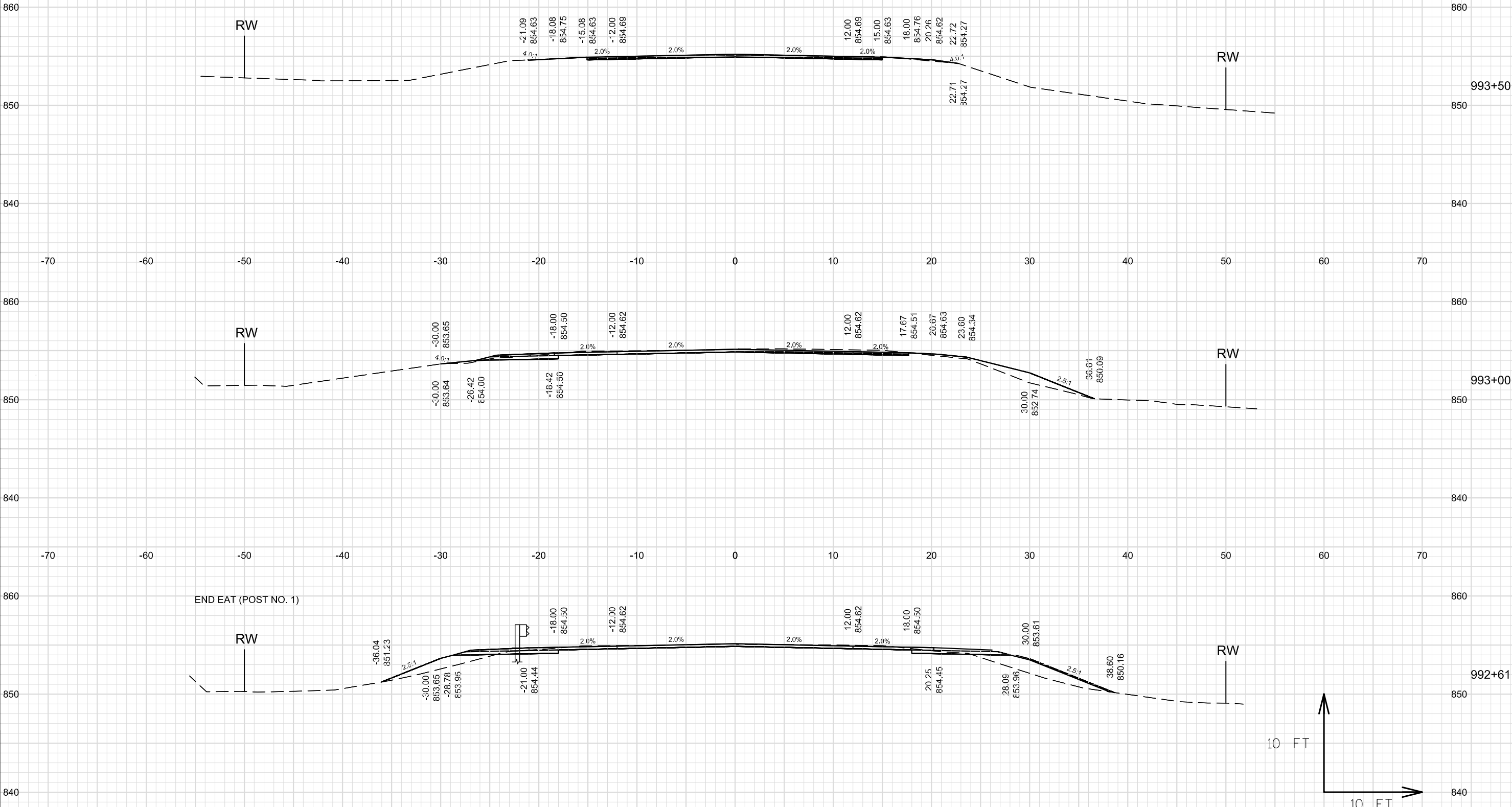
PLOT BY : USER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



PROJECT NO: 1530-06-72

HWY: USH 10

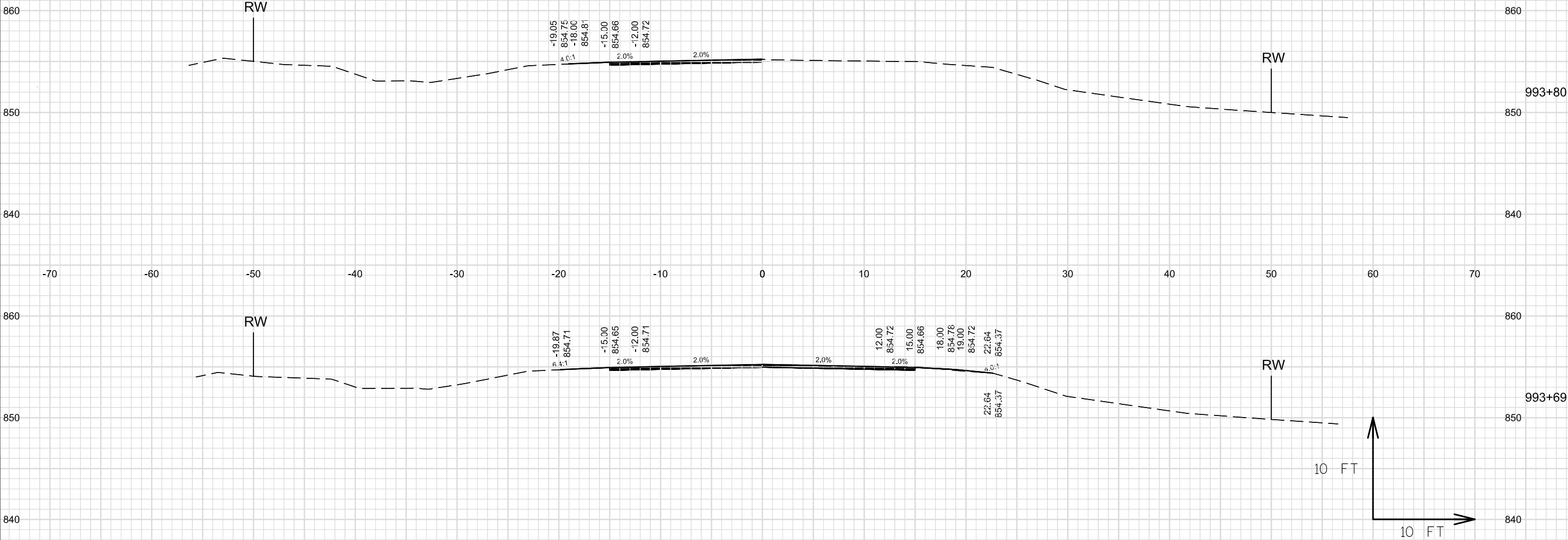
COUNTY: PEPIN

CROSS SECTIONS: USH 10

SHEET 219

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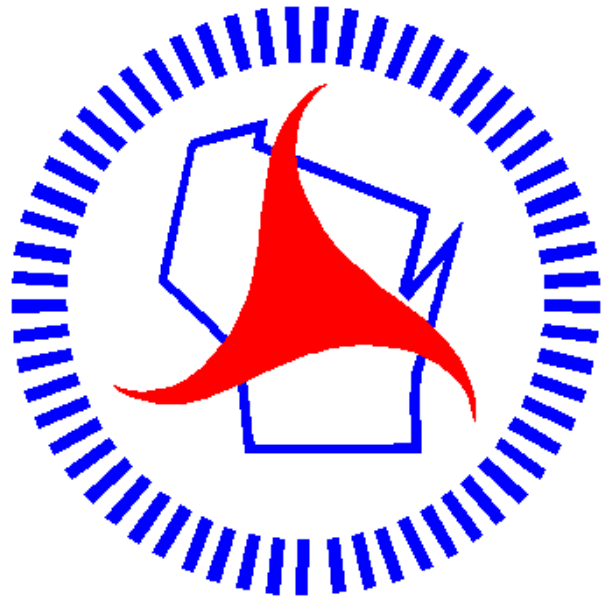
NOTE: X-SEC FOR BID INFORMATION ONLY
EARTHWORK AND LANDSCAPE ITEMS PAID
FOR UNDER 614.0010 BARRIER SYSTEM GRADING
SHAPING FINISHING



9

9

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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