

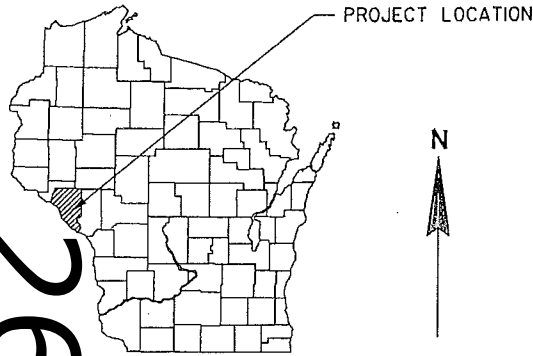
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
CZECHVILLE - MONDOVI
CTH E TO STH 37
STH 88
BUFFALO COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7730-00-60		

ORDER OF SHEETS

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

TOTAL SHEETS = 92



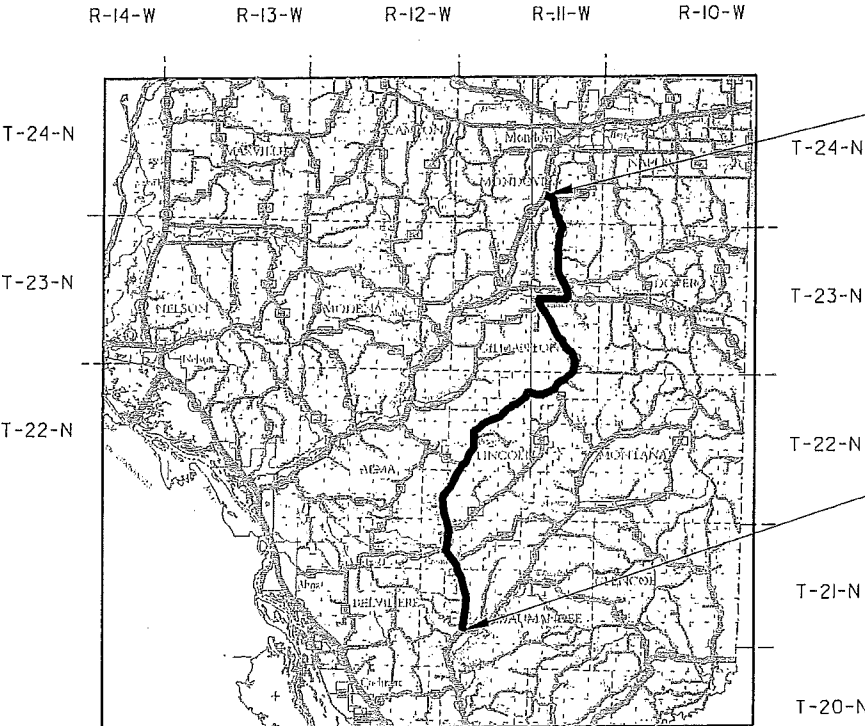
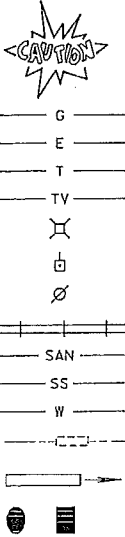
DESIGN DESIGNATION

- A.A.D.T. 2017 = 355
A.A.D.T. 2037 = 400
D.H.V. = 60
D.D. = 62/38
T. = 6.2%
DESIGN SPEED = 30-60 mph
ESALS 20 YEAR = 460,000

CONVENTIONAL SYMBOLS

- COUNTY LINE
CORPORATE LIMITS
PROPERTY LINE
LOT LINE
LIMITED EASEMENT
EARTHWORK BALANCE POINT
EXISTING RIGHT OF WAY
PROPOSED OR NEW R/W LINE
SURVEY LINE
SLOPE INTERCEPT
ORIGINAL GROUND
MARSH OR ROCK PROFILE
(To be noted as such)
MARSH AREA
WOODED OR SHRUB AREA

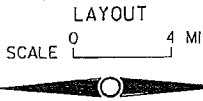
- COMBUSTIBLE FLUIDS
UNDERGROUND UTILITIES
GAS
ELECTRIC
TELEPHONE OR TELEGRAPH
TV/CABLE
SERVICE PEDESTAL
POWER POLE
TELEPHONE POLE
RAILROAD
SANITARY SEWER
STORM SEWER
WATER
EXISTING CULVERT
PROPOSED CULVERT
(Box or Pipe)
CULVERT (Profile View)



END PROJECT
STA 1575+00

BEGIN PROJECT
STA 354+00

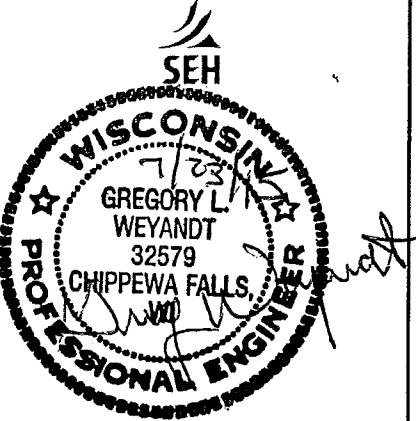
Y = 287003.17
X = 585485.07



TOTAL NET LENGTH OF CENTERLINE = 0.000 (RURAL)

Coordinates on this plan are referenced to the Wisconsin County
Coordinate System (WCCS), Buffalo County.

ORIGINAL PLANS PREPARED BY:



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor SEH
Designer SEH
Project Manager NICOLE PASSUELLO
Regional Examiner CHRISTINE KOSKI
Regional Supervisor TIM MASON
C.O. Examiner

APPROVED FOR THE DEPARTMENT
DATE: 7/3/15 Nicole Passuello
(Signature)

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	HYD	HYDRANT
AC	ACRE	ID	INSIDE DIAMETER
AGG	AGGREGATE	INV	INVERT
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	IP	IRON PIPE ON PIN
		LHF	LEFT-HAND FORWARD
ASPH	ASPHALTIC	L	LENGTH OF CURVE
AVG	AVERAGE	LF	LINEAR FOOT
ADT	AVERAGE DAILY TRAFFIC	LC	LONG CHORD OF CURVE
BF	BACK FACE	LS	LUMP SUM
BM	BENCH MARK	MH	MANHOLE
BR	BRIDGE	MOR	MID POINT OF RADIUS
CE	COMMERCIAL ENTRANCE	NC	NORMAL CROWN
CL OR C/L OR ☞	CENTER LINE	NO	NUMBER
Δ	CENTRAL ANGLE OR DELTA	OBLIT	OBLITERATE
CONC	CONCRETE	PAVT	PAVEMENT
CPRC	CULVERT PIPE REINFORCED CONCRETE	PE	PRIVATE ENTRANCE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	PVRC	POINT OF VERTICAL REVERSE CURVE
		QOR	QUARTER POINT OF RADIUS
CR	CREEK	R	RADIUS
CY	CUBIC YARD	REQ'D	REQUIRED
C & G	CURB AND GUTTER	RES	RESIDENCE OR RESIDENTIAL
D	DEGREE OF CURVE	RHF	RIGHT-HAND FORWARD
DHV	DESIGN HOUR VOLUME	R/W	RIGHT-OF-WAY
DISCH	DISCHARGE	R	RIVER
DG	DITCH GRADE	RDWY	ROADWAY
DWY	DRIVEWAY	R/L OR ☞	REFERENCE LINE
X	EAST GRID COORDINATE	SALV	SALVAGED
EAT	STEEL PLATE BEAM GUARD	SAN	SANITARY SEWER
		SF	SQUARE FEET
EOR	ENERGY ABSORBING TERMINAL	SY	SQUARE YARD
EL	END POINT OF RADIUS	SDD	STANDARD DETAIL DRAWINGS
ENT	ELEVATION	STA	STATION
ESALS	ENTRANCE	SS	STORM SEWER
EXC	EQUIVALENT SINGLE AXLE LOADS	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EBS	EXCAVATION	SE	SUPERELEVATION RATE
EXIST	EXCAVATION BELOW SUBGRADE	TC	TOP OF CURB
FC	EXISTING	T OR TN	TOWN
FF	FACE OF CURB	T	TRUCKS (PERCENT OF)
FERT	FACE TO FACE	TYP	TYPICAL
FE	FERTILIZE	VAR	VARIABLE
FL	FIELD ENTRANCE	VC	VERTICAL CURVE
FO	FLOW LINE	Y	NORTH GRID COORDINATE
CWT	FIBER OPTIC	YD	YARD
	HUNDREDWEIGHT		

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM.

WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH TOPSOILED, FERTILIZED, SEEDED AND MULCHED.

A VERTICAL SAWCUT SHALL BE MADE THROUGH PAVEMENTS AT REMOVAL LIMITS AS DIRECTED BY THE ENGINEER.

TOP OF CASTING ELEVATIONS SHOWN FOR INLETS REFER TO THE CASTING ELEVATION AT THE FRONT EDGE OF CASTING/FLOWLINE OF GRATE/TOP OF CURB BOX.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON OR ROCK EXCAVATION.

ASPHALTIC SURFACE PATCHING SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYER THICKNESSES:

PAVEMENT THICKNESS (INCH)	LOWER (INCH)	UPPER (INCH)
6"	3"	3"

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

WISDOT MONUMENTS WILL BE SUPPLIED BY THE STATE AND INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

BEARINGS SHOWN ON THE PLAN ARE REFERENCED TO THE EXISTING ROADWAY CENTERLINE AND ARE ASSUMED.

EXISTING PIPE CULVERT AND/OR CONCRETE BOX CULVERT SIZES SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL BASE ITS BID ON ACTUAL FIELD CONDITIONS.

THE CONTRACTOR SHALL STAKE AND FOLLOW CULVERT PIPE PROFILE PRIOR TO CULVERT PIPE REMOVAL.

UTILITY CONTACTS

DALE GOSS
CHIPPEWA VALLEY CABLE, INC.
NELSON TELEPHONE CO-OP
PO BOX 228
DURAND, WI 54736
715-672-4204
EMAIL: DALE@NELSON-TEL.NET

MATT BIESTERVELD
COCHRANE COOPERATIVE TELEPHONE CO
103 WEST 5TH STREET
PO BOX 189
COCHRANE, WI 54622
608-248-2323
EMAIL: MBEASTIE@MWT.NET

BRIAN MELLO
XCEL ENERGY - DISTRIBUTION
320 HELLER ROAD
MENOMONIE, WI 54751
715-232-7412

KURT CHILDS
DAIRYLAND POWER COOPERATIVE
3200 EAST AVENUE SOUTH
PO BOX 817
LA CROSSE, WI 54601
608-788-4000
EMAIL: KDC@DAIRYNET.COM

TERRY DORR
FRONTIER COMMUNICATIONS
15 E 2ND STREET
NEW RICHMOND, WI 54017
715-243-7014
EMAIL: TERRY.DORR@FTR.COM

DOUG GERRITTS
RIVERLAND ENERGY COOPERATIVE
PO BOX 277
ARCADIA, WI 54612
800-411-9115
EMAIL: DGERRITTS@RIVERLANDENERGY.COM

STEVE JAKUBIEC
TDS TELECOM
10 COLLAGE AVE.,
SUITE 218A
APPLETON, WI 54911
920-882-4166
EMAIL: STEVE.JAKUBIEC@TDSTELECOM.COM

DESIGN CONTACTS

SEH INC.
421 FRENETTE DRIVE
CHIPPEWA FALLS, WI 54729
TELEPHONE: 715-720-6200
EMAIL: GWEYANDT@SEHINC.COM
ATTENTION: GREG WYANDT



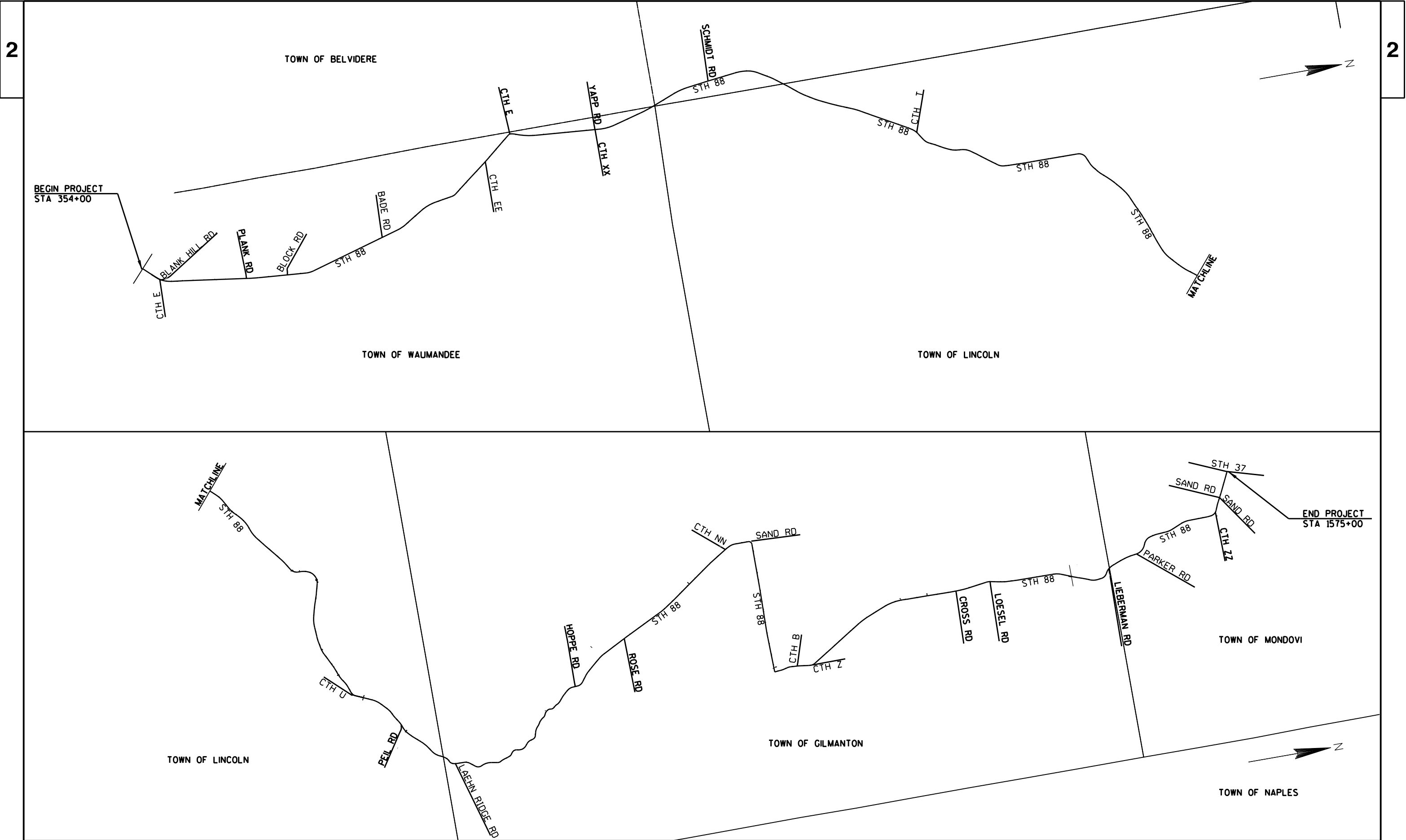
Dial 811 or (800)242-8511

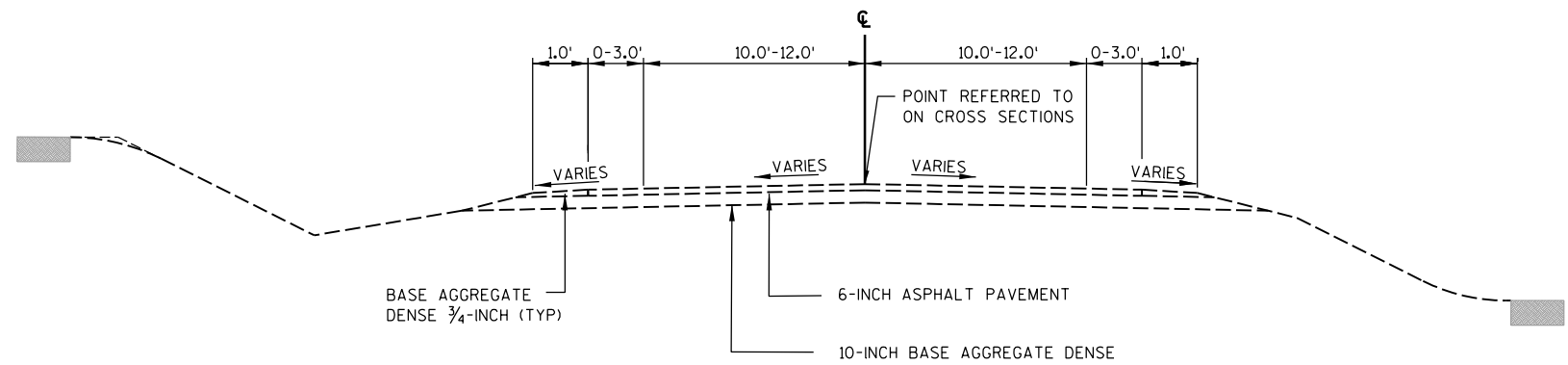
www.DiggersHotline.com

(877)500.9592 (EMERGENCY ONLY)

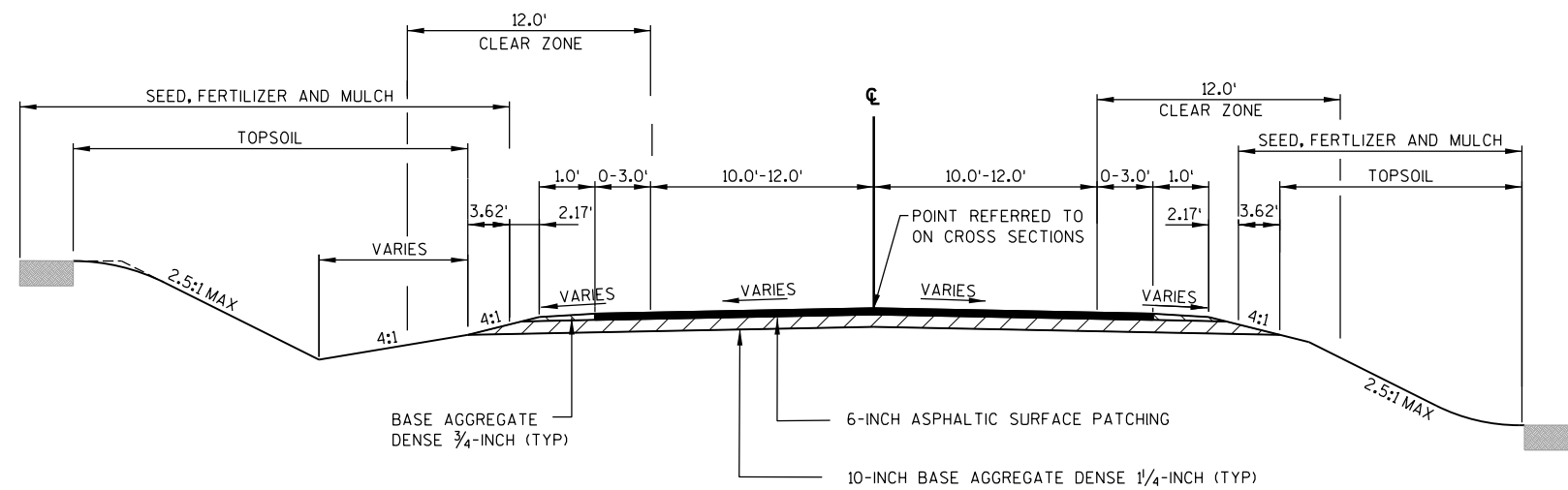
WDNR CONTACT

DEPT. OF NATURAL RESOURCES
KAREN KALVELAGE
3550 MORMON COULEE RD
LACROSSE, WI 54601
TELEPHONE: 608-785-9115
KARENKALVELAGE@WISCONSIN.GOV

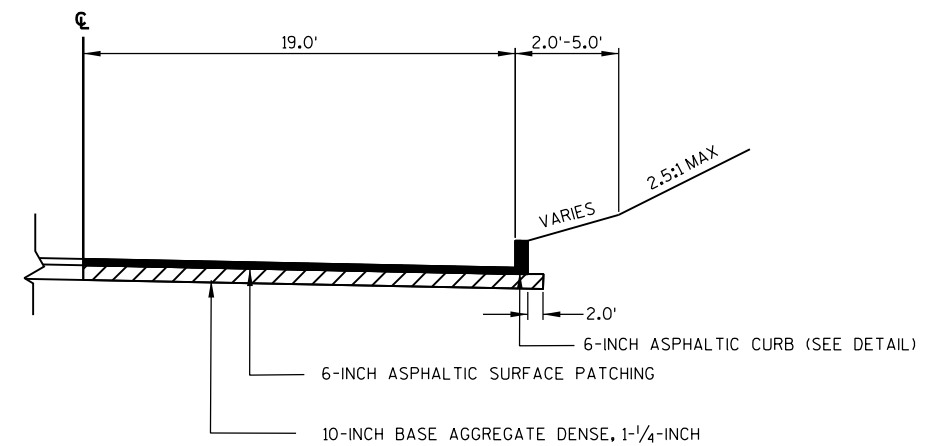




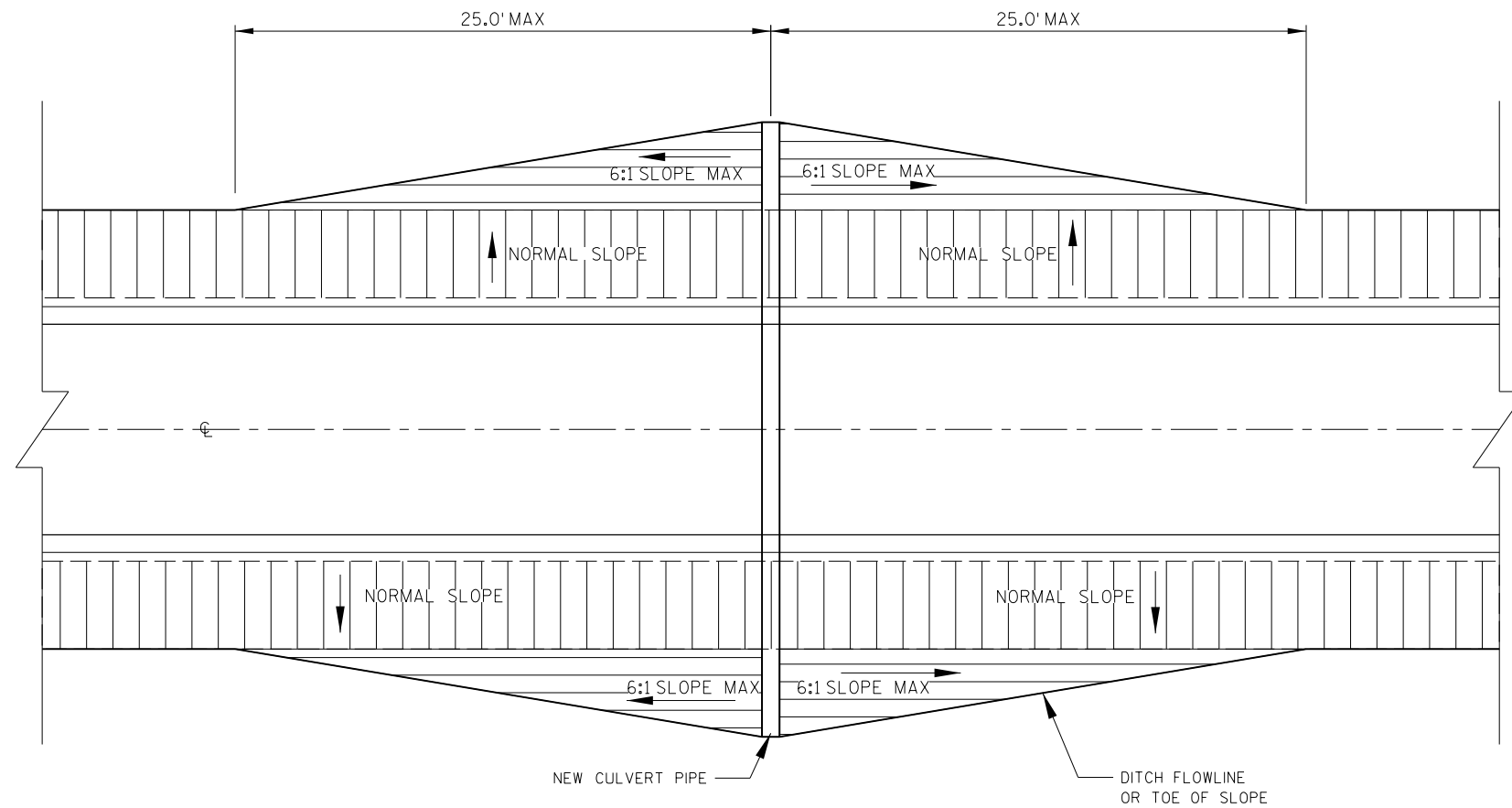
TYPICAL EXISTING SECTION
AT PIPE REPLACEMENT LOCATIONS



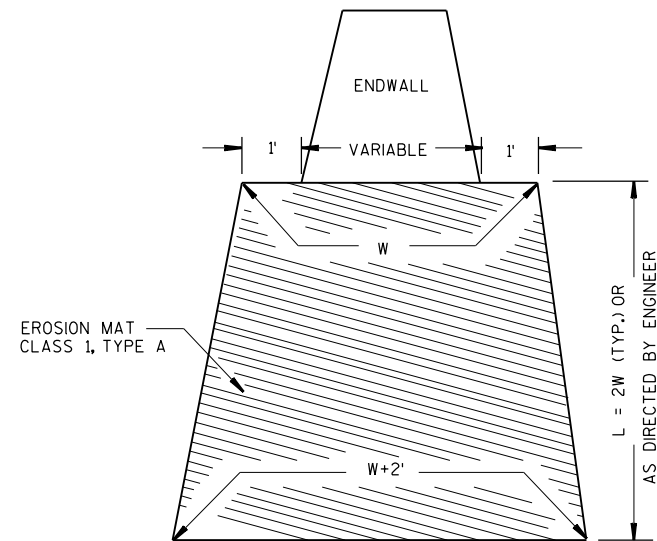
TYPICAL FINISHED SECTION
AT PIPE REPLACEMENT LOCATIONS



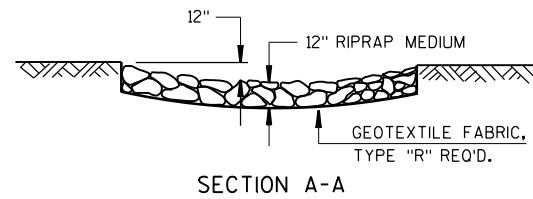
TYPICAL FINISHED HALF SECTION
STA 689+80
STA 697+38



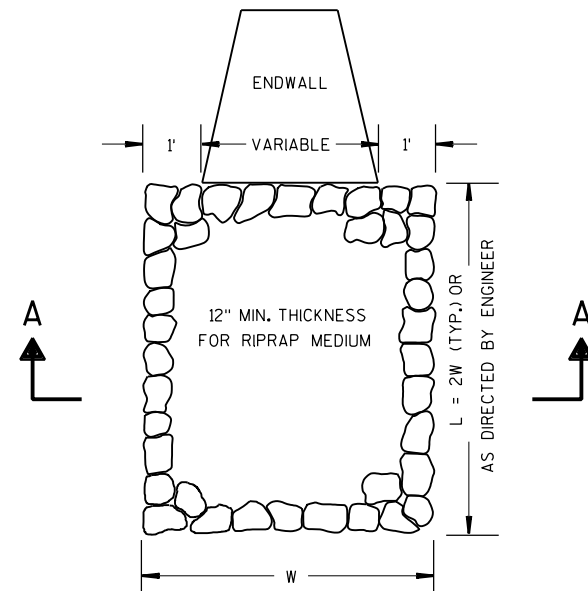
NEW CULVERT PIPE CONSTRUCTED WITH 3R STANDARDS



EROSION MAT TREATMENT AT CULVERTS



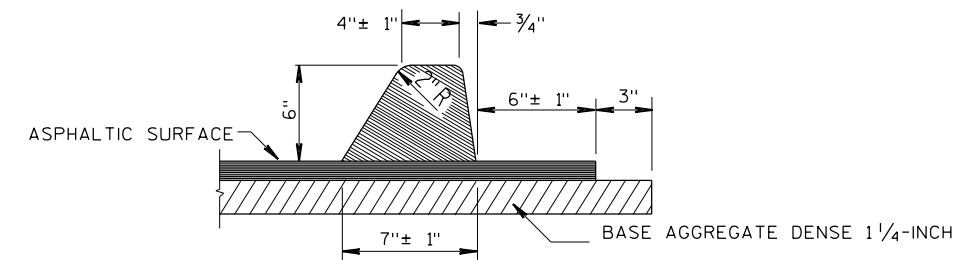
RIPRAP TREATMENT AT CULVERTS



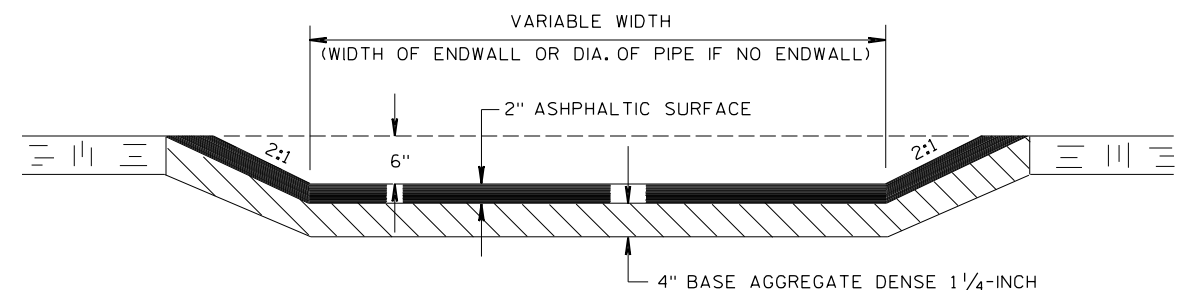
RUNOFF COEFFICIENT TABLE

	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											

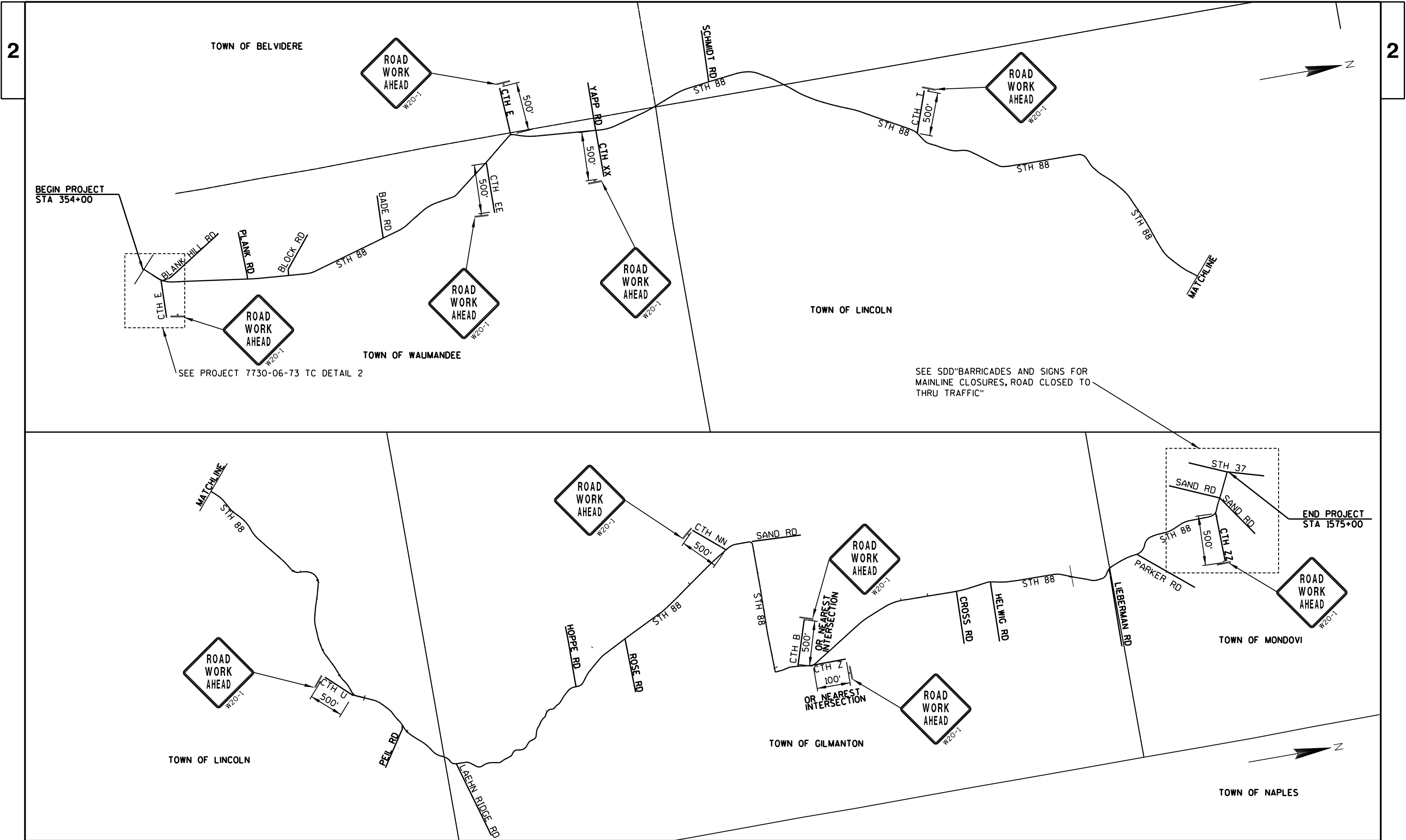
TOTAL PROJECT AREA = ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = ACRES

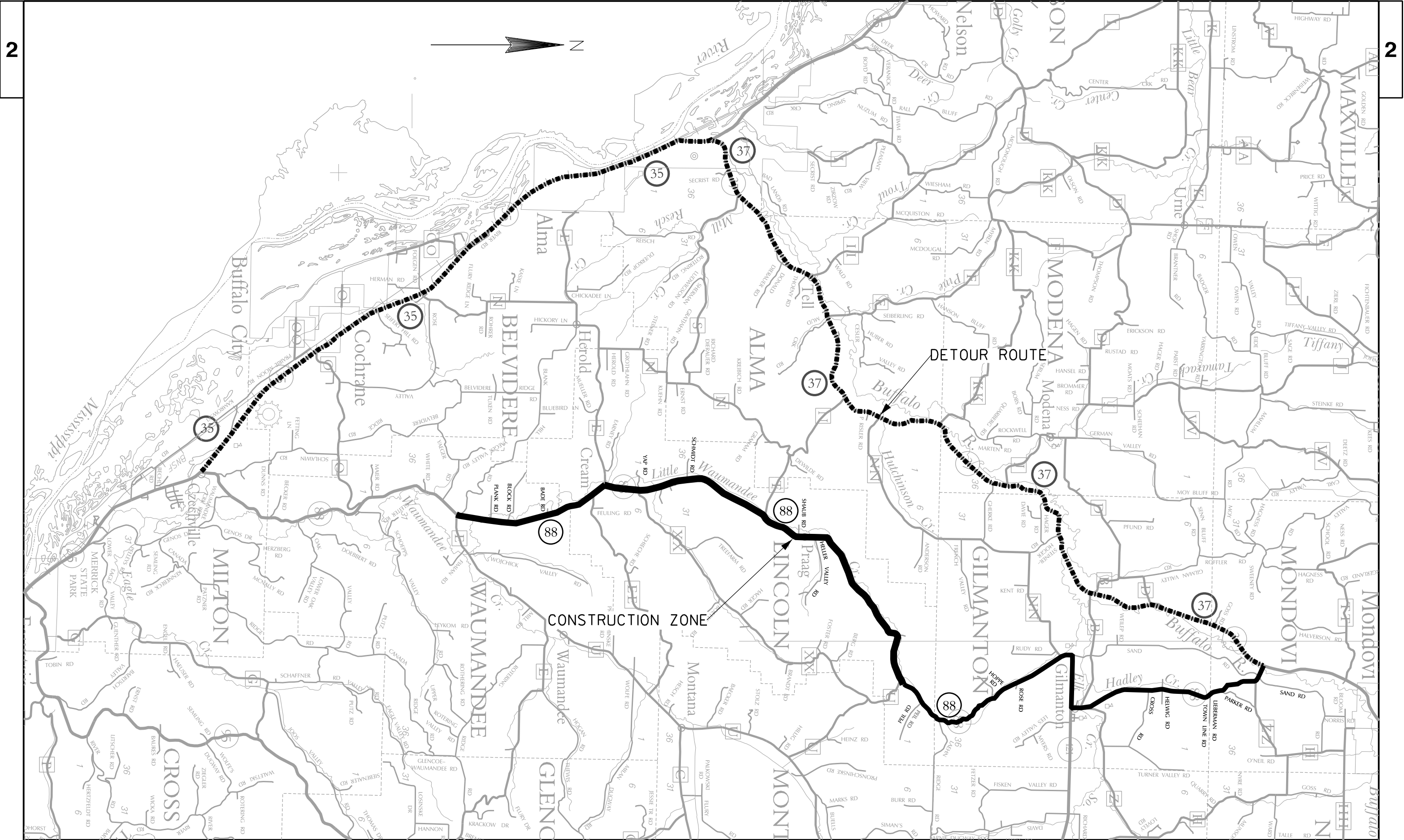


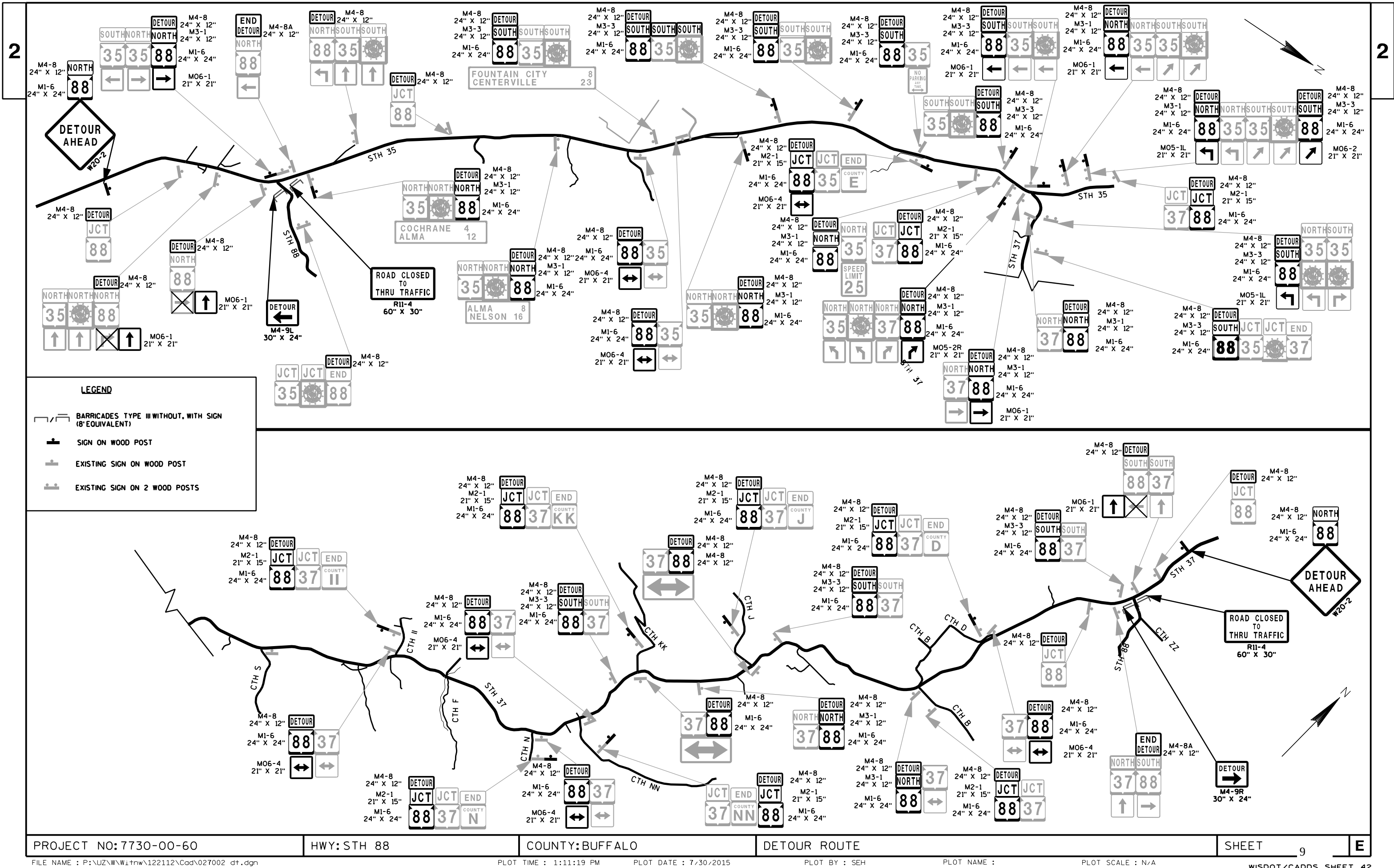
ASPHALTIC CURB DETAIL



ASPHALTIC FLUME DETAIL







CURVE DATA
DELTA =27°00'00.00" (LT)
D =5°12'31.35"
T =264.09
L =518.36
E =31.26
R =1100.00
DB =N 43°01'21.94" E
DA =N 16°01'21.94" E
PC STA 352+42.65
PC Y =286880.863
PC X =585386.291
PISTA 355+06.74
PIY =287073.932
PIX =585566.474
PT STA 357+61.01
PT Y =287327.759
PT X =585639.367

CURVE DATA
DELTA =8°38'03.56" (LT)
D =3°22'13.22"
T =128.34
L =256.19
E =4.84
R =1700.00
DB =N 16°01'21.94" E
DA =N 7°23'18.38" E
PC STA 357+61.01
PC Y =287327.759
PC X =585639.367
PISTA 358+89.35
PIY =287451.109
PIX =585674.790
PT STA 360+17.20
PT Y =287578.379
PT X =585691.294

CURVE DATA
DELTA =3°19'54.08" (LT)
D =0°39'17.31"
T =254.47
L =508.80
E =3.70
R =8750.00
DB =N 7°48'59.82" E
DA =N 4°29'05.75" E
PC STA 395+44.09
PC Y =291073.033
PC X =586166.930
PISTA 397+98.56
PIY =291325.142
PIX =586201.539
PT STA 400+52.89
PT Y =291578.836
PT X =586221.438

CURVE DATA
DELTA =20°13'54.94" (LT)
D =5°27'24.27"
T =187.34
L =370.77
E =16.58
R =1050.00
DB =N 16°03'29.79" W
DA =N 16°03'29.79" W
PC STA 422+63.48
PC Y =293783.249
PC X =586386.450
PISTA 424+50.81
PIY =293970.088
PIX =586400.084
PT STA 426+34.25
PT Y =294150.113
PT X =586348.264

CURVE DATA
DELTA =15°19'31.44" (LT)
D =3°41'47.41"
T =208.54
L =414.59
E =13.97
R =1550.00
DB =N 31°03'29.79" W
DA =N 31°23'01.23" W
PC STA 469+70.58
PC Y =298317.246
PC X =585148.770
PISTA 471+79.12
PIY =298517.650
PIX =585091.084
PT STA 473+85.17
PT Y =298695.681
PT X =584982.483

CURVE DATA
DELTA =21°46'10.21" (RT)
D =2°43'42.13"
T =403.82
L =797.89
E =38.47
R =2100.00
DB =N 31°47'44.09" W
DA =N 10°01'33.88" W
PC STA 483+59.74
PC Y =299525.275
PC X =584471.070
PISTA 487+63.56
PIY =299868.492
PIX =584258.303
PT STA 491+57.63
PT Y =300266.142
PT X =584188.000

CURVE DATA
DELTA =28°46'00.61" (LT)
D =14°19'26.20"
T =102.58
L =200.83
E =12.94
R =400.00
DB =N 9°01'41.07" W
DA =N 37°47'41.68" W
PC STA 499+56.77
PC Y =301054.485
PC X =584057.244
PISTA 500+59.35
PIY =301155.794
PIX =584041.147
PT STA 501+57.60
PT Y =301236.853
PT X =583978.283

CURVE DATA
DELTA =2°28'23.06" (LT)
D =0°22'55.10"
T =323.77
L =647.45
E =3.49
R =15000.00
DB =N 37°02'50.03" W
DA =N 39°31'13.08" W
PC STA 519+44.78
PC Y =302657.501
PC X =582893.993
PISTA 522+68.56
PIY =302915.918
PIX =582698.927
PT STA 525+92.23
PT Y =303165.677
PT X =582492.893

CURVE DATA
DELTA =47°00'00.00" (RT)
D =38°11'49.87"
T =65.22
L =123.05
E =13.57
R =150.00
DB =N 38°42'12.19" W
DA =N 8°17'47.81" E
PC STA 538+49.48
PC Y =304140.138
PC X =581698.527
PISTA 539+14.70
PIY =304191.037
PIX =581657.744
PT STA 539+72.52
PT Y =304255.576
PT X =581667.156

CURVE DATA
DELTA =11°43'37.82" (RT)
D =6°21'58.31"
T =92.43
L =184.21
E =4.73
R =900.00
DB =N 8°17'47.81" E
DA =N 20°01'25.63" E
PC STA 539+72.52
PC Y =304255.576
PC X =581667.156
PISTA 540+64.95
PIY =304347.037
PIX =581680.493
PT STA 541+56.73
PT Y =304433.878
PT X =581712.141

CURVE DATA
DELTA =15°31'39.00" (LT)
D =1°44'10.45"
T =449.92
L =894.32
E =30.53
R =3300.00
DB =N 20°01'25.63" E
DA =N 4°29'46.62" E
PC STA 542+43.43
PC Y =304515.337
PC X =581741.828
PISTA 546+93.35
PIY =304938.057
PIX =581895.884
PT STA 551+37.75
PT Y =305386.589
PT X =581931.155

CURVE DATA
DELTA =19°27'09.71" (LT)
D =2°36'15.67"
T =377.09
L =746.93
E =32.08
R =2200.00
DB =N 4°29'46.62" E
DA =N 14°57'23.08" W
PC STA 580+94.09
PC Y =308333.825
PC X =582162.915
PISTA 584+71.18
PIY =308709.759
PIX =582192.478
PT STA 588+41.02
PT Y =309074.078
PT X =582095.155

CURVE DATA
DELTA =6°33'53.99" (LT)
D =0°52'53.30"
T =372.80
L =744.78
E =10.68
R =6500.00
DB =N 14°57'23.08" W
DA =N 21°31'17.07" W
PC STA 601+60.97
PC Y =310349.318
PC X =581754.496
PISTA 605+33.77
PIY =310709.484
PIX =581658.283
PT STA 609+05.75
PT Y =311056.288
PT X =581521.523

CURVE DATA
DELTA =13°55'21.06" (RT)
D =1°52'42.78"
T =372.40
L =741.13
E =22.65
R =3050.00
DB =N 21°31'17.07" W
DA =N 7°35'56.01" W
PC STA 619+03.57
PC Y =311984.542
PC X =581155.474
PISTA 622+75.97
PIY =312330.979
PIX =581018.859
PT STA 626+44.70
PT Y =312700.108
PT X =580969.614

CURVE DATA
DELTA =14°00'00.00" (RT)
D =2°29'28.04"
T =282.40
L =562.00
E =17.27
R =2300.00
DB =N 6°50'28.98" W
DA =N 7°09'31.02" E
PC STA 649+38.13
PC Y =314975.489
PC X =580682.867
PISTA 652+20.53
PIY =315255.883
PIX =580649.227
PT STA 655+00.13
PT Y =315536.086
PT X =580684.419

CURVE DATA
DELTA =23°07'01.65" (RT)
D =4°24'26.52"
T =265.87
L =524.51
E =26.91
R =1300.00
DB =N 7°09'31.02" E
DA =N 30°16'32.66" E
PC STA 655+00.13
PC Y =315536.086
PC X =580684.419
PISTA 657+66.00
PIY =315799.885
PIX =580717.551
PT STA 660+24.64
PT Y =316029.495
PT X =580851.594

CURVE DATA
DELTA =7°03'06.68" (RT)
D =2°12'13.26"
T =160.20
L =320.00
E =4.93
R =2600.00
DB =N 30°16'32.66" E
DA =N 37°19'39.34" E
PC STA 665+48.70
PC Y =316482.081
PC X =581115.807
PISTA 667+08.90
PIY =316620.435
PIX =581196.576
PT STA 668+68.70
PT Y =316747.826
PT X =581293.719

CURVE DATA
DELTA =7°43'41.72" (LT)
D =1°54'35.49"
T =202.63
L =404.65
E =6.84
R =3000.00
DB =N 38°58'40.77" E
DA =N 31°14'59.05" E
PC STA 681+31.23
PC Y =317742.614
PC X =582070.957
PISTA 683+33.87
PIY =317900.138
PIX =582198.417
PT STA 685+35.88
PT Y =318073.371
PT X =582303.537

CURVE DATA
DELTA =5°29'52.83" (LT)
D =1°50'53.70"
T =148.85
L =297.47
E =3.57
R =3100.00
DB =N 31°14'59.05" E
DA =N 25°45'06.22" E
PC STA 689+00.59
PC Y =318385.167
PC X =582492.737
PISTA 690+49.44
PIY =318512.421
PIX =582569.956
PT STA 691+98.07
PT Y =318646.487
PT X =582634.627

CURVE DATA
DELTA =3°32'29.84" (LT)
D =0°28'38.87"
T =371.00
L =741.76
E =5.73
R =12000.00
DB =N 25°45'06.22" E
DA =N 22°12'36.39" E
PC STA 695+37.95
PC Y =318952.615
PC X =582782.297
PISTA 709+62.21
PIY =319286.766
PIX =582943.484
PT STA 702+79.70
PT Y =319630.235
PT X =583083.722

CURVE DATA
DELTA =7°42'40.02" (RT)
D =1°38'13.28"
T =235.88
L =471.06
E =7.94
R =3500.00
DB =N 22°12'36.39" E
DA =N 29°55'16.41" E
PC STA 707+26.33
PC Y =320043.728
PC X =583252.551
PISTA 715+71.49
PIY =320262.105
PIX =583341.714
PT STA 711+97.38
PT Y =320466.544
PT X =583459.372

CURVE DATA
DELTA =0°45'22.21" (LT)
D =0°34'22.65"
T =65.99
L =131.98
E =.22
R =10000.00
DB =N 29°55'16.41" E
DA =N 29°09'54.21" E
PC STA 715+05.50
PC Y =320733.598
PC X =583613.066
PISTA 715+71.49
PIY =320790.791
PIX =583645.982
PT STA 716+37.48
PT Y =320848.414
PT X =583678.141

CURVE DATA
DELTA =4°30'00.00" (RT)
D =1°54'35.49"
T =117.87
L =235.62
E =2.31
R =3000.00
DB =N 29°30'51.12" E
DA =N 34°00'51.12" E
PC STA 734+61.89
PC Y =322441.018
PC X =584568.144
PISTA 735+79.76
PIY =322543.593
PIX =584626.211
PT STA 736+97.51
PT Y =322641.295
PT X =584692.148

CURVE DATA
DELTA =23°24'58.82" (RT)
D =6°56'41.79"
T =170.97
L =337.17
E =17.53
R =825.00
DB =N 34°00'51.12" E
DA =N 57°25'49.94" E
PC STA 736+97.51
PC Y =322641.295
PC X =584692.148
PISTA 738+68.49
PIY =322783.014
PIX =584787.789
PT STA 740+34.68
PT Y =322875.052
PT X =584931.874

CURVE DATA
DELTA =30°40'33.71" (LT)
D =9°32'57.47"
T =164.57
L =321.24
E =22.16
R =600.00
DB =N 56°12'36.45" E
DA =N 25°32'02.74" E
PC STA 744+08.24
PC Y =323077.980
PC X =585245.481
PISTA 745+72.81
PIY =323169.505
PIX =585382.252
PT STA 747+29.48
PT Y =323318.000
PT X =585453.189

CURVE DATA
DELTA =4°21'17.28" (RT)
D =1°54'35.49"
T =114.06
L =228.02
E =2.17
R =3000.00
DB =N 25°32'02.74" E
DA =N 29°53'20.03" E
PC STA 749+10.46
PC Y =323481.303
PC X =585531.200
PISTA 750+24.52
PIY =323584.226
PIX =585580.367
PT STA 751+38.47
PT Y =323683.118
PT X =585637.207

CURVE DATA
DELTA =8°30'00.00" (LT)
D =1°58'32.58"
T =215.51
L =430.22
E =8.00
R =2900.00
DB =N 29°53'20.03" E
DA =N 21°23'20.03" E
PC STA 753+40.48
PC Y =323858.255
PC X =585737.870
PISTA 755+55.98
PIY =324045.098
PIX =585845.261
PT STA 757+70.70
PT Y =324245.763
PT X =585923.856

CURVE DATA
DELTA =16°11'47.73" (LT)
D =5°12'31.35"
T =156.52
L =310.95
E =11.08
R =1100.00
DB =N 21°23'20.03" E
DA =N 5°11'32.30" E
PC STA 757+70.70
PC Y =324245.763
PC X =585923.856
PISTA 759+27.22
PIY =324391.502
PIX =585980.938
PT STA 760+81.65
PT Y =324547.380
PT X =585995.103

CURVE DATA
DELTA =30°54'20.22" (RT)
D =6°56'41.79"
T =228.06
L =445.01
E =30.94
R =825.00
DB =N 5°11'32.30" E
DA =N 36°05'52.52" E
PC STA 762+80.43
PC Y =324745.339
PC X =586013.092
PISTA 765+08.49
PIY =324972.465
PIX =586033.731
PT STA 767+25.44
PT Y =325156.741
PT X =586168.097

CURVE DATA
DELTA =31°32'48.66" (LT)
D =11°48'48.83"
T =137.00
L =267.04
E =18.98
R =485.00
DB =N 36°23'58.34" E
DA =N 4°51'09.68" E
PC STA 781+20.19
PC Y =326277.253
PC X =586998.593
PISTA 782+57.19
PIY =326387.522
PIX =587079.889
PT STA 783+87.23
PT Y =326524.029
PT X =587091.479

CURVE DATA
DELTA =1°43'16.32" (LT)
D =1°07'24.41"
T =76.61
L =153.21
E =.58
R =5100.00
DB =N 4°51'09.68" E
DA =N 3°07'53.36" E
PC STA 784+14.54
PC Y =326551.245
PC X =587093.789
PISTA 784+91.15
PIY =326627.580
PIX =587100.270
PT STA 785+67.75
PT Y =326704.075
PT X =587104.455

CURVE DATA
DELTA =1°54'59.82" (LT)
D =1°38'13.28"
T =58.55
L =117.08
E =.49
R =3500.00
DB =N 3°07'53.36" E
DA =N 1°12'53.54" E
PC STA 786+80.46
PC Y =326816.612
PC X =587110.612
PISTA 787+39.00
PIY =326875.070
PIX =587113.810
PT STA 787+97.53
PT Y =326933.602
PT X =587115.051

CURVE DATA
DELTA =1°48'30.05" (LT)
D =1°25'56.62"
T =63.13
L =126.25
E =.50
R =4000.00
DB =N 1°12'53.54" E
DA =N 0°35'36.51" W
PC STA 794+30.98
PC Y =327566.906
PC X =587128.482
PISTA 794+94.11
PIY =327630.020
PIX =587129.820
PT STA 795+57.23
PT Y =327693.145
PT X =587129.166

CURVE DATA
DELTA =1°17'14.09" (RT)
D =0°45'50.20"
T =84.25
L =168.50
E =.47
R =7500.00
DB =N 0°35'36.51" W
DA =N 0°41'37.59" E
PC STA 797+39.06
PC Y =327874.971
PC X =587127.283
PISTA 798+23.32
PIY =327959.220
PIX =587126.410
PT STA 799+07.56
PT Y =328043.468
PT X =587127.430

CURVE DATA
DELTA =1°28'47.95" (LT)
D =1°08'45.30"
T =64.58
L =129.15
E =.42
R =5000.00
DB =N 0°41'37.59" E
DA =N 0°47'10.37" W
PC STA 802+34.43
PC Y =328370.315
PC X =587131.388
PISTA 802+99.01
PIY =328434.890
PIX =587132.170
PT STA 803+63.59
PT Y =328499.464
PT X =587131.284

CURVE DATA
DELTA =1°08'15.66" (RT)
D =1°08'45.30"
T =49.64
L =99.28
E =.25
R =5000.00
DB =N 0°47'10.37" W
DA =N 0°21'05.29" E
PC STA 804+35.93
PC Y =328571.802
PC X =587130.291
PISTA 804+85.57
PIY =328621.440
PIX =587129.610
PT STA 805+35.21
PT Y =328671.081
PT X =587129.915

CURVE DATA
DELTA =7°00'00.00" (RT)
D =6°56'41.79"
T =50.46
L =100.79
E =1.54
R =825.00
DB =N 0°21'05.29" E
DA =N 7°21'05.29" E
PC STA 818+29.04
PC Y =329964.887
PC X =587137.851
PISTA 818+79.50
PIY =330015.345
PIX =587138.161
PT STA 819+29.84
PT Y =330065.389
PT X =587144.617

CURVE DATA
DELTA =59°01'34.02" (RT)
D =15°16'43.95"
T =212.28
L =386.33
E =55.91
R =375.00
DB =N 7°21'05.29" E
DA =N 66°22'39.31" E
PC STA 819+29.84
PC Y =330065.389
PC X =587144.617
PISTA 821+42.11
PIY =330275.922
PIX =587171.779
PT STA 823+16.16
PT Y =330360.983
PT X =587366.269

CURVE DATA
DELTA =15°23'27.05" (LT)
D =5°35'23.40"
T =138.50
L =275.34
E =9.32
R =1025.00
DB =N 66°22'39.31" E
DA =N 50°59'12.26" E
PC STA 826+44.57
PC Y =330492.579
PC X =587667.159
PISTA 827+83.07
PIY =330548.078
PIX =587794.056
PT STA 829+19.91
PT Y =330635.265
PT X =587901.672

CURVE DATA
DELTA =1°33'10.79" (LT)
D =1°08'45.30"
T =67.77
L =135.52
E =.46
R =5000.00
DB =N 50°59'12.26" E
DA =N 49°26'01.47" E
PC STA 829+74.26
PC Y =330669.481
PC X =587943.905
PISTA 830+42.03
PIY =330712.140
PIX =587996.560
PT STA 831+09.79
PT Y =330756.210
PT X =588048.039

CURVE DATA
DELTA =8°26'31.28" (LT)
D =3°49'10.99"
T =110.71
L =221.01
E =4.08
R =1500.00
DB =N 49°26'01.47" E
DA =N 40°59'30.19" E
PC STA 832+14.53
PC Y =330824.326
PC X =588127.606
PISTA 833+25.23
PIY =330896.322
PIX =588211.705
PT STA 834+35.54
PT Y =330979.883
PT X =588284.322

CURVE DATA
DELTA =6°14'37.77" (RT)
D =1°23'50.85"
T =223.62
L =446.80
E =6.09
R =4100.00
DB =N 40°59'30.19" E
DA =N 47°14'07.96" E
PC STA 835+74.86
PC Y =331085.040
PC X =588375.707
PISTA 837+98.48
PIY =331253.830
PIX =588522.391
PT STA 840+21.65
PT Y =331405.665
PT X =588686.563

CURVE DATA
DELTA =5°49'27.18" (RT)
D =1°32'54.72"
T =188.22
L =376.11
E =4.78
R =3700.00
DB =N 48°19'06.67" E
DA =N 54°08'33.85" E
PC STA 843+04.44
PC Y =331595.348
PC X =588896.282
PISTA 844+92.66
PIY =331720.511
PIX =589036.853
PT STA 846+80.55
PT Y =331830.763
PT X =589189.400

CURVE DATA
DELTA =12°33'05.23" (RT)
D =3°57'05.16"
T =159.46
L =317.64
E =8.74
R =1450.00
DB =N 54°08'33.85" E
DA =N 66°41'39.07" E
PC STA 847+70.77
PC Y =331883.612
PC X =589262.522
PISTA 849+30.23
PIY =331977.018
PIX =589391.761
PT STA 850+88.42
PT Y =332040.107
PT X =589538.210

CURVE DATA
DELTA =2°29'55.29" (LT)
D =0°57'17.75"
T =130.85
L =261.66
E =1.43
R =6000.00
DB =N 66°41'39.07" E
DA =N 64°01'43.78" E
PC STA 853+92.39
PC Y =332160.369
PC X =589817.379
PISTA 855+23.24
PIY =332212.139
PIX =589937.554
PT STA 856+54.05
PT Y =332269.099
PT X =590055.358

CURVE DATA
DELTA =3°18'37.17" (RT)
D =1°54'35.49"
T =86.69
L =173.33
E =1.25
R =3000.00
DB =N 64°01'43.78" E
DA =N 67°30'20.96" E
PC STA 858+43.18
PC Y =332351.428
PC X =590225.628
PISTA 859+29.87
PIY =332389.163
PIX =590303.672
PT STA 860+16.51
PT Y =332422.329
PT X =590383.765

CURVE DATA
DELTA =4°16'43.70" (RT)
D =1°54'35.49"
T =112.07
L =224.04
E =2.09
R =3000.00
DB =N 67°45'08.59" E
DA =N 72°01'52.29" E
PC STA 865+08.81
PC Y =332609.253
PC X =590839.197
PISTA 866+20.88
PIY =332651.684
PIX =590942.925
PT STA 867+32.85
PT Y =332686.258
PT X =591049.530

CURVE DATA
DELTA =1°14'15.87" (LT)
D =0°57'17.75"
T =64.81
L =129.62
E =.35
R =6000.00
DB =N 72°01'52.29" E
DA =N 70°47'36.42" E
PC STA 869+12.29
PC Y =332741.618
PC X =591220.225
PISTA 869+77.11
PIY =332761.612
PIX =591281.875
PT STA 870+41.91
PT Y =332782.933
PT X =591343.078

CURVE DATA
DELTA =4°45'00.00" (LT)
D =0°43'30.95"
T =327.66
L =654.93
E =6.79
R =7900.00
DB =N 70°47'36.42" E
DA =N 66°02'36.42" E
PC STA 873+27.74
PC Y =332876.964
PC X =591613.000
PISTA 876+55.40
PIY =332984.754
PIX =591922.418
PT STA 879+82.68
PT Y =333117.797
PT X =592221.846

CURVE DATA
DELTA =18°09'42.26" (LT)
D =3°41'47.41"
T =247.74
L =491.32
E =19.67
R =1550.00
DB =N 66°02'36.42" E
DA =N 47°52'54.16" E
PC STA 879+82.68
PC Y =333117.797
PC X =592221.846
PISTA 882+30.42
PIY =333218.390
PIX =592448.244
PT STA 884+74.00
PT Y =333384.539
PT X =592632.007

CURVE DATA
DELTA =0°53'20.08" (LT)
D =0°34'22.65"
T =77.57
L =155.14
E =.30
R =10000.00
DB =N 47°52'54.16" E
DA =N 46°59'34.08" E
PC STA 887+68.19
PC Y =333581.844
PC X =592850.229
PISTA 888+45.77
PIY =333633.870
PIX =592907.770
PT STA 889+23.34
PT Y =333686.782
PT X =592964.497

CURVE DATA
DELTA =9°39'53.24" (LT)
D =2°17'30.59"
T =211.35
L =421.71
E =8.92
R =2500.00
DB =N 46°59'34.08" E
DA =N 37°19'40.83" E
PC STA 890+58.51
PC Y =333778.982
PC X =593063.344
PISTA 892+69.86
PIY =333923.144
PIX =593217.901
PT STA 894+80.22
PT Y =334091.209
PT X =593346.061

CURVE DATA
DELTA =9°15'00.00" (RT)
D =1°20'53.29"
T =343.81
L =686.13
E =13.88
R =4250.00
DB =N 37°19'40.83" E
DA =N 46°34'40.83" E
PC STA 898+00.09
PC Y =334345.564
PC X =593540.025
PISTA 901+43.90
PIY =334618.957
PIX =593748.506
PT STA 904+86.22
PT Y =334855.283
PT X =593998.221

CURVE DATA
DELTA =14°20'43.75" (RT)
D =5°12'31.35"
T =138.43
L =275.41
E =8.68
R =1100.00
DB =N 46°34'40.83" E
DA =N 60°55'24.59" E
PC STA 904+86.22
PC Y =334855.283
PC X =593998.221
PISTA 906+24.65
PIY =334950.435
PIX =594098.765
PT STA 907+61.64
PT Y =335017.709
PT X =594219.749

CURVE DATA
DELTA =16°31'29.53" (LT)
D =4°46'28.73"
T =174.26
L =346.10
E =12.59
R =1200.00
DB =N 60°55'24.59" E
DA =N 44°23'55.06" E
PC STA 912+16.36
PC Y =335238.697
PC X =594617.169
PISTA 913+90.62
PIY =335323.383
PIX =594769.466
PT STA 915+62.46
PT Y =335447.888
PT X =594891.384

CURVE DATA
DELTA =10°37'06.85" (RT)
D =3°57'05.16"
T =134.75
L =268.73
E =6.25
R =1450.00
DB =N 44°23'55.06" E
DA =N 55°01'01.91" E
PC STA 917+40.53
PC Y =335575.119
PC X =595015.973
PISTA 918+75.28
PIY =335671.396
PIX =595110.225
PT STA 920+09.26
PT Y =335748.652
PT X =595220.653

CURVE DATA
DELTA =15°52'05.52" (RT)
D =4°58'56.07"
T =160.27
L =318.50
E =11.11
R =1150.00
DB =N 55°01'01.91" E
DA =N 70°53'07.43" E
PC STA 921+59.62
PC Y =335834.857
PC X =595343.845
PISTA 923+19.89
PIY =335926.746
PIX =595475.160
PT STA 924+78.11
PT Y =335979.229
PT X =595626.597

CURVE DATA
DELTA =18°53'39.78" (LT)
D =3°34'51.55"
T =266.23
L =527.63
E =22.00
R =1600.00
DB =N 70°53'07.43" E
DA =N 51°59'27.65" E
PC STA 925+97.65
PC Y =336018.373
PC X =595739.543
PISTA 928+63.88
PIY =336105.553
PIX =595991.097
PT STA 931+25.28
PT Y =336269.495
PT X =596200.865

CURVE DATA
DELTA =1°07'26.09" (LT)
D =0°45'50.20"
T =73.56
L =147.12
E =.36
R =7500.00
DB =N 51°59'27.65" E
DA =N 50°52'01.56" E
PC STA 934+68.84
PC Y =336481.054
PC X =596471.562
PISTA 935+42.40
PIY =336526.353
PIX =596529.522
PT STA 936+15.96
PT Y =336572.780
PT X =596586.584

CURVE DATA
DELTA =6°36'20.70" (RT)
D =2°17'30.59"
T =144.27
L =288.23
E =4.16
R =2500.00
DB =N 51°14'44.26" E
DA =N 57°51'04.96" E
PC STA 945+98.74
PC Y =337191.099
PC X =597350.470
PISTA 947+43.01
PIY =337281.413
PIX =597462.981
PT STA 948+86.97
PT Y =337358.184
PT X =597585.134

CURVE DATA
DELTA =56°06'50.64" (LT)
D =14°19'26.20"
T =213.19
L =391.75
E =53.27
R =400.00
DB =N 57°51'04.96" E
DA =N 1°44'14.32" E
PC STA 952+48.33
PC Y =337550.470
PC X =597891.087
PISTA 954+61.52
PIY =337663.914
PIX =598071.593
PT STA 956+40.08
PT Y =337877.011
PT X =598078.056

CURVE DATA
DELTA =26°57'45.79" (RT)
D =6°44'26.45"
T =203.77
L =400.00
E =24.08
R =850.00
DB =N 1°44'14.32" E
DA =N 28°42'00.11" E
PC STA 957+98.79
PC Y =338035.646
PC X =598082.868
PISTA 960+02.56
PIY =338239.327
PIX =598089.046
PT STA 961+98.79
PT Y =338418.067
PT X =598186.903

CURVE DATA
DELTA =32°31'01.64" (RT)
D =12°03'44.17"
T =138.53
L =269.58
E =19.79
R =475.00
DB =N 28°42'00.11" E
DA =N 61°13'01.76" E
PC STA 962+03.17
PC Y =338414.219
PC X =598184.796
PISTA 963+41.70
PIY =338535.727
PIX =598251.320
PT STA 964+72.75
PT Y =338602.427
PT X =598372.732

CURVE DATA
DELTA =43°19'13.50" (RT)
D =12°11'26.13"
T =186.66
L =355.36
E =35.71
R =470.00
DB =N 61°13'01.76" E
DA =S 75°27'44.75" E
PC STA 965+17.00
PC Y =338623.733
PC X =598411.516
PISTA 967+03.66
PIY =338713.607
PIX =598575.113
PT STA 968+72.36
PT Y =338666.753
PT X =598755.794

CURVE DATA
DELTA =4°07'58.51" (RT)
D =2°51'53.24"
T =72.16
L =144.27
E =1.30
R =2000.00
DB =S 75°27'44.75" E
DA =S 71°19'46.24" E
PC STA 973+19.52
PC Y =338554.510
PC X =599188.635
PISTA 973+91.68
PIY =338536.396
PIX =599258.489
PT STA 974+63.78
PT Y =338513.294
PT X =599326.855

CURVE DATA
DELTA =4°33'24.35" (LT)
D =0°45'50.20"
T =298.40
L =596.48
E =5.93
R =7500.00
DB =S 71°19'46.24" E
DA =S 75°53'10.59" E
PC STA 976+75.37
PC Y =338445.561
PC X =599527.306
PISTA 979+73.77
PIY =338350.037
PIX =599810.000
PT STA 982+71.85
PT Y =338277.273
PT X =600099.389

CURVE DATA
DELTA =17°59'14.24" (LT)
D =3°28'20.90"
T =261.15
L =518.00
E =20.54
R =1650.00
DB =S 75°53'10.59" E
DA =N 86°07'35.17" E
PC STA 984+14.39
PC Y =338242.516
PC X =600237.623
PISTA 986+75.53
PIY =338178.836
PIX =600490.887
PT STA 989+32.38
PT Y =338196.478
PT X =600751.437

CURVE DATA
DELTA =7°24'53.06" (LT)
D =2°51'53.24"
T =129.59
L =258.82
E =4.19
R =2000.00
DB =N 86°58'20.72" E
DA =N 79°33'27.66" E
PC STA 993+60.17
PC Y =338222.228
PC X =601178.452
PISTA 994+89.77
PIY =338229.073
PIX =601307.864
PT STA 996+19.00
PT Y =338252.561
PT X =601435.310

CURVE DATA
DELTA =16°51'20.36" (LT)
D =4°58'56.07"
T =170.39
L =338.31
E =12.55
R =1150.00
DB =N 79°33'27.66" E
DA =N 62°42'07.29" E
PC STA 999+16.97
PC Y =338306.566
PC X =601728.345
PISTA 1000+87.35
PIY =338337.448
PIX =601895.911
PT STA 1002+55.28
PT Y =338415.591
PT X =602047.323

CURVE DATA
DELTA =5°03'38.68" (RT)
D =3°16'26.56"
T =77.34
L =154.57
E =1.71
R =1750.00
DB =N 63°36'15.20" E
DA =N 68°39'53.89" E
PC STA 1009+08.88
PC Y =338710.286
PC X =602630.689
PISTA 1009+86.21
PIY =338744.667
PIX =602699.963
PT STA 1010+63.45
PT Y =338772.804
PT X =602771.999

CURVE DATA
DELTA =13°43'32.36" (LT)
D =4°24'26.52"
T =156.46
L =311.43
E =9.38
R =1300.00
DB =N 68°39'53.89" E
DA =N 54°56'21.52" E
PC STA 1014+43.55
PC Y =338911.094
PC X =603126.056
PISTA 1016+00.02
PIY =338968.018
PIX =603271.795
PT STA 1017+54.98
PT Y =339057.897
PT X =603399.866

CURVE DATA
DELTA =15°33'56.74" (RT)
D =4°35'01.18"
T =170.85
L =339.59
E =11.62
R =1250.00
DB =N 54°56'21.52" E
DA =N 70°30'18.27" E
PC STA 1018+21.26
PC Y =339095.973
PC X =603454.122
PISTA 1019+92.11
PIY =339194.116
PIX =603593.969
PT STA 1021+60.86
PT Y =339251.132
PT X =603755.023

CURVE DATA
DELTA =46°49'27.43" (LT)
D =17°54'17.75"
T =138.56
L =261.52
E =28.71
R =320.00
DB =N 70°30'18.27" E
DA =N 23°40'50.84" E
PC STA 1024+34.95
PC Y =339342.602
PC X =604013.399
PISTA 1025+73.50
PIY =339388.841
PIX =604144.013
PT STA 1026+96.48
PT Y =339515.731
PT X =604199.663

CURVE DATA
DELTA =21°48'26.14" (RT)
D =5°40'22.26"
T =194.56
L =384.41
E =18.57
R =1010.00
DB =N 24°04'32.90" E
DA =N 45°52'59.04" E
PC STA 1035+21.17
PC Y =340269.738
PC X =604533.734
PISTA 1037+15.73
PIY =340447.374
PIX =604613.104
PT STA 1039+05.58
PT Y =340582.813
PT X =604752.784

CURVE DATA
DELTA =1°16'46.87" (RT)
D =0°34'22.65"
T =111.68
L =223.35
E =.62
R =10000.00
DB =N 45°52'59.04" E
DA =N 47°09'45.91" E
PC STA 1040+18.87
PC Y =340661.671
PC X =604834.111
PISTA 1041+30.54
PIY =340739.413
PIX =604914.287
PT STA 1042+42.21
PT Y =340815.345
PT X =604996.179

CURVE DATA
DELTA =16°16'12.83" (RT)
D =6°44'26.45"
T =121.50
L =241.37
E =8.64
R =850.00
DB =N 47°09'45.91" E
DA =N 63°25'58.73" E
PC STA 1043+34.32
PC Y =340877.971
PC X =605063.721
PISTA 1044+55.83
PIY =340960.584
PIX =605152.819
PT STA 1045+75.69
PT Y =341014.926
PT X =605261.494

CURVE DATA
DELTA =6°10'11.08" (LT)
D =3°16'26.56"
T =94.31
L =188.44
E =2.54
R =1750.00
DB =N 63°25'58.73" E
DA =N 57°15'47.65" E
PC STA 1047+03.46
PC Y =341072.067
PC X =605375.766
PISTA 1047+97.77
PIY =341114.248
PIX =605460.121
PT STA 1048+91.90
PT Y =341165.251
PT X =605539.454

CURVE DATA
DELTA =13°11'43.27" (RT)
D =4°05'33.20"
T =161.93
L =322.42
E =9.33
R =1400.00
DB =N 57°15'47.65" E
DA =N 70°27'30.92" E
PC STA 1051+02.92
PC Y =341279.366
PC X =605716.956
PISTA 1052+64.85
PIY =341366.933
PIX =605853.164
PT STA 1054+25.34
PT Y =341421.096
PT X =606005.764

CURVE DATA
DELTA =19°45'00.00" (LT)
D =6°32'53.12"
T =152.32
L =301.61
E =13.16
R =875.00
DB =N 70°27'30.92" E
DA =N 50°42'30.92" E
PC STA 1054+49.69
PC Y =341429.239
PC X =606028.705
PISTA 1056+02.00
PIY =341480.187
PIX =606172.250
PT STA 1057+51.30
PT Y =341576.645
PT X =606290.134

CURVE DATA
DELTA =9°34'04.02" (LT)
D =2°21'45.77"
T =202.95
L =404.95
E =8.48
R =2425.00
DB =N 50°42'30.92" E
DA =N 41°08'26.89" E
PC STA 1057+51.30
PC Y =341576.645
PC X =606290.134
PISTA 1059+54.25
PIY =341705.164
PIX =606447.202
PT STA 1061+56.25
PT Y =341858.002
PT X =606580.723

CURVE DATA
DELTA =14°50'56.96" (RT)
D =3°34'51.55"
T =208.50
L =414.67
E =13.53
R =1600.00
DB =N 41°08'26.89" E
DA =N 55°59'23.86" E
PC STA 1065+39.01
PC Y =342146.258
PC X =606832.546
PISTA 1067+47.51
PIY =342303.280
PIX =606969.722
PT STA 1069+53.68
PT Y =342419.903
PT X =607142.557

CURVE DATA
DELTA =29°39'39.15" (LT)
D =7°26'27.64"
T =203.88
L =398.61
E =26.53
R =770.00
DB =N 55°59'23.86" E
DA =N 26°19'44.71" E
PC STA 1072+04.79
PC Y =342560.361
PC X =607350.716
PISTA 1074+08.67
PIY =342674.399
PIX =607519.721
PT STA 1076+03.41
PT Y =342857.129
PT X =607610.147

CURVE DATA
DELTA =15°00'00.00" (RT)
D =7°38'21.97"
T =98.74
L =196.35
E =6.47
R =750.00
DB =N 26°19'44.71" E
DA =N 41°19'44.71" E
PC STA 1077+73.98
PC Y =343010.006
PC X =607685.800
PISTA 1078+72.72
PIY =343098.502
PIX =607729.593
PT STA 1079+70.33
PT Y =343172.648
PT X =607794.799

CURVE DATA
DELTA =22°02'22.10" (RT)
D =16°22'12.80"
T =68.16
L =134.63
E =6.57
R =350.00
DB =N 41°19'44.71" E
DA =N 63°22'06.81" E
PC STA 1079+70.33
PC Y =343172.648
PC X =607794.799
PISTA 1080+38.49
PIY =343223.830
PIX =607839.810
PT STA 1081+04.96
PT Y =343254.382
PT X =607900.737

CURVE DATA
DELTA =42°00'00.00" (LT)
D =22°55'05.92"
T =95.97
L =183.26
E =17.79
R =250.00
DB =N 63°22'06.81" E
DA =N 21°22'06.81" E
PC STA 1081+67.23
PC Y =343282.294
PC X =607956.400
PISTA 1082+63.19
PIY =343325.311
PIX =608042.185
PT STA 1083+50.49
PT Y =343414.680
PT X =608077.152

CURVE DATA
DELTA =20°00'09.98" (LT)
D =12°03'44.17"
T =83.77
L =165.83
E =7.33
R =475.00
DB =N 21°22'06.81" E
DA =N 1°21'56.83" E
PC STA 1083+50.49
PC Y =343414.680
PC X =608077.152
PISTA 1084+34.26
PIY =343492.689
PIX =608107.673
PT STA 1085+16.32
PT Y =343576.432
PT X =608109.670

CURVE DATA
DELTA =36°14'52.14" (RT)
D =15°16'43.95"
T =122.74
L =237.24
E =19.58
R =375.00
DB =N 1°21'56.83" E
DA =N 37°36'48.97" E
PC STA 1089+09.05
PC Y =343969.055
PC X =608119.031
PISTA 1090+31.79
PIY =344091.763
PIX =608121.957
PT STA 1091+46.29
PT Y =344188.992
PT X =608196.870

CURVE DATA
DELTA =60°25'08.20" (LT)
D =21°13'14.37"
T =157.20
L =284.72
E =42.43
R =270.00
DB =N 37°36'48.97" E
DA =N 22°48'19.23" W
PC STA 1094+56.75
PC Y =344434.917
PC X =608386.351
PISTA 1096+13.95
PIY =344559.445
PIX =608482.298
PT STA 1097+41.47
PT Y =344704.360
PT X =608421.365

CURVE DATA
DELTA =32°44'08.86" (RT)
D =7°54'10.32"
T =212.94
L =414.23
E =30.62
R =725.00
DB =N 22°48'19.23" W
DA =N 9°55'49.63" E
PC STA 1098+28.18
PC Y =344784.293
PC X =608387.756
PISTA 1100+41.12
PIY =344980.585
PIX =608305.221
PT STA 1102+42.41
PT Y =345190.332
PT X =608341.942

CURVE DATA
DELTA =36°58'32.99" (LT)
D =25°27'53.25"
T =75.23
L =145.20
E =12.24
R =225.00
DB =N 9°55'49.63" E
DA =N 27°02'43.36" W
PC STA 1105+41.09
PC Y =345484.545
PC X =608393.452
PISTA 1106+16.32
PIY =345558.650
PIX =608406.426
PT STA 1106+86.30
PT Y =345625.654
PT X =608372.218

CURVE DATA
DELTA =11°36'43.30" (RT)
D =5°43'46.48"
T =101.68
L =202.67
E =5.16
R =1000.00
DB =N 27°02'43.36" W
DA =N 15°26'00.06" W
PC STA 1107+60.94
PC Y =345692.130
PC X =608338.281
PISTA 1108+62.62
PIY =345782.693
PIX =608292.046
PT STA 1109+63.60
PT Y =345880.709
PT X =608264.987

CURVE DATA
DELTA =11°00'00.00" (LT)
D =8°29'17.75"
T =65.00
L =129.59
E =3.12
R =675.00
DB =N 15°26'00.06" W
DA =N 26°26'00.06" W
PC STA 1110+63.82
PC Y =345977.315
PC X =608238.316
PISTA 1111+28.82
PIY =346039.966
PIX =608221.020
PT STA 1111+93.41
PT Y =346098.166
PT X =608192.087

CURVE DATA
DELTA =29°32'06.79" (LT)
D =28°38'52.40"
T =52.72
L =103.10
E =6.83
R =200.00
DB =N 26°26'00.06" W
DA =N 55°58'06.85" W
PC STA 1111+93.41
PC Y =346098.166
PC X =608192.087
PISTA 1112+46.14
PIY =346145.376
PIX =608168.618
PT STA 1112+96.51
PT Y =346174.881
PT X =608124.926

CURVE DATA
DELTA =65°18'31.46" (RT)
D =24°54'40.35"
T =147.40
L =262.17
E =43.18
R =230.00
DB =N 55°58'06.85" W
DA =N 9°20'24.61" E
PC STA 1113+68.10
PC Y =346214.948
PC X =608065.595
PISTA 1115+15.50
PIY =346297.440
PIX =607943.441
PT STA 1116+30.27
PT Y =346442.884
PT X =607967.363

CURVE DATA
DELTA =29°00'00.00" (LT)
D =14°19'26.20"
T =103.45
L =202.46
E =13.16
R =400.00
DB =N 9°20'24.61" E
DA =N 19°39'35.39" W
PC STA 1117+39.05
PC Y =346550.218
PC X =607985.017
PISTA 1118+42.49
PIY =346652.293
PIX =608001.806
PT STA 1119+41.50
PT Y =346749.710
PT X =607967.002

CURVE DATA
DELTA =31°37'13.16" (LT)
D =16°22'12.80"
T =99.11
L =193.16
E =13.76
R =350.00
DB =N 19°39'35.39" W
DA =N 51°16'48.54" W
PC STA 1119+41.50
PC Y =346749.710
PC X =607967.002
PISTA 1120+40.61
PIY =346843.040
PIX =607933.659
PT STA 1121+34.66
PT Y =346905.033
PT X =607856.335

CURVE DATA
DELTA =34°25'30.97" (RT)
D =16°22'12.80"
T =108.43
L =210.29
E =16.41
R =350.00
DB =N 51°16'48.54" W
DA =N 16°51'17.58" W
PC STA 1122+54.76
PC Y =346980.155
PC X =607762.633
PISTA 1123+63.19
PIY =347047.978
PIX =607678.036
PT STA 1124+65.05
PT Y =347151.748
PT X =607646.597

CURVE DATA
DELTA =58°04'30.38" (LT)
D =30°58'14.49"
T =102.71
L =187.52
E =26.60
R =185.00
DB =N 16°51'17.58" W
DA =N 74°55'47.96" W
PC STA 1126+10.30
PC Y =347290.756
PC X =607604.483
PISTA 1127+13.01
PIY =347389.050
PIX =607574.704
PT STA 1127+97.82
PT Y =347415.753
PT X =607475.530

CURVE DATA
DELTA =27°14'47.89" (RT)
D =10°54'48.53"
T =127.24
L =249.66
E =15.20
R =525.00
DB =N 74°55'47.96" W
DA =N 47°41'00.07" W
PC STA 1129+69.76
PC Y =347460.459
PC X =607309.497
PISTA 1130+97.00
PIY =347493.541
PIX =607186.635
PT STA 1132+19.42
PT Y =347579.200
PT X =607092.552

CURVE DATA
DELTA =10°37'44.94" (LT)
D =7°38'21.97"
T =69.77
L =139.14
E =3.24
R =750.00
DB =N 47°41'00.07" W
DA =N 58°18'45.01" W
PC STA 1132+69.16
PC Y =347612.687
PC X =607055.772
PISTA 1133+38.93
PIY =347659.657
PIX =607004.183
PT STA 1134+08.30
PT Y =347696.305
PT X =606944.816

CURVE DATA
DELTA =24°10'39.55" (RT)
D =10°54'48.53"
T =112.44
L =221.54
E =11.91
R =525.00
DB =N 58°18'45.01" W
DA =N 34°08'05.47" W
PC STA 1134+66.74
PC Y =347727.005
PC X =606895.084
PISTA 1135+79.19
PIY =347786.069
PIX =606799.404
PT STA 1138+81.92
PT Y =347879.141
PT X =606736.307

CURVE DATA
DELTA =30°10'10.33" (LT)
D =25°27'53.25"
T =60.65
L =118.48
E =8.03
R =225.00
DB =N 34°08'05.47" W
DA =N 64°18'15.79" W
PC STA 1137+63.44
PC Y =347941.353
PC X =606694.131
PISTA 1138+24.09
PIY =347991.551
PIX =606660.100
PT STA 1138+81.92
PT Y =348017.846
PT X =606605.452

CURVE DATA
DELTA =32°00'00.00" (RT)
D =16°22'12.80"
T =100.36
L =195.48
E =14.10
R =350.00
DB =N 32°18'15.79" W
DA =N 32°18'15.79" W
PC STA 1139+44.46
PC Y =348044.965
PC X =606549.092
PISTA 1140+44.82
PIY =348088.480
PIX =606458.656
PT STA 1141+39.94
PT Y =348173.308
PT X =606405.021

CURVE DATA
DELTA =34°44'08.57" (RT)
D =28°38'52.40"
T =62.55
L =121.25
E =9.55
R =200.00
DB =N 32°18'15.79" W
DA =N 2°25'52.78" E
PC STA 1141+39.94
PC Y =348173.308
PC X =606405.021
PISTA 1142+02.49
PIY =348226.179
PIX =606371.592
PT STA 1142+61.19
PT Y =348288.675
PT X =606374.245

CURVE DATA
DELTA =42°32'07.34" (LT)
D =32°44'25.60"
T =68.12
L =129.92
E =12.79
R =175.00
DB =N 2°25'52.78" E
DA =N 40°06'14.56" W
PC STA 1143+35.68
PC Y =348363.102
PC X =606377.405
PISTA 1144+03.80
PIY =348431.157
PIX =606380.295
PT STA 1144+65.60
PT Y =348483.257
PT X =606336.416

CURVE DATA
DELTA =13°03'55.21" (RT)
D =13°28'52.90"
T =48.67
L =96.91
E =2.78
R =425.00
DB =N 40°06'14.56" W
DA =N 27°02'19.36" W
PC STA 1145+42.85
PC Y =348542.346
PC X =606286.652
PISTA 1145+91.52
PIY =348579.571
PIX =606255.301
PT STA 1146+39.77
PT Y =348622.919
PT X =606233.177

CURVE DATA
DELTA =23°51'24.39" (LT)
D =10°54'48.53"
T =110.91
L =218.60
E =11.59
R =525.00
DB =N 27°02'19.36" W
DA =N 50°53'43.75" W
PC STA 1146+98.36
PC Y =348675.104
PC X =606206.543
PISTA 1148+09.26
PIY =348773.888
PIX =606156.126
PT STA 1149+16.96
PT Y =348843.841
PT X =606070.063

CURVE DATA
DELTA =9°05'16.03" (RT)
D =4°05'33.20"
T =111.26
L =222.06
E =4.41
R =1400.00
DB =N 50°53'43.75" W
DA =N 41°48'27.72" W
PC STA 1150+45.60
PC Y =348924.981
PC X =605970.236
PISTA 1151+56.86
PIY =348995.158
PIX =605883.897
PT STA 1152+67.66
PT Y =349078.091
PT X =605809.727

CURVE DATA
DELTA =8°00'00.00" (RT)
D =5°27'24.27"
T =73.42
L =146.61
E =2.56
R =1050.00
DB =N 41°48'27.72" W
DA =N 33°48'27.72" W
PC STA 1154+17.56
PC Y =349189.825
PC X =605709.798
PISTA 1154+90.98
PIY =349244.554
PIX =605660.852
PT STA 1155+64.16
PT Y =349305.562
PT X =605619.998

CURVE DATA
DELTA =30°47'52.83" (RT)
D =13°28'52.90"
T =117.06
L =228.45
E =15.83
R =425.00
DB =N 33°48'27.72" W
DA =N 3°00'34.89" W
PC STA 1155+64.16
PC Y =349305.562
PC X =605619.998
PISTA 1156+81.22
PIY =349402.825
PIX =605554.867
PT STA 1157+92.61
PT Y =349519.720
PT X =605548.721

CURVE DATA
DELTA =50°25'49.78" (LT)
D =15°41'50.91"
T =171.87
L =321.27
E =38.44
R =365.00
DB =N 3°00'34.89" W
DA =N 53°26'24.67" W
PC STA 1160+11.46
PC Y =349738.264
PC X =605537.231
PISTA 1161+83.33
PIY =349909.902
PIX =605528.207
PT STA 1163+32.72
PT Y =350012.281
PT X =605390.151

CURVE DATA
DELTA =11°35'58.69" (RT)
D =5°43'46.48"
T =101.57
L =202.45
E =5.15
R =1000.00
DB =N 53°26'24.67" W
DA =N 41°50'25.98" W
PC STA 1166+51.20
PC Y =350201.983
PC X =605134.343
PISTA 1167+52.77
PIY =350262.486
PIX =605052.755
PT STA 1168+53.65
PT Y =350338.158
PT X =604985.000

CURVE DATA
DELTA =1°32'37.33" (RT)
D =1°08'45.30"
T =67.36
L =134.71
E =.45
R =5000.00
DB =N 41°50'25.98" W
DA =N 40°17'48.65" W
PC STA 1170+76.52
PC Y =350504.196
PC X =604836.334
PISTA 1171+43.88
PIY =350554.380
PIX =604791.400
PT STA 1172+11.23
PT Y =350605.756
PT X =604747.835

CURVE DATA
DELTA =12°57'49.28" (RT)
D =4°46'28.73"
T =136.34
L =271.51
E =7.72
R =1200.00
DB =N 40°17'48.65" W
DA =N 27°19'59.37" W
PC STA 1176+66.71
PC Y =350953.156
PC X =604453.251
PISTA 1178+03.05
PIY =351057.141
PIX =604365.075
PT STA 1179+38.22
PT Y =351178.257
PT X =604302.474

CURVE DATA
DELTA =1°20'11.14" (RT)
D =0°34'22.65"
T =116.63
L =233.25
E =.68
R =10000.00
DB =N 27°19'59.37" W
DA =N 25°59'48.23" W
PC STA 1192+18.95
PC Y =352315.992
PC X =603714.411
PISTA 1193+35.58
PIY =352419.601
PIX =603660.859
PT STA 1194+52.20
PT Y =352524.431
PT X =603609.737

CURVE DATA
DELTA =7°39'18.30" (LT)
D =1°54'35.49"
T =200.71
L =400.82
E =6.71
R =3000.00
DB =N 25°59'48.23" W
DA =N 33°39'06.53" W
PC STA 1211+56.64
PC Y =354056.413
PC X =602862.647
PISTA 1213+57.35
PIY =354236.814
PIX =602774.673
PT STA 1215+57.46
PT Y =354403.887
PT X =602663.451

CURVE DATA
DELTA =1°54'54.87" (LT)
D =0°45'50.20"
T =125.36
L =250.70
E =1.05
R =7500.00
DB =N 33°39'06.53" W
DA =N 35°34'01.40" W
PC STA 1219+02.09
PC Y =354690.760
PC X =602472.479
PISTA 1220+27.45
PIY =354795.116
PIX =602403.010
PT STA 1221+52.79
PT Y =354897.092
PT X =602330.091

CURVE DATA
DELTA =2°54'34.11" (RT)
D =2°17'30.59"
T =63.49
L =126.95
E =.81
R =2500.00
DB =N 35°05'23.31" W
DA =N 32°10'49.21" W
PC STA 1243+72.68
PC Y =356708.930
PC X =601047.488
PISTA 1244+36.17
PIY =356760.879
PIX =601010.991
PT STA 1244+99.63
PT Y =356814.615
PT X =600977.178

CURVE DATA
DELTA =6°00'00.00" (RT)
D =2°17'30.59"
T =131.02
L =261.80
E =3.43
R =2500.00
DB =N 32°10'49.21" W
DA =N 26°10'49.21" W
PC STA 1253+94.64
PC Y =357572.126
PC X =600500.511
PISTA 1255+25.65
PIY =357683.017
PIX =600430.732
PT STA 1256+56.43
PT Y =357800.596
PT X =600372.926

CURVE DATA
DELTA =26°01'20.51" (RT)
D =8°48'53.05"
T =150.20
L =295.21
E =17.13
R =650.00
DB =N 26°10'49.21" W
DA =N 0°09'28.69" W
PC STA 1256+56.43
PC Y =357800.596
PC X =600372.926
PISTA 1258+06.63
PIY =357935.385
PIX =600306.659
PT STA 1259+51.65
PT Y =358085.582
PT X =600306.245

CURVE DATA
DELTA =89°52'07.53" (RT)
D =40°55'32.00"
T =139.68
L =219.59
E =57.76
R =140.00
DB =N 0°09'28.69" W
DA =N 89°42'38.84" E
PC STA 1265+83.51
PC Y =358717.443
PC X =600304.503
PISTA 1267+23.19
PIY =358857.122
PIX =600304.118
PT STA 1268+03.10
PT Y =358857.827
PT X =600443.796

CURVE DATA
DELTA =0°47'16.32" (RT)
D =1°08'45.30"
T =34.38
L =68.75
E =.12
R =5000.00
DB =N 89°58'26.22" E
DA =S 89°14'17.46" E
PC STA 1288+31.67
PC Y =358861.846
PC X =602472.354
PISTA 1288+66.05
PIY =358861.861
PIX =602506.732
PT STA 1289+00.42
PT Y =358861.404
PT X =602541.107

CURVE DATA
DELTA =2°14'32.16" (LT)
D =0°34'22.65"
T =195.70
L =391.35
E =1.91
R =10000.00
DB =S 89°14'17.46" E
DA =N 88°31'10.38" E
PC STA 1308+68.89
PC Y =358835.232
PC X =604509.398
PISTA 1310+64.59
PIY =358832.630
PIX =604705.080
PT STA 1312+60.24
PT Y =358837.686
PT X =604900.714

CURVE DATA
DELTA =9°01'00.51" (LT)
D =4°05'33.20"
T =110.39
L =220.32
E =4.35
R =1400.00
DB =N 5°01'40.99" W
DA =N 14°02'41.50" W
PC STA 1330+91.11
PC Y =359129.668
PC X =606456.789
PISTA 1332+01.50
PIY =359239.632
PIX =606447.114
PT STA 1333+11.43
PT Y =359346.721
PT X =606420.325

CURVE DATA
DELTA =16°52'19.74" (RT)
D =10°25'02.69"
T =81.57
L =161.96
E =6.02
R =550.00
DB =N 14°02'41.50" W
DA =N 2°49'38.24" E
PC STA 1334+51.36
PC Y =359482.470
PC X =606386.366
PISTA 1335+32.93
PIY =359561.602
PIX =606366.570
PT STA 1336+13.32
PT Y =359643.074
PT X =606370.594

CURVE DATA
DELTA =4°31'35.89" (RT)
D =1°54'35.49"
T =118.57
L =237.01
E =2.34
R =3000.00
DB =N 2°49'38.24" E
DA =N 7°21'14.13" E
PC STA 1338+15.87
PC Y =359845.375
PC X =606380.585
PISTA 1339+34.44
PIY =359963.800
PIX =606386.433
PT STA 1340+52.89
PT Y =360081.393
PT X =606401.610

CURVE DATA
DELTA =4°00'00.00" (LT)
D =4°24'26.52"
T =45.40
L =90.76
E =.79
R =1300.00
DB =N 7°21'14.13" E
DA =N 3°21'14.13" E
PC STA 1344+54.06
PC Y =360479.267
PC X =606452.959
PISTA 1344+99.46
PIY =360524.290
PIX =606458.770
PT STA 1345+44.82
PT Y =360569.609
PT X =606461.426

CURVE DATA
DELTA =35°26'45.68" (LT)
D =16°08'22.76"
T =113.45
L =219.62
E =17.69
R =355.00
DB =N 3°21'14.13" E
DA =N 32°05'31.55" W
PC STA 1345+44.82
PC Y =360569.609
PC X =606461.426
PISTA 1346+58.27
PIY =360682.867
PIX =606468.063
PT STA 1347+64.44
PT Y =360778.983
PT X =606407.788

CURVE DATA
DELTA =9°22'25.67" (RT)
D =1°54'35.49"
T =245.95
L =490.81
E =10.07
R =3000.00
DB =N 31°35'34.61" W
DA =N 22°13'08.94" W
PC STA 1375+44.97
PC Y =363134.096
PC X =604929.773
PISTA 1377+90.93
PIY =363343.598
PIX =604800.922
PT STA 1380+35.78
PT Y =363571.288
PT X =604707.914

CURVE DATA
DELTA =2°30'00.00" (RT)
D =0°46'27.36"
T =161.47
L =322.89
E =1.76
R =7400.00
DB =N 22°13'08.94" W
DA =N 19°43'08.94" W
PC STA 1387+03.45
PC Y =364189.374
PC X =604455.437
PISTA 1388+64.92
PIY =364338.852
PIX =604394.378
PT STA 1390+26.33
PT Y =364490.852
PT X =604339.897

CURVE DATA
DELTA =21°30'30.57" (RT)
D =2°32'47.32"
T =427.35
L =844.64
E =40.22
R =2250.00
DB =N 19°43'08.94" W
DA =N 1°47'21.63" E
PC STA 1390+26.33
PC Y =364490.852
PC X =604339.897
PISTA 1394+53.68
PIY =364893.140
PIX =604195.705
PT STA 1398+70.97
PT Y =365320.280
PT X =604209.049

CURVE DATA
DELTA =1°36'58.25" (LT)
D =1°08'45.30"
T =70.52
L =141.04
E =.50
R =5000.00
DB =N 1°47'21.63" E
DA =N 0°10'23.38" E
PC STA 1400+34.00
PC Y =365483.233
PC X =604214.140
PISTA 1401+04.53
PIY =365553.723
PIX =604216.342
PT STA 1401+75.04
PT Y =365624.246
PT X =604216.555

CURVE DATA
DELTA =3°00'00.00" (LT)
D =0°28'38.87"
T =314.23
L =628.32
E =4.11
R =12000.00
DB =N 0°49'54.75" E
DA =N 2°10'05.25" W
PC STA 1419+53.62
PC Y =367402.720
PC X =604232.835
PISTA 1422+67.85
PIY =367716.918
PIX =604237.398
PT STA 1425+81.94
PT Y =368030.924
PT X =604225.510

CURVE DATA
DELTA =5°43'53.83" (LT)
D =1°38'13.28"
T =175.21
L =350.12
E =4.38
R =3500.00
DB =N 2°10'05.25" W
DA =N 7°53'59.08" W
PC STA 1425+81.94
PC Y =368030.924
PC X =604225.510
PISTA 1427+57.14
PIY =368206.007
PIX =604218.881
PT STA 1429+32.06
PT Y =368379.553
PT X =604194.801

CURVE DATA
DELTA =19°10'37.84" (RT)
D =9°32'57.47"
T =101.36
L =200.82
E =8.50
R =600.00
DB =N 7°53'59.08" W
DA =N 11°16'38.76" E
PC STA 1438+18.55
PC Y =369257.633
PC X =604072.961
PISTA 1439+19.91
PIY =369358.030
PIX =604059.030
PT STA 1440+19.38
PT Y =369457.433
PT X =604078.852

CURVE DATA
DELTA =3°00'00.00" (LT)
D =0°45'50.20"
T =196.39
L =392.70
E =2.57
R =7500.00
DB =N 11°16'38.76" E
DA =N 8°16'38.76" E
PC STA 1442+80.02
PC Y =369713.045
PC X =604129.824
PISTA 1444+76.42
PIY =369905.648
PIX =604168.230
PT STA 1446+72.72
PT Y =370099.996
PT X =604196.505

CURVE DATA
DELTA =6°05'25.06" (LT)
D =3°16'26.56"
T =93.10
L =186.02
E =2.47
R =1750.00
DB =N 8°16'38.76" E
DA =N 2°11'13.69" E
PC STA 1446+72.72
PC Y =370099.996
PC X =604196.505
PISTA 1447+65.82
PIY =370192.123
PIX =604209.907
PT STA 1448+58.74
PT Y =370285.151
PT X =604213.460

CURVE DATA
DELTA =1°45'25.69" (LT)
D =0°28'38.87"
T =184.02
L =368.01
E =1.41
R =12000.00
DB =N 2°11'13.69" E
DA =N 0°25'48.01" E
PC STA 1451+19.02
PC Y =370545.241
PC X =604223.393
PISTA 1453+03.04
PIY =370729.128
PIX =604230.416
PT STA 1454+87.03
PT Y =370913.144
PT X =604231.797

CURVE DATA
DELTA =3°30'00.00" (RT)
D =1°54'35.49"
T =91.66
L =183.26
E =1.40
R =3000.00
DB =N 0°25'48.01" E
DA =N 3°55'48.01" E
PC STA 1468+74.07
PC Y =372300.148
PC X =604242.207
PISTA 1469+65.73
PIY =372391.804
PIX =604242.895
PT STA 1470+57.33
PT Y =372483.247
PT X =604249.177

CURVE DATA
DELTA =17°14'20.01" (RT)
D =6°44'26.45"
T =128.85
L =255.74
E =9.71
R =8500.00
DB =N 3°55'48.01" E
DA =N 21°10'08.01" E
PC STA 1470+57.33
PC Y =372483.247
PC X =604249.177
PISTA 1471+86.18
PIY =372611.789
PIX =604258.008
PT STA 1473+13.08
PT Y =372731.940
PT X =604304.536

CURVE DATA
DELTA =1°10'07.69" (RT)
D =0°34'22.65"
T =102.00
L =203.99
E =.52
R =10000.00
DB =N 21°10'08.01" E
DA =N 22°20'15.70" E
PC STA 1476+23.85
PC Y =373021.743
PC X =604416.762
PISTA 1477+25.85
PIY =373116.860
PIX =604453.596
PT STA 1478+27.85
PT Y =373211.207
PT X =604492.363

CURVE DATA
DELTA =3°18'59.27" (LT)
D =1°08'45.30"
T =144.75
L =289.42
E =2.09
R =5000.00
DB =N 22°20'15.70" E
DA =N 19°01'16.43" E
PC STA 1478+46.82
PC Y =373228.757
PC X =604499.575
PISTA 1479+91.57
PIY =373362.644
PIX =604554.589
PT STA 1481+36.24
PT Y =373499.489
PT X =604601.765

CURVE DATA
DELTA =2°47'44.99" (RT)
D =1°08'45.30"
T =122.02
L =243.98
E =1.49
R =5000.00
DB =N 19°01'16.43" E
DA =N 21°49'01.42" E
PC STA 1483+57.54
PC Y =373708.711
PC X =604673.893
PISTA 1484+79.56
PIY =373824.064
PIX =604713.660
PT STA 1486+01.52
PT Y =373937.340
PT X =604759.006

CURVE DATA
DELTA =29°44'33.96" (LT)
D =8°11'06.40"
T =185.88
L =363.38
E =24.26
R =700.00
DB =N 21°49'01.42" E
DA =N 7°55'32.53" W
PC STA 1487+19.33
PC Y =374046.707
PC X =604802.787
PISTA 1489+05.21
PIY =374219.275
PIX =604871.869
PT STA 1490+82.71
PT Y =374403.380
PT X =604846.238

CURVE DATA
DELTA =51°30'37.96" (LT)
D =16°22'12.80"
T =168.86
L =314.66
E =38.60
R =350.00
DB =N 7°55'32.53" W
DA =N 59°26'10.49" W
PC STA 1492+51.45
PC Y =374570.510
PC X =604822.970
PISTA 1494+20.31
PIY =374737.757
PIX =604799.687
PT STA 1495+66.11
PT Y =374823.621
PT X =604654.288

CURVE DATA
DELTA =30°00'00.00" (RT)
D =12°43'56.62"
T =120.58
L =235.62
E =15.87
R =450.00
DB =N 59°26'10.49" W
DA =N 29°26'10.49" W
PC STA 1496+87.32
PC Y =374885.258
PC X =604549.914
PISTA 1498+07.90
PIY =374946.571
PIX =604446.090
PT STA 1499+22.94
PT Y =375051.582
PT X =604386.831

CURVE DATA
DELTA =6°53'41.86" (RT)
D =4°24'26.52"
T =78.32
L =156.44
E =2.36
R =1300.00
DB =N 29°26'10.49" W
DA =N 22°32'28.64" W
PC STA 1499+22.94
PC Y =375051.582
PC X =604386.831
PISTA 1500+01.26
PIY =375119.787
PIX =604348.343
PT STA 1500+79.38
PT Y =375192.120
PT X =604318.321

CURVE DATA
DELTA =5°30'00.00" (RT)
D =1°02'30.27"
T =264.18
L =527.96
E =6.34
R =5500.00
DB =N 22°32'28.64" W
DA =N 17°02'28.64" W
PC STA 1501+86.79
PC Y =375291.321
PC X =604277.147
PISTA 1504+50.97
PIY =375535.322
PIX =604175.872
PT STA 1507+14.75
PT Y =375787.906
PT X =604098.450

CURVE DATA
DELTA =9°55'10.90" (RT)
D =2°17'30.59"
T =216.96
L =432.83
E =9.40
R =2500.00
DB =N 17°02'28.64" W
DA =N 7°07'17.74" W
PC STA 1507+14.75
PC Y =375787.906
PC X =604098.450
PISTA 1509+31.71
PIY =375995.337
PIX =604034.869
PT STA 1511+47.58
PT Y =376210.620
PT X =604007.971

CURVE DATA
DELTA =56°57'13.10" (LT)
D =10°25'02.69"
T =298.34
L =546.72
E =75.70
R =550.00
DB =N 7°07'17.74" W
DA =N 64°04'30.84" W
PC STA 1512+83.73
PC Y =376345.717
PC X =603991.092
PISTA 1515+82.06
PIY =376641.753
PIX =603954.106
PT STA 1518+30.44
PT Y =376772.184
PT X =603685.790

CURVE DATA
DELTA =44°30'00.00" (RT)
D =13°28'52.90"
T =173.87
L =330.09
E =34.19
R =425.00
DB =N 64°04'30.84" W
DA =N 19°34'30.84" W
PC STA 1519+86.39
PC Y =376840.363
PC X =603545.535
PISTA 1521+60.26
PIY =376916.378
PIX =603389.160
PT STA 1523+16.48
PT Y =377080.201
PT X =603330.905

CURVE DATA
DELTA =15°28'37.72" (RT)
D =3°57'05.16"
T =197.04
L =391.68
E =13.33
R =1450.00
DB =N 19°34'30.84" W
DA =N 4°05'53.12" W
PC STA 1523+16.48
PC Y =377080.201
PC X =603330.905
PISTA 1525+13.52
PIY =377265.854
PIX =603264.887
PT STA 1527+08.16
PT Y =377462.392
PT X =603250.806

CURVE DATA
DELTA =19°09'05.37" (LT)
D =5°12'31.35"
T =185.57
L =367.68
E =15.54
R =1100.00
DB =N 4°05'53.12" W
DA =N 23°14'58.50" W
PC STA 1531+18.25
PC Y =377871.429
PC X =603221.500
PISTA 1533+03.82
PIY =378056.526
PIX =603208.238
PT STA 1534+85.93
PT Y =378227.029
PT X =603134.986

CURVE DATA
DELTA =21°55'20.02" (RT)
D =5°12'31.35"
T =213.04
L =420.88
E =20.44
R =1100.00
DB =N 23°14'58.50" W
DA =N 1°19'38.47" W
PC STA 1539+13.17
PC Y =378619.576
PC X =602966.337
PISTA 1541+26.21
PIY =378815.320
PIX =602882.241
PT STA 1543+34.05
PT Y =379028.306
PT X =602877.306

CURVE DATA
DELTA =8°00'00.00" (LT)
D =4°05'33.20"
T =97.90
L =195.48
E =3.42
R =1400.00
DB =N 1°19'38.47" W
DA =N 9°19'38.47" W
PC STA 1552+03.64
PC Y =379897.665
PC X =602857.162
PISTA 1553+01.54
PIY =379995.536
PIX =602854.894
PT STA 1553+99.12
PT Y =380092.139
PT X =602839.028

CURVE DATA
DELTA =58°16'19.24" (LT)
D =16°22'12.80"
T =195.10
L =355.96
E =50.70
R =350.00
DB =N 9°19'38.47" W
DA =N 67°35'57.71" W
PC STA 1553+99.12
PC Y =380092.139
PC X =602839.028
PISTA 1555+94.21
PIY =380284.655
PIX =602807.408
PT STA 1557+55.08
PT Y =380359.003
PT X =602627.033

CURVE DATA
DELTA =5°18'56.56" (RT)
D =2°51'53.24"
T =92.84
L =185.55
E =2.15
R =2000.00
DB =N 67°35'57.71" W
DA =N 62°17'01.16" W
PC STA 1559+81.16
PC Y =380445.159
PC X =602418.010
PISTA 1560+74.01
PIY =380480.539
PIX =602332.172
PT STA 1561+66.72
PT Y =380523.720
PT X =602249.982

CURVE DATA
DELTA =1°44'37.99" (LT)
D =1°08'45.30"
T =76.10
L =152.18
E =.58
R =5000.00
DB =N 62°17'01.16" W
DA =N 64°01'39.14" W
PC STA 1564+38.01
PC Y =380649.898
PC X =602009.816
PISTA 1565+14.11
PIY =380685.290
PIX =601942.450
PT STA 1565+90.19
PT Y =380718.616
PT X =601874.038

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DATE 07DEC15					
E S T I M A T E O F Q U A N T I T I E S					
LINE	7730-00-60				
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0020	201.0110	Clearing	SY	1,140.000	1,140.000
0040	201.0210	Grubbing	SY	1,140.000	1,140.000
0050	203.0100	Removing Small Pipe Culverts	EACH	20.000	20.000
0060	203.0200	Removing Old Structure (station) 01. 1014+28	LS	1.000	1.000
0070	203.0200	Removing Old Structure (station) 02. 1056+74	LS	1.000	1.000
0080	203.0200	Removing Old Structure (station) 03. 1056+83	LS	1.000	1.000
0090	204.0110	Removing Asphaltic Surface	SY	1,100.000	1,100.000
0130	204.0170	Removing Fence	LF	100.000	100.000
0150	208.0100	Borrow	CY	1,110.000	1,110.000
0180	213.0100	Finishing Roadway (project) 01. 7730-00-60	EACH	1.000	1.000
0200	305.0110	Base Aggregate Dense 3/4-Inch	TON	140.000	140.000
0210	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,300.000	1,300.000
0240	455.0605	Tack Coat	GAL	30.000	30.000
0260	465.0110	Asphaltic Surface Patching	TON	375.000	375.000
0270	465.0310	Asphaltic Curb	LF	32.000	32.000
0280	465.0315	Asphaltic Flumes	SY	12.000	12.000
0440	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	418.000	418.000
0450	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	66.000	66.000
0460	522.0160	Culvert Pipe Reinforced Concrete Class III 60-Inch	LF	126.000	126.000
0470	522.0172	Culvert Pipe Reinforced Concrete Class III 72-Inch	LF	64.000	64.000
0480	522.0324	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	320.000	320.000
0490	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	19.000	19.000
0500	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0510	522.1060	Apron Endwalls for Culvert Pipe Reinforced Concrete 60-Inch	EACH	4.000	4.000
0520	522.1072	Apron Endwalls for Culvert Pipe Reinforced Concrete 72-Inch	EACH	2.000	2.000
0530	523.0419	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	LF	176.000	176.000
0540	523.0424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	46.000	46.000
0550	523.0429	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	48.000	48.000
0560	523.0519	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	8.000	8.000
0570	523.0524	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	2.000	2.000
0580	523.0529	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	1.000	1.000
0610	606.0200	Riprap Medium	CY	93.000	93.000
0650	611.0642	Inlet Covers Type MS	EACH	1.000	1.000

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DATE 07DEC15		E S T I M A T E O F Q U A N T I T I E S			
LINE					7730-00-60
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0670	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0790	618.0100	Maintenance And Repair of Haul Roads (project) 01. 7730-00-60	EACH	1.000	1.000
0810	619.1000	Mobilization	EACH	0.150	0.150
0820	624.0100	Water	MGAL	1.200	1.200
0830	625.0100	Topsoil	SY	2,645.000	2,645.000
0840	627.0200	Mulching	SY	3,174.000	3,174.000
0850	628.1504	Silt Fence	LF	2,450.000	2,450.000
0860	628.1520	Silt Fence Maintenance	LF	2,450.000	2,450.000
0870	628.1905	Mobilizations Erosion Control	EACH	15.000	15.000
0880	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0890	628.2002	Erosion Mat Class I Type A	SY	360.000	360.000
0930	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0950	628.7020	Inlet Protection Type D	EACH	2.000	2.000
0970	628.7570	Rock Bags	EACH	111.000	111.000
0980	629.0210	Fertilizer Type B	CWT	2.000	2.000
0990	630.0120	Seeding Mixture No. 20	LB	100.000	100.000
1000	630.0160	Seeding Mixture No. 60	LB	50.000	50.000
1010	633.5100	Markers Row	EACH	36.000	36.000
1020	633.5200	Markers Culvert End	EACH	138.000	138.000
1100	642.5201	Field Office Type C	EACH	0.150	0.150
1110	643.0100	Traffic Control (project) 01. 7730-00-60	EACH	1.000	1.000
1130	643.0300	Traffic Control Drums	DAY	70.000	70.000
1140	643.0420	Traffic Control Barricades Type III	DAY	268.000	268.000
1150	643.0705	Traffic Control Warning Lights Type A	DAY	288.000	288.000
1160	643.0900	Traffic Control Signs	DAY	91.000	91.000
1170	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
1180	643.2000	Traffic Control Detour (project) 01. 7730-00-60	EACH	1.000	1.000
1190	643.3000	Traffic Control Detour Signs	DAY	5,580.000	5,580.000
1210	645.0130	Geotextile Fabric Type R	SY	74.000	74.000
1220	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,174.000	2,174.000
1300	650.6000	Construction Staking Pipe Culverts	EACH	23.000	23.000
1320	650.9910	Construction Staking Supplemental Control (project) 01. 7730-00-60	LS	1.000	1.000
1350	690.0150	Sawing Asphalt	LF	1,014.000	1,014.000
1370	SPV.0090	Special 02. Regrade Ditch	LF	300.000	300.000

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CLEARING AND GRUBBING			
STATION - STATION	LOCATION	201.0110 CLEARING SY	201.0210 GRUBBING SY
STH 88			
584+14	LT	170	170
980+08	LT & RT	206	206
1006+88	LT	30	30
1014+28	LT & RT	340	340
1056+74	LT	70	70
1056+83	LT	70	70
1334+46	RT	105	105
1416+73	LT	149	149
ITEM TOTALS		1140	1140

REMOVING					
STATION - STATION	LOCATION	203.0100 SMALL PIPE CULVERTS EACH	203.0200.01 OLD STRUCTURE (1014+28) LS	203.0200.02 OLD STRUCTURE (1056+74) LS	203.0200.03 OLD STRUCTURE (1056+83) LS
571+00	STH 88	1			
584+14	STH 88	1			
620+15	STH 88	1			
689+80	STH 88	1			
697+38	STH 88	1			
852+64	STH 88	1			
861+42	STH 88	1			
893+05	STH 88	1			
914+17	STH 88	1			
980+08	STH 88	1			
1005+50	STH 88	1			
1006+88	STH 88	1			
1014+28	STH 88		1		
1056+74	STH 88			1	
1056+83	STH 88				1
1227+32	STH 88	1			
1306+79	STH 88	1			
1334+46	STH 88	1			
1416+73	STH 88	1			
1423+92	STH 88	1			
1432+26	STH 88	1			
1477+37	STH 88	1			
1482+88	STH 88	1			
ITEM TOTALS		20	1	1	1

REMOVING ASPHALTIC SURFACE		
STATION	LOCATION	204.0110 SY
570+88 - 571+12	STH 88	64
584+02 - 584+26	STH 88	64
620+03 - 620+27	STH 88	64
689+72 - 689+88	STH 88	43
697+30 - 697+46	STH 88	55
852+56 - 852+72	STH 88	40
861+34 - 861+50	STH 88	40
892+97 - 893+13	STH 88	40
914+07 - 914+27	STH 88	49
979+97 - 980+19	STH 88	59
1005+40 - 1005+60	STH 88	49
1006+78 - 1006+98	STH 88	49
1014+13 - 1014+43	STH 88	49
1056+59 - 1056+98	STH 88	95
1227+24 - 1227+40	STH 88	43
1306+71 - 1306+87	STH 88	44
1334+36 - 1334+56	STH 88	25
1416+61 - 1416+85	STH 88	64
1423+84 - 1424+00	STH 88	41
1432+18 - 1432+34	STH 88	41
1477+29 - 1477+45	STH 88	41
1482+80 - 1482+96	STH 88	41
ITEM TOTAL		1100

REMOVING FENCE		
STATION - STATION	LOCATION	204.0170 LF
STH 88		
1056+25 - 1057+25	LT	100
ITEM TOTAL		100

EXCAVATION			
STATION	LOCATION	208.0100 BORROW CY	WASTE CY
STH 88			
350+00 - 1575+00	LT & RT	1110	-120
ITEM TOTALS		1110	-120

BASE AGGREGATE DENSE				
STATION - STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON	624.0100 WATER MGAL
570+88-571+12	STH88	7	65	0.05
584+02-584+26	STH88	7	65	0.05
620+03-620+27	STH88	7	65	0.05
689+72-689+88	STH88	7	77	0.05
697+30-697+46	STH88	4	51	0.05
852+56-852+72	STH88	4	37	0.05
861+34-861+50	STH88	4	33	0.05
892+97-893+13	STH88	4	39	0.05
913+97-914+37	STH88	6	45	0.05
979+97-980+19	STH88	6	51	0.05
1005+40-1005+60	STH88	6	38	0.05
1006+78-1006+98	STH88	6	42	0.05
1014+13-1014+43	STH88	8	81	0.05
1056+59-1056+98	STH88	10	106	0.05
1227+24-1227+40	STH88	4	43	0.05
1306+71-1306+87	STH88	4	43	0.05
1334+36-1334+56	STH88	6	54	0.05
1416+61-1416+85	STH88	7	61	0.05
1423+84-1424+00	STH88	4	43	0.05
1432+18-1432+34	STH88	4	43	0.05
1477+29-1477+45	STH88	4	43	0.05
1482+80-1482+96	STH88	4	43	0.05
UNDISTRIBUTED 10%	STH88	15	129	0.10
ITEM TOTALS		140	1300	1.20

<u>FINISHING ROADWAY (7730-00-60)</u>	
STATION - STATION	213.0100.02 EACH
STH 88	
350+00 - 1575+00	1
ITEM TOTAL	1

ASPHALTIC SURFACE ITEMS				
STATION - STATION	LOCATION	455.0605 TACK COAT GAL	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
570+88 - 571+12	STH 88	2	22	
584+02 - 584+26	STH 88	2	22	
620+03 - 620+27	STH 88	2	22	
689+72 - 689+88	STH 88	1	14	
697+30 - 697+46	STH 88	2	19	
852+56 - 852+72	STH 88	1	13	
861+34 - 861+50	STH 88	1	13	
892+97 - 893+13	STH 88	1	13	
914+07 - 914+27	STH 88	1	16	
979+97 - 980+19	STH 88	2	22	
1005+40 - 1005+60	STH 88	1	16	
1006+78 - 1006+98	STH 88	1	16	
1014+13 - 1014+43	STH 88	1	16	
1056+59 - 1056+98	STH 88	2	32	
1227+24 - 1227+40	STH 88	1	14	
1306+71 - 1306+87	STH 88	1	15	
1334+36 - 1334+56	STH 88	1	8	
1416+61 - 1416+85	STH 88	2	22	
1423+84 - 1424+00	STH 88	1	14	
1432+18 - 1432+34	STH 88	1	14	
1477+29 - 1477+45	STH 88	1	14	
1482+80 - 1482+96	STH 88	1	14	
ITEM TOTALS		30	375	

ASPHALTIC			
STATION	LOCATION	465.0310 CURB LF	465.0315 FLUMES SY
STH 88			
689+72 - 689+88	RT	16	4
697+30 - 697+46	RT	16	4
1334+46	LT		4
ITEM TOTALS		32	12
NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.			

CULVERT PIPES AND APRON ENDWALS																
STATION	LOCATION	522.0124	522.0130	522.0160	522.0172	522.0324	522.1024	522.1030	522.1060	522.1072	523.0419	523.0424	523.0429	523.0519	523.0524	523.0529
		CPRC CLASS III 24-INCH LF	CPRC CLASS III 30-INCH LF	CPRC CLASS III 60-INCH LF	CPRC CLASS III 72-INCH LF	CPRC CLASS IV 24-INCH LF	APRON ENDWALLS FOR CPRC 24-INCH EACH	APRON ENDWALLS FOR CPRC 30-INCH EACH	APRON ENDWALLS FOR CPRC 60-INCH EACH	APRON ENDWALLS FOR CPRC 72-INCH EACH	CPRCHE CLASS HE-IV 19x30-INCH LF	CPRCHE CLASS HE-IV 24x38-INCH LF	CPRCHE CLASS HE-IV 29x45-INCH LF	APRON ENDWALLS FOR CPRCHE 19x30-INCH EACH	APRON ENDWALLS FOR CPRCHE 24x38-INCH EACH	APRON ENDWALLS FOR CPRCHE 29x45-INCH EACH
571+00	STH 88	84					2									
584+14	STH 88	98					2									
620+15	STH 88	76					2									
689+80	STH 88					58	1									
697+38	STH 88					60	1									
852+64	STH 88					42	2									
861+42	STH 88					38	2									
893+05	STH 88					44	1									
914+17	STH 88	52					1									
980+08	STH 88	60					1									
1005+50	STH 88					40	1									
1006+88	STH 88					38	1									
1014+28	STH 88			60					2							
1056+74	STH 88			66					2							
1056+83	STH 88				64					2						
1227+32	STH 88										40			2		
1306+79	STH 88										48			2		
1334+46	STH 88	48					2									
1416+73	STH 88		66					2								
1423+92	STH 88										44			2		
1432+26	STH 88												48			1
1477+37	STH 88											46			2	
1482+88	STH 88										44			2		
ITEM TOTALS		418	66	126	64	320	19	2	4	2	176	46	48	8	2	1

EROSION CONTROL ITEMS

STATION	LOCATION	606.0200	628.1504	628.1520	628.2002	628.7005	628.7020	628.7570	645.0130
		RIPRAP MEDIUM CY	SILT FENCE LF	SILT FENCE LF	EROSION MAT CLASS I TYPE A SY	INLET PROTECTION TYPE A EACH	INLET PROTECTION TYPE D EACH	ROCK BAGS EACH	GEOTEXTILE FABRIC TYPE R SY
571+00	STH 88		100	100				13	
584+14	STH 88		130	130	28			13	
620+15	STH 88		200	200	110			2	
689+80	STH 88		80	80	20		1	0	
697+38	STH 88		80	80			1	0	
852+64	STH 88		160	160	20			13	
861+42	STH 88		180	180	20			13	
893+05	STH 88		80	80				2	
914+17	STH 88	7.5	80	80				13	8
980+08	STH 88		100	100				13	
1005+50	STH 88		80	80	14			13	
1006+88	STH 88		80	80	13			5	
1014+28	STH 88	28.5	240	240				5	22
1056+74	STH 88	28.5	70	70				6	22
1056+83	STH 88	28.5	70	70					22
1227+32	STH 88		70	70	35				
1306+79	STH 88		140	140					
1334+46	STH 88		70	70	20	1			
1416+73	STH 88		140	140	30				
1423+92	STH 88		70	70	30				
1432+26	STH 88		70	70					
1477+37	STH 88		90	90					
1482+88	STH 88		70	70	20				
ITEM TOTALS		93.0	2450	2450	360	1	2	111	74

COVERS AND INLETS

STATION - STATION	LOCATION	611.0642 INLET COVERS TYPE MS EACH	611.3901 INLETS MEDIAN 1 GRATE EACH
STH 88			
1334+46	LT	1	1
ITEM TOTALS		1	1

MAINTENANCE AND REPAIR OF HAUL ROADS

STATION - STATION	618.0100.01 7730-00-60 EACH
STH 88	
350+00 - 1575+00	1
ITEM TOTAL	1

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

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TOPSOIL, MULCHING, FERTILIZER AND SEEDING						
STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0160 SEEDING MIXTURE NO. 60 LB
STH 88						
571+00	RT & LT	270	324	0.27	7.3	
584+14	RT	165	198	0.10		2.2
584+14	LT	175	210	0.11	5.4	
620+15	RT & LT	200	240	0.16	6.4	
689+80	RT & LT	55	66	0.03	1.5	
697+38	RT	15	18	0.01	0.4	
697+38	LT	25	30	0.02		0.3
852+64	RT & LT	40	48	0.03	1.1	
861+42	RT & LT	50	60	0.03	1.4	
893+05	RT & LT	40	48	0.03	1.1	
914+17	RT	25	30	0.02		0.3
914+17	LT	45	54	0.03	1.2	
980+08	RT & LT	115	138	0.07		1.6
1005+50	RT & LT	45	54	0.03	1.2	
1006+88	RT & LT	25	30	0.02	0.7	
1014+28	RT & LT	270	324	0.27		4.0
1056+74	RT & LT	240	288	0.20		3.2
1056+83	RT & LT	240	288	0.20		3.2
1227+32	RT & LT	35	42	0.02	0.9	
1306+79	RT & LT	45	54	0.03	1.2	
1334+46	RT & LT	45	54	0.03	1.2	
1416+73	RT & LT	215	258	0.14	6.8	
1423+92	RT & LT	95	114	0.06	2.6	
1432+26	RT & LT	50	60	0.03	1.4	
1477+37	RT & LT	65	78	0.04	1.8	
1482+88	RT & LT	55	66	0.03	1.5	
UNDISTRIBUTED					55.0	35.0
ITEM TOTALS		2645	3174	2.00	100.0	50.0

FIELD OFFICE TYPE C	
STATION	642.5001 EACH
STH 88	
350+00 - 1575+00	0.15
ITEM TOTAL	0.15

TRAFFIC CONTROL (7730-00-60)	
STATION	643.0100.01 EACH
STH 88	
350+00 - 1575+00	1
ITEM TOTAL	1

TRAFFIC CONTROL DETOUR (7730-00-60)	
STATION	643.2000.01 EACH
STH 88	
350+00 - 1575+00	1
ITEM TOTAL	1

MARKERS

		633.5100 ROW EACH	633.5200 CULVERT END EACH	REMARKS
STATION - STATION	LOCATION			
STH 88				
355+03	LT & RT		2	
360+74	LT & RT		2	
382+14	LT & RT		2	
413+95	LT & RT		2	
424+61	LT & RT		2	
429+37	LT & RT		2	
448+33	LT & RT		2	
471+89	LT & RT		2	
476+88	LT & RT		2	
478+48	LT & RT		2	
538+91	LT & RT		2	
542+84	LT & RT		2	
550+96	LT & RT		2	
556+26	LT & RT		2	
571+00	LT & RT		2	
584+14	LT & RT		2	
594+08	LT & RT		2	
609+49	LT & RT		2	
620+15	LT & RT		2	
624+27	LT & RT		2	
689+80	LT & RT	4	2	
697+38	LT & RT	4	2	
701+62	LT & RT		2	
729+29	LT & RT		2	
741+12	LT & RT		2	
746+02	LT & RT		2	
755+72	LT & RT		2	
775+04	LT & RT		2	
782+42	LT & RT		2	
786+62	LT & RT		2	
841+35	LT & RT		2	
852+64	LT & RT		2	
861+42	LT & RT		2	
893+05	LT & RT		2	
914+17	LT & RT		2	
920+54	LT & RT		2	
968+04	LT & RT		2	
980+08	LT & RT	4	2	
1005+50	LT & RT		2	
1006+88	LT & RT		2	
1014+28	LT & RT	8	2	
1056+74	LT & RT	4	2	
1056+83	LT & RT	4	2	
1101+30	LT & RT		2	
1111+50	LT & RT		2	
1120+08	LT & RT		2	
1129+44	LT & RT		2	
1137+84	LT & RT		2	
1183+04	LT & RT		2	
1188+87	LT & RT		2	
1191+89	LT & RT		2	
1205+56	LT & RT		2	
1213+25	LT & RT		2	
1218+12	LT & RT		2	
1227+32	LT & RT		2	
1243+60	LT & RT		2	
1254+30	LT & RT		2	
1296+36	LT & RT		2	
1306+79	LT & RT		2	
1319+61	LT & RT		2	
1326+49	LT & RT		2	
1334+46	LT & RT		2	
1384+76	LT & RT		2	
1397+83	LT & RT		2	
1416+73	LT & RT	4	2	
1423+92	LT & RT		2	
1432+26	LT & RT		2	
1477+37	LT & RT	4	2	
1482+88	LT & RT		2	
ITEM TOTALS		36	138	

3

MOBILIZATIONS

STATION - STATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
STH 88		
350+00 - 1575+00	15	6
ITEM TOTALS	15	6

TRAFFIC CONTROL

STATION	643.0300 DRUMS DAY	643.0420 BARRICADES TYPE III DAY	643.0705 WARNING LIGHTS TYPE A DAY	643.0900 SIGNS DAY	643.0920 COVERING SIGNS TYPE II EACH	643.3000 DETOUR SIGNS DAY	REMARKS
STH 88							
DETOUR SIGNING		144	288		3	5580	
571+00		18		13			
584+14		18		13			
620+15		18		14			
689+80	5						
697+38	5						
852+64	5						
861+42	5						
893+05	5						
980+08		18		14			
1005+50	5						
1006+88	5						
1014+28		18		14			
1056+74		7		3			
1056+83		9		7			
1227+32	5						
1306+79	5						
1334+46	5						
1416+73		18		13			
1423+92	5						
1432+26	5						
1477+37	5						
1482+88	5						
ITEM TOTALS	70	268	288	91	3	5580	

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

PROJECT NO: 7730-00-60

HWY: STH 88

COUNTY: BUFFALO

MISCELLANEOUS QUANTITIES

SHEET

19

E

PAVEMENT MAKING EPOXY 4-INCH

646.0106				
STATION	LOCATION	YELLOW	LOCATION	WHITE
		LF		LF
570+88-571+12	CENTER*	48	RT & LT	48
584+02-584+26	CENTER*	48	RT & LT	48
620+03-620+27	CENTER*	48	RT & LT	48
689+72-689+88	CENTER*	32	RT & LT	32
697+30-697+46	CENTER*	32	RT & LT	32
852+56-852+72	CENTER*	32	RT & LT	32
861+34-861+50	CENTER*	32	RT & LT	32
892+97-893+13	CENTER*	32	RT & LT	32
913+97-914+37	CENTER*	60	RT & LT	60
979+97-980+19	CENTER*	44	RT & LT	44
1005+40-1005+60	CENTER*	40	RT & LT	40
1006+78-1006+98	CENTER*	40	RT & LT	40
1014+13-1014+43	CENTER*	60	RT & LT	60
1056+59-1056+98	CENTER*	78	RT & LT	78
1227+24-1227+40	CENTER*	32	RT & LT	32
1306+71-1306+87	CENTER*	32	RT & LT	32
1334+36-1334+56	CENTER*	40	RT & LT	40
1416+61-1416+85	CENTER*	48	RT & LT	48
1423+84-1424+00	CENTER*	32	RT & LT	32
1432+18-1432+34	CENTER*	32	RT & LT	32
1477+29-1477+45	CENTER*	32	RT & LT	32
1482+80-1482+96	CENTER*	32	RT & LT	32
UNDISTRIBUTED 20%	CENTER*	181	RT & LT	181
SUB-TOTALS		1087		1087
ITEM TOTALS			2174	

*MARK PAVEMENT MARKING AS IT IS AT ITS EXISTING PIPE LOCATIONS

NOTE: CONTRACTOR SHALL STAKE AND FOLLOW
CULVERT PIPE PROFILE PRIOR TO
CULVERT PIPE REMOVAL.

CONSTRUCTION STAKING PIPE CULVERTS

650.6000		
STATION - STATION	LOCATION	EACH
571+00	STH 88	1
584+14	STH 88	1
620+15	STH 88	1
689+80	STH 88	1
697+38	STH 88	1
852+64	STH 88	1
861+42	STH 88	1
893+05	STH 88	1
914+17	STH 88	1
980+08	STH 88	1
1005+50	STH 88	1
1006+88	STH 88	1
1014+28	STH 88	1
1056+74	STH 88	1
1056+83	STH 88	1
1227+32	STH 88	1
1306+79	STH 88	1
1334+46	STH 88	1
1416+73	STH 88	1
1423+92	STH 88	1
1432+26	STH 88	1
1477+37	STH 88	1
1482+88	STH 88	1
ITEM TOTAL		23

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL

650.9910.01 (7730-00-60)	
STATION - STATION	LS
STH 88	
350+00 - 1575+00	1
ITEM TOTAL	1

SAWING ASPHALT

690.0150		
STATION	LOCATION	LF
570+88	STH 88	23
571+12	STH 88	23
584+02	STH 88	23
584+26	STH 88	23
620+03	STH 88	24
620+27	STH 88	24
689+72	STH 88	24
689+88	STH 88	24
697+30	STH 88	24
697+46	STH 88	24
852+56	STH 88	23
852+72	STH 88	22
861+34	STH 88	21
861+50	STH 88	21
892+97	STH 88	22
893+13	STH 88	22
914+07	STH 88	22
914+27	STH 88	23
979+97	STH 88	24
980+19	STH 88	24
1005+40	STH 88	21
1005+60	STH 88	21
1006+78	STH 88	21
1006+98	STH 88	20
1014+13	STH 88	22
1014+43	STH 88	22
1056+59	STH 88	22
1056+98	STH 88	22
1227+24	STH 88	24
1227+40	STH 88	23
1306+71	STH 88	25
1306+87	STH 88	25
1334+36	STH 88	25
1334+56	STH 88	25
1416+61	STH 88	24
1416+85	STH 88	24
1423+84	STH 88	24
1424+00	STH 88	24
1432+18	STH 88	23
1432+34	STH 88	23
1477+29	STH 88	24
1477+45	STH 88	24
1482+80	STH 88	23
1482+96	STH 88	23
ITEM TOTAL		1014

REGRADE DITCH

SPV.0090.02		
STATION - STATION	LOCATION	LF
893+05	STH 88	20
914+17	STH 88	20
1006+88	STH 88	20
1014+28	STH 88	40
1056+74	STH 88	20
1056+83	STH 88	20
1227+32	STH 88	20
1306+79	STH 88	20
1334+46	STH 88	20
1416+73	STH 88	20
1423+92	STH 88	20
1432+26	STH 88	20
1477+37	STH 88	20
1482+88	STH 88	20
ITEM TOTAL		300

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR ENGINEER
ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

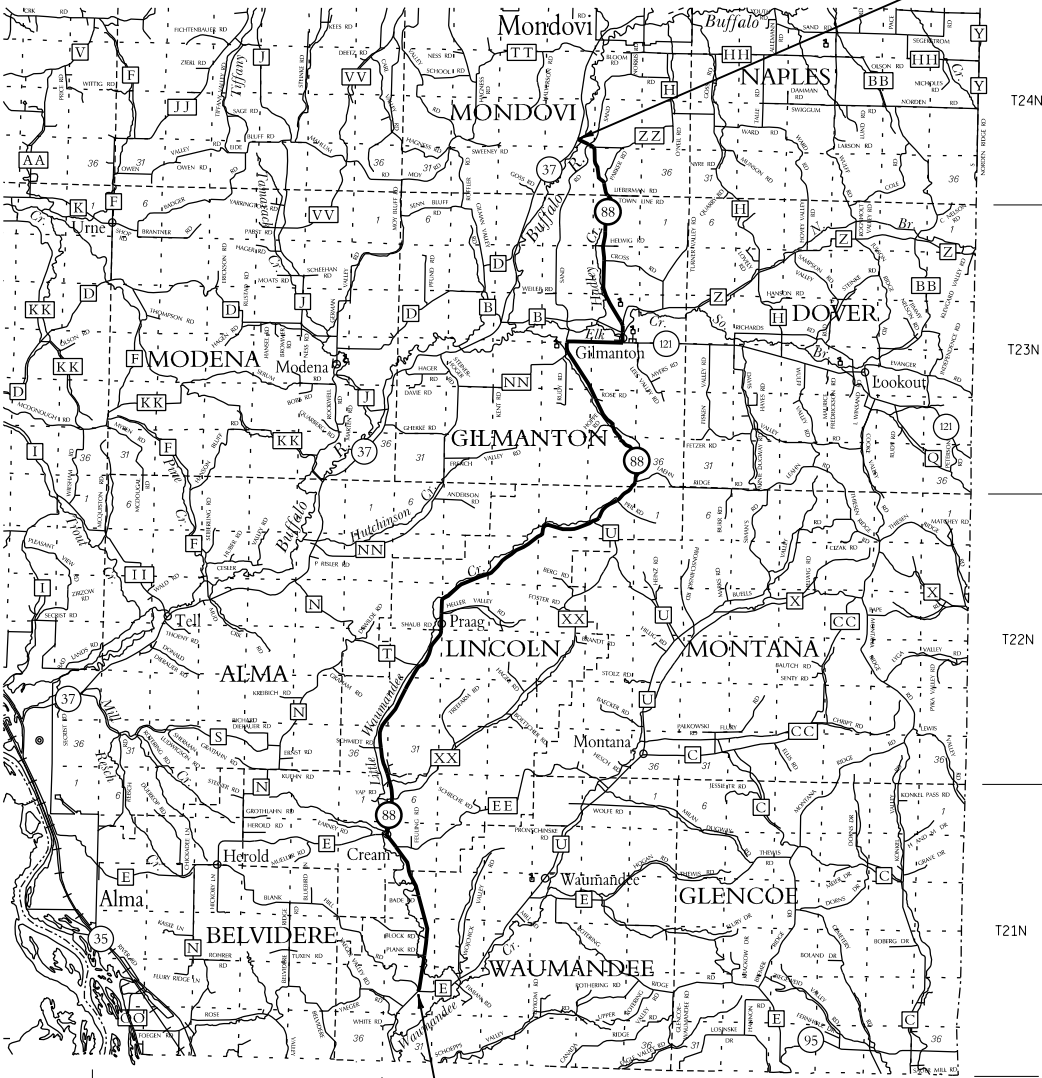
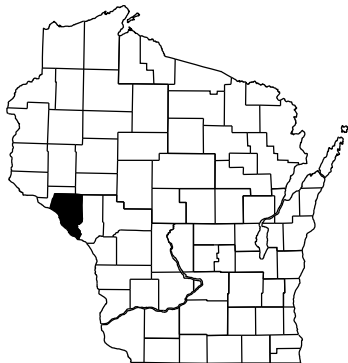
7730-00-20

CTH E - STH 37

STH 88

BUFFALO COUNTY

END PROJECT
7730-00-20



CONVENTIONAL ABBREVIATIONS			
ACCESS POINT, DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.	CURVE DATA	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
LAND CONTRACT	LC	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN
CONVENTIONAL SYMBOLS			
FOUND IRON PIPE/PIN	LP (1" UNLESS NOTED)	PROPOSED R/W LINE	---
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	---
R/W STANDARD	Δ (SET)	PROPERTY LINE	---
SIGN	ISIGN	LOT & TIE LINES	---
SECTION CORNER MONUMENT	⊙	SLOPE INTERCEPTS	---
SECTION CORNER SYMBOL	⊙	CORPORATE LIMITS	---
FEE (HATCH VARIES)	---	NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	---
TEMPORARY LIMITED EASEMENT	---	NO ACCESS (BY ACQUISITION)	---
PERMANENT LIMITED EASEMENT	---	NO ACCESS (BY STATUTORY AUTHORITY)	---
R/W BOUNDARY POINT	---	SECTION LINE	---
PARCEL NUMBER	---	QUARTER LINE	---
UTILITY PARCEL NUMBER	---	SIXTEENTH LINE	---
SIGN NUMBER (OFF PREMISE)	---	EXISTING CENTERLINE	---
BUILDING	---	PROPOSED REFERENCE LINE	---
		PARALLEL OFFSET	---
CONVENTIONAL UTILITY SYMBOLS			
WATER	---	W	---
GAS	---	G	---
TELEPHONE	---	T	---
OVERHEAD TRANSMISSION LINES	---	OH	---
ELECTRIC	---	E	---
CABLE TELEVISION	---	TV	---
FIBER OPTIC	---	FO	---
SANITARY SEWER	---	SAN	---
STORM SEWER	---	SS	---
		NON	---
POWER POLE	---	COMPENSABLE	---
TELEPHONE POLE	---	COMPENSABLE	---
TELEPHONE PEDESTAL	---	---	---
ELECTRIC TOWER	---	---	---

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BUFFALO COUNTY, NAD83 (2011) 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 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

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

LAYOUT
SCALE 0 2 MI.

BEGIN PROJECT
7730-00-20



RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7730-00-20 - 4.01
SHEET 2 OF 2
AMENDMENT NO: 21

TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.01

THAT PART OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 AND THAT PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 30, T22N, R11W, TOWN OF LINCOLN, BUFFALO COUNTY, WISCONSIN

RELOCATION ORDER STH 88 CZECHVILLE - MONDOVICH E TO STH 371 BUFFALO 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 DEMANDS 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 LAY 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.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W AC. REQUIRED		TLE AC.
			NEW	EXISTING	
1	JAMES L. MUELLER & KATHERINE F. MUELLER	FEE	0.03	0.19	0.22

CURVE DATA
PISTA = 699+08.94
PI Y = 319286.766
PI X = 582943.485
 $\Delta = 03^{\circ}32'30"$ (LT)
R = 12000.00'
D = 00°28'39"
T = 371.00'
L = 741.76'

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN _____ COUNTY, WISCONSIN AT _____ M ON _____ AND FILED IN _____

SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7730-00-20-4.01
SHEET 1 OF 2

TOWN

SW-NW
SEC 30-22-11W

POINT	STATION	OFFSET
201	690+09.00	33.00' LT
202	690+09.00	0.00' RT
203	690+09.00	33.00' RT
204	689+45.00	33.00' RT
205	689+45.00	0.00' RT
206	689+45.00	33.00' LT
207	689+57.00	45.00' LT
208	689+97.00	45.00' LT
211	697+05.00	33.00' RT
212	697+05.00	0.00' RT
213	697+05.00	33.00' LT
214	697+17.00	45.00' LT
215	697+57.00	45.00' LT
216	697+69.00	33.00' LT
217	697+69.00	0.00' RT
218	697+69.00	33.00' RT

POINT	BEARING	DISTANCE
3149-210	S89°58'28"E	1305.53'
210-211	N00°01'32"E	175.10'
211-212	N65°02'45"W	33.00'
212-213	N65°02'45"W	33.00'
213-214	N20°10'04"W	16.94'
214-215	N24°48'05"E	39.85'
215-216	N69°46'14"E	16.94'
216-217	S65°21'05"E	33.00'
217-218	S65°21'05"E	33.00'
218-211	SEE CURVE DATA	

CURVE 218-211
LENGTH = 64.18'
RADIUS = 12033.00'
CHORD BEARING = S24°48'05"W
CHORD LENGTH = 64.18'

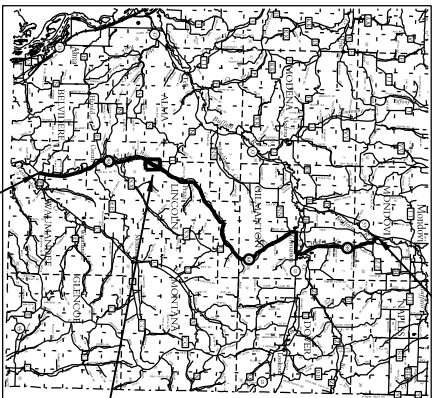
FOUND 7/8" REBAR
W/ ALUM. CAP
Y = 318,912.620
X = 587,202.324

LINE INTERSECTION
STATION 694+95.75
Y = 318,914.607
X = 582,763.963

COMPUTED POSITION
PER TIES
Y = 318,915.138
X = 581,578.136

POINTS	BEARING	DISTANCE
3149-200	S89°58'28"E	940.60'
200-201	S00°01'32"W	419.78'
201-202	S60°45'14"E	33.00'
202-203	S60°45'14"E	33.00'
203-204	SEE CURVE DATA	
204-205	N69°34'16"W	33.00'
205-206	N69°34'16"W	33.00'
206-207	N15°02'41"W	16.86'
207-208	N29°50'15"E	39.42'
208-201	N74°43'11"E	16.86'

CURVE DATA
PISTA = 690+49.44
PI Y = 318512.421
PI X = 582569.956
 $\Delta = 05^{\circ}29'53"$ (LT)
R = 3100.00'
D = 1°50'54"
T = 148.85'
L = 297.47'

NW-SW
SEC 30-22-11WLOCATION SKETCH
NOT TO SCALE

SCALE, FEET
0 40 80



UTILITY INTEREST TABLE		
UTILITY PARCEL NUMBER	INTEREST DESCRIPTION	RECORDING INFORMATION
100	1 EASEMENT	VOL. 9ED PG. 43

UTILITY SCHEDULE & INTEREST REQUIRED		
UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS



421 FRENETTE DRIVE
CHIPPewa FALLS, WI 54729

I, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES, AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE PREPARED, DRAWN, AND MAPPED THIS TRANSPORTATION PROJECT PLAT 7730-00-20-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) JASON L. CANCE
(LICENSE NUMBER) 2688
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION NORTHWEST REGION.
(SIGNATURE) _____ DATE _____
(PRINTED NAME) MICHAEL PILLER

LINCOLN

BASIS OF R/W		
ROAD	DOCUMENT	YEAR
STH 88	WIS. STATUTE 82.31(2)	---

TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.02 AMENDMENT NO.2
PROVIDES CLARIFICATION OF UTILITY LOCATIONS OF TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.02
RECORDED IN 1 TPP, PAGE 12, DOCUMENT NO. 256183

THAT PART OF LOT 1 CERTIFIED SURVEY MAP VOLUME 4 PAGE 72 LOCATED IN THE SOUTHEAST 1/4
OF THE SOUTHWEST 1/4 OF SECTION 3, T22N, R11W, TOWN OF LINCOLN, BUFFALO COUNTY, WISCONSIN
RELOCATION ORDER STH 88 CZECHVILE - MONDOVI (CTH E TO STH 37) BUFFALO COUNTY

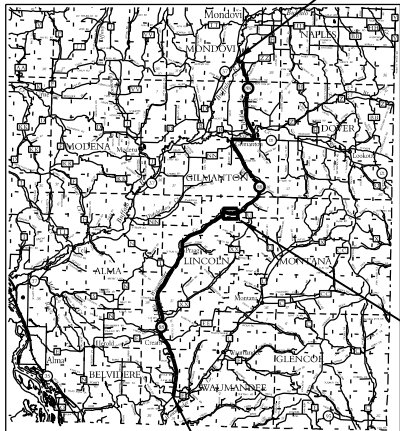
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND
INTERESTS OR RIGHTS IN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

POINTS	BEARING	DISTANCE
3157-230	N00°15'13"E	1125.17'
230-231	S89°44'47"E	2246.82'
231-232	N16°26'33"E	33.11'
232-233	N16°26'33"E	32.89'
233-234	N61°02'26"E	31.10'
234-235	S73°52'40"E	39.71'
235-236	S29°19'06"E	30.82'
236-237	S15°48'03"W	33.29'
237-238	S15°48'03"W	32.72'
238-239	N74°21'47"W	20.31'
239-231	SEE CURVE DATA	

CURVE 239-231
LENGTH = 64.06'
RADIUS = 6533.00'
CHORD BEARING = N74°04'56"W
CHORD LENGTH = 64.06'

POINT	STATION	OFFSET
231	979+67.00	33.11' RT
232	979+67.00	0.00' RT
233	979+67.00	32.89' LT
234	979+89.00	55.00' LT
235	980+29.00	55.00' LT
236	980+51.00	33.29' LT
237	980+51.00	0.00' RT
238	980+51.00	32.72' RT
239	980+30.78	32.80' RT

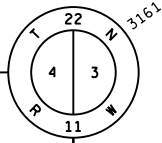
LOCATION SKETCH
NOT TO SCALE



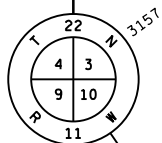
SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W AC. REQUIRED			PLE AC.
			NEW	EXISTING	TOTAL	
3	MICHAEL O'CONNOR & MARCIA O'CONNOR	PLE	---	---	---	0.03

FOUND 7/8" REBAR
W/ ALUM. CAP
Y= 339,865.893
X= 597,555.939



FOUND 3/4" REBAR
Y= 337,210.625
X= 597,544.184



BASIS OF R/W		
ROAD	DOCUMENT	YEAR
STH 88	CSM VOL. 4 PG. 72	2012
	MAP OF SURVEY BY JOHN KRAGE	2012
	WIS. STATUTE 82.31(2)	---

CURVE DATA
PISTA = 979+73.77
PIY = 338350.037
PIX = 599810.000
Δ = 04°33'24" (LT)
R = 7500.00'
D = 00°45'50"
T = 298.40'
L = 596.48'

TOWN
NE-SW
SEC 3-22-11W

DEED OF CONSERVATION EASEMENT
VOL. 291 PG. 407
DOC. # 203135
&
VOL. 322 PG. 417
DOC. # 209951

MAP OF SURVEY
DAVID A. JOHNSON
6-2-2009

LOT 1
CERTIFIED SURVEY MAP
VOL. 4 PG. 72
DOC # 248682

PLE - CULVERT
0.03 ACRES

OF

SE-SW
SEC 3-22-11W

LINCOLN

MAP OF SURVEY
JOHN G. KRAGE
5-4-2012

UTILITY INTEREST TABLE			
UTILITY NUMBER	PARCEL	INTEREST DESCRIPTION	RECORDING INFORMATION
100	3	EASEMENT	VOL. 1ED PG. 220

UTILITY SCHEDULE & INTEREST REQUIRED		
UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS



FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE
REGISTER OF DEEDS, IN BUFFALO COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 256134.

421 FRETTE DRIVE
CHIPPEWA FALLS, WI 54729

I, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT
IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION NORTHWEST REGION, I HAVE SURVEYED
AND MAPPED TRANSPORTATION PROJECT PLAT 7730-00-20-4.02
AMENDMENT NO. 2 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL
EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) JASON L. CANCE
(LICENSE NUMBER) 2688

THIS PLAT AND RELOCATION ORDER ARE
APPROVED FOR THE WISCONSIN DEPARTMENT OF
TRANSPORTATION NORTHWEST REGION.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) MICHAEL PILL

ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS
IN _____ COUNTY, WISCONSIN AT
_____ M. ON _____
AS DOCUMENT # _____ AND
FILED IN _____

SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7730-00-20-4.02
AMENDMENT NO. 2

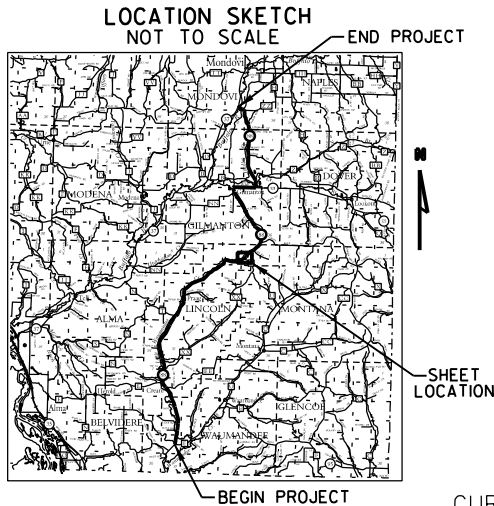
TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.03 AMENDMENT NO.2
AMENDS UTILITY PARCEL NO.110 OF TRANSPORTATION PROJECT PLAT 7730-00-20-4.03
RECORDED IN 1 TPP, PAGE 13, DOCUMENT NO. 256184

THAT PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 2,
T22N, R11W, TOWN OF LINCOLN, BUFFALO COUNTY, WISCONSIN

RELOCATION ORDER STH 88 CZECHVILE - MONDOVI(CTH E TO STH 37) BUFFALO 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.

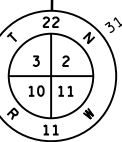


POINTS	BEARING	DISTANCE
3169-250	S00°47'06"W	937.22'
250-251	S89°12'54"E	275.47'
251-252	N23°39'54"E	38.18'
252-253	N68°38'35"E	39.70'
253-254	S65°44'23"E	37.81'
254-255	S22°48'32"E	32.58'
255-256	S22°48'32"E	33.44'
256-257	S24°15'55"W	38.57'
257-258	S68°38'45"W	50.30'
258-259	N53°31'42"W	31.91'
259-260	N21°20'06"W	33.00'
260-251	N21°20'06"W	33.00'

CURVE DATA
PISTA = 1009+86.21
PIY = 338744.667
PIX = 602699.963
Δ = 05°03'39" (RT)
R = 1750.00'
D = 03°16'27"
T = 77.34'
L = 154.57'

POINT	STATION	OFFSET
251	1013+83.00	33.00' LT
252	1014+10.00	60.00' LT
253	1014+50.00	60.00' LT
254	1014+77.00	32.58' LT
255	1014+77.00	0.00' LT
256	1014+77.00	33.44' RT
257	1014+50.00	60.00' RT
258	1014+00.00	60.00' RT
259	1013+83.00	33.00' RT
260	1013+83.00	0.00' RT

FOUND 7/8" REBAR
W/ ALUM. CAP
Y= 337,212.375
X= 602,758.755



UTILITY INTEREST TABLE			
UTILITY NUMBER	PARCEL	INTEREST DESCRIPTION	RECORDING INFORMATION
100	5	EASEMENT	VOL. 1ED PG. 222
110	5	EASEMENT	VOL. 6ED PG. 672

UTILITY SCHEDULE & INTEREST REQUIRED		
UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS
110	NELSON TELEPHONE COOPERATIVE	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W AC. REQUIRED			PLE AC.
			NEW	EXISTING	TOTAL	
5	EMMETT RUTSCHOW	PLE	---	---	---	0.09
6	CRAIG J. GOREN	FEE	0.01	---	0.01	---

ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS
IN _____ COUNTY, WISCONSIN AT
_____ M ON _____
AS DOCUMENT # _____ AND
FILED IN _____

SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7730-00-20-4.03
AMENDMENT NO:2

CURVE DATA
PISTA = 1016+00.02
PIY = 338968.018
PIX = 603271.796
Δ = 13°43'32" (LT)
R = 1300.00'
D = 04°24'27"
T = 156.46'
L = 311.43'

BASIS OF R/W		
ROAD	DOCUMENT	YEAR
STH 88	DEED VOL. 76 PG. 477 DOC. #76120	1931
	WIS. STATUTE 82.31(2)	---

LINCOLN



FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE
REGISTER OF DEEDS, IN BUFFALO COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 256134.



421 FRENETTE DRIVE
CHIPPEWA FALLS, WI 54729

I, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT
IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION NORTHWEST REGION, I HAVE SURVEYED
AND MAPPED TRANSPORTATION PROJECT PLAT 7730-00-20-4.03
AMENDMENT NO. 2 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL
EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) JASON L. CANCE
(LICENSE NUMBER) 2688

THIS PLAT AND RELOCATION ORDER ARE
APPROVED FOR THE WISCONSIN DEPARTMENT OF
TRANSPORTATION NORTHWEST REGION.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) MICHAEL PILL

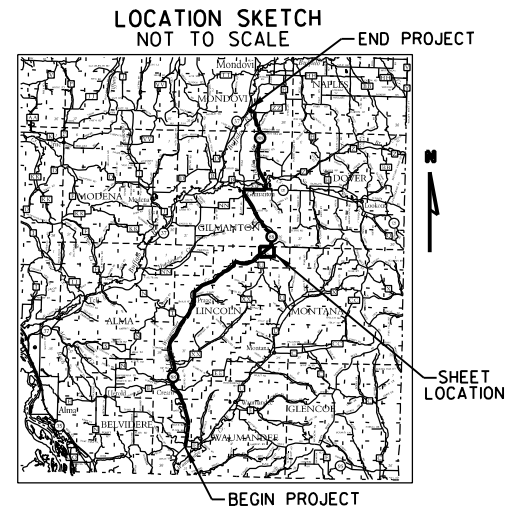
TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.04 AMENDMENT NO.1
AMENDS UTILITY PARCEL NO. 110 AND CLARIFIES UTILITY LOCATIONS OF TRANSPORTATION PROJECT
PLAT 7730-00-20-4.04 RECORDED IN 1TPP, PAGE 14, DOCUMENT NO. 256185

THAT PART OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 2,
T22N, R11W, TOWN OF LINCOLN, BUFFALO COUNTY, WISCONSIN

RELOCATION ORDER STH 88 CZECHVILE - MONDOVICTH E TO STH 37) BUFFALO 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.



CURVE DATA
PISTA = 1056+02.00
PIY = 341480.187
PIX = 606172.250
Δ = 19°45'00" (LT)
R = 875.00'
D = 06°32'53"
T = 152.32'
L = 301.61'

TOWN

RIVERLAND ENERGY COOPERATIVE

OF

CURVE DATA
PISTA = 1059+54.25
PIY = 341705.164
PIX = 606447.202
Δ = 09°34'04" (LT)
R = 2425.00'
D = 02°21'46"
T = 202.95'
L = 404.95'

MAP OF SURVEY
JAMES W. DENZINE
5-27-1992

NW-NE
SEC 2-22-11W

UTILITY INTEREST TABLE			
UTILITY NUMBER	PARCEL	INTEREST DESCRIPTION	RECORDING INFORMATION
100	8	EASEMENT	VOL. 4ED PG. 360
	9	EASEMENT	VOL. 4ED PG. 360
110	8	EASEMENT	VOL. 6ED PG. 513
	8	EASEMENT	VOL. 11ED PG. 295
	9	EASEMENT	VOL. 6ED PG. 513
	9	EASEMENT	VOL. 483 PG. 237

UTILITY SCHEDULE & INTEREST REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS
110	NELSON TELEPHONE COOPERATIVE	RELEASE OF RIGHTS



421 FRENETTE DRIVE
CHIPPewa FALLS, WI 54729

I, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT
IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION NORTHWEST REGION, I HAVE SURVEYED
AND MAPPED TRANSPORTATION PROJECT PLAT 7730-00-20-4.04
AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL
EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) JASON L. CANCE
(LICENSE NUMBER) 2688

THIS PLAT AND RELOCATION ORDER ARE
APPROVED FOR THE WISCONSIN DEPARTMENT OF
TRANSPORTATION NORTHWEST REGION.

(SIGNATURE) _____ DATE _____
(PRINTED NAME) MICHAEL PILL

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W AC. REQUIRED			TLE AC.
			NEW	EXISTING	TOTAL	
8	WILLIAM T. MUCHE & CAROLYN A MUCHE	FEE	0.05	0.07	0.12	---
9	BENSON ALLEN TRUST DATED SEPTEMBER 2, 2009	FEE	0.04	0.08	0.12	---

POINTS	BEARING	DISTANCE
3146-270	S00°46'29"E	1516.85'
270-271	S89°13'31"W	1843.57'
271-272	S55°42'18"W	53.14'
272-273	N81°52'58"W	34.25'
273-274	N31°01'15"W	33.00'
274-275	N31°01'15"W	33.00'
275-276	N04°34'17"E	39.76'
276-277	N55°42'18"E	46.28'
277-278	S73°09'40"E	39.76'
278-279	S37°34'08"E	33.00'
279-280	S37°34'08"E	33.00'
280-271	S13°17'35"W	34.25'

POINT	STATION	OFFSET
271	1057+00.00	55.00' RT
272	1056+50.00	55.00' RT
273	1056+25.00	33.00' RT
274	1056+25.00	0.00' RT
275	1056+25.00	33.00' LT
276	1056+50.00	65.00' LT
277	1057+00.00	65.00' LT
278	1057+25.00	33.00' LT
279	1057+25.00	0.00' LT
280	1057+25.00	33.00' RT

ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS
IN _____ COUNTY, WISCONSIN AT
_____ M ON _____
AS DOCUMENT # _____ AND
FILED IN _____

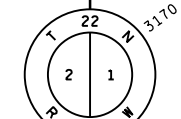
SIGNATURE OF REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7730-00-20-4.04
AMENDMENT NO:1

FOUND 7/8" REBAR
W/ ALUM. CAP
Y= 343,042.435
X= 608,104.671



FOUND 7/8" REBAR
W/ ALUM. CAP
Y= 339,825.440
X= 608,148.165



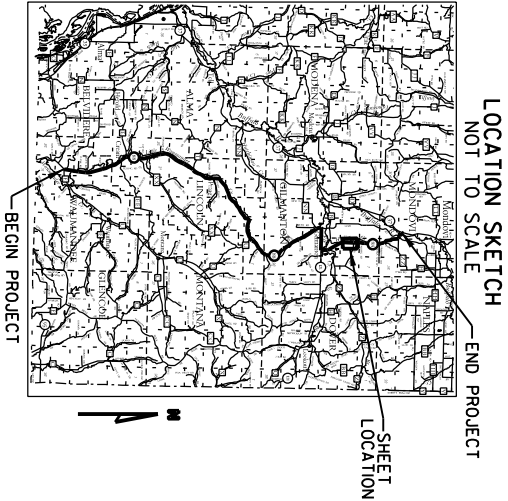
SCALE, FEET



FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE
REGISTER OF DEEDS, IN BUFFALO COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 256134.

TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.05 AMENDMENT NO.1
AMENDS UTILITY PARCEL NO. 110 AND CLARIFIES UTILITY LOCATIONS OF TRANSPORTATION PROJECT
PLAT 7730-00-20-4.05 RECORDED IN 1TPP, PAGE 15, DOCUMENT NO. 256186

THAT PART OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 11,
T23N, R11W, TOWN OF GILMANTON, BUFFALO COUNTY, WISCONSIN
RELOCATION ORDER STH 88 CZECHVILE - MONDOVICH E TO STH 37) BUFFALO 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 APPOINTS AS ENGINEER AND SURVEYOR, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT
1. THE PLAT AND RELOCATION ORDER ARE IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, THE ENGINEER HAS PREPARED, PREPARED, REVIEWED, AND MAPED TRANSPORTATION PROJECT PLAT 7730-00-20-4.05
AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL
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.



CURVE DATA
PI STA = 1422+67.85
PI Y = 367716.918
PI X = 604237.398
Δ = 03°00'00" (LT)
R = 12000.00'
D = 00°28'39"
T = 314.23'
L = 628.32'

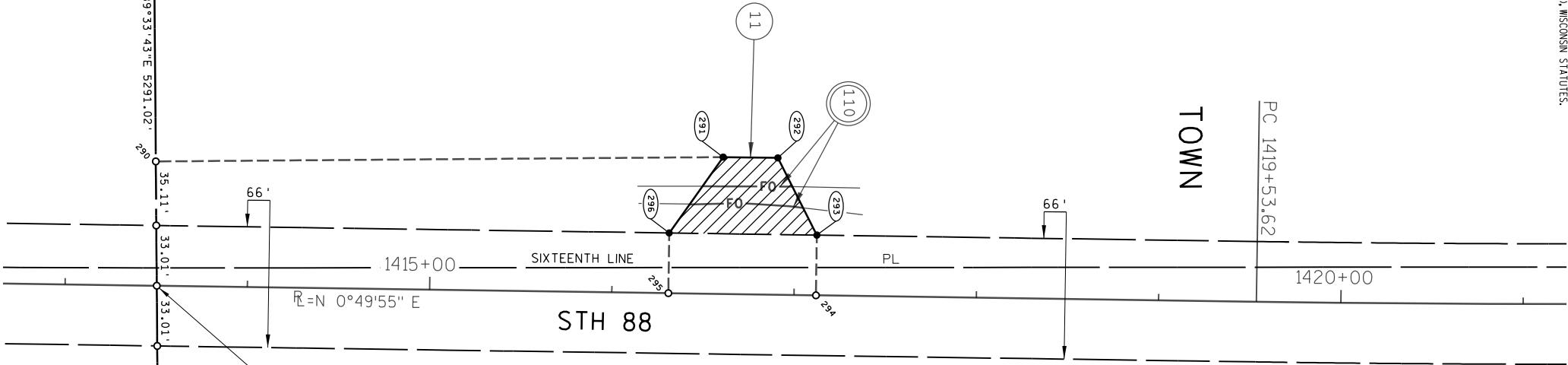
POINT	STATION	OFFSET
291	1416+60.00	75.00' LT
292	1416+90.00	75.00' LT
293	1417+12.00	33.00' LT
294	1417+12.00	0.00' LT
295	1416+31.00	0.00' LT
296	1416+31.00	33.00' LT

QUARTER LINE / REFERENCE
LINE INTERSECTION
STATION 1413+50.23
Y=366,799,400
X=604,224,075

FOUND 7/8" REBAR
W/ ALUM. CAP
Y = 366,829,736
X = 608,191,857

POINTS	BEARING	DISTANCE
3145 - 290	N89°33'.43"E	1255.00'
290 - 291	N00°26'.17"W	311.35'
291 - 292	N00°49'.55"E	30.00'
292 - 293	N63°11'.09"E	47.41'
293 - 294	S89°10'.05"E	33.00'
294 - 295	S00°49'.55"W	81.00'
295 - 296	N89°10'.05"W	33.00'
296 - 291	N54°32'.38"W	51.04'

COMPUTED POSITION
PER TIES
Y = 366,789,284
X = 602,900,996



SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W AC. REQUIRED			TLE AC.
			NEW	EXISTING	TOTAL	
11	GERALDINE M AMIDON	FEE	0.05	0.03	0.08	---

UTILITY INTEREST TABLE		
UTILITY PARCEL NUMBER	INTEREST DESCRIPTION	RECORDING INFORMATION
100	11	EASEMENT VOL. 3ED PG. 215
110	11	EASEMENT VOL. 6ED PG. 667
	11	EASEMENT VOL. 10ED PG. 117
	11	EASEMENT VOL. 12ED PG. 172

UTILITY SCHEDULE & INTEREST REQUIRED		
UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS
110	NELSON TELEPHONE COOPERATIVE	RELEASE OF RIGHTS

BASIS OF R/W		
ROAD	DOCUMENT	YEAR
STH 88	WIS. STATUTE 82.31(2)	---



FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, IN BUFFALO COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 256184.

I, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT
THIS PLAT AND RELOCATION ORDER ARE IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE
WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE WISCONSIN
DEPARTMENT OF TRANSPORTATION, THE ENGINEER HAS PREPARED, PREPARED, REVIEWED, AND MAPED TRANSPORTATION PROJECT PLAT 7730-00-20-4.05
AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL
EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



(PRINTED NAME) JASON L. CANCE
(LICENSE NUMBER) 2688
THIS PLAT AND RELOCATION ORDER ARE
APPROVED FOR THE WISCONSIN DEPARTMENT OF
TRANSPORTATION NORTHWEST REGION.
(SIGNATURE) _____ DATE _____
(PRINTED NAME) MICHAEL PILLER

ACCEPTED FOR RECORDING AND FILING IN
THE OFFICE OF THE REGISTER OF DEEDS
IN _____ COUNTY, WISCONSIN AT
_____ M ON _____ AND
AS DOCUMENT _____ AND
FILED IN _____
SIGNATURE OF REGISTER OF DEEDS

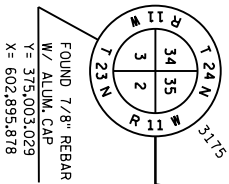
RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 7730-00-20-4.05
AMENDMENT NO. 1

TRANSPORTATION PROJECT PLAT NO: 7730-00-20 - 4.06 AMENDMENT NO.1
CLARIFIES UTILITY LOCATIONS OF TRANSPORTATION PROJECT PLAT 7730-00-20-4.06
RECORDED IN 1 TPP, PAGE 16, DOCUMENT NO. 256187
THAT PART OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 2,
T23N, R11W, TOWN OF GILMANTON, BUFFALO COUNTY, WISCONSIN

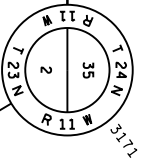
RELOCATION ORDER STH 88 CZECHVILLE - MONDOVICH E TO STH 37) BUFFALO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE,
THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEMS 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 (D) OR (2), WISCONSIN STATUTES.



FOUND 7/8" REBAR
W/ ALUM. CAP
Y= 375.003,029
X= 602.895,878



FOUND 7/8" REBAR
W/ ALUM. CAP
Y= 375.023,448
X= 605.504,009

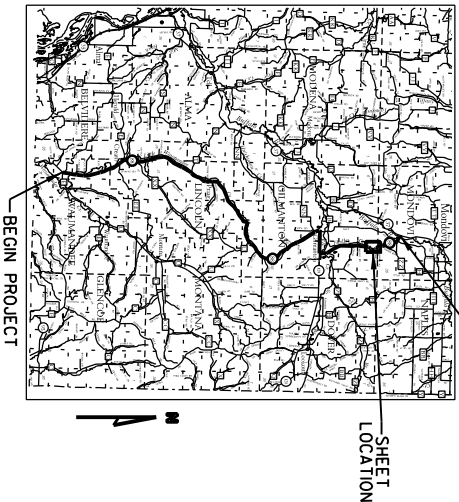
CURVE DATA
PI STA = 1479+91.57
PI Y = 373362.644
PI X = 604554.589
 $\Delta = 03^{\circ}18'59''$ (LT)
R = 5000.00'
D = 01^{\circ}08'45''
T = 144.75'
L = 289.42'

POINTS	BEARING	DISTANCE
3171-300	S89°33'05"W	1083.25'
300-301	S00°26'55"E	1846.38'
301-302	N20°55'11"E	256.86'
302-303	S69°42'15"E	39.85'
303-304	S69°42'15"E	33.00'
304-305	SEE CURVE DATA	
305-306	S22°20'18"W	18.97'
306-307	SEE CURVE DATA	
307-308	S21°10'08"W	310.77'
308-309	S86°12'36"W	33.02'
310-311	N86°12'36"W	76.46'
311-312	N20°55'11"E	674.97'
312-313	N03°52'21"W	21.13'
313-314	N21°49'12"E	25.11'
314-301	N47°31'03"E	18.91'

CURVE DATA
PI STA = 1477+25.85
PI Y = 373116.861
PI X = 604453.597
 $\Delta = 01^{\circ}10'08''$ (RT)
R = 10000.00'
D = 00°34'23"
T = 102.00'
L = 203.99'

CURVE 306-307
LENGTH = 33.32'
RADIUS = 6061.00'
CHORD BEARING = S21°45'12"W
CHORD LENGTH = 203.32'

CURVE 306-307
LENGTH = 33.32'
RADIUS = 6061.00'
CHORD BEARING = S21°45'12"W
CHORD LENGTH = 203.32'

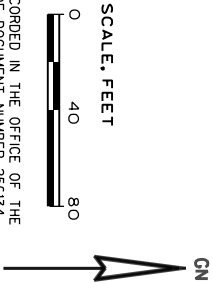


UTILITY INTEREST TABLE			
UTILITY NUMBER	PARCEL INTEREST DESCRIPTION	RECORDING INFORMATION	
100	13	EASEMENT	VOL. 3ED PG. 566
	14	EASEMENT	VOL. 121 PG. 234
	14	EASEMENT	VOL. 10ED PG. 119

UTILITY SCHEDULE & INTEREST REQUIRED		
UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	RIVERLAND ENERGY COOPERATIVE	RELEASE OF RIGHTS
110	NELSON TELEPHONE COOPERATIVE	RELEASE OF RIGHTS

POINT STATION	OFFSET
301 1477+66.99	36.83' LT
302 1480+25.00	39.85' LT
303 1480+25.00	0.00' LT
304 1480+25.00	33.00' RT
305 1478+46.82	33.00' RT
306 1478+27.85	33.00' RT
307 1476+23.85	33.00' RT
308 1473+13.08	33.00' RT
309 1470+50.00	33.02' RT
310 1470+50.00	0.00' RT
311 1470+50.00	76.46' LT
312 1477+06.01	35.88' LT
313 1477+25.00	45.00' LT
314 1477+50.00	45.00' LT

GILMANTON



FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, IN BUFFALO COUNTY AS SHEET 2 OF 2 OF DOCUMENT NUMBER 256134.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W AC. REQUIRED	TILE AC.
13	MARK WAYNE STAGE AND NICOLE MARIE STAGE, TRUSTEES, OR SUCCESSOR TRUSTEES/OF THE STAGE REVOCABLE LIVING TRUST DATED MAY 12, 2008	FEE	0.01	---
14	FUTUREWOOD CORP.	FEE	0.10	1.40
			1.40	1.50

CURVE DATA
PI STA = 1469+65.73
PI Y = 372391.804
PI X = 604242.895
 $\Delta = 03^{\circ}30'00''$ (RT)
R = 3000.00'
D = 01°54'35"
T = 91.66'
L = 183.26'

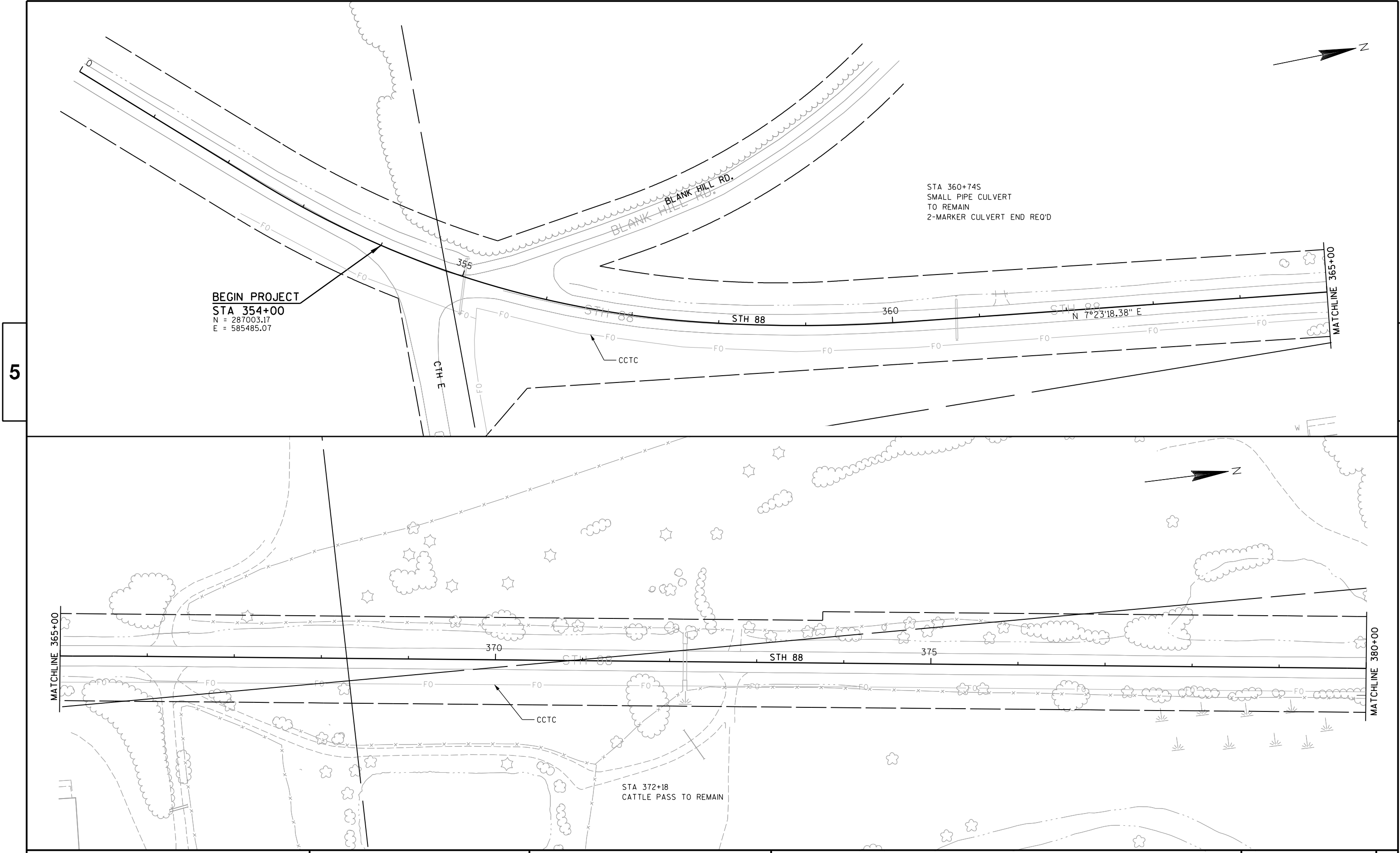
CURVE 308-309
LENGTH = 33.07'
RADIUS = 817.00'
CHORD BEARING = S12°17'43"W
CHORD LENGTH = 252.06'

PCC 1470+57.33
RW ACQUIRED UNDER PROJECT 7734-01-21



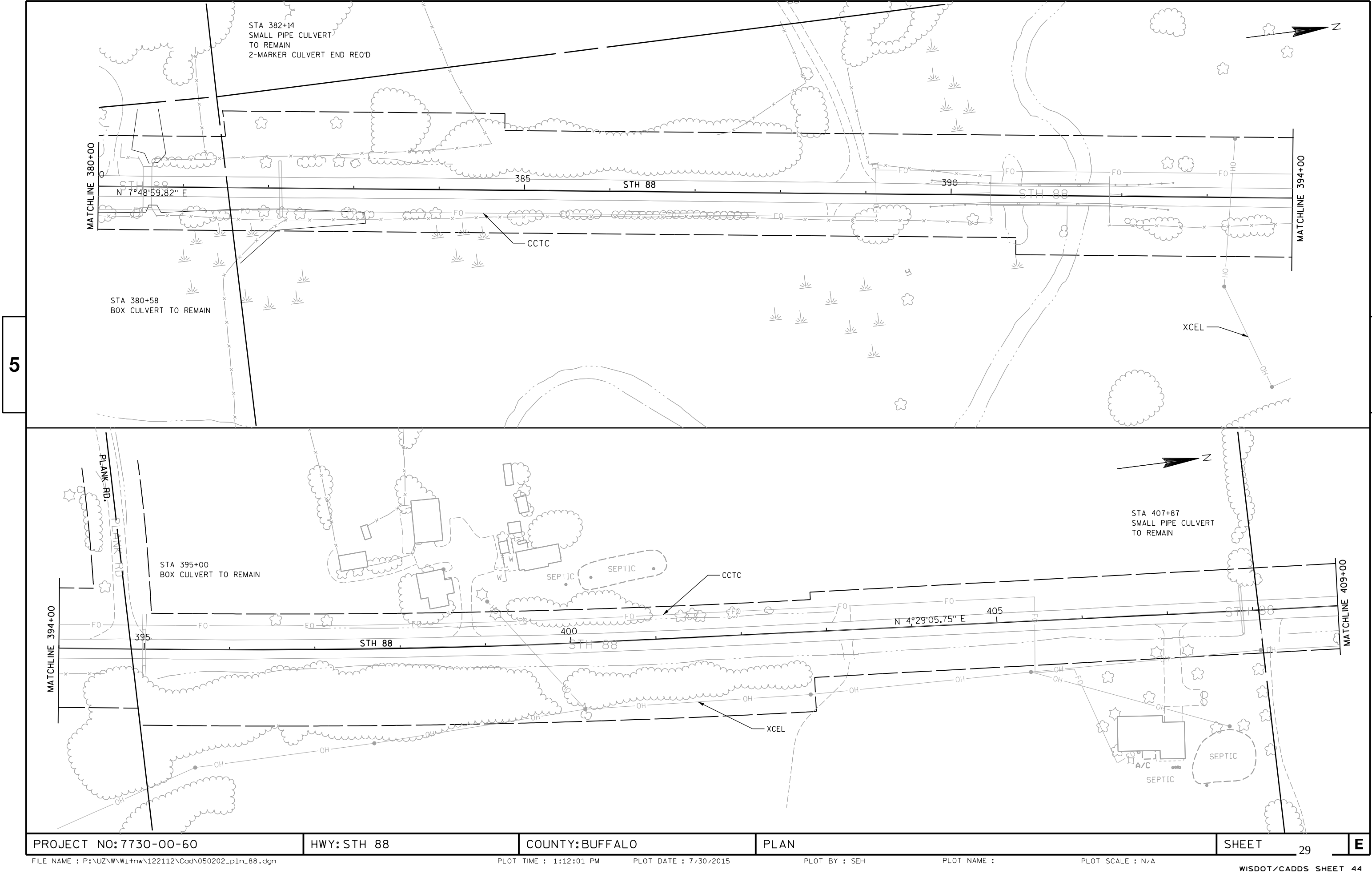
421FRENETTE DRIVE
CHIPPENAW FALLS, WI 54729

I, JASON L. CANCE, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES, AND UNDER THE DIRECTION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THE TRANSPORTATION PROJECT PLAT 7730-00-20-4.06 AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.
(SIGNATURE) _____ DATE _____
(PRINTED NAME) JASON L. CANCE
(LICENSE NUMBER) 2688
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION NORTHWEST REGION.
(SIGNATURE) _____ DATE _____
(PRINTED NAME) MICHAEL PILLER

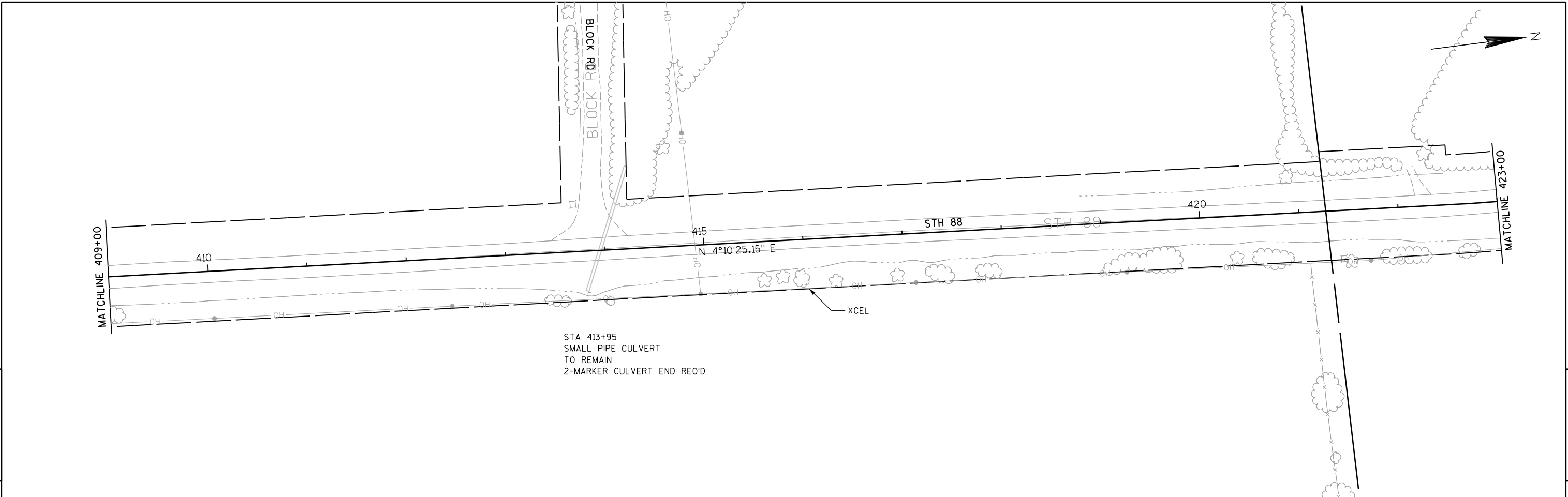


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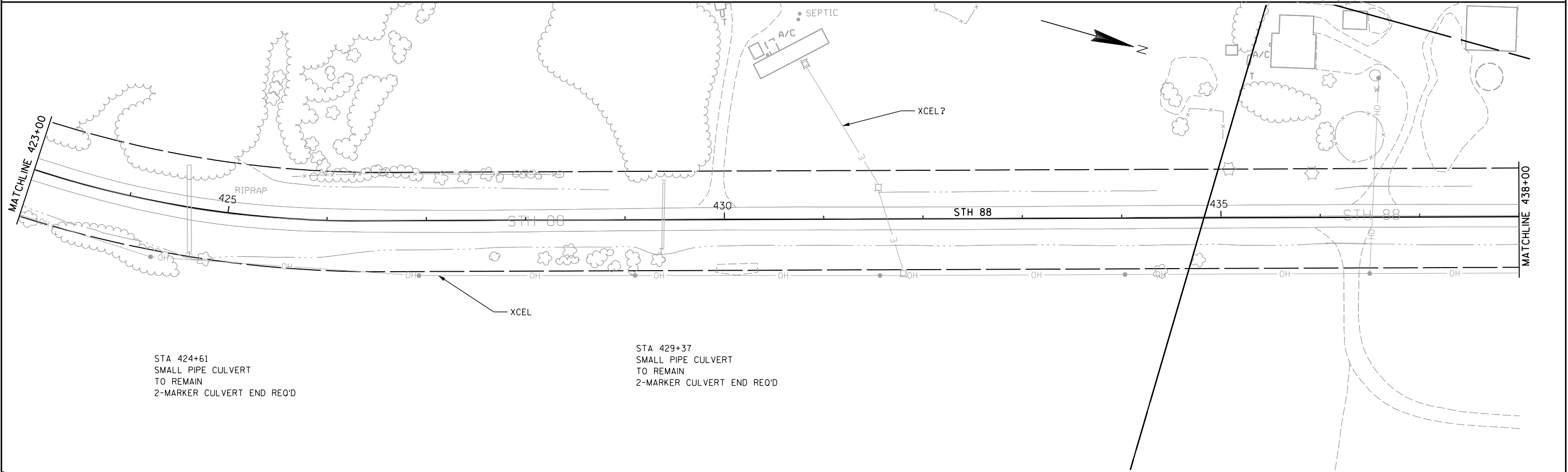
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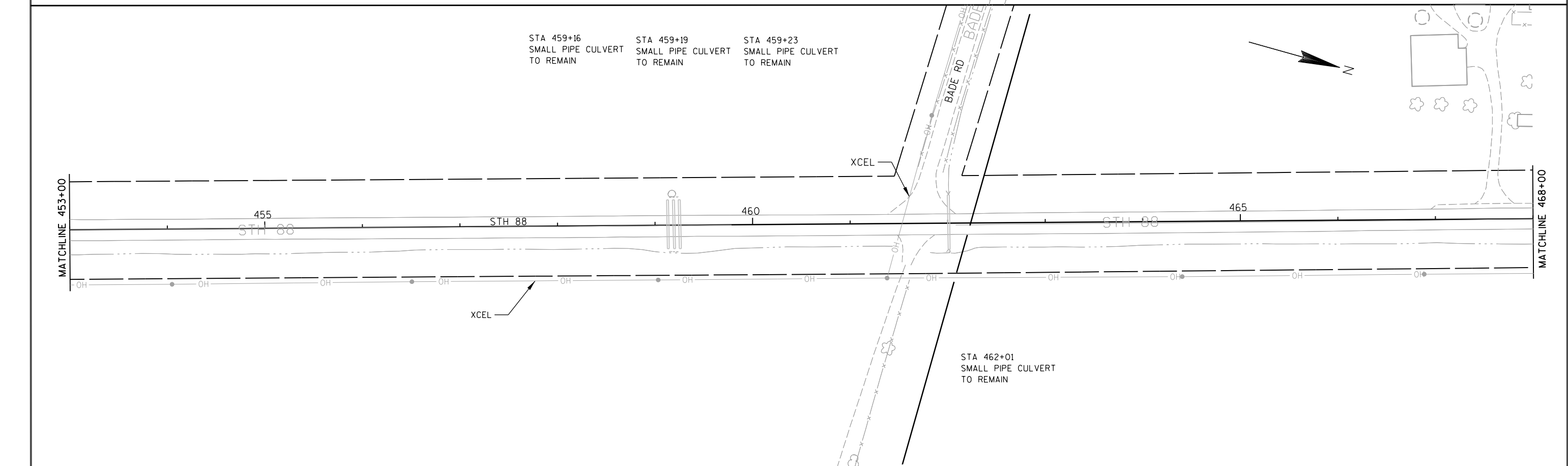
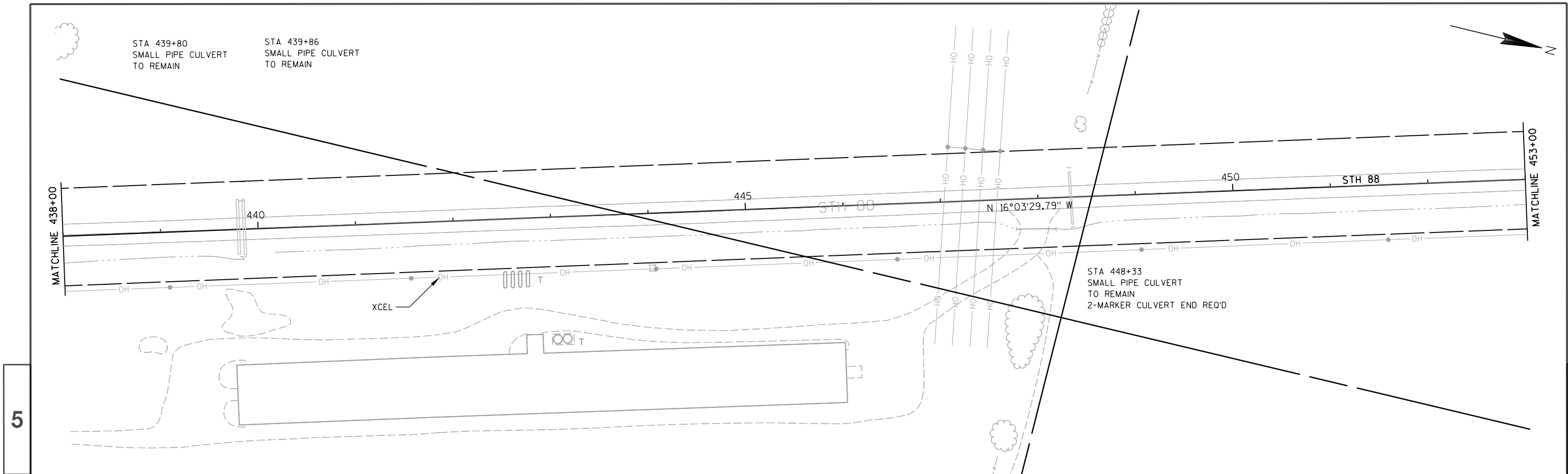


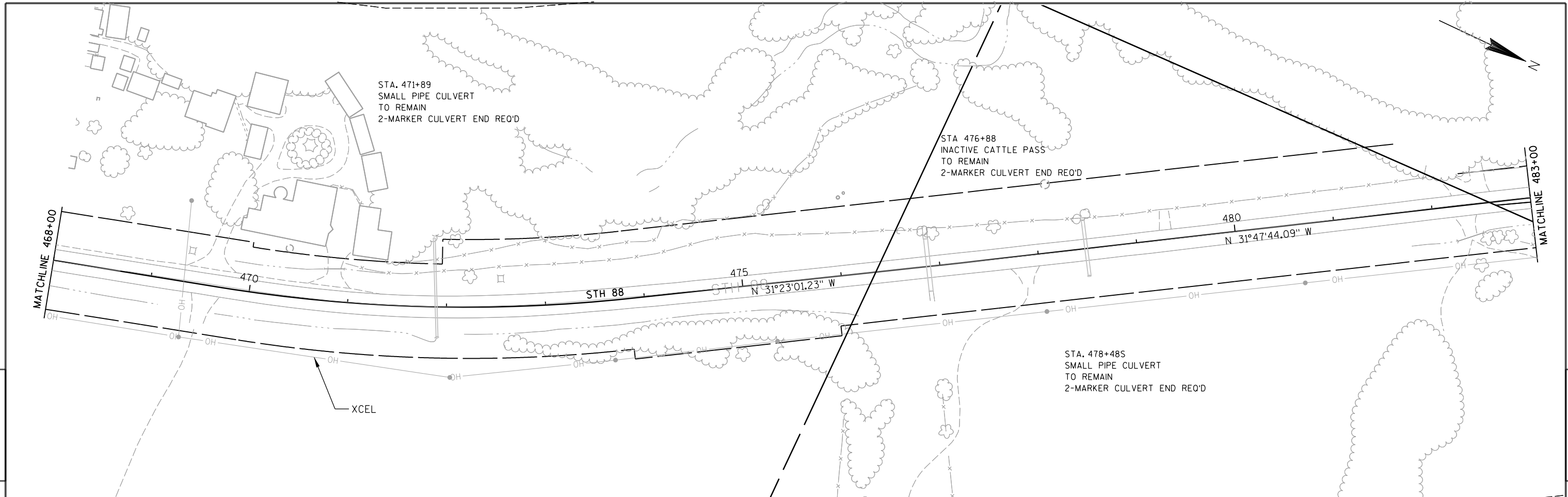
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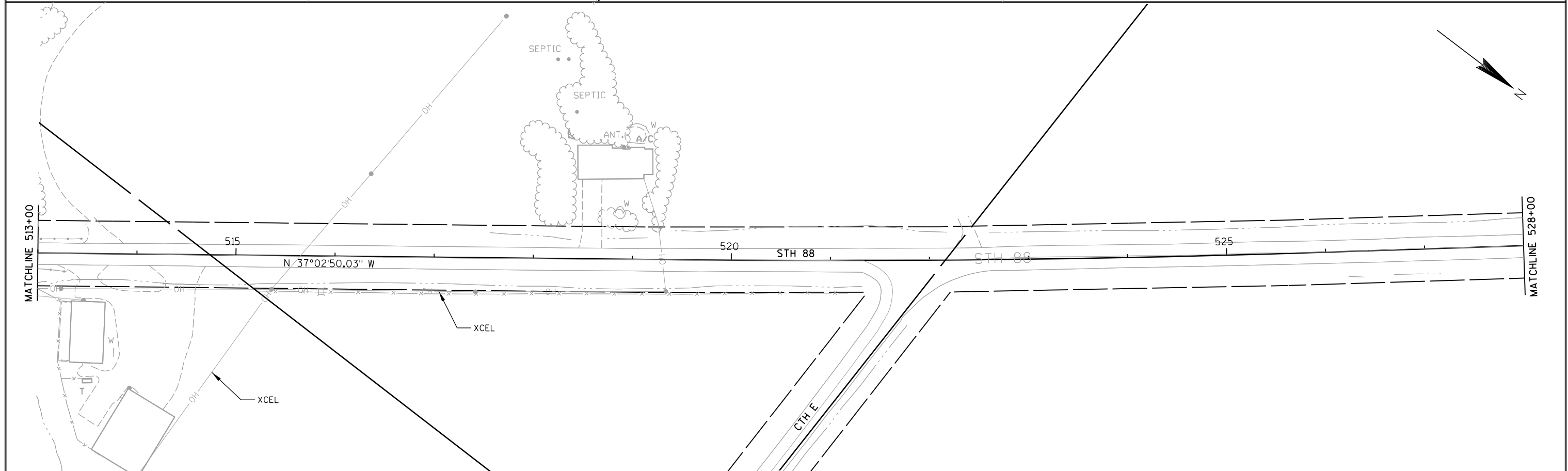
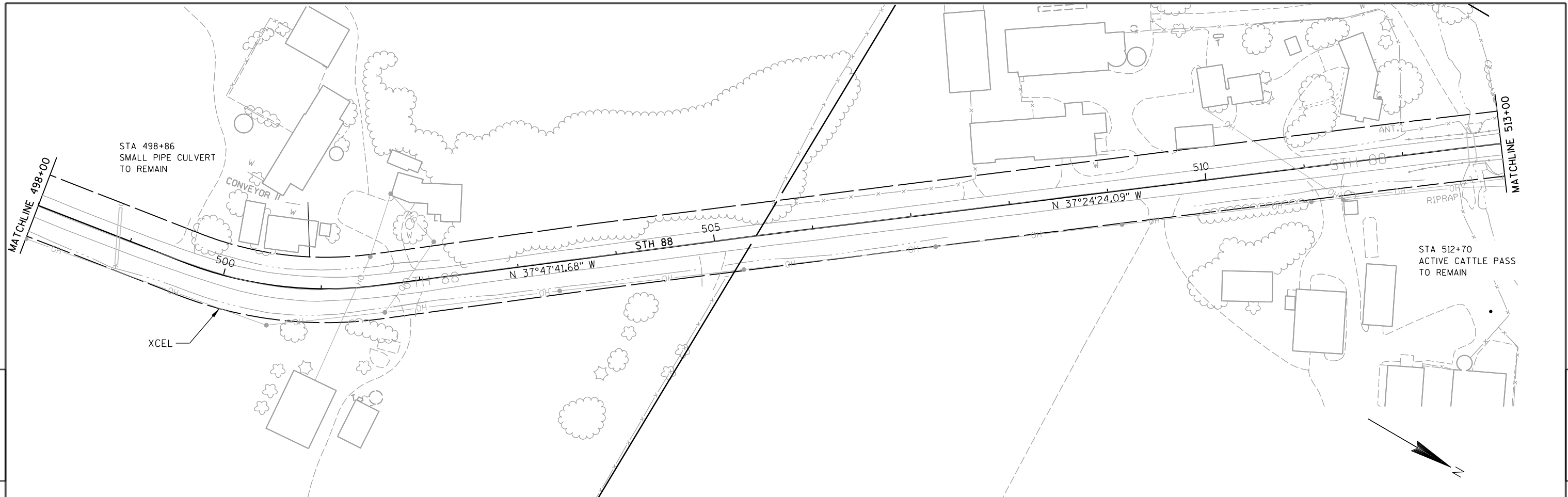


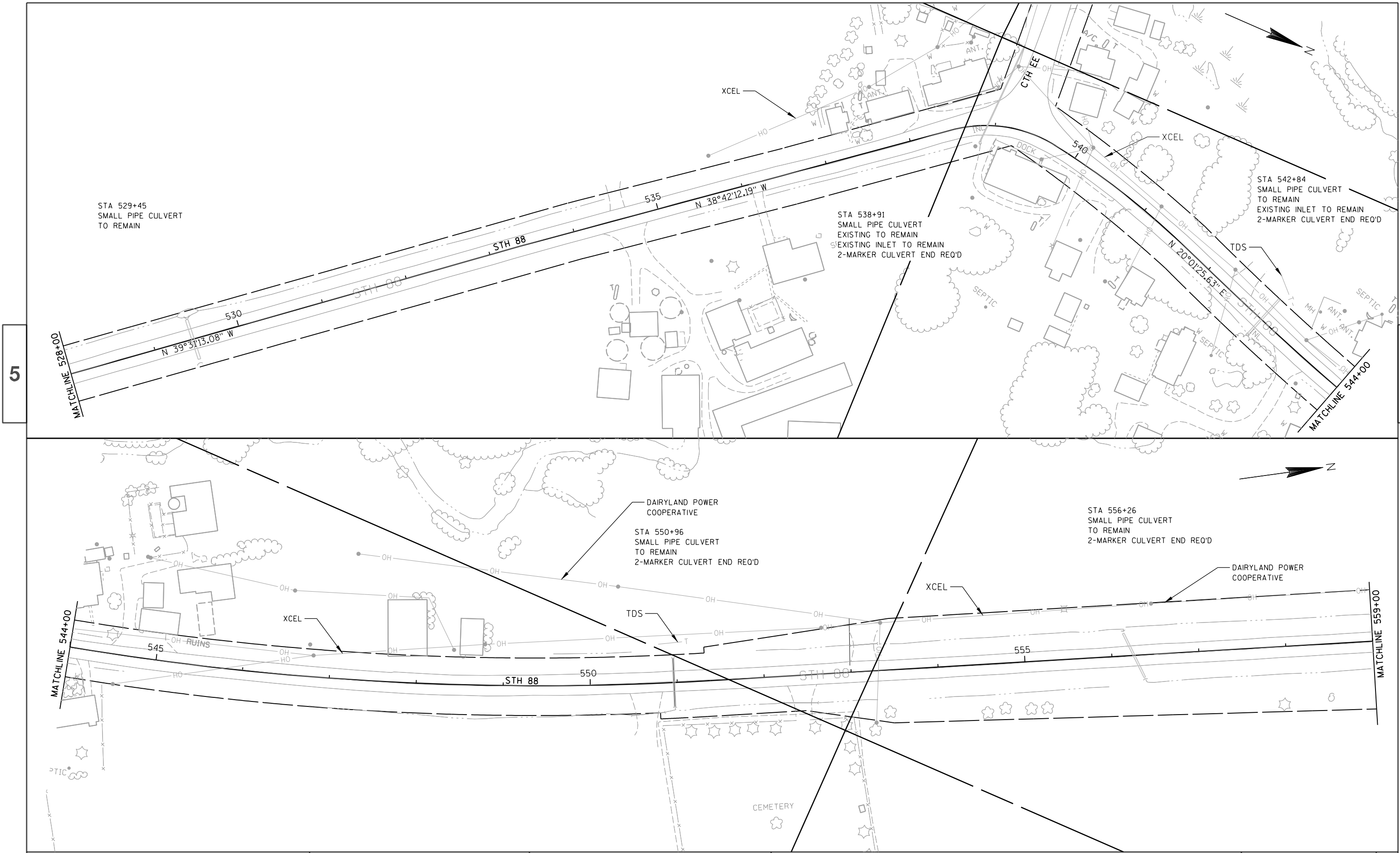
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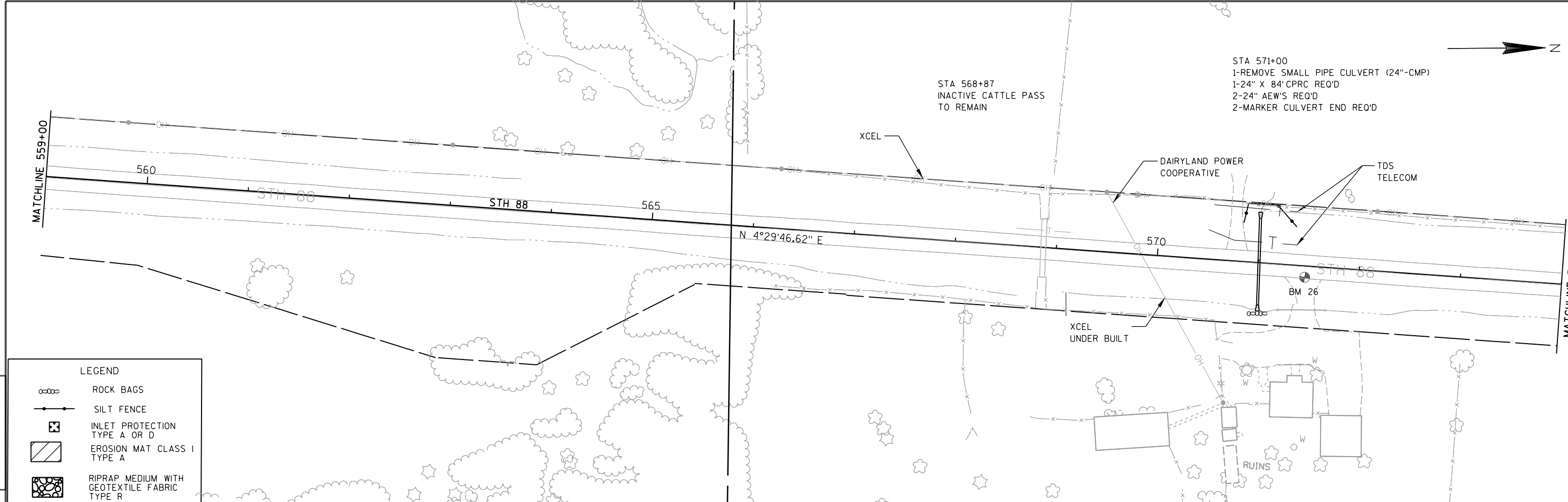










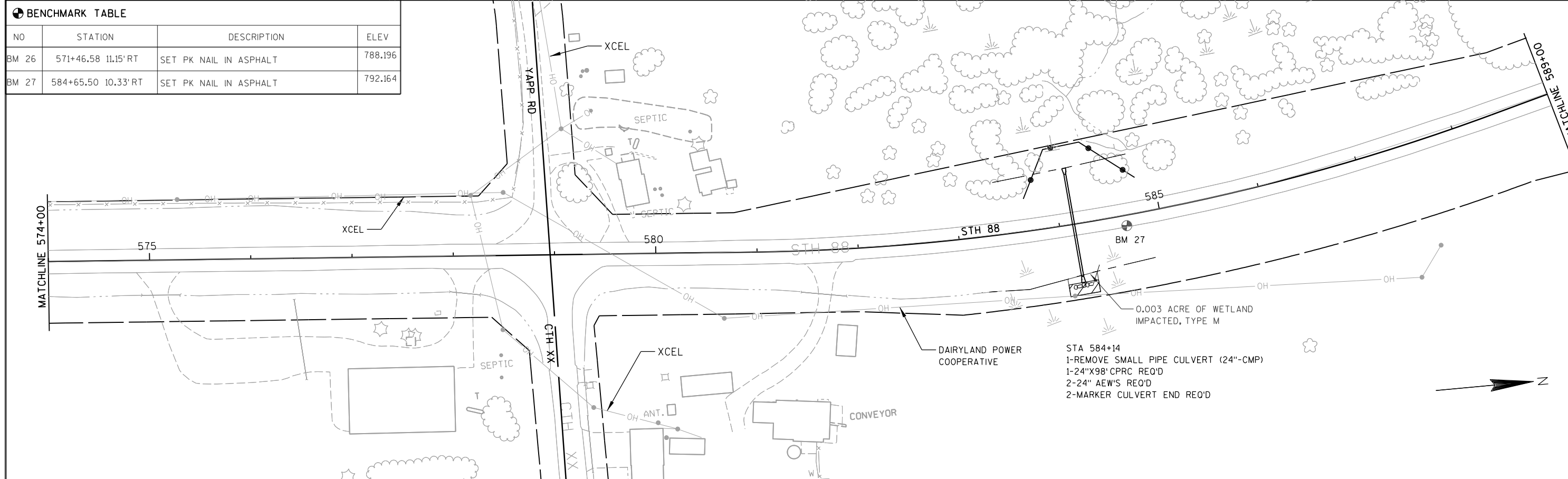


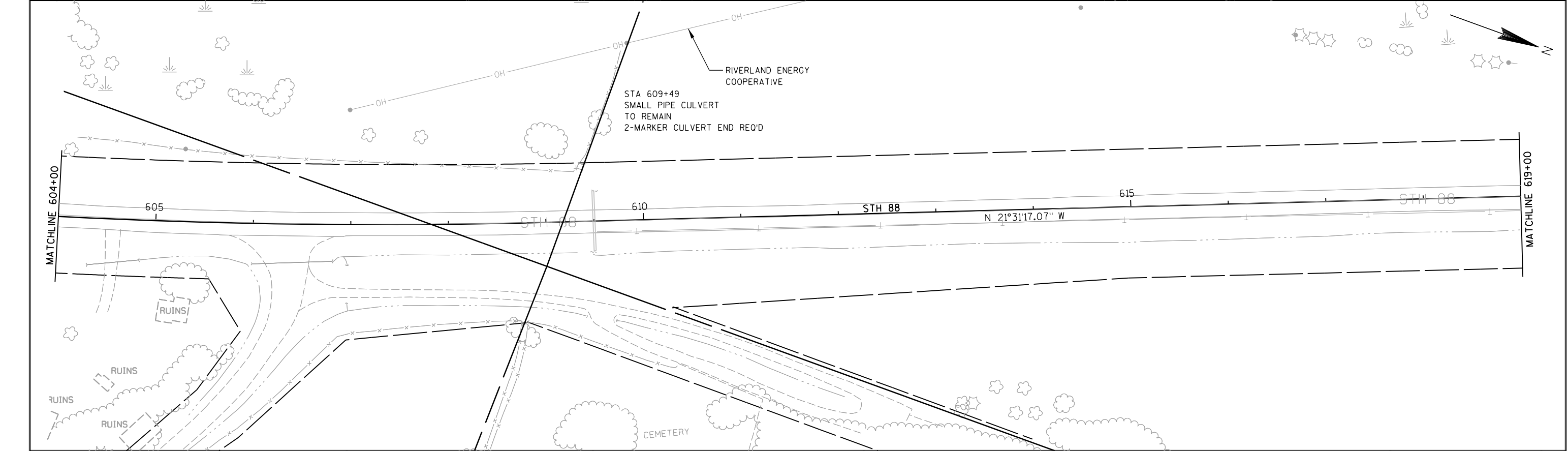
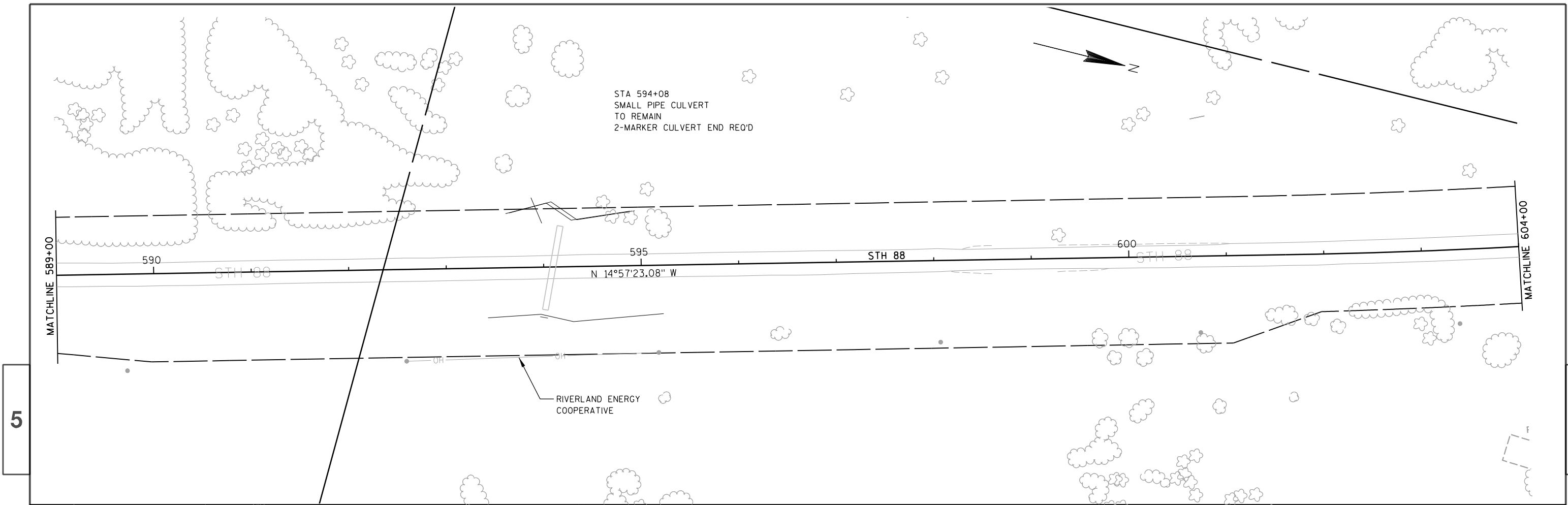
LEGEND

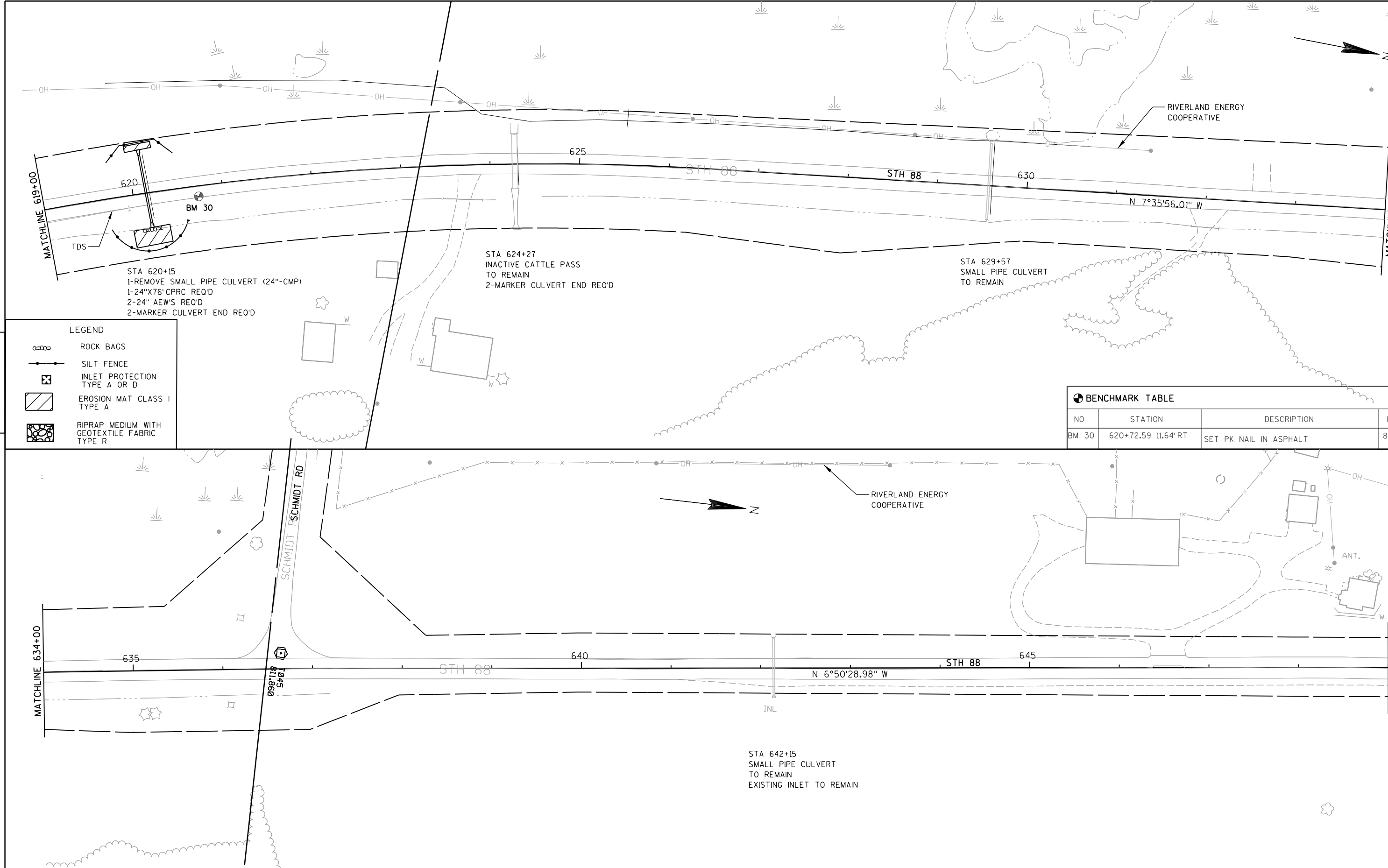
- ROCK BAGS
- SILT FENCE
- INLET PROTECTION TYPE A OR D
- EROSION MAT CLASS I TYPE A
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

BENCHMARK TABLE

NO	STATION	DESCRIPTION	ELEV
BM 26	571+46.58 11.15' RT	SET PK NAIL IN ASPHALT	788.196
BM 27	584+65.50 10.33' RT	SET PK NAIL IN ASPHALT	792.164

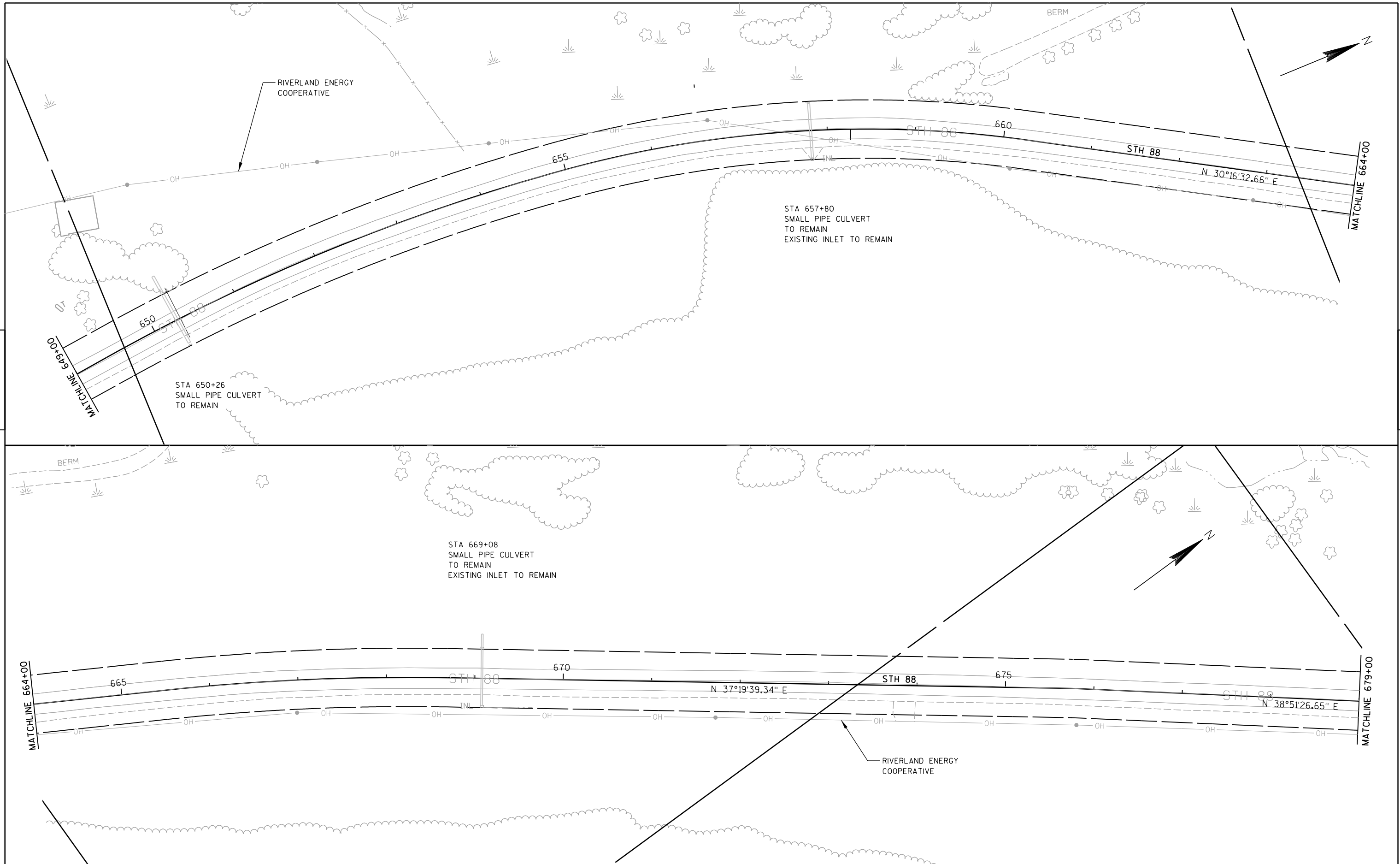


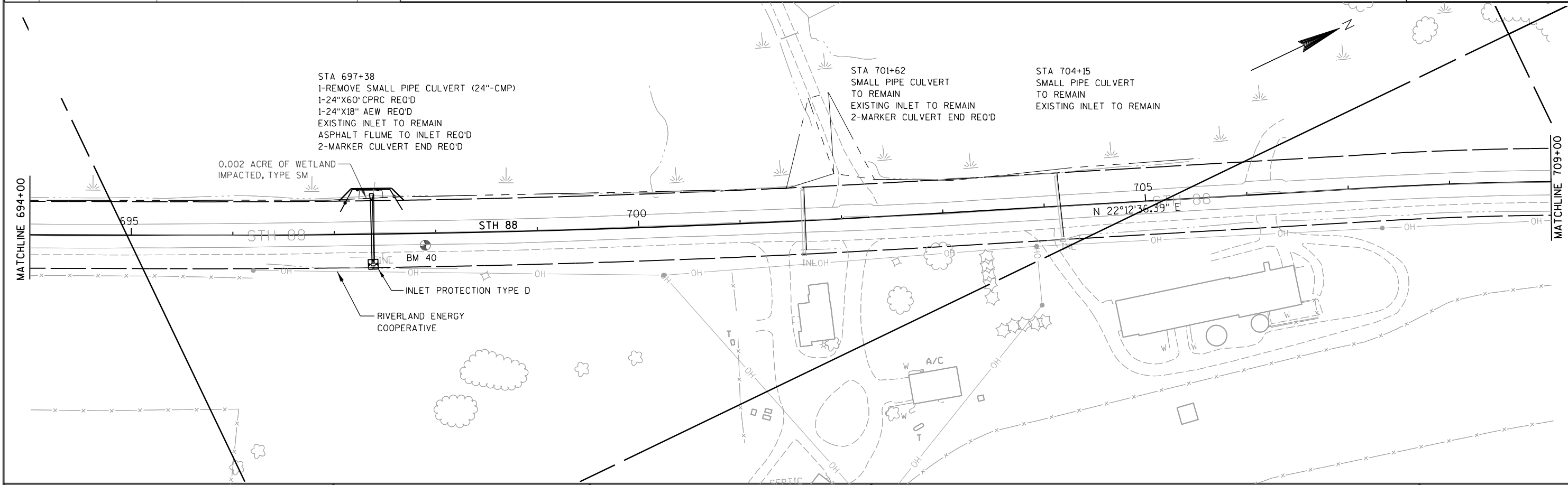
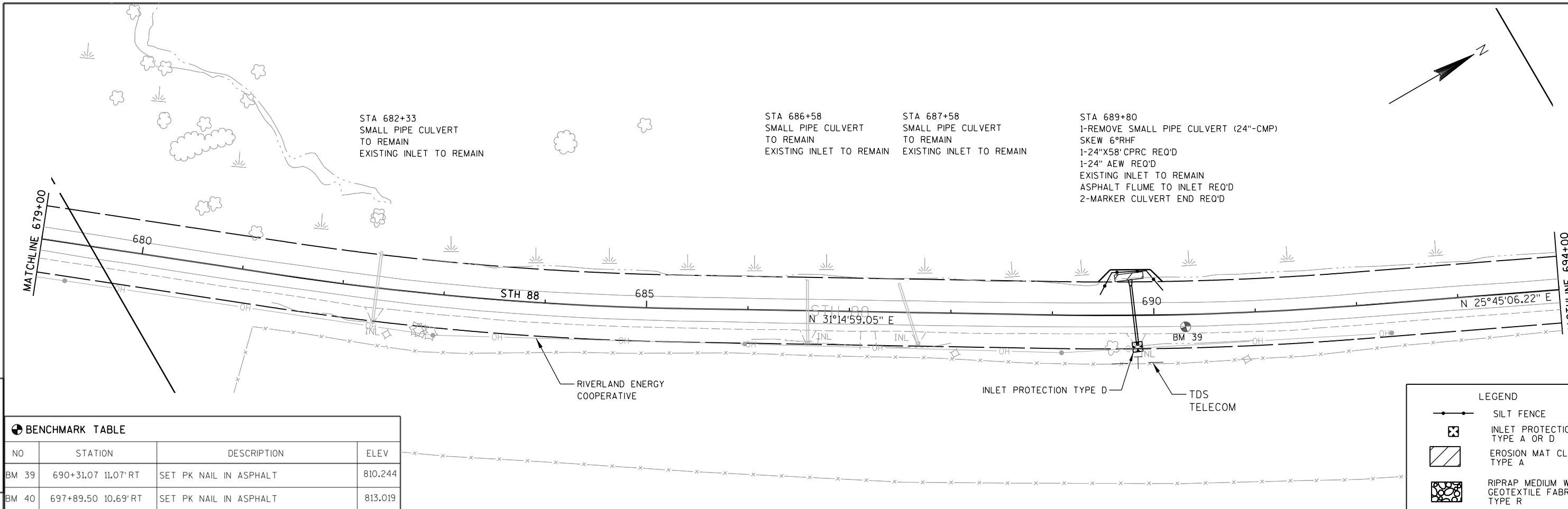


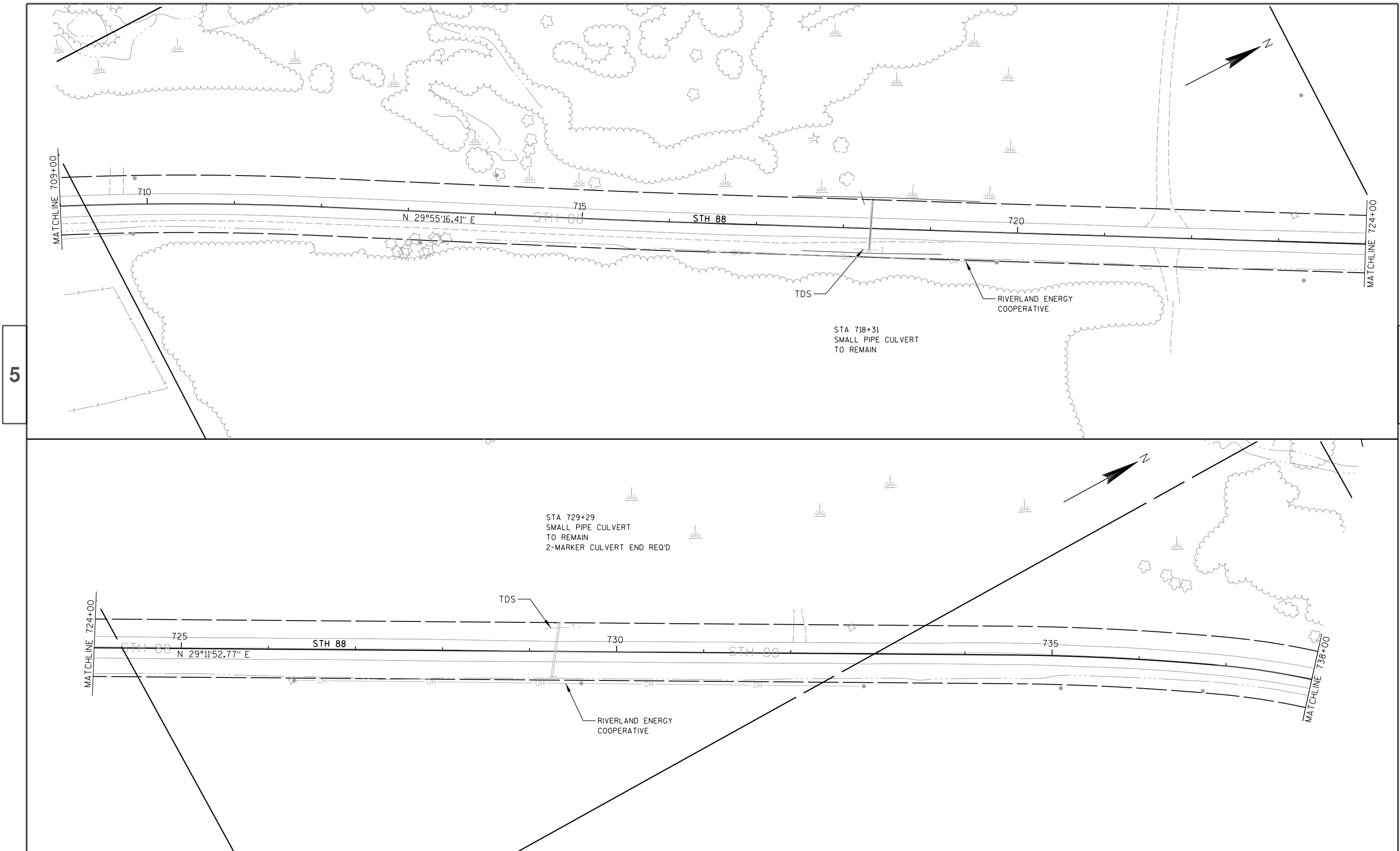


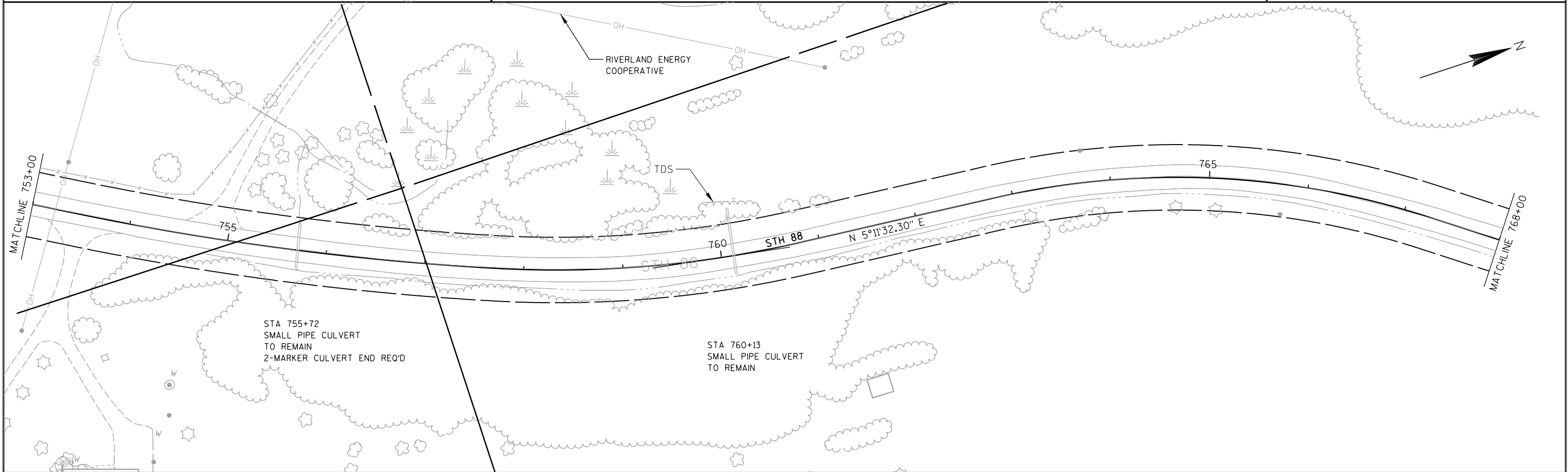
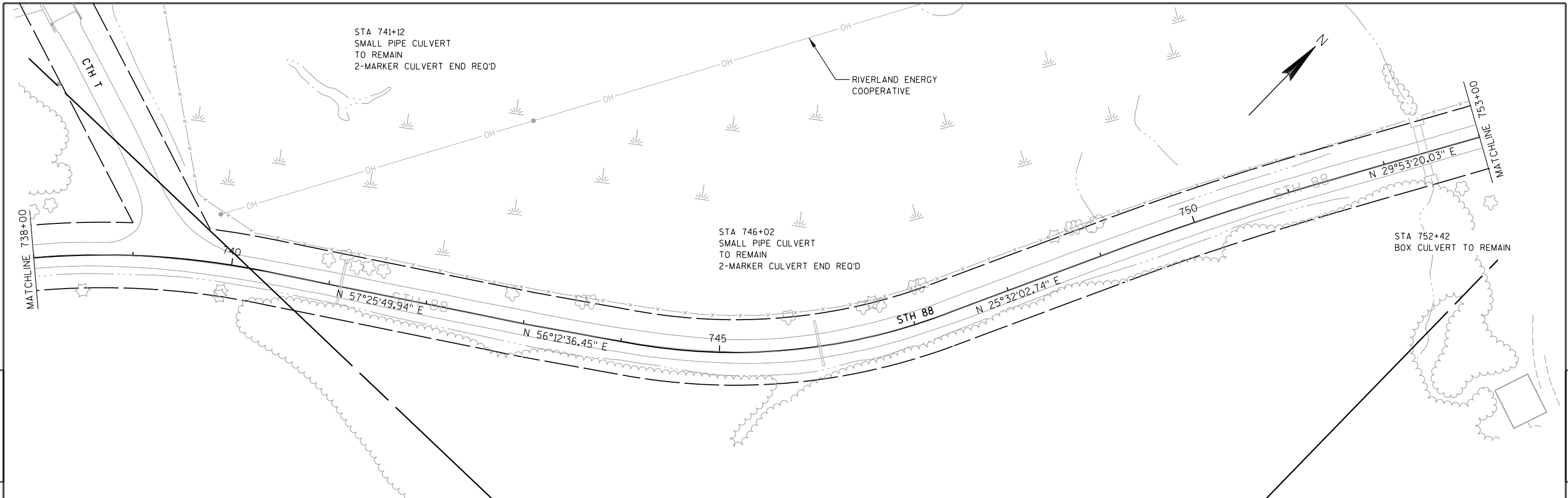
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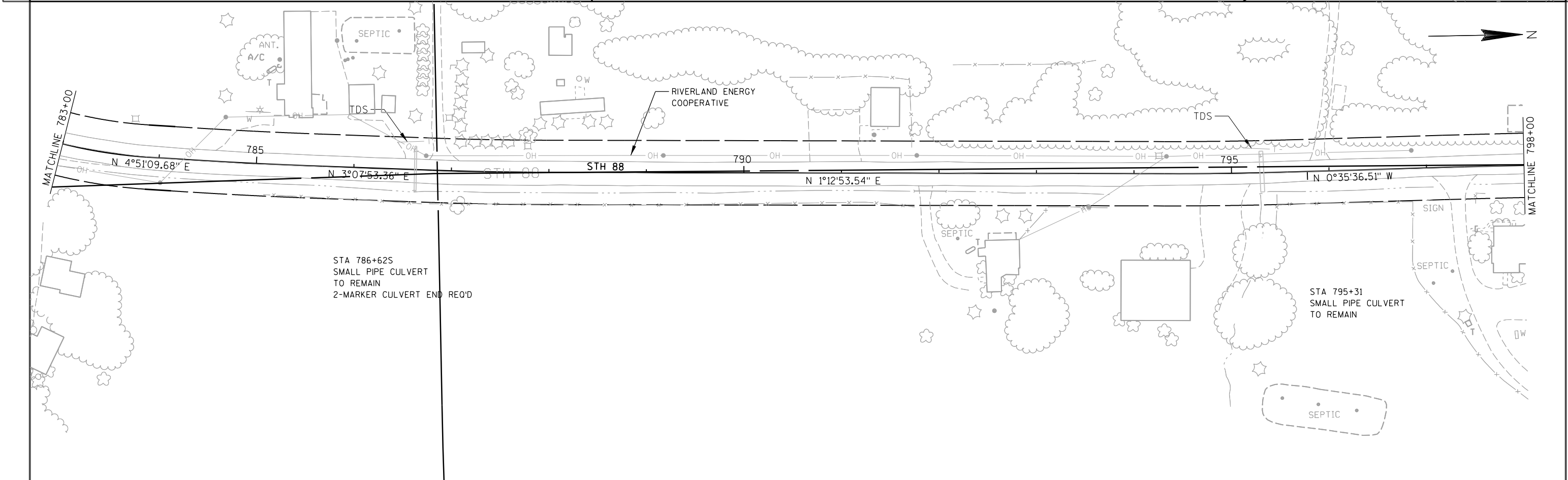
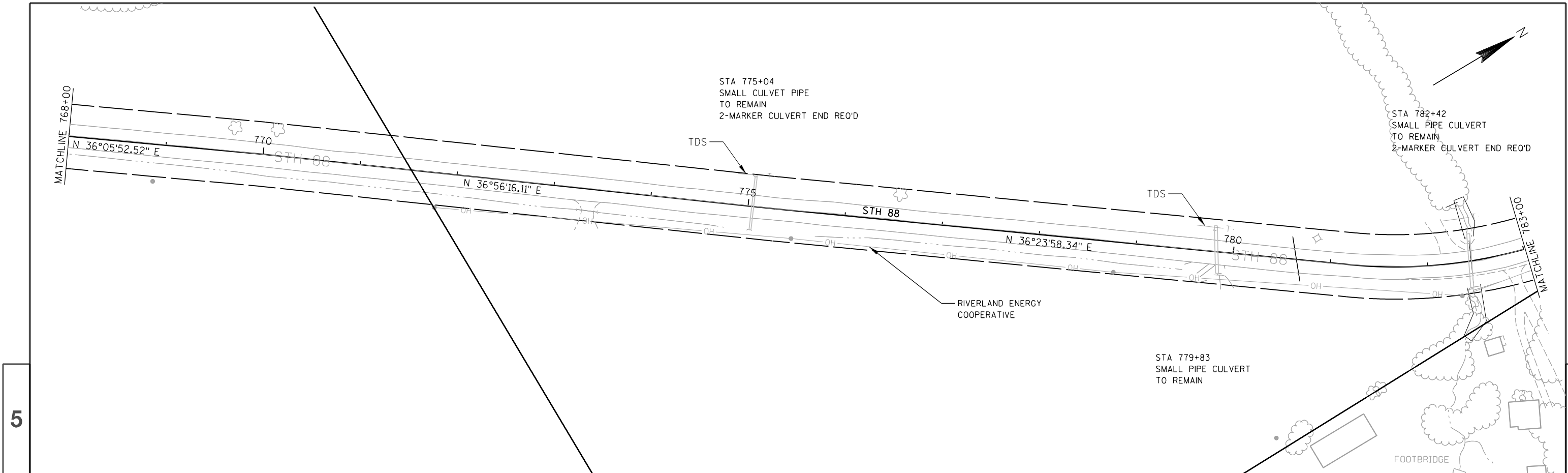


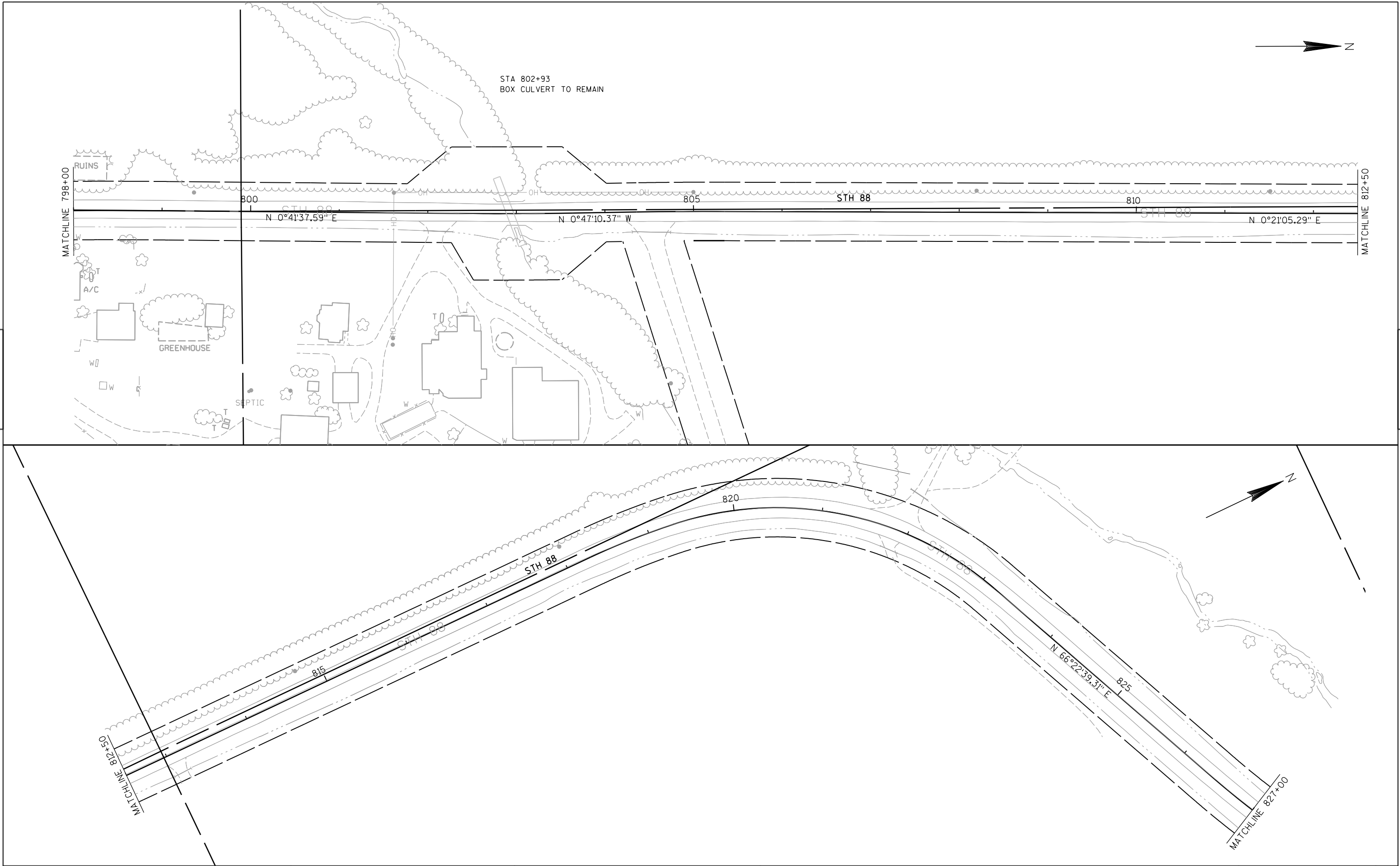


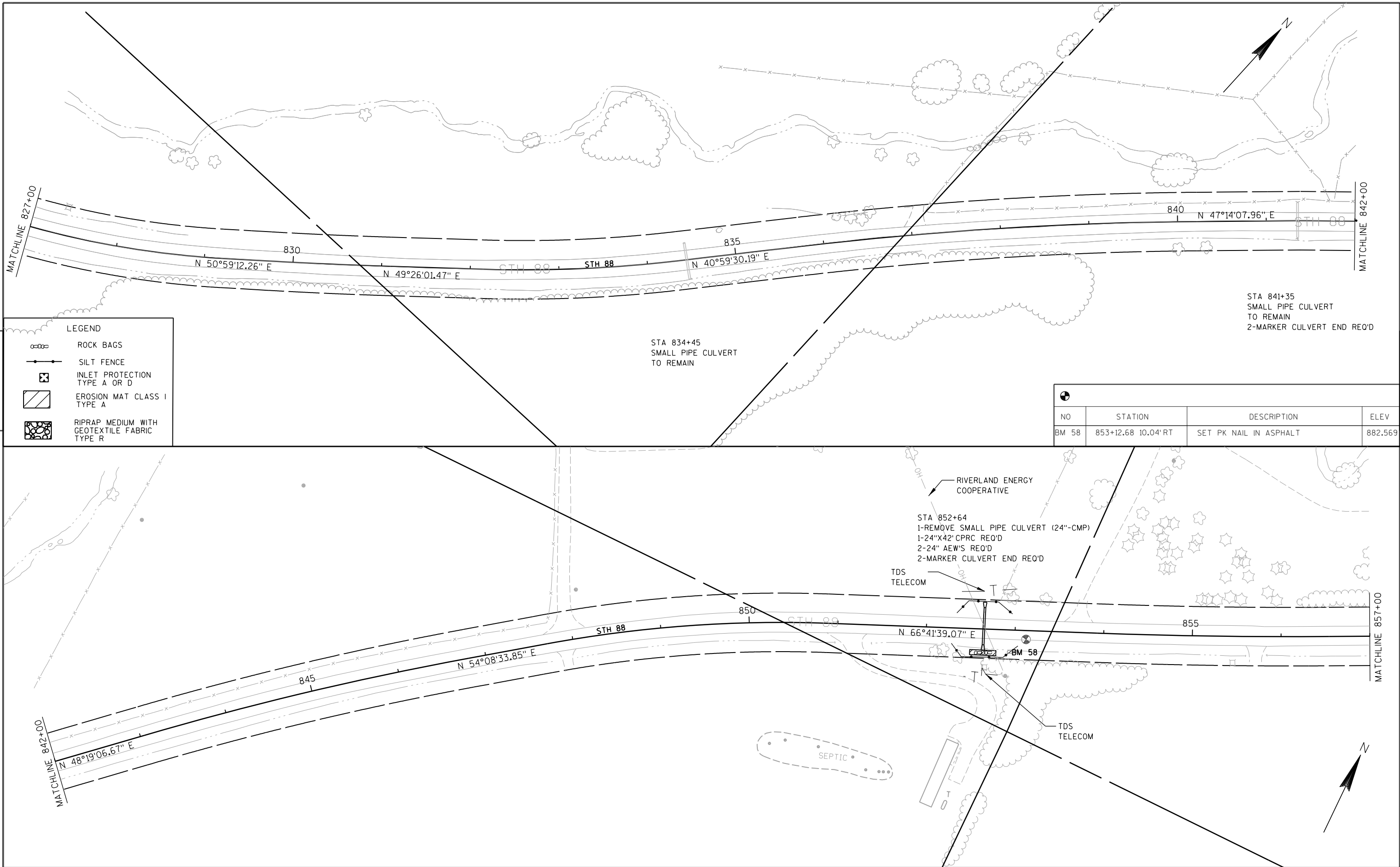




PROJECT NO: 7730-00-60	HWY: STH 88	COUNTY: BUFFALO	PLAN	SHEET 41	E
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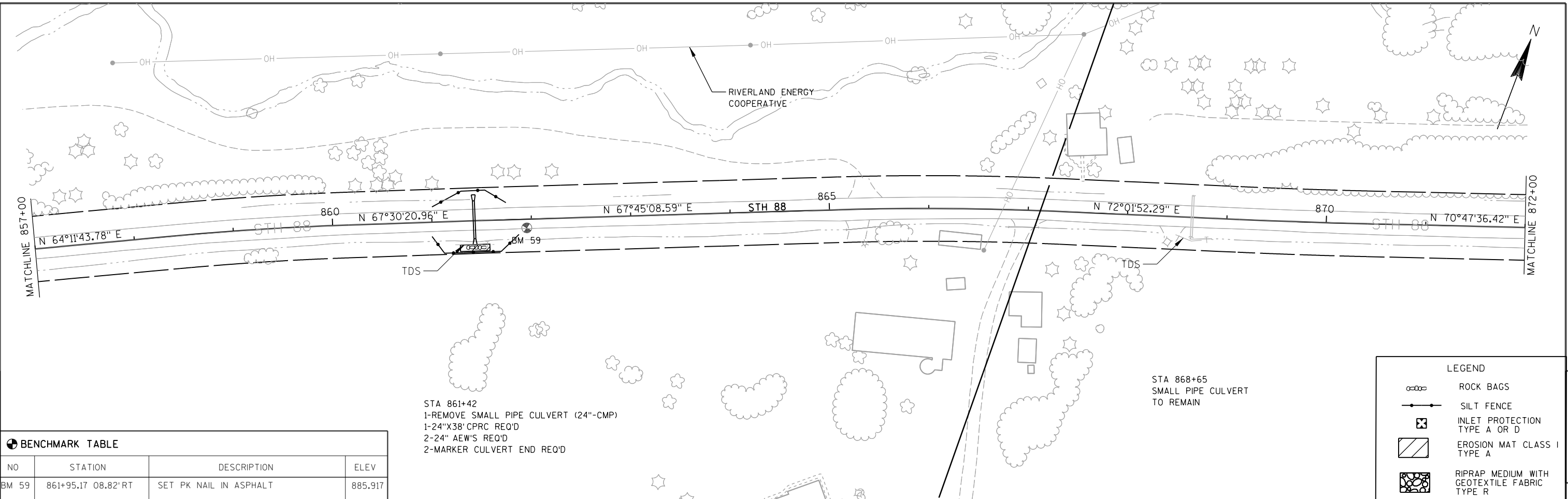


LEGEND

- ROCK BAGS
- SILT FENCE
- INLET PROTECTION TYPE A OR D
- EROSION MAT CLASS I TYPE A
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

NO	STATION	DESCRIPTION	ELEV
BM 58	853+12.68 10.04'RT	SET PK NAIL IN ASPHALT	882.569

5



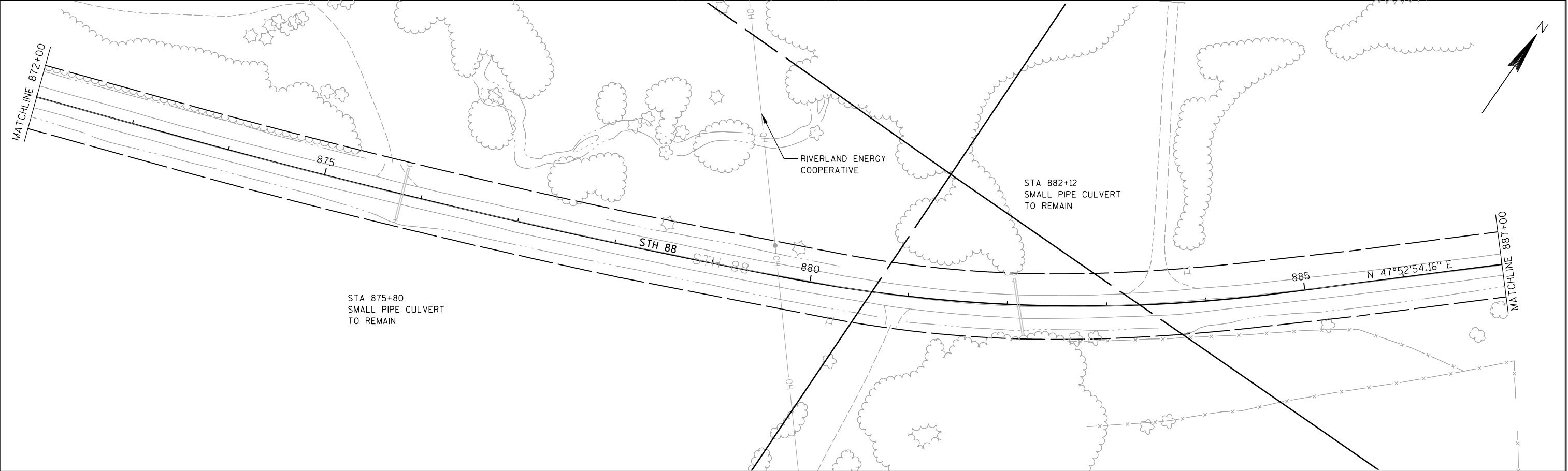
BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
BM 59	861+95.17 08.82' RT	SET PK NAIL IN ASPHALT	885.917

STA 861+42
1-REMOVE SMALL PIPE CULVERT (24\"/>

STA 868+65
SMALL PIPE CULVERT
TO REMAIN

LEGEND	
	ROCK BAGS
	SILT FENCE
	INLET PROTECTION TYPE A OR D
	EROSION MAT CLASS I TYPE A
	RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

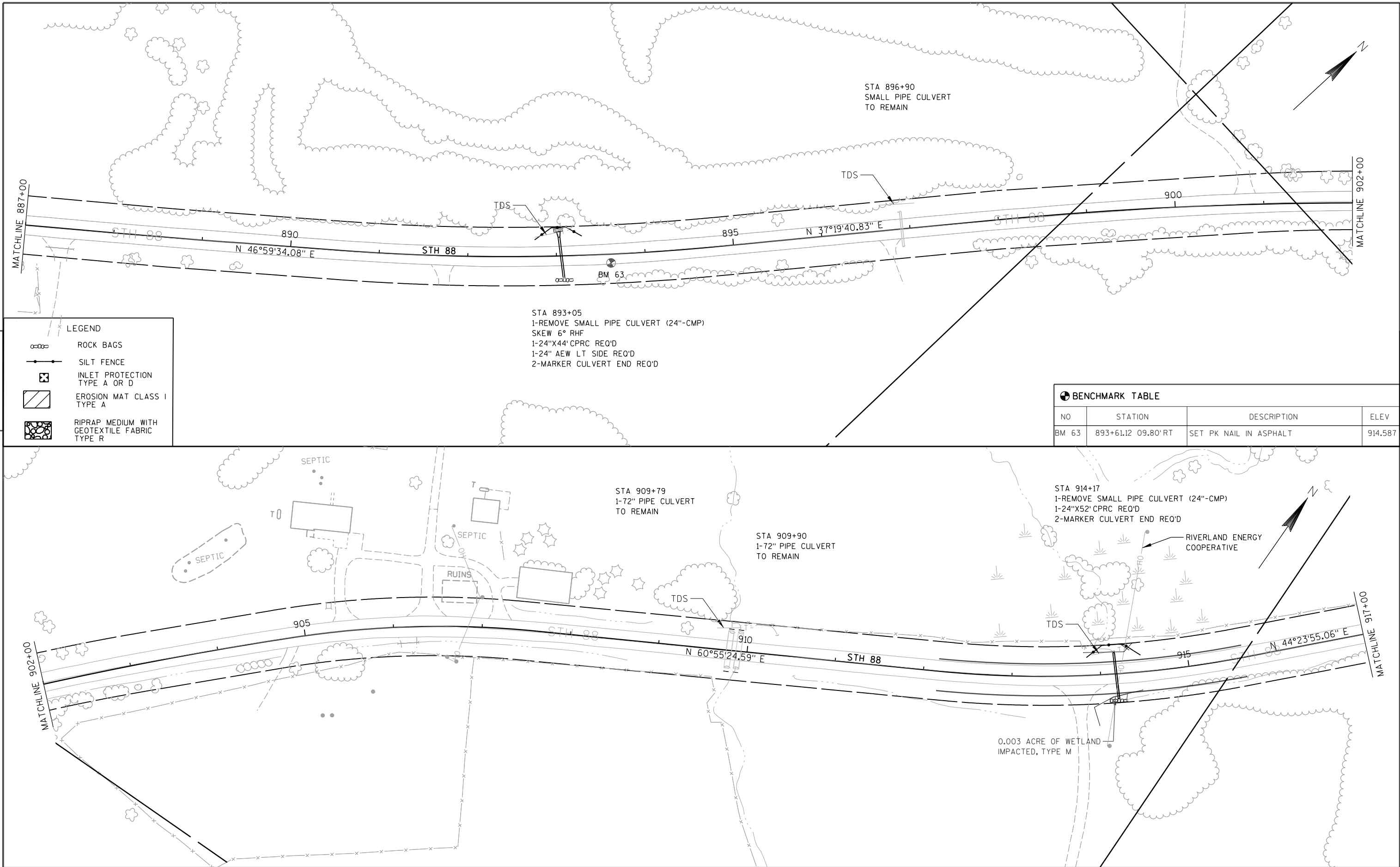
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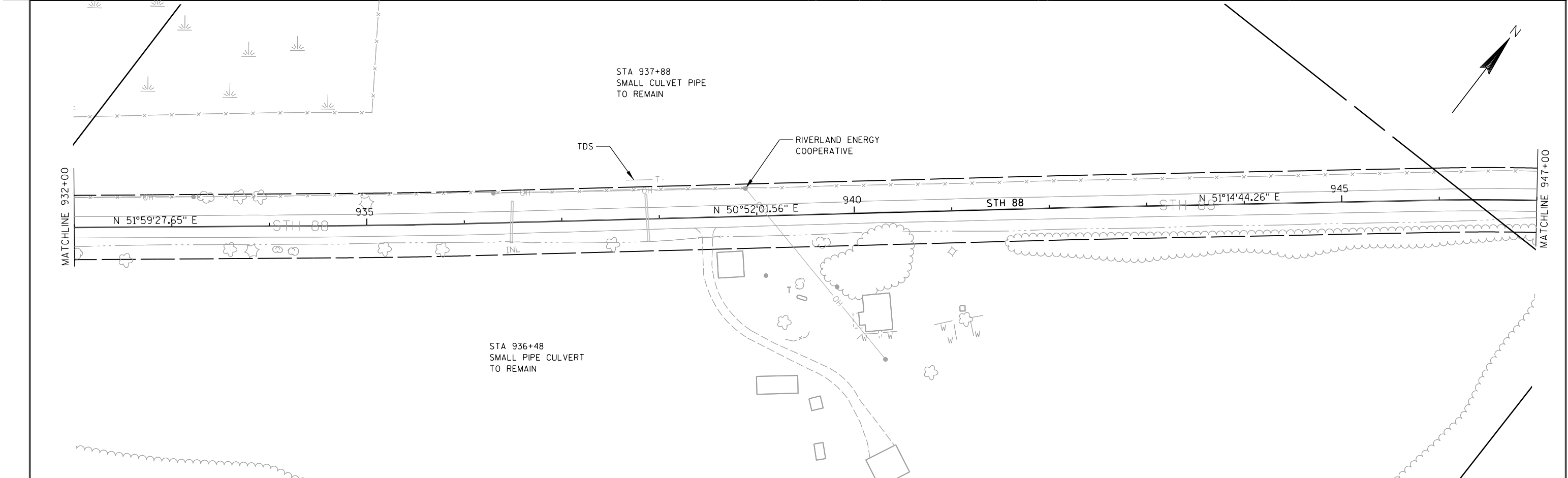
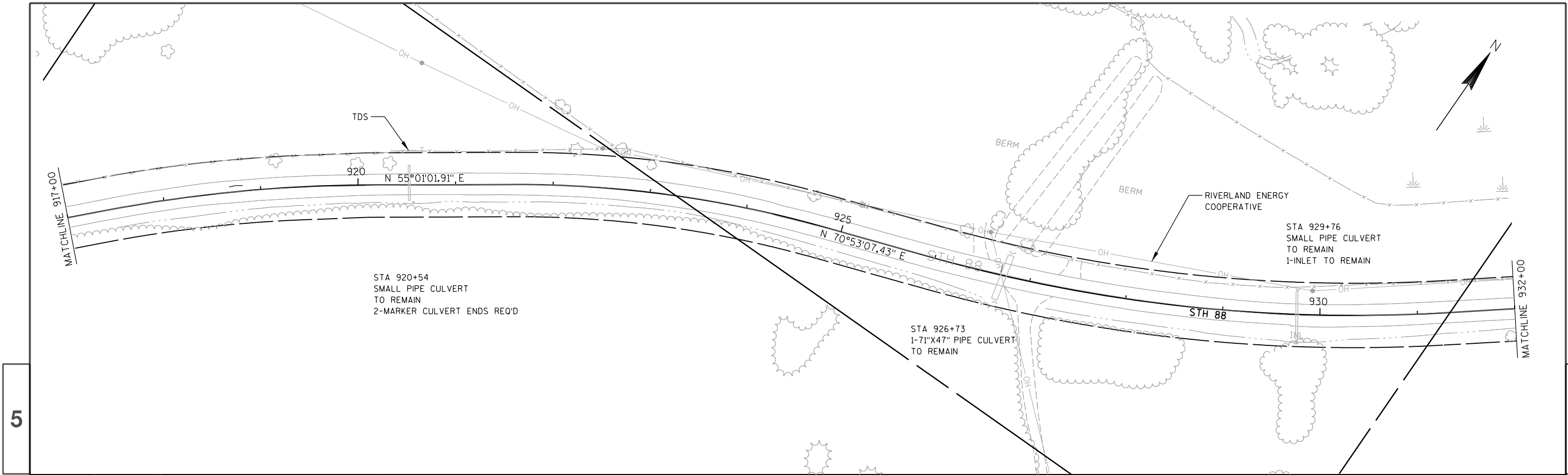


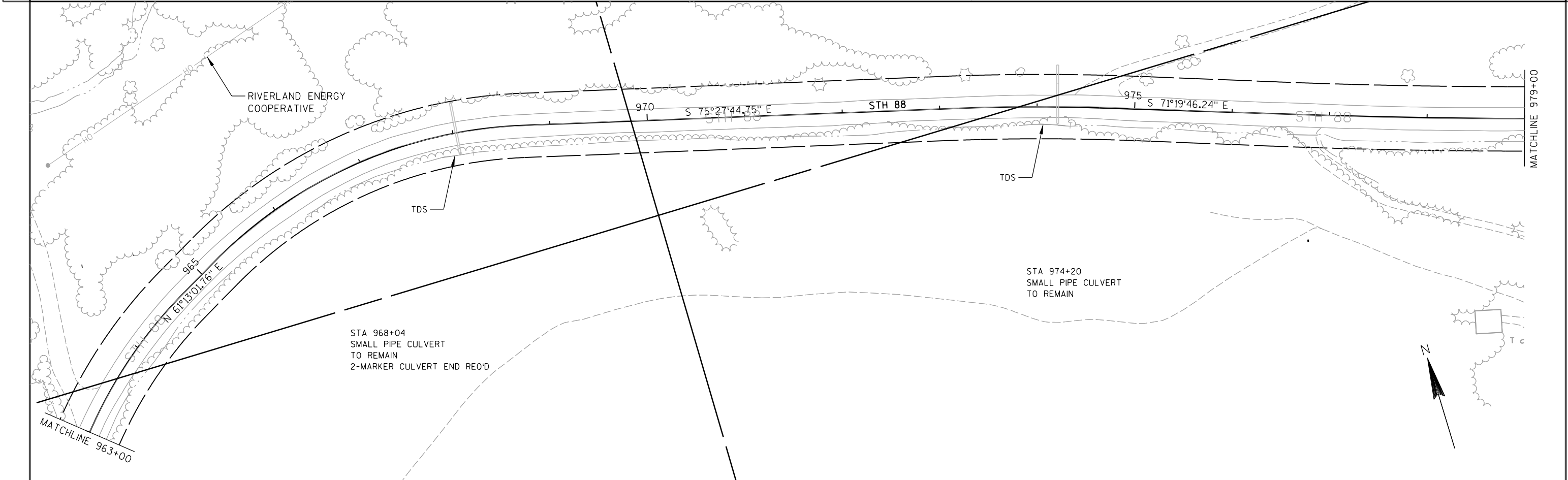
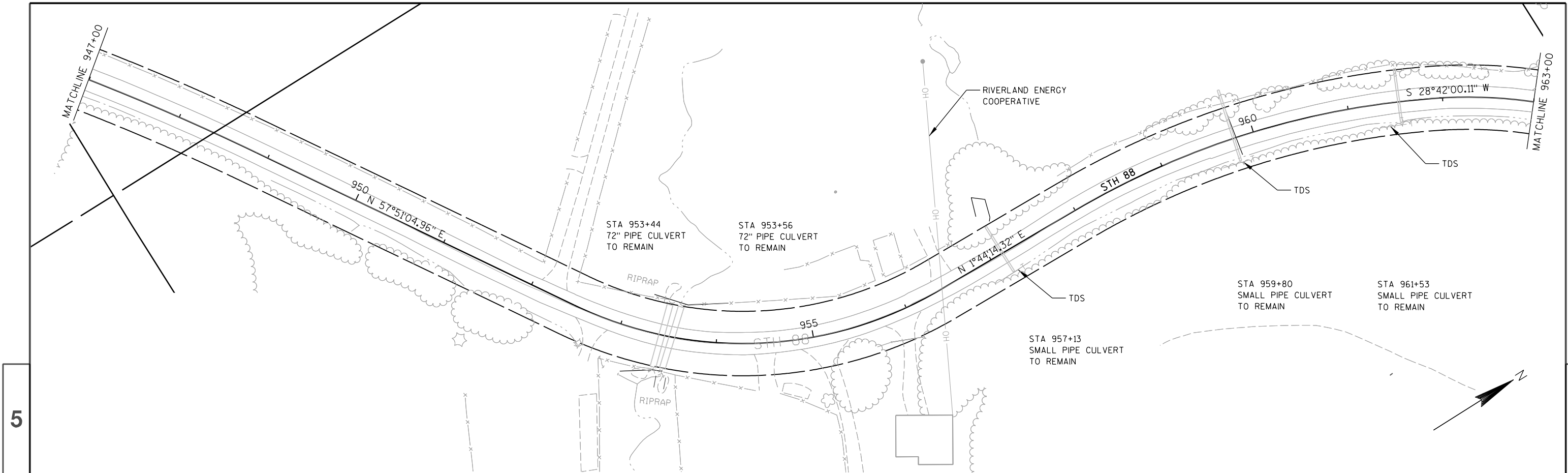
STA 875+80
SMALL PIPE CULVERT
TO REMAIN

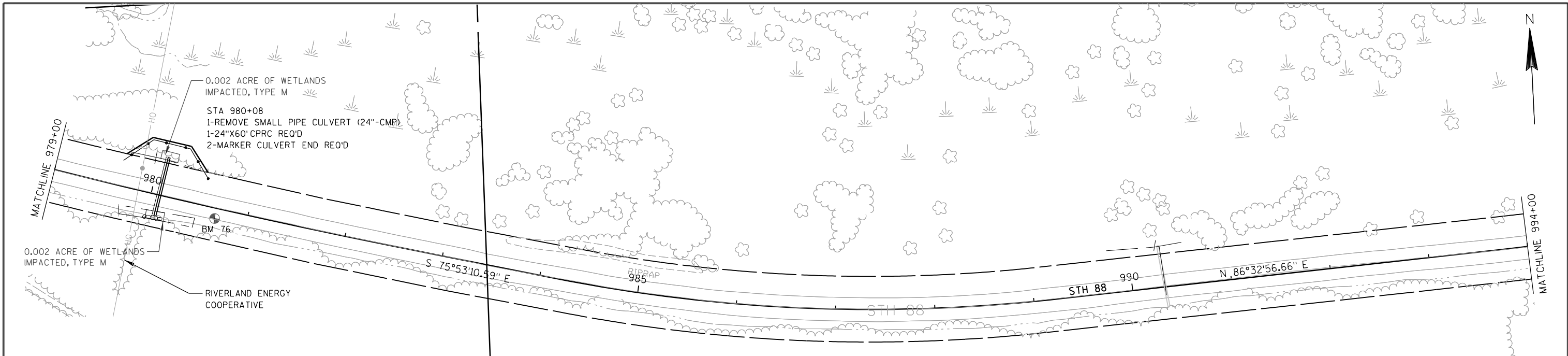
STA 882+12
SMALL PIPE CULVERT
TO REMAIN

PROJECT NO: 7730-00-60	HWY: STH 88	COUNTY: BUFFALO	PLAN	SHEET 45	E
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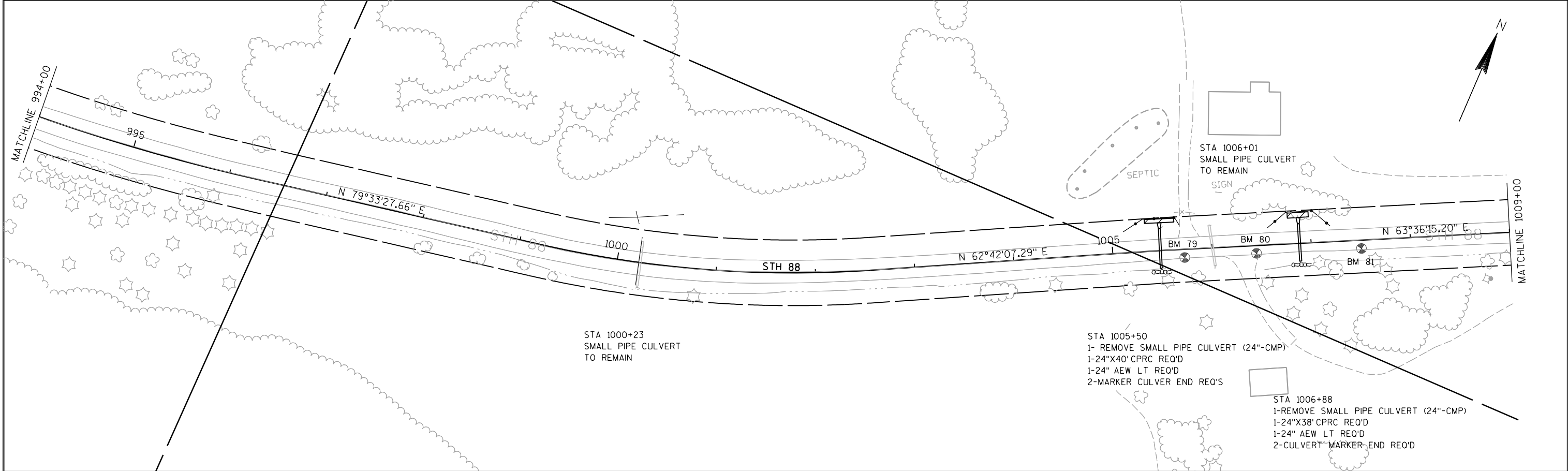




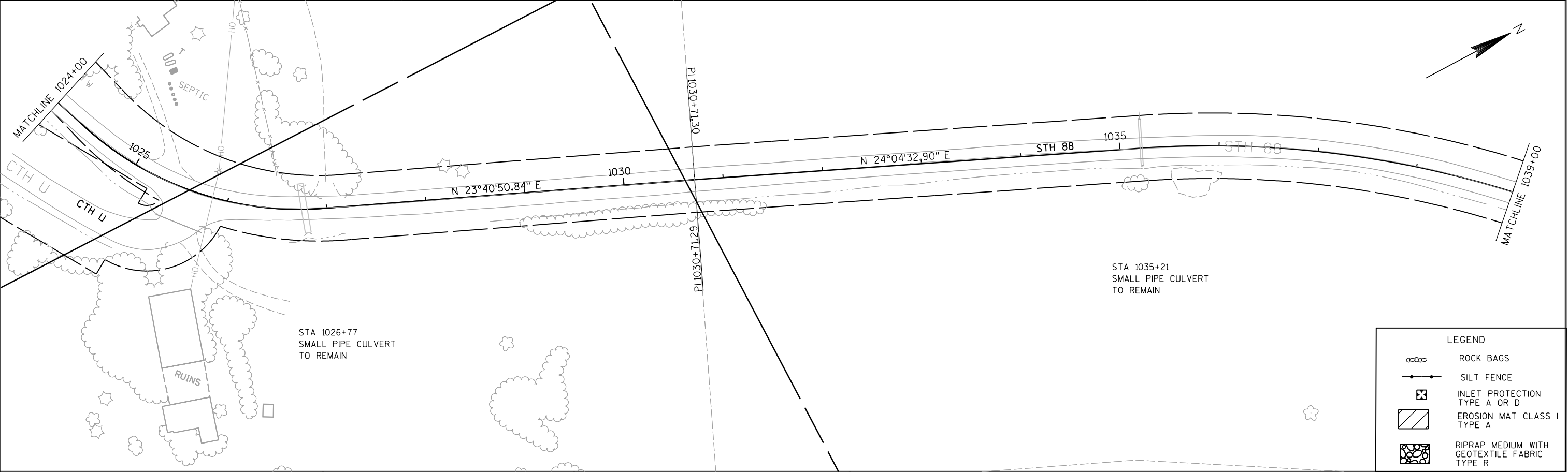
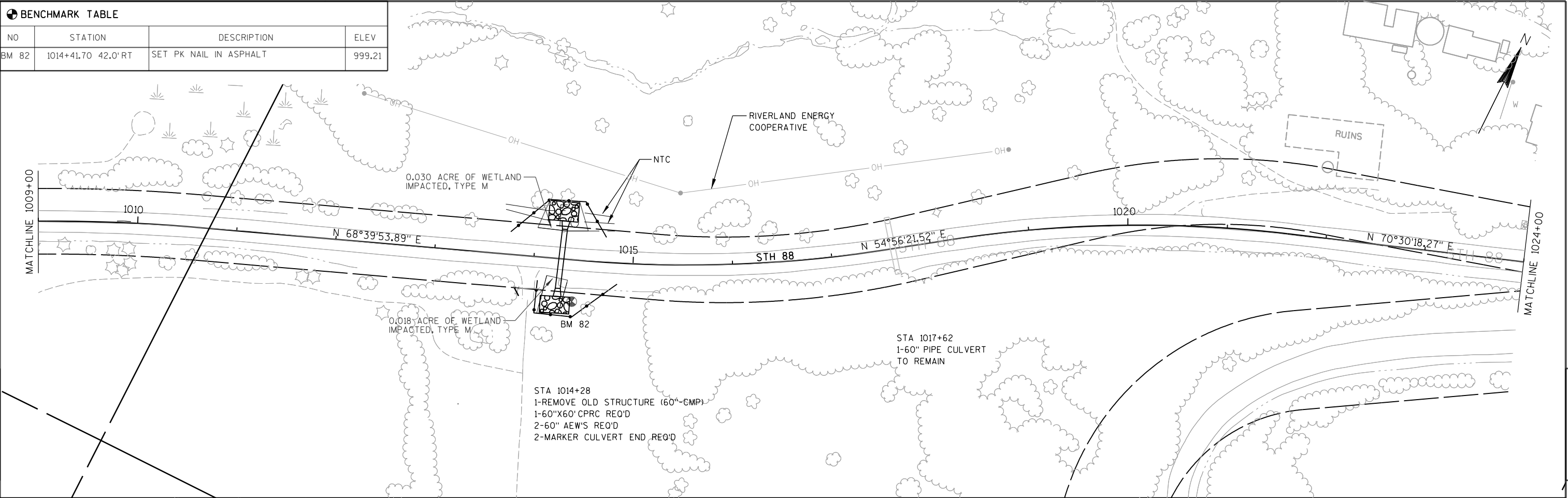


BENCHMARK TABLE				
NO	STATION		DESCRIPTION	ELEV
BM 76	980+67.86	10.49'RT	SET PK NAIL IN ASPHALT	990.583
BM 79	1005+72.19	08.30'RT	SET PK NAIL IN ASPHALT	1006.881
BM 80	1006+44.63	07.86'RT	SET PK NAIL IN ASPHALT	1007.321
BM 81	1007+50.28	08.45'RT	SET PK NAIL IN ASPHALT	1007.607

LEGEND	
	ROCK BAGS
	SILT FENCE
	INLET PROTECTION TYPE A OR D
	EROSION MAT CLASS I TYPE A
	RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

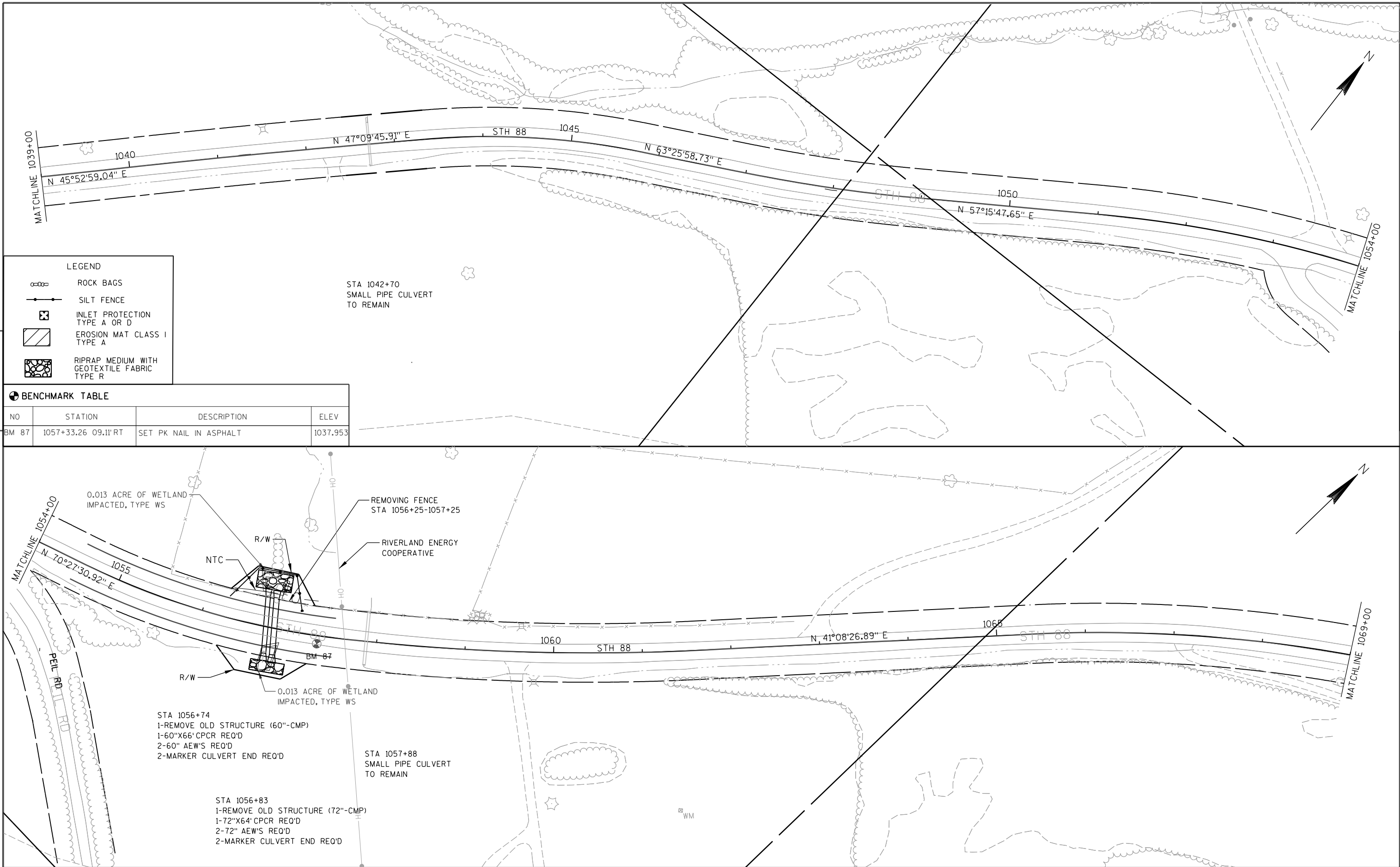


BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
BM 82	1014+41.70 42.0' RT	SET PK NAIL IN ASPHALT	999.21



LEGEND	
	ROCK BAGS
	SILT FENCE
	INLET PROTECTION TYPE A OR D
	EROSION MAT CLASS I TYPE A
	RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

PROJECT NO: 7730-00-60	HWY: STH 88	COUNTY: BUFFALO	PLAN	SHEET 50	E
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LEGEND

- ROCK BAGS
- SILT FENCE
- INLET PROTECTION TYPE A OR D
- EROSION MAT CLASS I TYPE A
- RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

BENCHMARK TABLE

NO	STATION	DESCRIPTION	ELEV
BM 87	1057+33.26 09.11' RT	SET PK NAIL IN ASPHALT	1037.953

PROJECT NO: 7730-00-60

HWY: STH 88

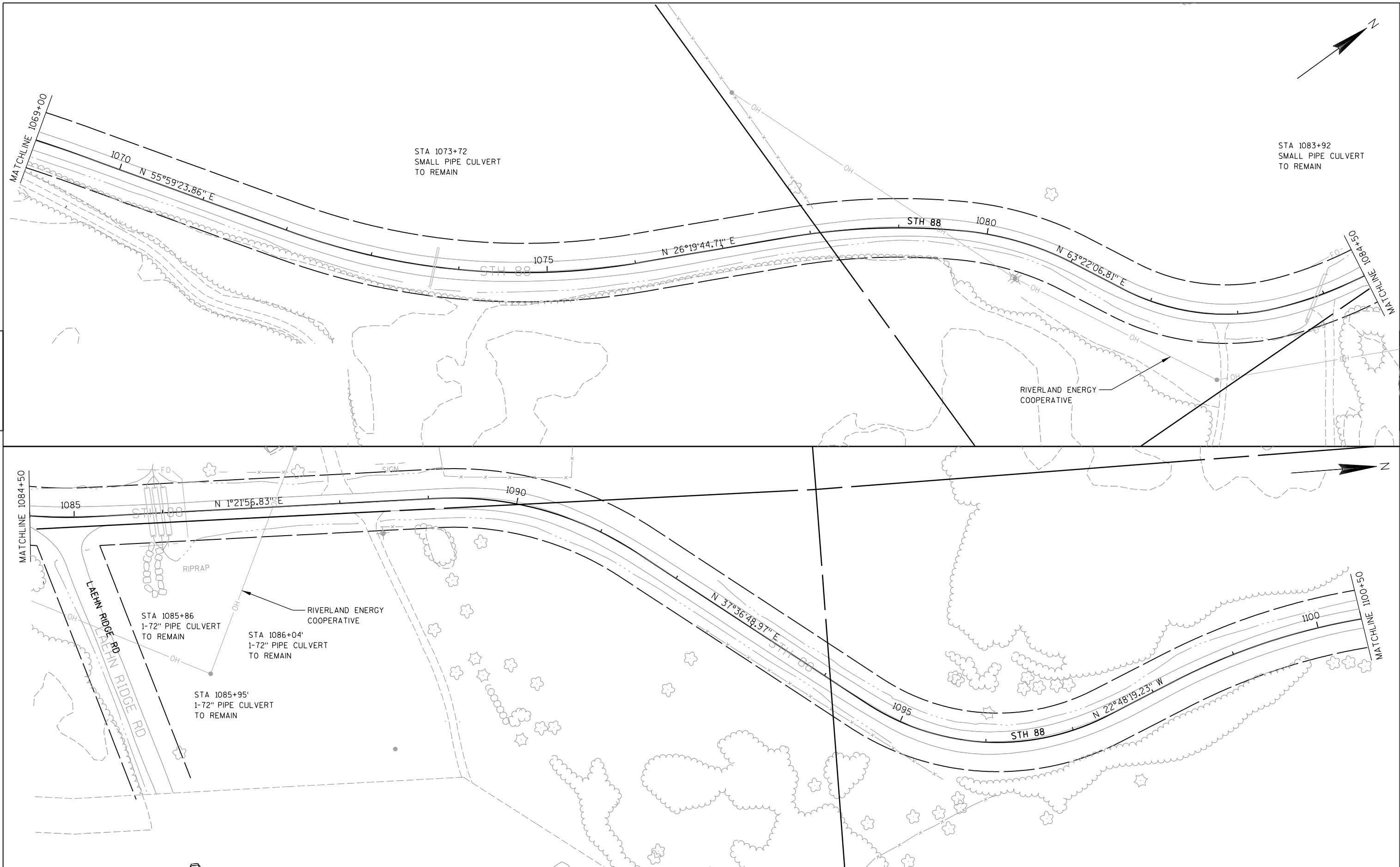
COUNTY: BUFFALO

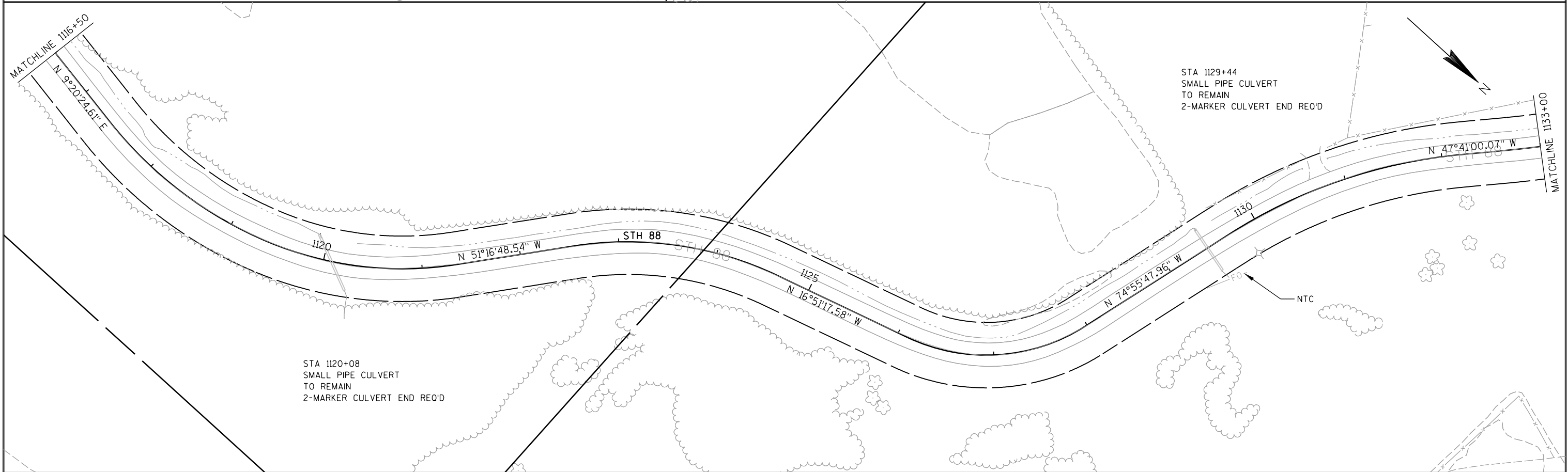
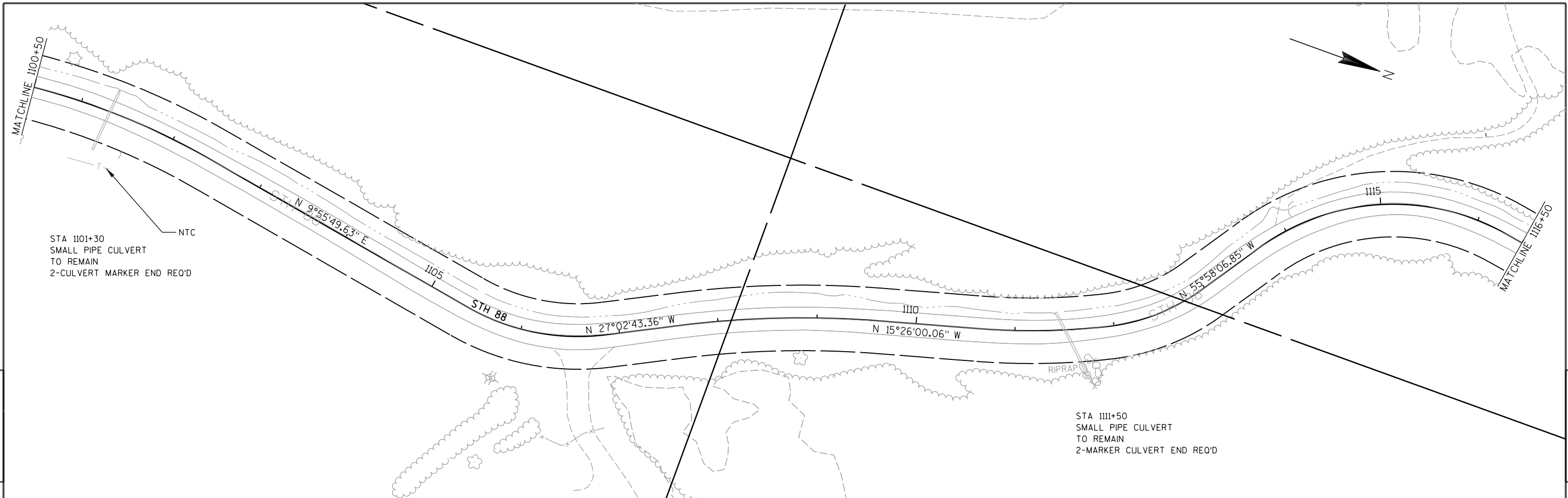
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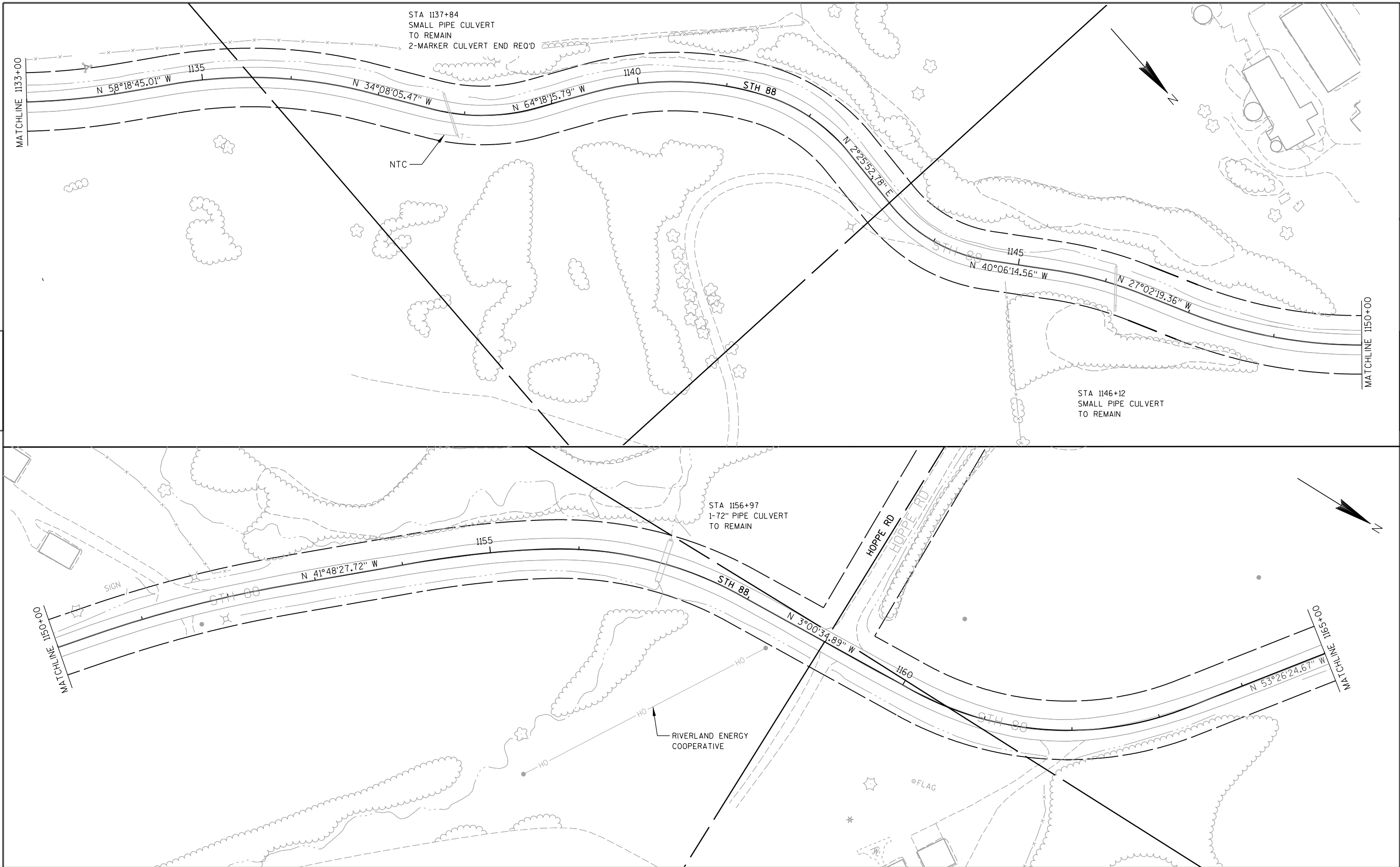
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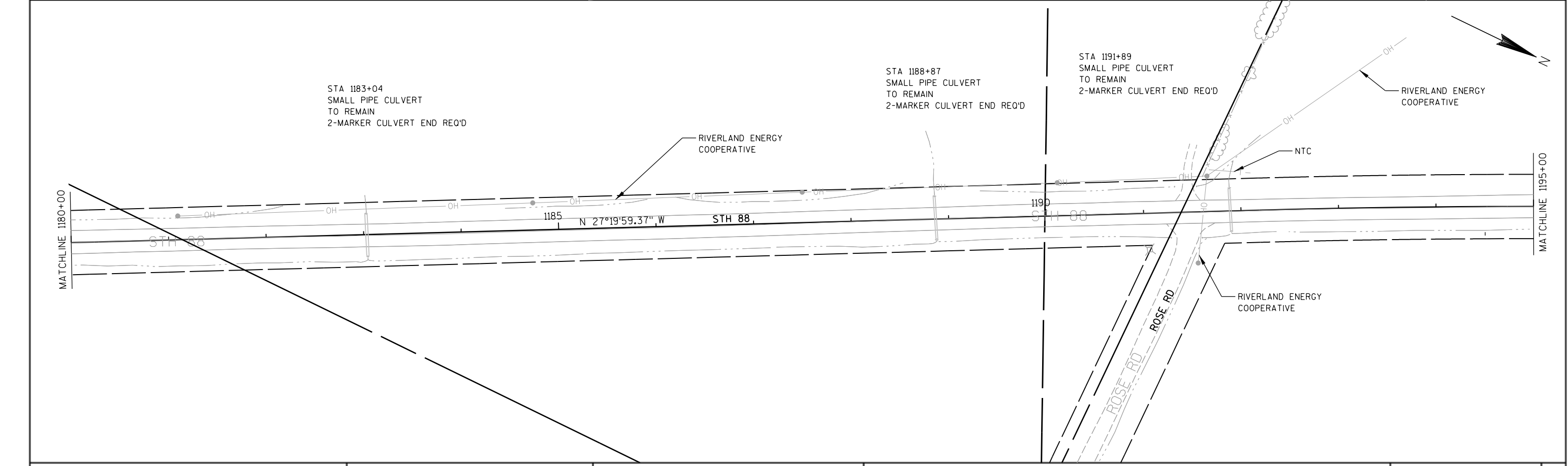
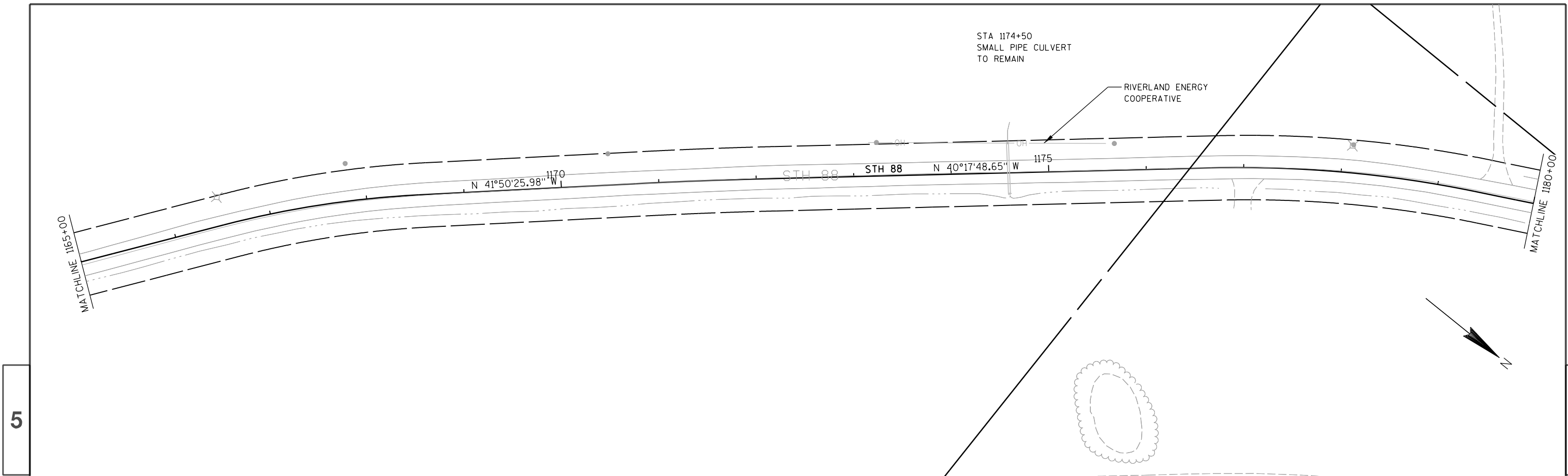
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E

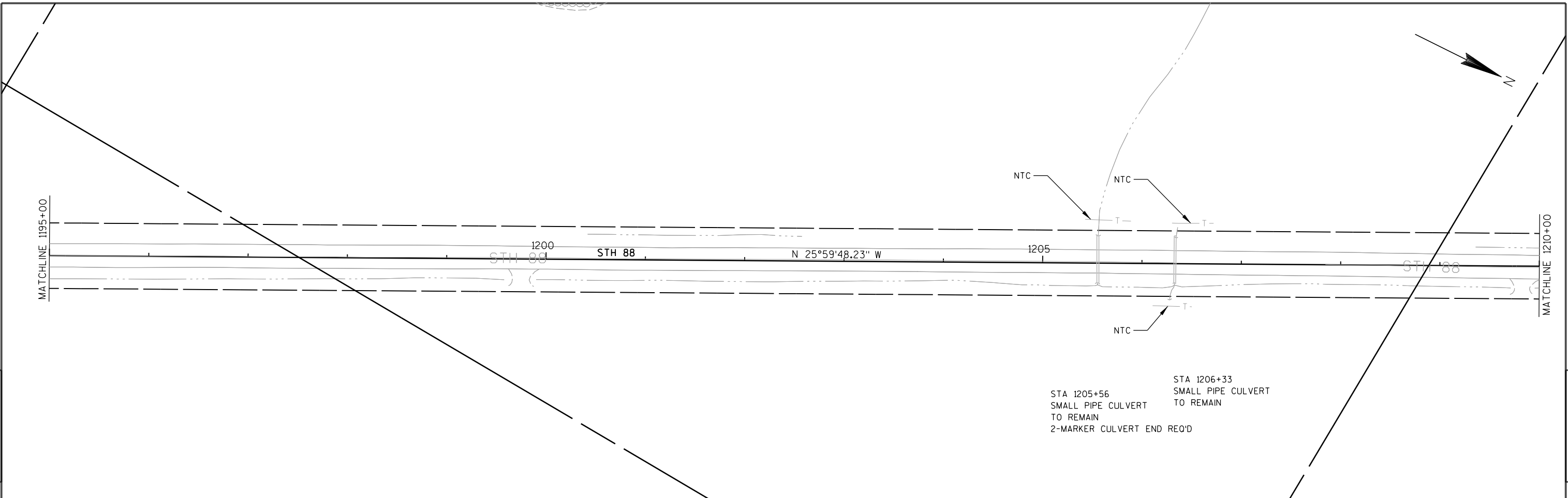




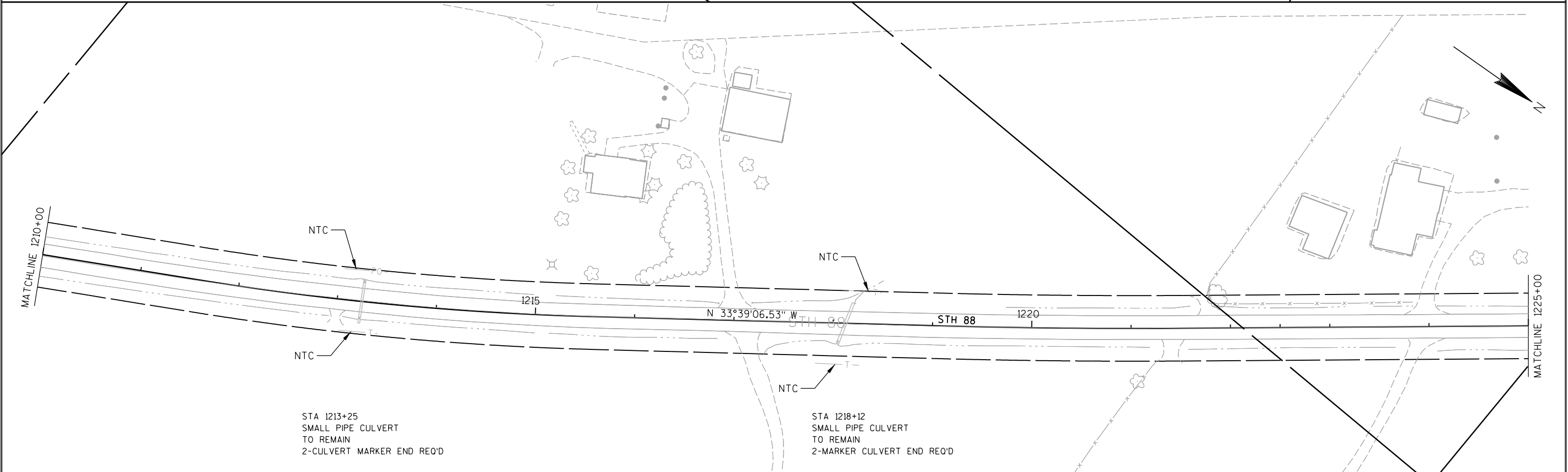


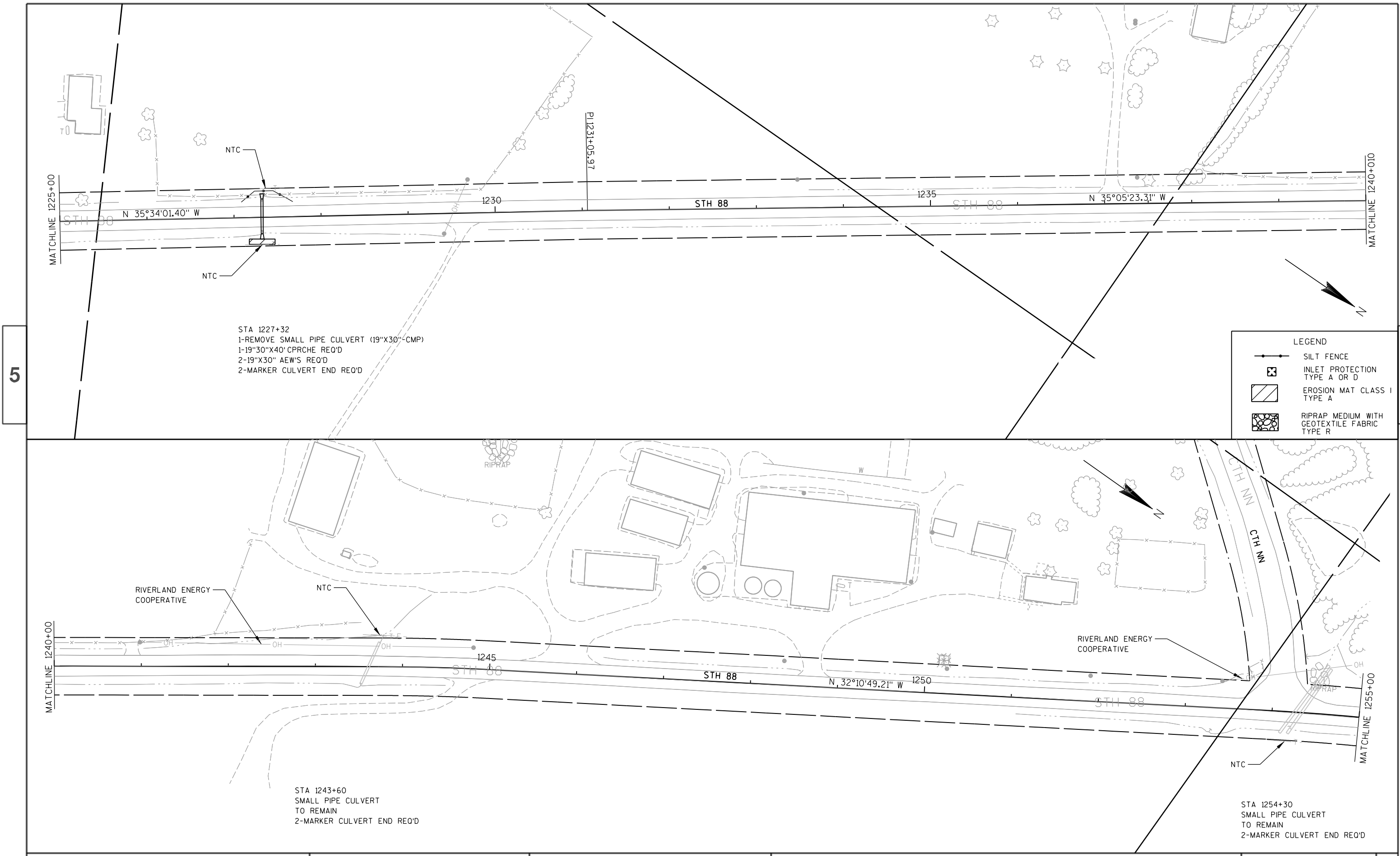


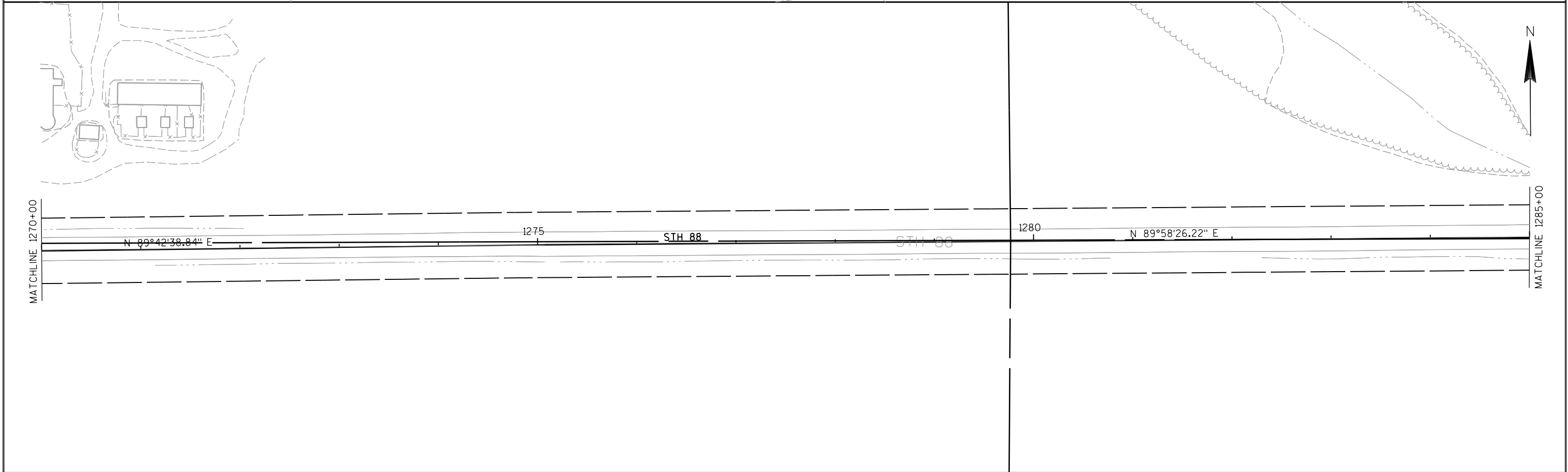
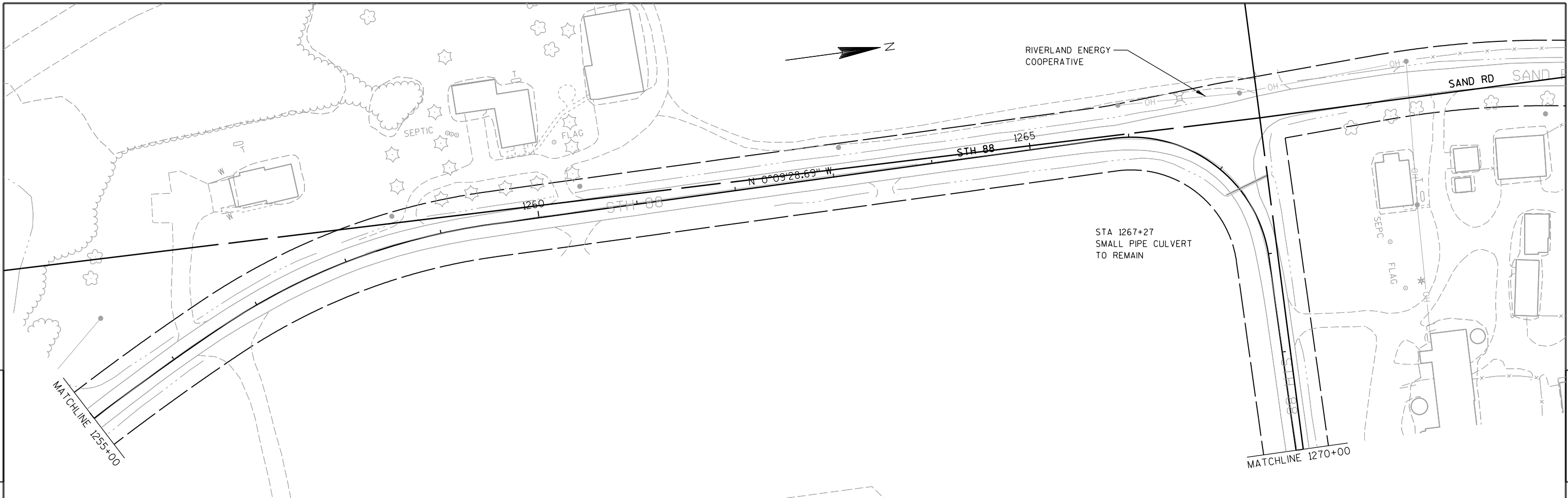
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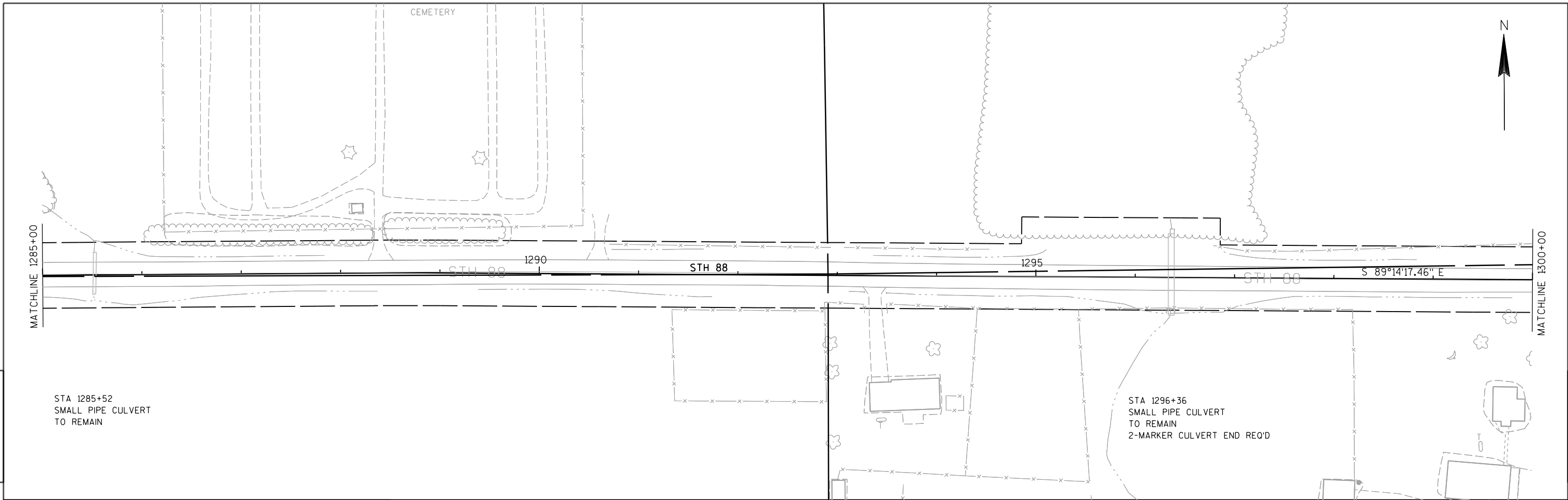


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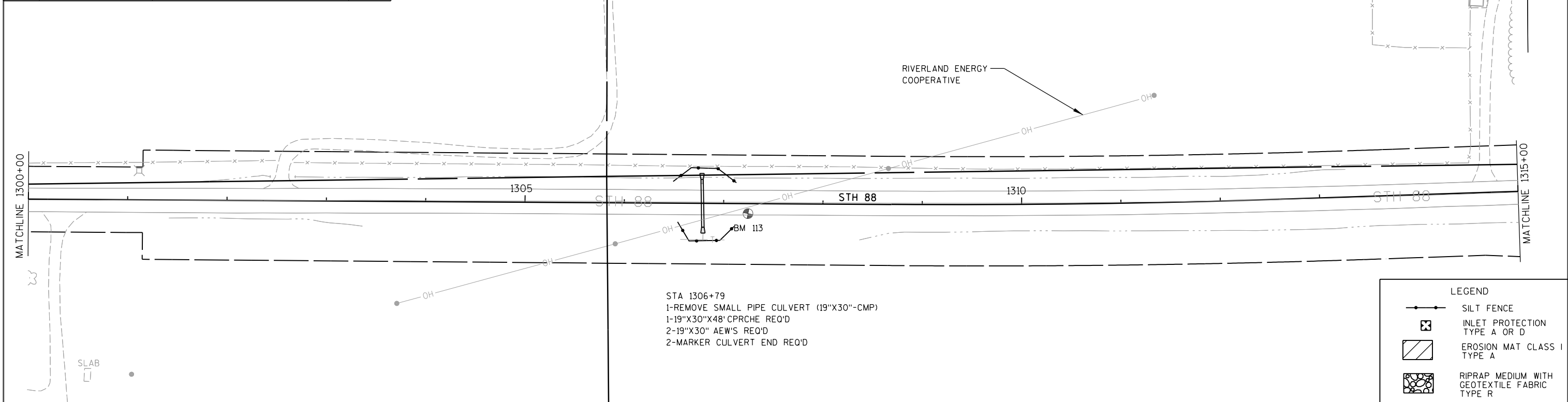




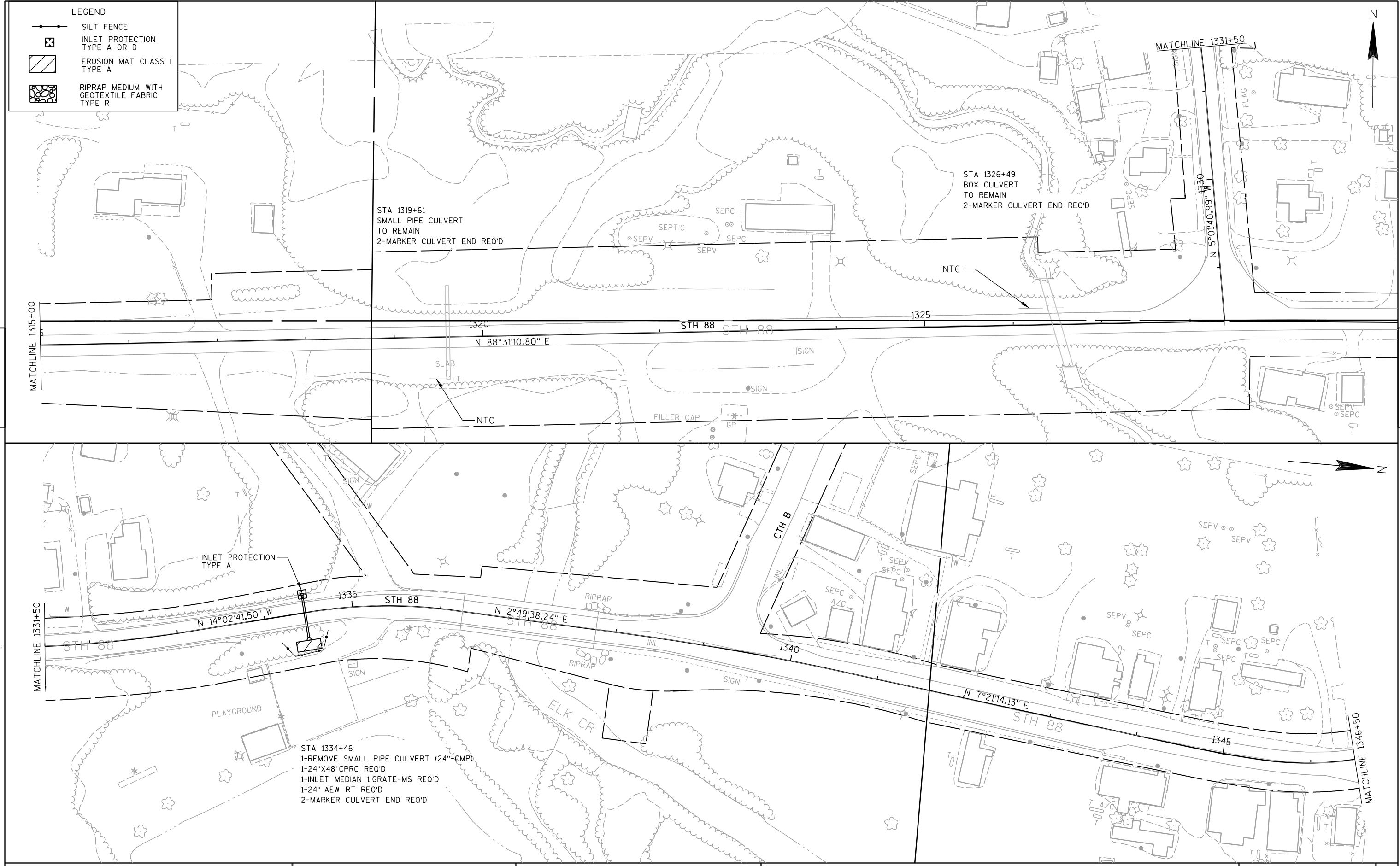


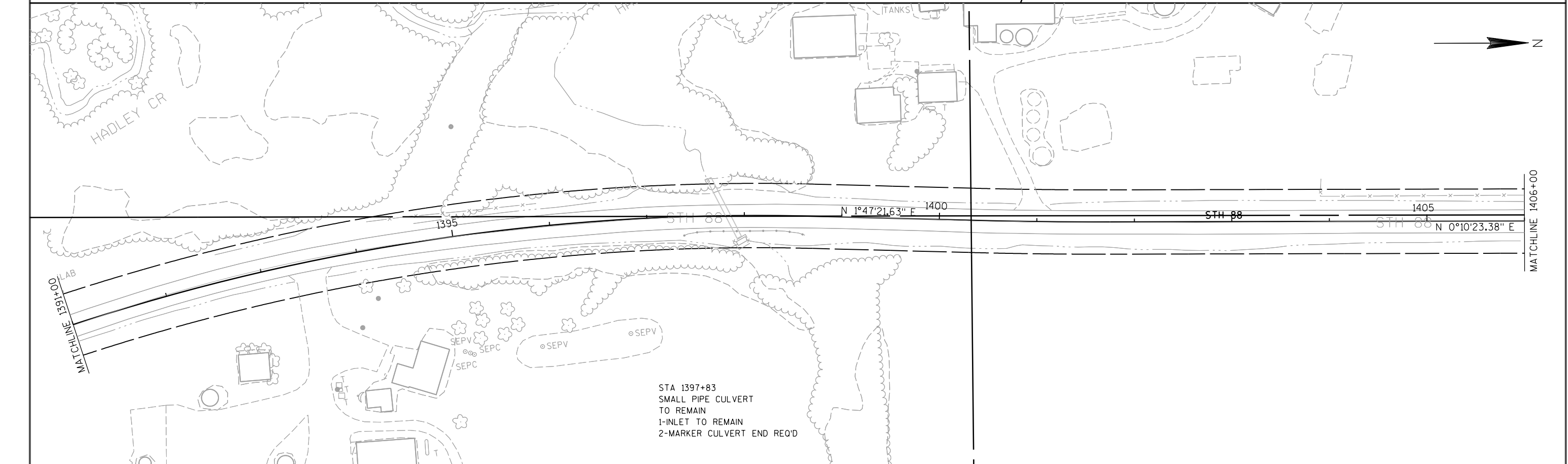
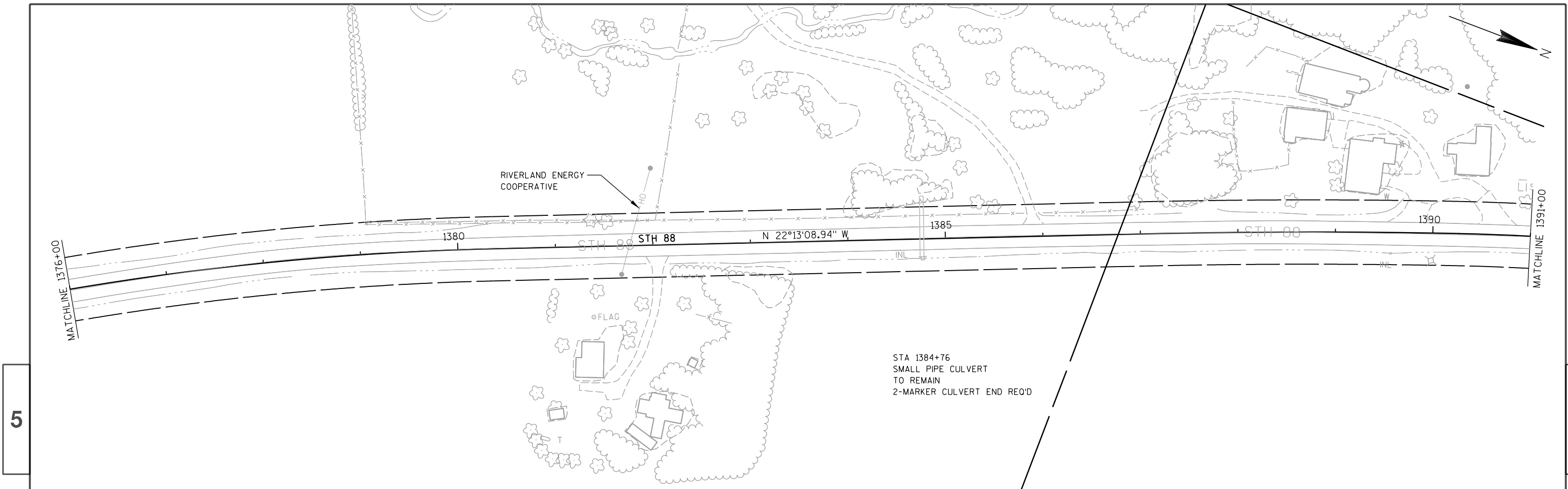


BENCHMARK TABLE				
NO	STATION		DESCRIPTION	ELEV
BM 113	1307+24.58	10.16' RT	SET PK NAIL IN ASPHALT	710.781



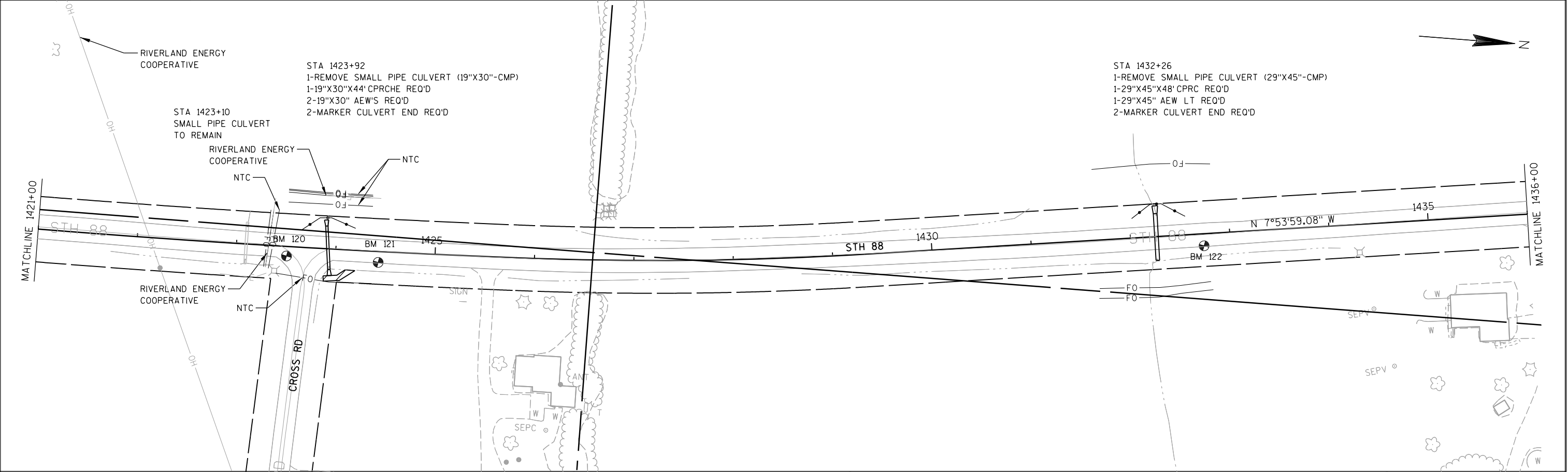
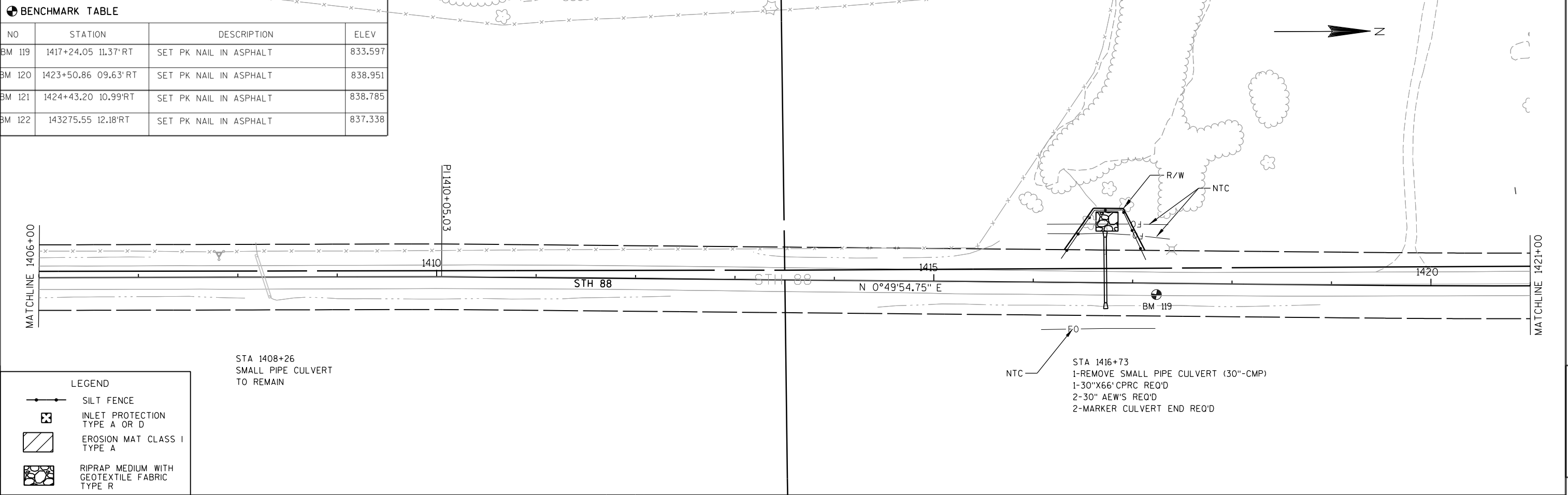
LEGEND	
	SILT FENCE
	INLET PROTECTION TYPE A OR D
	EROSION MAT CLASS I TYPE A
	RIPRAP MEDIUM WITH GEOTEXTILE FABRIC TYPE R

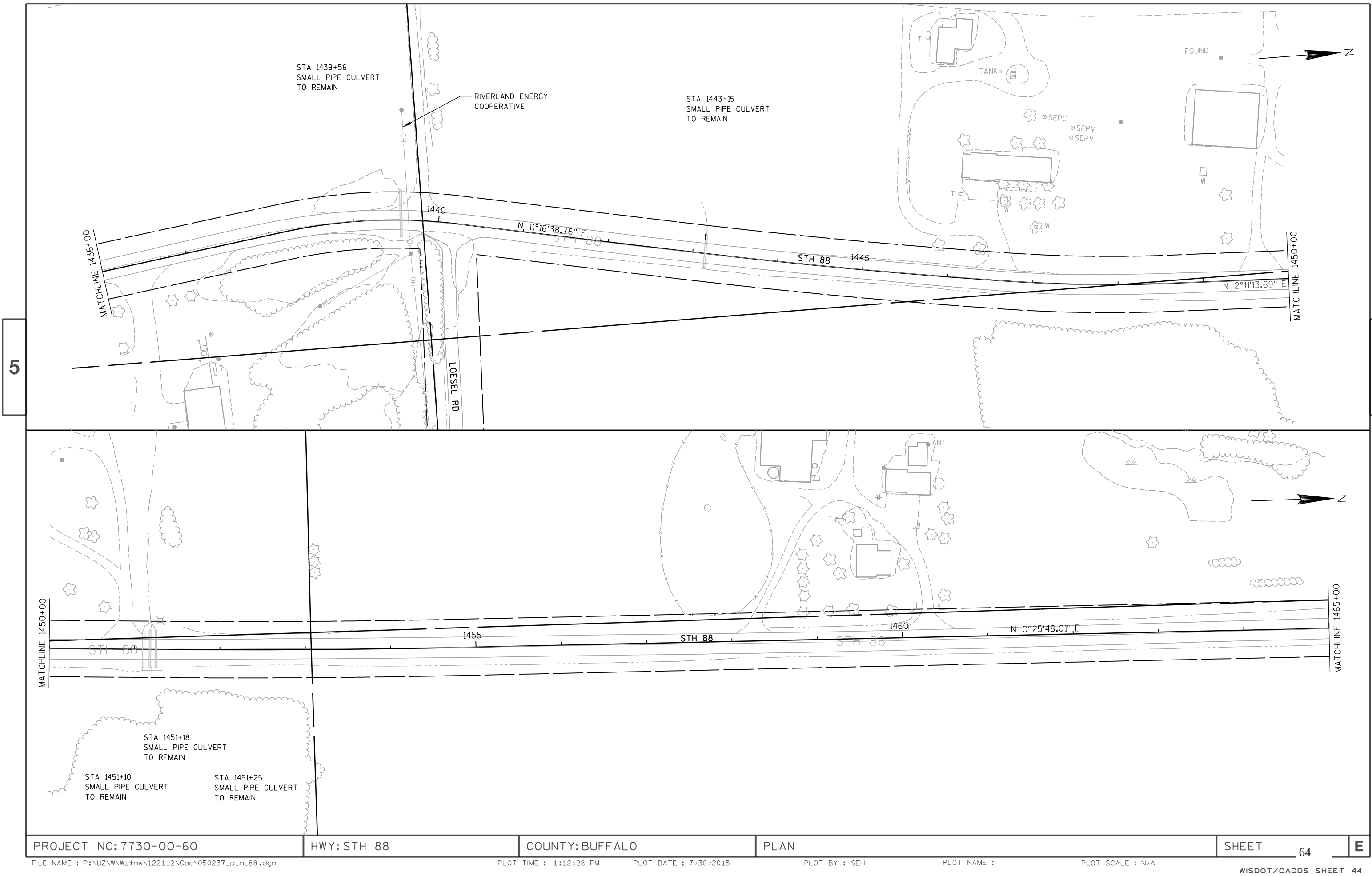


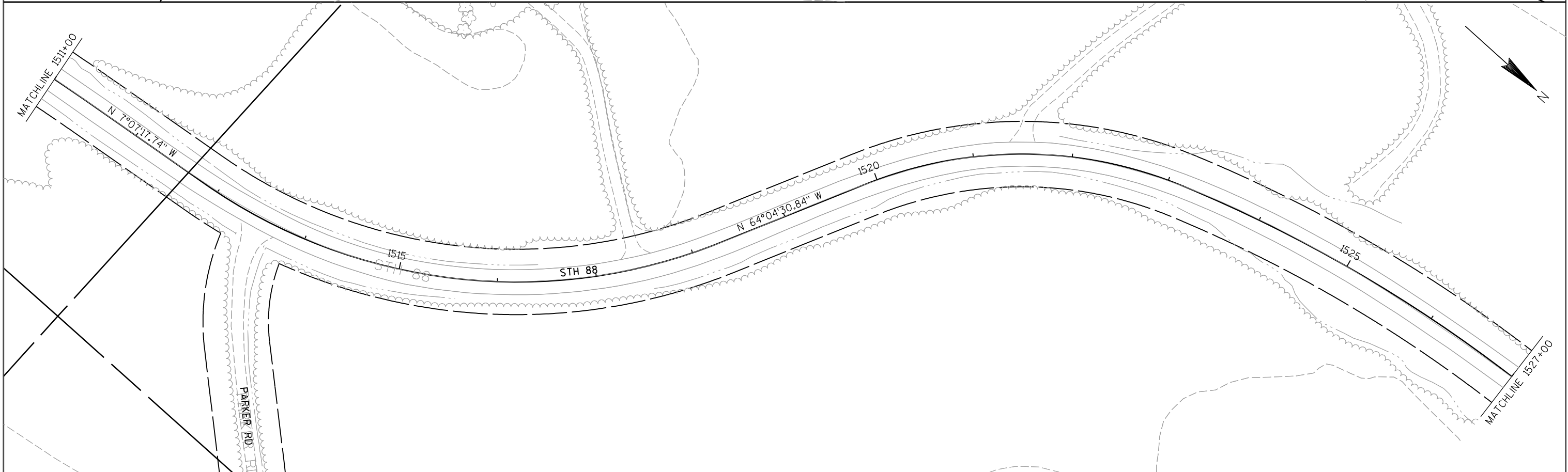
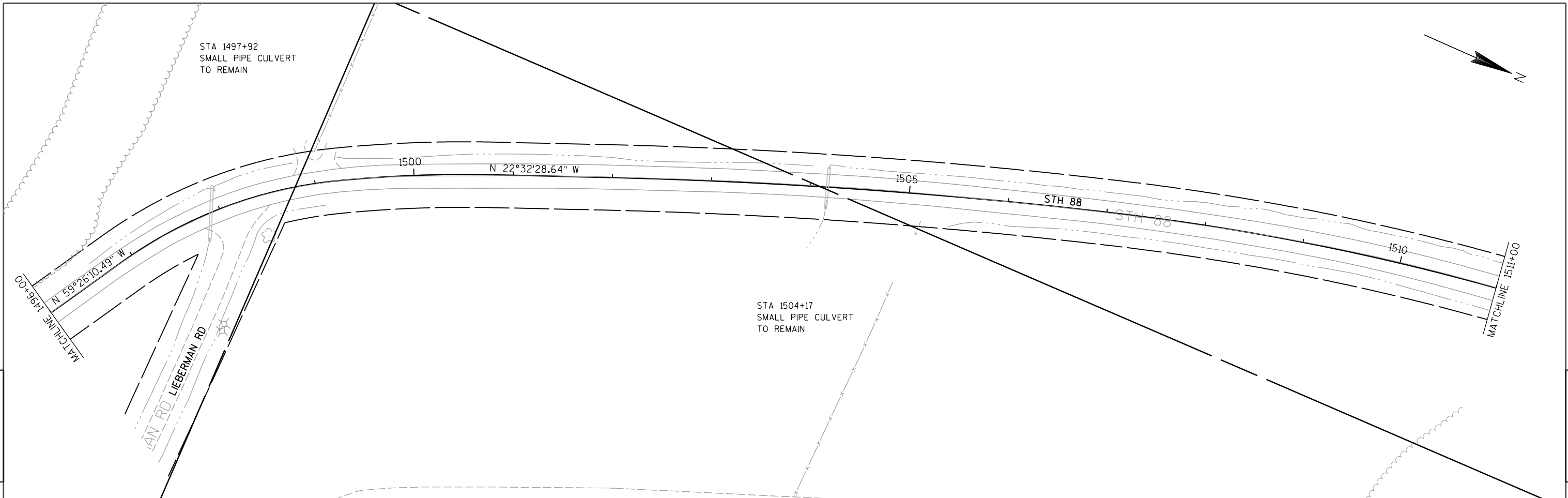


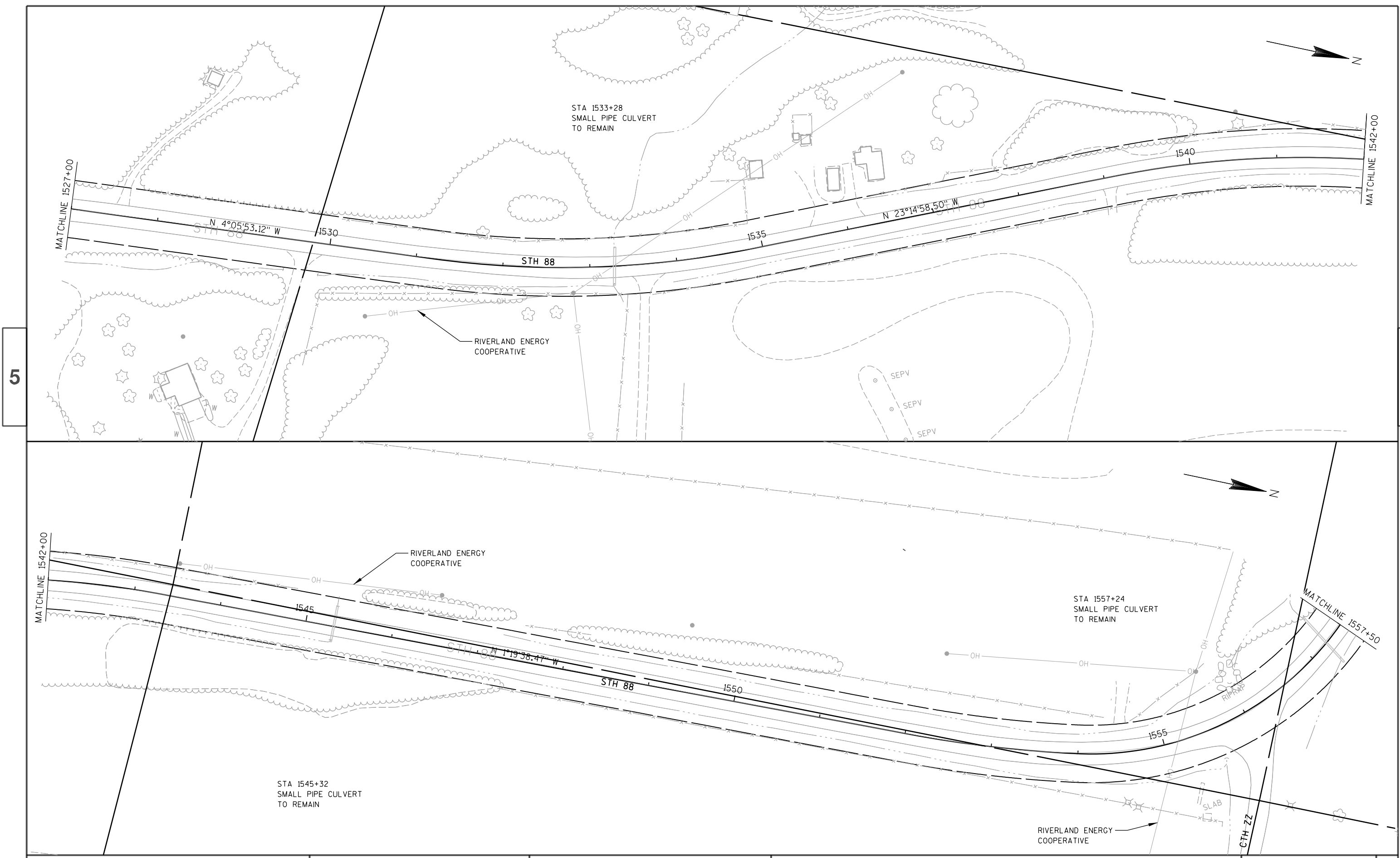
PROJECT NO: 7730-00-60	HWY: STH 88	COUNTY: BUFFALO	PLAN	SHEET 62	E
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BENCHMARK TABLE			
NO	STATION	DESCRIPTION	ELEV
BM 119	1417+24.05 11.37'RT	SET PK NAIL IN ASPHALT	833.597
BM 120	1423+50.86 09.63'RT	SET PK NAIL IN ASPHALT	838.951
BM 121	1424+43.20 10.99'RT	SET PK NAIL IN ASPHALT	838.785
BM 122	143275.55 12.18'RT	SET PK NAIL IN ASPHALT	837.338





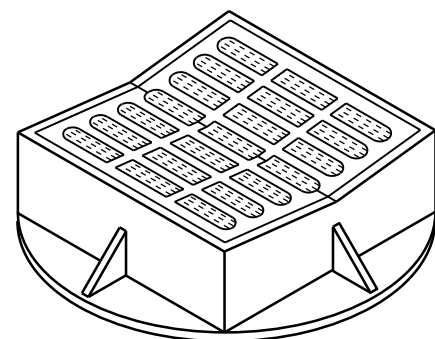
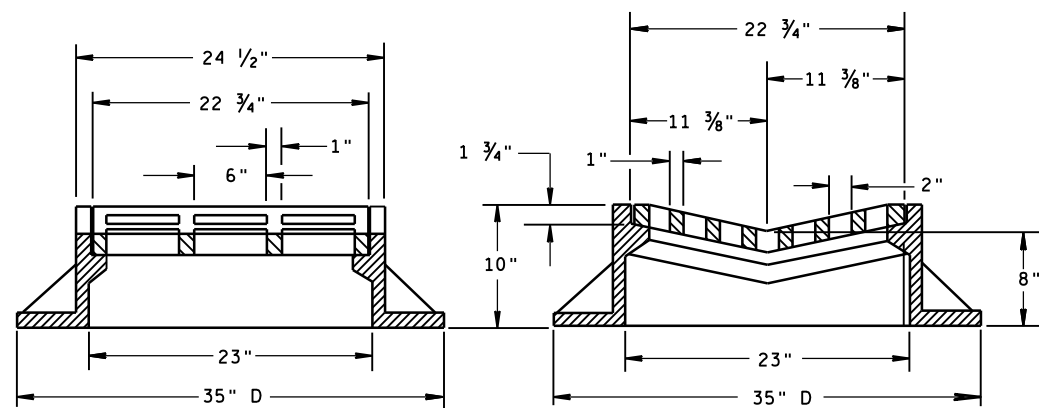




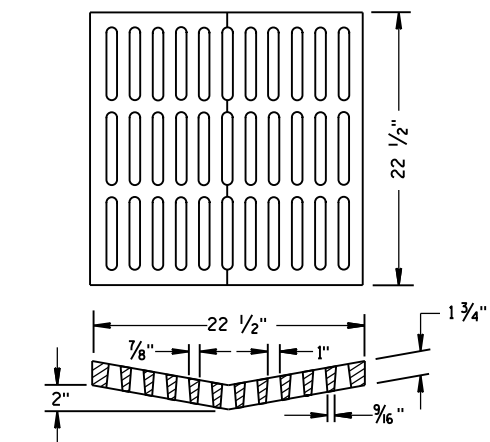


Standard Detail Drawing List

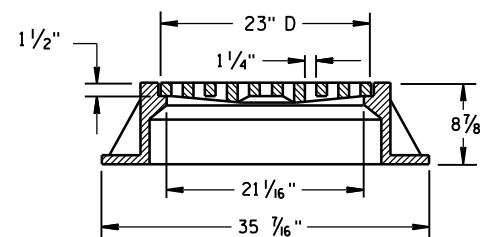
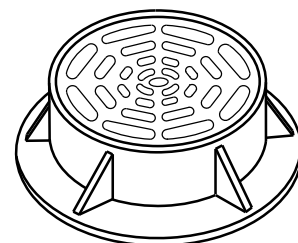
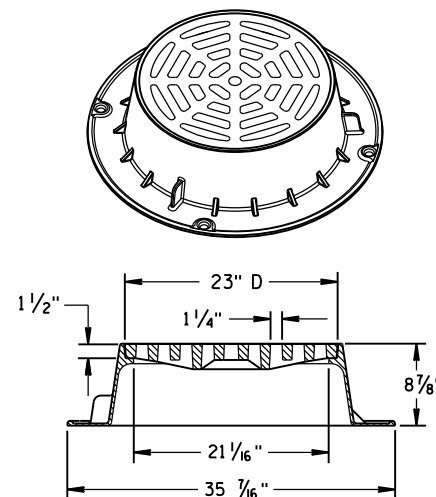
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
15A01-12A	MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)



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"

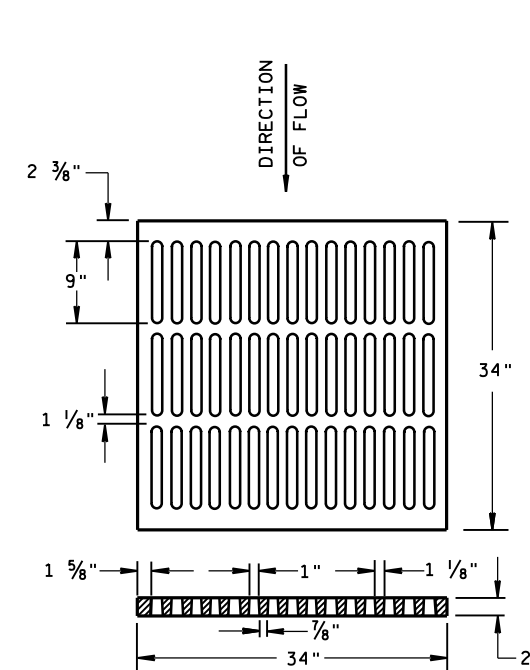
NOTE: EITHER CASTING IS ACCEPTABLE

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.

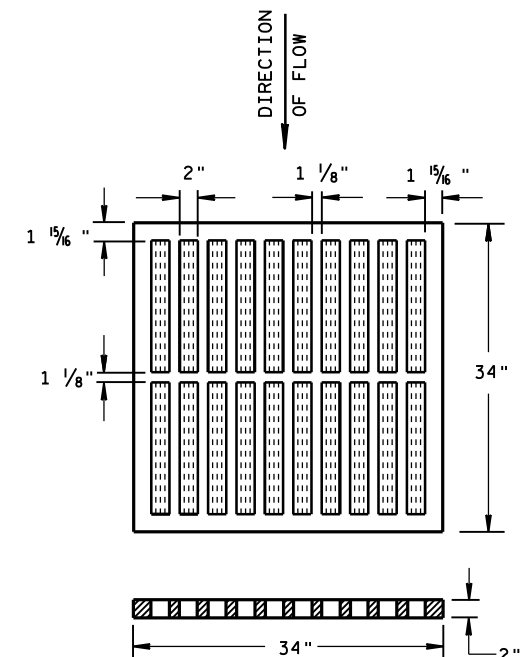
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



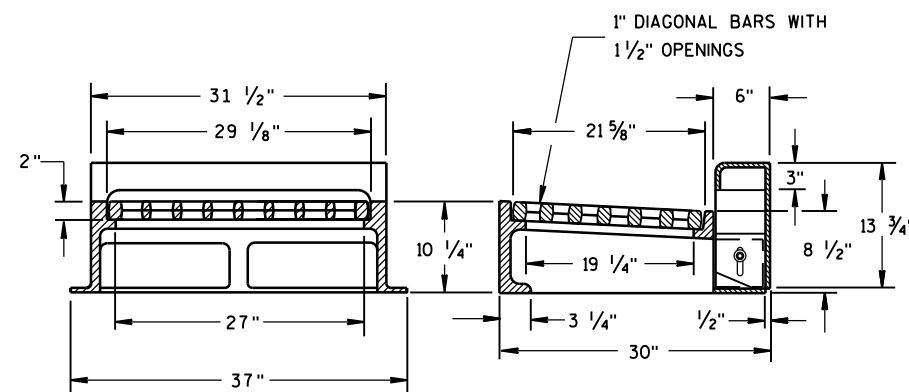
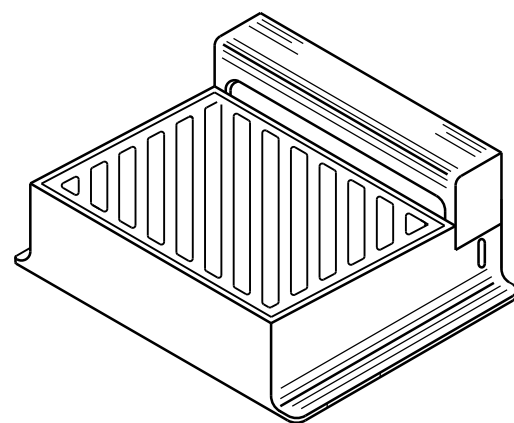
ALTERNATIVE TYPE "MS"

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

DATE 11/27/2013

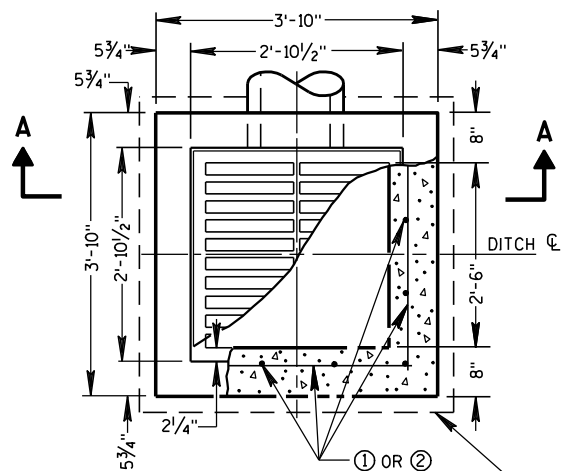
FHWA

/S/ Jerry H. Zogg

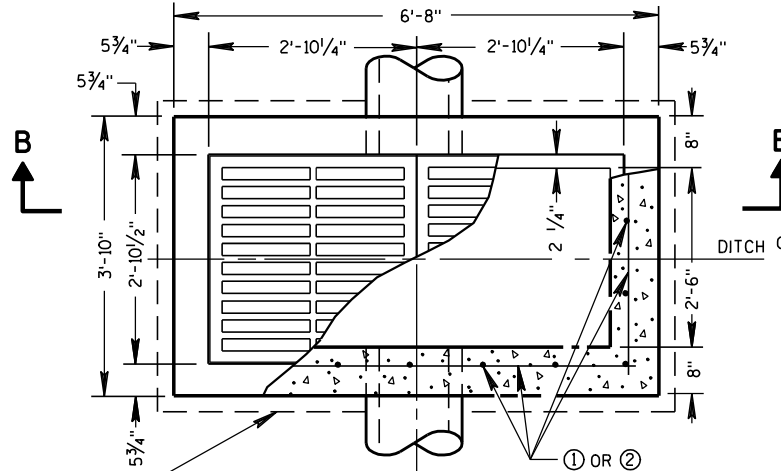
ROADWAY STANDARDS ENGINEER

70

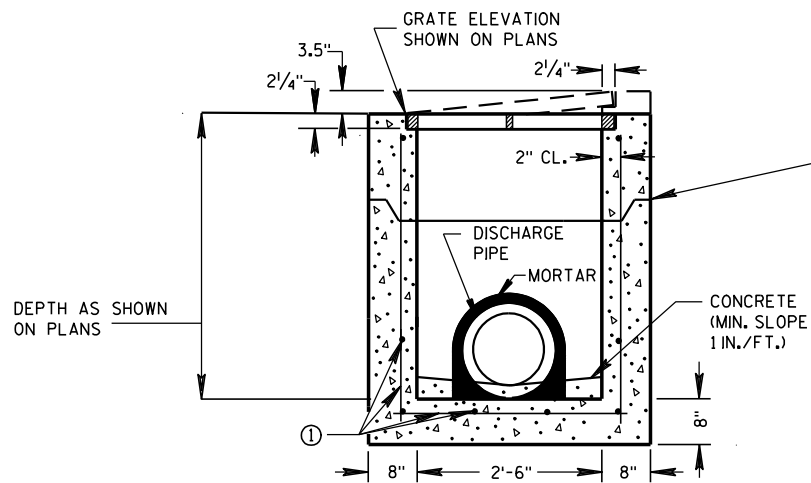
NT



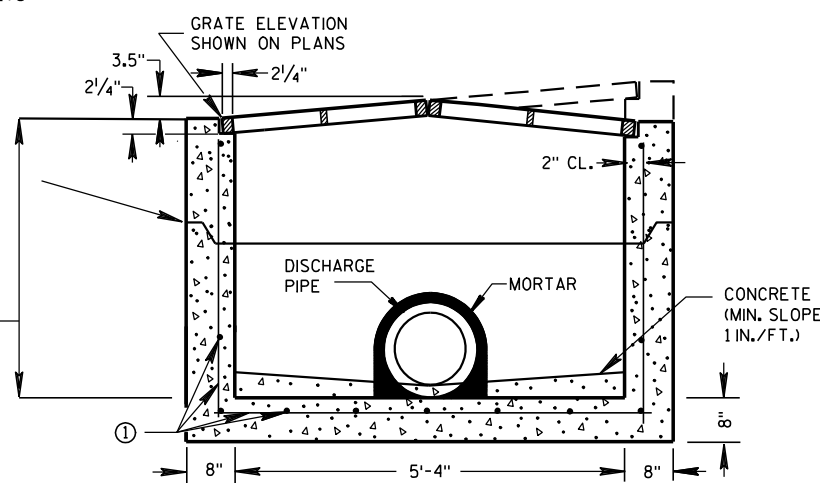
PLAN VIEW



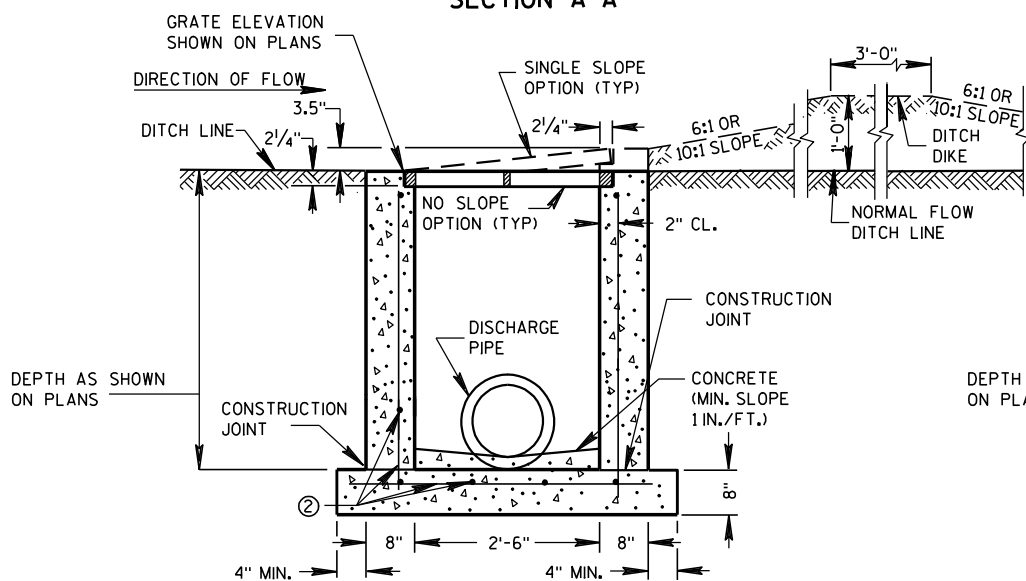
PLAN VIEW



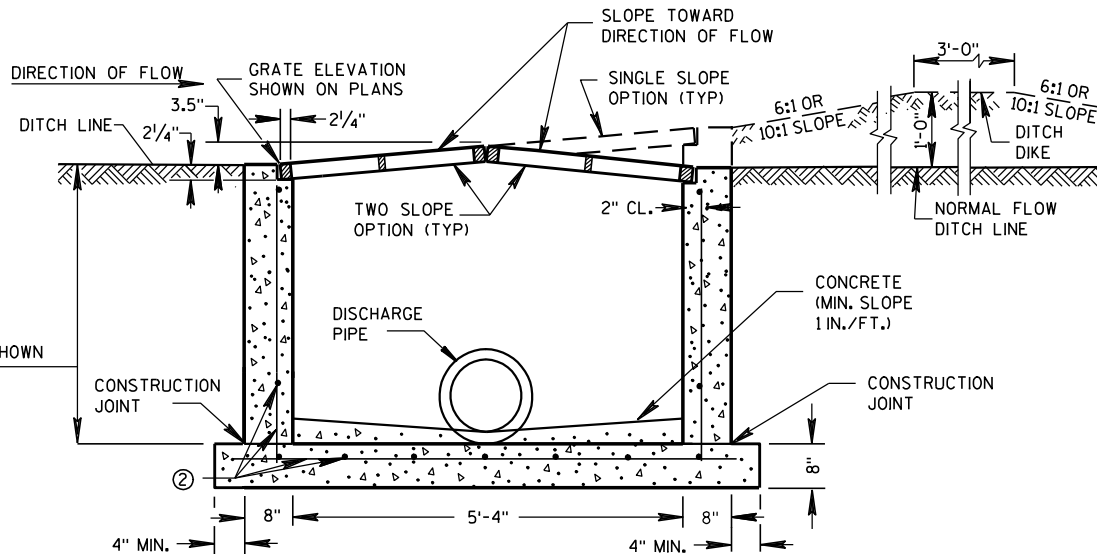
PRECAST REINFORCED CONCRETE SECTION A-A



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.

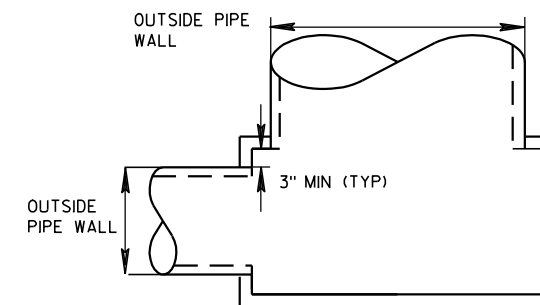
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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.

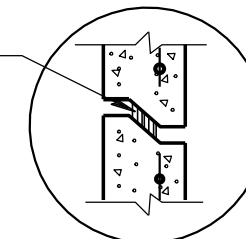
PIPE MATRIX

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

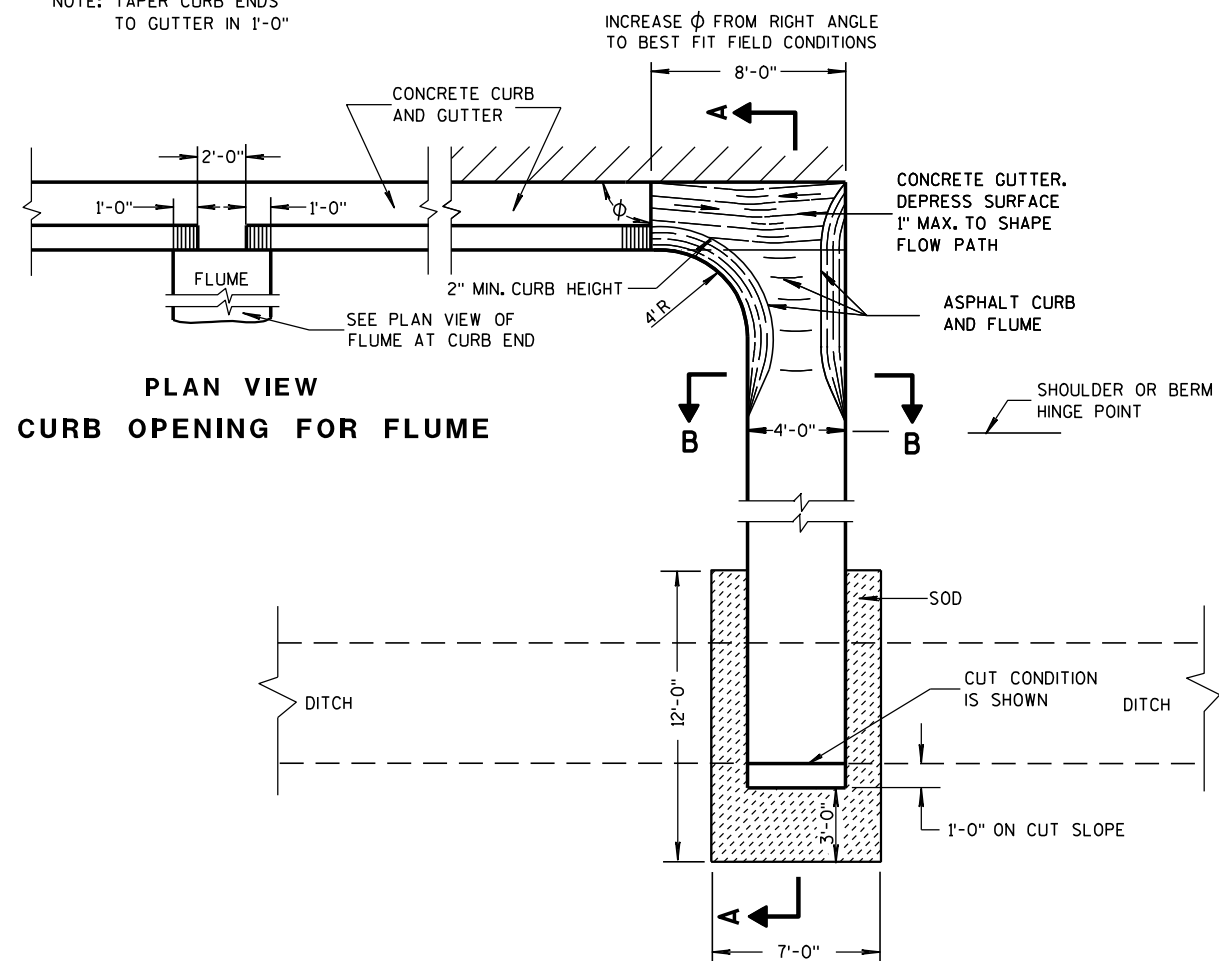
/s/ Jerry H. Zoon

ROADWAY STANDARDS

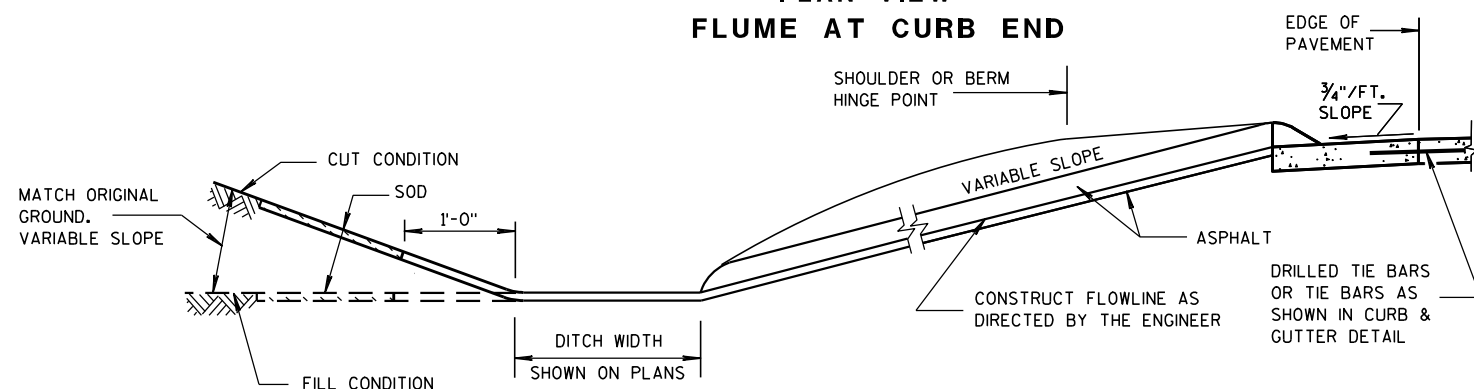
ENGINEER

ASPHALTIC FLUME

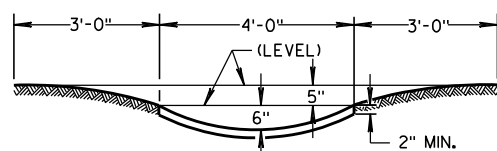
NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"



PLAN VIEW FLUME AT CURB END



SECTION A-A



SECTION B-B

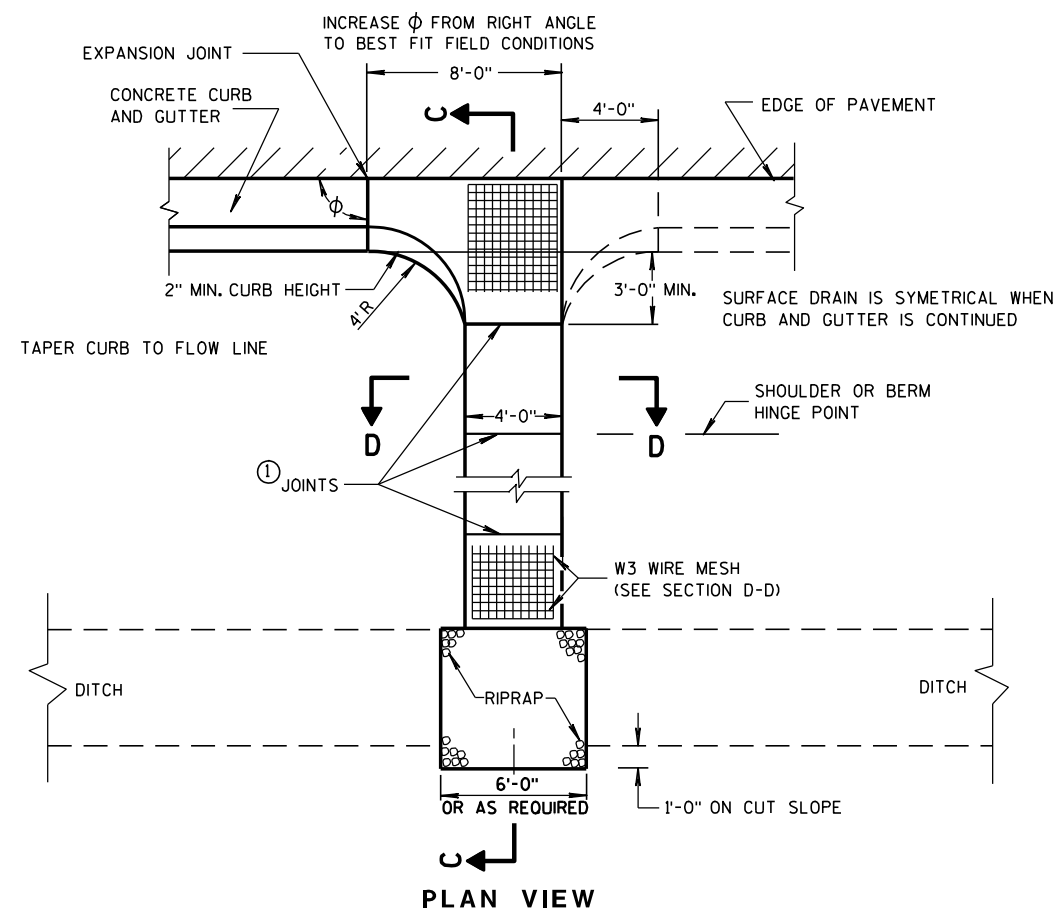
GENERAL NOTES

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

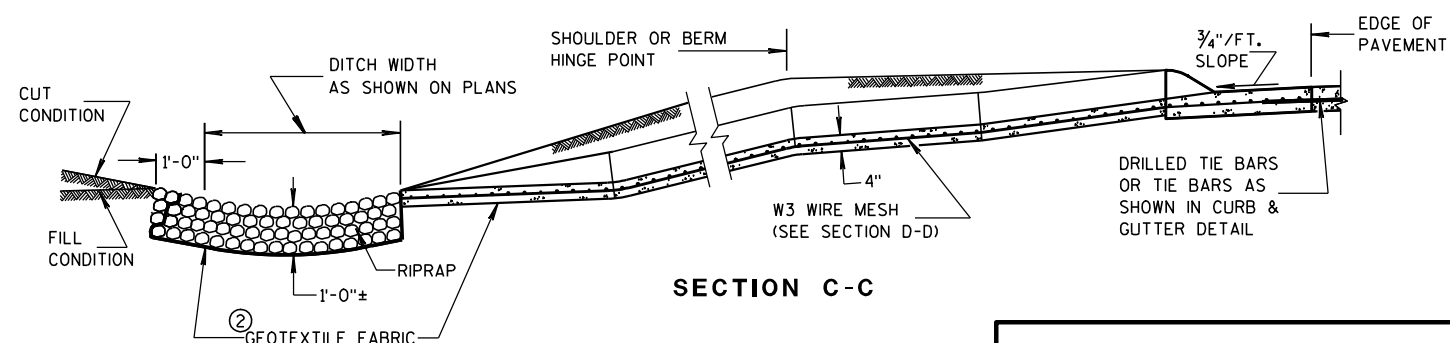
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

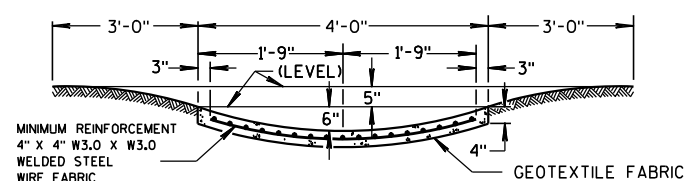
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

DATE

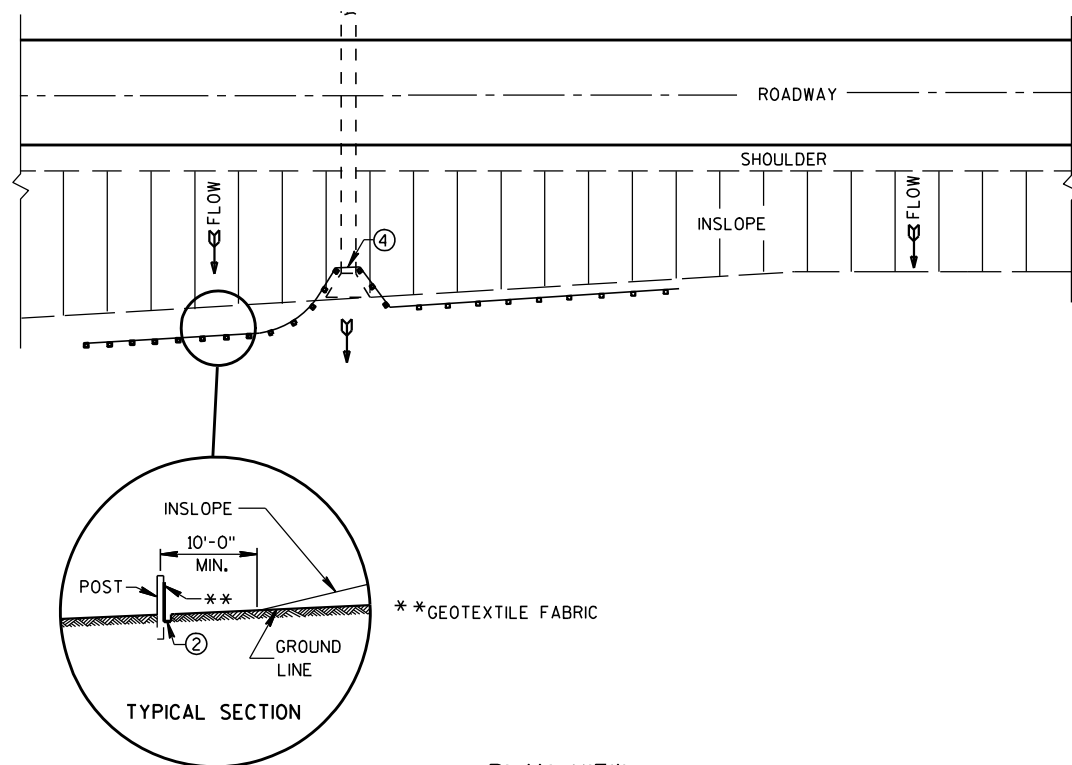
FHWA

/S/ Jerry H. 7000

ROADWAY STANDARDS 72

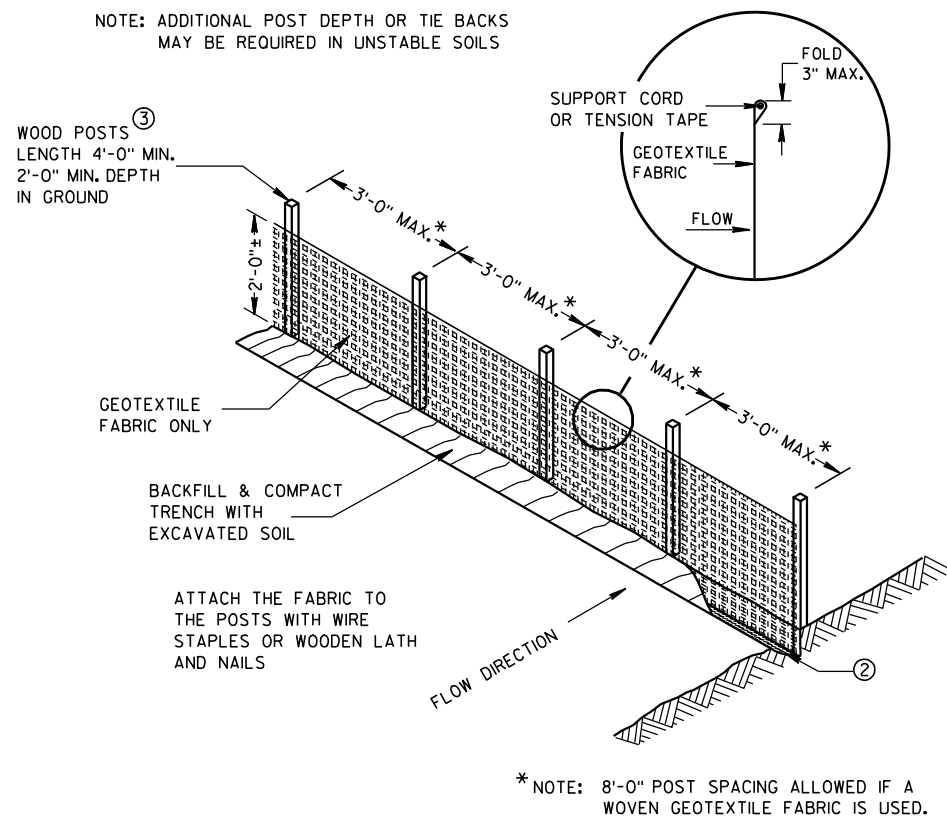
ENGINEER

MENT

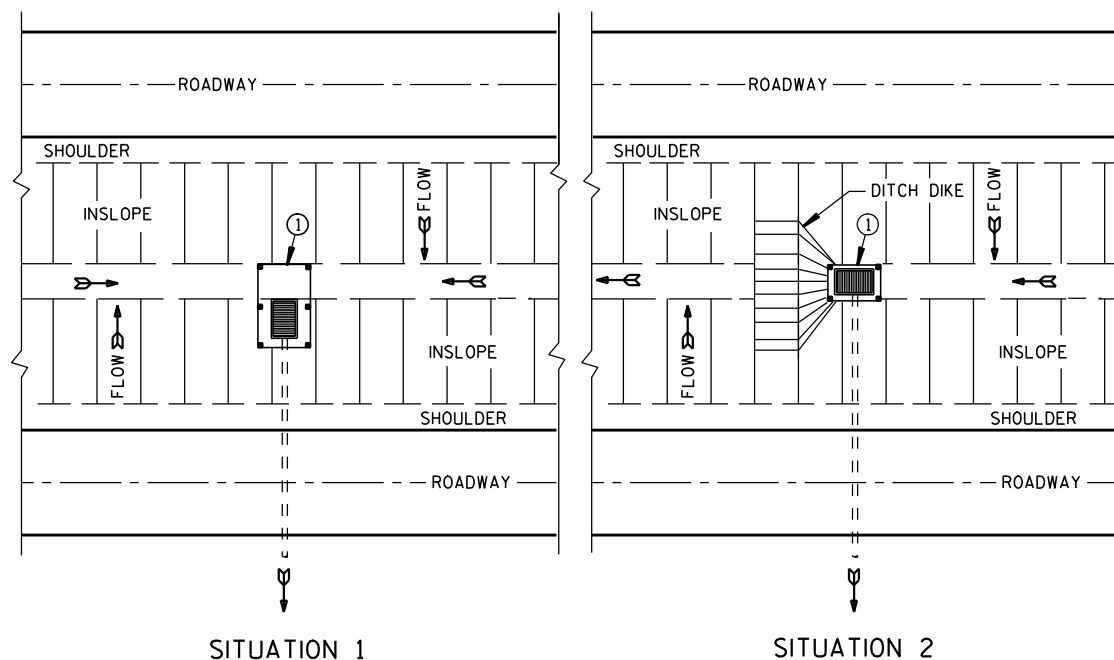


TYPICAL APPLICATION OF SILT FENCE

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

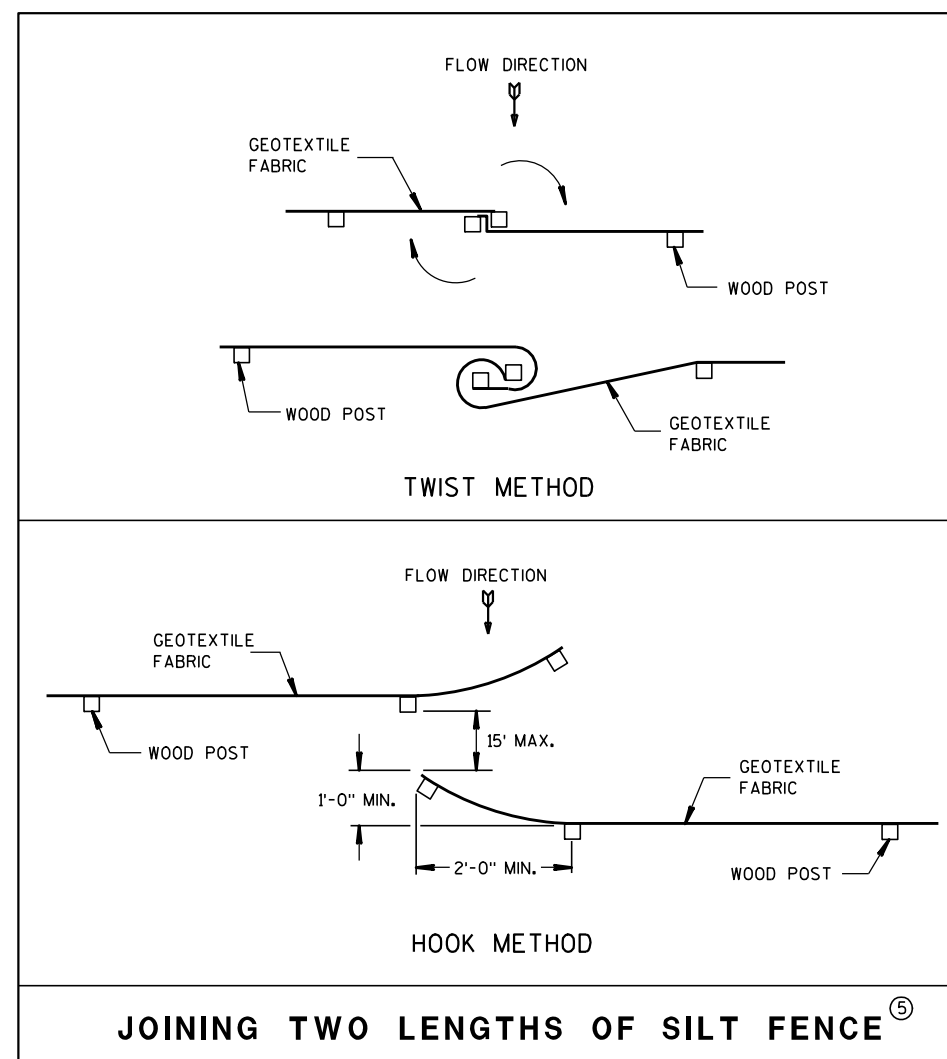


SILT FENCE



PLAN VIEW

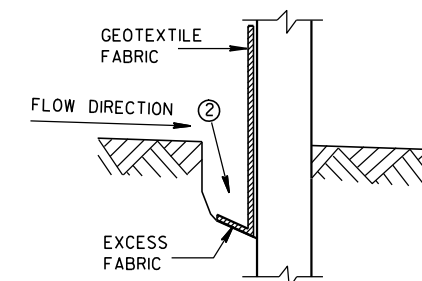
SILT FENCE AT MEDIAN SURFACE DRAINS



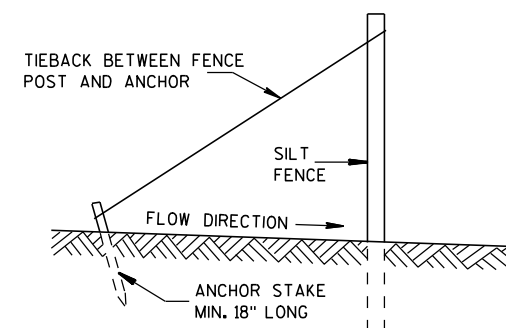
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05

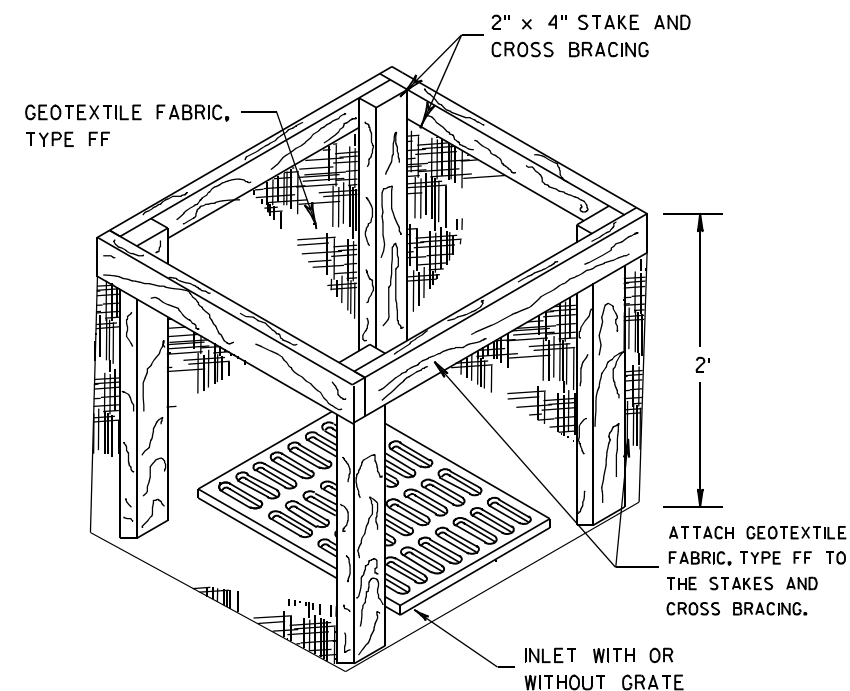
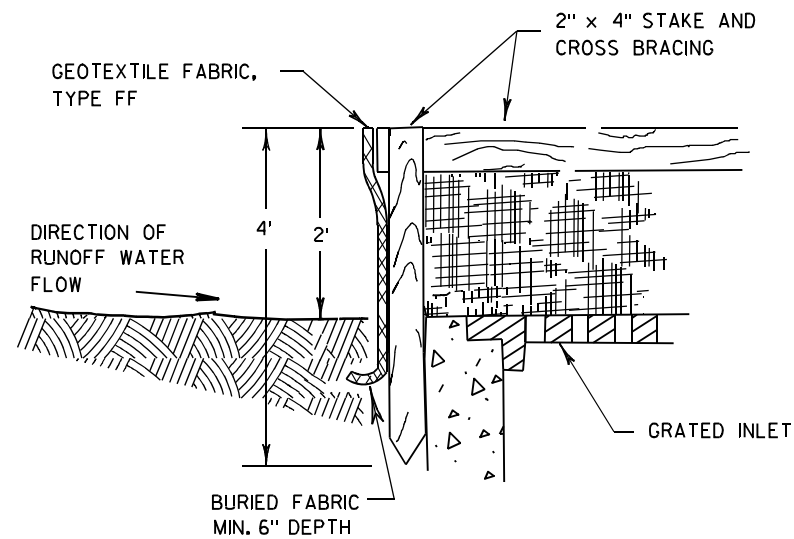
DATE

/S/ Beth Conn

CHIEF ROADWAY DEVELOPER

FHWA

ENGINEER



INLET PROTECTION, TYPE A

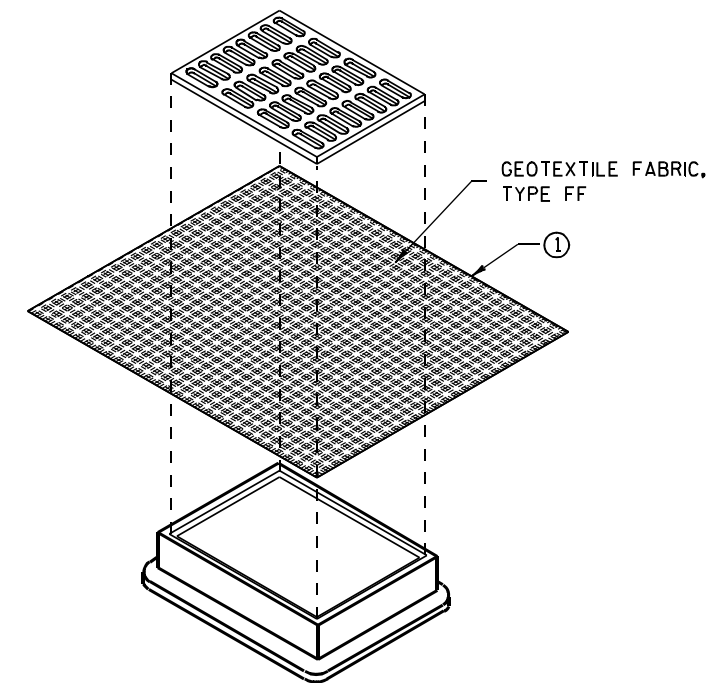
GENERAL NOTES

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

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

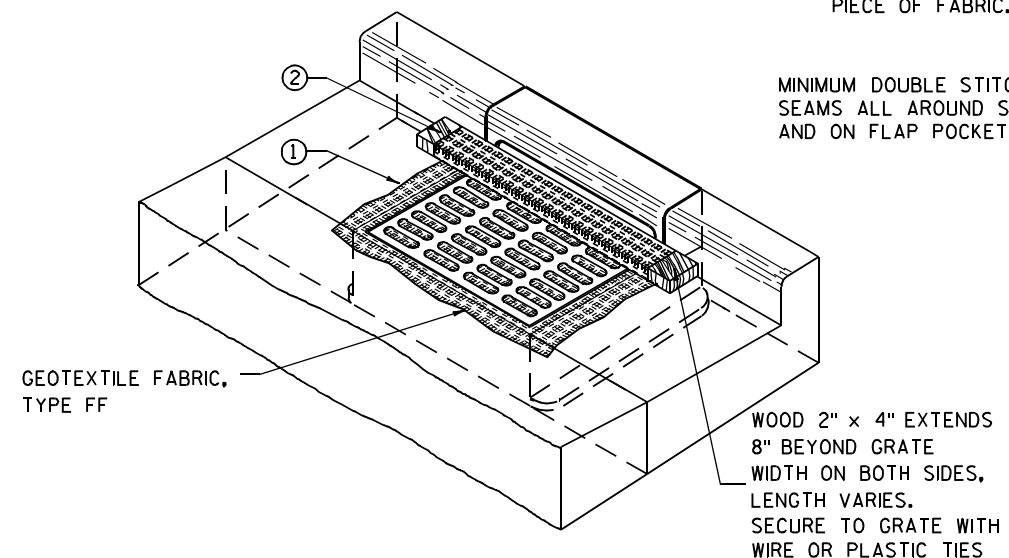
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

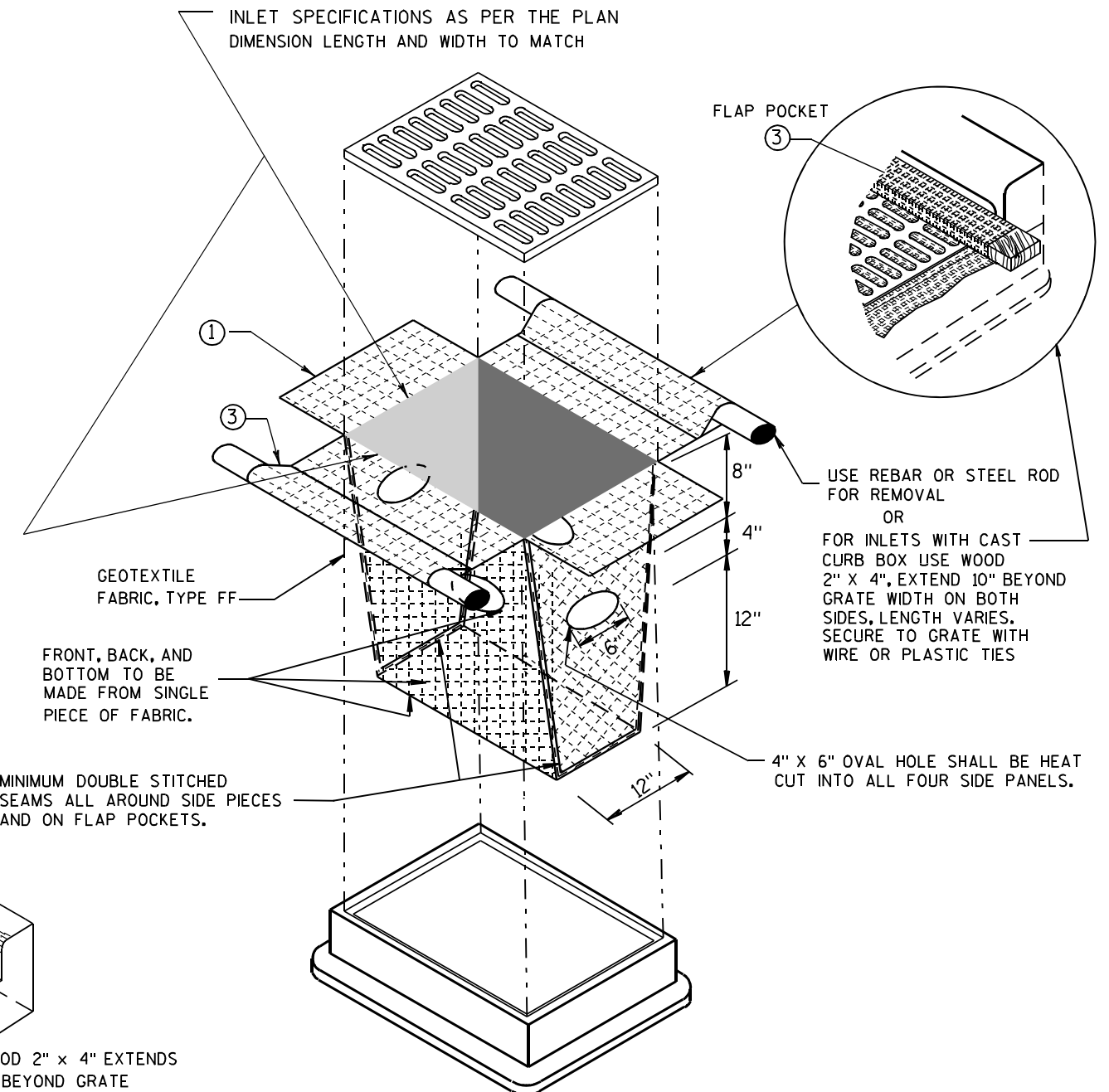
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

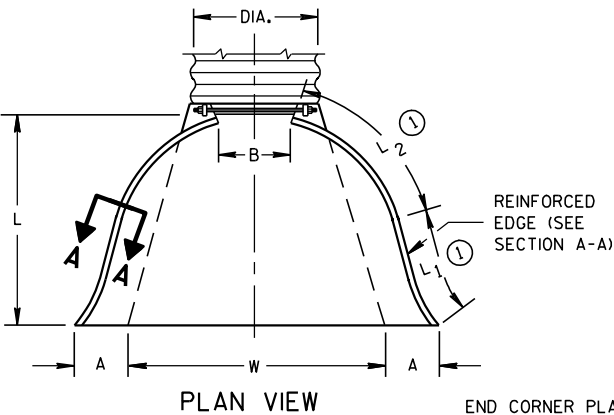
INLET PROTECTION TYPE A, B, C, AND D

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
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<table style="width: 100%;"><tr><td style="width: 30%;">APPROVED <u>10/16/02</u> DATE</td><td style="width: 70%;"><u>/S/ Beth Connolly</u> 74 CHIEF ROADWAY DEVELOPMENT ENGINEER</td></tr><tr><td colspan="2">FHWA</td></tr></table>	APPROVED <u>10/16/02</u> DATE	<u>/S/ Beth Connolly</u> 74 CHIEF ROADWAY DEVELOPMENT ENGINEER	FHWA	
APPROVED <u>10/16/02</u> DATE	<u>/S/ Beth Connolly</u> 74 CHIEF ROADWAY DEVELOPMENT ENGINEER			
FHWA				

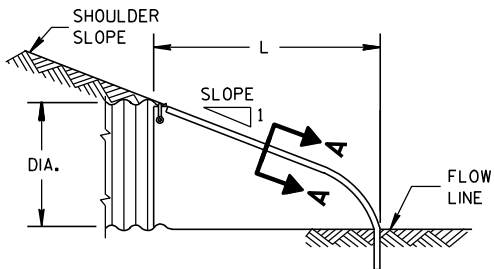
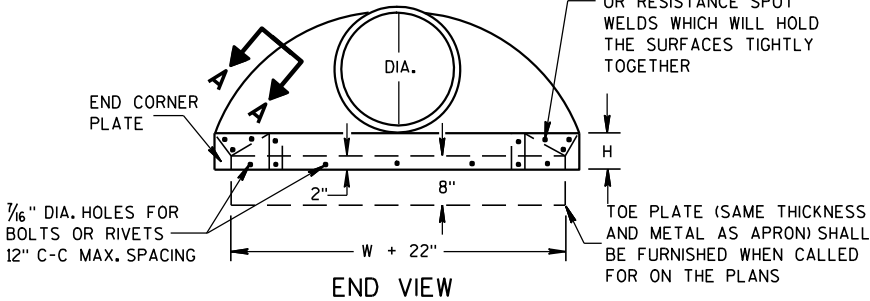
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.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



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

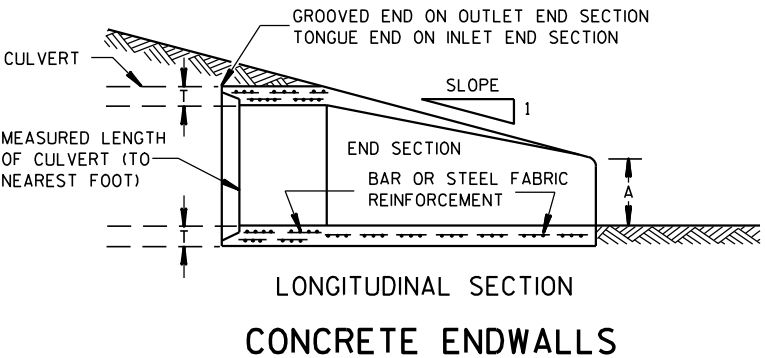
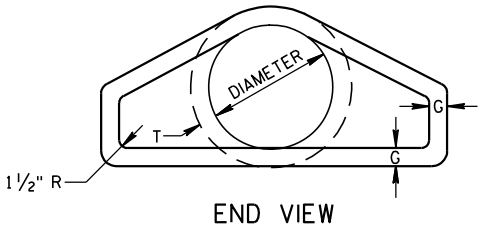
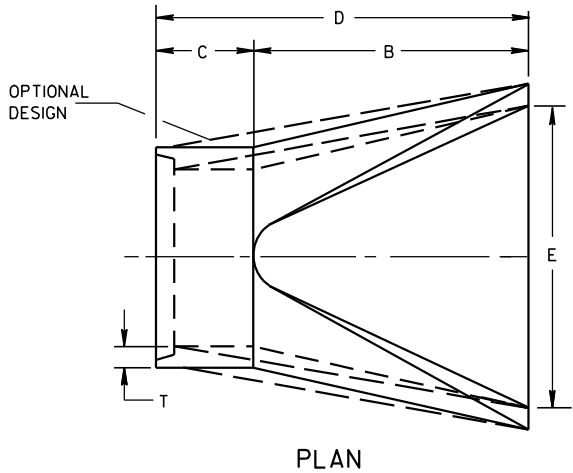
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

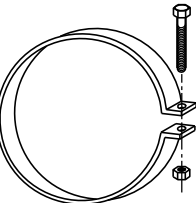
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43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

* MINIMUM
** MAXIMUM

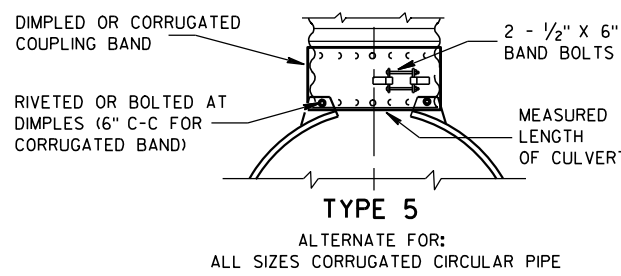
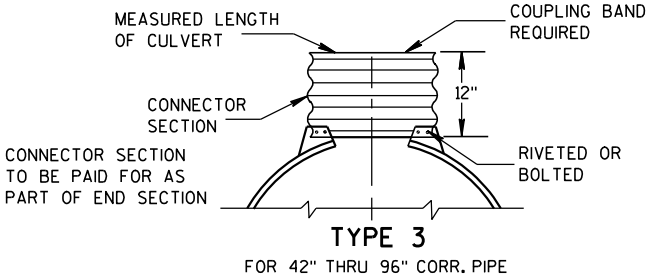
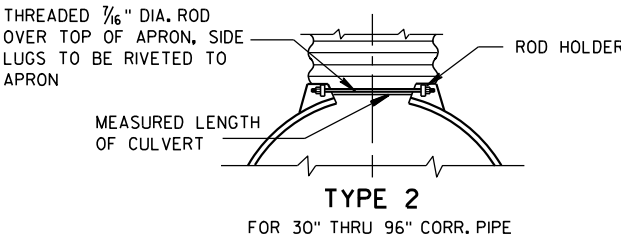
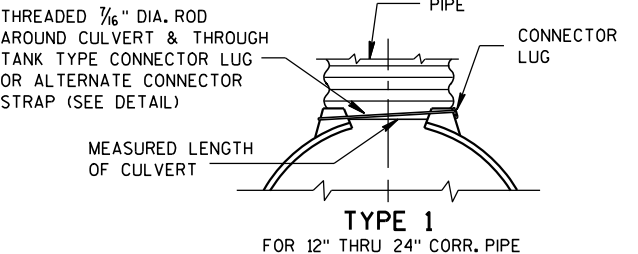


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



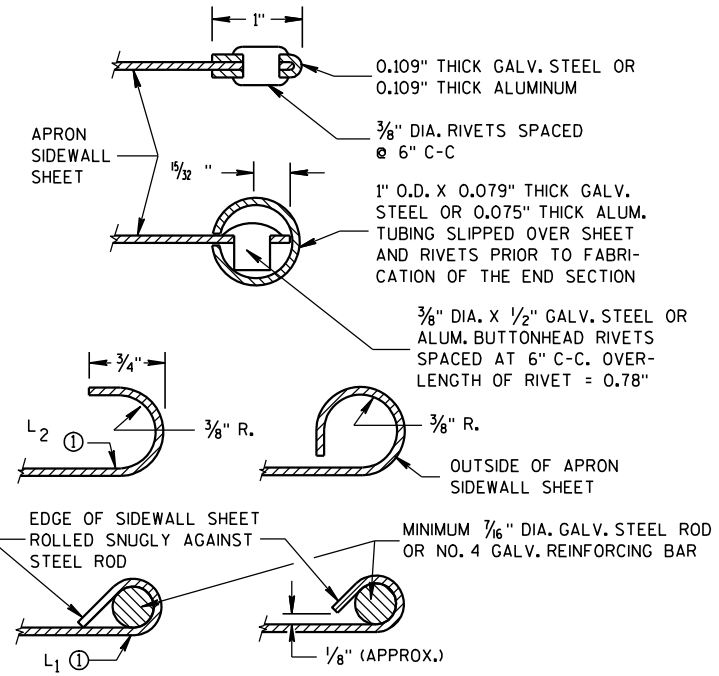
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

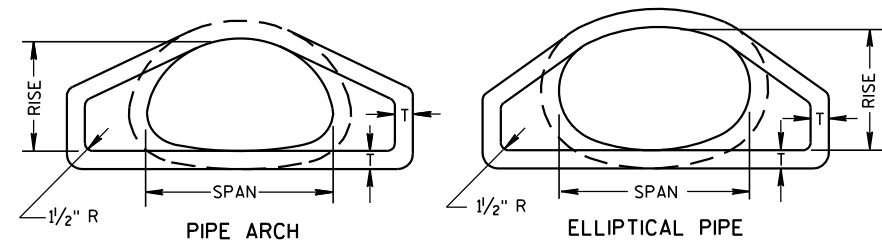
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

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

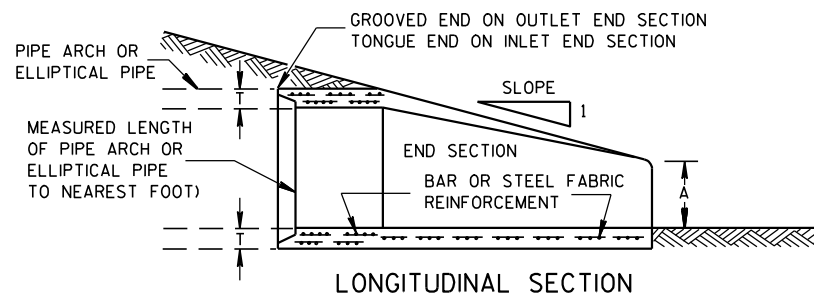
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP	75	NEER
FHWA			

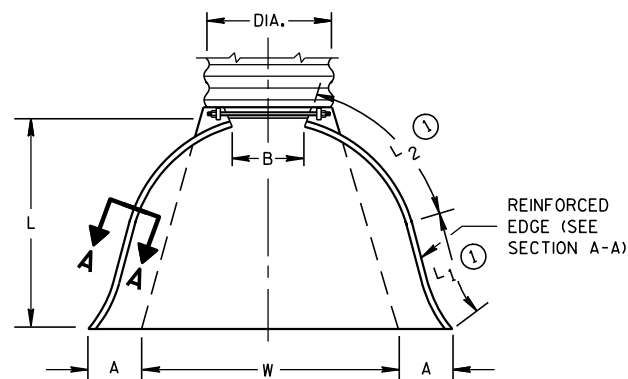


END VIEW



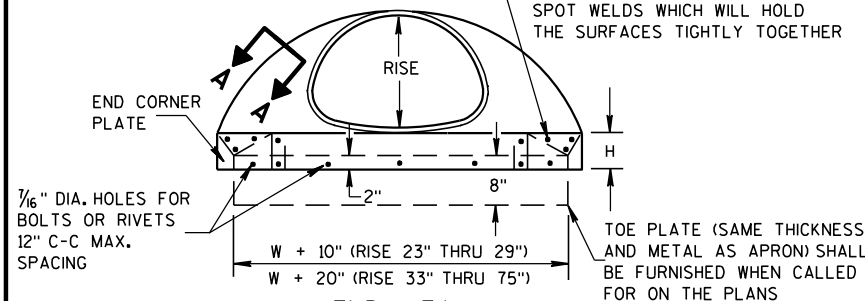
LONGITUDINAL SECTION

CONCRETE ENDWALLS

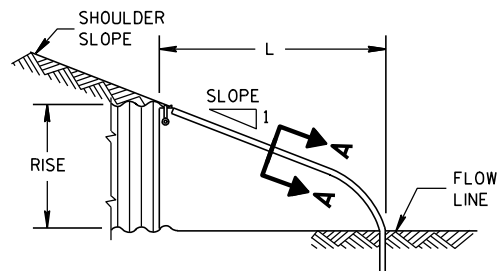


PLAN VIEW

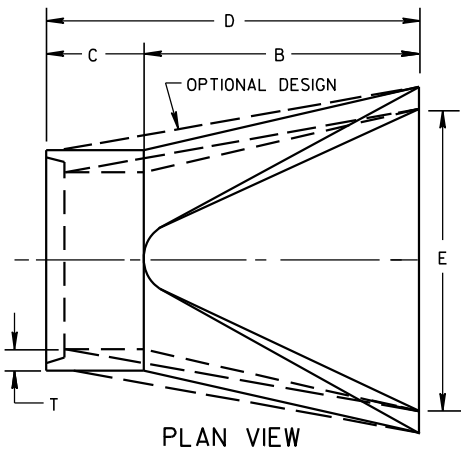
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



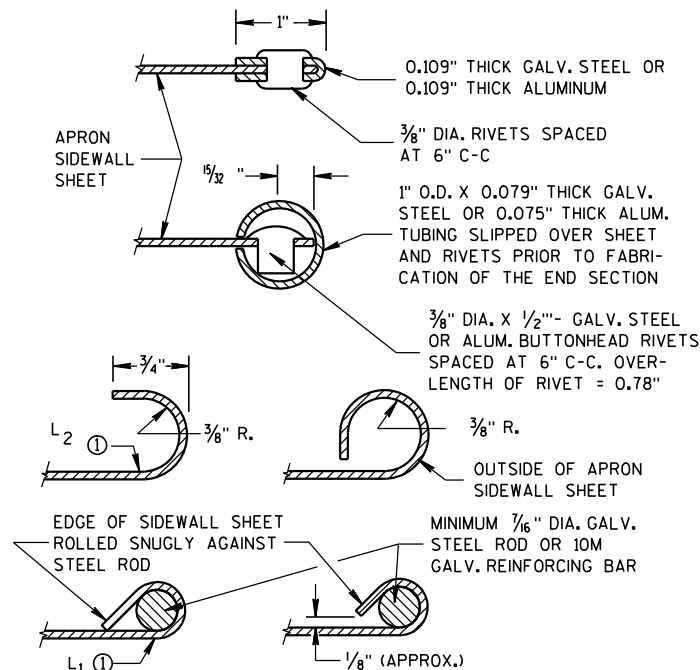
END VIEW



SIDE ELEVATION
METAL ENDWALLS



PLAN VIEW



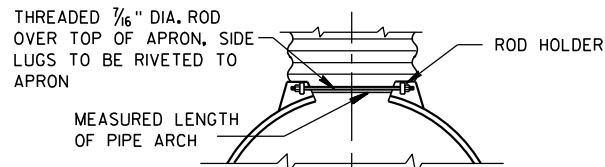
SECTION A-A

2- 2/3" X 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")	L1 ①	L2 ①	W (±2")		
					(±1")	(MAX.)	(±1")	(±1 1/2")	①	①	(±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
					(±1")	(MAX.)	(±1")	(±1 1/2")	①	①	(±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 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	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

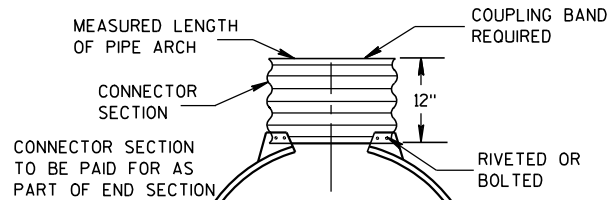
NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



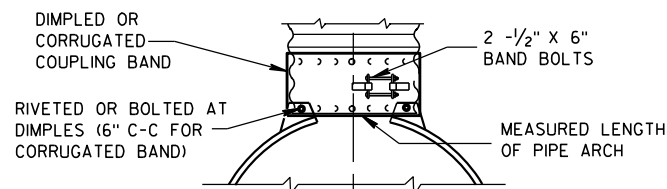
TYPE 2

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 ARCHES

NOTE: 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 5/16	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 PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94

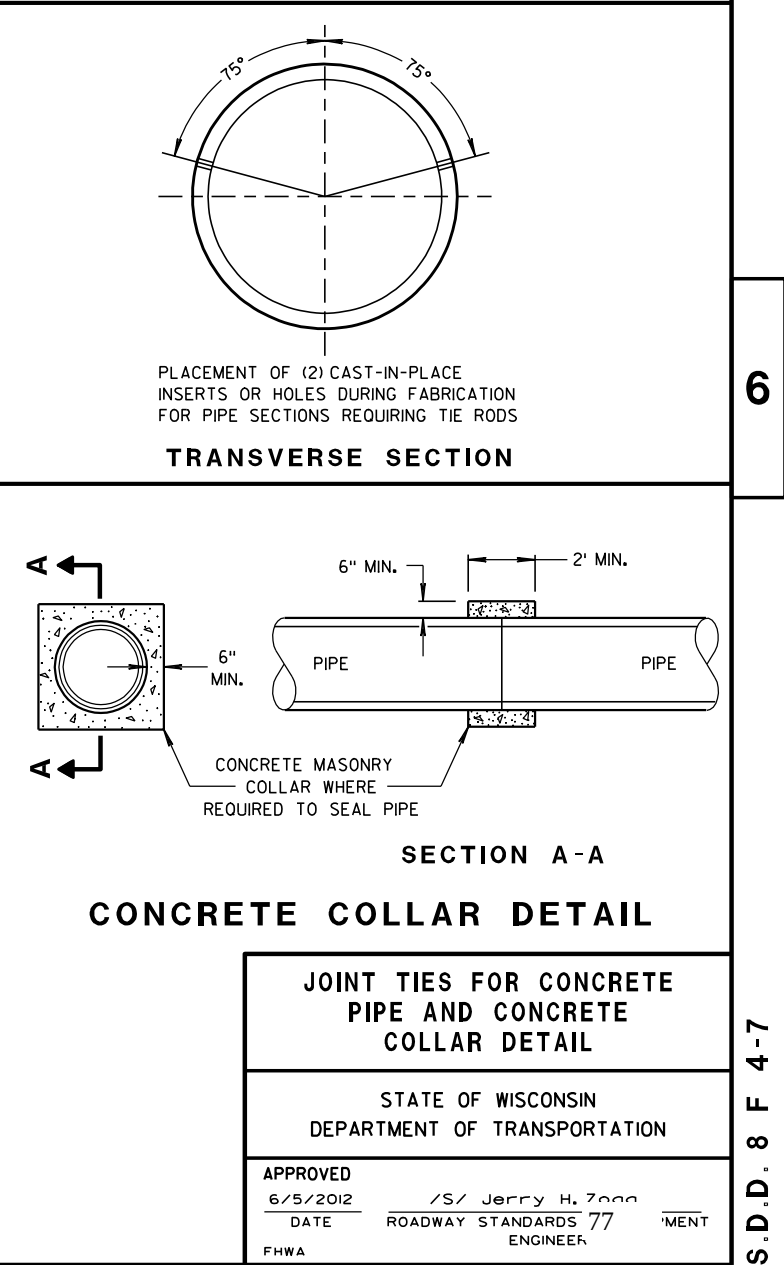
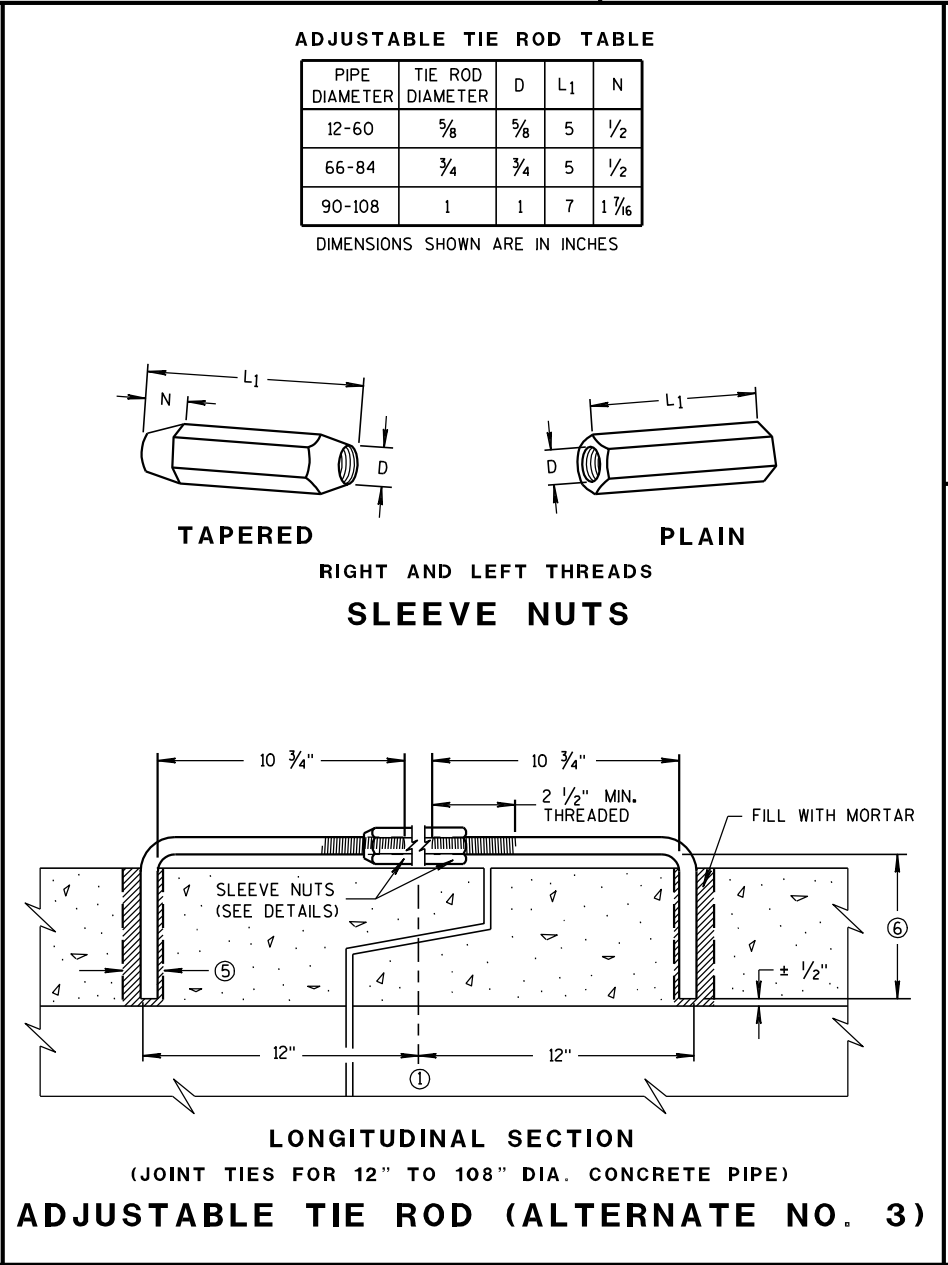
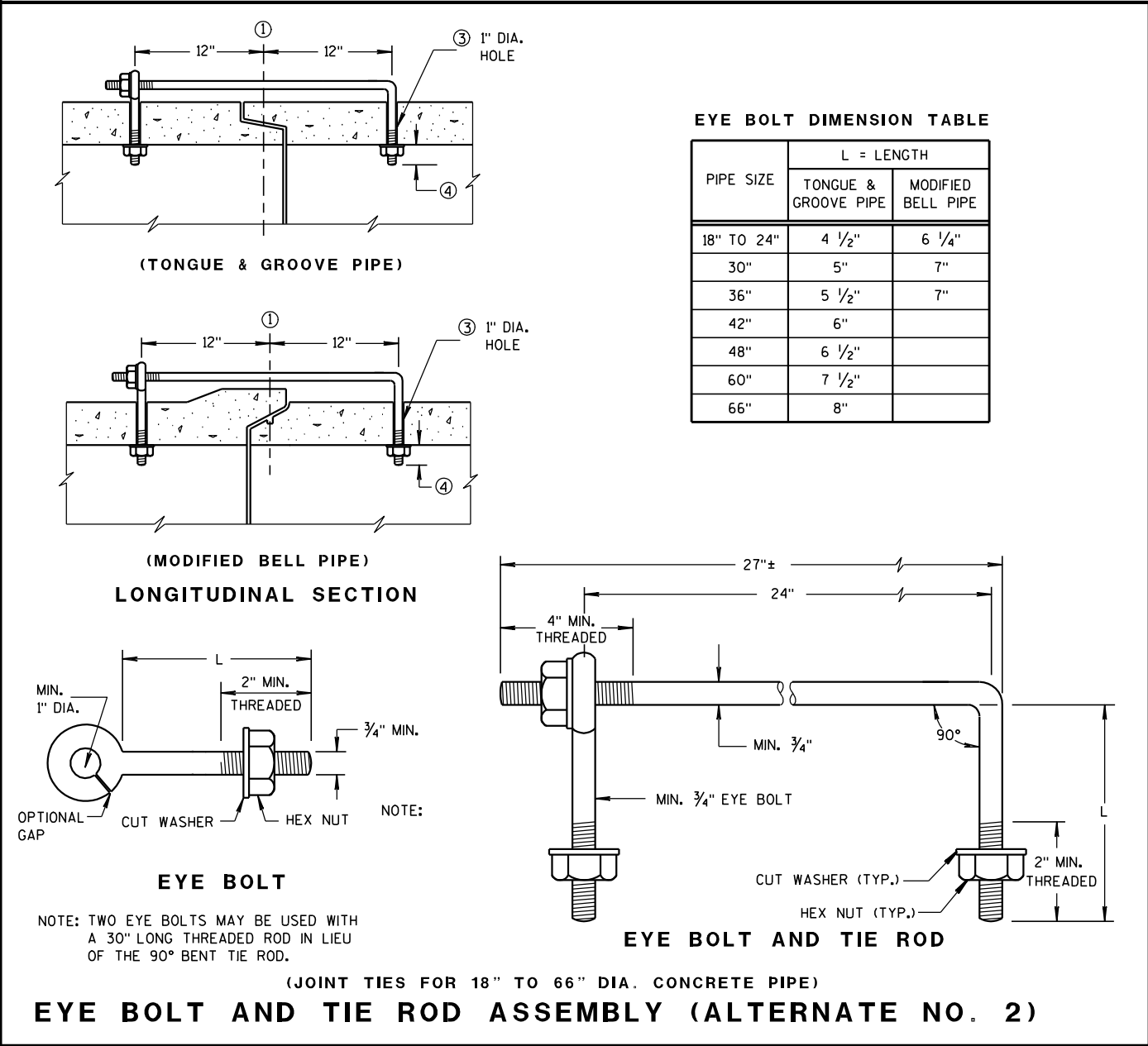
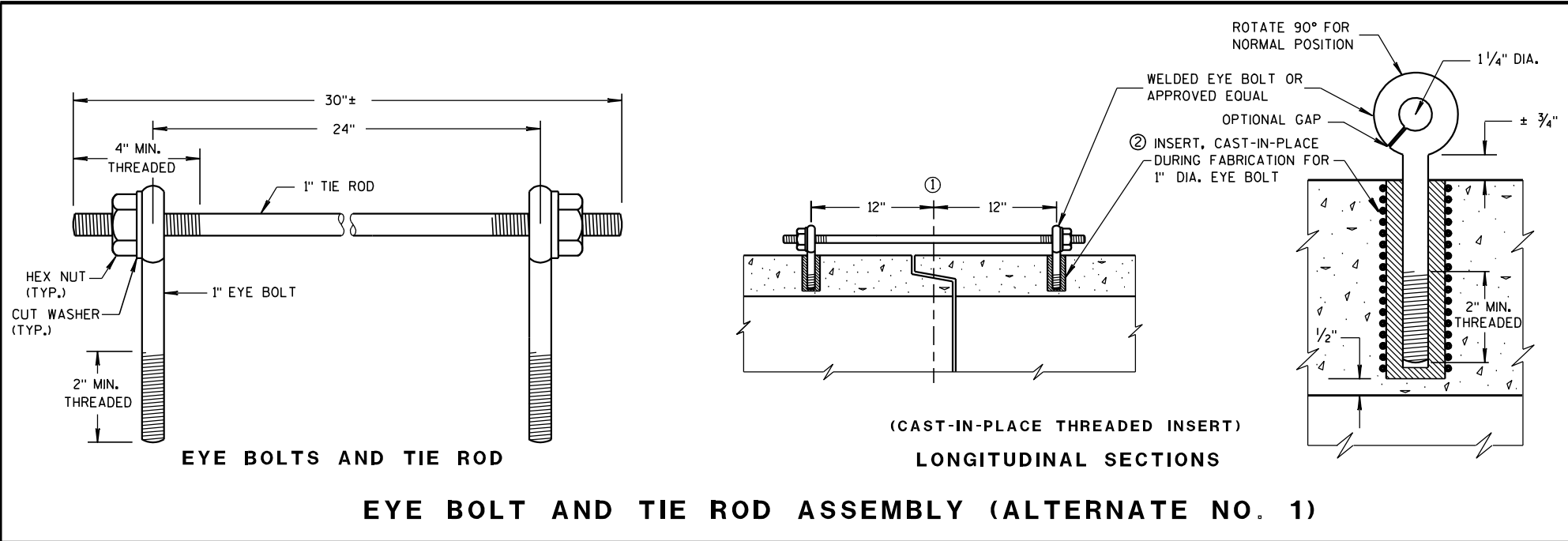
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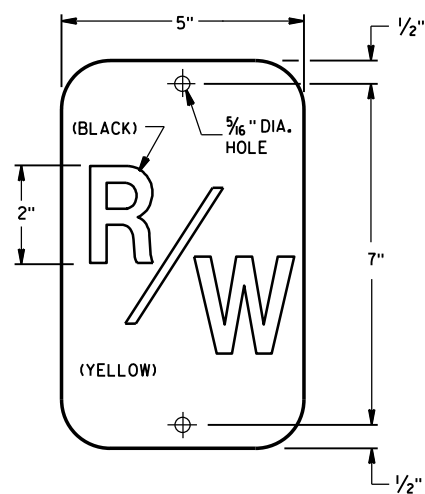
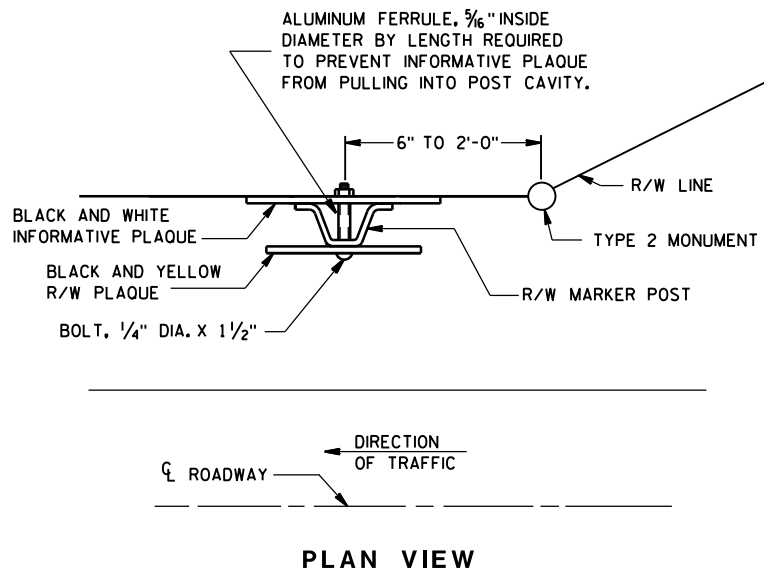
FHWA

/S/ Rory L. Rhinehart

CHIEF ROADWAY DEVELOPER

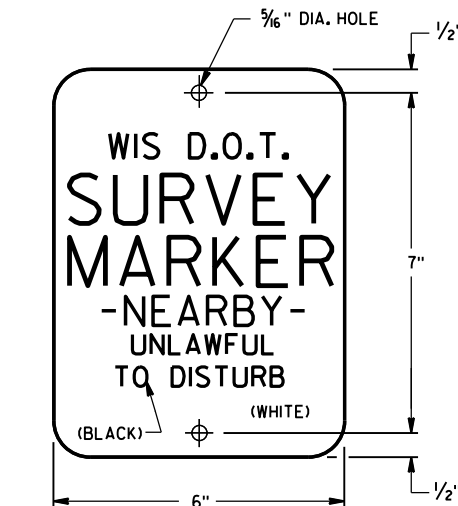
ENGINEER





R/W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

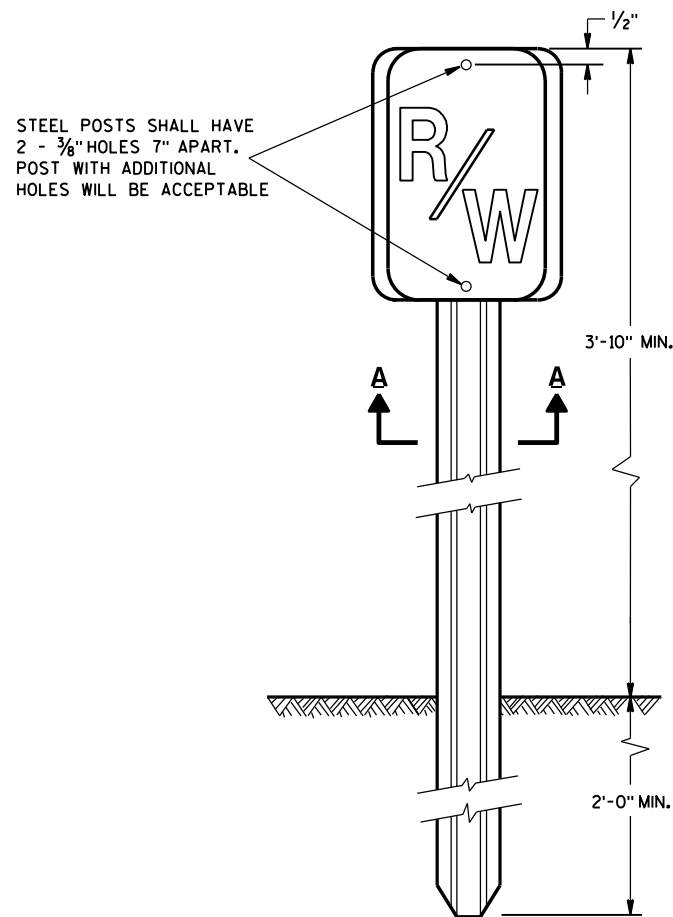
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

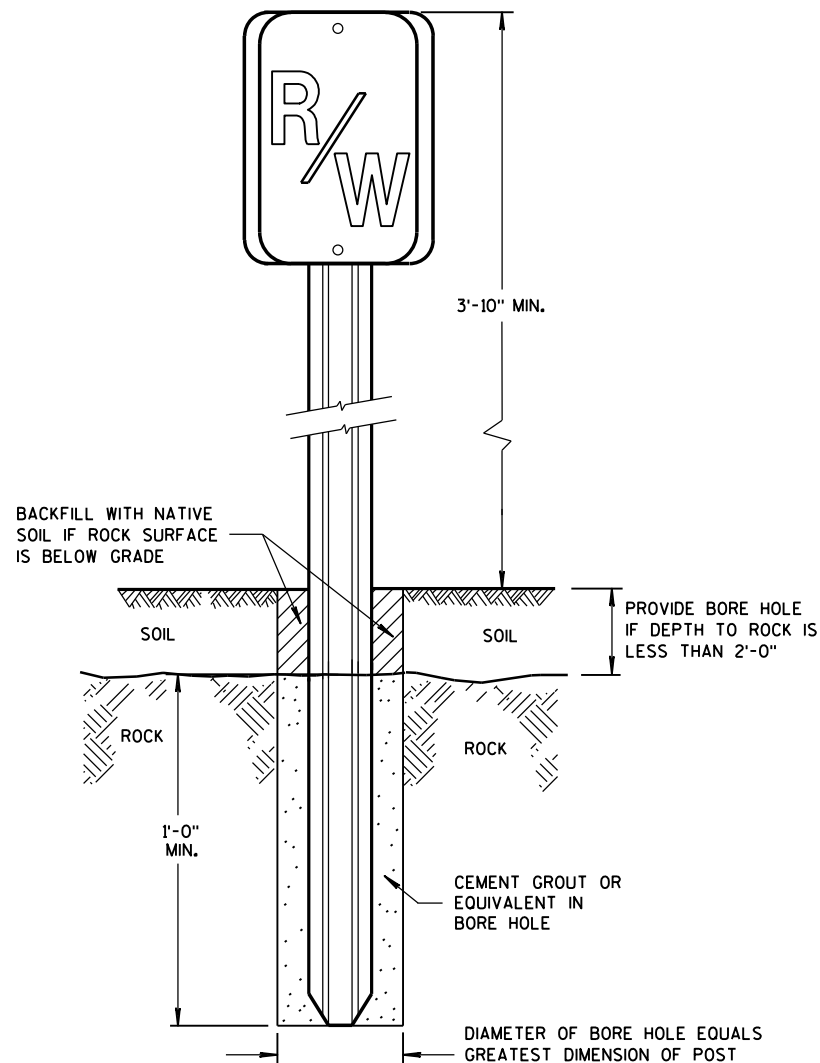
THE 'R/W' PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

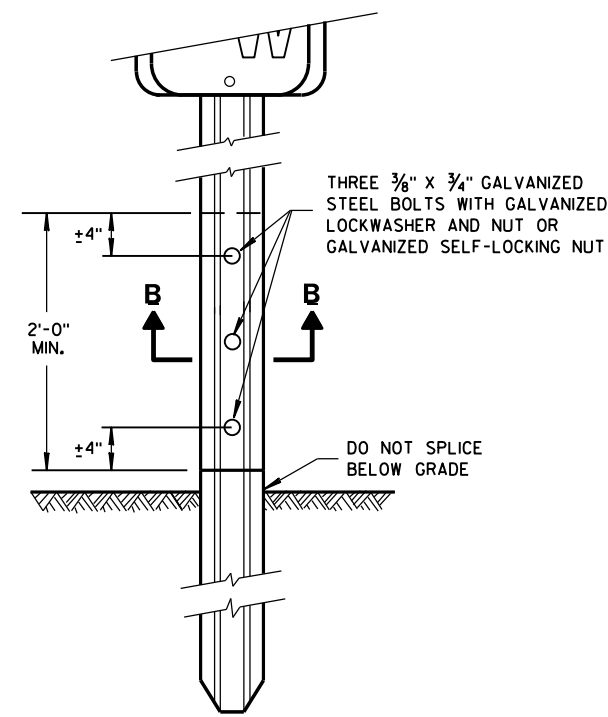
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



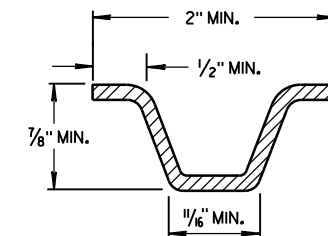
**FRONT VIEW
STEEL MARKER POST**



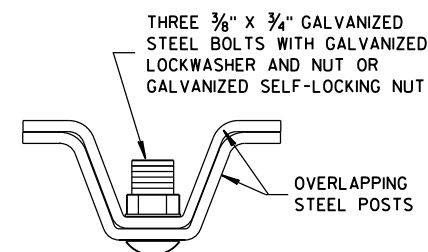
**FRONT VIEW
ROCK INSTALLATION** ①



**FRONT VIEW
SPLICE DETAIL**



MIN. WEIGHT 1.12 LB./FT.
SECTION A-A



SECTION B-B

**MARKER POST
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

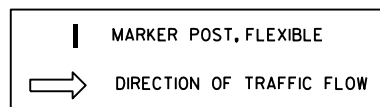
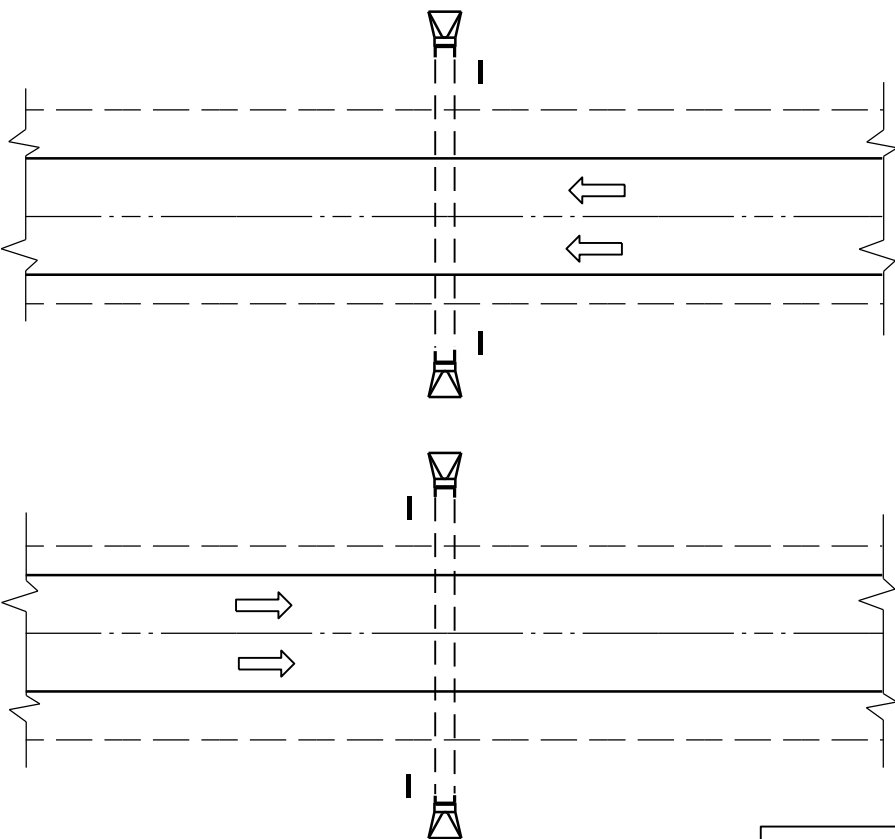
June, 2015
DATE

/S/ Ray Kumapayi
CHIEF SURVEYING AND MA 78

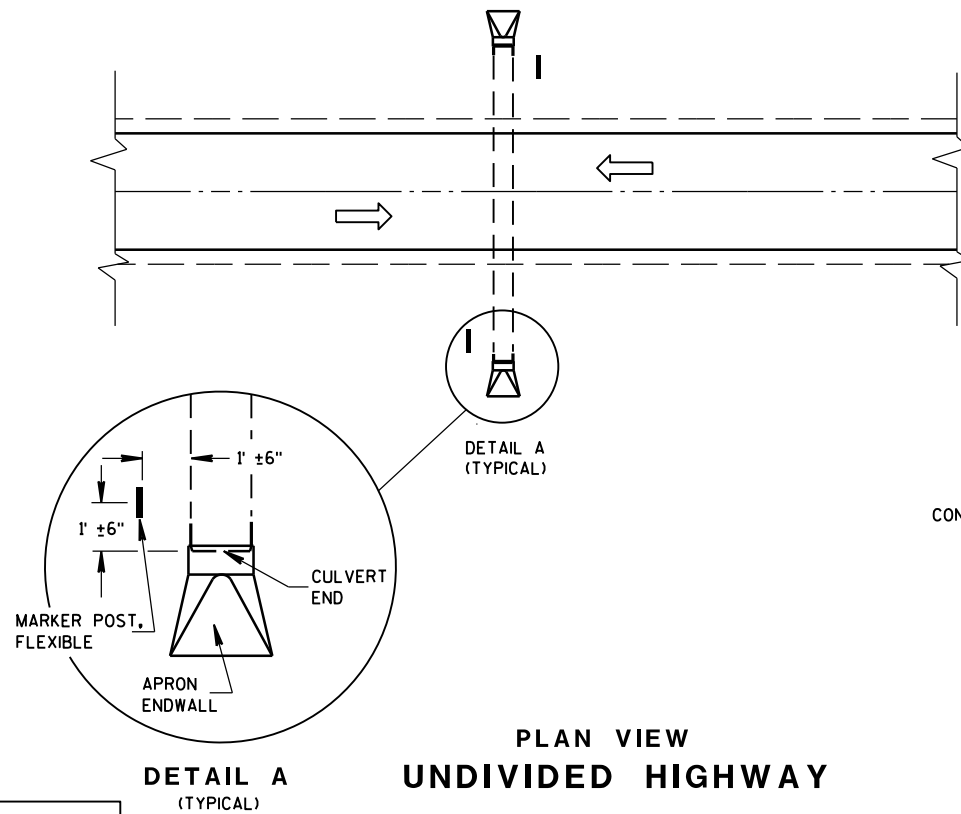
FHWA

INEER

PLAN VIEW
DIVIDED HIGHWAY



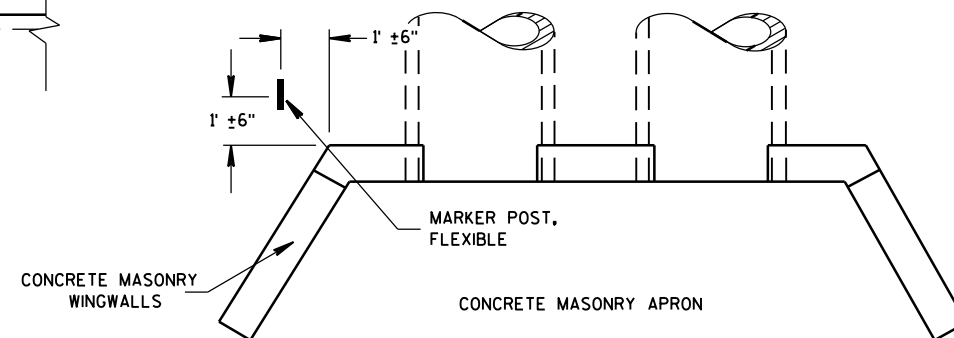
PLAN VIEW
UNDIVIDED HIGHWAY



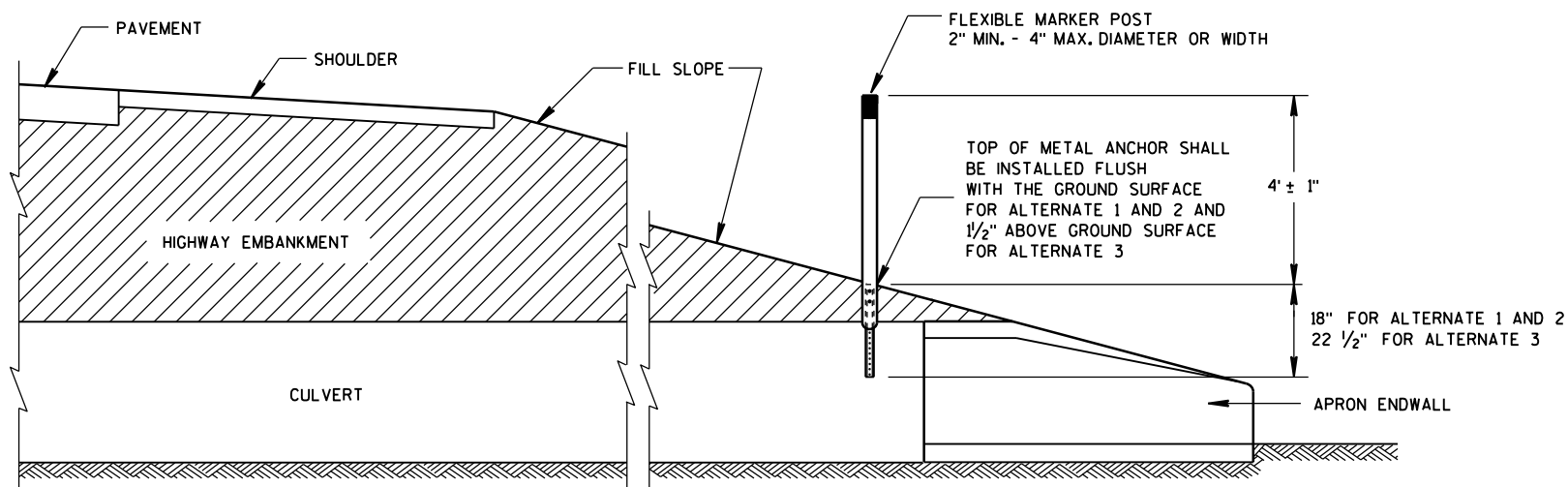
FLEXIBLE MARKER POST LOCATION

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.



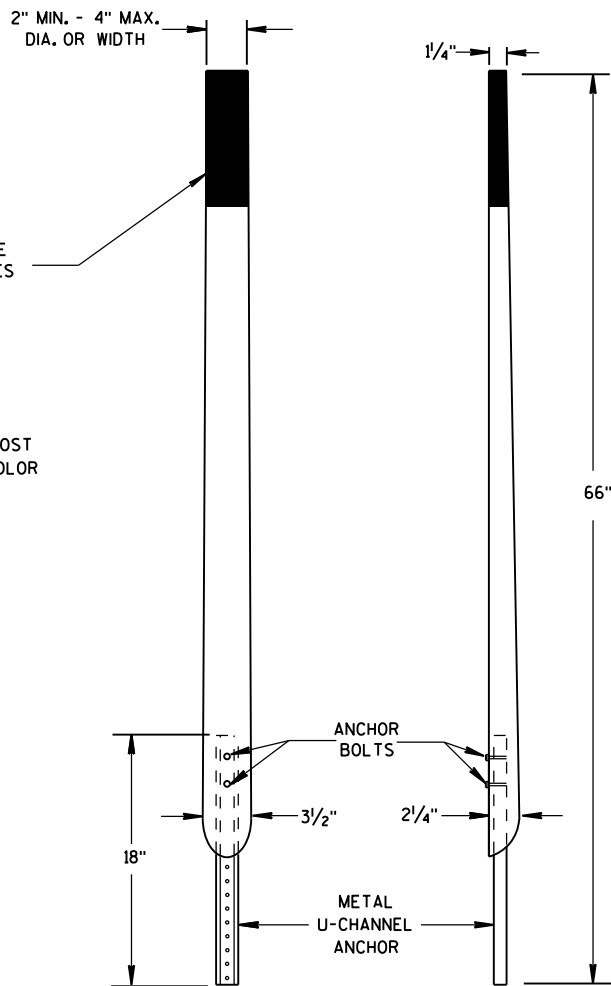
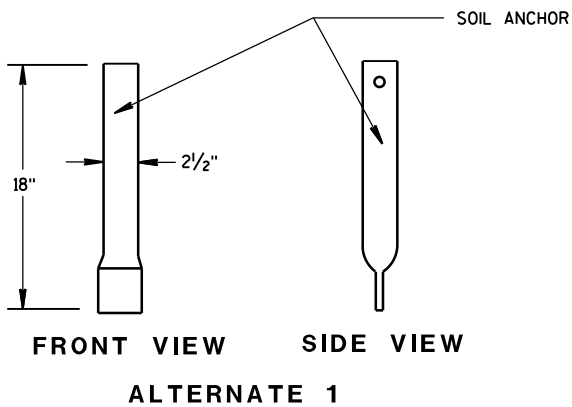
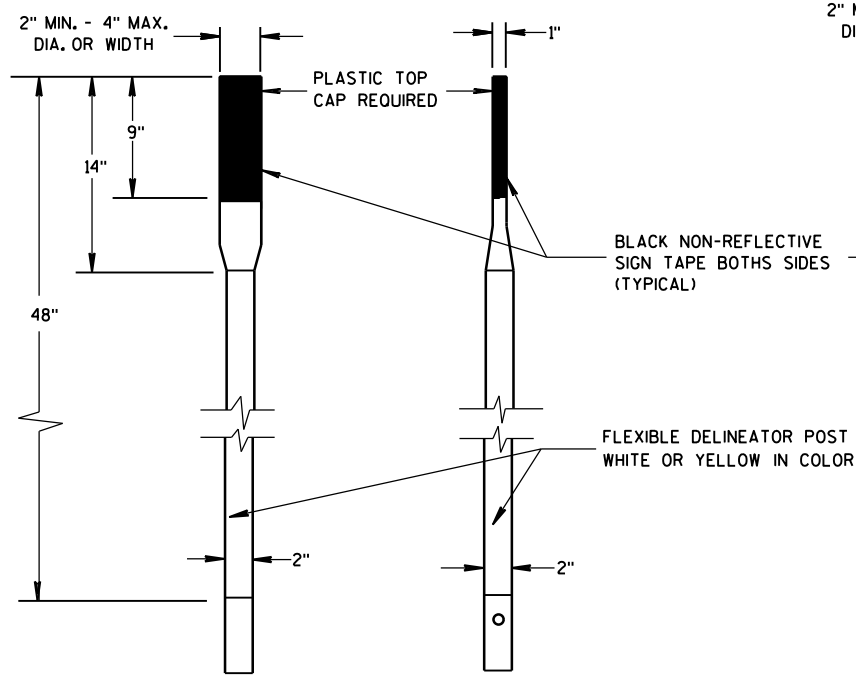
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

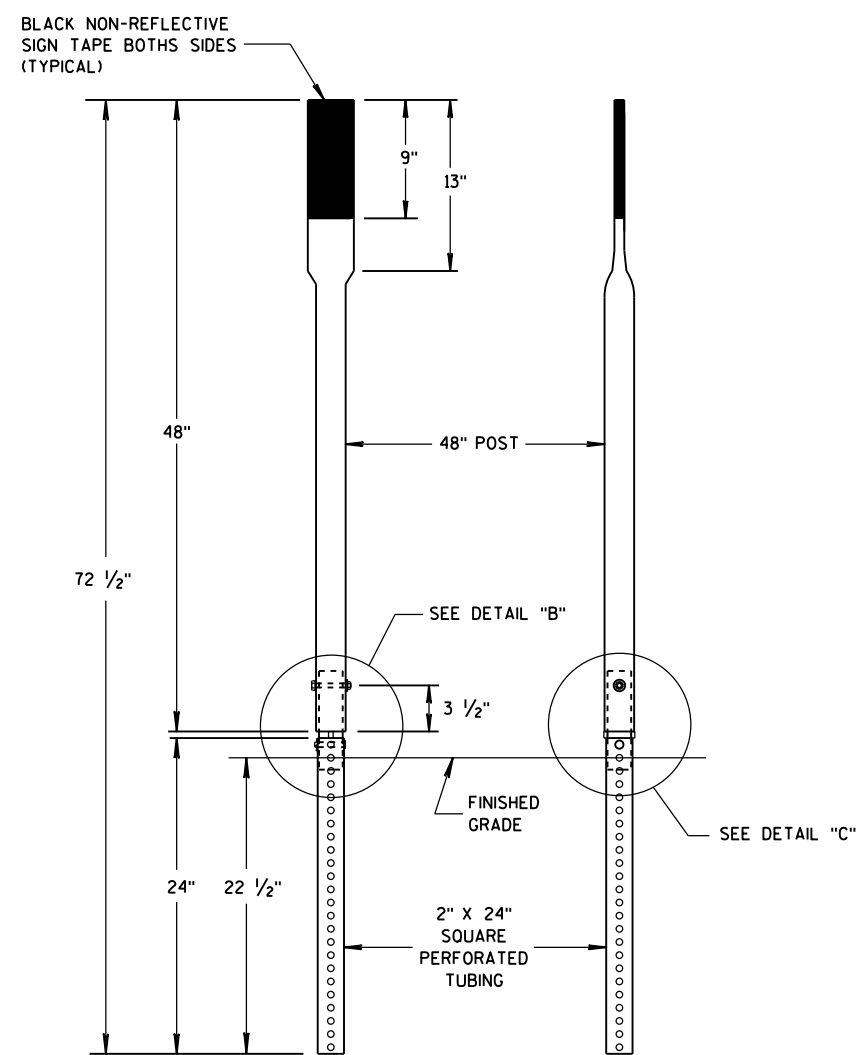
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

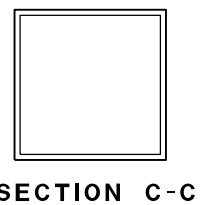


FRONT VIEW SIDE VIEW
ALTERNATE 2

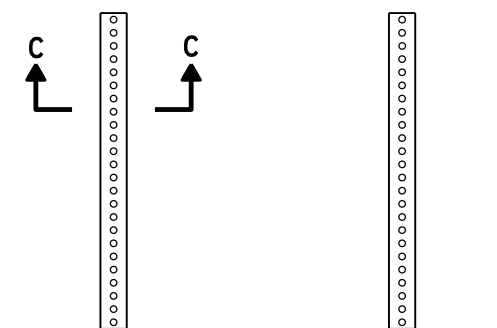
FLEXIBLE MARKER POSTS



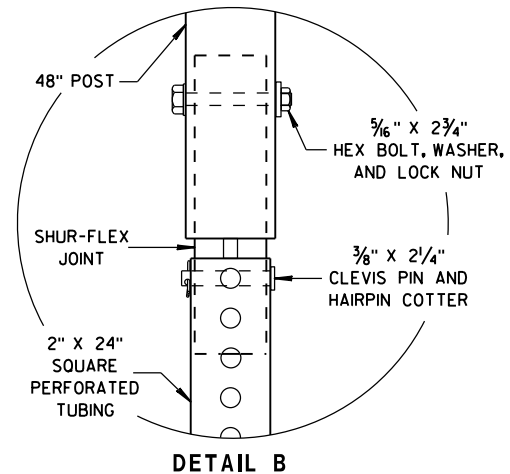
FRONT VIEW SIDE VIEW
ALTERNATE 3



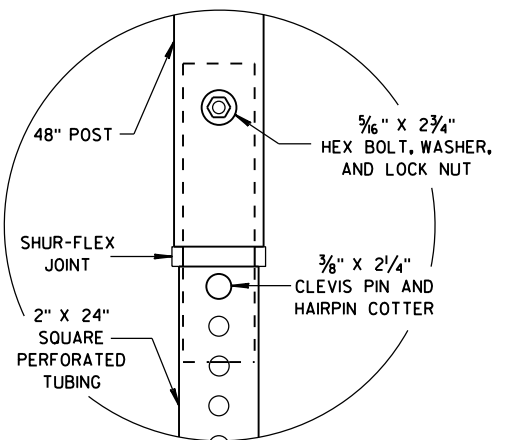
SECTION C-C



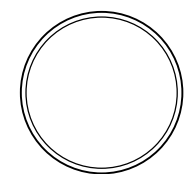
FRONT VIEW SIDE VIEW
ALTERNATE 3



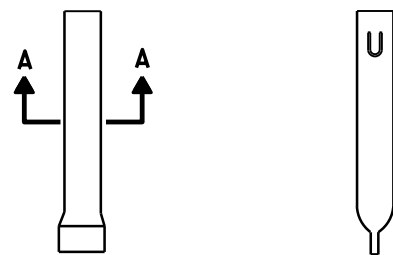
DETAIL B



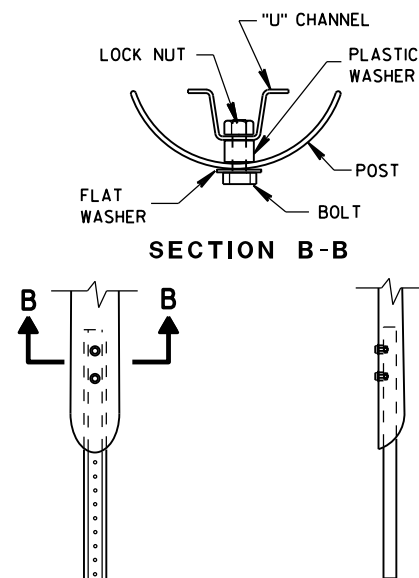
DETAIL C



SECTION A-A



FRONT VIEW SIDE VIEW
ALTERNATE 1



FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

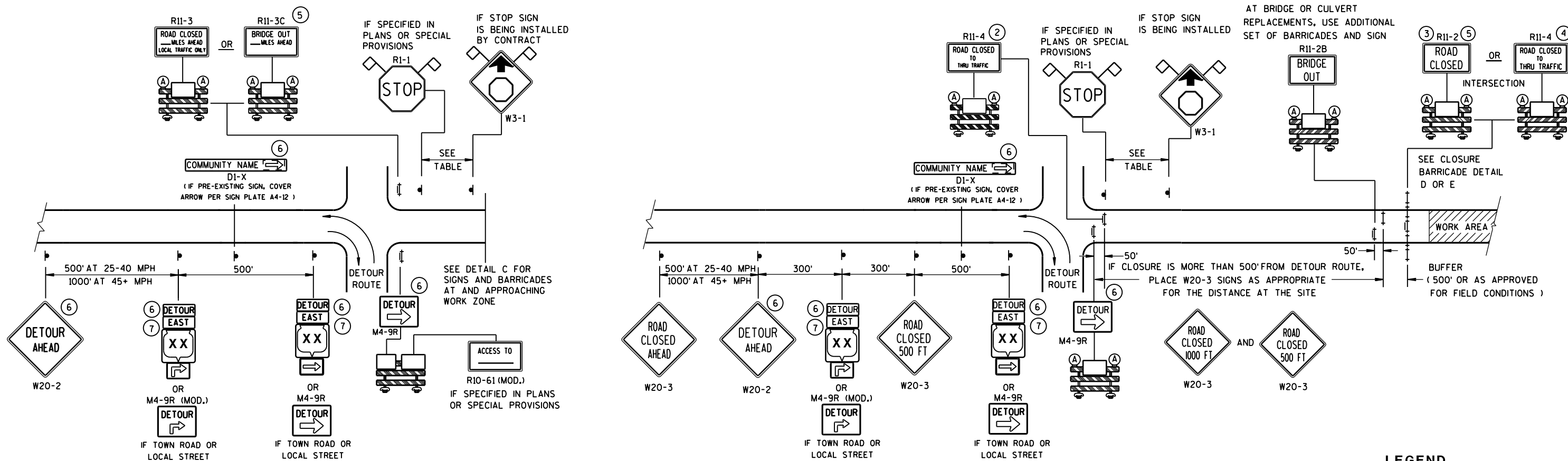
10/1/2012

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 80

IGN



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

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

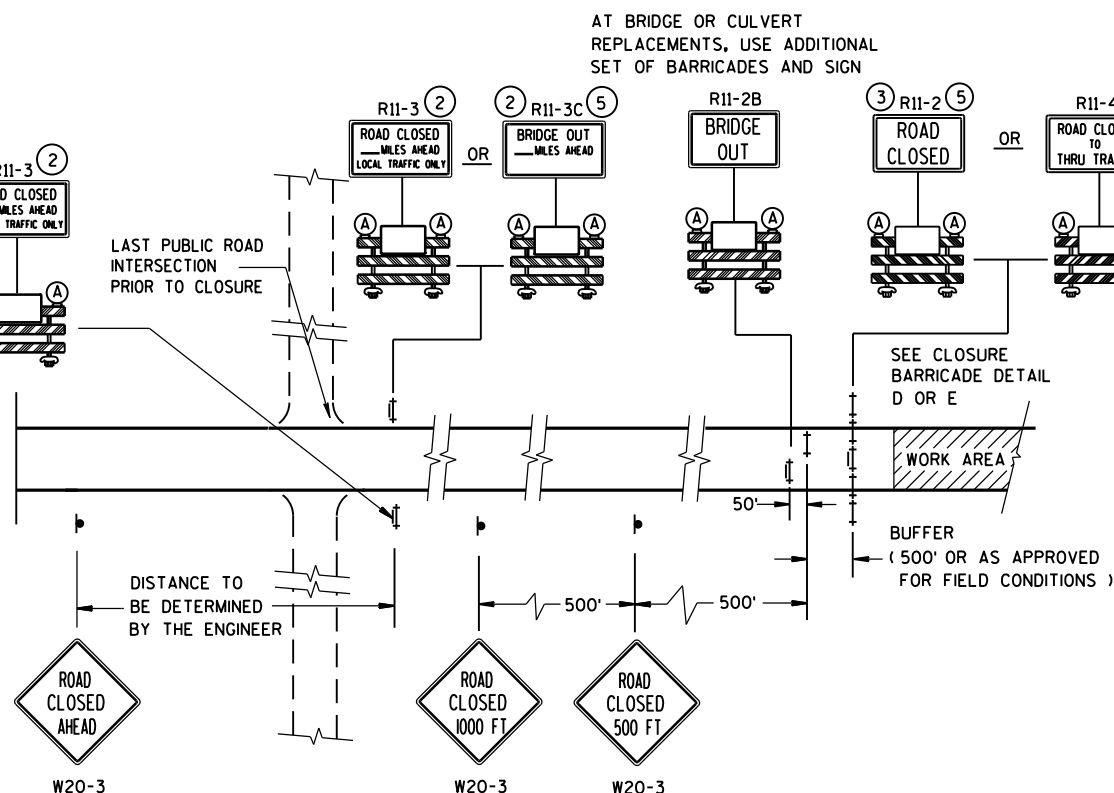
WORK AREA

DETOUR EAST
M4-8
M3-X
XX OR XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

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



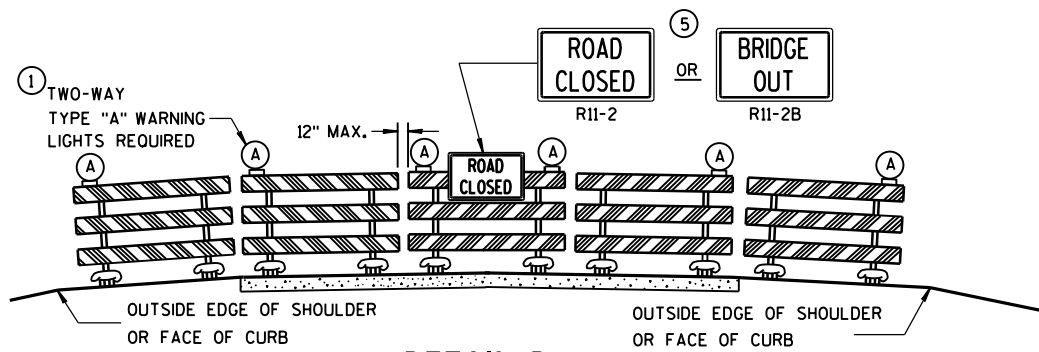
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

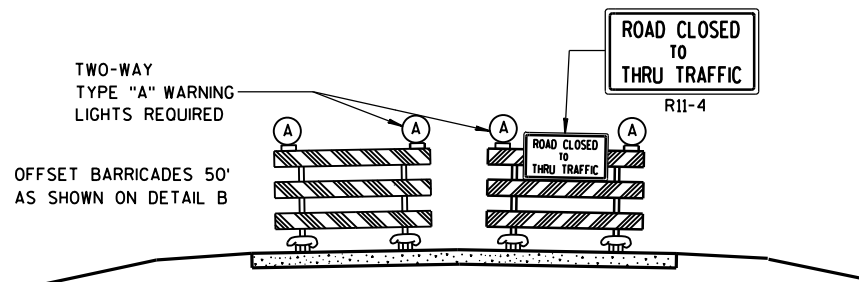
**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINE 81
FHWA EIGN



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

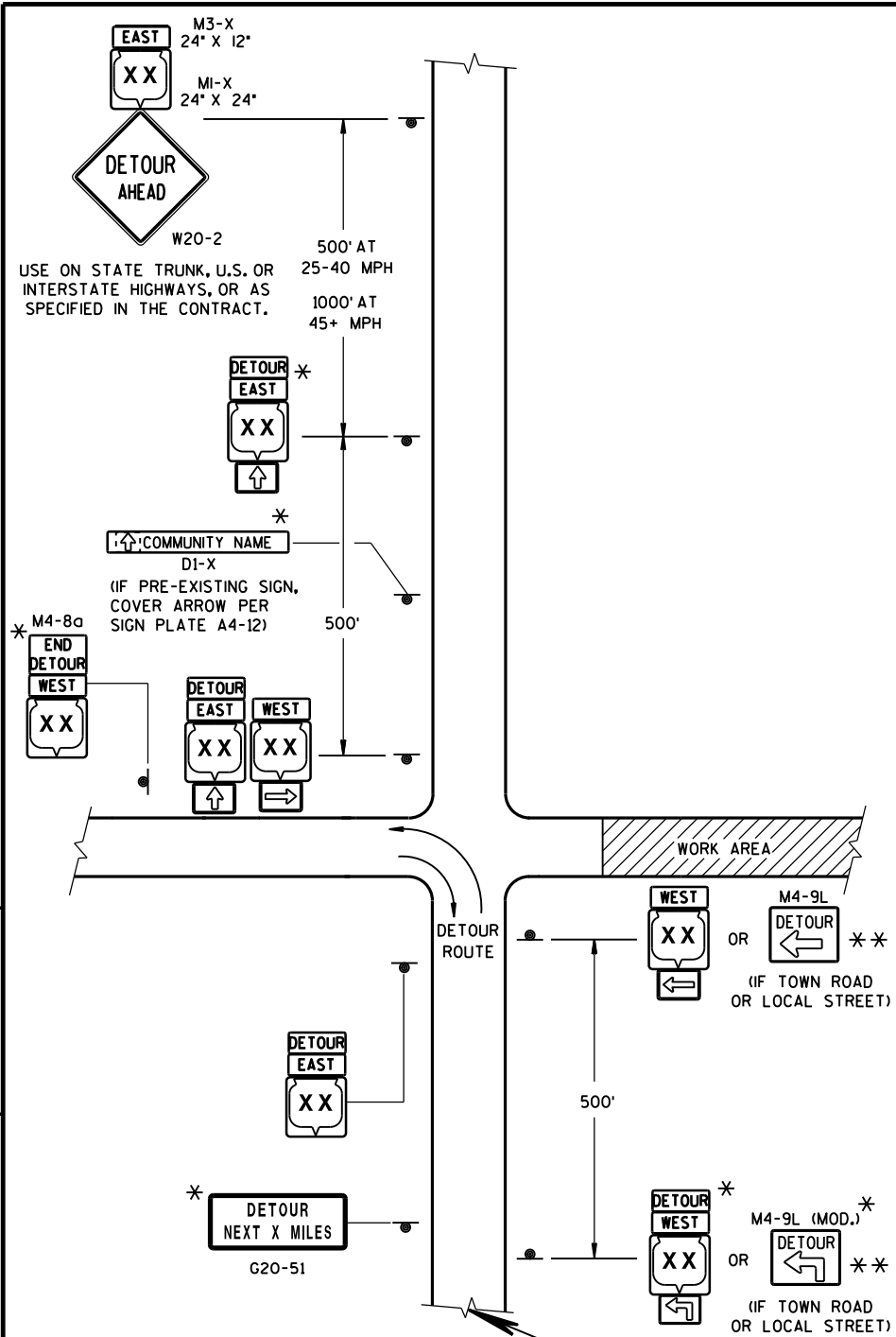
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 82 ESIGN
FHWA



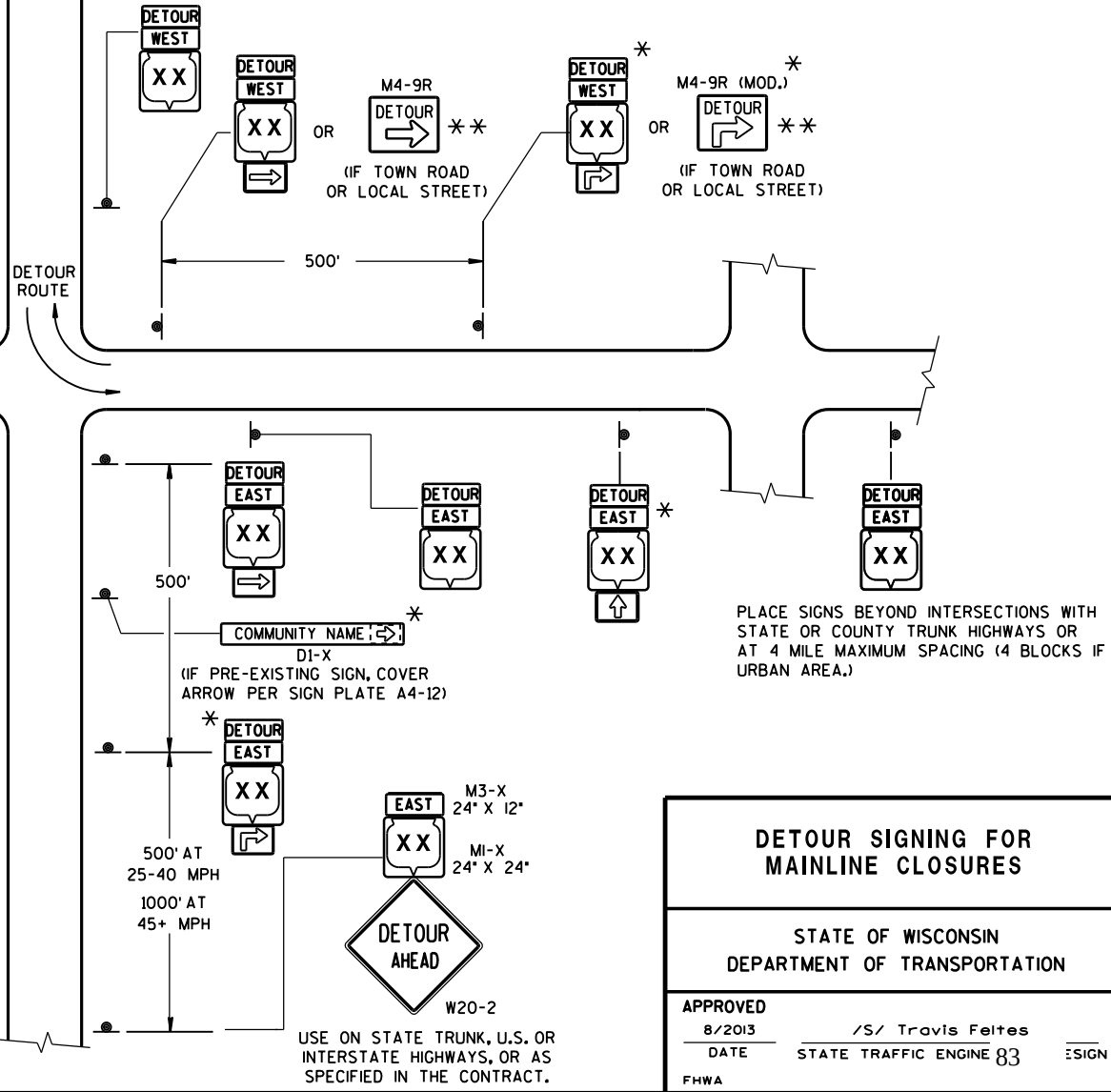
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT

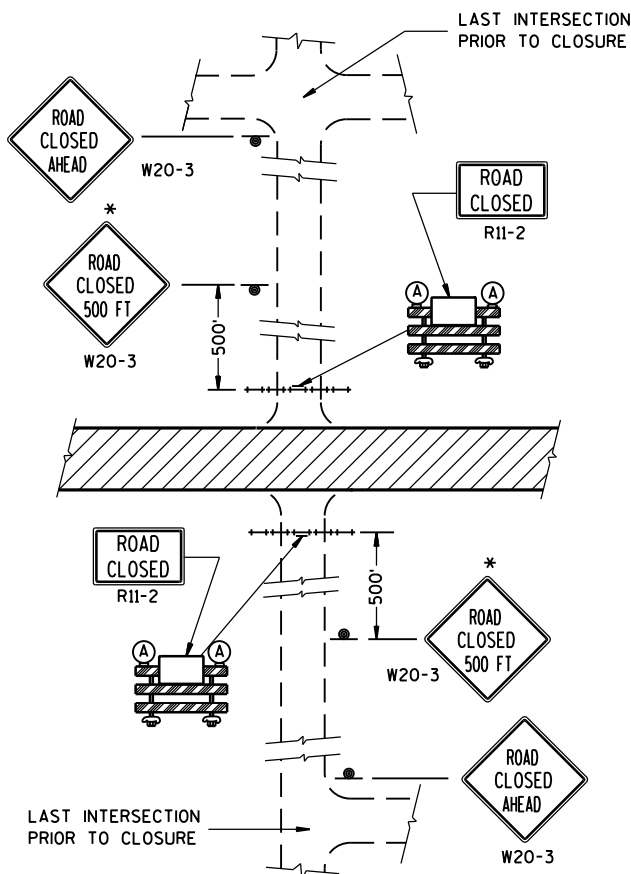
DETAIL F
DETOUR SIGNING

GENERAL NOTES

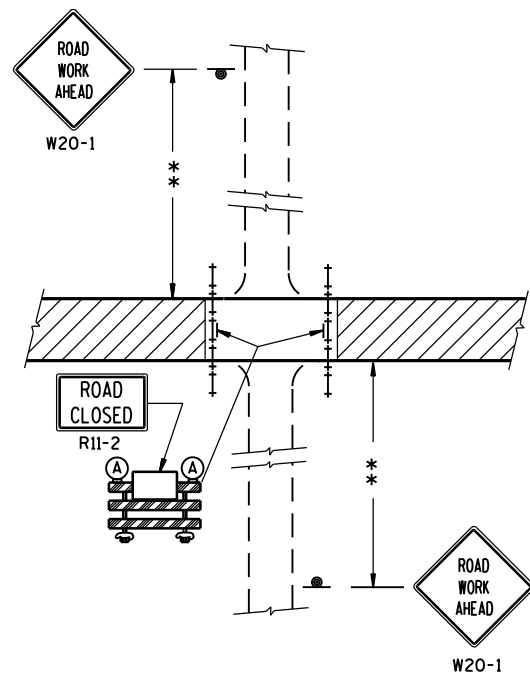
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS, MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
 - M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



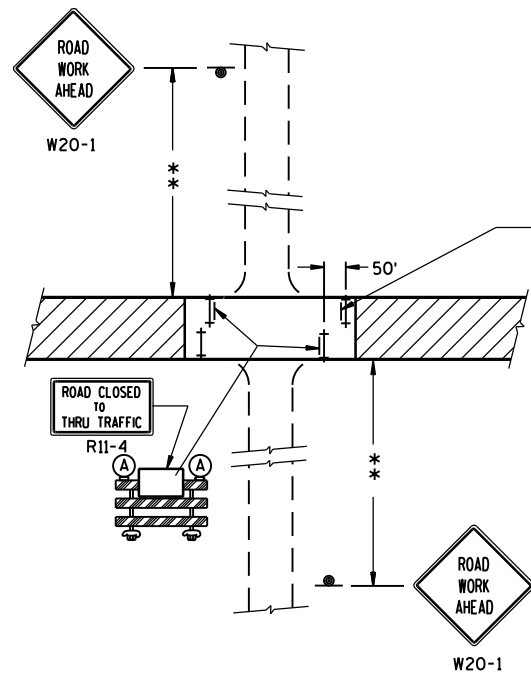
DETOUR SIGNING FOR MAINLINE CLOSURES		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED	/S/ Travis Feltes	
8/2013	DATE	STATE TRAFFIC ENGINE 83
FWHA		DESIGN



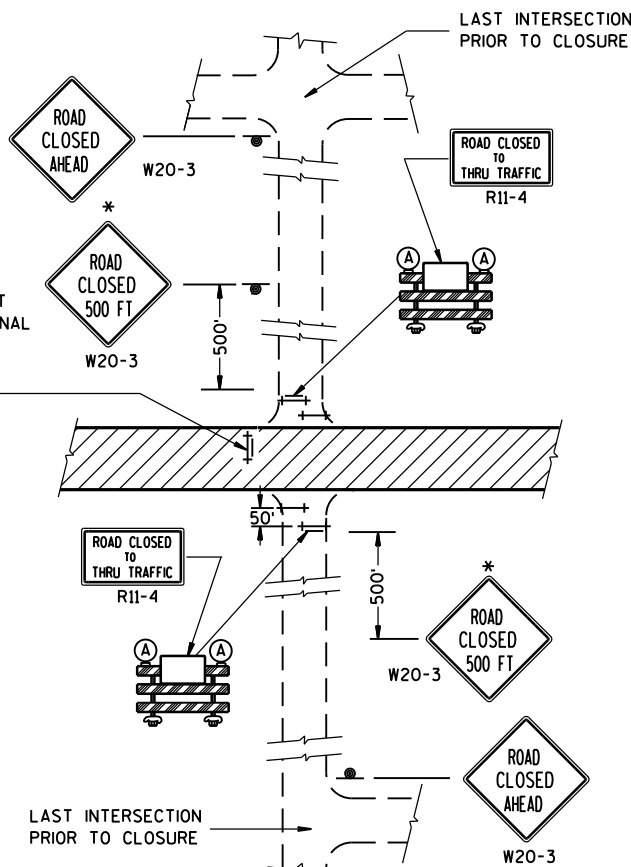
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

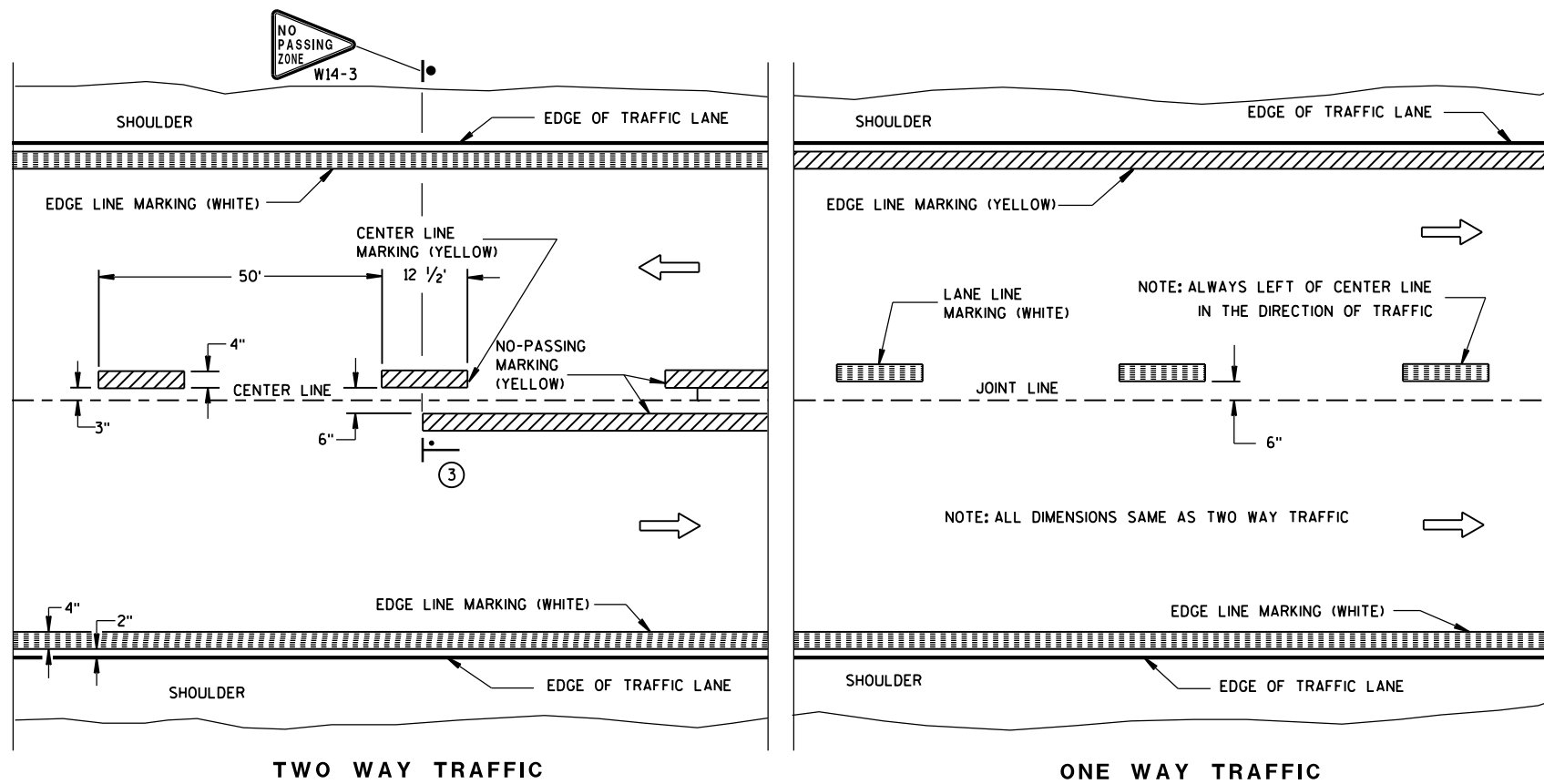
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

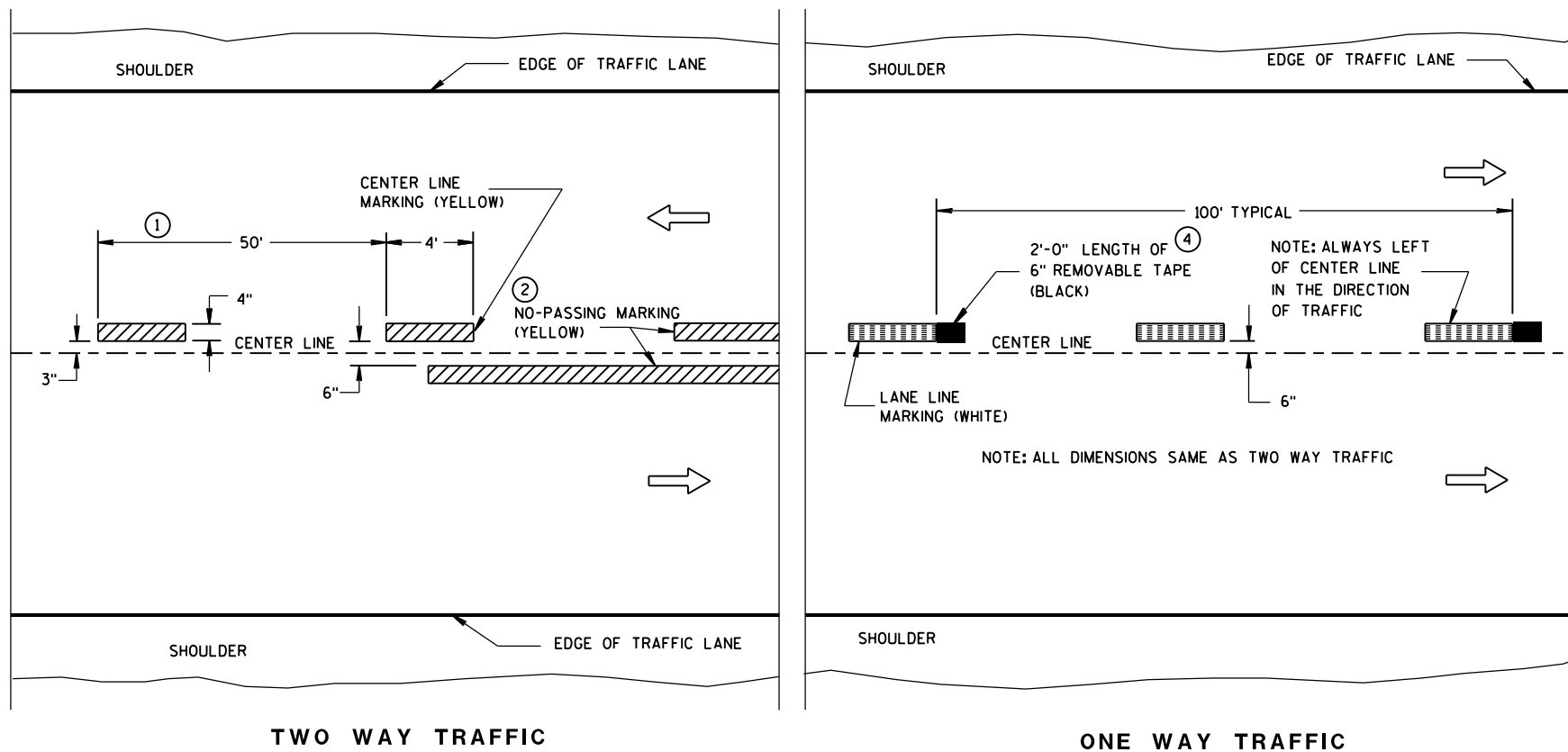
8/2013 /S/ Travis Fettes

DATE STATE TRAFFIC ENGINE 84

FHWA SIGN



PERMANENT PAVEMENT MARKING



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

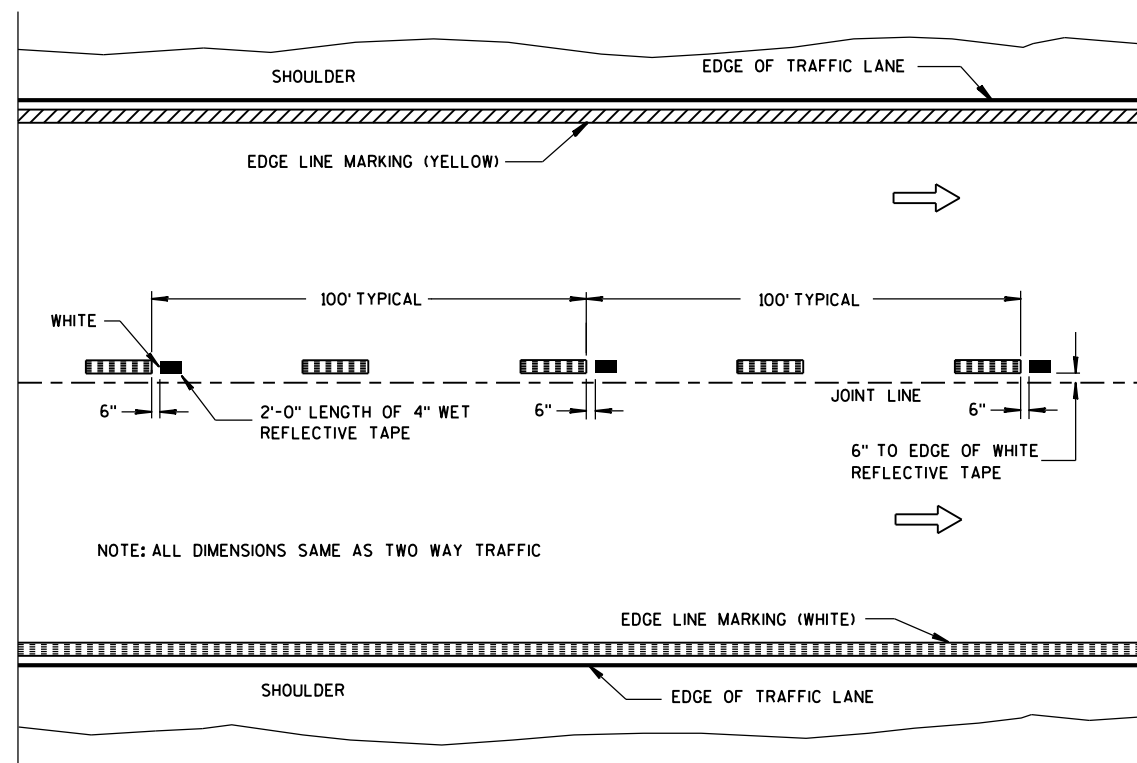
GENERAL NOTES

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

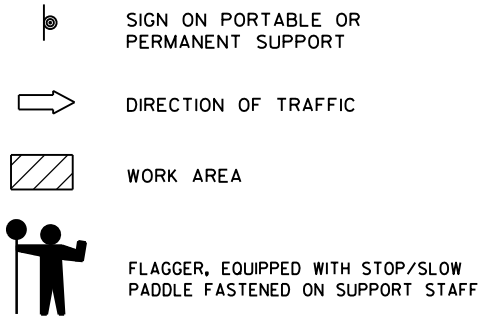
APPROVED

5-13-2013

DA

FHWA

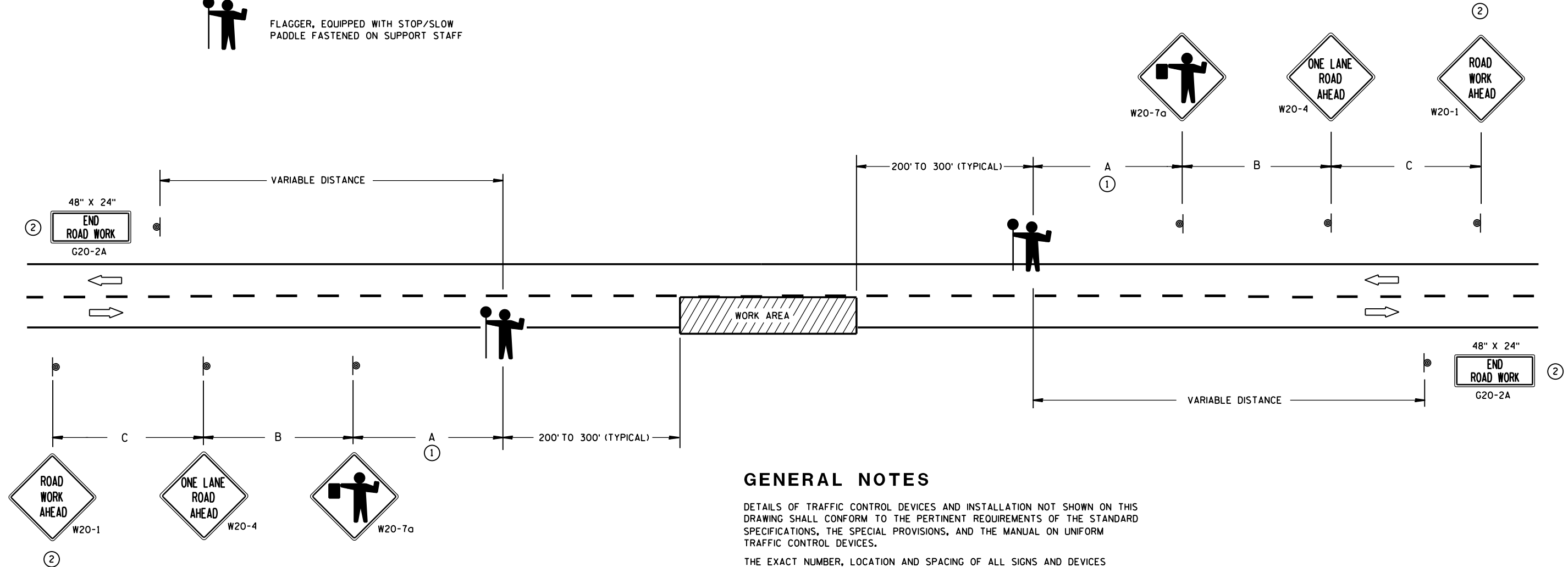
/S/ Travis Feltes
STATE TRAFFIC E 85

LEGEND**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.

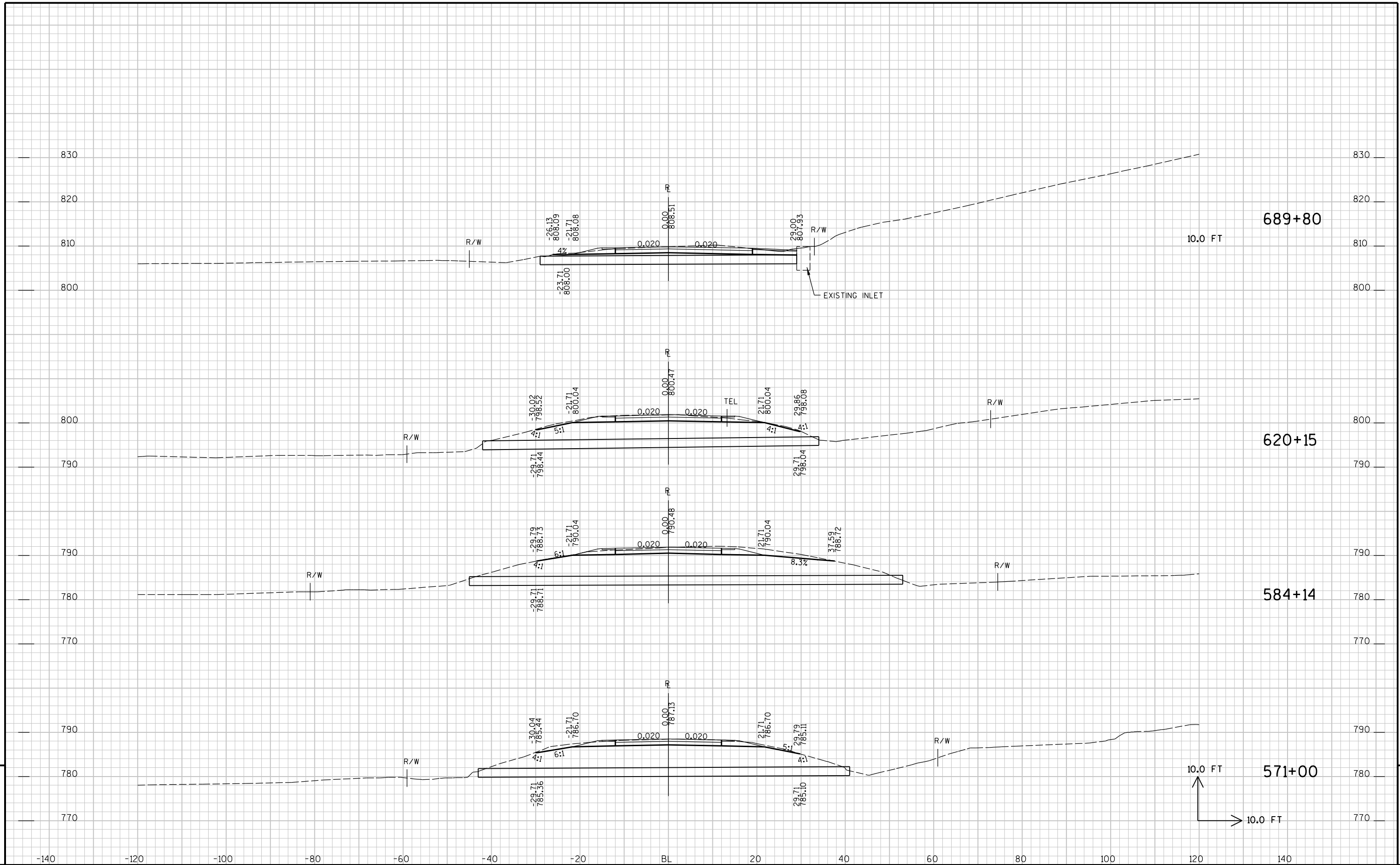
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

- 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)**

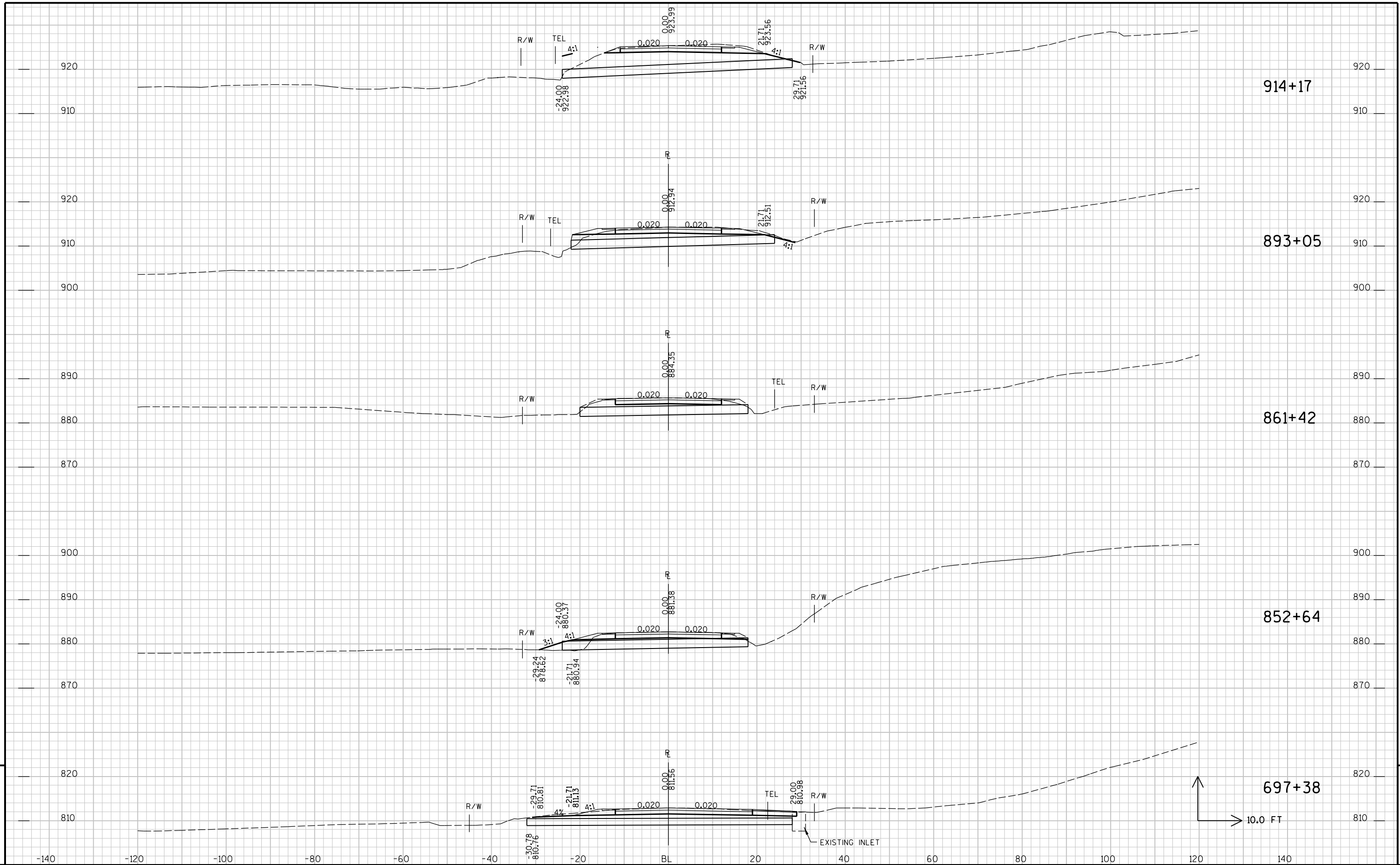
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 86 SIGN
FHWA



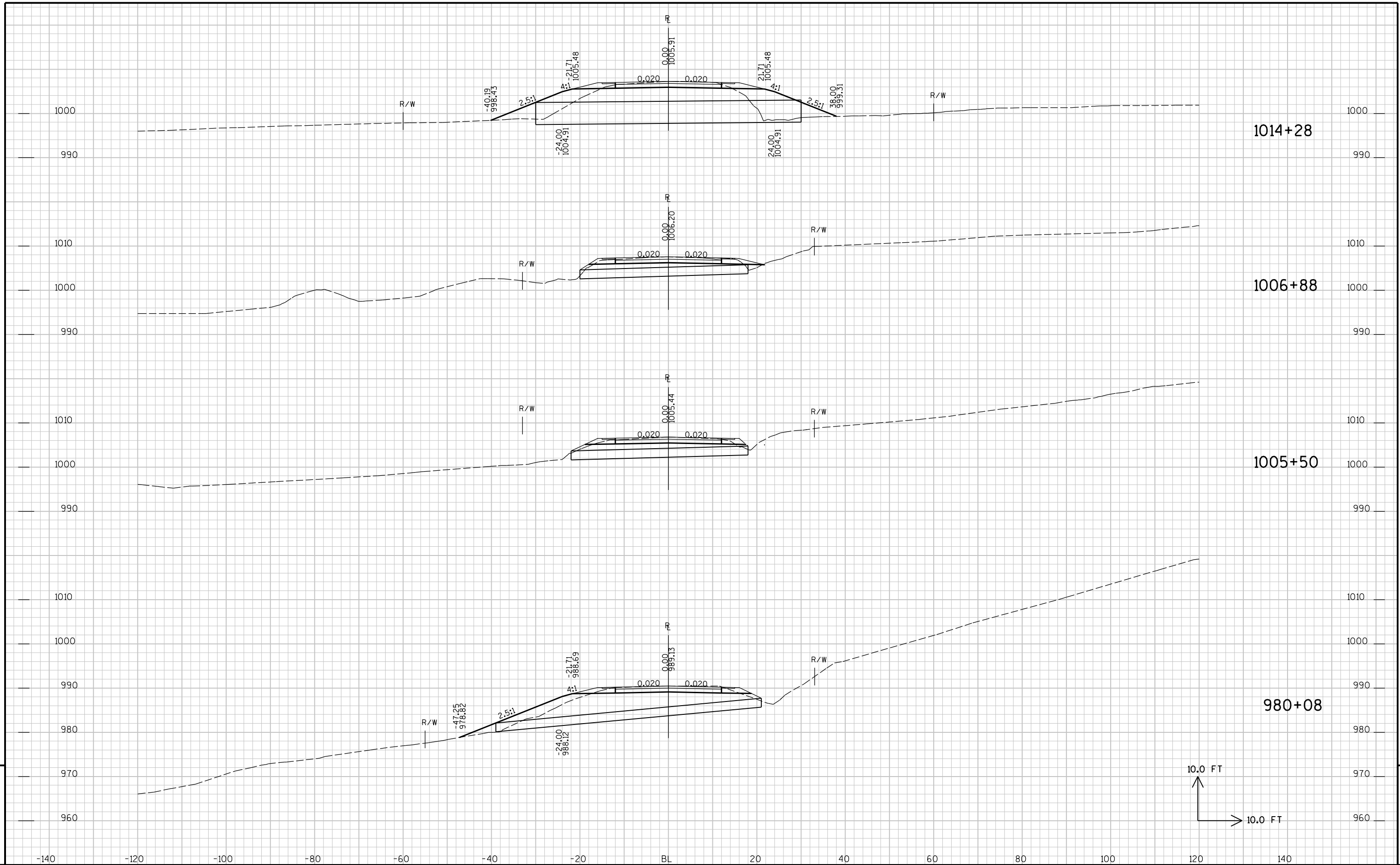
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9



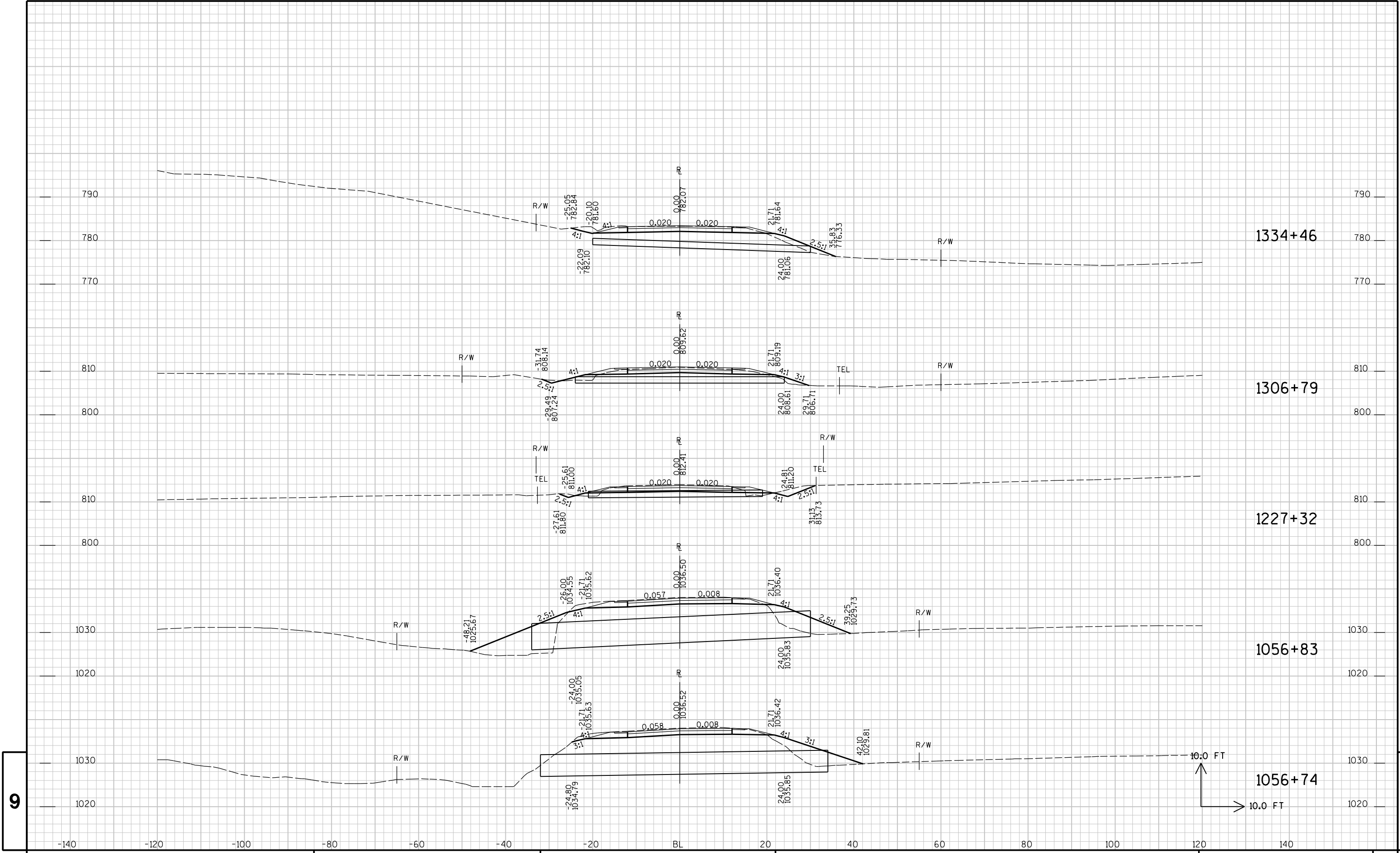
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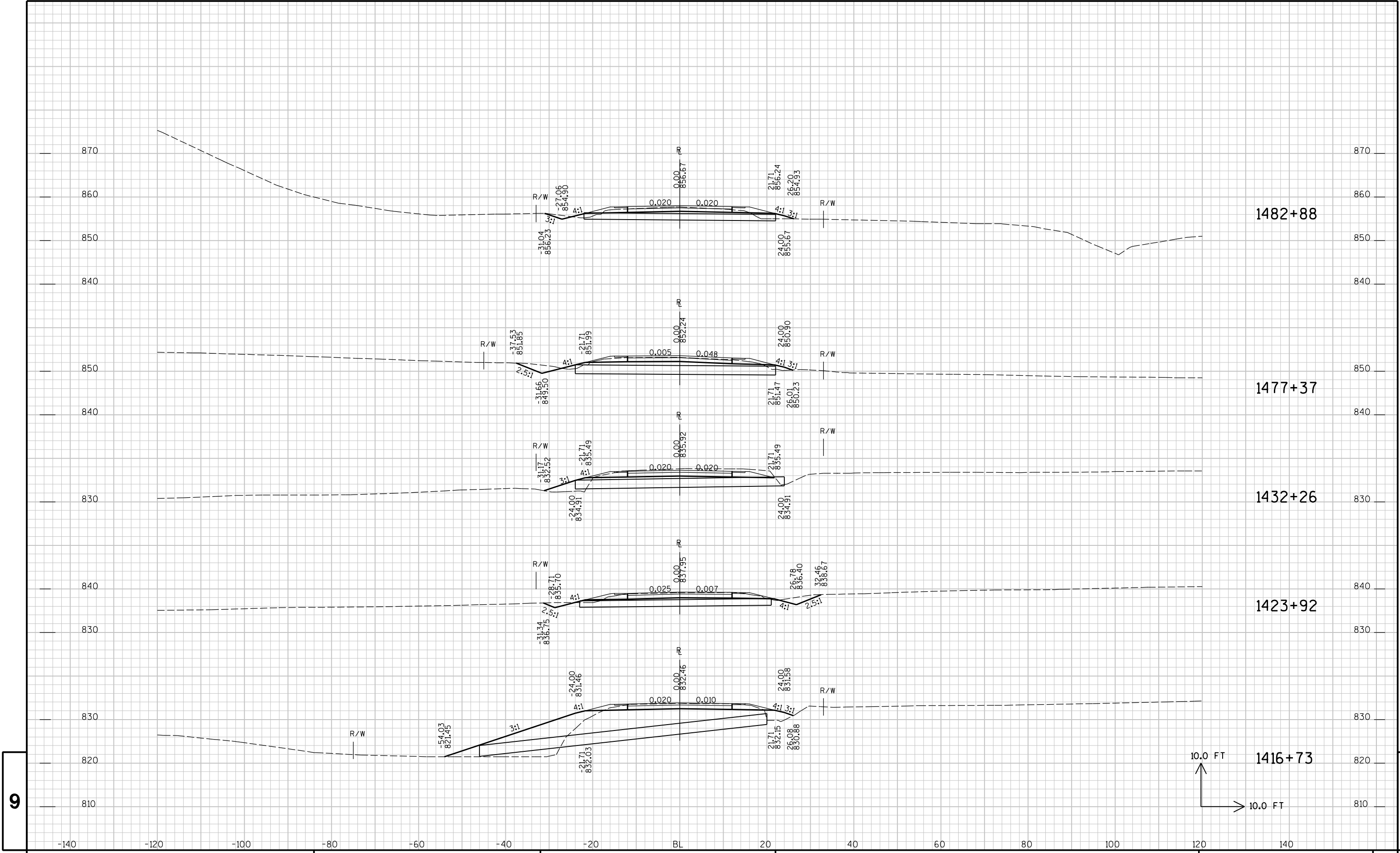
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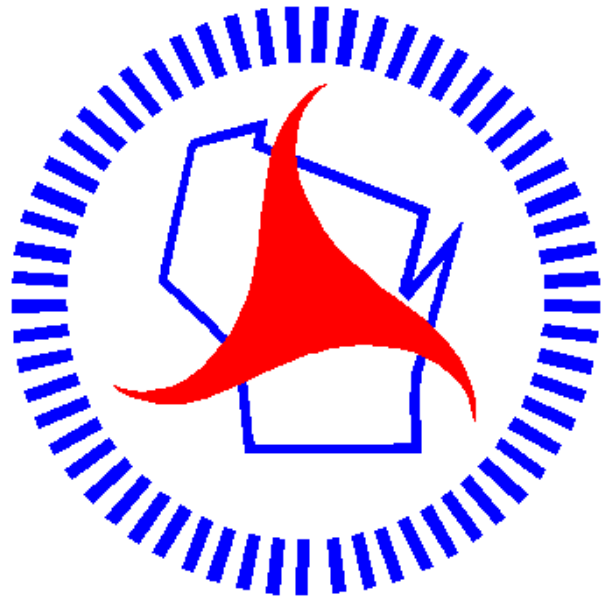
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9

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Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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

PROJECT ID: 7730-06-73
WITH: 7730-00-60

COUNTY: BUFFALO

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 Plan	
Section No. 5	Plan and Profile	
Section No. 6	Standard Detail Drawings	
Section No. 7	Sign Plates	
Section No. 8	Grading Plans	
Section No. 9	Computer Earthwork Data	
Section No. 9	Cross Sections	
TOTAL SHEETS =214		



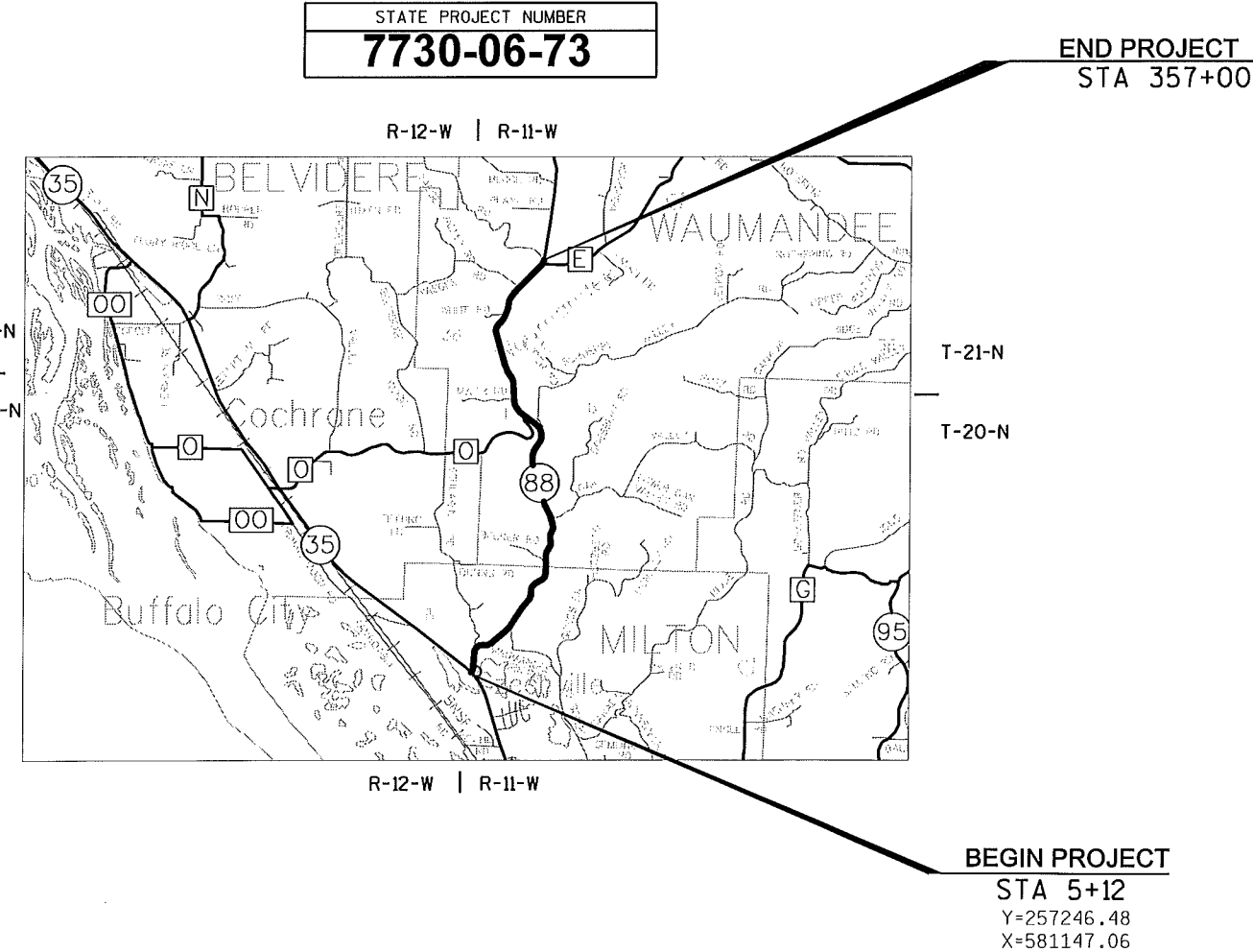
DESIGN DESIGNATION		
A.A.D.T. 2014	=	790
A.A.D.T. 2034	=	1050
D.H.V.	=	5.7%
D.D.	=	50/50
T.	=	7.2%
DESIGN SPEED	=	55 MPH
ESALS	=	460,000

CONVENTIONAL SYMBOLS

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

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

	ROCK
	LABEL
	95.36
	E
	FO
	G
	SAN
	SS
	T
	W



LAYOUT
SCALE 0 1.0 MI.
TOTAL NET LENGTH OF CENTERLINE = 6.664 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), BUFFALO COUNTY.
ELEVATIONS ON THIS PLAN ARE REFERENCED TO NAVD 88

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7730-06-73		

PLANS PREPARED BY

QUEST

Civil Engineers, LLC

320 West Grand Ave, Suite 302
Wisconsin Rapids, WI 54495

DATE: 7/15/2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor QUEST Civil Engineers

Designer QUEST Civil Engineers

Project Manager Nicole Passuello

Regional Examiner Christine Koski

Regional Supervisor Tim Mason

APPROVED FOR THE DEPARTMENT

DATE: 7/22/15 *Nicole Passuello* (Signature)

E

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ATTN: DAVID BREVICK-COMMISSIONER
407 SOUTH SECOND STREET
ALMA, WI 54610
TELEPHONE: 608-685-6226

BUFFALO COUNTY SURVEY DIVISION
ATTN: JOSEPH P. NELSON- COUNTY SURVEYOR
407 SOUTH SECOND STREET
ALMA, WI 54610
TELEPHONE: 608-685-6232 (COUNTY OFFICE)
715-235-6641 (PRIVATE OFFICE)

TOWN OF MILTON
ROBERT PLATTETER- CHAIRPERSON
S3016 DANVILLE ROAD
FOUNTAIN CITY, WI 54629
TELEPHONE: 608-687-8325

TOWN OF WAUMANDEE
RICK REUTER- CHAIRPERSON
S2099 COUNTY ROAD E
COCHRANE, WI 54622
TELEPHONE: 608-626-3481

DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
ATTN: KAREN KAVELAGE
3550 MORMON COURT
LACROSSE, WI 54601
TELEPHONE: 608-785-9115
Karen.Kalvelage@wisconsin.gov

USACE CONTACT

UNITED STATES ARMY CORPS OF ENGINEERS
ATTN: NATHAN CAMPBELL
LA CRESCENT FIELD OFFICE
1114 S OAK ST
LA CRESCENT, MN 55947-1338
TELEPHONE: 651-290-5324

DESIGN CONTACT

QUEST CIVIL ENGINEERS
ATTN: JIM WENDELS
2811 8TH STREET SOUTH
WISCONSIN RAPIDS, WI 54494
TELEPHONE: 715.423.3525
jim.wendels@questllc.biz

UTILITY CONTACTS

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TOM MURRAY
333 NORTH FRONT STREET
LA CROSSE, WI 54601
PHONE: (608)796-7869
FAX: (608)796-5525
E-MAIL: tom.l.murray@centurylink.com

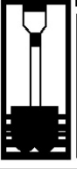
COCHRANE COOPERATIVE – COMMUNICATION LINE
MATT BIESTERVELD
103 WEST 5TH STREET
COCHRANE, WI 54622
PHONE: (608)248-2323
EMAIL: mbeastie@mwt.net

DAIRYLAND POWER COOP – ELECTRICITY
KURT CHILDS
PO BOX 817
LA CROSSE, WI 54602-0817
PHONE: (608)787-1367
E-MAIL: kdc@dairynet.com

RIVERLAND ENERGY COOP- ELECTRICITY
DOUG GERRITTS
N28988 HWY 93
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CELL# 608-797-0757
OFFICE# 608-323-3381
E-MAIL: dgerritts@riverlandenergy

DIGGERS

HOTLINE



Dial 811 or (800)242-8511



www.DiggersHotline.com

PAVEMENT CORING LOG				
CORE NO.	*LOG MILE	OFFSET FROM CENTERLINE	PAVEMENT THICKNESS (INCHES)	BASE COURSE DEPTH (INCHES)
--	0.00	STH 35 INTERSECTION		
1	0.05	6' LT	3.5	9
2	0.25	5' RT	3.75	3
3	0.55	5' RT	4.5	3.75
4	0.75	6' LT	7.5	4.5
5	1.00	5' RT	2.75	8 MAP, BC
6	1.32	7' LT	5.5	2 MAP, BC
7	1.52	7' RT	6	3.5 MAP, BC OVER 4" BASE
8	1.80	9' LT	9.75	0
9	2.01	6' RT	10.5	2
10	2.26	7' LT	11	3
11	2.52	7' RT	6.25	3.75 MAP, BC
12	2.73	6' LT	7.75	6.25
13	3.00	7' RT	7	6 MAP, BC OVER 3" BASE
14	3.25	6' LT	8	4.75
15	3.49	7' RT	7	1.5 MAP, BC OVER 3" BASE
16	3.76	5' LT	13	5
17	4.04	6' RT	10	1.5
18	4.21	7' LT	2.5	10 MAP, BC OVER 1.5" BASE
--	4.33	CTH O INTERSECTION		
19	4.51	6' RT	9.75	2
20	4.75	7' LT	6.5	5.5 MAP, BC OVER 7.5" BASE
21	5.00	6' RT	8.75	2.25
22	5.24	7' LT	3.75	5.75
23	5.53	6' RT	7.25	2.25
24	5.58	7' LT	4.5	4.5 MAP, BC OVER 1.5" BASE
25	6.03	7' RT	5	10
26	6.24	7' LT	5	13
27	6.50	7 RT	7	3.25 MAP, BC OVER 1.25" BASE
--	6.76	CTH E INTERSECTION		
MAP= MILLED ASPHALT PAVEMENT BC = BASE COURSE LAYER *LOG MILES START FROM STH 35 INTERSECTION AND ARE BASED ON WHEEL TRAVEL DISTANCE; WILL NOT NECESSARILY MATCH STATIONING				

LIST OF STANDARD ABBREVIATIONS

Δ	CENTRAL ANGLE OR DELTA	LB	POUND
AADT	ANNUAL AVERAGE DAILY TRAFFIC	LC	LONG CHORD OF CURVE
AC	ASPHALT CEMENT	LIN FT and LF	LINEAR FOOT
ADT	AVERAGE DAILY TRAFFIC	LS	LUMP SUM
AECPRC	APRON ENDWALL FOR CULV PIPE REIN CONC	LT	LEFT
AEW	APRON ENDWALL	M	MARSH
AGG	AGGREGATE	MAINT	MAINTENANCE
ASPH	ASPHALTIC	MATL	MATERIAL
AVG	AVERAGE	MAX	MAXIMUM
BAD	BASE AGGREGATE DENSE	MIN	MINIMUM
BM	BENCH MARK	N	NORTH
C&G	CURB AND GUTTER	NB	NORTHBOUND
CABC	CRUSHED AGGREGATE BASE COURSE	NC	NORMAL CROWN
CE	COMMERCIAL ENTRANCE	NO	NUMBER
CL or C/L	CENTER LINE	NW or NW	NORMAL WATER
CO	COUNTY	OD	OUTSIDE DIAMETER
CONC	CONCRETE	PAVT	PAVEMENT
CP	CULVERT PIPE	PC	POINT OF CURVATURE
CPCP	CULVERT PIPE CORRUGATED POLYETHYLENE	PD or PED	PEDISTAL
CPCS	CULVERT PIPE CORRUGATED STEEL	PE	PRIVATE ENTRANCE
CPRC	CULVERT PIPE REINFORCED CONCRETE	PI	POINT OF INTERSECTION
CPRCHE	CULV PIPE REIN CONC HORIZONTAL ELLIPTICAL	PL	PROPERTY LINE
CTH	COUNTY TRUNK HIGHWAY	PP	POWER POLE
CULV	CULVERT	PROJ	PROJECT
CWT	HUNDREDWEIGHT	PROP	PROPOSED
CY or CUYD	CUBIC YARD	PT	POINT OF TANGENCY
D	DEGREE OF CURVE	R	RADIUS
DG	DITCH GRADE	R/L	REFERENCE LINE
DHV	DESIGN HOUR VOLUME	R/W	RIGHT-OF-WAY
DIA	DIAMETER	RD	ROAD
DISCH	DISCHARGE	RR	RAILROAD
DIST	DISTRICT	RT	RIGHT
DWY	DRIVEWAY	SB	SOUTH BOUND
EAT	ENERGY ABSORBING TERMINAL	SDD	STANDARD DETAIL DRAWINGS
EB	EASTBOUND	SE	SUPERELEVATION
EBS	EXCAVATING BELOW SUBGRADE	SF or SQ FT	SQUARE FEET
EL or ELEV	ELEVATION	SHLDR	SHOULDER
ENT	ENTRANCE	SPECS	SPECIFICATIONS
EOP	EDGE OF PAVEMENT	STA	STATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	STH	STATE TRUNK HIGHWAYS
EW	ENDWALL	SY or SQ YD	SQUARE YARD
EXC	EXCAVATION	T or TAN	TANGENT
EXIST	EXISTING	T	TRUCKS (PERCENT OF)
FE	FIELD ENTRANCE	T or TN	TOWN
FERT	FERTILIZE	TEL	TELEPHONE
FG	FINISHED GRADE	TYP	TYPICAL
FL or F/L	FLOW LINE	V	VELOCITY OR DESIGN SPEED
FO	FIBEROPTIC	VAR	VARIABLE
FP	FENCE POST	VC	VERTICAL CURVE
FT	FOOT	VPC	VERTICAL POINT OF CURVE
GAL	GALLON	VPI	VERTICAL POINT OF INTERSECTION
HMA	HOT MIX ASPHALT	VPT	VERTICAL POINT OF TANGENCY
ID	INSIDE DIAMETER	W	WATER
INV	INVERT	WB	WESTBOUND
IP	IRON PIPE OR PIN	X	EAST GRID COORDINATE
JCT	JUNCTION	Y	NORTH GRID COORDINATE
L	LENGTH		

GENERAL NOTES

WHEN THE QUANTITY OF THE ITEMS OF BASE AGGREGATE DENSE AND ASPHALTIC SURFACE ARE MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF ALL LANDMARKS, BENCHMARKS, AND OTHER CONTROL POINTS IN ALL AREAS WHERE SUCH LANDMARKS, BENCHMARKS, OR OTHER CONTROL POINTS MAY EXIST.

THE CONTRACTOR SHALL PROTECT ALL SURVEY MARKERS. SURVEY MARKERS SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

NO TREES AND/OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

EXACT LOCATION AND LIMITS OF DRIVEWAY ENTRANCES ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND RESTORATION OF, INCLUDING BUT NOT LIMITED TO : SEED, FERTILIZER, EROSION MAT OF ANY DISTURBED AREAS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AS DETERMINED BY THE ENGINEER.

THE LOCATION 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.

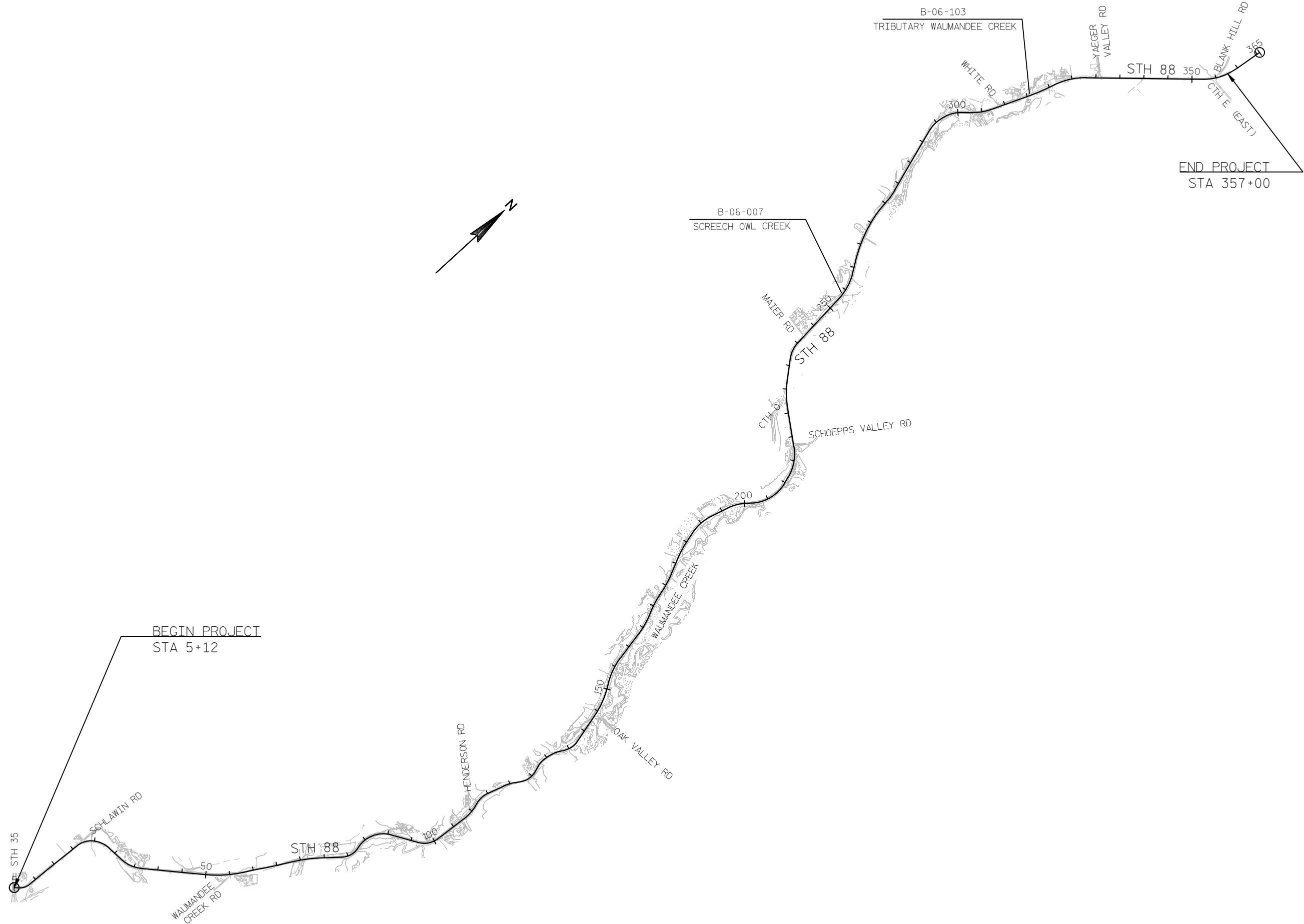
ALL CONCRETE PIPES WILL HAVE JOINT TIES INSTALLED ON THE LAST TWO PIPE JOINTS AND THE END WALL JOINT AT BOTH INLET AND DISCHARGE ENDS AND WILL BE INCIDENTAL TO THE BID ITEM.

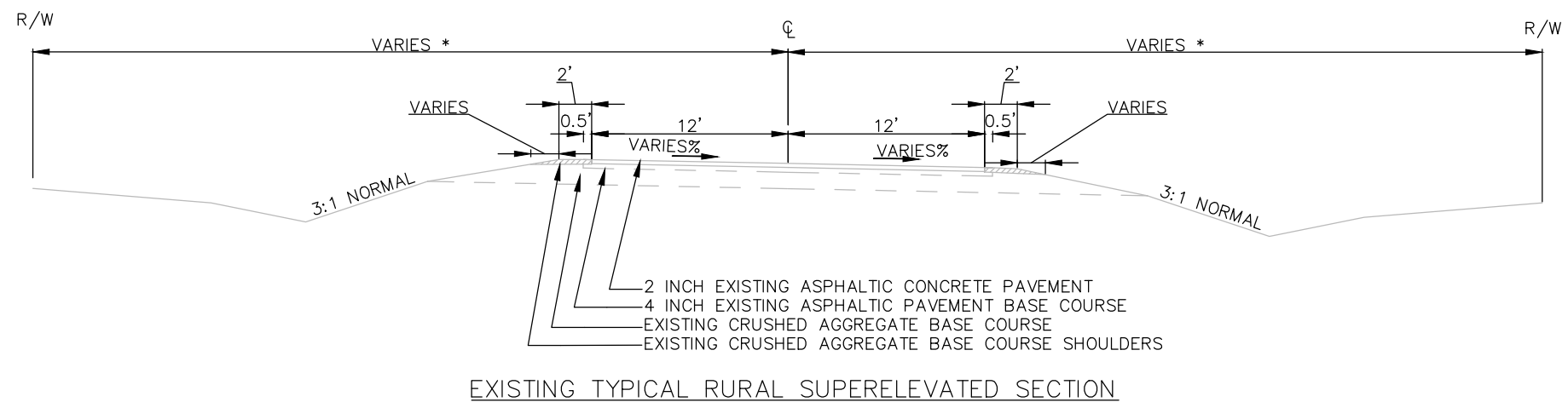
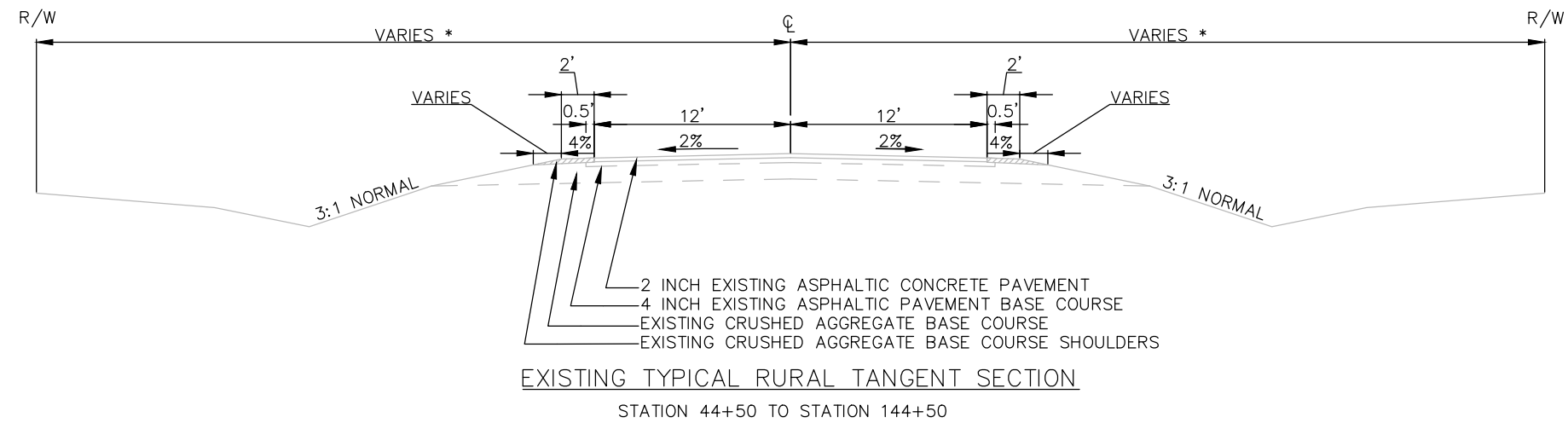
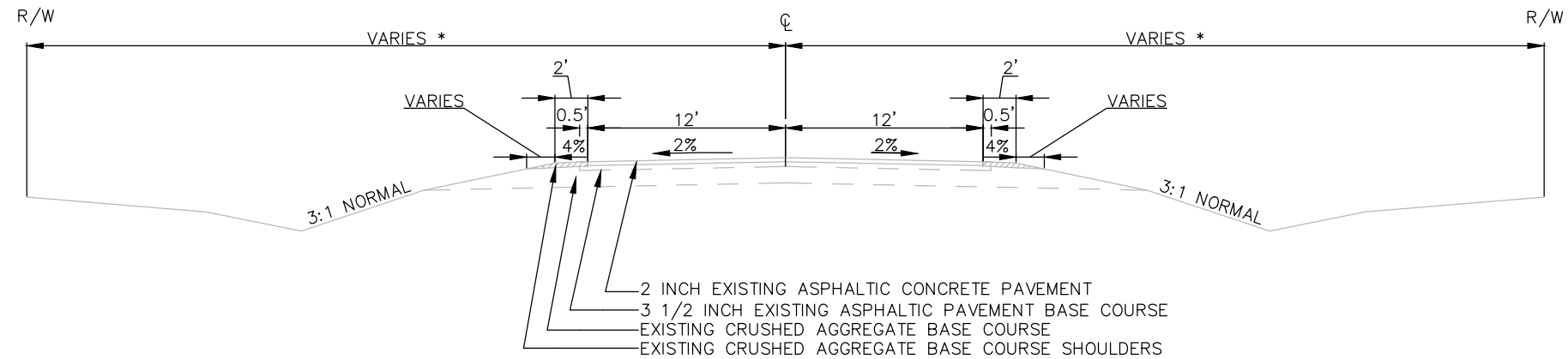
EROSION CONTROL ITEMS ARE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

THE ALIGNMENT SHOWN IN THE PLAN IS A BEST FIT CENTERLINE. LAYOUT OF OFFSET DISTANCES AND GRADING LIMITS ARE BASED UPON THE ACTUAL ROADWAY CENTERLINE.

HMA PAVMENT LAYER THICKNESS

TOTAL LAYER THICKNESS	LAYERS
3"	1.75" UPPER LAYER 1.25" LOWER LAYER



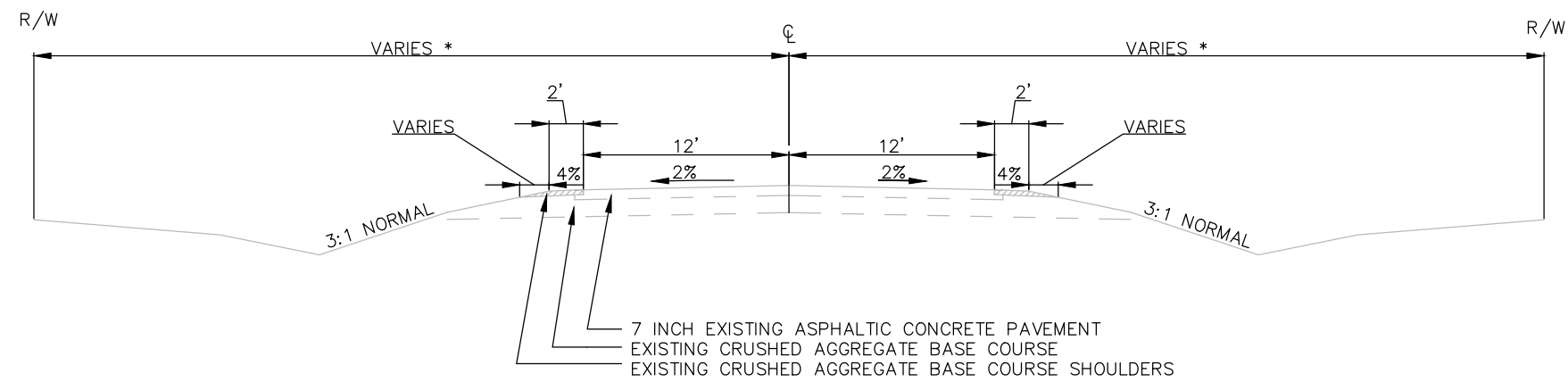
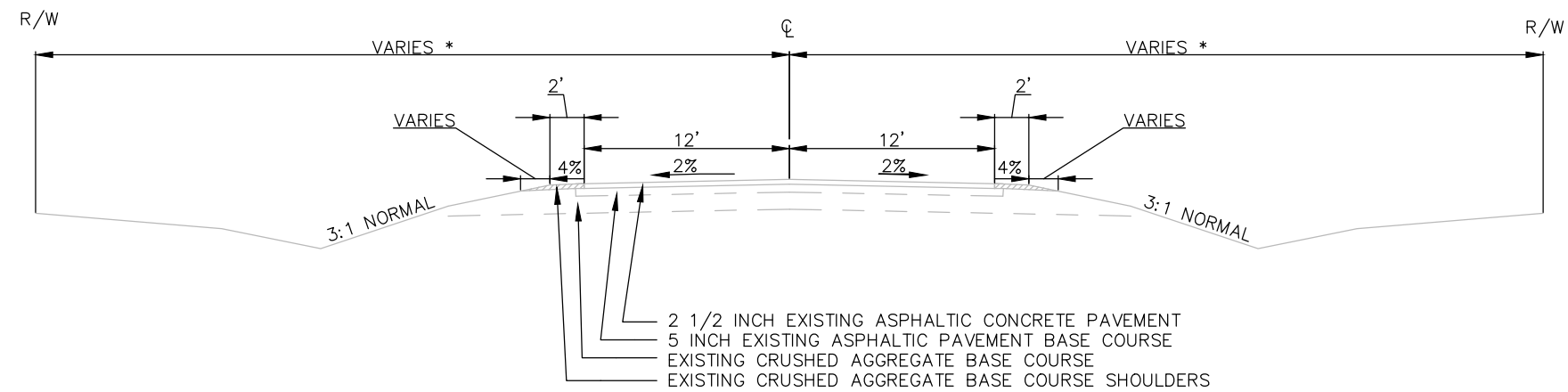


LEGEND

EXIST PROP

		BASE AGGREGATE DENSE
		ASPHALTIC PAVEMENT
		BASE AGGREGATE DENSE (SHOULDERS)
		TOPSOIL

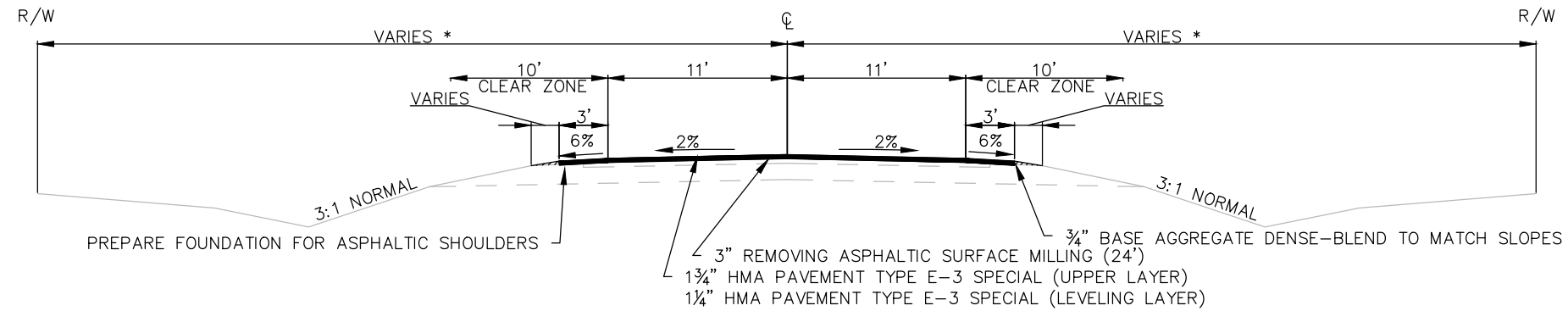
* EXISTING R/W VARIES
33' - 90' STA 48+00 TO STA 235+00
50' - 90' STA 240+00 TO STA 260+00
33' - 50' STA 309+00 TO STA 328+00
33' ASSUMED ELSEWHERE

**LEGEND**

EXIST PROP

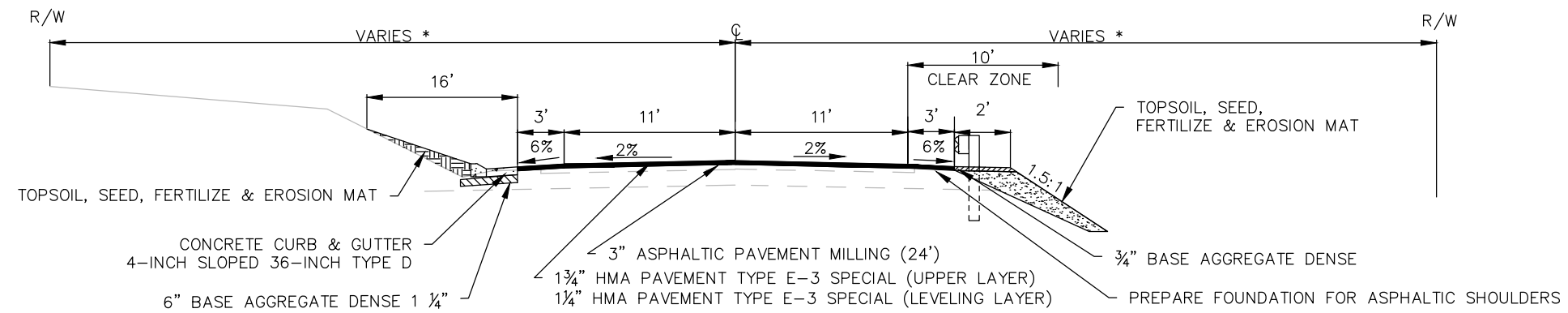
		BASE AGGREGATE DENSE
		ASPHALTIC PAVEMENT
		BASE AGGREGATE DENSE (SHOULDERS)
		TOPSOIL

* EXISTING R/W VARIES
33' - 90' STA 48+00 TO STA 235+00
50' - 90' STA 240+00 TO STA 260+00
33' - 50' STA 309+00 TO STA 328+00
33' ASSUMED ELSEWHERE



FINISHED TYPICAL TANGENT SECTION

STATION 5+22 TO STATION 29+20
STATION 35+50 TO STATION 357+00
(SEE HALF SECTIONS FOR GUARDRAIL AREAS)



FINISHED TYPICAL SECTION

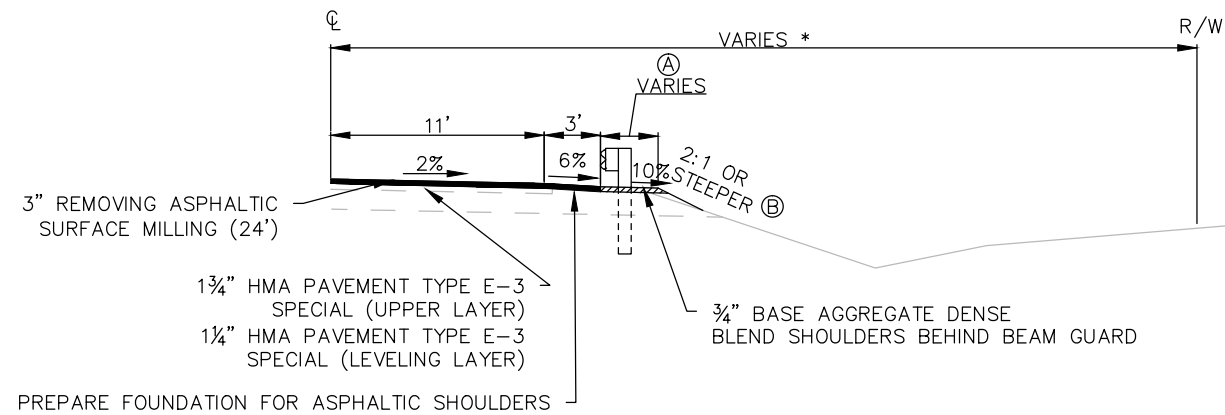
STATION 29+20 TO STATION 35+50

LEGEND

EXIST PROP

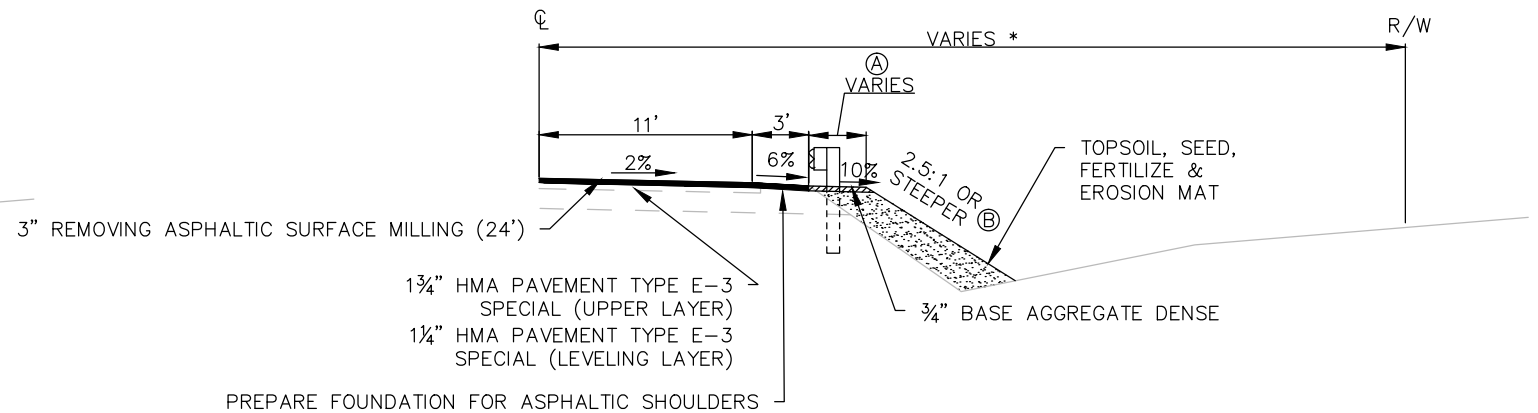
		BORROW
		BASE AGGREGATE DENSE
		ASPHALTIC PAVEMENT
		BASE AGGREGATE DENSE (SHOULDERS)
		TOPSOIL

* EXISTING R/W VARIES
33' - 90' STA 48+00 TO STA 235+00
50' - 90' STA 240+00 TO STA 260+00
33' - 50' STA 309+00 TO STA 328+00
33' ASSUMED ELSEWHERE



FINISHED TYPICAL HALF SECTION
(REVERSE FOR LEFT)

					(A)	(B)
STA 47+92.50	TO	STA 54+30.00	RT		2'	2.0:1
STA 124+85.00	TO	STA 131+35.00	RT		2'	2.0:1
STA 131+95.00	TO	STA 143+57.50	RT		2'	2.0:1
STA 131+68.00	TO	STA 133+18.00	LT		2'	2.0:1
STA 135+05.00	TO	STA 143+58.00	RT		2'	2.0:1
STA 144+52.00	TO	STA 162+27.00	RT		2'	2.0:1
STA 200+40.00	TO	STA 208+90.00	RT		2'	2.0:1
STA 278+12.50	TO	STA 291+50.00	RT		2'	2.0:1



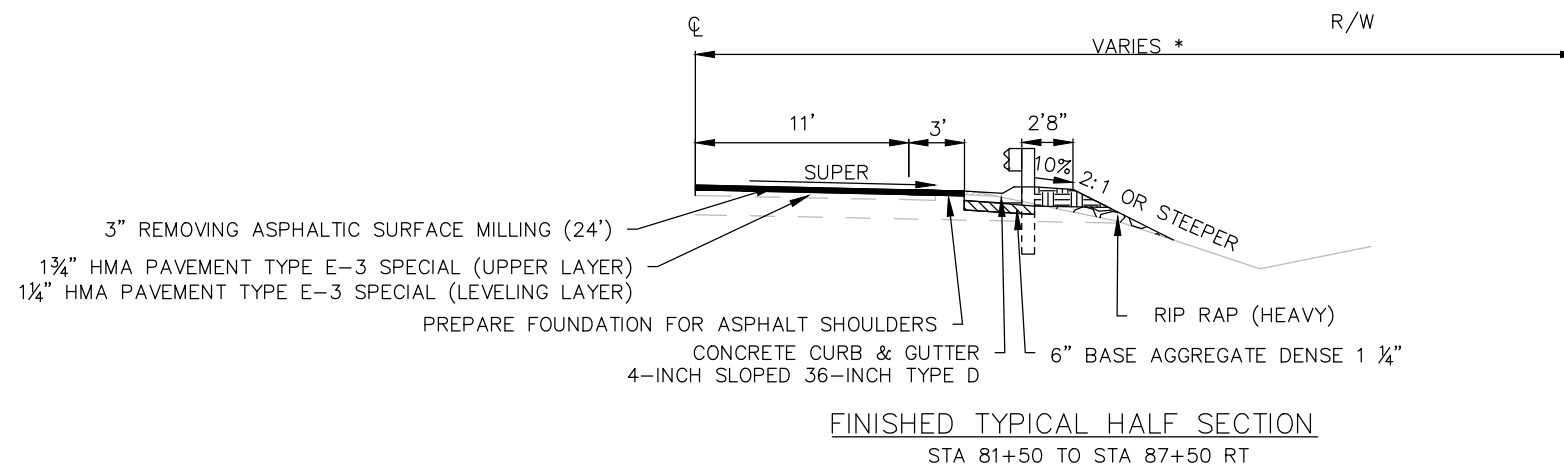
FINISHED TYPICAL HALF SECTION
(REVERSE FOR LEFT)

					(A)	(B)	
STA 23+82.75	TO	STA 24+95.50	RT		4'	2.5:1	
STA 23+82.75	TO	STA 24+95.50	LT		4'	2.5:1	
STA 27+50.00	TO	STA 29+20.00	RT		2'	2.0:1	
STA 29+20.00	TO	STA 35+50.00	RT		2'	1.5:1	CURB SECTION LEFT
STA 35+50.00	TO	STA 36+75.00	RT		2'	2.0:1	
STA 56+35.00	TO	STA 60+50.00	RT		2'	2.0:1	
STA 60+50.00	TO	STA 64+10.00	RT		2'	1.5:1	
STA 74+47.50	TO	STA 77+60.00	RT		2'	2.0:1	
STA 81+17.50	TO	STA 81+50.00	RT		4'	2.0:1	(GAP FOR CURB TO 87+50)
STA 87+50.00	TO	STA 89+80.00	RT		VARIES	2.0:1	
STA 89+80.00	TO	STA 101+30.00	RT		2'	2.0:1	BOX
STA 250+50.00	TO	STA 254+50.00	LT		4'	2.0:1	
STA 252+90.00	TO	STA 254+77.50	RT		4'	2.0:1	
STA 295+60.00	TO	STA 303+20.00	LT		2'	2.0:1	BOX
STA 303+20.00	TO	STA 303+60.00	LT		2'	6.0:1	GRADING FOR PIPE
STA 301+80.00	TO	STA 304+30.00	RT		2'	2.0:1	BOX

LEGEND

EXIST PROP

		BORROW
		BASE AGGREGATE DENSE
		ASPHALTIC PAVEMENT
		BASE AGGREGATE DENSE (SHOULDERS)
		TOPSOIL



* EXISTING R/W VARIES
33' - 90' STA 48+00 TO STA 235+00
50' - 90' STA 240+00 TO STA 260+00
33' - 50' STA 309+00 TO STA 328+00
33' ASSUMED ELSEWHERE

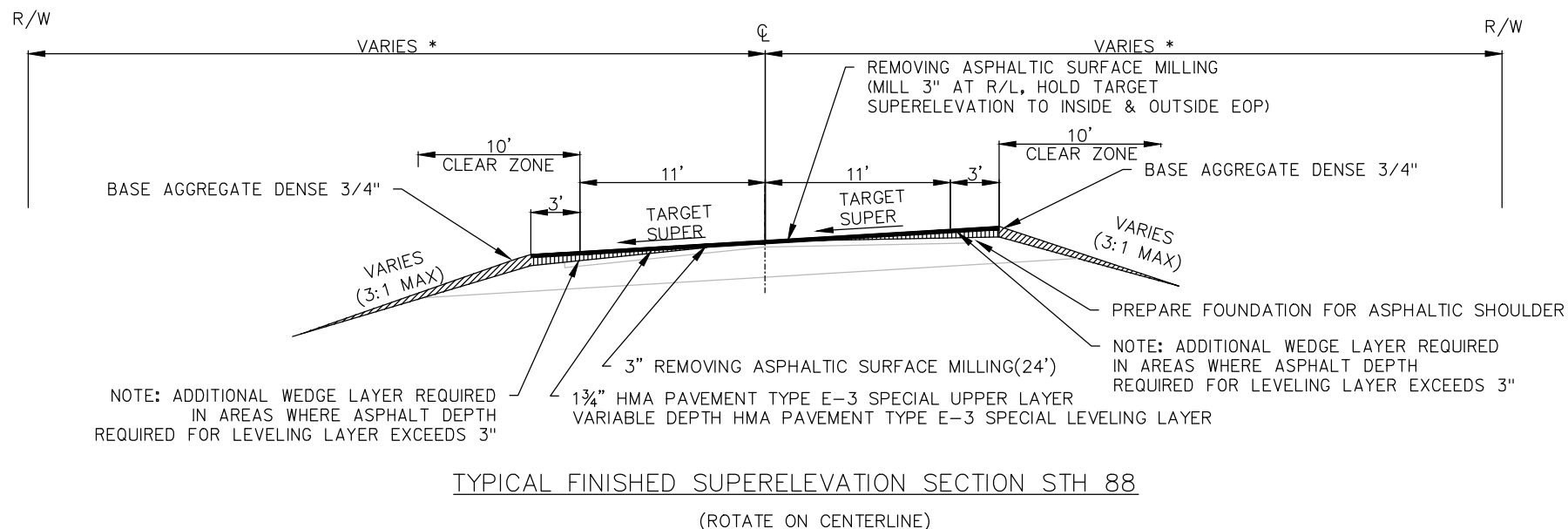
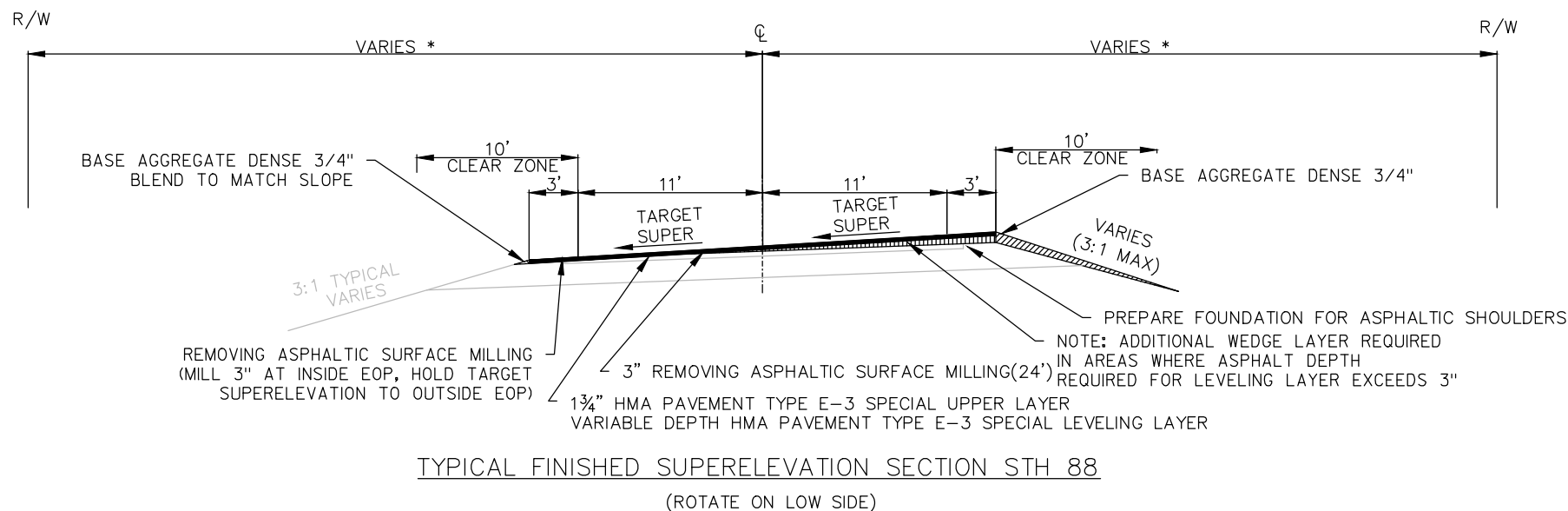
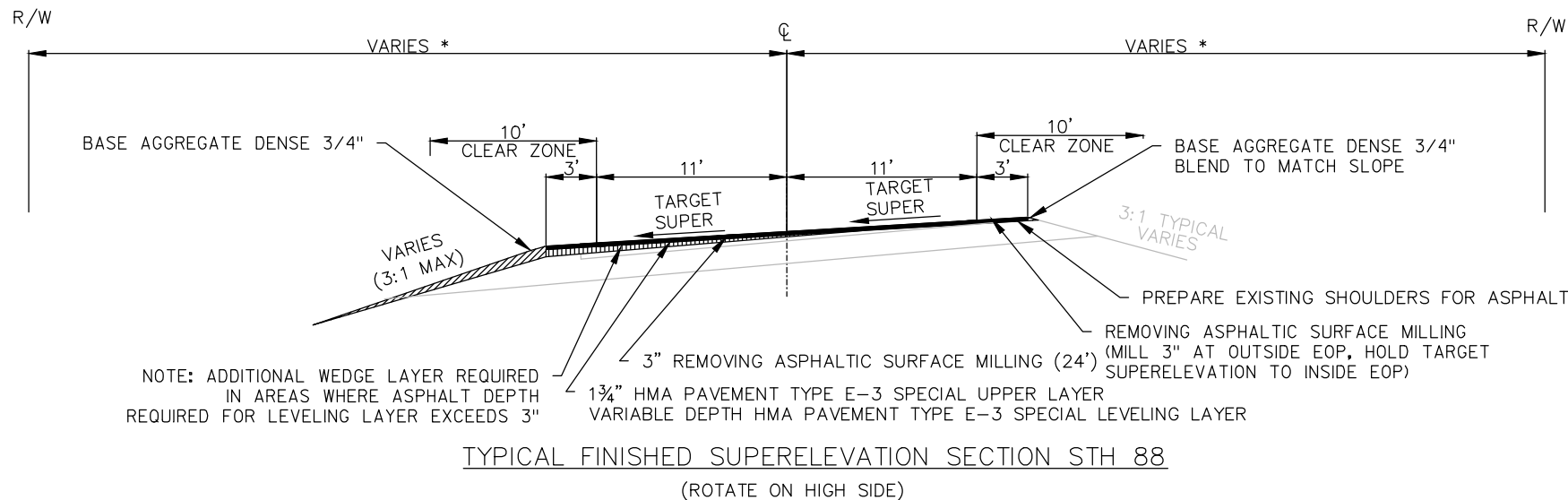
* EXISTING R/W VARIES
33' - 90' STA 48+00 TO STA 235+00
50' - 90' STA 240+00 TO STA 260+00
33' - 50' STA 309+00 TO STA 328+00
33' ASSUMED ELSEWHERE

CURVE PI	CURVE DIRECTION	APPROX EXIST SUPERELEVATION		TARGET SUPER.	ROTATE ON HIGH, C/L, OR LOW SIDE OF CURVE	REMARKS
		LT	RT			
7+30.17	LT	3.3%	2.5%	5.0%	LOW	ADDITIONAL BASE REQUIRED AT DRIVE ENTRANCE
23+72.31	RT	-2.0%	-6.5%	-5.0%	C/L	DO NOT BEGIN CORRECTION UNTIL STA 23+00
27+36.34	RT	-2.0%	-5.5%	-5.0%	C/L	ADJUST SIDE SLOPES OVER BOX CULVERT
34+28.17	LT	7.0%	3.5%	5.1%	C/L	0
71+21.91	RT	-3.5%	-4.5%	-3.8%	C/L	0
206+04.63	LT	6.0%	5.0%	5.8%	C/L	0
214+72.53	LT	6.2%	5.5%	5.5%	C/L	0
294+51.03	RT	-6.3%	-9.0%	-5.8%	HIGH	0
298+75.43	RT	-5.0%	-7.0%	-5.8%	C/L	0
305+00.15	LT	8.0%	5.0%	6.0%	C/L	ADJUST TRANSITION TO MATCH BOX AT STA 302+63

NOTE: ALL OTHER CURVES MATCH EXISTING SUPER
FIT EXISTING TRANSITIONS TO THE EXTENT PRACTICAL

LEGEND

EXIST	PROP	
		BORROW
		BASE AGGREGATE DENSE
		ASPHALTIC PAVEMENT
		ASPHALTIC PAVEMENT (WEDGING)
		BASE AGGREGATE DENSE (SHOULDERS)
		TOPSOIL





NOTES

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

CLASS "B" BEDDING SHALL BE PLACED AT ALL PIPE LOCATIONS.

- ① WHERE ROCK, HARD PAN, OR FRAGMENTED MATERIAL IS ENCOUNTERED THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO 1/2 INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.
- ② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS SECTION 520 FOR PIPE CULVERTS.
- ③ PAYMENT FOR BASE AGGREGATE AND PAVING ITEMS ARE INCLUDED WITH THE APPROPRIATE BID ITEM.



2

ENDWALL

VARIABLE

1'

1'

12" MIN. THICKNESS FOR LIGHT RIPRAP

L = 10' MINIMUM.

AS INDICATED IN THE PLANS, OR AS DIRECTED BY THE ENGINEER

W

A

B

W

12"

2'

2'

GEOTEXTILE FABRIC, TYPE "R" REQ'D.

SECTION A-A

① EDGE OF GEOTEXTILE FABRIC TYPE "R" TO BE BURIED UNDER TOPSOIL (4" MIN)

LIGHT RIPRAP

12"

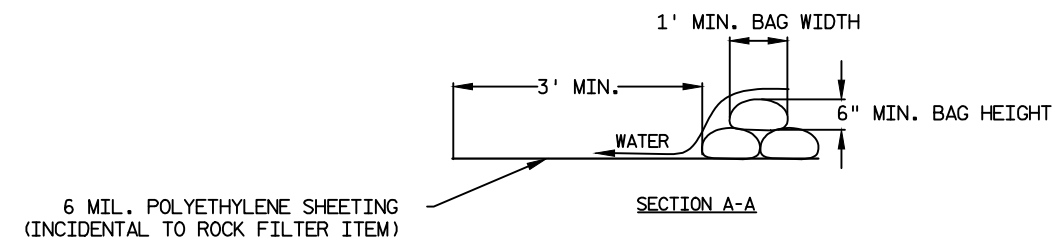
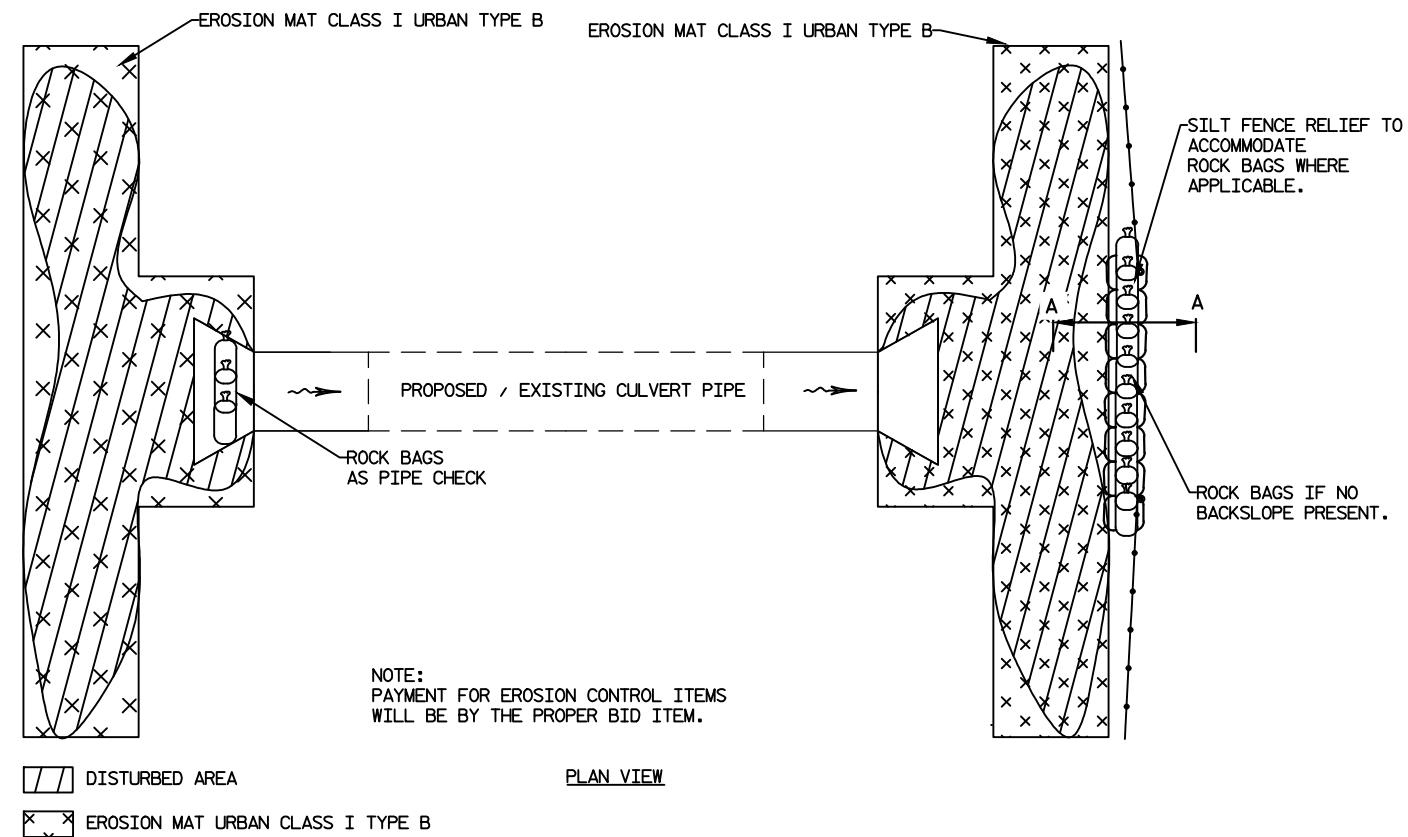
2'

2'

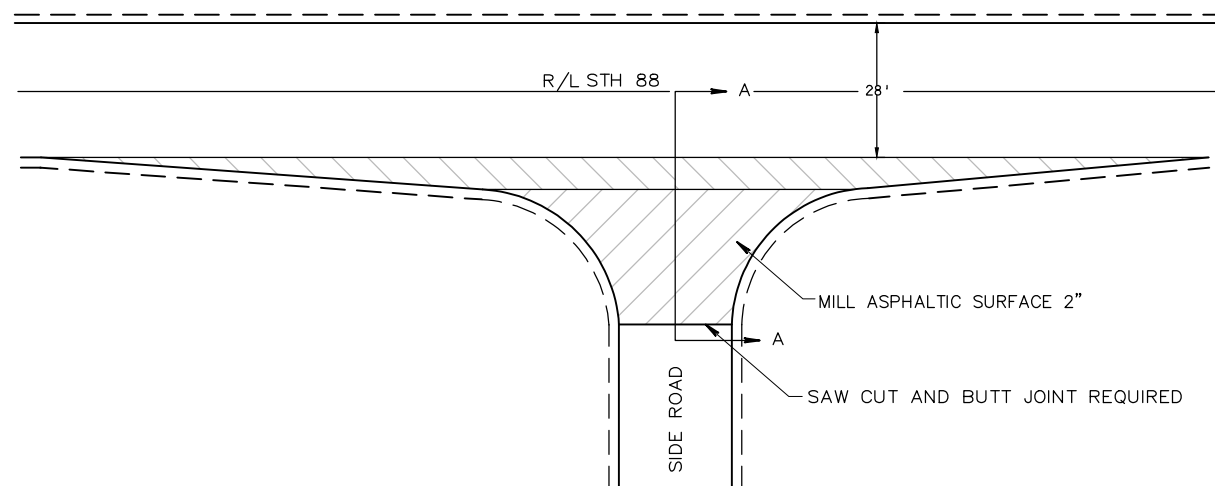
GEOTEXTILE FABRIC, TYPE "R"

SECTION B-B

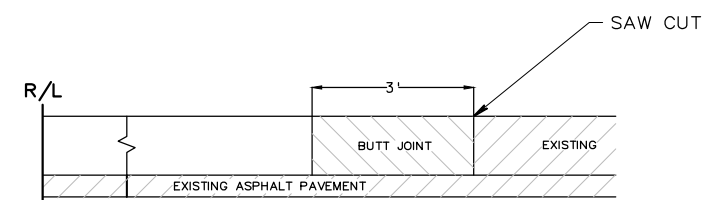
LIGHT RIPRAP TREATMENT AT CULVERTS



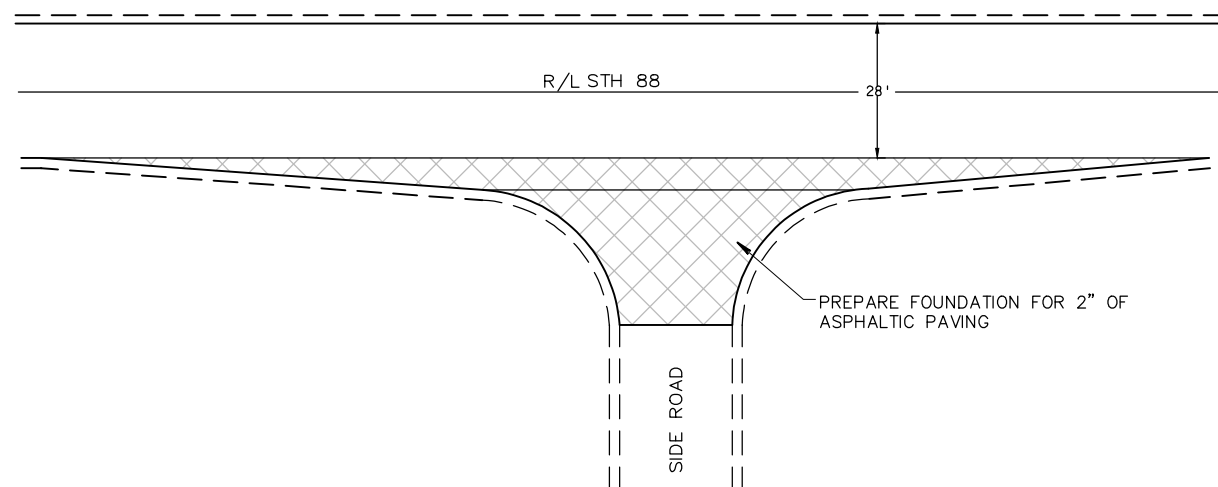
EROSION CONTROL AT CULVERT PIPES
FOR USE IN DITCH CLEANING, CULVERT PIPE EXTENSIONS AND
ENDWALL REPLACEMENTS



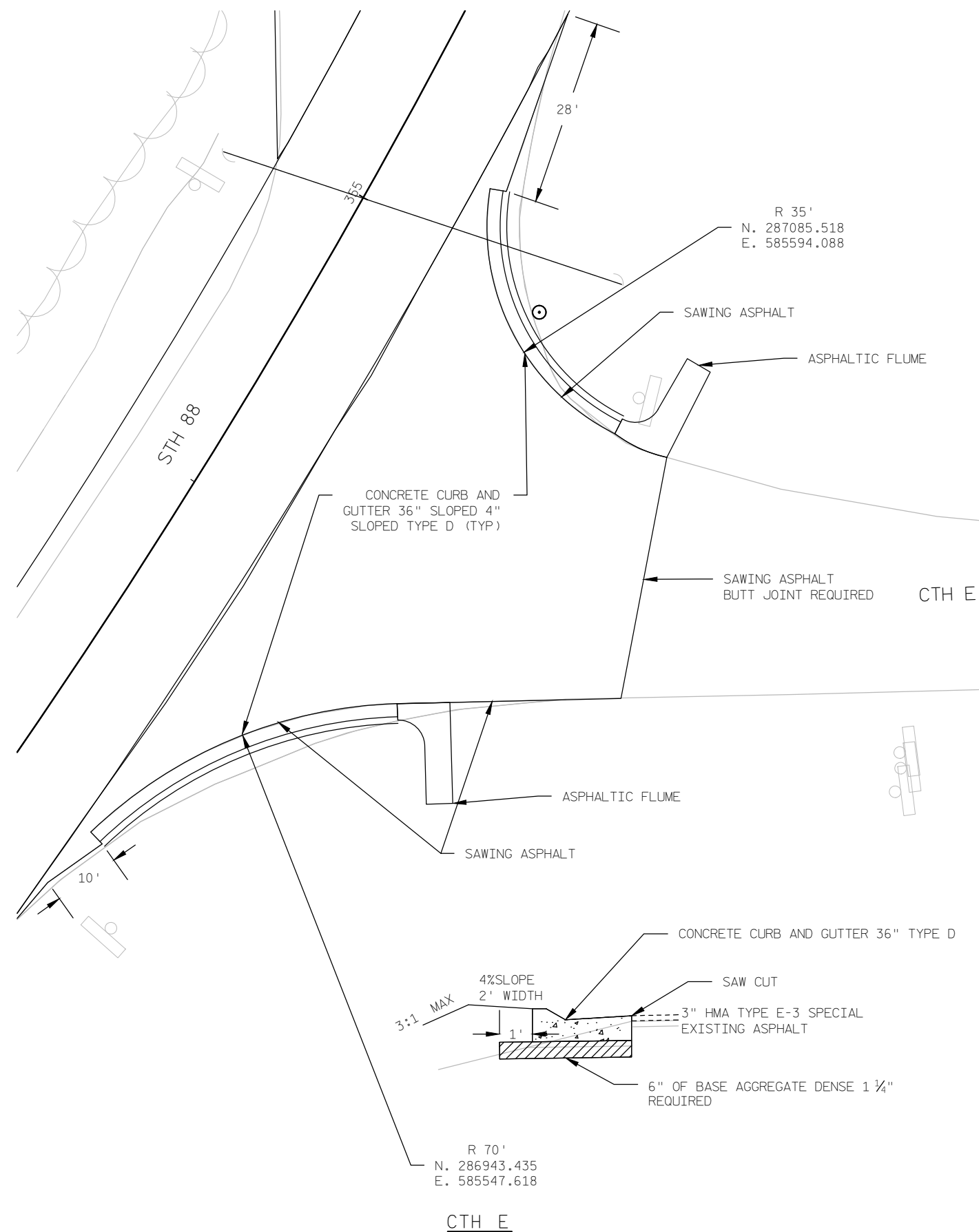
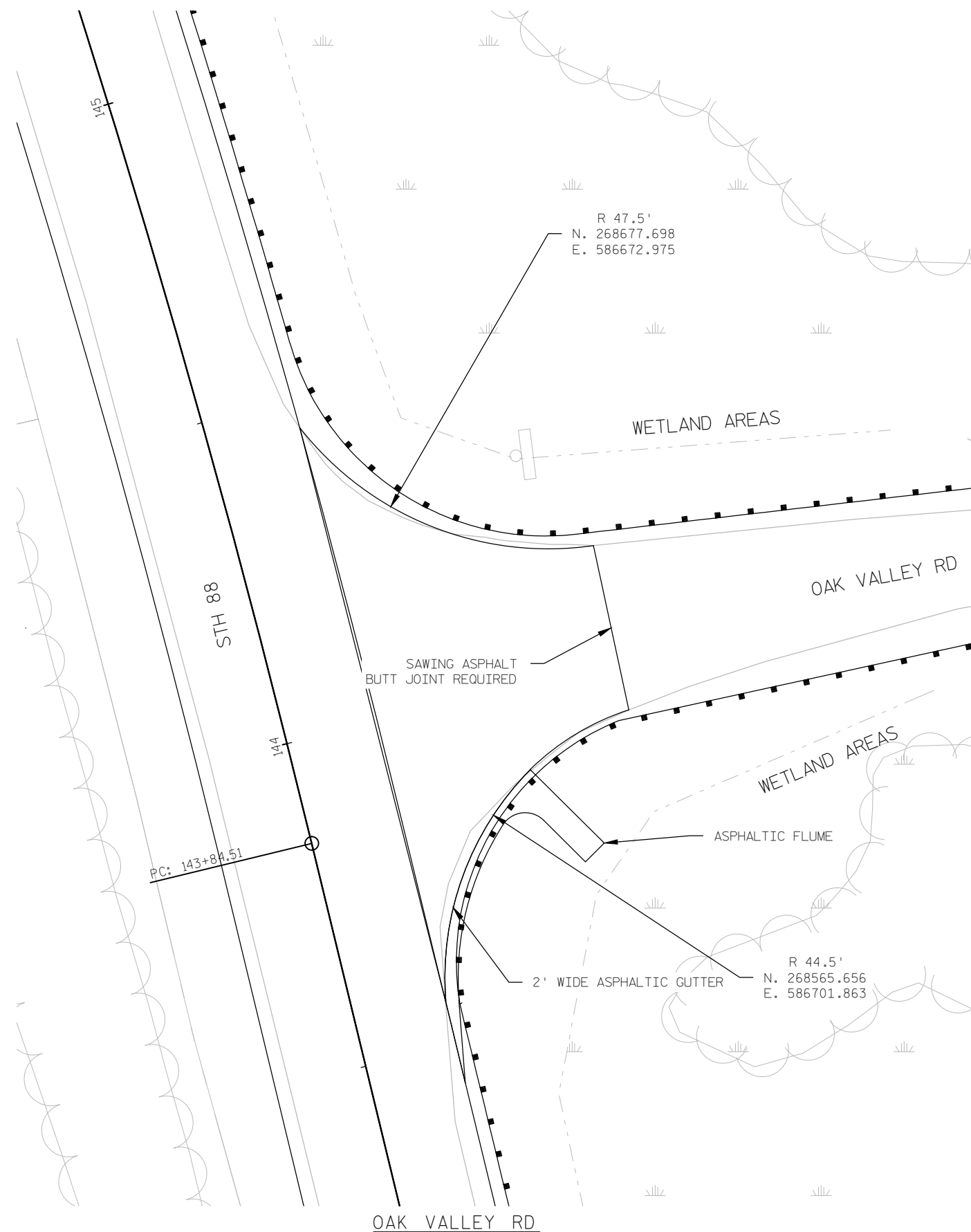
REMOVING ASPHALTIC SURFACE MILLING
PAVED SIDEROAD



BUTT JOINT PAY LIMITS
SECTION A-A

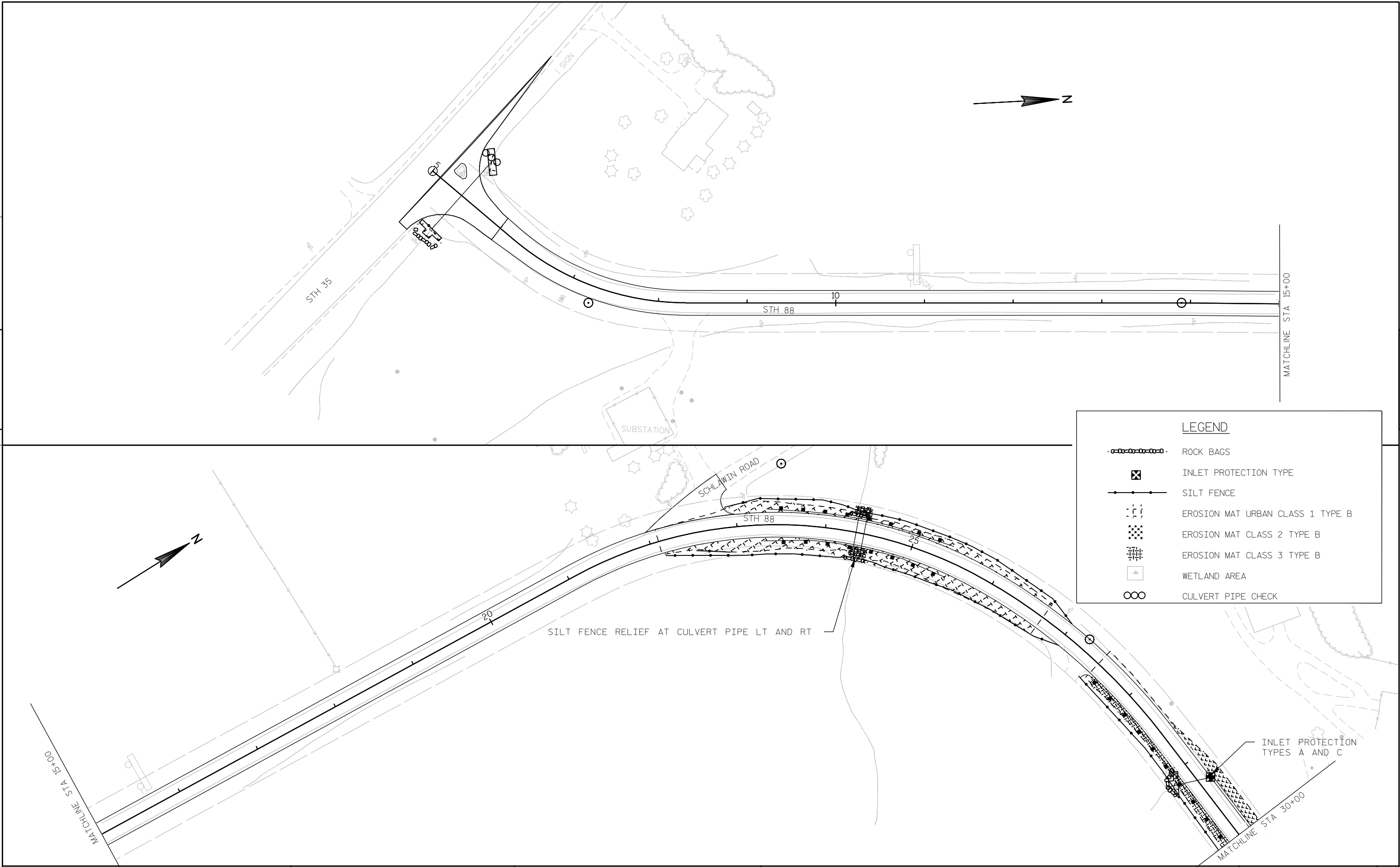


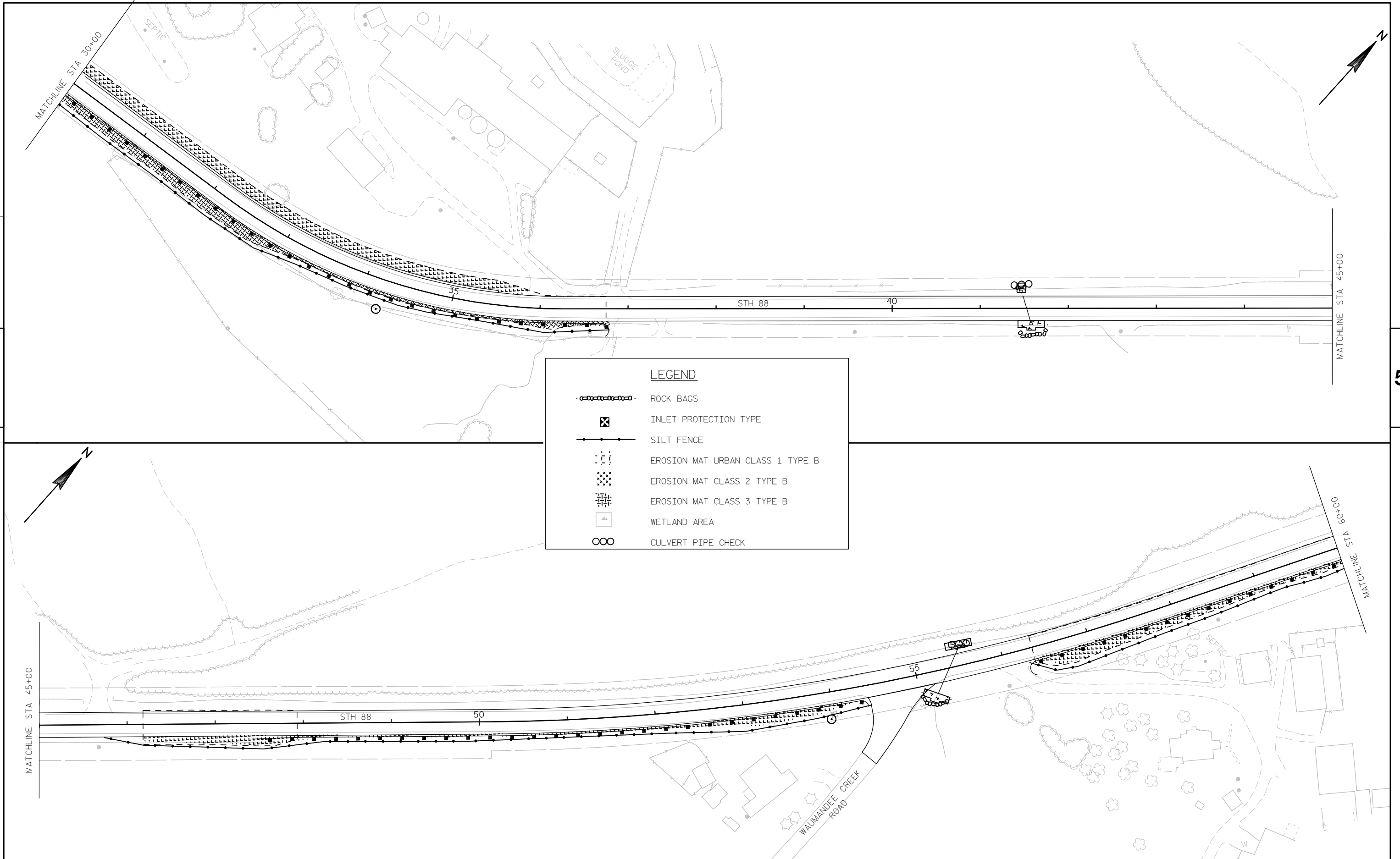
PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING
UNPAVED SIDEROAD

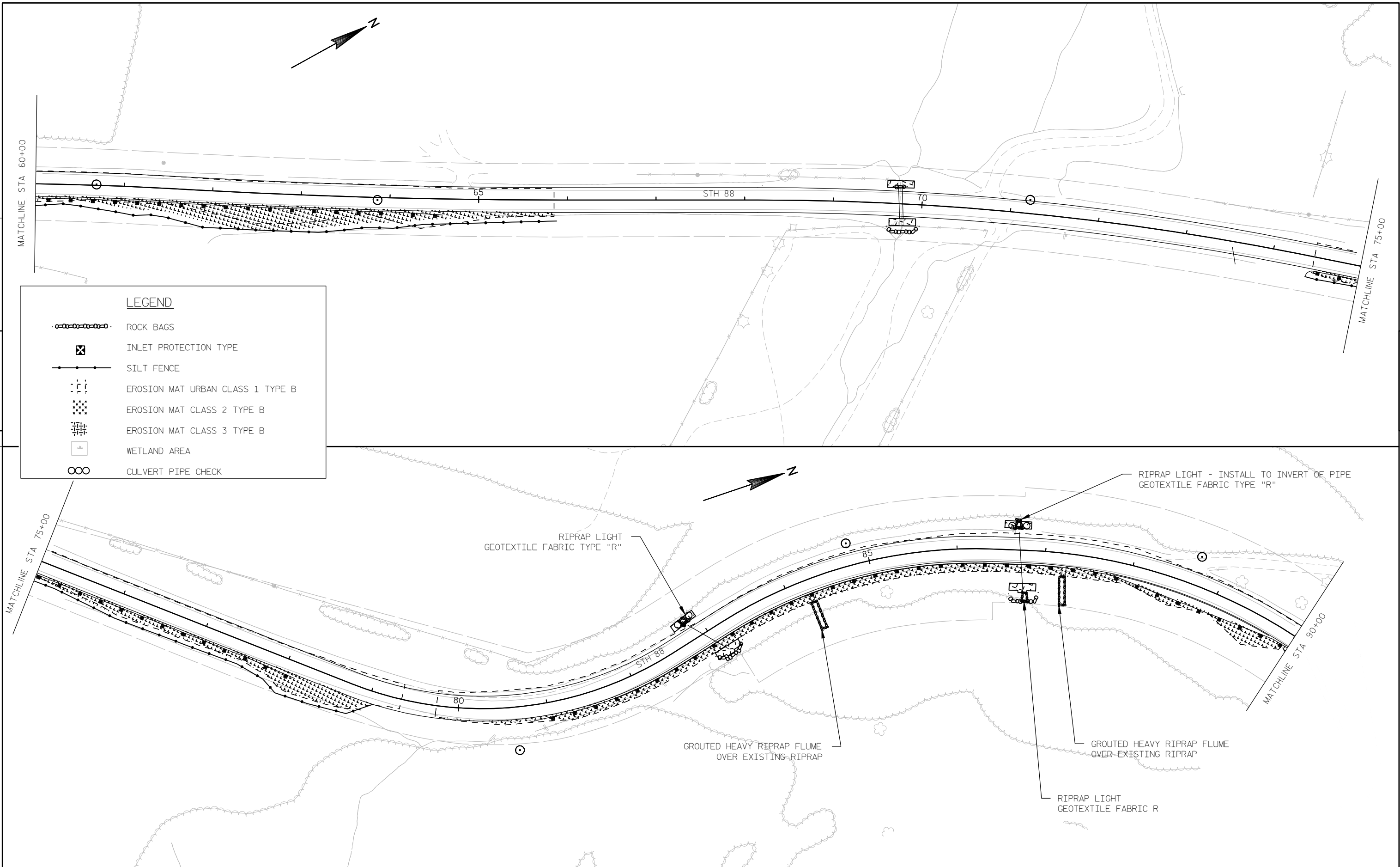


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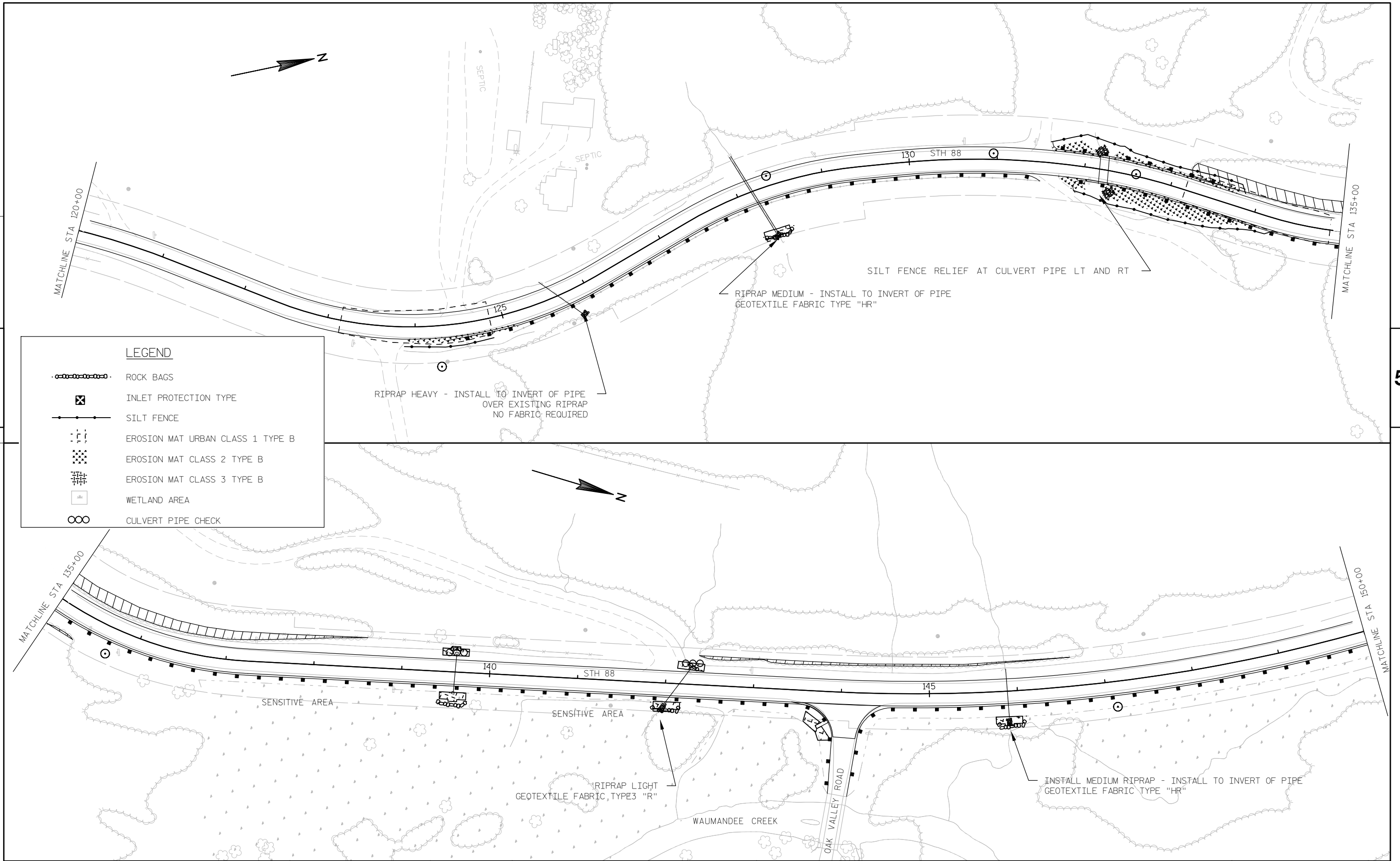


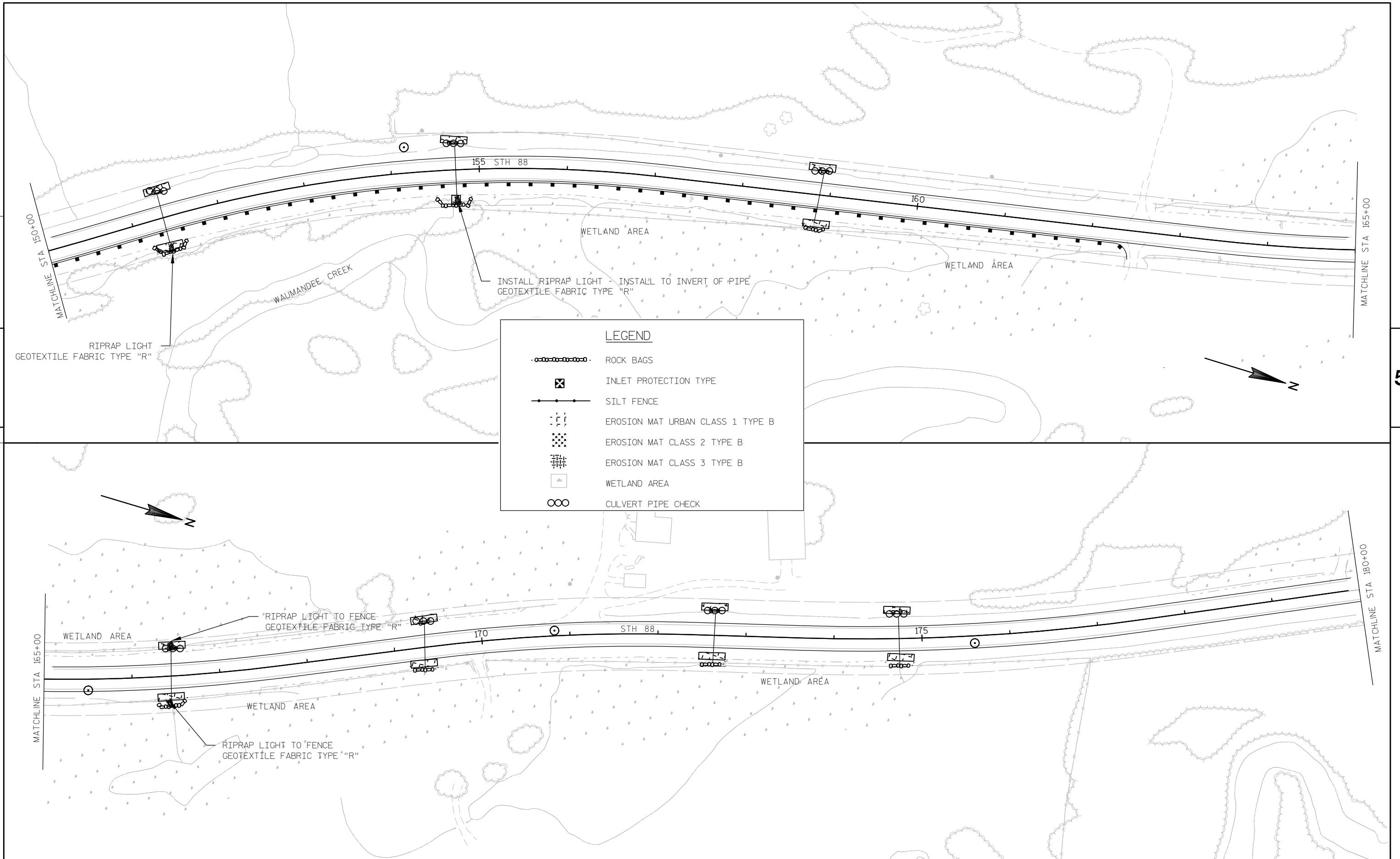


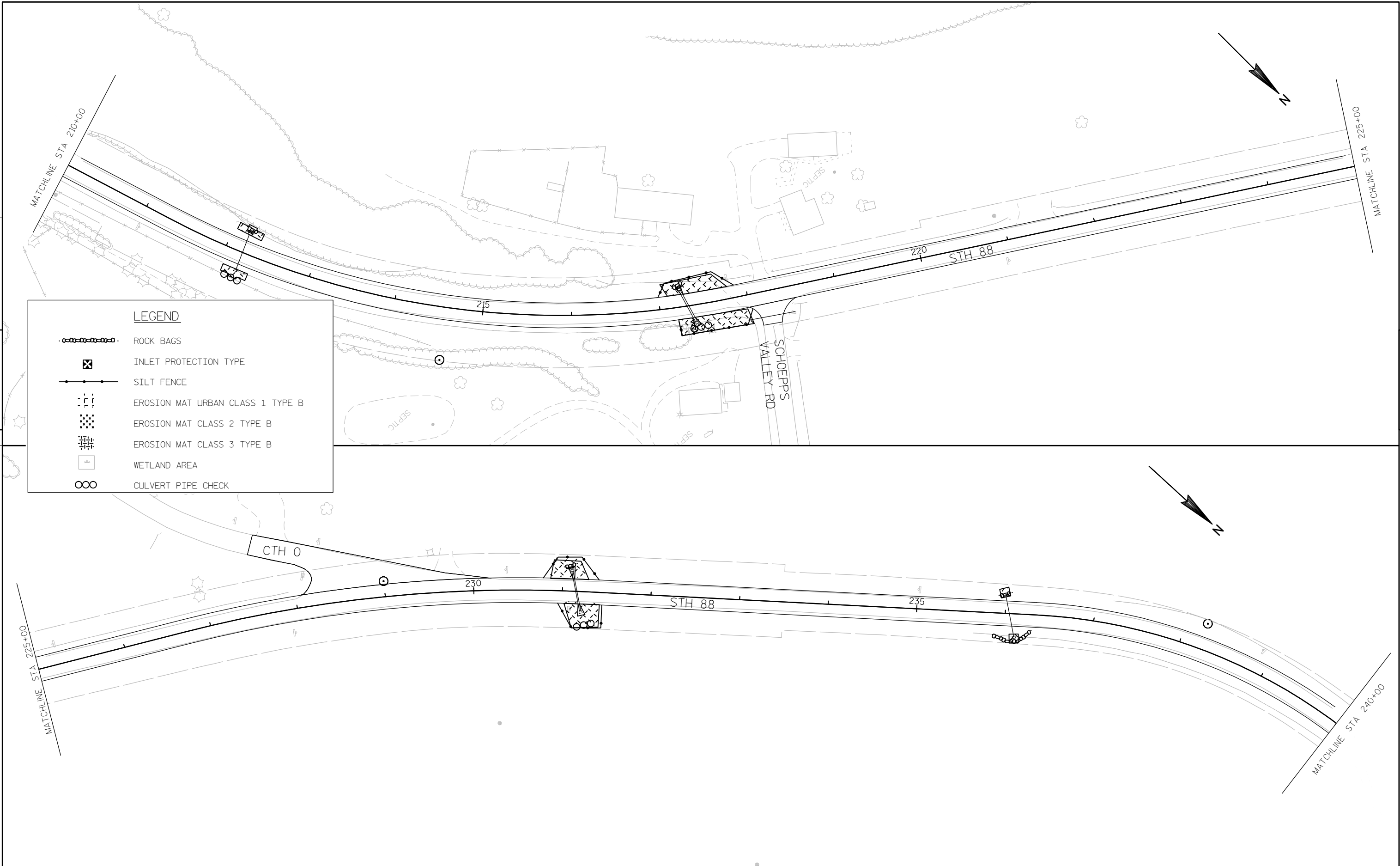


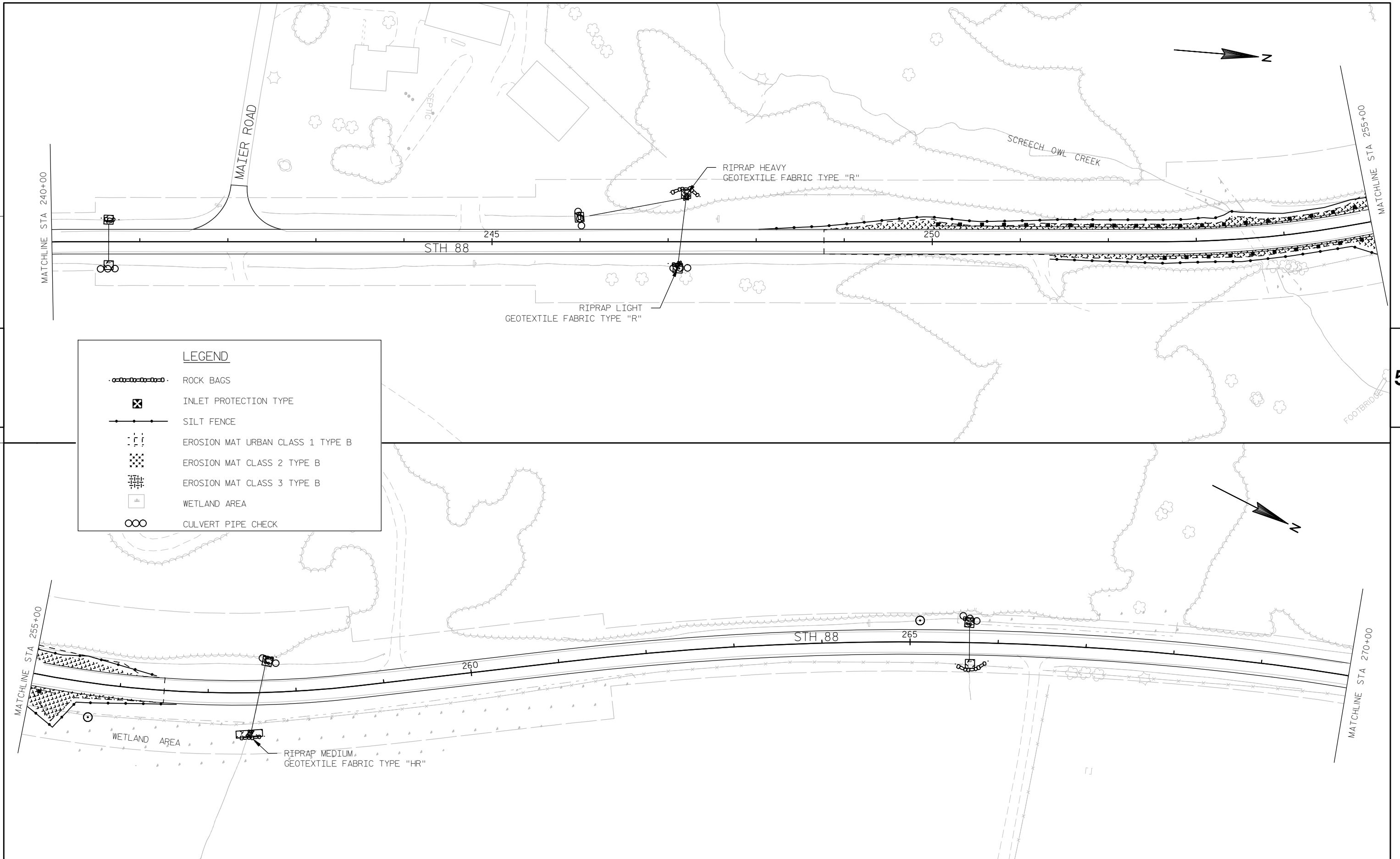
LEGEND

- ROCK BAGS
- INLET PROTECTION TYPE
- SILT FENCE
- EROSION MAT URBAN CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- WETLAND AREA
- CULVERT PIPE CHECK



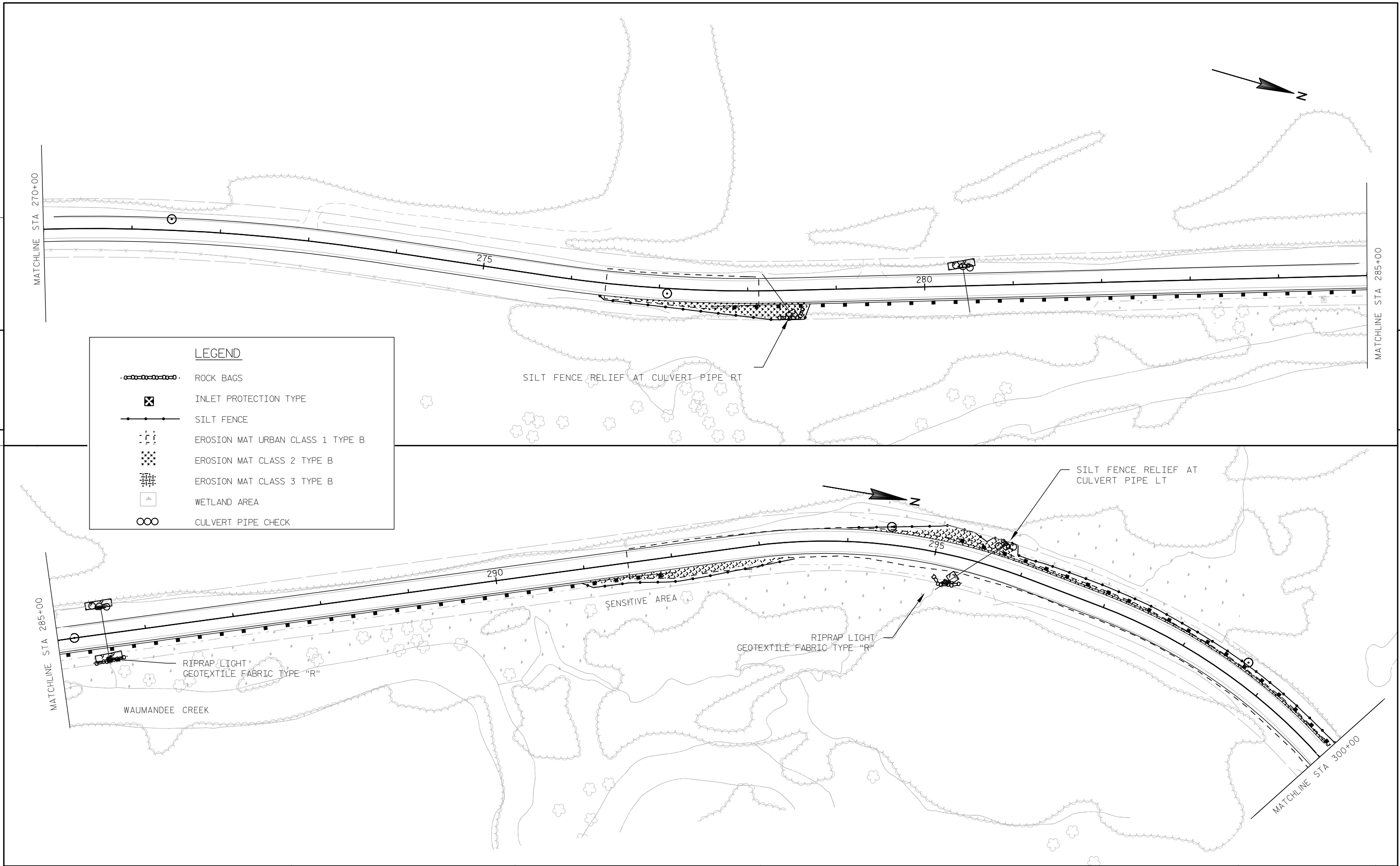


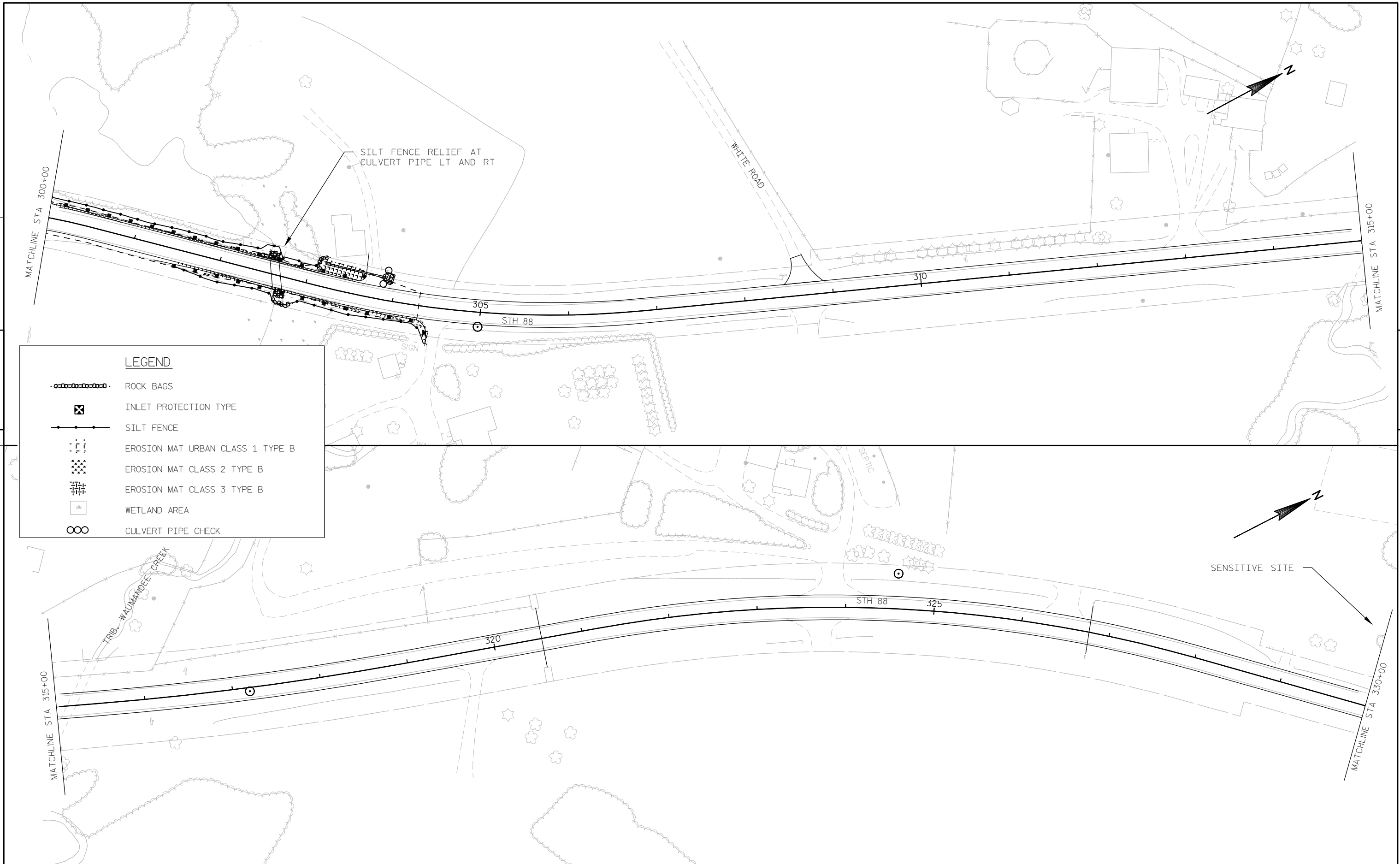




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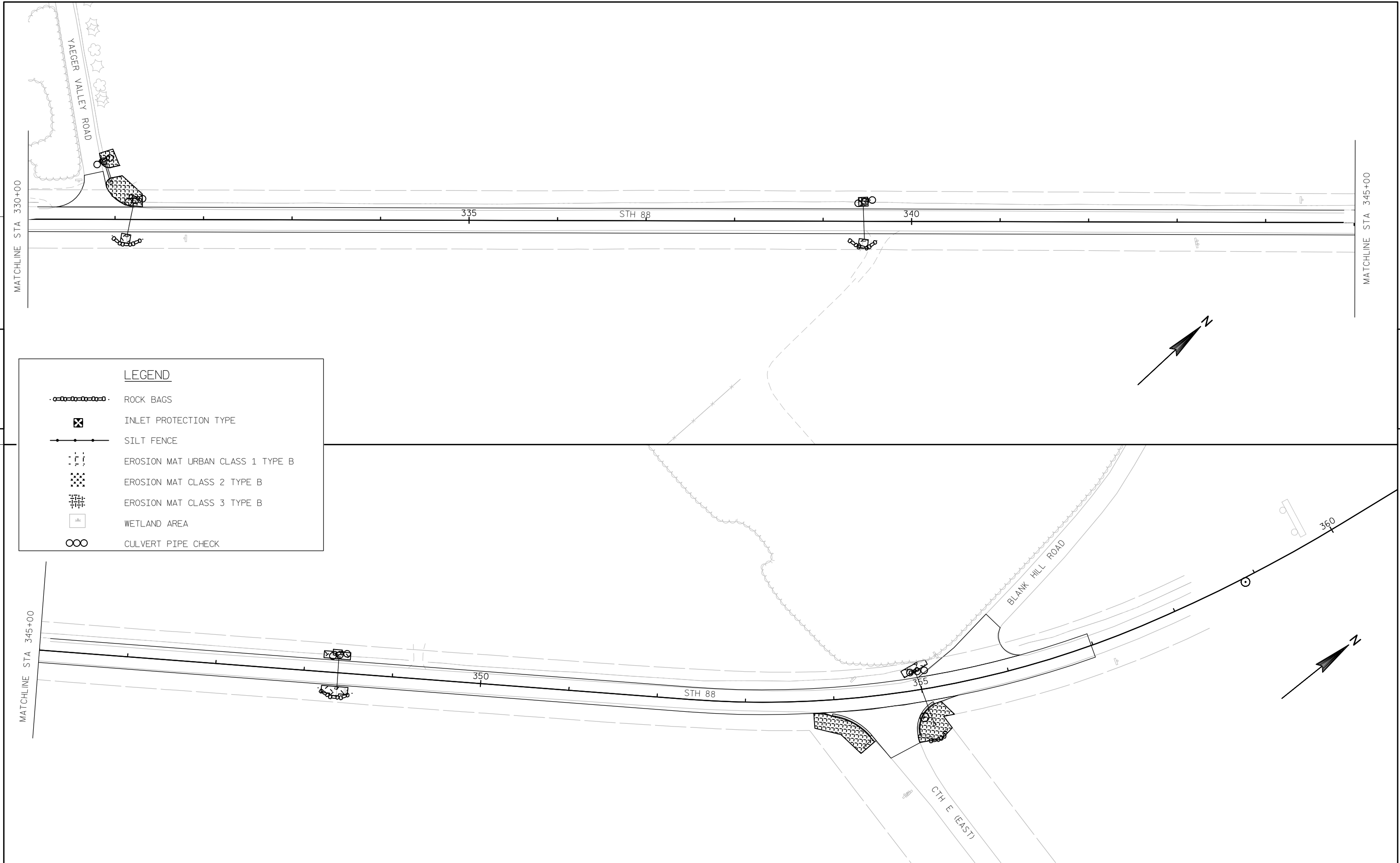
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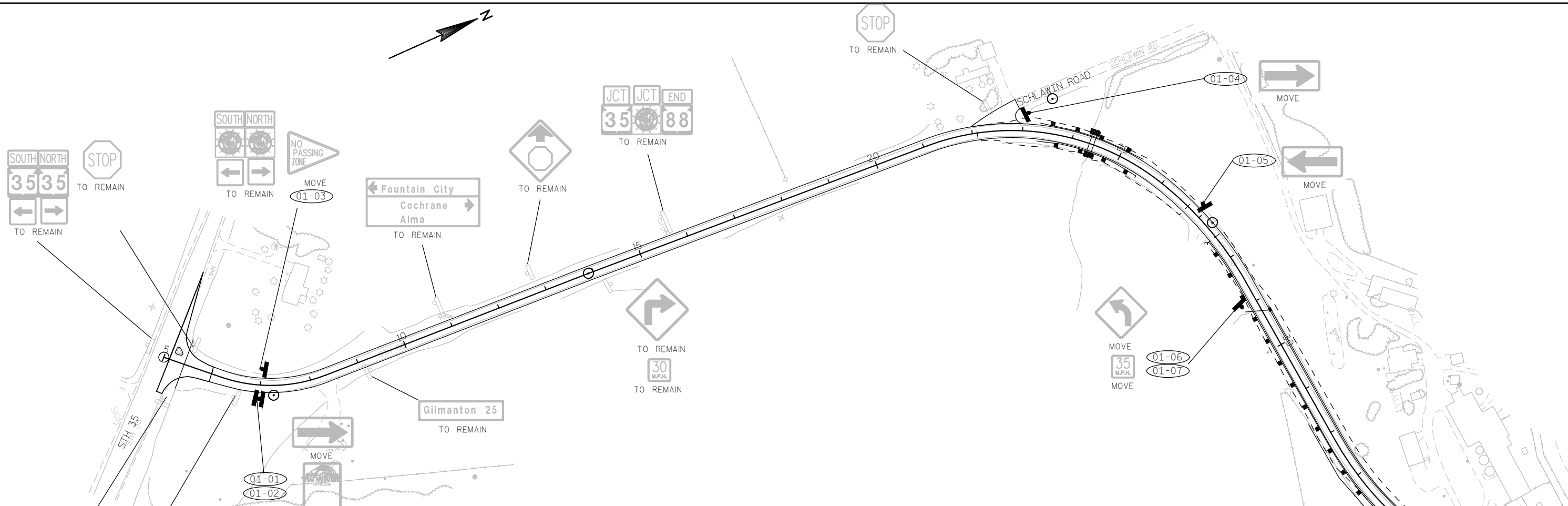
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LEGEND

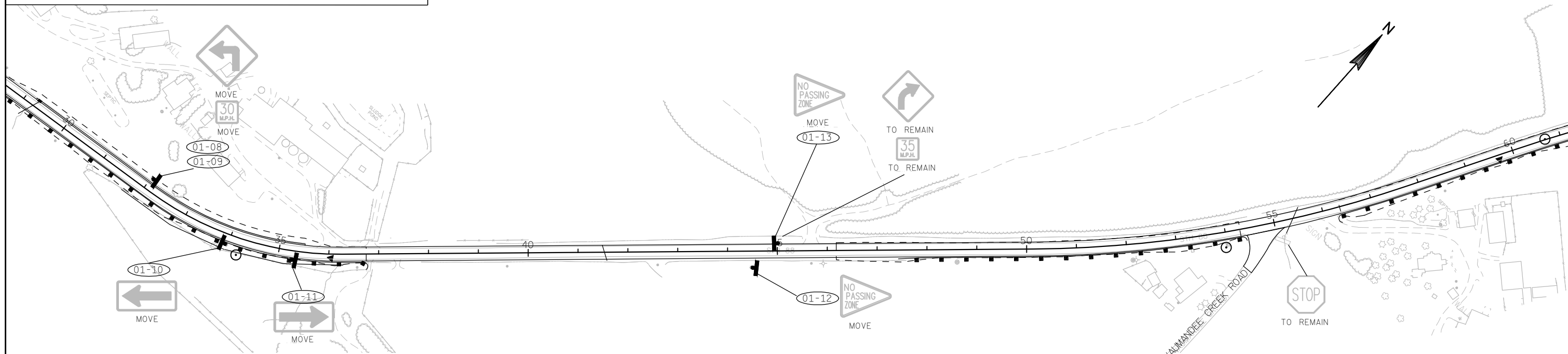
- ROCK BAGS
- INLET PROTECTION TYPE
- SILT FENCE
- EROSION MAT URBAN CLASS 1 TYPE B
- EROSION MAT CLASS 2 TYPE B
- EROSION MAT CLASS 3 TYPE B
- WETLAND AREA
- CULVERT PIPE CHECK



NOTES:

EXACT LOCATIONS OF NO PASSING ZONE SIGNS (W14-3) TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES".

MOVE EXISTING SIGNS AFFECTED BY GRADING. REINSTALL ON NEW POST AS NEEDED.



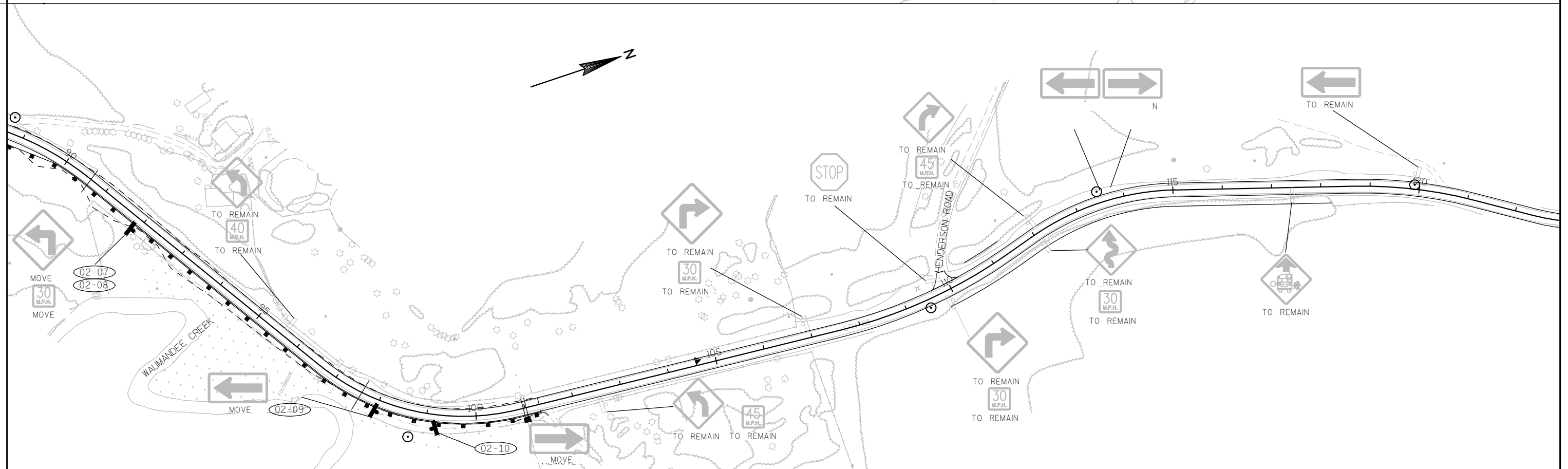
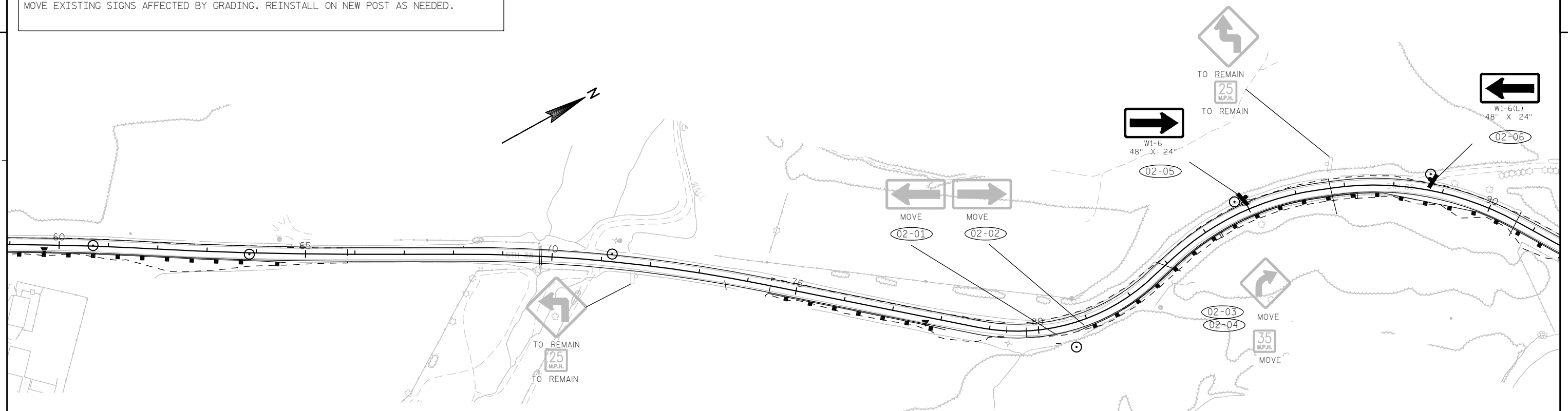
2

NOTES:

EXACT LOCATIONS OF NO PASSING ZONE SIGNS (W14-3) TO BE DETERMINED BY THE ITEM
"LOCATING NO PASSING ZONES".

MOVE EXISTING SIGNS AFFECTED BY GRADING. REINSTALL ON NEW POST AS NEEDED.

2



PROJECT NO: 7730-06-73

HWY: STH 88

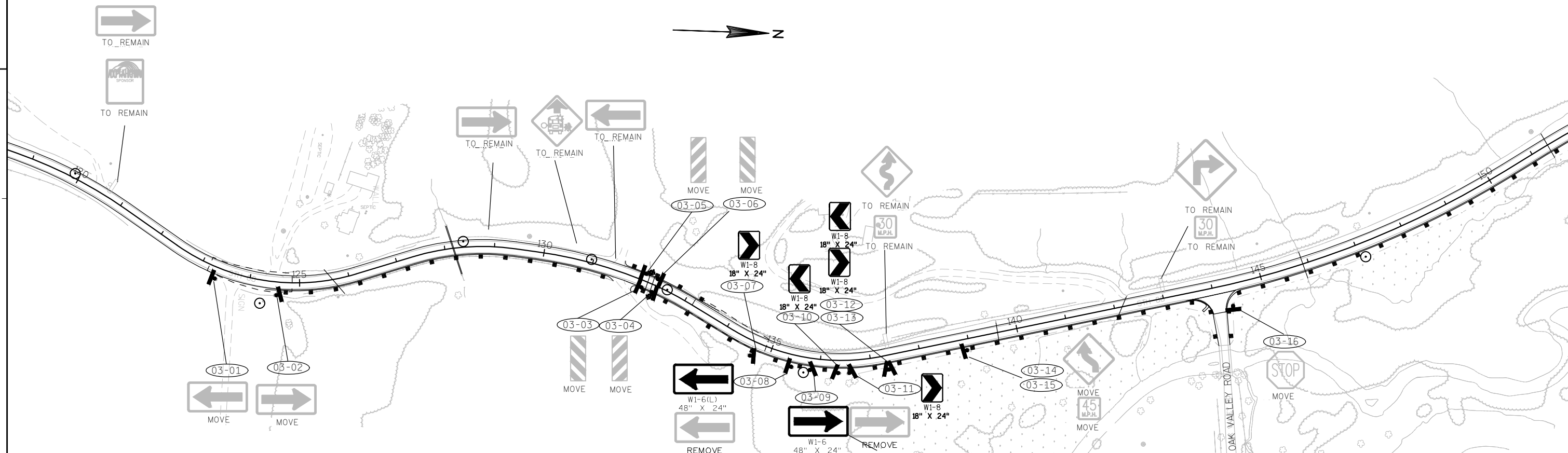
COUNTY: BUFFALO

PERMANENT	SIGNING
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SHEET

28

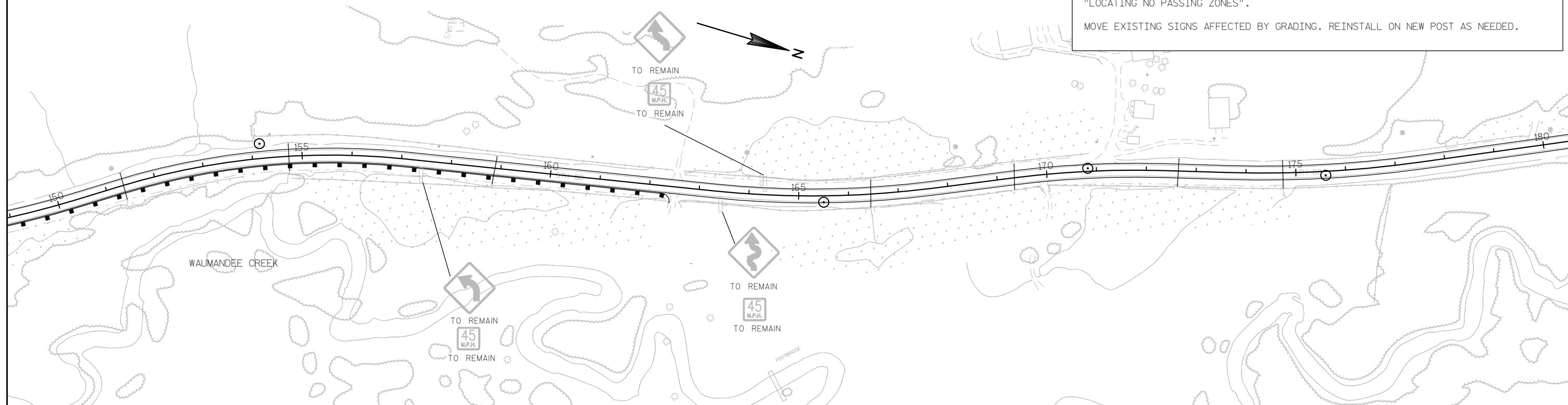
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NOTES:

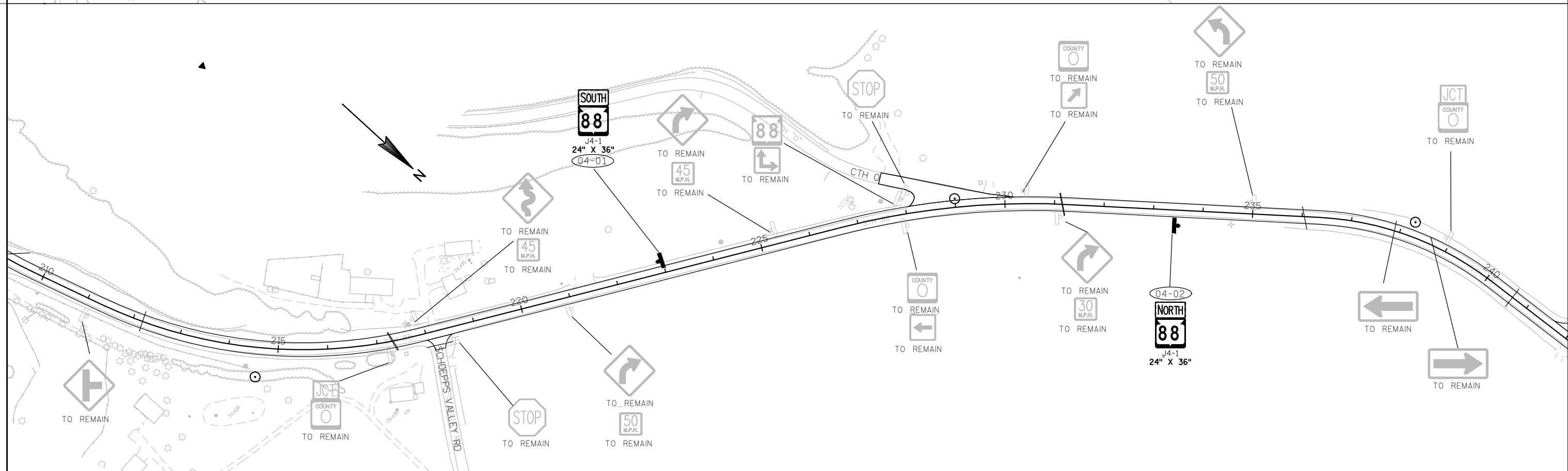
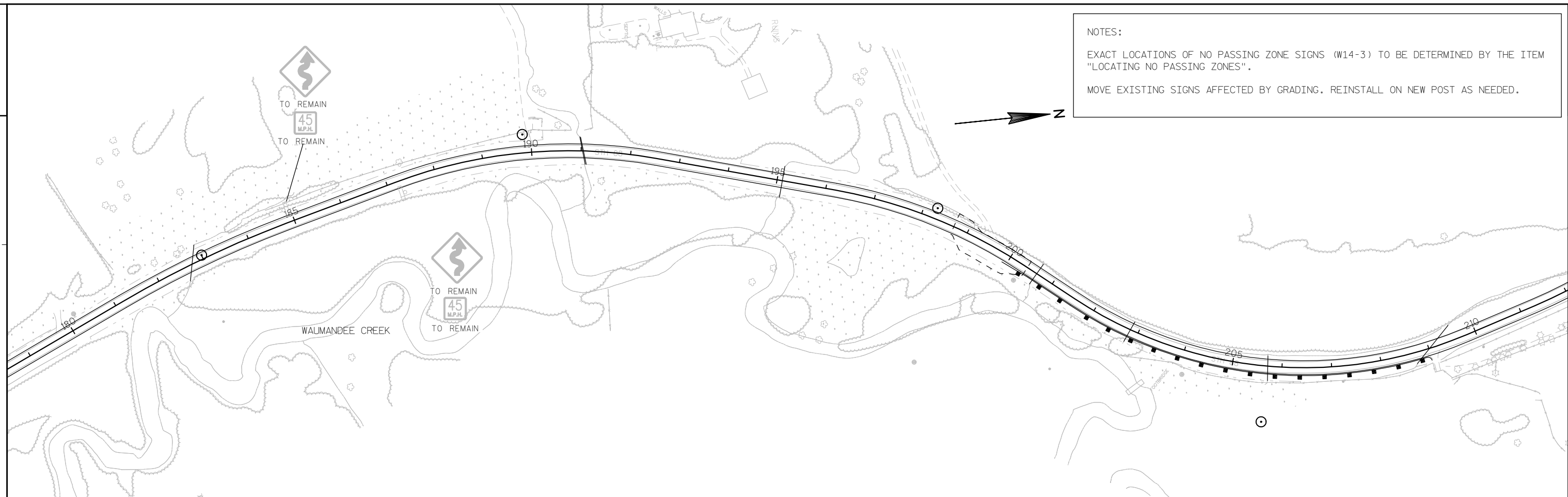
EXACT LOCATIONS OF NO PASSING ZONE SIGNS (W14-3) TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES".

MOVE EXISTING SIGNS AFFECTED BY GRADING. REINSTALL ON NEW POST AS NEEDED.



2

2



PROJECT NO: 7730-06-73

HWY: STH 88

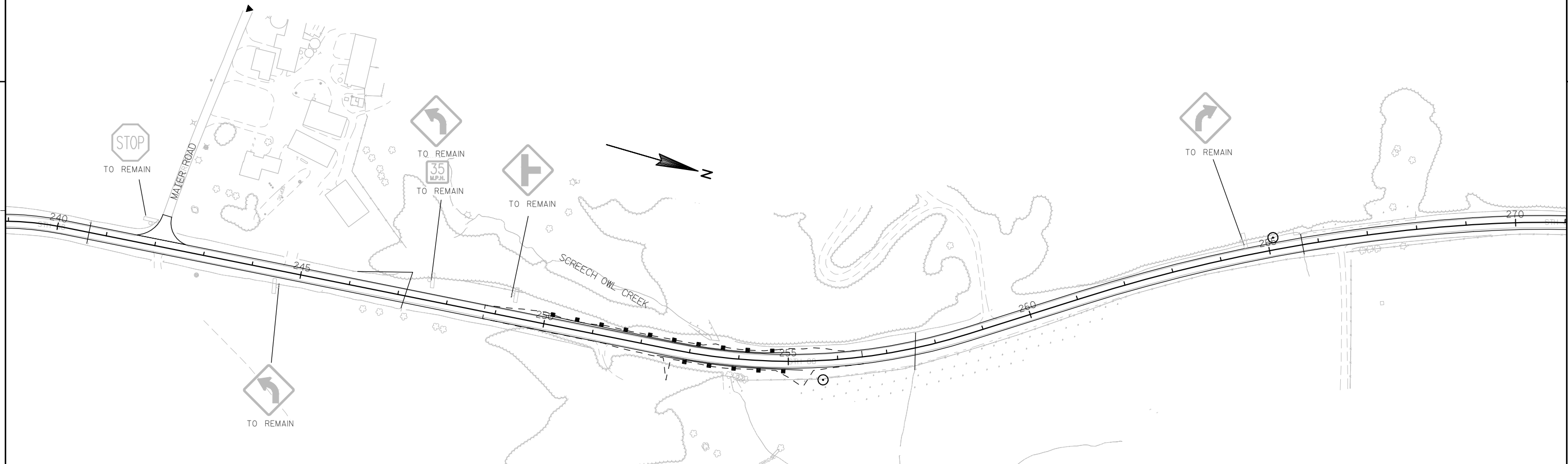
COUNTY: BUFFALO

PERMANENT SIGNING

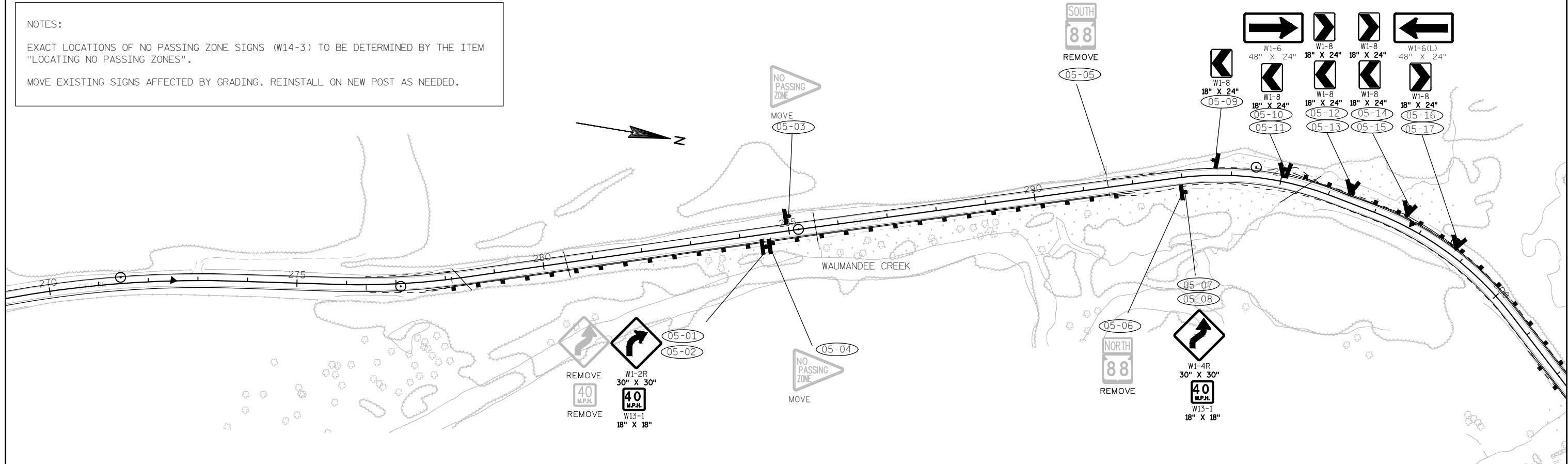
SHEET	30	E
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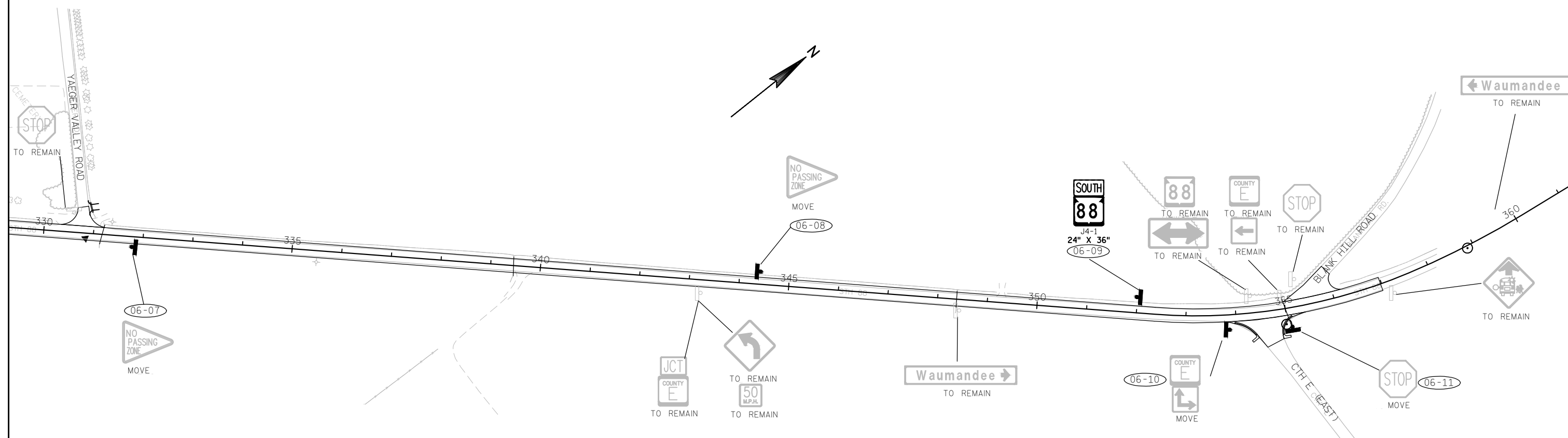
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WISDOT/CADDS SHEET 44



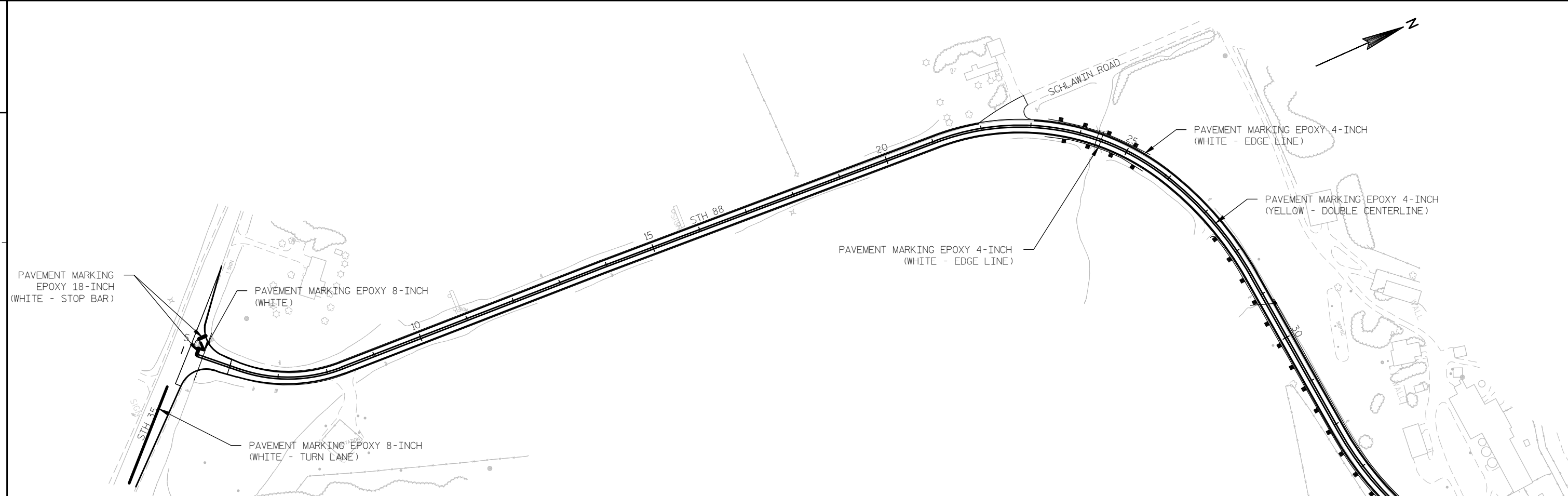
NOTES:
EXACT LOCATIONS OF NO PASSING ZONE SIGNS (W14-3) TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES".
MOVE EXISTING SIGNS AFFECTED BY GRADING. REINSTALL ON NEW POST AS NEEDED.



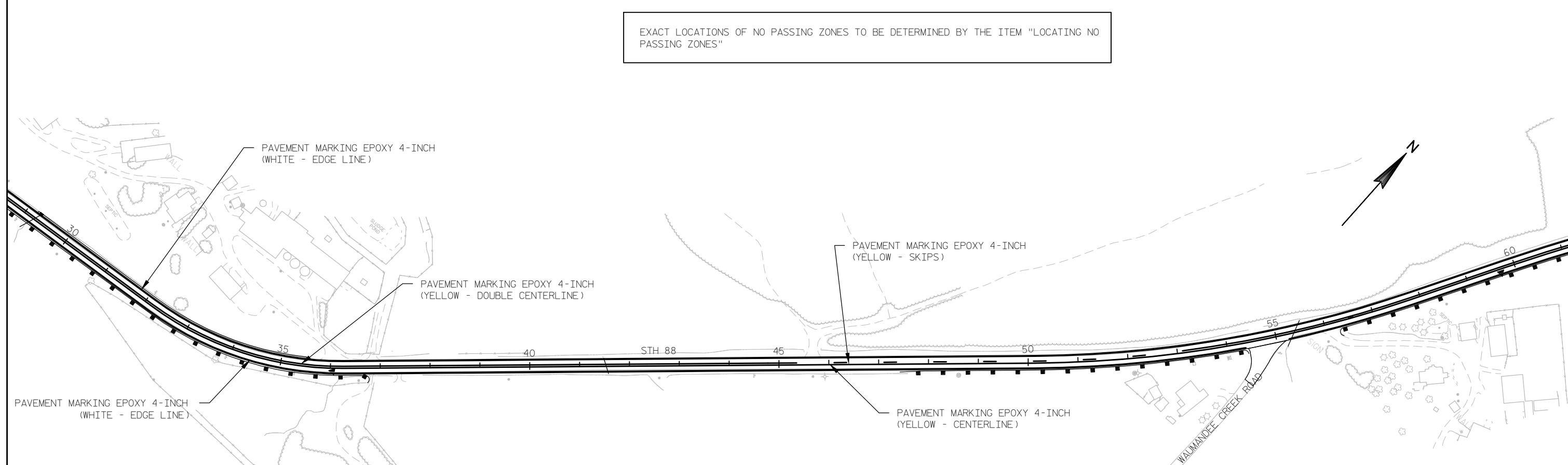


2

2



EXACT LOCATIONS OF NO PASSING ZONES TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES"



PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

PAVEMENT MARKING

SHEET	33
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E

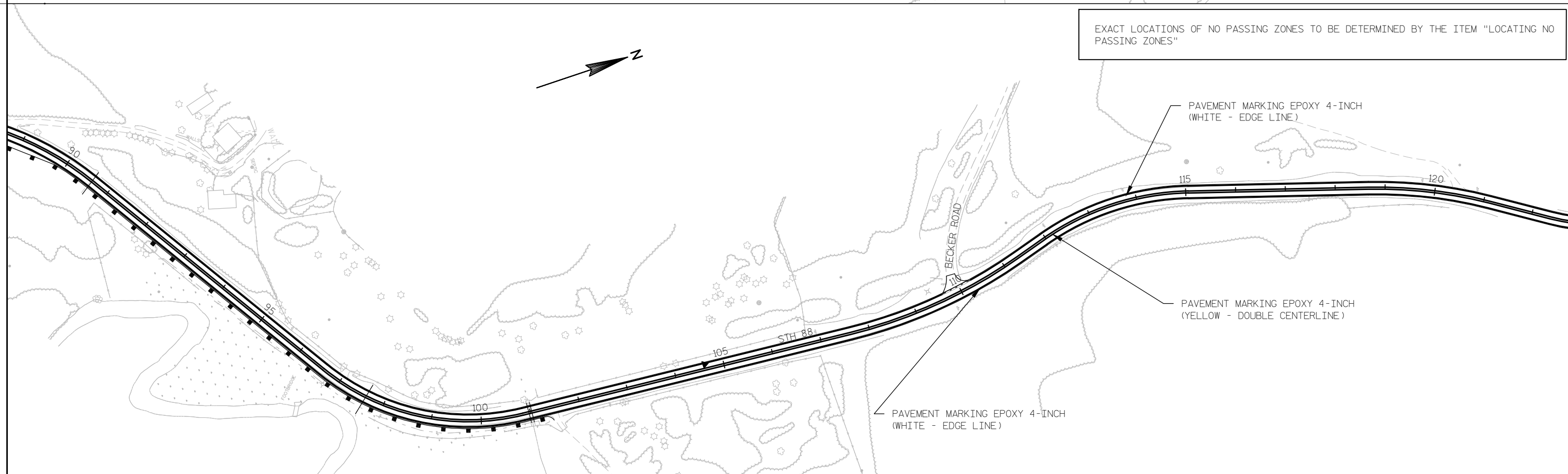
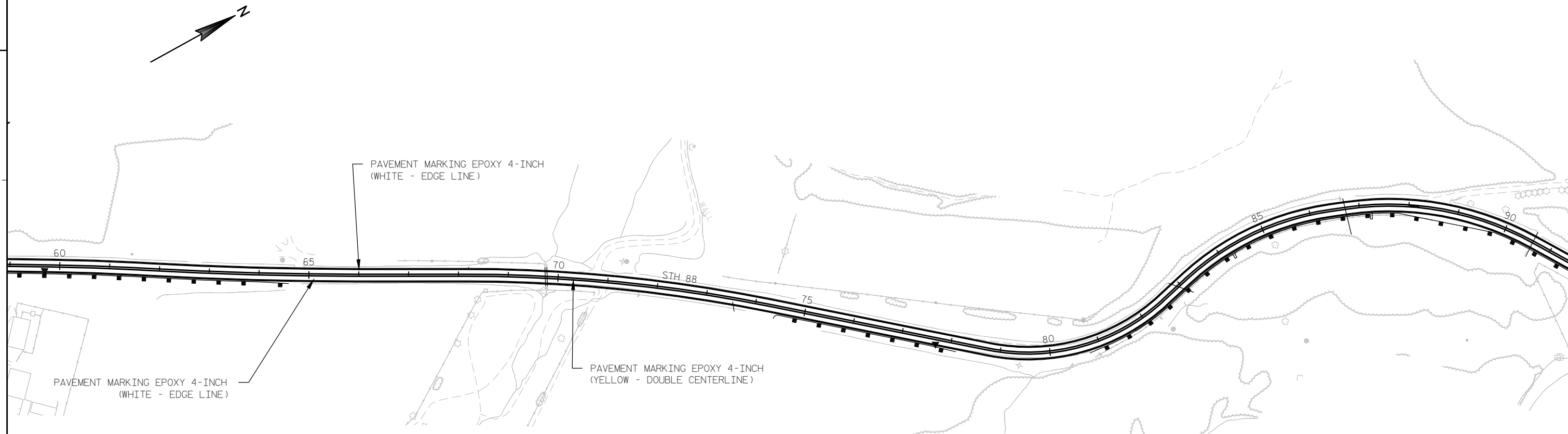
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PLOT DATE : 10/31/2013 9:13 AM

PLOT BY : QUEST CIVIL ENG

PLOT NAME : _____ PLOT SCALE : #####

WISDOT/CADDS SHEET 44



PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

PAVEMENT MARKING

SHEET

34

E

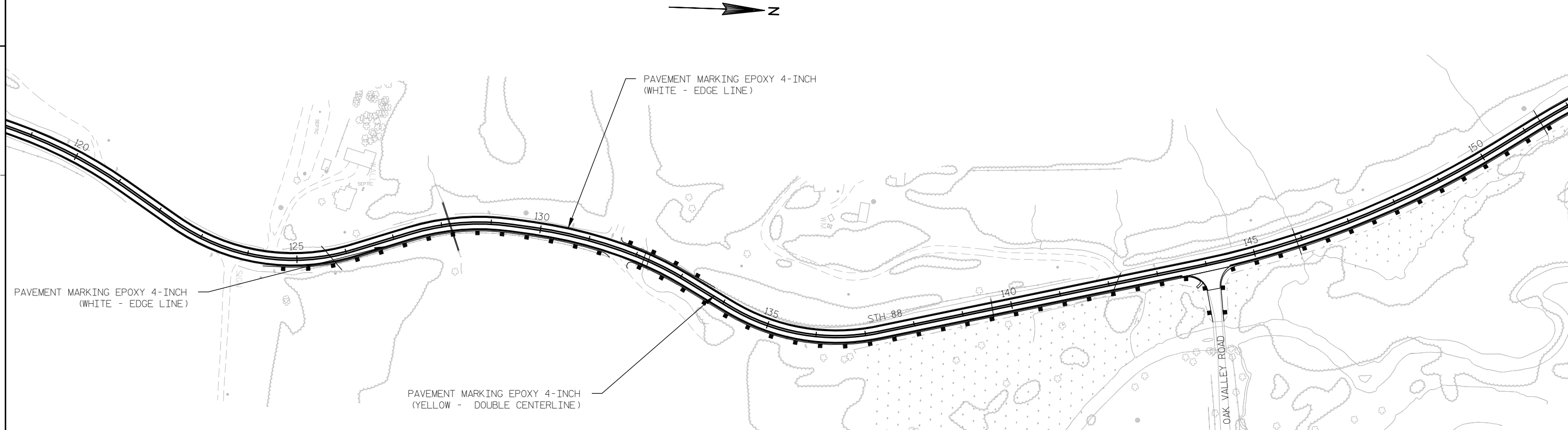
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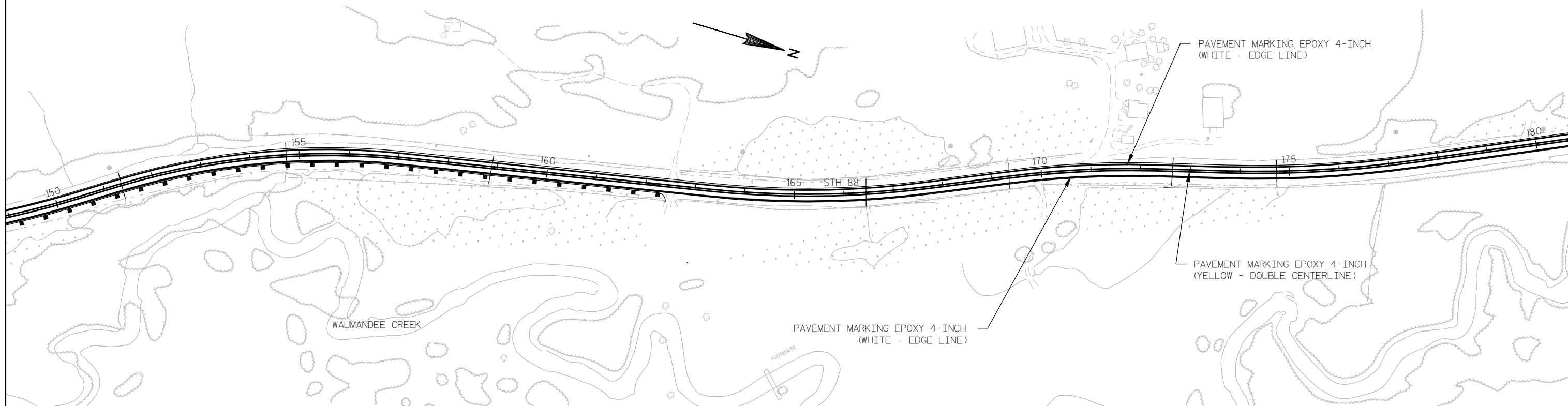
PLOT BY : QUEST CIVIL ENG

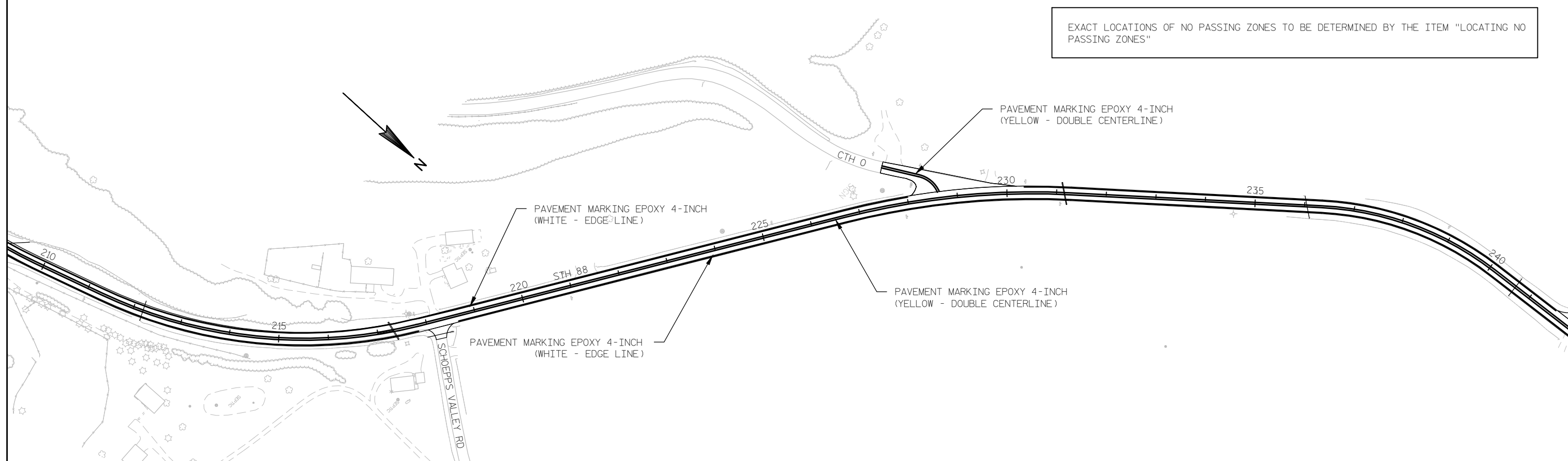
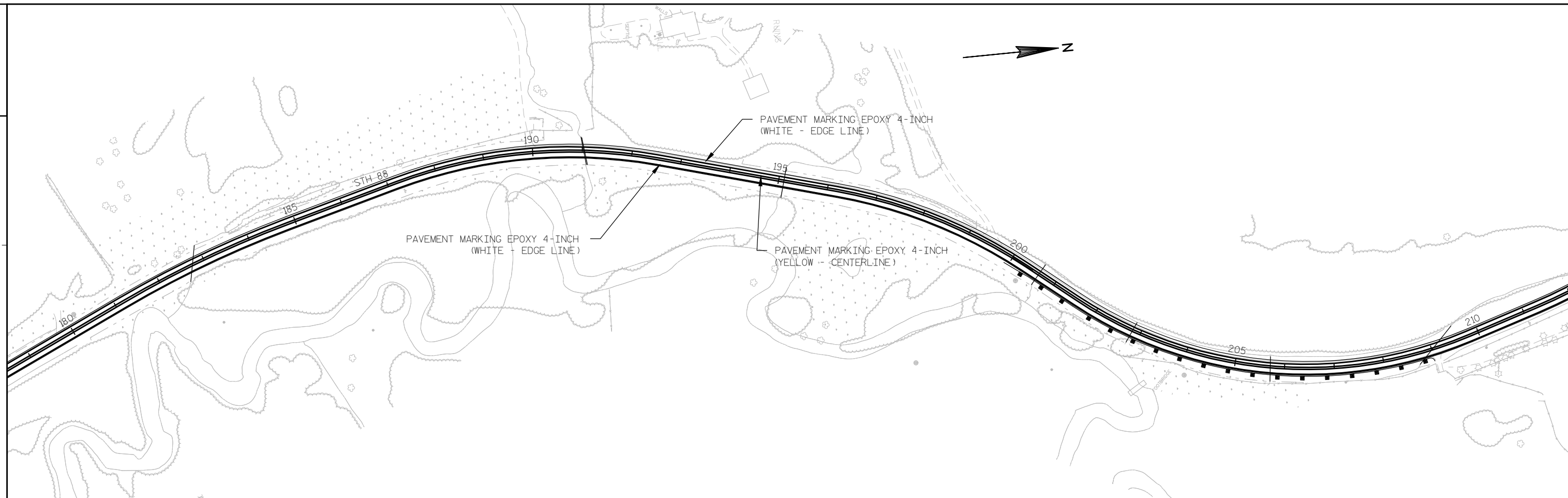
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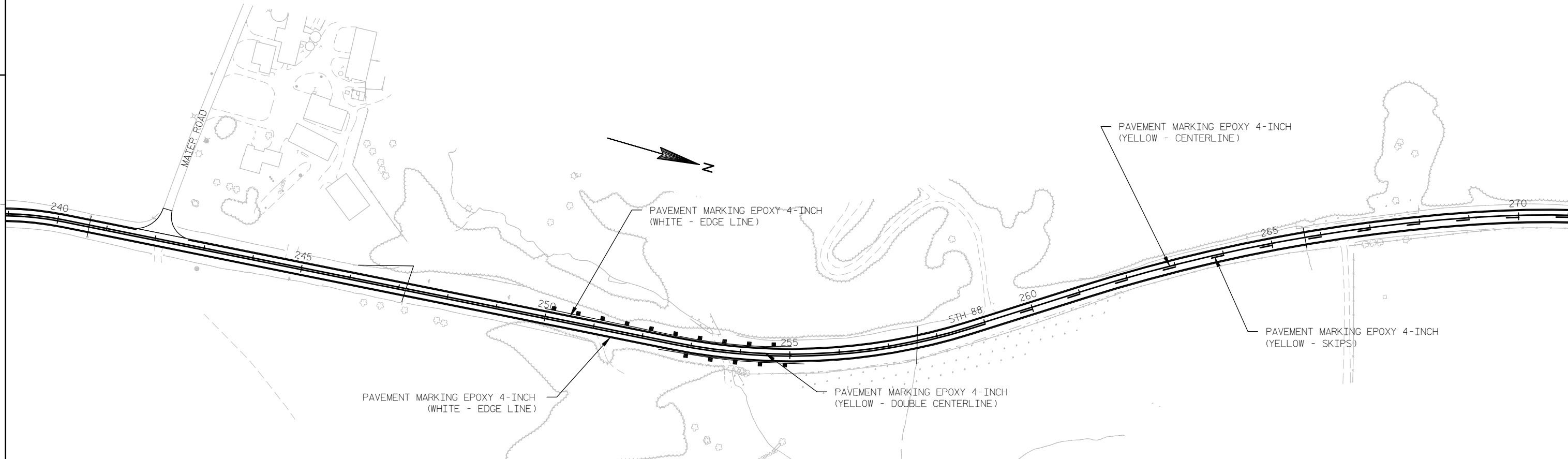
WISDOT/CADDs SHEET 44



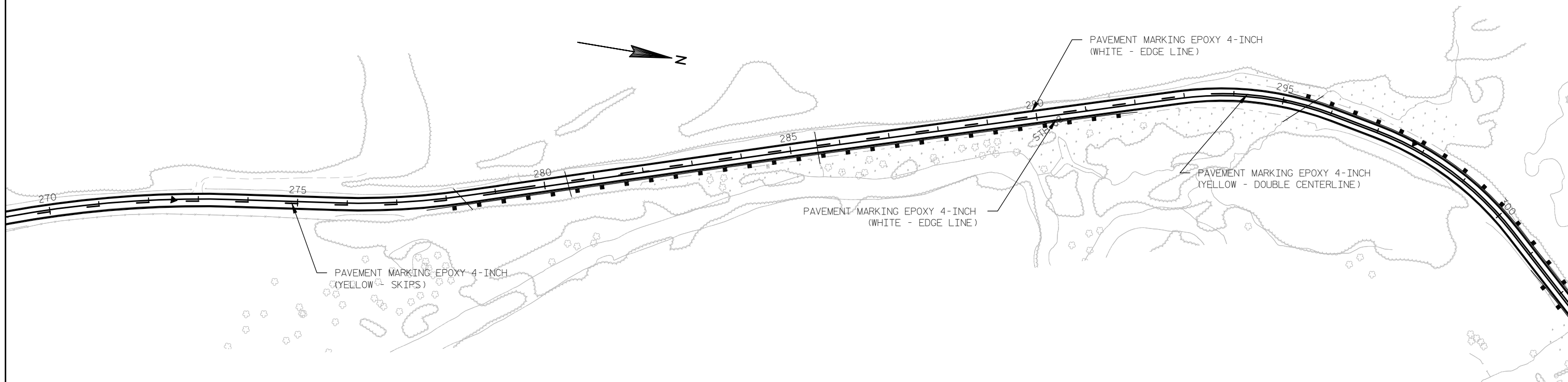
EXACT LOCATIONS OF NO PASSING ZONES TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES"

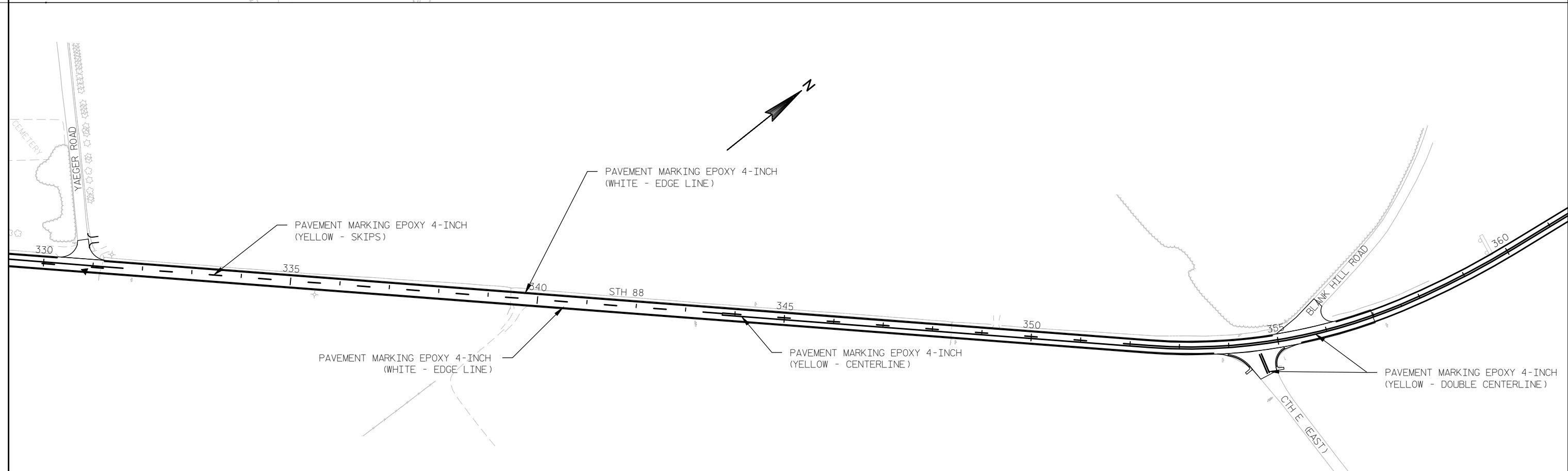
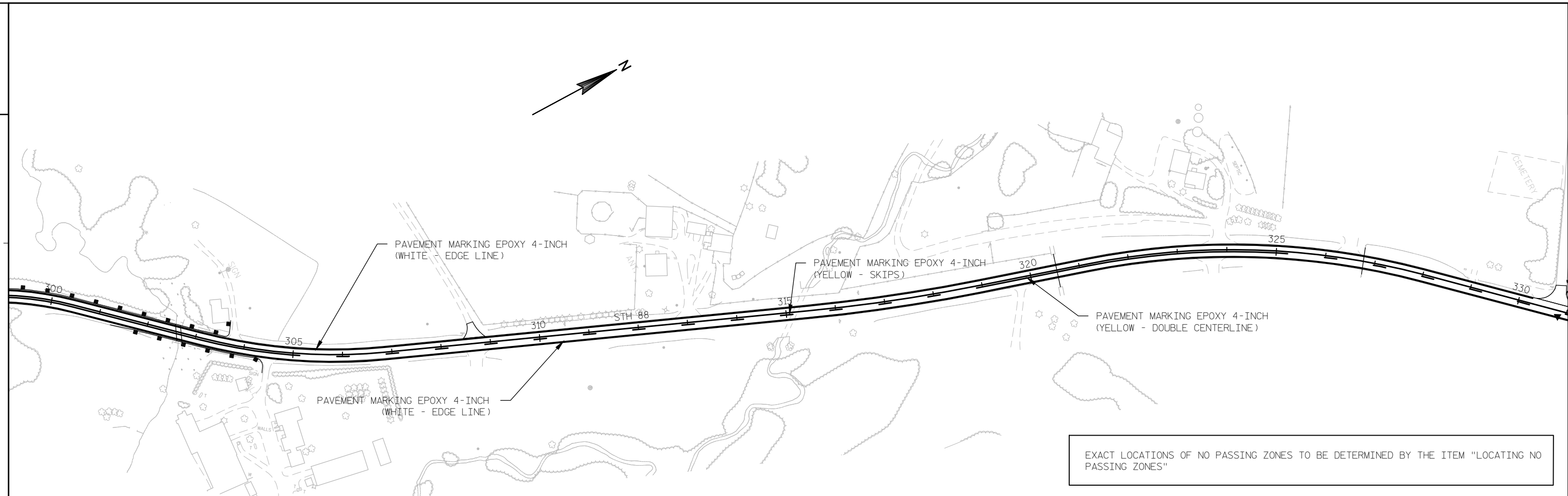






EXACT LOCATIONS OF NO PASSING ZONES TO BE DETERMINED BY THE ITEM "LOCATING NO PASSING ZONES"

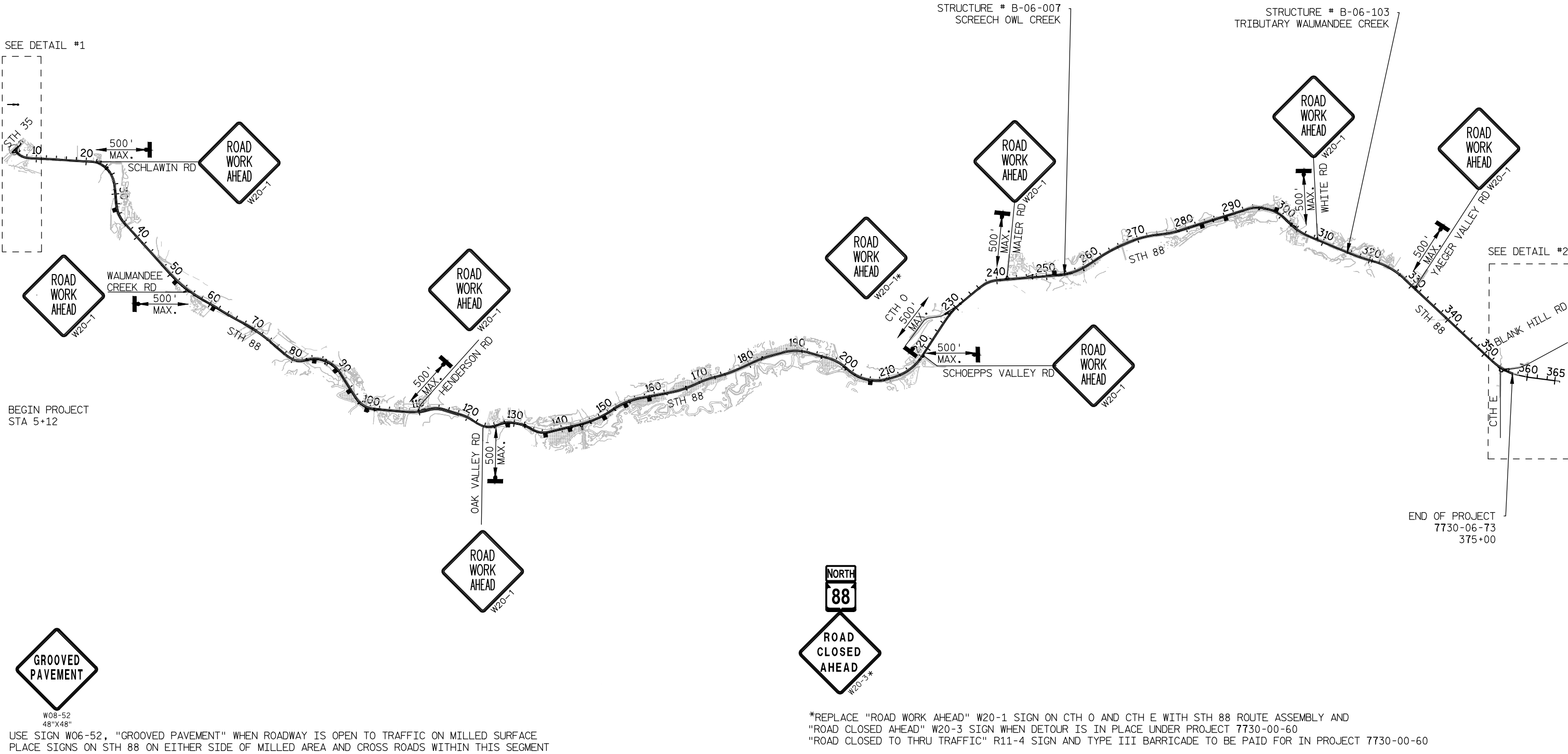




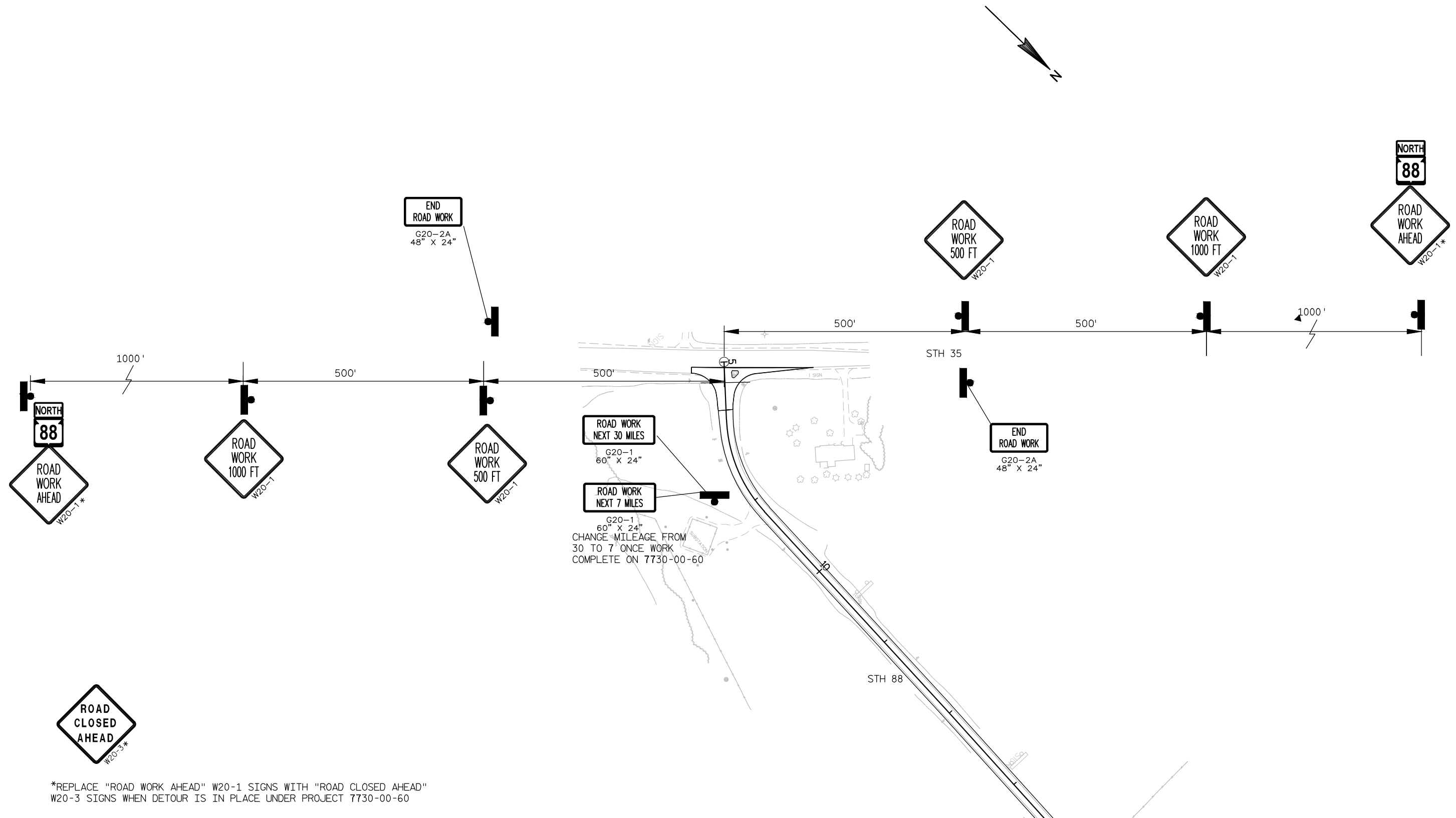
PROJECT NO: 7730-06-73	HWY: STH 88	COUNTY: BUFFALO	PAVEMENT MARKING	SHEET 38	E
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TRAFFIC CONTROL NOTES

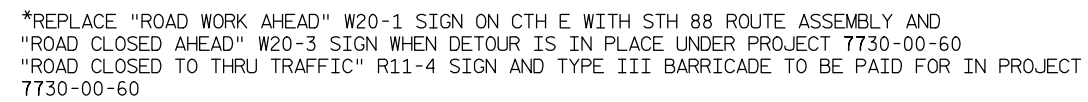
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DETERMINED BY THE ENGINEER.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- SIGNS DESIGNATED AS "W0" ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD), A SUPPLEMENT TO THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- ANY SIGNS OR PAVEMENT MARKING, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND APPROVED BY THE ENGINEER.
- ALL SIDE STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.
- REFER TO STANDARD DETAIL DRAWING "TRAFFIC CONTROL ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC", AND "TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVABLE OPERATIONS)"
- COORDINATE ALL SIGNING WITH PROJECT 7730-00-60
- SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC/STAGING REQUIREMENTS.



*REPLACE "ROAD WORK AHEAD" W20-1 SIGN ON CTH O AND CTH E WITH STH 88 ROUTE ASSEMBLY AND
"ROAD CLOSED AHEAD" W20-3 SIGN WHEN DETOUR IS IN PLACE UNDER PROJECT 7730-00-60
"ROAD CLOSED TO THRU TRAFFIC" R11-4 SIGN AND TYPE III BARRICADE TO BE PAID FOR IN PROJECT 7730-00-60



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DATE 07DEC15		E S T I M A T E O F Q U A N T I T I E S			
LINE				7730-06-73	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	Clearing	STA	21.000	21.000
0030	201.0205	Grubbing	STA	21.000	21.000
0050	203.0100	Removing Small Pipe Culverts	EACH	22.000	22.000
0090	204.0110	Removing Asphaltic Surface	SY	620.000	620.000
0100	204.0115	Removing Asphaltic Surface Butt Joints	SY	180.000	180.000
0110	204.0120	Removing Asphaltic Surface Milling	SY	96,700.000	96,700.000
0120	204.0165	Removing Guardrail	LF	1,950.000	1,950.000
0140	204.0185	Removing Masonry	CY	4.000	4.000
0150	208.0100	Borrow	CY	2,200.000	2,200.000
0160	209.0300.S	Backfill Coarse Aggregate (size) 01. No. 2	CY	25.000	25.000
0170	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	704.000	704.000
0190	213.0100	Finishing Roadway (project) 02. 7730-06-73	EACH	1.000	1.000
0200	305.0110	Base Aggregate Dense 3/4-Inch	TON	3,000.000	3,000.000
0210	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,400.000	1,400.000
0220	416.1010	Concrete Surface Drains	CY	2.000	2.000
0230	440.4410	Incentive IRI Ride	DOL	13,320.000	13,320.000
0240	455.0605	Tack Coat	GAL	13,520.000	13,520.000
0250	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	35,200.000	35,200.000
0260	465.0110	Asphaltic Surface Patching	TON	1,060.000	1,060.000
0280	465.0315	Asphaltic Flumes	SY	50.000	50.000
0290	504.0900	Concrete Masonry Endwalls	CY	2.000	2.000
0300	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	4.000	4.000
0310	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000
0320	520.3318	Culvert Pipe Class III-A 18-Inch	LF	105.000	105.000
0330	520.3324	Culvert Pipe Class III-A 24-Inch	LF	85.000	85.000
0340	520.8700	Cleaning Culvert Pipes	EACH	24.000	24.000
0350	521.0115	Culvert Pipe Corrugated Steel 15-Inch	LF	12.000	12.000
0360	521.0118	Culvert Pipe Corrugated Steel 18-Inch	LF	3.000	3.000
0370	521.0124	Culvert Pipe Corrugated Steel 24-Inch	LF	55.000	55.000
0380	521.0130	Culvert Pipe Corrugated Steel 30-Inch	LF	9.000	9.000
0390	521.1015	Apron Endwalls for Culvert Pipe Steel 15-Inch	EACH	3.000	3.000
0400	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	5.000	5.000
0410	521.1024	Apron Endwalls for Culvert Pipe Steel 24-Inch	EACH	24.000	24.000
0420	521.1030	Apron Endwalls for Culvert Pipe Steel 30-Inch	EACH	8.000	8.000
0430	521.1048	Apron Endwalls for Culvert Pipe Steel 48-Inch	EACH	2.000	2.000
0590	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	1,260.000	1,260.000
0600	606.0100	Riprap Light	CY	26.000	26.000
0610	606.0200	Riprap Medium	CY	5.000	5.000
0620	606.0300	Riprap Heavy	CY	20.000	20.000
0630	606.0700	Grouted Riprap Heavy	CY	26.000	26.000
0640	611.0627	Inlet Covers Type HM	EACH	1.000	1.000
0660	611.3230	Inlets 2x3-FT	EACH	1.000	1.000
0680	614.0200	Steel Thrie Beam Structure Approach	LF	42.000	42.000
0690	614.0305	Steel Plate Beam Guard Class A	LF	650.000	650.000
0700	614.0345	Steel Plate Beam Guard Short Radius	LF	347.000	347.000

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DATE 07DEC15		E S T I M A T E O F Q U A N T I T I E S			
LINE					7730-06-73
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0710	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	8.000	8.000
0720	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	11.000	11.000
0730	614.0396	Guardrail Mow Strip Asphalt	SY	250.000	250.000
0740	614.0515	Guardrail Stifened LHW	LF	9,650.000	9,650.000
0750	614.2300	MGS Guardrail 3	LF	587.500	587.500
0760	614.2330	MGS Guardrail 3 K	LF	1,337.500	1,337.500
0770	614.2340	MGS Guardrail 3 L	LF	225.000	225.000
0780	614.2610	MGS Guardrail Terminal EAT	EACH	11.000	11.000
0800	618.0100	Maintenance And Repair of Haul Roads (project) 02. 7730-06-70	EACH	1.000	1.000
0810	619.1000	Mobilization	EACH	0.850	0.850
0820	624.0100	Water	MGAL	66.000	66.000
0830	625.0100	Topsoil	SY	13,650.000	13,650.000
0850	628.1504	Silt Fence	LF	9,870.000	9,870.000
0860	628.1520	Silt Fence Maintenance	LF	9,870.000	9,870.000
0870	628.1905	Mobilizations Erosion Control	EACH	8.000	8.000
0880	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0900	628.2008	Erosion Mat Urban Class I Type B	SY	4,170.000	4,170.000
0910	628.2023	Erosion Mat Class II Type B	SY	9,500.000	9,500.000
0920	628.2033	Erosion Mat Class III Type B	SY	750.000	750.000
0930	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0940	628.7015	Inlet Protection Type C	EACH	1.000	1.000
0960	628.7555	Culvert Pipe Checks	EACH	90.000	90.000
0970	628.7570	Rock Bags	EACH	630.000	630.000
0980	629.0210	Fertilizer Type B	CWT	9.000	9.000
0990	630.0120	Seeding Mixture No. 20	LB	370.000	370.000
1000	630.0160	Seeding Mixture No. 60	LB	33.000	33.000
1020	633.5200	Markers Culvert End	EACH	103.000	103.000
1030	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	37.000	37.000
1040	634.0620	Posts Wood 4x6-Inch X 20-FT	EACH	28.000	28.000
1050	637.2210	Signs Type II Reflective H	SF	68.000	68.000
1060	637.2230	Signs Type II Reflective F	SF	125.500	125.500
1070	638.2102	Moving Signs Type II	EACH	53.000	53.000
1080	638.2602	Removing Signs Type II	EACH	6.000	6.000
1090	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
1100	642.5201	Field Office Type C	EACH	0.850	0.850
1120	643.0100	Traffic Control (project) 02. 7730-06-73	EACH	1.000	1.000
1130	643.0300	Traffic Control Drums	DAY	2,350.000	2,350.000
1160	643.0900	Traffic Control Signs	DAY	3,906.000	3,906.000
1200	645.0120	Geotextile Fabric Type HR	SY	81.000	81.000
1210	645.0130	Geotextile Fabric Type R	SY	135.000	135.000
1220	646.0106	Pavement Marking Epoxy 4-Inch	LF	71,400.000	71,400.000
1230	646.0126	Pavement Marking Epoxy 8-Inch	LF	250.000	250.000
1240	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	64,950.000	64,950.000
1250	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	30.000	30.000
1260	648.0100	Locating No-Passing Zones	MI	6.700	6.700
1270	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	71,000.000	71,000.000
1280	650.4500	Construction Staking Subgrade	LF	11,644.000	11,644.000
1290	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,260.000	1,260.000
1300	650.6000	Construction Staking Pipe Culverts	EACH	4.000	4.000
1310	650.8000	Construction Staking Resurfacing Reference	LF	35,188.000	35,188.000

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DATE 07DEC15		E S T I M A T E O F Q U A N T I T I E S			
LINE		7730-06-73			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1330	650.9910	Construction Staking Supplemental Control (project) 02. 7730-06-73	LS	1.000	1.000
1340	650.9920	Construction Staking Slope Stakes	LF	11,644.000	11,644.000
1350	690.0150	Sawing Asphalt	LF	1,500.000	1,500.000
1360	SPV.0090	Special 01. Ditch Cleaning	LF	2,010.000	2,010.000
1380	SPV.0105	Special 01. Preparation Of Foundation For Asphaltic Paving Special	LS	1.000	1.000
1390	SPV.0105	Special 02. Milling And Removing Temporary Joint	LS	1.000	1.000
1400	SPV.0105	Special 03. Relocate Field Entrance Station 331+00 Lt	LS	1.000	1.000
1410	SPV.0120	Special 01. Water For Seeded Areas	MGAL	310.000	310.000
1420	SPV.0195	Special 01. HMA Pavement Type E-3 Special	TON	20,500.000	20,500.000

3

CLEARING AND GRUBBING

		201.0105		201.0205	
		CLEARING		GRUBBING	
CATEGORY	STATION - STATION	LOCATION	STA	STA	
0010	110+49 - 111+32	LT	1	1	
	109+84 - 118+22	RT	8	8	
	133+18 - 138+64	LT	6	6	
	135+00 - 135+30	RT	1	1	
	142+37 - 146+78	LT	5	5	
TOTAL			21	21	

REMOVING SMALL PIPE CULVERTS

		203.0100	
		REMOVING SMALL PIPE CULVERTS	
CATEGORY	STATION	PIPE SIZE INCH	TYPE EACH
0010	05+44	24	CMCP 1
	29+24	15	CMCP 1
	41+54	15	CMCP 1
	90+62	30	CMCP 1
	139+62	24	CMCP 1
	142+18	24	CMCP 1
	145+90	18	CMCP 1
	154+75	24	CMCP 1
	195+15	30	CMCP 1
	209+06	48	CMCP 1
	212+22	24	CMCP 1
	217+83	24	CMCP 1
	231+16	24	CMCP 1
	236+05	24	CMCP 1
	240+66	24	CMCP 1
	247+17	30	CMCP 1
	257+60	30	CMCP 1
	265+68	24	CMCP 1
	295+49	24	CMCP 1
	303+20-303+95	18	CMCP 1
	YAEGER 331+20	18	CMCP 1
	348+41	24	CMCP 1
TOTAL			22

REMOVING ASPHALTIC SURFACE

		204.0110		204.0120	
		REMOVING ASPHALTIC SURFACE		REMOVING ASPHALTIC SURFACE MILLING	
CATEGORY	STATION - STATION	LOCATION	SY	SY	
0010	5+12 - 6+00	STH 88	---	700	
	6+00 - 22+00	STH 88	---	4,300	
	22+00 - 29+00	STH 88	---	1,900	
	29+21 - 35+51	LT CURB AREA	510	---	
	29+00 - 55+00	STH 88	---	6,900	
WAUMDEE CREEK INTERSECTION		---	---	300	
	55+00 - 110+00	STH 88	---	14,700	
	110+00 - 146+00	STH 88	---	9,600	
OAK VALLEY INTERSECTION		---	---	200	
	146+00 - 217+00	STH 88	---	18,900	
	PIPE - 217+32	STH 88	30	---	
SCHOEPPS VALLEY INTERSECTION		---	---	100	
	217+00 - 229+00	STH 88	---	3,200	
	CTH O INTERSECTION	---	---	700	
	229+00 - 231+00	STH 88	---	500	
	PIPE - 231+16	STH 88	30	---	
	231+00 - 242+00	STH 88	---	2,900	
MAYER RD INTERSECTION		---	---	200	
	242+00 - 309+00	STH 88	---	17,900	
	309+00 - 331+00	STH 89	---	5,900	
YEAGER VALLEY RD INTERSECTION		---	---	200	
	331+00 - 354+00	STH 88	---	6,100	
	CTH E INTERSECTION	STH 88	50	400	
BLANK HILL RD INTERSECTION		---	---	300	
	354+00 - 357+00	STH 88	---	800	
TOTAL			620	96,700	

REMOVING GUARDRAIL

		204.0165	
		REMOVING GUARDRAIL	
CATEGORY	STATION - STATION	LOCATION	LF
0010	80+82 - 88+52	RT STH 88	770
	125+06 - 131+35	RT STH 88	630
	131+77 - 133+02	RT STH 88	125
	131+77 - 132+99	LT STH 88	120
	301+86 - 303+38	RT STH 88	150
	301+90 - 303+44	LT STH 88	155
TOTAL			1,950

REMOVING ASPHALTIC SURFACE BUTT JOINTS

		204.0115 REMOVING ASPHALTIC BUTT JOINTS SY
CATEGORY	LOCATION	
0010	STH 35/STH 88	90
	WAUMANDEE CREEK RD/STH 88	10
	OAK VALLEY RD/STH 88	10
	SCHOEPPS VALLEY RD/STH 88	10
	CTH O/STH 88	10
	MAIER RD/STH 88	10
	YAEGER VALLEY RD/STH 88	10
	CTH E/STH 88	10
	BLANK HILL RD /STH 88	10
	STH 88 (END PROJECT)	10
TOTAL		180

REMOVING MASONRY

				204.0185 REMOVING MASONRY CY
CATEGORY	STATION	LOCATION	LOCATION	
0010	245+50	RT	STH 88	2
	247+14	RT	STH 88	2
TOTAL				4

BASE AGGREGATE DENSE

						305.0110 BASE AGGREGATE DENSE 3/4"	305.0120 BASE AGGREGATE DENSE 1/4"	624.0100 WATER MGAL		
CATEGORY	STATION	-	STATION	LOCATION	WIDTH FT	DEPTH INCH	TON	TON		
0010	06+20.16	-	08+31.05	CURVE	3	VAR	37	---	0.5	WEDGING AREA
	23+00.00	-	25+90.88	CURVE	3	VAR	32	---	0.5	WEDGING AREA
	23+50.00	-	24+50.00	BEAMGUARD	2	3.0	4	---	0.1	UNDER RAIL
	24+30.00	-	25+17.50	BEAMGUARD	2	3.0	4	---	0.1	UNDER RAIL
	25+90.88	-	28+58.19	CURVE	3	VAR	24	---	0.4	WEDGING AREA
	32+15.05	-	36+23.50	CURVE	3	VAR	27	---	0.4	WEDGING AREA
	47+92.50	-	54+30.00	BEAMGUARD	2	3.0	27	---	0.4	UNDER RAIL
	68+14.78	-	74+27.04	CURVE	3	VAR	4	---	0.1	WEDGING AREA
	124+85.00	-	131+35.00	BEAMGUARD	2	3.0	27	---	0.4	UNDER RAIL
	131+68.00	-	133+18.00	BEAMGUARD	2	3.0	6	---	0.1	UNDER RAIL
	201+54.17	-	209+81.25	CURVE	3	VAR	5	---	0.1	WEDGING AREA
	211+30.27	-	217+87.33	CURVE	3	VAR	3	---	0.0	WEDGING AREA
	250+50.00	-	254+50.00	BEAMGUARD	2	3.0	17	---	0.3	UNDER RAIL
	252+90.00	-	254+77.50	BEAMGUARD	2	3.0	8	---	0.1	UNDER RAIL
	292+82.29	-	296+06.09	CURVE	3	VAR	43	---	0.7	WEDGING AREA
	296+97.17	-	300+44.82	CURVE	3	VAR	7	---	0.1	WEDGING AREA
	303+10.32	-	306+86.17	CURVE	3	VAR	18	---	0.3	WEDGING AREA
	303+20.00	-	YEAGER VALLEY RD			6.0	33	---	0.5	FIELD ENTRANCE
	05+12.00	-	357+00.00	RT	3	1.5	1,099	---	16.5	SHOULDER BLEND
	05+12.00	-	357+00.00	LT	3	1.5	1,100	---	16.5	SHOULDER BLEND
	29+20.00	-	35+50.00	LT	4	6.0	---	105	1.6	UNDER CURB
	81+50.00	-	87+50.00	RT	4	6.0	---	100	1.5	UNDER CURB
	217+22.50	-	217+42.50	PIPE	30	12.0	---	50	0.8	PIPE
	231+06.00	-	231+26.00	PIPE	30	12.0	---	50	0.8	PIPE
	CTH E			RT	4	6.0	---	52	0.8	UNDER CURB
	CTH E			LT	4	6.0	---	45	0.7	UNDER CURB
UNDISTRIBUTED-MAINLINE REPAIRS							475	998	21.7	
TOTAL							3,000	1,400	66	

BORROW EXCAVATION

					208.0100 BORROW CY
CATEGORY	STATION	-	STATION	FEATURE	
0010	22+10	-	26+68	GUARDRAIL LT AND RT	300
	27+50	-	36+75	CURB AND GUTTER LT	300
	46+22	-	64+10	GUARDRAIL RT	300
	74+47	-	79+33	GUARDRAIL RT	150
	79+55	-	101+30	GUARDRAIL RT	450
	123+15	-	124+87	GUARDRAIL EAT RT	10
	133+18	-	134+88	GUARDRAIL EAT LT	30
	198+70	-	200+40	GUARDRAIL EAT RT	150
	248+77	-	256+50	GUARDRAIL LT AND RT	150
	276+39	-	282+12	GUARDRAIL EAT RT	150
	291+50	-	293+23	GUARDRAIL EAT RT	30
	293+90	-	301+50	GUARDRAIL LT	100
	293+90	-	304+30	GUARDRAIL LT AND RT	30
				CTH E LT	20
				CTH E RT	30
TOTAL					2,200

PREPARE FOUNDATION FOR ASPHALT

					211.0400 PREPARE FOUNDATION FOR ASPHALT SHOULDERS STA	SPV.0105.01 PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING SPECIAL LS
CATEGORY	STATION	-	STATION			
0010	5+12	-	357+00		704	1
TOTAL					704	1

COARSE AGGREGATE

				209.0300.S BACKFILL COARSE AGGREGATE SIZE NO 2 CY
CATEGORY	STATION	LOCATION		
0010	24+38	RT		5
	24+38	LT		5
	101+00	RT		3
	132+20	RT		3
	132+20	LT		3
	302+63	RT		3
	302+63	LT		3
TOTAL				25

CONCRETE SURFACE DRAINS

				416.1010 CONCRETE SURFACE DRAINS CY
CATEGORY	STATION	LOCATION		
0010	84+25	RT		1.0
	87+22	RT		1.0
TOTAL				2.0

HMA PAVEMENT

				SPV.0195.01 HMA PAVEMENT TYPE E-3 SPECIAL
CATEGORY	STATION	-	STATION	455.0605 TACK COAT GAL TON
0010	STH 35/STH 88 INTERSECTION			80100
	6+00	-	23+00	635900
	SCHLAWIN RD INT			3050
	23+00	-	55+00	11951,700
	WAUMANDEE CREEK INT			4050
	55+00	-	110+00	20553,000
	HENDERSON ROAD INT			1025
	110+00	-	144+00	12701,800
	OAK VALLEY ROAD INT			2025
	144+00	X	218+00	27654,000
	SCHOEPPE VALLEY ROAD INT			1025
	218+00	-	229+00	410600
	CTH O INT			85100
	229+00	-	242+00	485700
	MAIER ROAD INT			2550
	242+00	-	309+00	25003,600
	WHITE RD INT			1025
	309+00	-	331+00	8201,200
	YAGER VALLEY ROAD INT			2025
	331+00	-	357+00	9701,400
	CTH E INT			4575
	BLANK HILL ROAD INT			4050
	WEDGING/LEVELING			---1,000
TOTAL				13,52020,500

ASPHALTIC SURFACE

						465.0110 ASPHALTIC SURFACE PATCHING
CATEGORY	STATION			LENGTH FT	WIDTH FT	TON
0010	217+32	PIPE	5667A	28	20	10
	231+16	PIPE	5668	28	20	10
	MINOR REPAIRS					40
	PREP FOUNDATION					1000
TOTAL						1,060

ASPHALTIC JOINT

				SPV.0105.02 MILLING AND REMOVING TEMPORARY JOINT	460.4110.S REHEATING HMA PAVEMENT LONGITUDINAL JOINTS
CATEGORY	STATION	-	STATION	LS	LF
0010	5+12	-	357+00	---	35200
	PROJECT LIMITS			1	---
TOTAL				1	35,200

ASPHALTIC FLUMES

						465.0315 ASPHALTIC FLUMES
CATEGORY	STATION	-	STATION	LOCATION		SY
0010	143+56	-	143+93	STH88/OAKVALLEY ROAD		20
				CTH E LT		10
				CTH E RT		10
	PROJECT LIMITS			UNDISTRIBUTED		10
TOTAL						50

CULVERT PIPES (ENDWALLS)

				* 504.0900 CONCRETE MASONRY ENDWALLS		* CULVERT PIPE CLASS IIIA		APRON ENDWALLS FOR CULVERT PIPE		* CULVERT PIPE CORRUGATED STEEL								* APRON ENDWALL STEEL					520.8700 CLEANING CULVERT PIPES	SPV.0090.01 DITCH CLEANING		633.5200 MARKER CULVERT END EACH	
CATEGORY	STATION	CULVERT #	CY	18-INCH LF	24-INCH LF	18-INCH EACH	24-INCH EACH	15-INCH LF		18-INCH LF		24-INCH LF		30-INCH LF		15-INCH EACH	18-INCH EACH	24-INCH EACH	30-INCH EACH	48-INCH EACH	EACH	RT	LT	RT	LT		
								RT	LT	RT	LT	RT	LT	RT	LT												
0010	5+44	5538	---	---	---	---	---	---	---	---	---	3	---	---	---	---	---	1	---	---	1	30	30	1	1		
	24+38	5539	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	29+24	5540	---	---	---	---	---	---	1	---	---	---	---	---	---	1	---	---	---	---	---	30	---	1	1		
	41+54	5541	---	---	---	---	---	5	6	---	---	---	---	---	---	2	---	---	---	---	1	30	30	1	1		
	55+40	5542	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1		
	69+77	5543	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	82+94	5544	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	86+72	5545	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	90+62	5546	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	1	---	1	30	30	1	1		
	97+64	5547	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	101+00	5548	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	---	1	1			
	125+69	5549	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1		
	128+18	5550	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	132+20	5551	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	139+62	5552	---	---	---	---	---	---	---	---	---	1	1	---	---	---	---	2	---	---	---	30	30	1	1		
	142+18	5553	---	---	---	---	---	---	---	---	---	---	3	---	---	---	---	1	---	---	1	30	30	1	1		
	145+90	5554	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	30	---	1	1		
	151+37	5555	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	30	30	1	1		
	154+75	5556	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	30	1	1		
	158+90	5557	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	166+45	5558	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	169+36	5559	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1			
	172+66	5560	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	174+75	5561	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	30	30	1	1			
	182+77	5562	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	1	30	30	1	1		
	191+05	5563/64	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	195+15	5565	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	1	---	30	1	1		
	200+64	5566	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	1	---	---	---	30	1	1		
	202+85	5567	---	---	---	---	---	---	---	---	---	3	---	---	---	---	---	1	---	---	1	---	---	1	1		
	205+73	5568	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	30	1	1		
	209+06	5665	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	30	30	1	1		
	212+22	5666	---	---	---	---	---	---	---	---	---	3.5	2	---	---	---	---	2	---	---	1	30	30	1	1		
SCHOEPPS	217+33	5667A	---	---	40	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	218+00	5667B	---	---	---	---	---	---	---	3	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---		
	231+16	5668	---	---	45	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	236+05	5669	---	---	---	---	---	---	---	---	---	1	2	---	---	---	---	2	---	---	1	---	---	1	1		
	240+66	5670	---	---	---	---	---	---	---	---	---	1	1	---	---	---	---	2	---	---	1	---	---	1	1		
	246+23	5671A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	1		
SUBTOTAL-CONTINUE NEXT PAGE			2	0	85	0	4	5	7	0	3	12.5	9	3	0	3	4	13	5	2	19	840	870	36	37		
								12			3	22		3								1710		73			

3

CULVERT PIPES (ENDWALLS)

					* 504.0900 CONCRETE MASONRY ENDWALLS CY		* CULVERT PIPE CLASS IIIA 520.3318 18-INCH LF		* 520.3324 24-INCH LF		* APRON ENDWALLS FOR CULVERT PIPE 520.1018 18-INCH EACH		* 520.1024 24-INCH EACH		* CULVERT PIPE CORRUGATED STEEL 521.0115 521.0118 521.0124 521.0130 15-INCH LF 18-INCH LF 24-INCH LF 30-INCH LF 521.1015 521.1018 521.1024 521.1030 521.1048 15-INCH EACH 18-INCH EACH 24-INCH EACH 30-INCH EACH 48-INCH EACH						520.8700 CLEANING CULVERT PIPES EACH		SPV.0090.01 DITCH CLEANING LF RT LT		633.5200 MARKER CULVERT END EACH RT LT		
CATEGORY	STATION	CULVERT #																									
0010	247+17	5671	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	1	1	
	257+60	5672	---	---	---	---	---	---	---	---	---	---	---	6	---	---	---	---	1	---	---	---	---	---	1	1	
	265+68	5673	---	---	---	---	---	---	---	---	---	---	4.5	---	---	---	---	2	---	---	---	---	---	1	1		
	278+30	5674	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	1	30	30	1	1		
	280+47	5675	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1		
	285+55	5676	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	295+49	5677	---	---	---	---	---	---	---	---	---	2	---	---	---	---	2	---	---	---	---	---	---	1	1		
	302+63	5678	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30	30	1	1		
	303+20	5678A	---	75	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1		
	320+52	5679	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1		
	326+79	5680	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1		
YAEGER	331+20	5681A	---	30	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	331+20	5681	---	---	---	---	---	---	---	---	---	4	---	---	---	---	2	---	---	1	---	---	---	1	1		
	339+48	5682	---	---	---	---	---	---	---	---	4	2.5	---	---	---	---	2	---	---	1	---	---	---	1	1		
	348+41	5684	---	---	---	---	---	---	---	4	2.5	---	---	---	---	---	2	---	---	1	30	30	1	1			
	355+04	5684A	---	---	---	---	---	---	---	10	---	---	---	---	---	---	1	---	---	1	30	30	1	1			
SUBTOTAL			0	105	0	4	0	0	0	0	18	16	0	6	0	1	11	3	0	5	150	150	15	15			
TOTAL			2	105	85	4	4	12	3	55	9	3	5	24	8	2	24	2,010	103								

* MINIMUM STEEL THICKNESS 0.064 INCHES FOR 15, 18, AND 24 INCH DIAMETER PIPE; 0.079 INCHES FOR 30 INCH DIAMETER PIPE

**** ADDITIONAL QUANTITIES LISTED ELSEWHERE**

CONCRETE CURB & GUTTER

601.0553 CONCRETE CURB & GUTTER 4" SLOPED 36-INCH TYPE D						
CATEGORY	STATION	-	STATION		LOCATION	LF
0010	29+20	-	35+50	LT	STH 88	620
	81+50	-	87+50	RT	STH 88	545
					CTH E RT	50
					CTH E LT	45
TOTAL						1,260

STORM SEWER STRUCTURES

			611.0627	611.3230
			INLET	INLET
			COVERS	2X3
			TYPE HM	FT
CATEGORY	STATION		EACH	EACH
0010	29+24	LT	1	1
		TOTAL	1	1

3

RIPRAP

							606.0100	606.0200	606.0300	606.0700	645.0120	645.0130
							RIPRAP	RIPRAP	RIPRAP	GROUTED	GEOTEXTILE	GEOTEXTILE
							LIGHT	MEDIUM	HEAVY	RIPRAP	FABRIC	FABRIC
CATEGORY	STATION	LOCATION	DIAMETER	WIDTH	LENGTH	DEPTH	CY	CY	CY	HEAVY	TYPE HR	TYPE R
			INCHES	FT	FT	FT				CY	SY	SY
0010	82+94	LT	36	5	10	1	2	---	---	---	---	10
	86+72	RT	24	4	10	1	2	---	---	---	---	8
	86+73	LT	24	4	10	1	2	---	---	---	---	8
	97+64	RT	24	4	10	1	2	---	---	---	---	8
	125+69	RT	24	4	10	2	---	---	3	---	---	---
	128+18	RT	2X2 BOX	4	10	2	---	2	---	---	13	---
	142+18	RT	24	4	10	1	2	---	---	---	---	8
	145+90	RT	18	4	10	3	---	2	---	---	17	---
	151+37	RT	18	4	10	1	2	---	---	---	---	8
	154+75	RT	24	4	10	3	5	---	---	---	---	18
	166+45	RT	24	4	10	1	2	---	---	---	---	8
	166+45	LT	24	4	10	1	2	---	---	---	---	8
	182+77	LT	30	5	10	1	2	---	---	---	---	9
	195+15	RT	30	5	10	1	2	---	---	---	---	9
	200+64	RT	30	5	10	1	2	---	---	---	---	9
	247+17	RT	30	5	10	1	2	---	---	---	---	9
	247+17	LT	18"&30"	15	15	2	---	---	17	---	40	---
	257+60	RT	30	5	10	2	---	1	---	---	11	---
	285+55	RT	24	4	10	1	2	---	---	---	---	8
	295+49	RT	24	4	10	1	2	---	---	---	---	8
	84+25.00	RT	CONCRETE SURFACE DRAIN				---	---	---	13	---	---
	87+22.00	RT	CONCRETE SURFACE DRAIN				---	---	---	13	---	---
			UNDISTRIBUTED				---	1	1	---	---	2
TOTAL							26	5	20	26	81	135

3

EROSION CONTROL MOBILIZATION

CATEGORY	PROJECT STATION - STATION	628.1905	628.1910
		MOBILIZATIONS	MOBILIZATIONS
		EROSION CONTROL EACH	EROSION CONTROL EACH
0010	5+12 - 357+00	8	4
	TOTAL	8	4

BEAM GUARD

CATEGORY	STATION	-	STATION	LOCATION	614.0200	614.0305	614.0345	614.0370	614.0390	614.0396	614.0515	614.2300	614.2330	614.2340	614.2610
					STEEL THRIE BEAM STRUCTURE APPROACH LF	STEEL PLATE BEAM GUARD CLASS A LF	SPBG SHORT RADIUS LF	SPBG EAT EACH	SPBG SHORT RADIUS TERMINAL EACH	GUARDRAIL MOW STRIP ASPHALT SY	GUARDRAIL STIFFENED LHW LF	MGS GUARDRAIL 3 LF	MGS GUARDRAIL 3K LF	MGS GUARDRAIL 3L LF	MGS GUARDRAIL EAT EACH
0010	23+82.75	-	24+95.25	RT	---	---	---	---	---	---	---	---	---	112.5	2
	23+82.75	-	24+95.25	LT	---	---	---	---	---	---	---	---	---	112.5	2
	27+50.00	-	36+75.00	RT	---	---	34	---	2	---	925.0	---	---	---	---
	47+92.50	-	54+30.00	RT	---	---	13	1	1	---	637.5	---	---	---	---
	56+35.00	-	64+10.00	RT	---	---	22	1	1	---	775.0	---	---	---	---
	74+47.50	-	77+60.00	RT	---	---	20	1	1	---	312.5	---	---	---	---
	81+17.50	-	101+30.00	RT	---	---	20	1	1	---	2012.5	---	---	---	---
	124+85.00	-	131+35.00	RT	---	650	20	---	1	250	---	---	---	---	1
	131+95.00	-	143+57.50	RT	21	---	73	---	---	---	1162.5	---	---	---	---
	131+68.00	-	133+18.00	LT	---	---	13	1	1	---	150.0	---	---	---	---
	144+52.00	-	162+27.00	RT	21	---	82	---	---	---	1775.0	---	---	---	---
	200+40.00	-	208+90.00	RT	---	---	13	1	1	---	850.0	---	---	---	---
	252+90.00	-	254+77.50	RT	---	---	---	---	---	---	---	187.5	---	---	2
	250+50.00	-	254+50.00	LT	---	---	---	---	---	---	---	400.0	---	---	2
	278+12.50	-	291+50.00	RT	---	---	---	---	---	---	---	---	1337.5	---	2
	295+60.00	-	303+60.00	LT	---	---	13	1	1	---	800.0	---	---	---	---
	301+80.00	-	304+30.00	RT	---	---	24	1	1	---	250.0	---	---	---	---
TOTAL					42	650	347	8	11	250	9,650	587.5	1,337.5	225	11

TOPSOIL, FERTILIZER, AND SEEDING

CATEGORY	STATION	-	STATION		625.0100	629.0210	630.0120	630.0160
					TOPSOIL	FERTILIZER	SEEDING	SEEDING
					SY	TYPE B	NO. 20	NO. 60
						CWT	LB	LB
0010	22+05	-	27+08	RT	650	0.4	17	---
	22+89	-	27+00	LT	350	0.2	9	---
	27+53	-	36+78	RT	750	0.5	20	---
	28+73	-	35+85	LT	900	0.6	24	---
	45+74	-	54+39	RT	450	0.3	13	---
	56+26	-	65+87	RT	1,300	0.8	35	---
	74+35	-	78+97	RT	550	0.3	15	---
	79+78	-	90+00	RT	900	0.6	24	---
	90+00	-	101+44	RT	1,400	0.9	38	6
	123+87	-	125+16	RT	50	0.0	2	---
	131+73	-	134+25	RT	300	0.2	9	---
	131+63	-	133+83	LT	150	0.1	4	---
	198+66	-	201+06	RT	650	0.4	17	2
	248+01	-	256+43	LT	550	0.3	14	---
	251+42	-	256+62	RT	400	0.2	11	---
	276+29	-	282+75	RT	450	0.3	12	---
	290+96	-	293+39	RT	450	0.3	12	1
	293+99	-	303+65	LT	550	0.3	15	3
	301+61	-	304+41	RT	150	0.1	4	1
	OAK VALLE	-	FLUME	S	50	0.0	1	0
	CTH E	-	CURB	S	150	0.1	4	---
	CTH E	-	CURB	N	150	0.1	4	---
	CULVERT PIPES			RT AND/OR LT	2350	2.0	66	20
	TOTAL				13,650	9	370	33

EROSION CONTROL ITEMS												
			628.2008	628.2023	628.2033	628.7005	628.7015	628.1504	628.1520	628.7555	628.7570	SPV.0120.01
			URBAN	E MAT	E MAT	INLET	INLET	SILT	FENCE	CULVERT	ROCK	WATER
			CLASS 1	CLASS 2	CLASS 3	PROTECTION	PROTECTION	SILT	FENCE	PIPE	BAGS	FOR SEEDED
			TYPE B	TYPE B	TYPE B	TYPE A	TYPE C	FENCE	MAINT	CHECKS	EACH	AREAS
CATEGORY	STA	PIPE SIZE INCH	SY	SY	SY	EACH	EACH	FT	FT	EACH	EACH	MGAL
0010	5+44	24	25	---	---	---	---	---	---	2	13	0.5
	24+38	BOX	---	---	---	---	---	---	---	---	25	--
	29+13	CURB	845	---	---	---	---	---	---	---	---	19.0
	29+24	15	20	---	---	---	---	---	---	---	10	0.5
	29+30	15	---	---	---	1	1	---	---	---	---	---
	41+54	15	40	---	---	---	---	---	---	1	13	1.0
	55+40	15	55	---	---	---	---	---	---	1	13	---
	69+77	BOX	55	---	---	---	---	---	---	5	20	---
	82+94	36	55	---	---	---	---	---	---	3	13	1.0
	84+23	6'x30'FLUME	---	---	---	---	---	---	---	---	---	---
	87+25	6'x30'FLUME	---	---	---	---	---	---	---	---	---	---
	86+72	24	55	---	---	---	---	---	---	2	13	1.0
	90+62	30	40	---	---	---	---	---	---	2	13	1
	97+64	24	25	---	---	---	---	---	---	2	13	1
	101+00	BOX	---	---	---	---	---	---	---	---	25	---
	128+18	BOX	25	---	---	---	---	---	---	---	10	---
	139+62	24	60	---	---	---	---	---	---	2	13	2
	142+18	24	55	---	---	---	---	---	---	2	13	1.5
	OAK VALLEY	FLUME	95	---	---	---	---	---	---	---	---	2
	145+90	18	30	---	---	---	---	---	---	---	10	1
	151+37	18	55	---	---	---	---	---	---	1	13	1.5
	154+75	24	40	---	---	---	---	---	---	2	13	1
	158+90	18	55	---	---	---	---	---	---	1	13	---
	166+45	24	55	---	---	---	---	---	---	2	13	---
	169+36	24	55	---	---	---	---	---	---	2	13	---
	172+66	18	55	---	---	---	---	---	---	1	13	---
	174+75	18	55	---	---	---	---	---	---	1	13	---
	182+77	30	55	---	---	---	---	---	---	2	13	1
	191+05	30	60	---	---	---	---	---	---	2	---	2
	195+15	30	40	---	---	---	---	---	---	2	---	1.0
	200+64	30	25	---	---	---	---	---	---	2	3	1
	202+85	24	40	---	---	---	---	---	---	2	13	1
	205+73	24	40	---	---	---	---	---	---	2	13	1.0
	209+06	48	60	---	---	---	---	---	---	4	13	---
	212+22	24	60	---	---	---	---	---	---	2	13	2
	217+32	24	215	---	---	---	---	160	160	2	13	5.0
	SCHOEPPS	18	45	---	---	---	---	50	50	---	---	---
CONTINUE ON NEXT SHEET		SUBTOTAL	2,490	0	0	1	1	210	210	52	389	45

EROSION CONTROL ITEMS												
CATEGORY	STA	PIPE SIZE INCH	628.2008	628.2023	628.2033	628.7005	628.7015	628.1520	628.7555	SPV.0120.01		
			URBAN	E MAT	E MAT	INLET	INLET	628.1504	SILT	CULVERT	628.7570	WATER
			CLASS 1	CLASS 2	CLASS 3	PROTECTION	PROTECTION	SILT	FENCE	PIPE	ROCK	FOR SEEDED
			TYPE B	TYPE B	TYPE B	TYPE A	TYPE C	FENCE	MAINT	CHECKS	BAGS	AREAS
			SY	SY	SY	EACH	EACH	FT	FT	EACH	EACH	MGAL
0010	231+16	24	175	---	---	---	---	200	200	2	---	4.0
	236+05	24	25	---	---	---	---	---	---	---	13	0.5
	240+66	24	25	---	---	---	---	---	---	2	---	0.5
	247+17	30	35	---	---	---	---	---	---	5	16	1.0
	257+60	30	40	---	---	---	---	---	---	2	13	---
	265+68	24	25	---	---	---	---	---	---	2	13	0.5
	278+30	18	10	---	---	---	---	---	---	---	10	0.5
	280+47	30	25	---	---	---	---	---	---	2	3	---
	285+55	24	55	---	---	---	---	---	---	2	13	1.0
	295+49	24	10	---	---	---	---	---	---	2	13	0.5
	302+63	BOX	---	---	---	---	---	---	---	---	25	---
	303+25	18	10	---	---	---	---	---	---	1	13	---
	320+52	72	---	---	---	---	---	---	---	---	---	---
	326+79	24	---	---	---	---	---	---	---	---	---	---
	331+20	24	100	---	---	---	---	---	---	2	13	2.5
	FIELD	YAGER	35	---	---	---	---	---	---	2	3	1.0
	339+48	24	25	---	---	---	---	---	---	2	13	0.5
	348+41	24	60	---	---	---	---	---	---	2	13	1.5
	355+04	24	25	---	---	---	---	---	---	---	13	0.5
	CTH E S	CURB	---	200	---	---	---	---	---	---	---	4.5
	CTH E N	CURB	---	130	---	---	---	---	---	---	---	3.0
	22+05	GUARDRAIL	650	---	---	---	---	490	490	---	---	14.5
	22+89	GUARDRAIL	350	---	---	---	---	430	430	---	---	8.0
	27+53	GUARDRAIL	---	---	750	---	---	950	950	---	---	17.0
	28+73	GUARDRAIL	---	880	---	---	---	---	---	---	---	19.5
	45+74	GUARDRAIL	---	470	---	---	---	880	880	---	---	10.5
	56+26	GUARDRAIL	---	1,300	---	---	---	970	970	---	---	29.5
	74+35	GUARDRAIL	---	540	---	---	---	480	480	---	---	12.0
	79+78	GUARDRAIL	---	900	---	---	---	---	---	---	---	20.5
	90+00	GUARDRAIL	---	1,410	---	---	---	1,230	1,230	---	---	31.5
	123+87	GUARDRAIL	---	60	---	---	---	100	100	---	---	1.5
	131+73	GUARDRAIL	---	320	---	---	---	230	230	---	---	7.0
	131+63	GUARDRAIL	---	160	---	---	---	240	240	---	---	3.5
	198+66	GUARDRAIL	---	640	---	---	---	260	260	---	---	14.5
	248+01	GUARDRAIL	---	530	---	---	---	830	830	---	---	12.0
	251+42	GUARDRAIL	---	400	---	---	---	570	570	---	---	9.0
	276+29	GUARDRAIL	---	440	---	---	---	260	260	---	---	10.0
	290+96	GUARDRAIL	---	440	---	---	---	240	240	---	---	10.0
	293+99	GUARDRAIL	---	550	---	---	---	990	990	---	---	12.5
	301+61	GUARDRAIL	---	130	---	---	---	310	310	---	---	0.0
		UNDISTRIBUTED	---	---	---	---	---	---	---	10	54	---
		SUBTOTAL	1,680	9,500	750	0	0	9,660	9,660	38	241	265
		TOTAL	4,170	9,500	750	1	1	9,870	9,870	90	630	310

SIGNS TYPE II												
CATEGORY	SIGN #	SIGN CODE	SIGN SIZE		MESSAGE	637.2210	637.2230	638.2102	638.2602	638.3000	POSTS WOOD	
			IN	X IN		SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	634.0618 4X6 INCH 18 FT EACH	634.0620 4X6 INCH 20 FT EACH
0010	01-01	W1-6	48	X 24	NIGHT ARROW RT	---	---	1	---	---	---	1
	01-02	I55-56	30	X 36	ADOPT HIGHWAY	---	---	1	---	---	---	---
	01-03	W14-3	48	X 36	NO PASSING ZONE	---	---	1	---	---	---	---
	01-04	W1-6	48	X 24	NIGHT ARROW RT	---	---	1	---	---	1	---
	01-05	W1-6(L)	48	X 24	NIGHT ARROW LT	---	---	1	---	---	---	---
	01-06	W1-2L	30	X 30	CURVE LEFT	---	---	1	---	---	---	1
	01-07	W13-1	18	X 18	35 MPH	---	---	1	---	---	---	---
	01-08	W1-1L	36	X 36	LEFT TURN	---	---	1	---	---	---	1
	01-09	W13-1	18	X 18	30 MPH	---	---	1	---	---	---	---
	01-10	W1-6(L)	48	X 24	NIGHT ARROW LT	---	---	1	---	---	---	1
	01-11	W1-6	48	X 24	NIGHT ARROW RT	---	---	1	---	---	---	---
	01-12	W14-3	48	X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	01-13	W14-3	48	X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	02-01	W1-6(L)	48	X 24	NIGHT ARROW LT	---	---	1	---	---	1	---
	02-02	W1-6	48	X 24	NIGHT ARROW RT	---	---	1	---	---	1	---
	02-03	W1-2R	30	X 30	RIGHT CURVE	---	---	1	---	---	1	---
	02-04	W13-1	18	X 18	35 MPH	---	---	1	---	---	---	---
	02-05	W1-6	48	X 24	NIGHT ARROW RT	---	8.00	---	---	---	1	---
	02-06	W1-6(L)	48	X 24	NIGHT ARROW LT	---	8.00	---	---	---	1	---
	02-07	W1-1L	36	X 36	LEFT TURN	---	---	1	---	---	---	1
	02-08	W13-1	18	X 18	30 MPH	---	---	1	---	---	---	---
	02-09	W1-6(L)	48	X 24	NGHT ARROW LT	---	---	1	---	---	1	---
	02-10	W1-6	48	X 24	NIGHT ARROW RT	---	---	1	---	---	1	---
	03-01	W1-6(L)	48	X 34	NIGHT ARROW LT	---	---	1	---	---	1	---
	03-02	W1-6	48	X 24	NIGHT ARROW RT	---	---	1	---	---	1	---
	03-03	W5-52L	12	X 36	CLEARANCE STRIPER DOWN RIGHT	---	---	1	---	---	1	---
	03-04	W5-52R	12	X 36	CLEARANCE STRIPER DOWN LEFT	---	---	1	---	---	1	---
	03-05	W5-52R	12	X 36	CLEARANCE STRIPER DOWN LEFT	---	---	1	---	---	1	---
	03-06	W5-52L	12	X 36	CLEARANCE STRIPER DOWN RIGHT	---	---	1	---	---	1	---
	03-07	W1-8	18	X 24	CHEVRON	---	3.00	---	---	---	1	---
	03-08	W1-6(L)	48	X 24	NIGHT ARROW LT	---	8.00	---	1	1	1	---
	03-09	W1-6	48	X 24	NIGHT ARROW RT	---	8.00	---	1	1	1	---
	03-10	W1-8	18	X 24	CHEVRON	---	3.00	---	---	---	1	---
CONTINUE ON NEXT SHEET												
SUB TOTAL						0.0	38.00	27	2	2	18	7

SIGNS TYPE II											
CATEGORY	SIGN #	SIGN CODE	SIGN SIZE IN X IN	MESSAGE	637.2210	637.2230	638.2102	638.2602	638.3000	POSTS WOOD	
					SIGNS	SIGNS	MOVING	REMOVING	REMOVING	634.0618	634.0620
					TYPE II	TYPE II	SIGNS	SIGNS	SMALL SIGN	4X6 INCH	4X6 INCH
					REFLECTIVE H SF	REFLECTIVE F SF	TYPE II EACH	TYPE II EACH	SUPPORTS EACH	18 FT EACH	20 FT EACH
0010	03-11	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	03-12	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	03-13	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	---	---
	03-14	W1-4L	30 X 30	LEFT REVERSE CURVE	---	---	1	---	---	---	1
	03-15	W13-1	18 X 18	45 MPH	---	---	1	---	---	---	---
	03-16	RI-1	30 X 30	STOP	---	---	1	---	---	1	---
	04-01	J4-1	24 X 36	SOUTH STH 88	6	---	---	---	---	1	---
	04-02	J4-1	24 X 36	NORTH, STH 88	6	---	---	---	---	1	---
	05-01	W1-2R	30 X 30	CURVE RT	---	6.25	---	1	1	---	1
	05-02	W13-1	18 X 18	40 MPH	---	2.25	---	1	---	---	---
	05-03	W14-3	48 X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	05-04	W14-3	48 X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	05-05	J4-1	24 X 36	SOUTH STH 88	---	---	---	1	1	---	---
	05-06	J4-1	24 X 36	NORTH STH 88	---	---	---	1	1	---	---
	05-07	W13-1	18 X 18	40 MPH	---	2.25	---	---	---	---	---
	05-08	W1-4R	30 X 30	RIGHT REVERSE CURVE	---	6.25	---	---	---	---	1
	05-09	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	05-10	W1-6	48 X 24	NIGHT ARROW RT	---	8.00	---	---	---	---	---
	05-11	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	05-12	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	05-13	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	---	---
	05-14	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	05-15	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	---	---
	05-16	W1-8	18 X 24	CHEVRON	---	3.00	---	---	---	1	---
	05-17	W1-6(L)	48 X 24	NIGHT ARROW LT	---	8.00	---	---	---	---	---
	06-01	W1-2L	30 X 30	CURVE LT	---	6.25	---	---	---	---	1
	06-02	W13-1	18 X 18	40 MPH	---	2.25	---	---	---	---	---
	06-03	W1-6	48 X 24	NIGHT ARROW RT	---	8.00	---	---	---	1	---
	06-04	W1-6(L)	48 X 24	NIGHT ARROW LT	---	8.00	---	---	---	1	---
	06-05	W14-3	48 X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	06-06	W14-3	48 X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	06-07	W14-3	48 X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	06-08	W14-3	48 X 36	NO PASSING ZONE	---	---	1	---	---	---	1
	06-09	J4-1	24 X 36	SOUTH, STH88	6	---	---	---	---	---	1
	06-10	J12-1	24 X 45	CTH E ARROW	---	---	1	---	---	1	---
	06-11	R1-1	36 X 36	STOP	---	---	1	---	---	1	---
UNDISTRIBUTED SIGNS TYPE II REFLECTIVE DUE TO ASSUMED DAMAGED BY OTHERS					50	---	---	---	---	---	---
UNDISTRIBUTED FOR MOVING SIGNS DUE TO GRADING					---	---	15	---	---	5	10
SUBTOTAL					68.0	87.50	26	4	3	19	21
TOTAL					68.0	125.50	53	6	5	37	28

TRAFFIC CONTROL DEVICES

CATEGORY	STAGE	LOCATION	SERVICE DAYS	643.0300 TC DRUMS		643.0100 TRAFFIC CONTROL PROJECT	643.0900 TC SIGNS	
				IN SERVICE	DAYS	EACH	IN SERVICE	DAYS
0010		PROJECT	---	125	2350	1	---	---
		SOUTH END OF PROJECT	126	---	---	---	12	1512
		NORTH END OF PROJECT	126	---	---	---	8	1,008
		ROAD WORK NEXT X MILES	126	---	---	---	2	252
		SIDE ROADS	126	---	---	---	9	1,134
TOTAL			2,350			1	3,906	

DRUMS ARE INTENED FOR OVERNIGHT PROTECTION OF GUARDRAIL REMOVAL AREAS OR UNPROTECTED POSTS

CONSTRUCTION STAKING

CATEGORY	STATION	- STATION	LOCATION	650.5500		650.8000	
				CONSTRUCTION STAKING	CONSTRUCTION STAKING	CONSTRUCTION STAKING	CONSTRUCTION STAKING
					CURB GUTTER AND CURB & GUTTER	PIPE CULVERTS	RESURFACING REFERENCE
					LF	EACH	LF
0010	PROJECT		---	---	---	---	35,188
	29+20.00	- 35+50.00	LT	STH 88	620	---	---
	81+50.00	- 87+50.00	RT	STH 88	545	---	---
	353+60.00	- 354+50.00	LT	CTH E	50	---	---
	354+87.00	- 355+09.00	RT	CTH E	45	---	---
	CULVERT	217+32.50	5667A	24"	FULL CMCP	1	---
	CULVERT	231+16.00	5668	24"	FULL CMCP	1	---
	CULVERT	303+80.00	5678A		DRIVE	1	---
	CULVERT	YAEGER VALLEY RD			DRIVE	1	---
	TOTAL				1,260	4	35,188

CONSTRUCTION STAKING

CATEGORY	STATION	- STATION		650.4500 CONSTRUCTION STAKING SUBGRADE		650.9920 CONSTRUCTION STAKING SLOPE STAKES	
				LF	LF	LF	LF
0010	22+05	- 27+08	RT	503	503		
	22+89	- 27+00	LT	411	411		
	27+53	- 36+78	RT	925	925		
	28+73	- 35+85	LT	712	712		
	45+74	- 54+39	RT	865	865		
	56+26	- 65+87	RT	961	961		
	71+34	- 78+97	RT	763	763		
	79+78	- 90+00	RT	1,022	1,022		
	90+00	- 101+44	RT	1,144	1,144		
	123+87	- 125+16	RT	129	129		
	131+73	- 134+25	RT	252	252		
	131+63	- 133+83	LT	220	220		
	198+66	- 201+06	RT	240	240		
	248+01	- 256+43	LT	842	842		
	251+42	- 256+62	RT	520	520		
	276+29	- 282+75	RT	646	646		
	290+96	- 293+39	RT	243	243		
	293+99	- 303+65	LT	966	966		
	301+61	- 304+41	RT	280	280		
	TOTAL			11,644	11,644		

PAVEMENT MARKING EPOXY

				646.0406	646.0106		
				SAME DAY	WHITE	646.0126	647.0566
				YELLOW	4-INCH	8-INCH	STOP LINE
CATEGORY	STATION	-	STATION	LF	WHITE EDGE	WHITE	18-INCH
				LF	LF	LF	LF
0010	05+00	-	05+82	100	500	250	30
	05+82	-	21+97	3,250	3,250	---	---
	21+97	-	23+05	200	100	---	---
	23+05	-	44+78	4,350	4,350	---	---
	44+78	-	53+69	1,100	1,800	---	---
	53+69	-	54+37	150	150	---	---
	54+37	-	55+25	200	100	---	---
	55+25	-	109+62	10,850	10,850	---	---
	109+62	-	110+27	150	50	---	---
	110+27	-	143+47	6,650	6,650	---	---
	143+47	-	144+47	200	100	---	---
	144+47	-	217+81	14,650	14,650	---	---
	217+81	-	218+64	150	100	---	---
	218+64	-	228+00	1,900	1,900	---	---
		CTH O		250	---	---	---
	228+00	-	230+35	450	250	---	---
	230+35	-	241+58	2,250	2,250	---	---
	241+58	-	242+66	200	100	---	---
	242+66	-	258+66	3,200	3,200	---	---
	258+66	-	279+09	2,550	4,100	---	---
	279+09	-	294+26	1,900	3,050	---	---
	294+26	-	304+63	2,050	2,050	---	---
	304+63	-	319+42	1,850	2,950	---	---
	319+42	-	325+00	1,100	1,100	---	---
	325+00	-	330+26	1,050	1,050	---	---
	330+26	-	331+22	100	200	---	---
	331+22	-	343+74	300	2,500	---	---
	343+74	-	352+23	1,050	1,700	---	---
	352+23	-	353+70	300	300	---	---
	353+70	-	356+24	500	200	---	---
	356+24	-	365+58	1,850	1850	---	---
		CTH E		100	---	---	---
TOTAL				64,950	71,400	250	30

TEMPORARY PAVEMENT MARKINGS

				649.0402 TEMP PAVEMENT MARKING PAINT 4-INCH
CATEGORY	STATION	-	STATION	LF
0010	5+12	-	357+00	71,000
TOTAL				71,000

RELOCATE FIELD ENTRANCE

		SPV.0105.03
		RELOCATE
		FIELD
		ENTRANCE
CATEGORY	LOCATION	LS
0010	STA 331+00 LT (YAEGER VALLEY RD RT)	1
TOTAL		1

LOCATE NO PASSING ZONE

				648.0100 LOCATING NO-PASSING ZONE
CATEGORY	STATION	-	STATION	MILES
0010	5+12	-	357+00	6.7
TOTAL				6.7

SAWING

			690.0150
			SAWING
			ASPHALT
CATEGORY	STATION - STATION	LOCATION	LF
0010	05+12	BEGIN PROJECT	310
	29+21 - 35+50	STH 88 CURB	620
	54+40 - 55+19	MAUWANDEE CREEK RD/STH 88	20
	143+56 - 14450	OAK VALLEY RD/STH 88	30
	143+56 - 144+50	OAK VALLEY RD/STH 89/FLUME	50
	217+32	STH 88 PIPE INSTALL	50
	217+83	STH 88 PIPE REMOVAL	50
	218+00 - 218+54	SCHOEPPS VALLEY RD/STH 88	20
	228+09 - 230+17	CTH O/STH 88	20
	231+16	STH 88 PIPE REMOVAL	50
	241+59 - 242+60	MAIER RD/STH 88	20
	330+33 - 331+21	YAEGER VALLEY RD/STH 88	20
	353+78 - 355+37	CTH E	40
	CTH E	CTH E RT FOR CURB	60
	CTH E	CTH E LT FOR CURB	100
	354+97 - 356+17	BLANK HILL RD /STH 88	20
	357+00	STH 88 END OF PROJECT	20
	TOTAL		1,500

BEGIN PROJECT 7730-06-73
STA 5+12.00 STH 88
N=257246.48
E=581147.06

SAWING ASPHALT
BUTT JOINT REQUIRED

CULVERT 5538 STA 5+44
EXISTING 24"X 85' CMCP
REMOVE 3' EXISTING 24" CMCP & AEW RT
INSTALL 3' NEW 24" CMCP RT
INSTALL NEW 24" AEW RT
PIPE CLEANING REQUIRED
DITCH CLEANING RT & LT
INSTALL MARKER CULVERT PIPE RT & LT (2)

SUBSTATION

INSTALL NEW MGS GUARDRAIL TERMINAL EAT
3:1 FS REQUIRED

INSTALL NEW MGS
GUARDRAIL TERMINAL EAT
3:1 FS REQUIRED

STA 23+82 - STA 24+95 RT
INSTALL NEW MGS GUARDRAIL 3L

CULVERT 5539 STA 24+38
EXISTING 208'WX5' H CONCRETE BOX CULVERT
DITCH CLEANING REQUIRED ON RT & LT
BACKFILL DITCH CLEANING WITH
6" THICKNESS COARSE AGGREGATE SIZE NO. 2
INSTALL MARKER CULVERT PIPE RT & LT (2)

INSTALL NEW MGS
GUARDRAIL TERMINAL EAT
3:1 FS REQUIRED

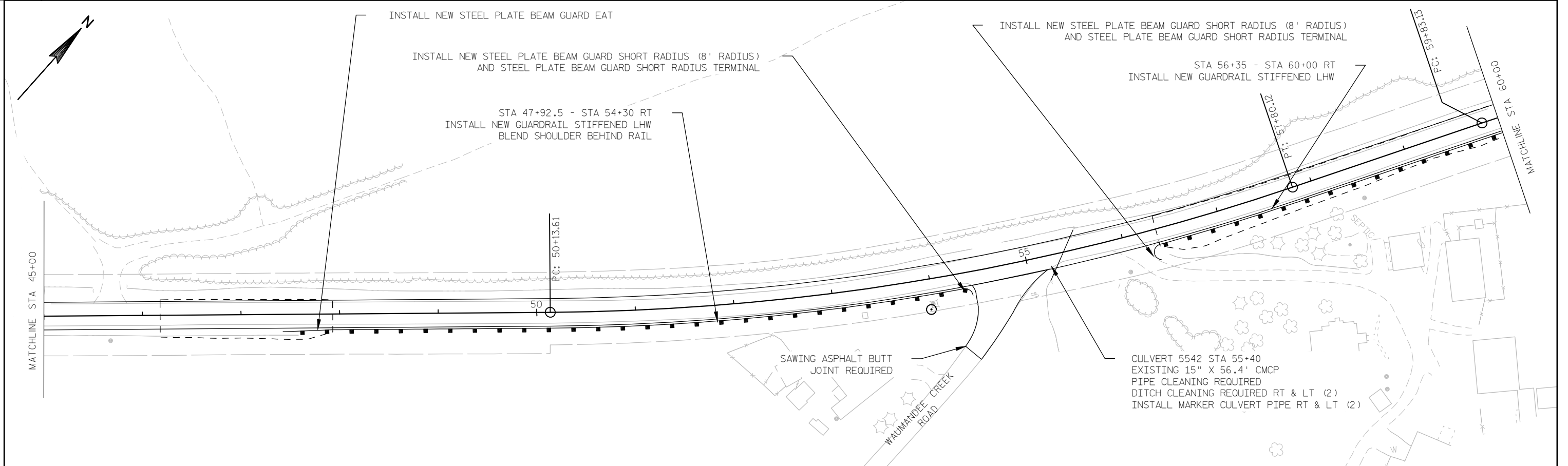
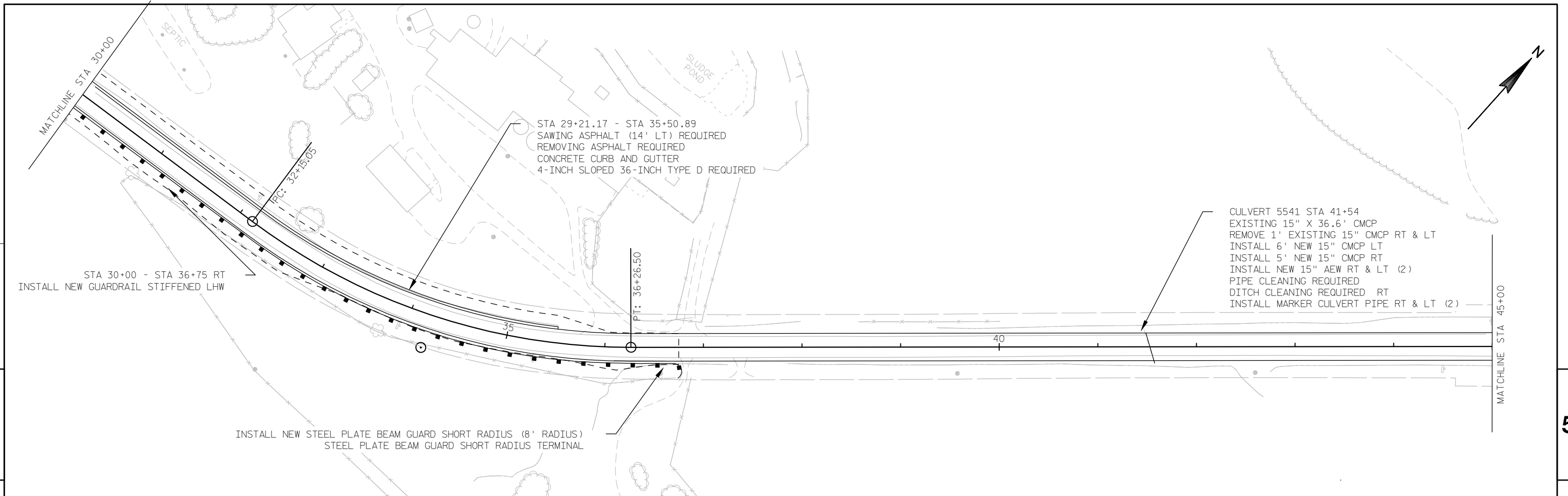
INSTALL NEW STEEL PLATE BEAM
GUARD SHORT RADIUS (8' RADIUS)
AND STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

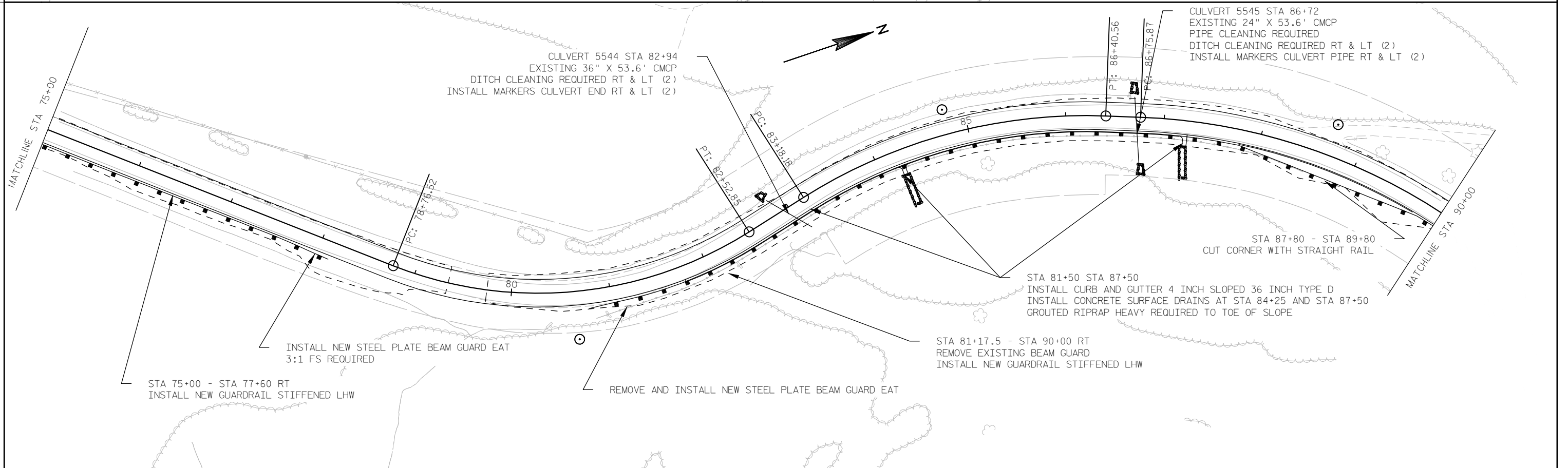
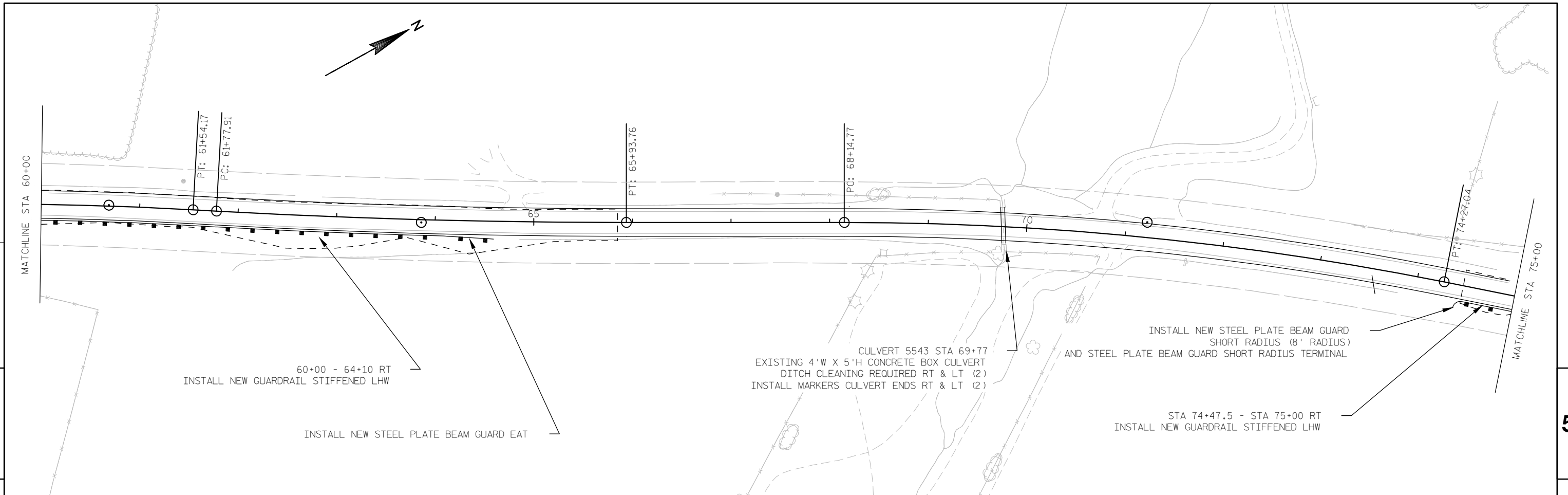
CULVERT 5540 STA 29+24
EXISTING 15" X 50' CMCP
REMOVE 1' EXISTING 15" CMCP LT
INSTALL 1' NEW 15" CMCP LT
CONNECT TO INLET AT STA 29+30
INSTALL NEW 15" AEW RT
DITCH CLEANING REQUIRED RT
INSTALL MARKER CULVERT PIPE RT (1)

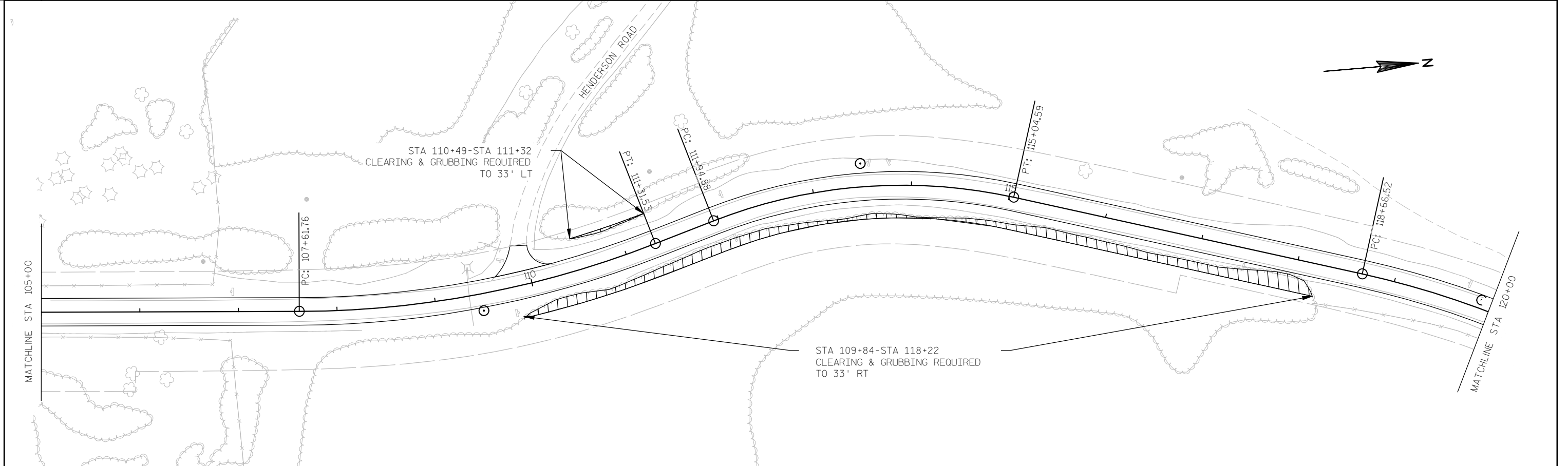
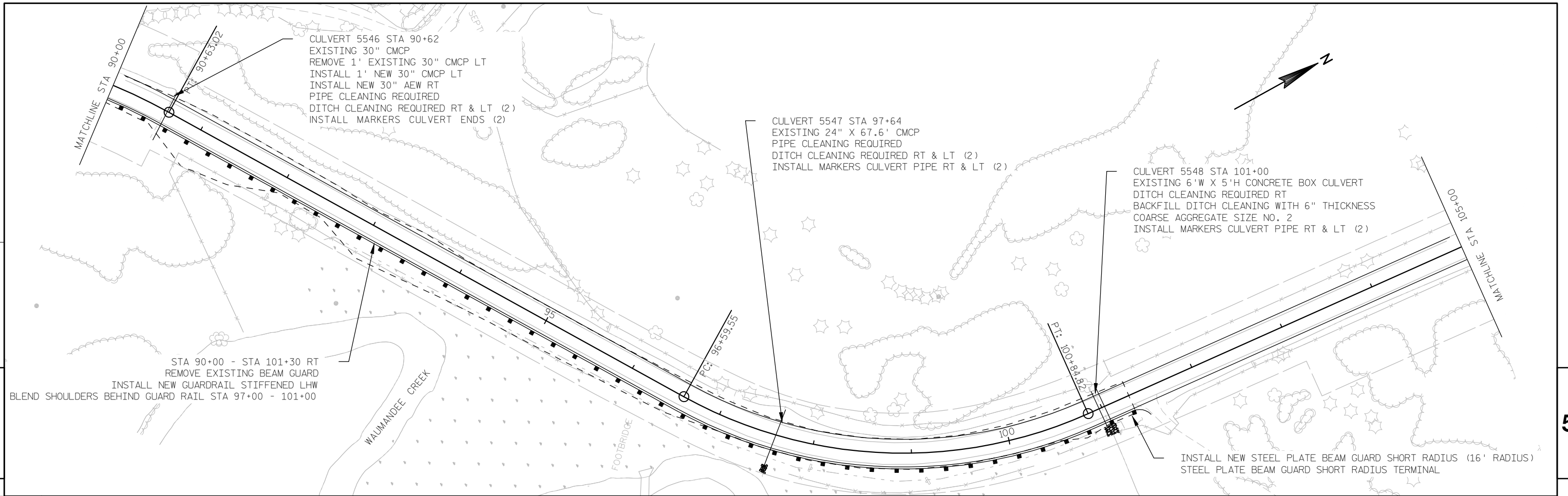
STA 27+50 - STA 30+00 RT
INSTALL NEW GUARDRAIL STIFFENED LHW

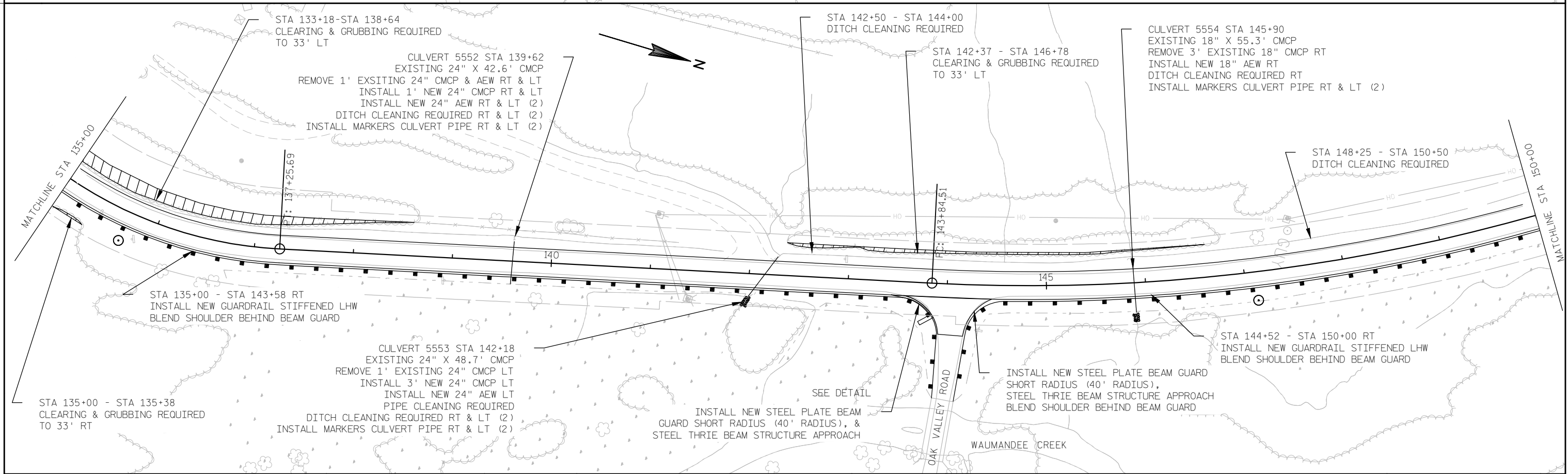
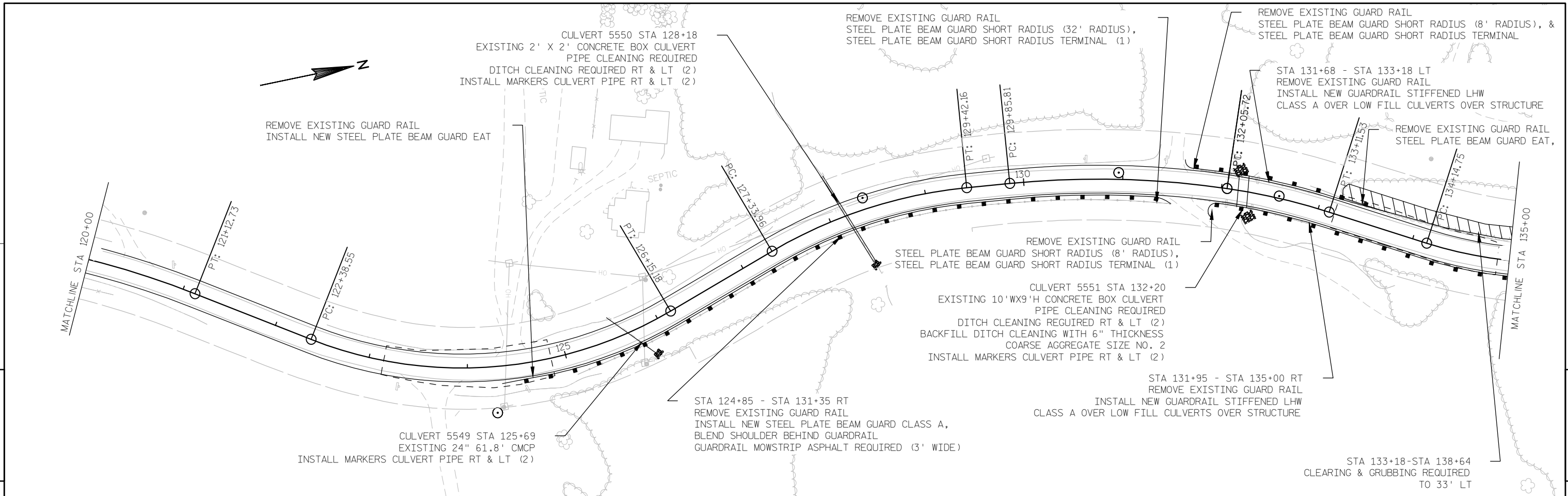
STA 29+21.17 - STA 35+50.89
SAWING ASPHALT (14' LT) REQUIRED
REMOVING ASPHALT REQUIRED
CONCRETE CURB AND GUTTER
4-INCH SLOPED 36-INCH TYPE D REQUIRED

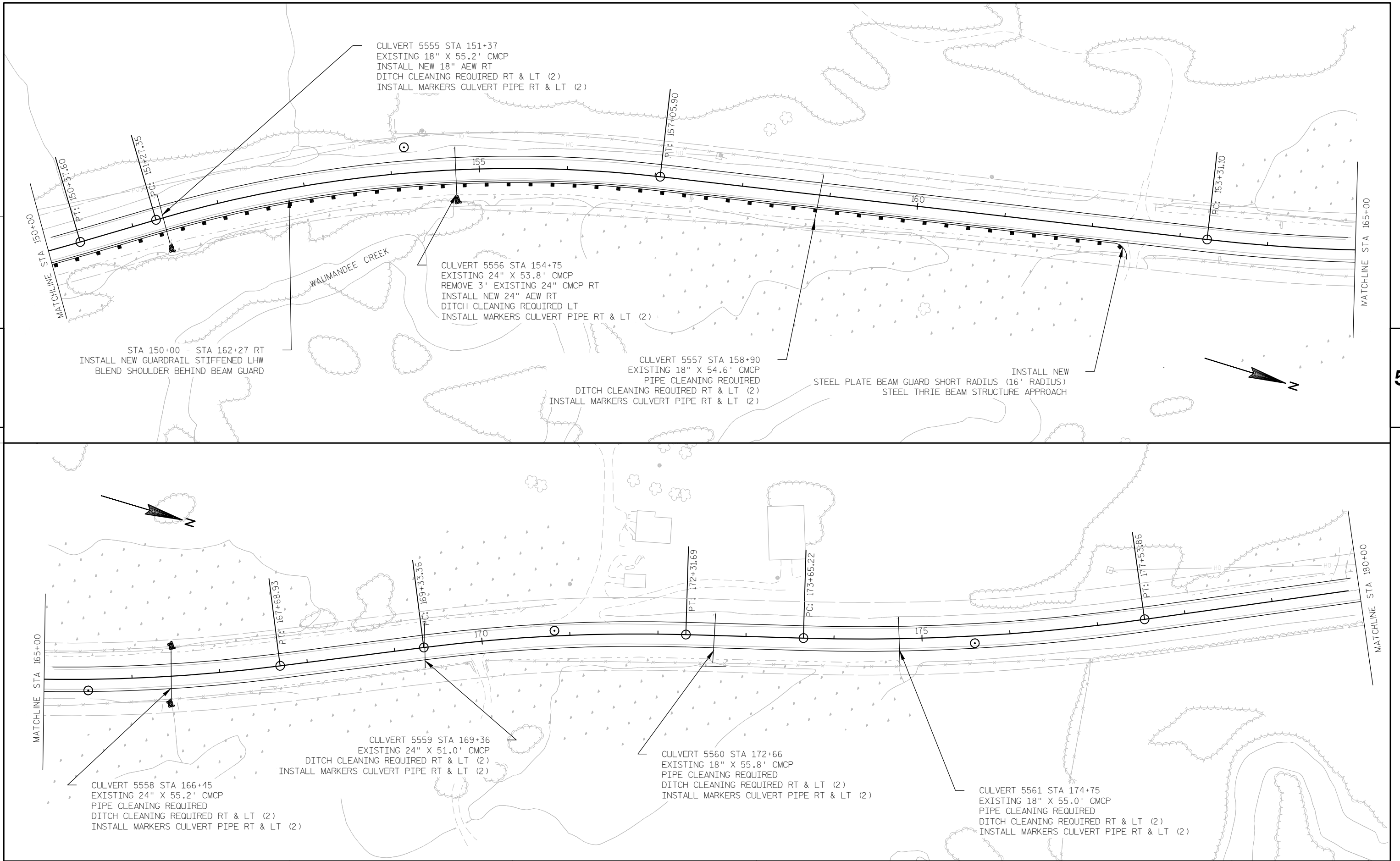
STA 29+30, 16.00' LT
INLET 2X3 REQUIRED
RIM ELEVATION 695.13
INVERT ELEVATION 692.69
INLET COVER HM REQUIRED
CONNECT TO CULVERT 5540

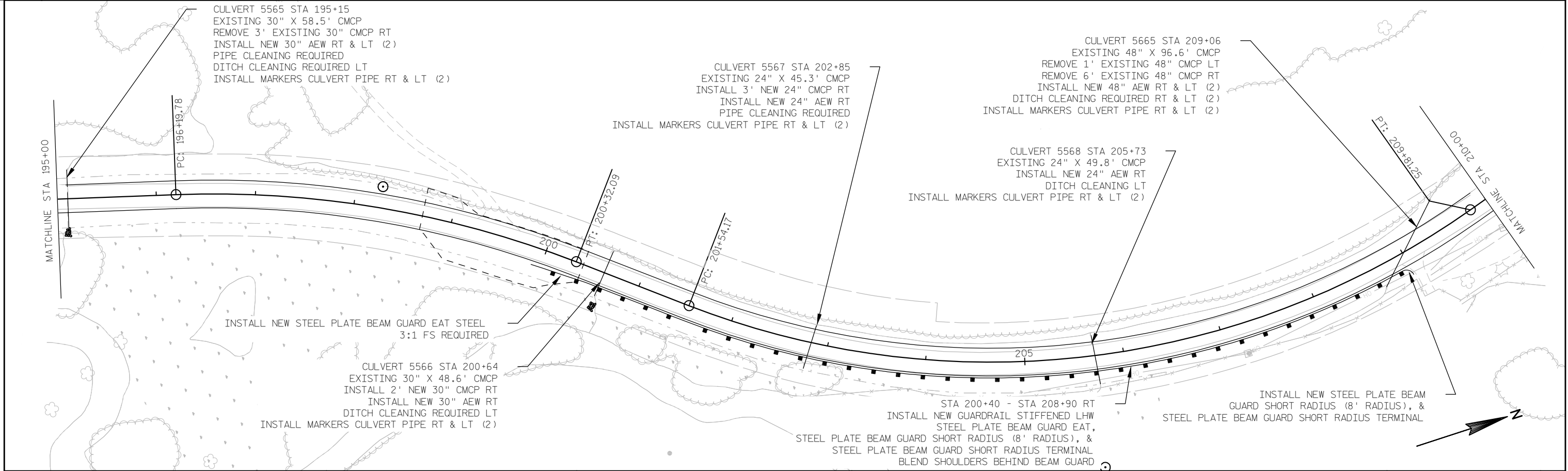
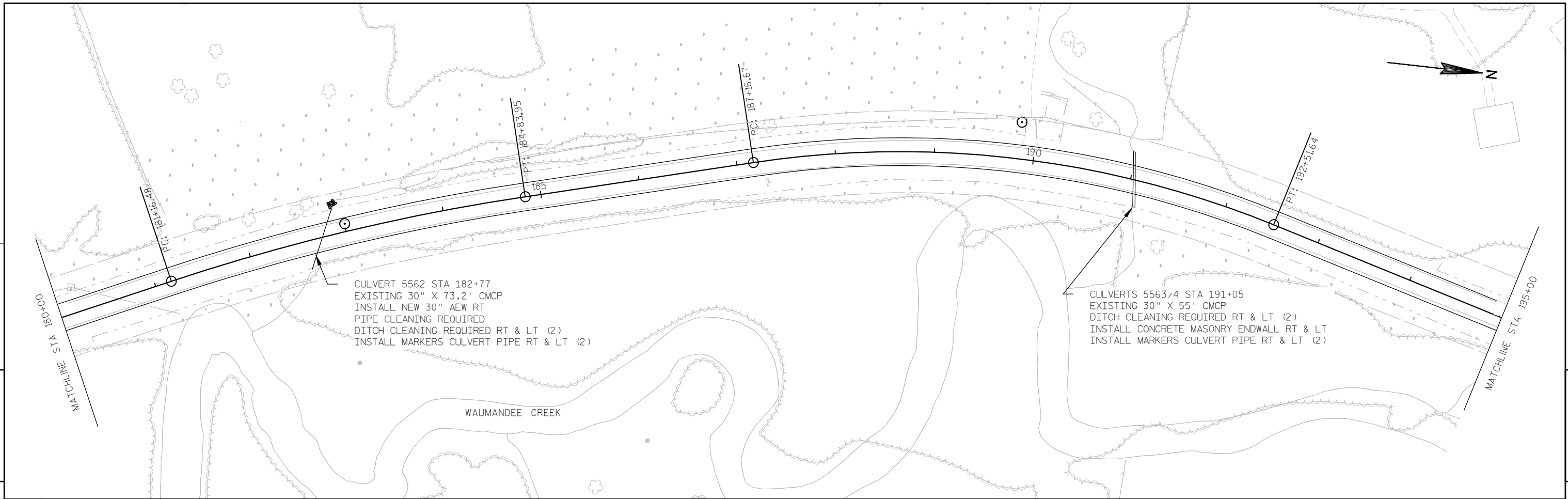


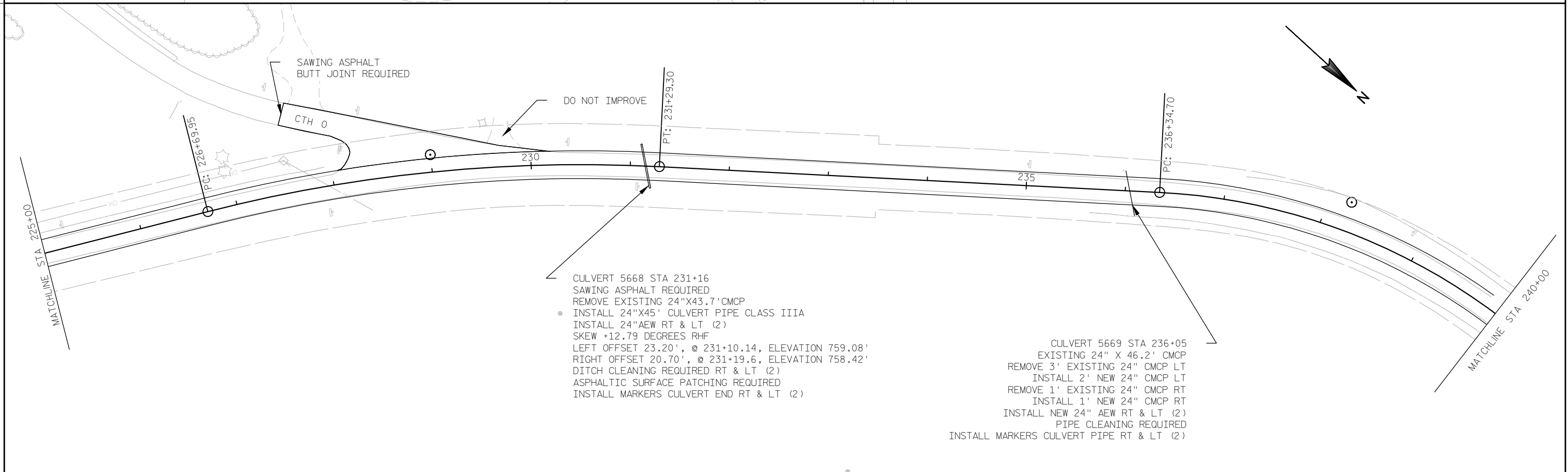
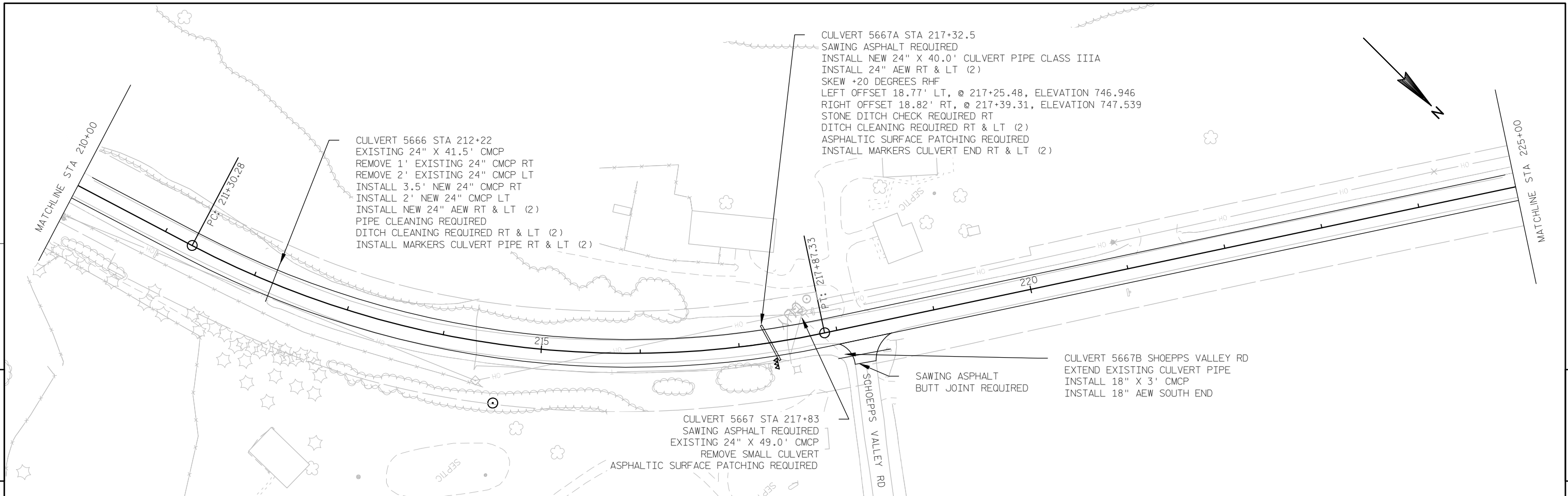


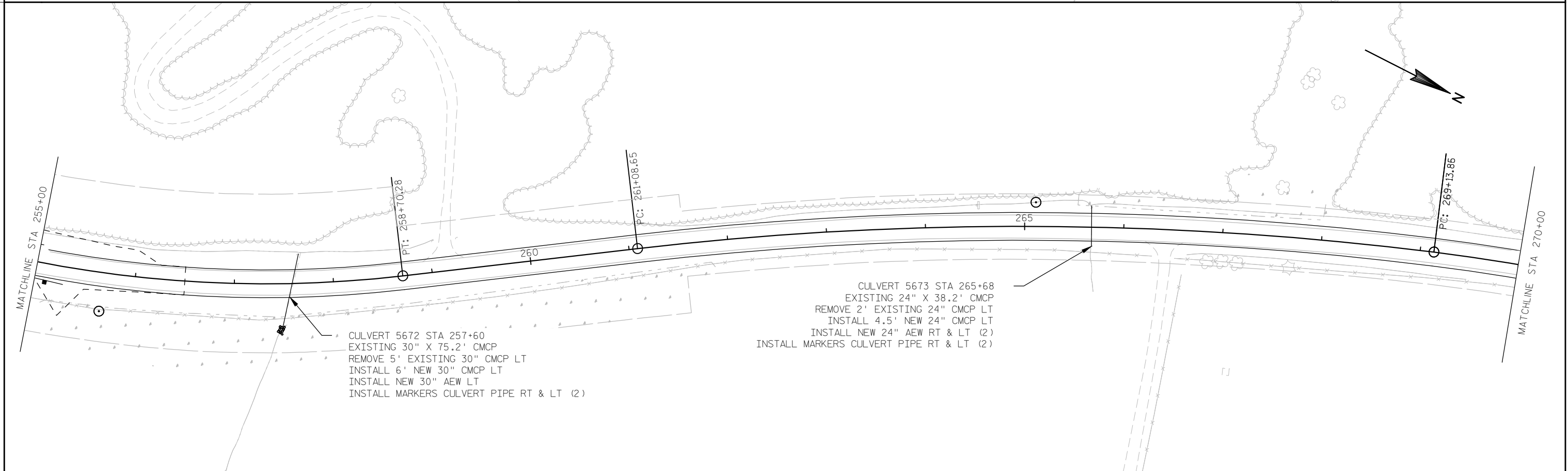
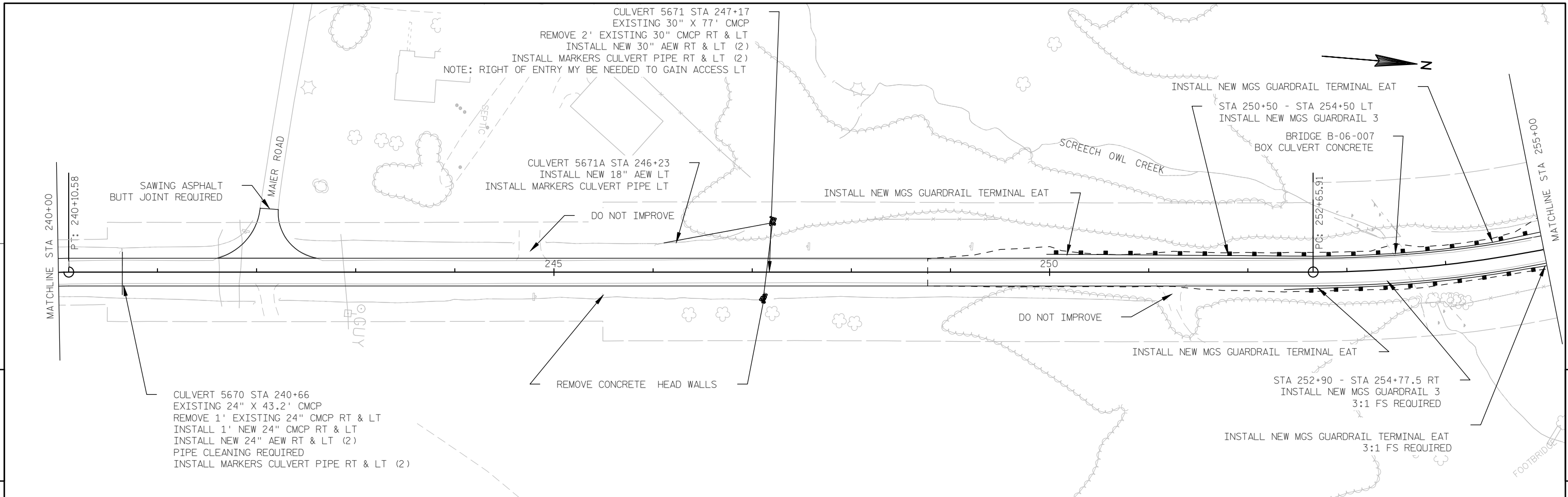


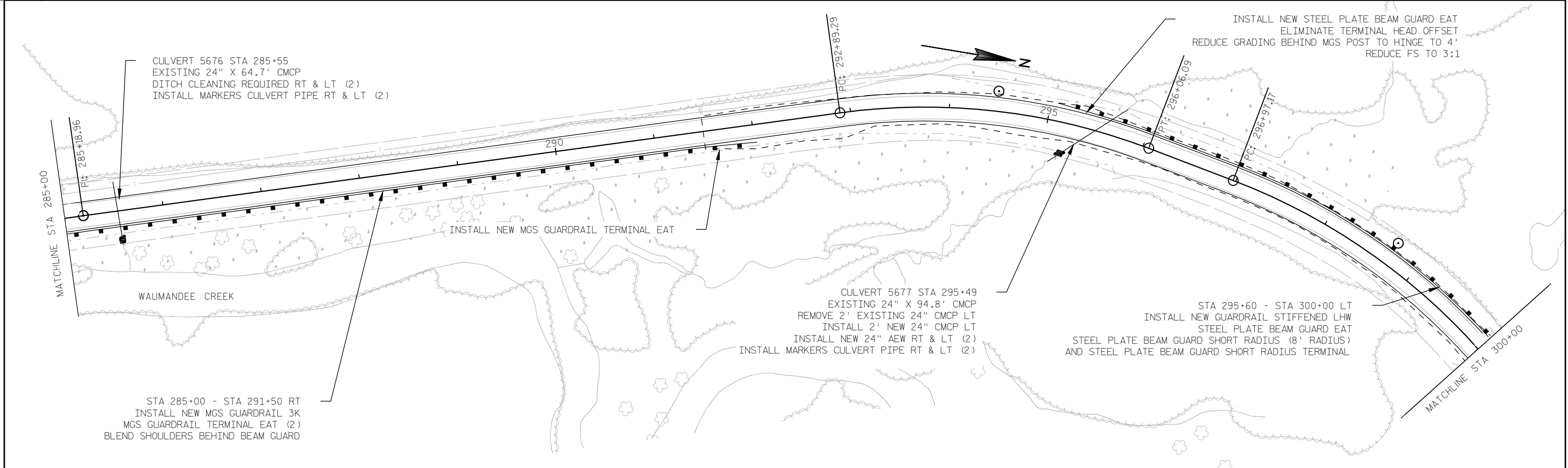
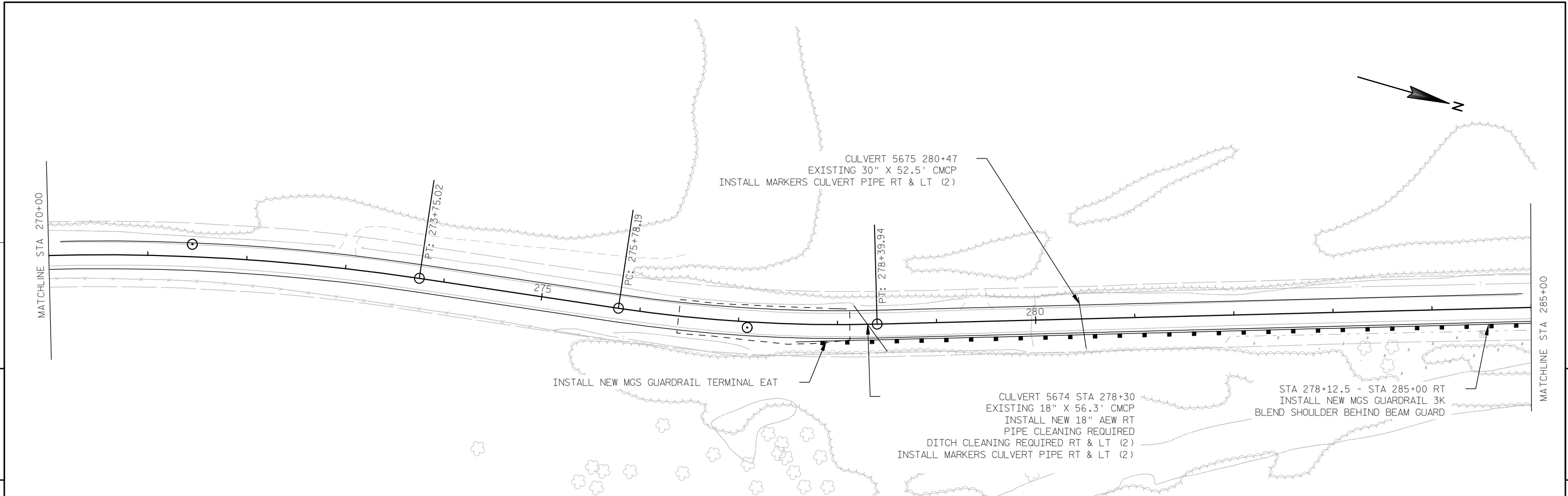


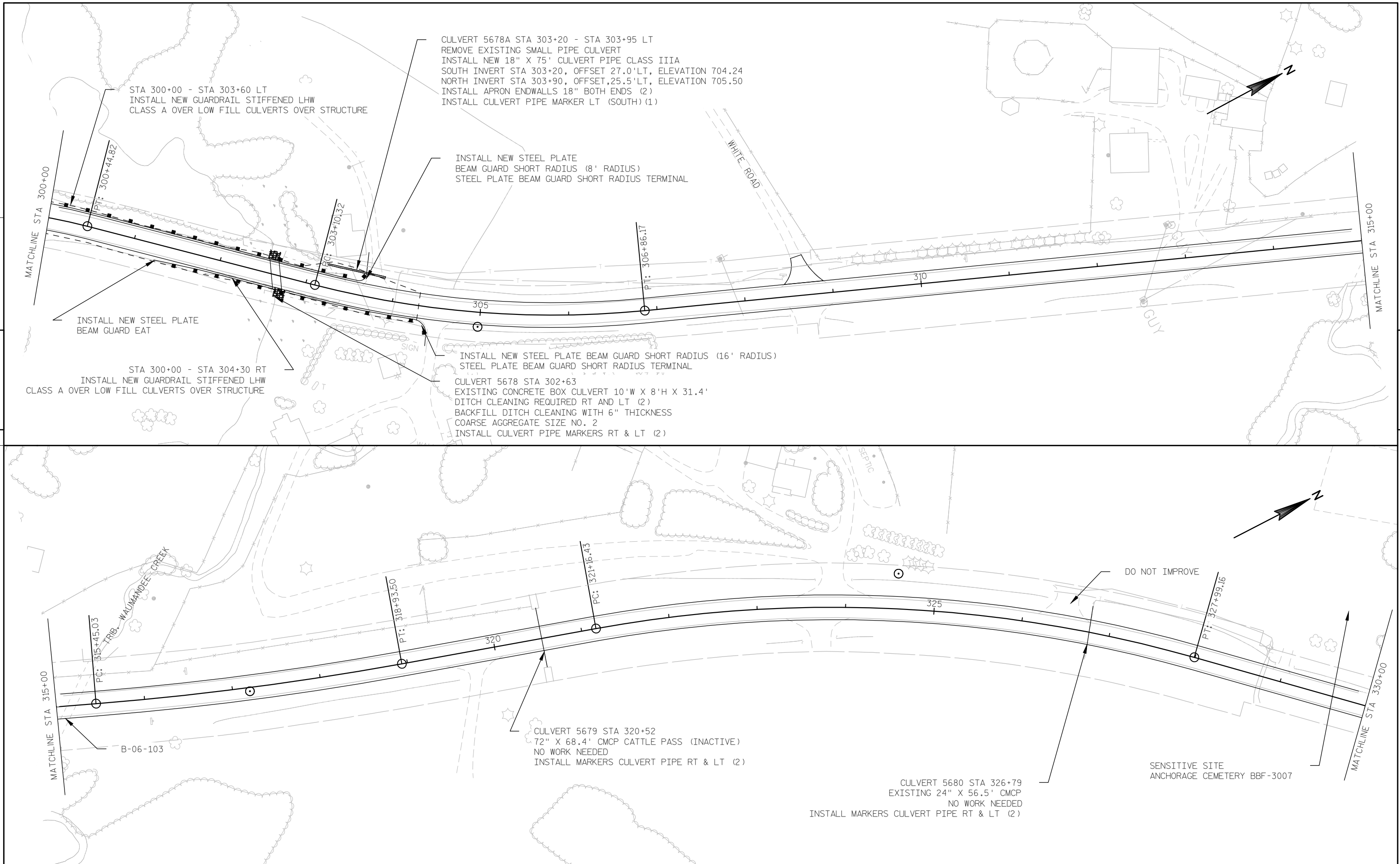


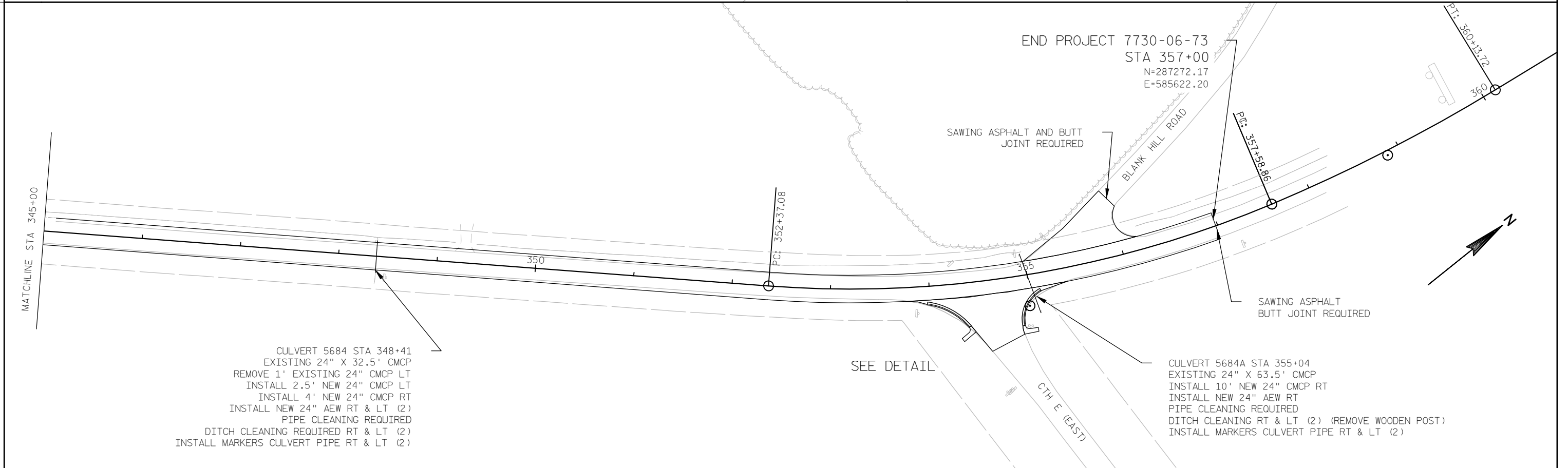
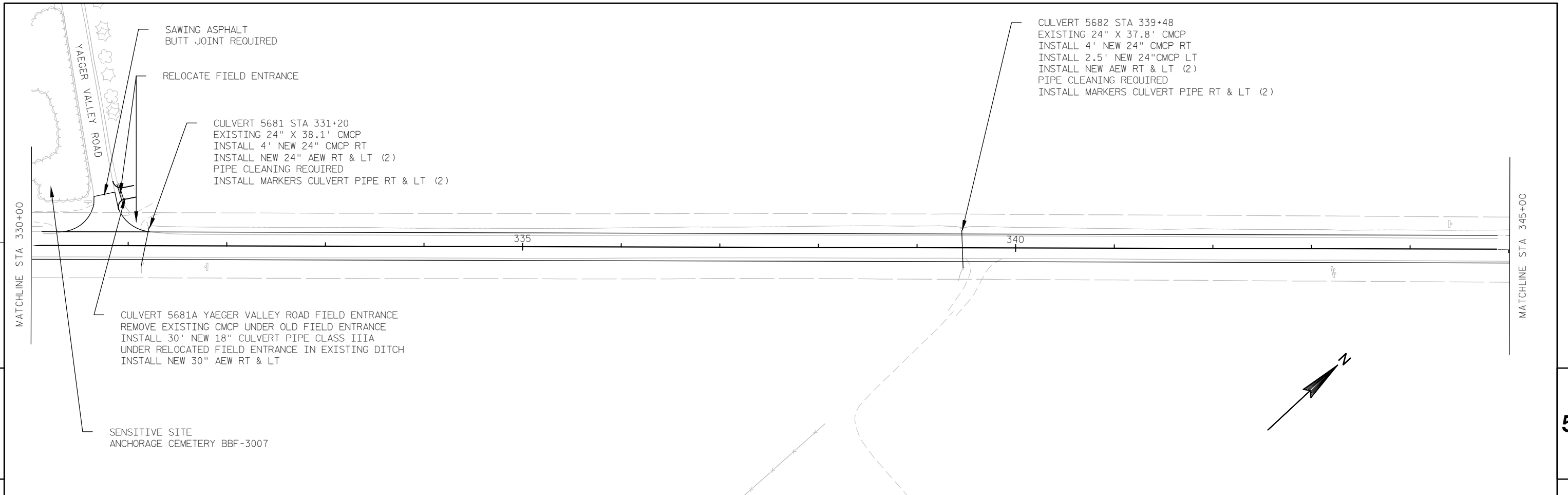






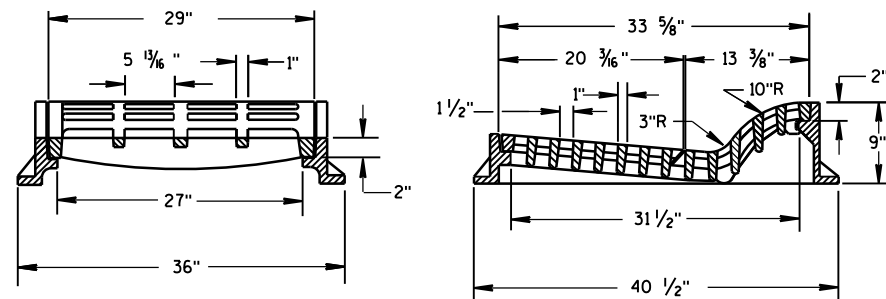
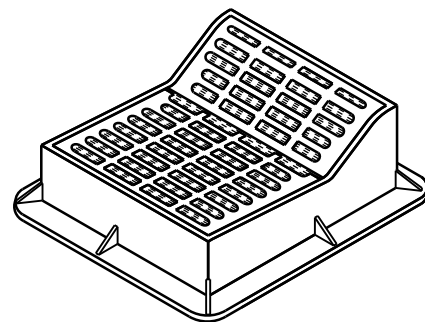






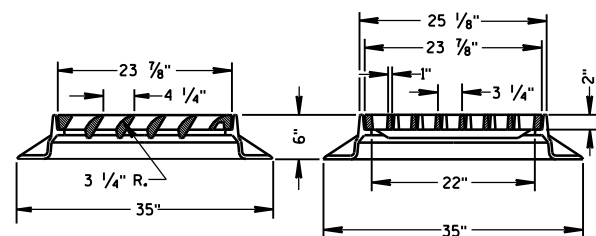
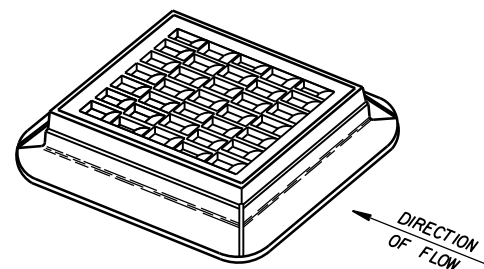
Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-18	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
08F10-01	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
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)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
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
14B25-01	STEEL PLATE BEAM GUARD, CLASS "A", OVER LOW FILL CULVERTS
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B28-03	GUARDRAIL MOW STRIP
14B29-01	SAFETY EDGE
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B43-03A	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03B	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B43-03C	MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
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
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C28-02	SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING

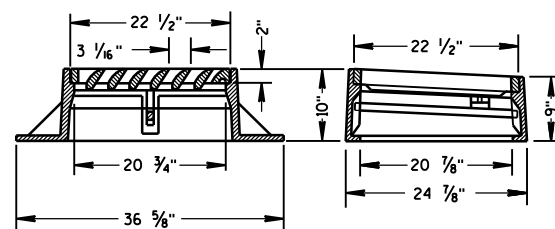
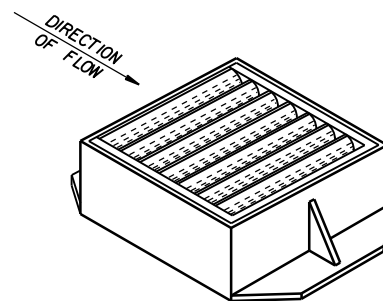


TYPE "F"

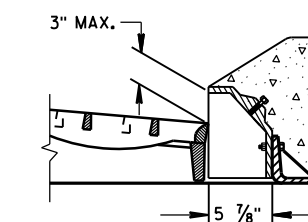
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



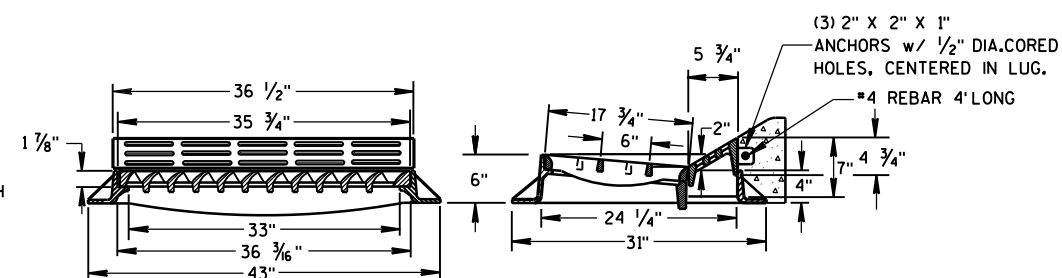
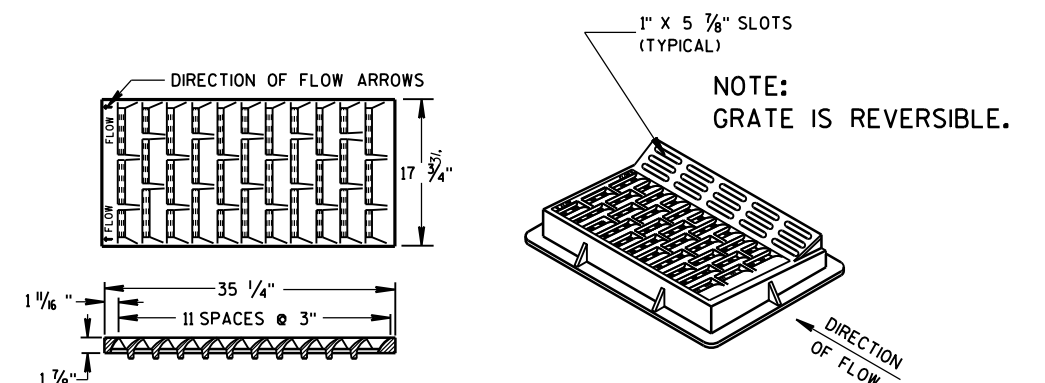
TYPE "S"



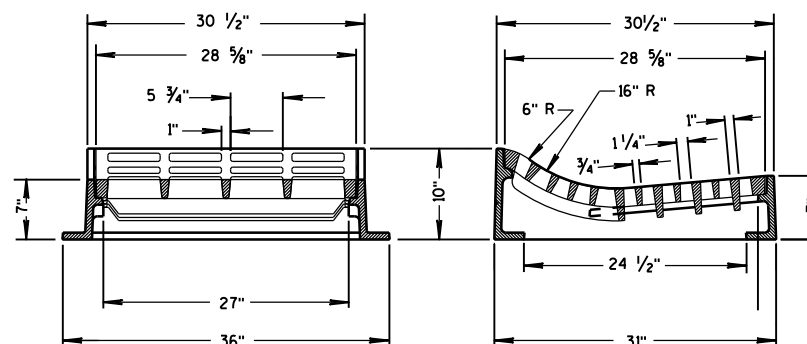
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

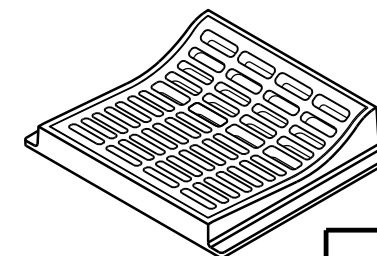
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

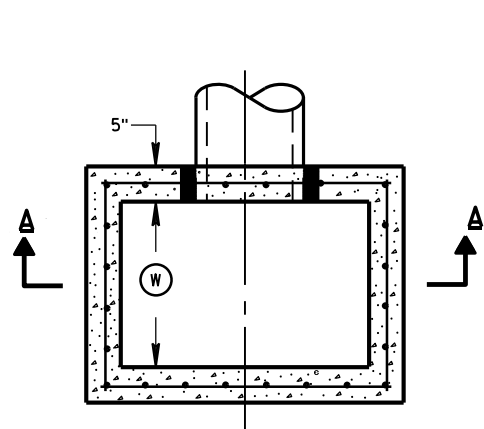
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

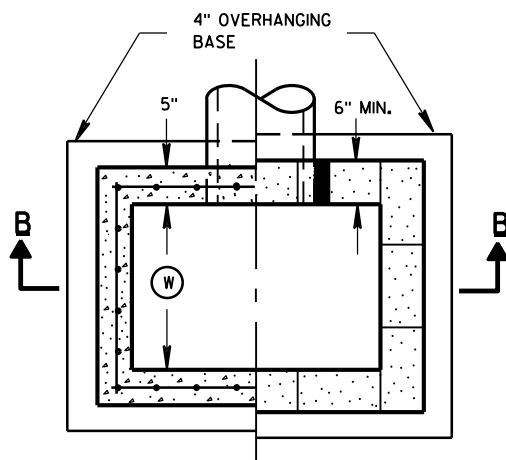
TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

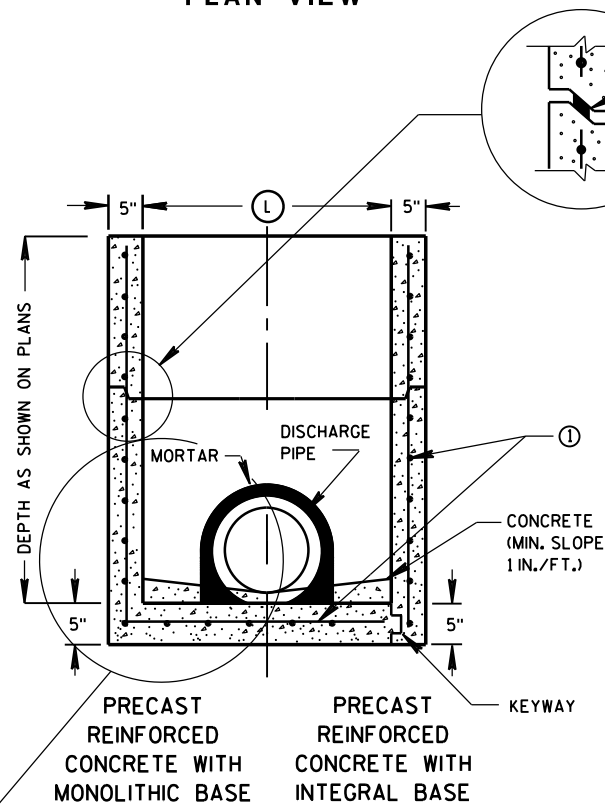


PLAN VIEW



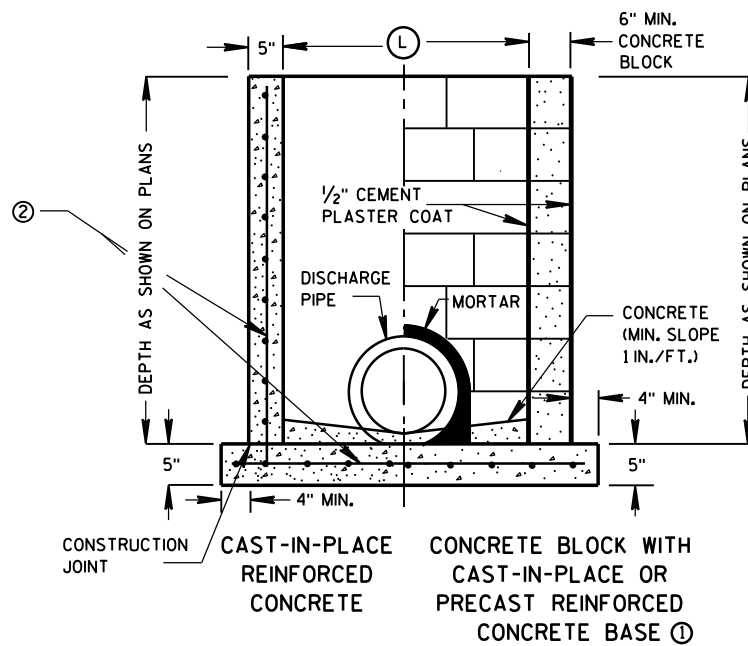
PLAN VIEW

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



SECTION A-A

SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



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 UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH 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.

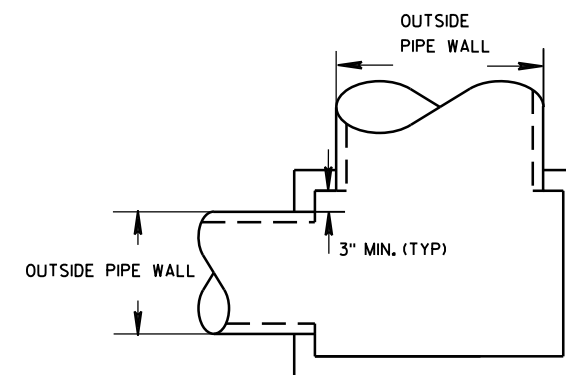
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH ① (FT)	LENGTH ② (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



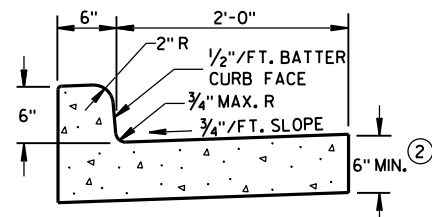
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

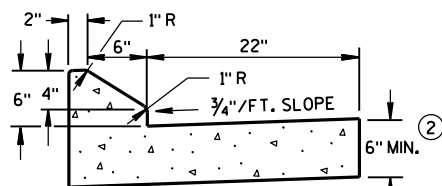
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DE
FHWA ENGINEER 75

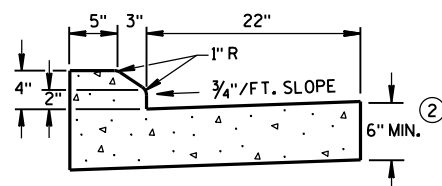
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT



TYPES A & D ①

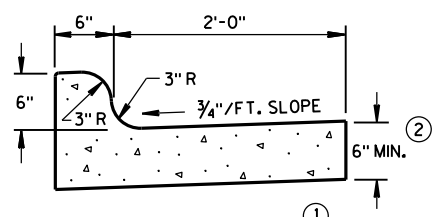


6" SLOPED CURB TYPES G & J ①



4" SLOPED CURB TYPES G & J ①

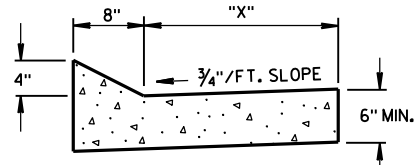
CONCRETE CURB & GUTTER 30"



TYPES K & L ①

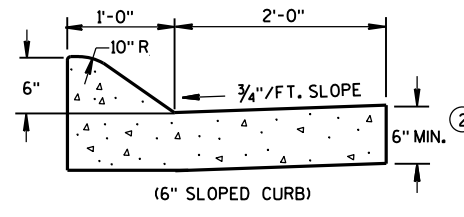
OPTIONAL CURB SHAPE
FOR TYPES K & L ①

CONCRETE CURB & GUTTER 30"

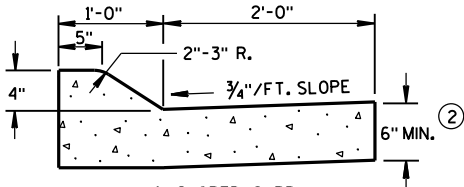


TYPES TBT & TBT ①
CONCRETE CURB & GUTTER

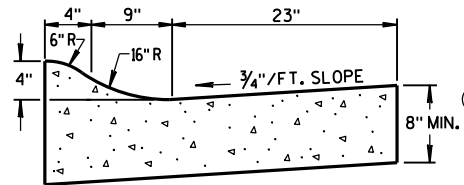
TBT & TBT	"X"
30"	22"
36"	28"



(6" SLOPED CURB)

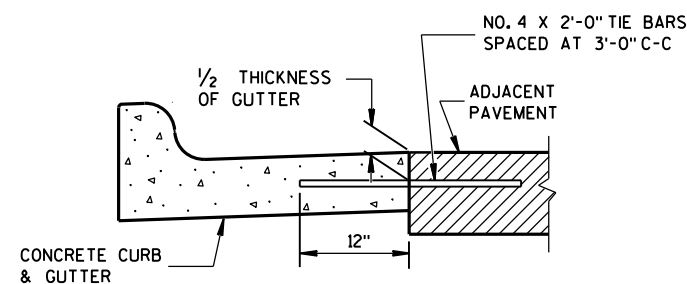


(4" SLOPED CURB)
TYPES A & D ①

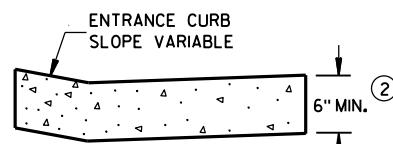


4" SLOPED CURB TYPES R & T ① ④

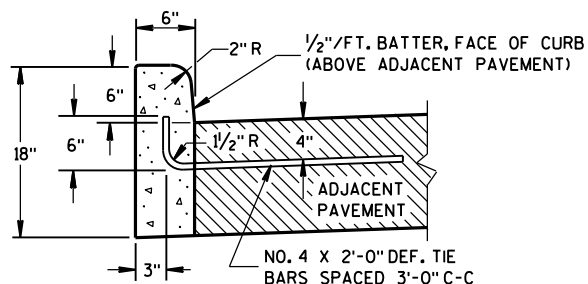
CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION ①

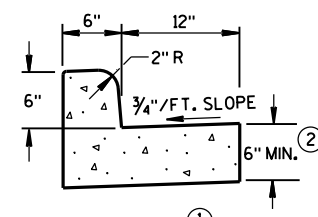


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

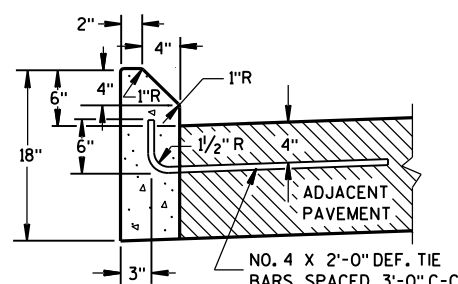


TYPES A & D ①

CONCRETE CURB



TYPES A & D
CONCRETE CURB & GUTTER 18"



TYPES G & J ①

GENERAL NOTES

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

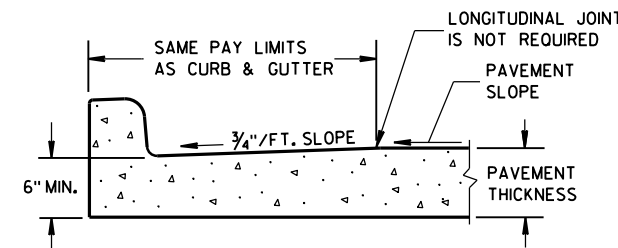
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

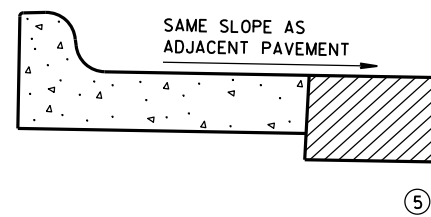
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

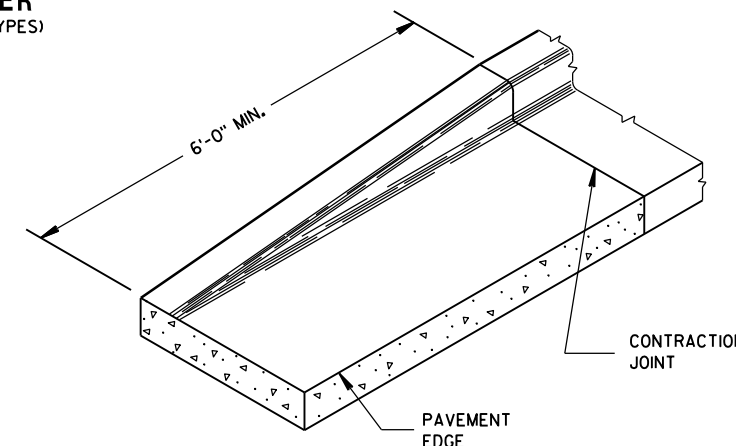
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED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



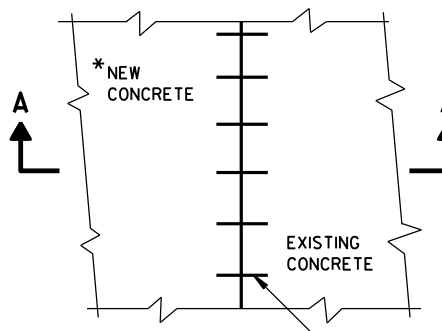
PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



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



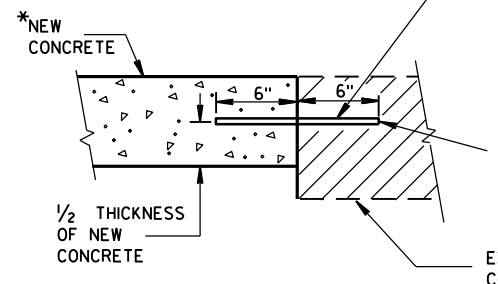
END SECTION CURB & GUTTER



PLAN VIEW

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

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



SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

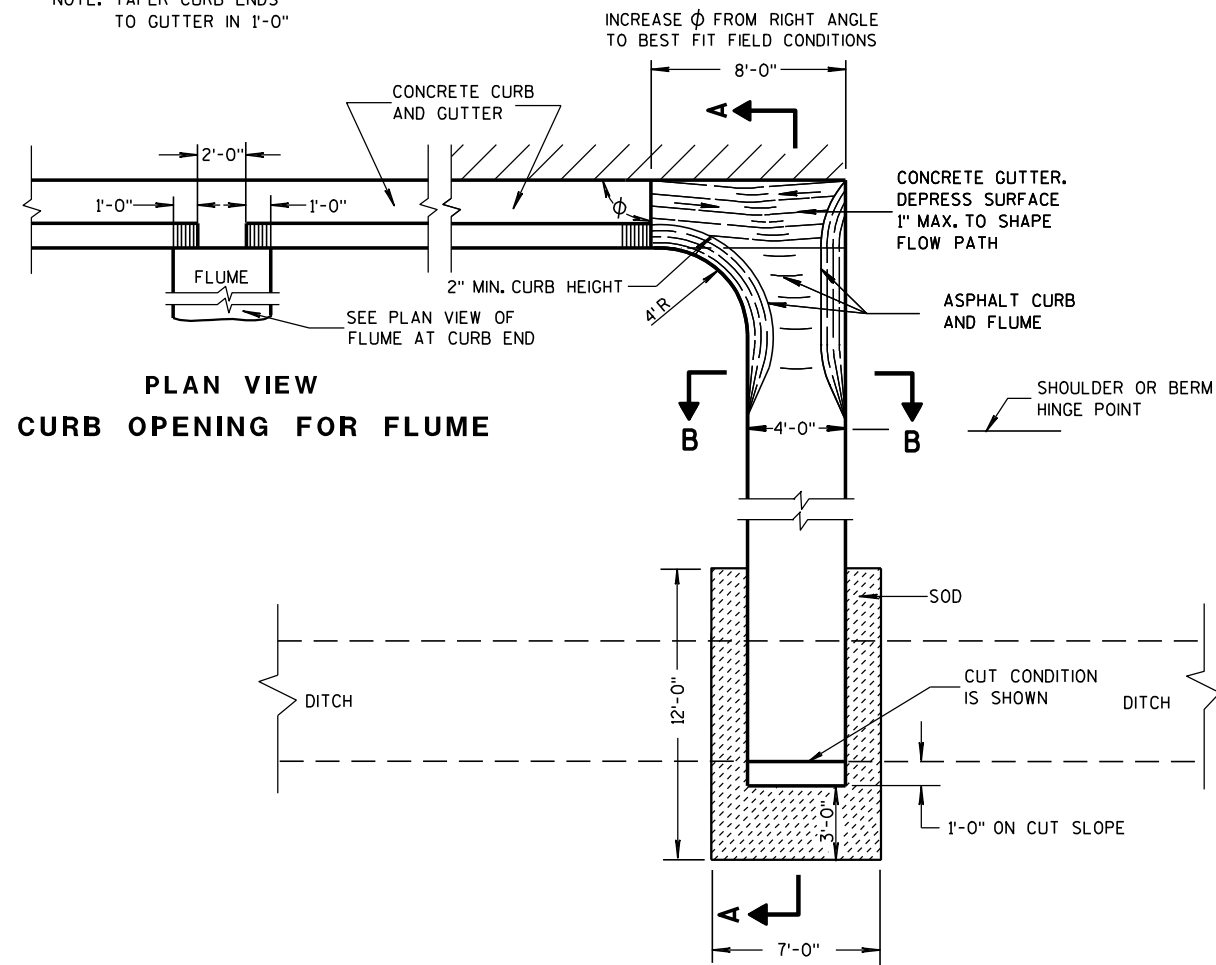
CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

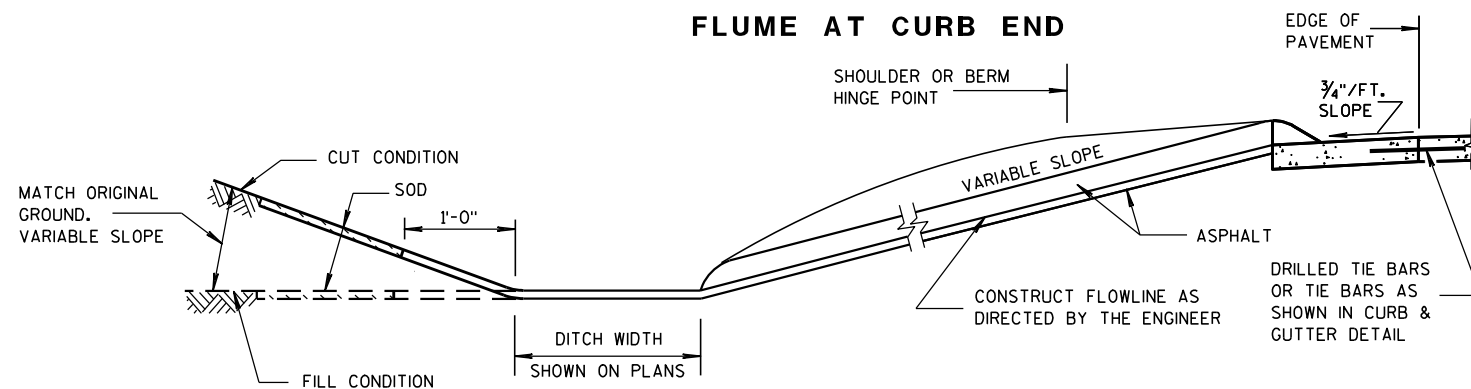
ASPHALTIC FLUME

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

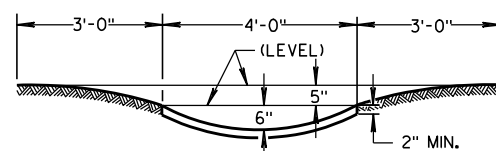


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

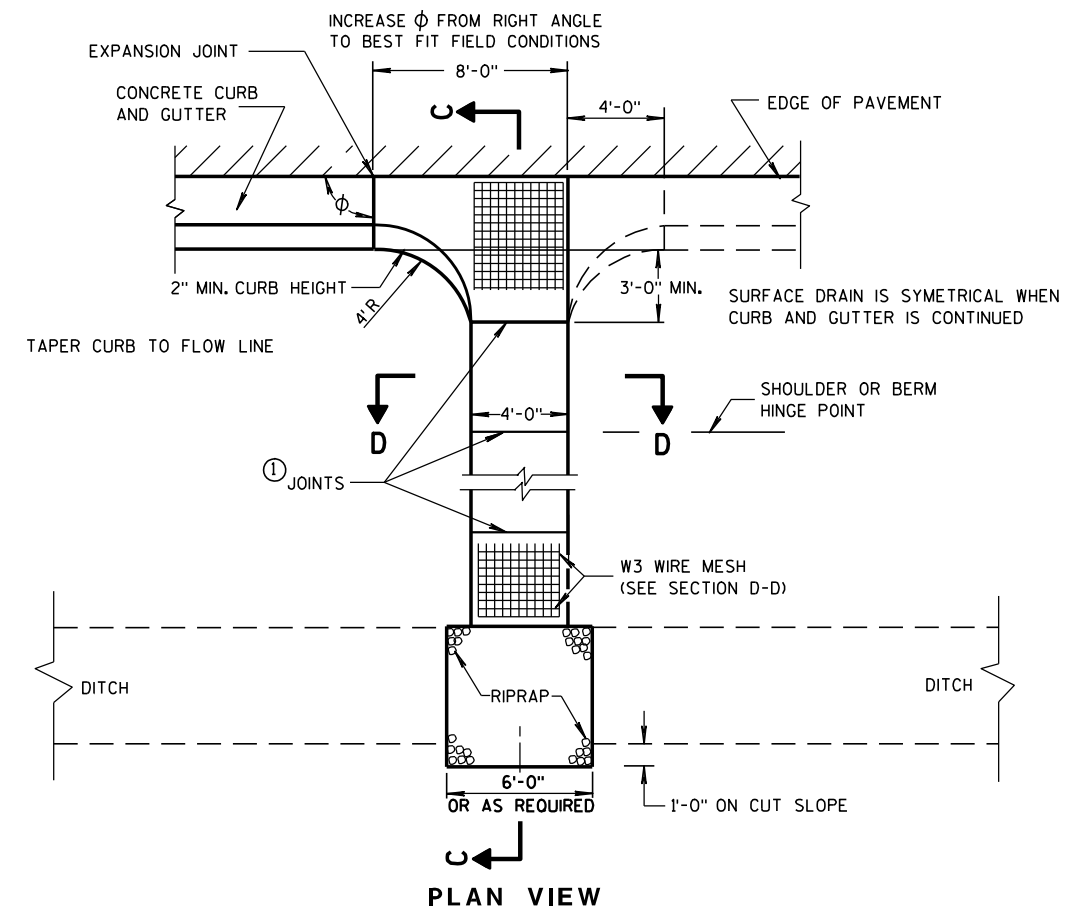
GENERAL NOTES

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

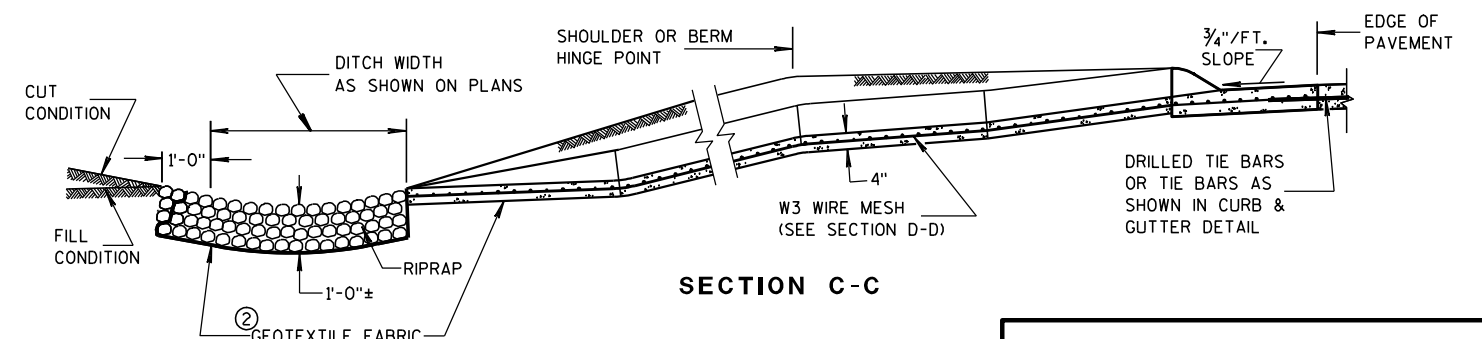
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

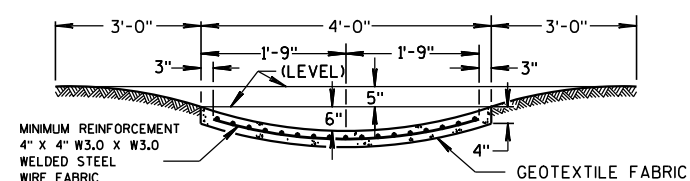
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

DATE

/s/ Jerry H. 7000

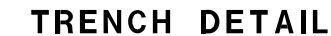
ROADWAY STANDARDS 77

ENGINEER

FHWA



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

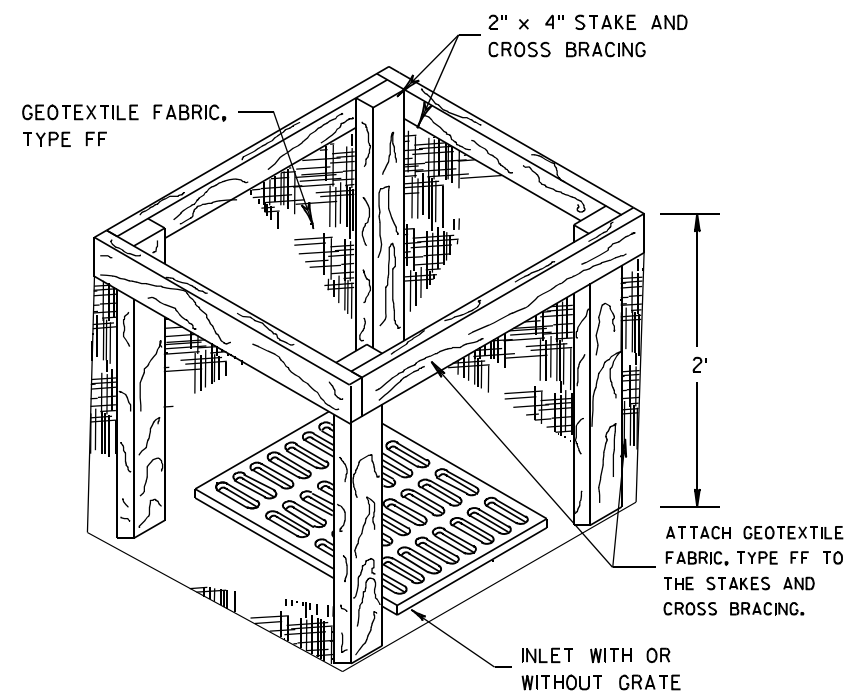
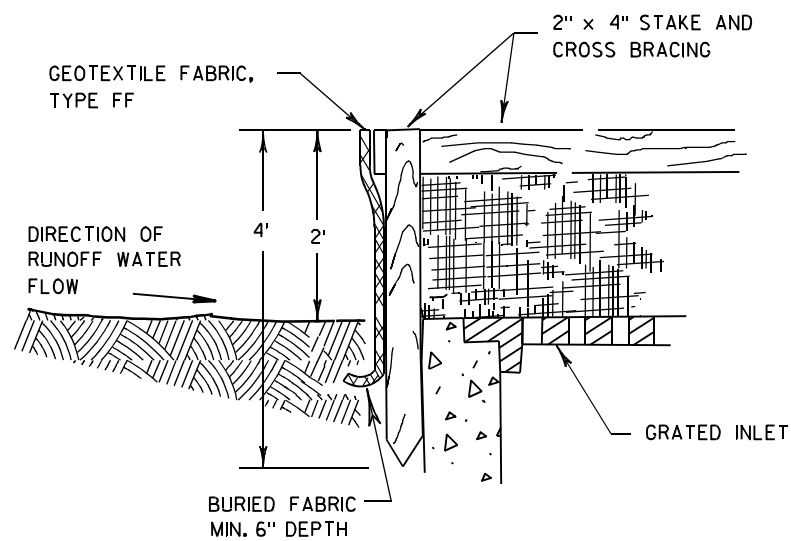


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE /S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT 78 INCHES

FHWA



INLET PROTECTION, TYPE A

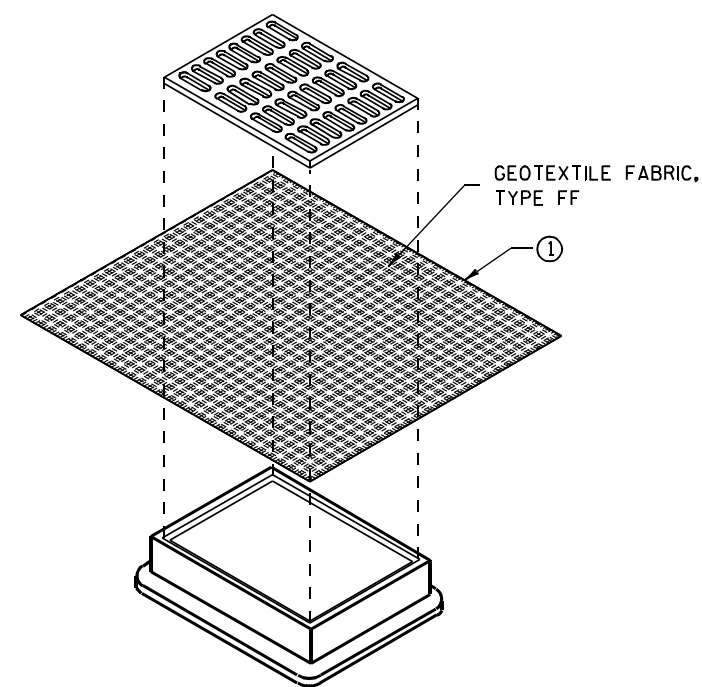
GENERAL NOTES

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

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

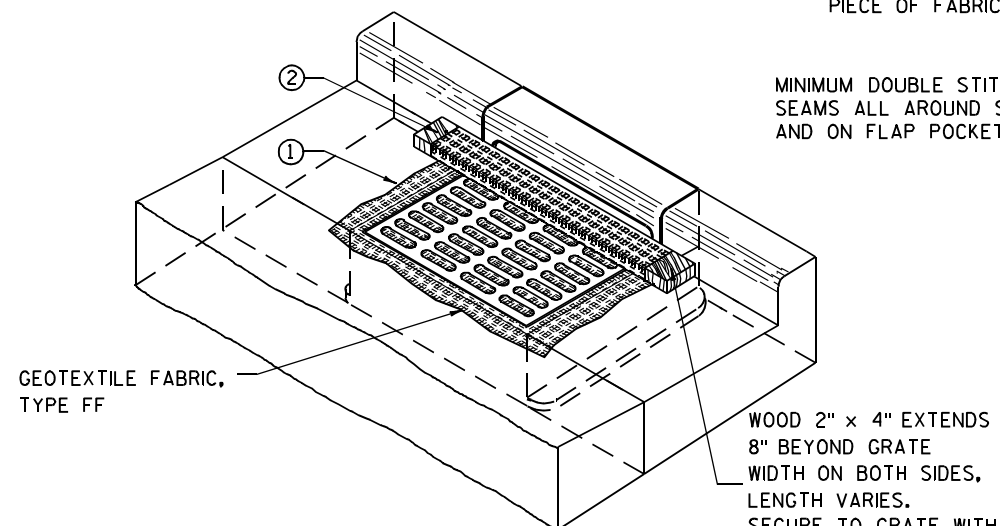
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

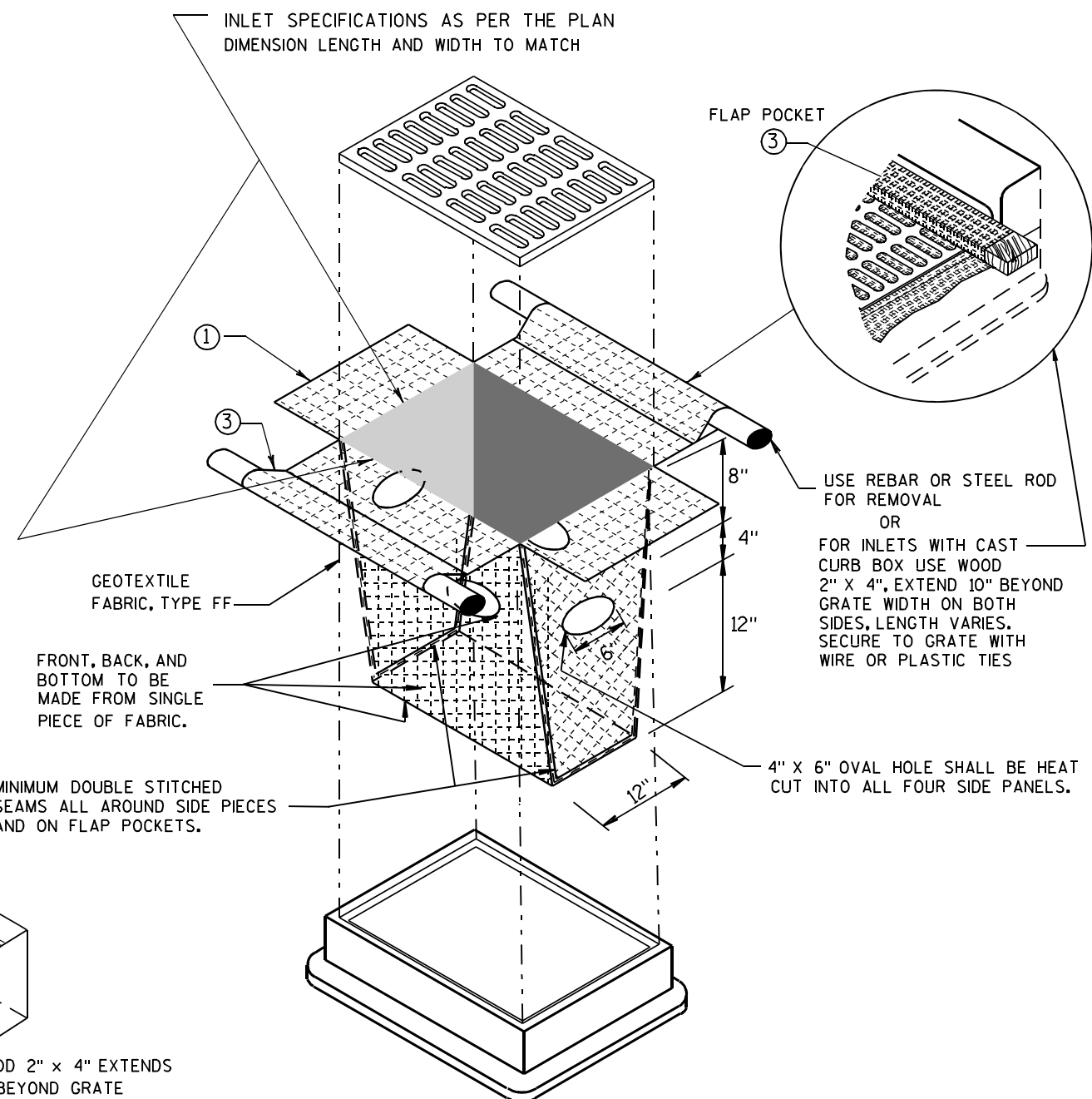
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

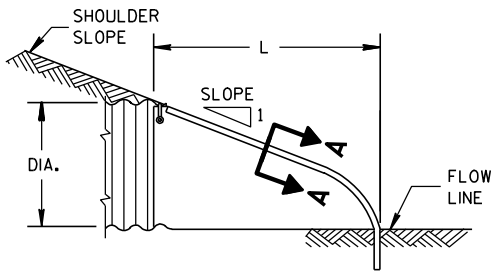
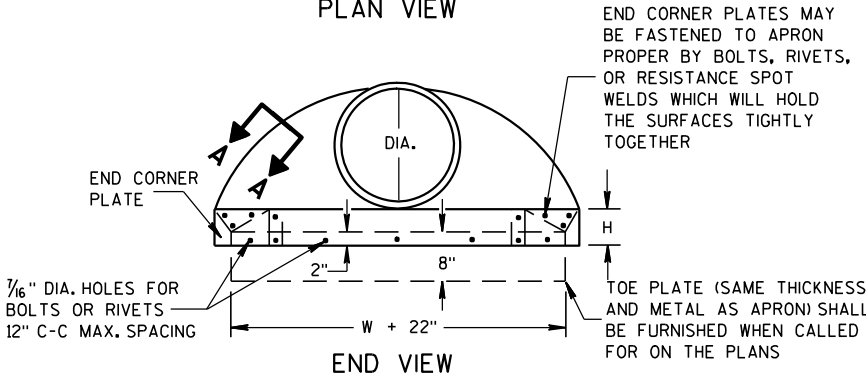
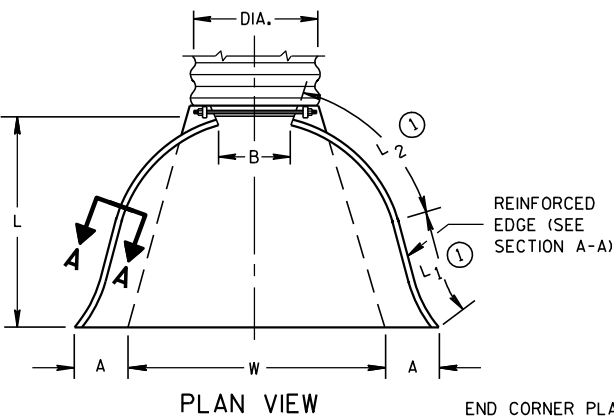
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 79
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

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

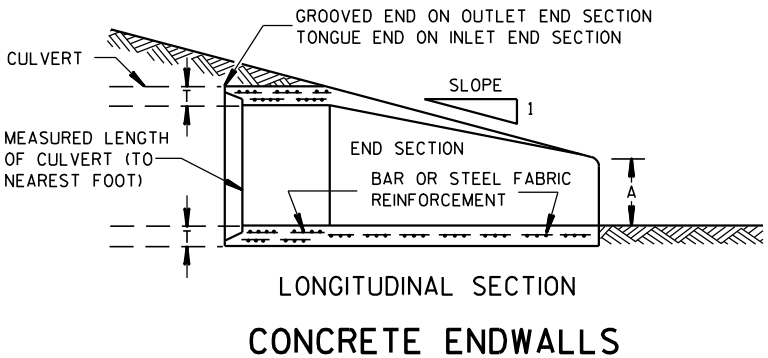
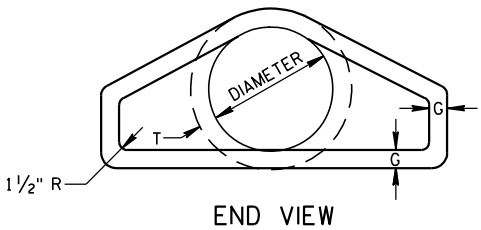
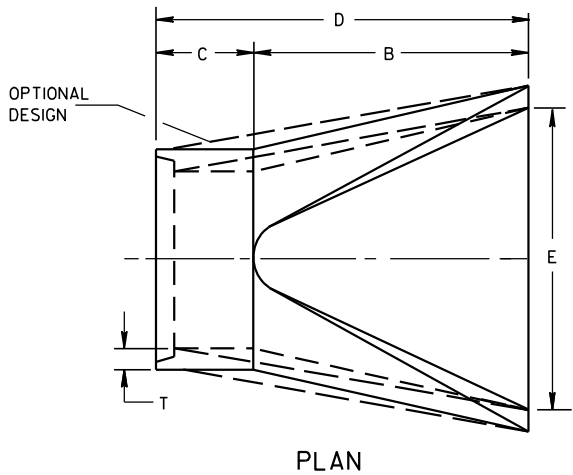
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



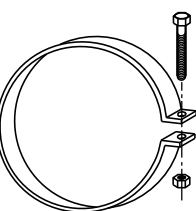
METAL ENDWALLS

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

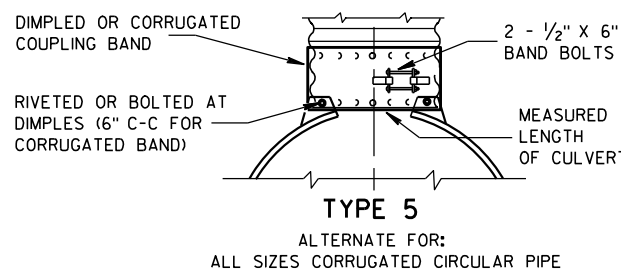
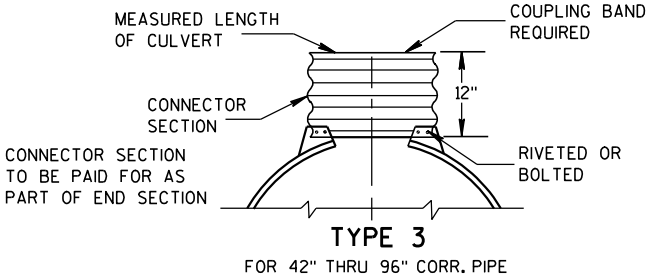
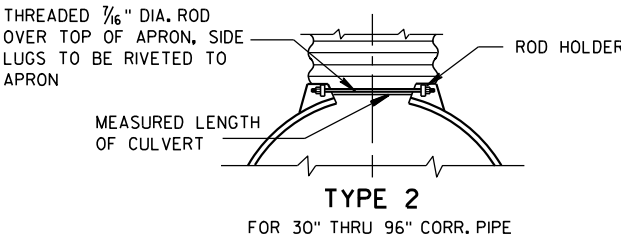
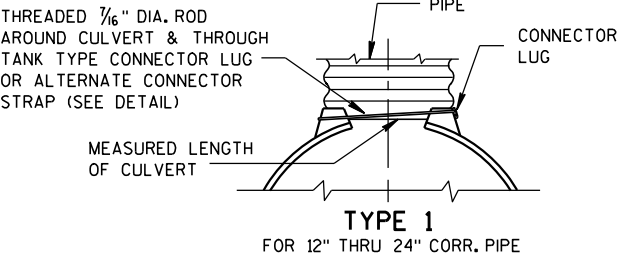
* MINIMUM
** MAXIMUM



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



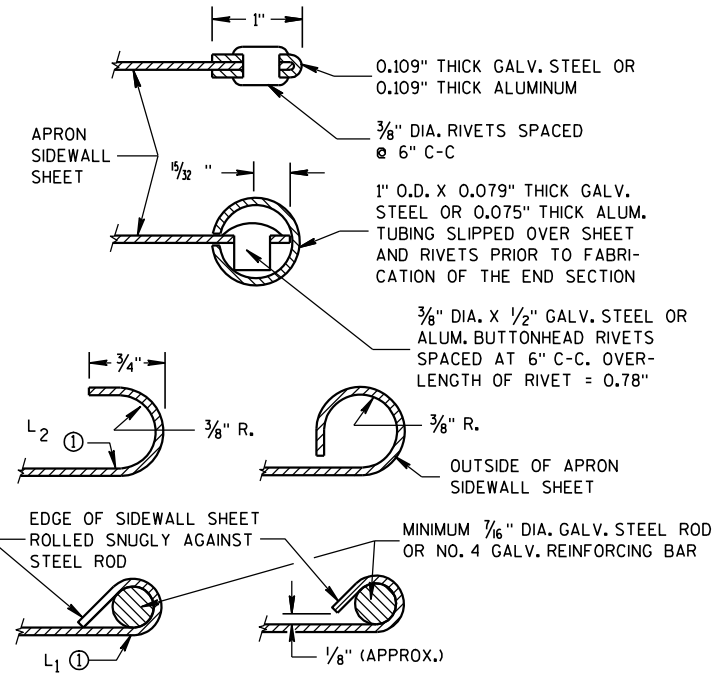
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

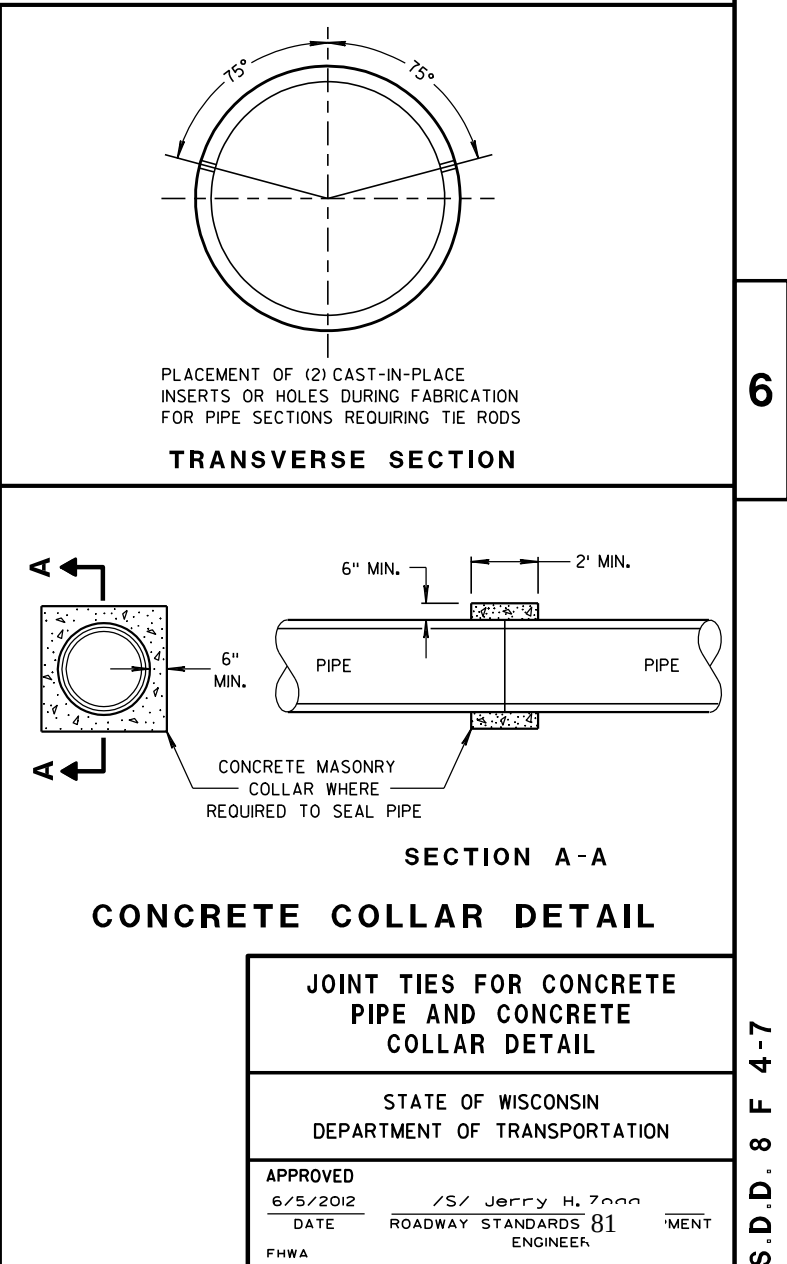
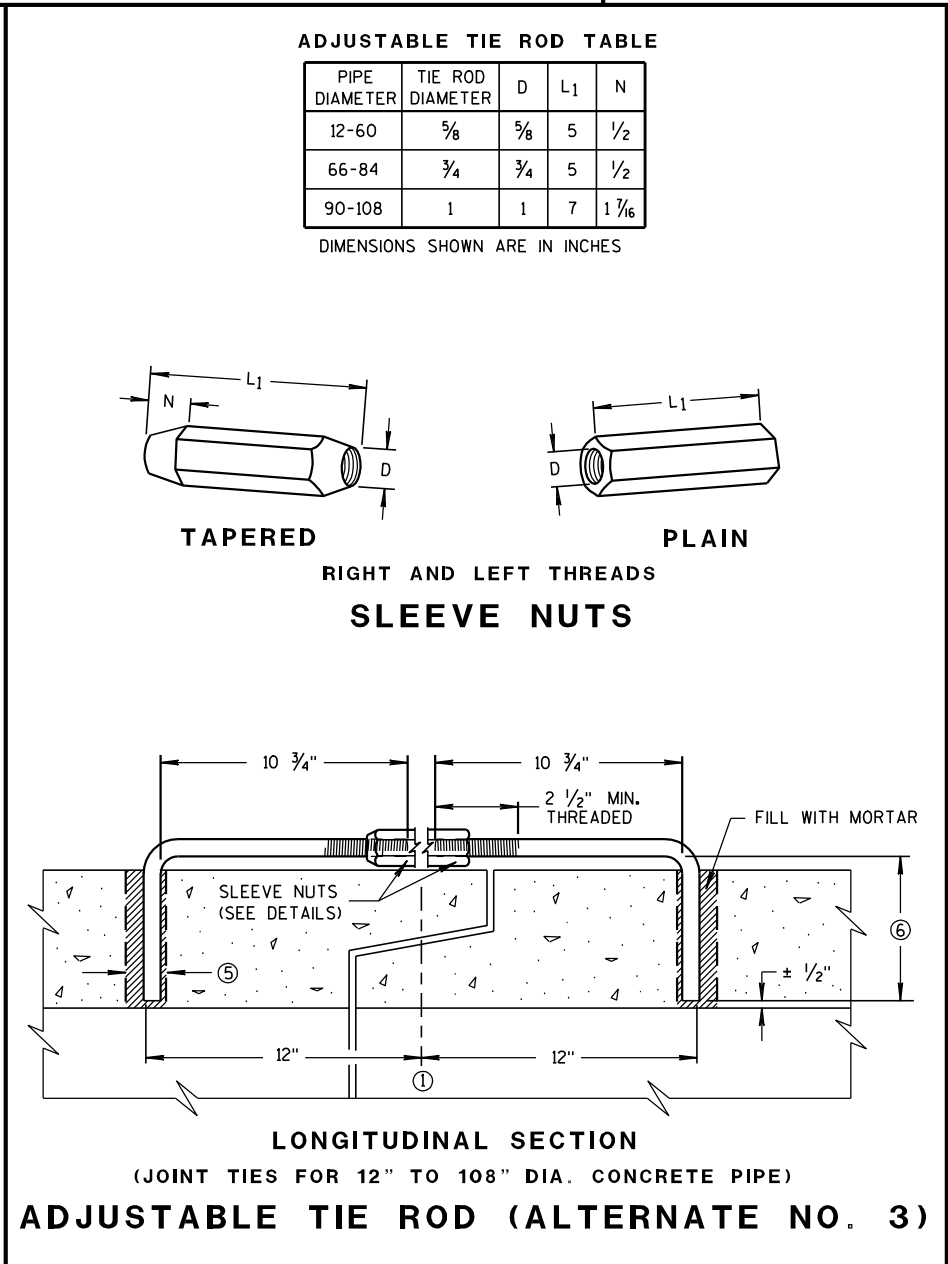
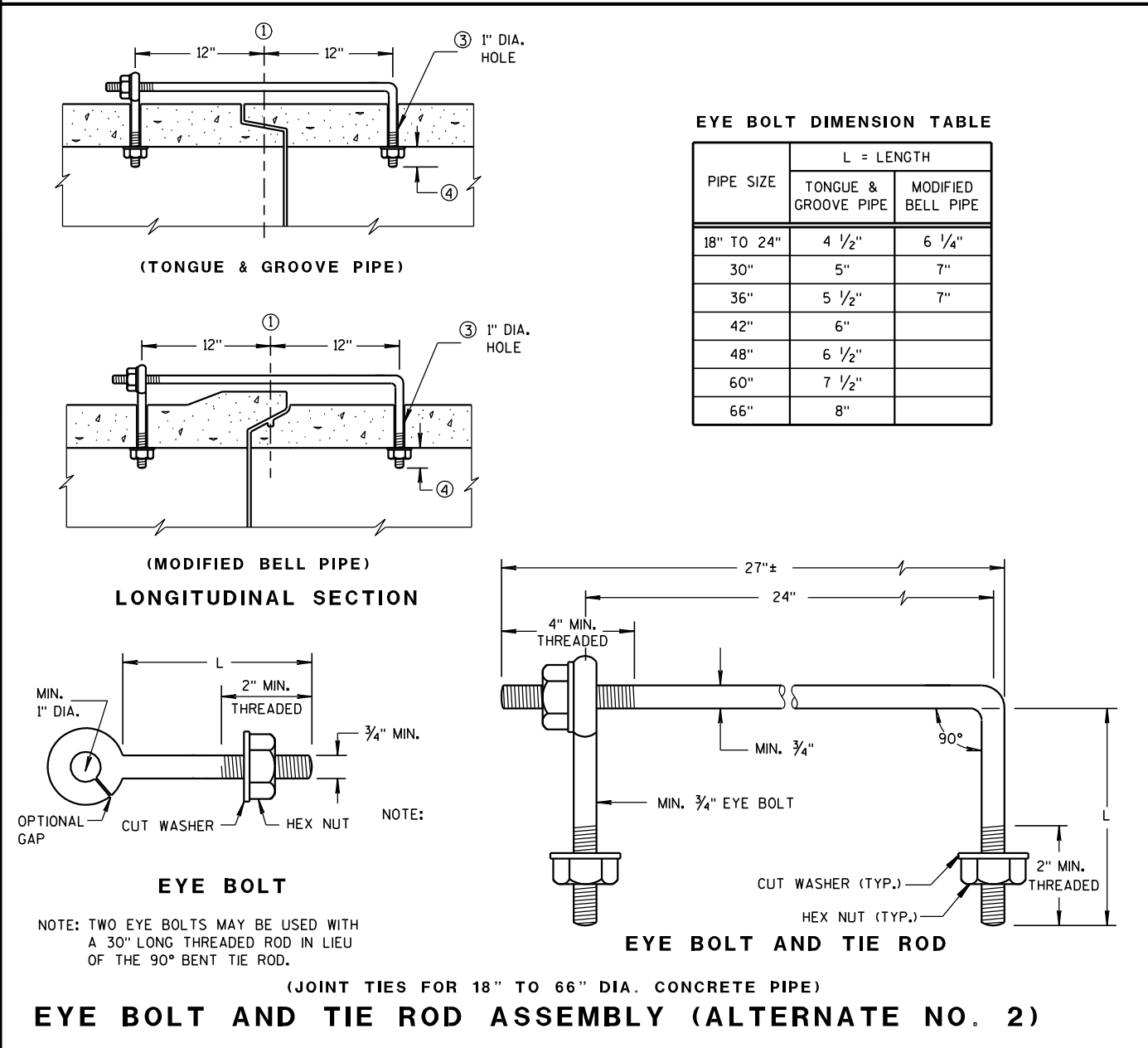
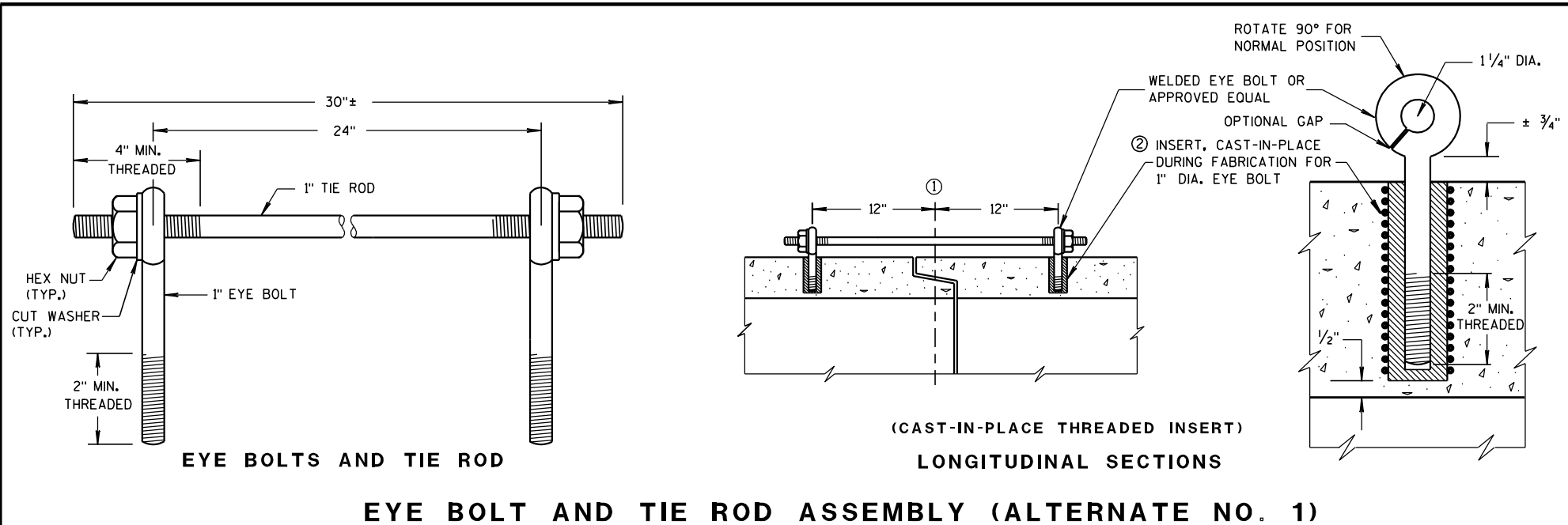
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

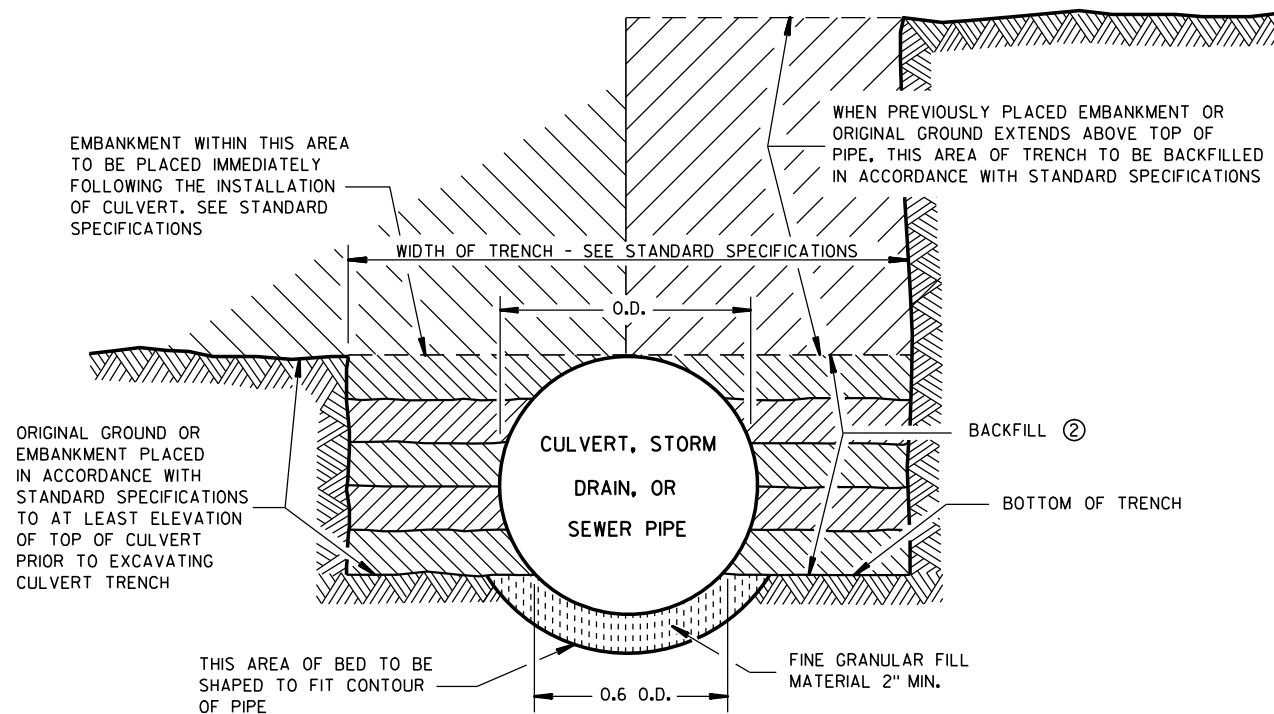
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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

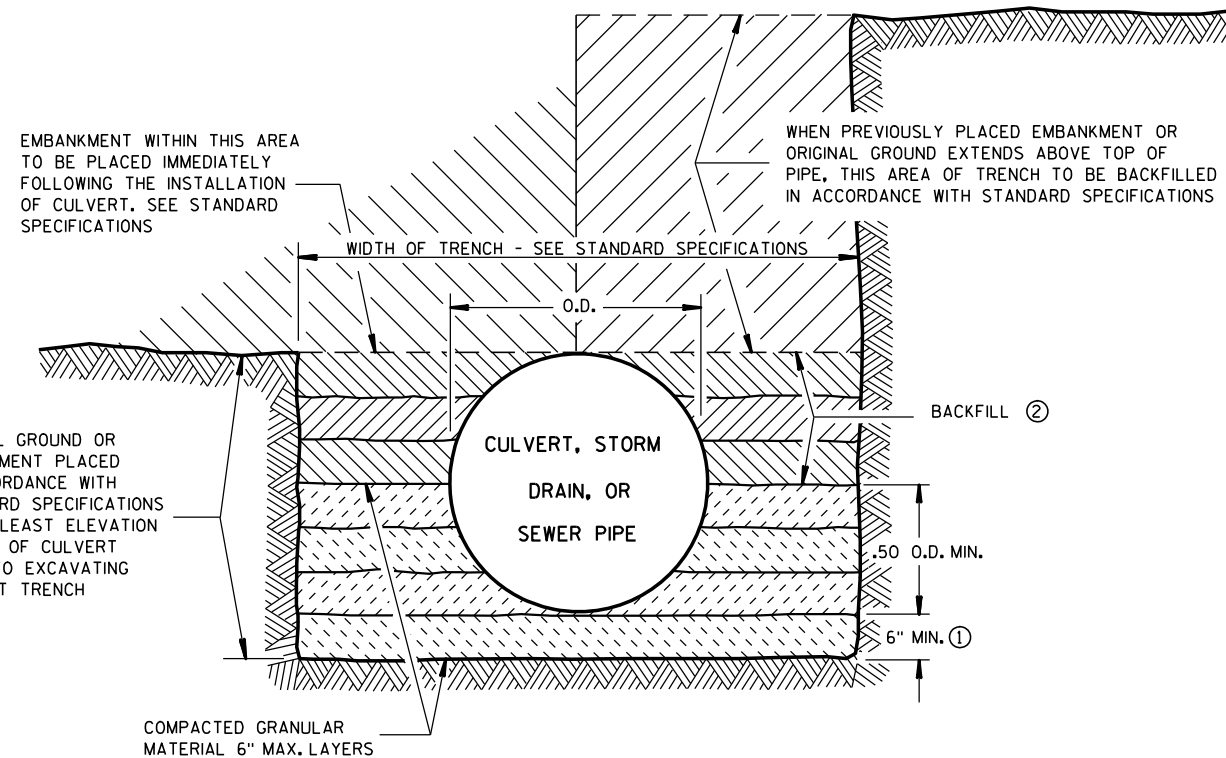
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhin... CHIEF ROADWAY DEVELOP 80 NEER
FHWA	





SHAPED SUBGRADE WITH GRANULAR FOUNDATION



GRANULAR FOUNDATION

GENERAL NOTES

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

THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

- ① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO $\frac{1}{2}$ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.
- ② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.

CLASS "B" BEDDING

CLASS "B" BEDDING FOR
CULVERT PIPE OR STORM SEWER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

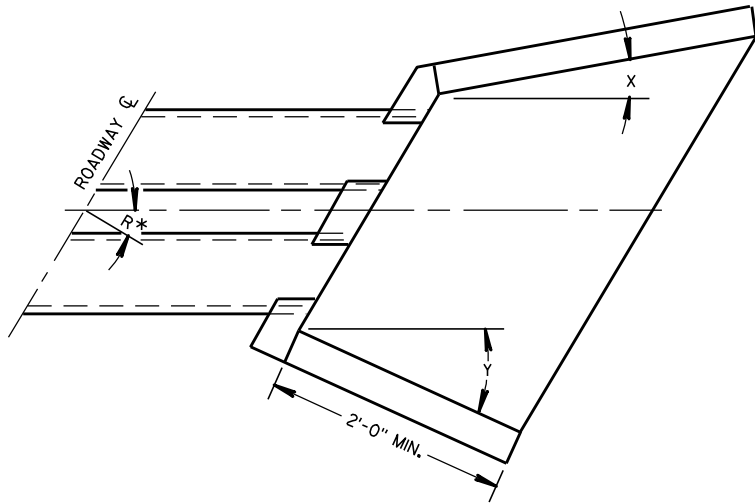
APPROVED

4/7/83
DATE

/S/ D.L. Str...
STATE DESIGN ENGINE 82

HWYS

FHWA



WINGWALL ANGLE DETAILS

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

*R = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

GENERAL NOTES

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

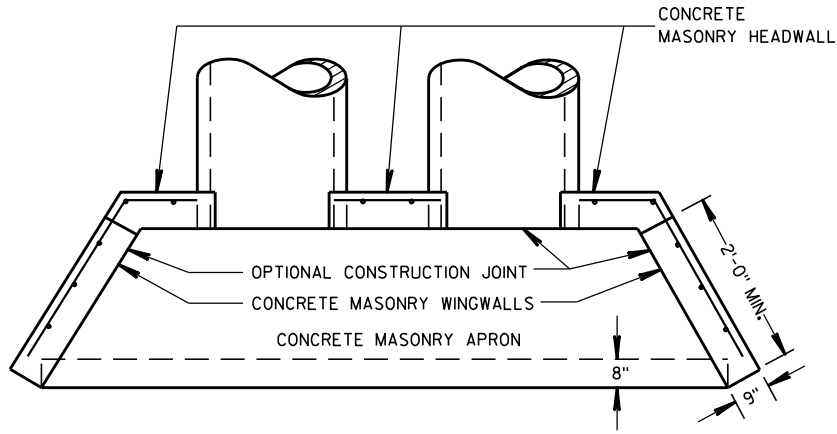
FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

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

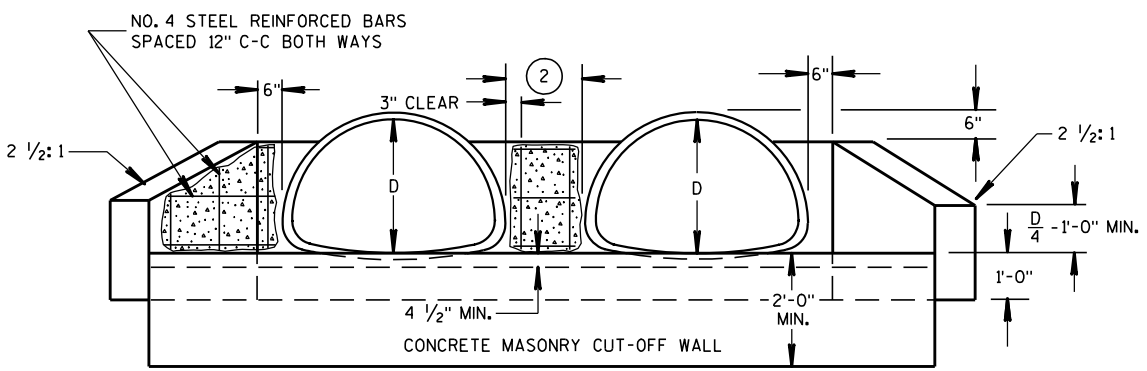
1 MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

2 THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

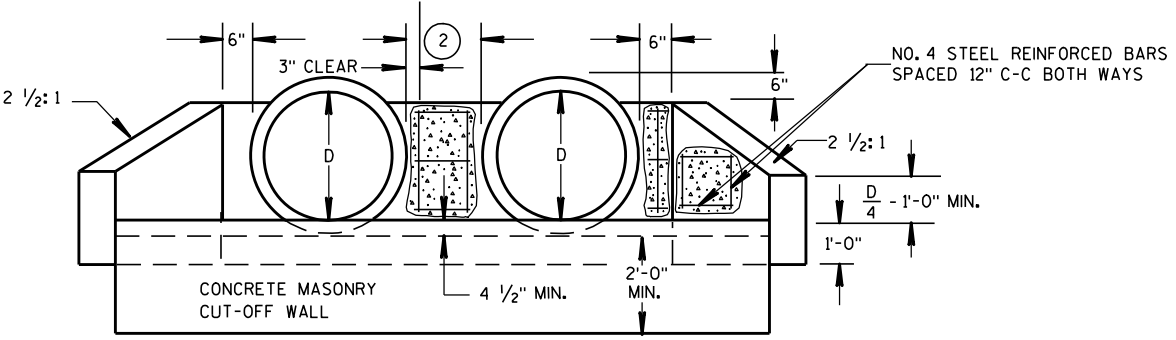
DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2'-0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3'-0"



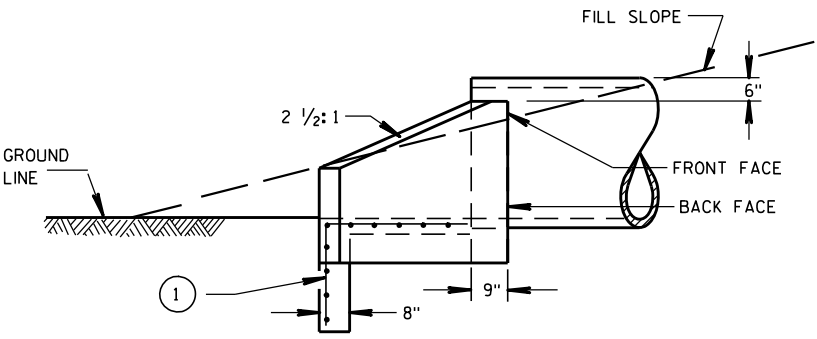
PLAN VIEW
CULVERT PIPE AND PIPE ARCH



END ELEVATION
PIPE ARCH



END ELEVATION
CULVERT PIPE



SIDE ELEVATION
CULVERT PIPE AND PIPE ARCH

CONCRETE MASONRY ENDWALLS
FOR CULVERT PIPE AND
PIPE ARCH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

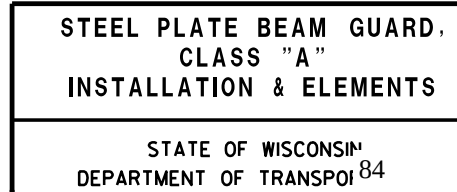
APPROVED
9/14/98 /S/ Rory L. Rhinehart
DATE CHIEF ROADWAY DEVELOPER
FHWA JINEER

6

S.D.D. 14 B 15-8a

- 6

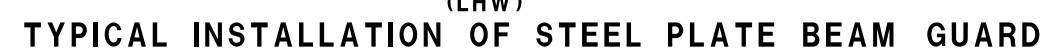
S.D.D. 14 B 15-8a



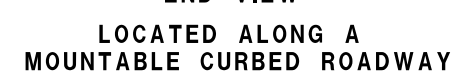
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



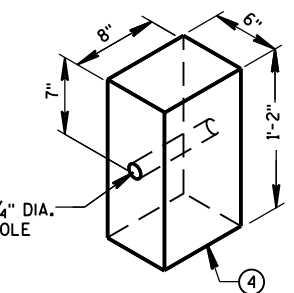
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



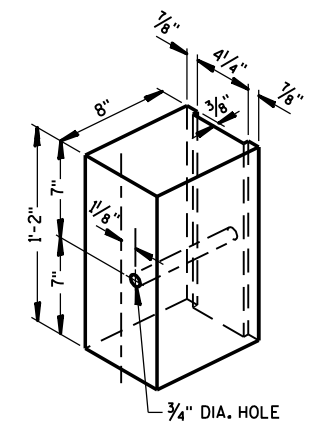
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



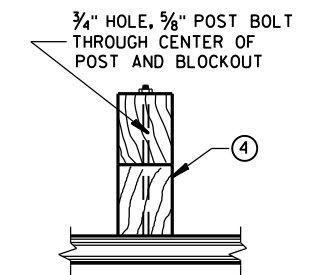
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



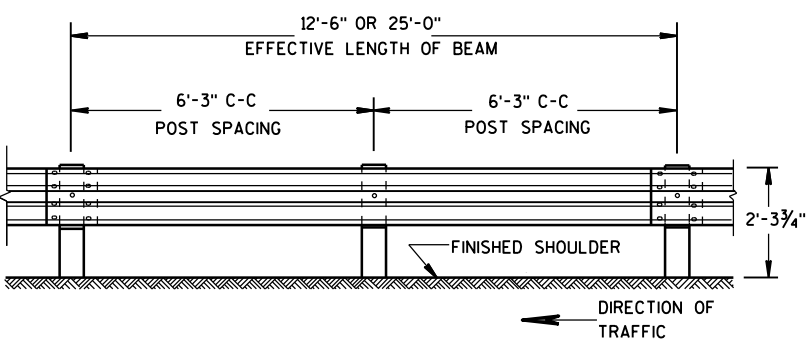
WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



**TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS** ①



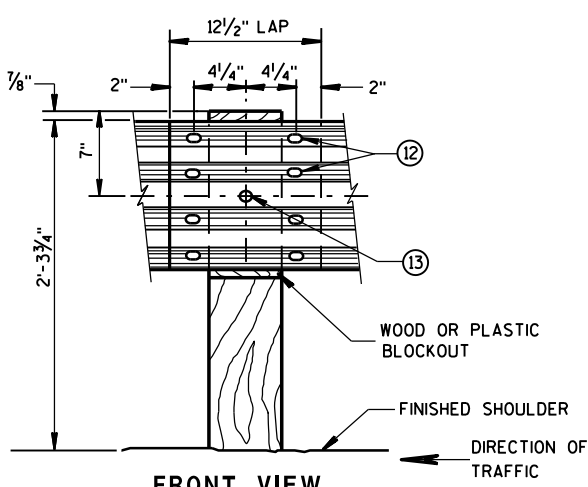
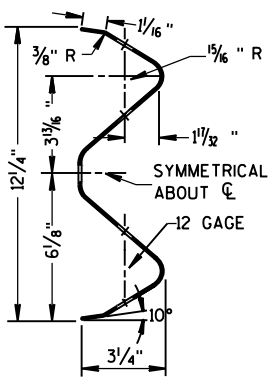
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



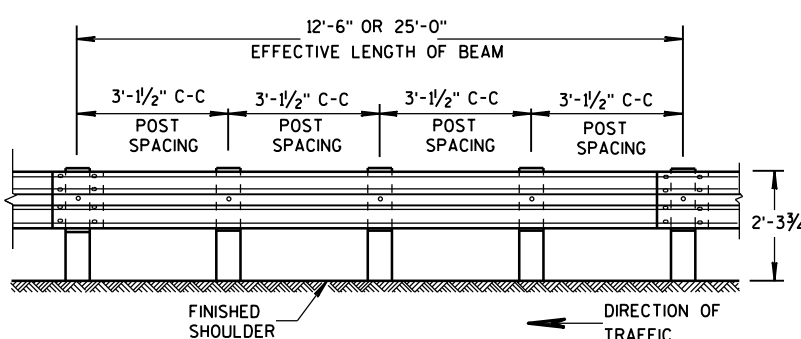
FRONT VIEW

POST SPACING STANDARD INSTALLATION

SECTION THRU W BEAM

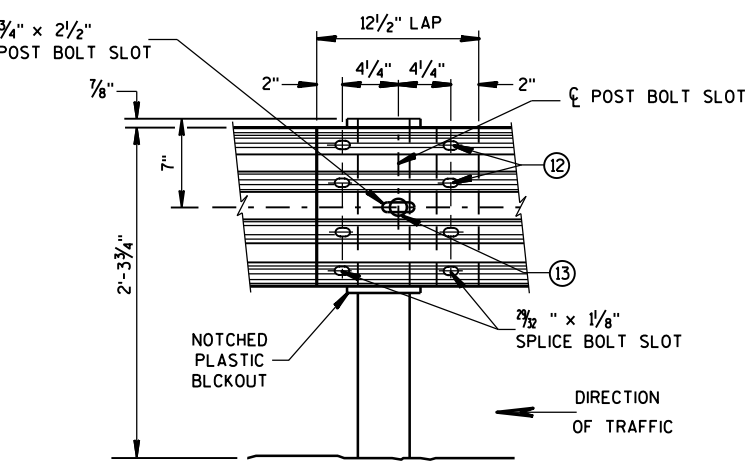


FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAIL



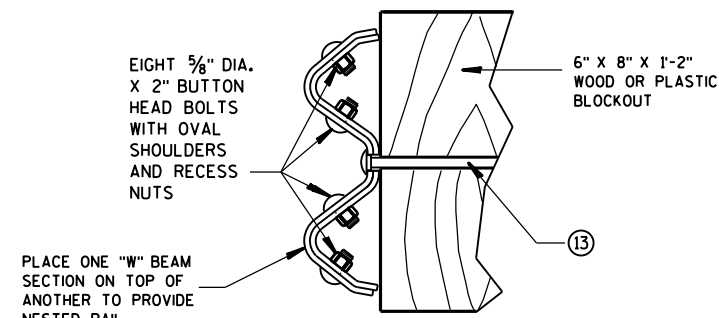
FRONT VIEW

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

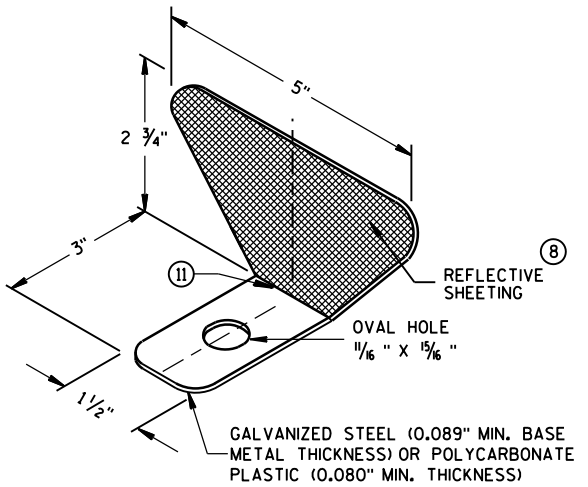
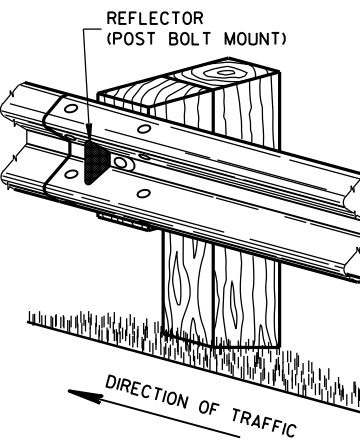


NESTED W BEAM (NW)

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

REFLECTOR SPACING^⑨

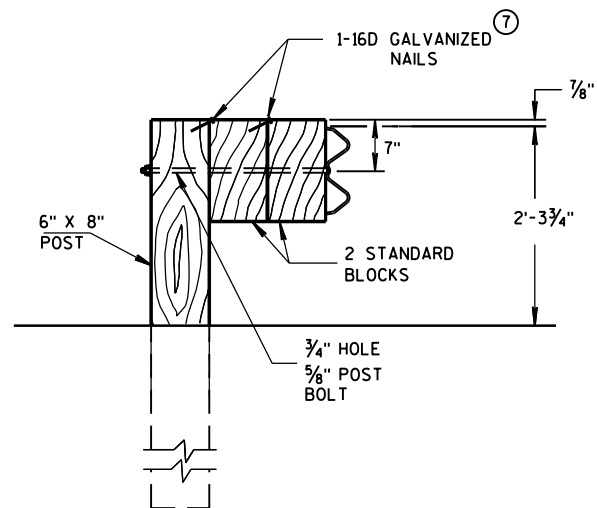
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ^⑩	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^⑪	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

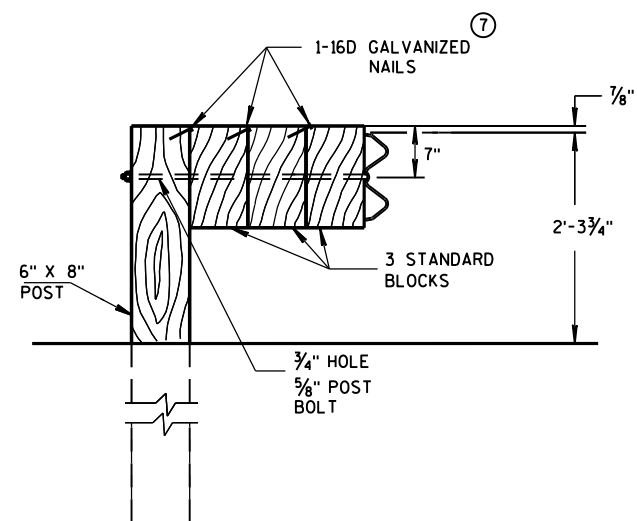
STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN⁸⁵
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

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

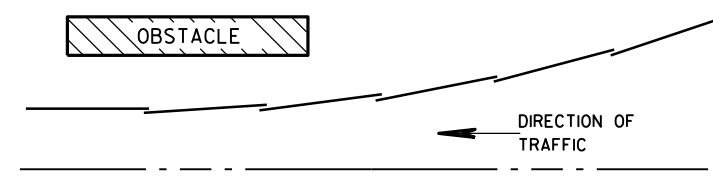


DETAIL FOR TRIPLE BLOCKS

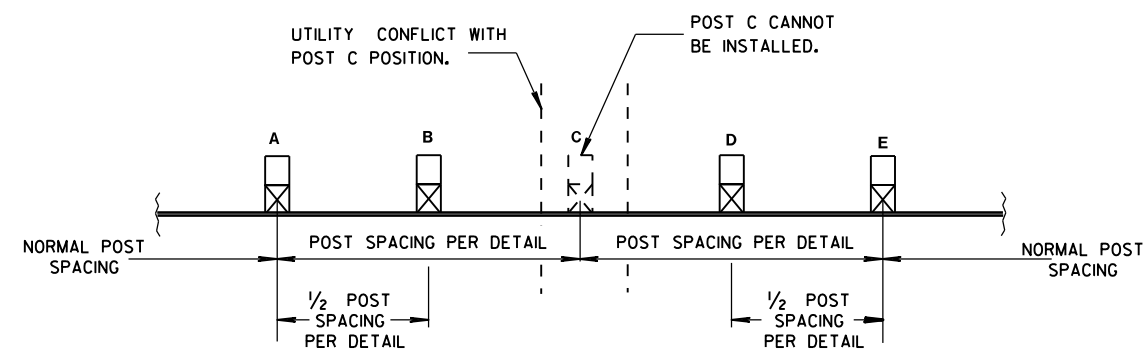
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

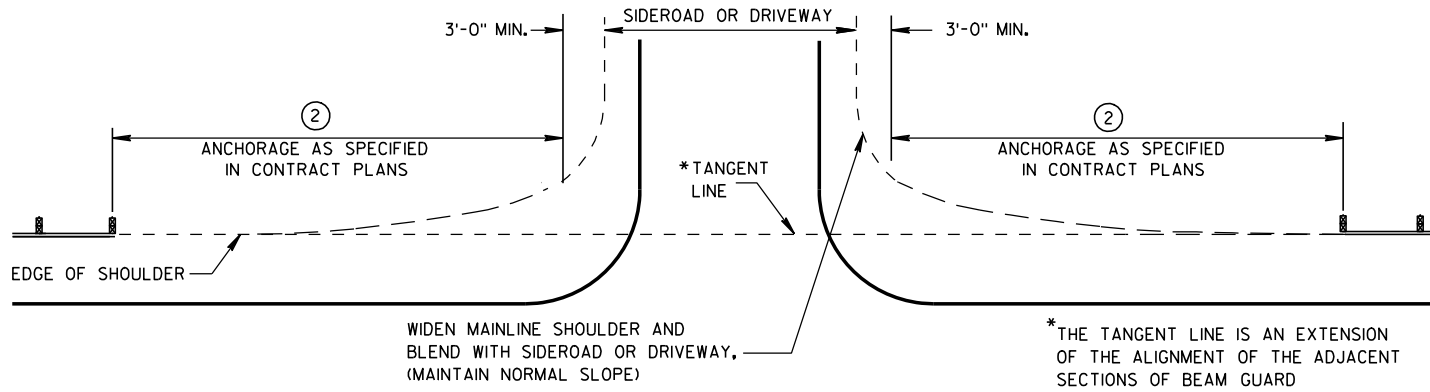
APPROVED

June 2014
DATE

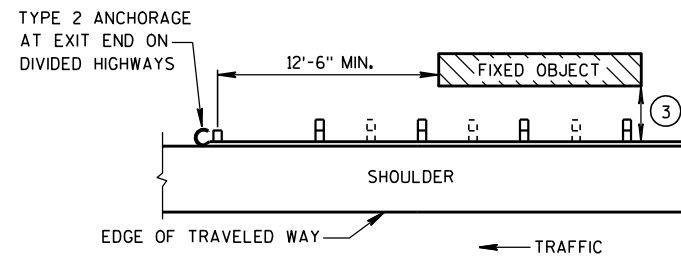
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

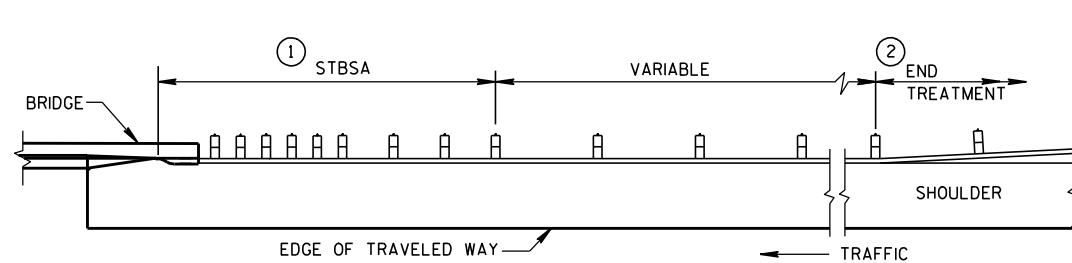
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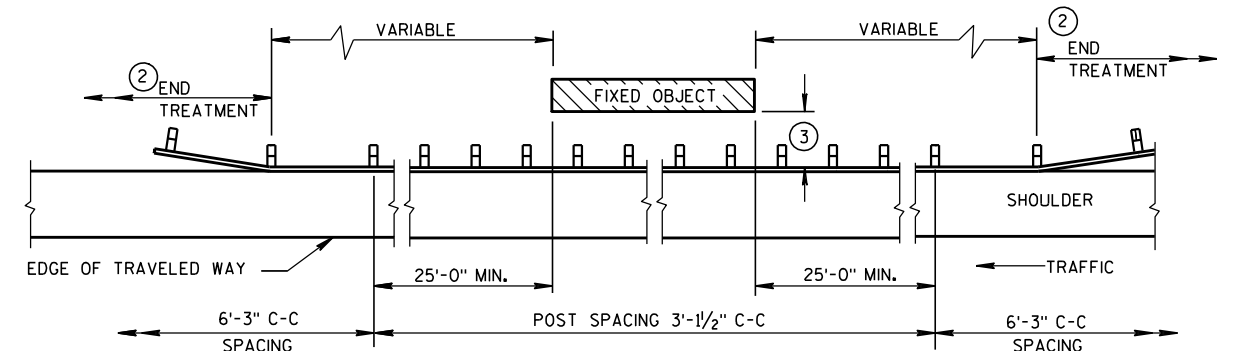
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC



BEAM GUARD AT FULL WIDTH BRIDGES

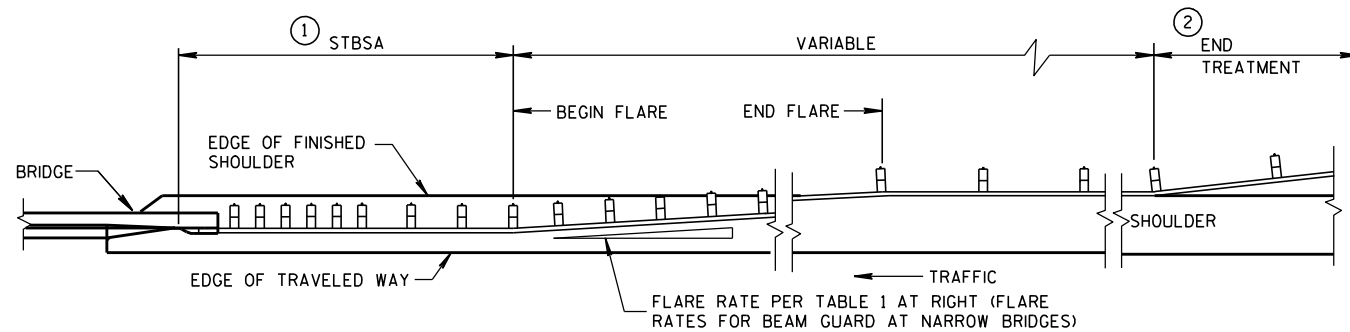


BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(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 (87) INT
FHWA ENGINEER

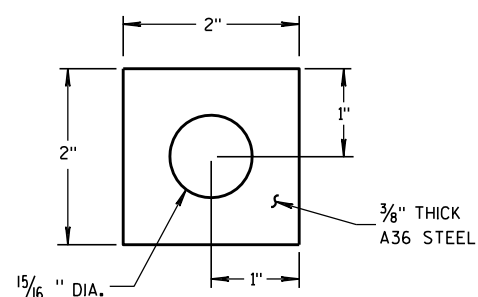
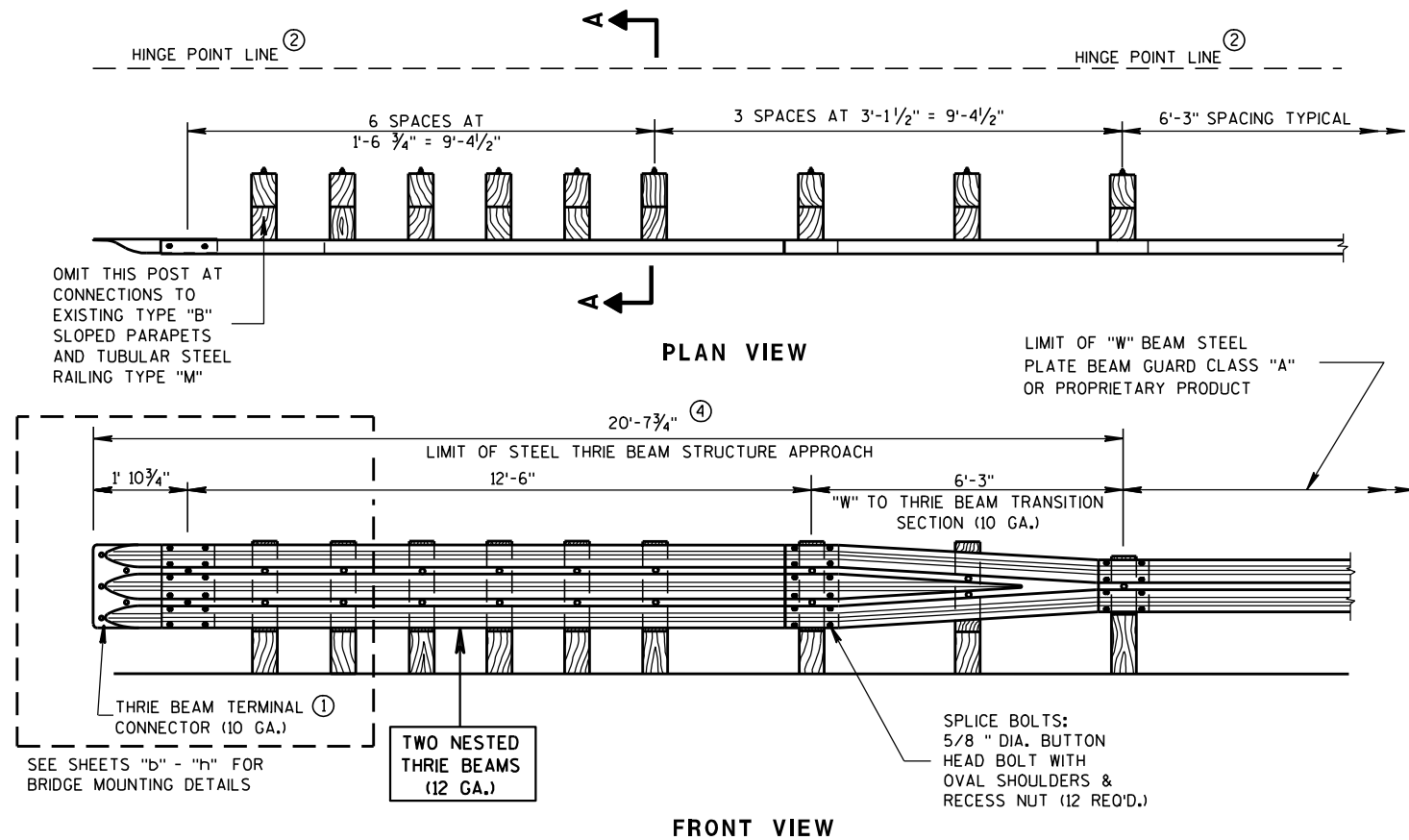


PLATE WASHER DETAIL

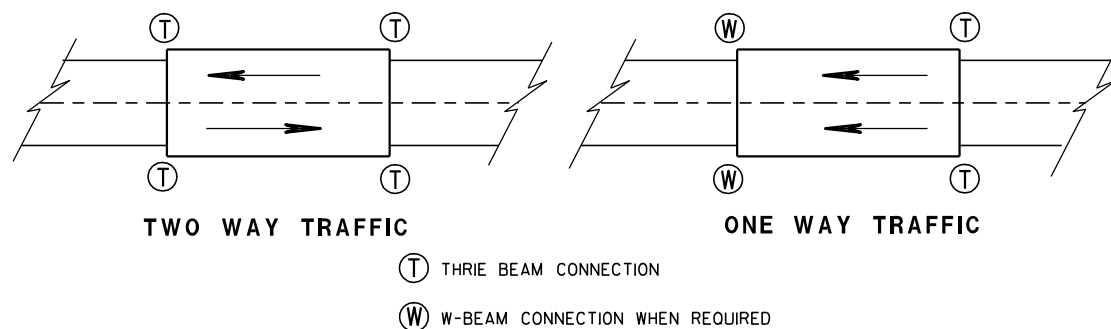
GENERAL NOTES

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".

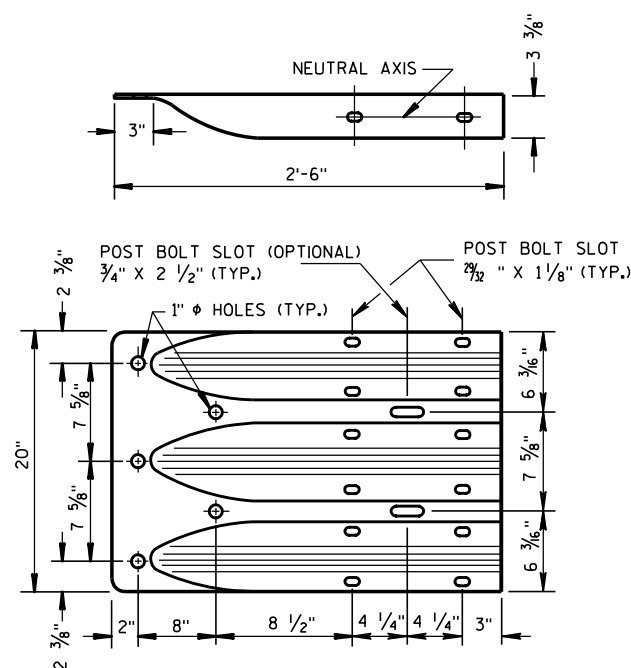
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

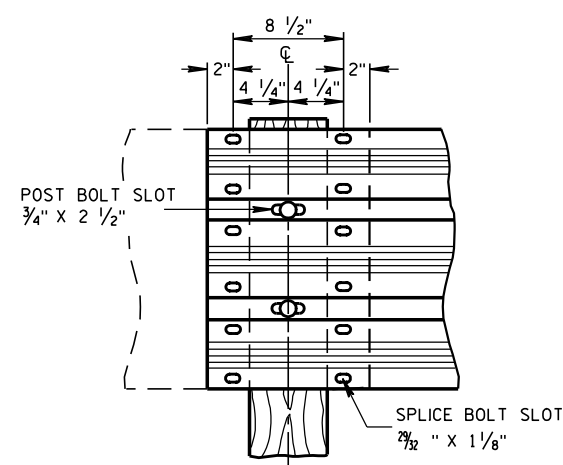
- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



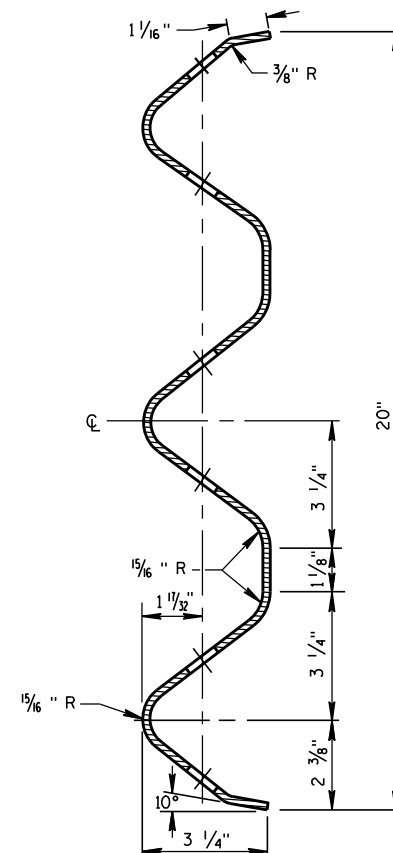
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



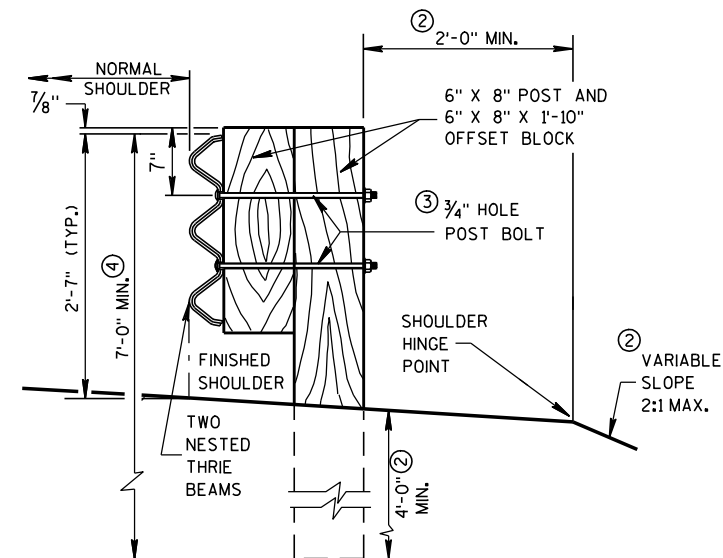
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

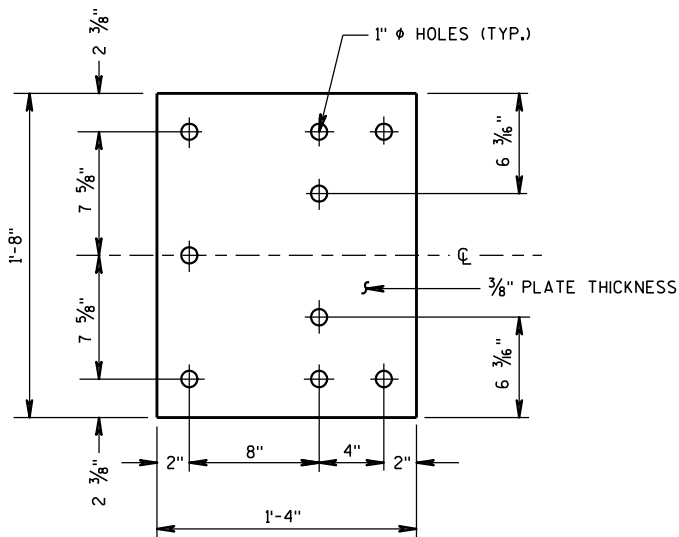
DATE

/S/ Jerry H. Zoon

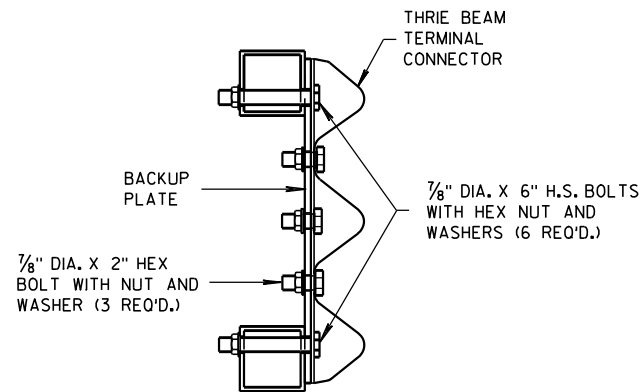
ROADWAY STANDARDS 188

ENGINEER

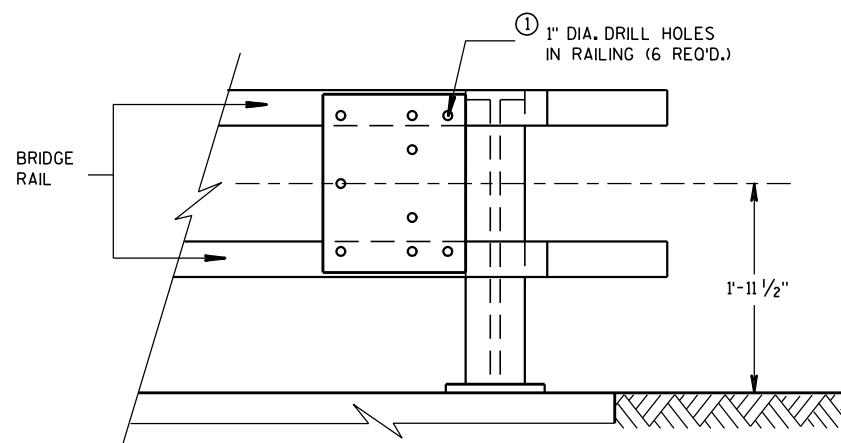
FHWA



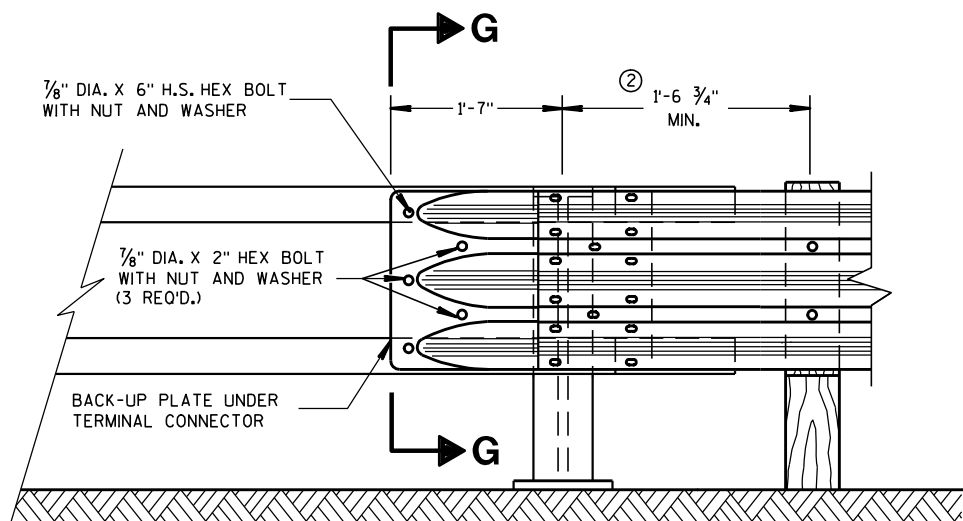
BACK-UP PLATE DETAIL



SECTION G-G

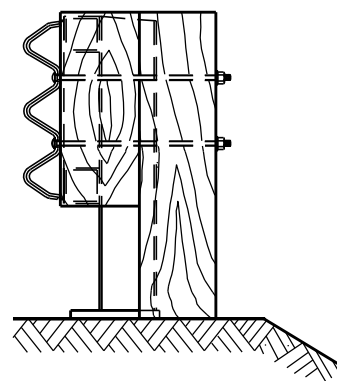


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

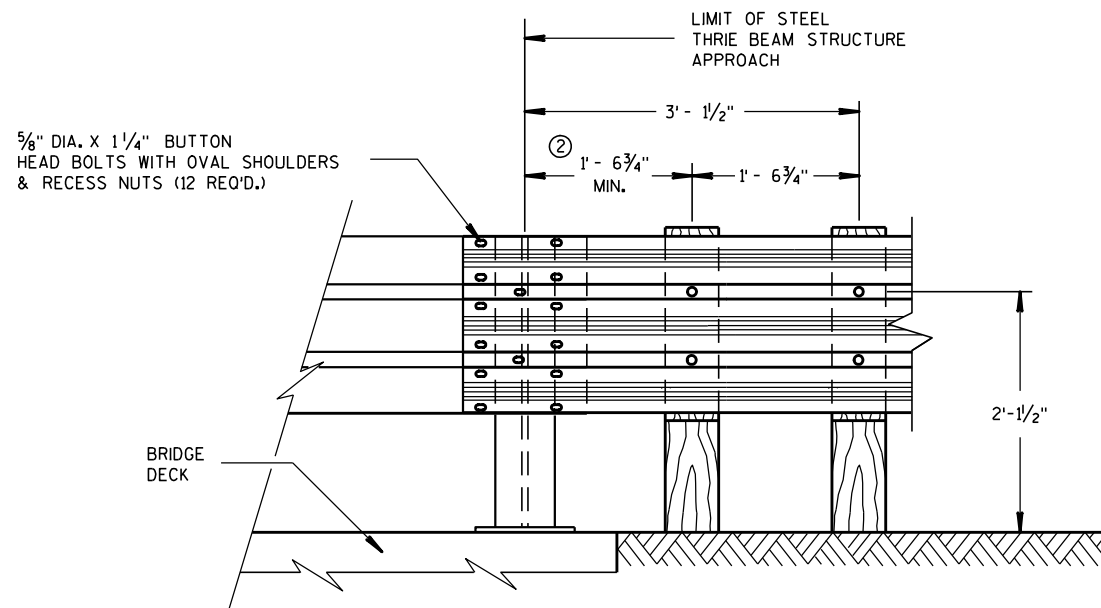


END VIEW

GENERAL NOTES

BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO BRIDGE
RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

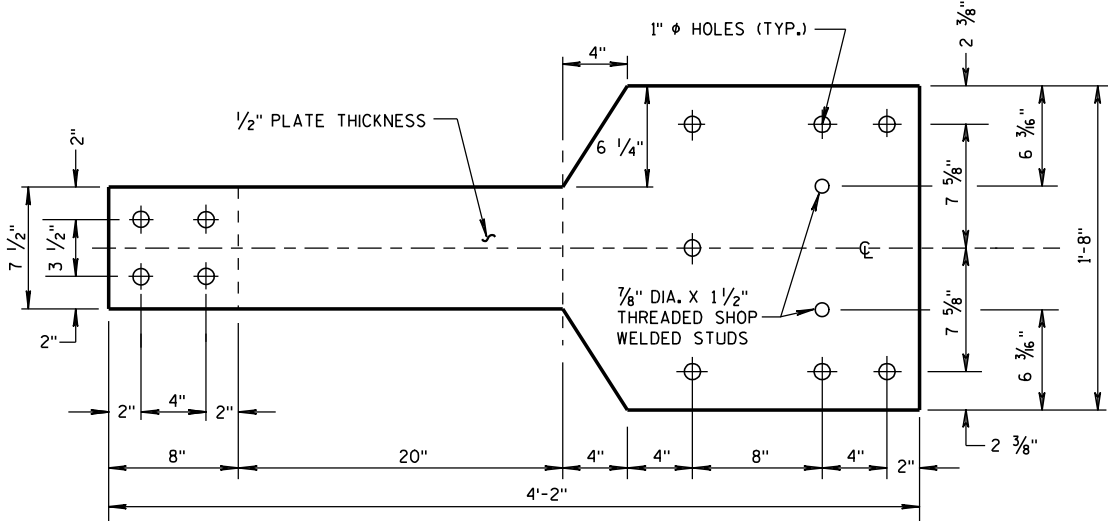
8/31/2012
DATE

FHWA

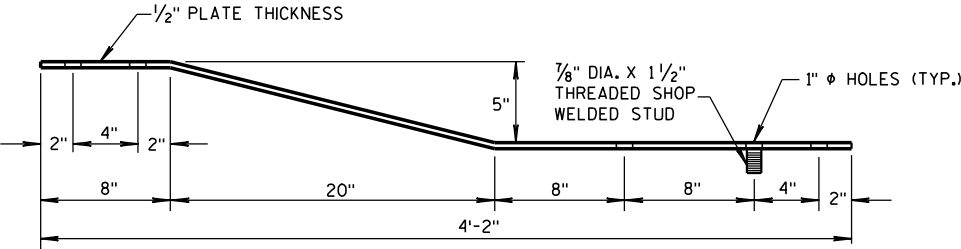
/S/ Jerry H. Zapp
ROADWAY STANDARDS 89 ENT
ENGINEER

GENERAL NOTES

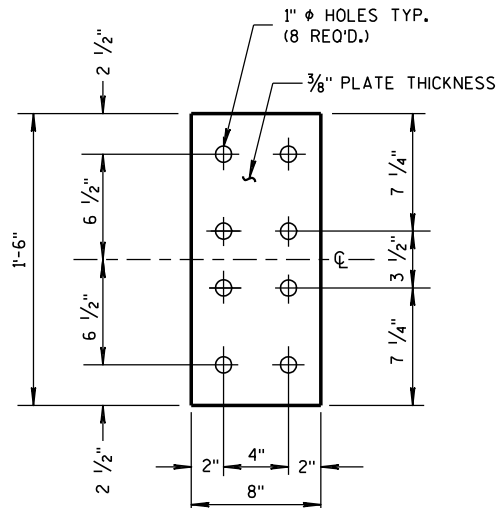
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



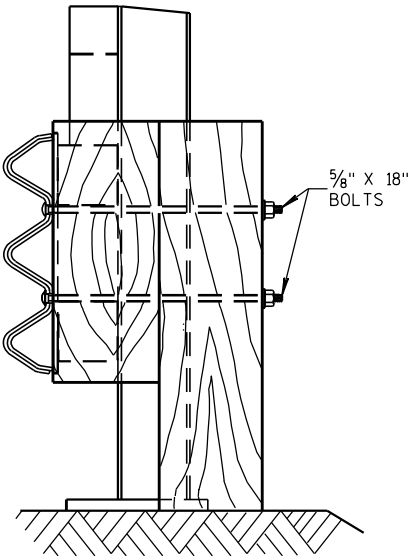
FRONT VIEW



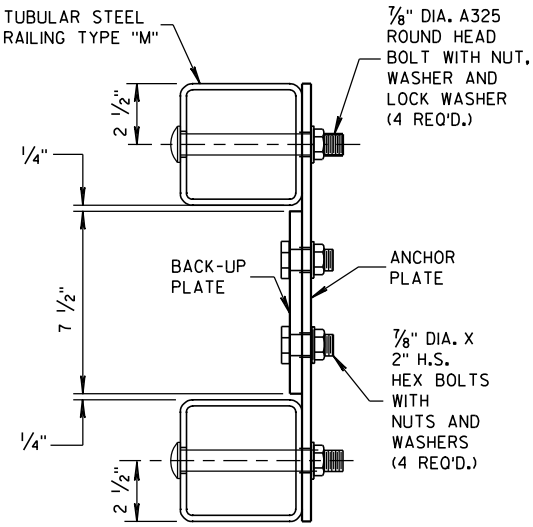
PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"



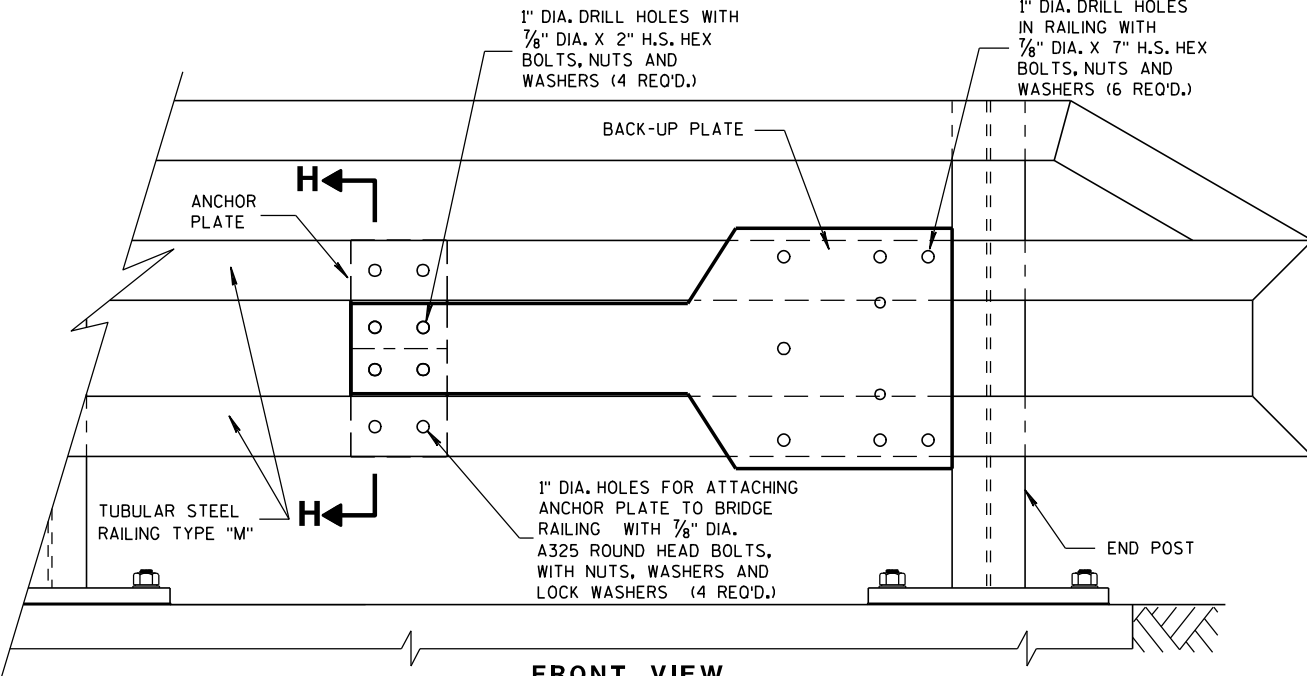
FRONT VIEW
ANCHOR PLATE DETAIL, TYPE "M"



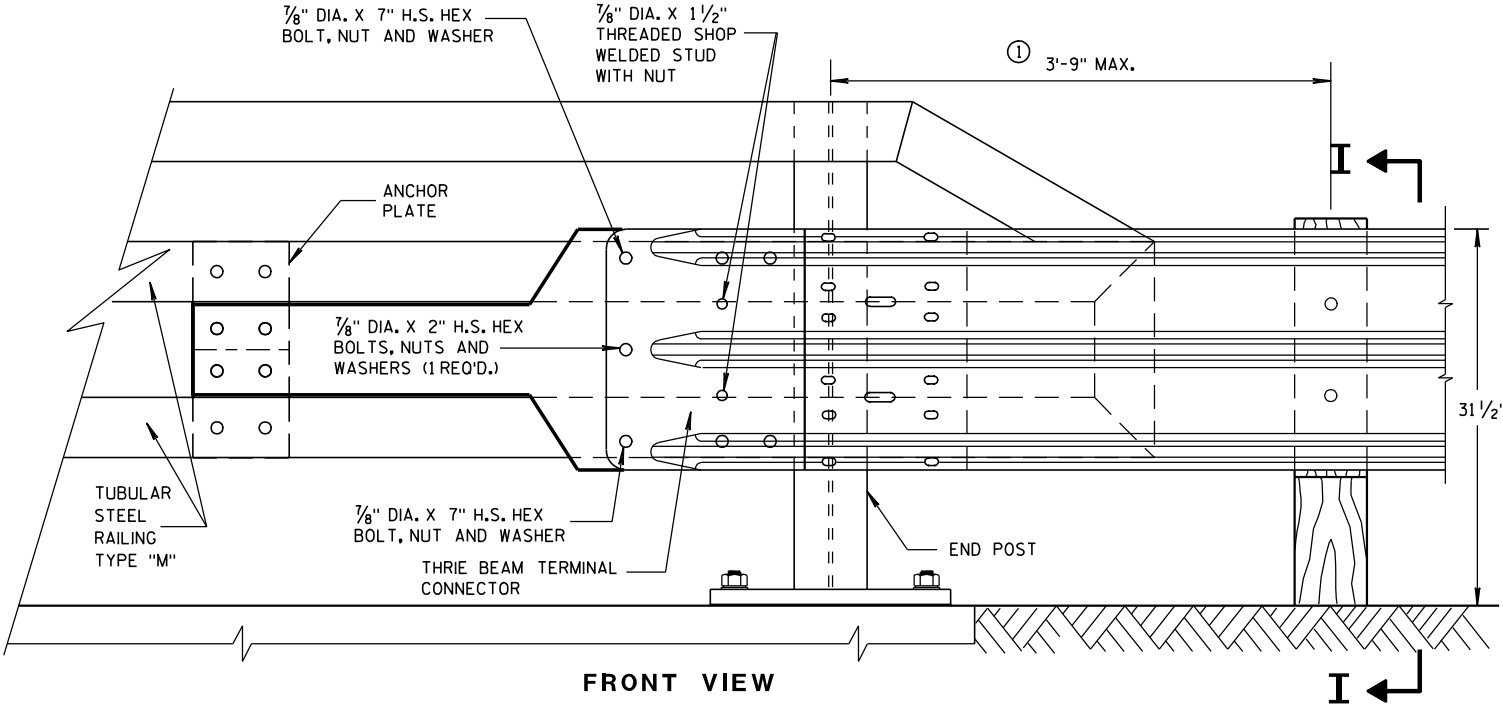
SECTION I-I



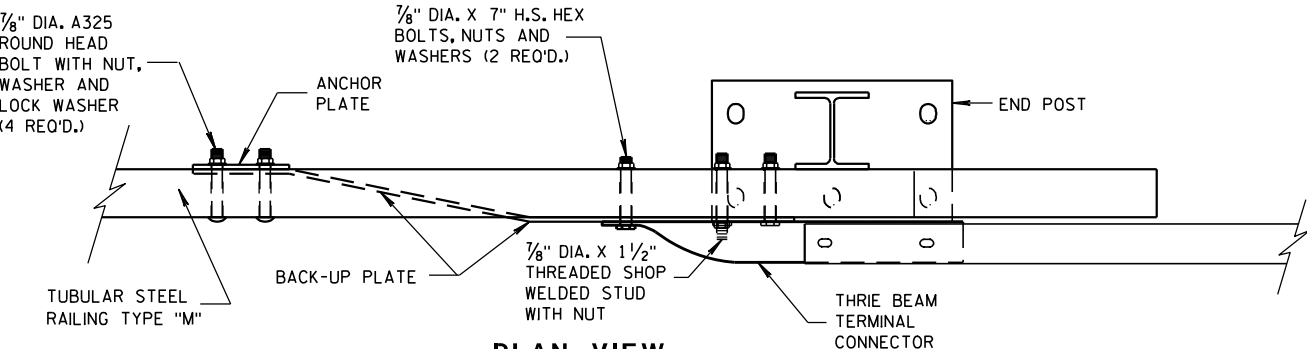
SECTION H-H



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



FRONT VIEW



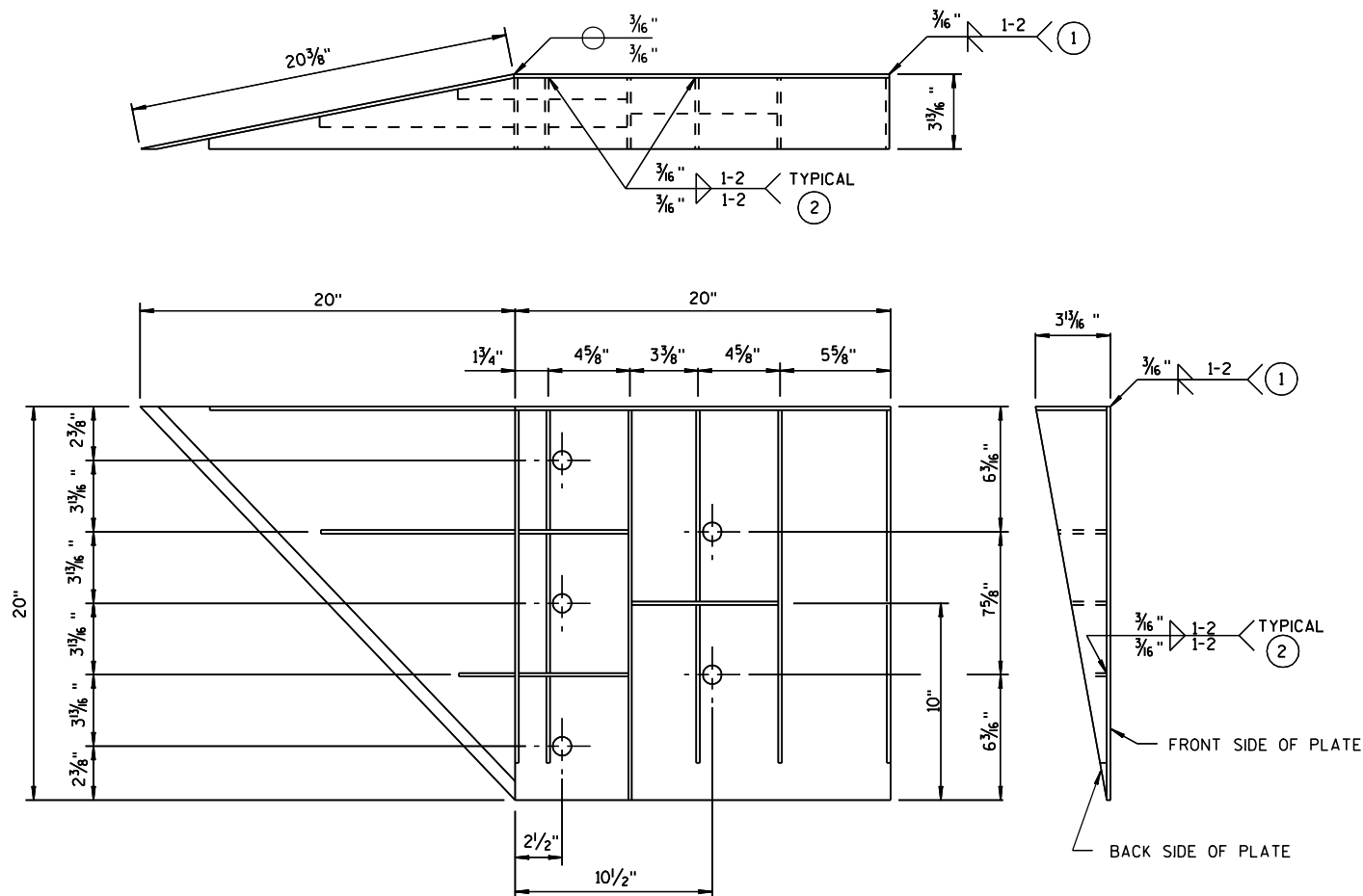
PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE
APPROACH CONNECTION TO
BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. Zopp ENT
FHWA ROADWAY STANDARDS 90 ENGINEER



WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

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

STEEL THRIE BEAM STRUCTURE APPROACH

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

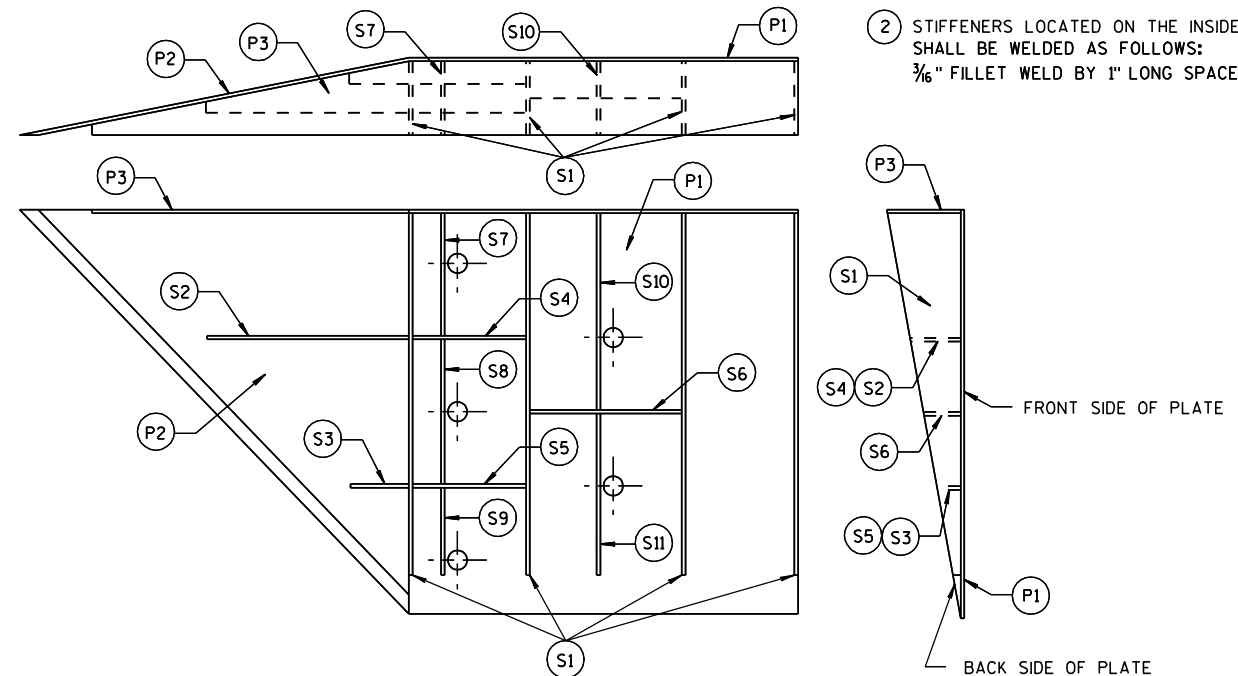


PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)

**STEEL THRIE BEAM
STRUCTURE APPROACH,
CONNECTOR PLATE DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zopp
ROADWAY STANDARDS 91
ENGINEER
FHWA

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.

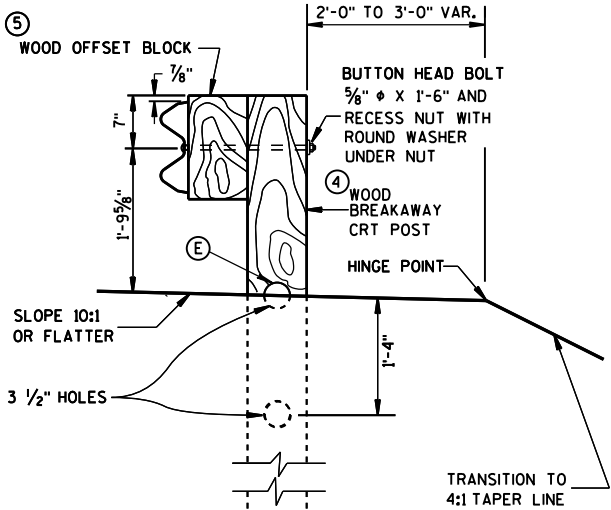
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

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

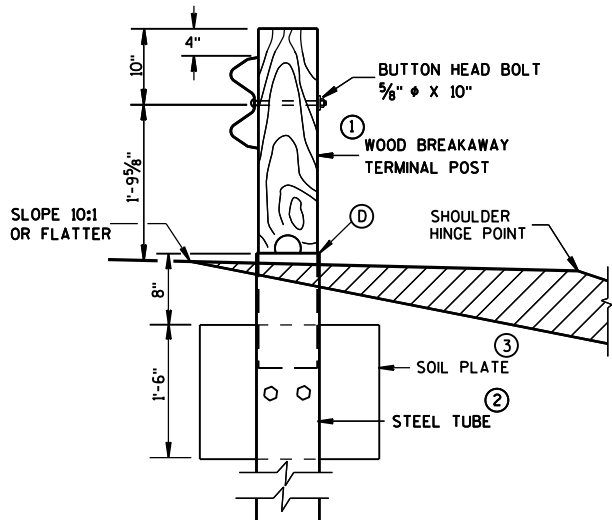
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

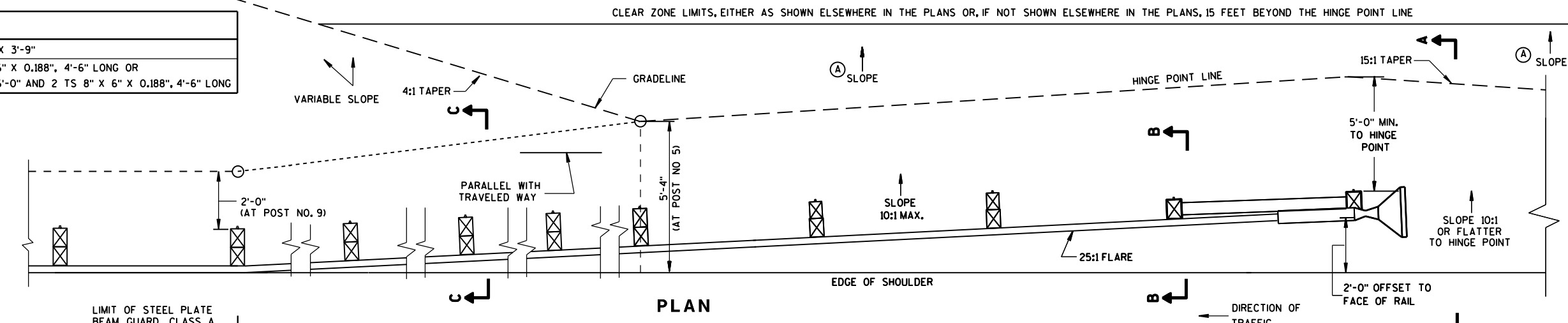
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE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



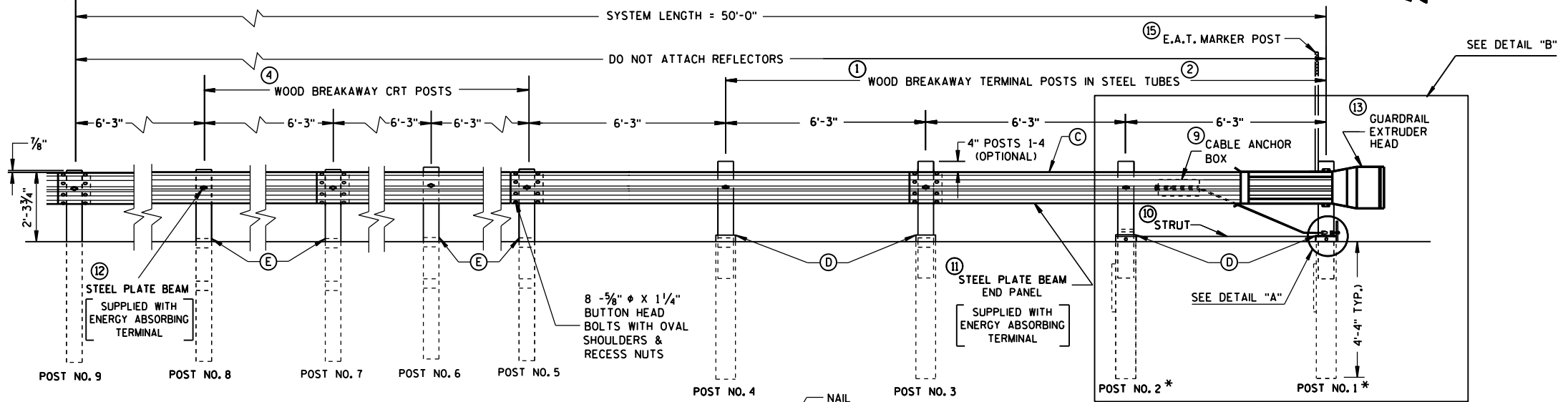
SECTION C-C
TYPICAL AT POST NOS. 6, 8



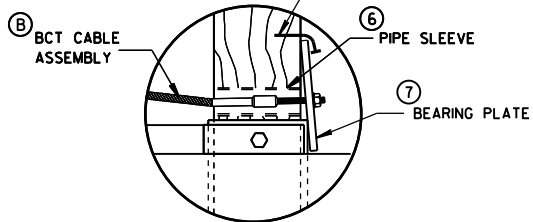
SECTION B-B
TYPICAL AT POST NO. 2 *



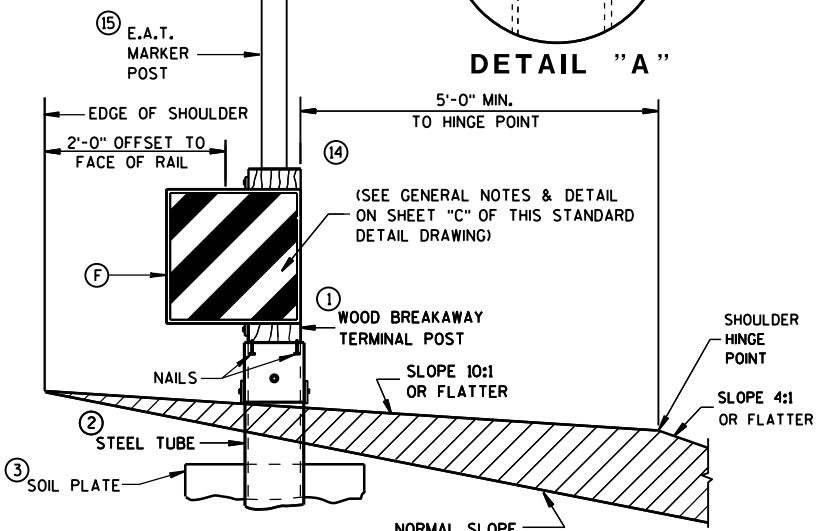
PLAN



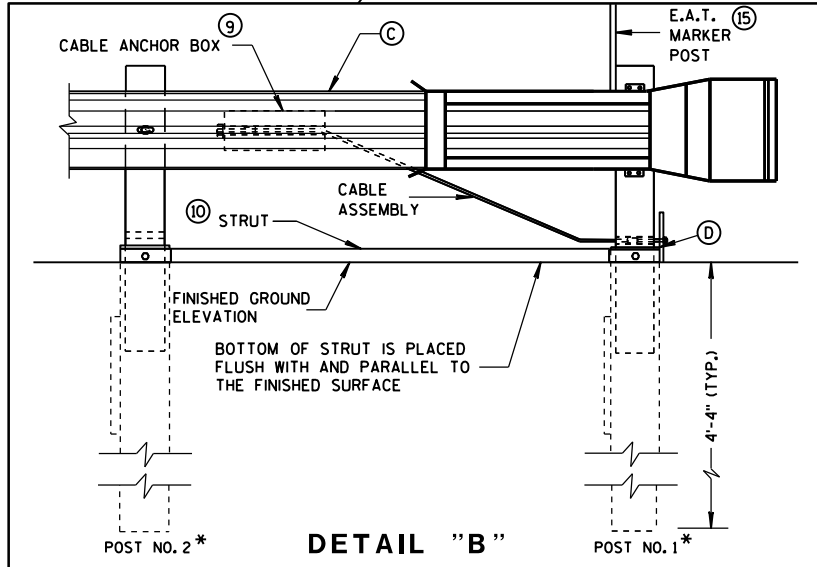
ELEVATION



DETAIL "A"



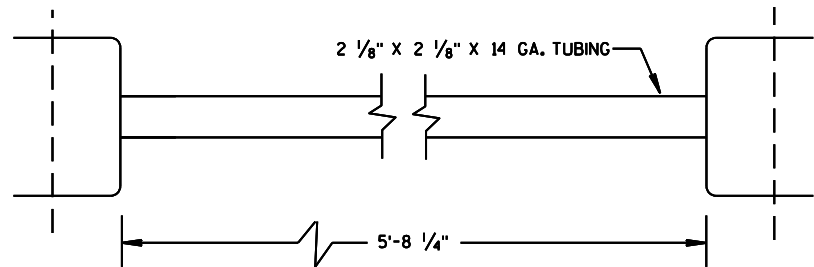
SECTION A-A
TYPICAL AT POST NO. 1 *



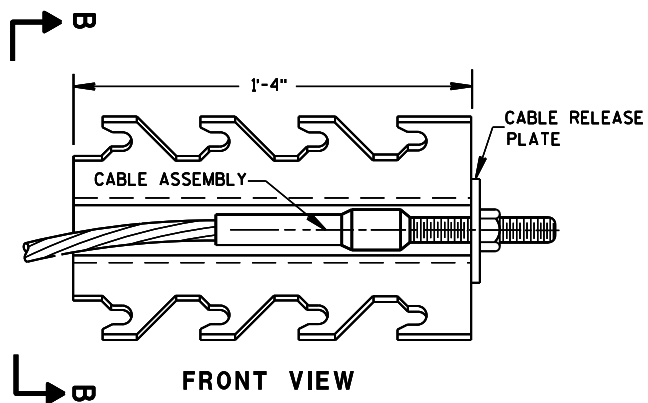
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

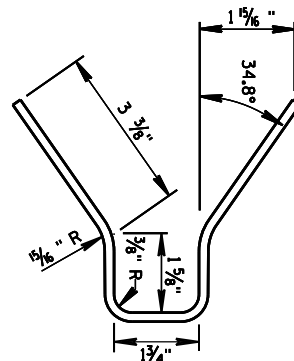
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



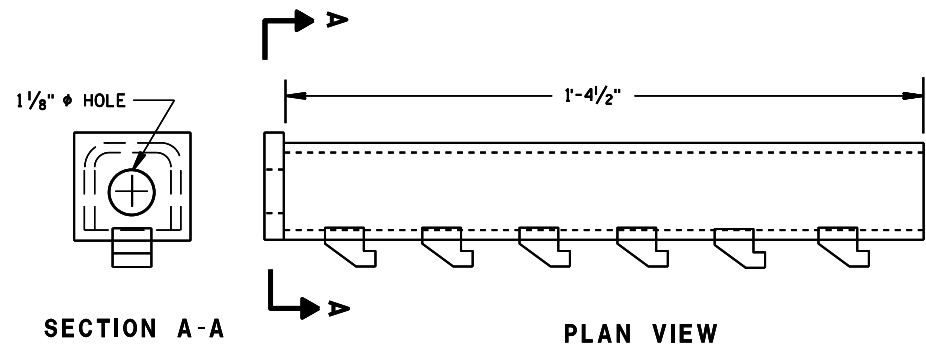
⑩ STRUT DETAIL (SKT-350)



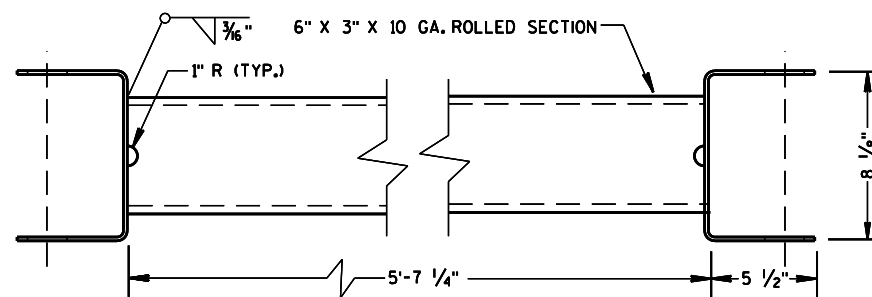
⑨ CABLE ANCHOR BOX (SKT-350)
(SKT-350)



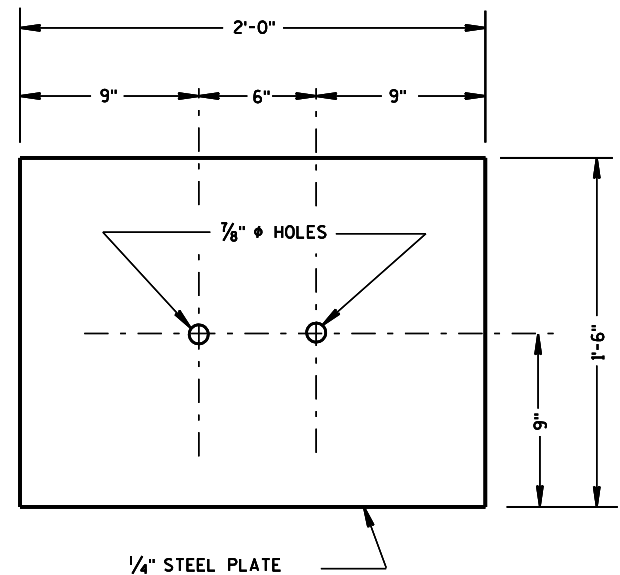
SECTION B-B



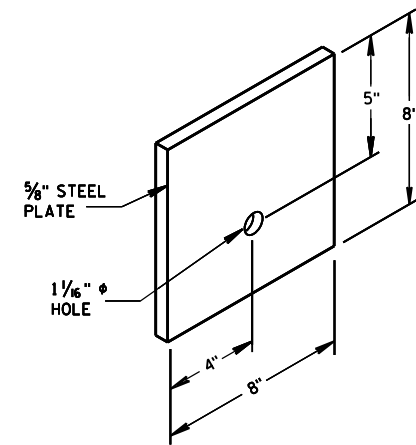
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



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



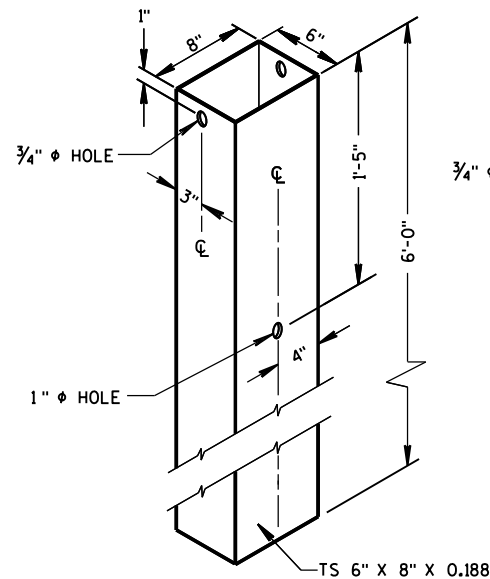
③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)



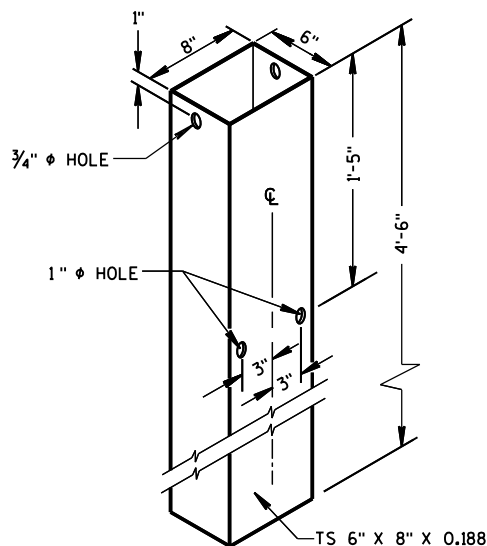
⑦ STEEL BEARING PLATE
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

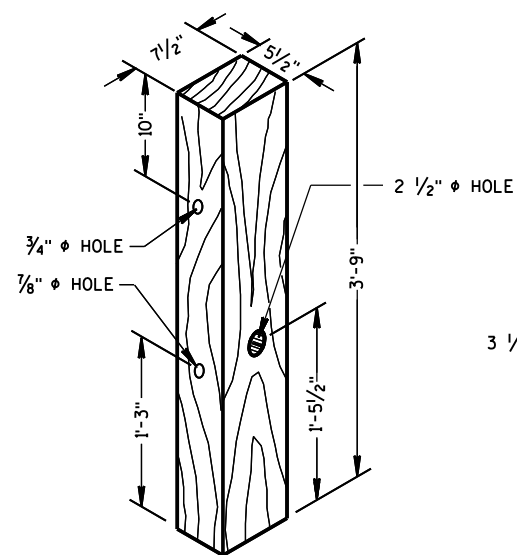
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



② **72" STEEL TUBE**
(POSTS NO. 1-4)

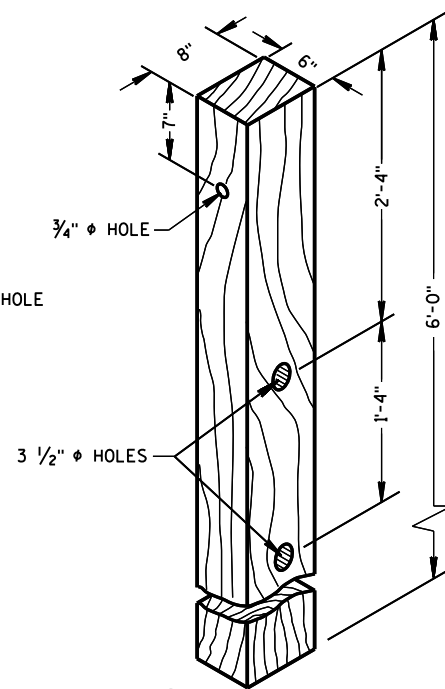


② **54" STEEL TUBE**
(POSTS NO. 1-4)



① **TERMINAL POST**
(POSTS NO. 1-4)

WOOD BREAKAWAY POSTS



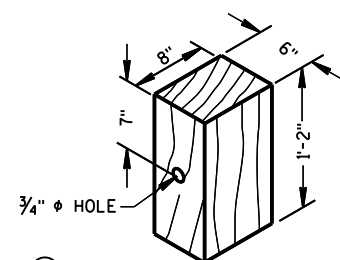
④ **CRT POST**
(POSTS NO'S 5-8)

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.

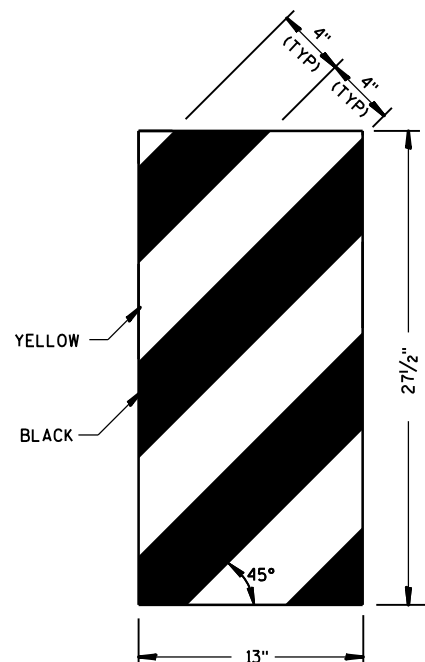
SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

⑥ 1/2" DIA. X 3" LAG BOLT WITH WASHER.

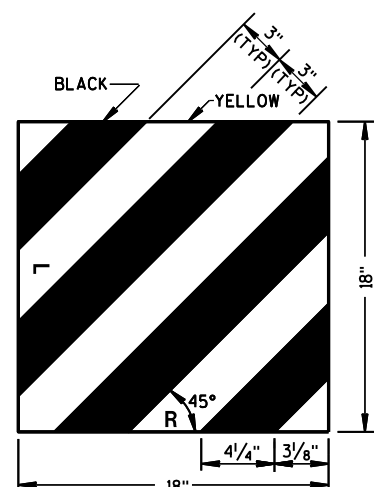


⑤ **WOOD OFFSET BLOCK**
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

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

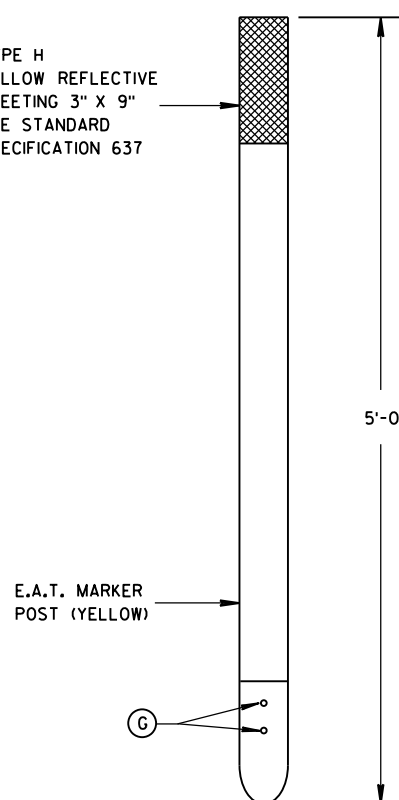


ET-2000 PLUS ONLY

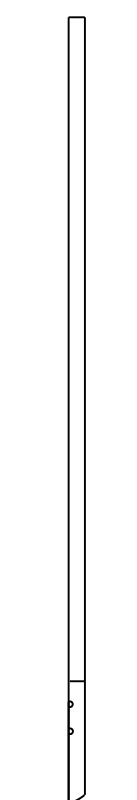


ET-2000 AND SKT-350

⑭ **REFLECTIVE SHEETING DETAILS**

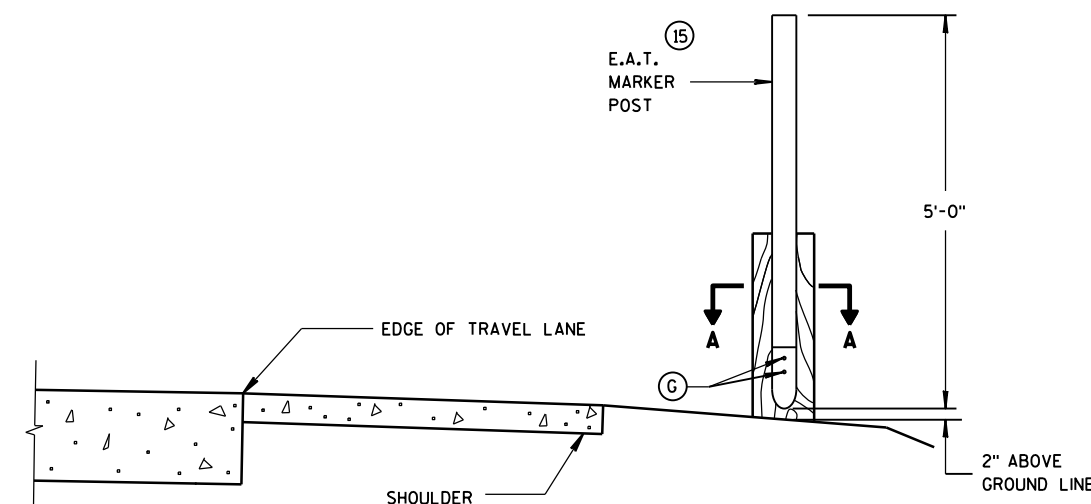


FRONT VIEW

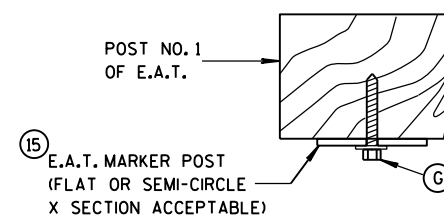


SIDE VIEW

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)



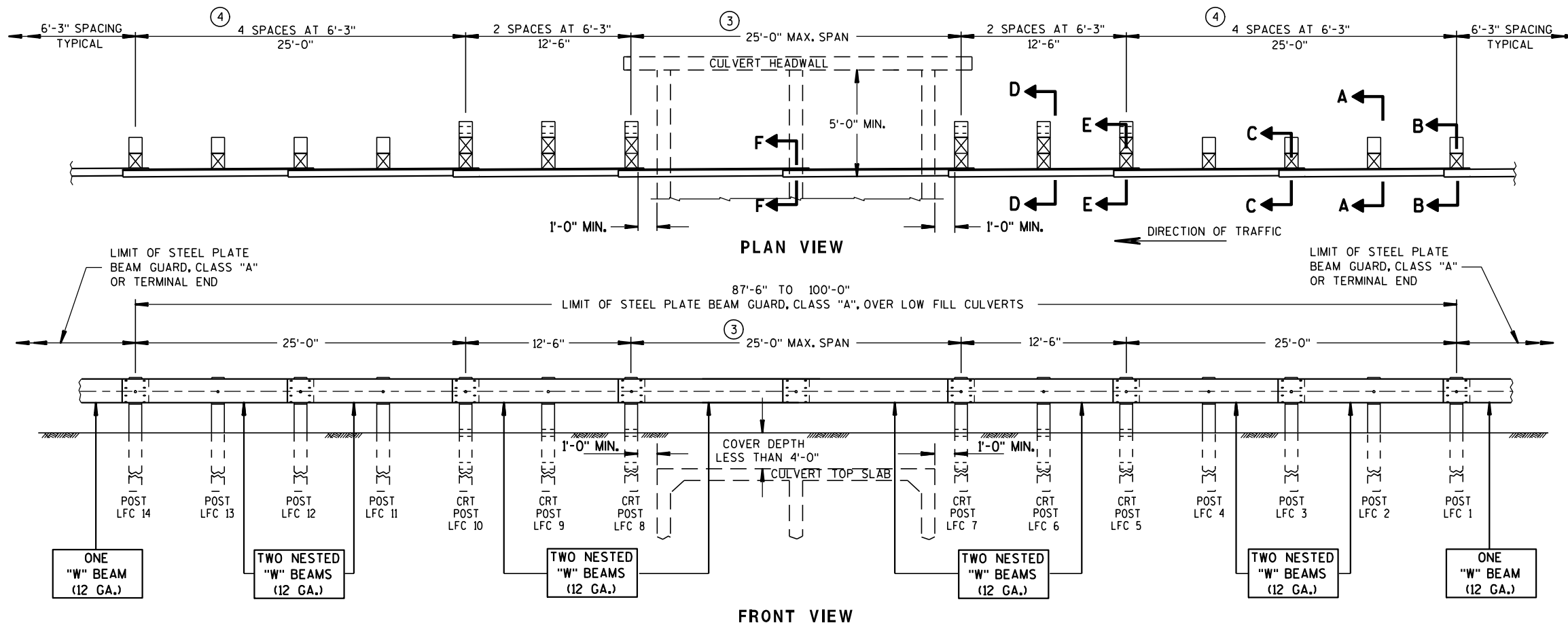
SECTION A-A

**STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL**

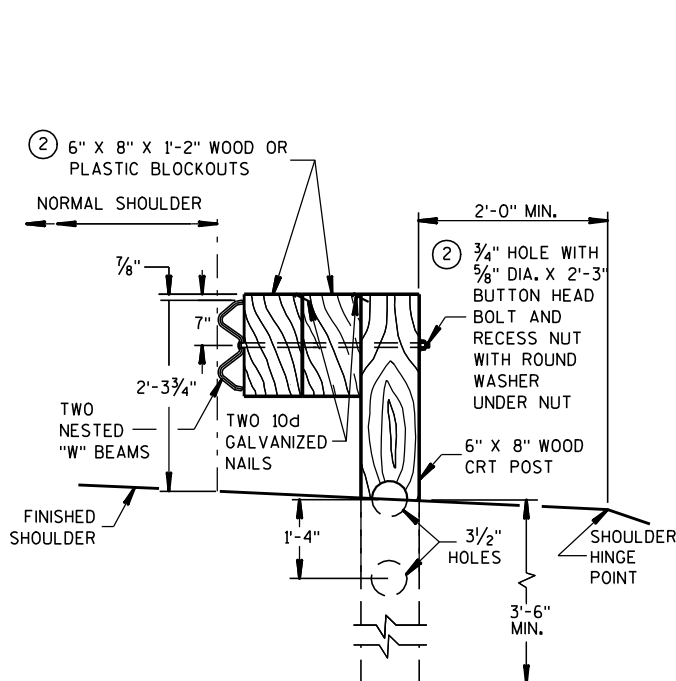
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
FHWA

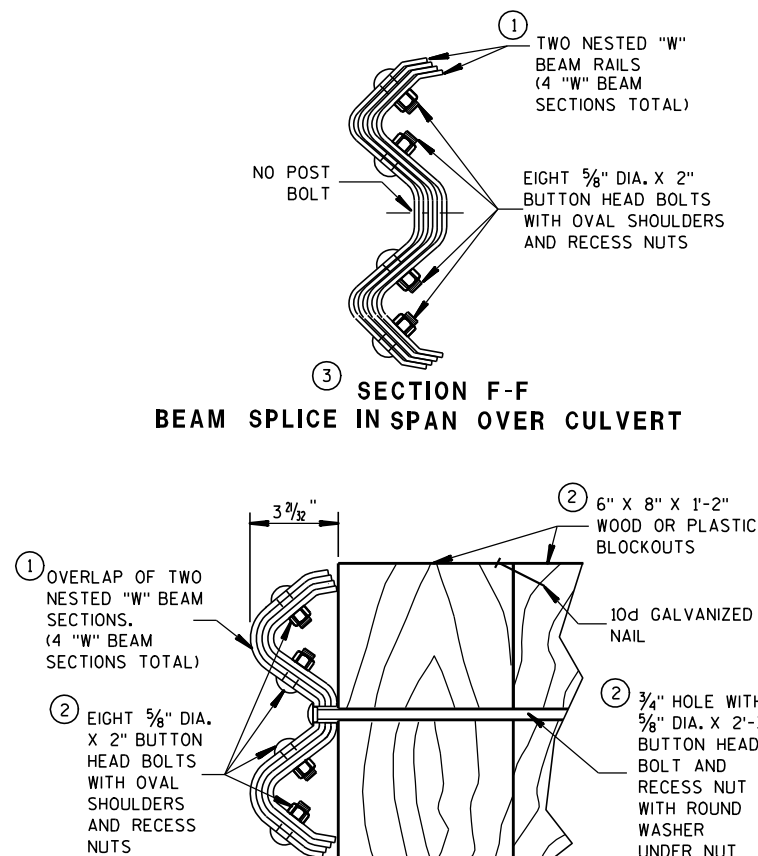
/S/ Jerry H. Zoog
ROADWAY STANDARDS 194
ENGINEER



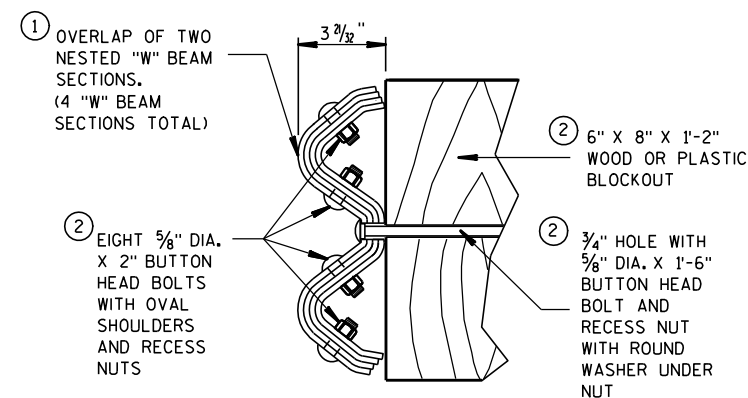
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD OVER LOW FILL CULVERTS



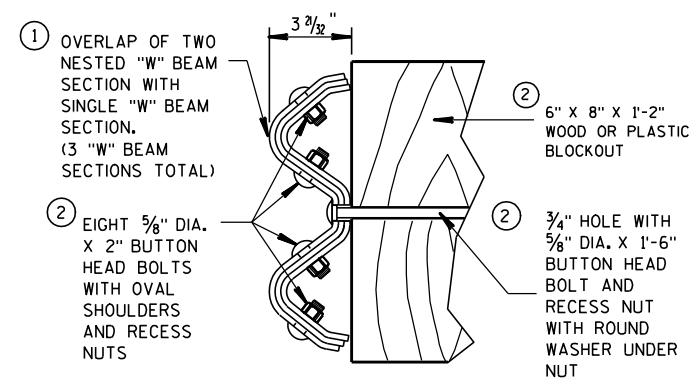
SECTION D-D
TYPICAL CRT POST LFC 6 AND 9



SECTION E-E
TYPICAL CRT POST LFC 5, 7, 8 AND 10



SECTION C-C
TYPICAL AT POSTS LFC 3 AND 12

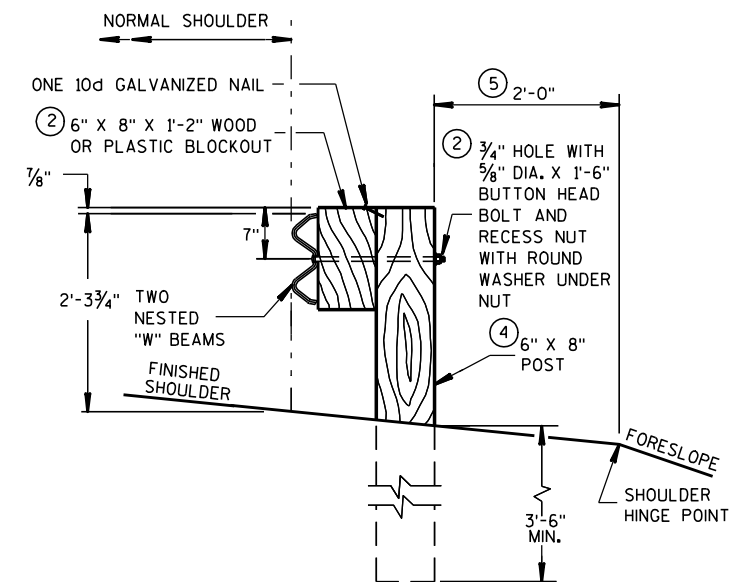


SECTION B-B
TYPICAL AT POSTS LFC 1 AND 14

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 MAINTAIN THE NESTING OF EACH NESTED PAIR OF "W" BEAM SECTIONS THROUGH SPLICES. ORIENTATE NESTED "W" BEAM SPLICES IN THE DIRECTION OF TRAFFIC AS THE PLAN VIEW SHOWS. SEE S.D.D. 14 B 15 FOR SPLICE INSTALLATION.
- ② THE CONTRACTOR MAY USE APPROVED PLASTIC BLOCKOUTS IN LIEU OF WOOD BLOCKOUTS. SEE S.D.D. 14 B 15 FOR TYPICAL BLOCKOUT, SPLICE AND REFLECTOR INSTALLATIONS. USE BOLT SIZES AND LENGTHS AS SHOWN ON THIS DETAIL.
- ③ PROVIDE 12'-6", 18'-9" AND 25'-0" SPANS ONLY. USE A MAXIMUM OF ONE SPLICE LOCATED ANYWHERE WITHIN THE SPAN SECTION. LOCATE ALL OTHER SPLICES AT BEAM GUARD POSTS.
- ④ IN THE FIRST AND LAST 25 FOOT SECTIONS (POSTS LFC 1-4 & LFC 11-14), THE CONTRACTOR MAY USE W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS OR 6" X 8" WOOD POSTS WITH EITHER WOOD OR PLASTIC BLOCKOUTS. DO NOT MIX STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS AND WOOD POSTS WITH EITHER WOOD OR PLASTIC BLOCKOUTS IN THE SAME INSTALLATION.
- ⑤ WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK, THE PLAN TYPICAL SECTIONS OR DETAILS MAY SHOW, OR THE ENGINEER MAY ALLOW, THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. BUILD AS THE PLAN SHOWS OR ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST SOIL DEPTH TO 4'-6" OR MORE.



SECTION A-A
TYPICAL AT POST LFC 2, 4, 11, 13

**STEEL PLATE BEAM GUARD,
CLASS "A", OVER LOW
FILL CULVERTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/8/00

DATE

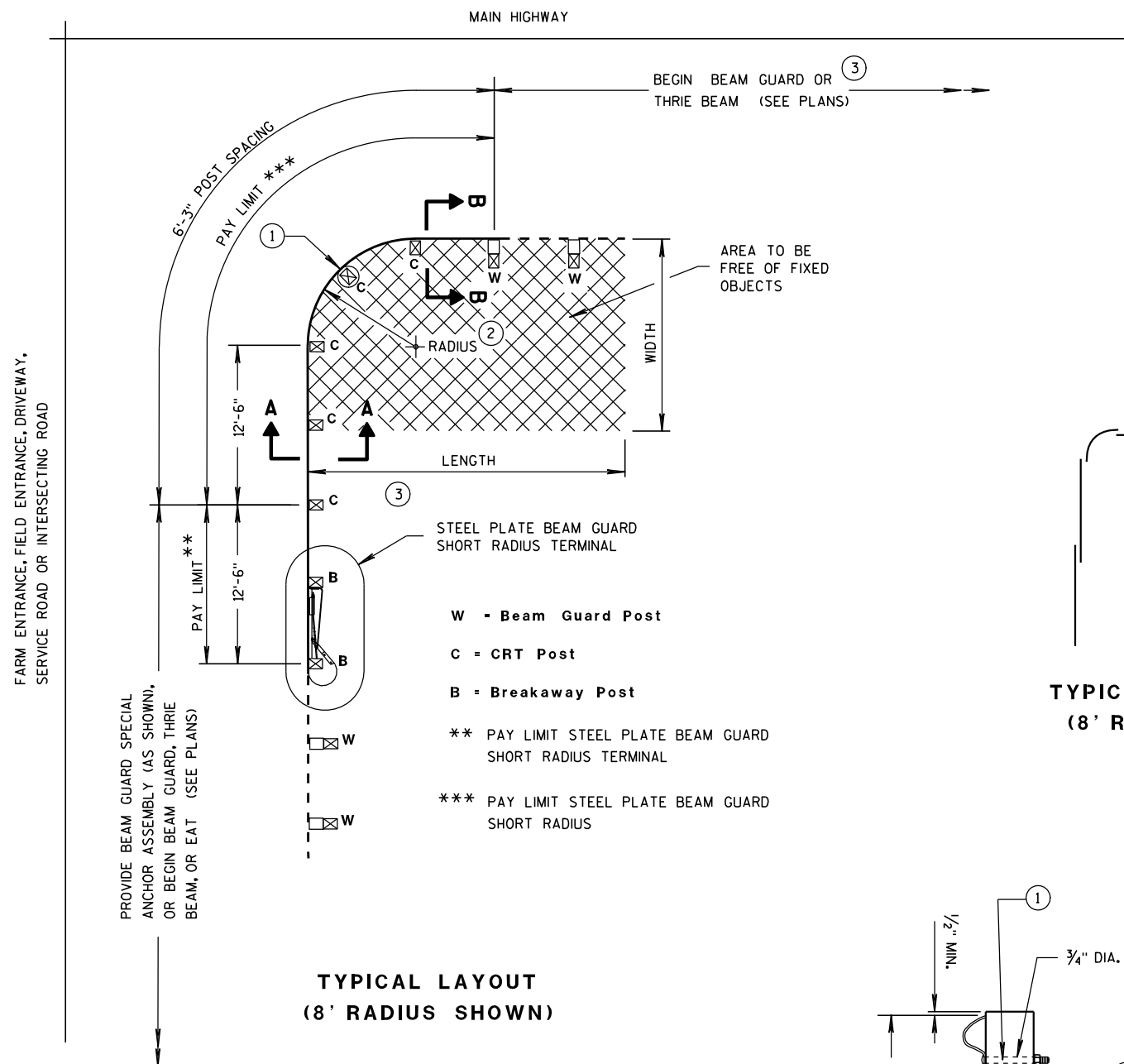
FHWA

/S/ John Have

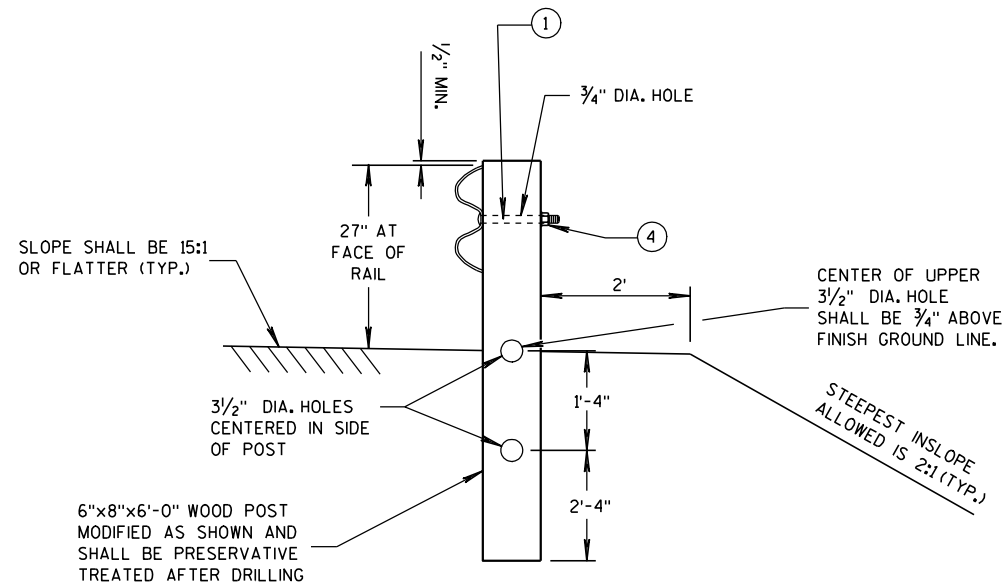
CHIEF ROADWAY DEVELOP

95

GINEER



**TYPICAL LAYOUT
(8' RADIUS SHOWN)**



**SECTION A-A
(CRT POST)**

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2, UNLESS NOTED OTHERWISE.

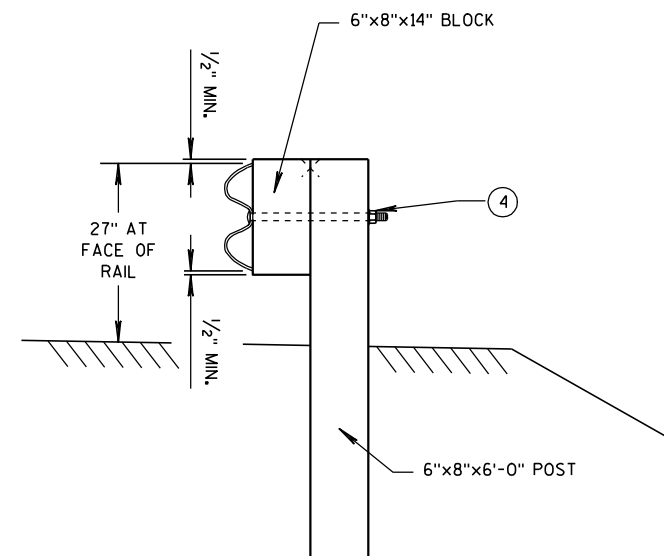
SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

- ① ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.
- ② RADIUS FROM 8' - 36'. SEE PLAN.
- ③ HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.
- ④ 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH X WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

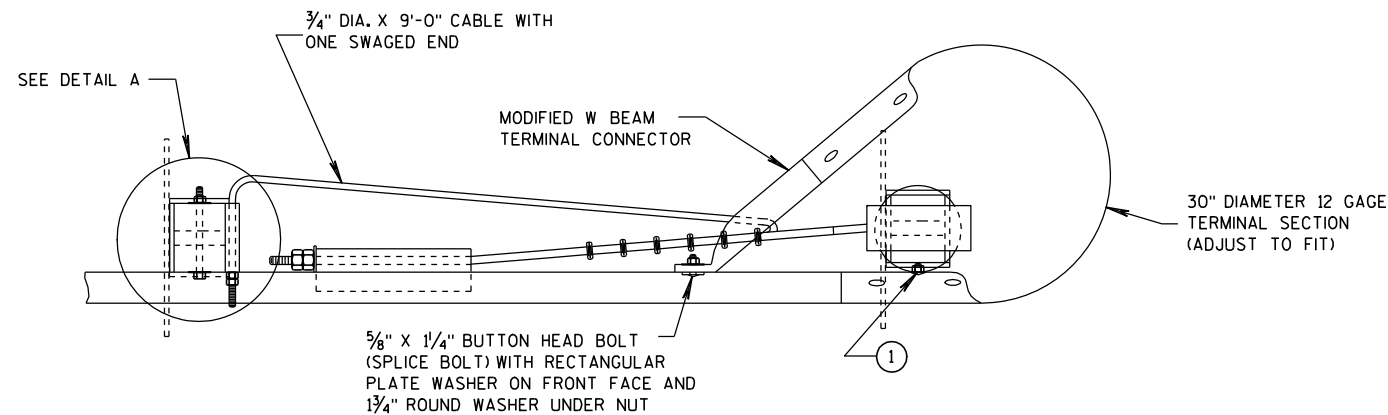
* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



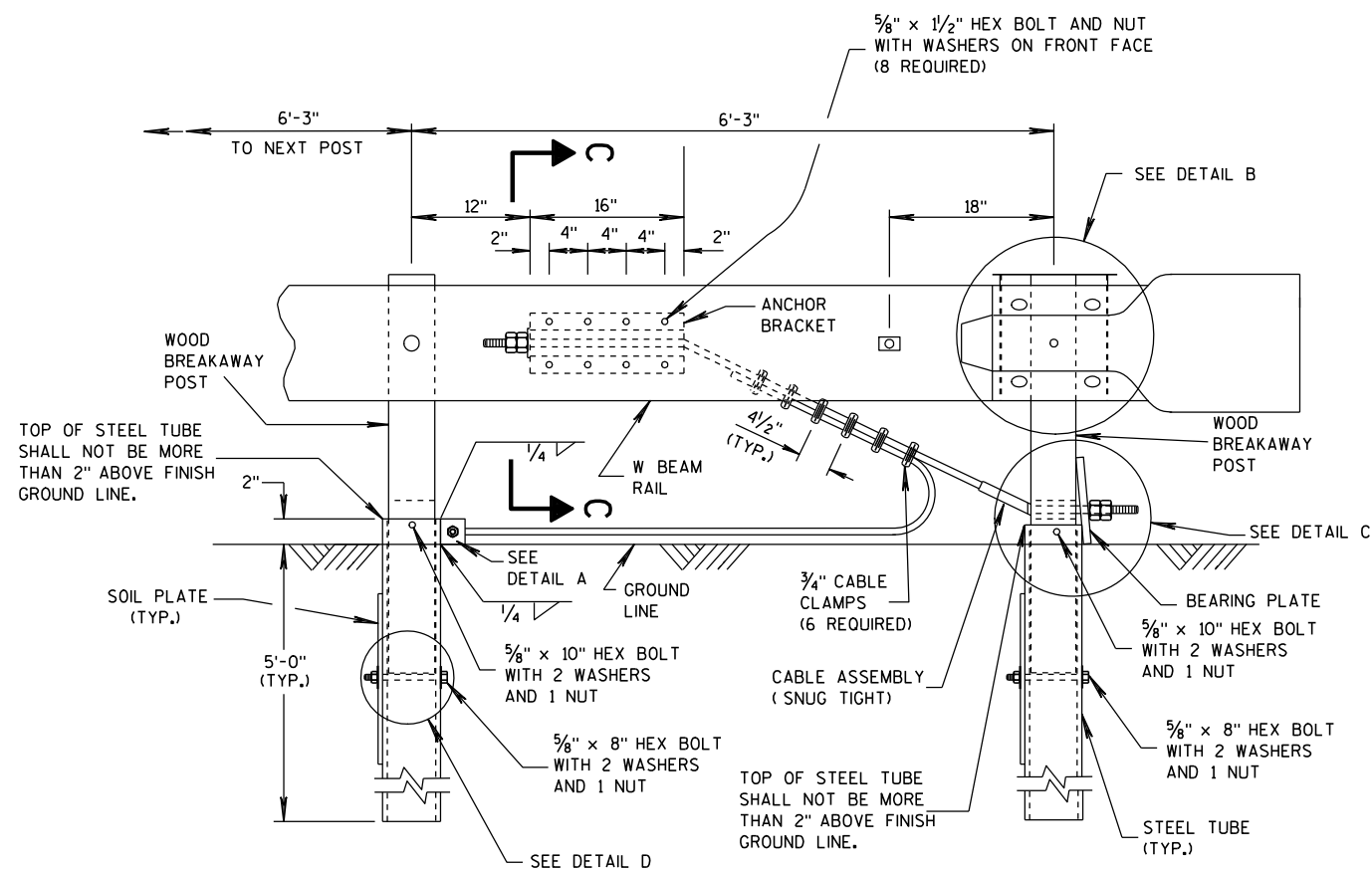
**SECTION B-B
(BEAM GUARD POST)**

**STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW

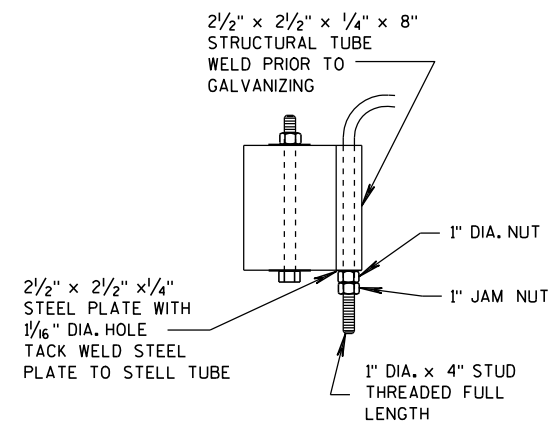


ELEVATION VIEW

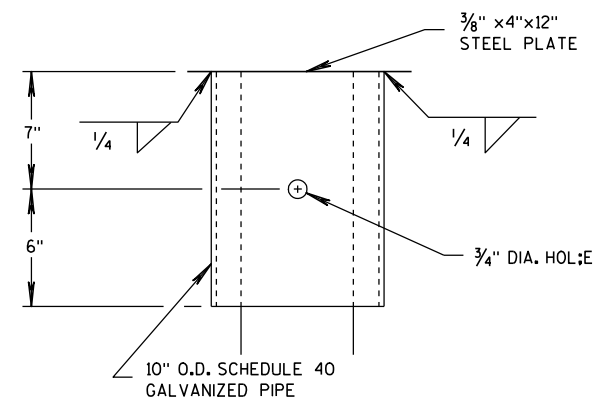
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GENERAL NOTES

- 1 ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A 5/8" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.
- INSTALL GALVANIZED 3/4" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED FLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A

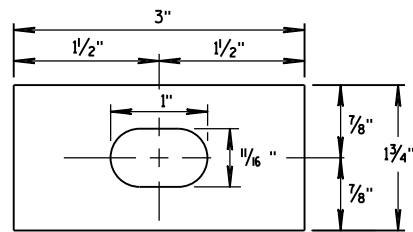


DETAIL B

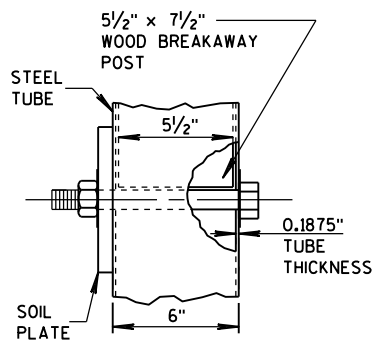
(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

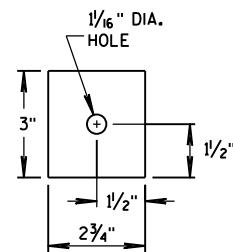
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



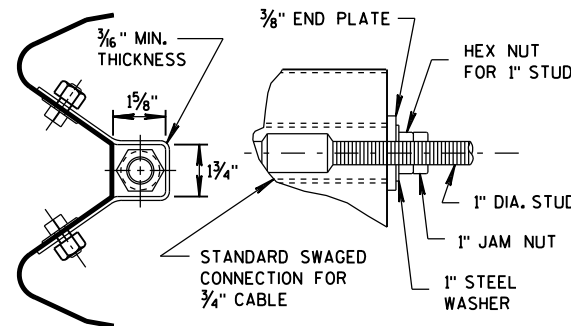
**RECTANGULAR
PLATE WASHER**



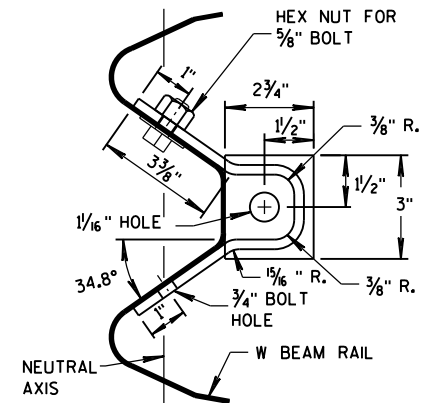
DETAIL D



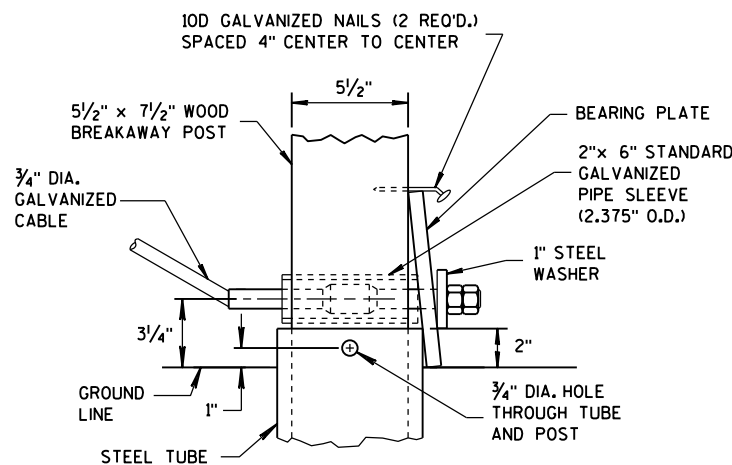
END PLATE



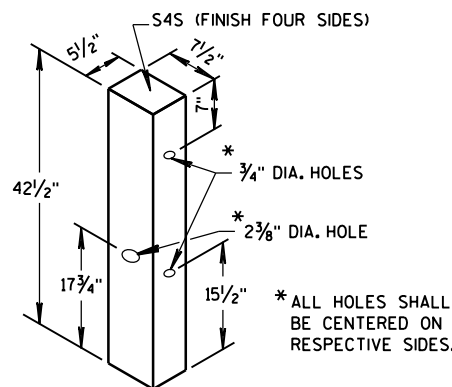
**SECTION C-C
(END PLATE REMOVED)**



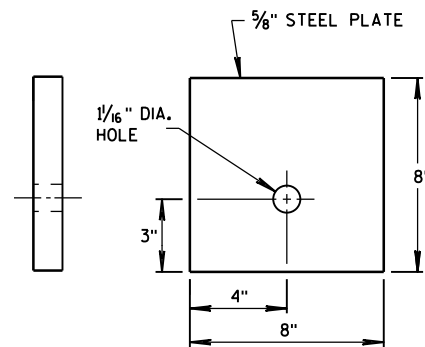
ANCHOR BRACKET



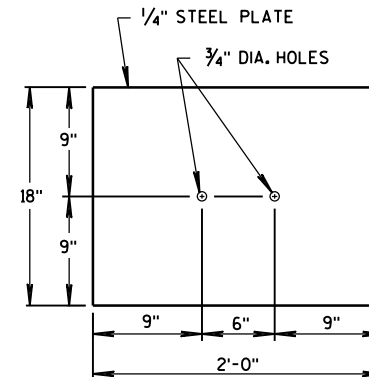
DETAIL C



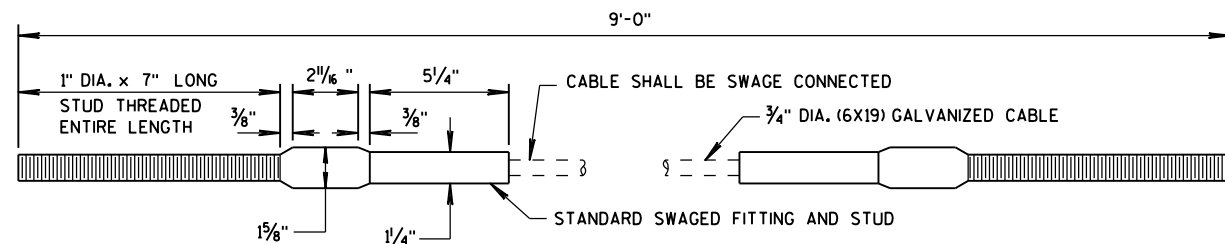
WOOD BREAKAWAY POST



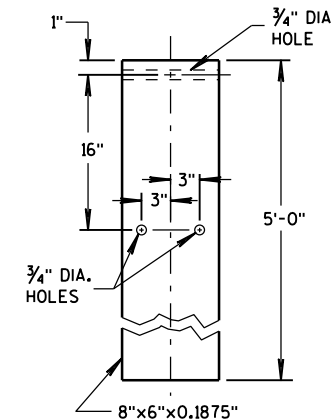
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

**STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

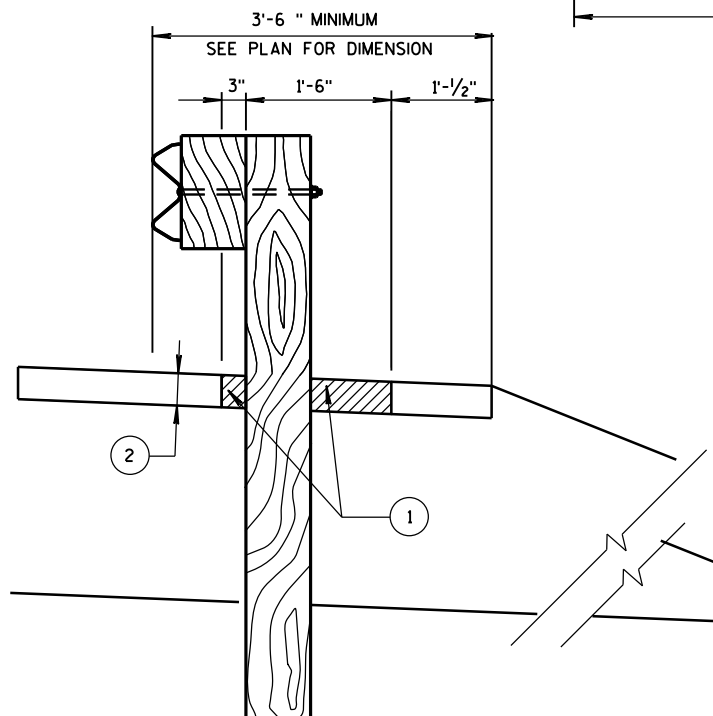
12/18/08

DATE

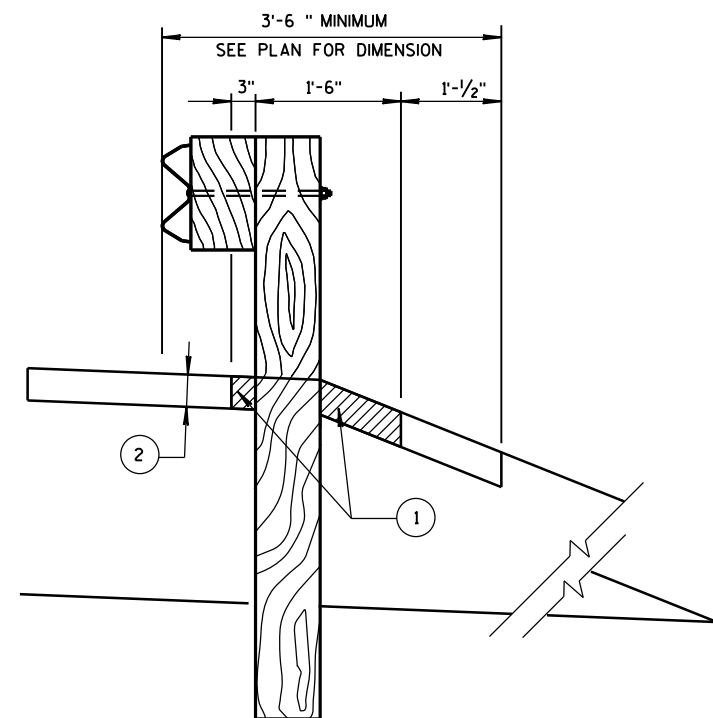
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

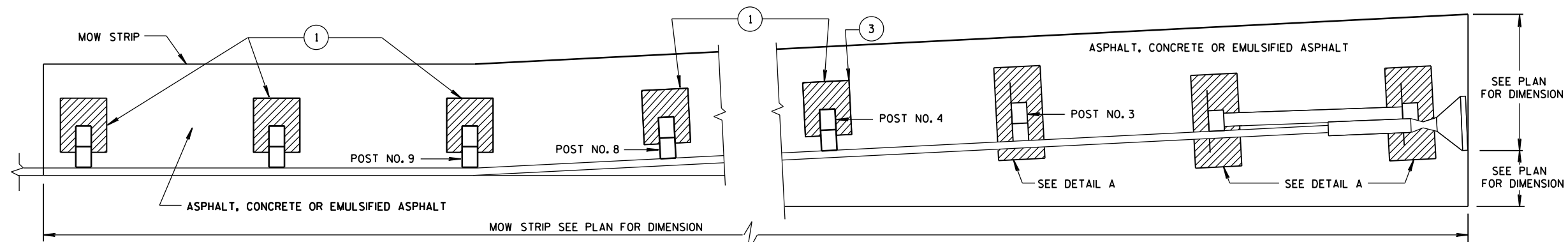
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SECTION A-A

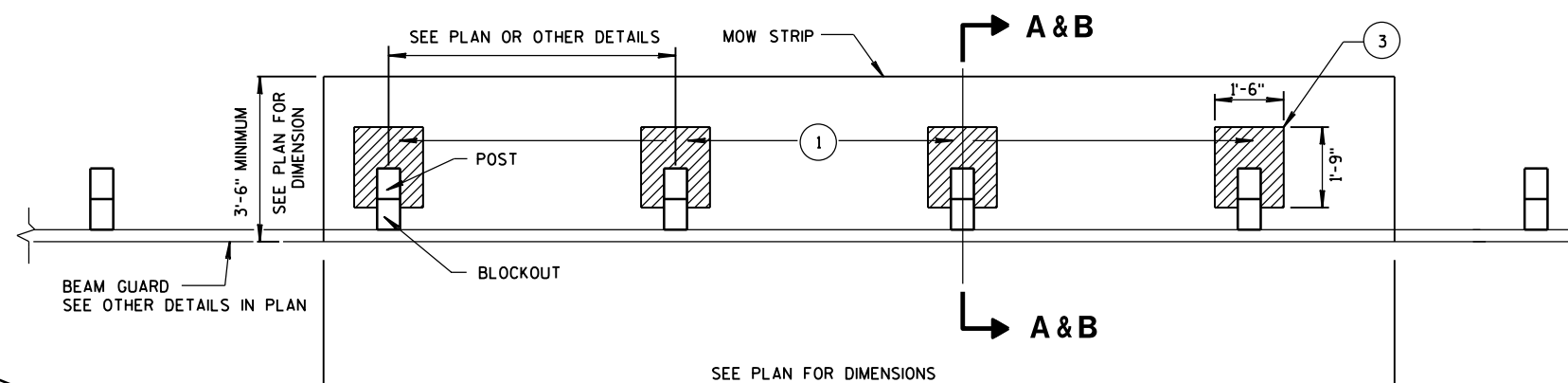


SECTION B-B



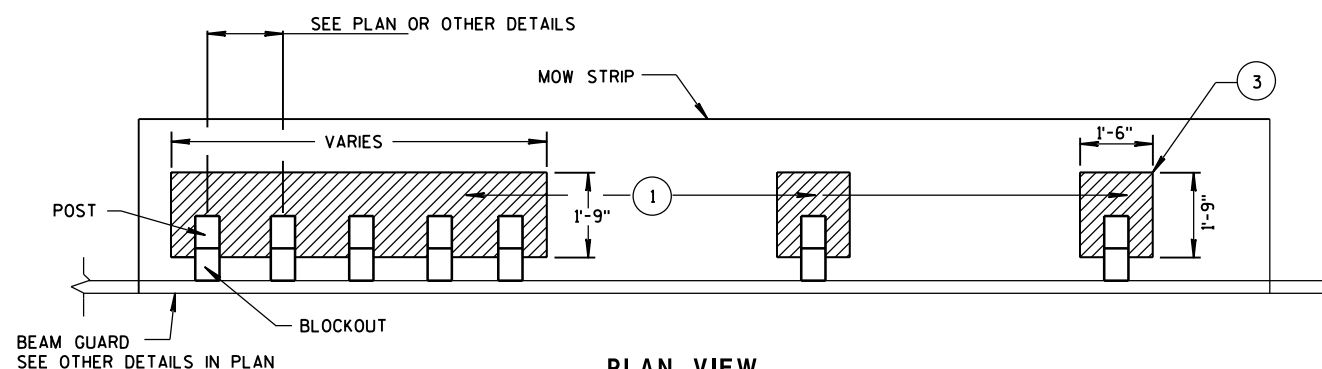
PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL



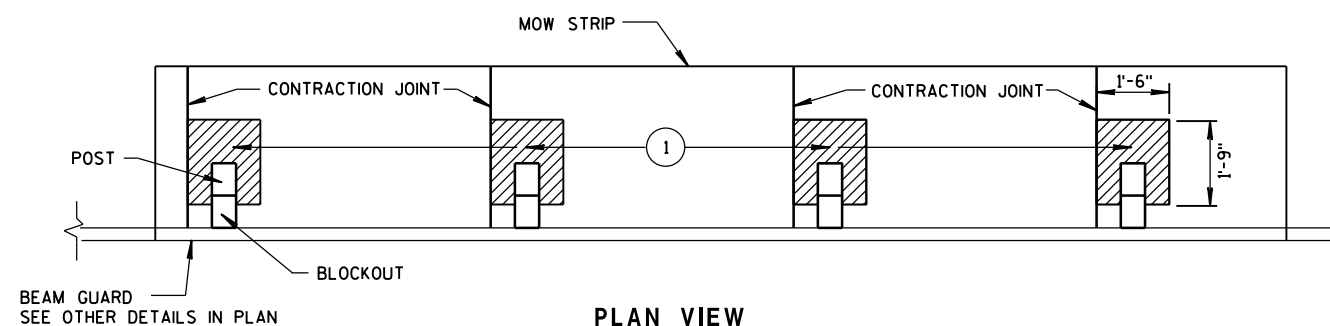
PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



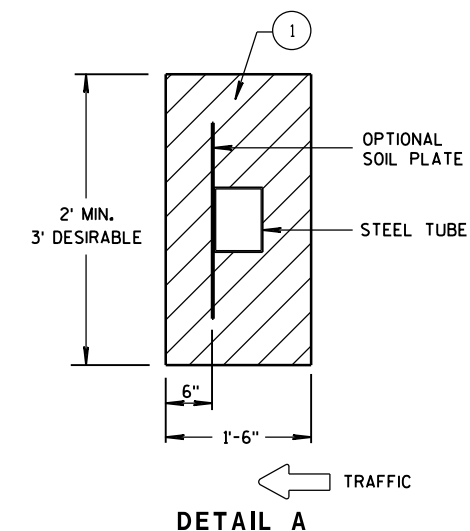
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT

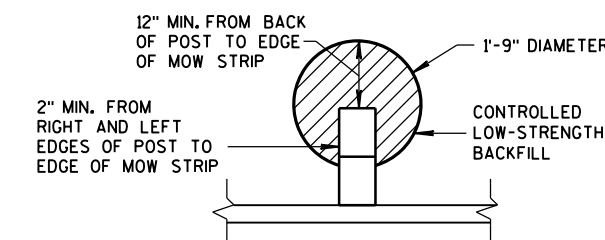


PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



DETAIL A

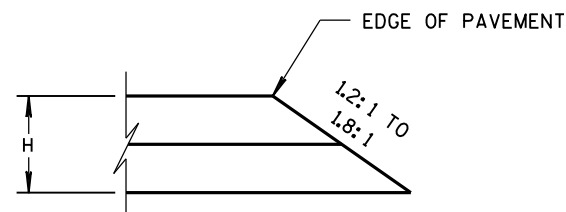
ALTERNATIVE HMA
MOW STRIP DESIGN

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

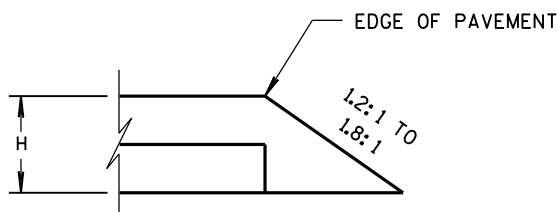
GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

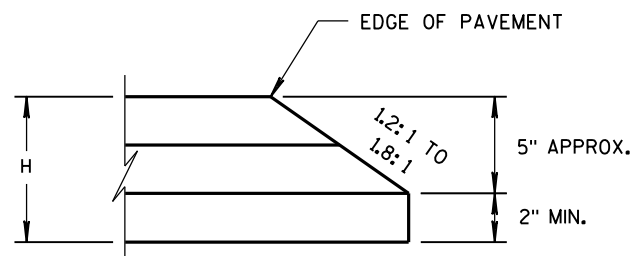
APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 099 NT
FHWA ENGINEER



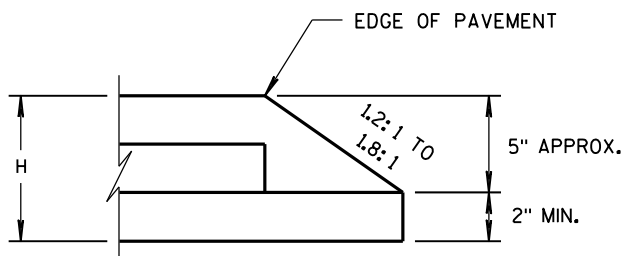
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

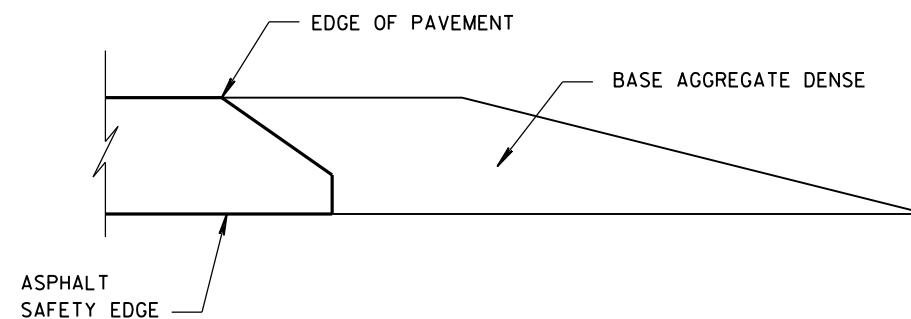


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 11/30/2012
FHWA

/s/ Jerry H. Zoga
ROADWAY STANDARDS
ENGINEER

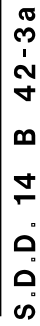
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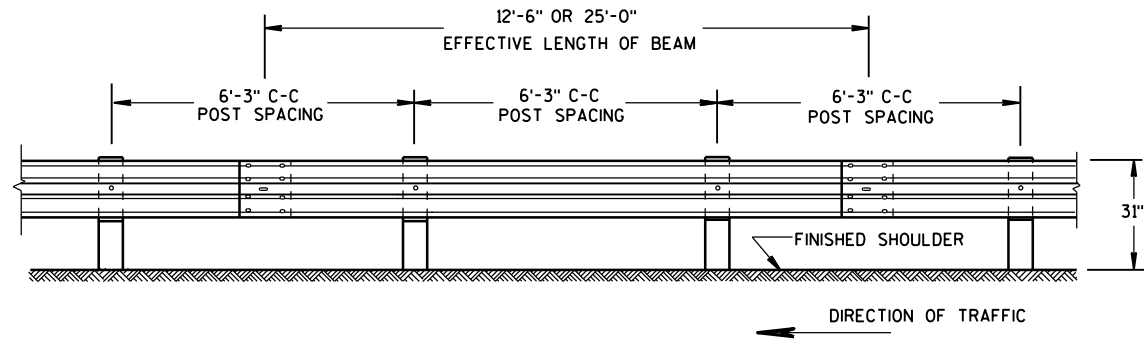
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- S.D.D. 14 B 42-3a**



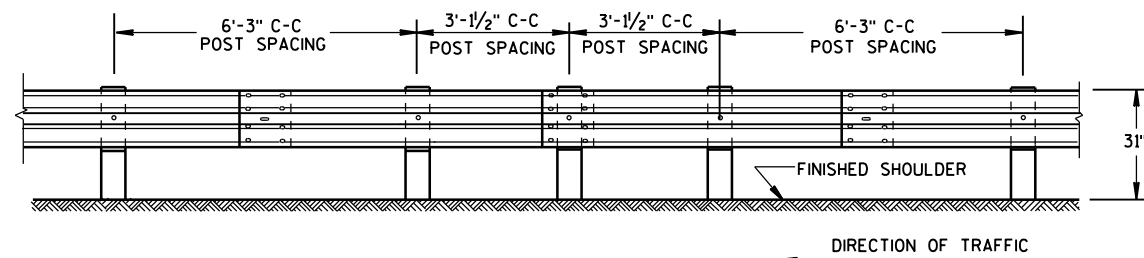
S.D.D. 14 B 42-3a





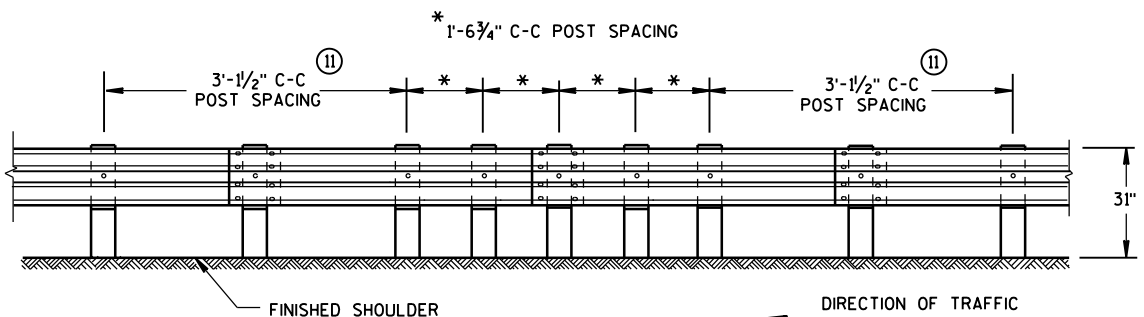
FRONT VIEW

POST SPACING STANDARD INSTALLATION



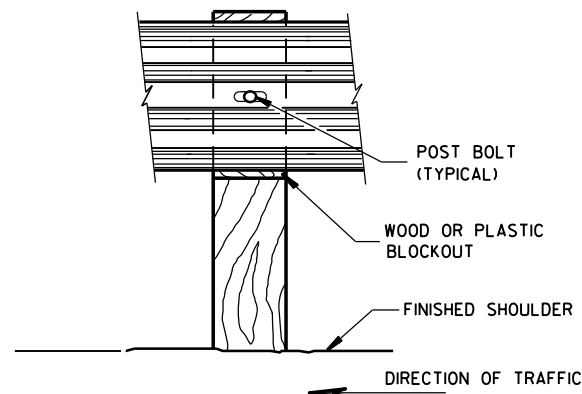
FRONT VIEW

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

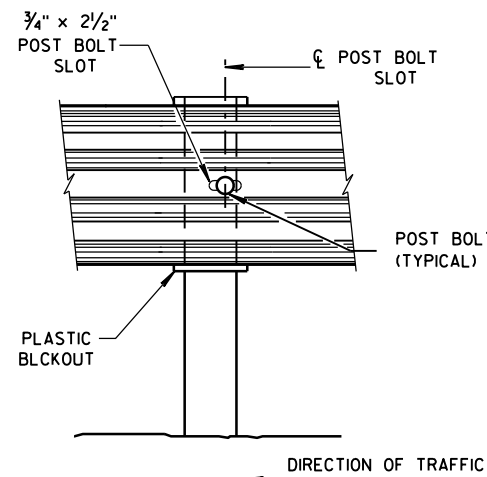


FRONT VIEW

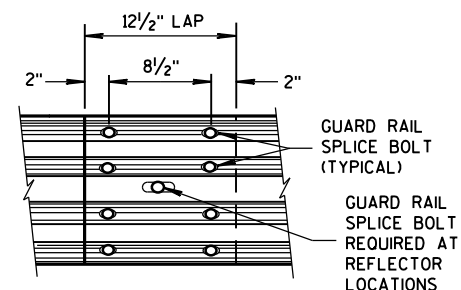
QUARTER POST SPACING (QS)



FRONT VIEW AT WOOD POST

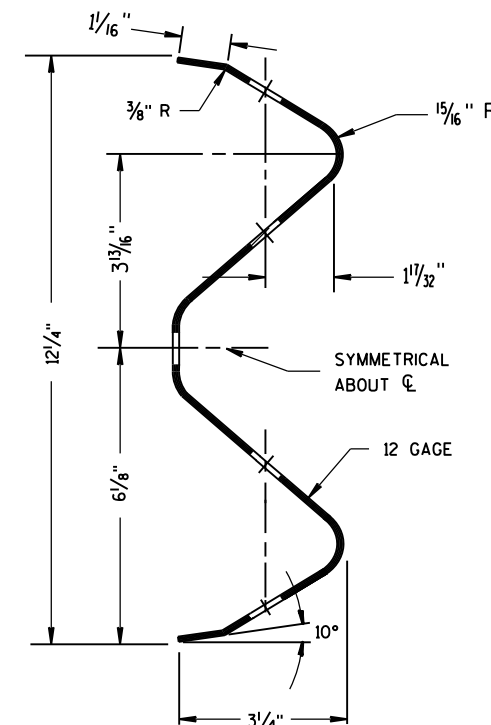


FRONT VIEW AT STEEL POST

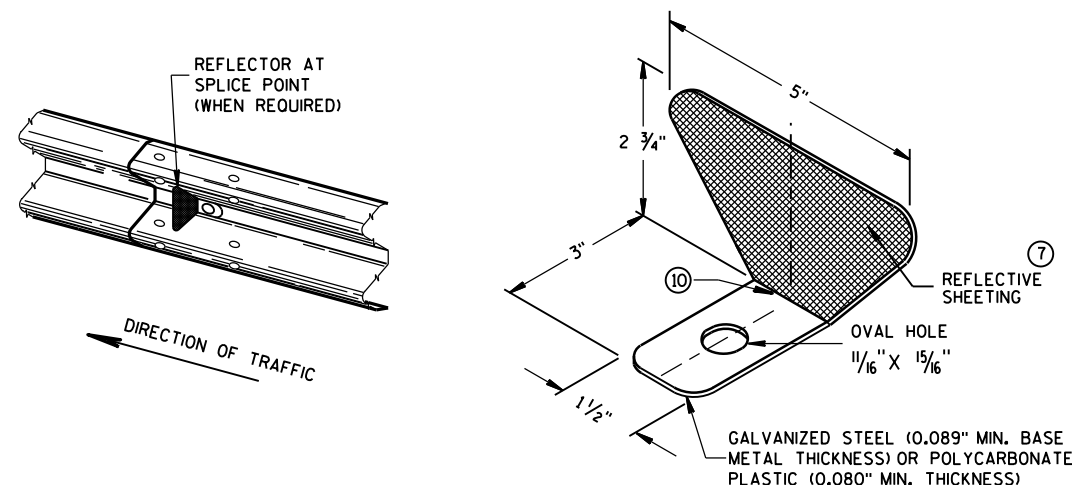


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

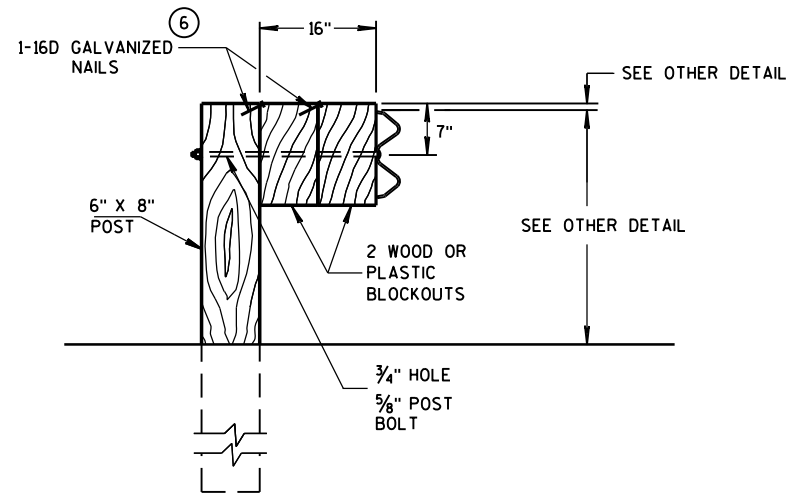
GENERAL NOTES

- 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	

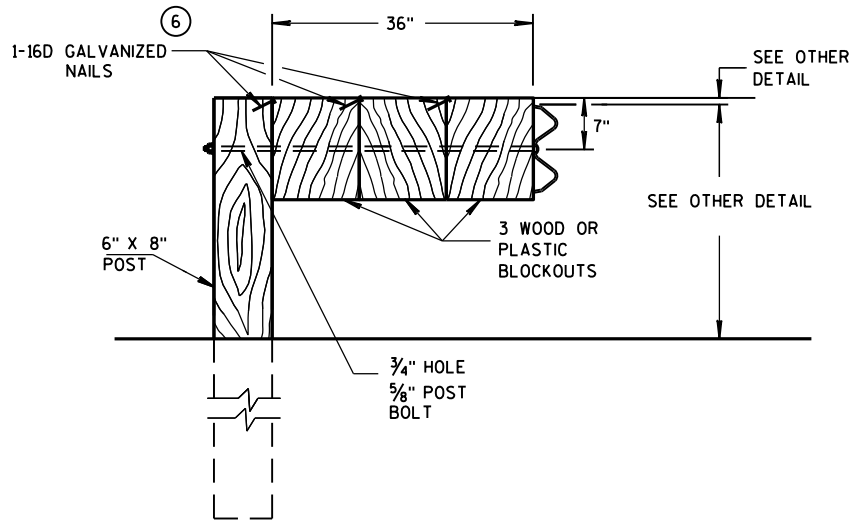
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION¹⁰²



DETAIL FOR 16" BLOCKOUT DEPTH

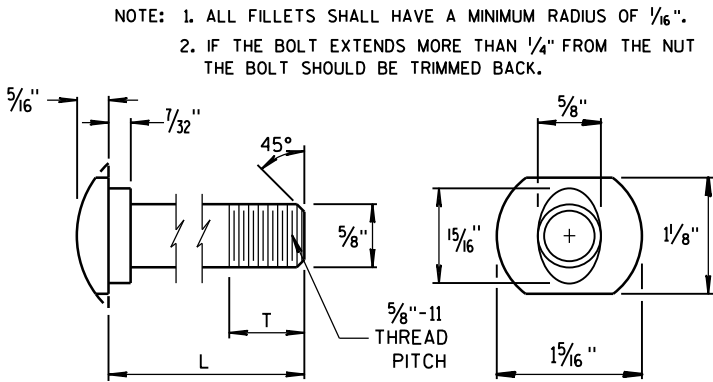
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



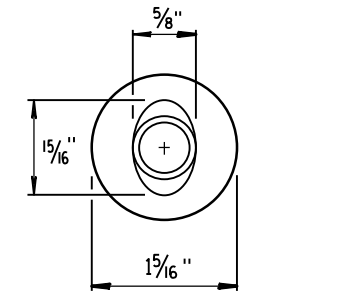
DETAIL FOR 36" BLOCKOUT DEPTH

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

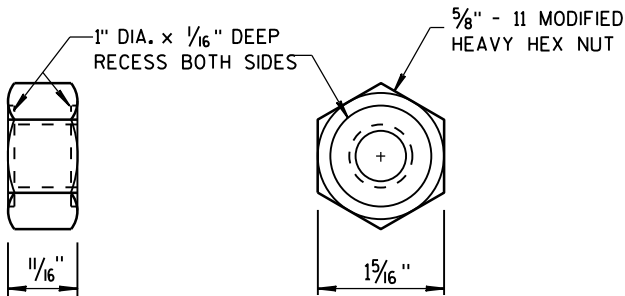
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



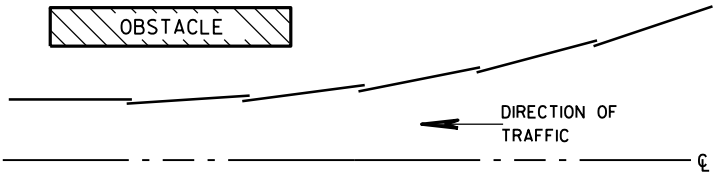
POST BOLT TABLE



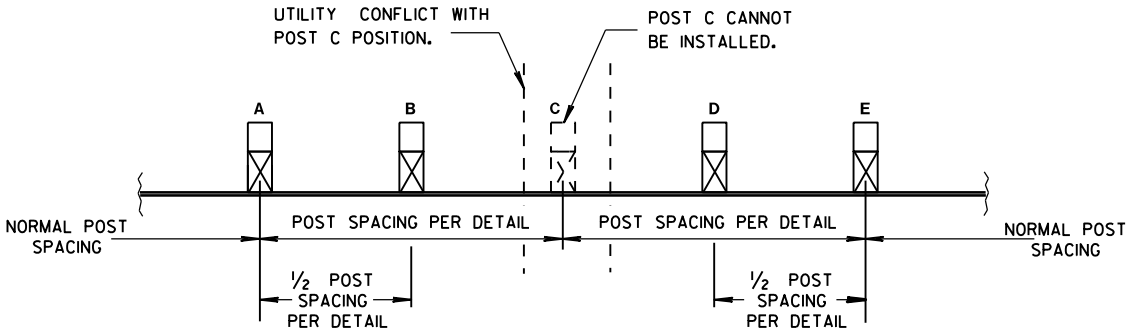
ALTERNATE BOLT HEAD



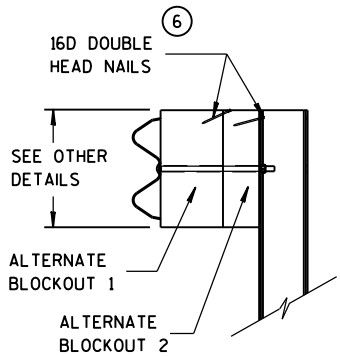
POST BOLT AND RECESS NUT



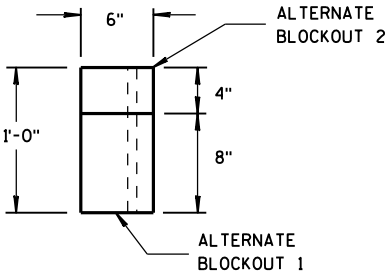
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

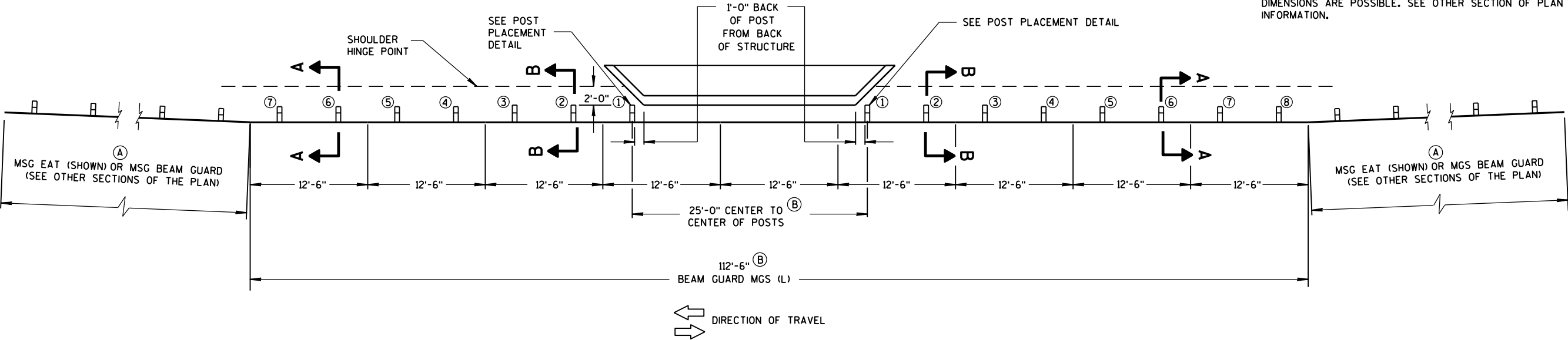
APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 103 ENT
FHWA ENGINEER

GENERAL NOTES

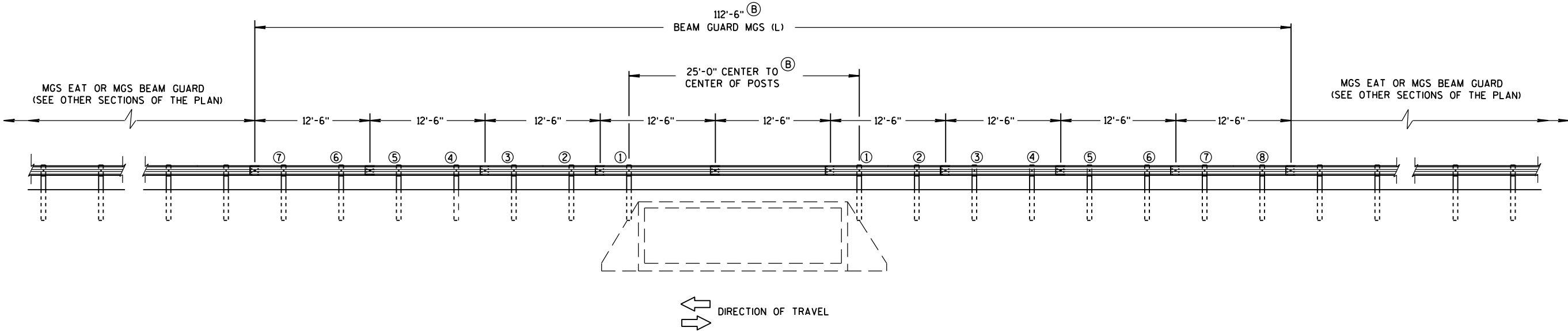
POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

SEE SDD 14 B 42 FOR MORE DETAILS.

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



PLAN VIEW



ELEVATION VIEW

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

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

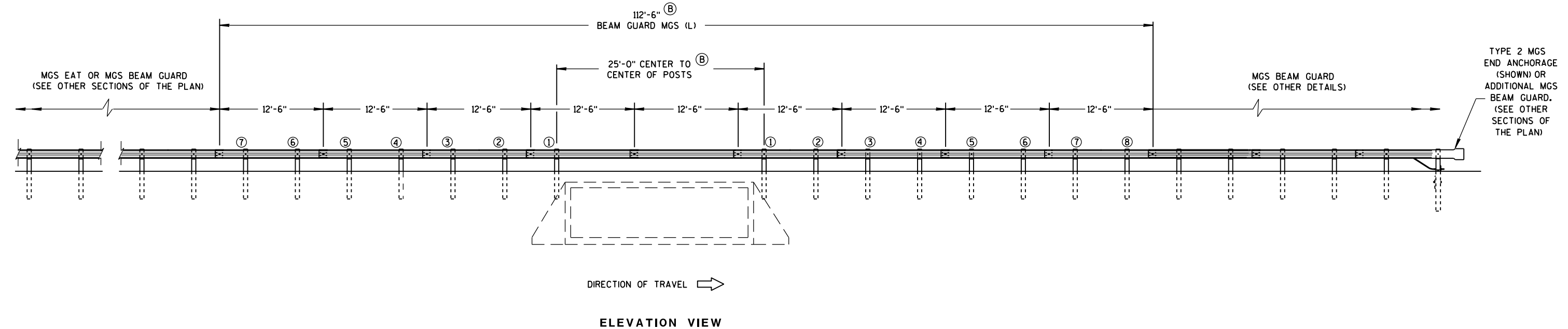
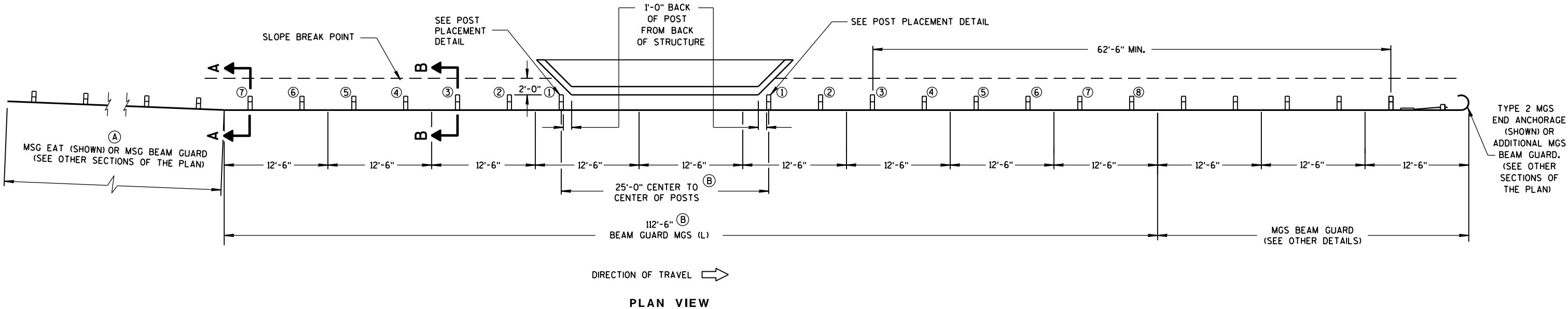
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 104

GENERAL NOTES

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

SEE SDD 14 B 42 FOR MORE DETAILS.

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

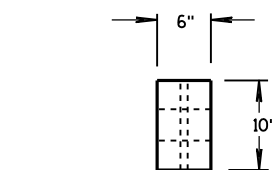


MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

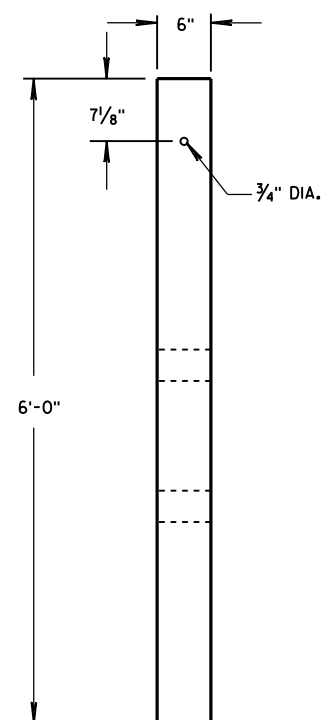
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

105

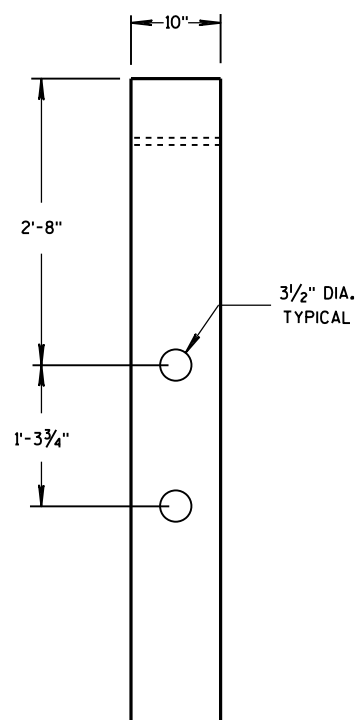


PLAN VIEW

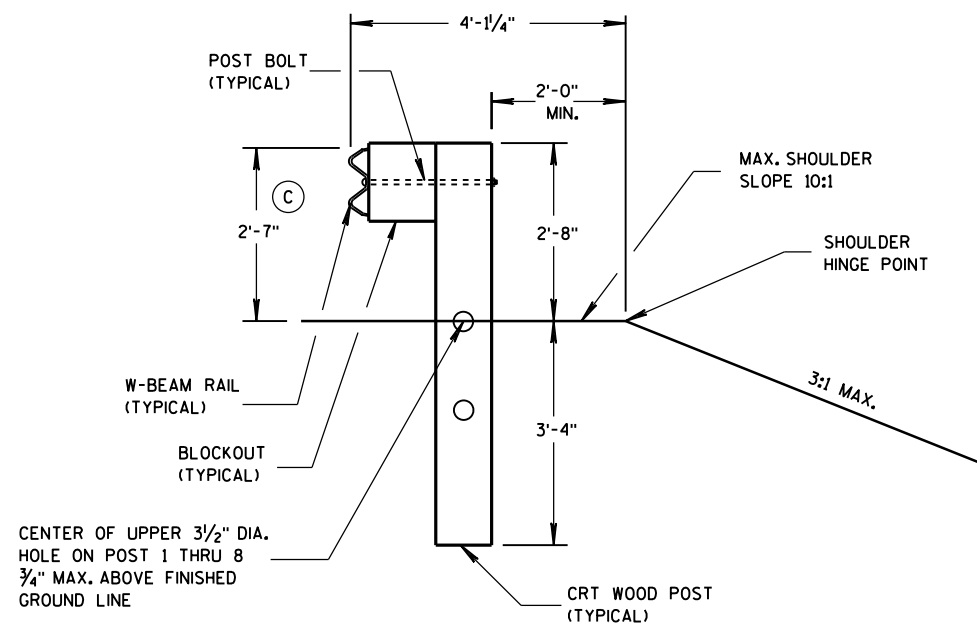


FRONT VIEW

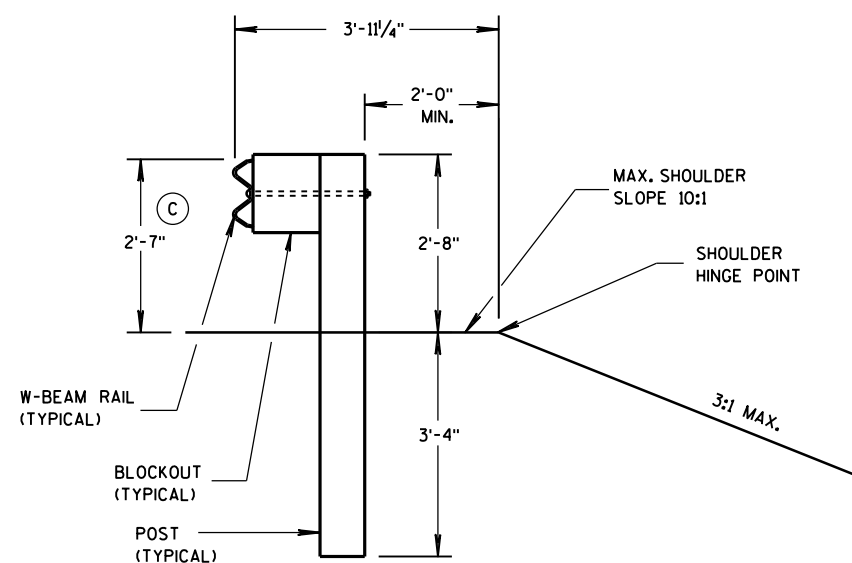
CRT WOOD POST



SIDE VIEW

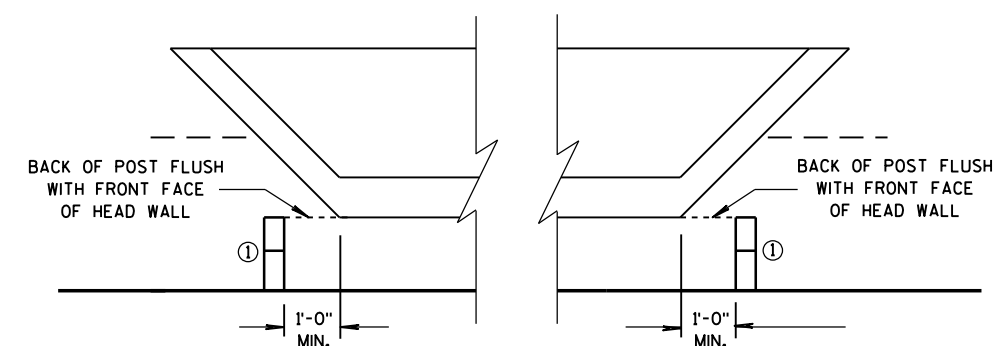
SECTION B-B
POSTS NO. 1-3

SEE OTHER DETAILS

SECTION A-A
POSTS NO. 4-8

SEE OTHER DETAILS

GENERAL NOTES

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

POST PLACEMENT DETAIL

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS (106) 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.

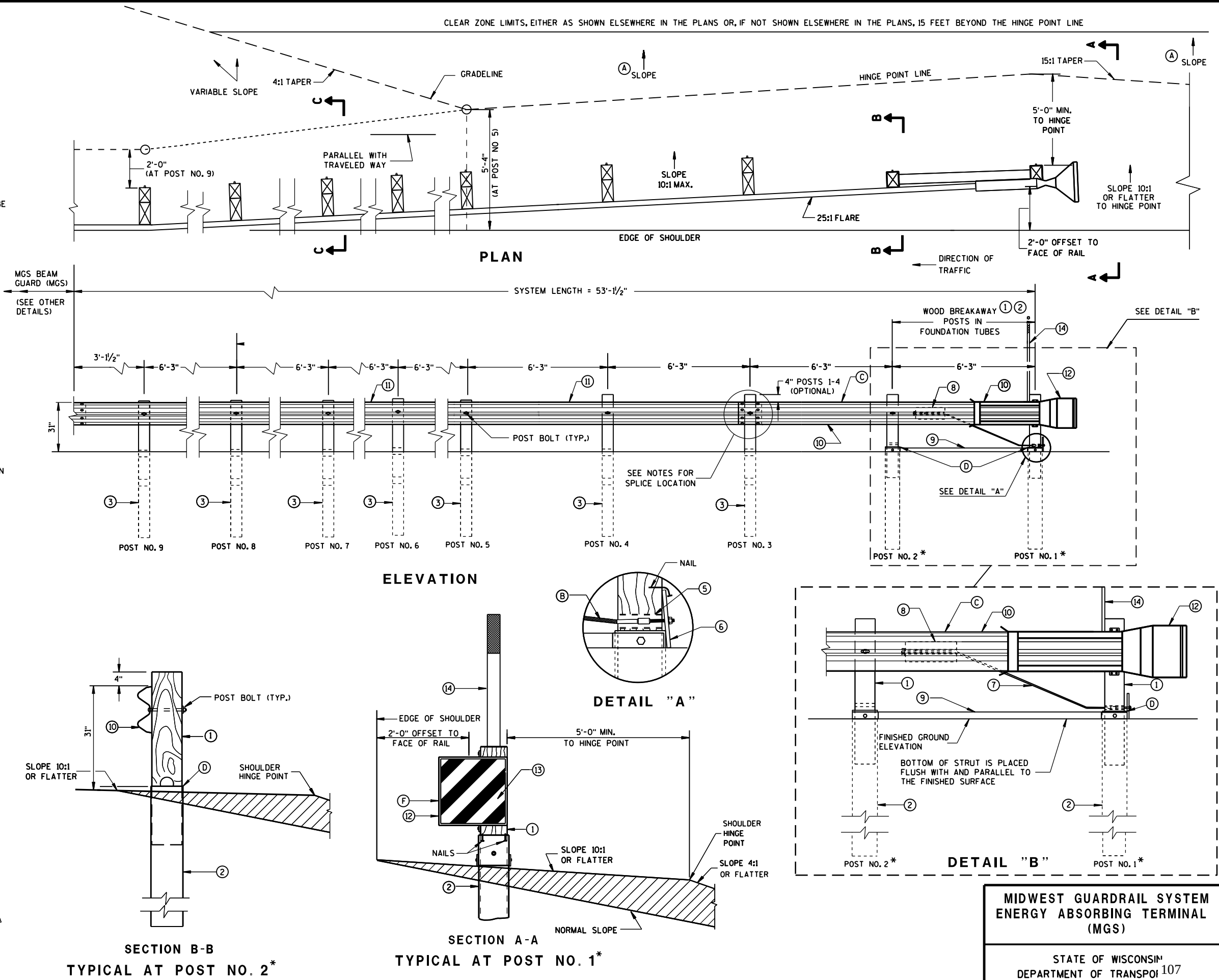
SEE SDD 14B42 FOR MORE INFORMATION.

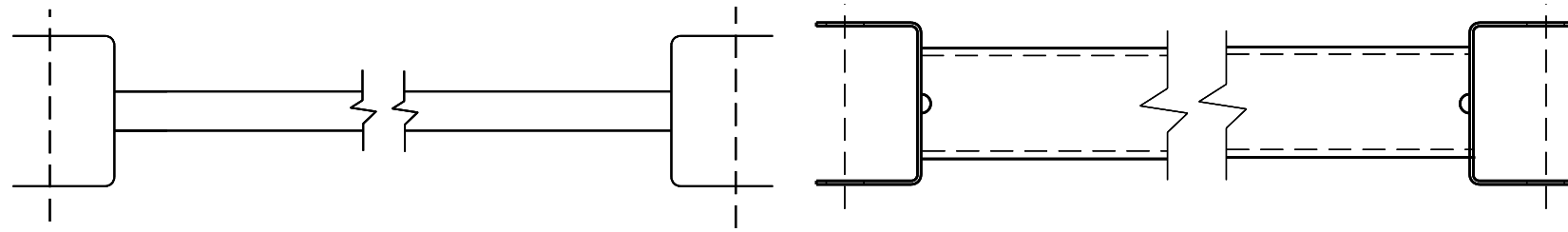
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

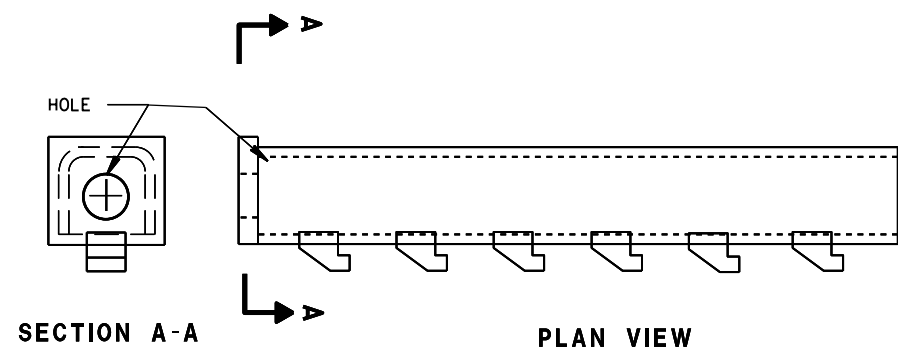
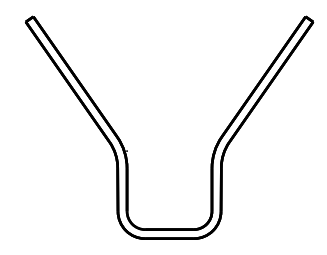
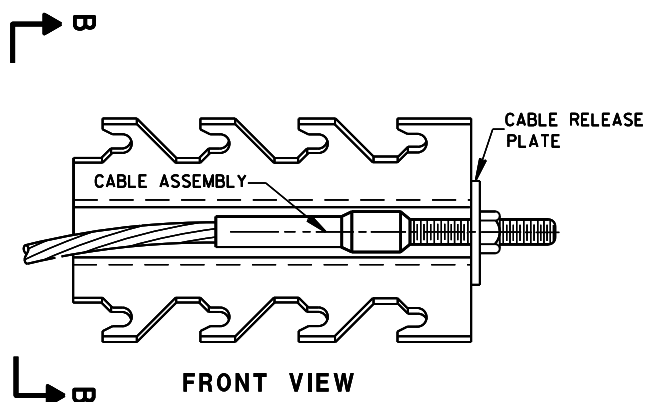
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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.





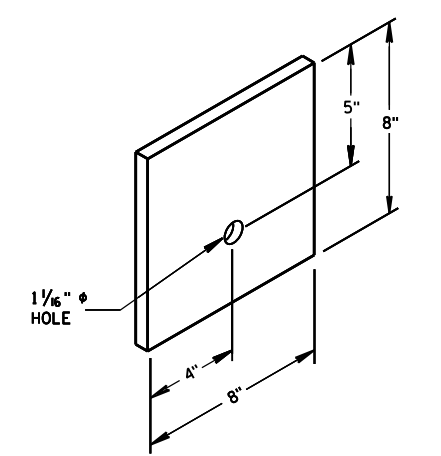
9 H
GENERIC GROUND STRUT



8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

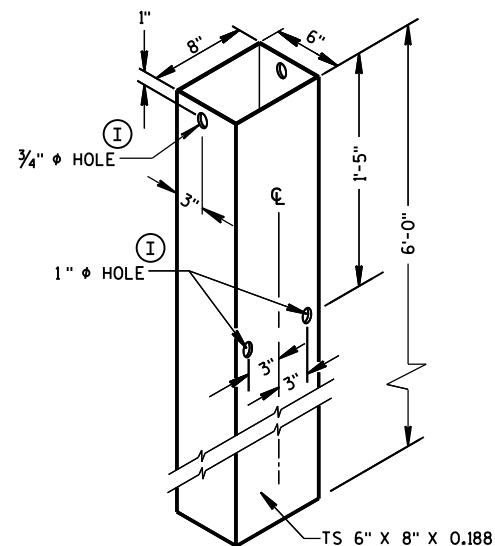
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND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



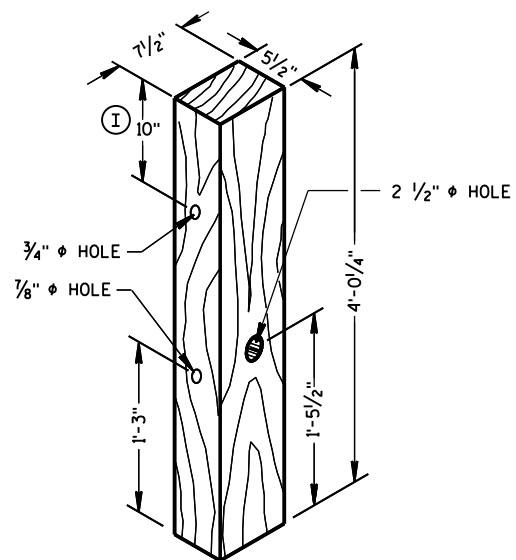
⑥
BEARING PLATE

6

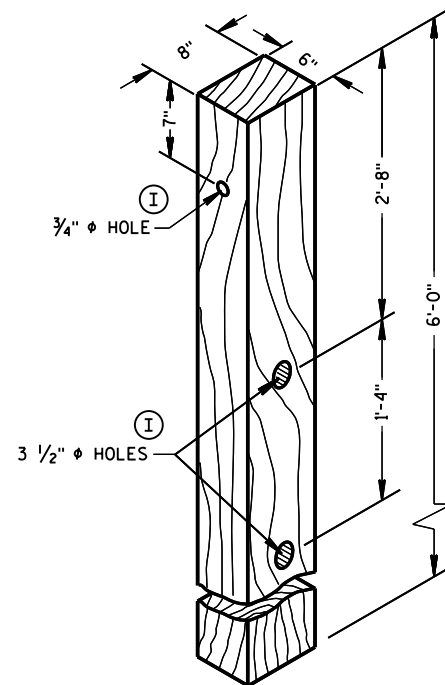
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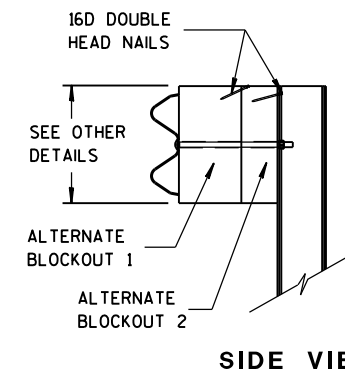
FOUNDATION TUBE ②



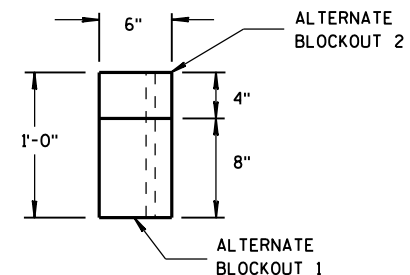
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

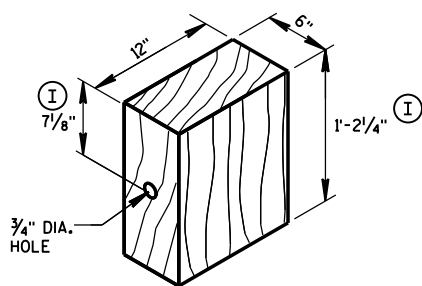


SIDE VIEW



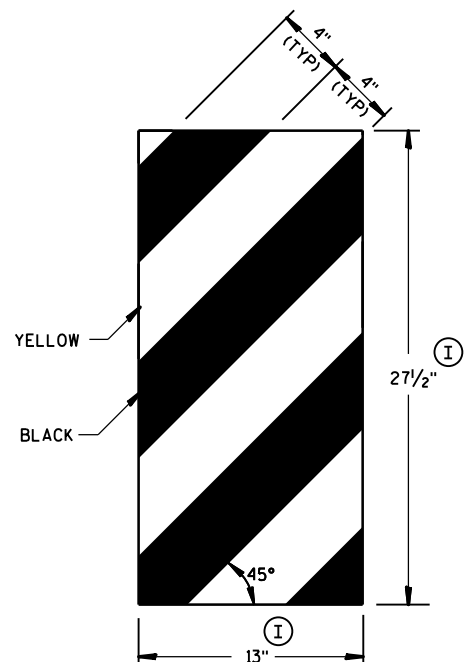
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

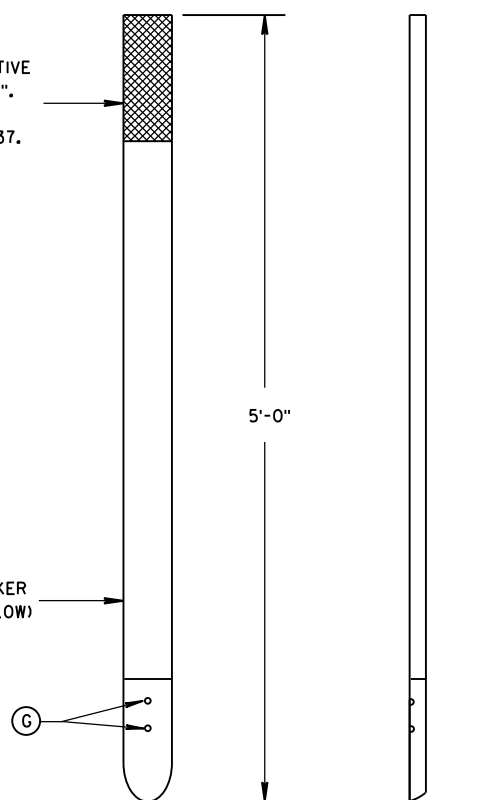
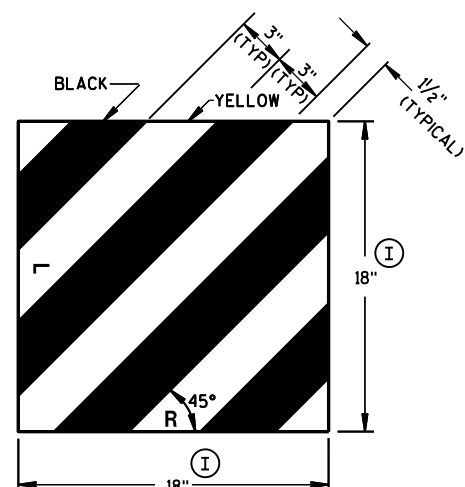


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

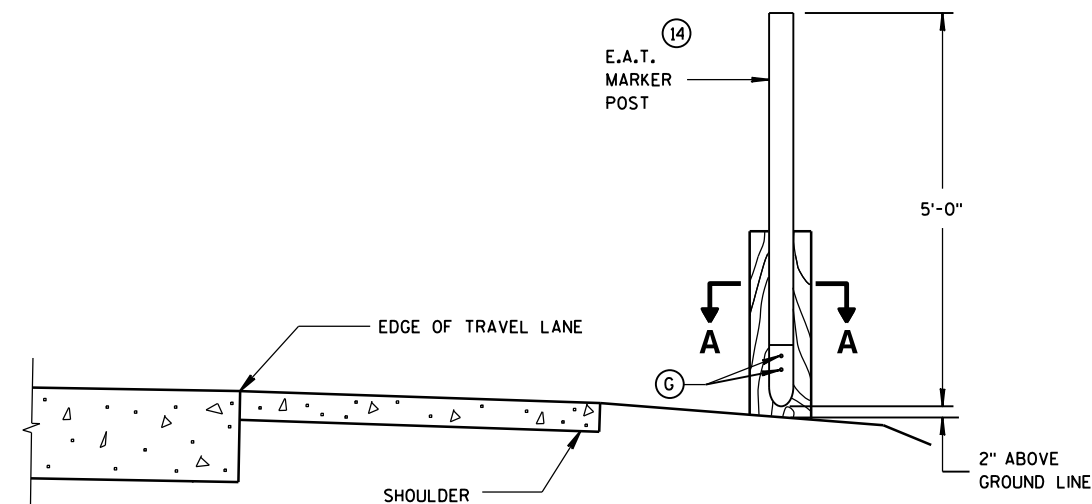
TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



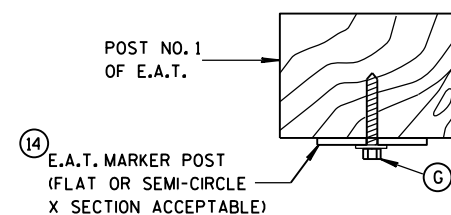
GENERIC REFLECTIVE SHEETING ⑬ ①



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)



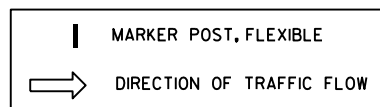
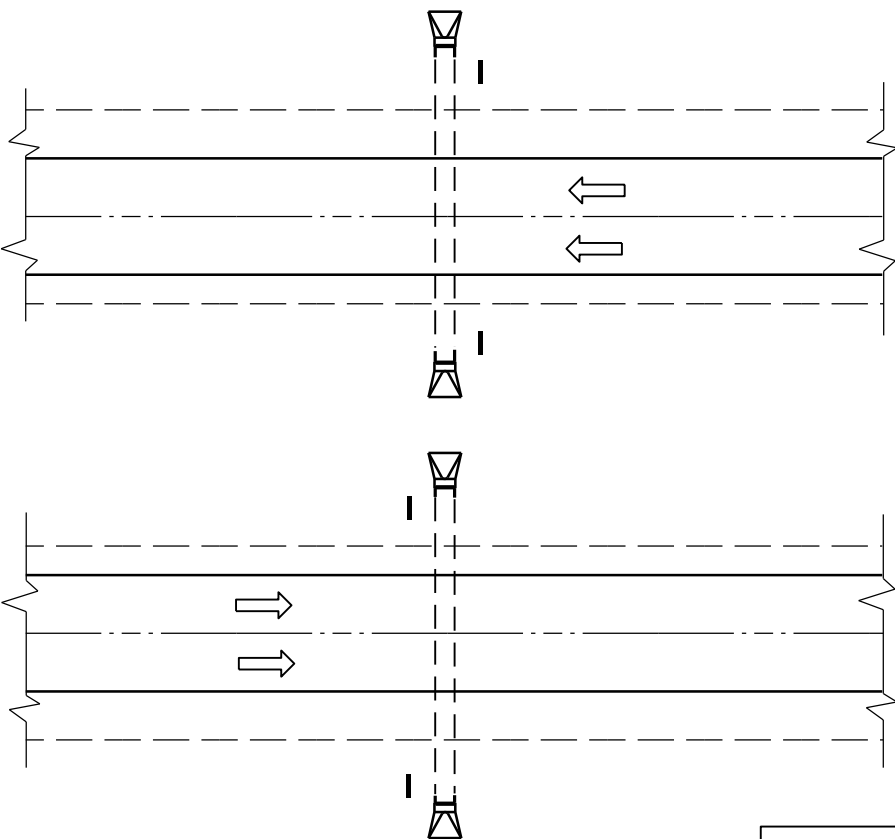
SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

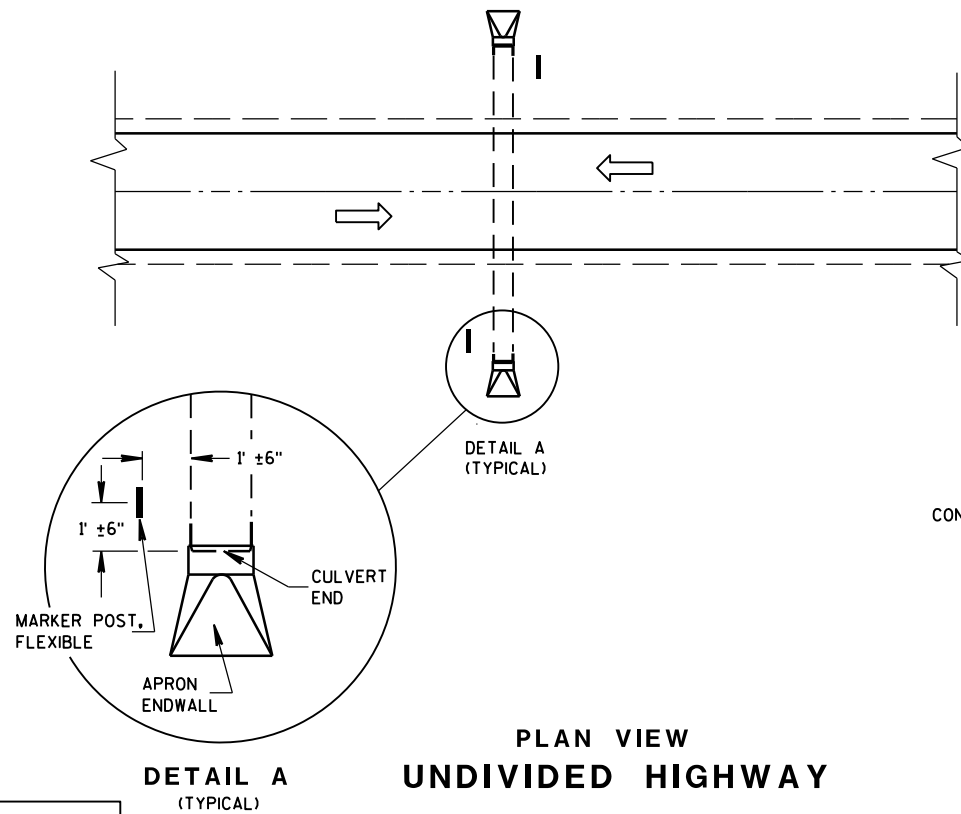
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 109 ENT
FHWA ENGINEER

PLAN VIEW
DIVIDED HIGHWAY



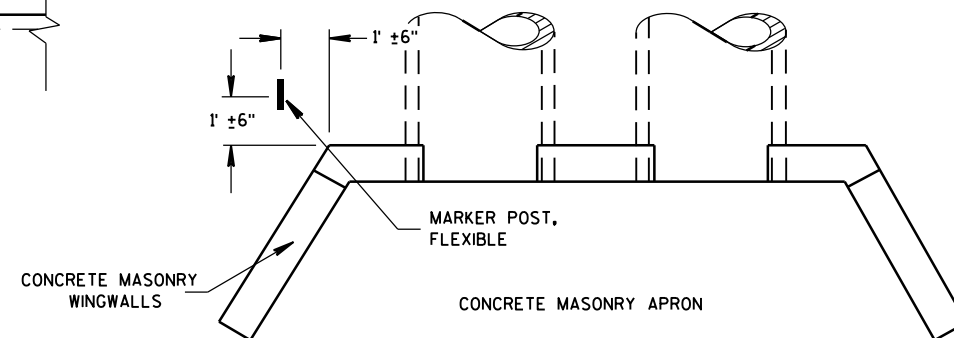
PLAN VIEW
UNDIVIDED HIGHWAY



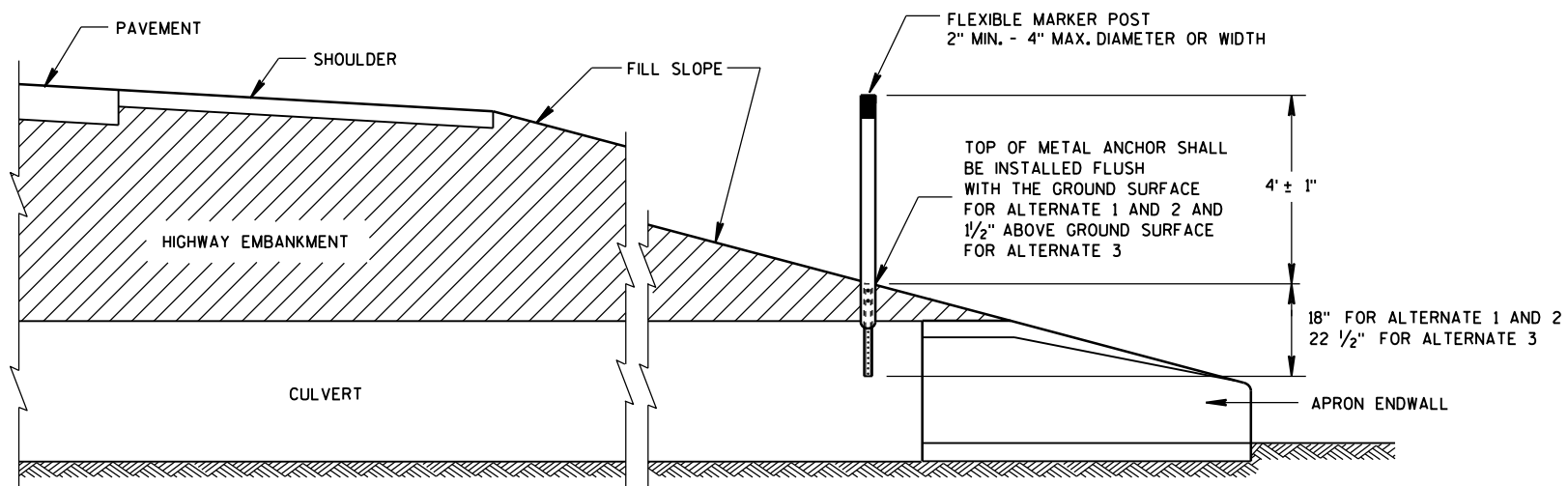
FLEXIBLE MARKER POST LOCATION

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.



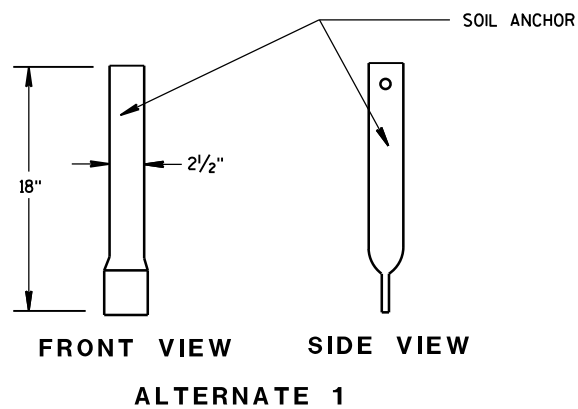
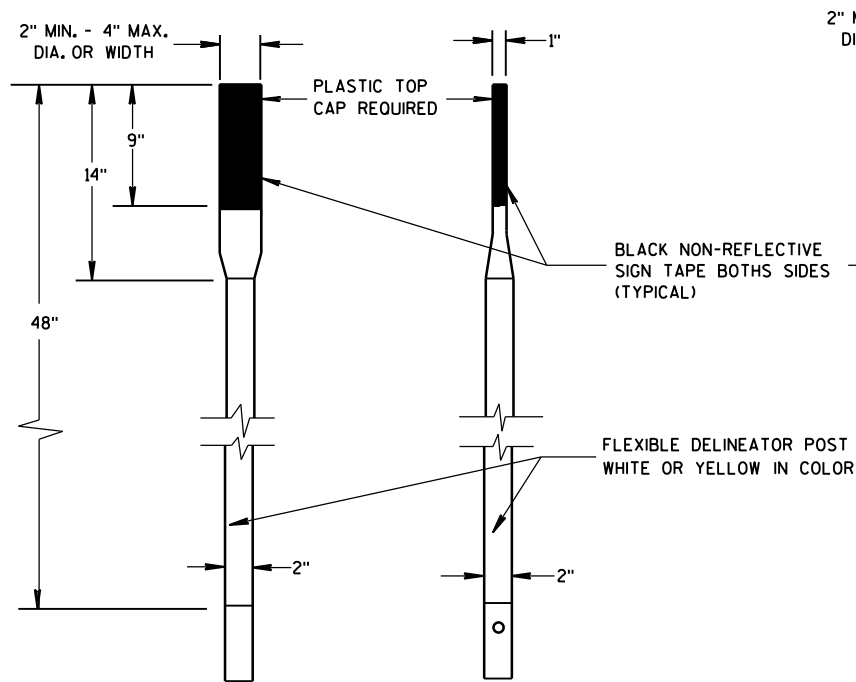
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



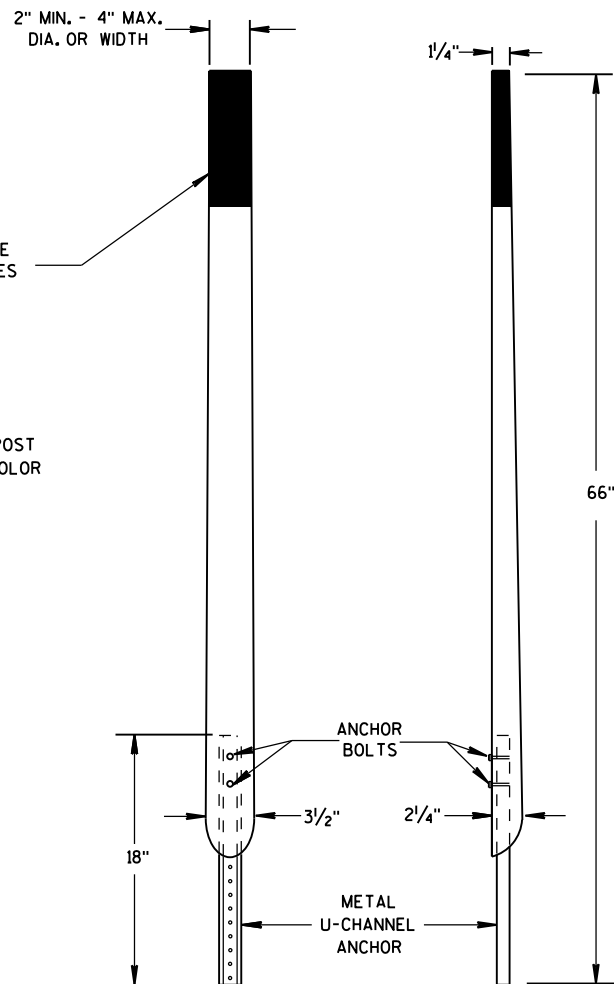
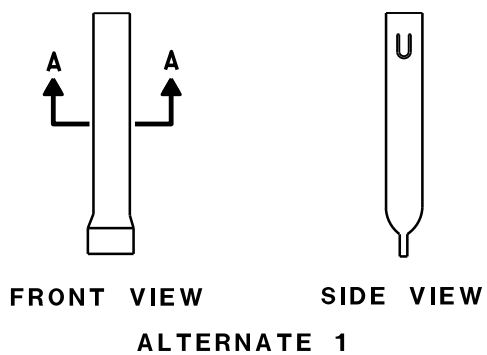
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

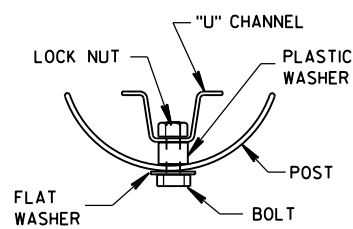


SECTION A-A

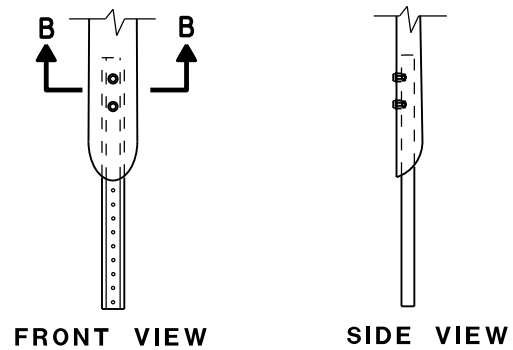


FRONT VIEW SIDE VIEW
ALTERNATE 2

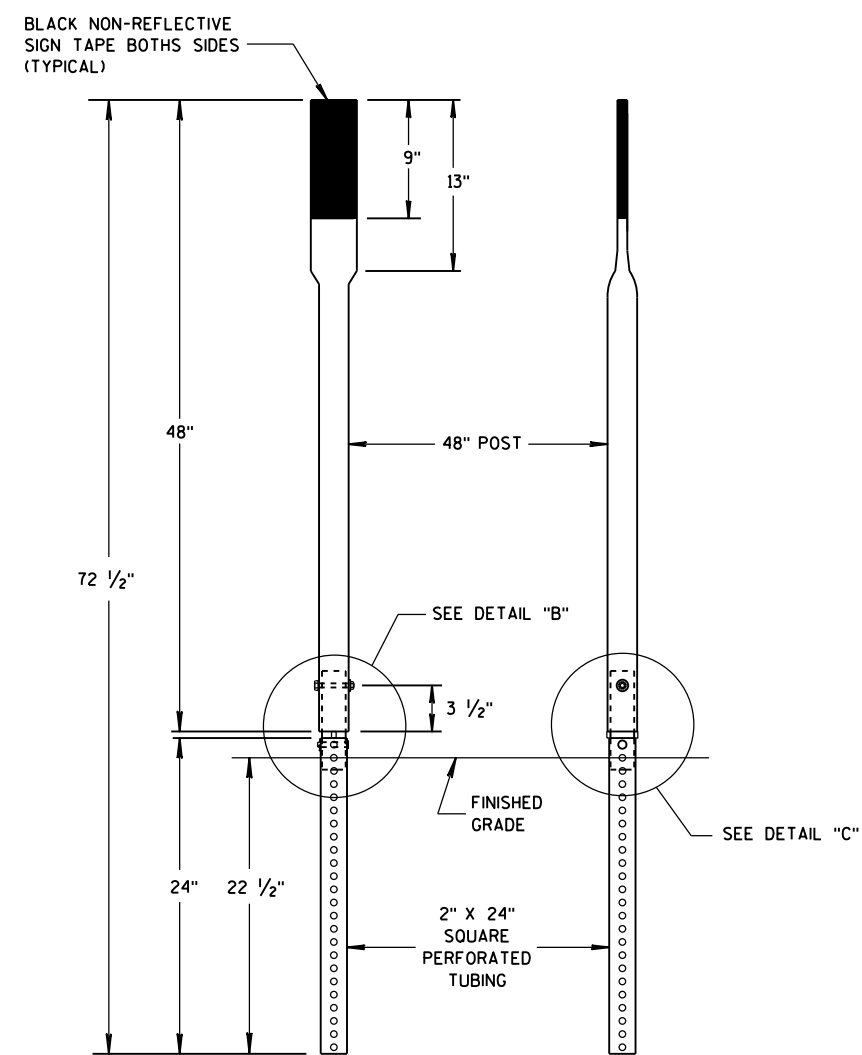
FLEXIBLE MARKER POSTS



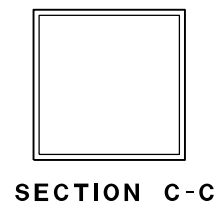
SECTION B-B



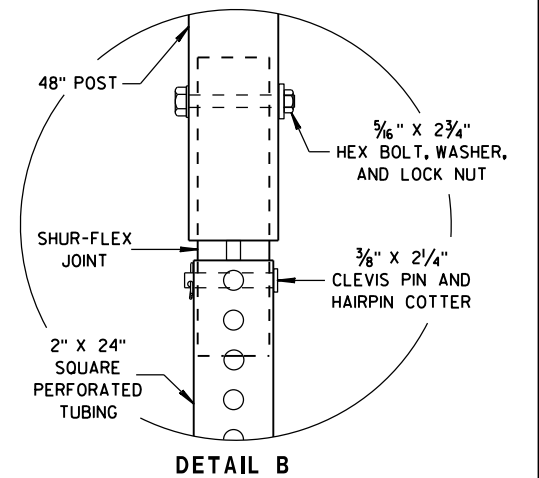
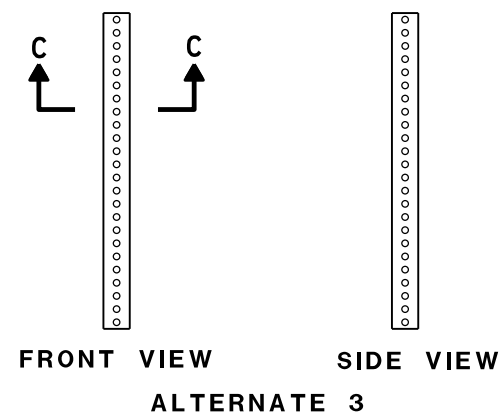
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



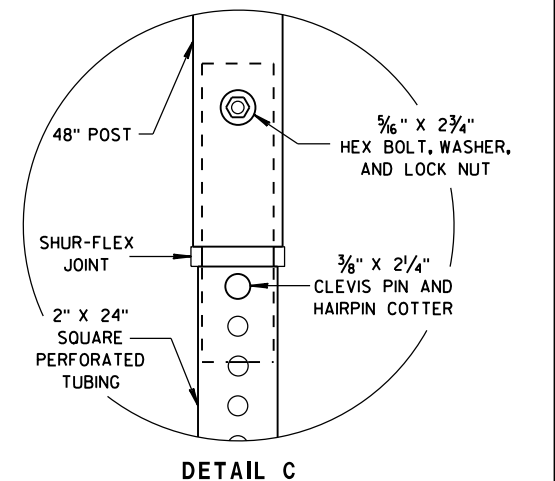
FRONT VIEW SIDE VIEW
ALTERNATE 3



SECTION C-C



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

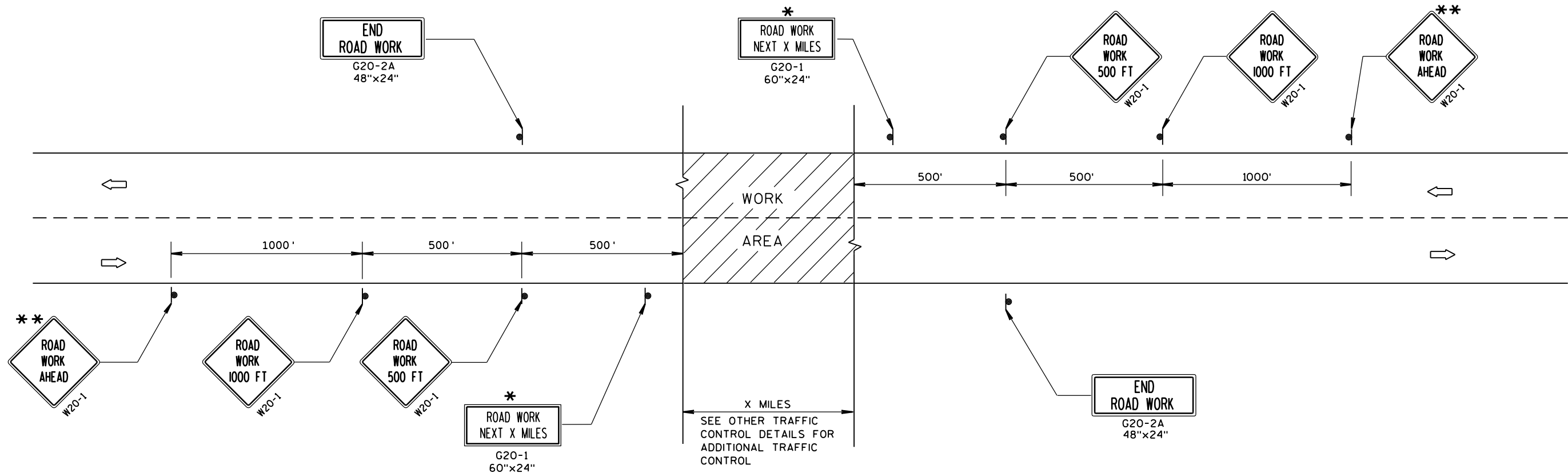
APPROVED

10/1/2012

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 111 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.

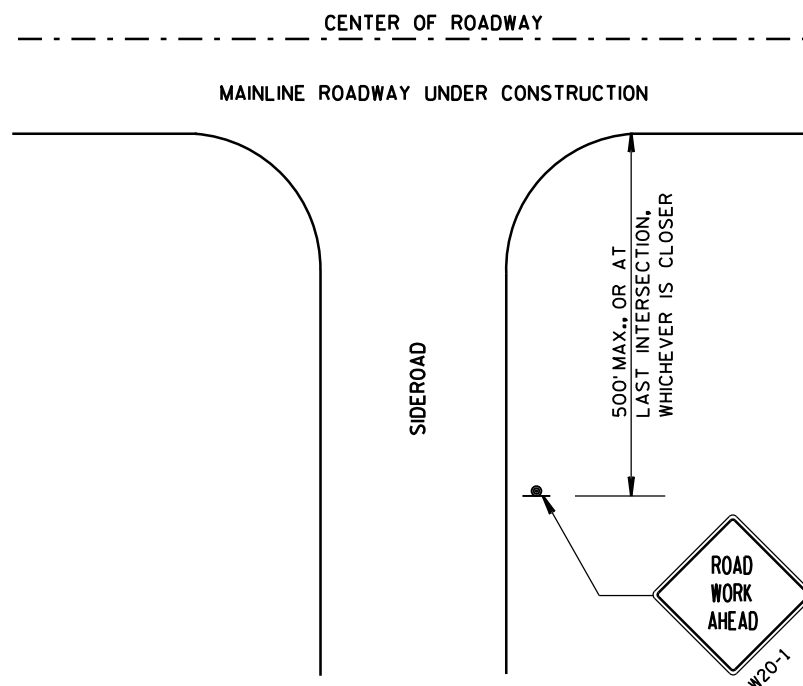
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.

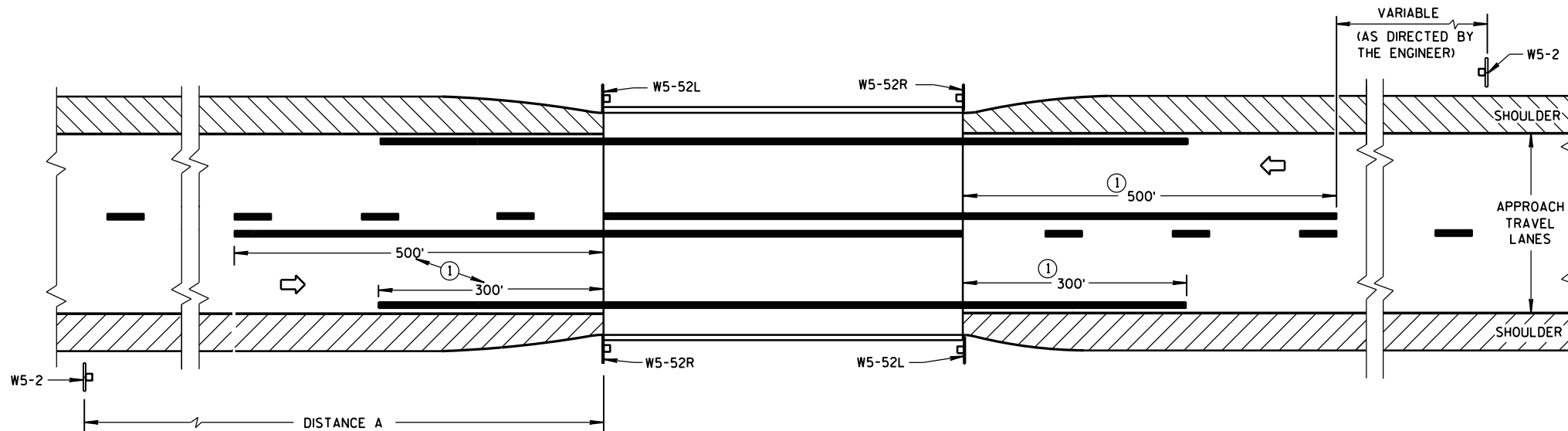
** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



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 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 112 SIGN
FHWA	



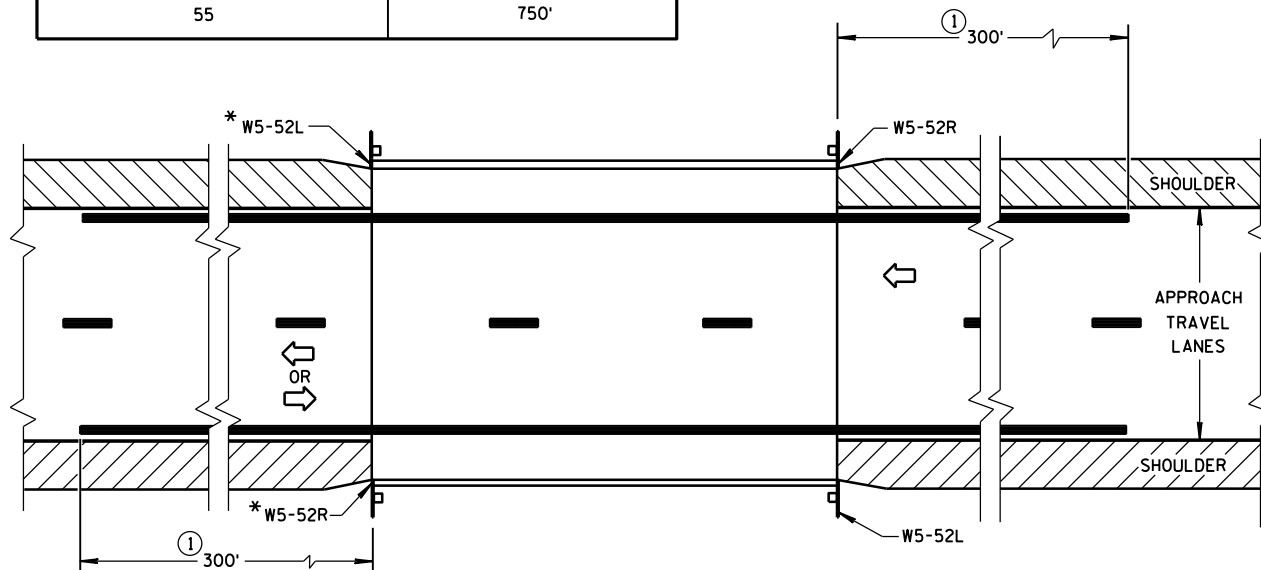
SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

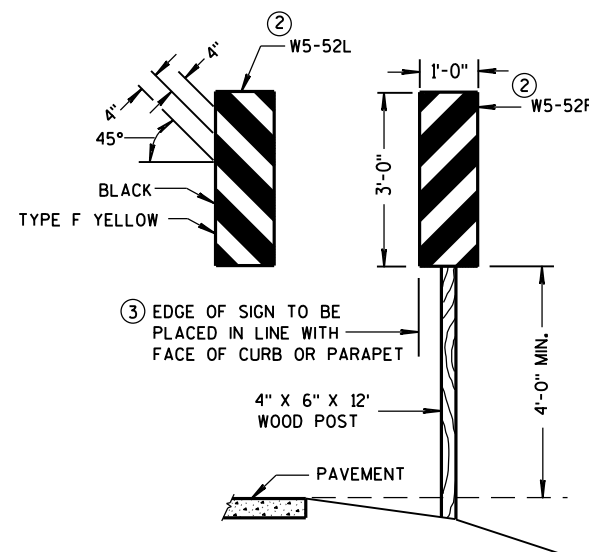


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



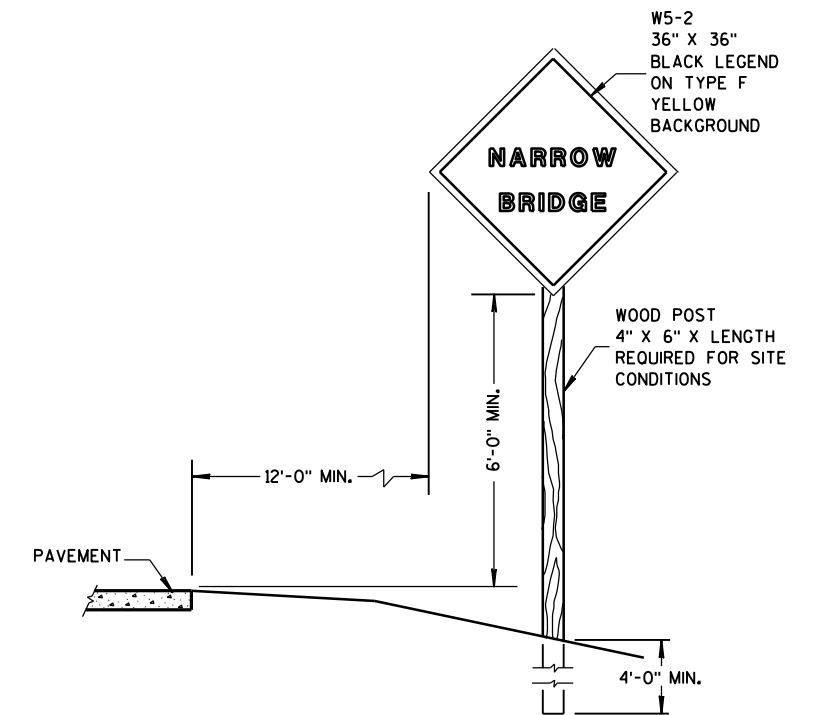
OBJECT MARKER PLACEMENT

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.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

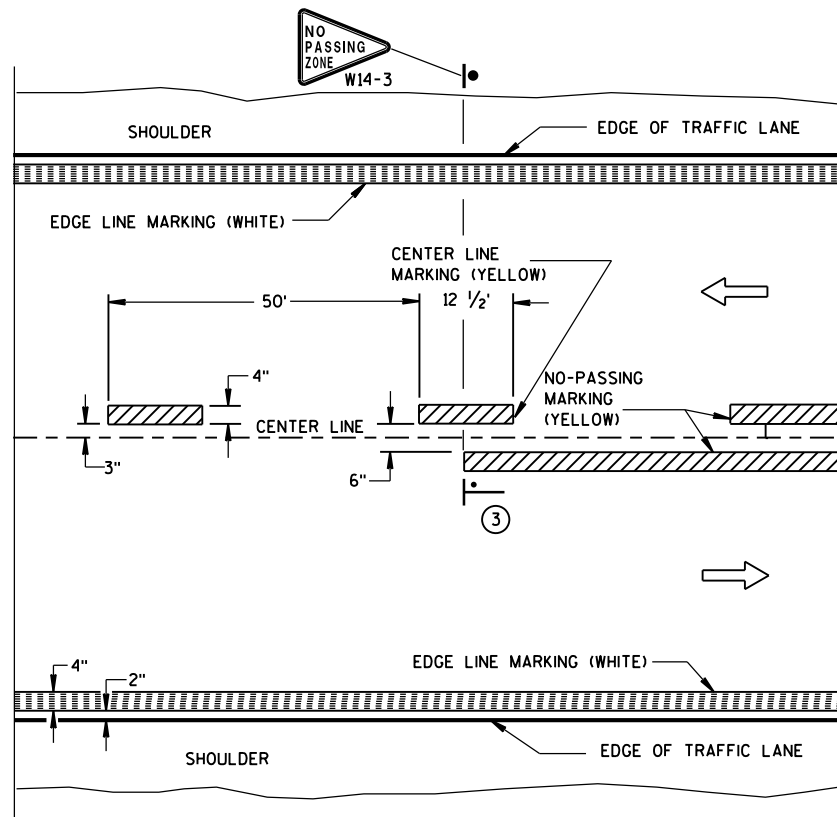
APPROVED

3-2014
DATE

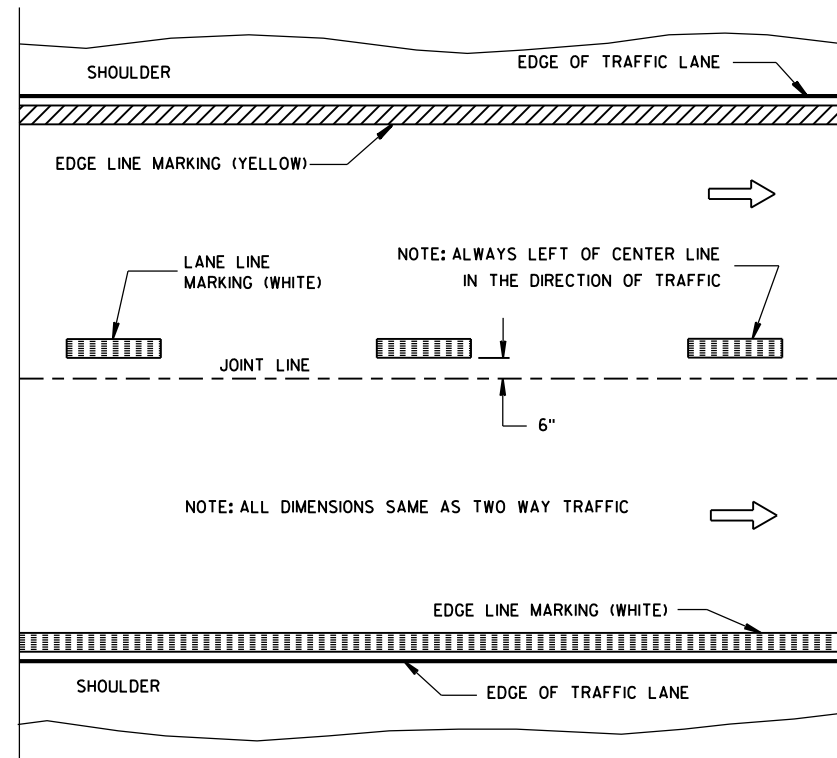
FHWA

/S/ Travis Feltz
STATE TRAFFIC ENGINEER

113 JGN

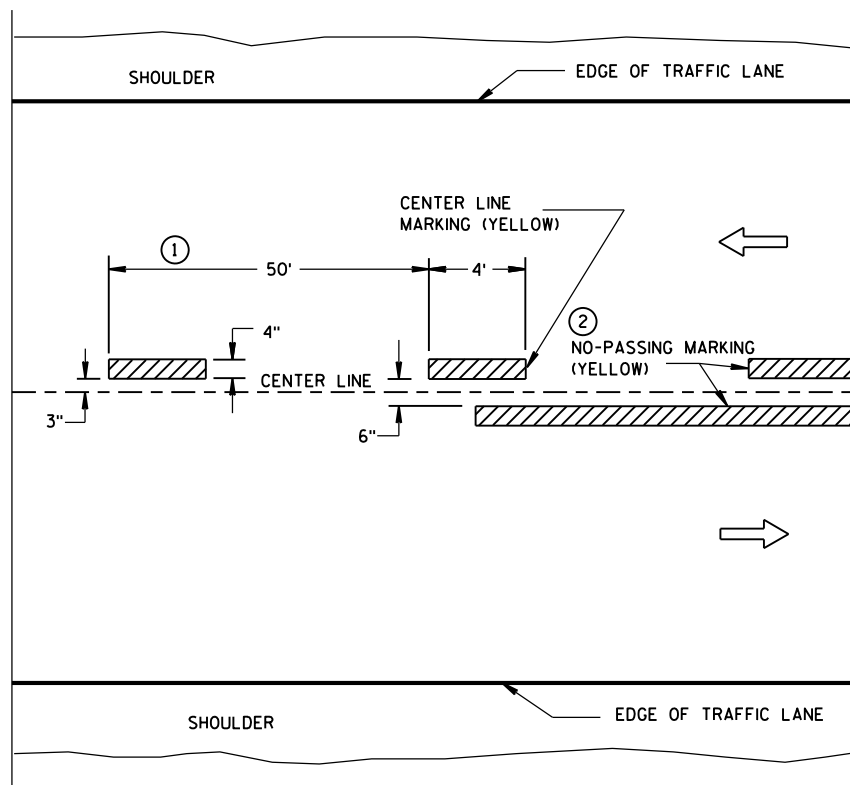


TWO WAY TRAFFIC

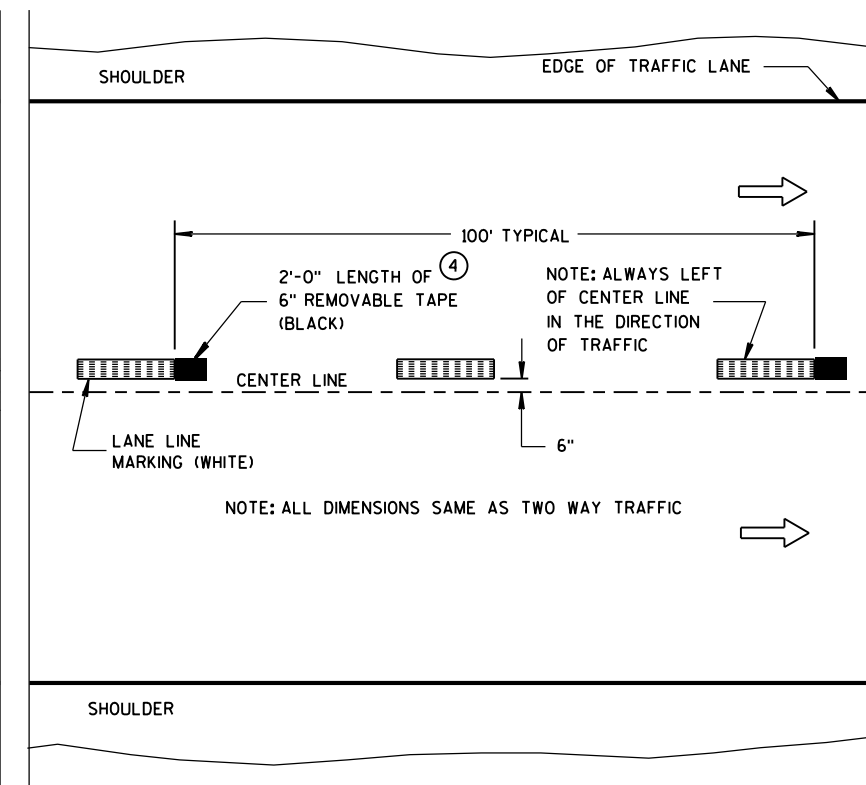


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

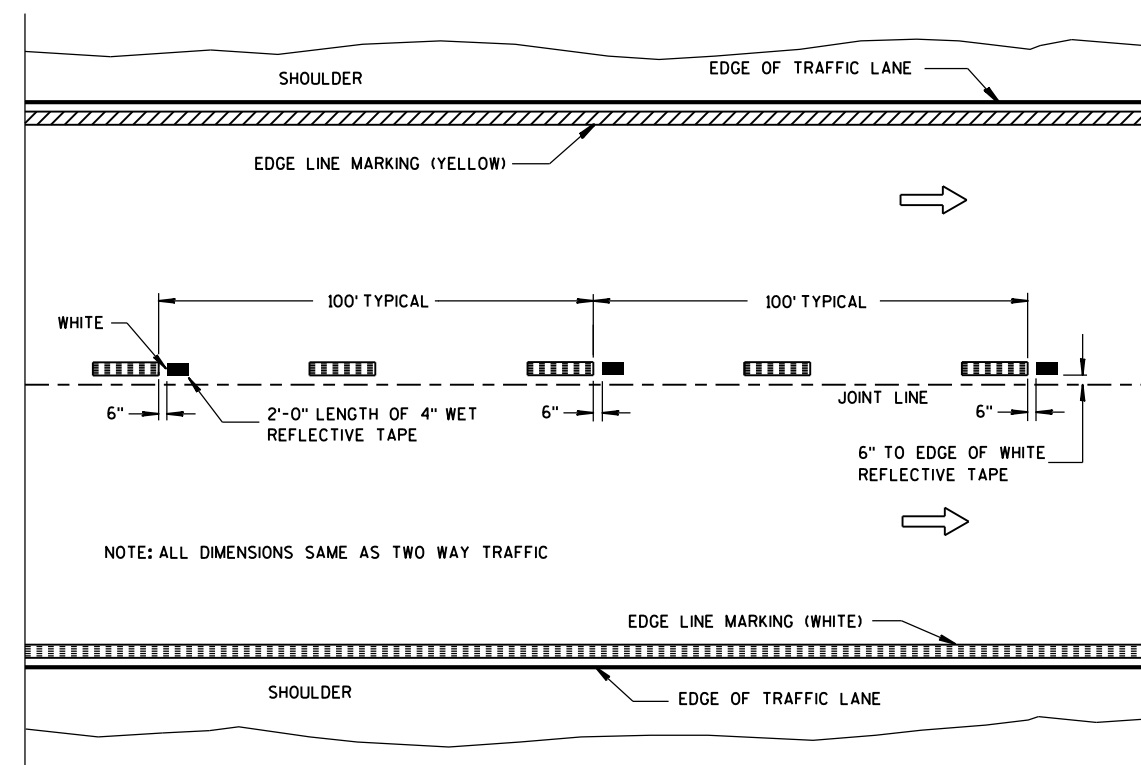
GENERAL NOTES

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)

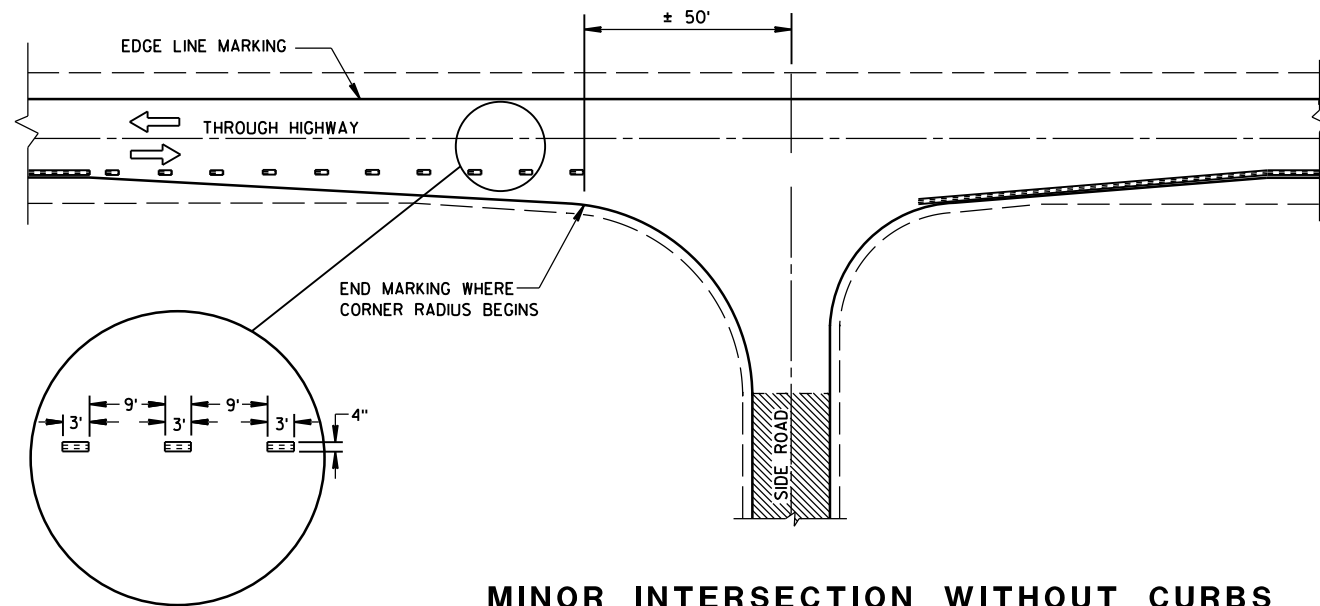
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

FHWA

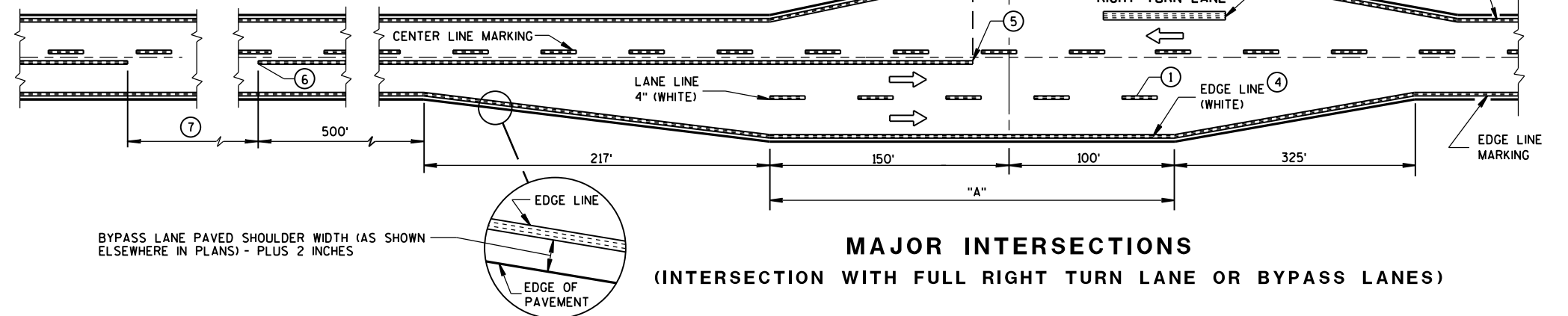
/S/ Travis Feltes
STATE TRAFFIC E 114



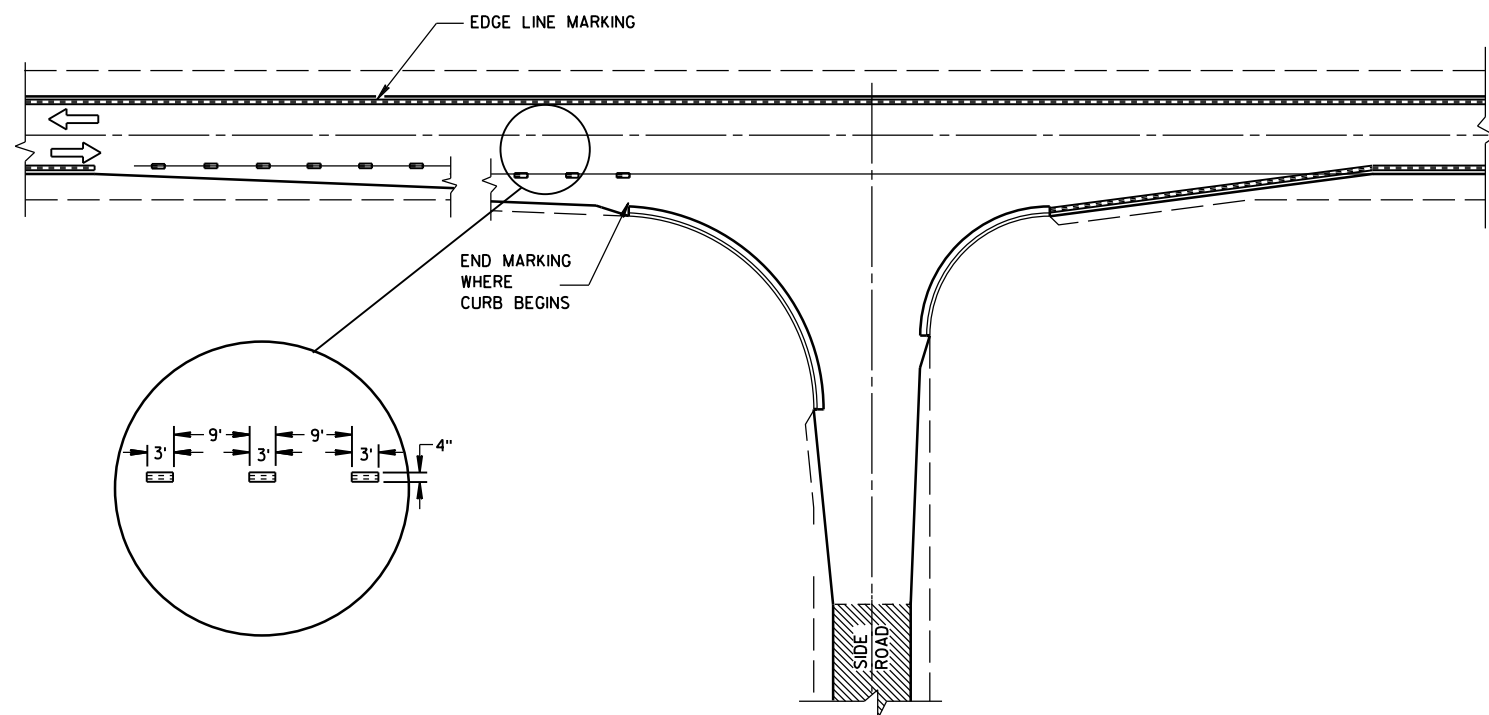
MINOR INTERSECTION WITHOUT CURBS

⑦

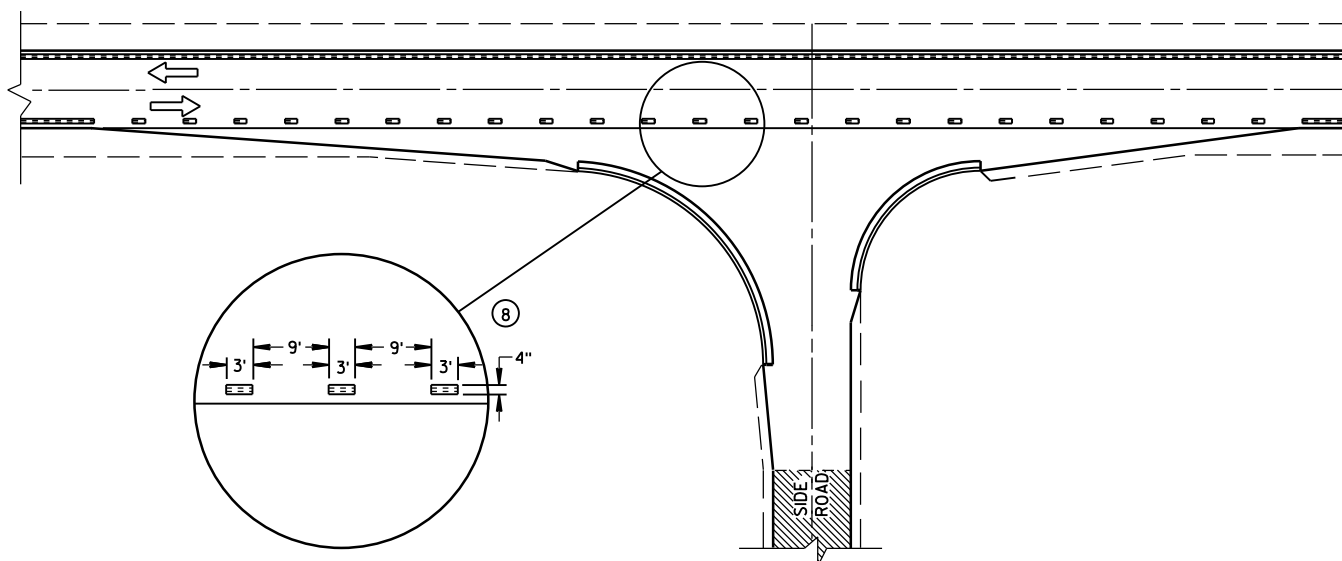
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



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

GENERAL NOTES

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

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 115

LEGEND

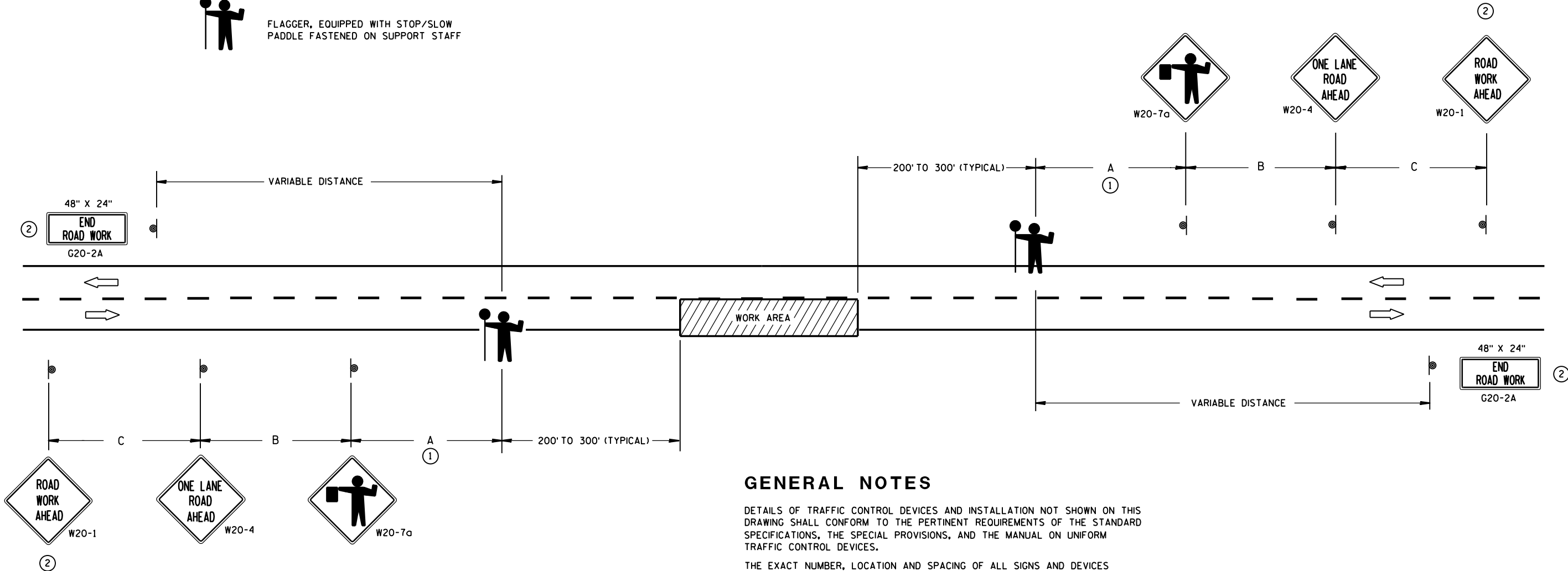
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

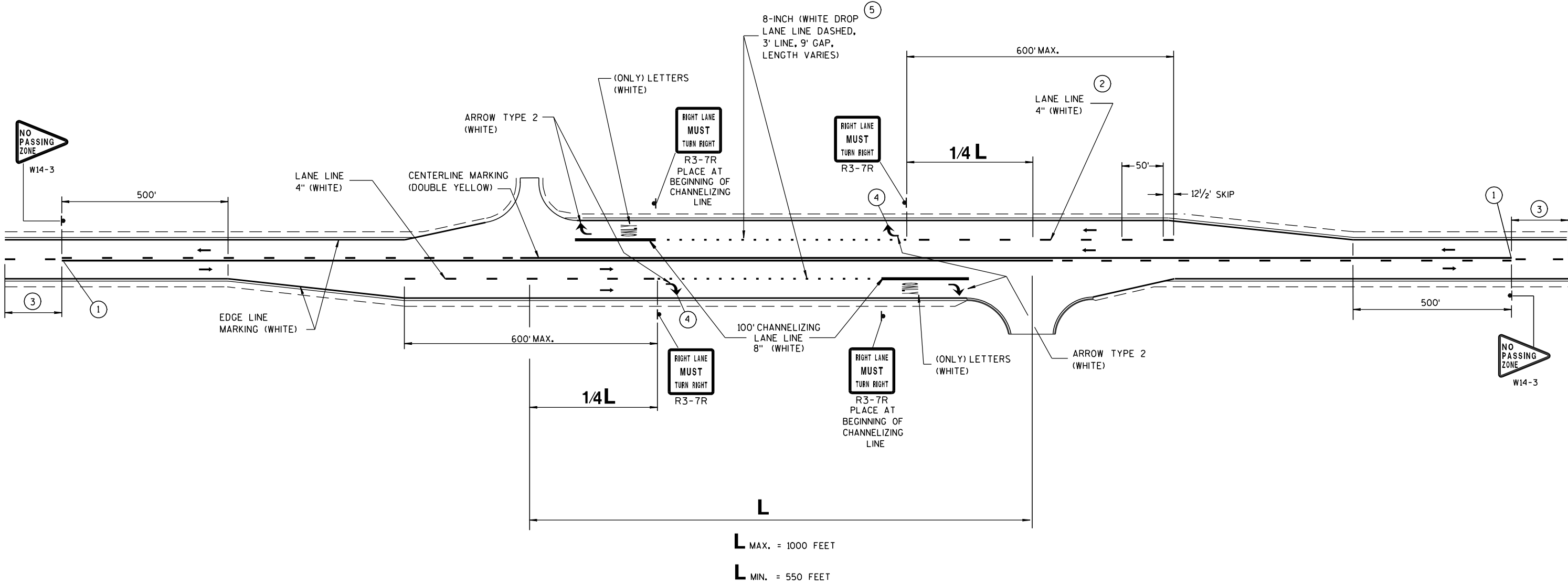
TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 116 SIGN
FHWA

GENERAL NOTES

- 1 BARRIER LINE STARTS AT 500 FEET PRIOR TO THE BYPASS TAPER.
- 2 PLACE R3-7R SIGNS AT BEGINNING OF WHITE DROP LANE LINE DASHED AND WHITE CHANNEL LINE.
- 3 IF THE DISTANCE BETWEEN TWO SUCCESSIVE NO PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE TWO ZONES.
- 4 REQUIRED ONLY WHEN SPECIFIED IN THE PLANS.
- 5 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



LEGEND

↔ DIRECTION OF TRAFFIC

SIGNING AND MARKING
FOR COMBINATION RIGHT TURN
AND BYPASS LANE

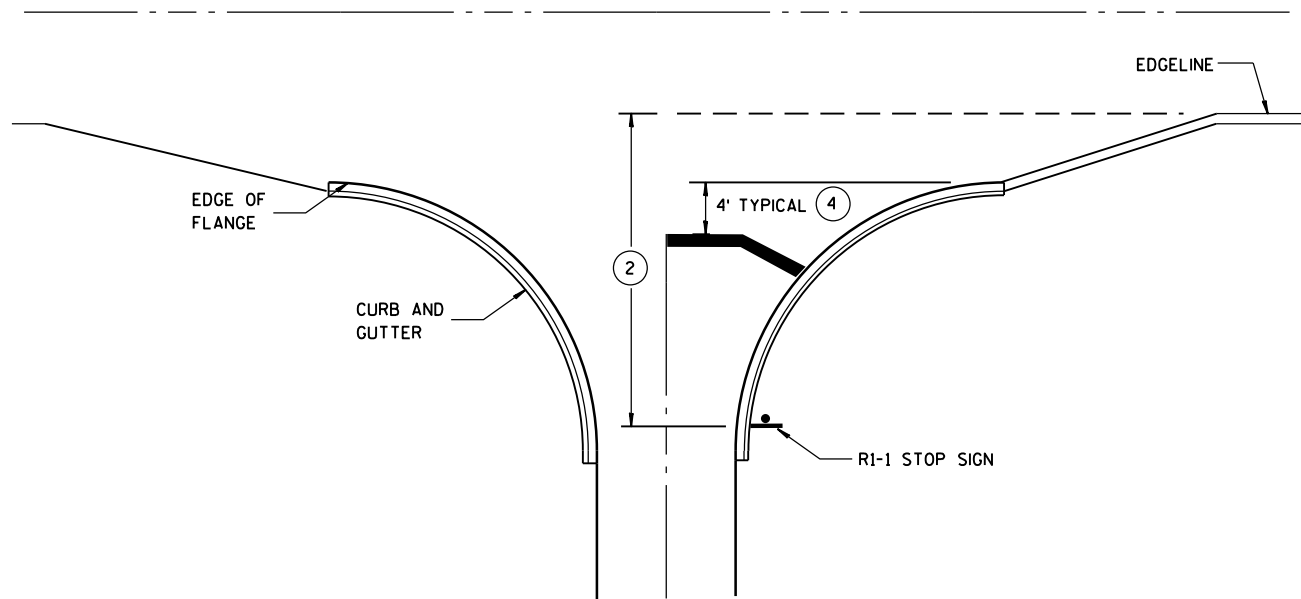
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

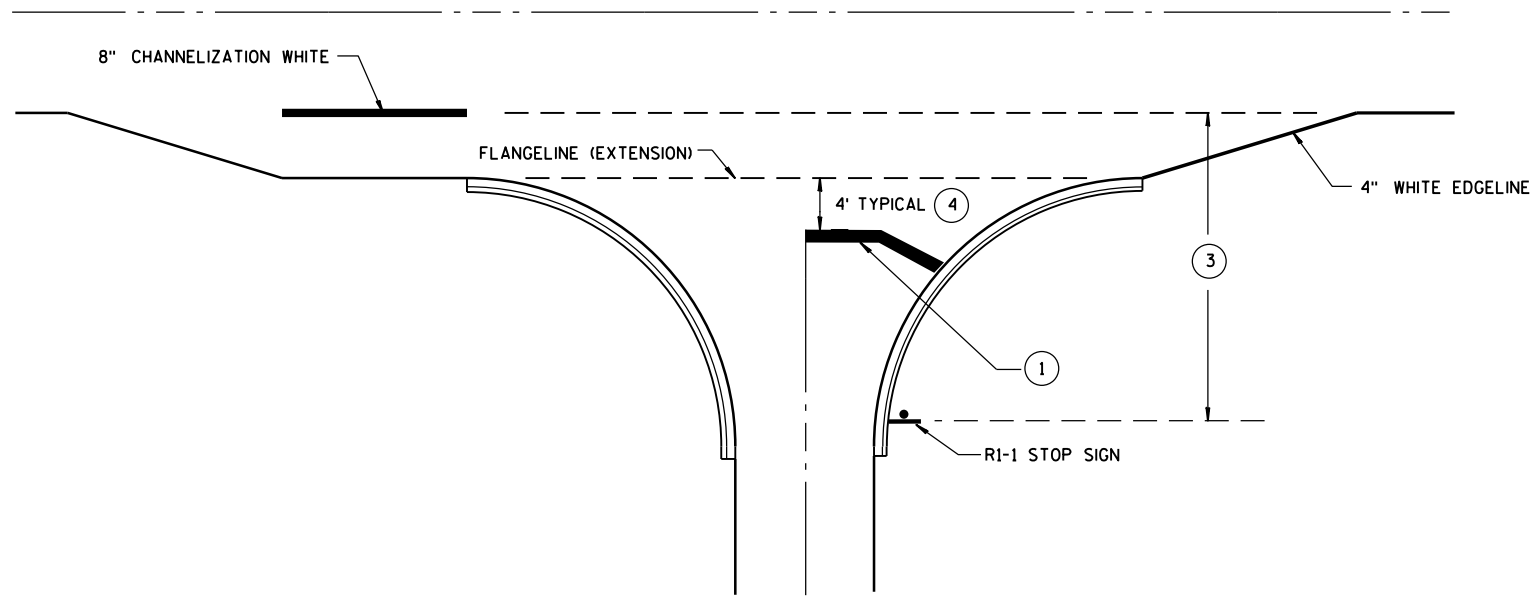
5-13-10
DATE

/S/ Thomas N. Neumann
STATE TRAFFIC ENGINEER 117 SIGN

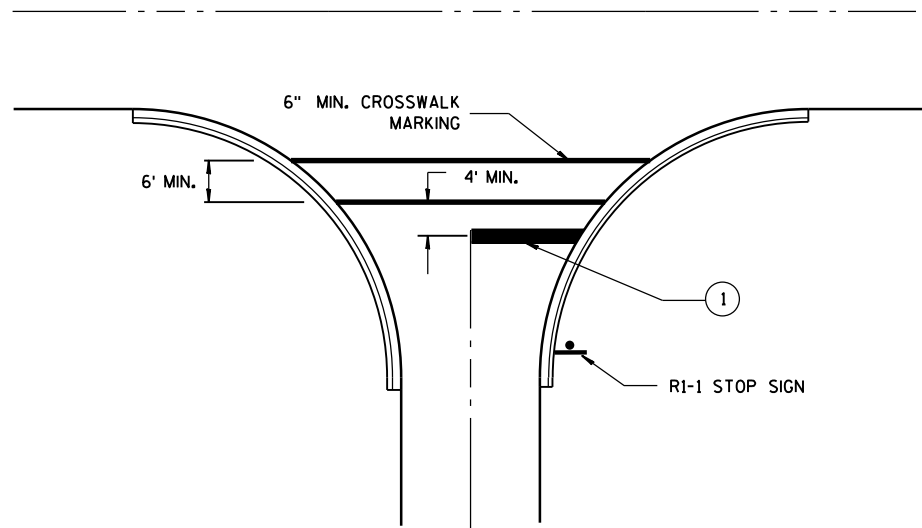
FHWA



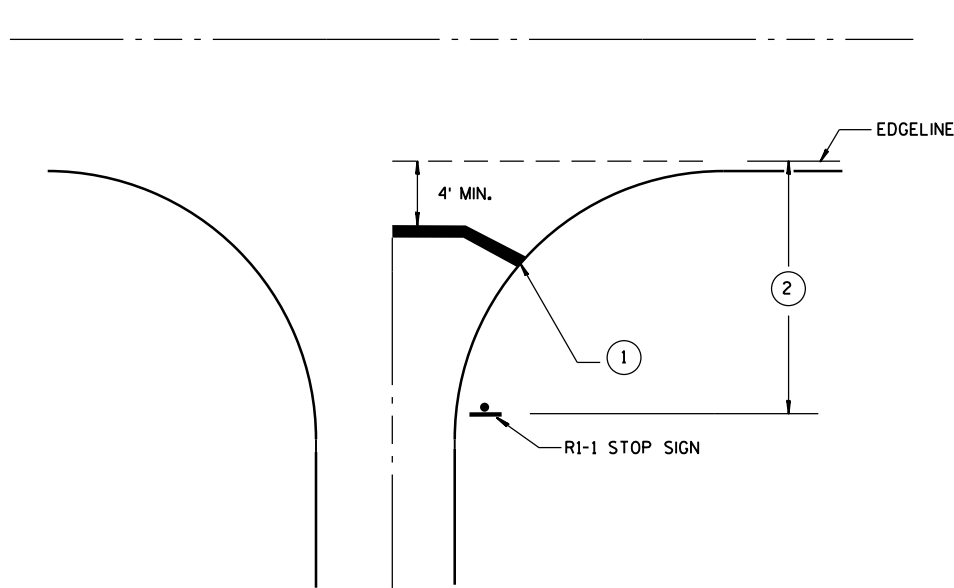
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

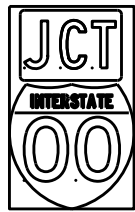
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP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

STOP LINE AND CROSSWALK
PAVEMENT MARKING

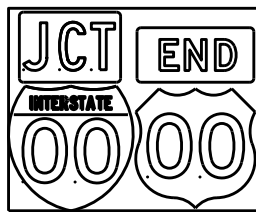
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 4/30/2013 /S/ Travis Feltes
STATE TRAFFIC ENGINEER 118
FHWA

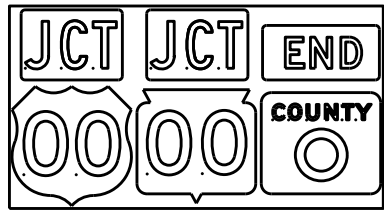
TYPICAL ASSEMBLIES



J1-1



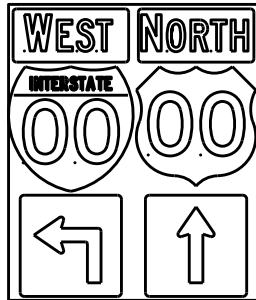
J1-2



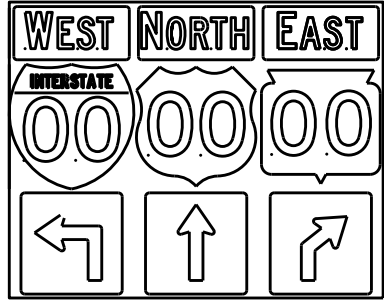
J1-3



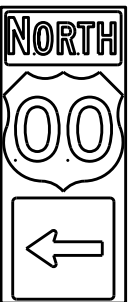
J2-1



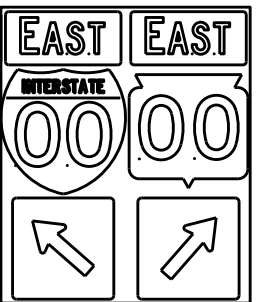
J2-2



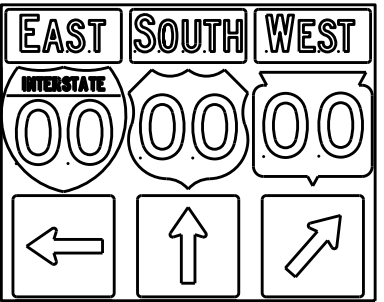
J2-3



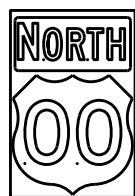
J3-1



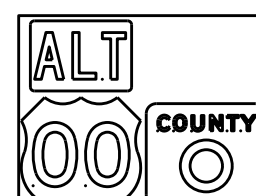
J3-2



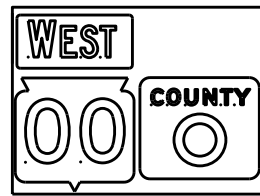
J3-3



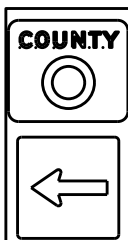
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

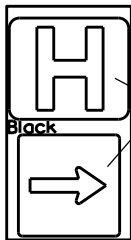


J22-1



JV

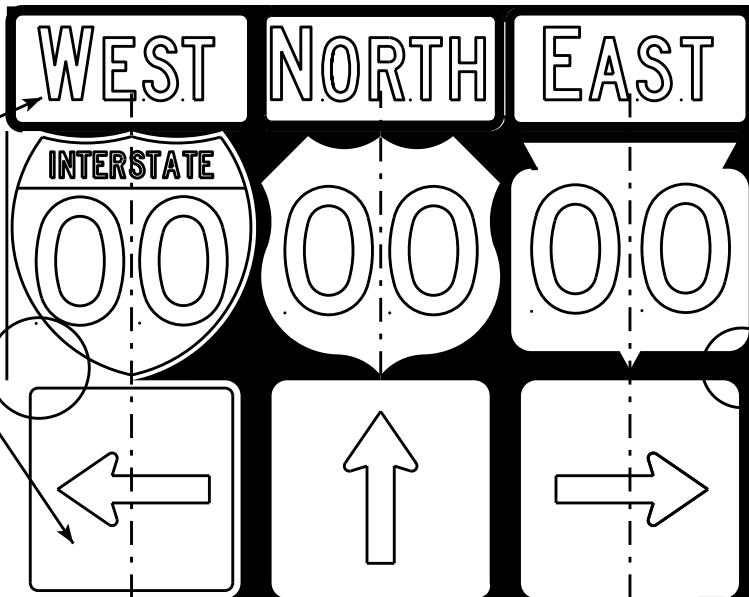
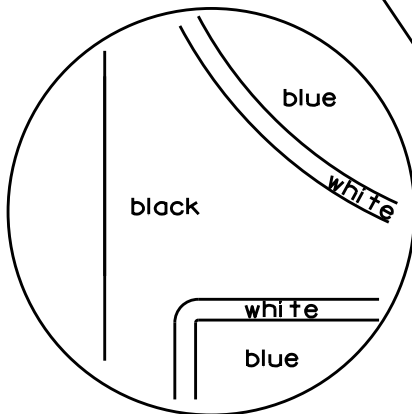
(Typical Vertical J-Assembly
See Note 10 and 11)



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

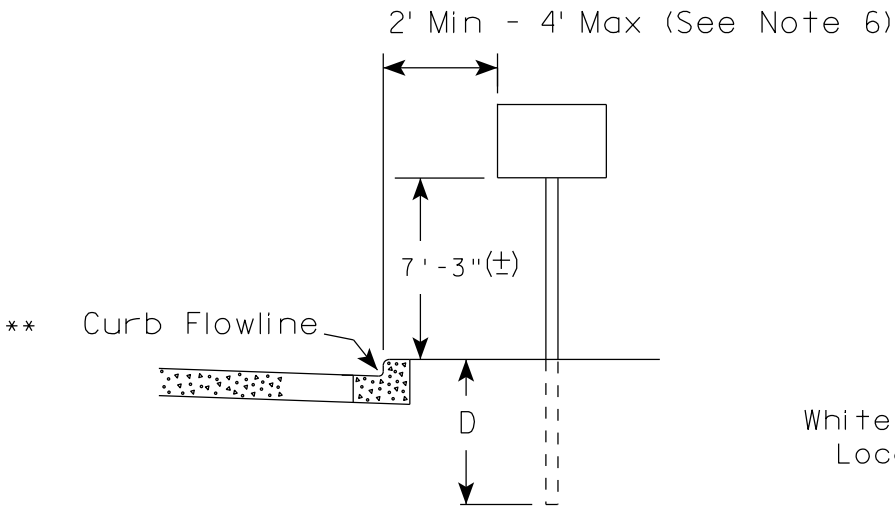
DATE 2/06/14 PL 119 A2-1S.8

SHEET NO: E

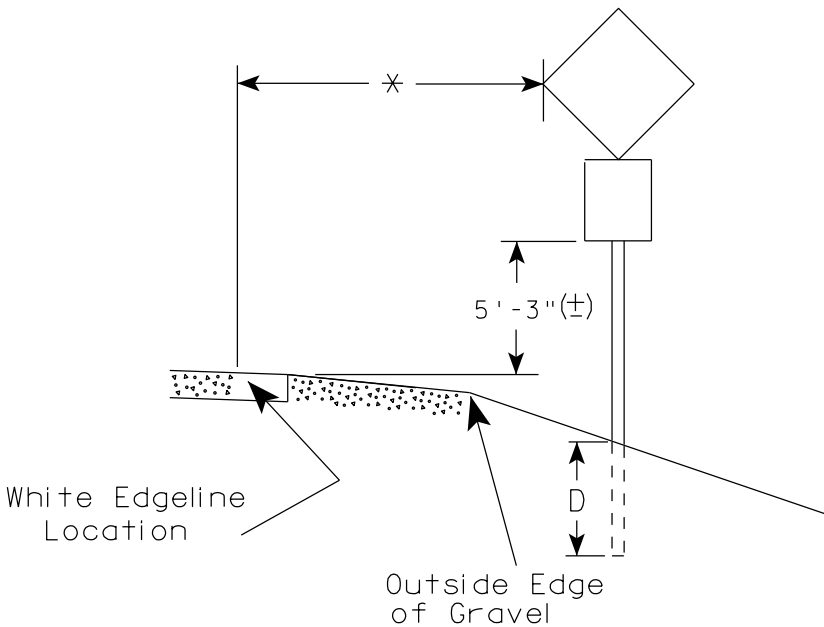
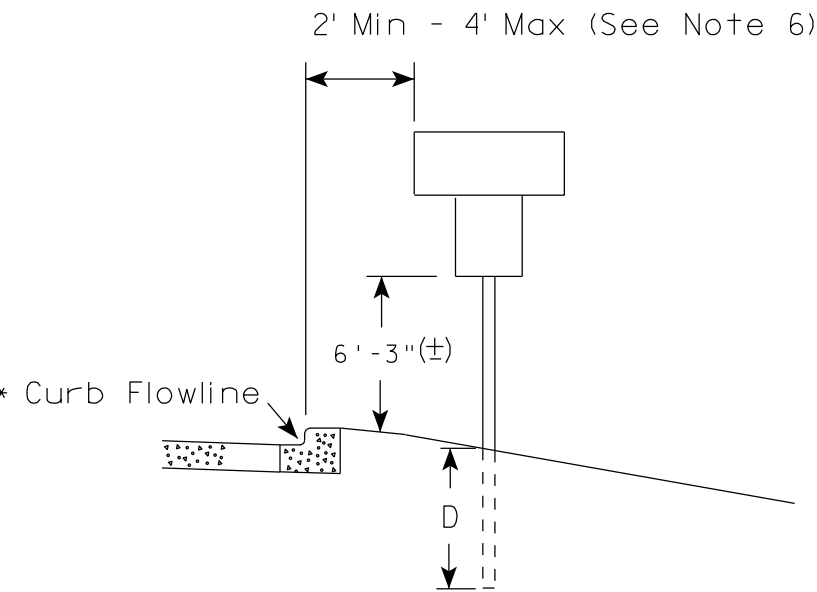
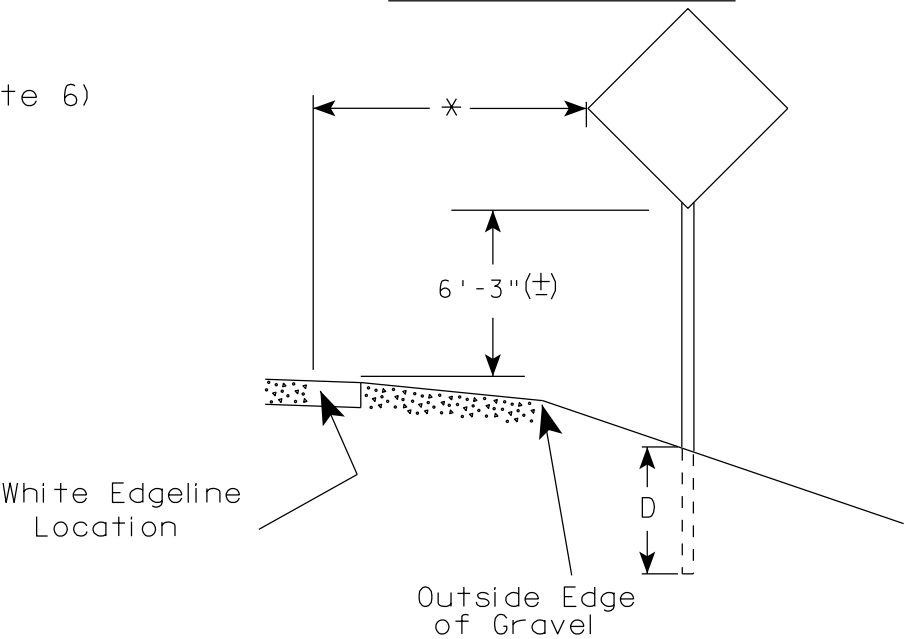
NOTES

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)



POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

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

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

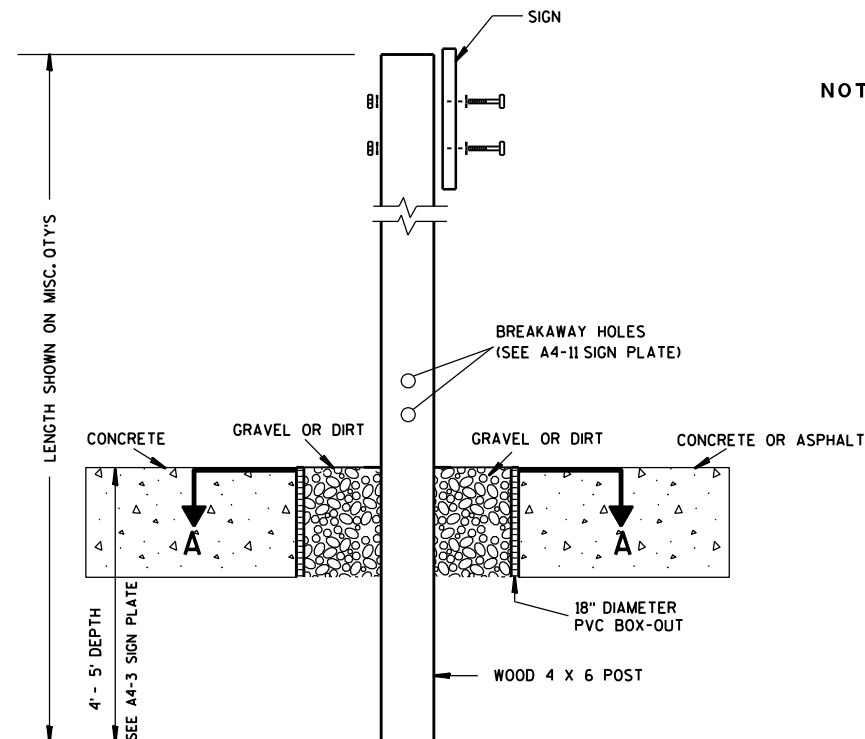
TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

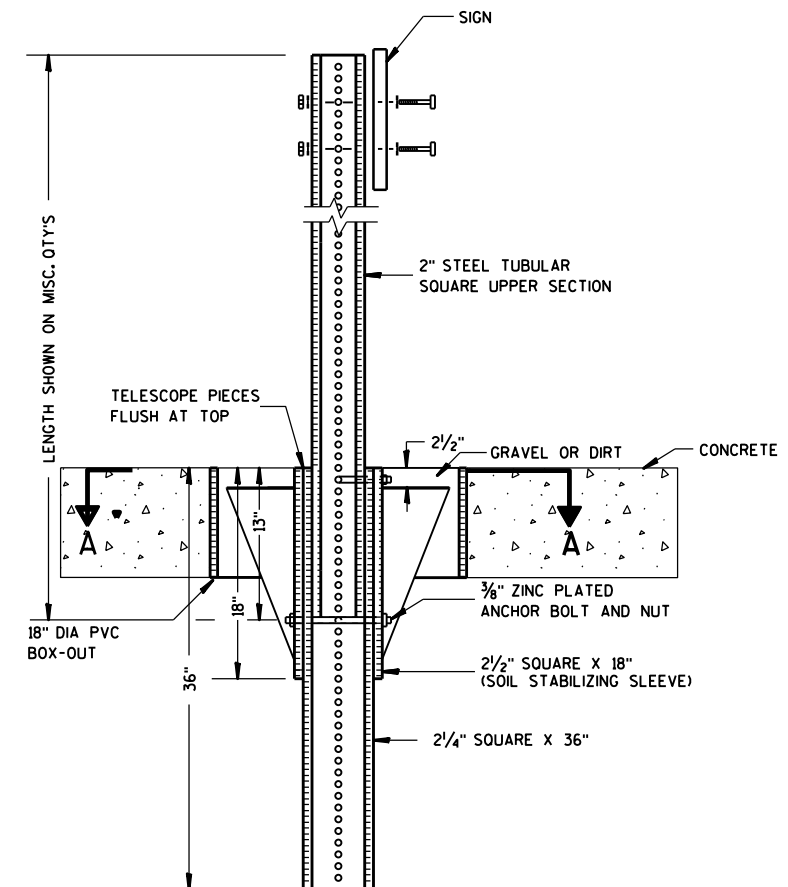
120



ELEVATION VIEW

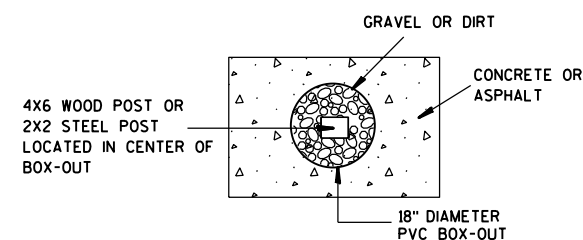
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 121 A4-3B.1

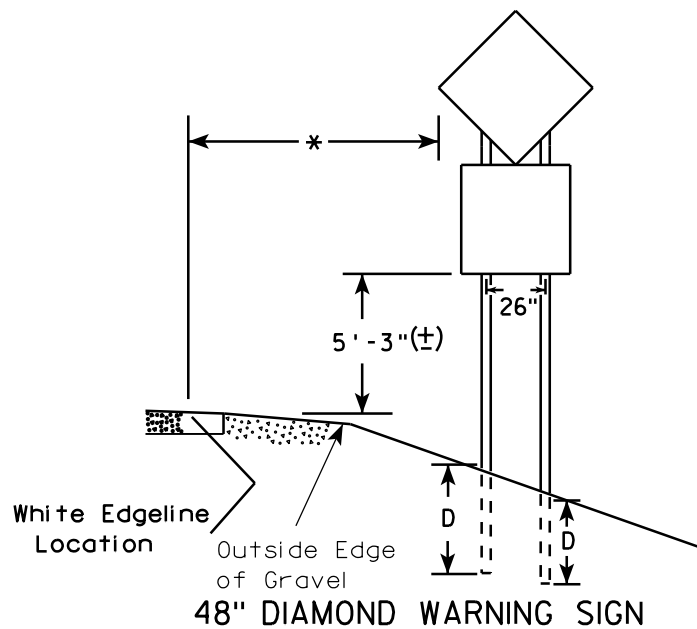
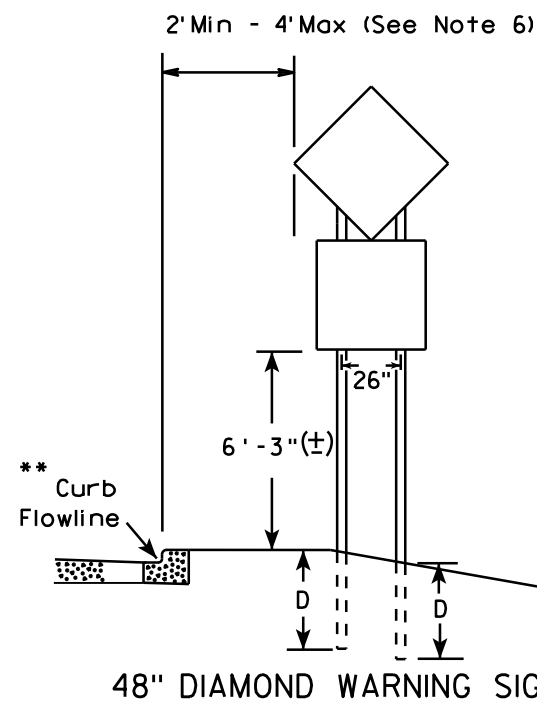
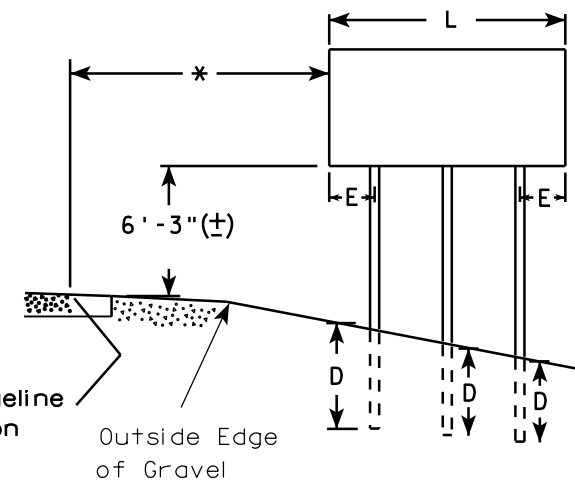
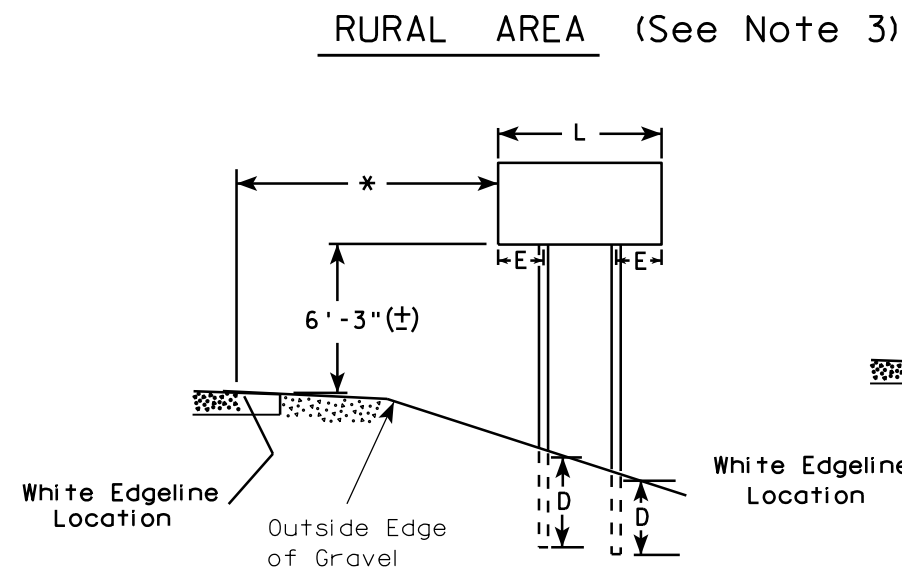
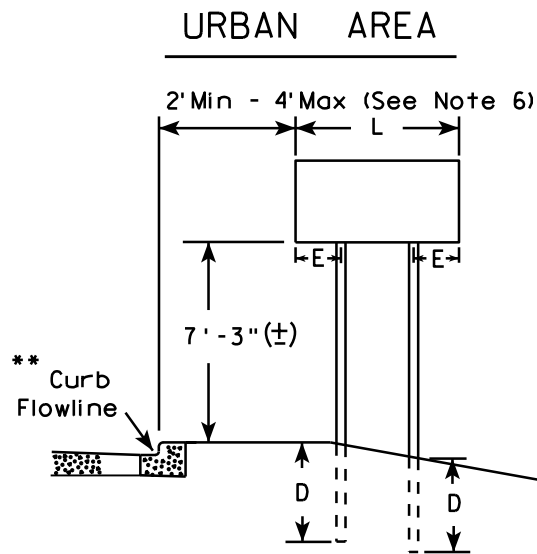
PROJECT NO:

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 and less than 20 S.F. in area.

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

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

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

POST EMBEDMENT DEPTH

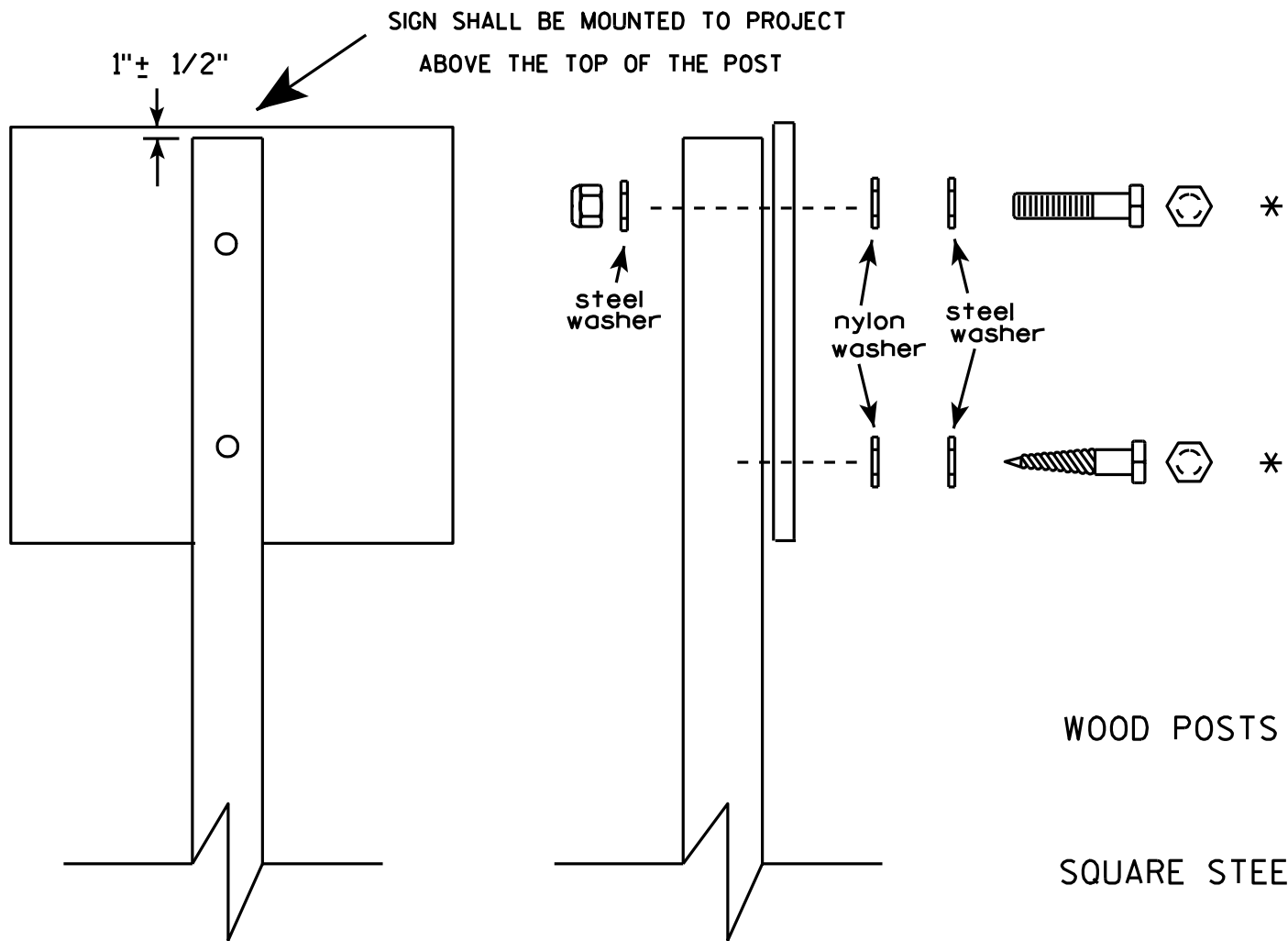
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/23/15 PLATE NO. 14

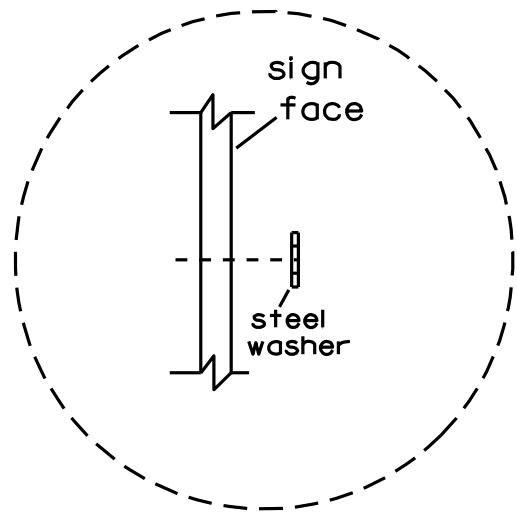


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- 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.

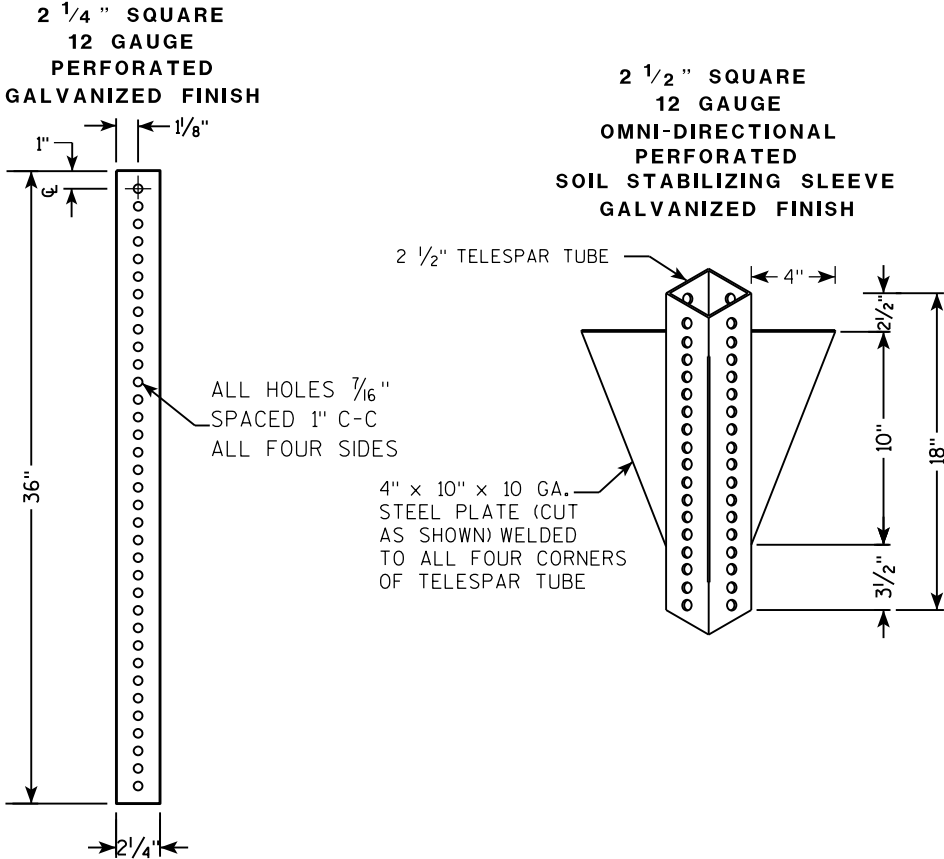


Washer Placement when Sign Has Other Than Type H or Type F Face

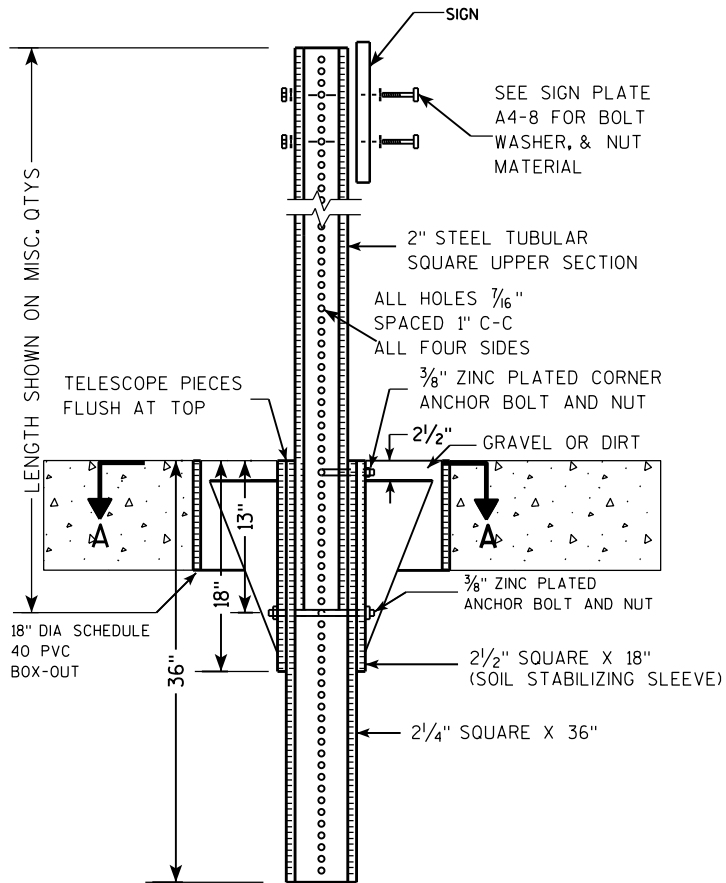
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

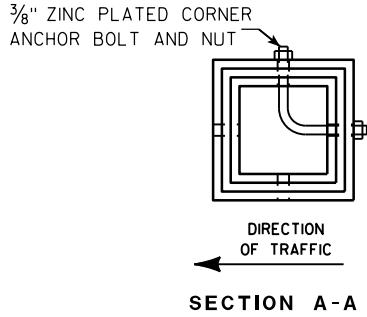
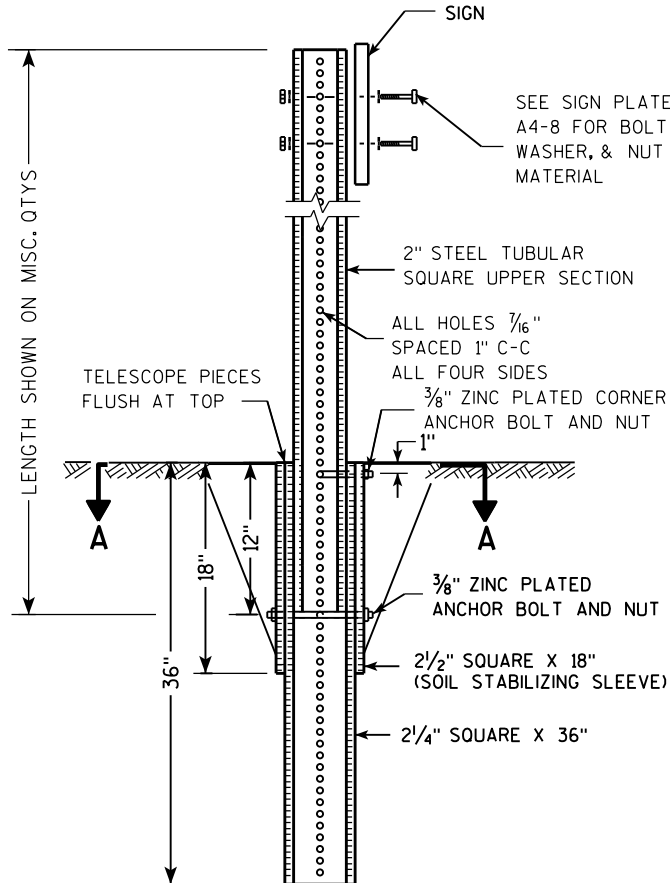
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



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).

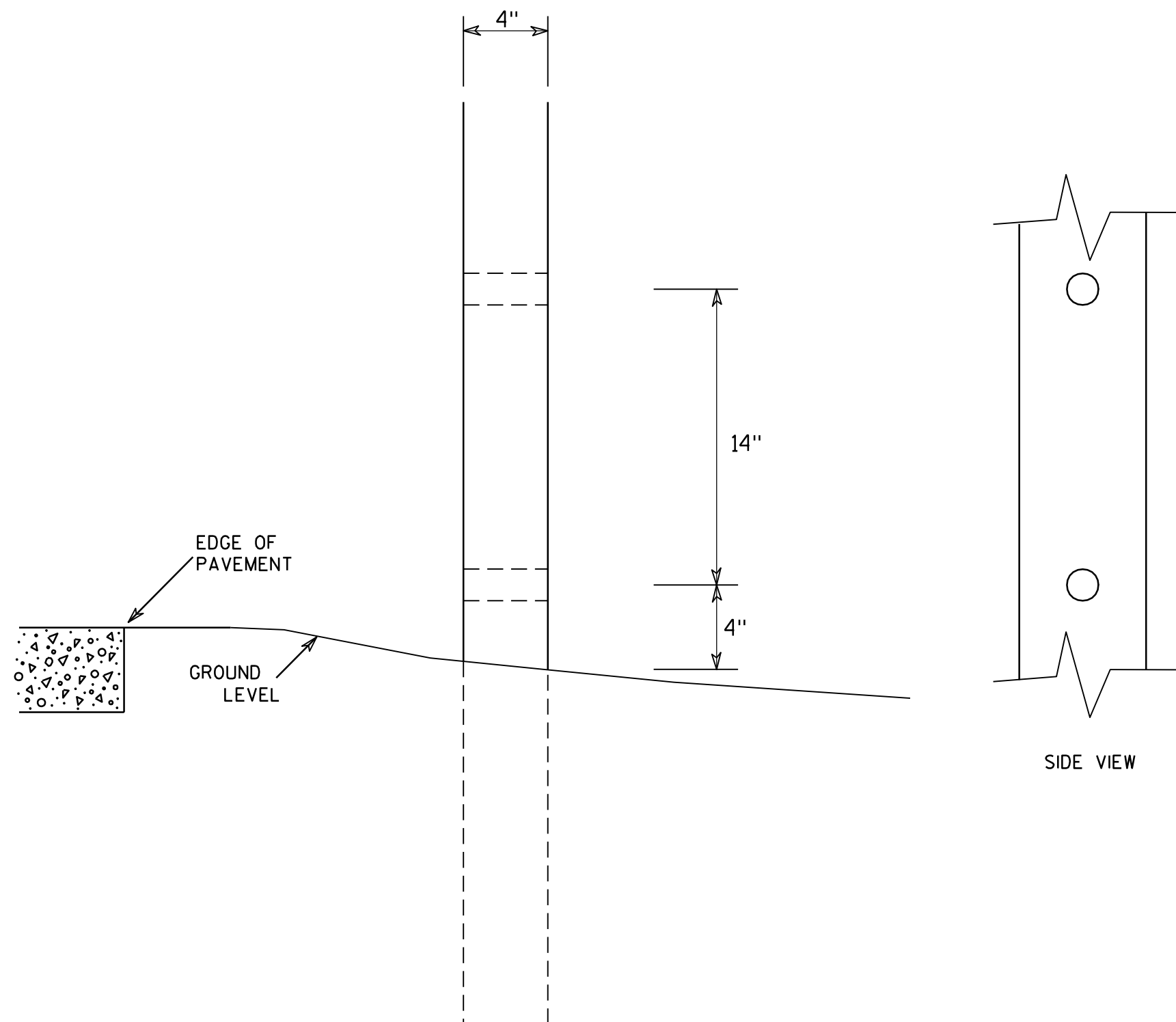
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 124 14-9.9

7



GENERAL NOTES

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

SIDE VIEW

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

DATE 3/27/97 PLATE NO. A4-11.2

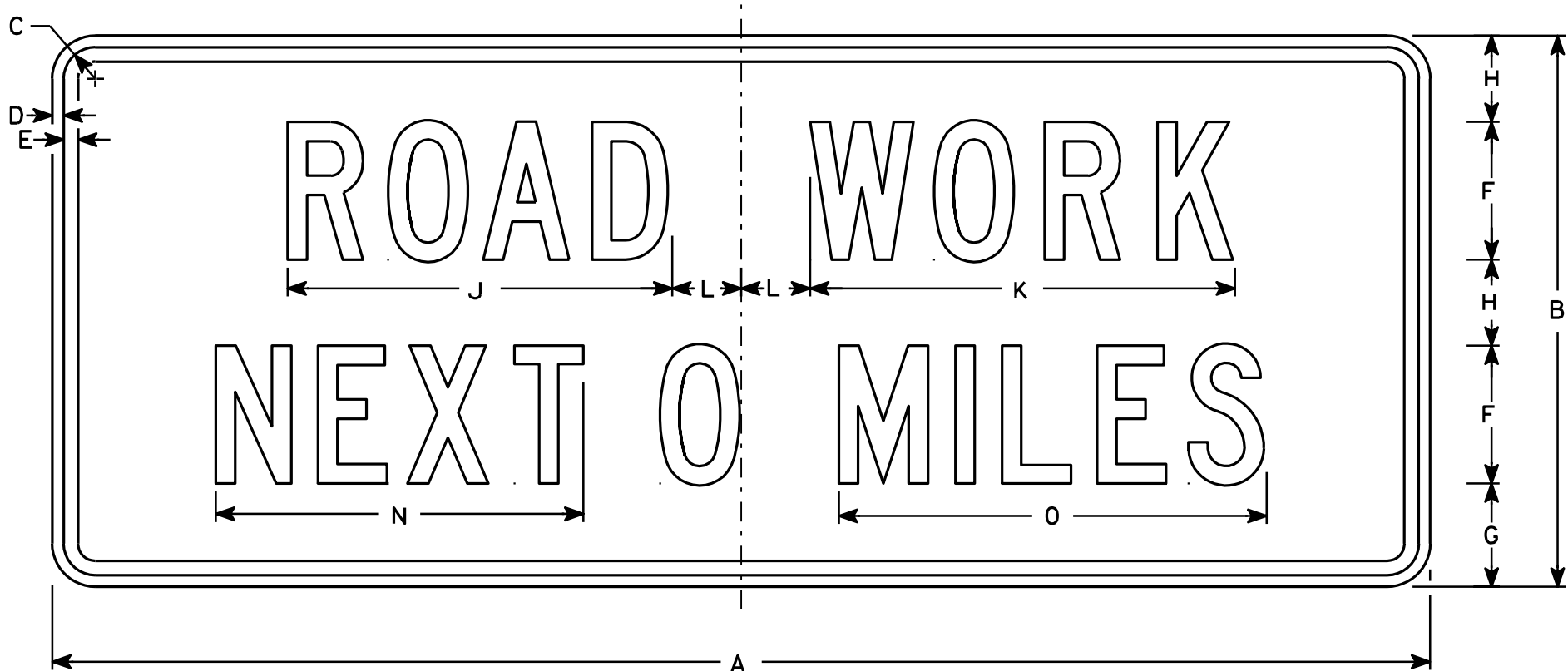
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 125

[illegible]



G20-1

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 - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

Metric equivalent for this sign is:

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

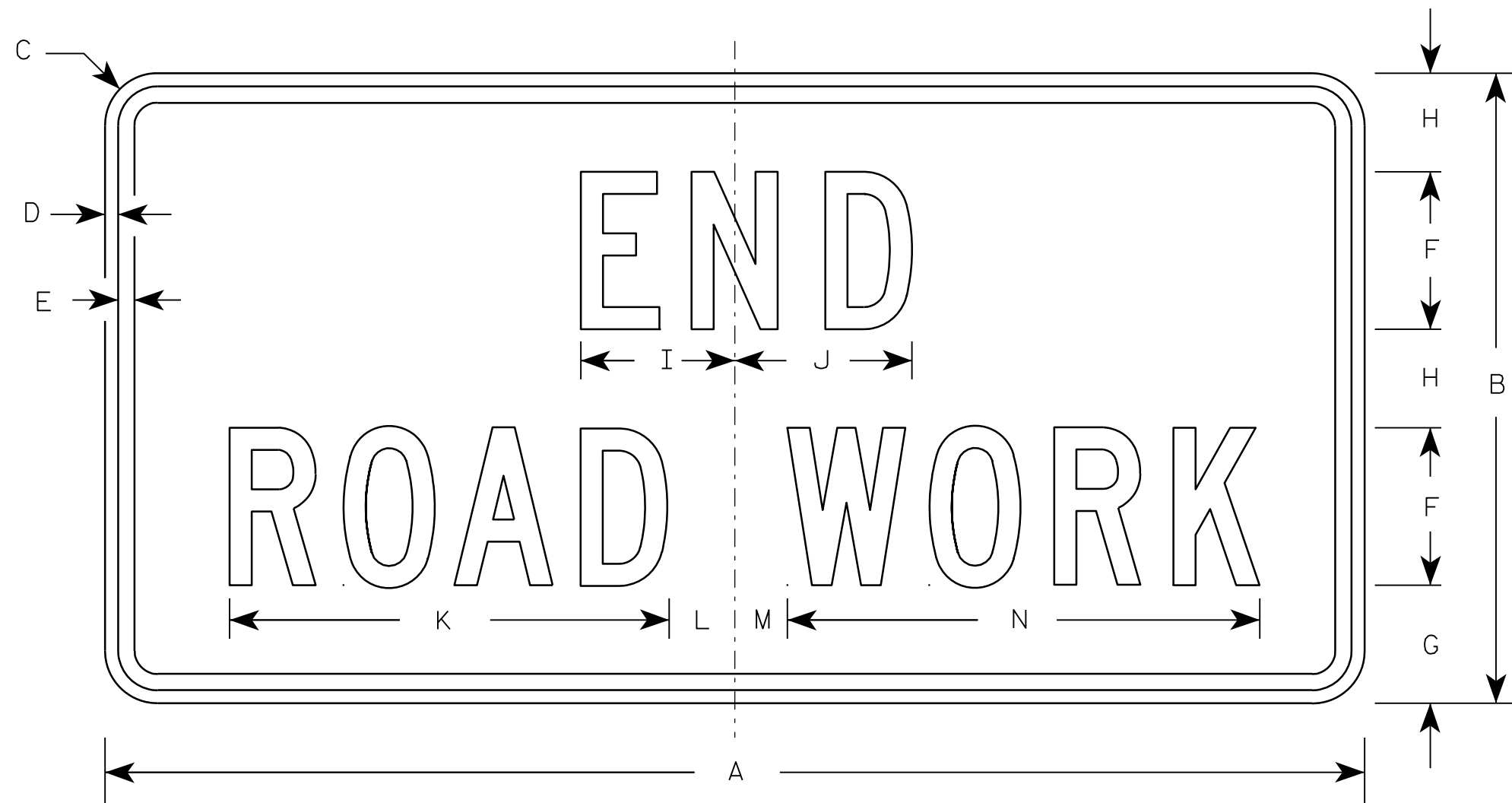
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10	.90
3																												
4	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10	.90
5																												

STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED 
 DATE 4/8/97 PLATE NO. G20-1.7

7



G20-2A

Metric equivalent
for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

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

PROJECT NO:

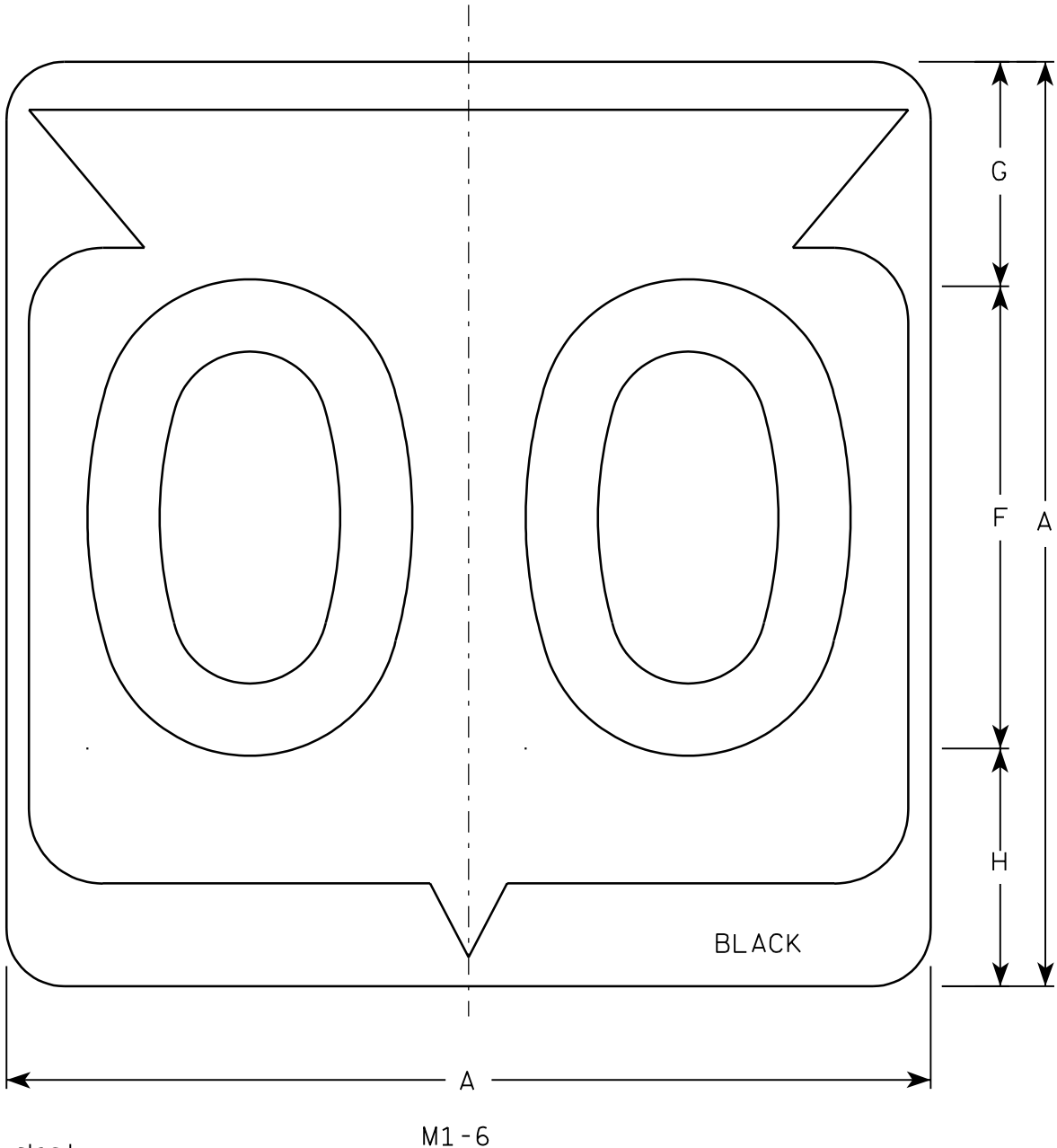
HWY:

COUNTY:

SHEET NO: 127

E

7



Metric equivalent
for this sign is:

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

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 128

E

FILE NAME : C:\Users\Projects\tr_stdp\late\M16.DGN

PLOT DATE : 13-OCT-2005 14:55

PLOT BY : DITJPH

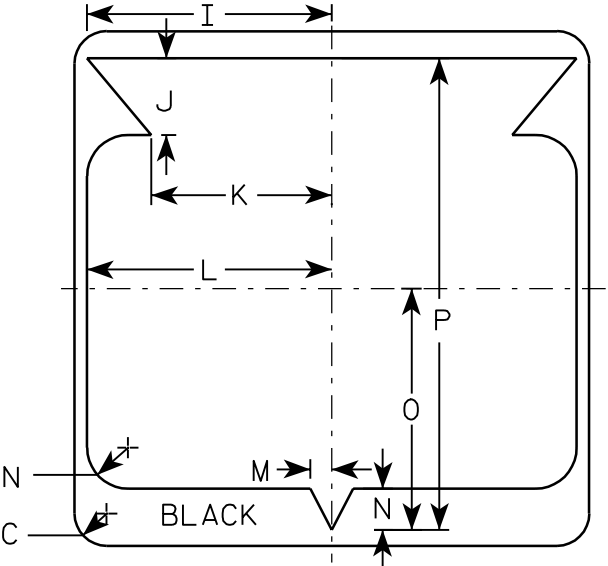
PLOT NAME :

PLOT SCALE : 6.715871:1.000000

WISDOT/CADDs SHEET 42

NOTES

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



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

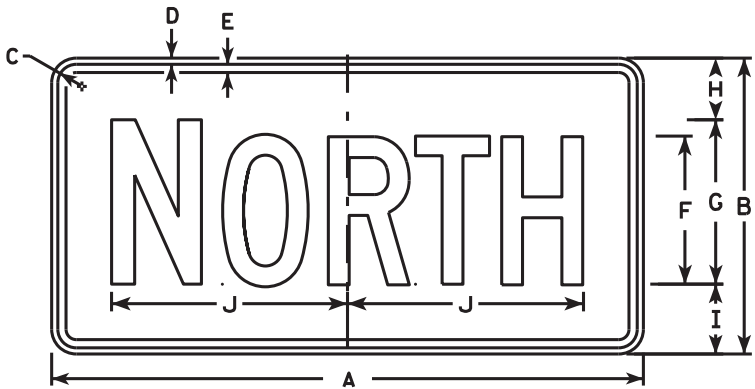
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

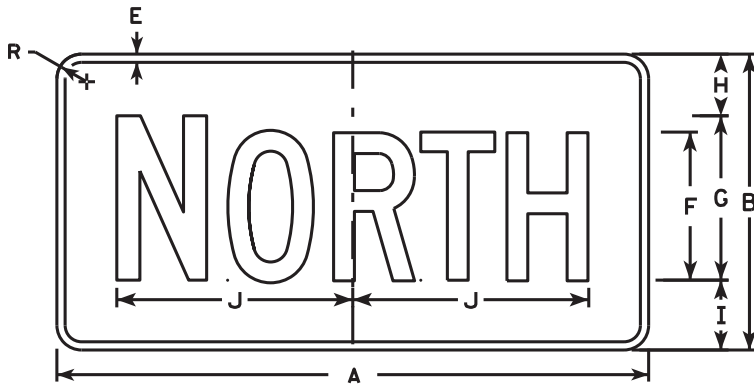
Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

PLATE NO. M1-6.9



M3-1
MM3-1
MP3-1



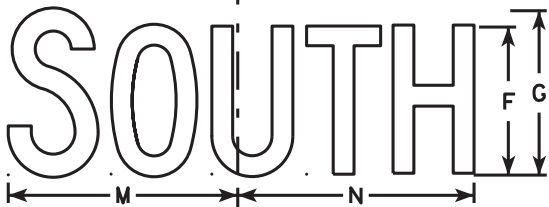
MB3-1
MK3-1
MN3-1



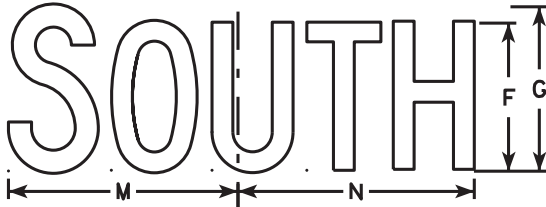
M3-2
MM3-2
MP3-2



MB3-2
MK3-2
MN3-2



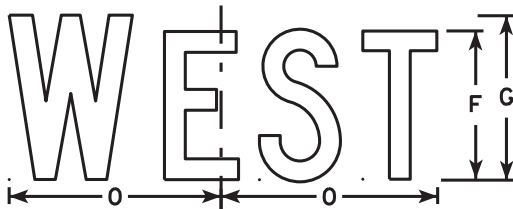
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

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

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGNS
M3-1 thru M3-4
SERIES

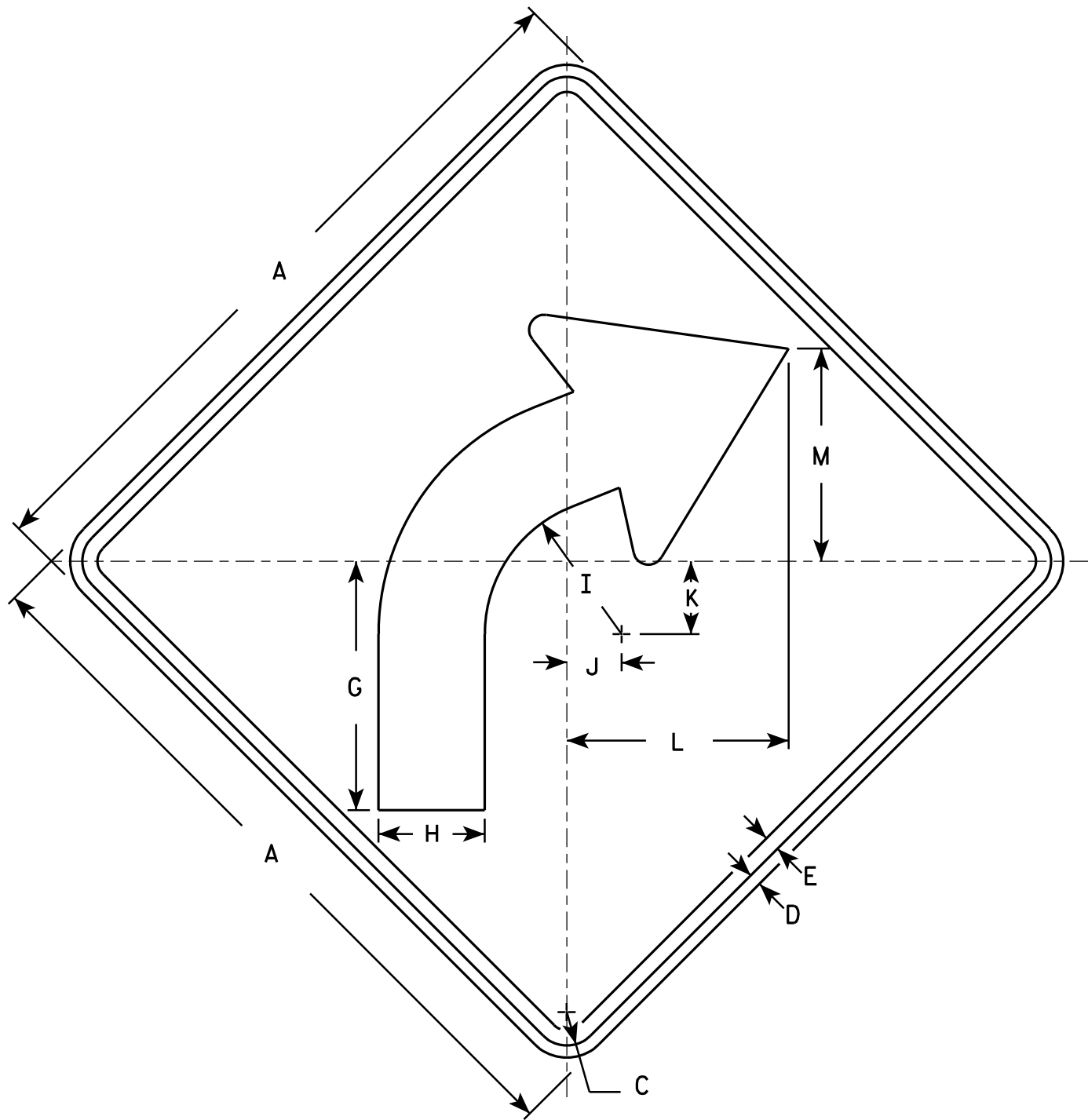
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

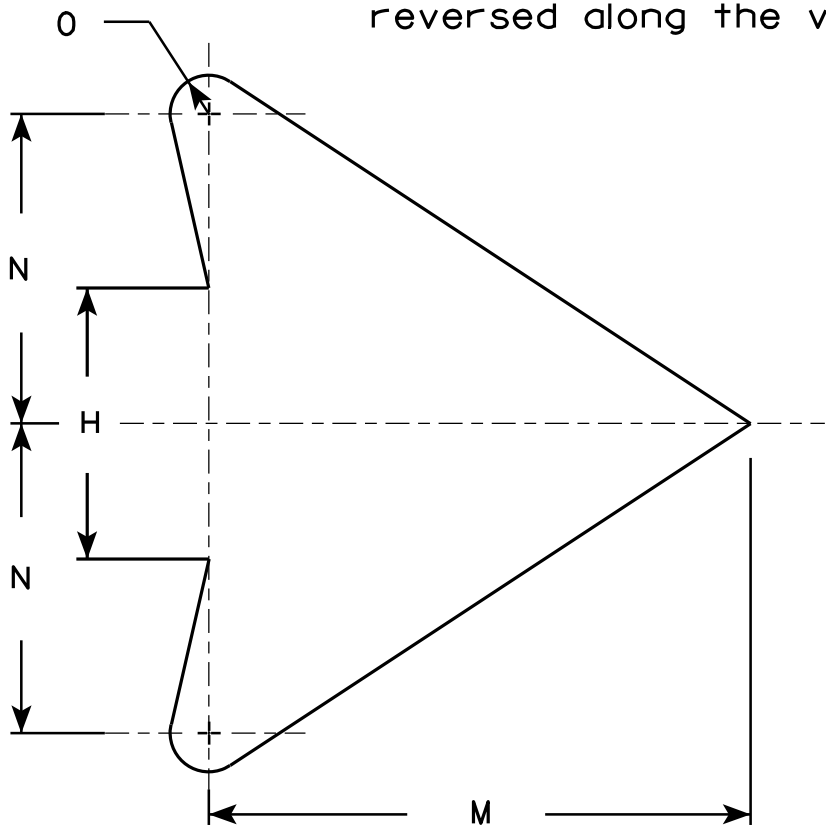
DATE 10/15/15 PLATE NO. M3-1.14

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

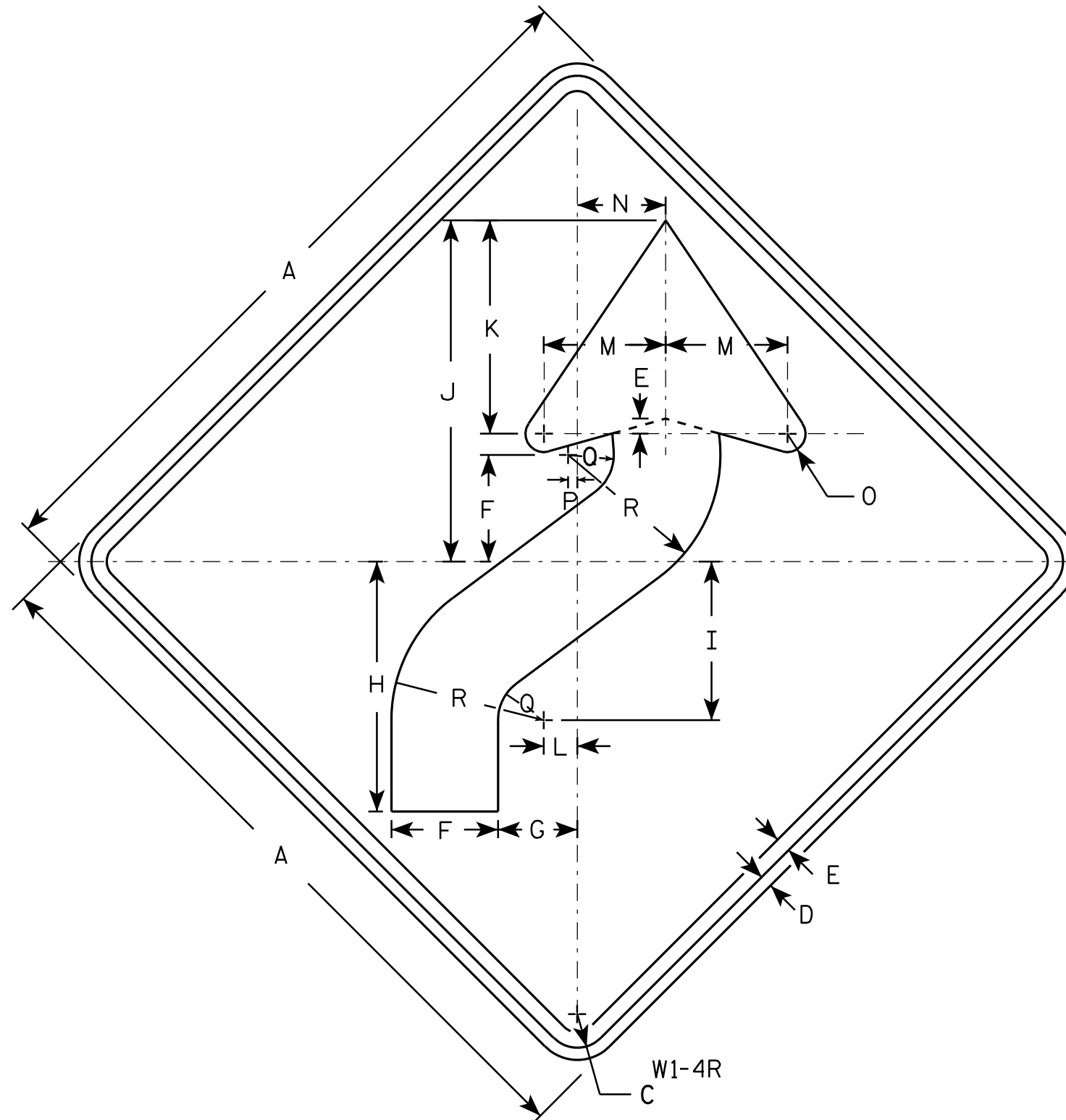
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6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



NOTES

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

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	3 1/2	2 5/8	8 1/4	5 1/4	11 1/4	7	1 1/8	4	3	5/8	1/4	1 1/2	5									4.0
2S	30		1 3/8	1/2	5/8	4 3/8	3 1/4	10 1/4	6 1/2	14	8 3/4	1 3/8	5	3 5/8	3/4	3/8	1 7/8	6 1/4									6.25
2M	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
3	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
4	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN

W1 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-4.11

PROJECT NO:

HWY:

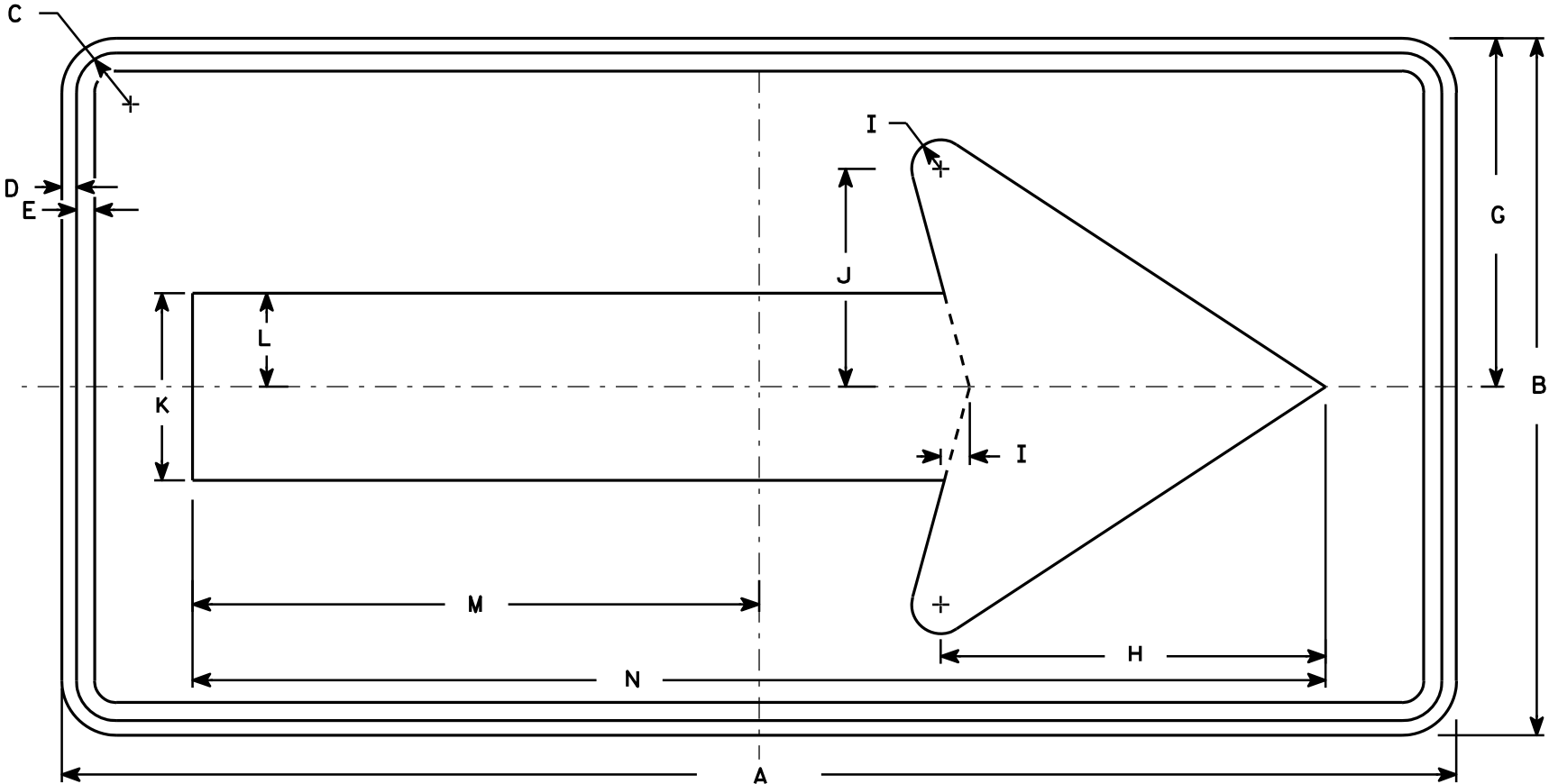
COUNTY:

SHEET NO: 131

E

NOTES

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



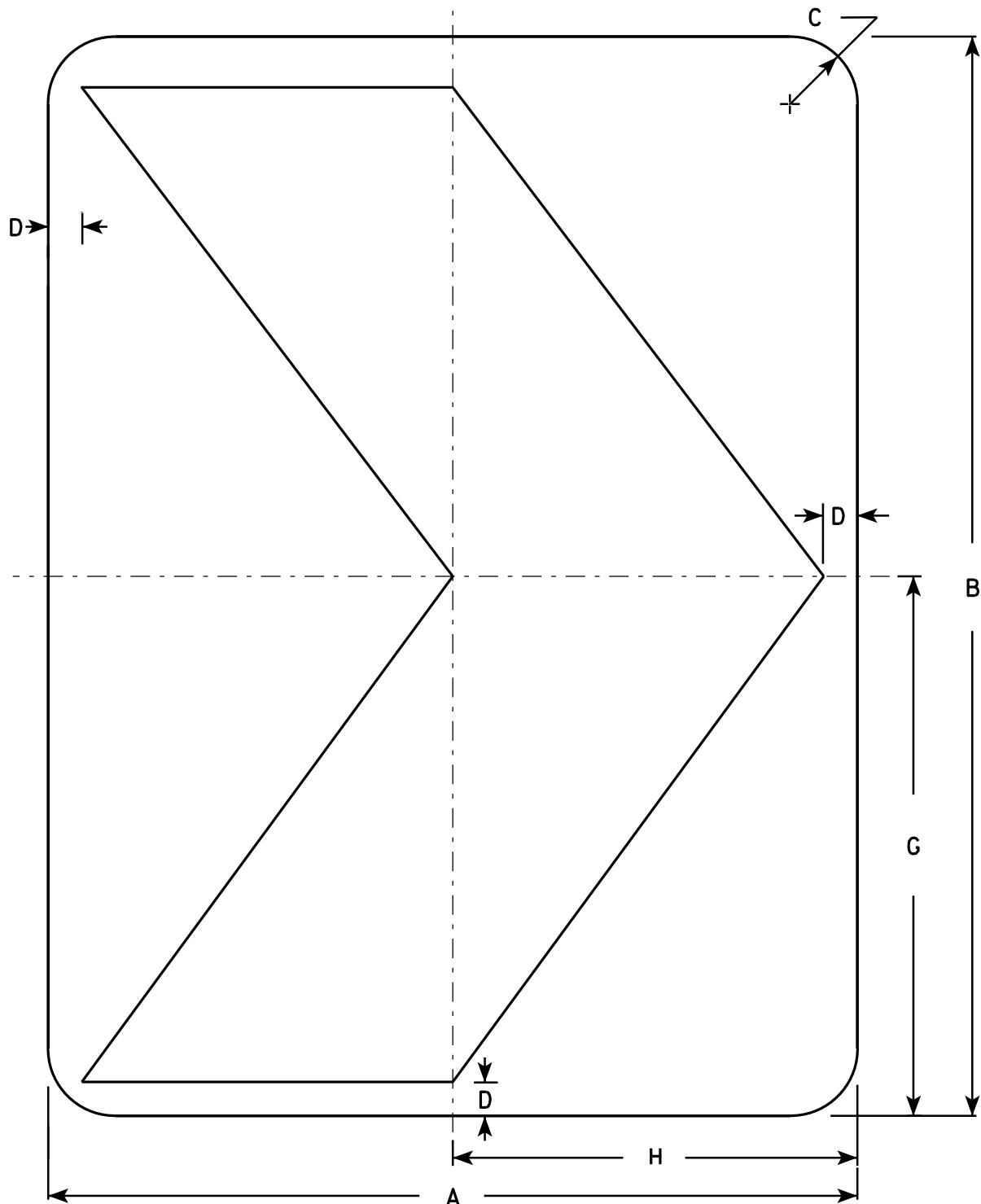
W1-6

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

STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

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



NOTES

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

W1-8

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/2	1/2			9	6																			1.5
2S	18	24	1 1/2	3/4			12	9																			3.0
2M	18	24	1 1/2	3/4			12	9																			3.0
3	24	30	1 1/2	1			15	12																			5.0
4	30	36	1 7/8	1 1/4			18	15																			7.5
5	36	48	2 1/4	1 1/2			24	18																			12.0

STANDARD SIGN

W1-8

WISCONSIN DEPT OF TRANSPORTATION

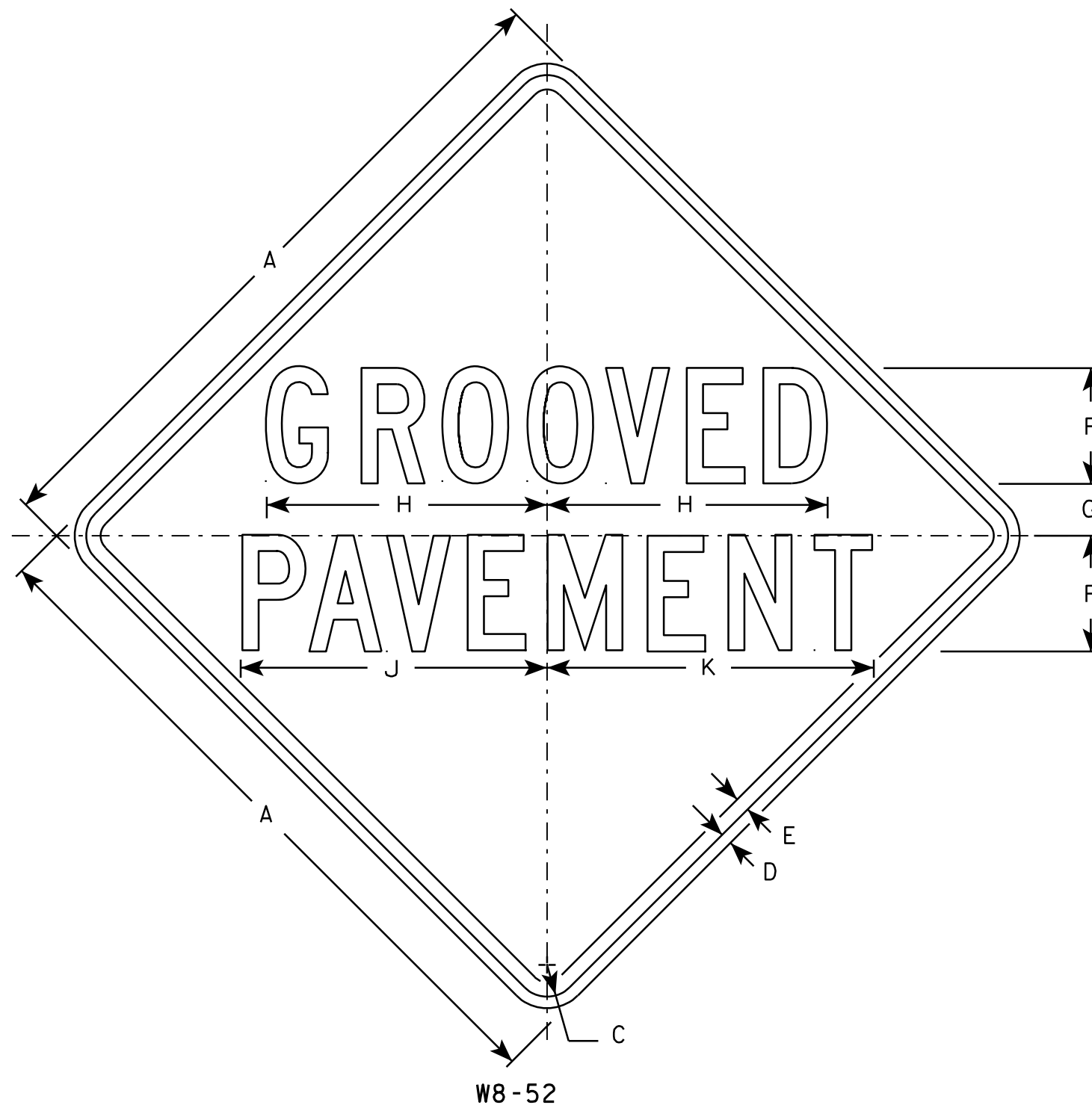
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 133

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 - 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.

W8-52

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

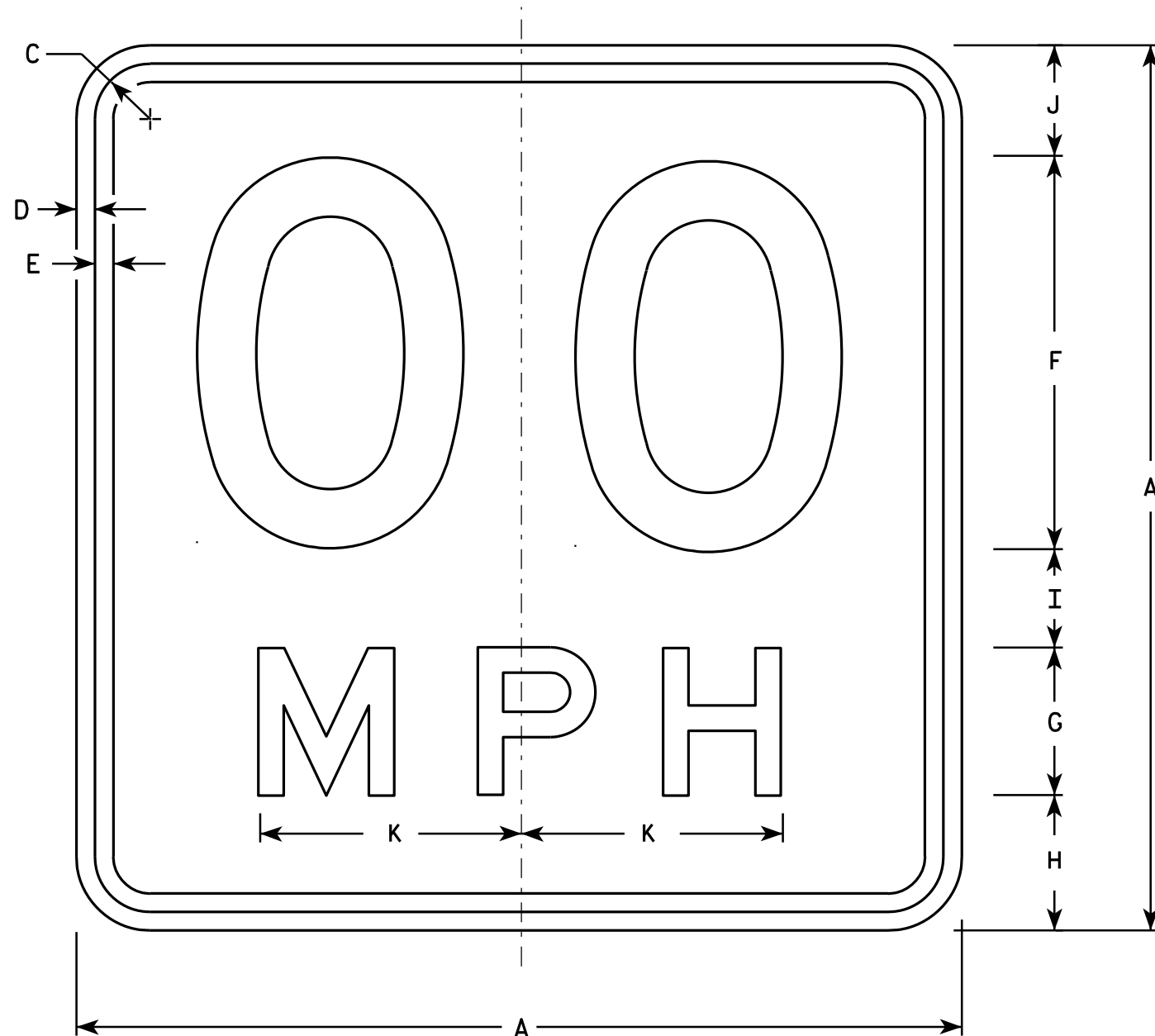
STANDARD SIGN
W8-52

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: 134 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

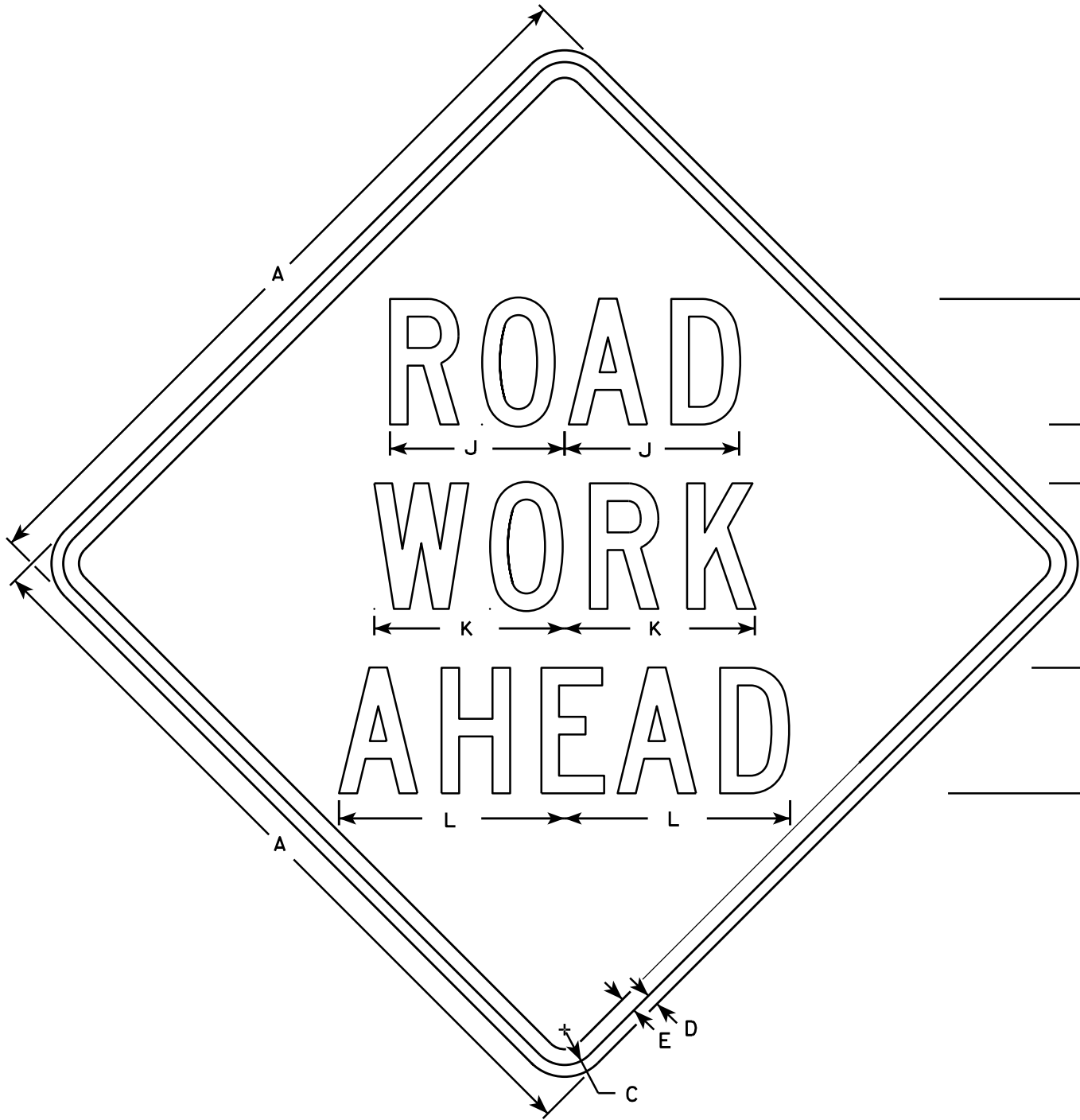
PROJECT NO:

HWY:

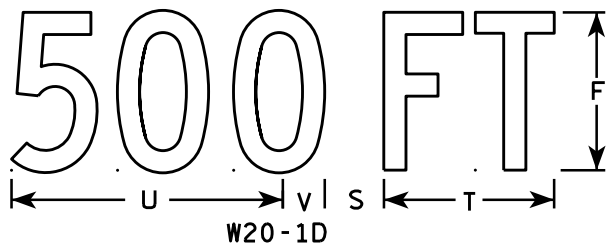
COUNTY:

SHEET NO: 135

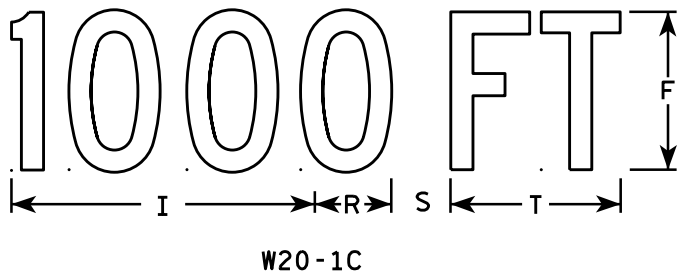
E



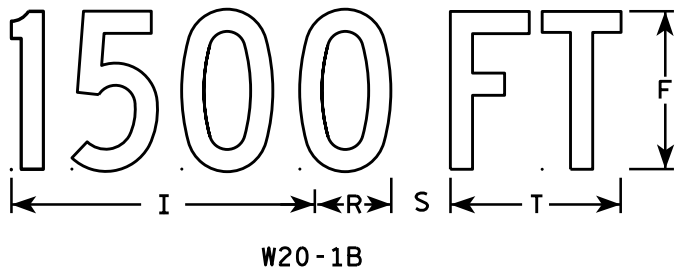
W20-1A



W20-1D



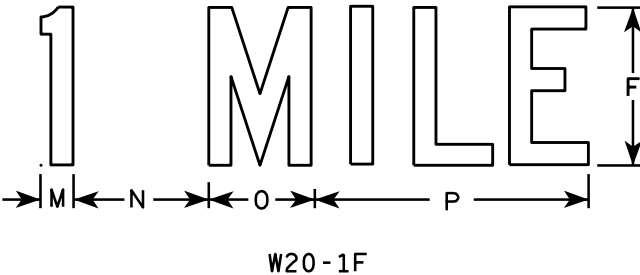
W20-1C



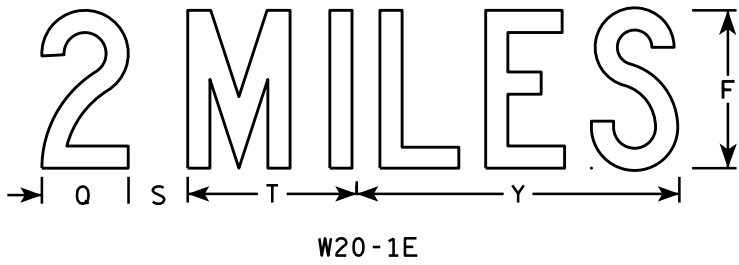
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

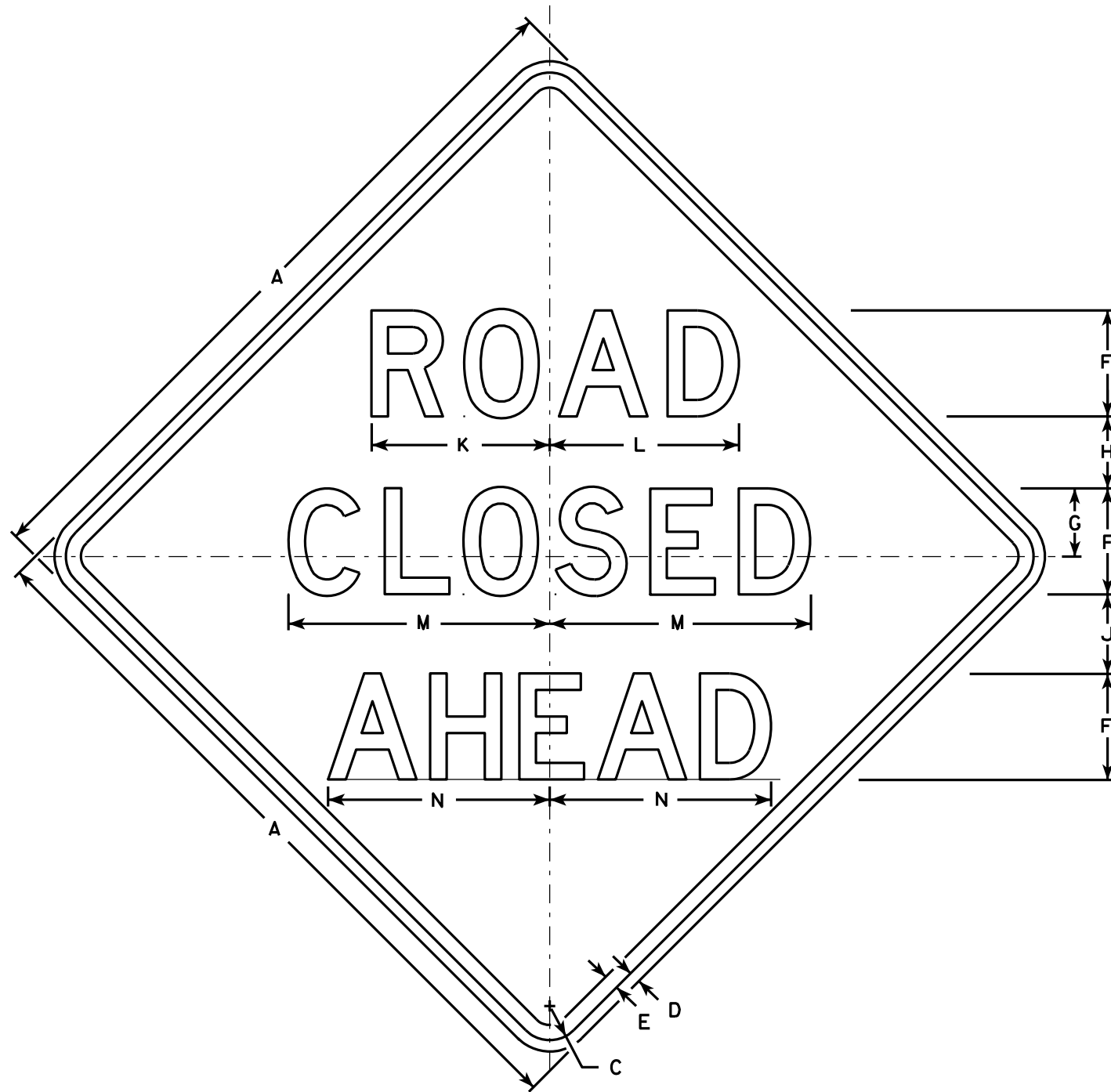
APPROVED

State Traffic Engineer

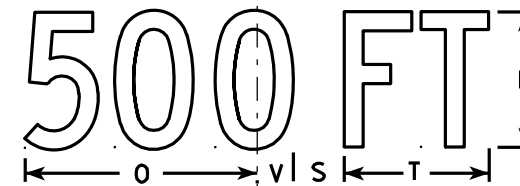
DATE 5/07/15

PLATE NO. W20-1.10

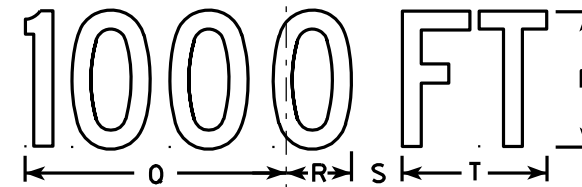
136



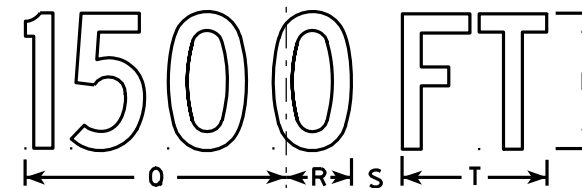
W20-3A



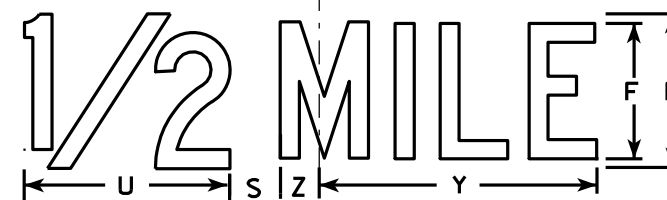
W20-3D



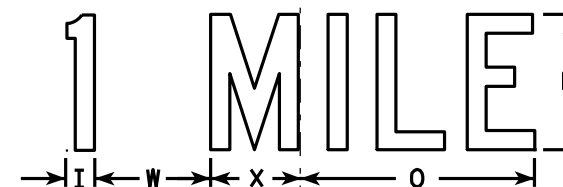
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
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.
- Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

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

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

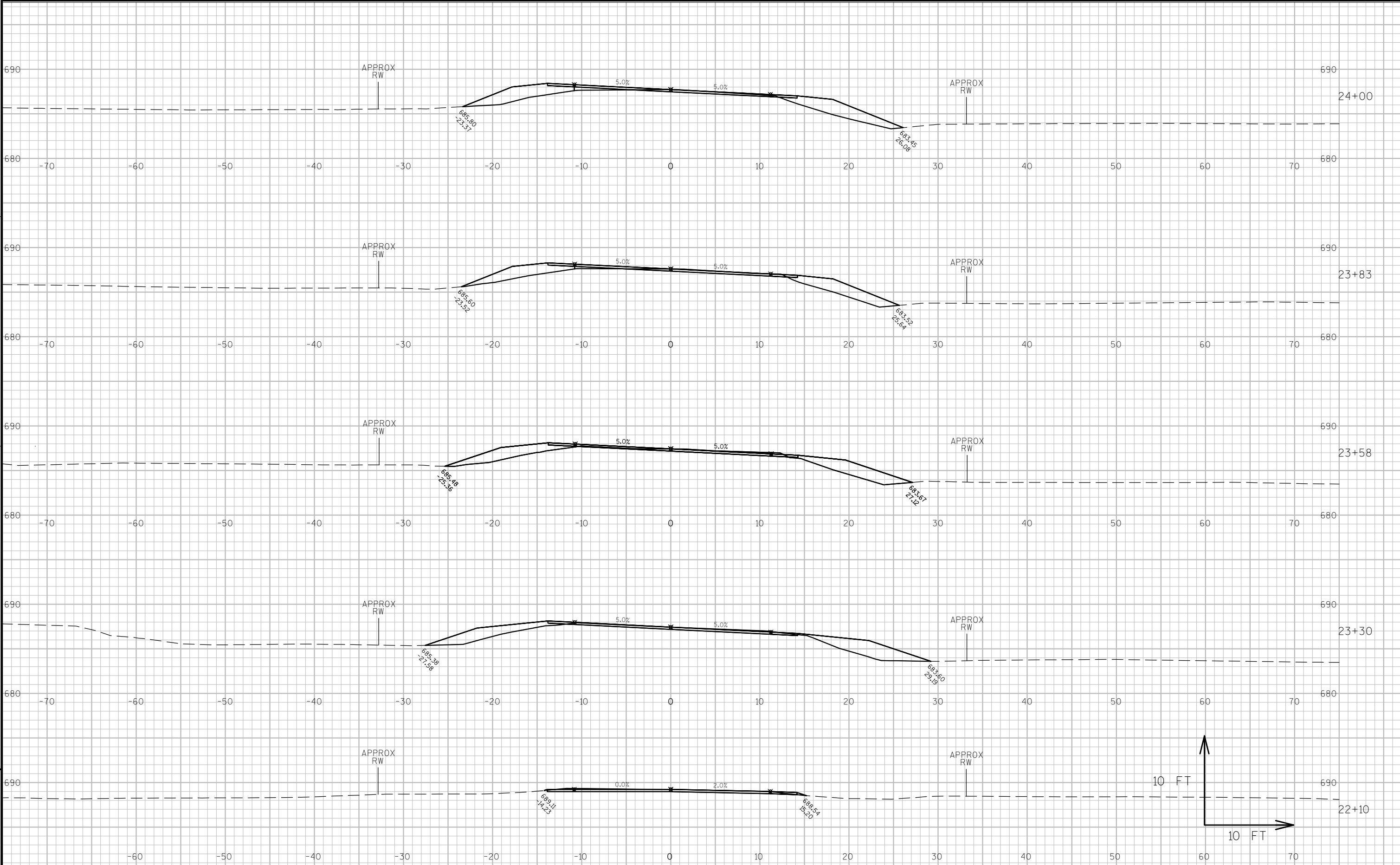
PROJECT NO:

HWY:

COUNTY:

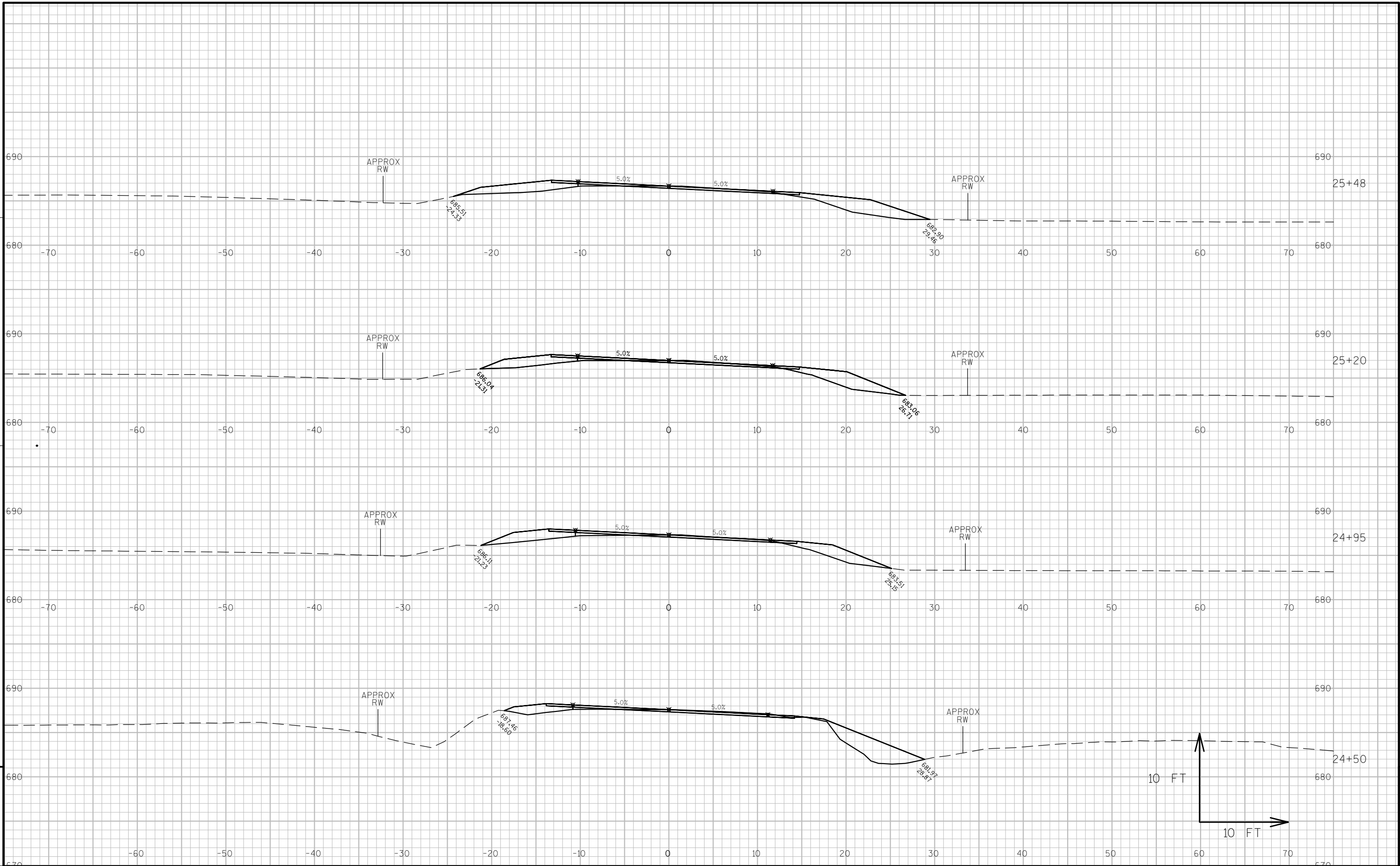
SHEET NO: 137

E



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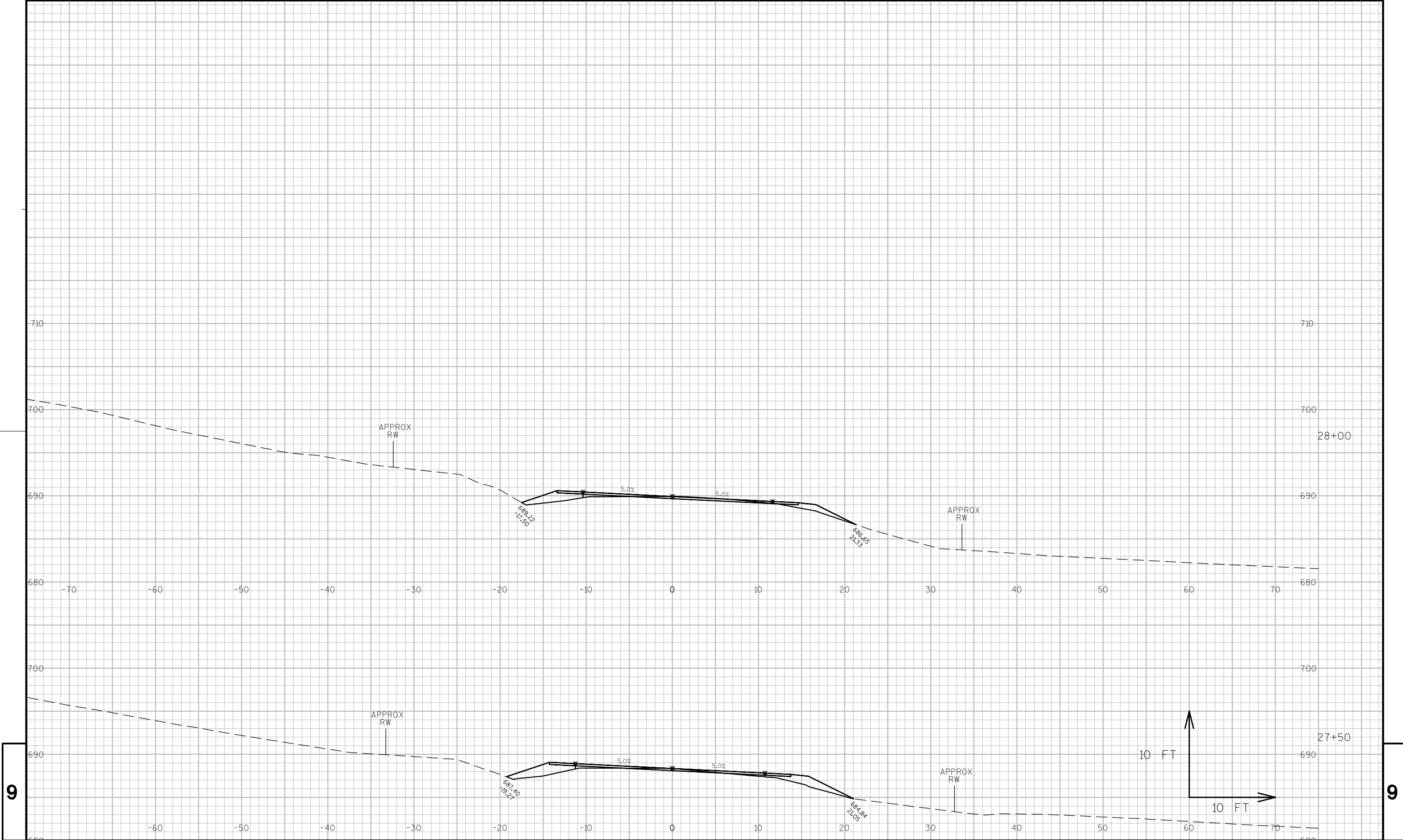
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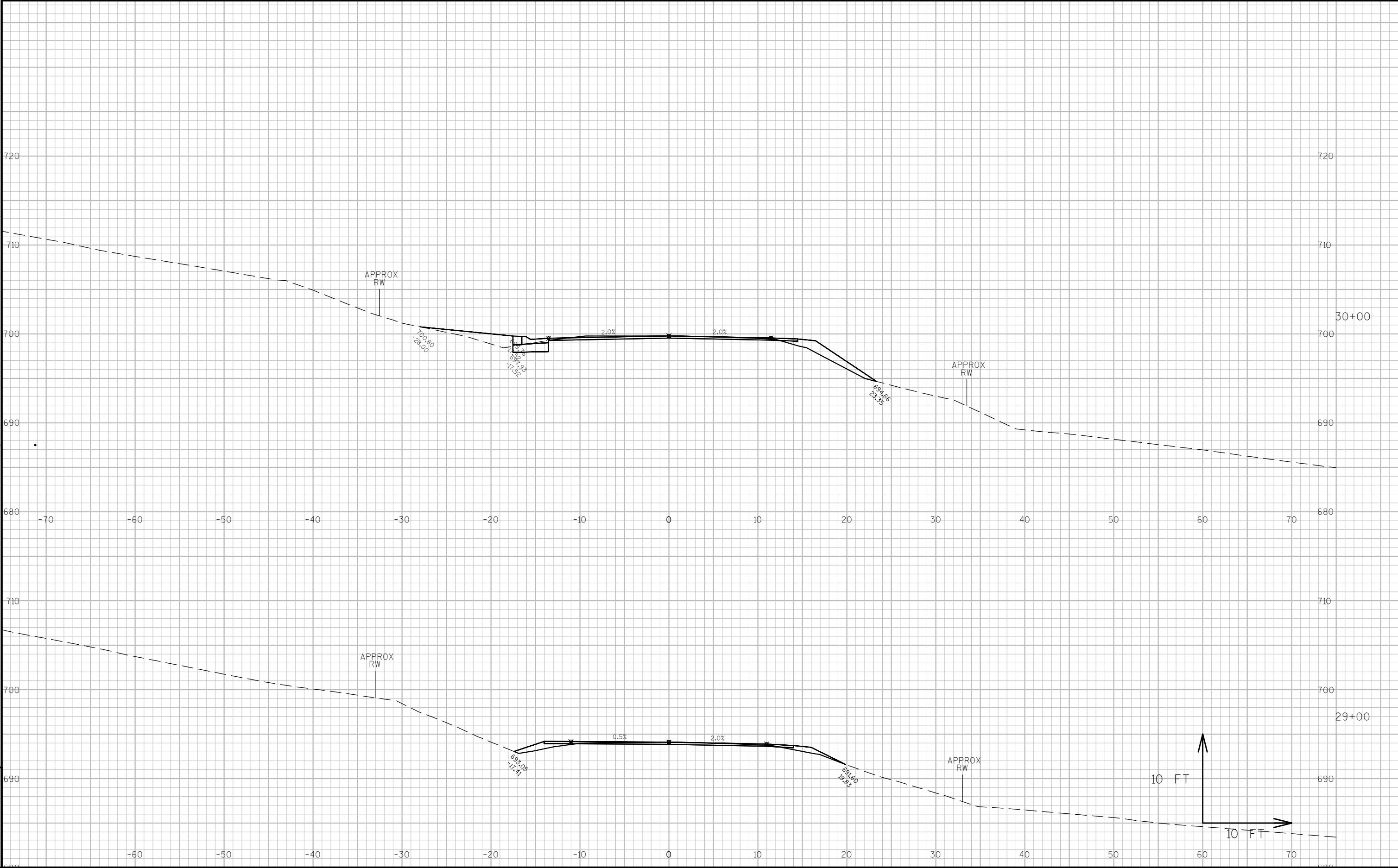


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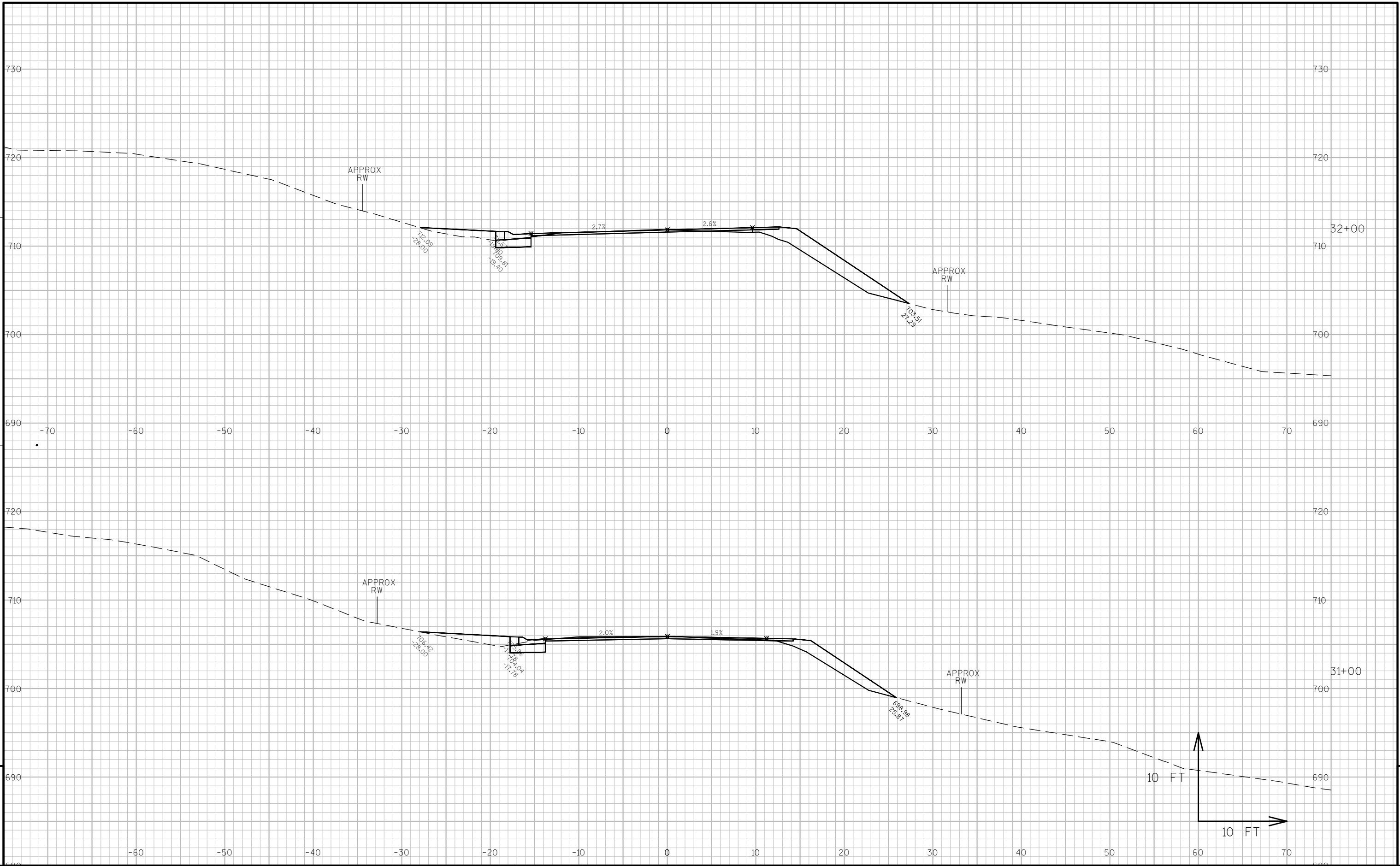
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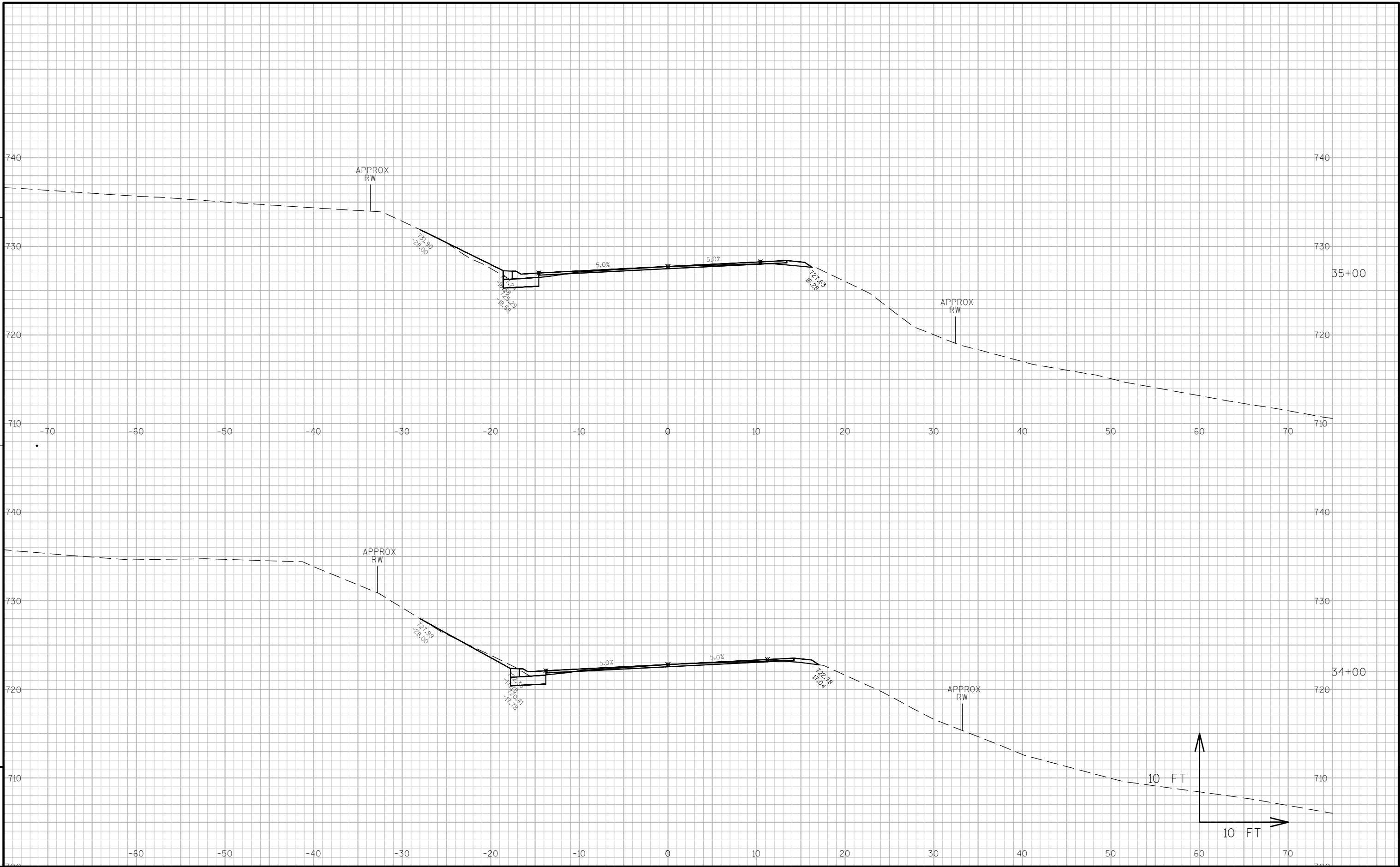


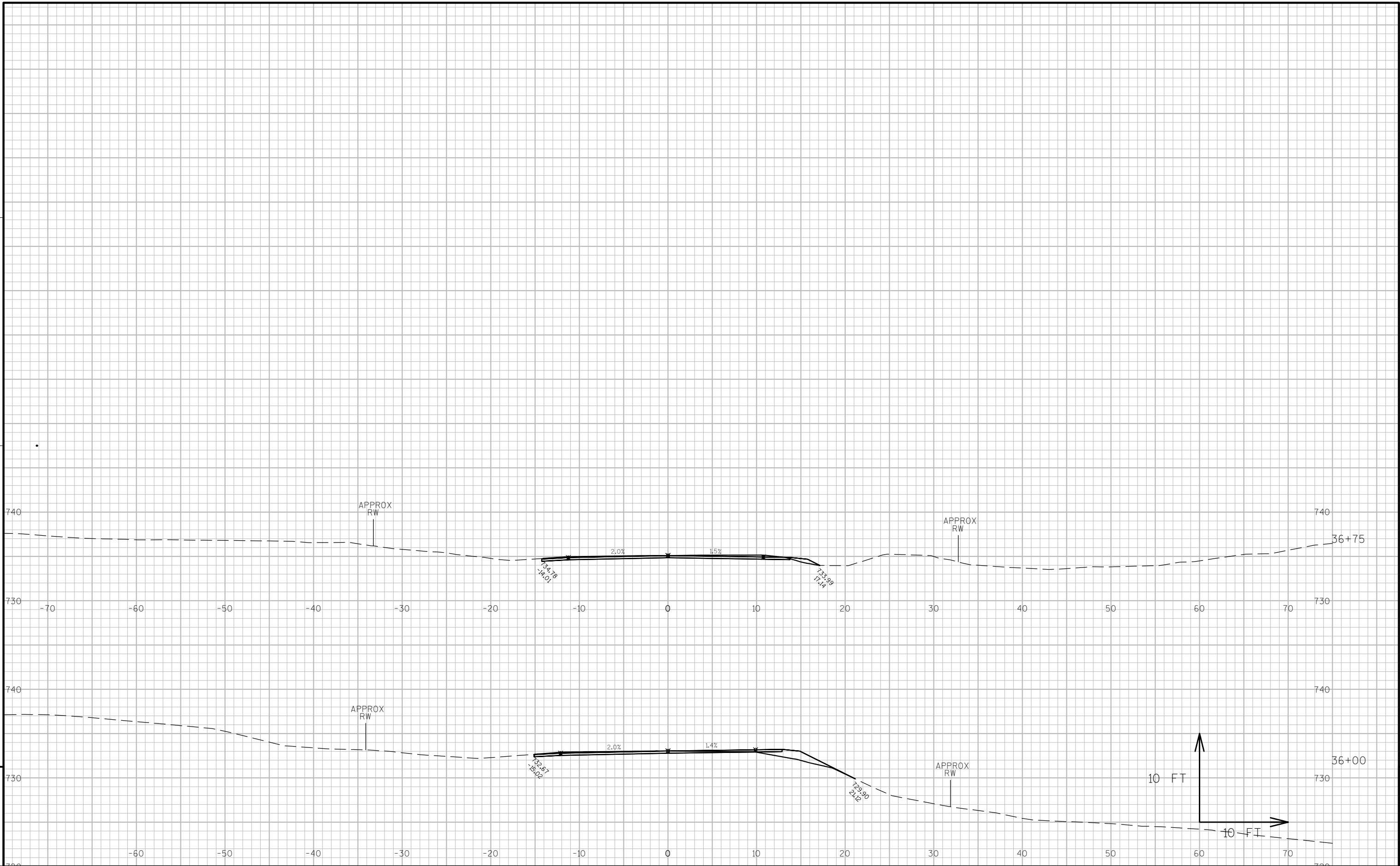


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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

146

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (027-037).DWG

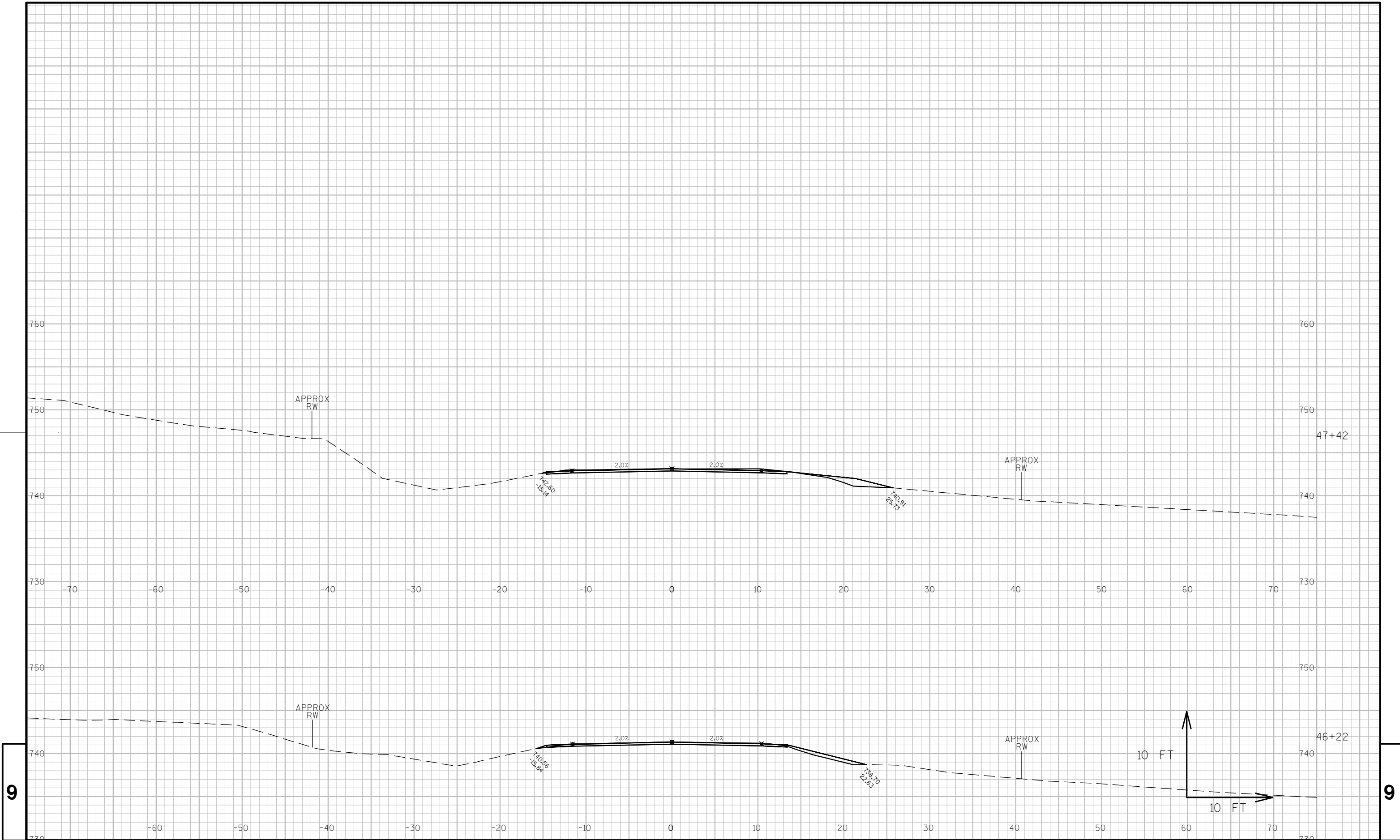
PLOT DATE : 10/22/2013 10:16 AM

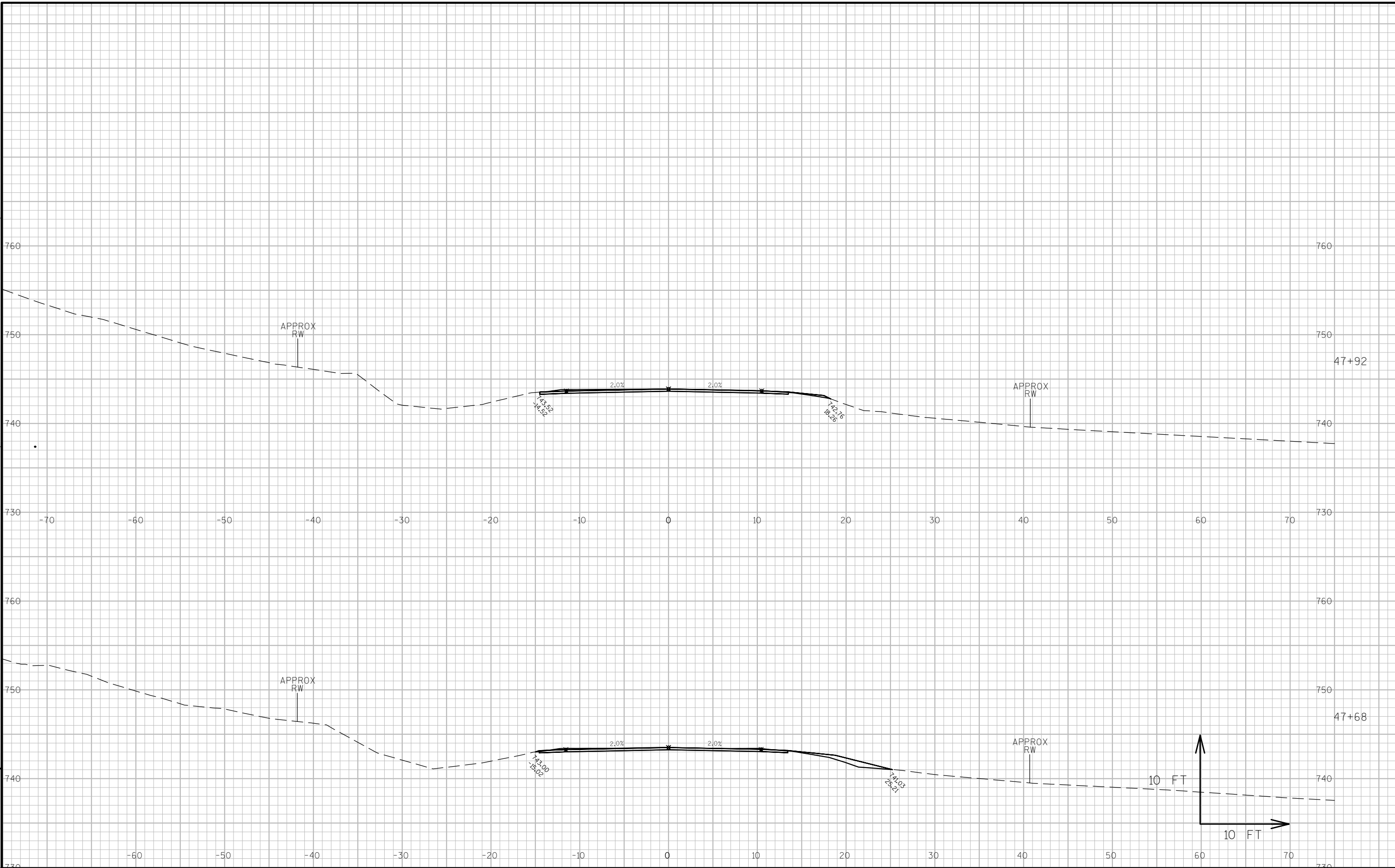
PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49





PROJECT NO: 7730-06-03

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

148

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\CD\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (048-067).DWG

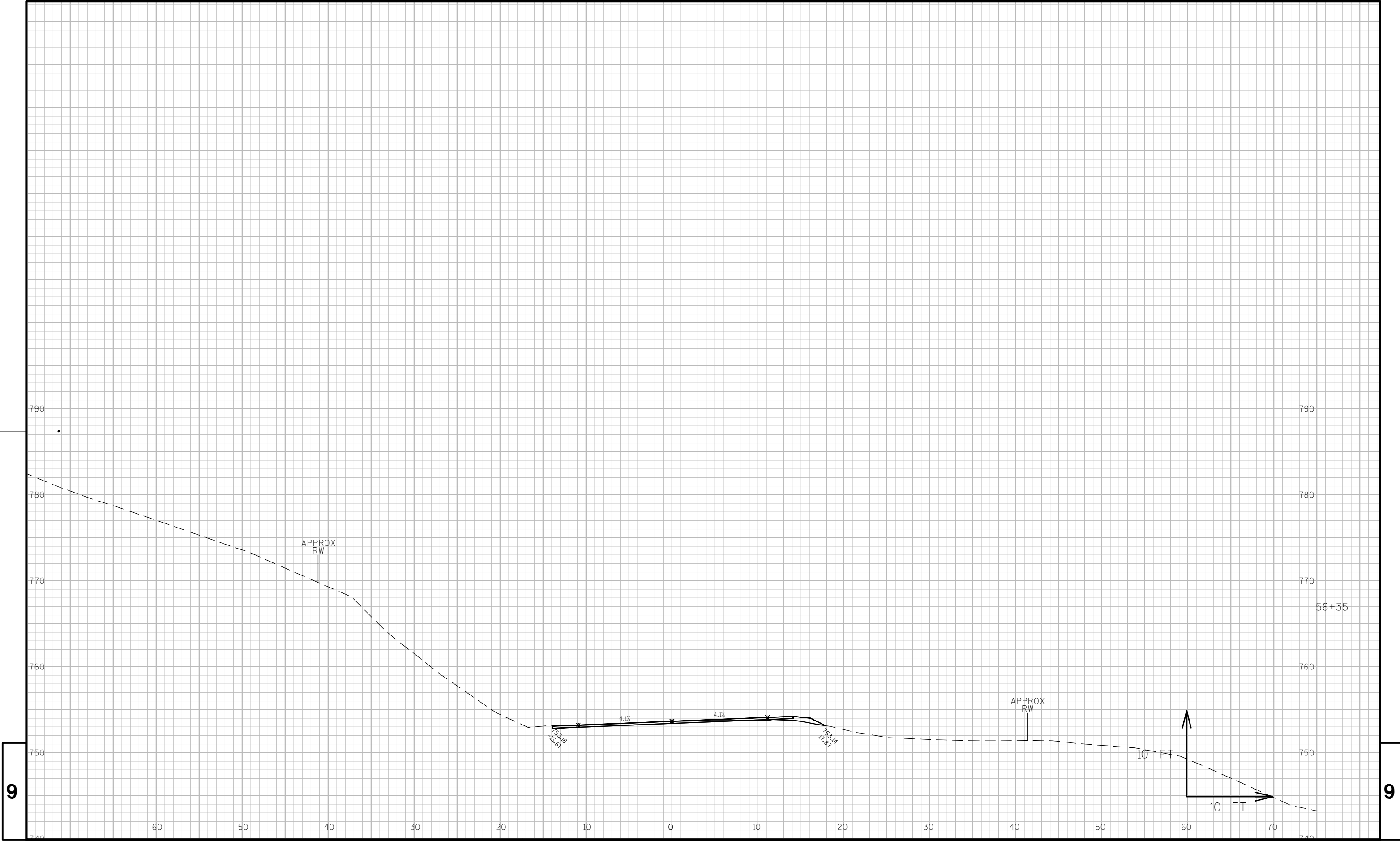
PLOT DATE : 7/21/2015 10:53 AM

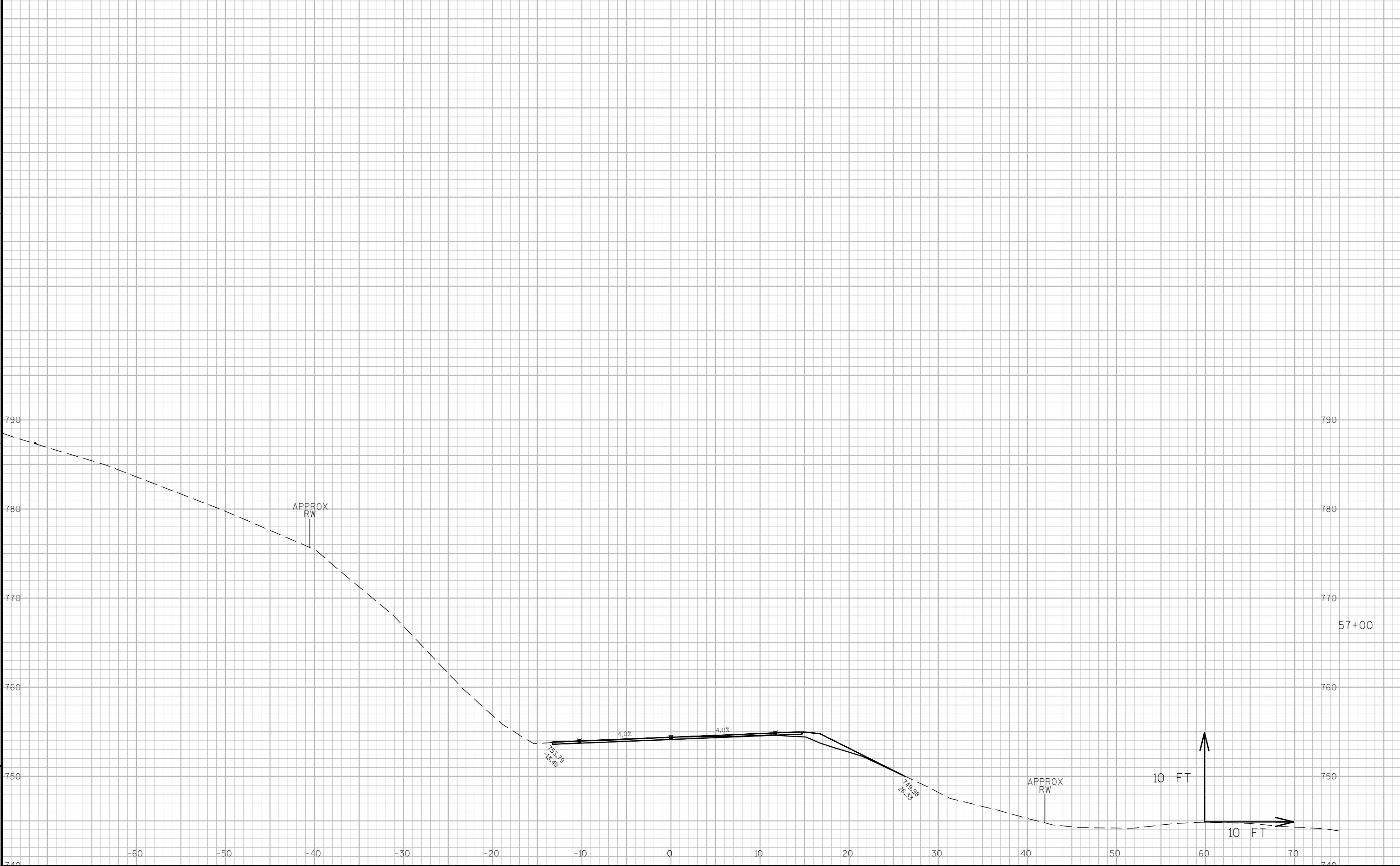
PLOT BY : ADAM OSYPOWSKI

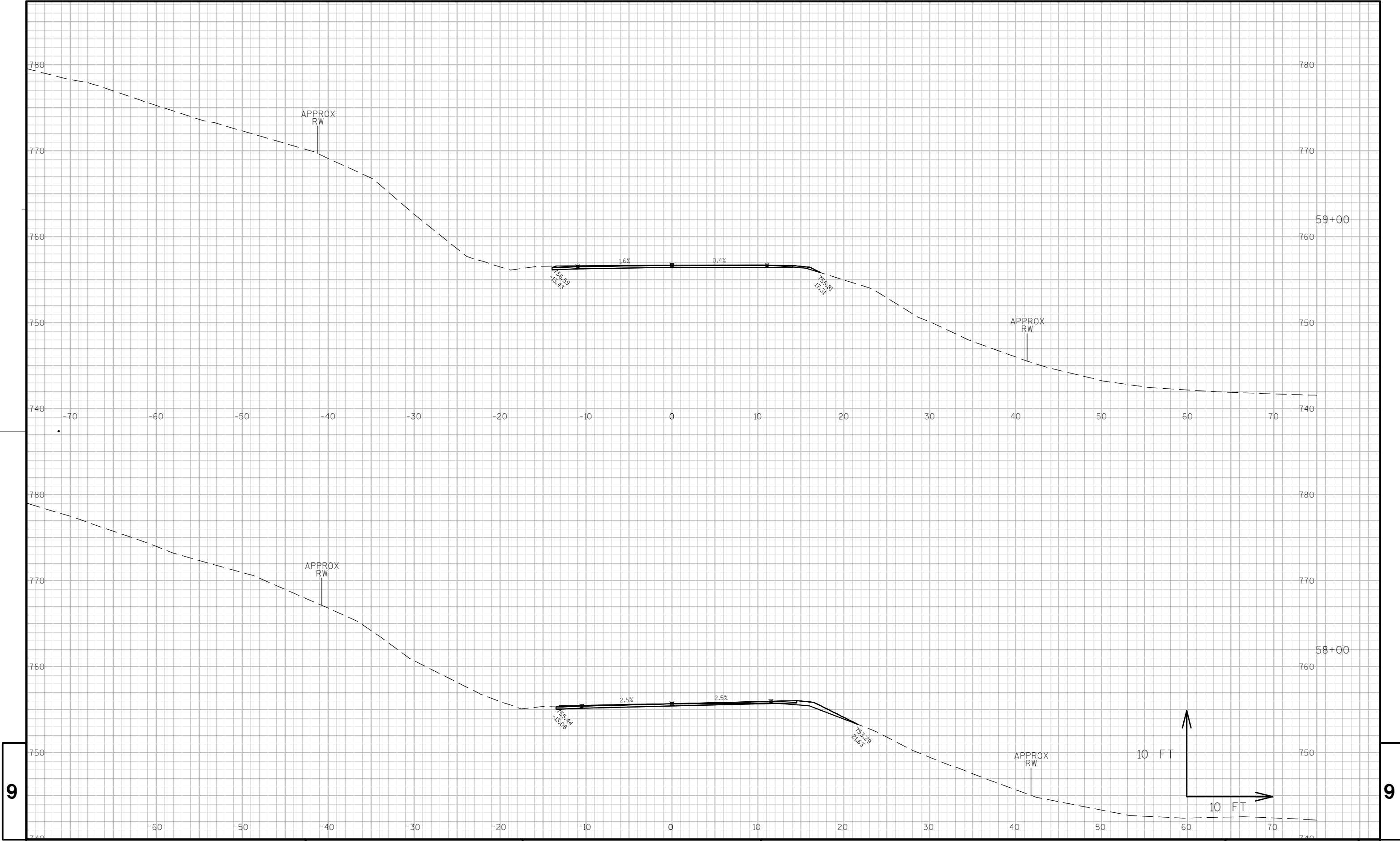
PLOT NAME :

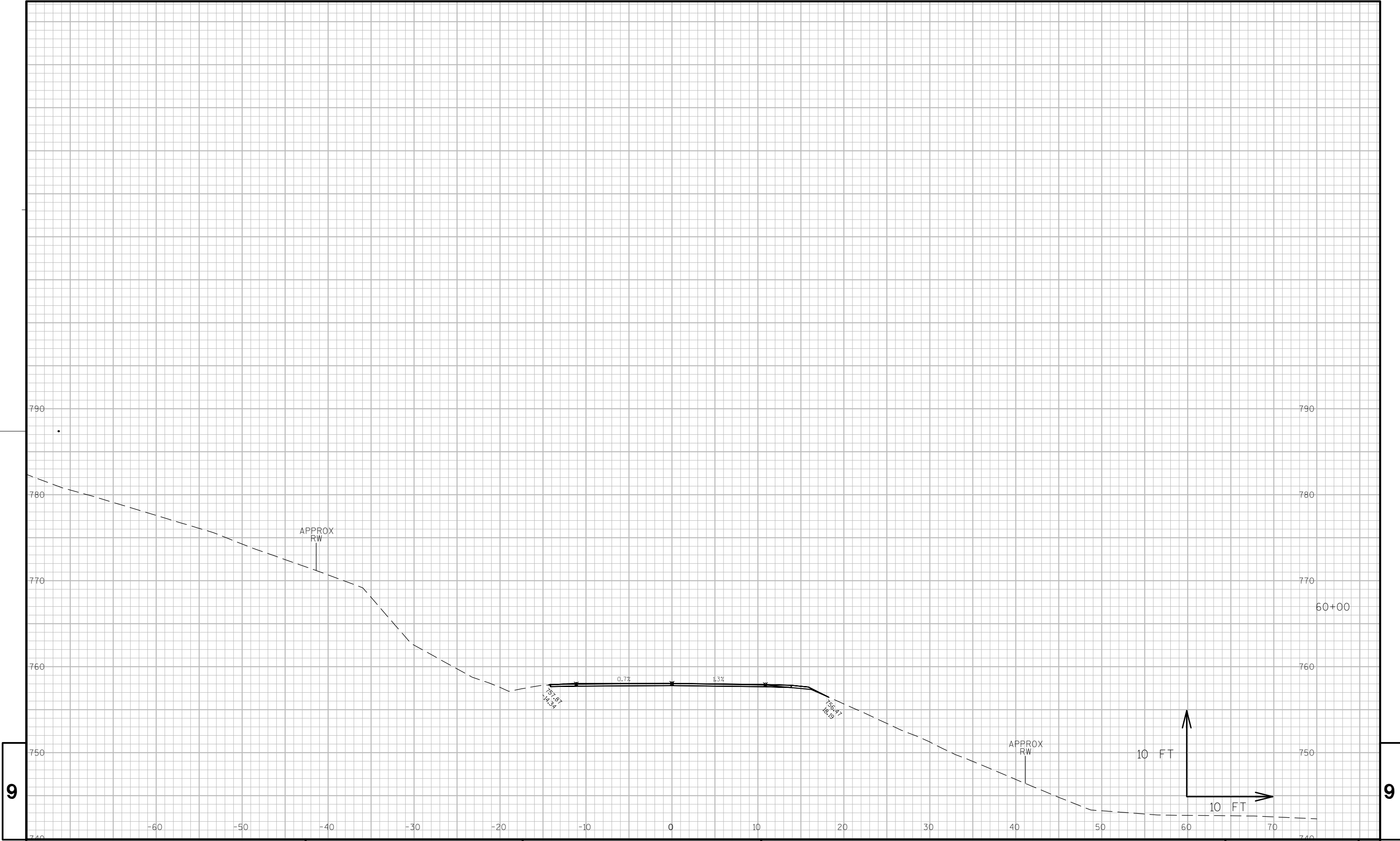
PLOT SCALE : 1 IN:10 FT

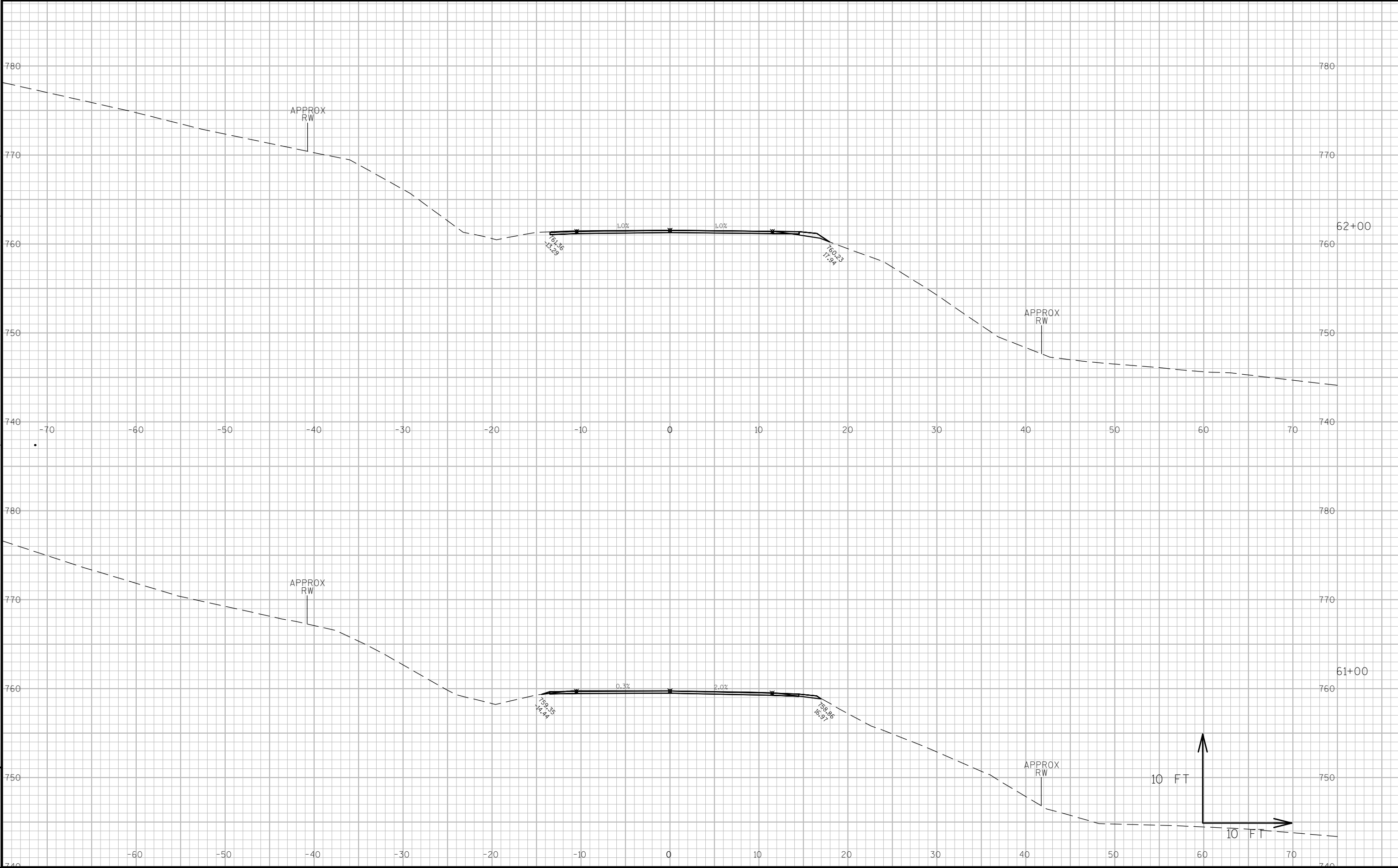
WISDOT/CADDs SHEET 49





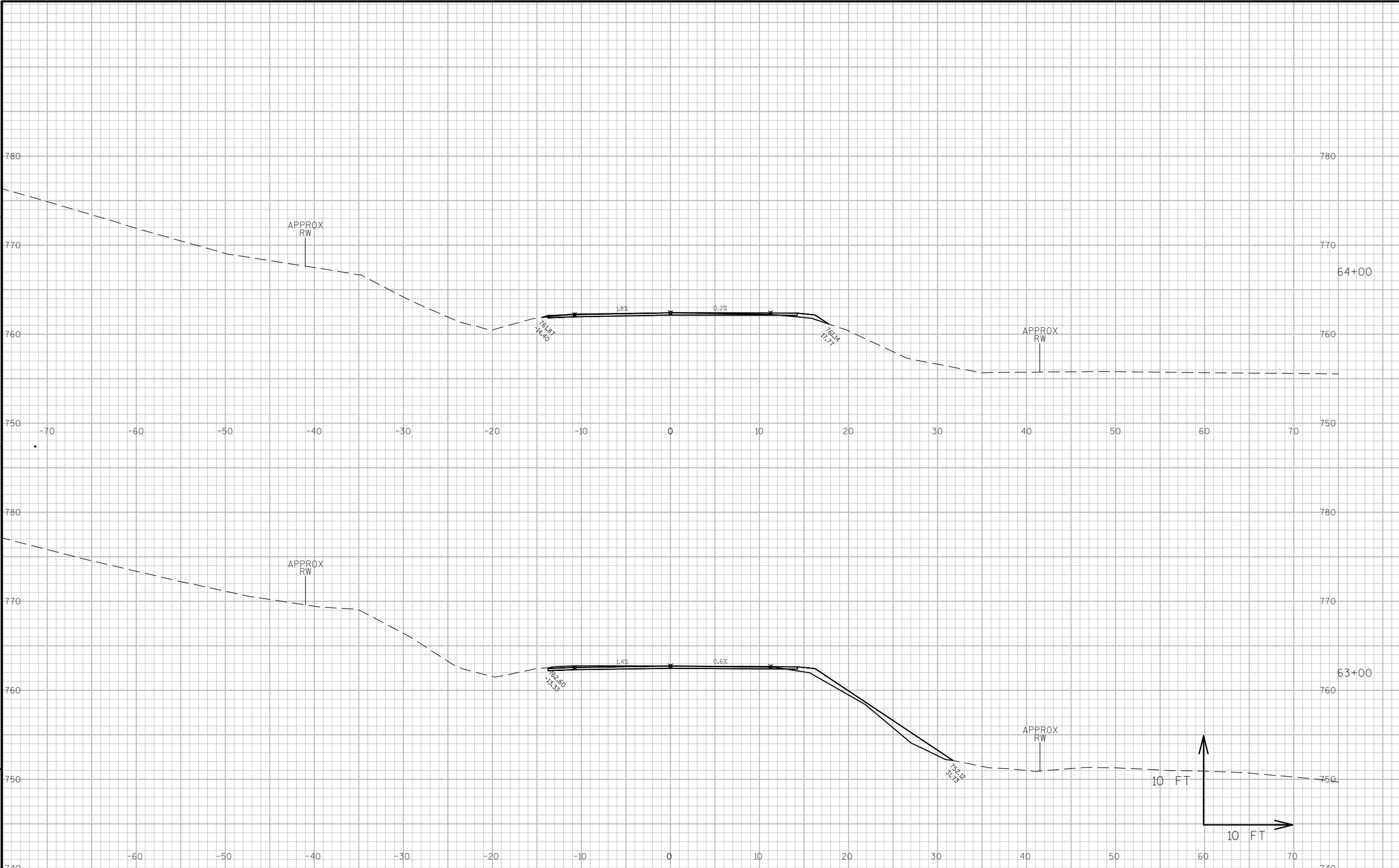






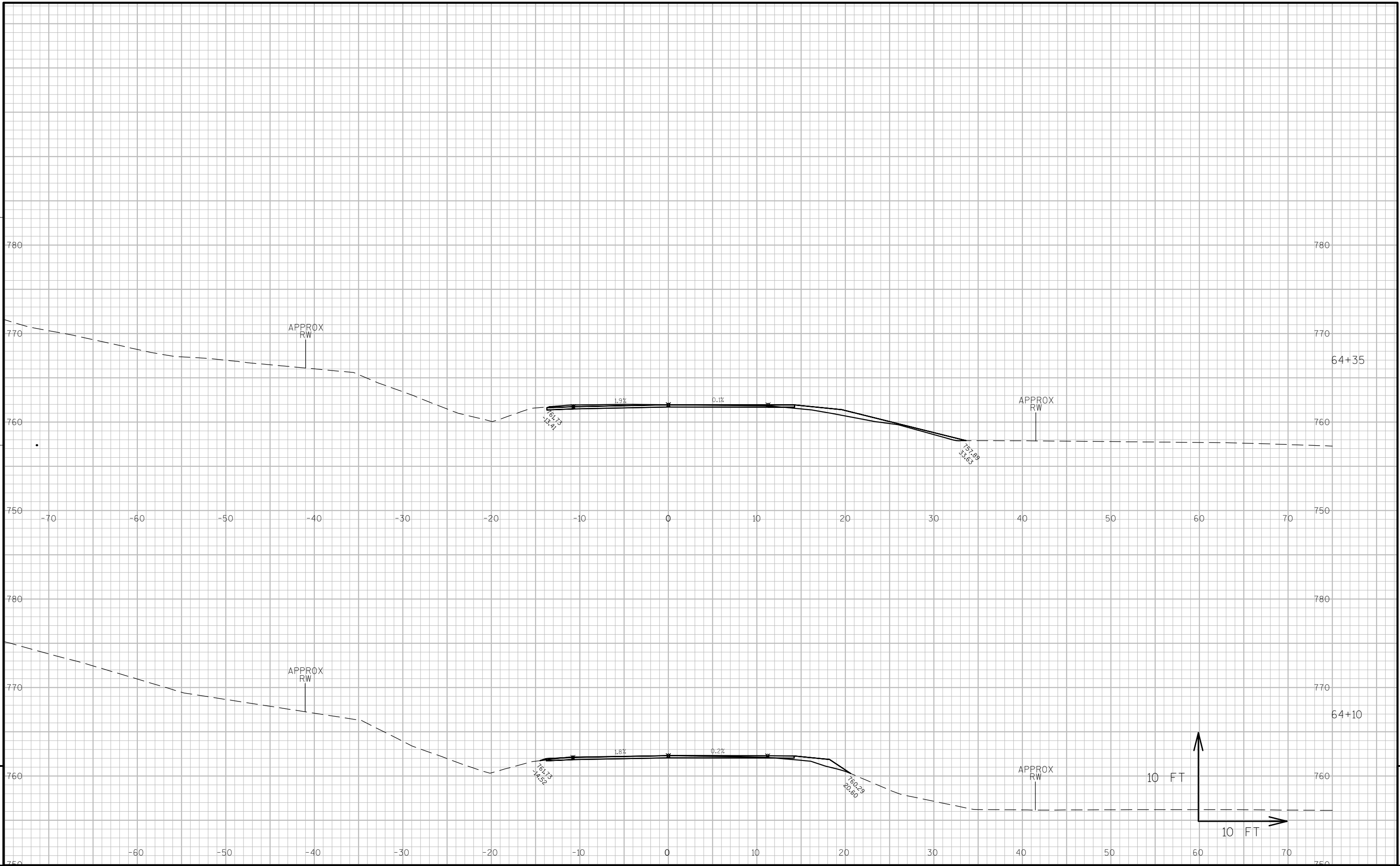
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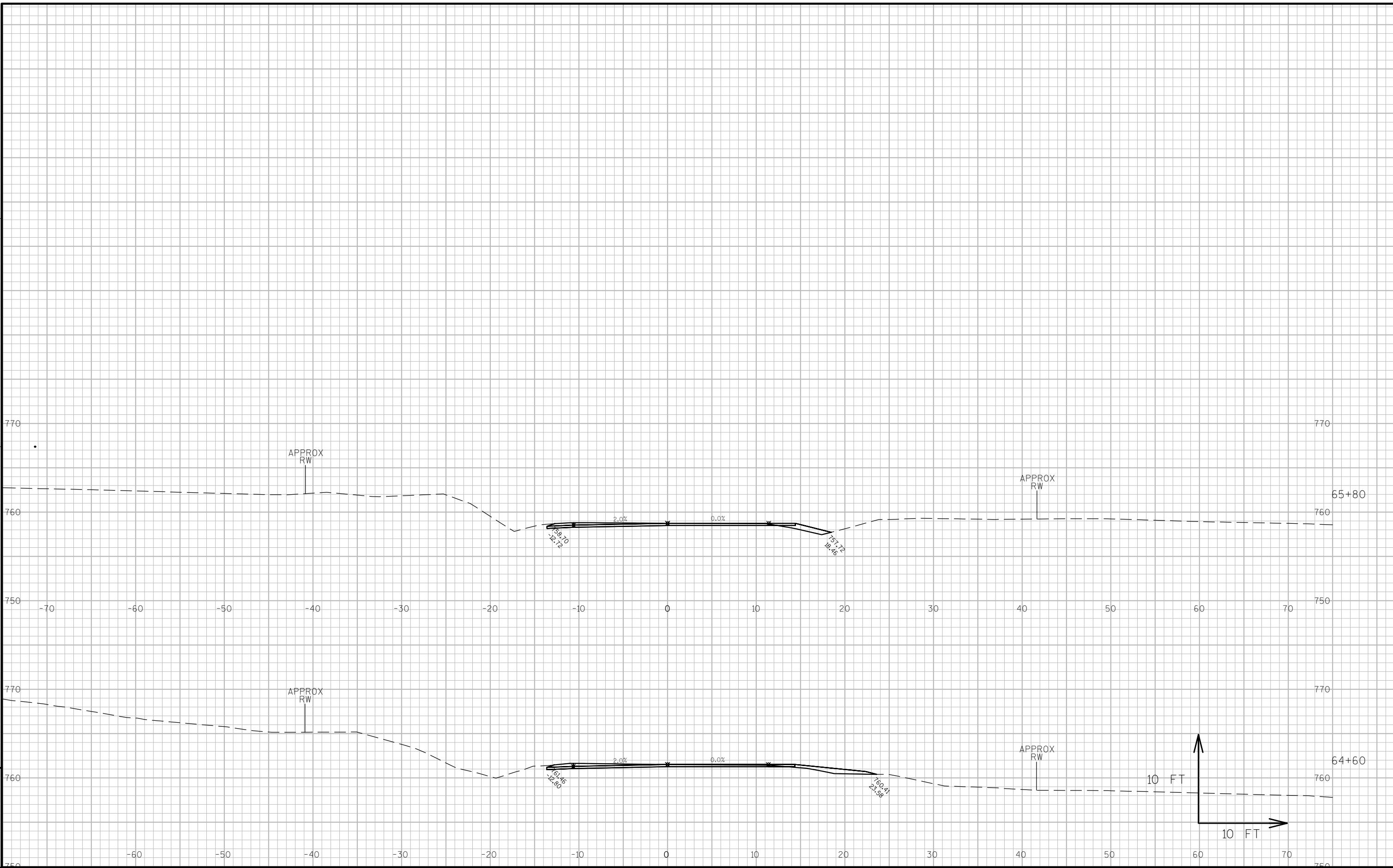
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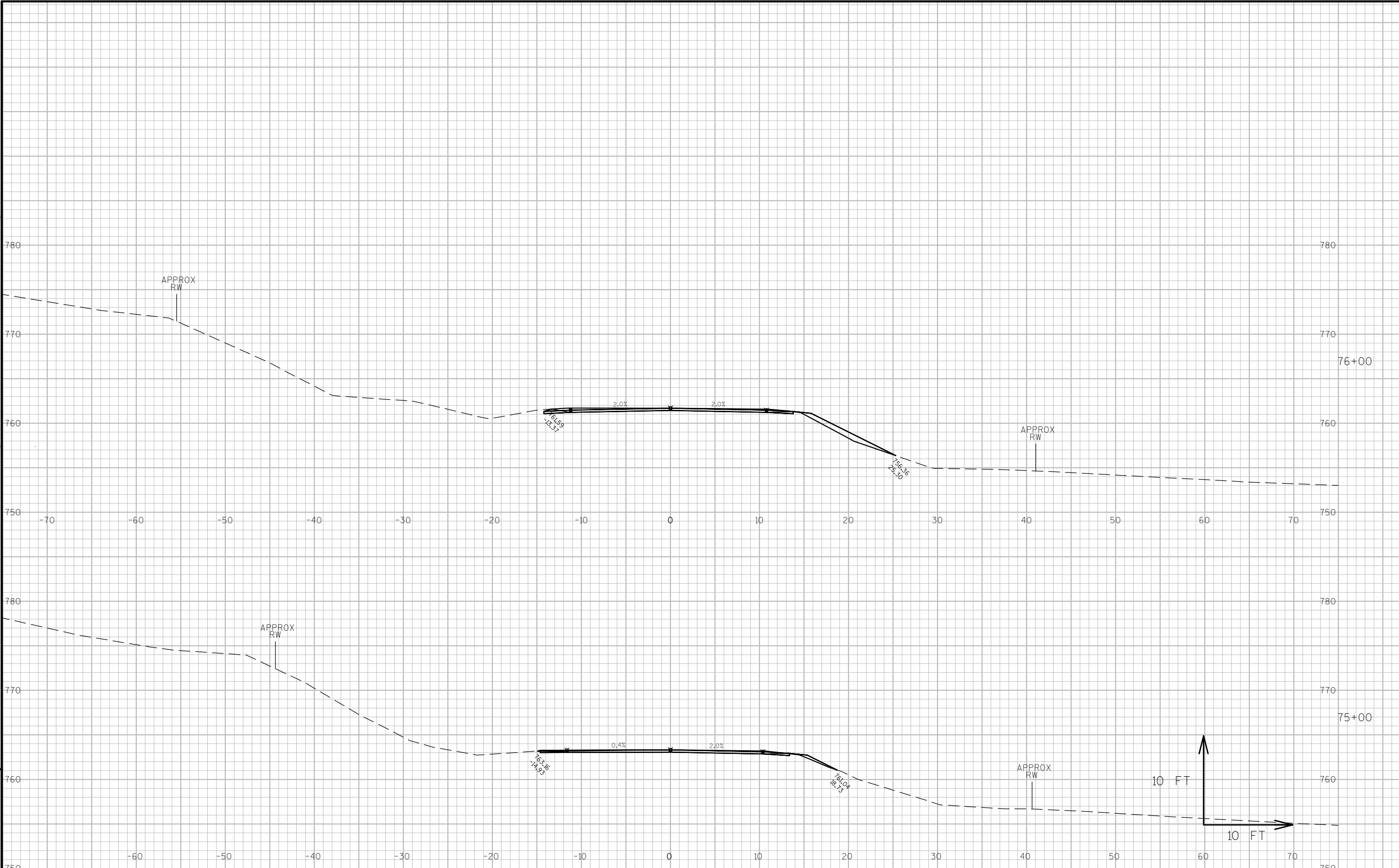


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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

157

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (048-077).DWG

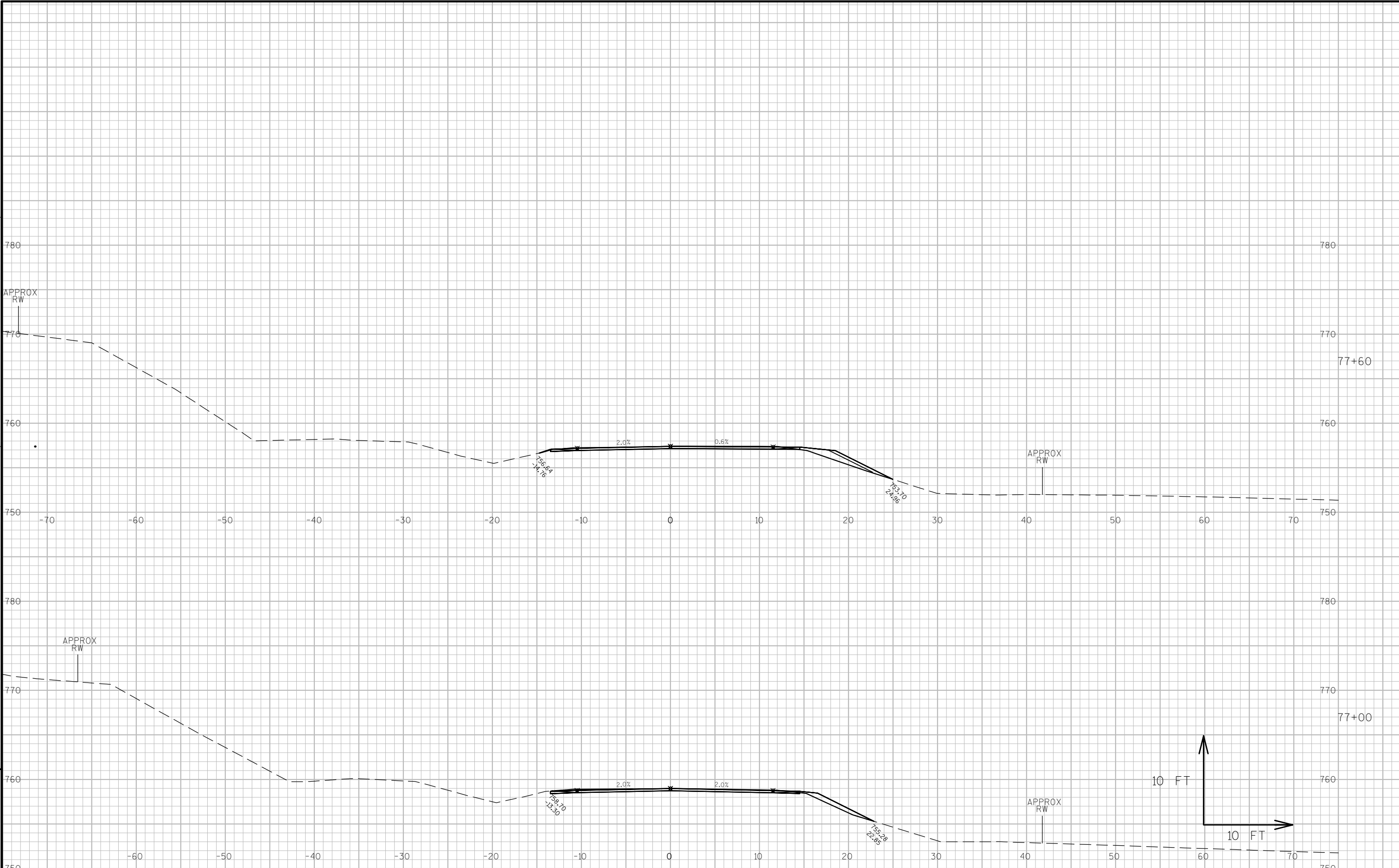
PLOT DATE : 10/22/2013 10:19 AM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

158

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (048-077).DWG

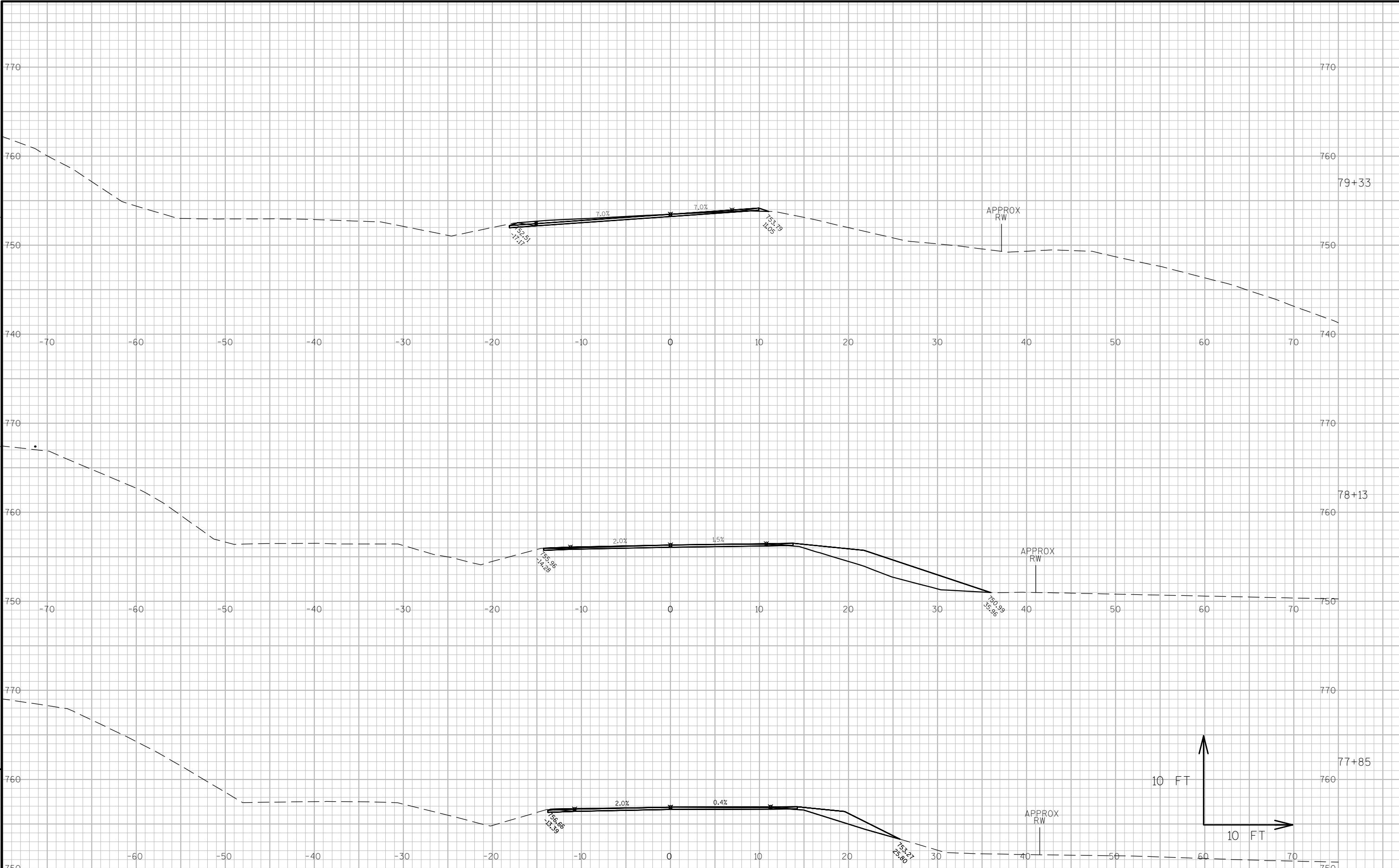
PLOT DATE : 10/22/2013 10:20 AM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

159

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (048-077).DWG

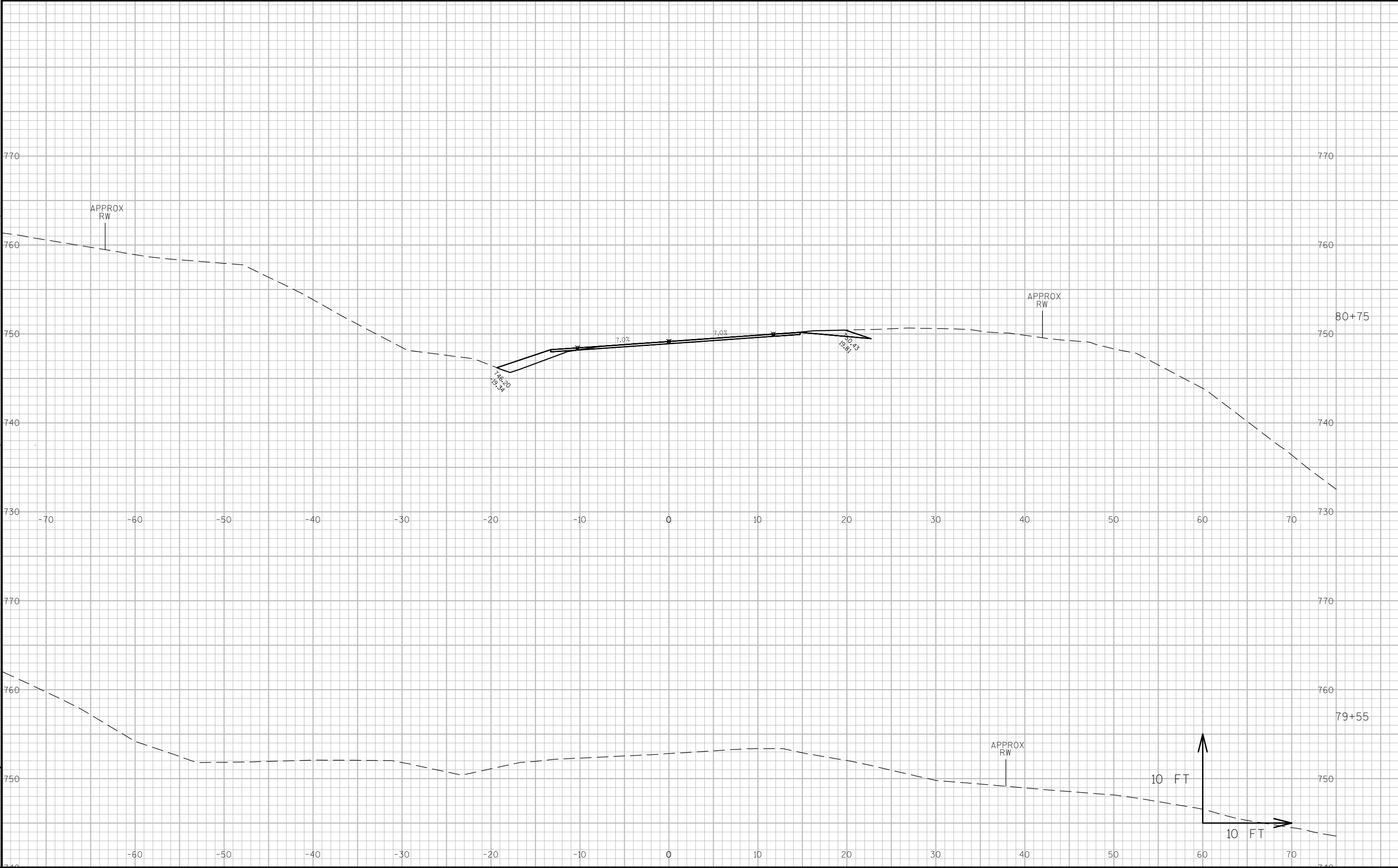
PLOT DATE : 10/22/2013 10:21 AM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

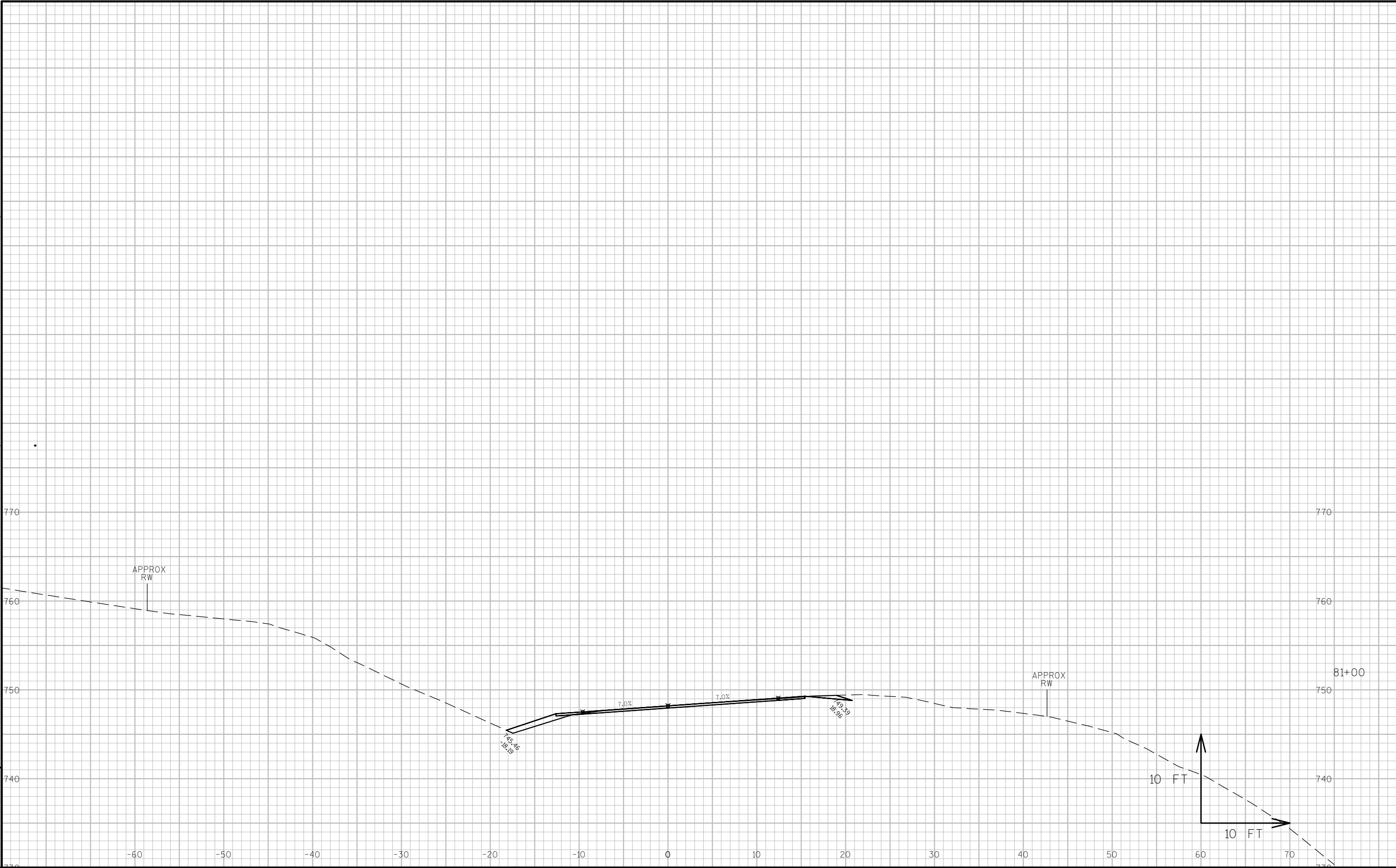
WISDOT/CADDs SHEET 49



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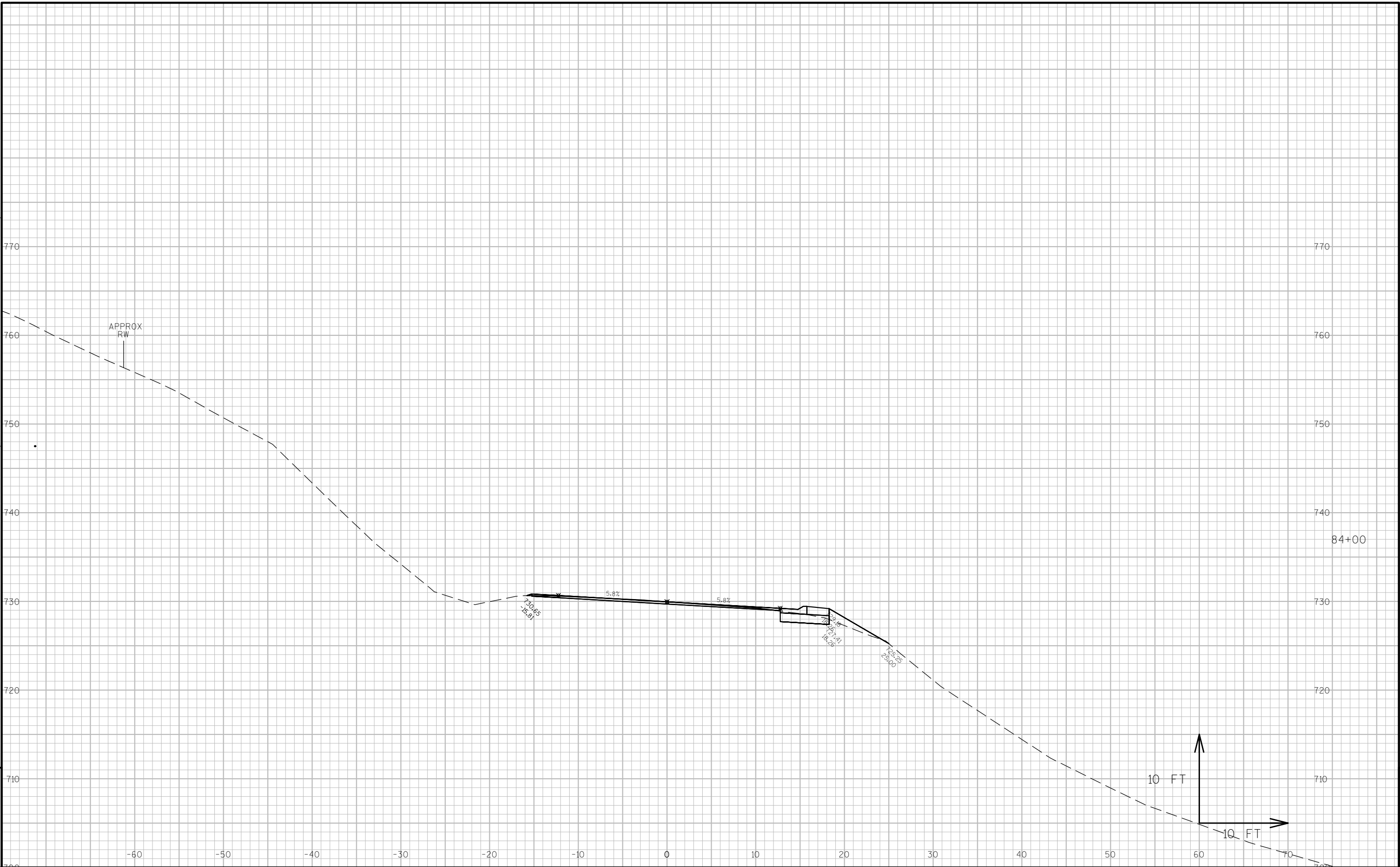


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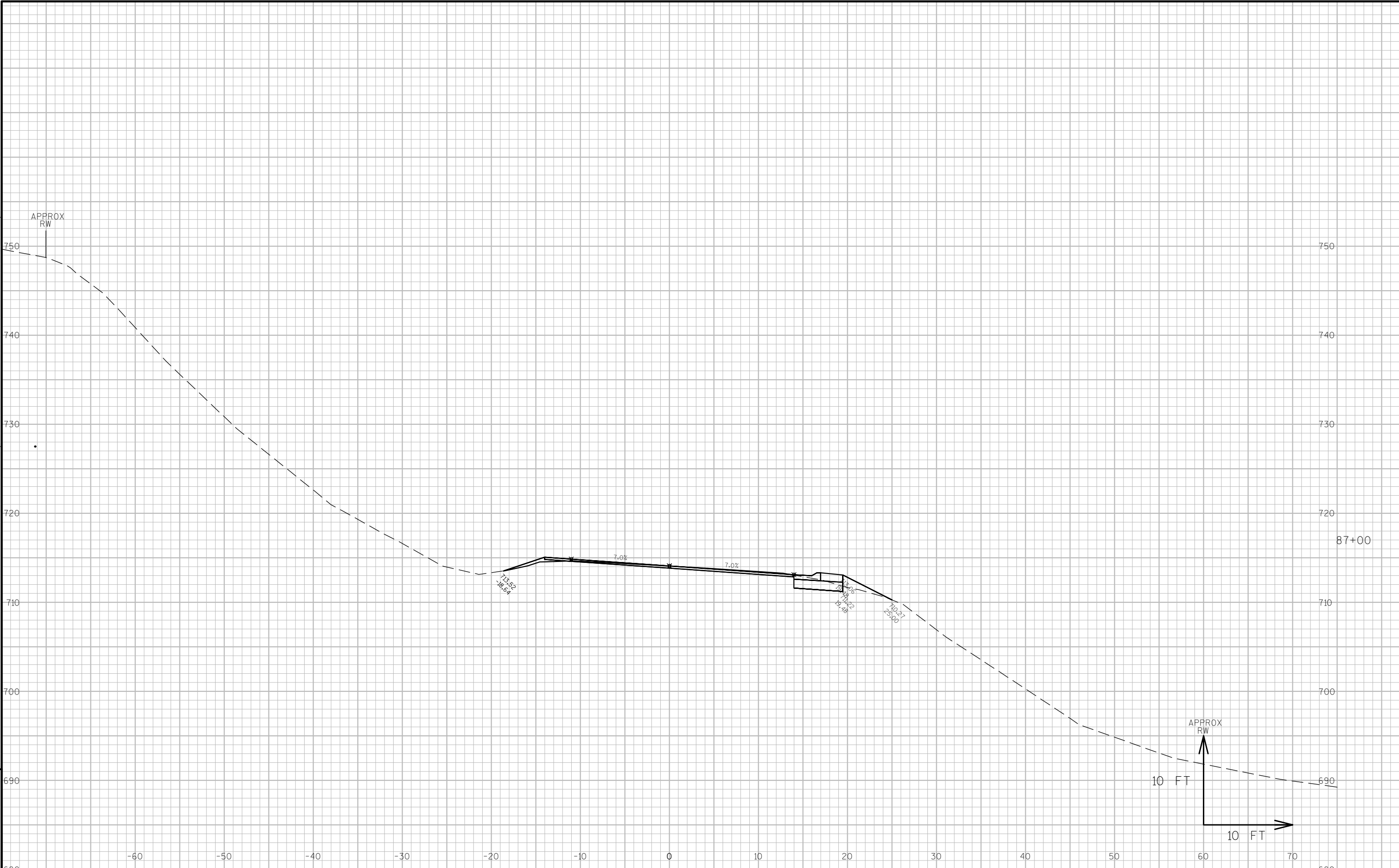
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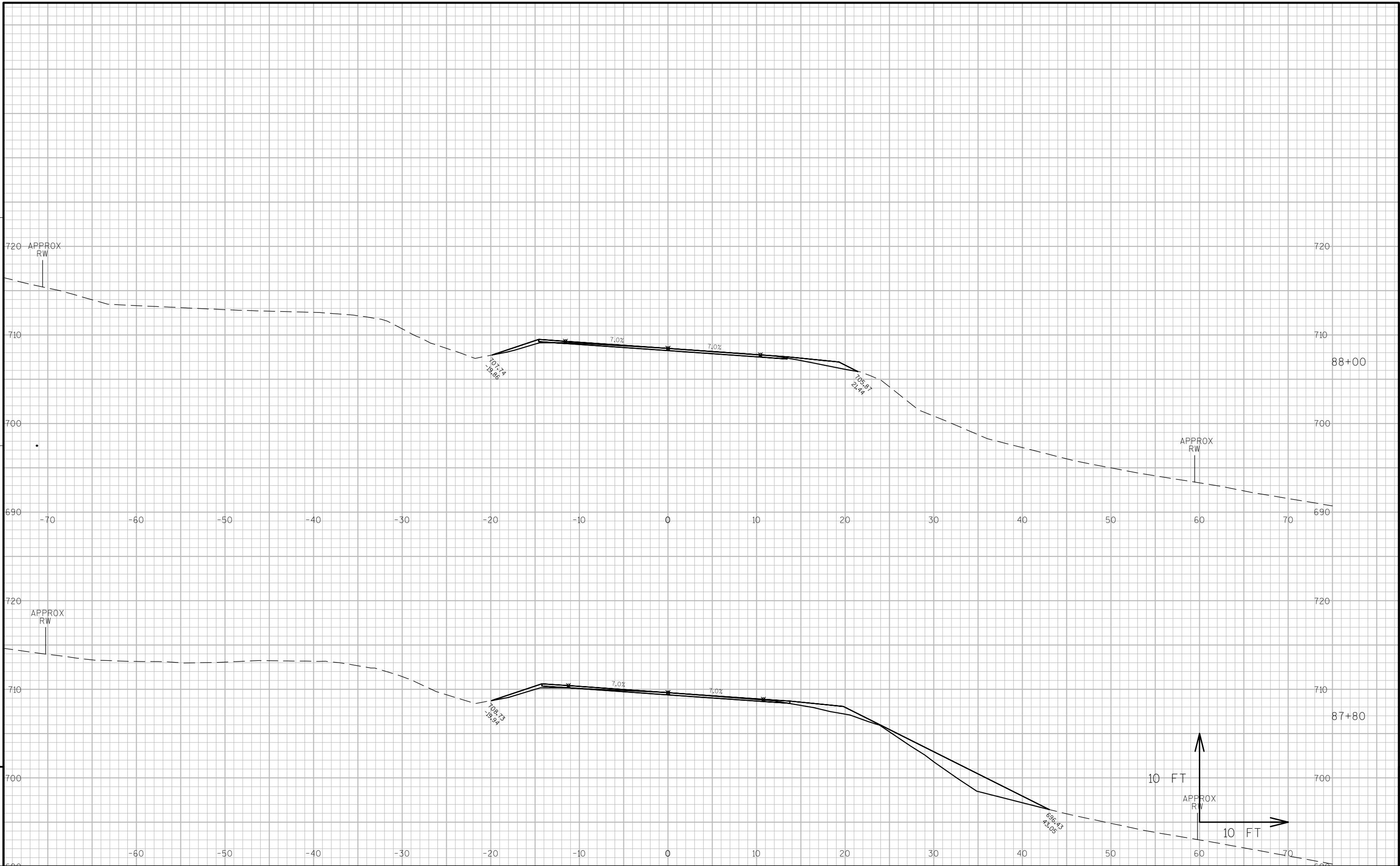


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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

169

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (080-105).DWG

PLOT DATE : 10/22/2013 10:59 AM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

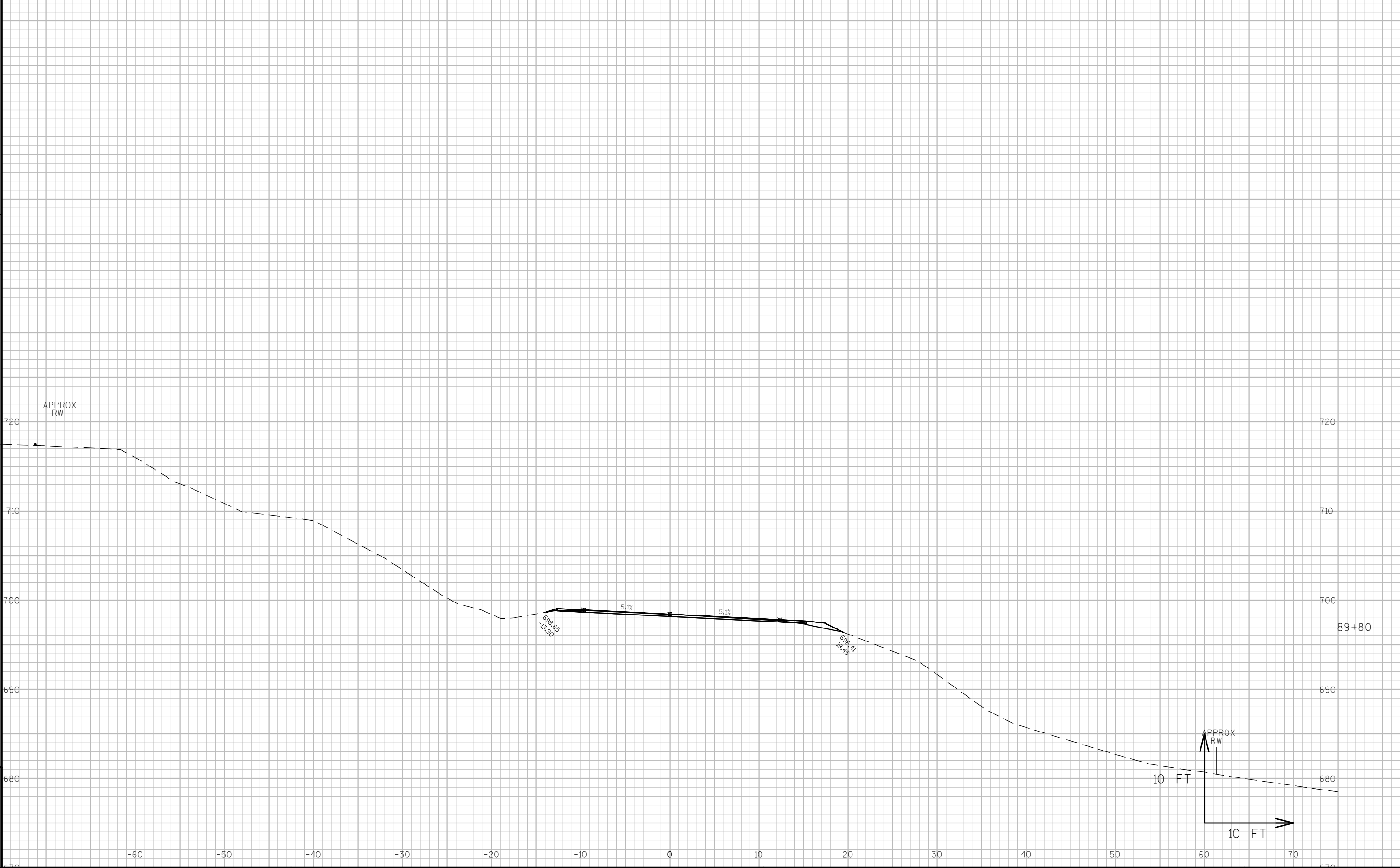
WISDOT/CADDs SHEET 49

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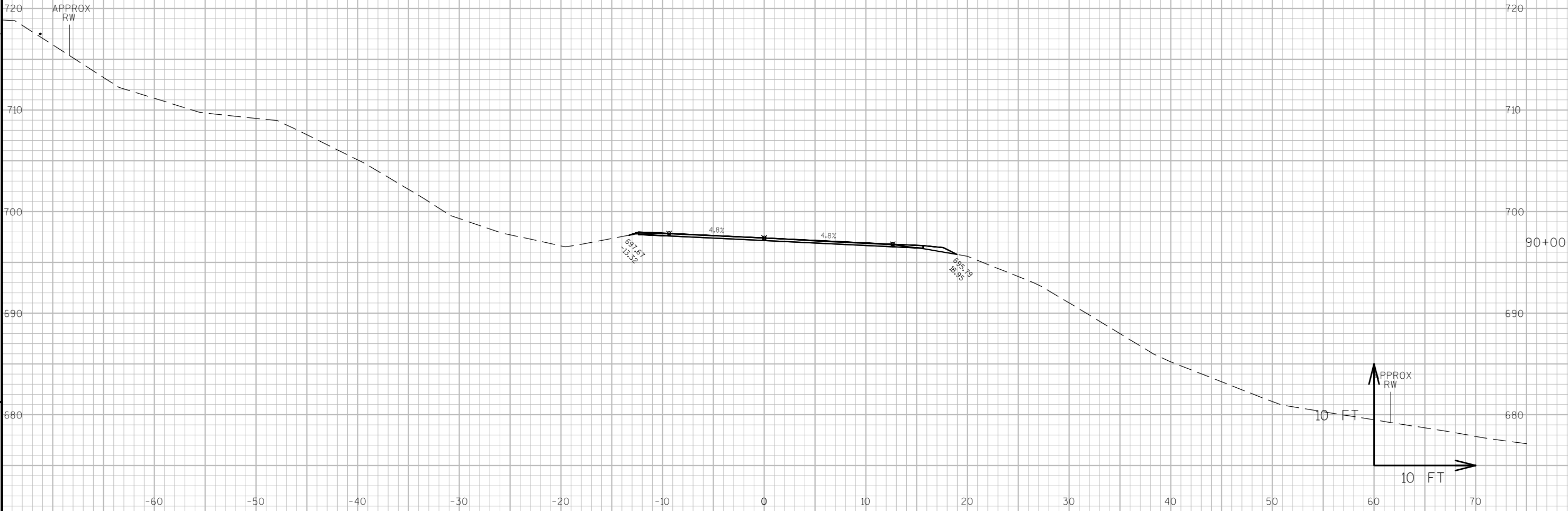


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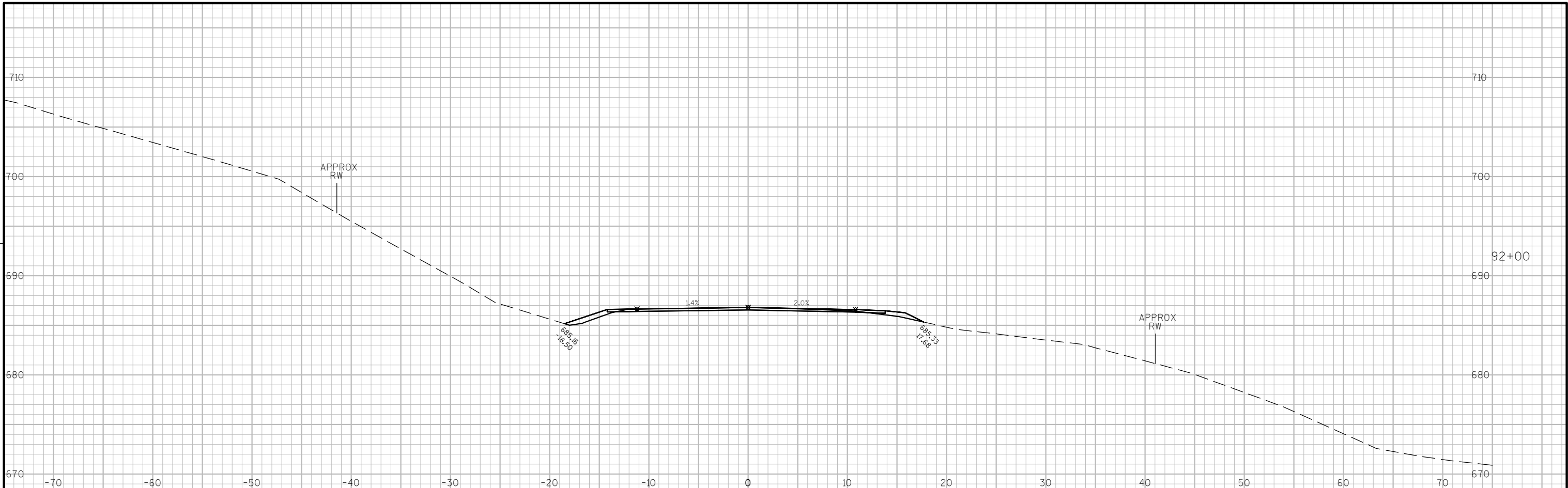


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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

173

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (080-105).DWG

PLOT DATE : 10/22/2013 11:03 AM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

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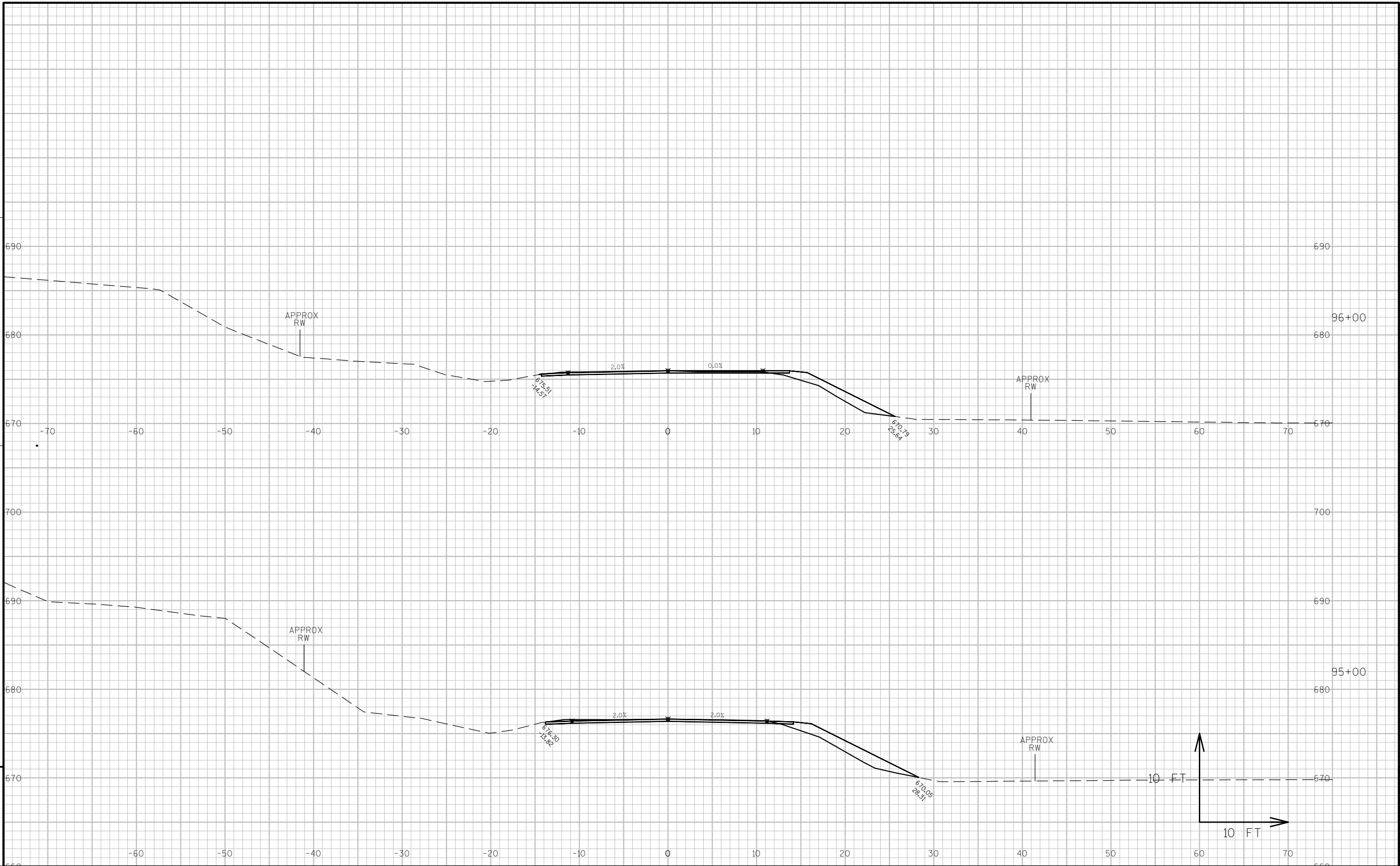


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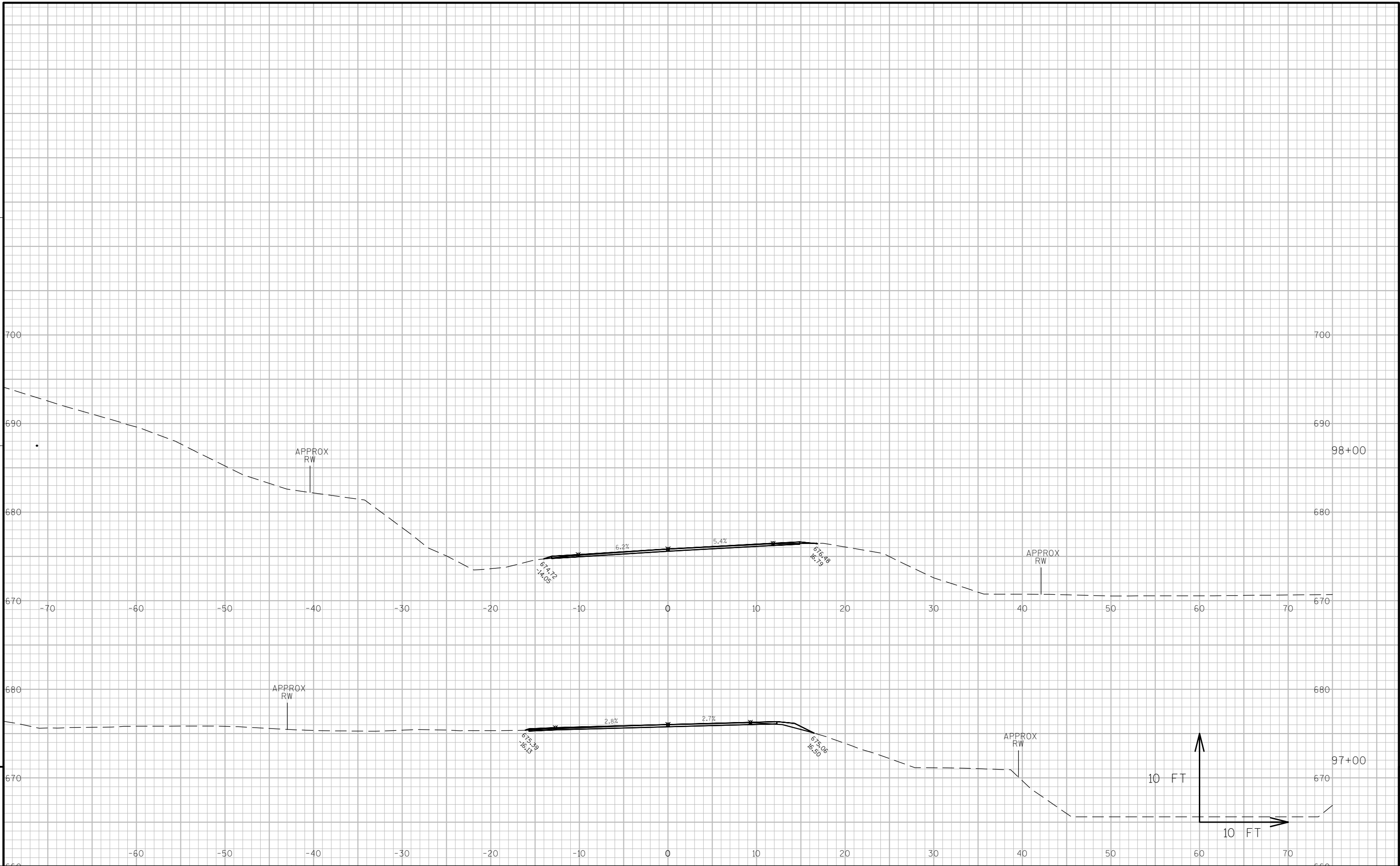


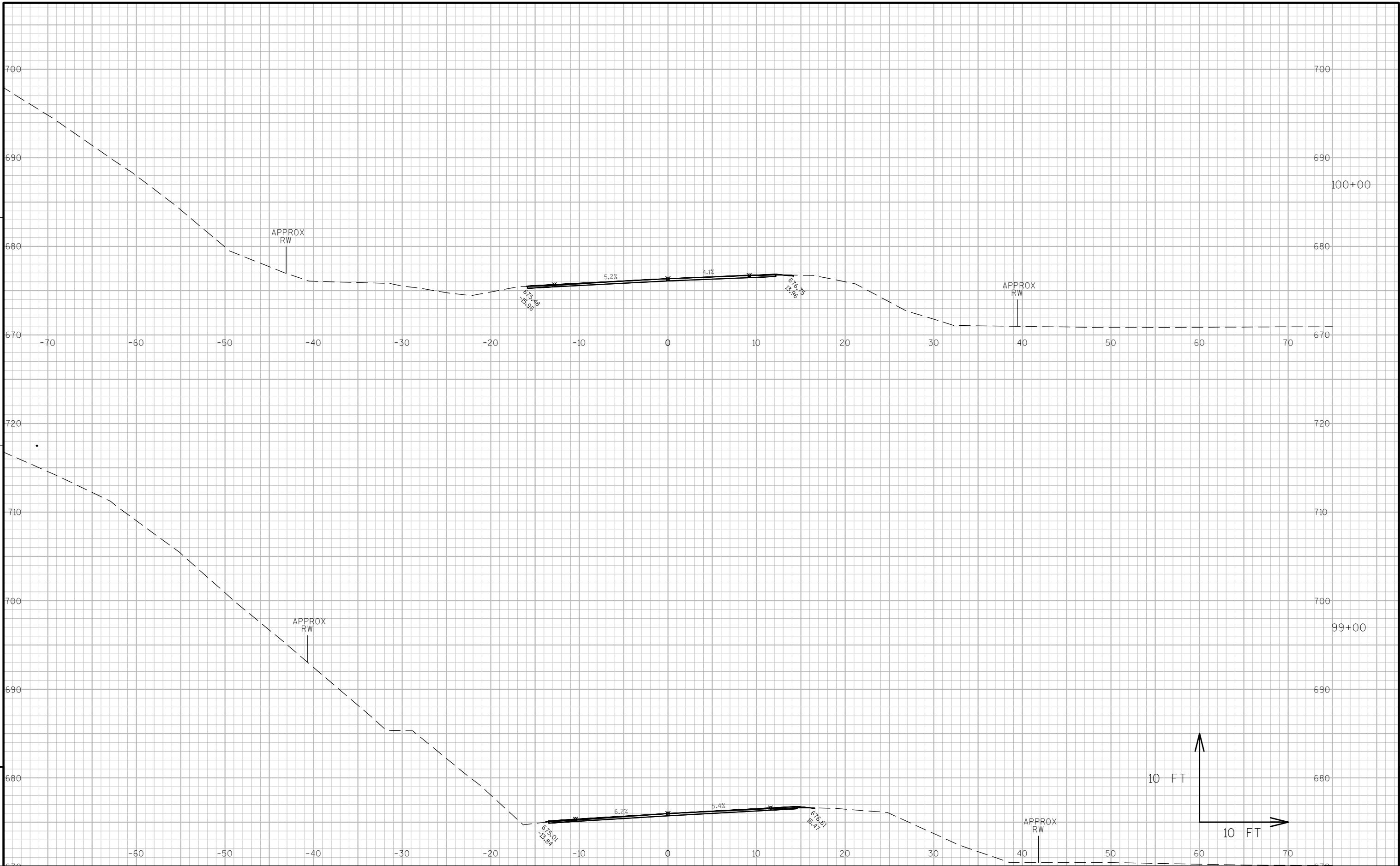
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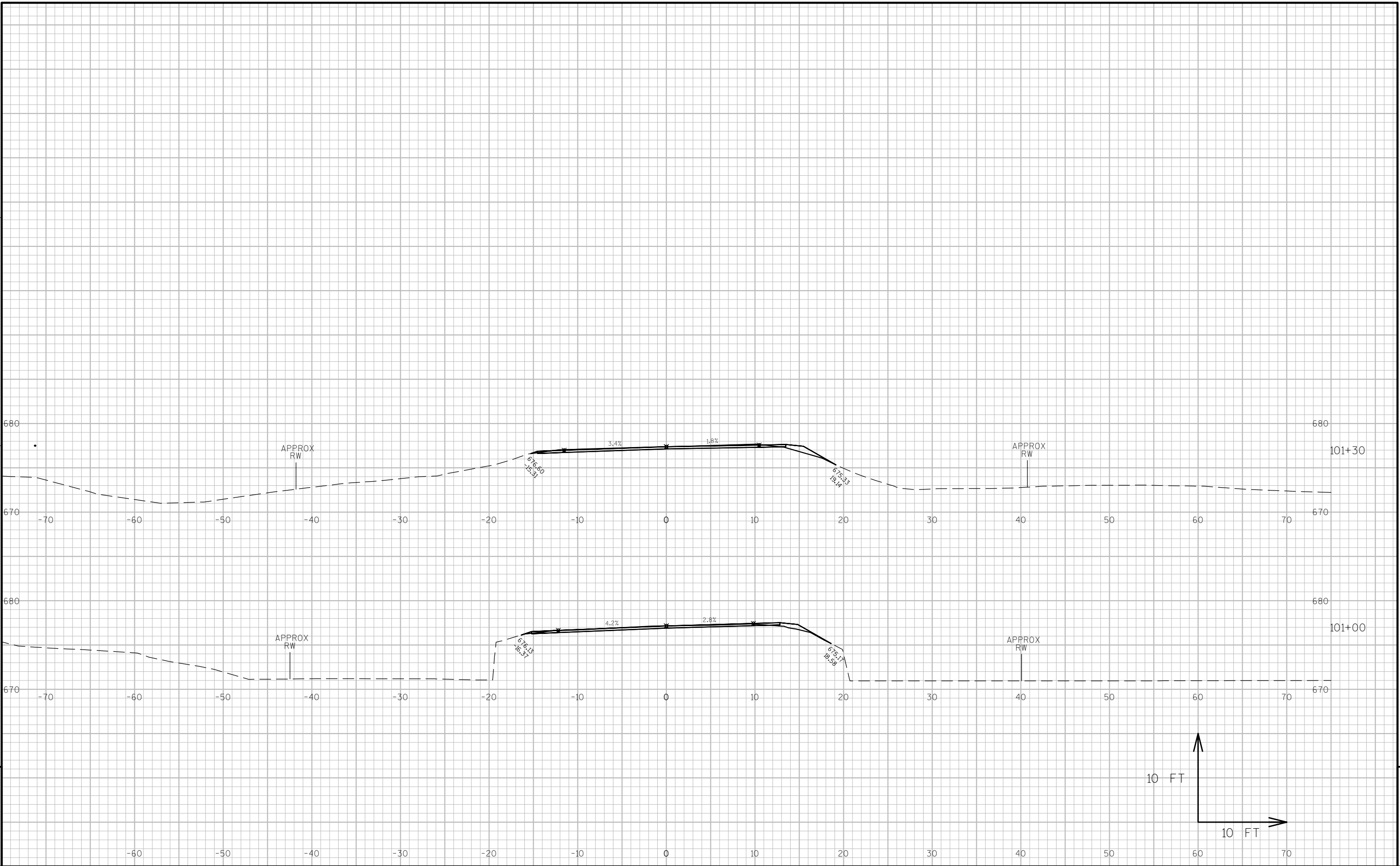


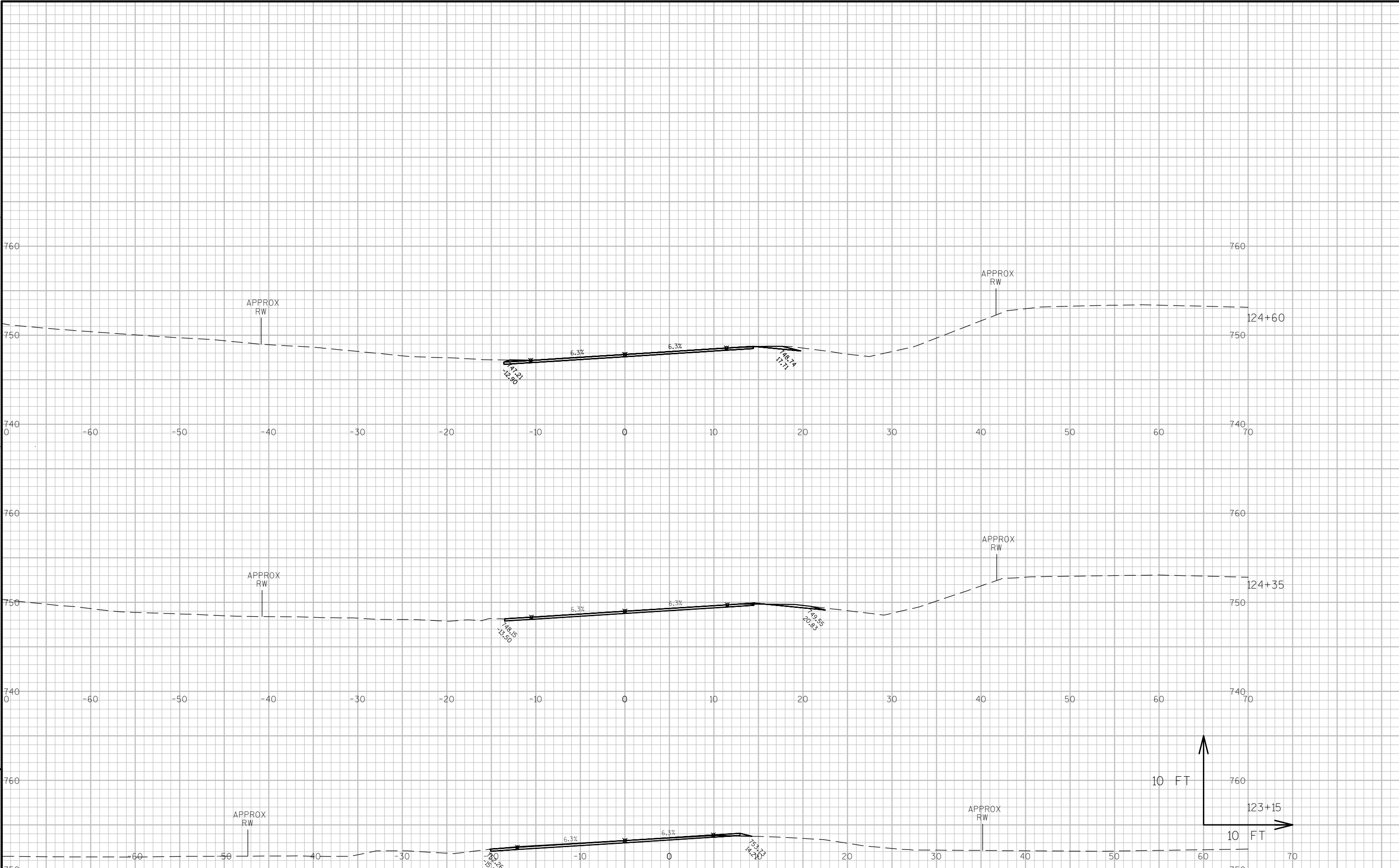
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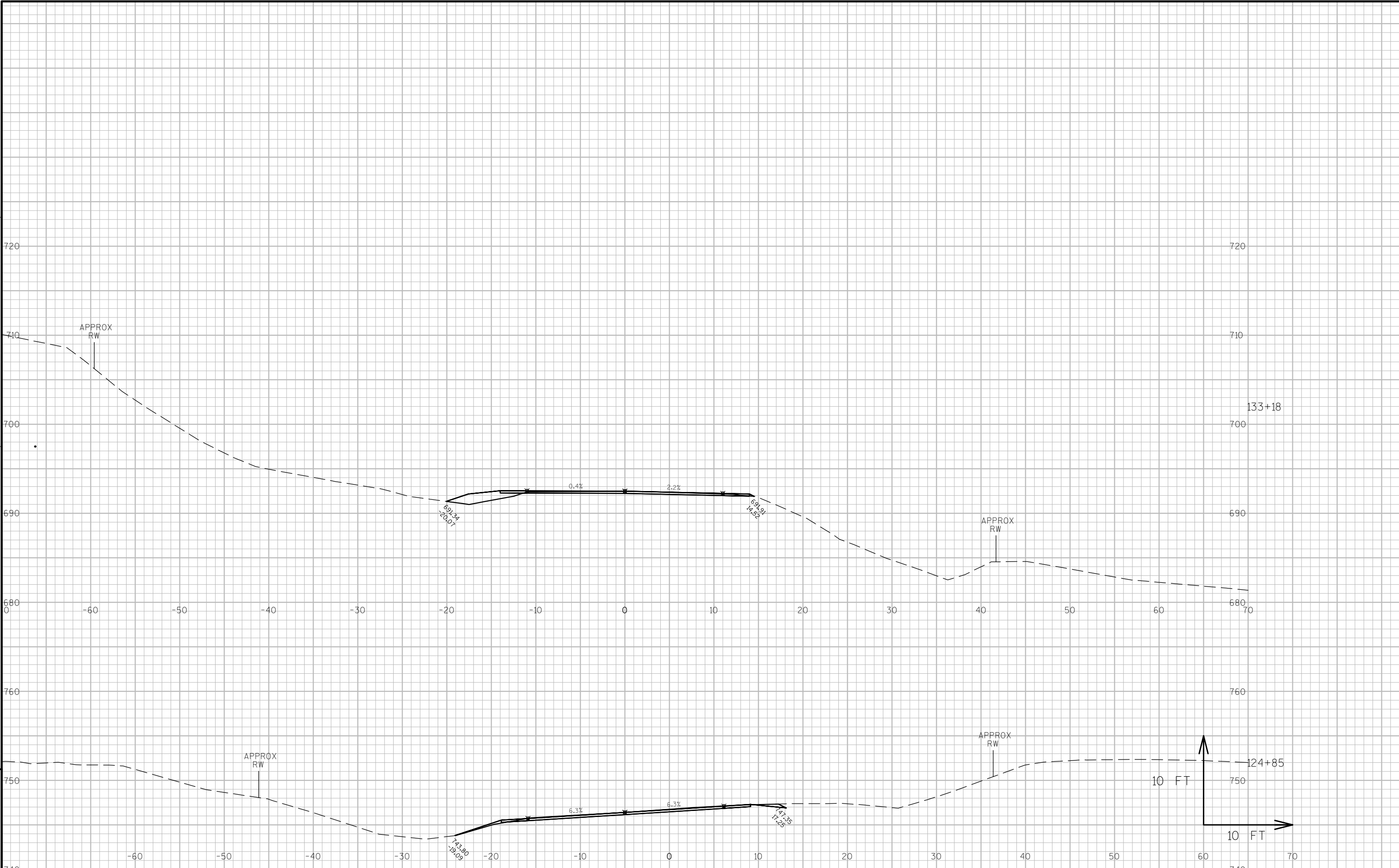






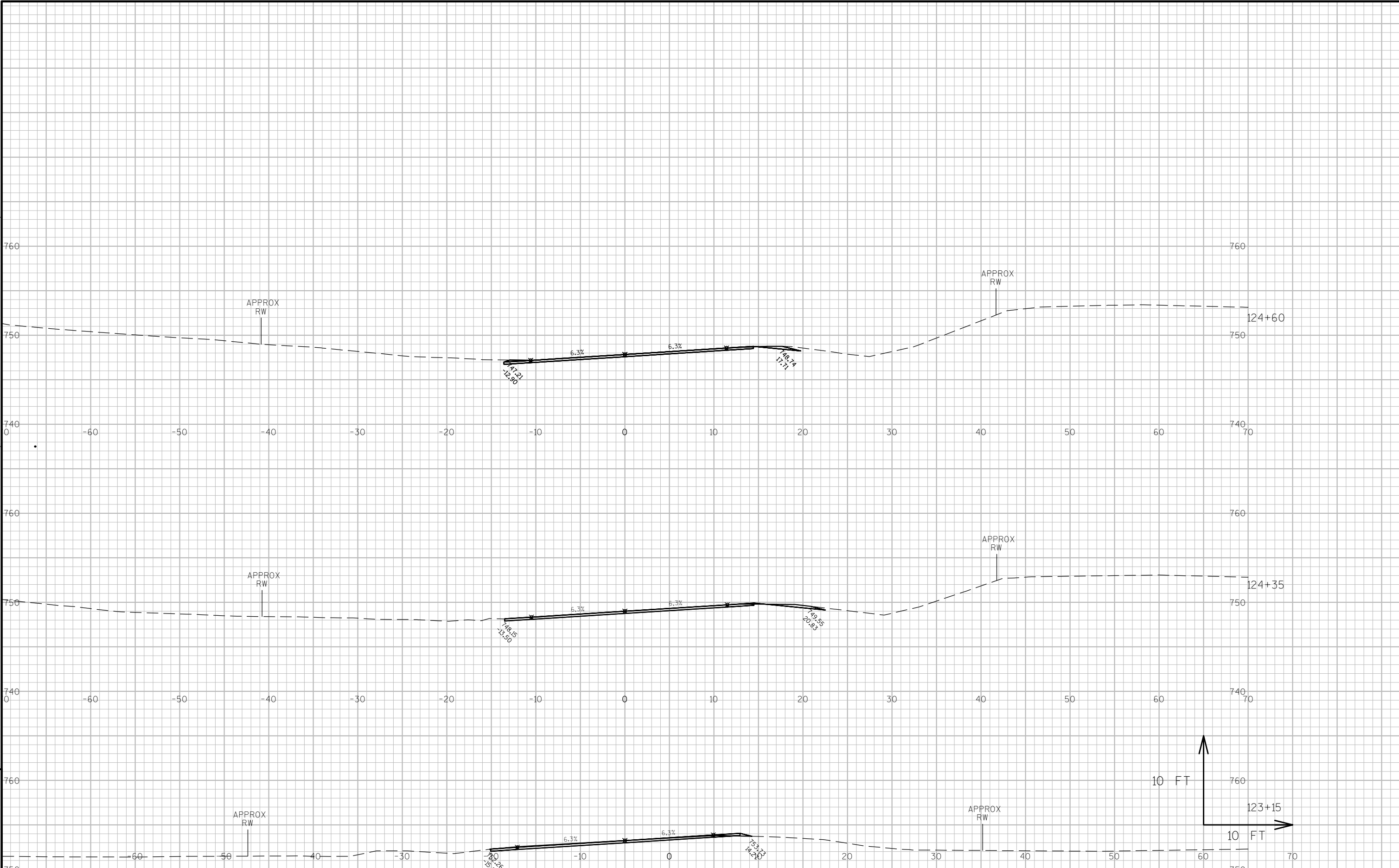
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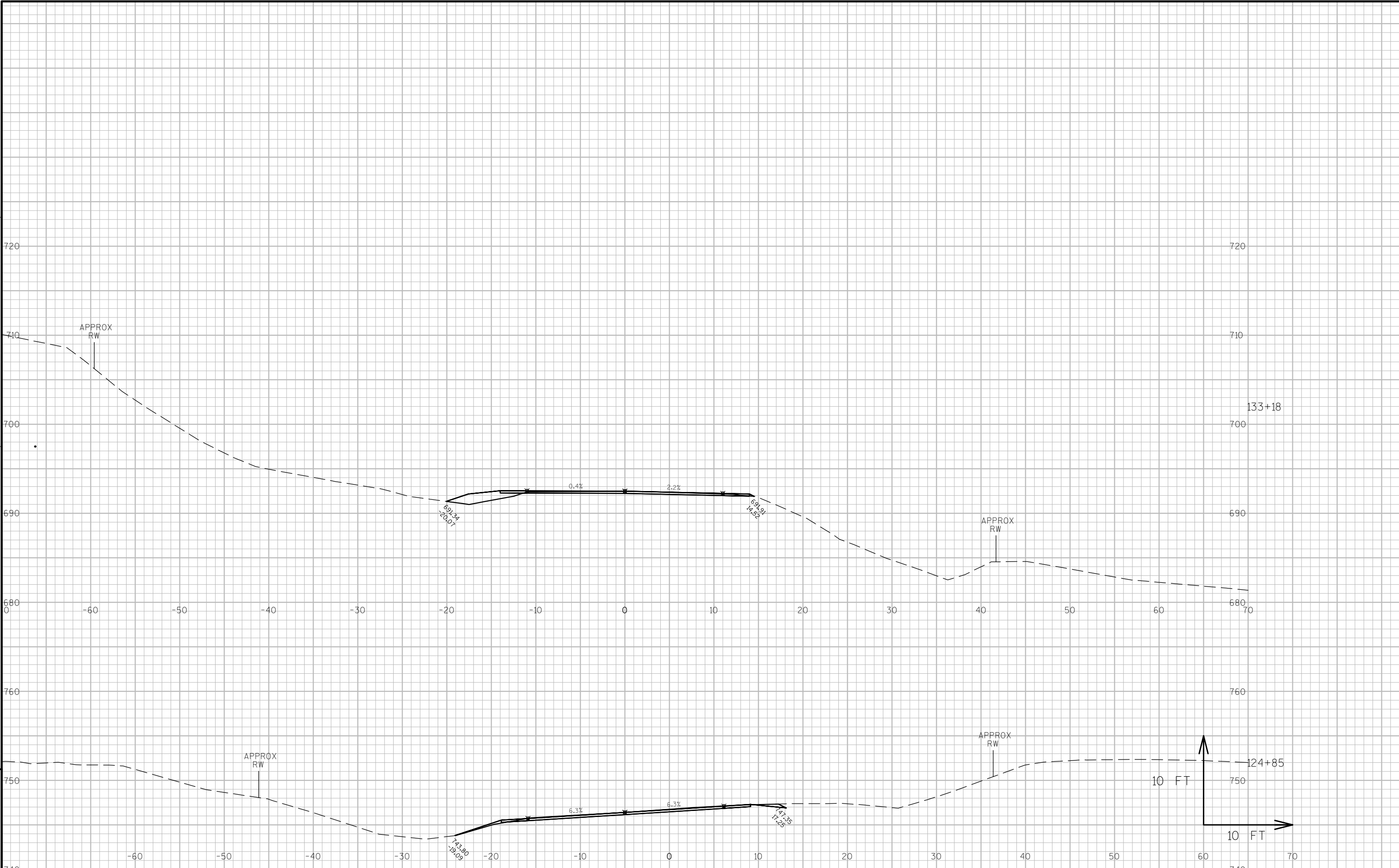
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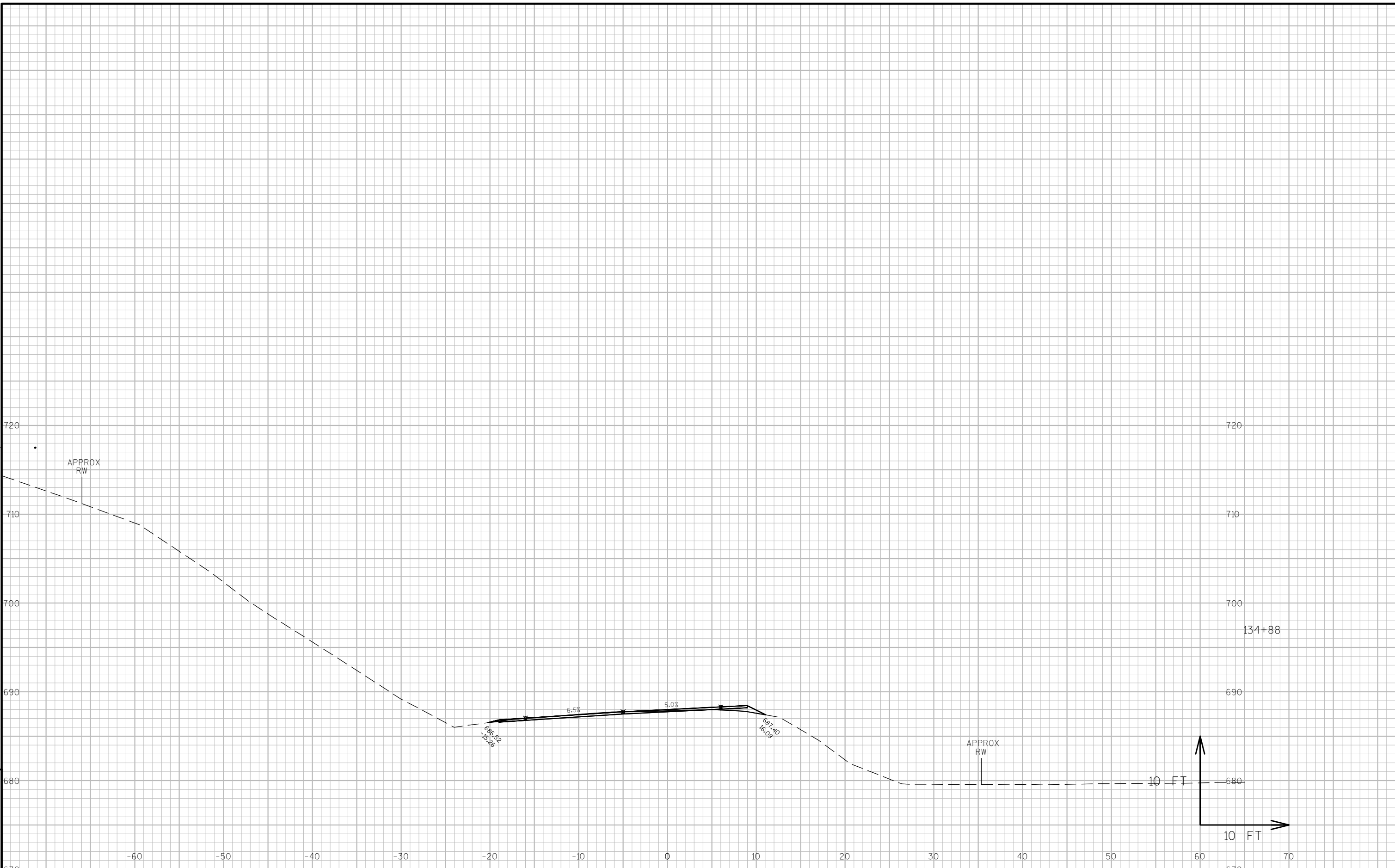
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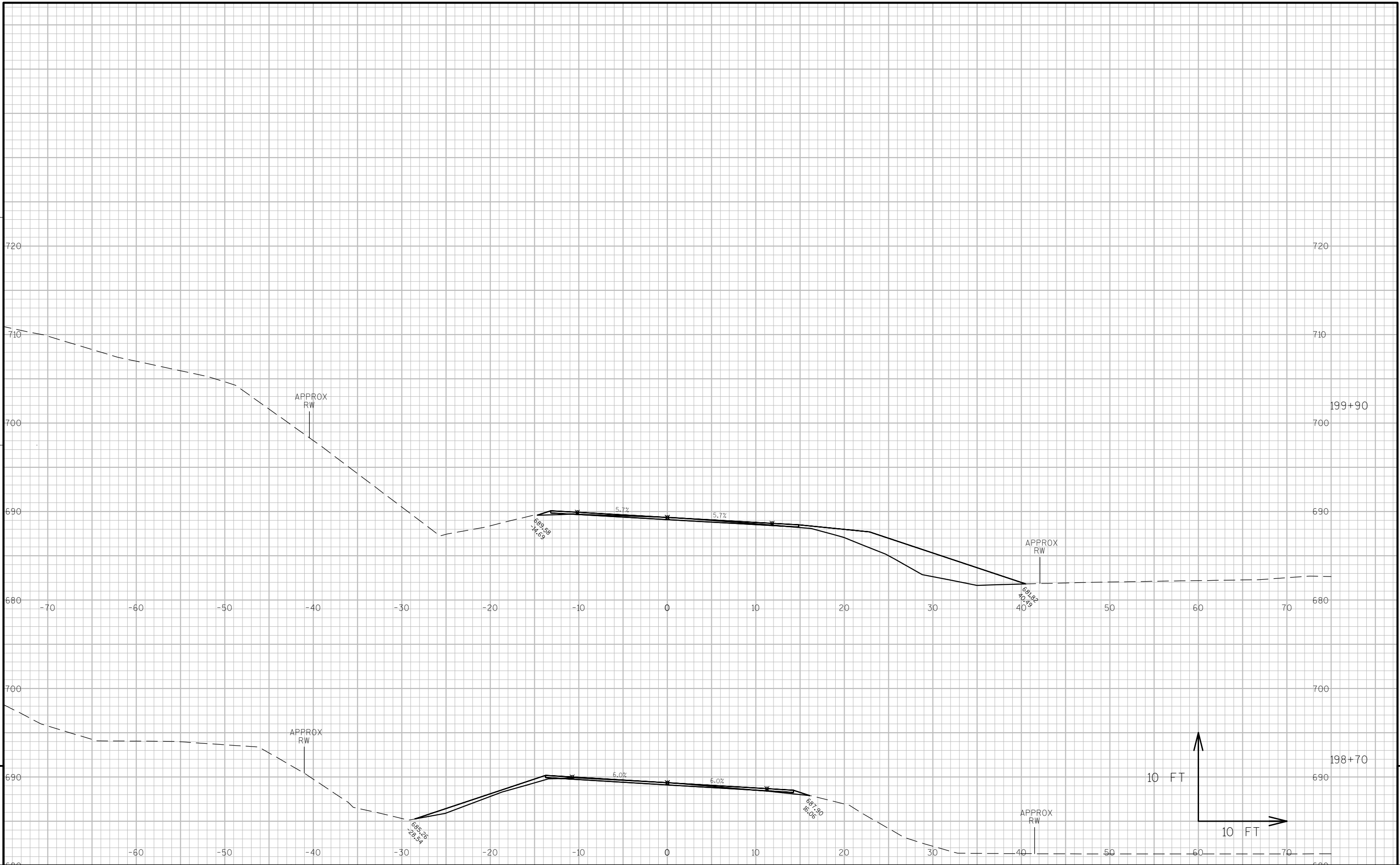
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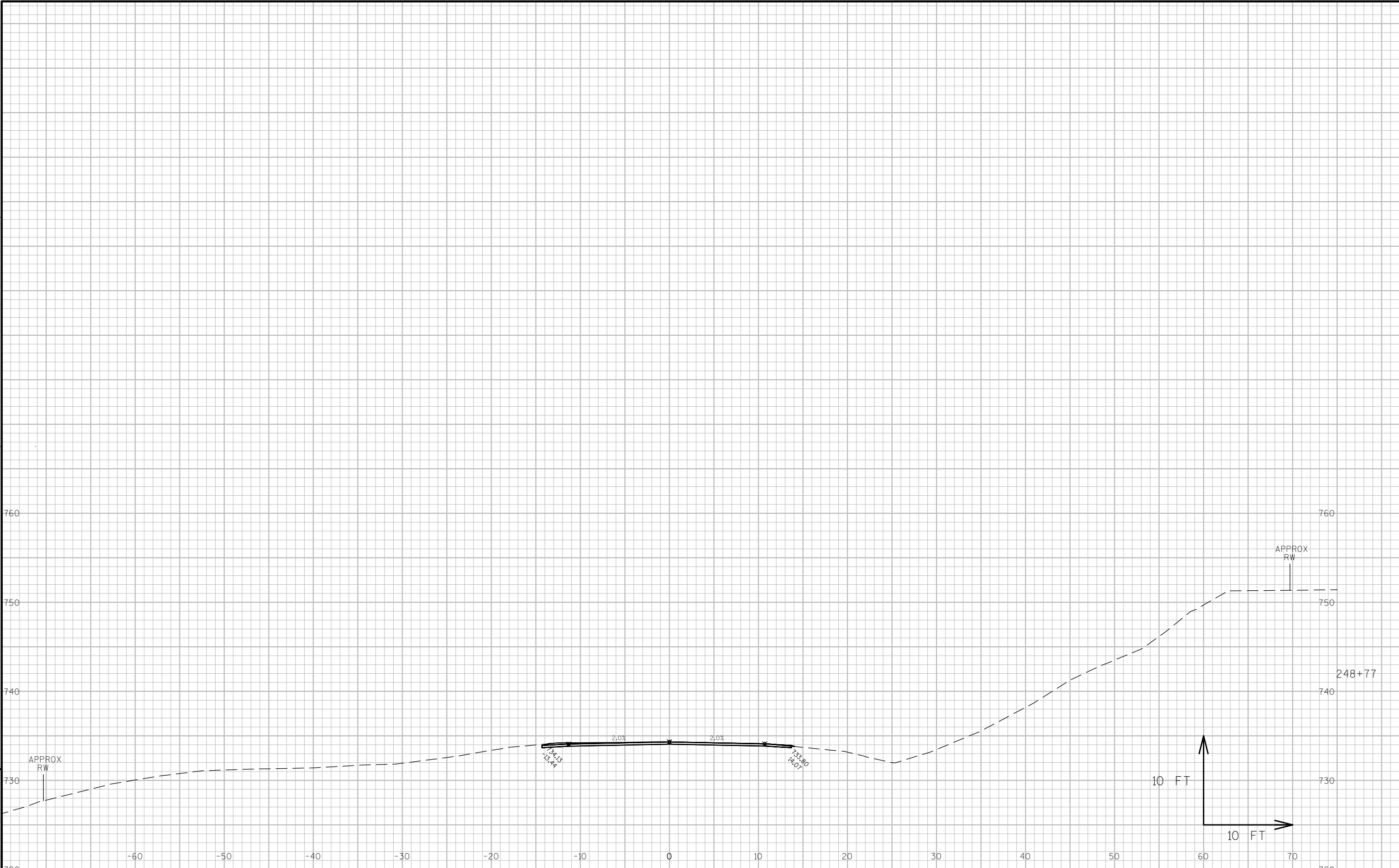
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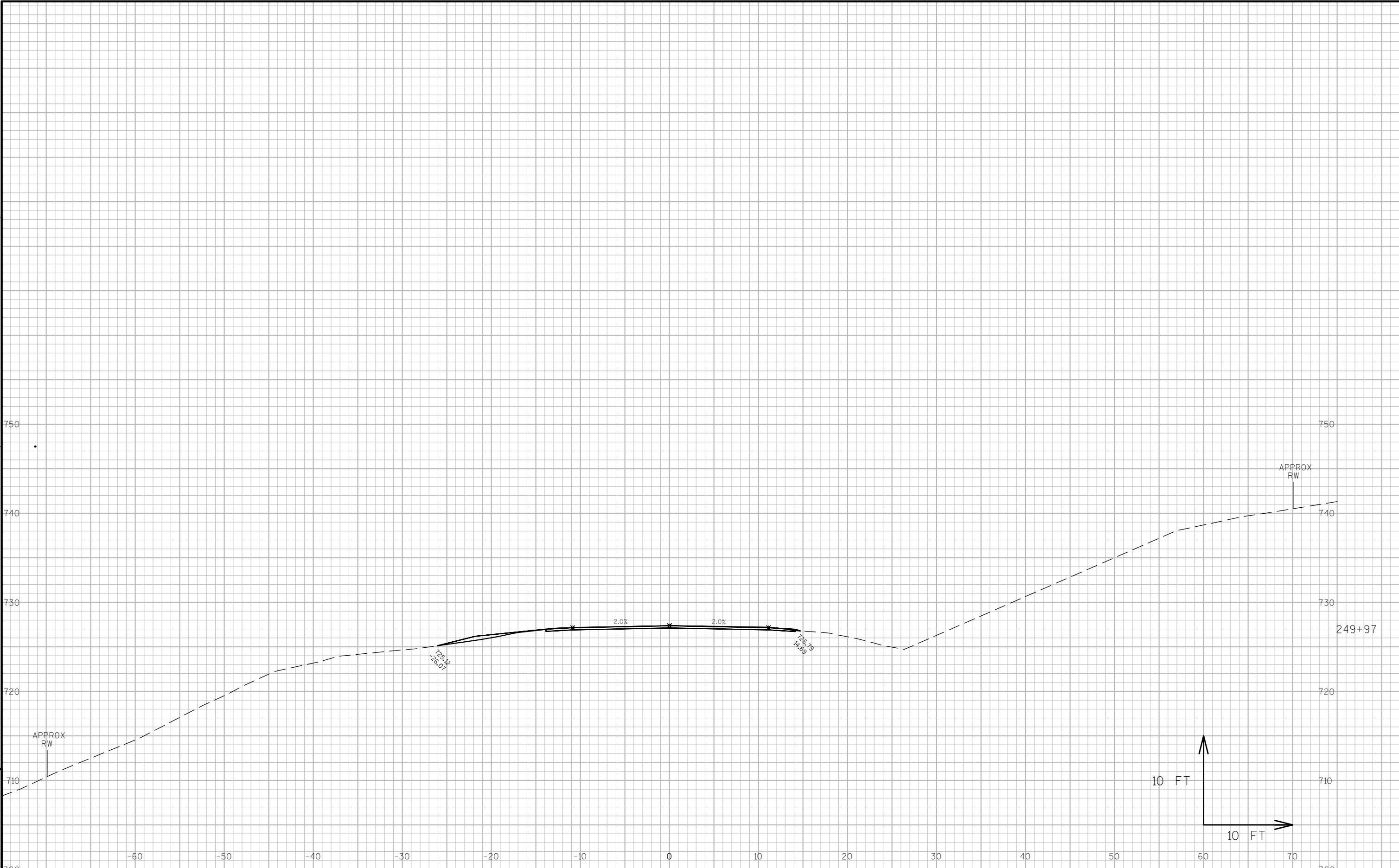
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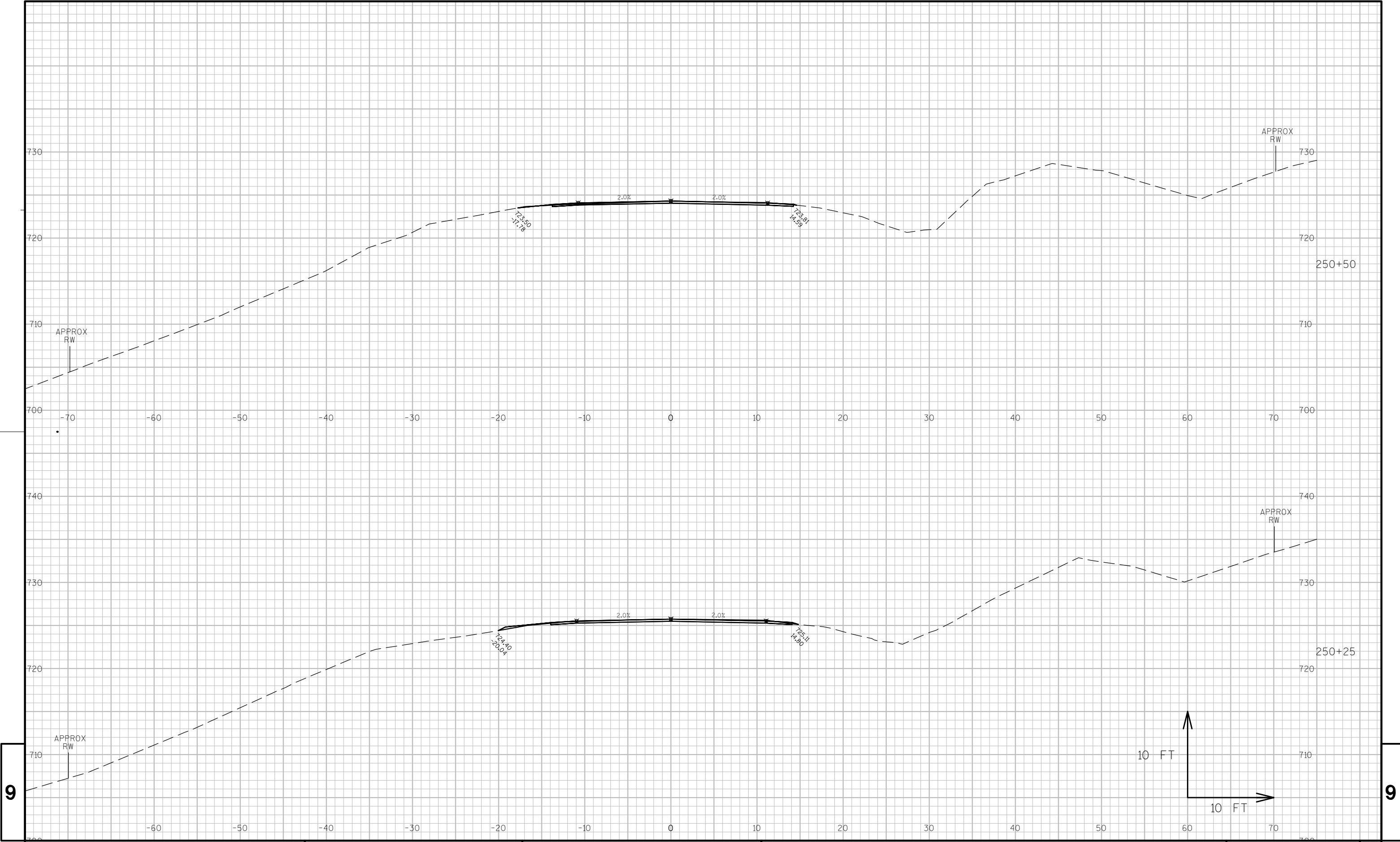


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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

191

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FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (250-259).DWG

PLOT DATE : 7/20/2015 12:49 PM

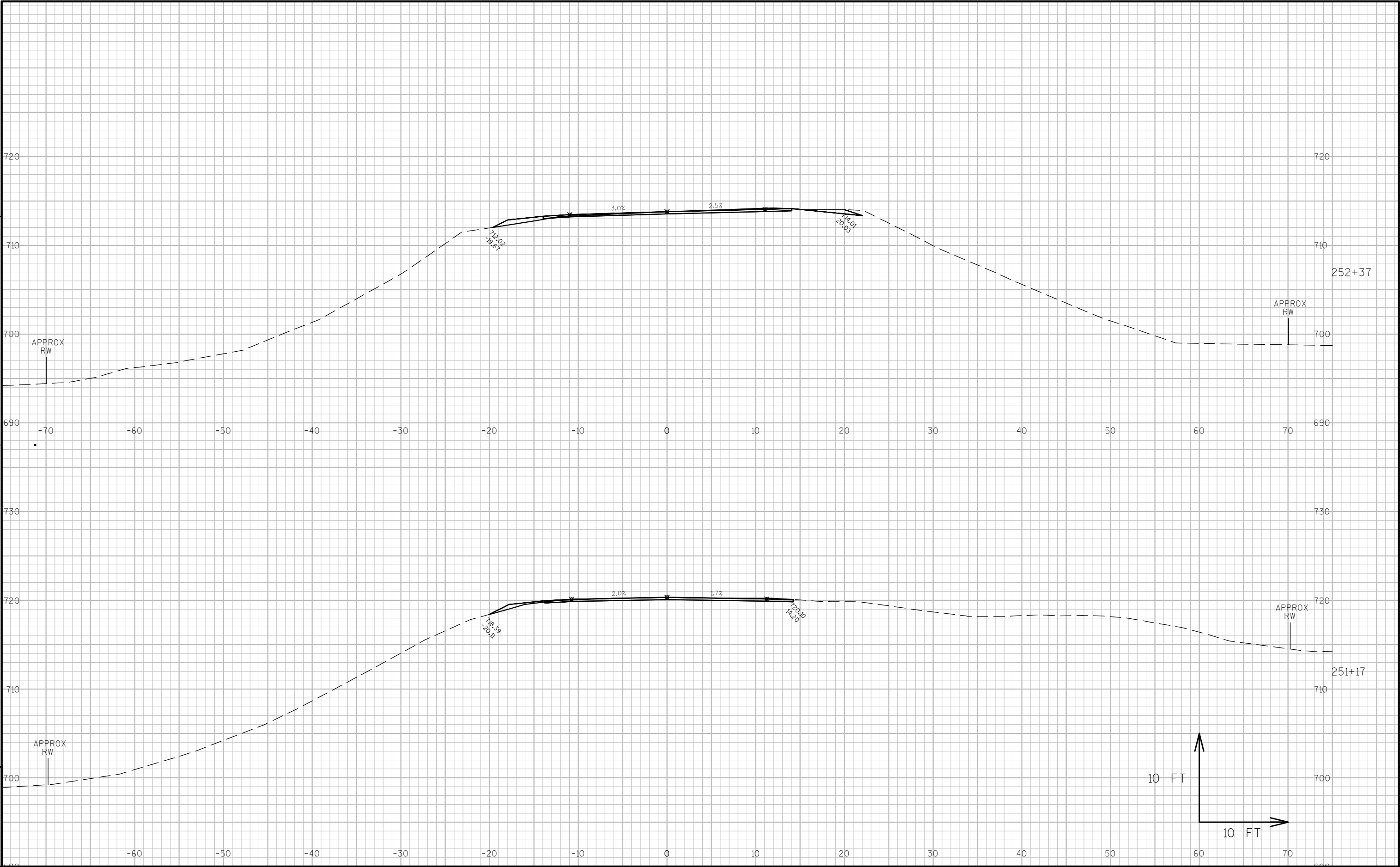
PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

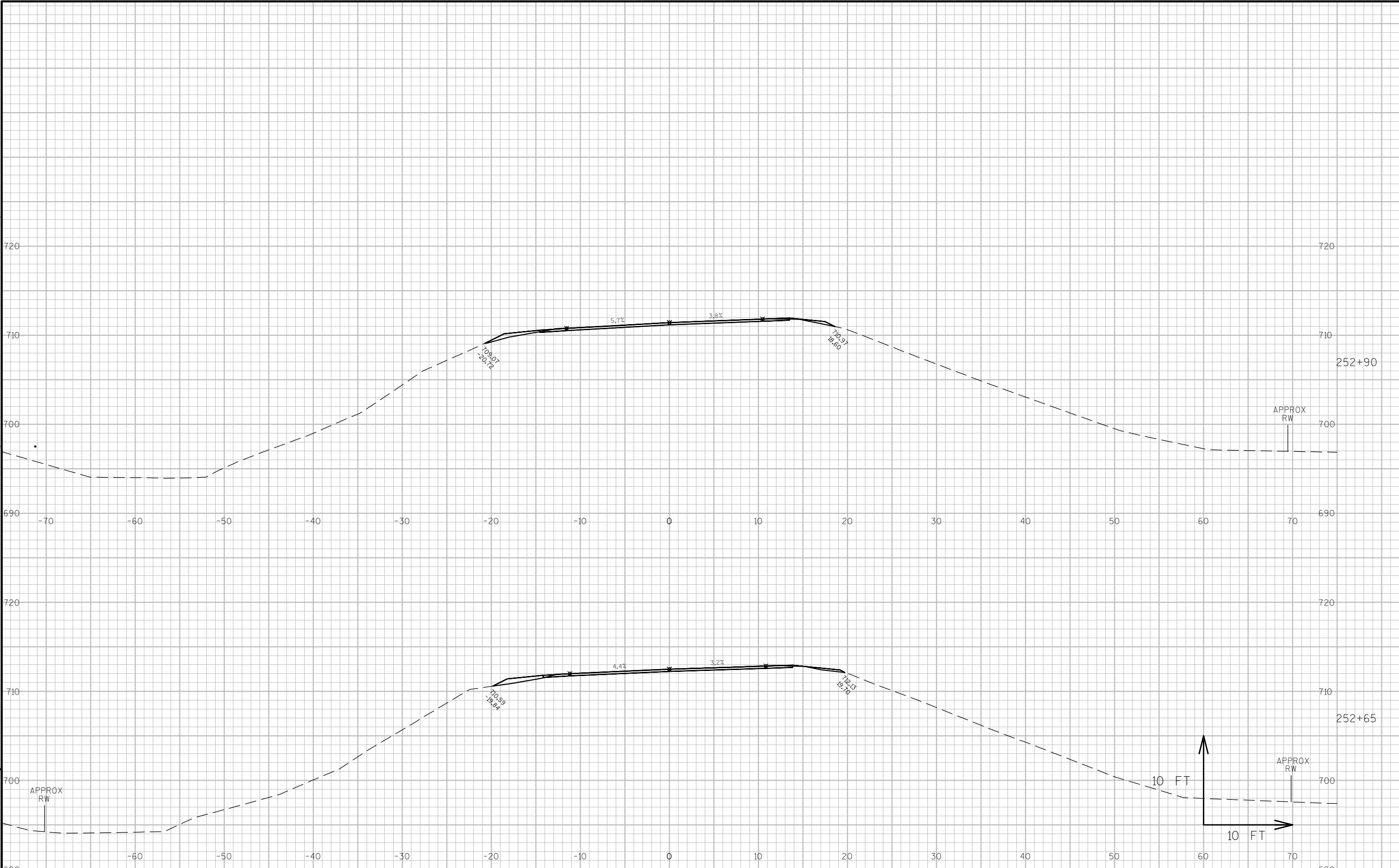
PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49

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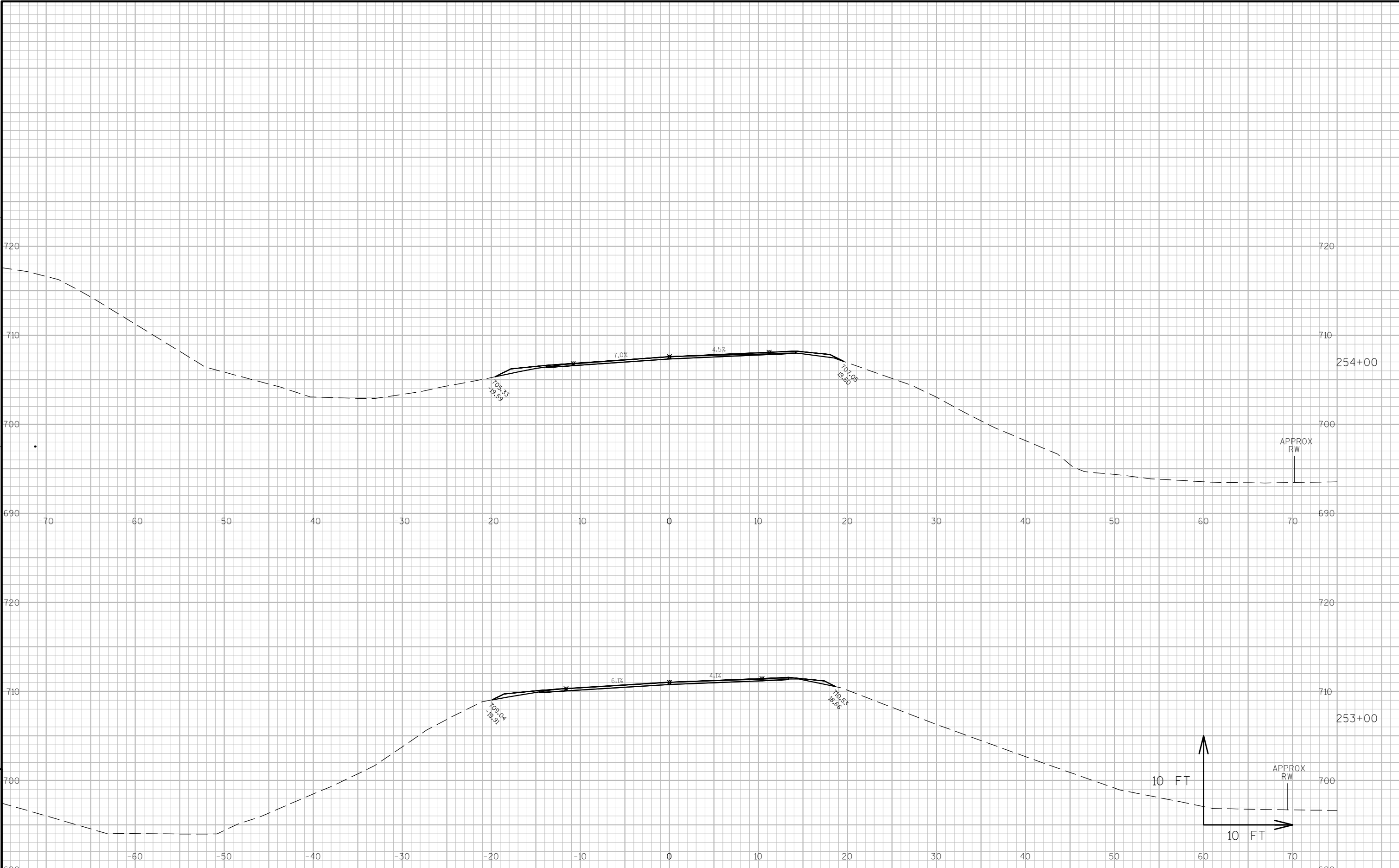


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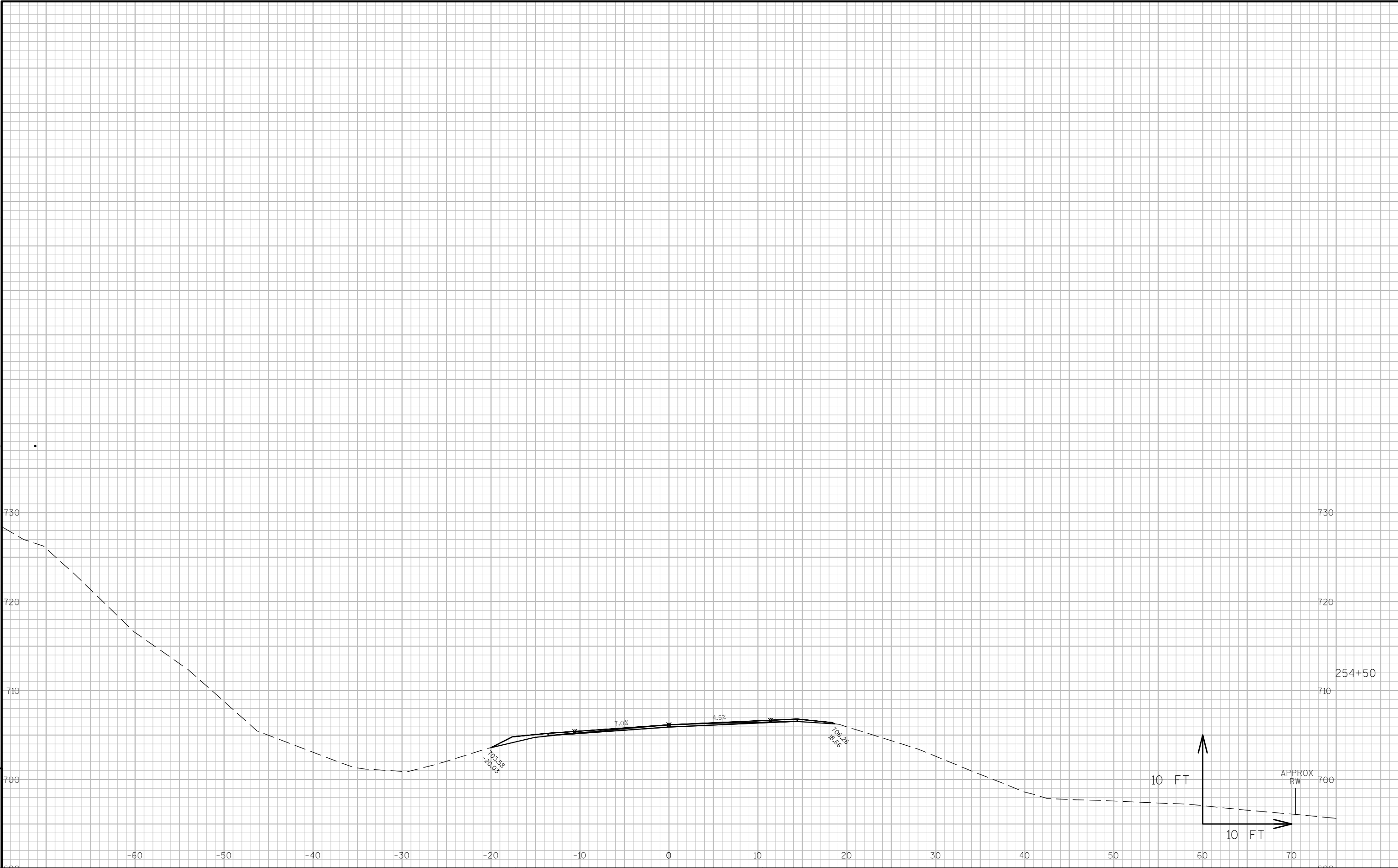
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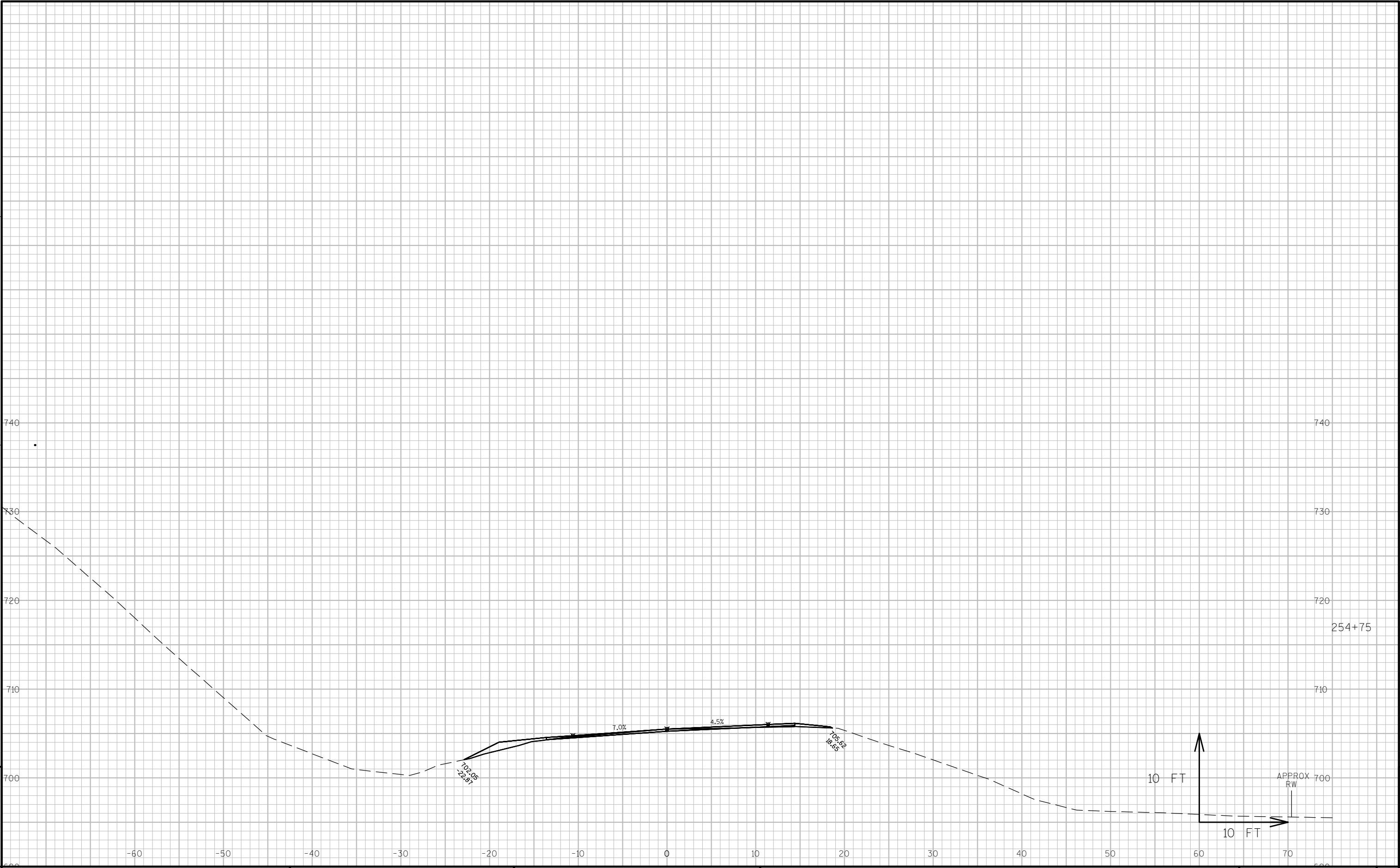
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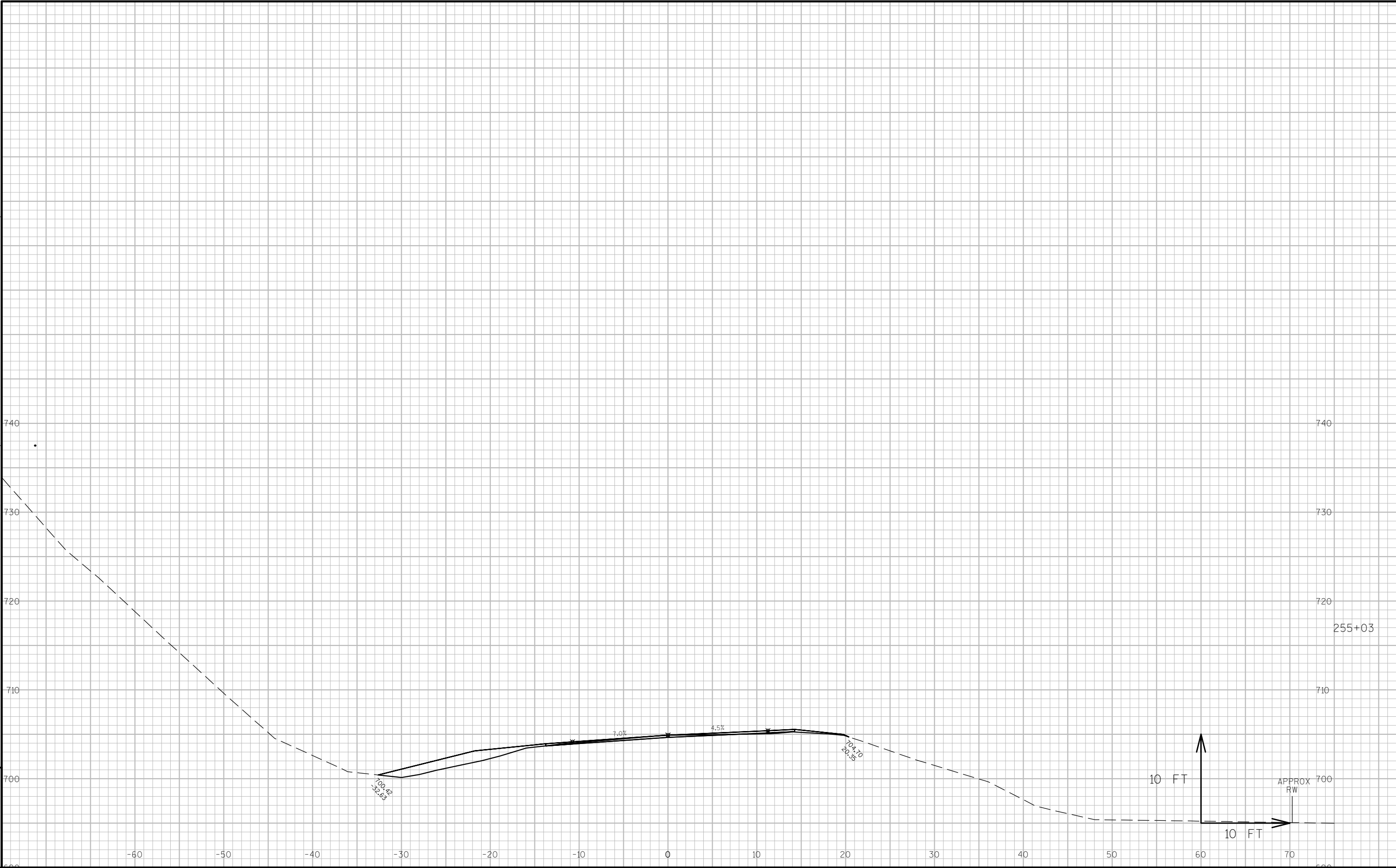
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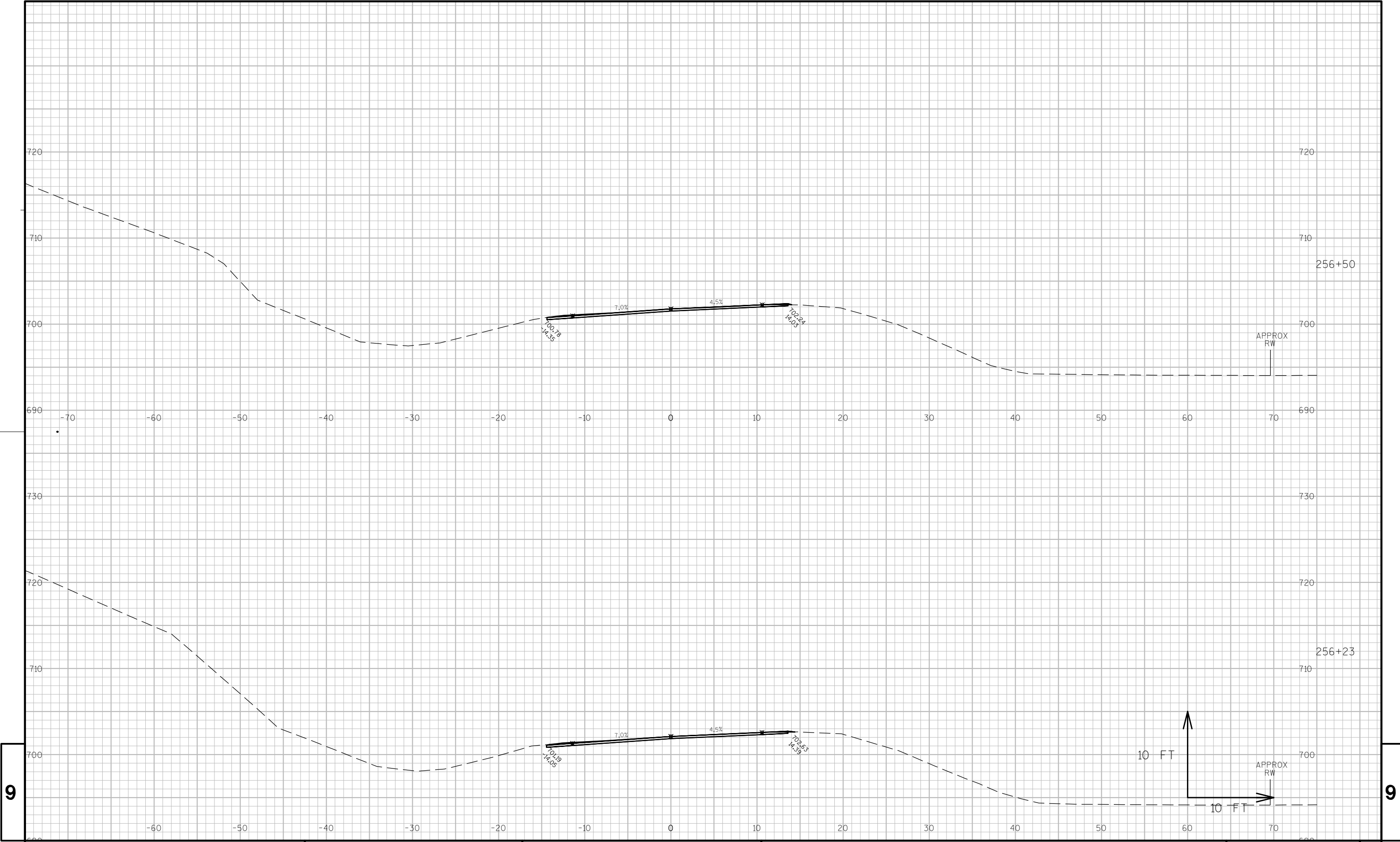


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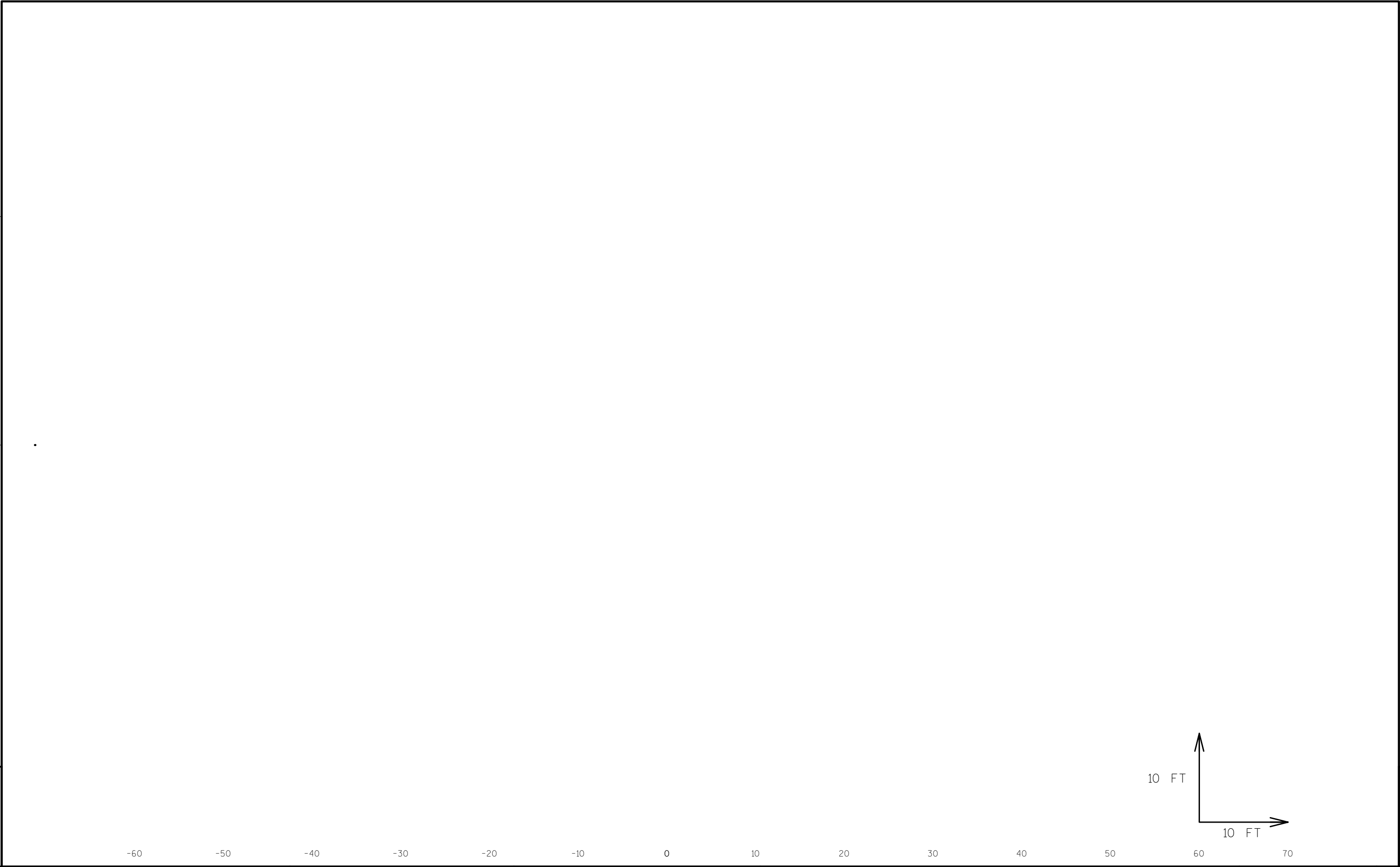
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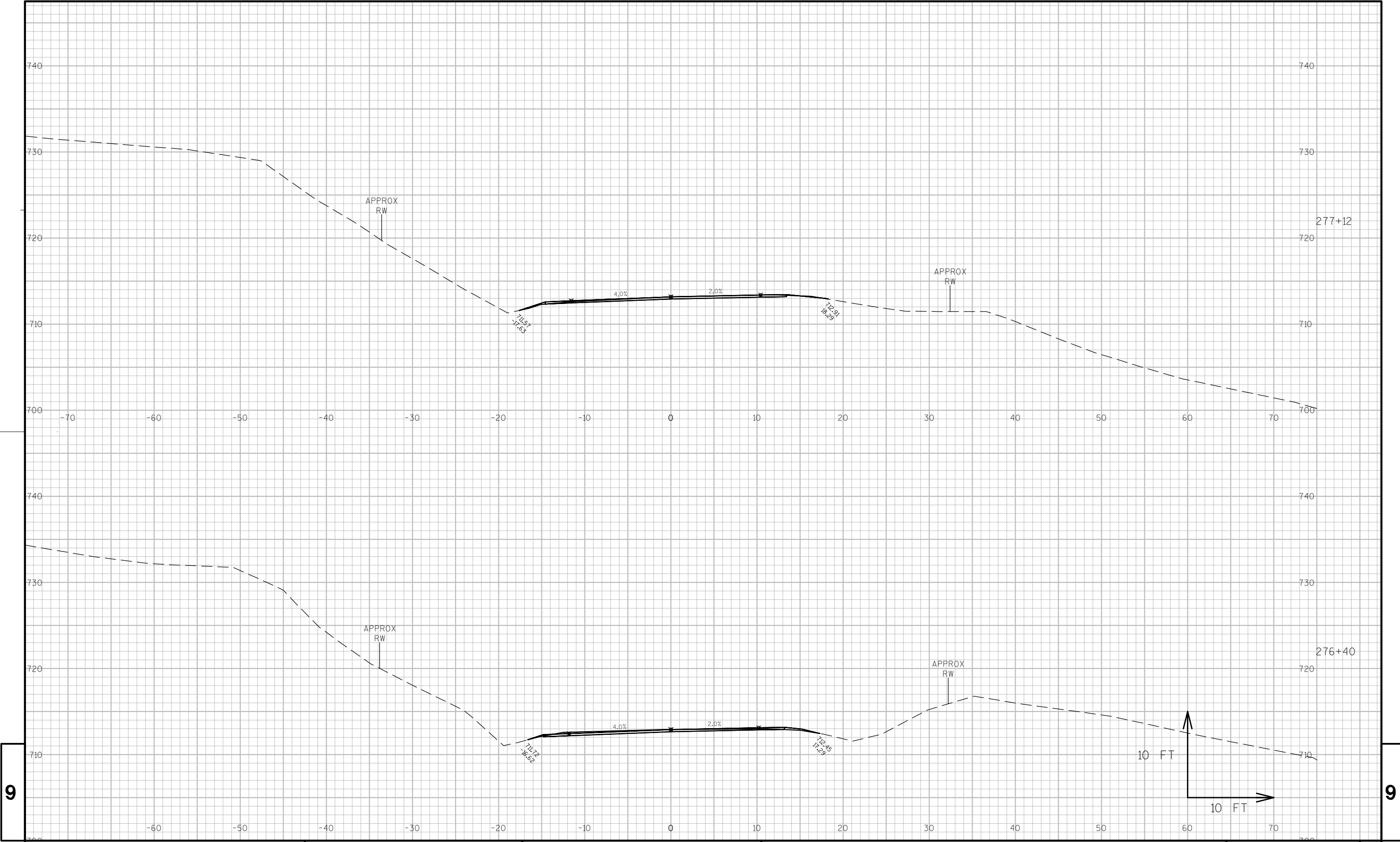
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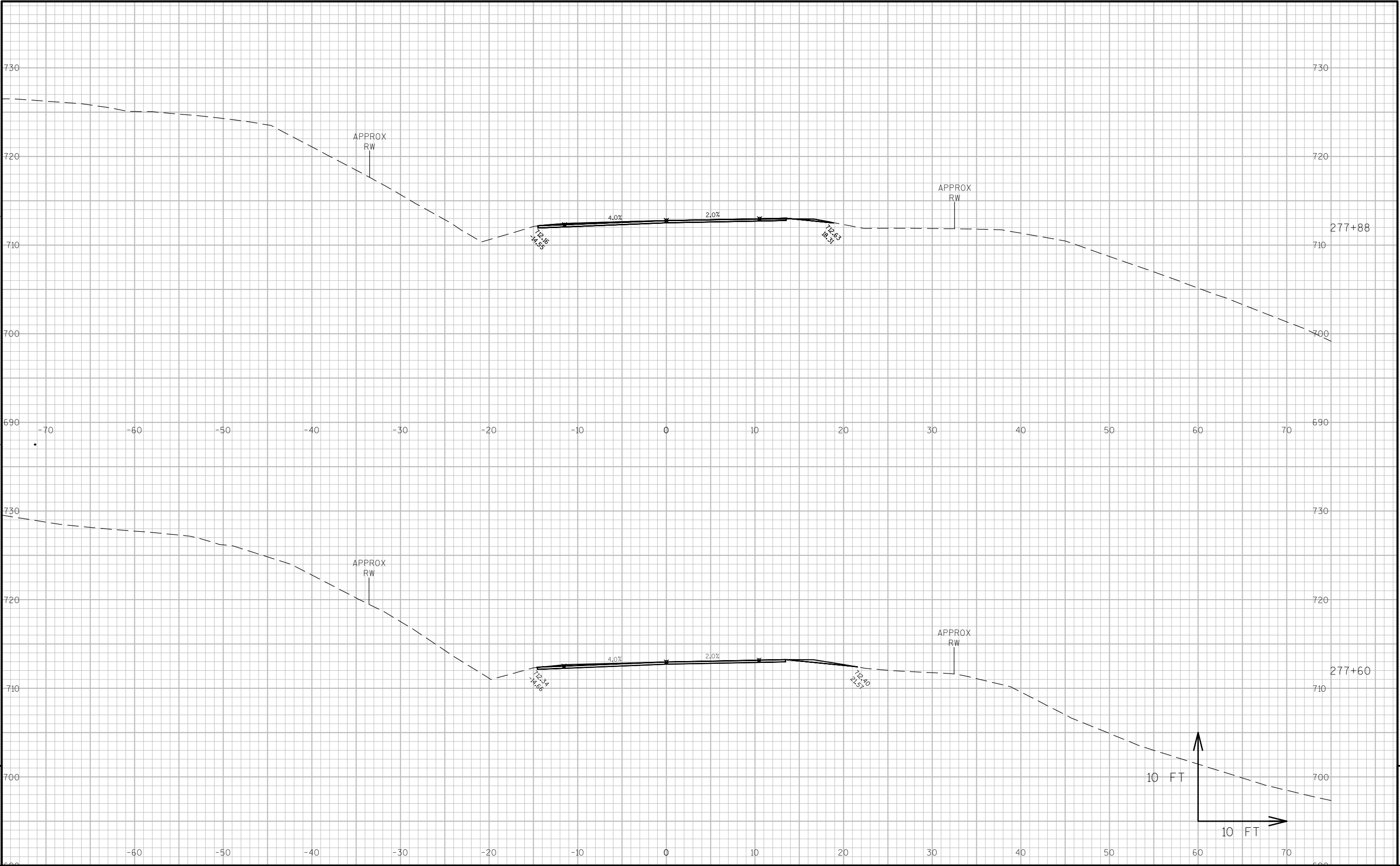


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PROJECT NO: 7730-06-73	HWY: STH 88	COUNTY: BUFFALO	CROSS SECTIONS: STH 88	SHEET 200	E
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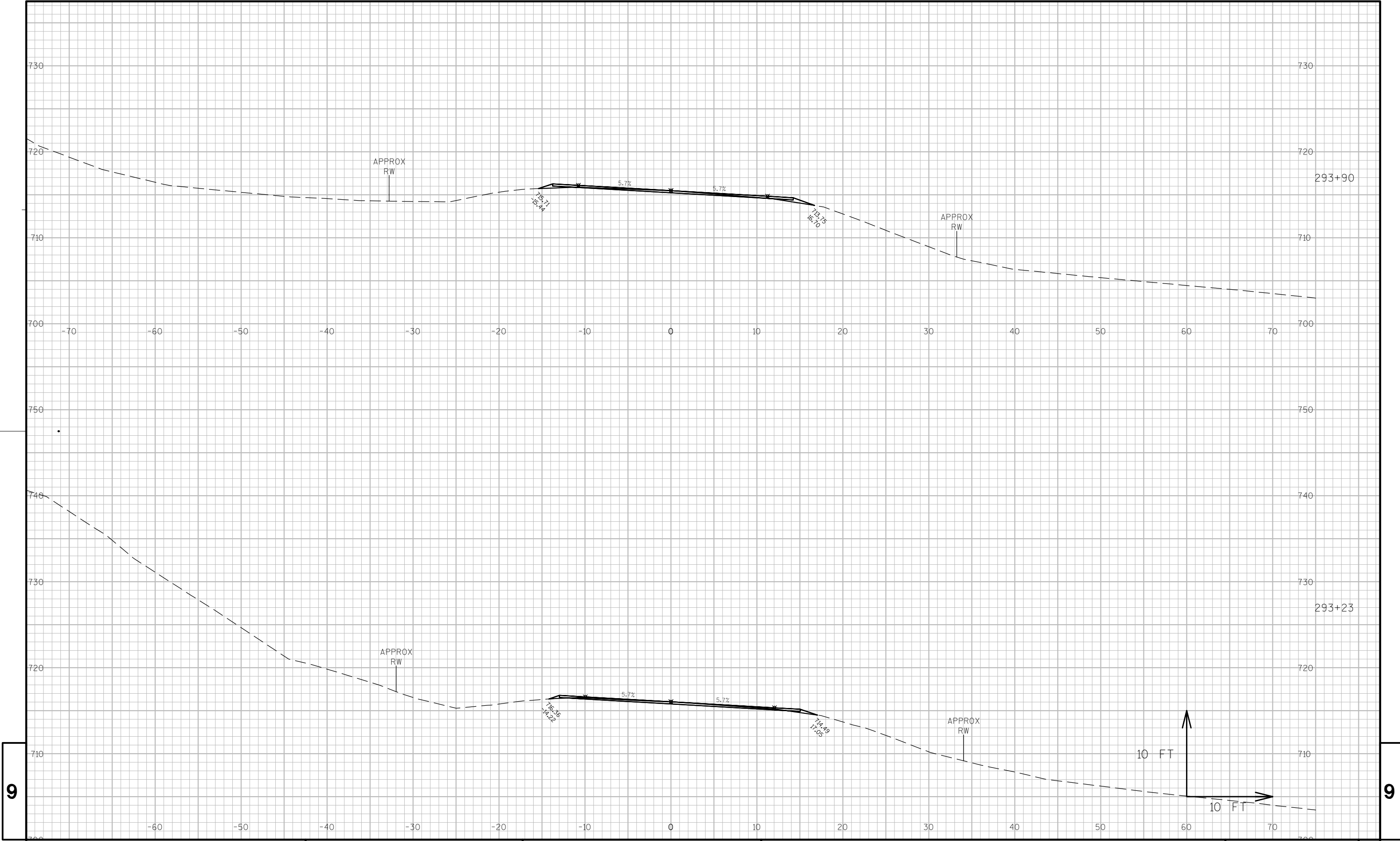


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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

206

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (280-310).DWG

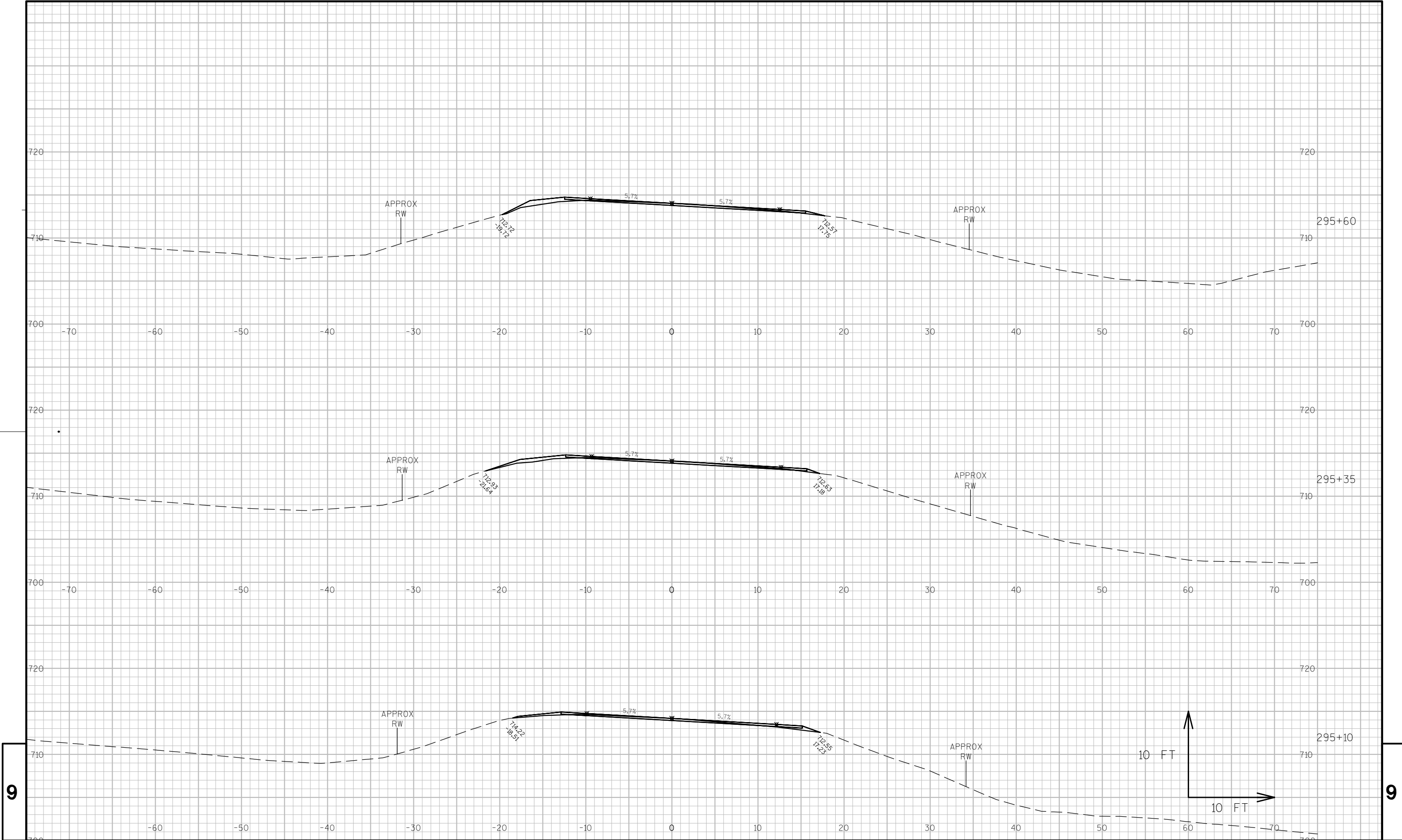
PLOT DATE : 7/21/2015 12:06 PM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



9

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PROJECT NO: 7730-06-73

HWY: STH 88

COUNTY: BUFFALO

CROSS SECTIONS: STH 88

SHEET

207

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\7730-06-03 (STH 88) - NW\C3D\DESIGN\CORRIDORS\000_NEW_GUARDRAIL (280-310).DWG

PLOT DATE : 7/21/2015 12:08 PM

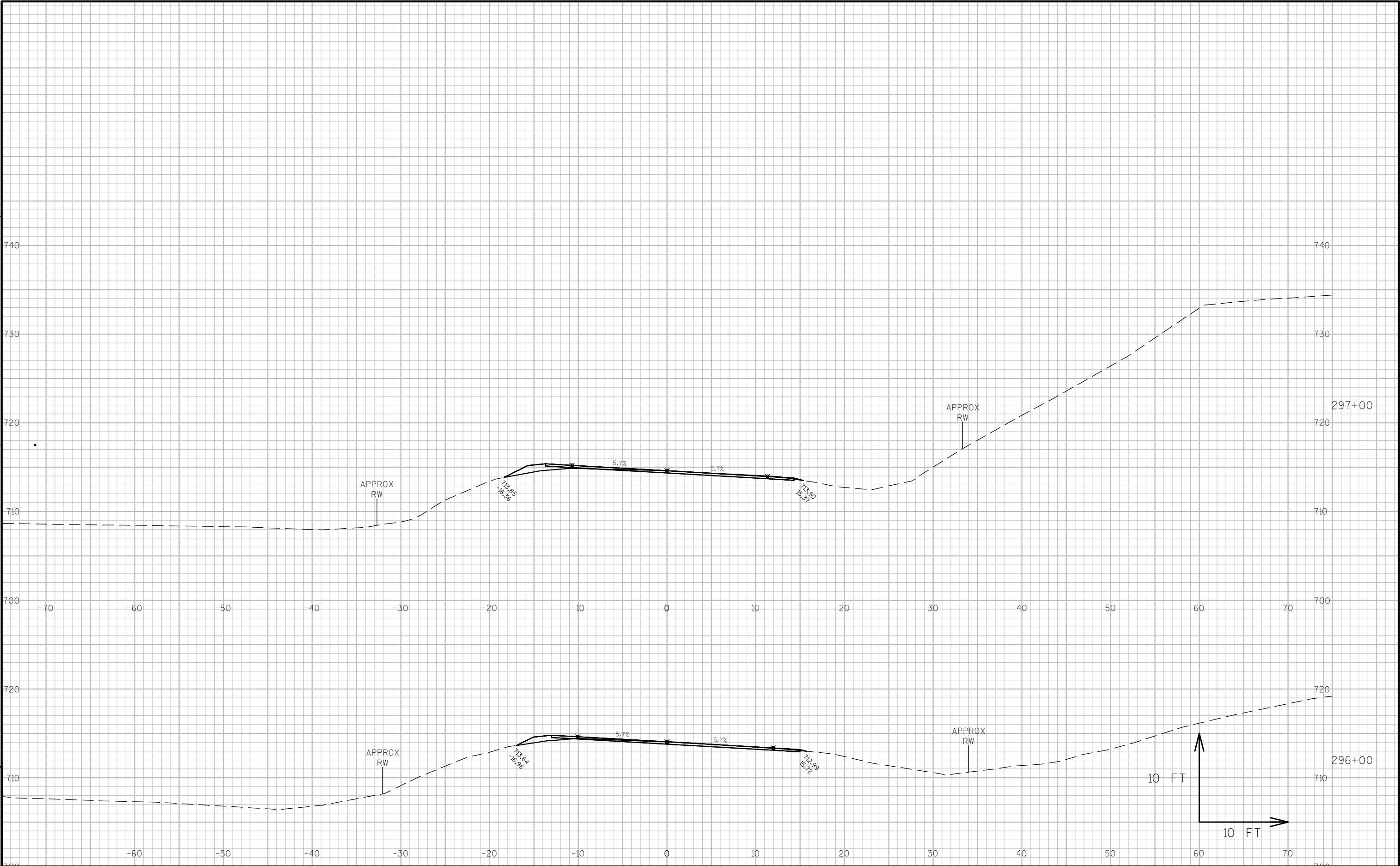
PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

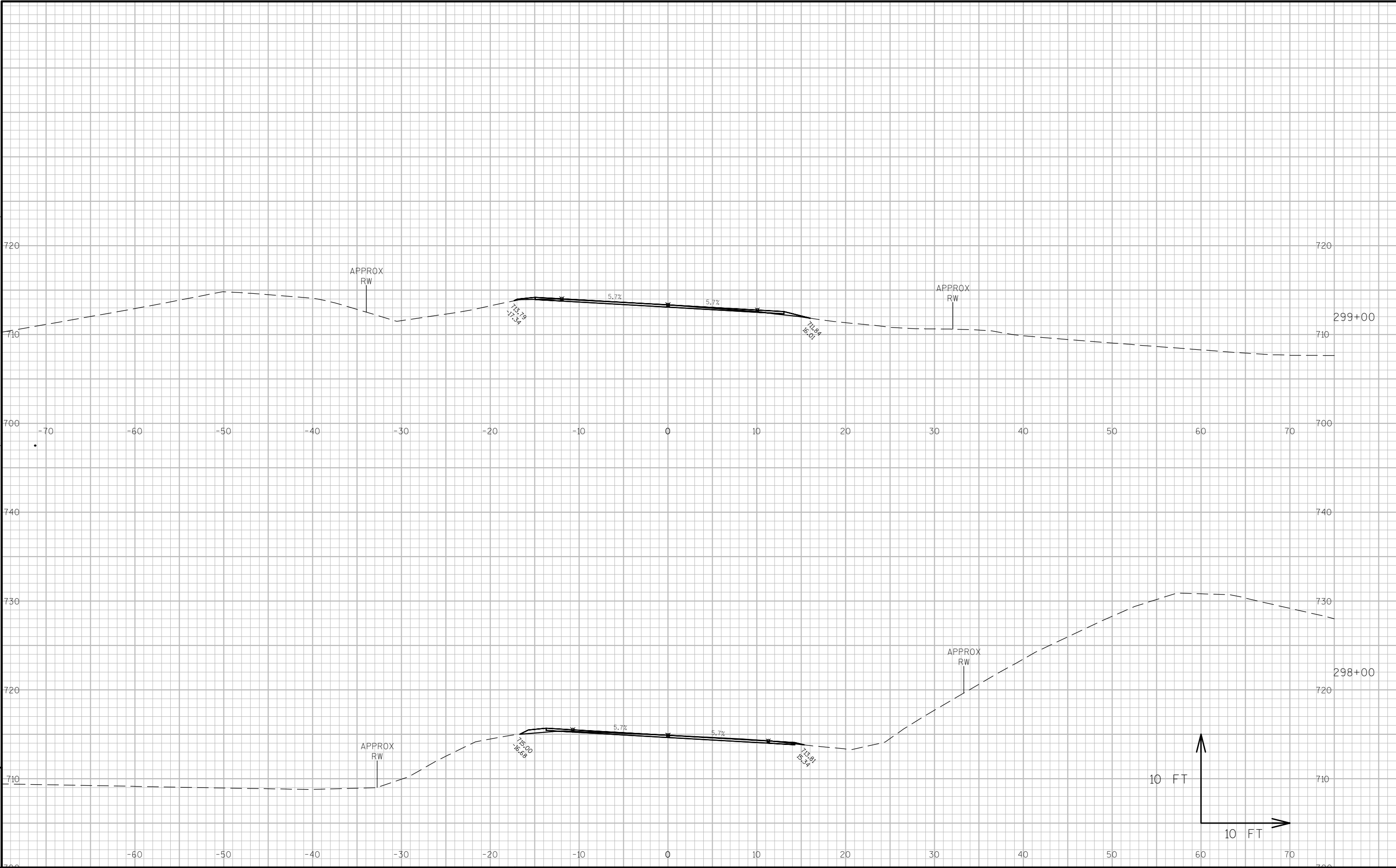
WISDOT/CADDs SHEET 49

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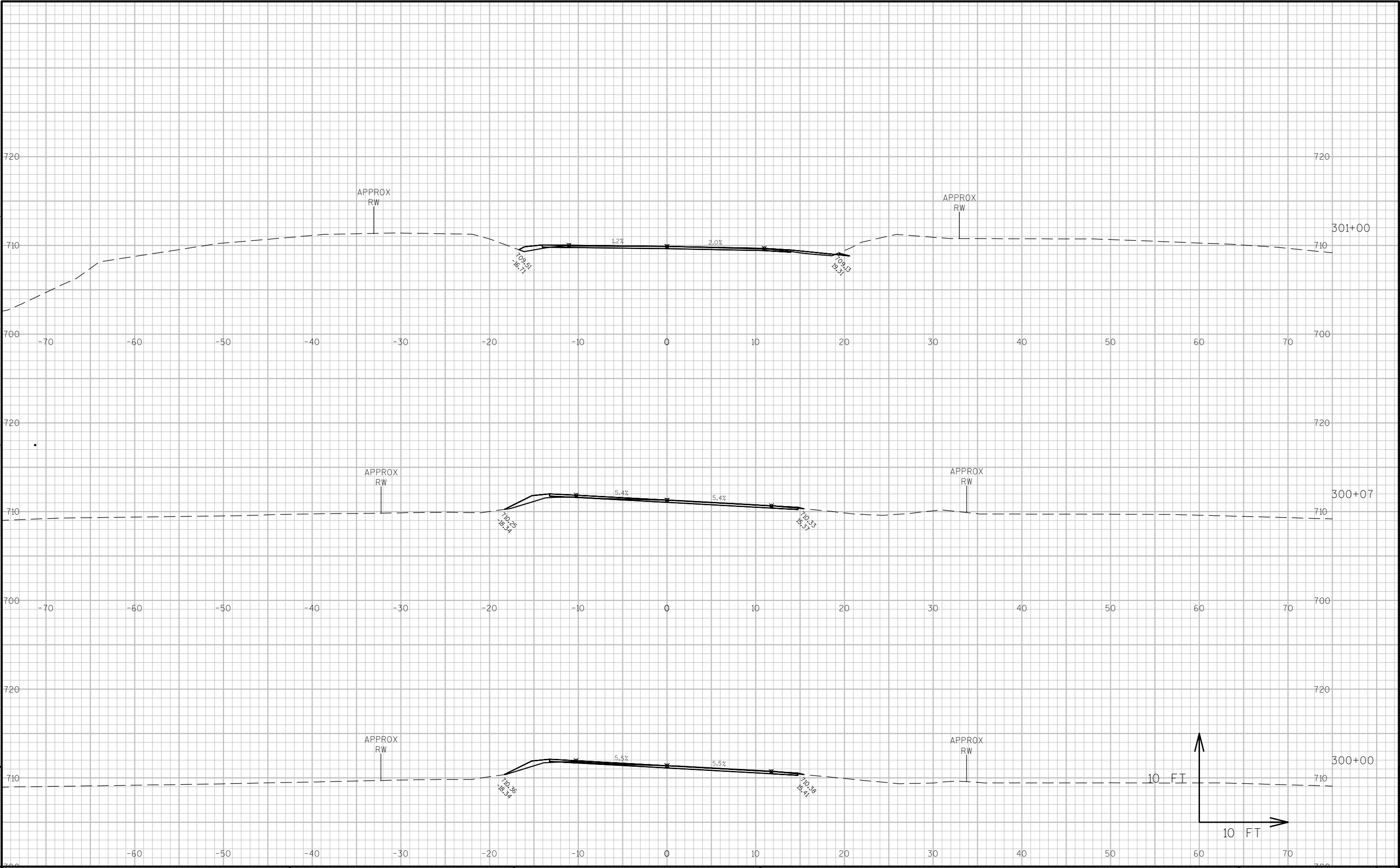
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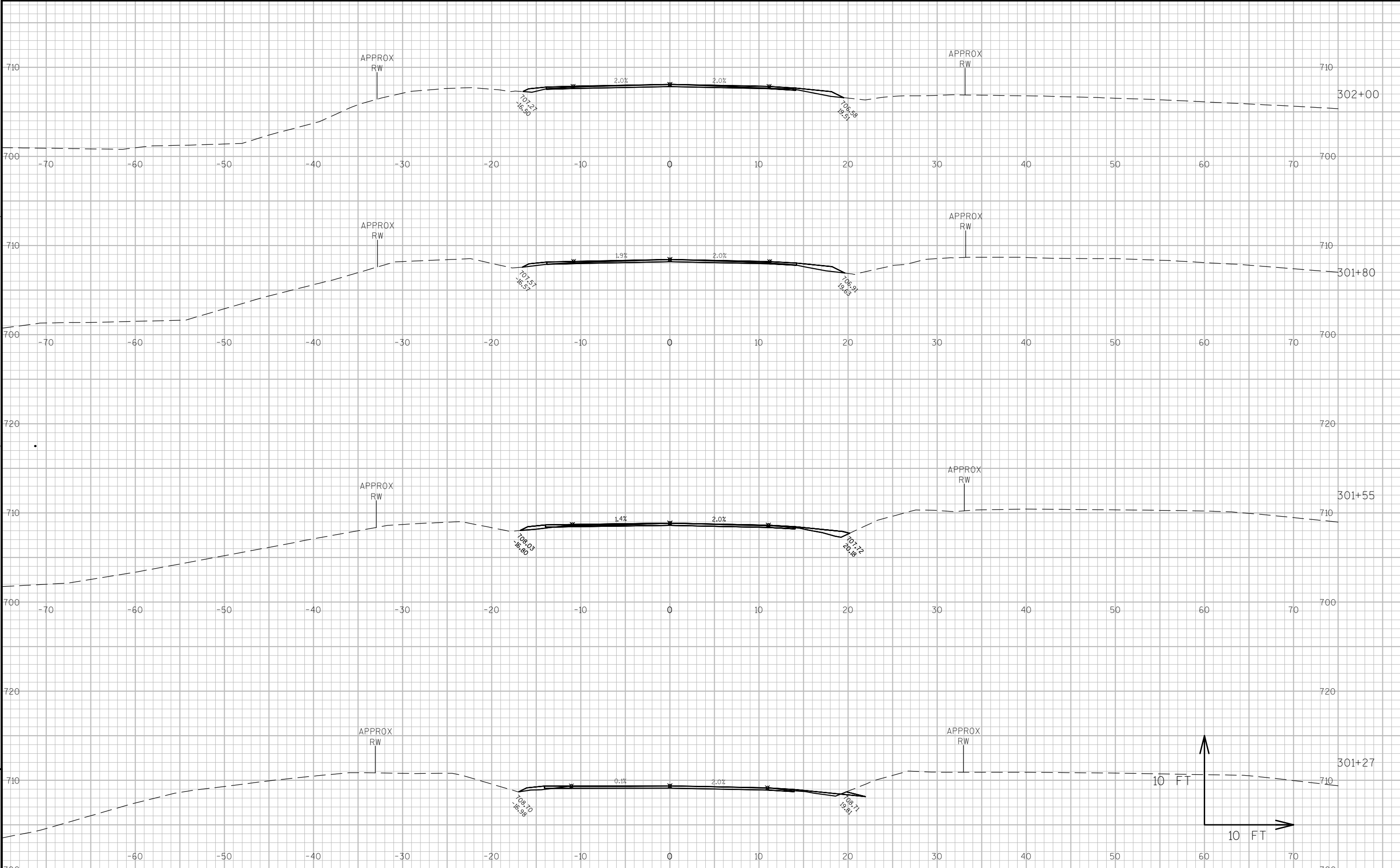


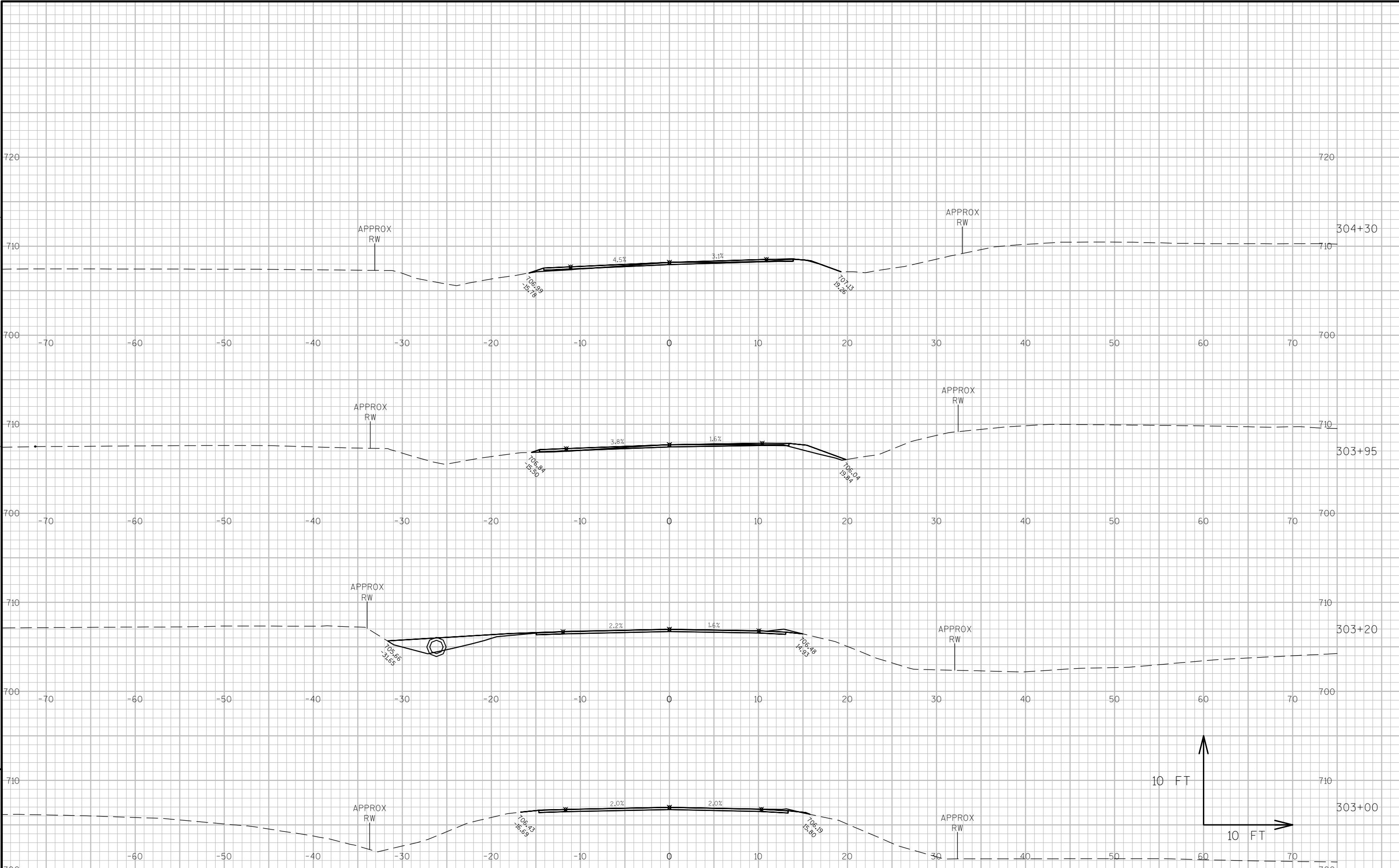
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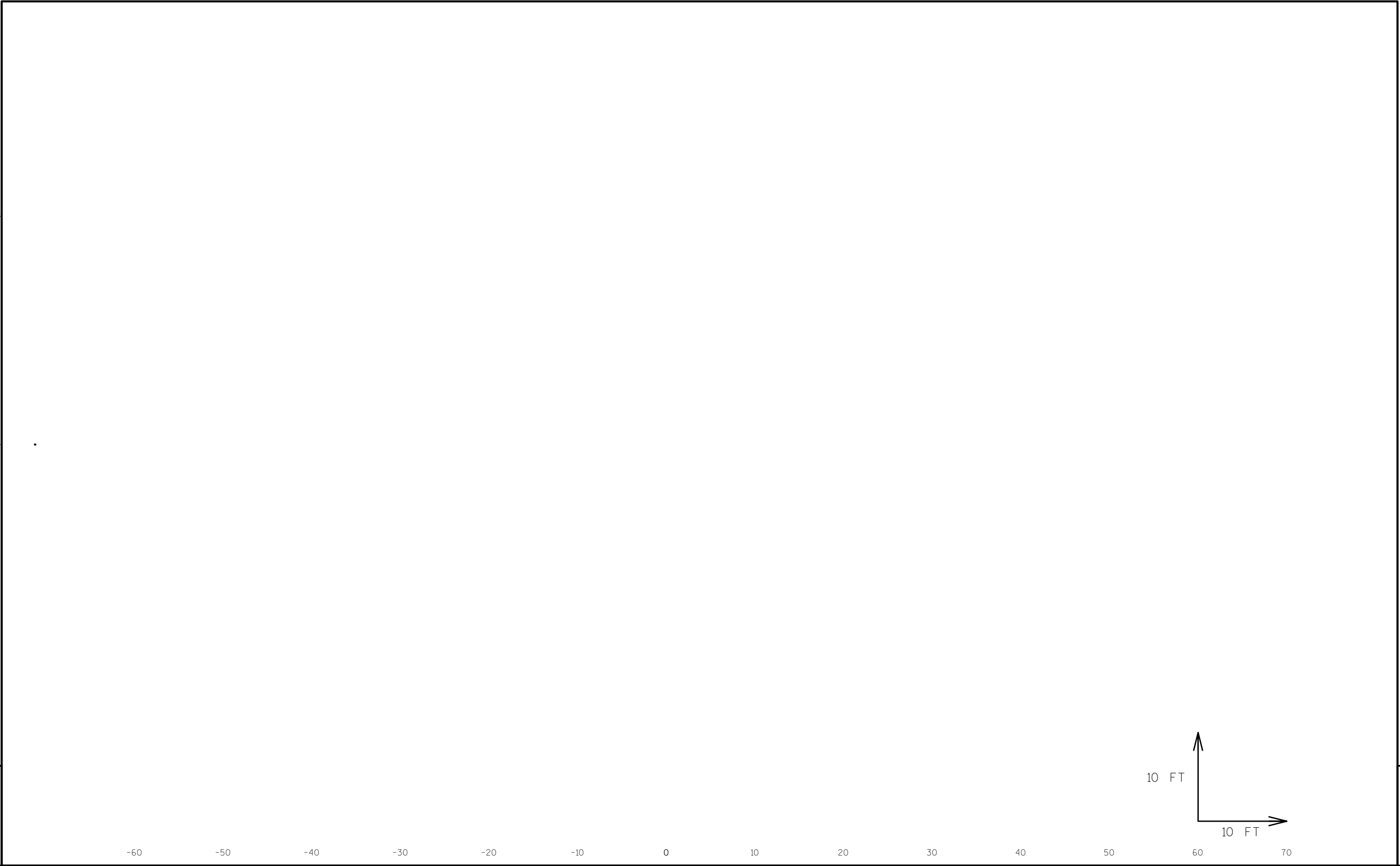




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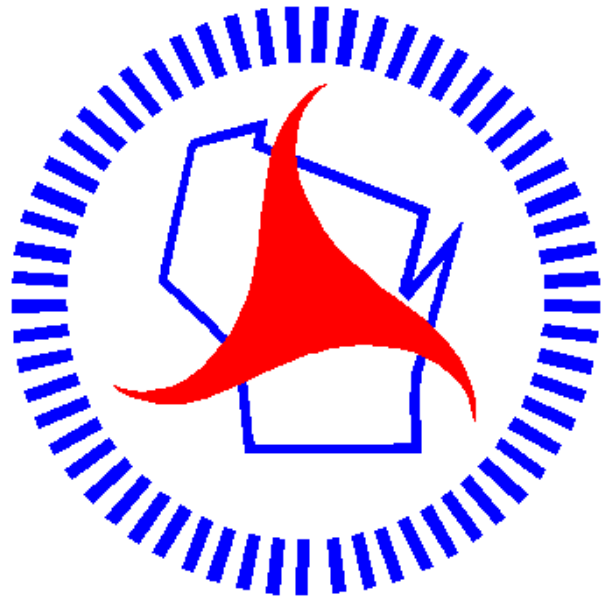
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PROJECT NO: 7730-06-73	HWY: STH 88	COUNTY: BUFFALO	CROSS SECTIONS: STH 88	SHEET 213	E
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Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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