

PROJECT ID: 2025-1-ARIP

COUNTY: MONROE

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 =



DESIGN DESIGNATION

A.A.D.T.	2026	=	900
A.A.D.T.	2046	=	1250
D.H.V.		=	
D.D.		=	50/50
T.		=	24.4
DESIGN SPEED		=	35 MPH (ESTATE RD/ESSEX RD) 45 MPH (FORMICA RD)
ESALS		=	610,000

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	
FOOTHILL AVE	
FOREST AVE	
GROSBEAK	
FORMICA	
ESSEX	
ERMINIE	
ENTERPRISE	
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UTILITIES CONTACTS

BRIGHTSPEED
COMMUNICATION
MARK SERIBNER
1905 WARD AVENUE
LA CROSSE, WI 54601
PHONE: (715)-492-7976
EMAIL: Mark.Scribner@bridgtspeed.com

WE ENERGIES - GAS
GAS
JERMY SLOWINSKI
1921 8th STREET SOUTH
WISCONSIN RAPIDS, WI 54494
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EMAIL: Jeremy.Slowinski@we-energies.com

DAIRYLAND POWER COOPERATIVE
ELECTRIC
MICHAEL LYDON
3200 EAST AVENUE SOUTH, PO BOX 817
LA CROSSE WI 54602-0817
PHONE: (608)-787-1381
EMAIL: Michael.Lydon@dairylandpower.com

OAKDALE ELECTRIC
ELECTRIC
TRAVIS CHAMPLIN
PO BOX 40
OAKDALE, WI 54649
PHONE: (608)-343-2400
EMAIL: TravisC@oakdalerec.com

LEMONWEIR VALLEY TELEPHONE CO
COMMUNICATION
BEN GRILLEY
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CAMP DOUGLAS, WI 54618
PHONE: (608)-427-4036
EMAIL: Ben.Grilley@

TOWN OF LA GRANGE

BRENDAN SMITH
TOWN CHAIRMAN
9774 ELAN RD
TOMAH, WI 54660
PHONE: (608)-387-6043
EMAIL: Chairman@TownofLaGrangeMCWI.gov

TOWN OF BYRON

ALLEN BERNHARDT
TOWN CHAIRMAN
12850 COUNTY HIGHWAY N
TOMAH, WI 54660
PHONE: (608)-372-7048
EMAIL: EMAIL@EMAIL.COM

WISCONSIN DNR LIAISON

KAREN KALVELAGE
DNR WEST CENTRAL REGION
3550 MOMON COULEE ROAD
LA CROSSE, WI 54601-6768
PHONE: (608)-406-7880
EMAIL: Karen.Kalvage@Wisconsin.Gov

COUNTY HIGHWAY COMMISSIONER

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MONROE COUNTY
803 WASHINGTON STREET
SPARTA, WI 54656
PHONE: (608) 269-8740
EMAIL: David.Ohnstad@co.monroe.wi.us

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

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

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT APPROXIMATE LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL SUCH A TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.

PIPE ELEVATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS

CURB AND GUTTER PLAN GRADES ARE AT THE FLANGE LINE UNLESS OTHERWISE NOTED.

PIPE ELEVATIONS, LENGTHS AND LOCATIONS AS SHOWN ON THE PLANS, MAY BE ADJUSTED TO FIT EXISTING FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR'S PAVING OPERATION SHALL BE CONSISTENT WITH THE TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

SAWCUTS, AS SHOWN ON THE PLANS, ARE SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OR PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DO NOT DRIVE OR STORE EQUIPMENT, OR STORE CONSTRUCTION MATERIALS IN ENVIRONMENTALLY SENSITIVE AREAS, WETLANDS OR WATERWAYS.

DIGGERSHOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	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 STRIPTURF:	.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 SLOPETURF:			.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 = 16.471 ACRES

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
EROSION CONTROL
PERMANENTS SIGNING
TRAFFIC CONTROL
ALIGNMENT

FORMICA RD\ESTATE RD\ESSEX AVE 5-INCHES		
LAYER	THICKNESS	TYPE
UPPER	2.5-INCHES	ASPHALTIC SURFACE
LOWER	2.5-INCHES	ASPHALTIC SURFACE

MEAD & HUNT

DESIGN CONTACT

JAY WHEATON, PE
MEAD & HUNT, INC
750 NORTH THIRD STREET
LA CROSSE, WI 54601
PHONE: (608) 386-0212
EMAIL: Jay.Wheaton@meadhunt.com

PROJECT NO: 2025-1-ARIP

HWY: LAGRANGE BYRON ARIP

COUNTY: MONROE

GENERAL NOTES

SHEET

E

FILE NAME : X:\4668922\250753.01\TECH\CAD\XXXXXXXX\SHEETS\020101_GN.DWG
LAYOUT NAME - 01

PLOT DATE : 1/16/2026 11:19 AM

PLOT BY : JEFF BREU

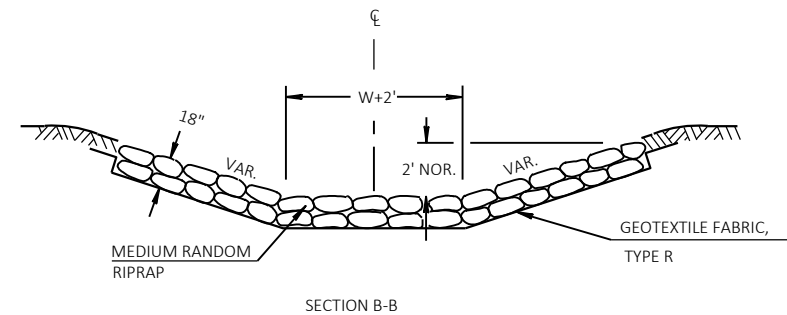
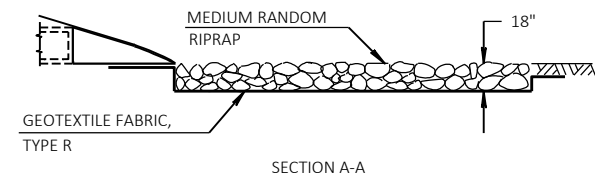
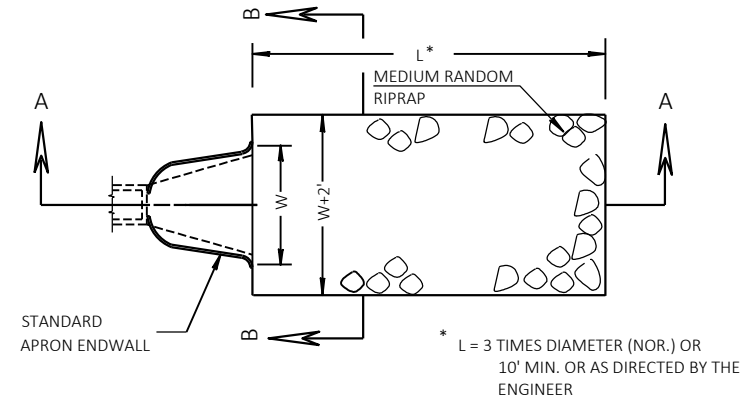
PLOT NAME :

PLOT SCALE : 1" = 1'

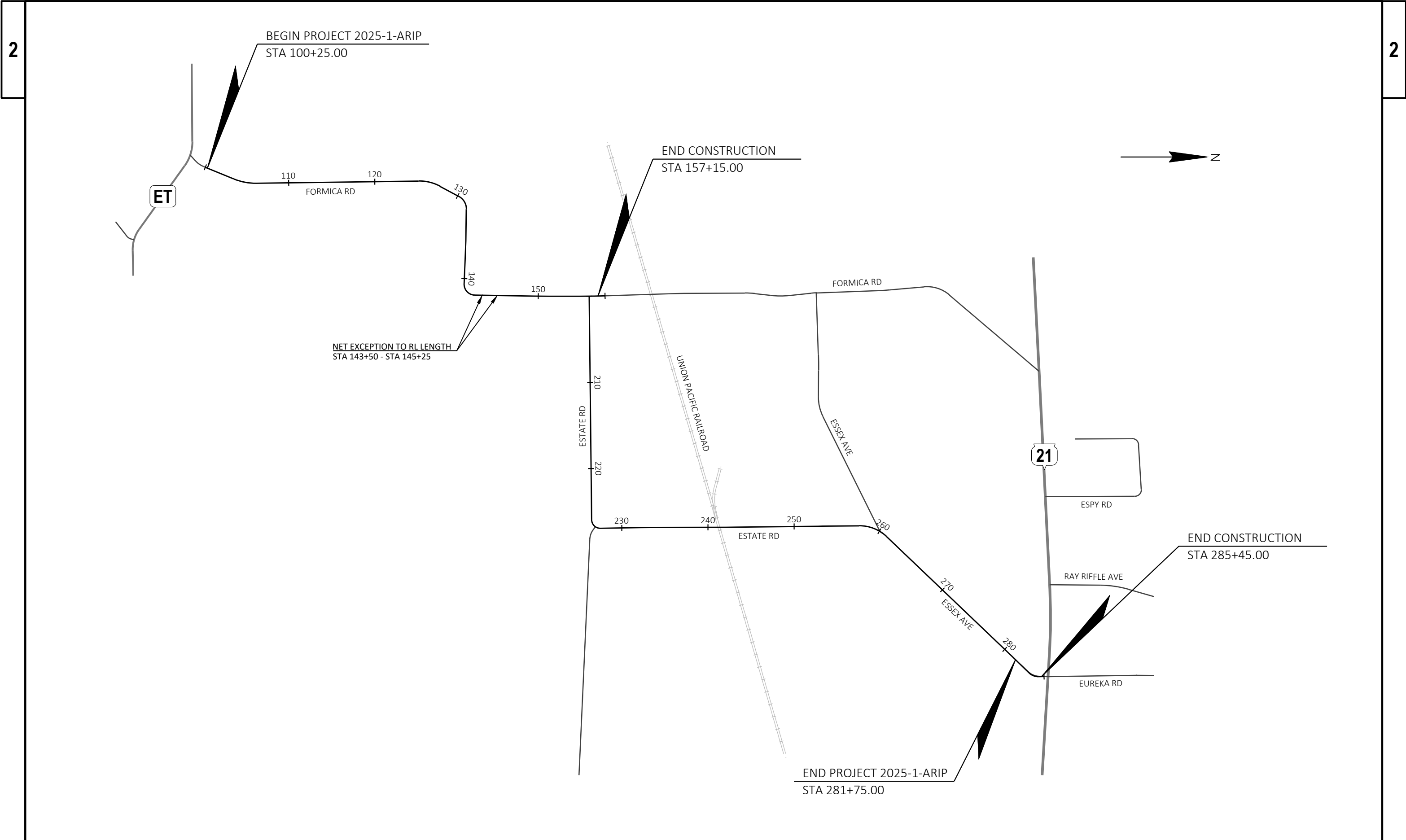
WISDOT/CADDs SHEET 42

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	LT	LEFT
AC	ACRE	LHF	LEFT HAND FORWARD
AGG	AGGREGATE	L	LENGTH OF CURVE
AH	AHEAD	LF	LINEAR FOOT
∠	ANGLE	LC	LONG CHORD OF CURVE
AADT	ANNUAL AVERAGE DAILY TRAFFIC	LS	LUMP SUM
AEW	APRON ENDWALL	MGAL	ONE THOUSAND GALLONS
ASPH	ASPHALTIC	MH	MANHOLE
BK	BACK	ML OR M/L	MATCH LINE
BC	BACK OF CURB	NOM	NOMINAL
BAD	BASE AGGREGATE DENSE	NC	NORMAL CROWN
BL OR B/L	BASE LINE	NB	NORTHBOUND
BM	BENCH MARK	NO	NUMBER
CB	CATCH BASIN	OD	OUTSIDE DIAMETER
CL OR C/L	CENTER LINE	PAVT	PAVEMENT
Δ	CENTRAL ANGLE OR DELTA	PLE	PERMANENT LIMITED EASEMENT
CE	COMMERCIAL ENTRANCE	PC	POINT OF CURVATURE
CONC	CONCRETE	PI	POINT OF INTERSECTION
CSW	CONCRETE SIDEWALK	PT	POINT OF TANGENCY
CONST	CONSTRUCTION	PCC	PORTLAND CEMENT CONCRETE
CP	CONTROL POINT	LB	POUND
CO	COUNTY	PSI	POUNDS PER SQUARE INCH
CTH	COUNTY TRUCK HIGHWAY	PE	PRIVATE ENTRANCE
CY	CUBIC YARD	PROJ	PROJECT
CP	CULVERT PIPE	PL	PROPERTY LINE
CPCA	CULVERT PIPE CORRUGATED ALUMINUM	PRW	PROPOSED RIGHT OF WAY
CPCPE	CULVERT PIPE CORRUGATED POLYETHYLENE	R	RADIUS
CPCPP	CULVERT PIPE CORRUGATED POLYPROPYLENE	RL OR R/L	REFERENCE LINE
CPCS	CULVERT PIPE CORRUGATED STEEL	REQD	REQUIRED
CPCSAC	CULVERT PIPE CORRUGATED STEEL ALUMINUM COATED	RT	RIGHT
CPCSPC	CULVERT PIPE CORRUGATED STEEL POLYMER COATED	RHF	RIGHT HAND FORWARD
CPRC	CULVERT PIPE REINFORCED CONCRETE	R/W	RIGHT OF WAY
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	RD	ROAD
CPS	CULVERT PIPE SALVAGED	RDWY	ROADWAY
CPT	CULVERT PIPE TEMPORARY	SHLDR	SHOULDER
C & G	CURB AND GUTTER	SW	SIDEWALK
D	DEGREE OF CURVE	SB	SOUTHBOUND
DHV	DESIGN HOUR VOLUME	SPECS	SPECIFICATIONS
DIA	DIAMETER	SF	SQUARE FEET
DD	DIRECTIONAL DISTRIBUTION	SY	SQUARE YARD
DE	DRAINAGE EASEMENT	SDD	STANDARD DETAIL DRAWINGS
DWY	DRIVEWAY	STH	STATE TRUNK HIGHWAY
EA	EACH	STA	STATION
EB	EASTBOUND	SSPC	STORM SEWER PIPE COMPOSITE
EL OR ELEV	ELEVATION	SSCPE	STORM SEWER PIPE CORRUGATED POLYETHYLENE
EMB	EMBANKMENT	SSCPP	STORM SEWER PIPE CORRUGATED POLYPROPYLENE
EW	ENDWALL	SSPNRC	STORM SEWER PIPE NON-REINFORCED CONCRETE
EAT	ENERGY ABSORBING TERMINAL	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
ESALS	EQUIVALENT SINGLE AXLE LOADS	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EXC	EXCAVATION	SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
EBS	EXCAVATION BELOW SUBGRADE	SE	SUPERELEVATION
EXIST	EXISTING	SL OR S/L	SURVEY LINE
FERT	FERTILIZER	TEMP	TEMPORARY
FE	FIELD ENTRANCE	TI	TEMPORARY INTEREST
FL OR F/L	FLOW LINE	TLE	TEMPORARY LIMITED EASEMENT
FT	FOOT	TC	TOP OF CURB
FTMS	FREE TRAFFIC MANAGEMENT SYSTEM	TL OR T/L	TRANSIT LINE
HES	HIGH EARLY STRENGTH	T	TRUCKS (PERCENT OF)
HE	HIGHWAY EASEMENT	TYP	TYPICAL
CWT	HUNDRED WEIGHT	USH	UNITED STATES HIGHWAY
IN DIA	INCH DIAMETER	VAR	VARIABLE
INL	INLET	VC	VERTICAL CURVE
ID	INSIDE DIAMETER	VPC	VERTICAL POINT OF CURVATURE
INTERS	INTERSECTION	VPI	VERTICAL POINT OF INTERSECTION
IH	INTERSTATE HIGHWAY	VPT	VERTICAL POINT OF TANGENCY
INV	INVERT	W	WEST
JT	JOINT	WB	WESTBOUND



MEDIUM RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALL



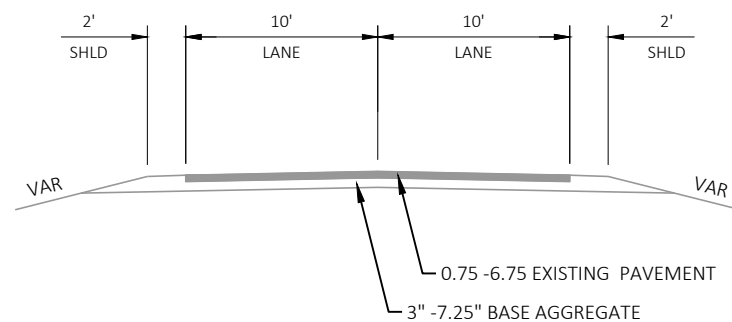
LT
STA 100+25.0 - 105+75.0 (FORMICA RD)
STA 121+75.0 - 126+00.0 (FORMICA RD)
STA 154+95.0 - 157+15.0 (FORMICA RD)
STA 209+75.0 - 211+75.0 (ESTATE RD)
STA 216+25.0 - 218+00.0 (ESTATE RD)
STA 220+75.0 - 222+00.0 (ESTATE RD)
STA 265+00.0 - 270+50.0 (ESSEX AVE)
STA 273+50.0 - 285+75.0 (ESSEX AVE)

LT **
SEEDING MIXTURE NO. 40

STA 100+25 - 105+00 (FORMICA RD)
STA 121+50 - 125+75 (FORMICA RD)
STA 149+25 - 157+25 (FORMICA RD)

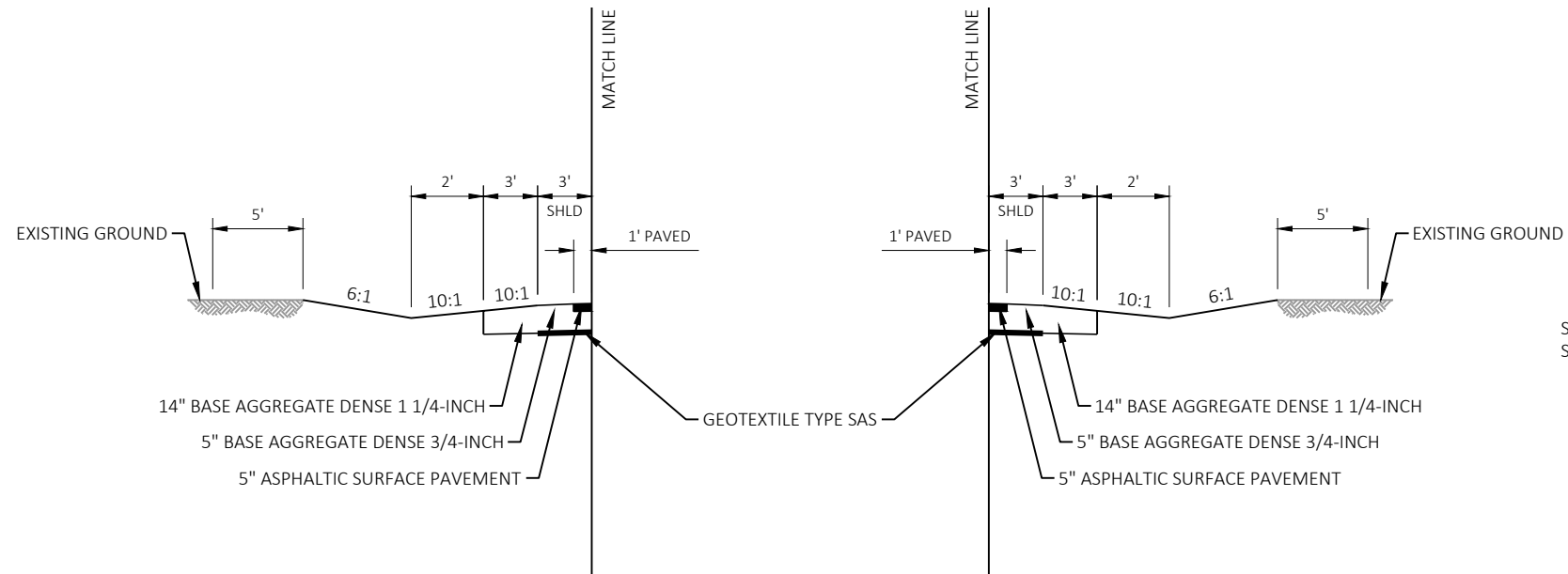
STA 241+50 - 244+50 (ESTATE RD)

STA 271+25 - 281+75 (ESSEX AVE)



EXISTING TYPICAL SECTION

STA 100+25.0 - 143+50.0 (FORMICA RD)
STA 145+25.0 - 157+15.0 (FORMICA RD)
STA 200+00.0 - 281+75.0 (ESTATE RD /ESSEX AVE)



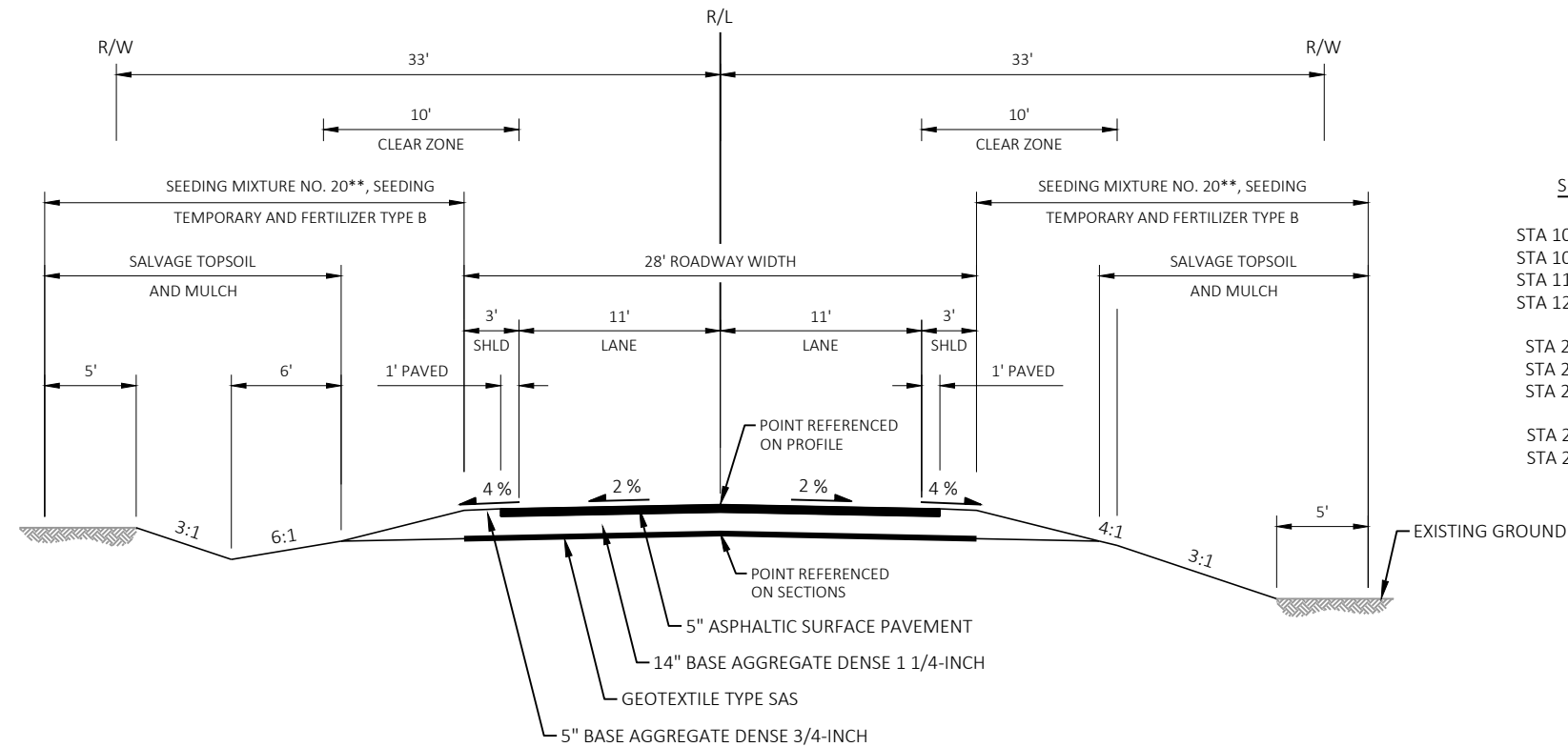
RT
STA 100+25.0 - 106+25.0 (FORMICA RD)
STA 110+00.0 - 111+60.0 (FORMICA RD)
STA 217+00.0 - 218+00.0 (ESTATE RD)
STA 220+00.0 - 222+25.0 (ESTATE RD)
STA 234+40.0 - 236+60.0 (ESTATE RD)
STA 259+75.0 - 261+10.0 (ESSEX AVE)
STA 262+25.0 - 285+75.0 (ESSEX AVE)

RT **
SEEDING MIXTURE NO. 40

STA 100+25 - 106+75 (FORMICA RD)
STA 108+50 - 111+75 (FORMICA RD)
STA 118+25 - 125+50 (FORMICA RD)
STA 125+50 - 141+50 (FORMICA RD)

STA 219+50 - 223+50 (ESTATE RD)
STA 226+00 - 275+75 (ESTATE RD)
STA 233+50 - 237+00 (ESTATE RD)

STA 263+50 - 274+00 (ESSEX AVE)
STA 274+00 - 281+75 (ESSEX AVE)

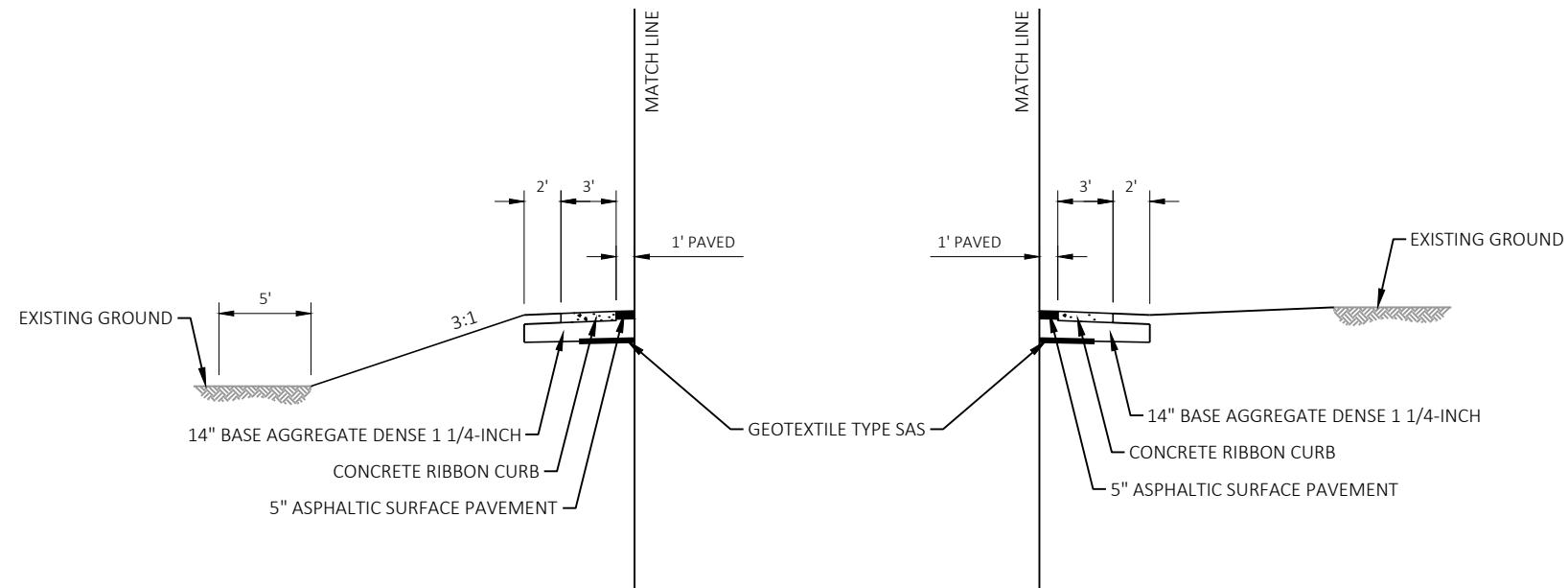


FINISHED TYPICAL SECTION

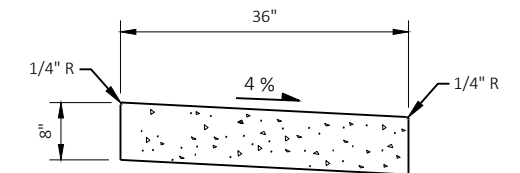
STA 100+25.0 - 130+25.0 (FORMICA RD)
STA 142+61.5 - 143+50.0 (FORMICA RD)
STA 145+25.0 - 157+15.0 (FORMICA RD)
STA 200+00.0 - 239+50.0 (ESTATE RD)
STA 244+25.00 -281+75.0 (ESTATE RD /ESSEX AVE)

** NOTE:
SEEDING TO BE SEEDING MIXTURE NO. 20 UNLESS
LISTED IN SEEDING MIXTURE NO. 40 ON THE SHEET.

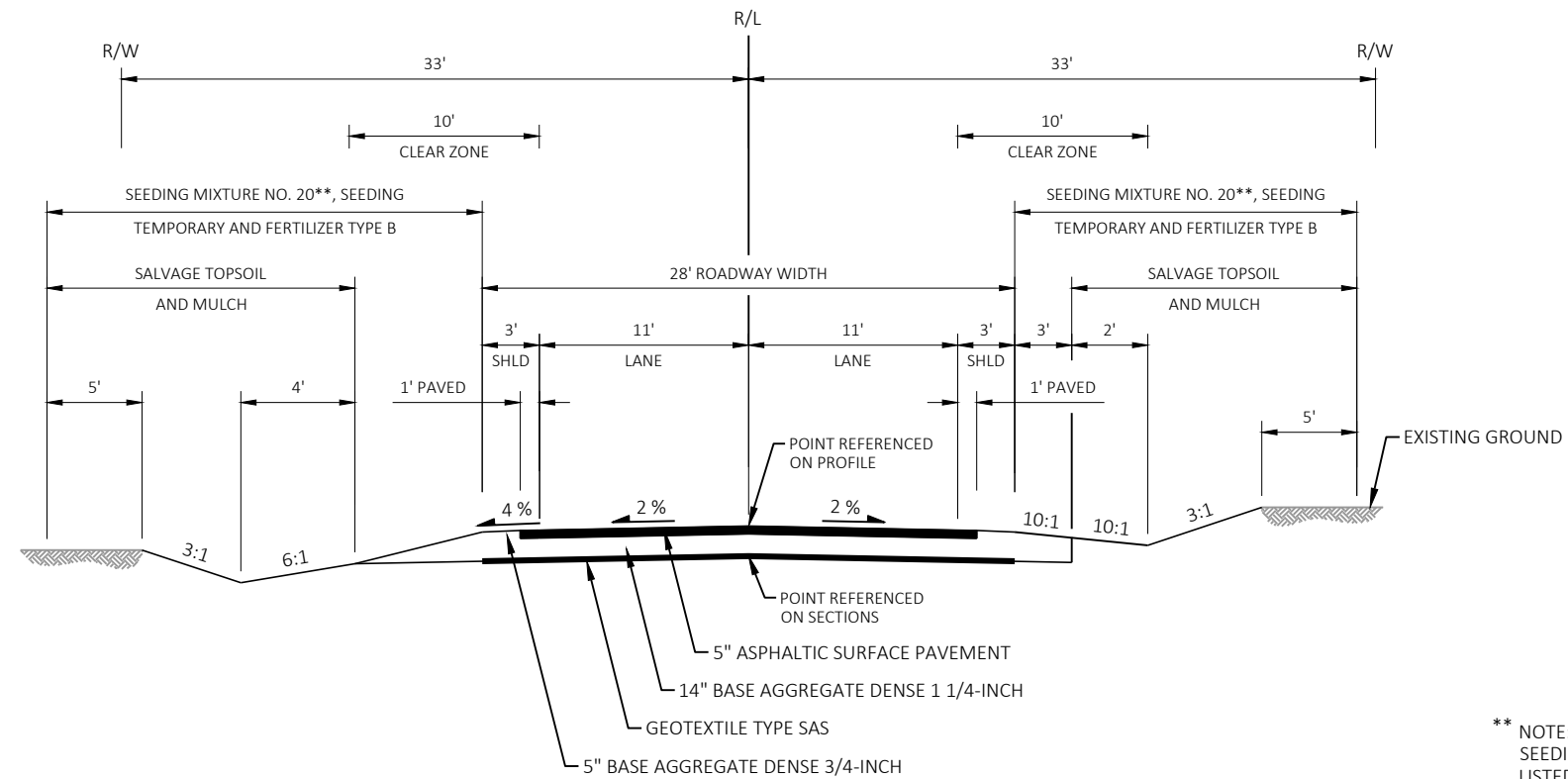
LT
STA 140+61.5 - 142+61.5 (FORMICA RD)



RT
STA 130+15.0 - 131+95.4 (FORMICA RD)
STA 139+75.0 - 142+61.5 (FORMICA RD)



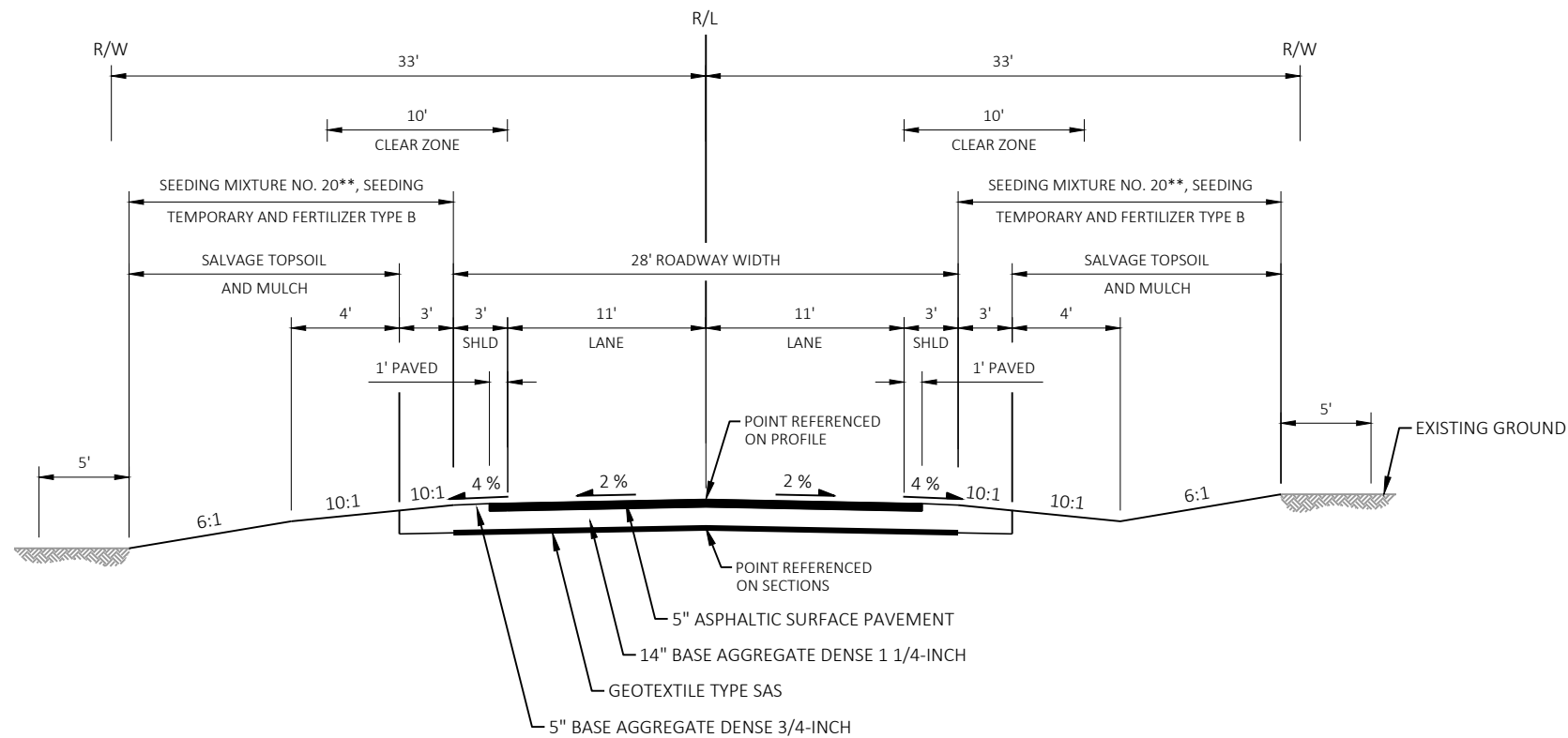
CONCRETE RIBBON CURB



FINISHED TYPICAL SECTION (POND)

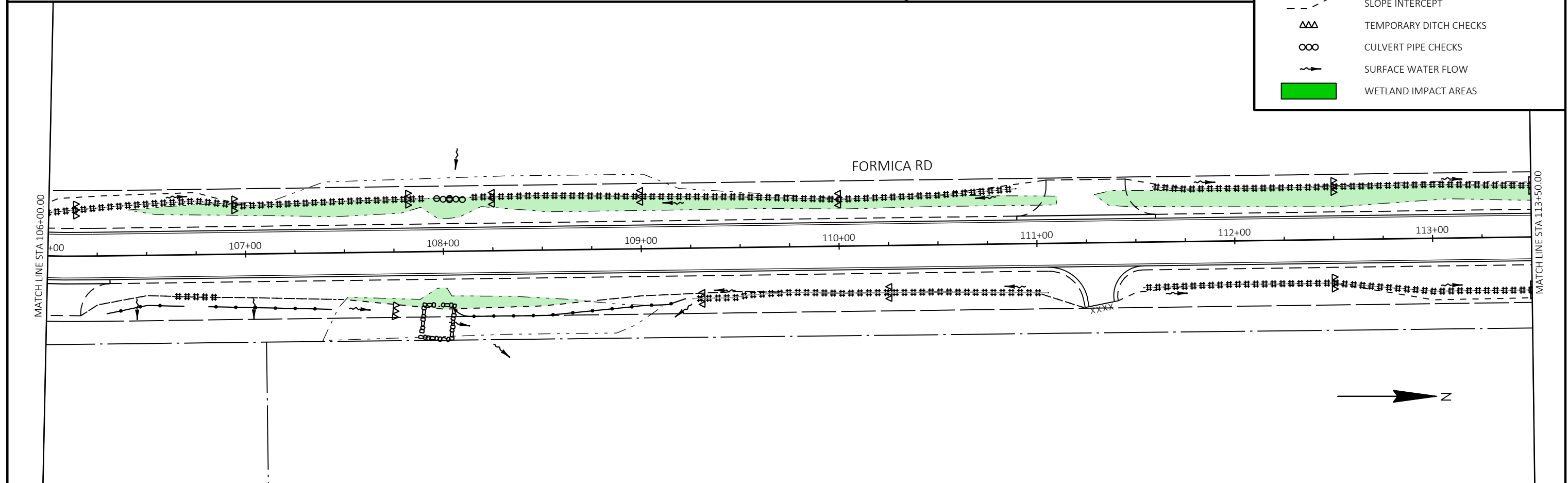
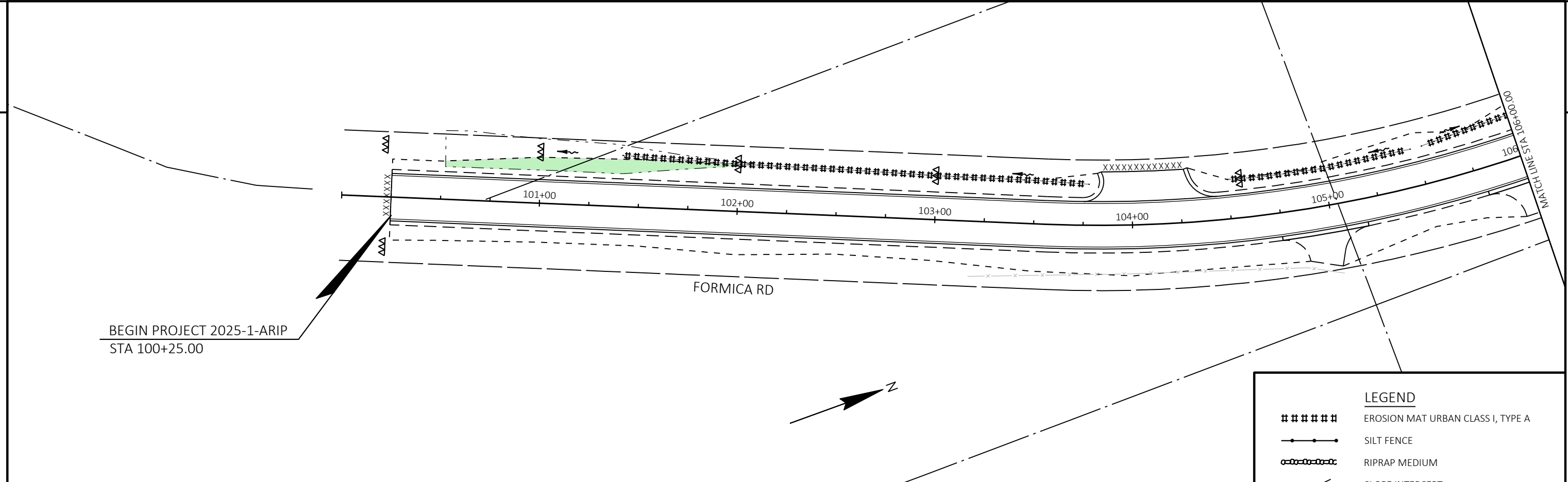
STA 130+25.0 - 142+61.5 (FORMICA RD)

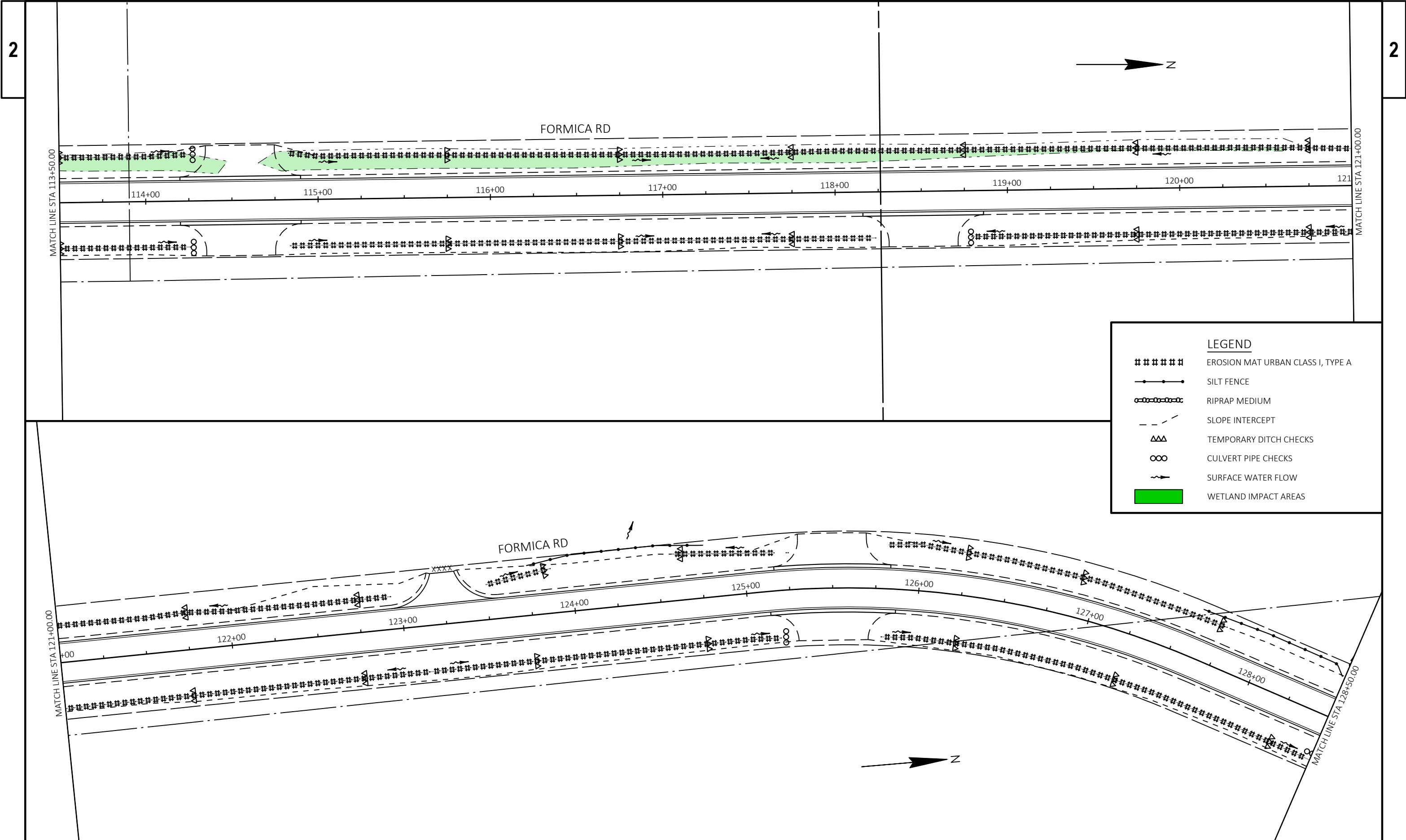
** NOTE:
SEEDING TO BE SEEDING MIXTURE NO. 20 UNLESS
LISTED IN SEEDING MIXTURE NO. 40 ON THE FIRST
TYPICAL SECTION SHEET.



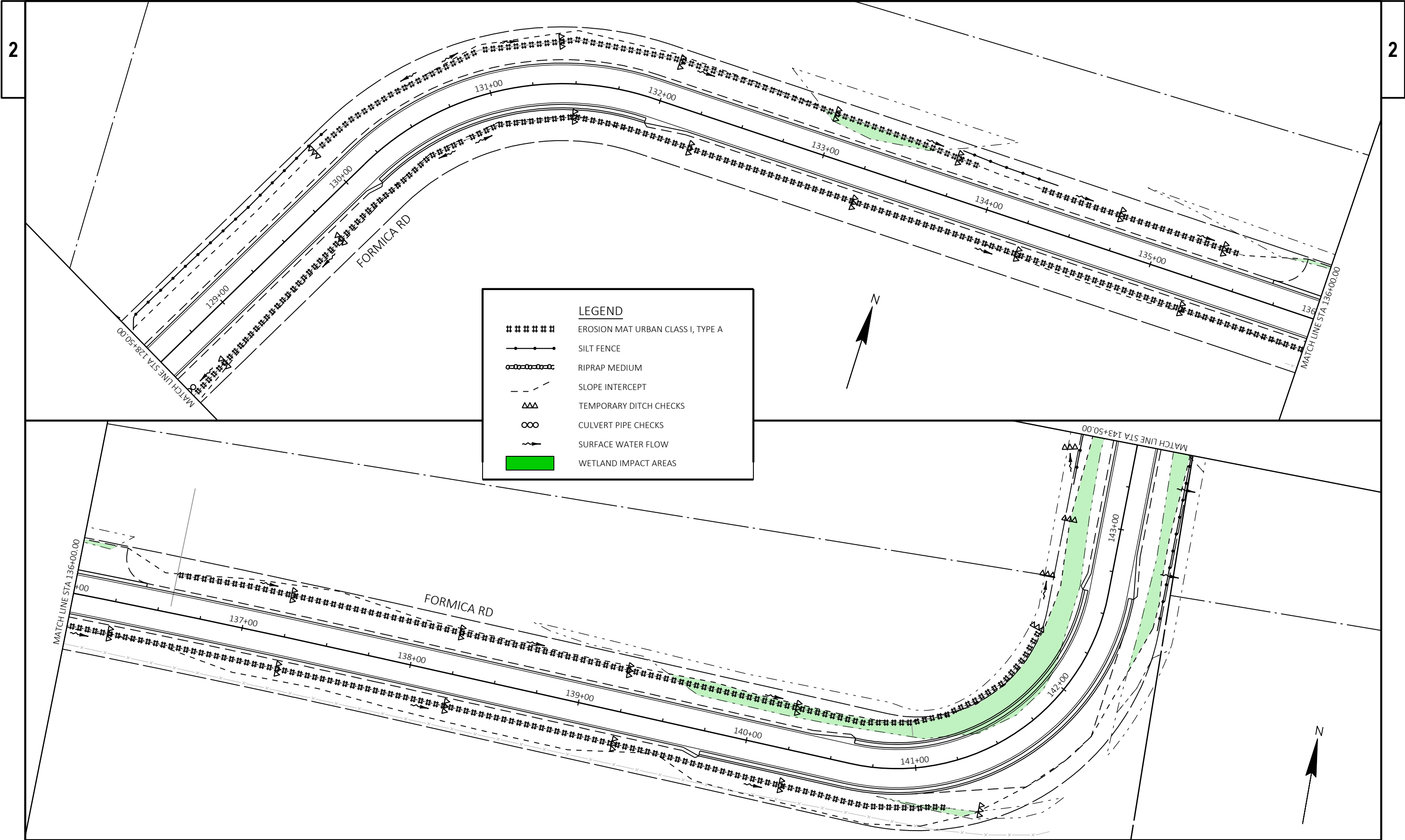
FINISHED TYPICAL SECTION (RAILROAD)
STA 239+50.0 - 244+25.0 (ESTATE RD)

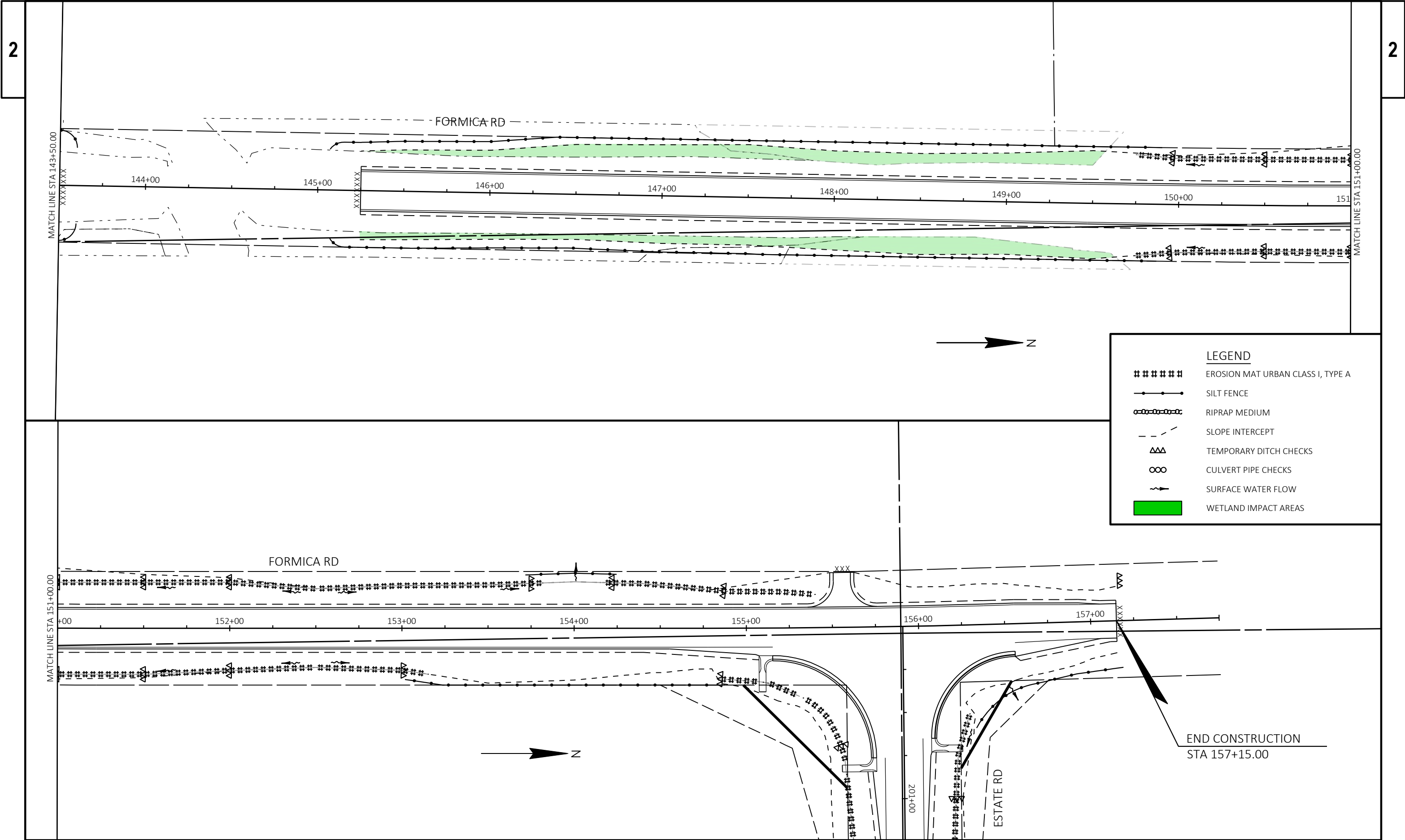
** NOTE:
SEEDING TO BE SEEDING MIXTURE NO. 20 UNLESS
LISTED IN SEEDING MIXTURE NO. 40 ON THE FIRST
TYPICAL SECTION SHEET.





PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	EROSION CONTROL	SHEET	E
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LEGEND

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EROSION MAT URBAN CLASS I, TYPE A

—●—●—●—

SILT FENCE

-o-o-o-o-o-

RIPRAP MEDIUM

- - -

SLOPE INTERCEPT

△△

TEMPORARY DITCH CHECKS

○○

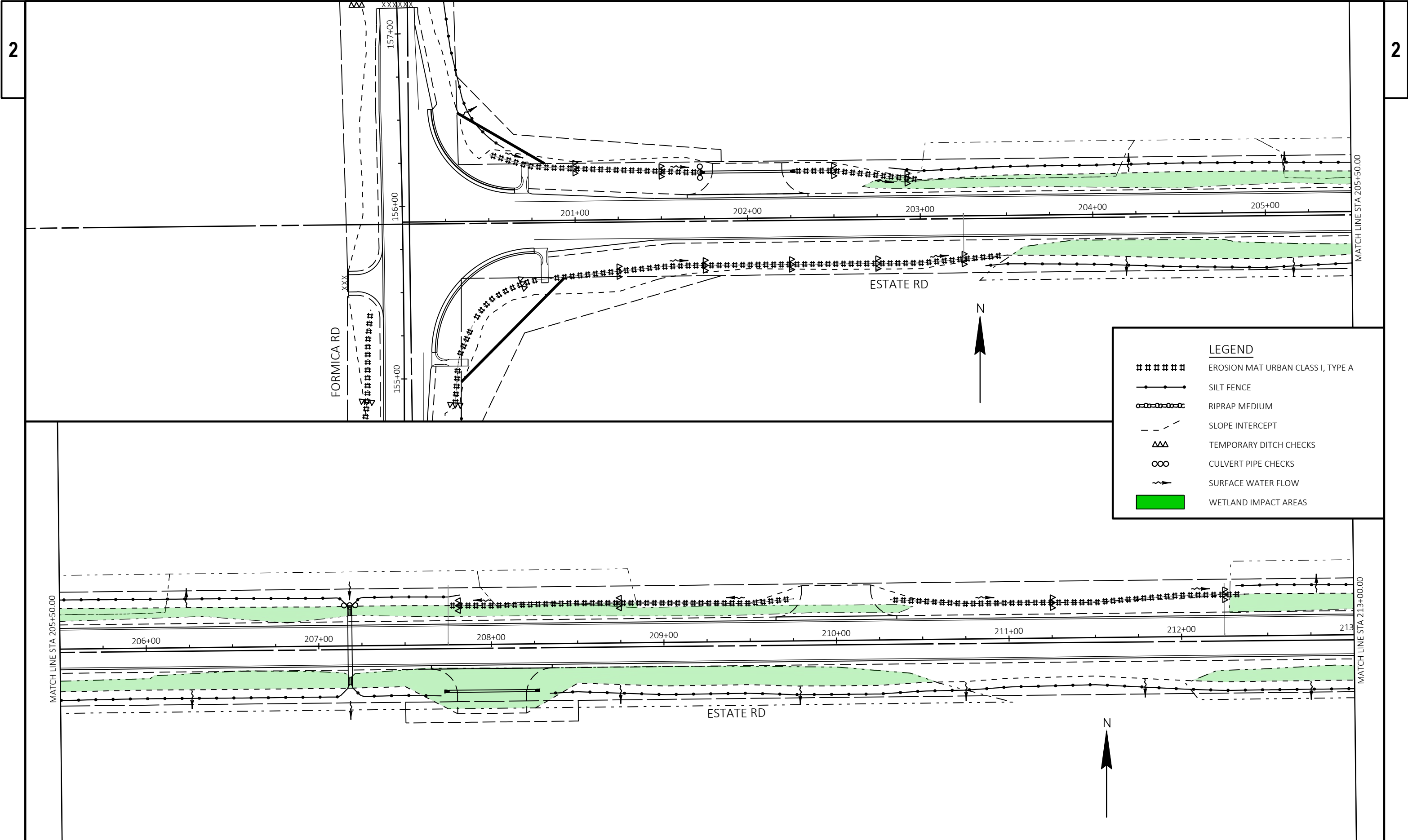
CULVERT PIPE CHECKS

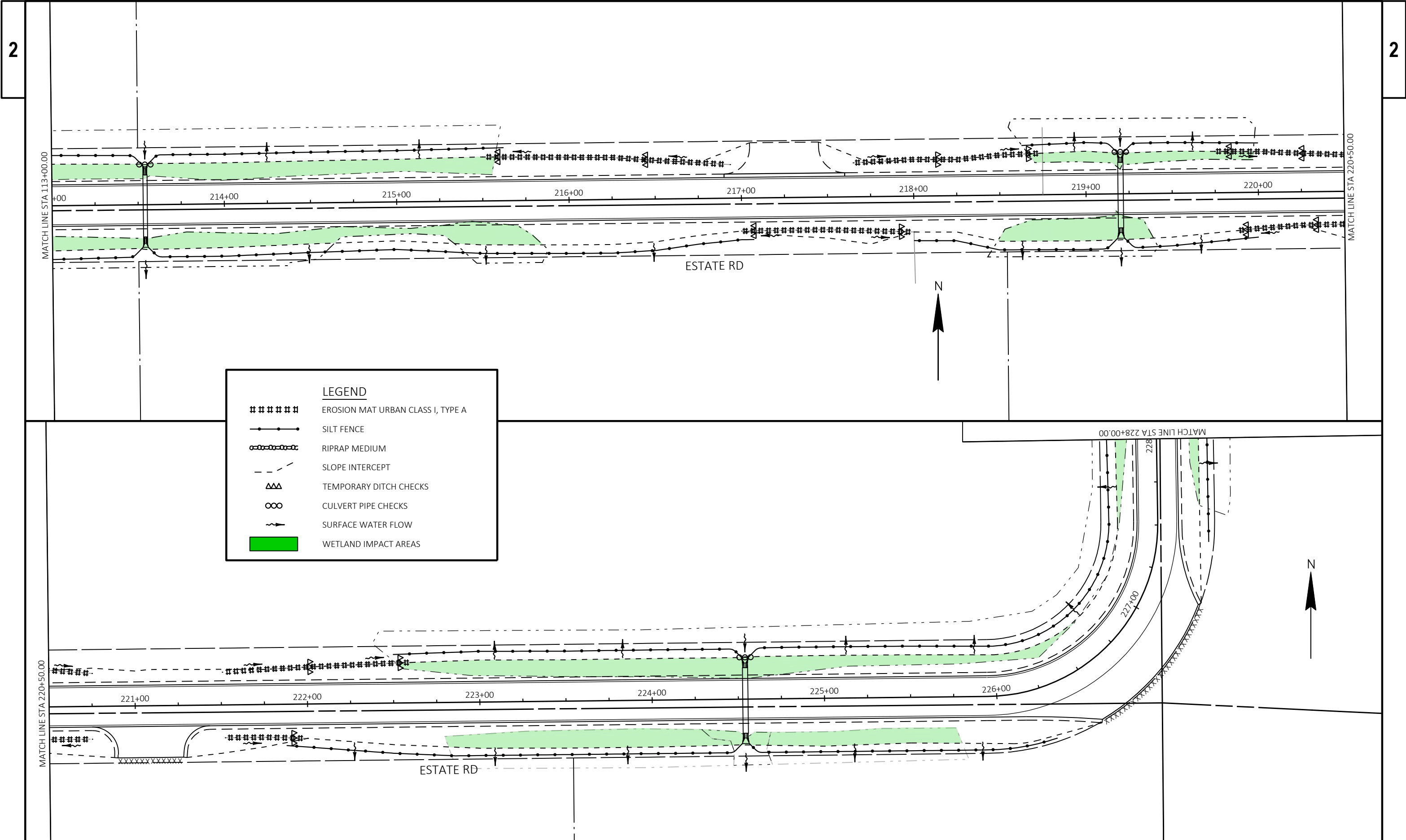
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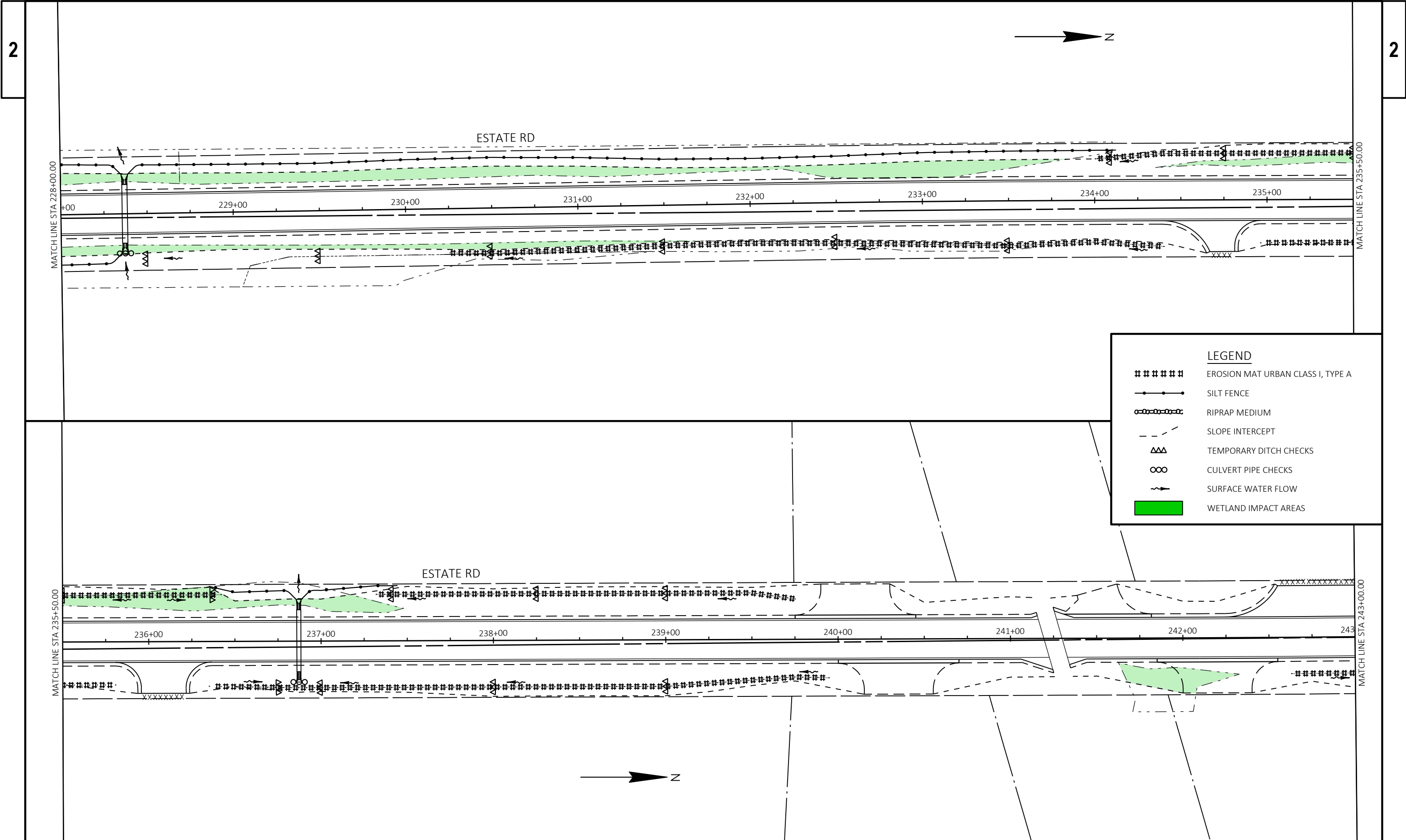
SURFACE WATER FLOW

■

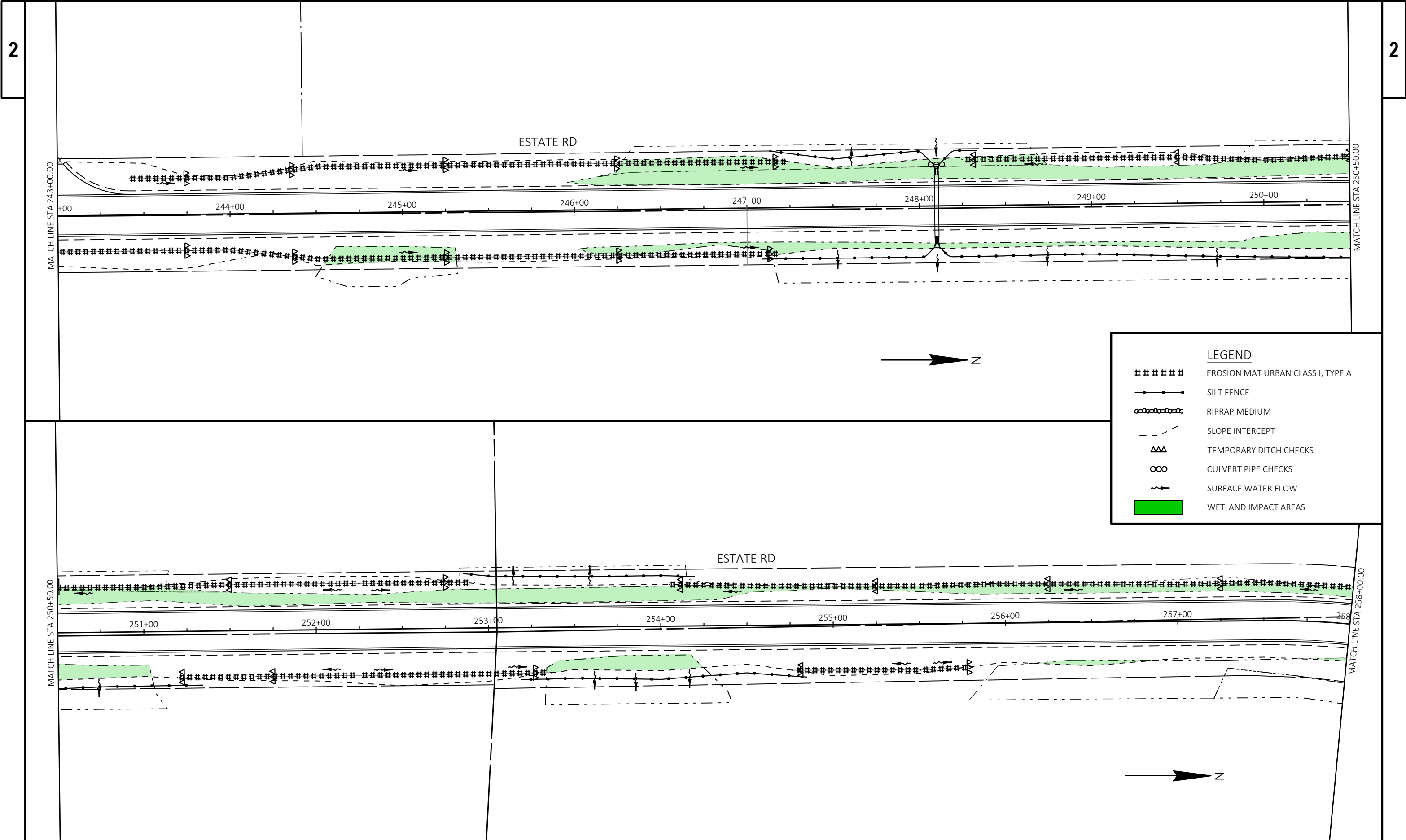
WETLAND IMPACT AREAS

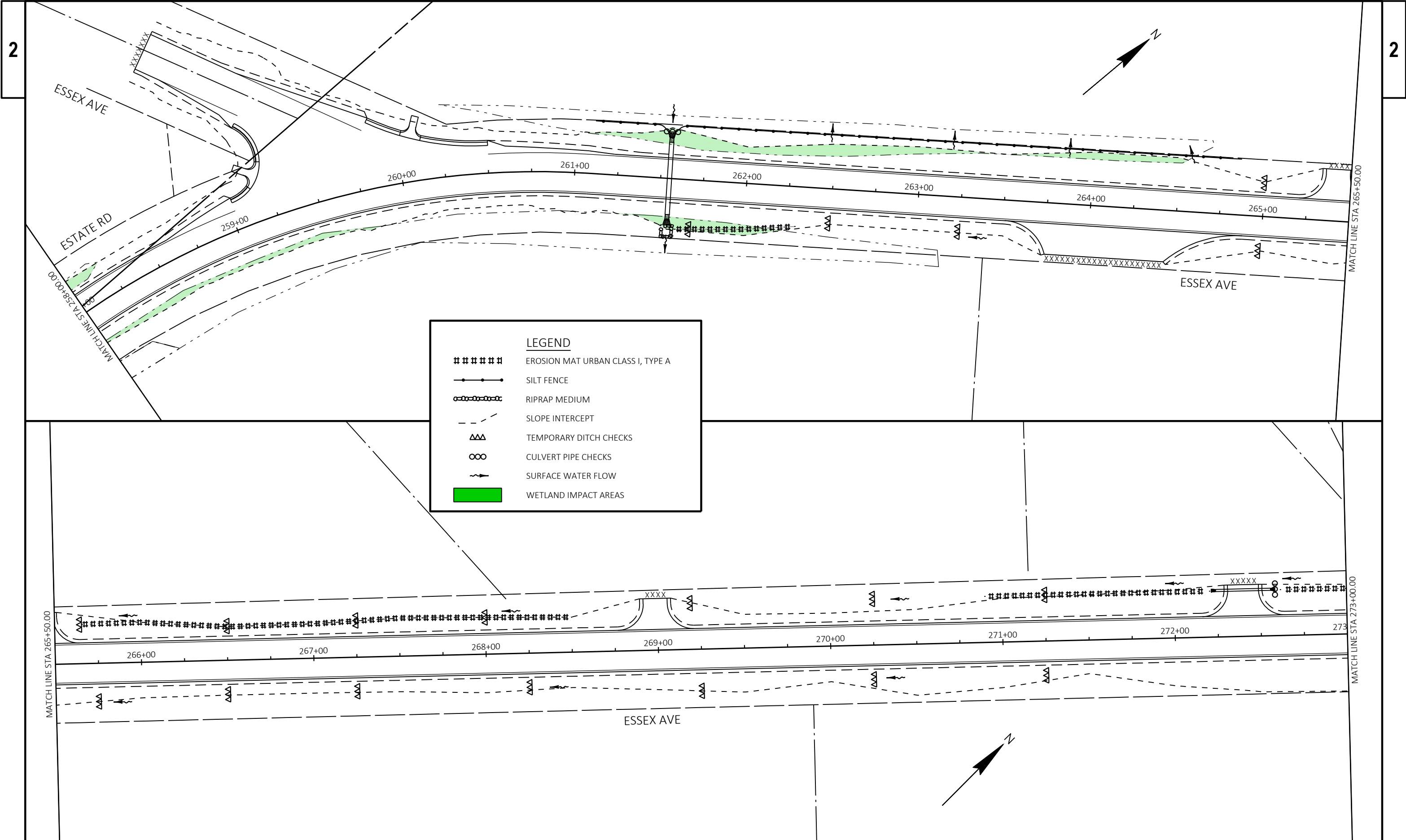


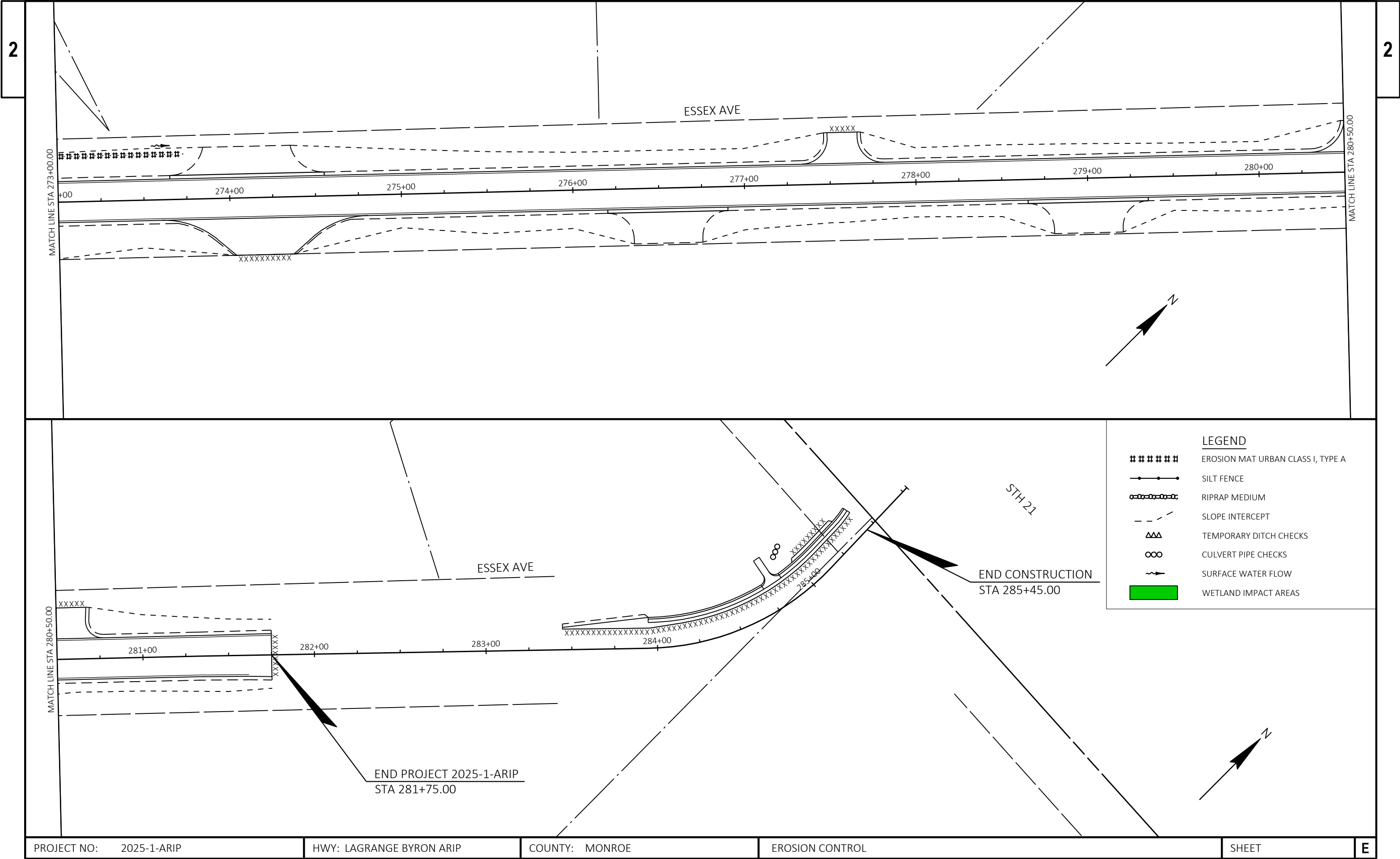




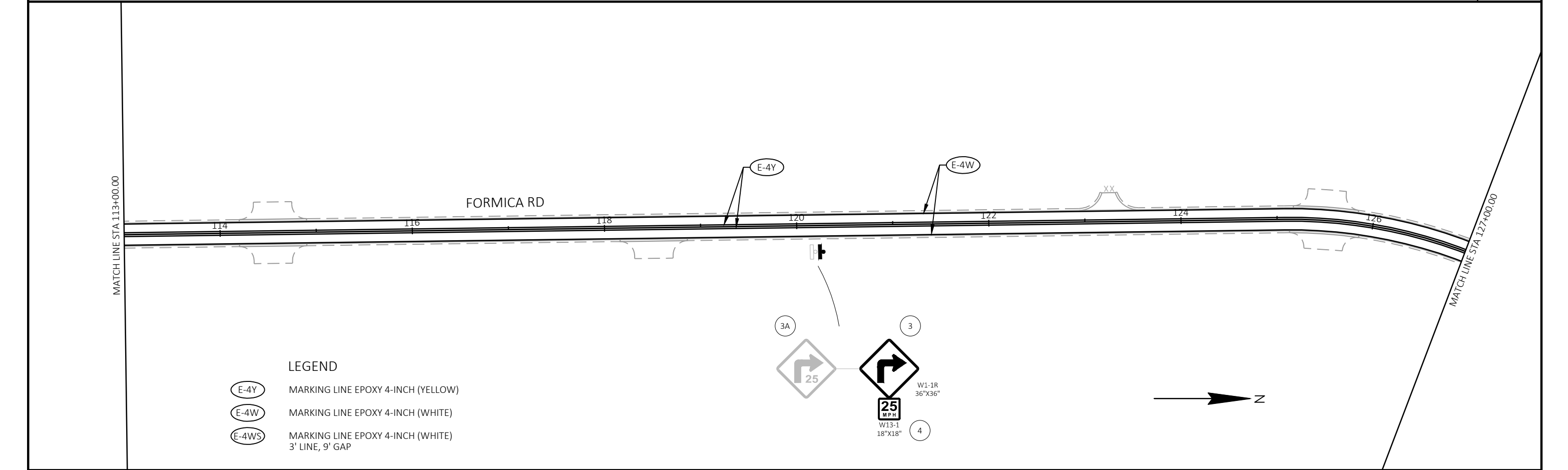
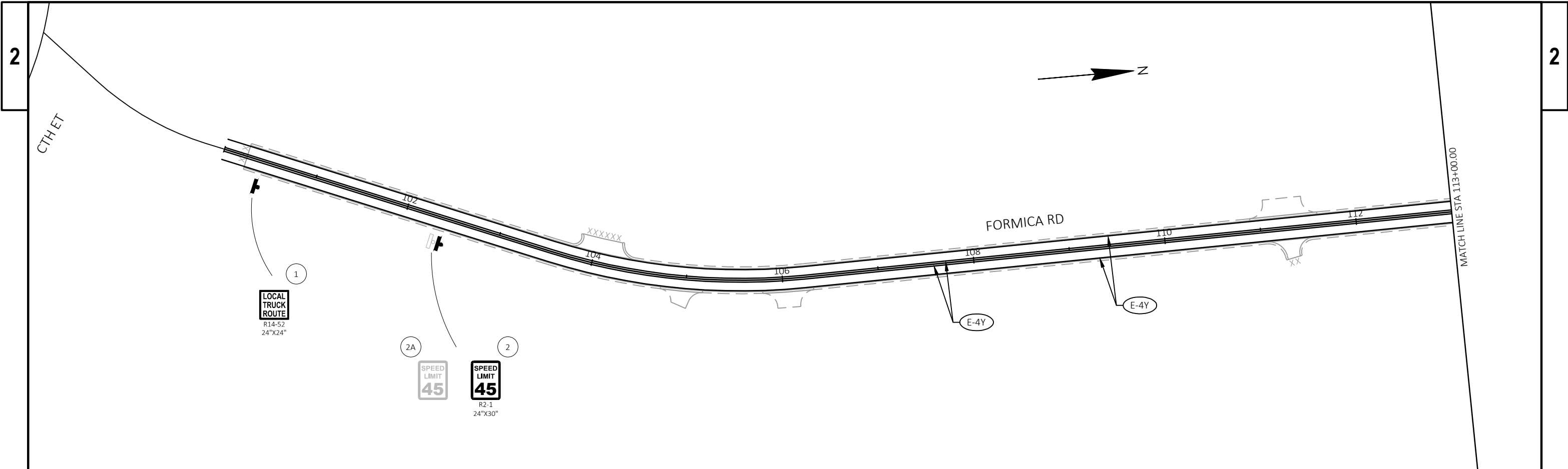
PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	EROSION CONTROL	SHEET	E
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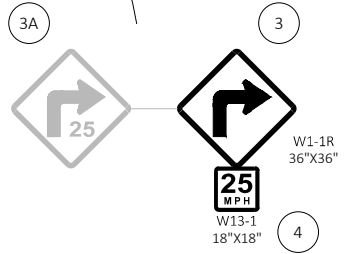




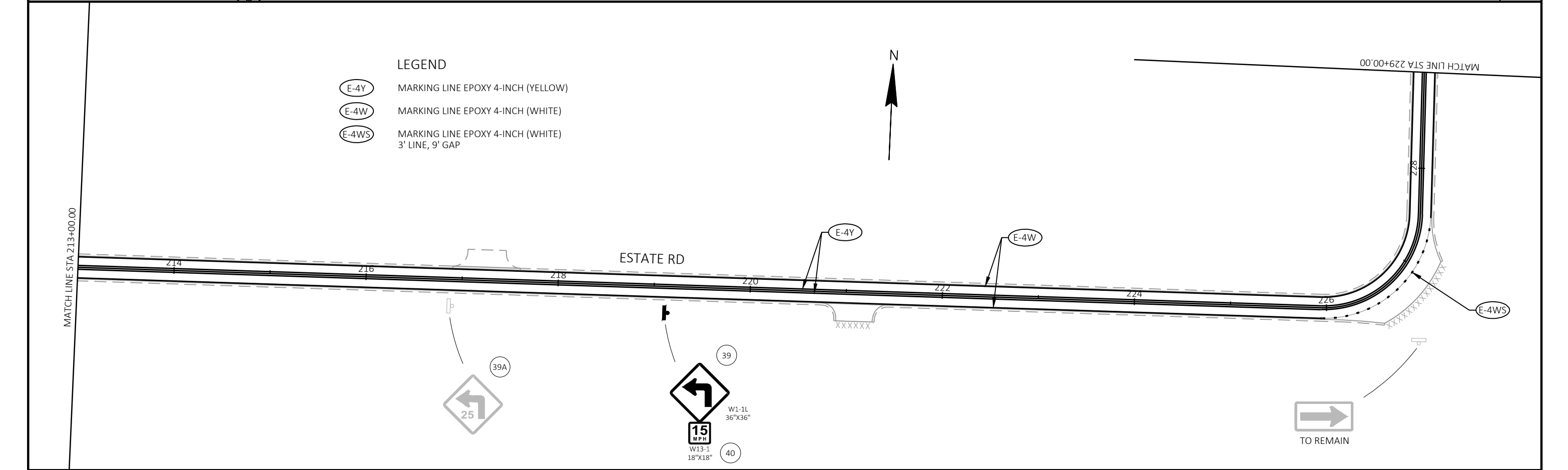
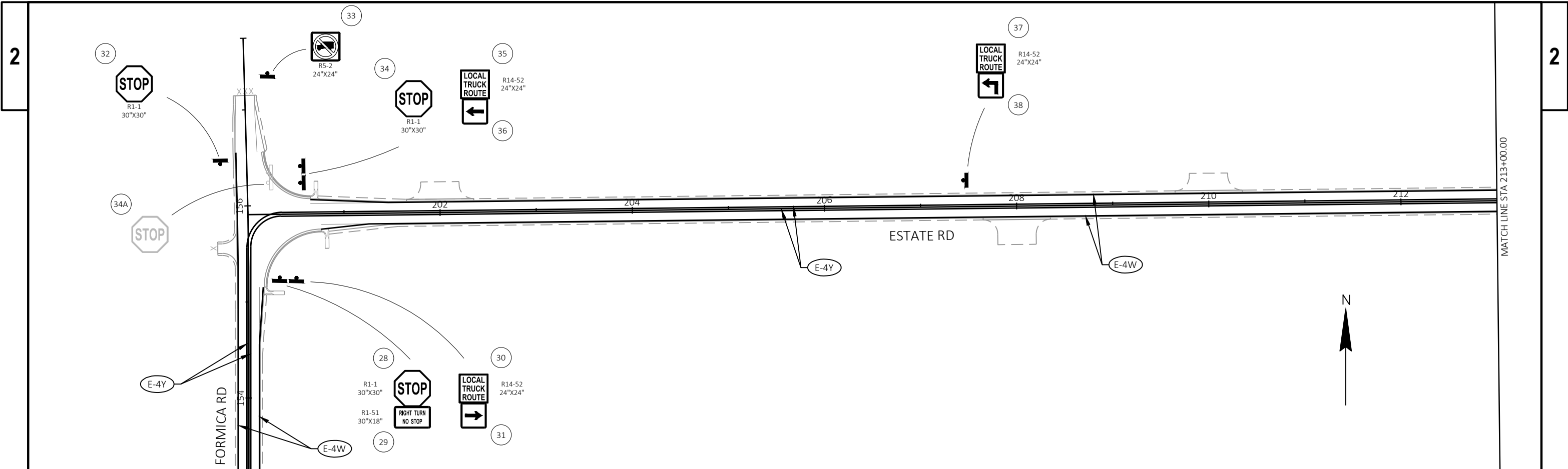
PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	EROSION CONTROL	SHEET	E
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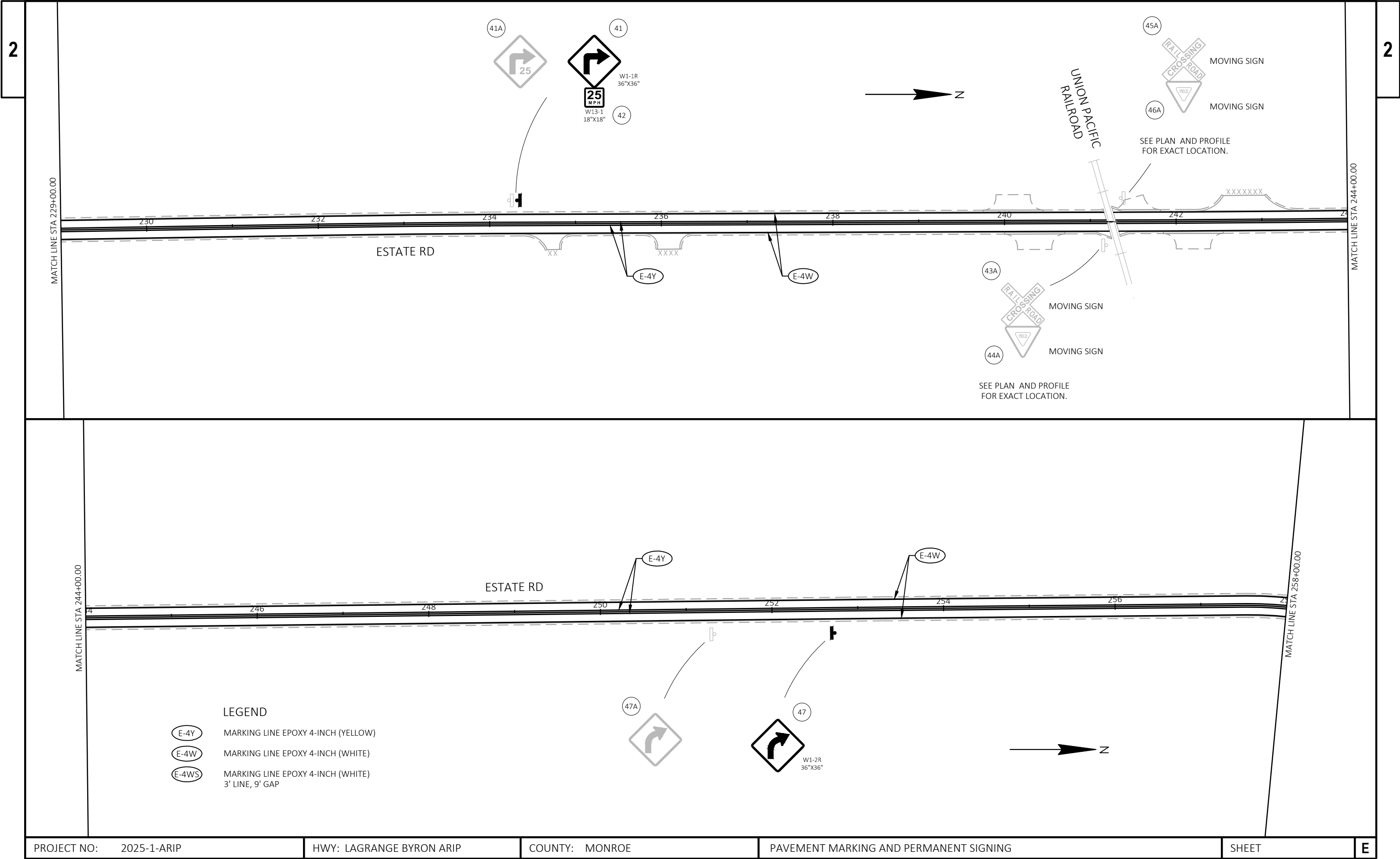


- LEGEND
- (E-4Y) MARKING LINE EPOXY 4-INCH (YELLOW)
 - (E-4W) MARKING LINE EPOXY 4-INCH (WHITE)
 - (E-4WS) MARKING LINE EPOXY 4-INCH (WHITE)
3' LINE, 9' GAP

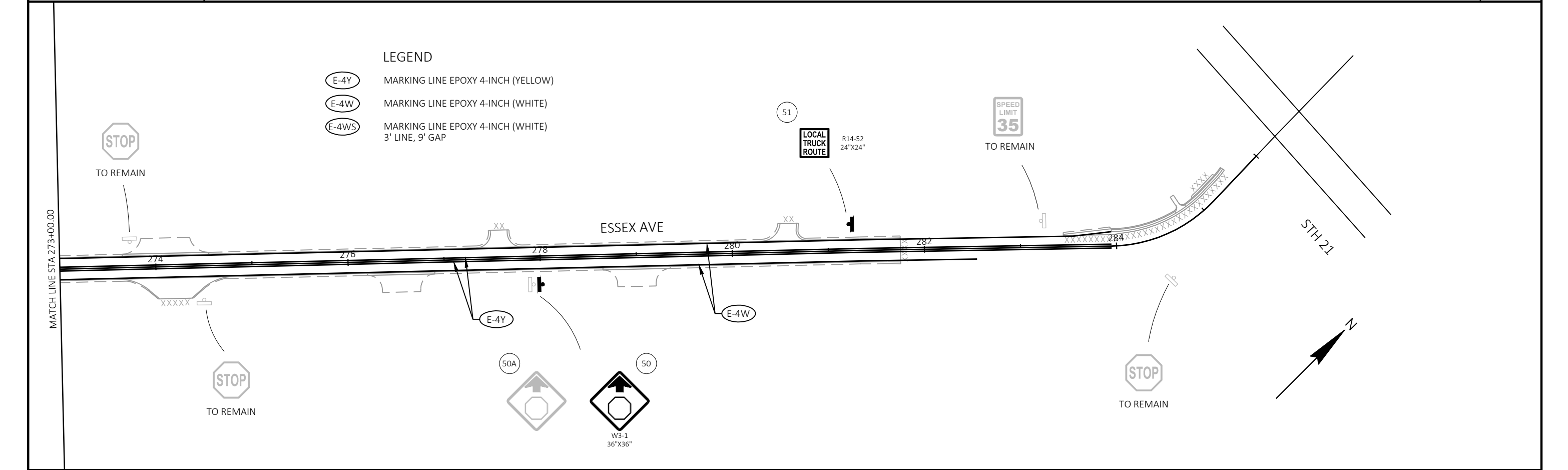
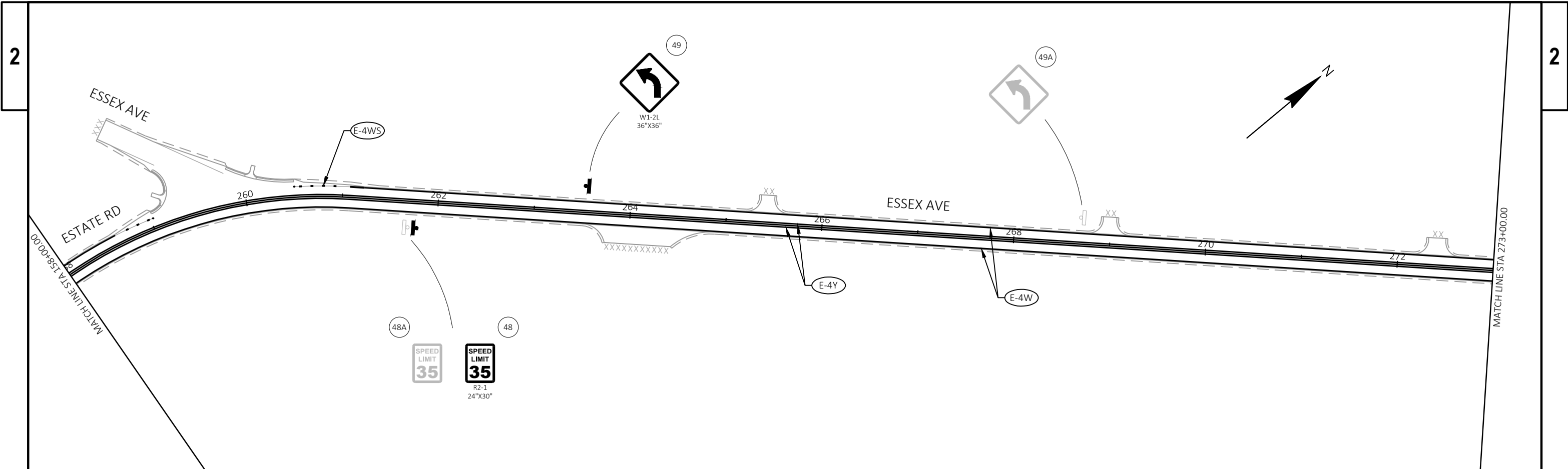


PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET	E
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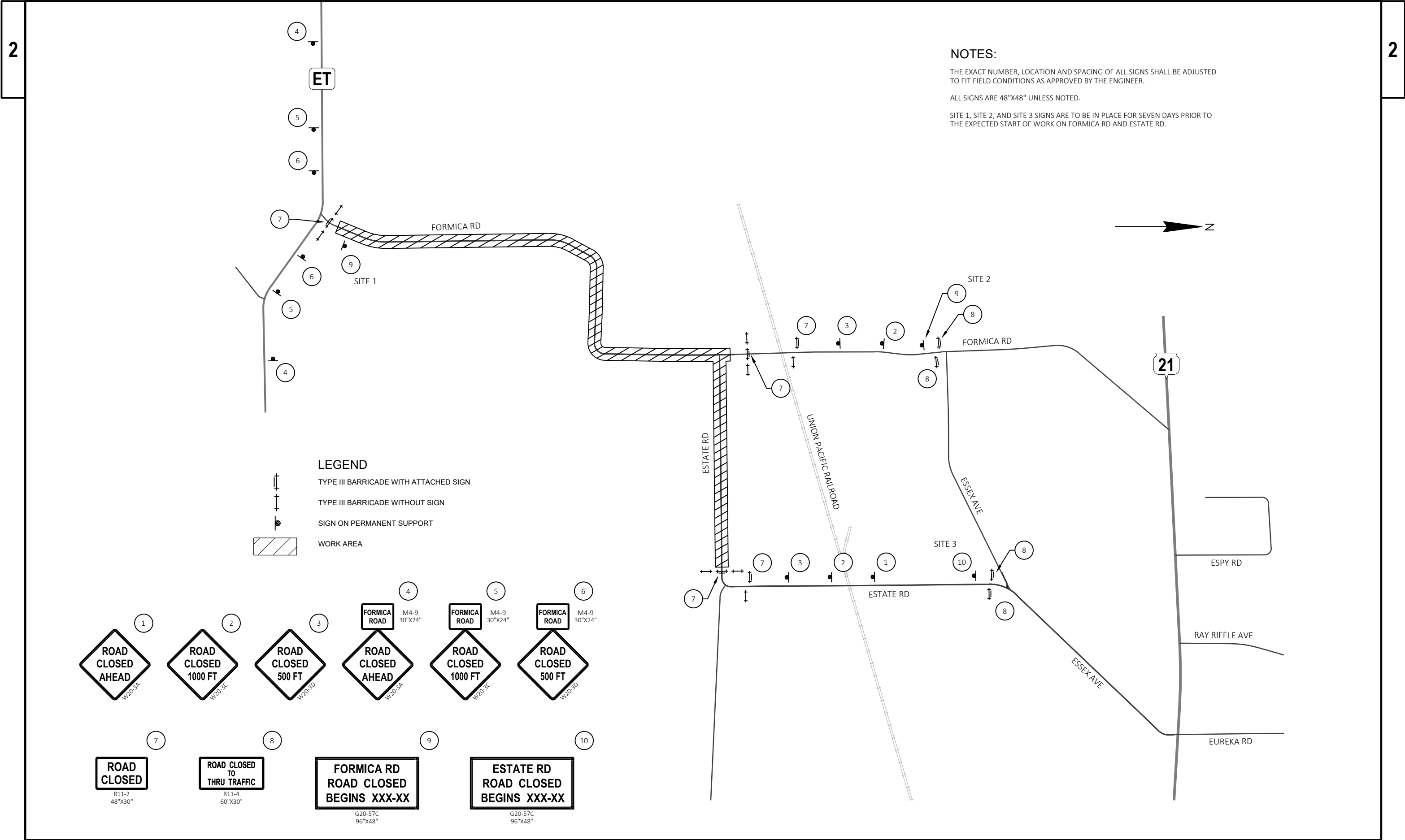




- LEGEND
- E-4Y MARKING LINE EPOXY 4-INCH (YELLOW)
 - E-4W MARKING LINE EPOXY 4-INCH (WHITE)
 - E-4WS MARKING LINE EPOXY 4-INCH (WHITE)
3' LINE, 9' GAP



PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET	E
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NOTES:

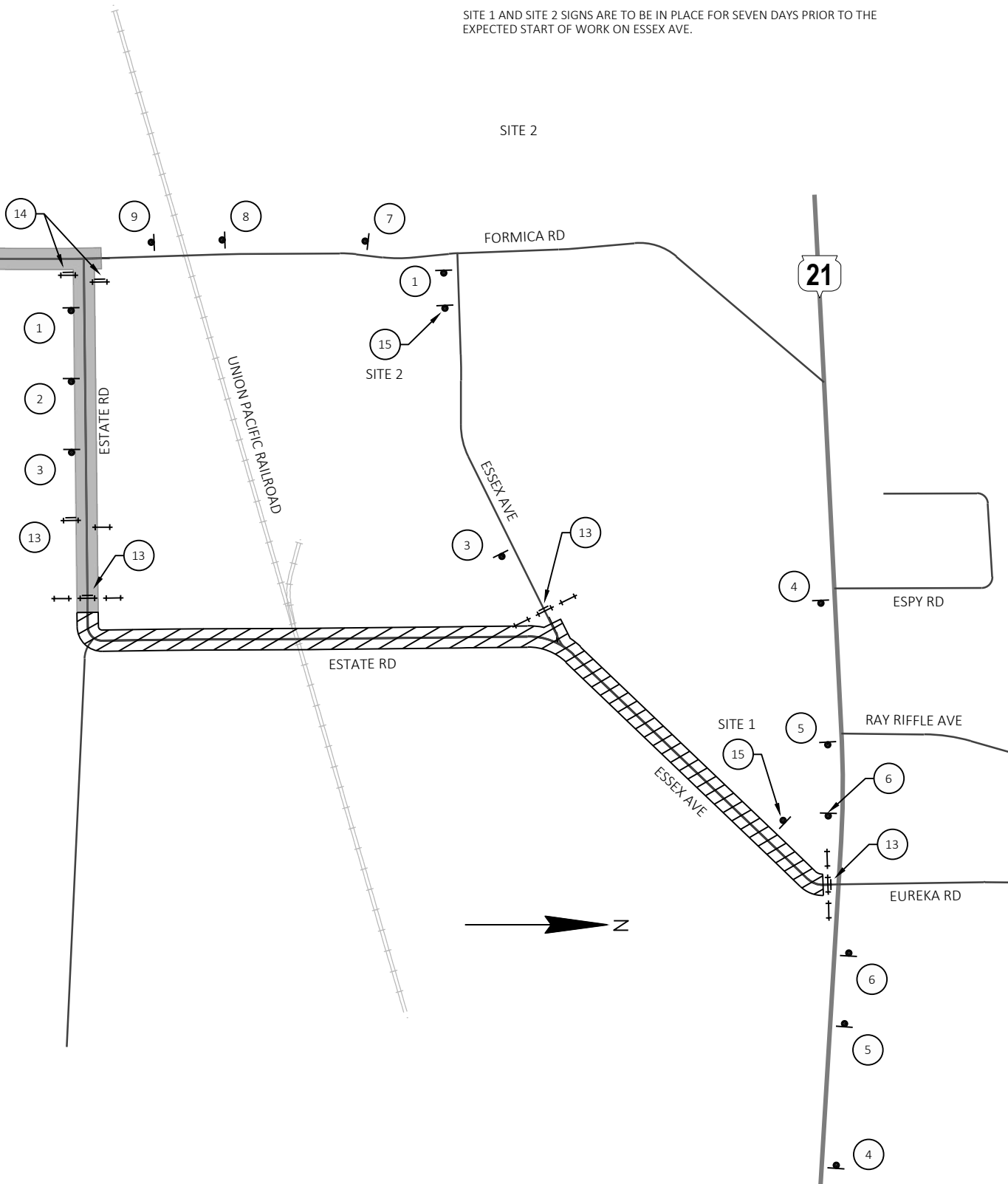
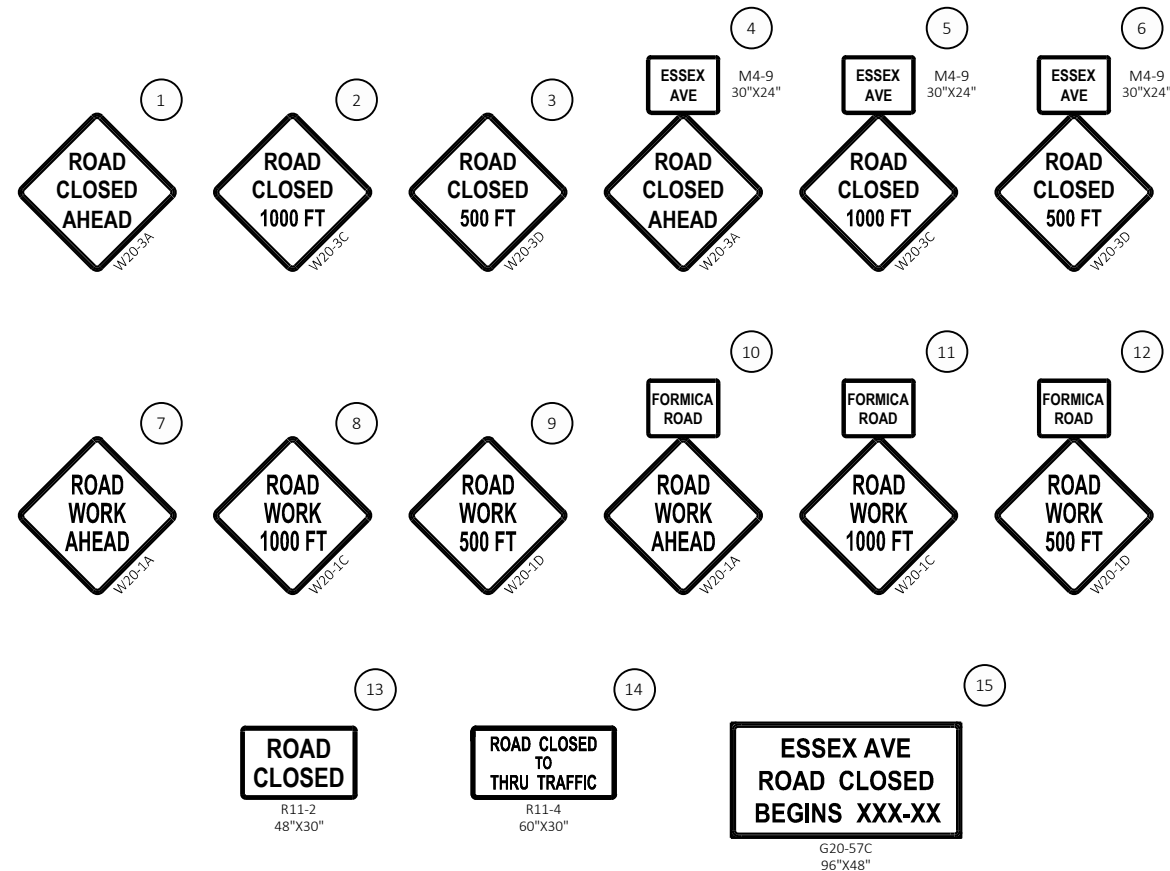
THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48"X48" UNLESS NOTED.

SITE 1 AND SITE 2 SIGNS ARE TO BE IN PLACE FOR SEVEN DAYS PRIOR TO THE EXPECTED START OF WORK ON ESSEX AVE.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE III BARRICADE WITHOUT SIGN
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- STAGE 1 WORK AREA



PROJECT NO: 2025-1-ARIP

HWY: LAGRANGE BYRON ARIP

COUNTY: MONROE

TRAFFIC CONTROL STAGE 2

SHEET

E

BEGIN PROJECT 2025-1-ARIP

STA 100+25.00
Y = 401336.240
X = 721311.219

SUPERELEVATION REPORT FOR FORMICA ROAD					
TRANSITION EVENT POINTS		RATE (FT/FT)			
		LEFT OF CROWNLINE		RIGHT OF CROWNLINE	
LOCATION	STATION	LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
CURVE 1					
EndNormalShoulder	102+19.24	-0.04	-0.02	-0.02	-0.04
EndNormalCrown	102+60.78	-0.04	-0.02	-0.02	-0.02
LevelCrown	103+02.32	-0.04	-0.02	0	0
ReverseCrown	103+43.86	-0.04	-0.02	0.02	0.02
BeginFullSuper	103+83.32	-0.04	-0.039	0.039	0.039
EndFullSuper	105+95.80	-0.04	-0.039	0.039	0.039
ReverseCrown	106+35.26	-0.04	-0.02	0.02	0.02
LevelCrown	106+76.80	-0.04	-0.02	0	0
BeginNormalCrown	107+18.34	-0.04	-0.02	-0.02	-0.02
BeginNormalShoulder	107+59.88	-0.04	-0.02	-0.02	-0.04
CURVE 2					
EndNormalShoulder	123+80.00	-0.04	-0.02	-0.02	-0.04
EndNormalCrown	124+18.95	-0.02	-0.02	-0.02	-0.04
LevelCrown	124+57.89	0	0	-0.02	-0.04
ReverseCrown	124+96.84	0.02	0.02	-0.02	-0.04
BeginFullSuper	125+31.89	0.038	0.038	-0.038	-0.04
EndFullSuper	127+42.41	0.038	0.038	-0.038	-0.04
ReverseCrown	127+77.46	0.02	0.02	-0.02	-0.04
LevelCrown	128+16.41	0	0	-0.02	-0.04
BeginNormalCrown	128+55.36	-0.02	-0.02	-0.02	-0.04
BeginNormalShoulder	128+94.31	-0.04	-0.02	-0.02	-0.04
CURVE 3					
EndNormalShoulder	129+00.04	-0.04	-0.02	-0.02	-0.04
EndNormalCrown	129+34.54	-0.02	-0.02	-0.02	-0.04
LevelCrown	129+69.04	0	0	-0.02	-0.04
ReverseCrown	130+03.54	0.02	0.02	-0.02	-0.04
BeginFullSuper	130+38.04	0.04	0.04	-0.04	-0.04
EndFullSuper	131+72.42	0.04	0.04	-0.04	-0.04
ReverseCrown	132+06.92	0.02	0.02	-0.02	-0.04
LevelCrown	132+41.42	0	0	-0.02	-0.04
BeginNormalCrown	132+75.92	-0.02	-0.02	-0.02	-0.04
BeginNormalShoulder	133+10.42	-0.04	-0.02	-0.02	-0.04
CURVE 4					

CURVE 1
PI STA = 104+91.40
Y = 401767.528
X = 721488.758
DELTA = 23°08'01" LT
D = 8°40'52"
T = 135.08'
L = 266.48'
R = 660.00'
PC STA = 103+56.32
Y = 401642.617
X = 721437.339
PT STA = 106+22.80
Y = 401902.596
X = 721486.968
40 MPH

CURVE 5
PI STA = 141+90.18
Y = 404309.733
X = 722783.020
DELTA = 91°38'05" LT
D = 45°50'12"
T = 128.62'
L = 199.92'
R = 125.00'
PC STA = 140+61.56
Y = 404315.658
X = 722654.538
PT STA = 142+61.48
Y = 404438.332
X = 722785.277
15 MPH

CURVE 6
PI STA = 150+34.80
Y = 405211.533
X = 722798.848
DELTA = 1°00'17" LT
D = 0°34'23"
T = 87.67'
L = 175.33'
R = 10000.00'
PC STA = 149+47.13
Y = 405123.877
X = 722797.310
PT STA = 151+22.46
Y = 405299.203
X = 722798.850

CURVE 7
PI STA = 155+65.25
Y = 405741.993
X = 722798.857
DELTA = 1°40'11" LT
D = 0°57'18"
T = 87.43'
L = 174.85'
R = 6000.00'
PC STA = 154+77.82
Y = 405654.559
X = 722798.855
PT STA = 156+52.67
Y = 405829.389
X = 722796.311

SUPERELEVATION REPORT FOR FORMICA ROAD					
TRANSITION EVENT POINTS		RATE (FT/FT)			
		LEFT OF CROWNLINE		RIGHT OF CROWNLINE	
LOCATION	STATION	LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
CURVE 5					
EndNormalShoulder	139+46.56	-0.04	-0.02	-0.02	-0.04
EndNormalCrown	139+81.06	-0.04	-0.02	-0.02	-0.02
LevelCrown	140+15.56	-0.04	-0.02	0	0
ReverseCrown	140+50.06	-0.04	-0.02	0.02	0.02
BeginFullSuper	140+84.56	-0.04	-0.04	0.04	0.04
EndFullSuper	142+38.48	-0.04	-0.04	0.04	0.04
ReverseCrown	142+72.98	-0.04	-0.02	0.02	0.02
LevelCrown	143+07.48	-0.04	-0.02	0	0
BeginNormalCrown	143+41.98	-0.04	-0.02	-0.02	-0.02
BeginNormalShoulder	143+76.48	-0.04	-0.02	-0.02	-0.04
CURVE 6					
CURVE 7					

CURVE 2
PI STA = 126+40.01
Y = 403919.633
X = 721460.240
DELTA = 29°04'41" RT
D = 11°11'26"
T = 132.78'
L = 259.84'
R = 512.00'
PC STA = 125+07.23
Y = 403786.861
X = 721462.000
PT STA = 127+67.07
Y = 404036.526
X = 721523.230
35 MPH

CURVE 3
PI STA = 131+15.43
Y = 404343.196
X = 721688.485
DELTA = 62°38'06" RT
D = 34°43'29"
T = 100.39'
L = 180.38'
R = 165.00'
PC STA = 130+15.04
Y = 404254.820
X = 721640.862
PT STA = 131+95.42
Y = 404341.525
X = 721788.862
25 MPH

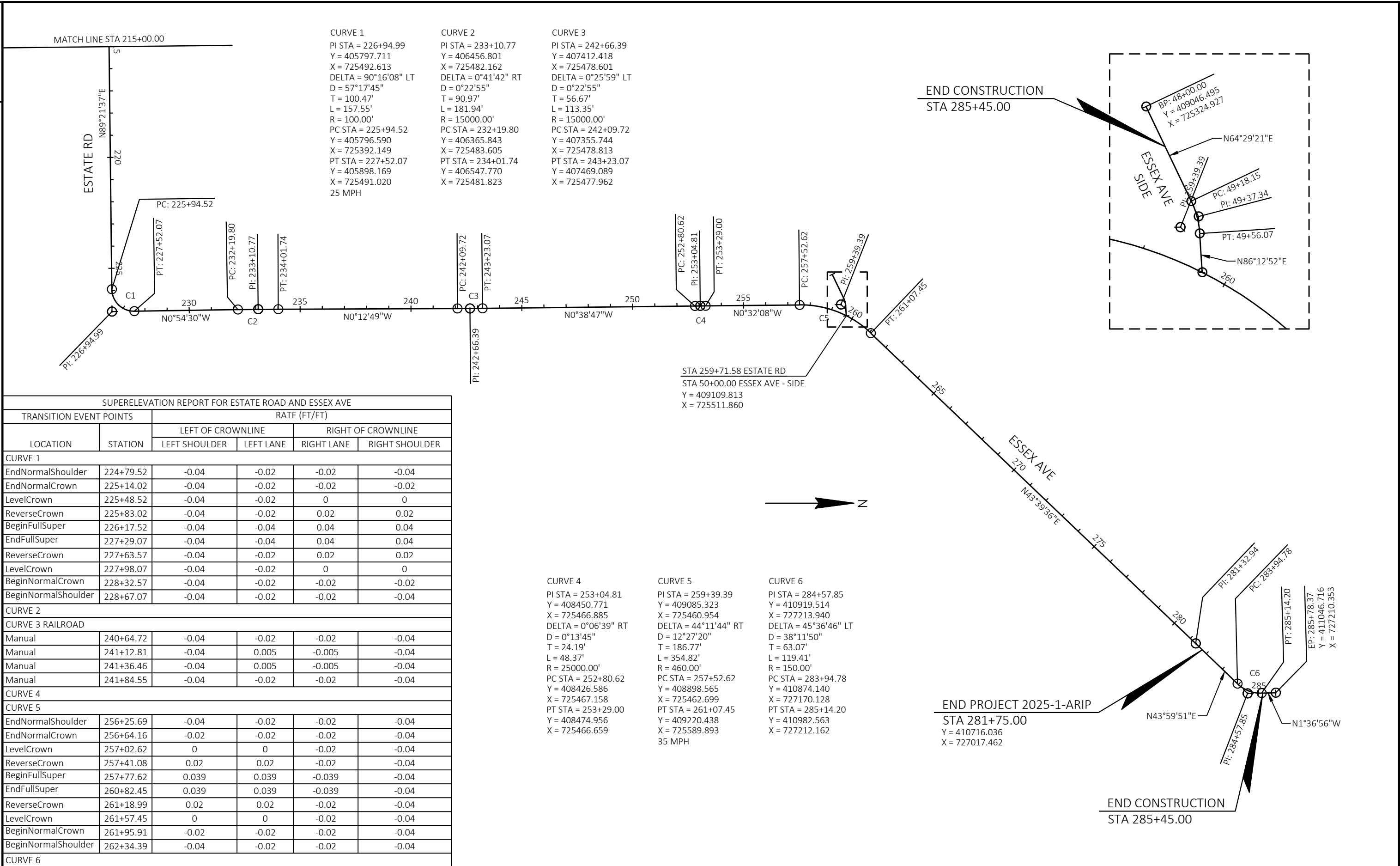
CURVE 4
PI STA = 136+72.42
Y = 404333.585
X = 722265.792
DELTA = 1°41'12" RT
D = 0°45'50"
T = 110.39'
L = 220.77'
R = 7500.00'
PC STA = 135+62.02
Y = 404335.422
X = 722155.413
PT STA = 137+82.79
Y = 404328.499
X = 722376.068

END CONSTRUCTION
STA 157+15.00

EP: 157+74.64
Y = 405951.306
X = 722792.759

STA 155+90.89 FORMICA RD
STA 200+00.00 ESTATE RD
Y = 405767.625
X = 722797.792

MATCH LINE STA 215+00.00



EARTHWORK

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION	SALVAGED/UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL	MASS ORDINATE +/- (3)	WASTE	208.0100 BORROW
			CUT (1)				FACTOR 1.25			
FORMICA RD (PHASE 1)	100+25 - 157+15	FORMICA RD	6,080	1,543	4,537	2,781	3,476	1,061	-	-1,061
FORMICA RD/ESTATE RD INTER (PHASE 1)	200+11 - 201+00	ESTATE RD	285	41	244	-	-	244	-	-244
ESTATE RD (PHASE 1)	201+00 - 225+00	ESTATE RD	1,018	331	687	1,979	2,474	-1,787	-	1,787
TOTAL PHASE 1			7,383							482
ESTATE RD (PHASE 2)	225+00 - 245+00	ESTATE RD	1,788	277	1,511	433	541	970	970	-
ESTATE RD_ESSEX AVE (PHASE 2)	245+00 - 281+75	ESTATE RD/ESSEX AVE	4,314	510	3,804	1,047	1,309	2,495	2,495	-
ESSEX AVE INTERSECTION (PHASE 2)	48+50 - 49+87.5	ESSEX AVE	446	30	399	-	-	416	416	-
TOTAL PHASE 2			6,548						3,881	
GRAND TOTAL			13,931						3,881	482

NOTES:
1 - CUT (SALVAGE/UNUSABLE PAVEMENT MATERIAL INCLUDED)
2 - AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 -THE MASS ORDINATE + OR - QUANTITIES CALCULATE FOR THE DIVISION. PLUS QUANTITIES INDICATES AN EXCESS OF MATERIAL. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

EBS IS ANTICIPATED.

CLEARING & GRUBBING					
STATION	TO	STATION	LOCATION	201.0105 CLEARING	201.0205 GRUBBING
				STA	STA
125+00	-	129+00	FORMICA RD, LT & RT	5	5
145+00	-	152+00	FORMICA RD, LT	7	7
200+00	-	204+00	ESTATE RD, LT & RT	4	4
207+00	-	209+00	ESTATE RD, RT	2	2
222+00	-	224+00	ESTATE RD, RT	2	2
238+00	-	239+00	ESTATE RD, LT	1	1
ITEM TOTALS				21	21

REMOVING CURB & GUTTER			
STATION	LOCATION	204.0150 REMOVING CURB & GUTTER	
		LF	REMARKS
285+45	ESSEX AVE, LT	8	REMOVE END TAPER
ITEM TOTALS		8	

REMOVING CULVERTS			
STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS	
		EACH	REMARKS
104+06	FORMICA RD, LT	1	15" CMCP, PE
108+01	FORMICA RD, ML	2	24" PLASTIC
111+25	FORMICA RD, LT	1	15" CMCP, FE
111+32	FORMICA RD, RT	1	15" CMCP, PE
114+55	FORMICA RD, LT	1	15" CMCP, FE
207+18	ESTATE RD, ML	1	12" CMCP
213+54	ESTATE RD, ML	1	15" CMCP
219+20	ESTATE RD, ML	1	15" CMCP
224+54	ESTATE RD, ML	1	15" CMCP
228+37	ESTATE RD, ML	1	18" PLASTIC
236+87	ESTATE RD, ML	1	12" PLASTIC
243+50	ESTATE RD, ML	1	12" CMCP
248+10	ESTATE RD, LT	1	15" PLASTIC
261+55	ESSEX AVE, ML	1	24" PLASTIC
272+40	ESSEX AVE, LT	1	18" CMCP
274+10	ESSEX AVE, LT	1	12" CMCP
ITEM TOTALS		17	

BASE AGGREGATE DENSE						
STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	645.0140 GEOTEXTILE TYPE SAS
				TON	TON	SY
100+25	-	115+00	FORMICA RD, ML	290	4,470	4,760
115+00	-	130+25	FORMICA RD, ML	270	4,700	4,930
130+25	-	143+50	FORMICA RD, ML	210	4,080	4,280
145+25	-	157+15	FORMICA RD, ML	190	3,700	4,000
200+15	-	225+00	ESTATE RD, ML	440	7,800	8,300
225+00	-	244+25	ESTATE RD, ML	360	5,850	6,200
244+25	-	259+00	ESTATE RD, ML	250	4,570	4,760
259+00	-	269+00	ESSEX AVE, ML	210	4,030	4,630
269+00	-	281+75	ESSEX AVE, ML	290	3,770	4,250
FE,PE, & CE				-	940	-
TOTAL				2,510	43,910	46,110

ASPHALT ITEMS							
STATION	TO	STATION	LOCATION	455.0605 TACK COAT	465.0105 ASPHALTIC SURFACE	465.0120 ASPHALTIC SURFACE DRIVEWAYS & FIELD ENTRANCES	REMARKS
				GAL	TON	TON	
100+25	-	143+50	FORMICA RD, ML	817	3270	-	
145+25	-	157+15	FORMICA RD, ML	227	910	-	
200+15	-	241+20	ESTATE RD, ML	809	3240	-	
241+30	-	285+45	ESTATE RD/ESSEX AVE,ML	767	3070	-	
259+00	-	260+50	ESSEX INTERSECTION	45	181	-	
104+06			FORMICA RD, LT	-	-	17	PE
111+32			FORMICA RD,RT	-	-	9	PE
123+25			FORMICA RD, LT	-	-	12	PE
155+55			FORMICA RD,LT	-	-	7	PE
221+09			ESTATE RD, RT	-	-	20	PE
234+75			ESTATE RD, RT	-	-	11	PE
236+09			ESTATE RD, RT	-	-	14	PE
242+75			ESTATE RD, LT	-	-	31	CE
264+00			ESSEX AVE, RT	-	-	40	CE
265+42			ESSEX AVE, LT	-	-	9	PE
269+00			ESSEX AVE, LT	-	-	9	PE
272+40			ESSEX AVE, LT	-	-	10	CE
274+20			ESSEX AVE, RT	-	-	33	CE
277+58			ESSEX AVE, LT	-	-	10	PE
280+59			ESSEX AVE, LT	-	-	10	PE
TOTALS				2,665	10,671	242	

CULVERT PIPE SUMMARY																
		521.1515	522.0424	522.1024	522.2314	522.2414	522.2419	522.2429	522.2614	522.2619	522.2629	530.0115				
		APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 15-INCH 6 TO 1	CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 14X23-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 14X23-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 14X23-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH	CULVERT PIPE CORRUGATED POLYETHYLENE 15-INCH	JOINT TIES*	STEEL THICKNESS (INCHES)	INLET** ELEVATION	OUTLET** ELEVATION
STATION	LOCATION	EACH	LF	EACH	LF	LF	LF	LF	EACH	EACH	EACH	LF	EACH			
108+01	FORMICA RD, M/L	-	-	-	-	-	-	80	-	-	4	-	24	-	930.92	930.70
114+55	FORMICA RD, LT	2	-	-	-	-	-	-	-	-	-	50	-	0.064	-	-
114+55	FORMICA RD, RT	2	-	-	-	-	-	-	-	-	-	50	-	0.064	-	-
118+50	FORMICA RD, RT	2	-	-	-	-	-	-	-	-	-	50	-	0.064	-	-
125+50	FORMICA RD, RT	2	-	-	-	-	-	-	-	-	-	50	-	0.064	-	-
128+50	FORMICA RD, ML	-	-	-	36	-	-	-	2	-	-	-	12	-	932.08	931.90
202+00	ESTATE RD, LT	2	-	-	-	-	-	-	-	-	-	50	-	0.064	-	-
207+18	ESTATE RD, ML	-	-	-	-	36	-	-	2	-	-	-	12	-	930.07	929.86
208+00	ESTATE RD, RT	2	-	-	-	-	-	-	-	-	-	50	-	0.064	-	-
213+54	ESTATE RD, ML	-	-	-	-	36	-	-	2	-	-	-	12	-	929.35	929.05
219+20	ESTATE RD, ML	-	-	-	-	-	38	-	-	2	-	-	12	-	931.45	931.15
224+54	ESTATE RD, ML	-	-	-	-	-	38	-	-	2	-	-	12	-	929.18	928.89
228+37	ESTATE RD, ML	-	-	-	-	-	34	-	-	2	-	-	12	-	931.42	931.30
236+87	ESTATE RD, ML	-	-	-	-	36	-	-	2	-	-	-	12	-	940.20	939.97
248+10	ESTATE RD, ML	-	-	-	-	36	-	-	2	-	-	-	12	-	938.47	938.26
261+55	ESSEX AVE, ML	-	42	2	-	-	-	-	-	-	-	-	12	-	936.25	936.02
272+40	ESSEX AVE, LT	2	-	-	-	-	-	-	-	-	-	32	-	0.064	-	-
TOTALS		14	42	2	36	144	110	80	10	6	4	332				

*NON-BID ITEM: FOR INFORMATION ONLY
**PIPE INVERT AT END OF PIPE FOR INFORMATION ONLY. FIELD VERIFY

							EROSION CONTROL							
							606.0200 RIPRAP MEDIUM	628.7555 CULVERT PIPE CHECKS	645.0120 GEOTEXTILE TYPE HR					
CURB & GUTTER							CONCRETE SURFACE DRAINS							
601.0553 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D							602.3010 CONCRETE SURFACE DRAINS							
STATION	TO	STATION	LOCATION	LF	LF	REMARKS	STATION	TO	STATION	LOCATION	CY	EACH	SY	REMARKS
130+15	-	131+95	FORMICA RD, RT	-	180		155+15	-	FORMICA RD, RT	1.3	13	8	26	
139+75	-	142+60	FORMICA RD, RT	-	309		200+65	-	ESTATE RD, LT	1.2	-	8	-	
140+60	-	142+60	FORMICA RD, LT	-	180		200+76	-	ESTATE RD, RT	1.3	-	4	-	
200+20	-	200+65	ESTATE RD, LT	75	-	FORMICA RD INTERSECTION	259+21	-	ESSEX AVE, LT	1.4	-	4	-	
200+20	-	200+75	ESTATE RD, RT	91	-	FORMICA RD INTERSECTION	260+08	-	ESSEX AVE, LT	1.1	-	4	-	
259+00	-	259+30	ESSEX AVE, LT	59	-	ESSEX AVE INTERSECTION	284+80	-	ESSEX AVE, LT	1.3	-	4	-	
259+80	-	260+50	ESSEX AVE, LT	73	-	ESSEX AVE INTERSECTION	TOTALS			7.6				
284+95	-	285+40	ESSEX AVE, LT	137	-	STH 21 INTERSECTION								
TOTALS				435	669									

STATION	TO	STATION	LOCATION	CY	EACH	SY	REMARKS
108+01	-	FORMICA RD, LT/RT	13	8	26		
114+25	-	FORMICA RD, LT/RT	-	8	-		
118+80	-	FORMICA RD, RT	-	4	-		
125+20	-	FORMICA RD, RT	-	4	-		
128+50	-	FORMICA RD, RT	-	4	-		
201+75	-	ESTATE RD, LT	-	4	-		
207+20	-	ESTATE RD, LT	-	4	-		
213+55	-	ESTATE RD, LT	-	4	-		
219+20	-	ESTATE RD, LT	-	4	-		
224+55	-	ESTATE RD, LT	-	4	-		
228+37	-	ESTATE RD, RT	-	4	-		
236+88	-	ESTATE RD, RT	-	4	-		
248+10	-	ESTATE RD, LT	-	4	-		
261+55	-	ESSEX AVE, LT	3	4	5		
272+60	-	ESSEX AVE, LT	-	4	-		
285+00	-	ESSEX AVE, LT	-	4	-		
TOTALS				16	72	31	

LANDSCAPING													
				625.0500 SALVAGED TOPSOIL	627.0200 MULCHING	628.2006 EROSION MAT URBAN CLASS I TYPE A	628.7504 TEMPORARY DITCH CHECKS	629.0210 FERTILIZER TYPE B	630.0120 SEEDING MIXTURE NO. 20	630.0140 SEEDING MIXTURE NO. 40	630.0200 SEEDING TEMPORARY	630.0500 SEED WATER	
STATION	TO	STATION	LOCATION	SY	SY	SY	LF	CWT	LB		LB	MGAL	REMARKS
100+25	-	105+00	FORMICA RD, LT	398	144	254	40	0.4	-	29	17	14	
100+25	-	106+75	FORMICA RD, RT	568	557	11	8	0.6	-	41	25	21	
105+00	-	114+50	FORMICA RD, LT	1,244	482	762	64	1.1	78	-	47	39	
106+75	-	108+50	FORMICA RD,RT	220	208	12	-	0.2	14	-	9	7	
108+50	-	111+75	FORMICA RD, RT	347	168	179	16	0.3	-	23	14	12	
111+75	-	118+25	FORMICA RD, RT	1,087	562	525	40	0.9	64	-	39	32	
114+50	-	121+50	FORMICA RD, LT	720	127	593	48	0.7	49	-	30	25	
118+25	-	125+50	FORMICA RD, RT	1,188	803	385	48	1	-	70	42	35	
121+50	-	125+75	FORMICA RD, LT	482	268	214	32	0.4	-	31	19	15	
125+50	-	141+50	FORMICA RD, RT	1,939	594	1,345	128	1.8	-	127	76	63	
125+75	-	136+00	FORMICA RD, LT	1,254	590	664	80	1.2	83	-	50	41	
136+25	-	143+50	FORMICA RD, LT	1,049	530	519	64	0.9	64	-	39	32	
141+50	-	143+50	FORMICA RD, RT	239	239	-	-	0.2	16	-	10	8	
145+25	-	149+25	FORMICA RD, LT	607	607	-	-	0.5	37	-	22	19	
145+25	-	155+75	FORMICA RD, RT	1,739	1,350	389	64	1.5	104	-	63	52	
149+25	-	157+25	FORMICA RD, LT	1,118	616	502	64	1	-	70	42	35	
200+00	-	217+25	ESTATE RD, LT	1,960	1,299	661	80	1.8	130	-	78	65	
200+75	-	219+50	ESTATE RD, RT	2,411	2,087	324	56	2.2	155	-	93	77	
217+25	-	227+75	ESTATE RD, LT	1,047	761	286	48	1	72	-	43	36	
219+50	-	223+50	ESTATE RD, RT	417	297	120	24	0.4	-	28	17	14	
223+50	-	226+00	ESTATE RD, RT	366	366	-	-	0.3	23	-	14	11	
226+00	-	227+75	ESTATE RD, RT	120	120	-	-	0.1	-	9	5	4	
227+75	-	241+50	ESTATE RD, LT	1,756	1,325	431	56	2	112	-	67	56	
227+75	-	233+50	ESTATE RD, RT	555	267	288	48	0.6	39	-	24	20	
233+50	-	237+00	ESTATE RD, RT	382	170	212	24	0.3	-	25	15	12	
237+00	-	242+25	ESTATE RD, RT	720	458	262	24	0.6	44	-	26	22	
241+50	-	244+50	ESTATE RD, LT	318	220	98	16	0.3	-	20	12	10	
242+25	-	263+50	ESTATE RD, RT	2,774	2,018	756	104	2.5	177	-	106	88	
244+50	-	259+00	ESTATE RD, LT	1,905	894	1,011	96	1.7	122	-	73	61	
48+50	-	49+75	ESSEX AVE, RT	78	78	-	-	0.1	6	-	4	3	
48+50	-	49+75	ESSEX AVE, LT	89	89	-	-	0.1	7	-	4	4	
259+75	-	265+50	ESSEX AVE, LT	731	731	-	8	0.7	47	-	28	23	
263+50	-	274+00	ESSEX AVE, RT	1,101	1,101	-	64	1	-	74	45	37	
265+50	-	271+25	ESSEX AVE, LT	488	205	283	48	0.5	36	-	22	18	
271+25	-	281+75	ESSEX AVE, LT	1,049	864	185	-	1	-	71	42	35	
274+00	-	281+75	ESSEX AVE, RT	603	603	-	-	0.6	-	44	26	22	
UNDISTRIBUTED				4931	3202	1529	208	5	221	78	182	152	
TOTALS				38,000	25,000	12,800	1,600	35	1,700	740	1,470	1,220	

MOBILIZATION EROSION CONTROL					
628.1905 MOBILIZATIONS EROSION CONTROL					
628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL					
STATION	TO	STATION	EACH	EACH	REMARKS
100+25	-	281+75	6	3	PROJECT
TOTALS			6	3	

SILT FENCE						
628.1504 SILT FENCE						
628.1520 SILT FENCE MAINTENANCE						
STATION	TO	STATION	LOCATION	LF	LF	REMARKS
106+29	-	106+70	FORMICA RD, RT	41	82	
106+80	-	107+40	FORMICA RD, RT	62	124	
108+00	-	109+22	FORMICA RD, RT	121	242	
123+75	-	124+78	FORMICA RD, LT	104	208	
127+58	-	130+13	FORMICA RD, LT	256	512	
133+75	-	134+35	FORMICA RD, LT	59	118	
145+05	-	149+90	FORMICA RD, LT	485	970	
145+05	-	149+09	FORMICA RD, RT	483	966	
153+00	-	154+85	FORMICA RD, RT	186	372	
153+72	-	154+25	FORMICA RD, LT	53	106	
156+32	-	157+19	FORMICA RD, RT	96	192	
202+80	-	207+83	ESTATE RD, LT	500	1000	
203+35	-	207+71	ESTATE RD, RT	434	868	
208+30	-	217+05	ESTATE RD, RT	875	1750	
212+30	-	215+60	ESTATE RD, LT	332	664	
218+00	-	220+00	ESTATE RD, RT	201	402	
218+60	-	220+00	ESTATE RD, LT	137	274	
221+85	-	226+25	ESTATE RD, RT	449	898	
222+50	-	234+13	ESTATE RD, LT	1,118	2,236	
227+40	-	228+35	ESTATE RD, RT	98	196	
236+34	-	237+45	ESTATE RD, LT	111	222	
247+08	-	251+30	ESTATE RD, RT	427	854	
247+12	-	248+34	ESTATE RD, LT	124	248	
252+85	-	254+20	ESTATE RD, LT	135	270	
253+18	-	254+85	ESTATE RD, RT	166	332	
261+10	-	261+50	ESSEX AVE, LT	42	84	
261+55	-	264+80	ESSEX AVE, LT	321	642	
UNDISTRIBUTED				534	1,068	
TOTALS				7,950	15,900	

MARKERS CULVERT END			
633.5200 MARKERS CULVERT END			
STATION	LOCATION	EACH	REMARKS
108+01	FORMICA RD, LT/RT	2	CULVERT PIPE
128+50	FORMICA RD, LT/RT	2	CULVERT PIPE
207+18	ESTATE RD, LT/RT	2	CULVERT PIPE
213+54	ESTATE RD, LT/RT	2	CULVERT PIPE
219+20	ESTATE RD, LT/RT	2	CULVERT PIPE
224+54	ESTATE RD, LT/RT	2	CULVERT PIPE
228+37	ESTATE RD, LT/RT	2	CULVERT PIPE
236+87	ESTATE RD, LT/RT	2	CULVERT PIPE
248+10	ESTATE RD, LT/RT	2	CULVERT PIPE
261+55	ESSEX AVE, LT/RT	2	CULVERT PIPE
TOTAL		20	

SIGN ITEMS											
NUMBER	STATION	LOCATION	638.2102	638.2602	638.3000	637.2210	637.2230	634.0614	634.0616	634.0618	COMMENTS
			MOVING SIGNS TYPE II	REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	SIGNS TYPE II	SIGNS TYPE II	POSTS WOOD 4x6-INCH x 14-FT	POSTS WOOD 4x6-INCH x 16-FT	POSTS WOOD 4x6-INCH x 18-FT	
			EACH	EACH	EACH	SF	SF	EACH	EACH	EACH	
1	100+39	FORMICA RD, RT	-	-	-	4	-	1	-	-	LOCAL TRUCK ROUTE
2a, 2	102+40	FORMICA RD, RT	-	1	1	5	-	1	-	-	45 MPH SPEED SIGN
3a, 3, 4	120+20	FORMICA RD, RT	-	1	1	-	11.25	-	-	1	ROAD CURVES RIGHT, 25 MPH
5, 7	130+30	FORMICA RD, LT	-	-	-	-	6	-	1	-	CHEVRONS
6, 8	130+70	FORMICA RD, LT	-	-	-	-	6	-	1	-	CHEVRONS
9	130+80	FORMICA RD, LT	-	-	-	-	8	-	1	-	RIGHT ARROW
10, 11	131+05	FORMICA RD, LT	-	-	-	-	6	-	1	-	CHEVRONS
12	131+25	FORMICA RD, LT	-	-	-	-	8	-	1	-	LEFT ARROW
13, 15	131+40	FORMICA RD, LT	-	-	-	-	6	-	1	-	CHEVRONS
14, 16	131+75	FORMICA RD, LT	-	-	-	-	6	-	1	-	CHEVRONS
19a	135+55	FORMICA RD, LT	-	1	1	-	-	-	-	-	
17, 18	135+75	FORMICA RD, RT	-	-	-	-	11.25	1	-	-	ROAD CURVES LEFT, 15 MPH
19, 20	136+80	FORMICA RD, LT	-	-	-	-	11.25	-	-	1	ROAD CURVES LEFT, 25 MPH
17a	136+92	FORMICA RD, RT	-	1	1	-	-	-	-	-	
21	141+46	FORMICA RD, RT	-	-	-	-	8	-	1	-	LEFT ARROW
21a, 22a	141+58	FORMICA RD, RT	-	2	1	-	-	-	-	-	
22	141+58	FORMICA RD, RT	-	-	-	-	8	-	1	-	RIGHT ARROW
23a	146+06	FORMICA RD, LT	-	1	1	-	-	-	-	-	
23, 24	147+46	FORMICA RD, LT	-	-	-	-	11.25	-	-	1	ROAD CURVES RIGHT, 15 MPH
25, 26	148+30	FORMICA RD, RT	-	-	-	7	-	-	1	-	LOCAL TRUCK ROUTE WITH AHEAD ARROW
27a, 27	151+60	FOMICAR RD, LT	-	1	1	5	-	-	1	-	45 MPH SPEED SIGN
28, 29	155+20	FORMICA RD, RT	-	-	-	8.93	-	-	1	-	STOP, RIGHT TURN NO STOP
30, 31	155+20	FORMICA RD, RT	-	-	-	7	-	-	1	-	LOCAL TRUCK ROUTE WITH ARROW
32	156+50	FORMICA RD, LT	-	-	-	5.18	-	1	-	-	STOP
33	157+35	FORMICA RD, RT	-	-	-	4	-	-	1	-	NO TRUCKS
34a	200+21	ESTATE RD, LT	-	1	1	-	-	-	-	-	
34	200+60	ESTATE RD, LT	-	-	-	5.18	-	-	1	-	STOP
35, 36	200+60	ESTATE RD, LT	-	-	-	7	-	-	-	1	LOCAL TRUCK ROUTE WITH ARROW
37, 38	207+50	ESTATE RD, LT	-	-	-	7	-	-	1	-	LOCAL TRUCK ROUTE WITH ARROW
39a	216+85	ESTATE RD, RT	-	1	1	-	-	-	-	-	
39, 40	219+10	ESTATE RD, RT	-	-	-	-	11.25	-	-	1	ROAD CURVES LEFT, 15 MPH
41a, 41, 42	234+36	ESTATE RD, LT	-	1	1	-	11.25	-	-	1	ROAD CURVES RIGHT, 15 MPH
43a, 44a	241+13	ESTATE RD, RT	2	-	1	-	-	-	-	-	YIELD SIGN & RAILROAD CROSSING
45a, 46a	241+41	ESTATE RD, LT	2	-	1	-	-	-	-	-	YIELD SIGN & RAILROAD CROSSING
47a	251+27	ESTATE RD, RT	-	1	1	-	-	-	-	-	
47	252+68	ESTATE RD, RT	-	-	-	-	9	-	1	-	ROAD CURVES RIGHT
48a, 48	261+74	ESSEX AVE, RT	-	1	1	5	-	-	1	-	35 MPH SPEED SIGN
49	263+57	ESSEX AVE, LT	-	-	-	-	9	-	1	-	ROAD CURVES LEFT
49a	268+73	ESSEX AVE, LT	-	1	1	-	-	-	-	-	
50a, 50	277+95	ESSEX AVE, RT	-	1	1	9	-	-	1	-	STOP SIGN AHEAD
51	281+27	ESSEX AVE, LT	-	-	-	4	-	1	-	-	LOCAL TRUCK ROUTE
ITEM SUBTOTALS			4	15	16	83.29	147.5	5	20	6	

TRAFFIC CONTROL SUMMARY

LOCATION	DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS		643.5000 TRAFFIC CONTROL 2025-1-ARIP	REMARKS
		QTY*	DAY	QTY*	DAY	QTY*	DAY	QTY*	DAY	EACH	
STAGE 1										1	
ADVANCE WARNING	7	-	-	-	-	-	-	3	7	-	ADVANCED WARNING
CTH ET	96	-	-	3	288	6	576	13	1,248	-	TRAFFIC CONTROL (DURATION)
FORMICA RD	96	110	10,560	6	576	12	1,152	6	576	-	TRAFFIC CONTROL (DURATION)
ESTATE RD	96	50	4,800	7	672	14	1,344	7	672	-	TRAFFIC CONTROL (DURATION)
STAGE 2											
ADVANCE WARNING	7	-	-	-	-	-	-	2	14	-	ADVANCE WARNING
CTH ET	70	-	-	-	-	-	-	12	840	-	TRAFFIC CONTROL (DURATION)
ESTATE RD, FORMICA RD, ESSEX AVE	70	118	8,260	10	700	20	1,400	13	910	-	TRAFFIC CONTROL (DURATION)
STH 21	70	-	-	3	210	6	420	13	910	-	TRAFFIC CONTROL (DURATION)
UNDISTRIBUTED		-	880	-	54	-	108	-	423	-	
ITEM TOTALS			24,500		2,500		5,000		5,600	1	

* FOR INFORMATION ONLY

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE		650.5000 CONSTRUCTION STAKING BASE		650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER		650.6000 CONSTRUCTION STAKING PIPE CULVERTS		650.9911 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL	650.9920 CONSTRUCTION STAKING SLOPE STAKES	REMARKS
				LF		LF		LF		EACH		EACH	LF	
			ML	-		-		-		-		1	-	PROJECT
100+25	-	143+50	FORMICA RD, ML	4,325		4,325		-		-		-	4,325	
145+25	-	157+15	FORMICA RD, ML	1,190		1,190		-		-		-	1,190	
200+00	-	281+75	ESTATE RD/ESSEX AVE, ML	8,175		8,175		-		-		-	8,175	
139+75	-	142+60	FORMICA RD, RT	-		-		309		-		-	-	
140+60	-	142+60	FORMICA RD, LT	-		-		180		-		-	-	
200+20	-	200+65	ESTATE RD, LT	-		-		75		-		-	-	
200+20	-	200+75	ESTATE RD, RT	-		-		91		-		-	-	
259+00	-	259+30	ESSEX AVE, LT	-		-		59		-		-	-	
259+80	-	260+50	ESSEX AVE, LT	-		-		73		-		-	-	
284+95	-	285+40	ESSEX AVE, LT	-		-		137		-		-	-	
108+01			FORMICA RD, ML	-		-		-		1		-	-	
128+50			FORMICA RD, ML	-		-		-		1		-	-	
207+18			ESTATE RD, ML	-		-		-		1		-	-	
213+54			ESTATE RD, ML	-		-		-		1		-	-	
219+20			ESTATE RD, ML	-		-		-		1		-	-	
224+54			ESTATE RD, ML	-		-		-		1		-	-	
228+37			ESTATE RD, ML	-		-		-		1		-	-	
236+87			ESTATE RD, ML	-		-		-		1		-	-	
248+10			ESTATE RD, ML	-		-		-		1		-	-	
261+55			ESSEX AVE, ML	-		-		-		1		-	-	
TOTALS				13,690		13,690		924		10		1	13,690	

LANDMARK REFERENCE MONUMENTS

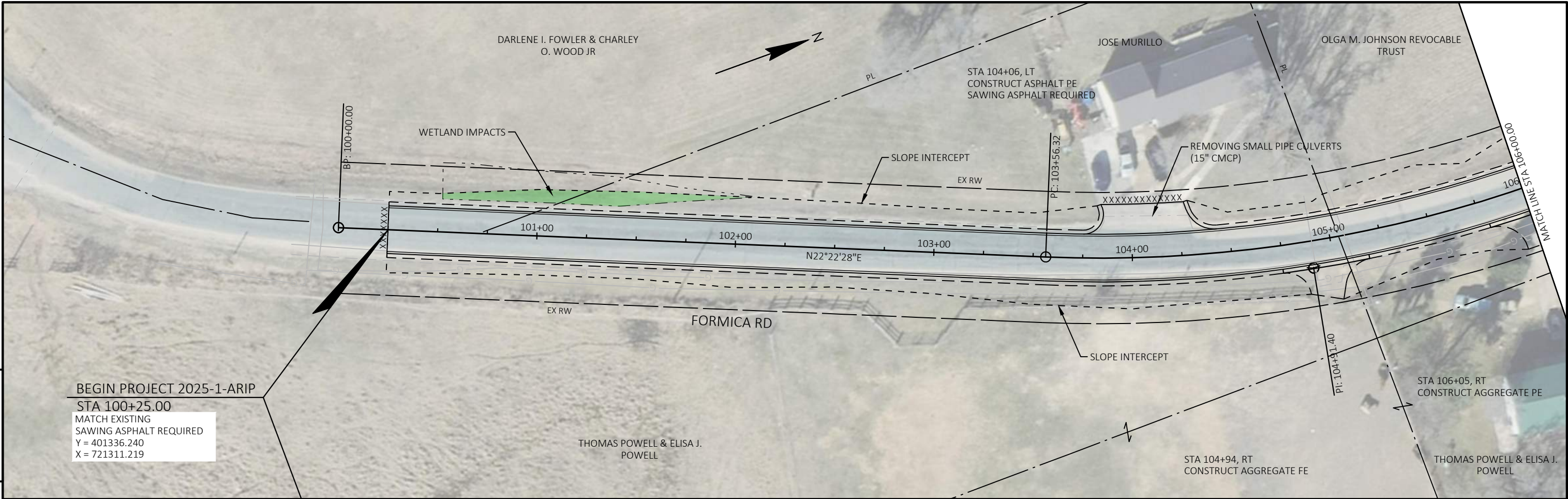
STATION	OFFSET	TOWN/RANGE/SECTION	SPV.0060.01 LANDMARK REFERENCE MONUMENTS		REMARKS
			EACH		
226+75	36 RT	T18N, R1E, SECTION19	1		SOUTHWEST CORNER
253+04	2 RT	T18N, R1E, SECTION19	1		WEST QUARTER CORNER
ITEM TOTALS			2		

PAVEMENT MARKING ITEMS

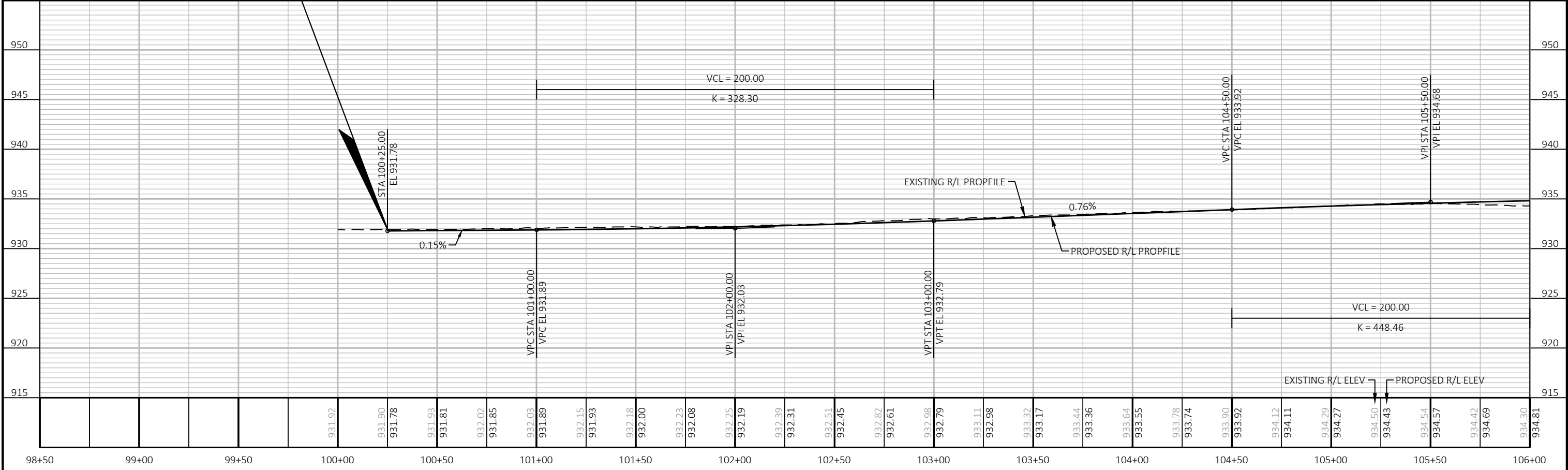
STATION	TO	STATION	LOCATION	646.1020 MARKING LINE GROOVED WET EPOXY 4-INCH		REMARKS
				WHITE LF	YELLOW LF	
100+00	-	154+40	FORMICA RD, M/L	10,880	10,880	DOUBLE YELLOW, WHITE EDGE LINES
154+40	-	156+55	FORMICA RD, M/L, LT	290	300	DOUBLE YELLOW, LT WHITE EDGE LINE
200+00	-	226+00	ESTATE RD, M/L	5,070	5,200	DOUBLE YELLOW, WHITE EDGE LINES
226+00	-	227+50	ESTATE RD, RT	52	-	RT WHITE EDGE LINE DASHES
226+00	-	227+50	ESTATE RD, LT	150	-	LT WHITE EDGE LINE
227+50	-	241+20	ESTATE RD, M/L	2,740	2,740	DOUBLE YELLOW, WHITE EDGE LINES
241+30	-	258+60	ESTATE RD, M/L	3,460	3,460	DOUBLE YELLOW, WHITE EDGE LINES
258+60	-	261+10	ESSEX AVE, LT	28	-	LT WHITE EDGE LINE DASHES
258+60	-	261+10	ESSEX AVE, RT	250	-	RT WHITE EDGE LINE
261+10	-	283+95	ESSEX AVE, M/L	4,570	4,570	DOUBLE YELLOW, WHITE EDGE LINES
SUBTOTALS				27,490	27,150	
ITEM TOTALS					54,640	

SAWING

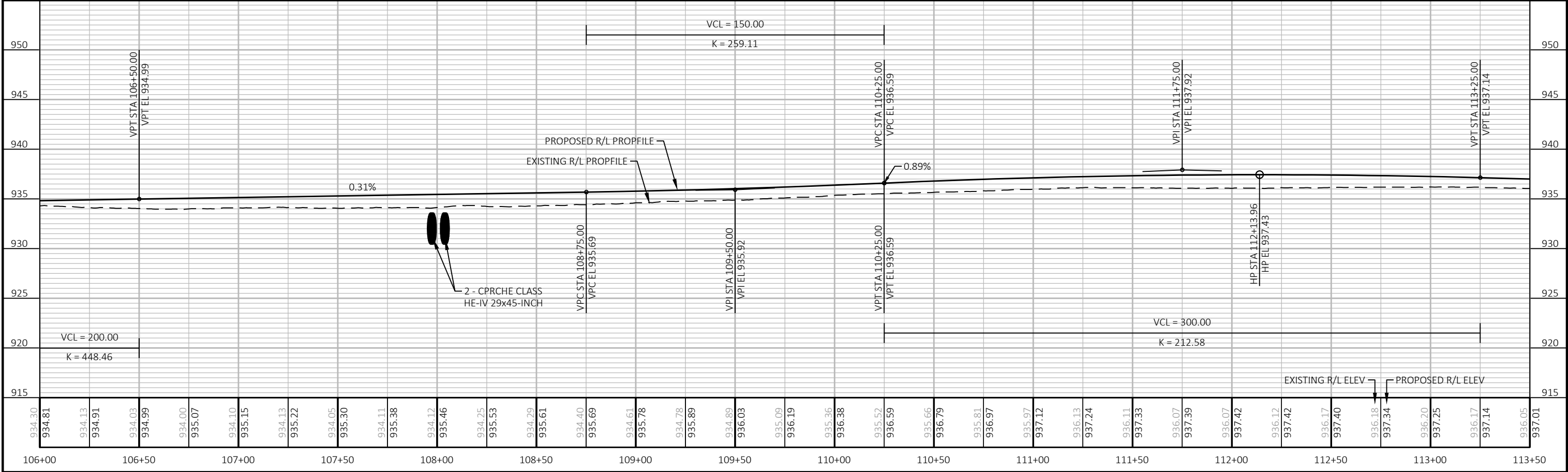
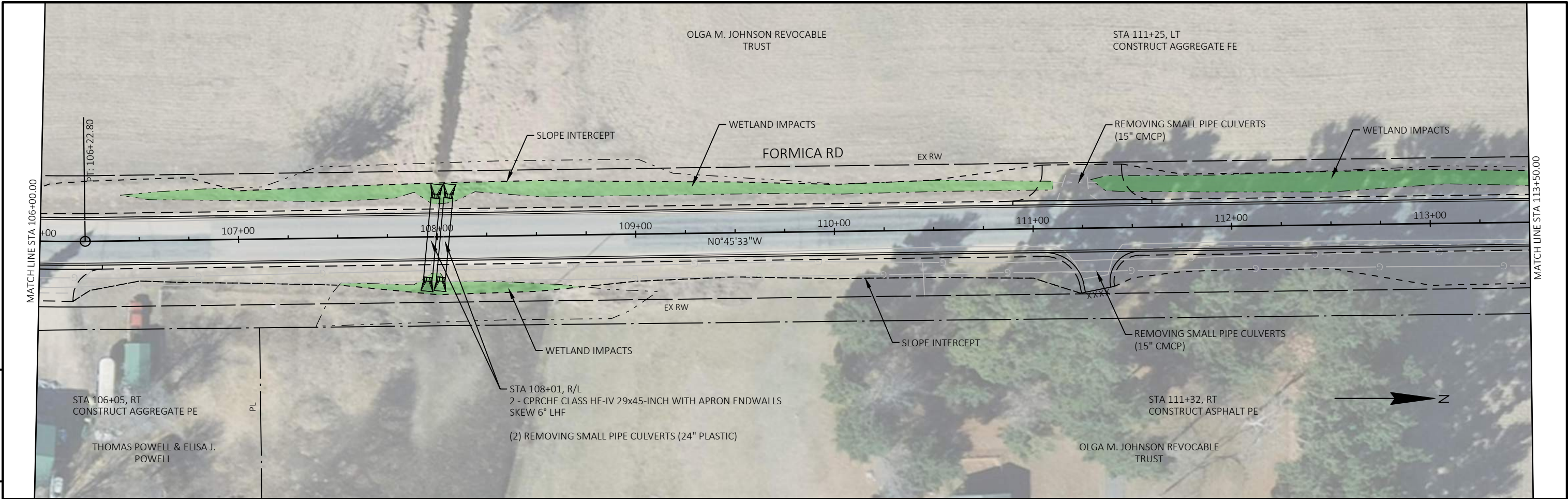
STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT		690.0250 SAWING CONCRETE		REMARKS
				LF		LF		
100+25			FORMICA RD, ML	24		-		BOP
104+06			FORMICA RD, LT	41		-		PE
111+32			FORMICA RD, RT	13		-		PE
123+25			FORMICA RD, LT	14		-		PE
143+50			FORMICA RD, ML	24		-		BRIDGE
145+25			FORMICA RD, ML	24		-		BRIDGE
155+55			FORMICA RD, LT	10		-		PE
157+15			FORMICA RD, ML	20		-		TIE IN
221+09			ESTATE RD, RT	38		-		PE
226+80			ESTATE RD, RT	88		-		CE
234+75			ESTATE RD, RT	14		-		PE
236+09			ESTATE RD, RT	26		-		PE
241+19			ESTATE RD, ML	24		-		RRX
241+30			ESTATE RD, ML	24		-		RRX
242+75			ESTATE RD, LT	48		-		CE
48+50			ESSEX AVE, ML	22		-		ESSEX AVE TIE IN
264+00			ESSEX AVE, RT	69		-		CE
265+42			ESSEX AVE, LT	14		-		PE
269+00			ESSEX AVE, LT	14		-		PE
272+40			ESSEX AVE, LT	18		-		CE
274+20			ESSEX AVE, RT	33		-		CE
277+58			ESSEX AVE, LT	18		-		PE
280+59			ESSEX AVE, LT	17		-		PE
281+75			ESSEX AVE, ML	25		-		EOP
283+45	-	285+45	ESSEX AVE, LT	190		-		CUT FOR CURB
285+45			ESSEX AVE, LT	-		3		CONCRETE CURB
285+20			LT	31		-		PE
TOTAL				883		3		



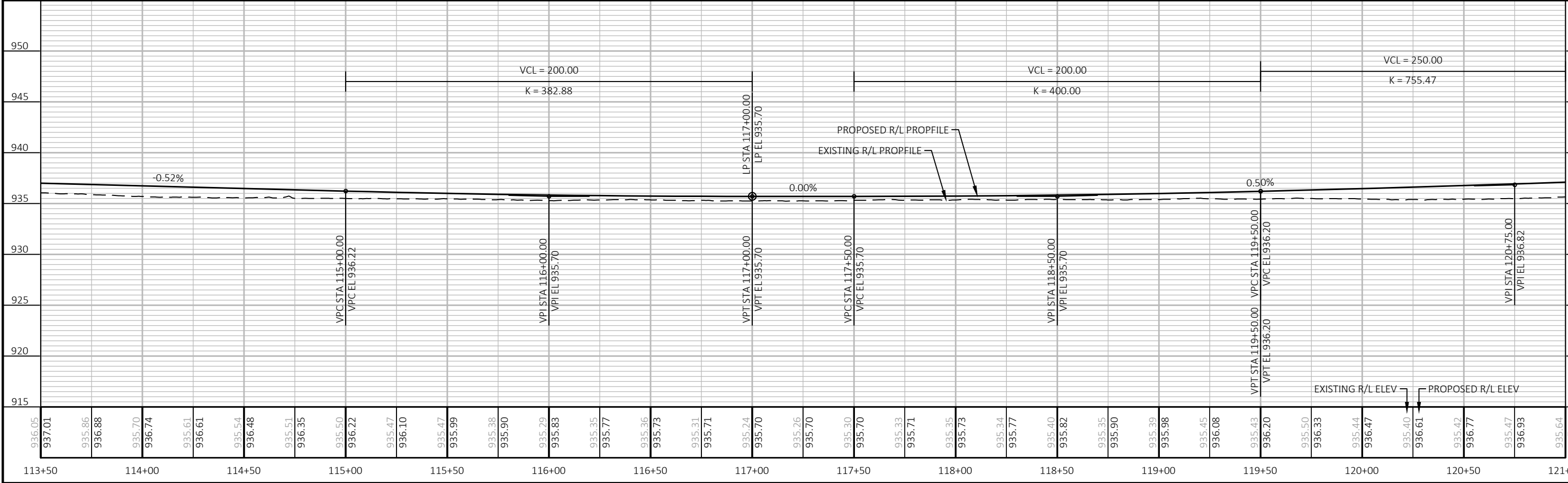
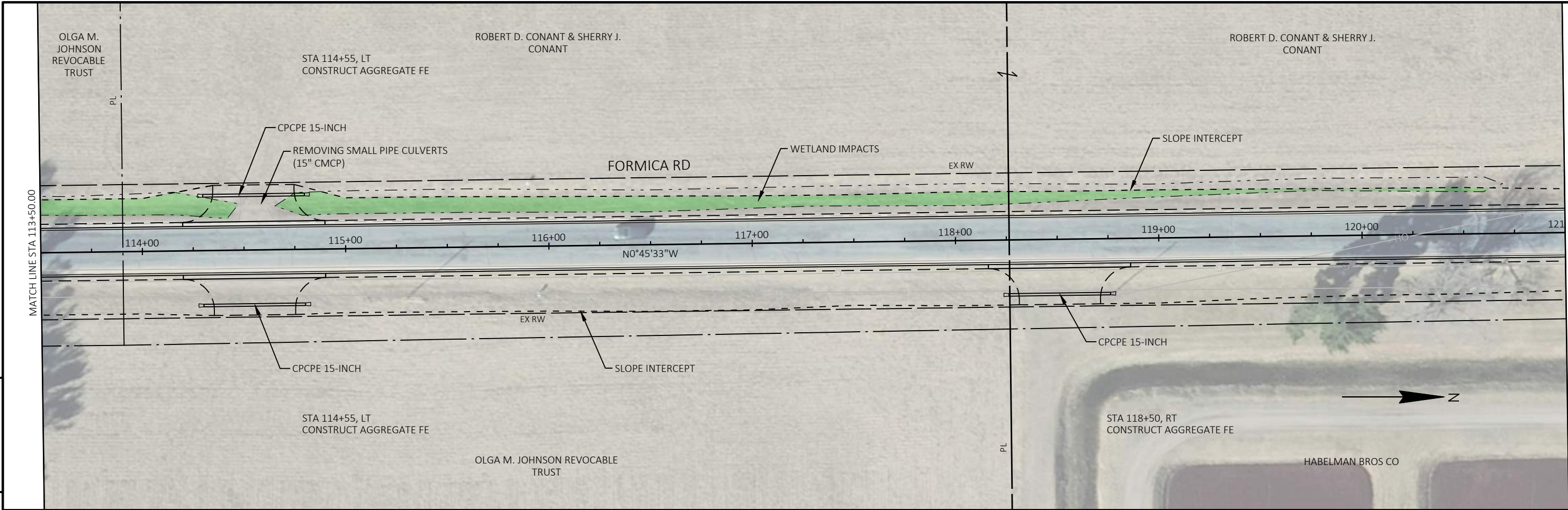
BEGIN PROJECT 2025-1-ARIP
STA 100+25.00
MATCH EXISTING
SAWING ASPHALT REQUIRED
Y = 401336.240
X = 721311.219



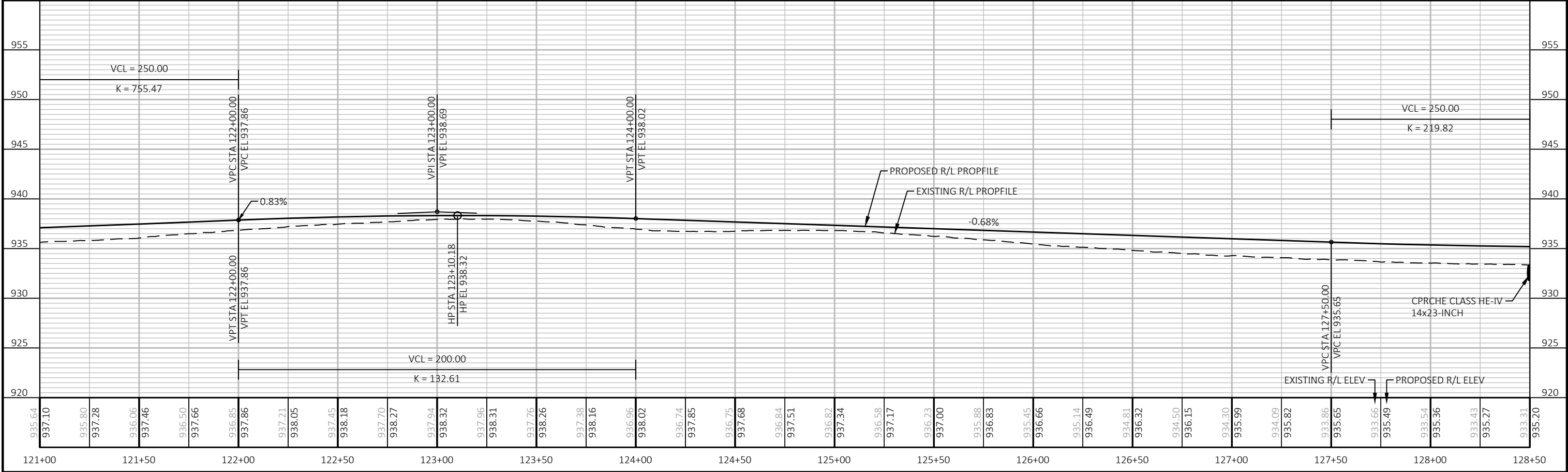
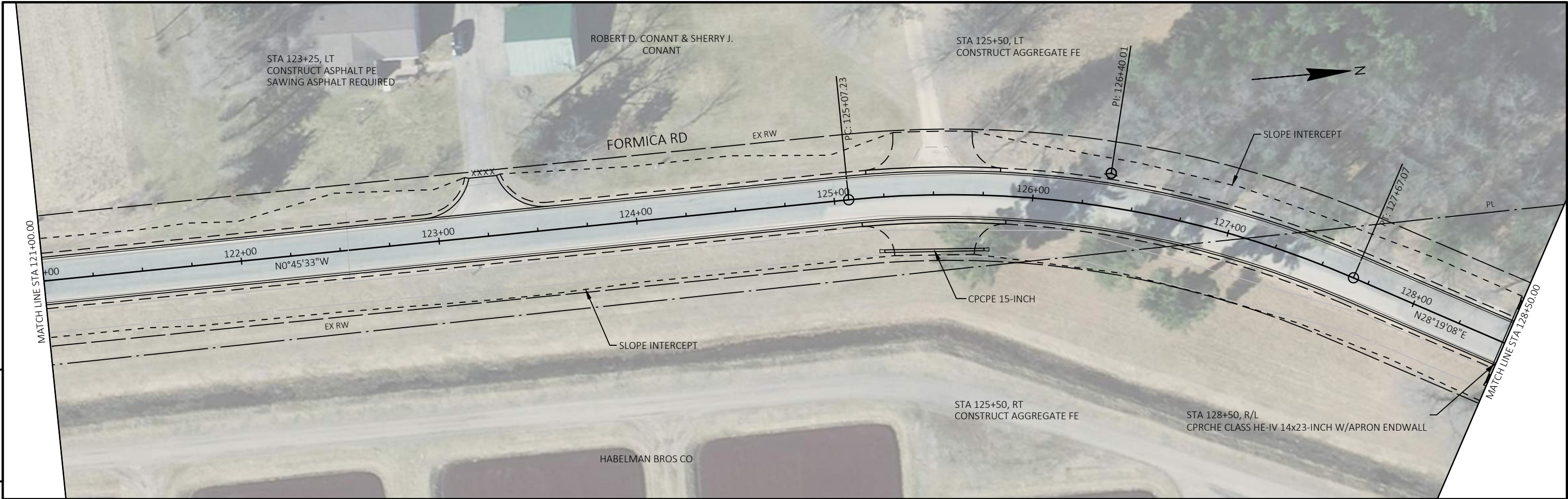
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	FORMICA ROAD	SHEET	E
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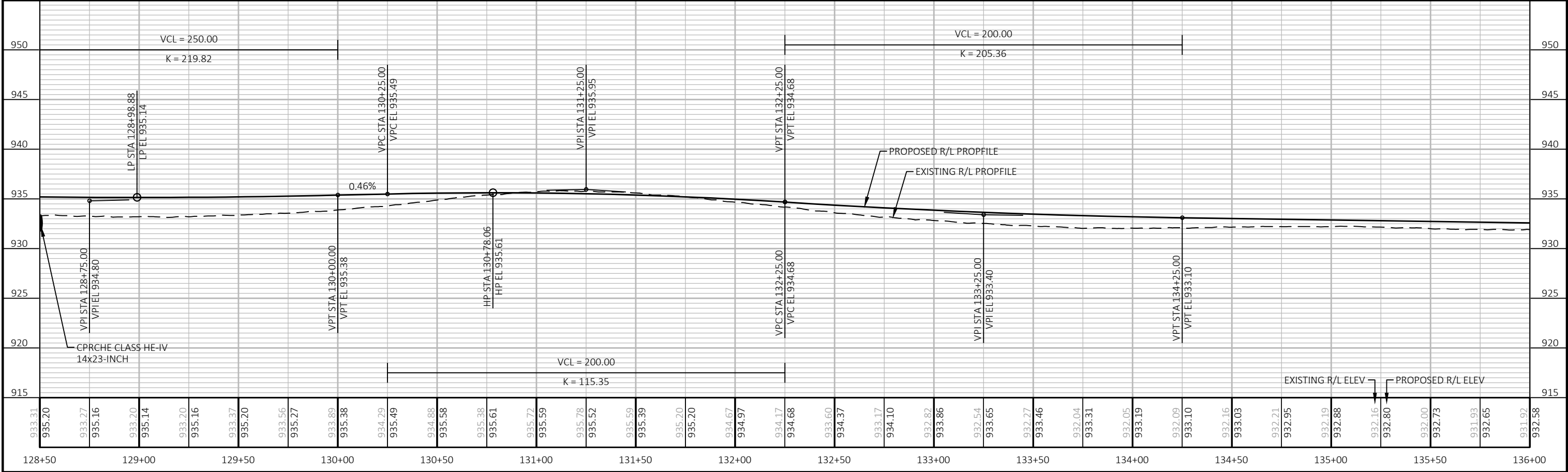
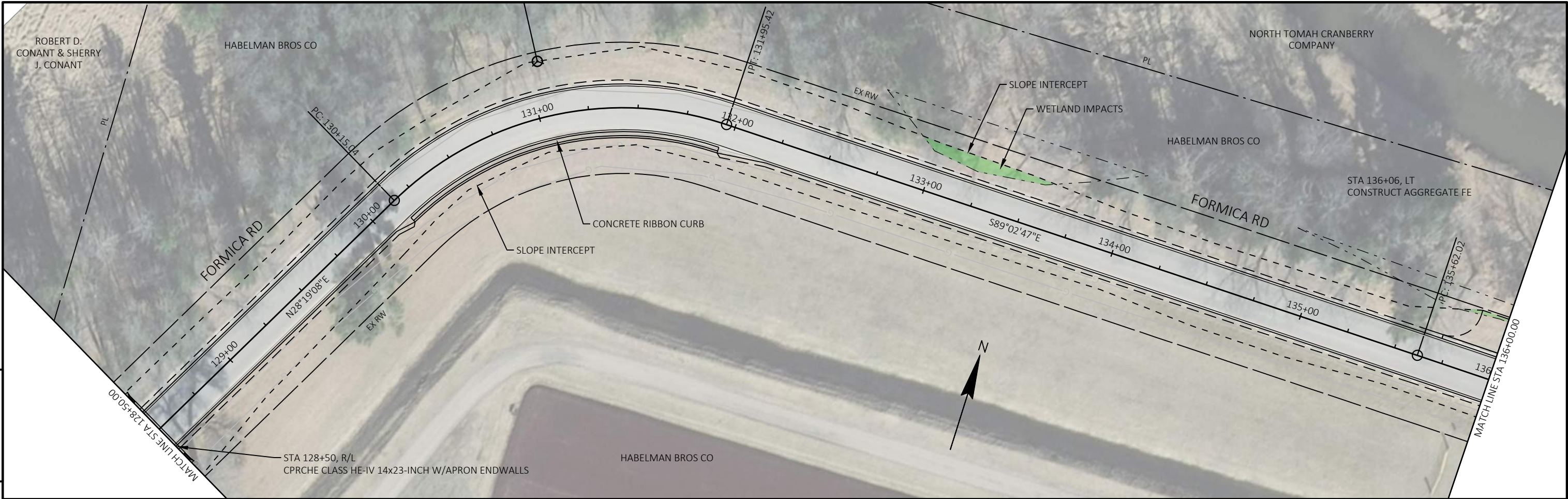
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	FORMICA ROAD	SHEET	E
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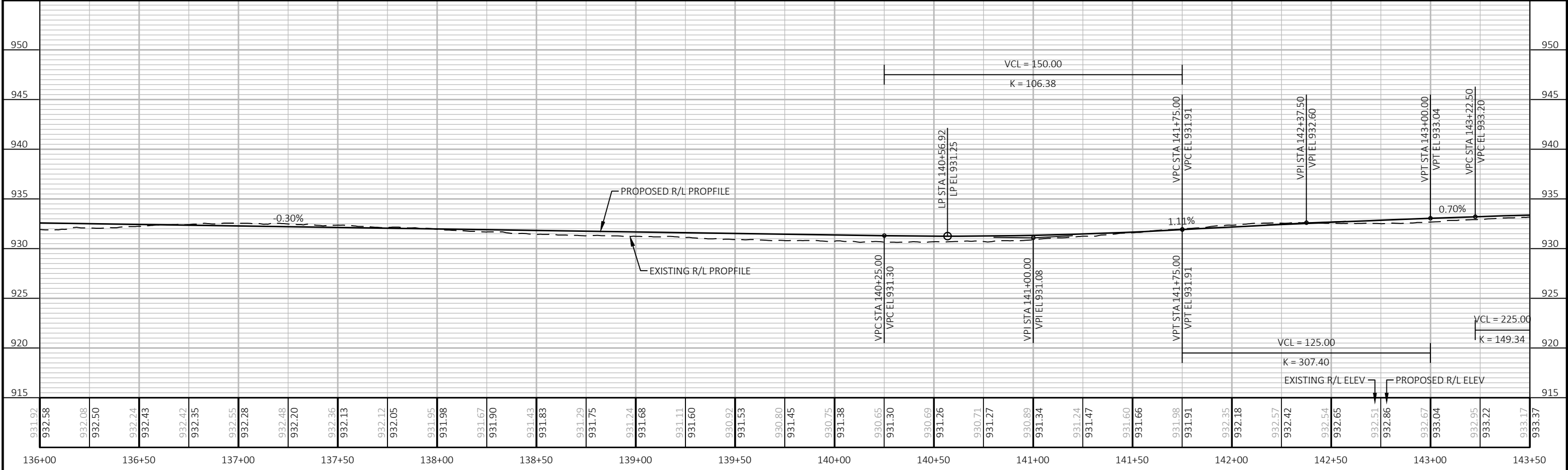
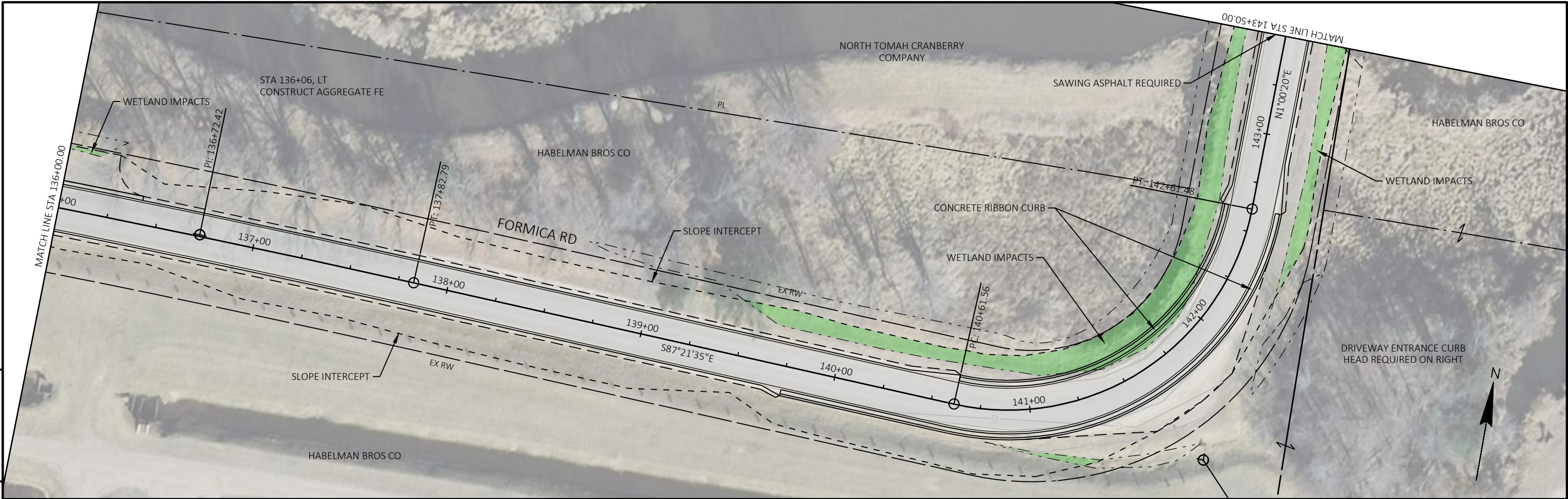
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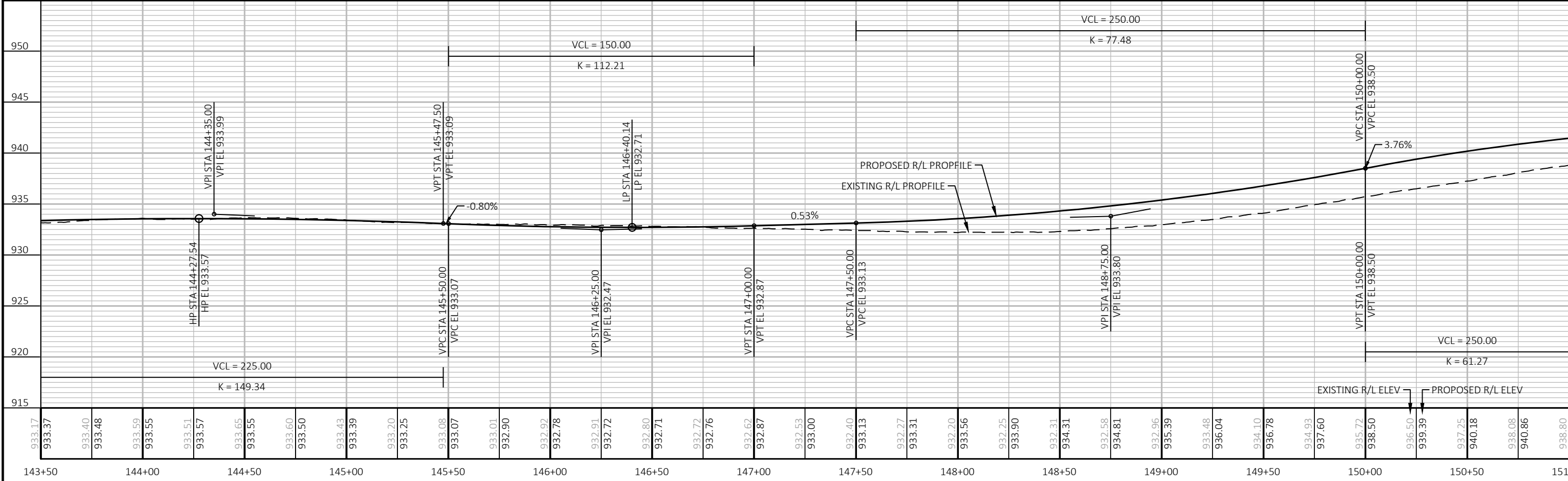
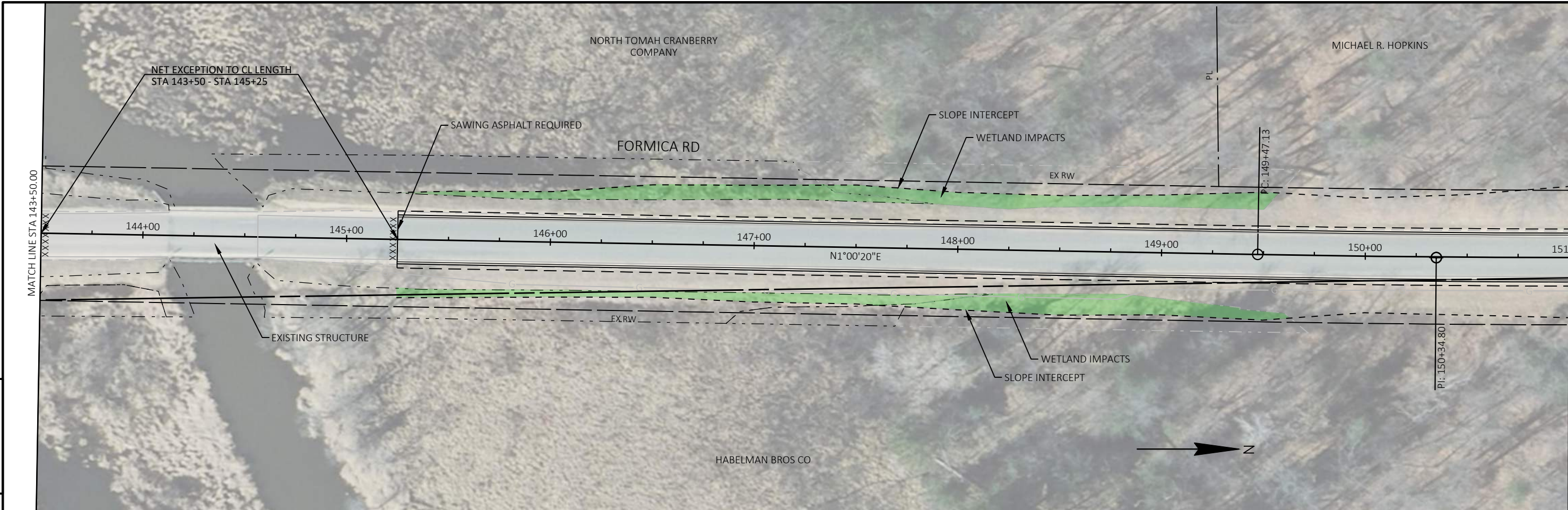
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	FORMICA ROAD	SHEET	E
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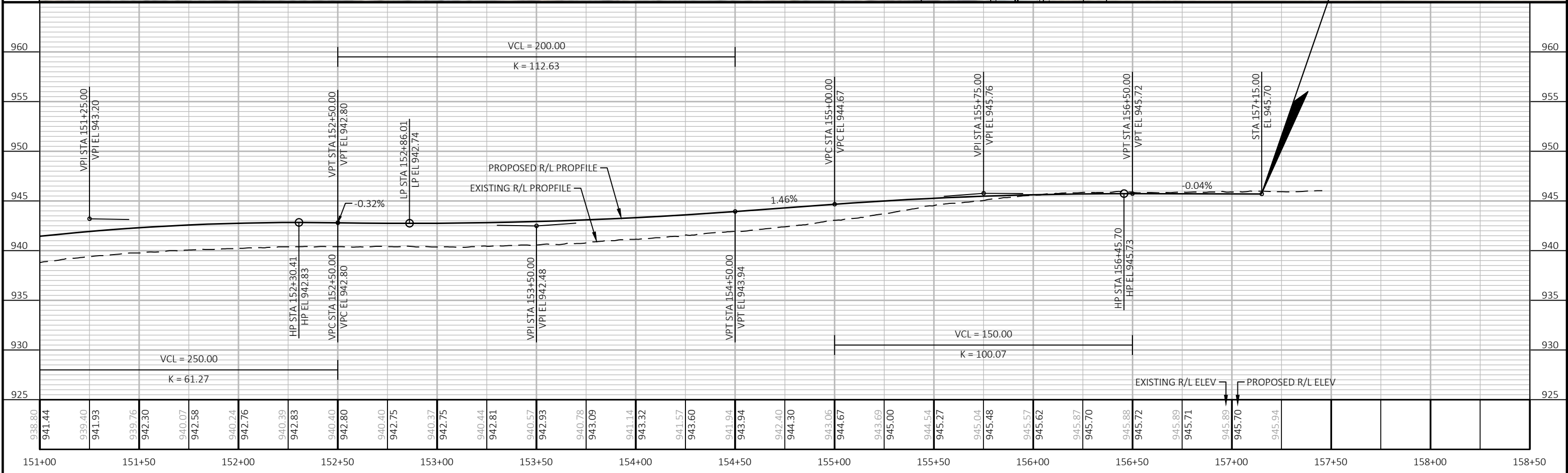
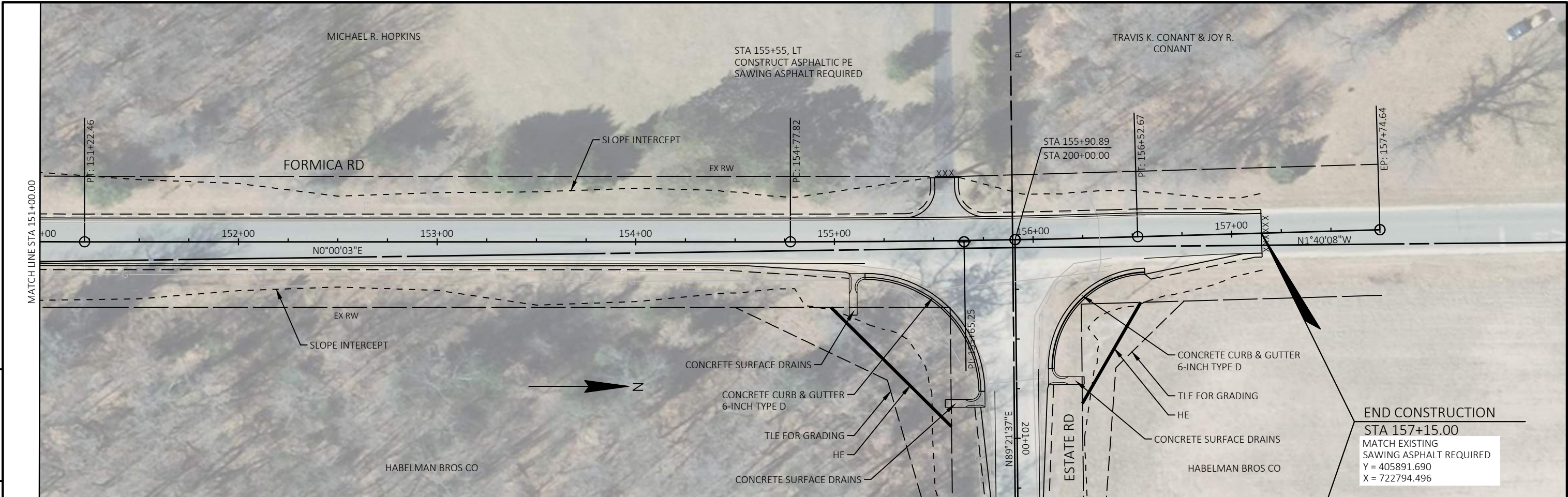
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	FORMICA ROAD	SHEET	E
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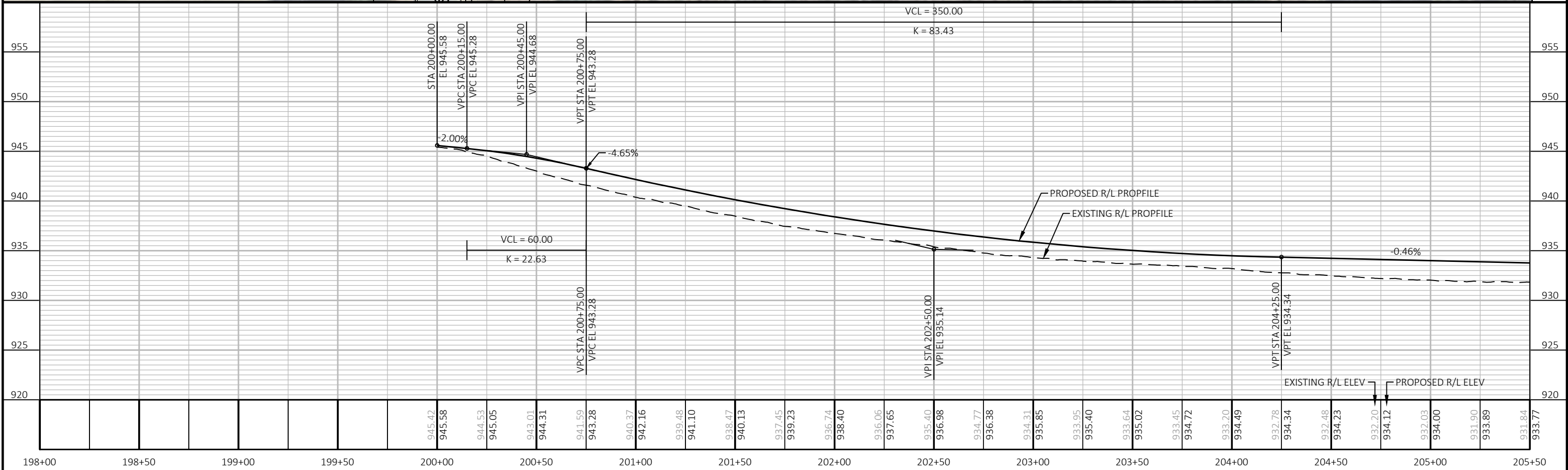
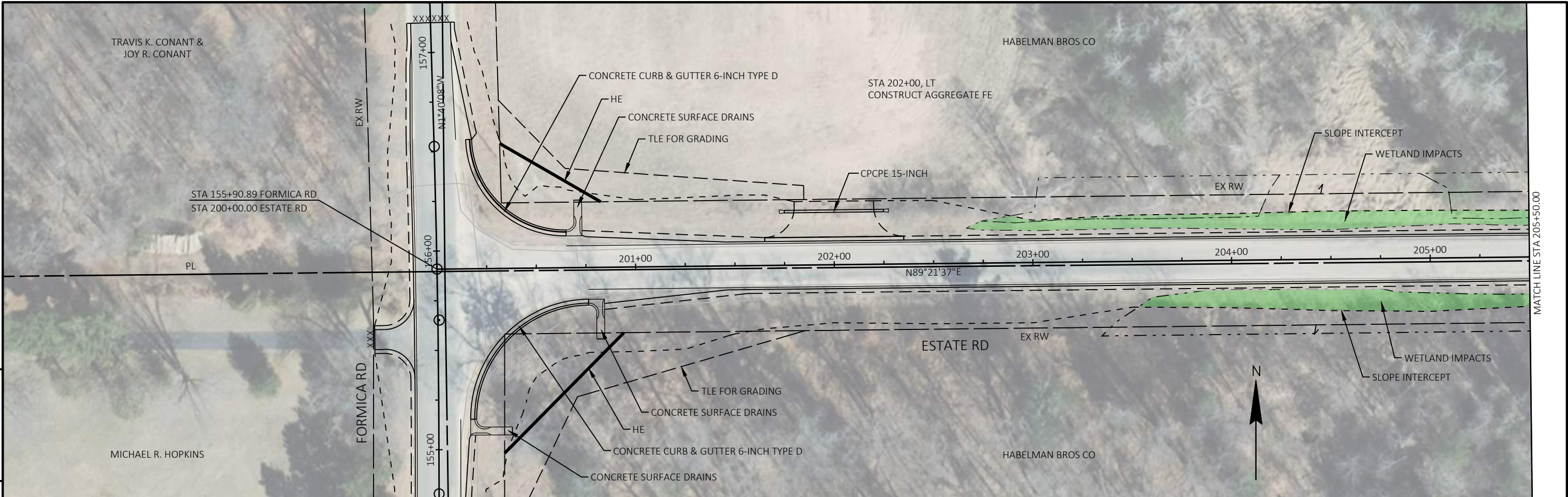
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	FORMICA ROAD	SHEET	E
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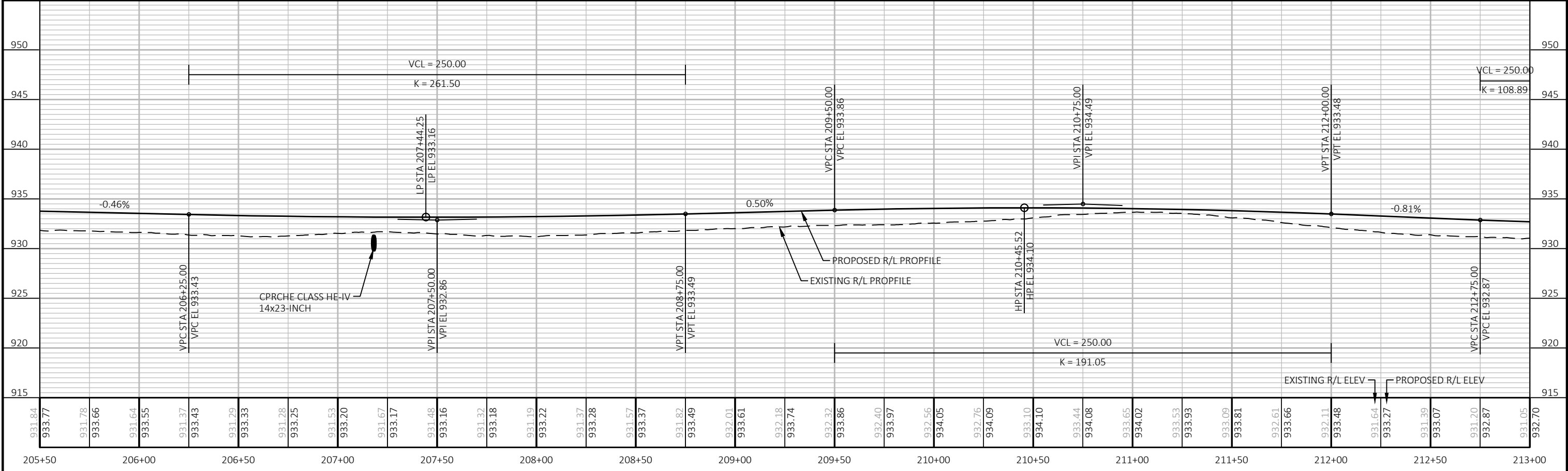
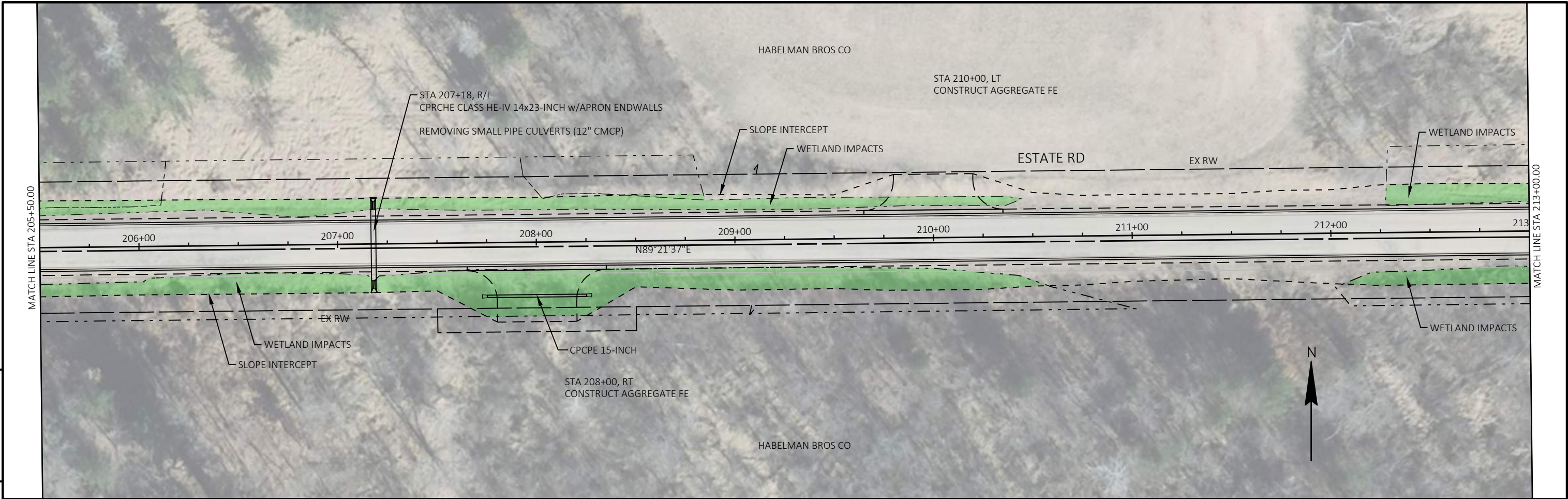
PROJECT NO: 2025-1-ARIP			HWY: LAGRANGE BYRON ARIP			COUNTY: MONROE			PLAN AND PROFILE: FORMICA ROAD			SHEET			E		
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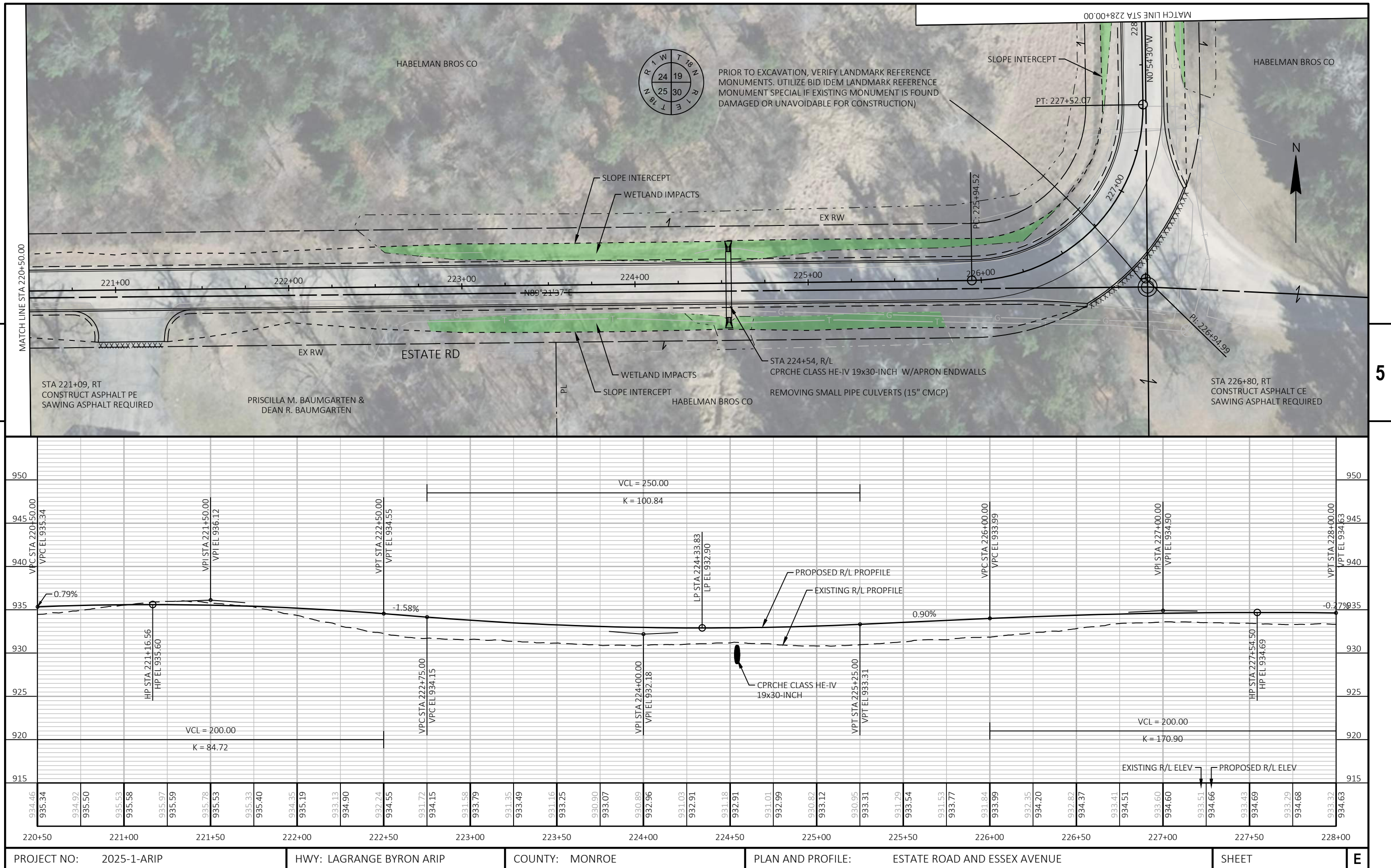
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	FORMICA ROAD	SHEET	E
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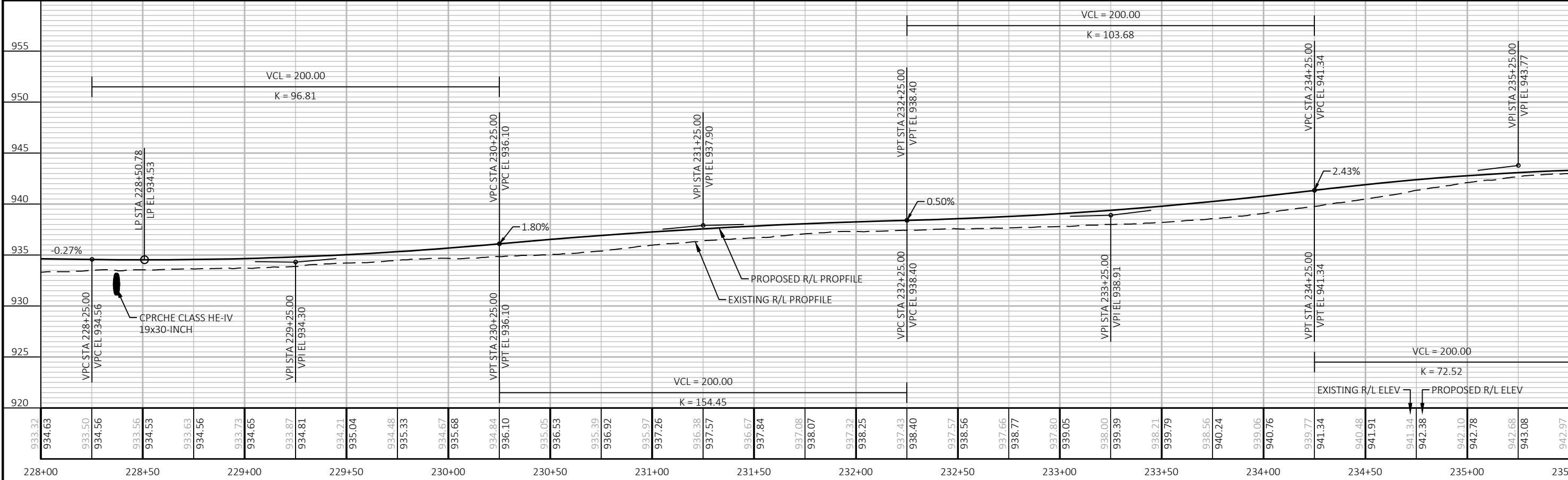
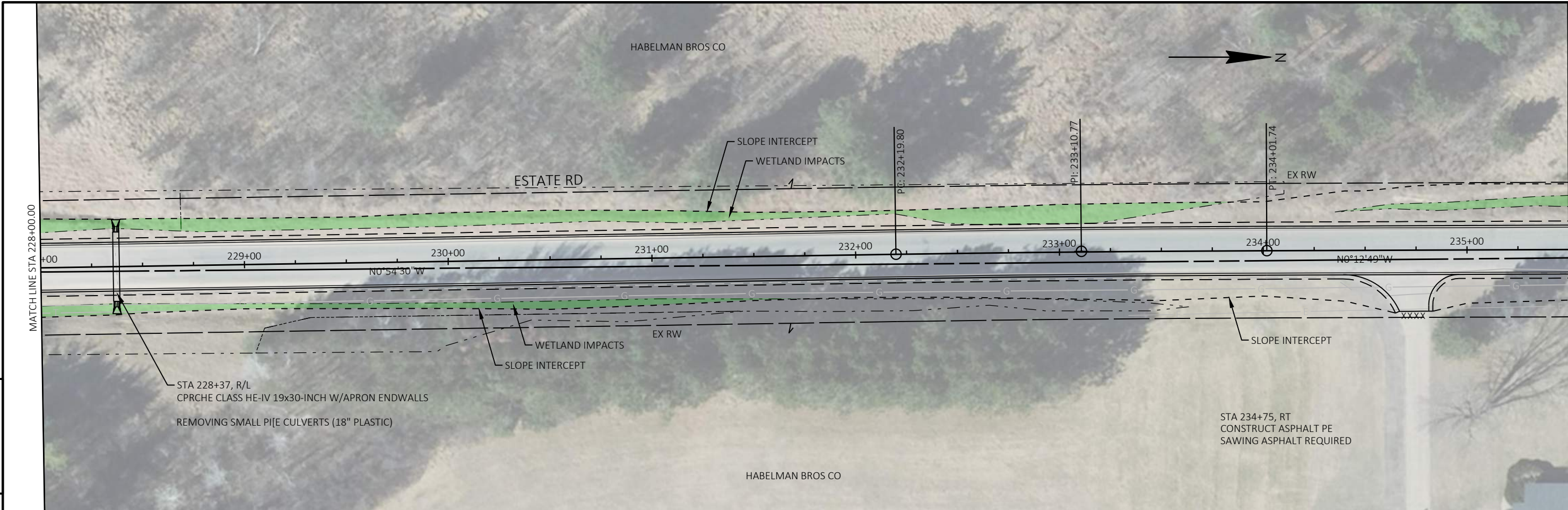


PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	ESTATE ROAD AND ESSEX AVENUE	SHEET	5
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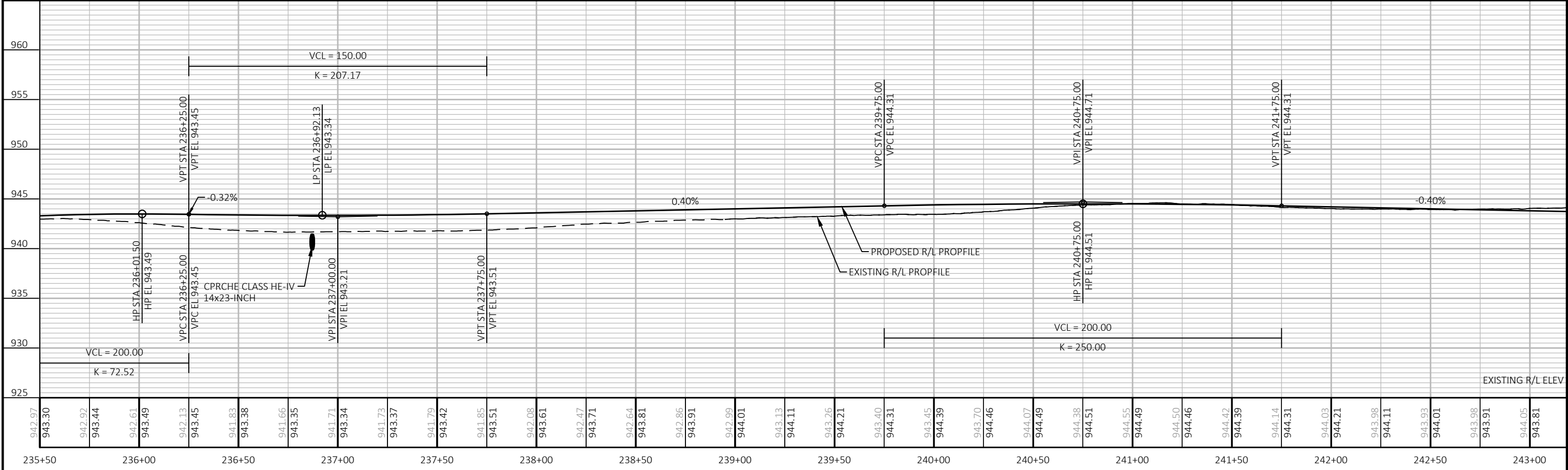
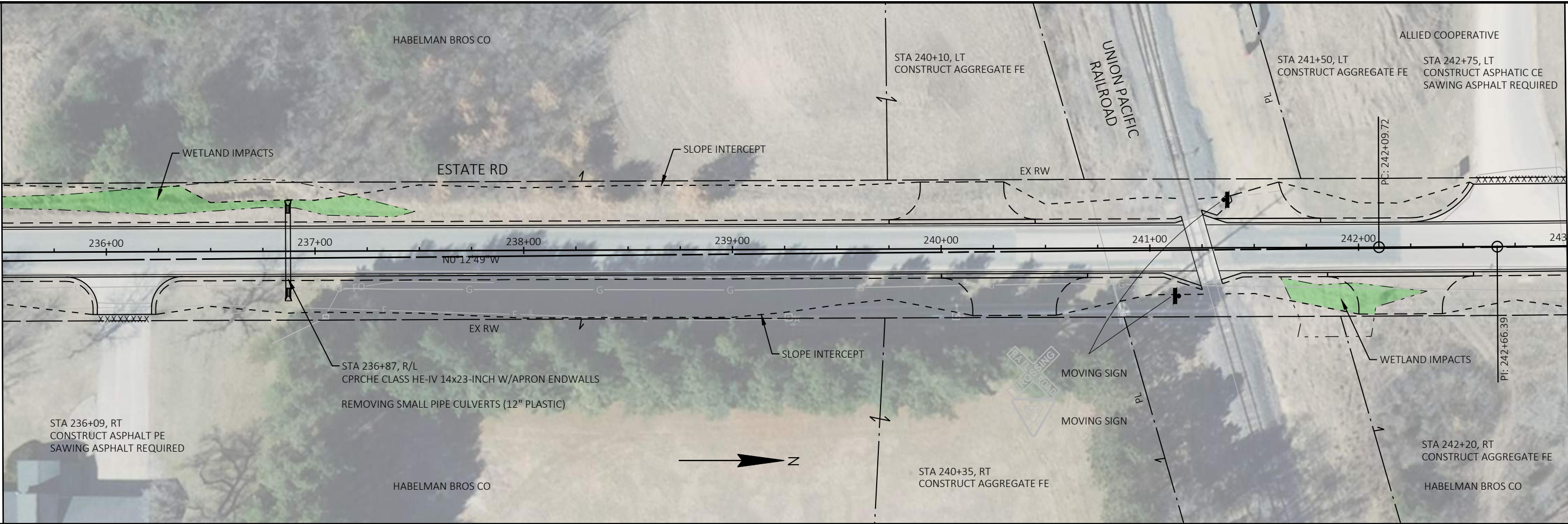


PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	ESTATE ROAD AND ESSEX AVENUE	SHEET	E
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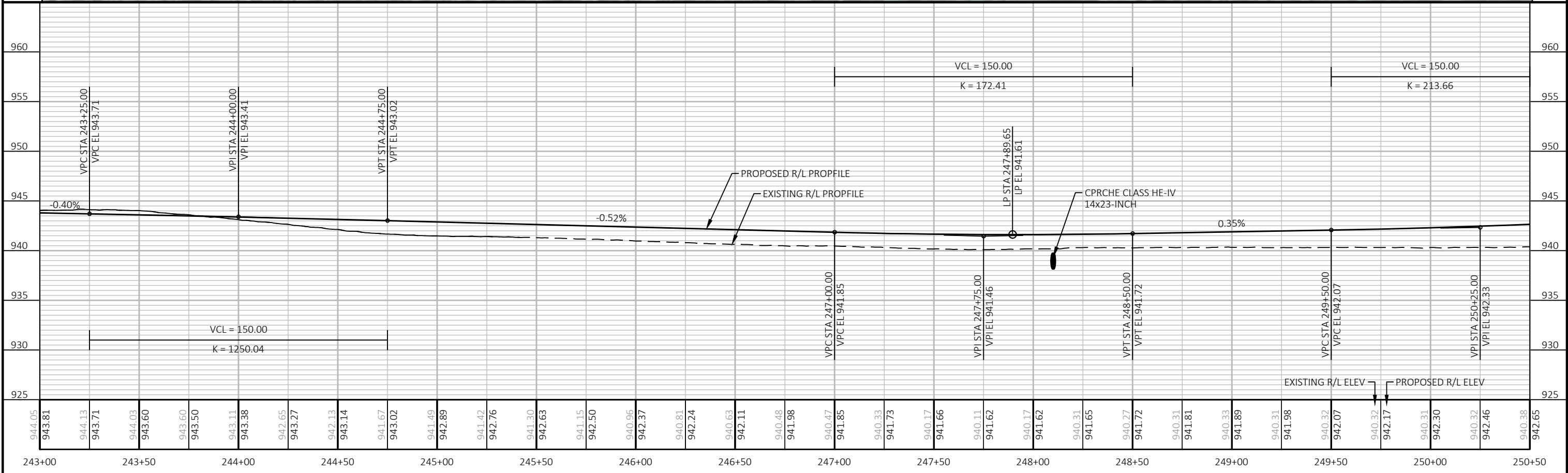
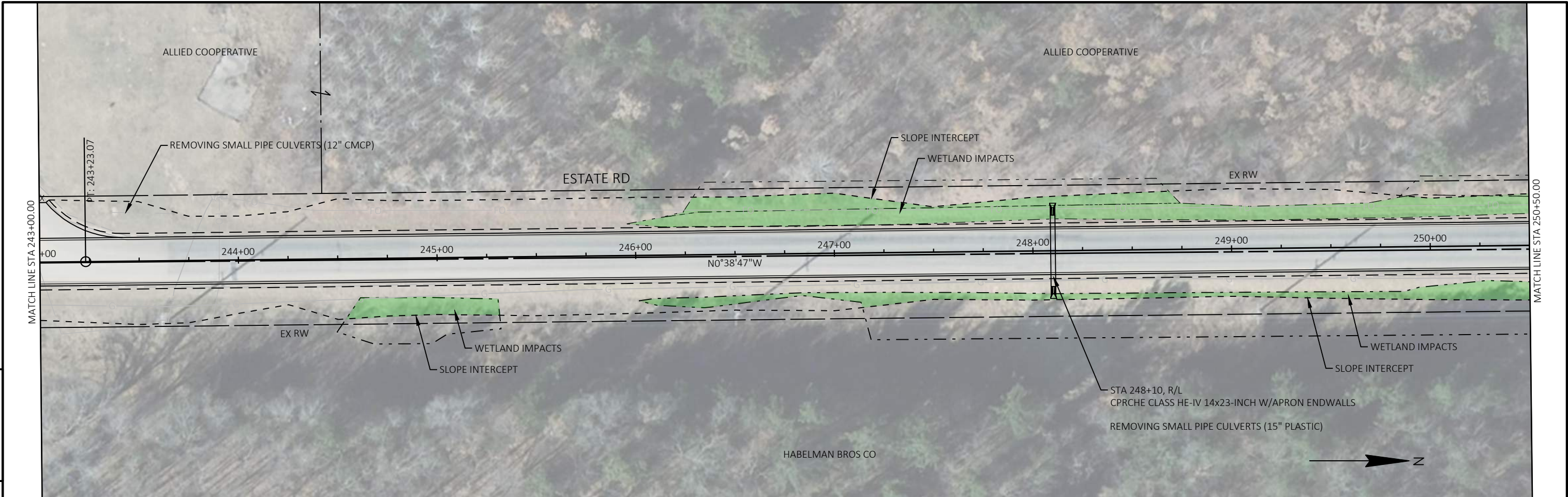




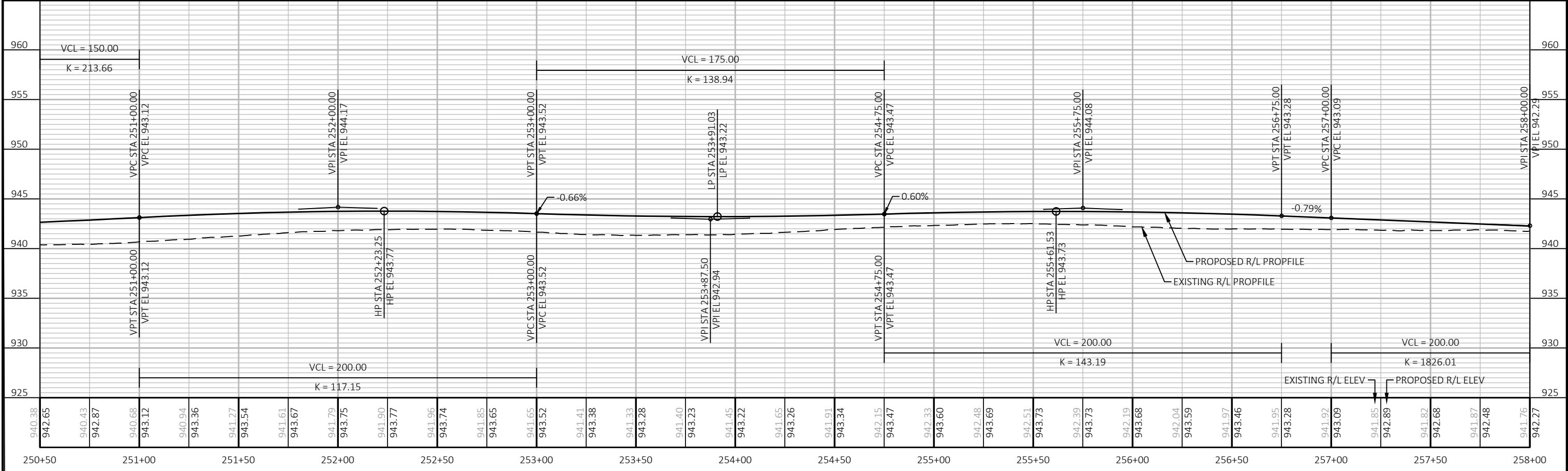
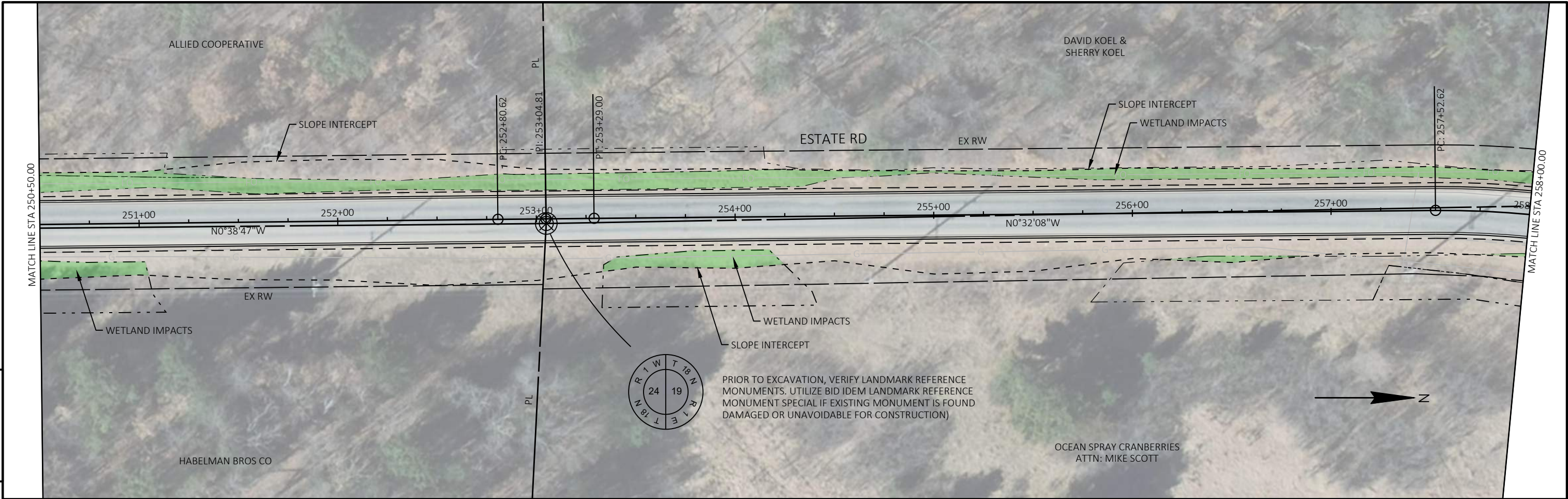
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	ESTATE ROAD AND ESSEX AVENUE	SHEET	E
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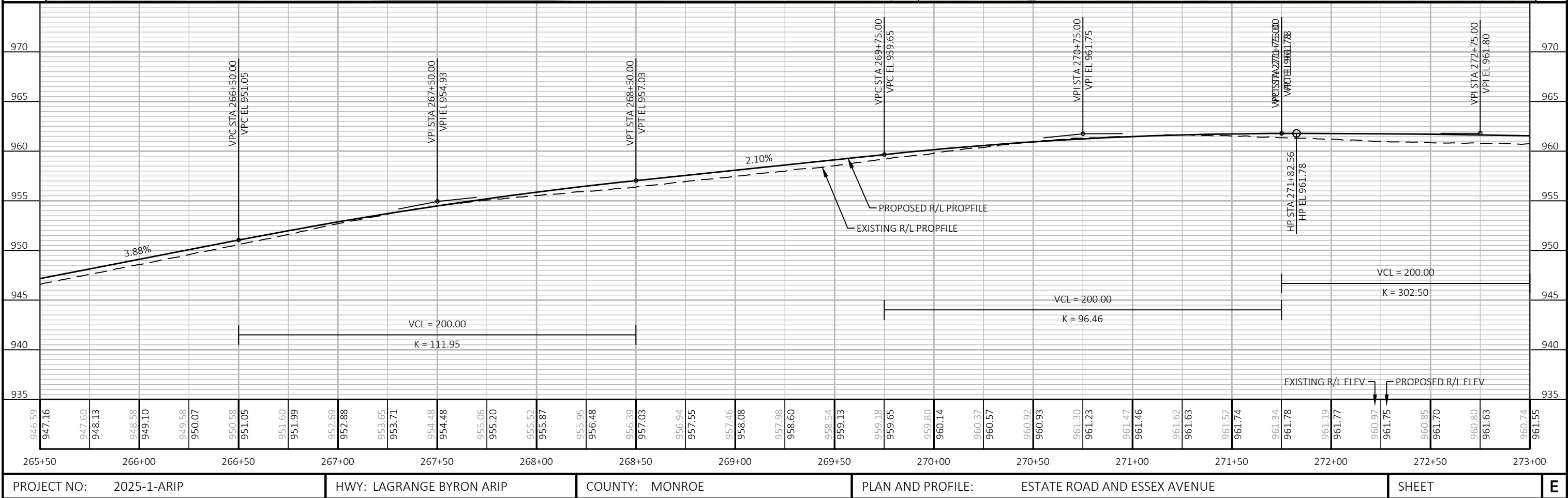
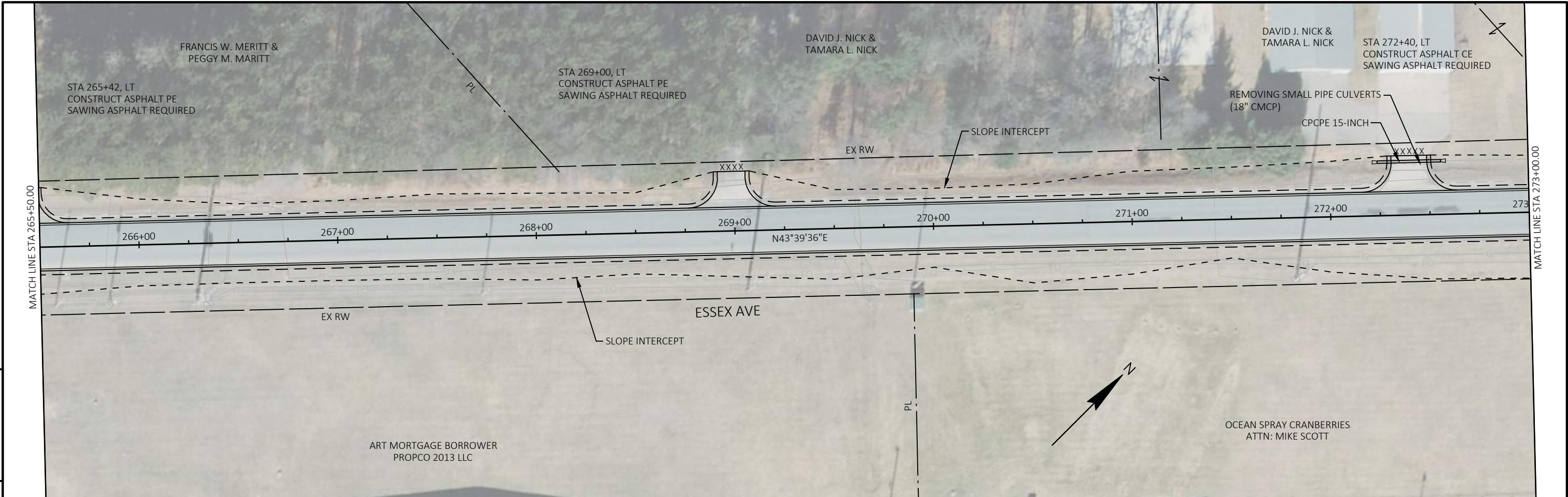
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	ESTATE ROAD AND ESSEX AVENUE	SHEET	E
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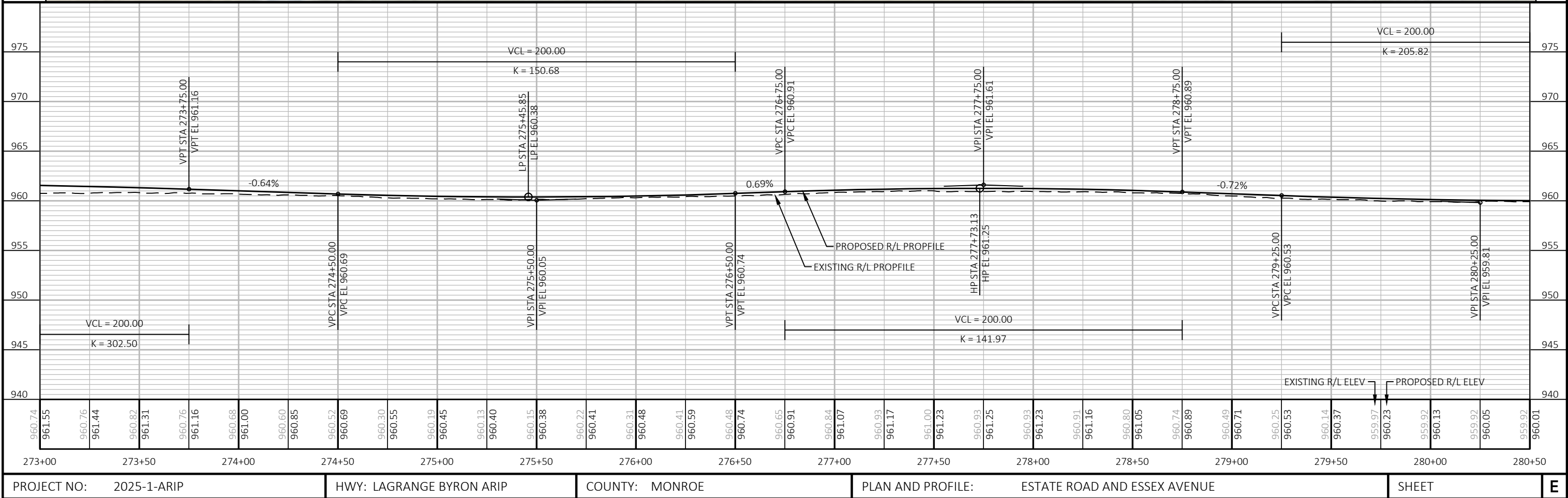
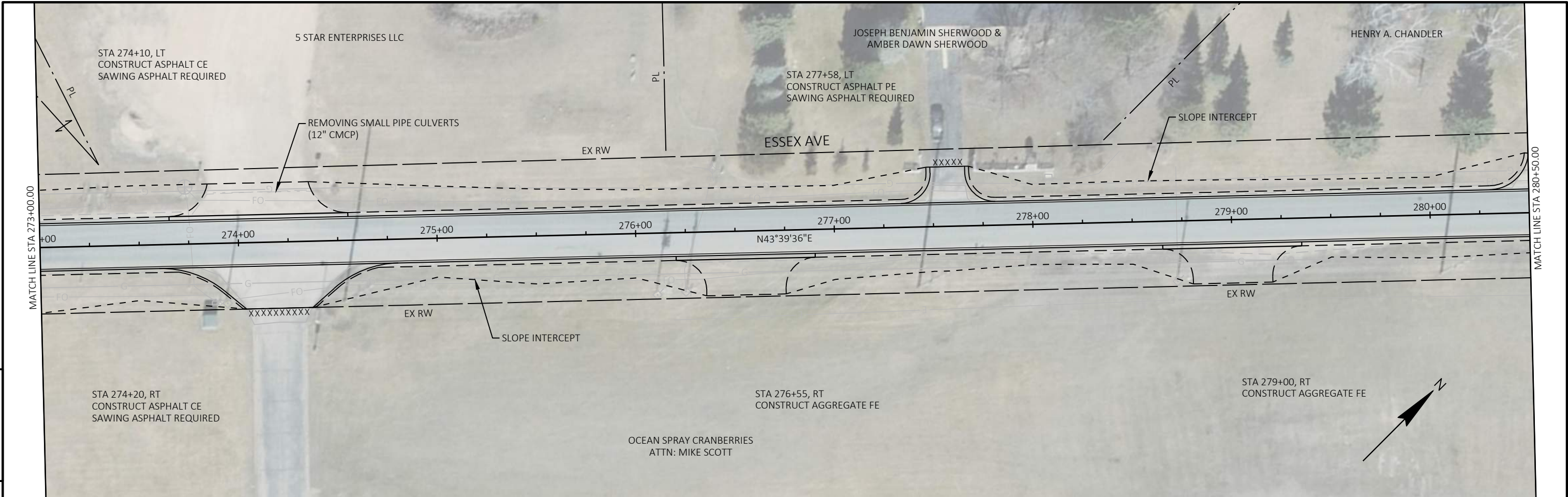


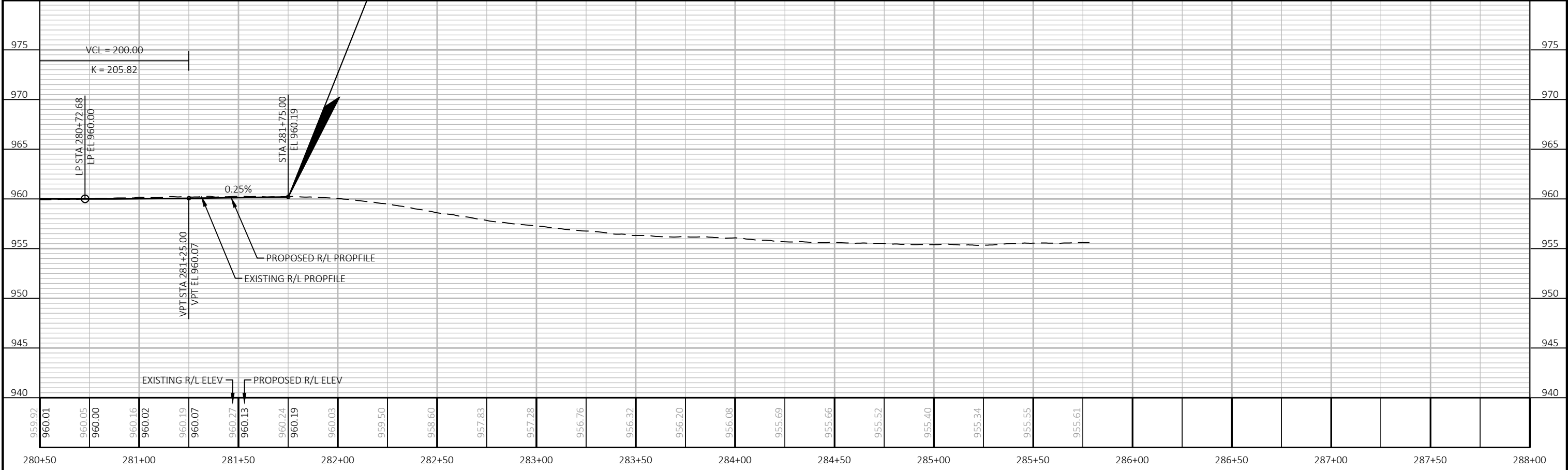
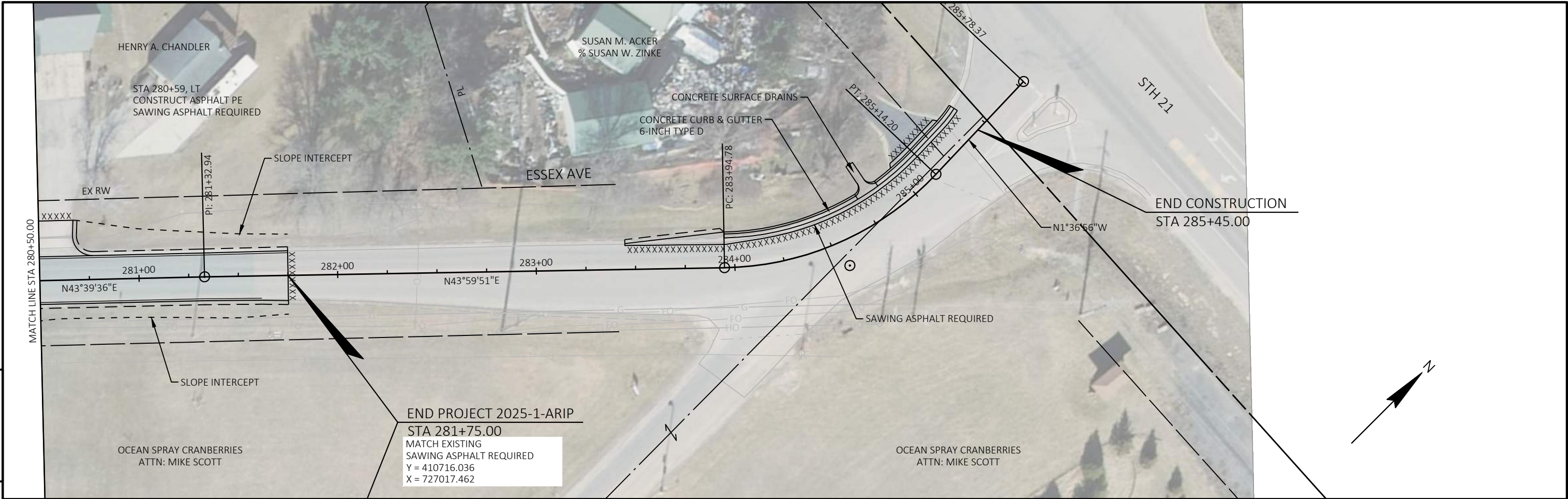
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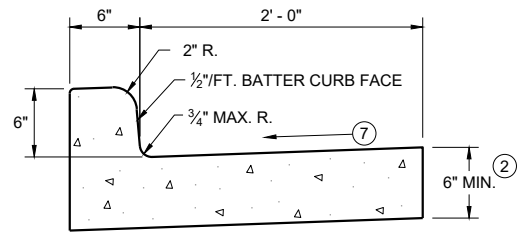
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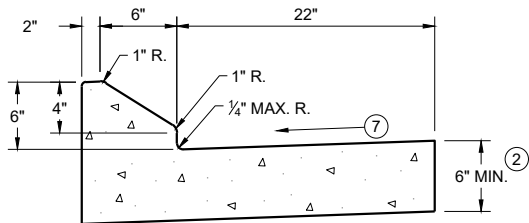




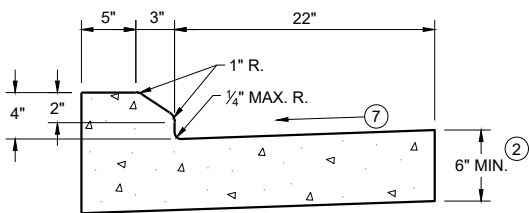
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	PLAN AND PROFILE:	ESTATE ROAD AND ESSEX AVENUE	SHEET	E
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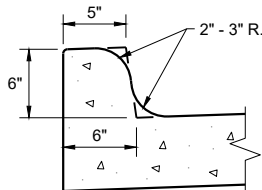
TYPES A^① & D



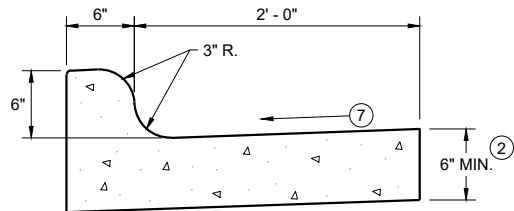
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

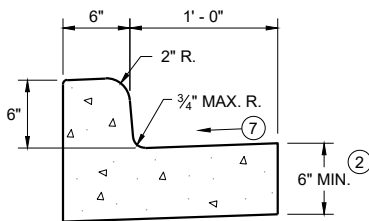


TYPES K^① & L
(OPTIONAL CURB SHAPE)



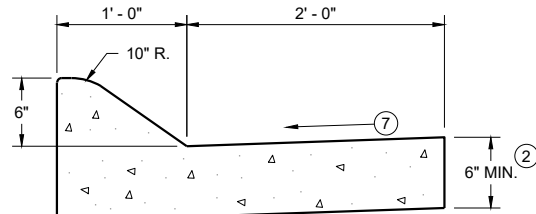
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

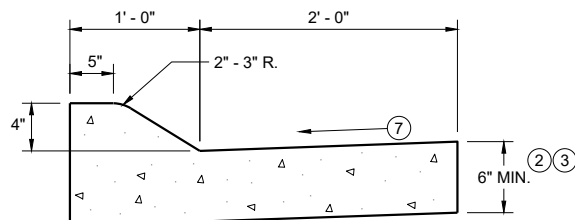


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

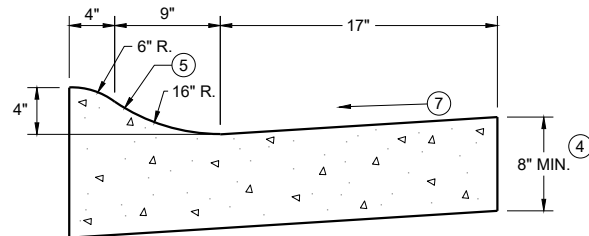


6" SLOPED CURB TYPES A^① & D



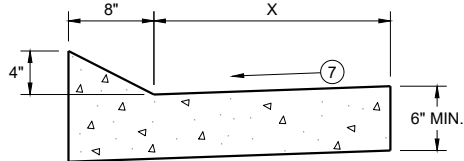
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T
CONCRETE CURB AND GUTTER 30"

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

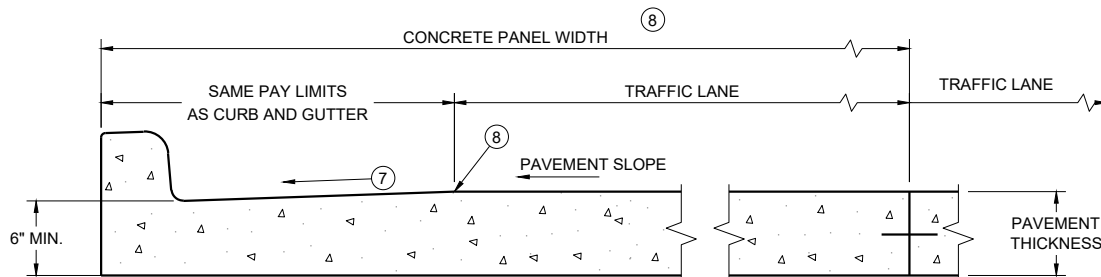


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

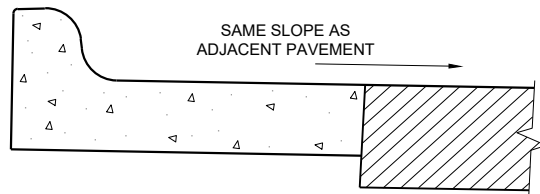
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'

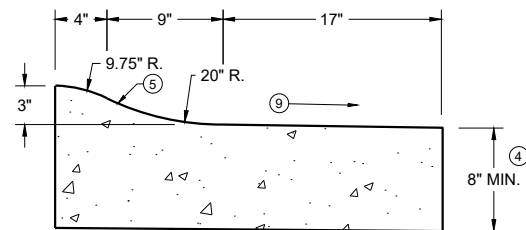


PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)



3" SLOPED CURB TYPES R^① & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

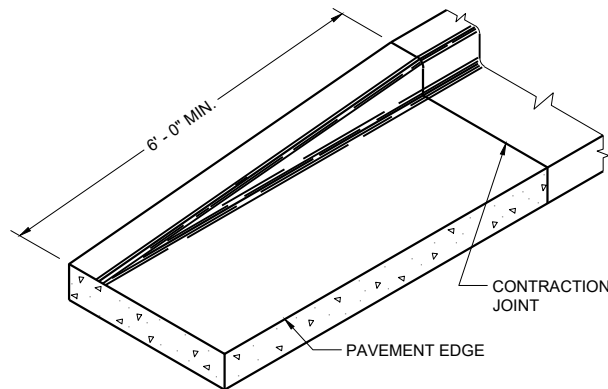
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

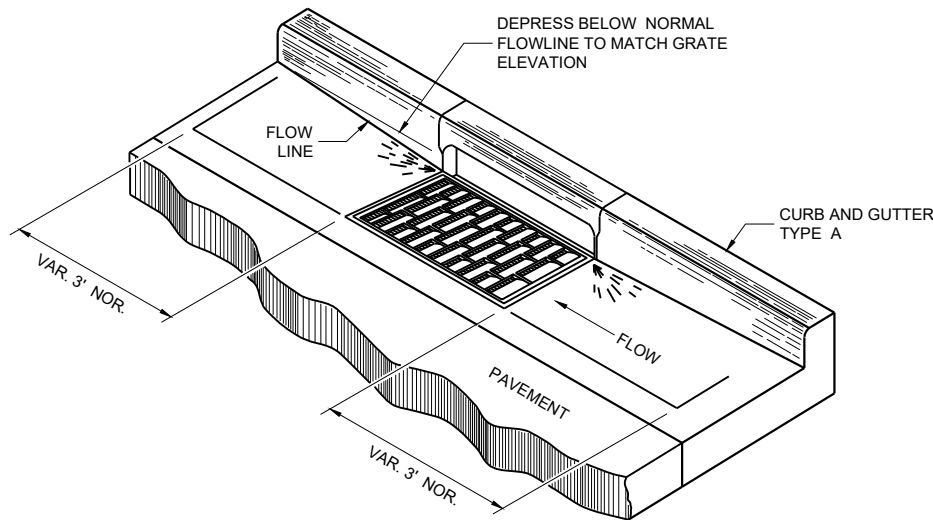
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 GUTTERS TYPES A, G, K, R, AND TBTT.
- 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 USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ 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.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

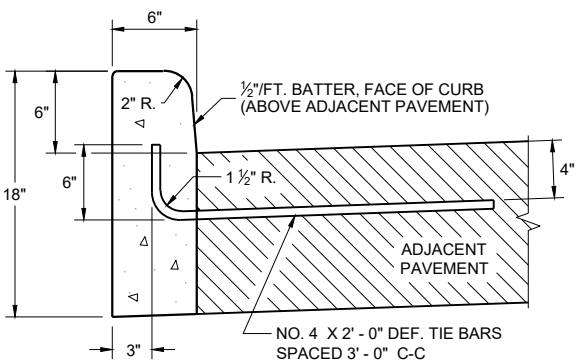


END SECTION CURB AND GUTTER

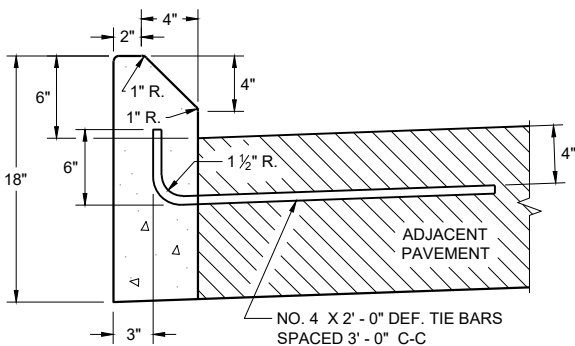


DETAIL OF CURB AND GUTTER AT INLETS

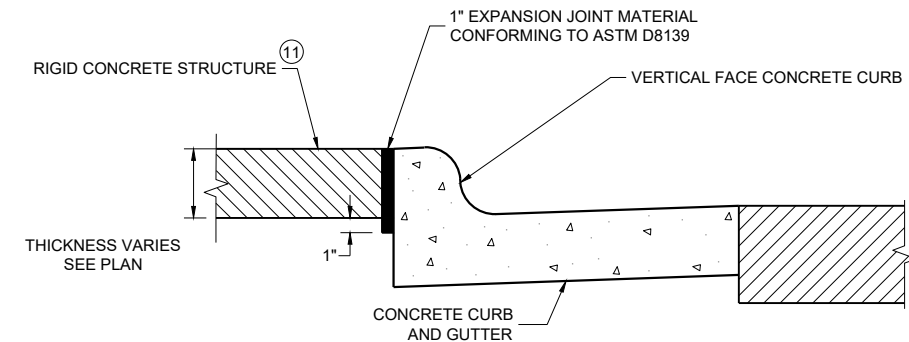
(TYPICAL H INLET COVER SHOWN)



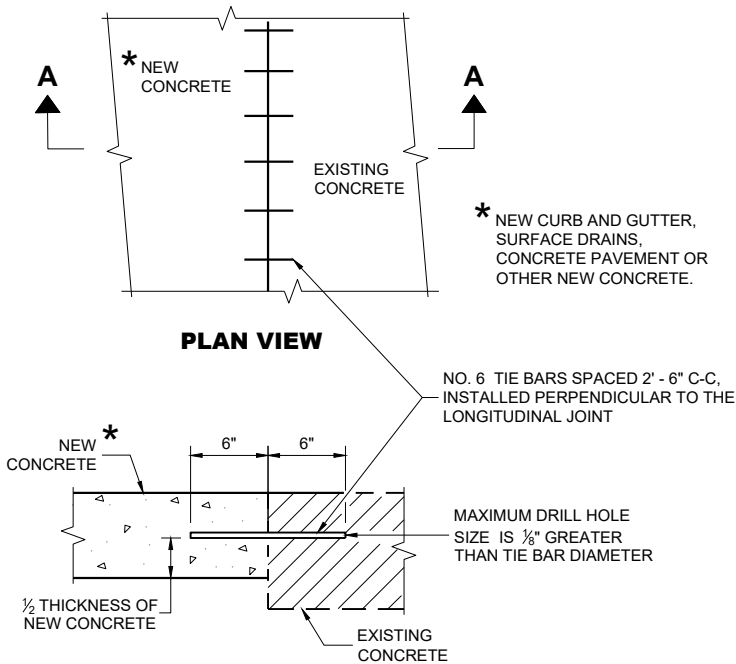
TYPES A^① & D



TYPES G^① & J
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

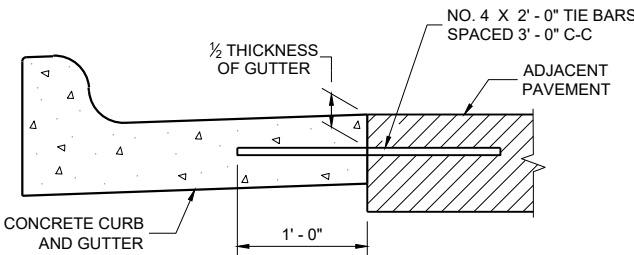
GENERAL NOTES

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

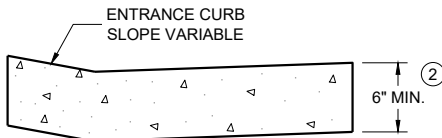
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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 GUTTERS TYPES A, G, K, R, AND TBTT.
- 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.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

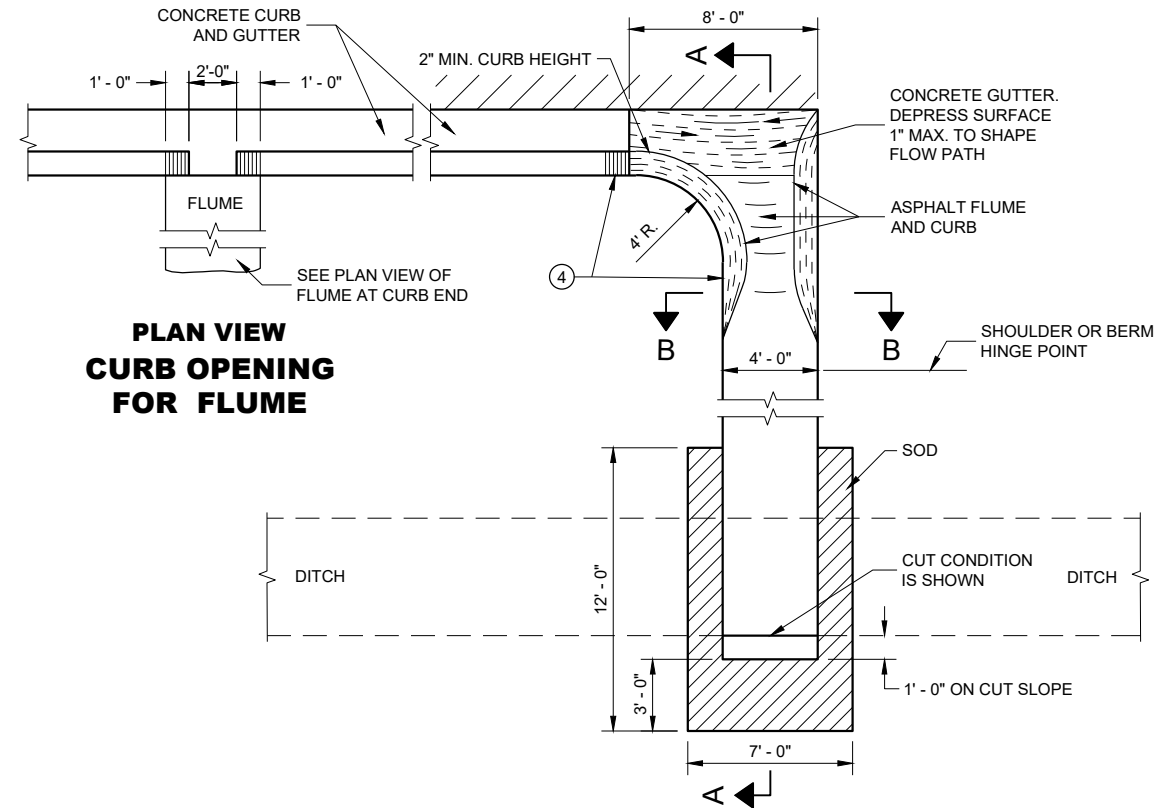
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

FHWA

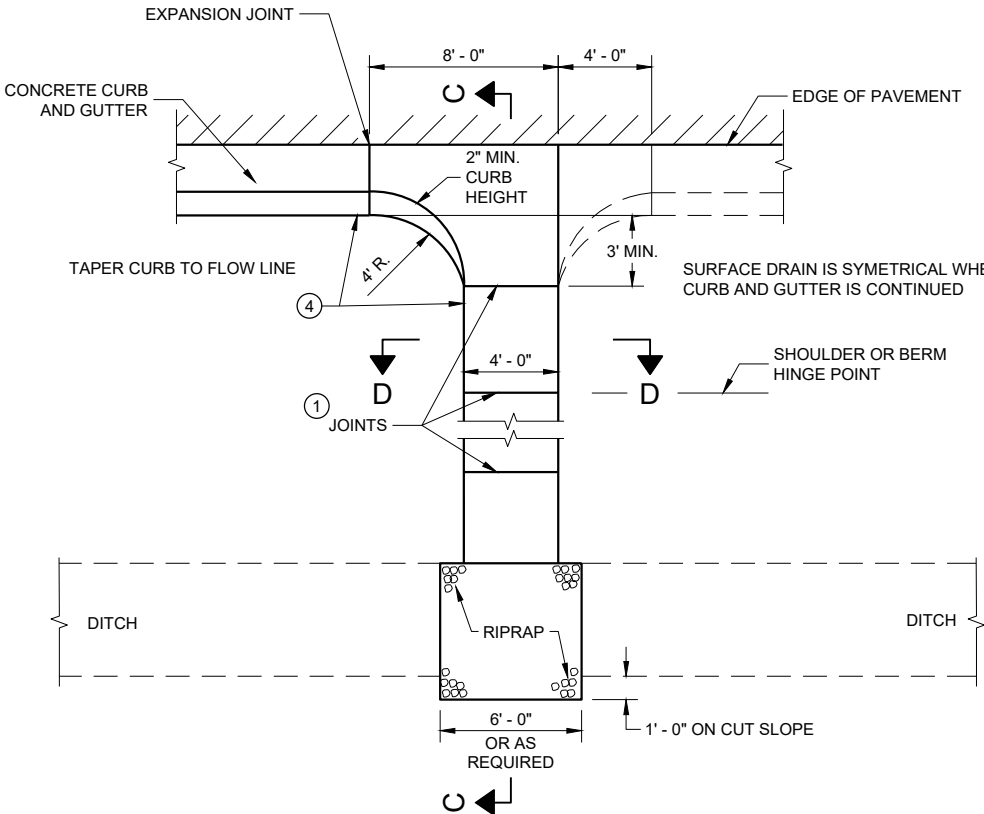
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



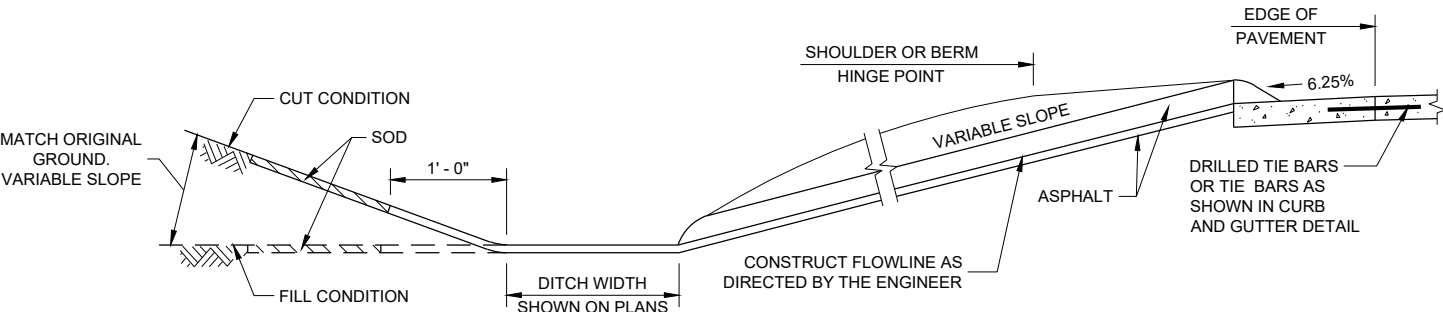
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

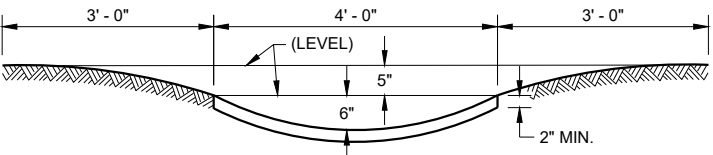
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

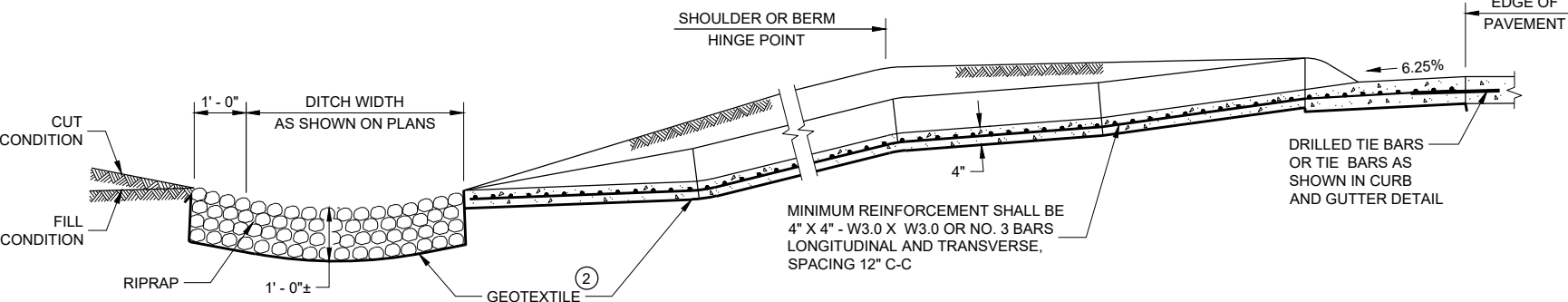
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.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



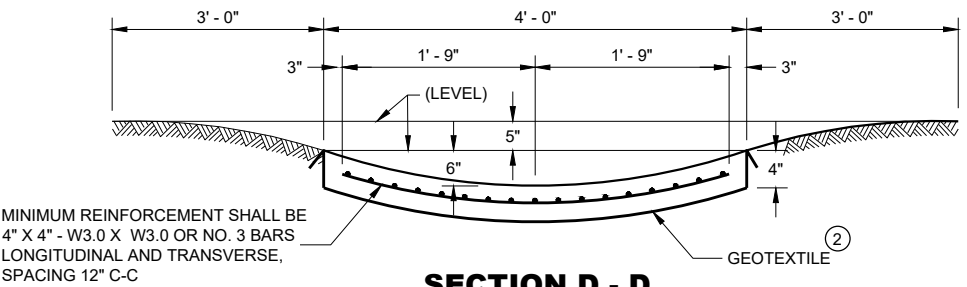
SECTION A - A



SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

DATE

FHWA

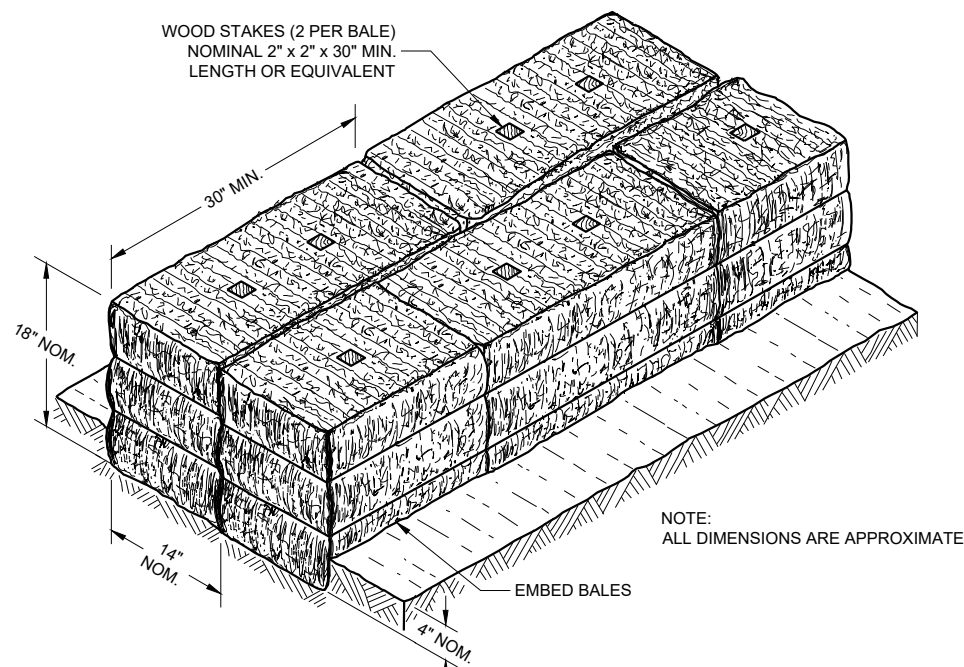
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

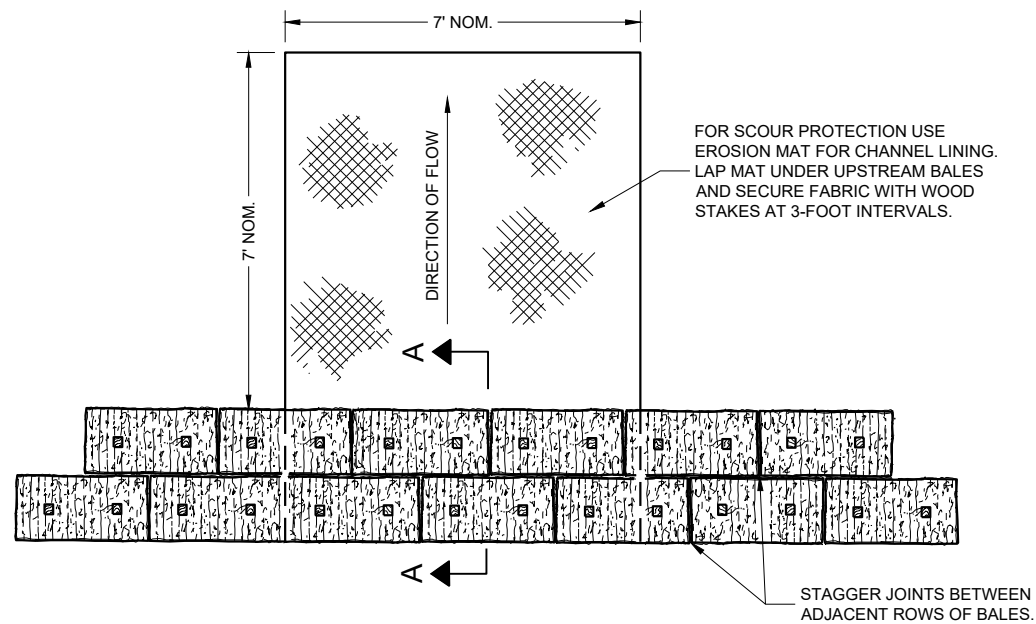
ENGINEER



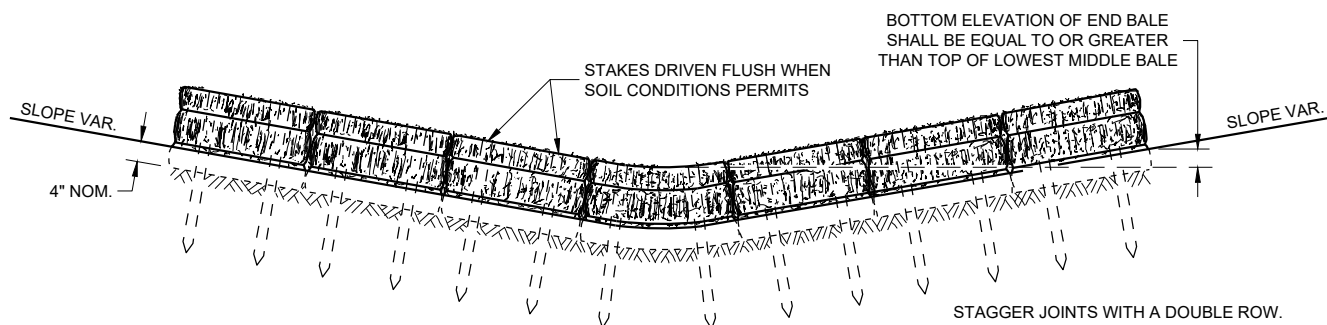
SDD 08E08 Typical Installations of Erosion Bales / Temporary Ditch Checks



SECTION A - A



PLAN VIEW



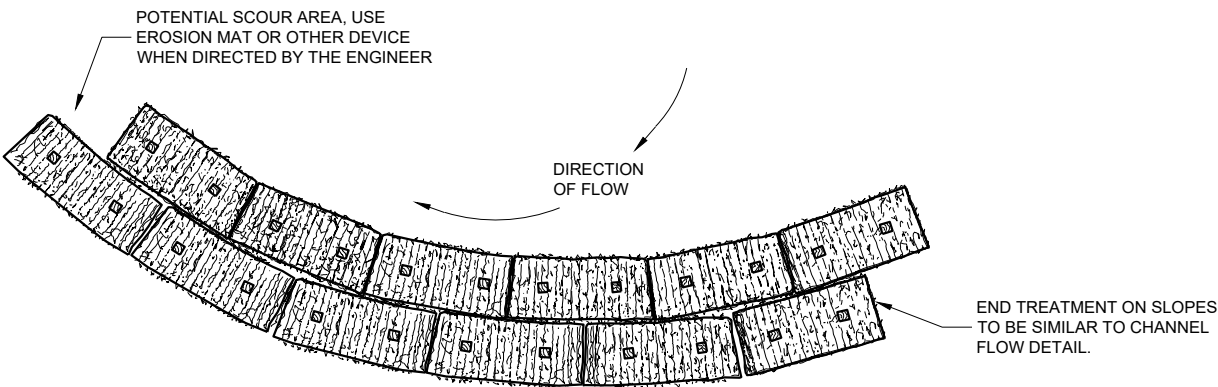
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES^①

GENERAL NOTES

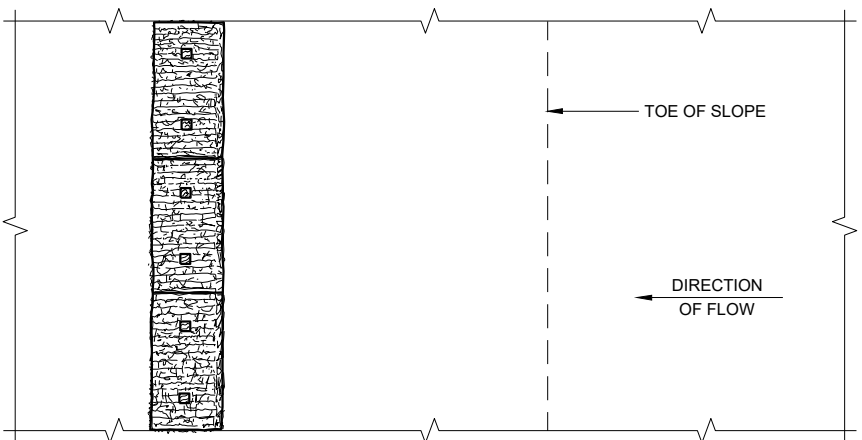
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

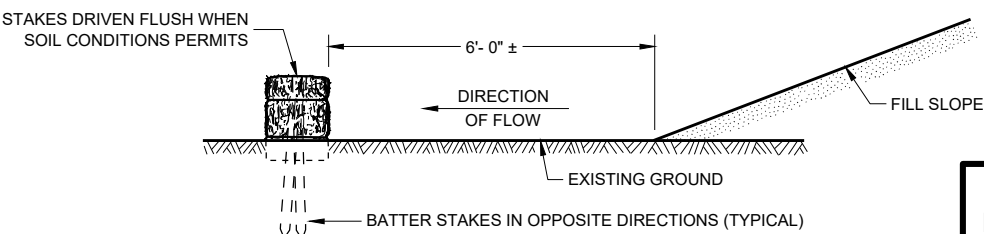


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN ELEVATION



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES/TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

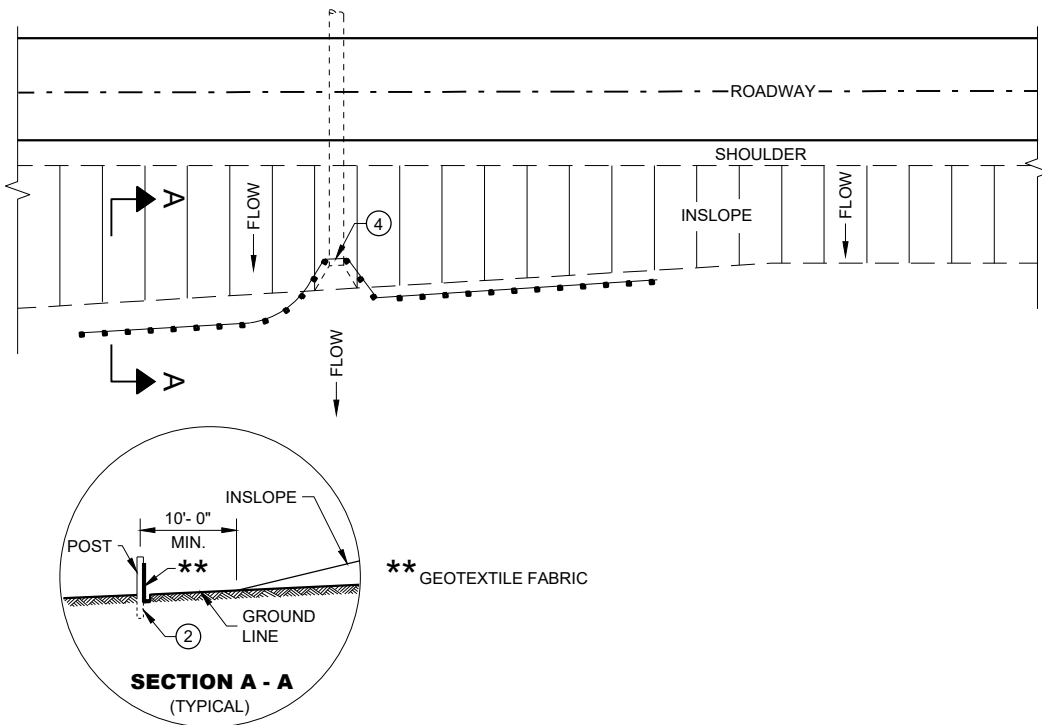
APPROVED

6/4/02

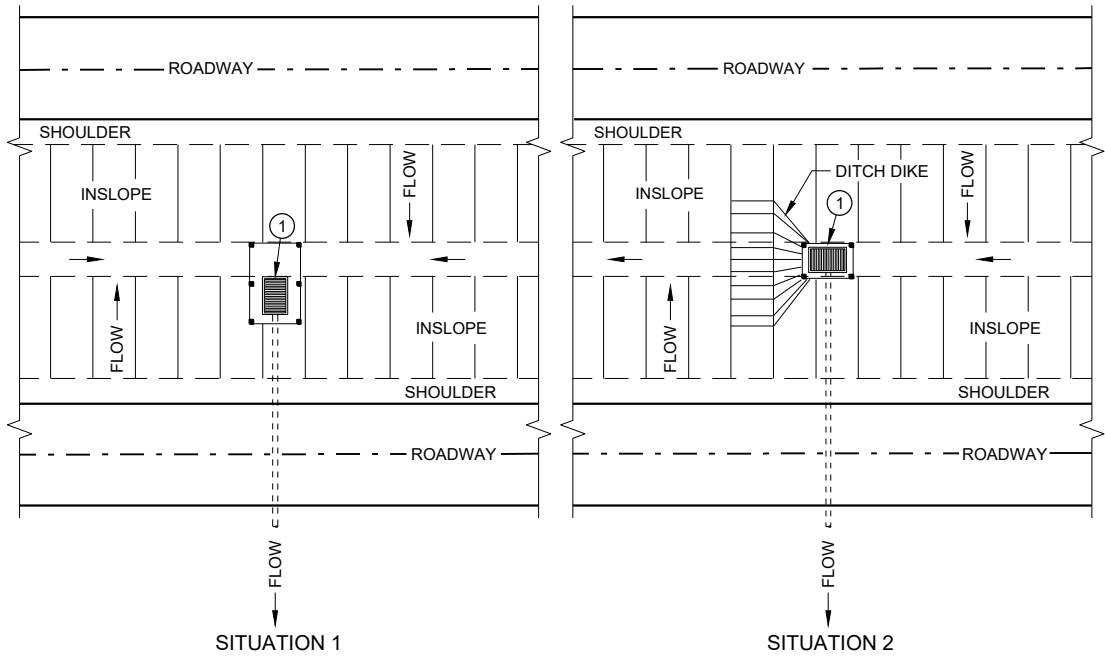
DATE

FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT
ENGINEER



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

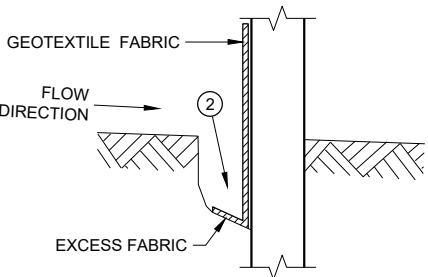


PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

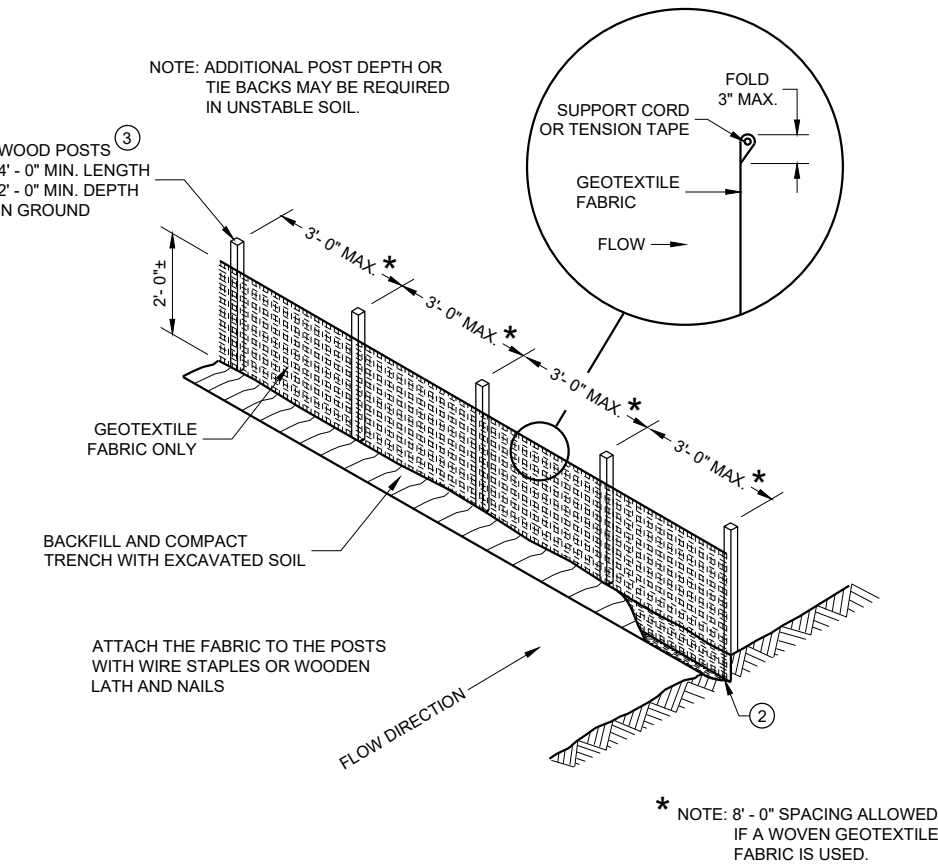
GENERAL NOTES

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

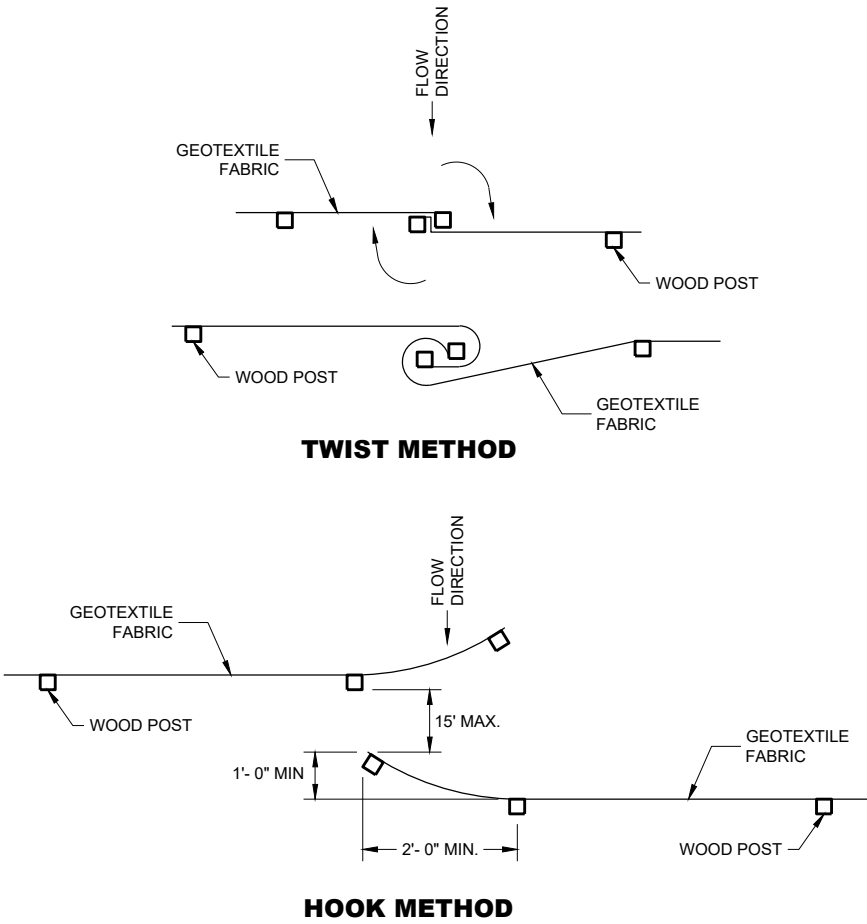
- 1 HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- 2 FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
- 3 WOOD 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.



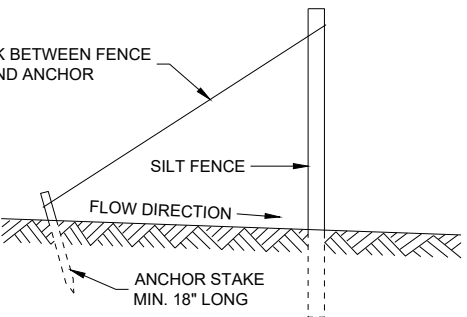
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/29/05

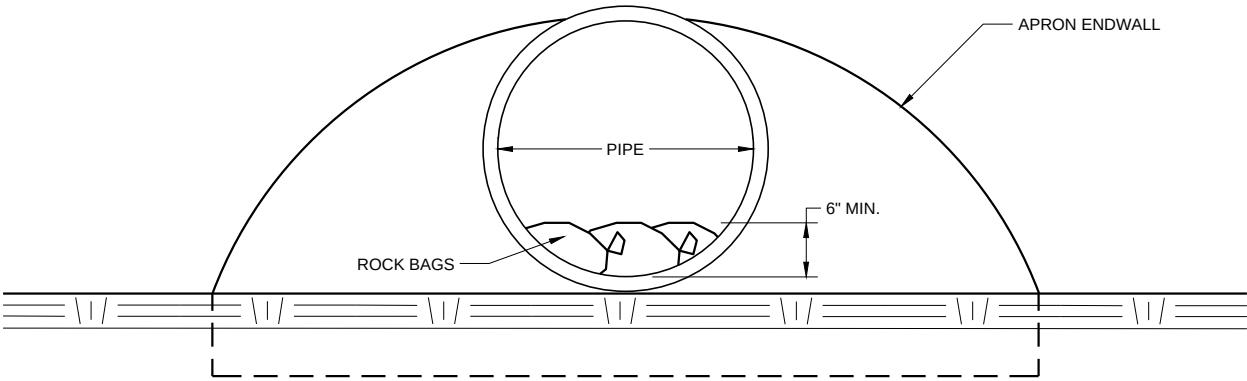
DATE

FHWA

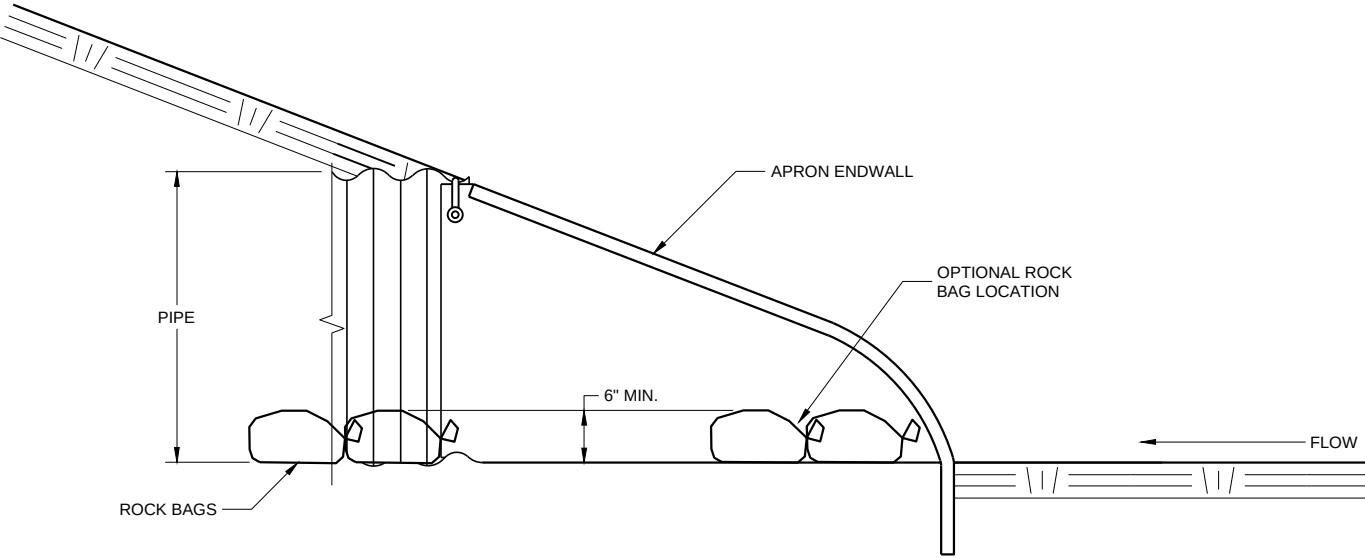
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT
ENGINEER



SDD 08E15 Culvert Pipe Check



END VIEW



SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Daniel Schave
EROSION CONTROL ENGINEER

FHWA



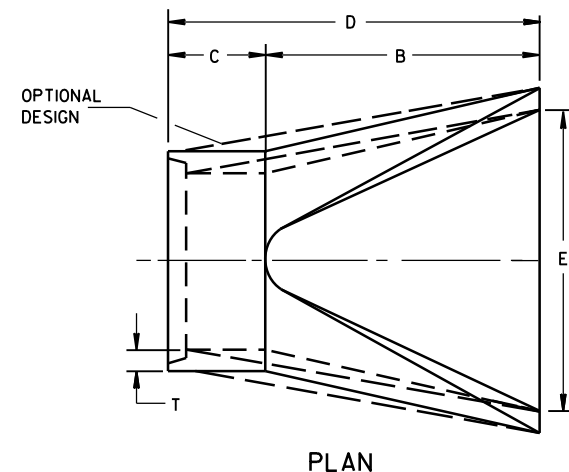
SDD 8F1 Apron Endwalls for Culvert Pipe

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

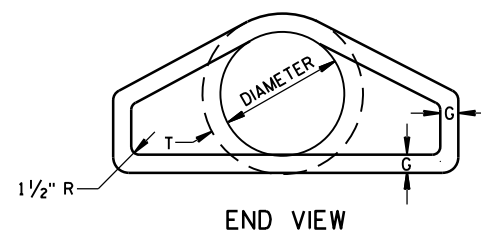
* EXCEPT CENTER PANEL
SEE GENERAL NOTES

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

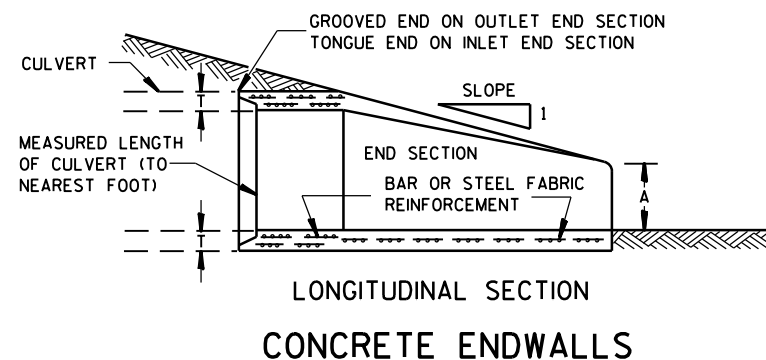
* MINIMUM
** MAXIMUM



PLAN

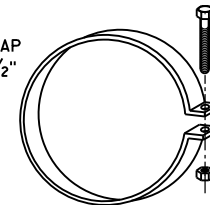


END VIEW

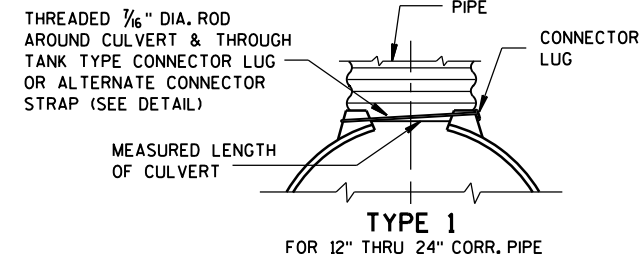


CONCRETE ENDWALLS

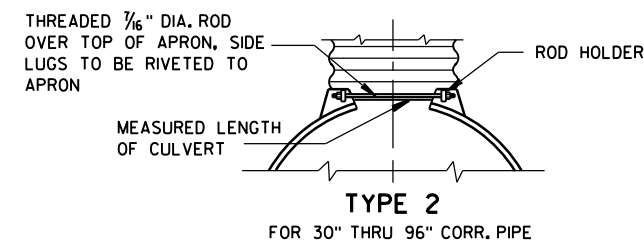
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



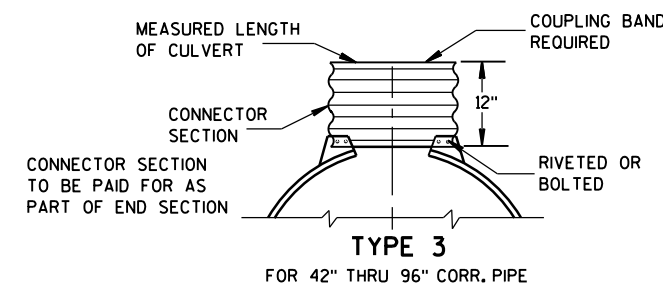
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



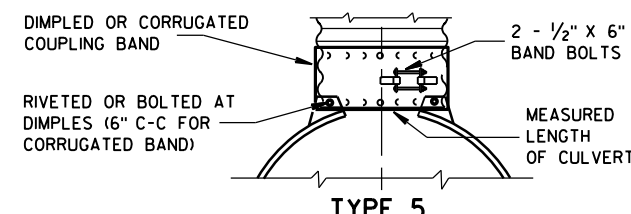
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

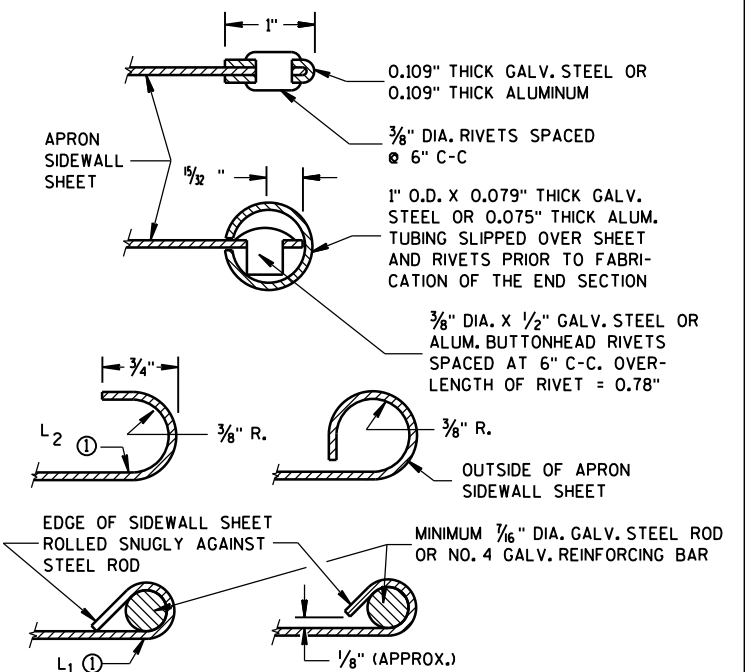
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

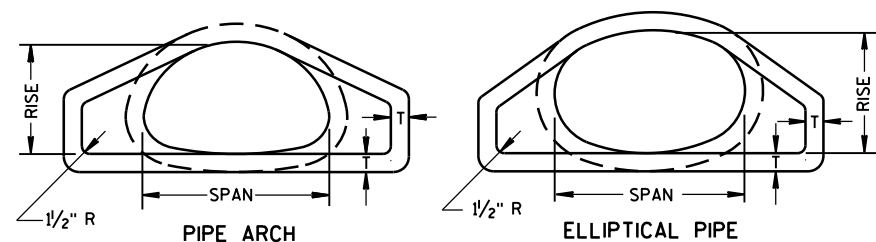
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

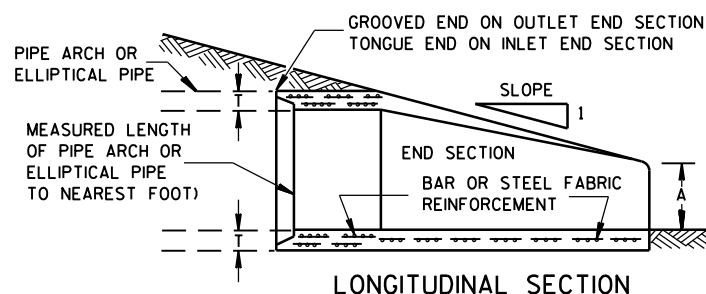
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-30-94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

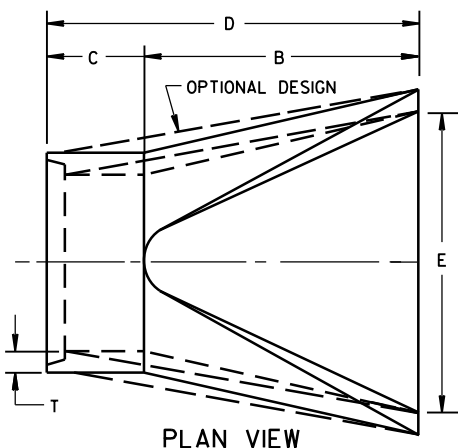


END VIEW



LONGITUDINAL SECTION

CONCRETE ENDWALLS



PLAN VIEW

2- 2 3/8" x 1/2" CORRUGATIONS												
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1
30	35	24	.079	.075	10	16	6	39	18	37 3/8	60	2 1/2 to 1
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1

3" X 1" CORRUGATIONS												
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE PIPE ARCH									
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)							APPROX. SLOPE	
	** SPAN	** RISE	T	A	B	C	D		E
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅞	60	36	96	72	3 to 1
42	51	31	4½	15⅞	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	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	28½	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	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅞	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ 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.

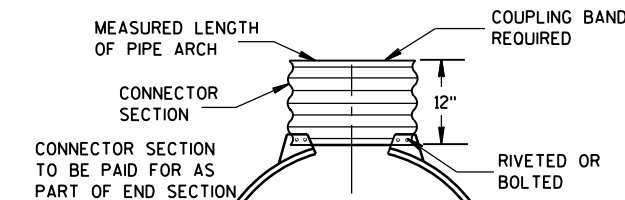
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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.



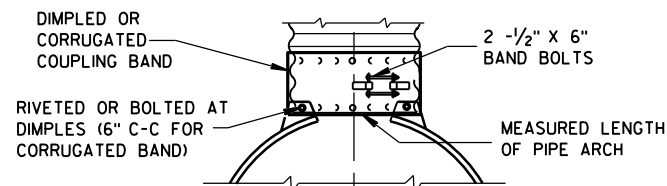
TYPE 2

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



TYPE 3

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

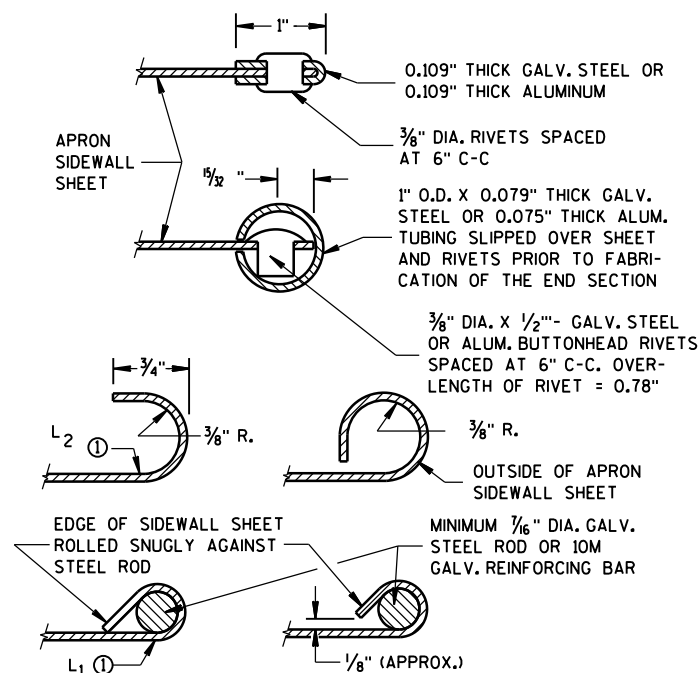


TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS



SECTION A-A

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11-30-94

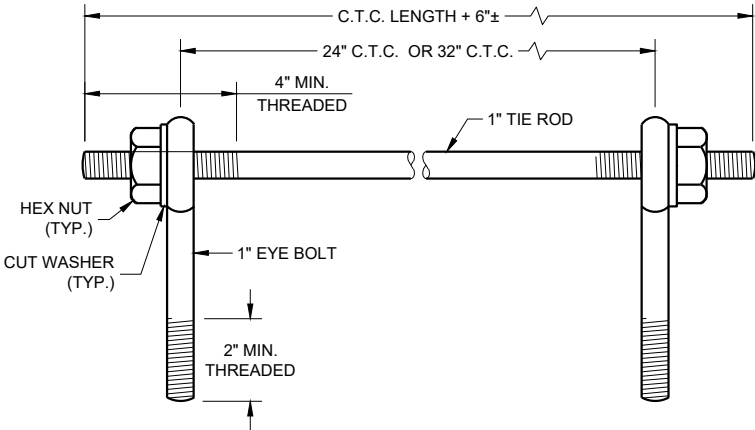
DATE

FHWA

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER



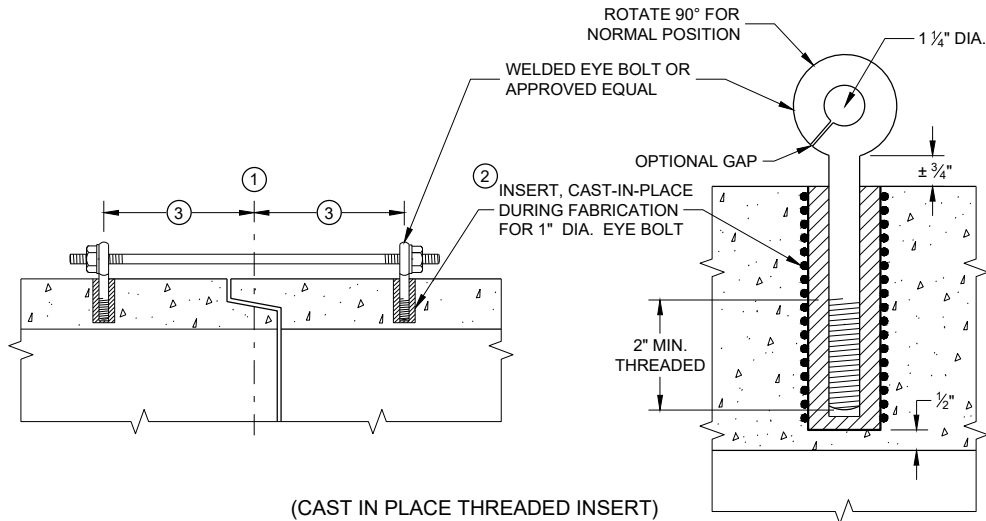
SDD 08F04 Joint Ties for Concrete Pipe and Concrete Collar Detail



6

EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

GENERAL NOTES

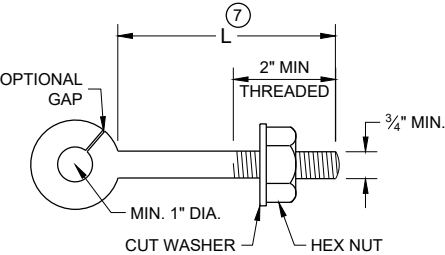
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

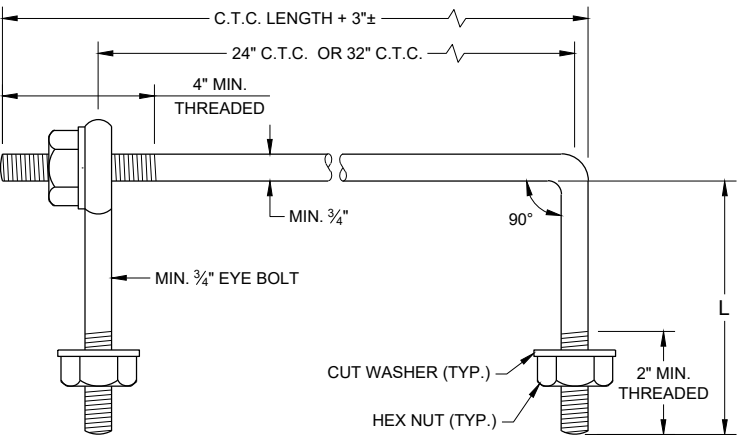
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

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

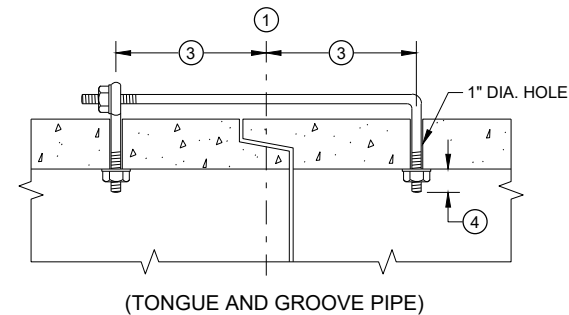


EYE BOLT

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



EYE BOLT AND TIE ROD

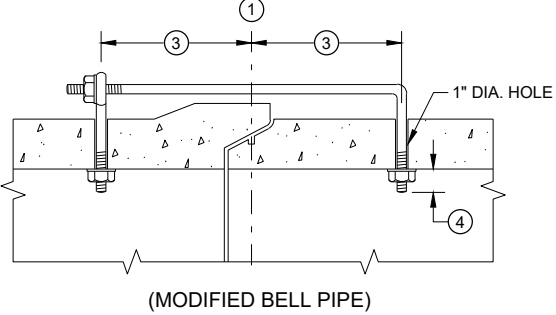


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

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

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

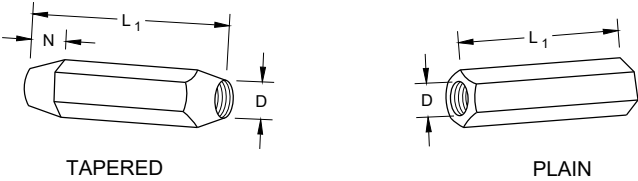


(MODIFIED BELL PIPE)

ADJUSTABLE TIE ROD TABLE

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

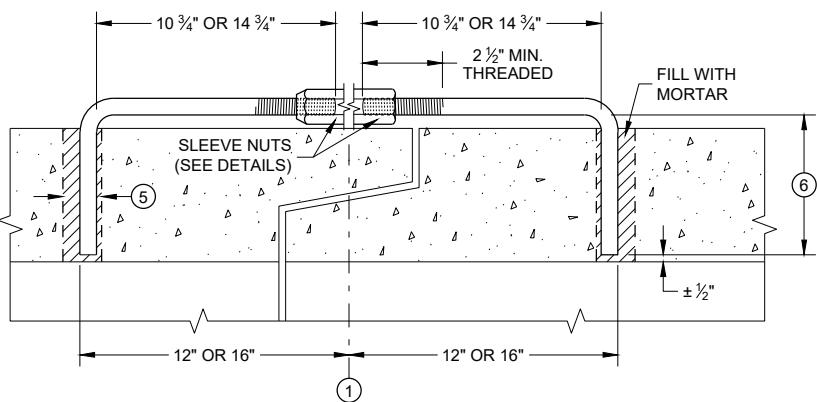
DIMENSIONS SHOWN ARE IN INCHES



TAPERED

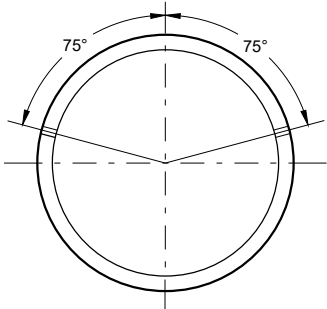
PLAIN

RIGHT AND LEFT THREADS SLEEVE NUTS



LONGITUDINAL SECTION

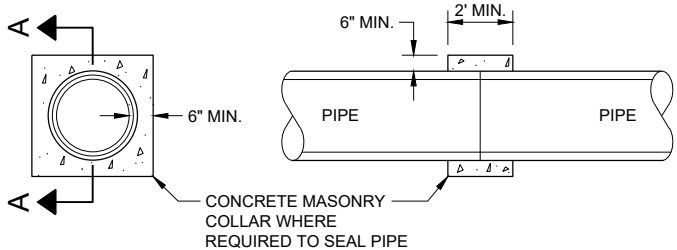
ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



6

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

TRANSVERSE SECTION



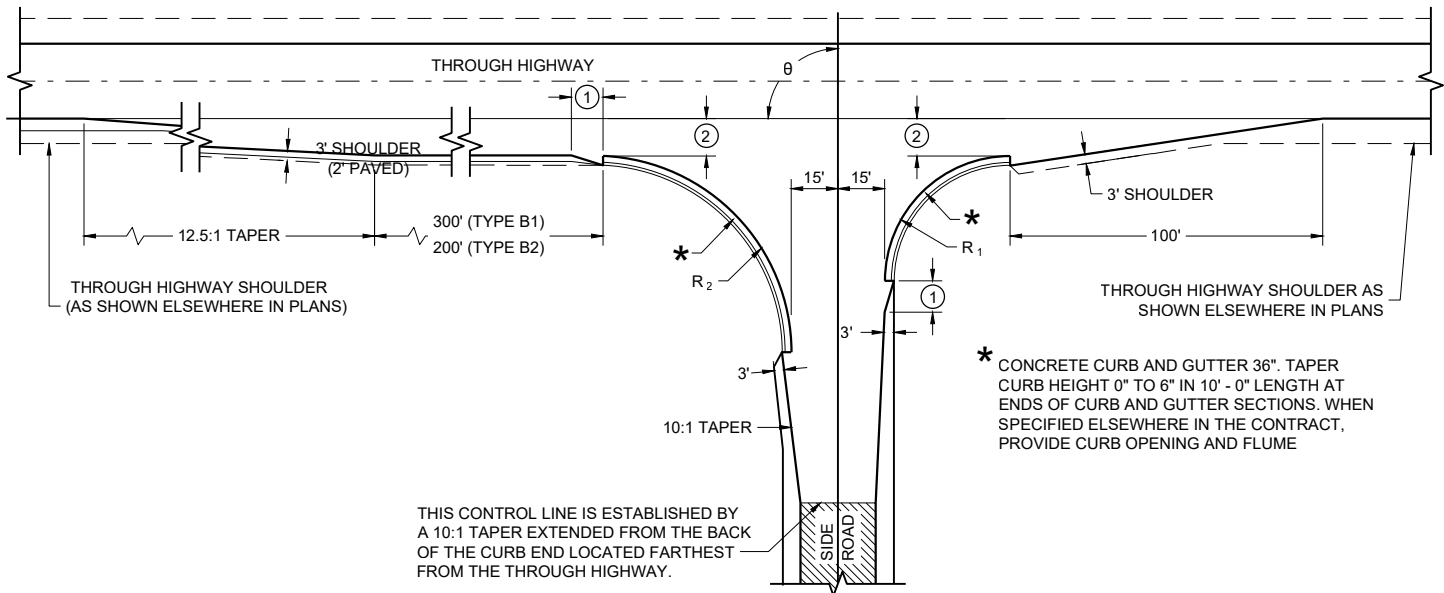
SECTION A - A

CONCRETE COLLAR DETAIL

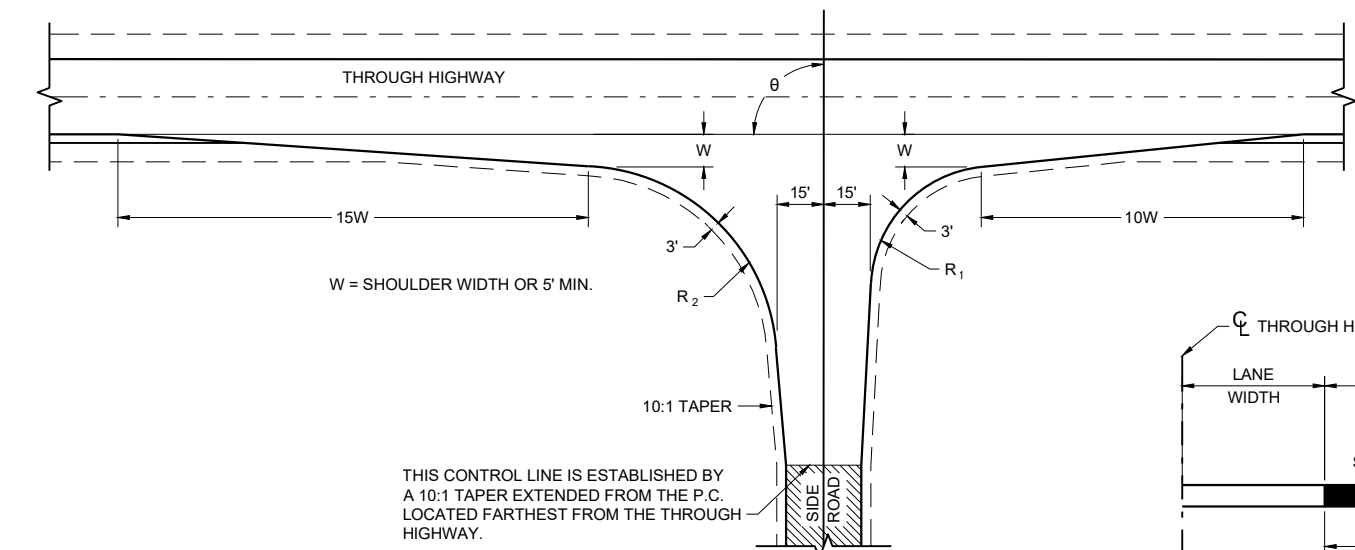
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

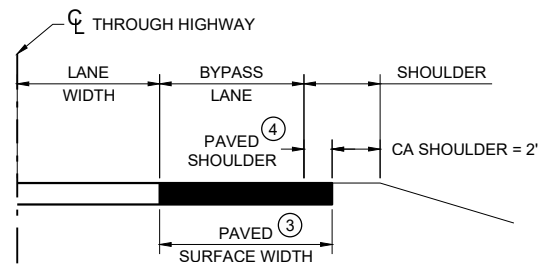
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



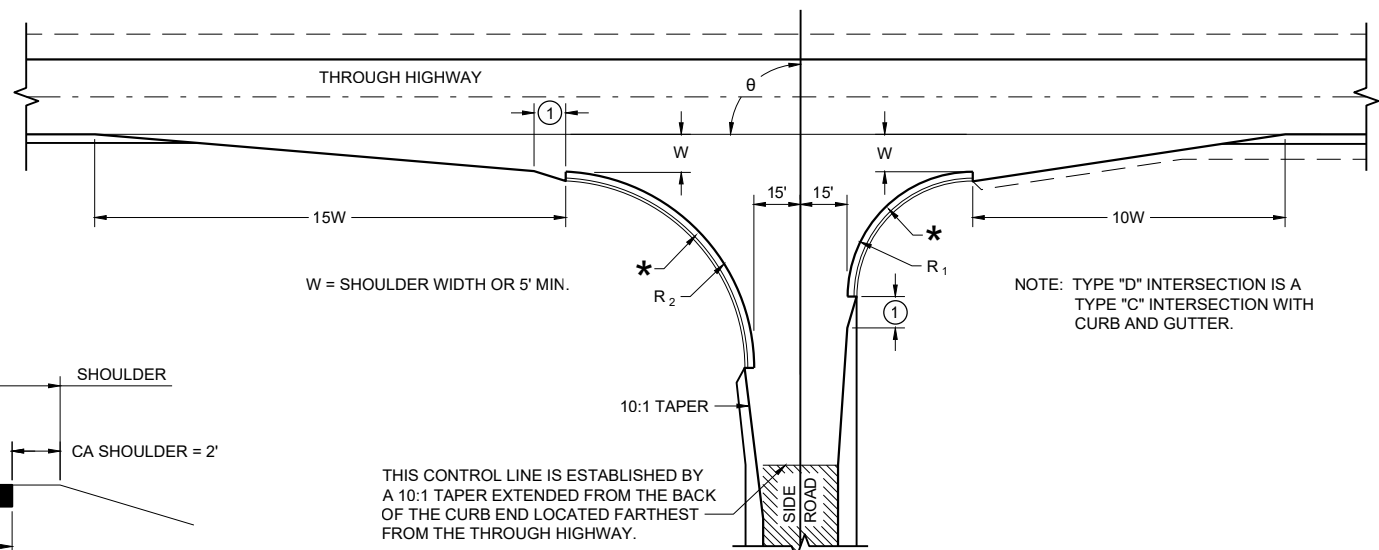
TYPE "B1" AND "B2"



TYPE "C"



SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



TYPE "D"

RADII DIMENSIONS FOR TYPES "B1",
"B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

GENERAL NOTES

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

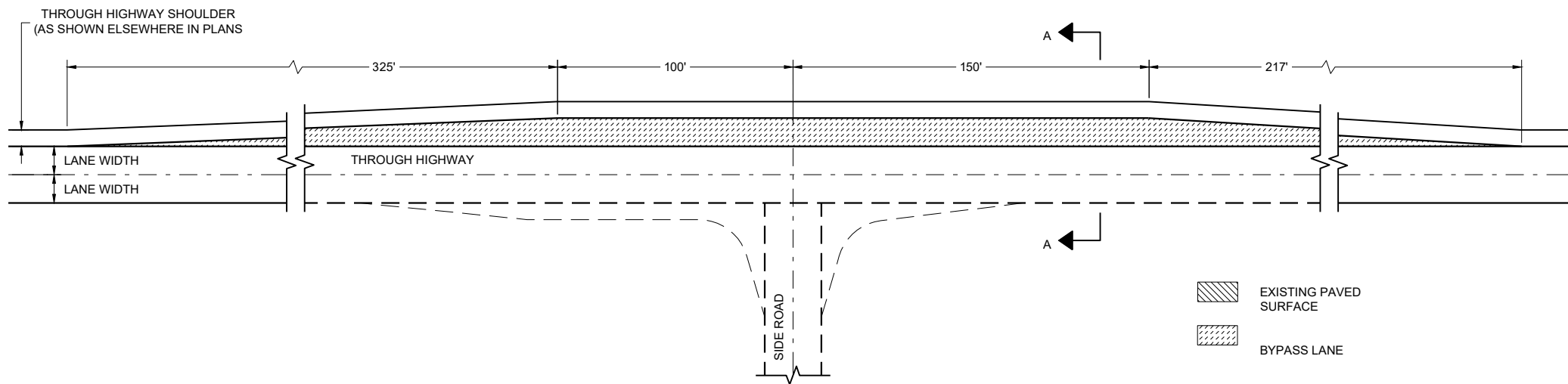
SIDE ROAD SURFACING NOTE

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

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

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

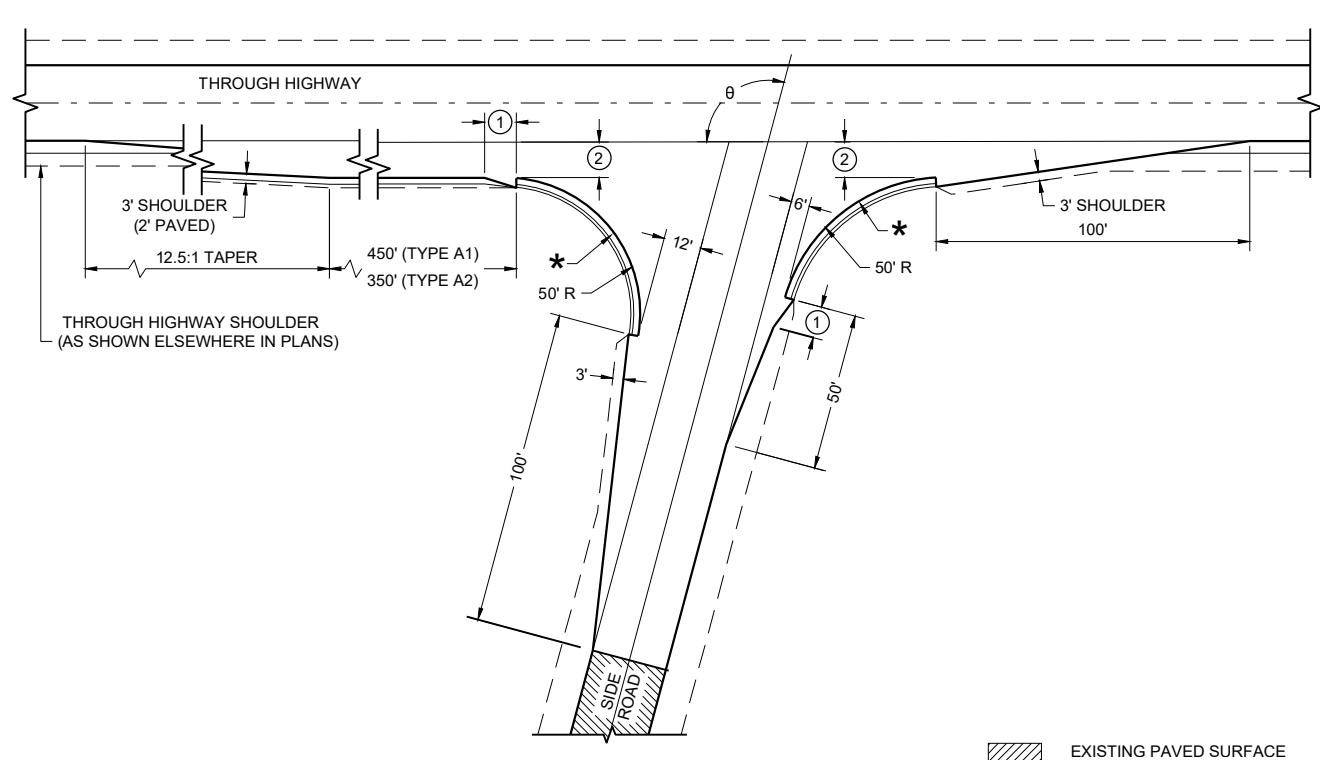
- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE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



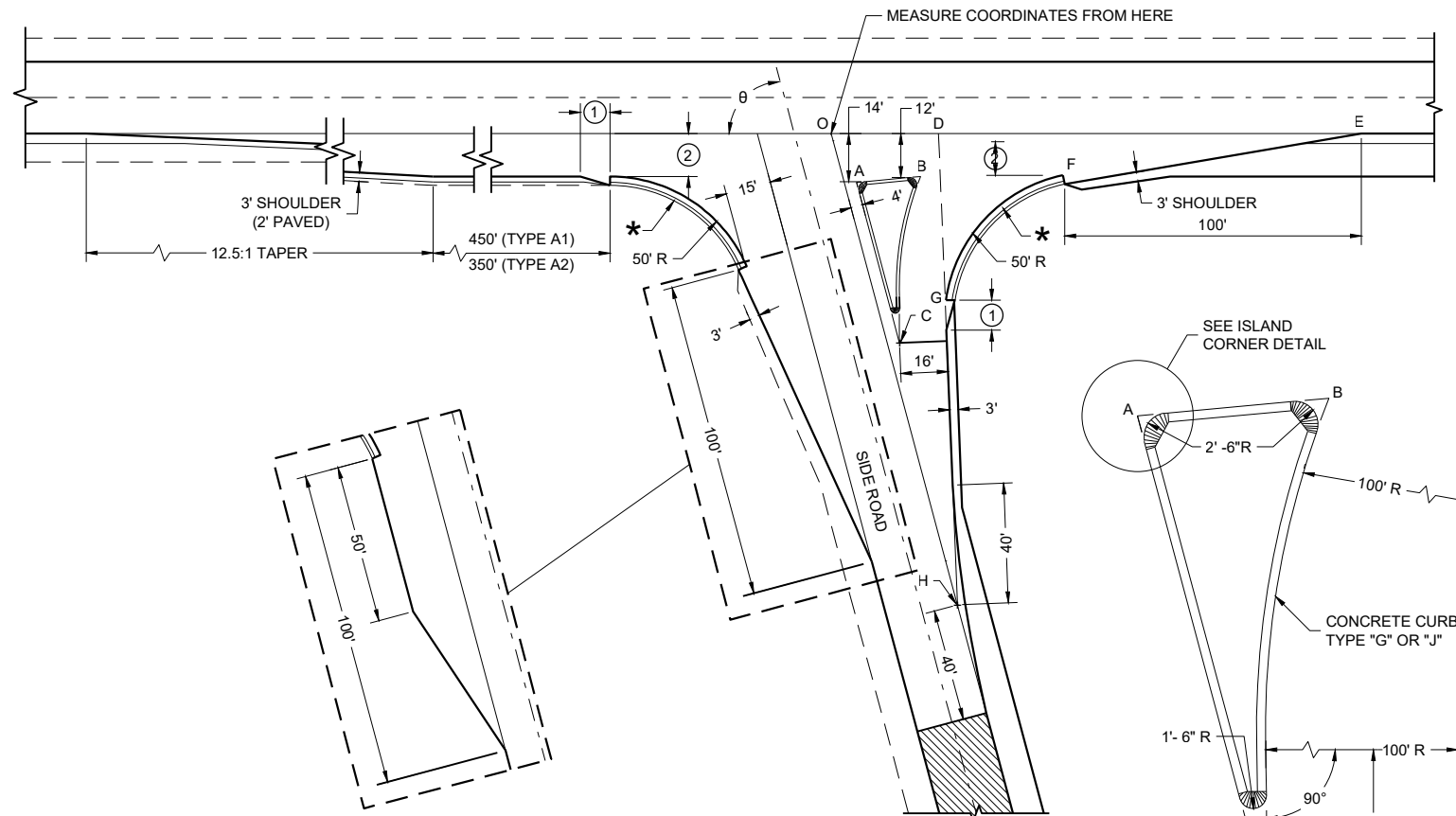
TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

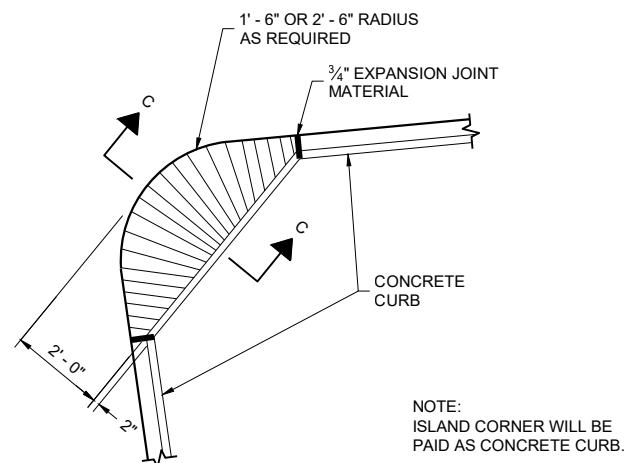
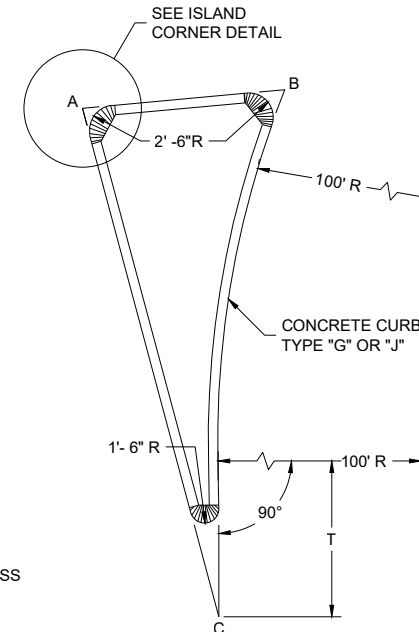


$\theta = \text{MORE THAN } 80^\circ$

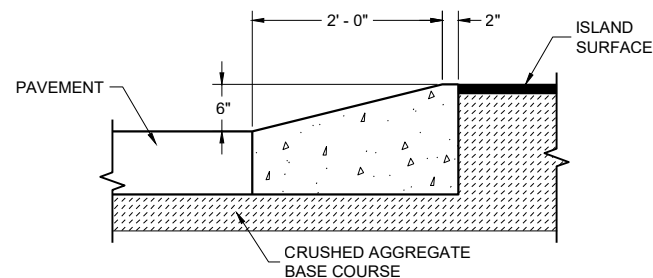


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
 $\theta = \text{ACUTE ANGLES } 70^\circ \text{ OR LESS}$

$\theta = \text{ACUTE ANGLES } 80^\circ \text{ OR LESS}$



PLAN VIEW



SECTION C - C

ISLAND CORNER DETAIL
(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

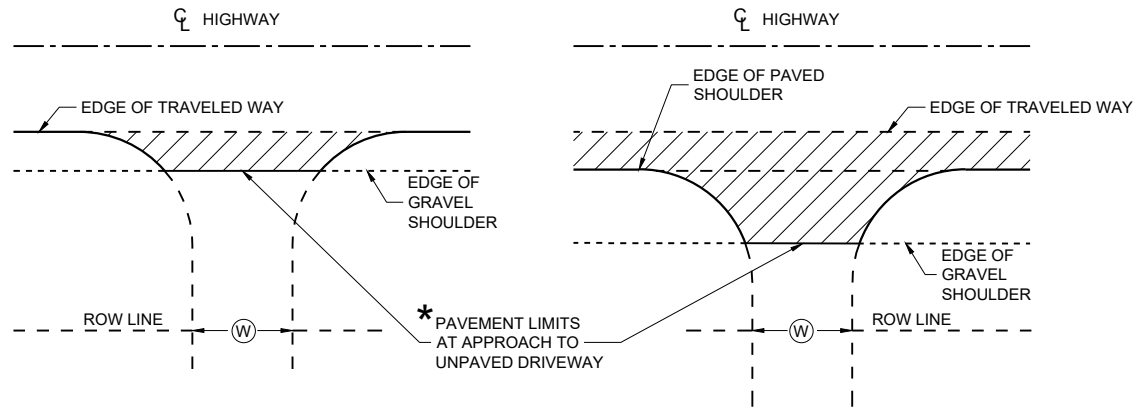
ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT 'O')								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 -14.0	44.9 -12.0	46.4 -72.4	41.9 0.0	205.0 0.0	104.6 -12.0	64.0 -75.5	85.0 -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 -14.0	39.0 -12.0	37.8 -71.6	39.4 0.0	196.1 0.0	95.7 -12.0	54.1 -71.5	70.5 -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 -14.0	33.9 -12.0	29.8 -70.1	37.4 0.0	188.3 0.0	87.8 -12.0	45.6 -67.5	56.1 -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 -14.0	29.3 -12.0	22.3 -67.9	35.7 0.0	181.2 0.0	80.7 -12.0	38.2 -63.4	41.8 -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 -14.0	25.4 -12.0	15.6 -65.2	34.4 0.0	174.8 0.0	74.4 -12.0	31.8 -59.3	27.6 -156.5	18.9	52.0	15.6	66.9	158.9

TYPE 'A1" AND "A2" SIDE ROAD INTERSECTION DETAILS

AT GRADE SIDE ROAD
INTERSECTIONS
TYPES "A1" AND "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ John Jenkins
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

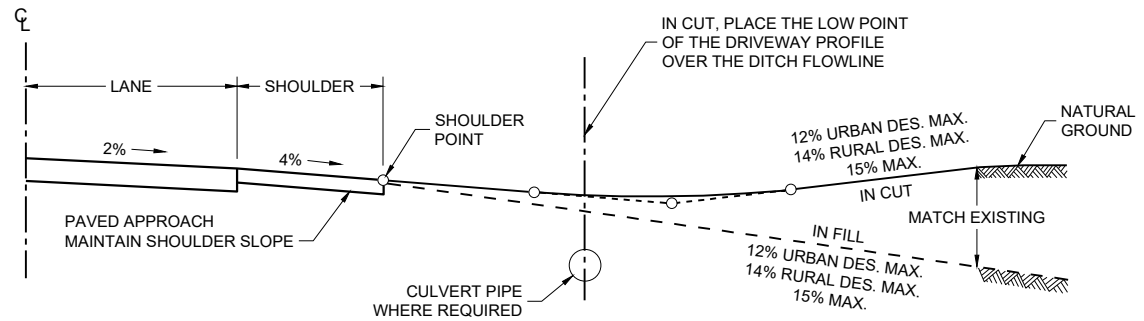


* WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

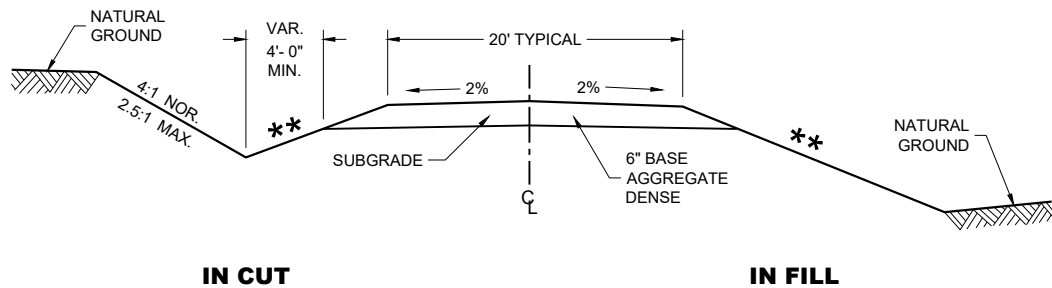
PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



TYPICAL DRIVEWAY PROFILES

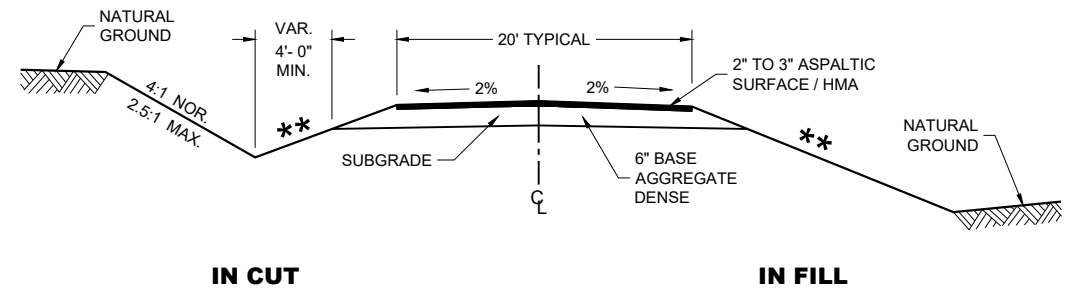
Ⓢ : DRIVEWAY WIDTHS (MEASURED AT ROW LINE)
 ~ COMMERCIAL & INDUSTRIAL 16' MIN. - 35' MAX.
 ~ RESIDENTIAL & AGRICULTURAL 16' MIN. - 24' MAX. (NONCOMMERCIAL)



**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



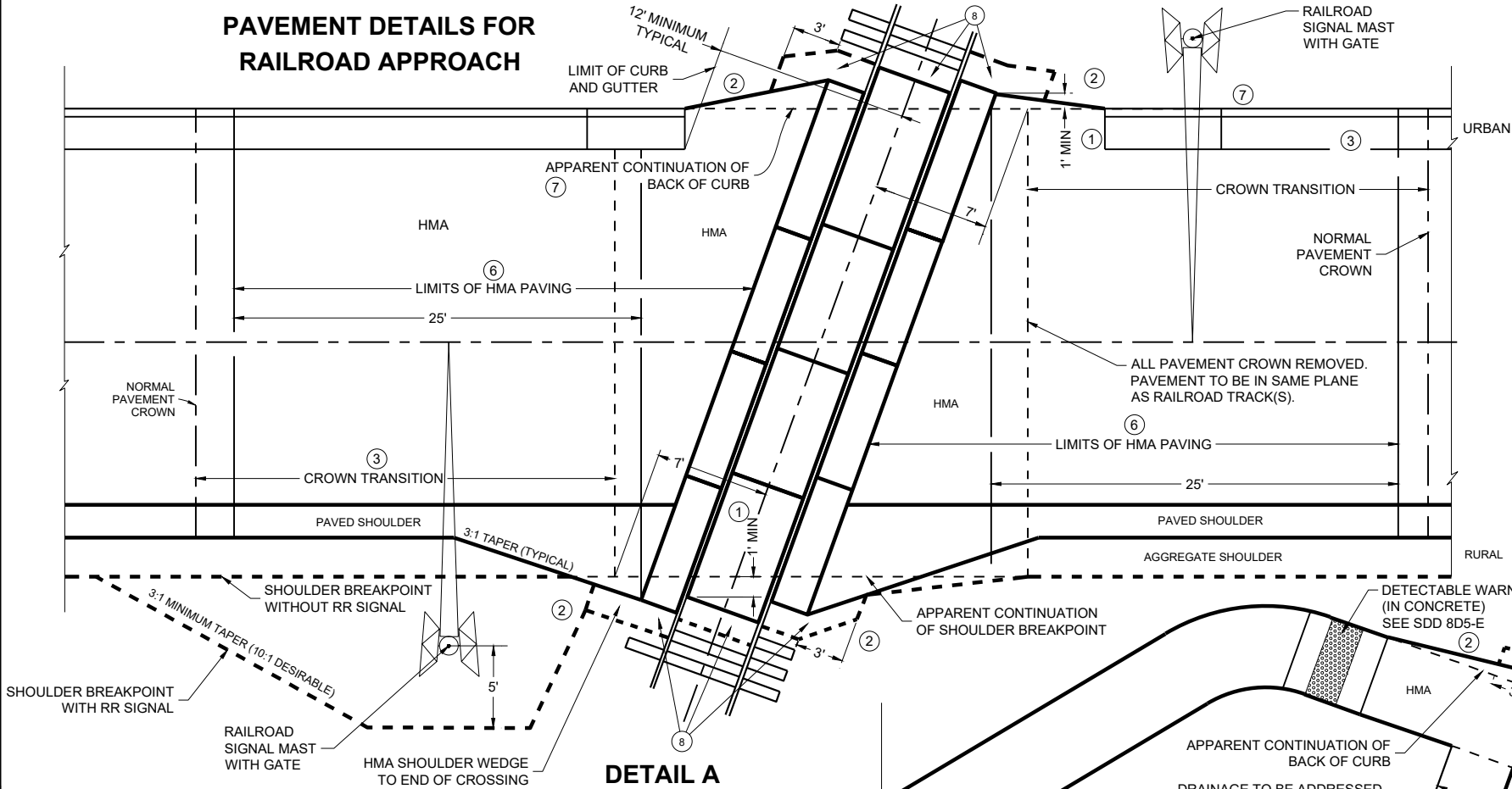
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
 November 2025 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
 FHWA

PAVEMENT DETAILS FOR RAILROAD APPROACH



DETAIL A
RAILROAD APPROACH

GENERAL NOTES CONTINUED

- 1' MINIMUM CROSSING SURFACE COVERAGE PAST THE APPARENT CONTINUATION OF SHOULDER BREAKPOINT, BACK OF CURB, OR OUTSIDE EDGE OF SIDEWALK/PATH. INDIVIDUAL RAILROADS MAY HAVE DIFFERENT MINIMUM STANDARDS.
- HMA FLARE FROM OUTSIDE EDGE OF SIDEWALK/PATH, BACK OF CURB, OR AGGREGATE SHOULDER BREAKPOINT TO THE END OF CROSSING SURFACE MATERIAL.
- CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.
- NEAR EDGE OF PATH TO THE CENTER OF SIGNAL OR GATE MAST SHOULD BE A MINIMUM OF 5'-0". FOR SIDEWALK, THE NEAR EDGE SHOULD BE A MINIMUM OF 3'-0" TO THE CENTER OF SIGNAL OR GATE. NEAR EDGE OF SIDEWALK TO A NON-GATED MAST OR CANTILEVER SHOULD BE A MINIMUM OF 2'-6". SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATION IF THEY ARE NOT ALREADY INSTALLED.
- TERRACE WIDTH VARIES. SEE PLAN FOR RAILROAD SIGNAL AND GATE LOCATIONS. PER PLAN OR PROJECT ENGINEER THE TERRACE AND SIDEWALK/PATH GRADES SHALL BE TRANSITIONED TO MATCH THE GRADE OF THE TRACK. FIELD FIT TO AVOID PONDING.
- 25' MINIMUM HMA PAVING MEASURED PARALLEL TO THE ROAD OR 10' MINIMUM MEASURED PERPENDICULAR TO THE TRACK FROM THE EDGE OF THE CROSSING SURFACE, WHICHEVER IS GREATER.
- REFERENCE SDD 8-D-01 END SECTION CURB AND GUTTER. MEDIAN END NEAR THE TRACK SHOULD BE PARALLEL TO THE TRACK. 6'-0" TAPER FOR A MEDIAN SHOULD BE REDUCED TO GET FULL HEIGHT CURB WHERE THE GATE COMES DOWN. DESIGN OPTION TO POUR MEDIAN TAPER IN ONE PIECE. BUILD PER PLAN UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.
- IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL G.

GENERAL NOTES

PLANS AND SECTIONS ARE TYPICAL. DIMENSIONS VARY PER PROJECT.

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

CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS DIRECTED OTHERWISE. IF THE FINAL GRADES DON'T MATCH TO THE PLAN GRADES THEN GRADE ADJUSTMENTS WILL BE NECESSARY. CONFIRM NEW GRADES WITH PROJECT ENGINEER.

HMA PAVEMENT APPROACHES, HMA PAVEMENT CROSSING SURFACES, AND HMA FLANGWAY/FIELD FILLERS TO BE REPLACED BY ROADWAY CONTRACTOR UNLESS DIRECTED OTHERWISE BY THE PLANS, SPECIAL PROVISIONS, RAILROAD ENGINEER, OR PROJECT ENGINEER.

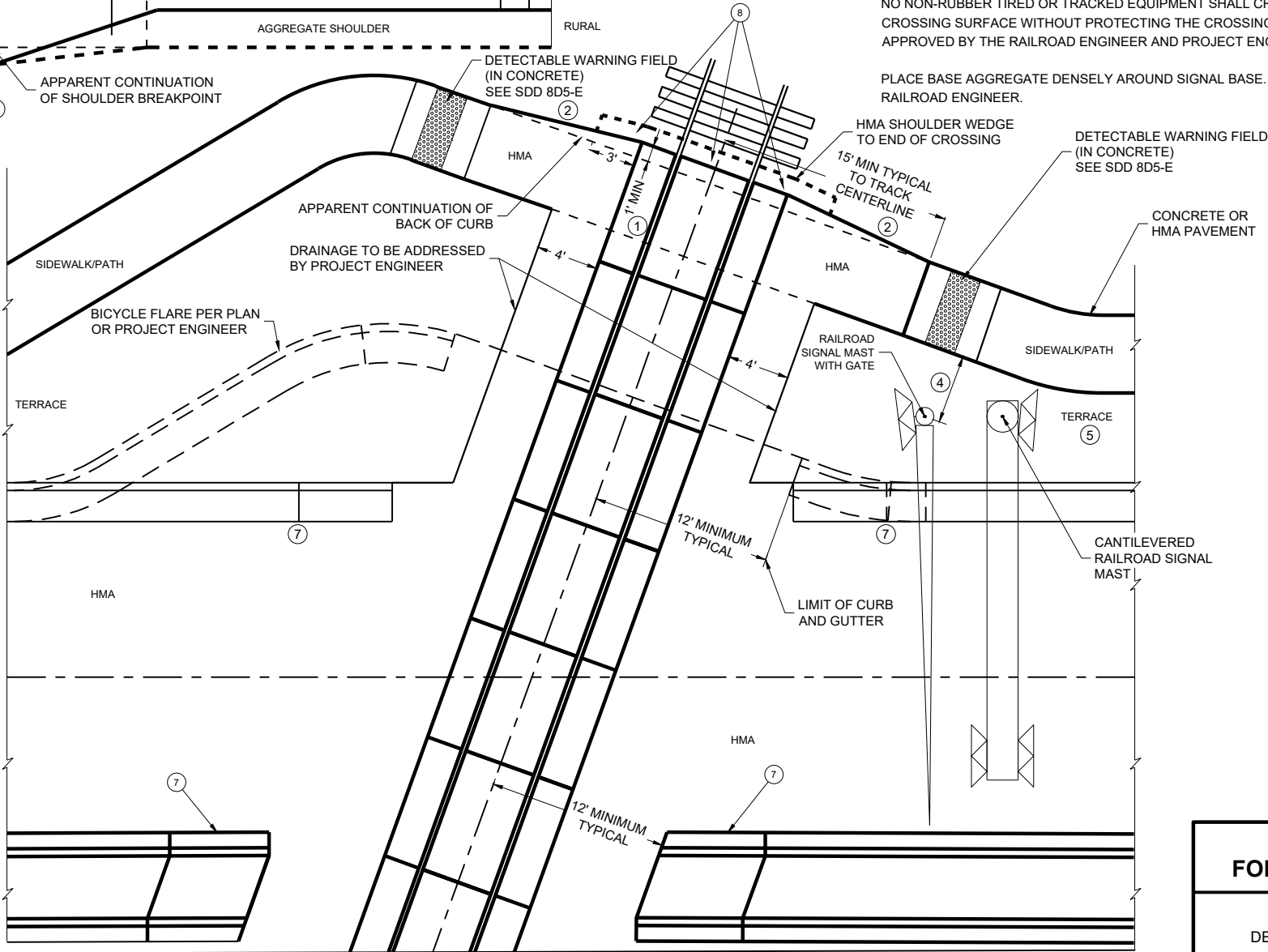
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

WHEN THERE IS A SIDEWALK OR SHARED-USE PATH, ADD DETECTABLE WARNING FIELDS PER CURRENT STANDARD DETAIL DRAWING 8D5-E.

THE CROSSING SHALL NOT BE OPENED TO ANY TYPE OF TRAFFIC UNTIL IT IS FULLY PAVED AND COOLED SUFFICIENTLY UNLESS OTHERWISE APPROVED BY THE RAILROAD ENGINEER AND THE PROJECT ENGINEER.

NO NON-RUBBER TIRED OR TRACKED EQUIPMENT SHALL CROSS OR SIT ON THE CROSSING SURFACE WITHOUT PROTECTING THE CROSSING SURFACE WITH A METHOD APPROVED BY THE RAILROAD ENGINEER AND PROJECT ENGINEER.

PLACE BASE AGGREGATE DENSELY AROUND SIGNAL BASE. COORDINATE WITH THE RAILROAD ENGINEER.



DETAIL B
MEDIAN AND SIDEWALK/SHARED-USE PATH APPROACH

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

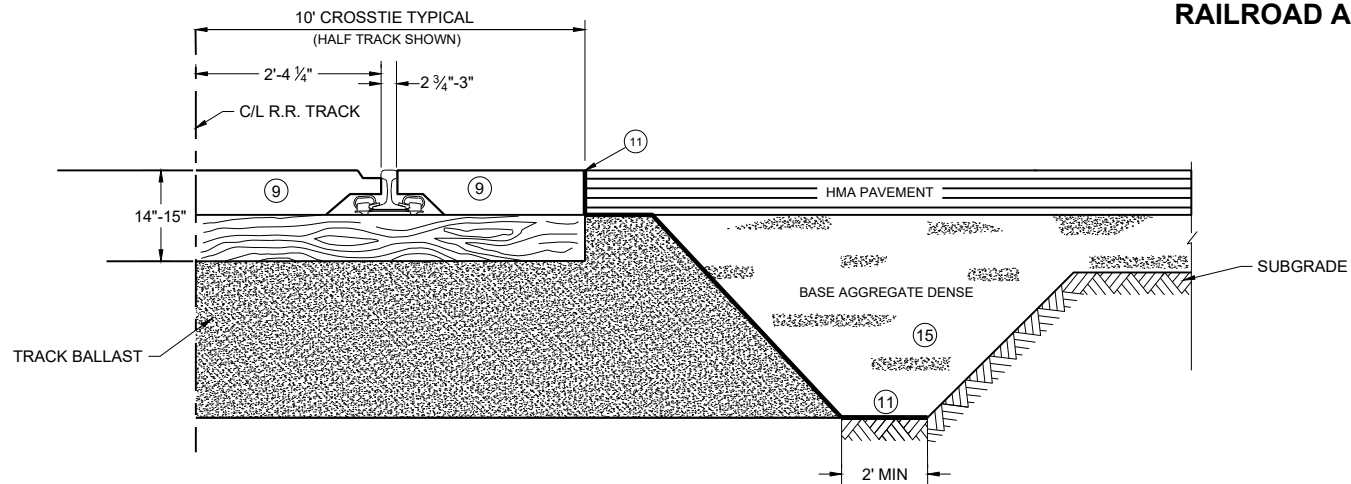
APPROVED

May 2023
DATE

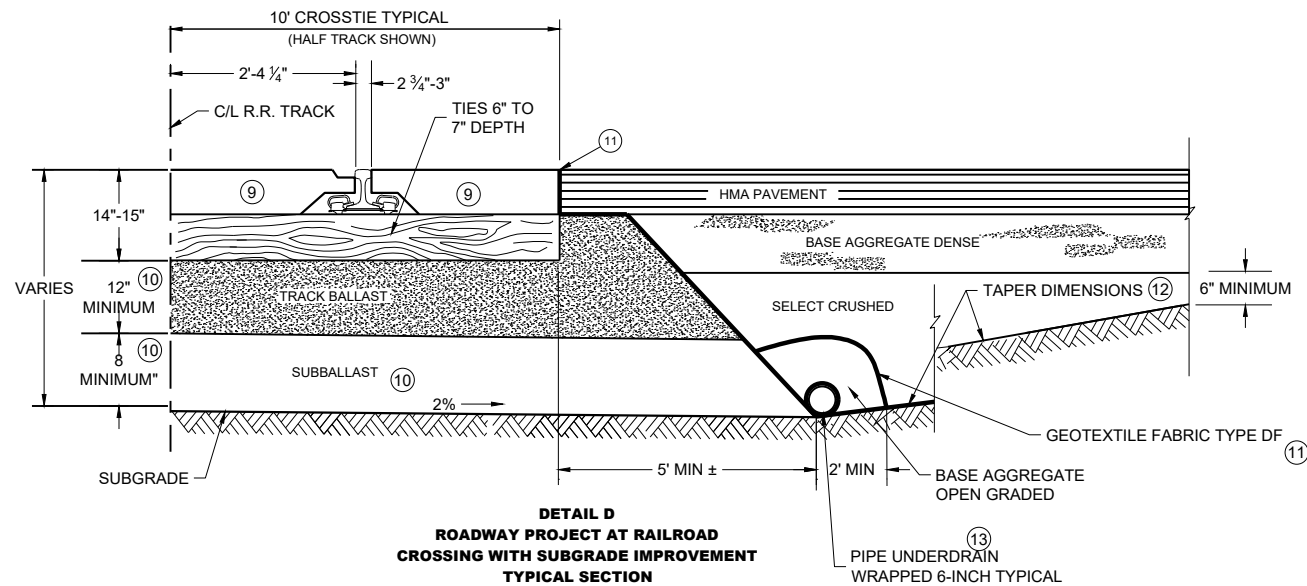
FHWA

/S/ Kristen Sommers
STATE RAILROAD ENGINEERING
AND SAFETY SUPERVISOR

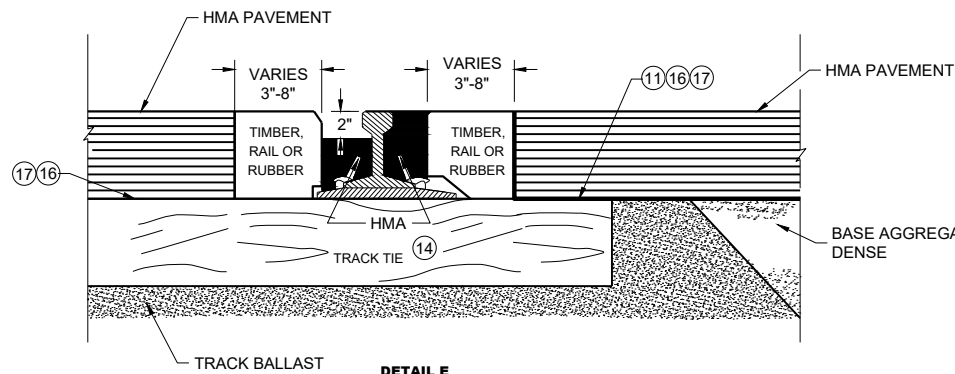
TYPICAL SECTIONS FOR
RAILROAD APPROACH



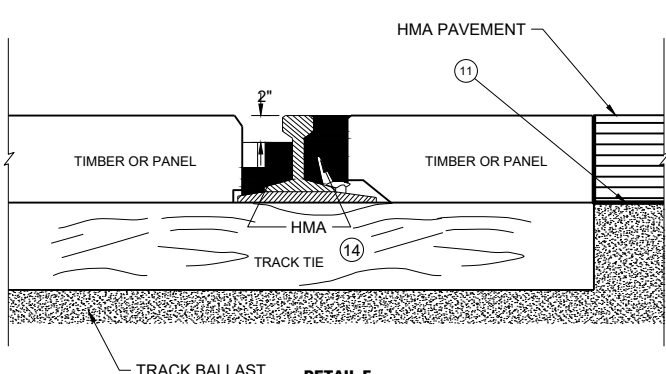
DETAIL C
ROADWAY PROJECT AT RAILROAD
CROSSING WITHOUT SUBGRADE IMPROVEMENT
TYPICAL SECTION



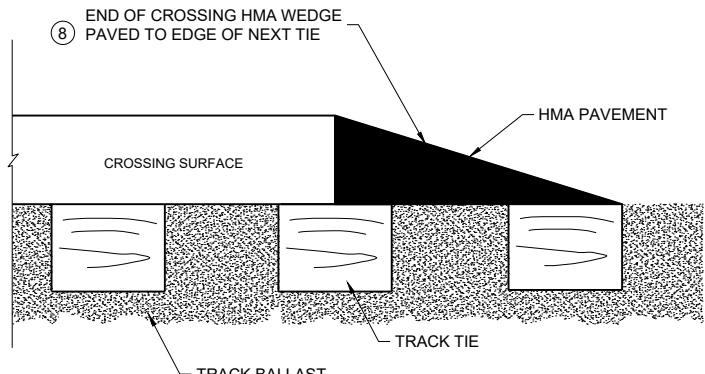
DETAIL D
ROADWAY PROJECT AT RAILROAD
CROSSING WITH SUBGRADE IMPROVEMENT
TYPICAL SECTION



DETAIL E
TIMBER, RAIL OR
RUBBER SECTION
HMA FLANGEWAY
AND FIELD FILLERS



DETAIL F
PANEL SECTION
HMA FLANGEWAY
AND FIELD FILLERS



DETAIL G
END OF CROSSING HMA WEDGE

GENERAL NOTES

- ⑧ IF METAL END PLATES ARE NOT INSTALLED BY THE RAILROAD THEN HMA PAVEMENT WEDGE SHALL BE PLACED AT THE END OF THE LAST PANEL TAPERED TO BACK EDGE OF NEXT TIE AND THOROUGHLY COMPACTED. SEE DETAIL A AND B.
- ⑨ MATCH THE CROSSING TYPE THAT IS INSTALLED UNLESS OTHERWISE DIRECTED BY PROJECT ENGINEER.
- ⑩ TRACK BALLAST AND SUBBALLAST REQUIRED 12" AND 8" MINIMUM DEPTHS RESPECTIVELY. DIMENSION FROM BOTTOM OF TRACK TIE TO HIGH SIDE OF 2% SLOPE. THE 2% SLOPE IS REQUIRED ON RAILROAD SUBBALLAST. SEE PLAN FOR CROWN, MATERIAL THICKNESS, AND SLOPE DIRECTION. SUBBALLAST CAN BE HMA, 1 1/2" BASE AGGREGATE DENSE, SELECT CRUSHED, OR A COMBINATION OF THEM.
- ⑪ GEOTEXTILE FABRIC TYPE SAS PLACED IN ORDER TO PROVIDE STABILIZATION AND SEPARATION ON TOP OF THE TRACK BALLAST WHERE IT IS UNDER HMA PAVEMENT, BASE AGGREGATE DENSE OR SELECT CRUSHED MATERIAL AND THE FIELD SIDE BALLAST CRIBS. GEOTEXTILE FABRIC TYPE DF PLACED IN ORDER TO PROVIDE STABILIZATION AND SEPARATION UNDER AND AROUND THE PIPE UNDERDRAIN. PLACING GEOTEXTILE FABRIC OR GEOGRID UNDER THE SUBBALLAST IS OPTIONAL.
- ⑫ TAPER DIMENSIONS PROVIDED BY PLAN OR BY PROJECT ENGINEER.
- ⑬ IF SHOWN ON THE PLAN, TYPICAL 6-INCH PERFORATED PVC SCHEDULE 80 PIPE UNDERDRAIN TO BE PLACED ALONG THE TOE OF SLOPE, GRADED TO DRAIN AND DAYLIGHT OR INTO STORM SEWER. BASE AGGREGATE OPEN GRADED OVER PIPE UNDERDRAIN AND THEN WRAPPED IN GEOTEXTILE FABRIC TYPE DF SCHEDULE A IN ORDER TO STABILIZE AND SEPARATE FROM SELECT CRUSHED.
- ⑭ HMA FLANGEWAY AND FIELD FILLERS ARE TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR, WHEN NOT PROVIDED BY OTHERS AS PART OF THE CROSSING SURFACE MATERIAL. IF THE CROSSING SURFACE IS NOT BEING REPLACED, THEN REMOVE AND REPLACE THE HMA FLANGEWAY AND FIELD FILLERS AS DIRECTED BY THE RAILROAD OR PROJECT ENGINEER.
- ⑮ GRADE TO MATCH EXISTING OR PROPOSED TYPICAL SECTION OF ROADWAY. SEE PLAN OR PROJECT ENGINEER FOR MORE DETAIL. IF NOT NOTED OTHERWISE IN THE PLAN, BACKFILL ANY REMOVED BASE AND SUBGRADE WITH BASE AGGREGATE DENSE.
- ⑯ IF THE CROSSING IS NOT BEING REPLACED, REMOVE AND REPLACE HMA AS DIRECTED BY RAILROAD AND PROJECT ENGINEER. CARE MUST BE TAKEN TO NOT DAMAGE CROSSING PANELS, TIES, RAIL, PLATES AND SPIKES.
- ⑰ PLACE HMA FULL DEPTH. AGGREGATE IS NOT TO BE PLACED BETWEEN THE RAILROAD TIES AND THE HMA PAVEMENT.

**TYPICAL SECTIONS
FOR RAILWAY APPROACH**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

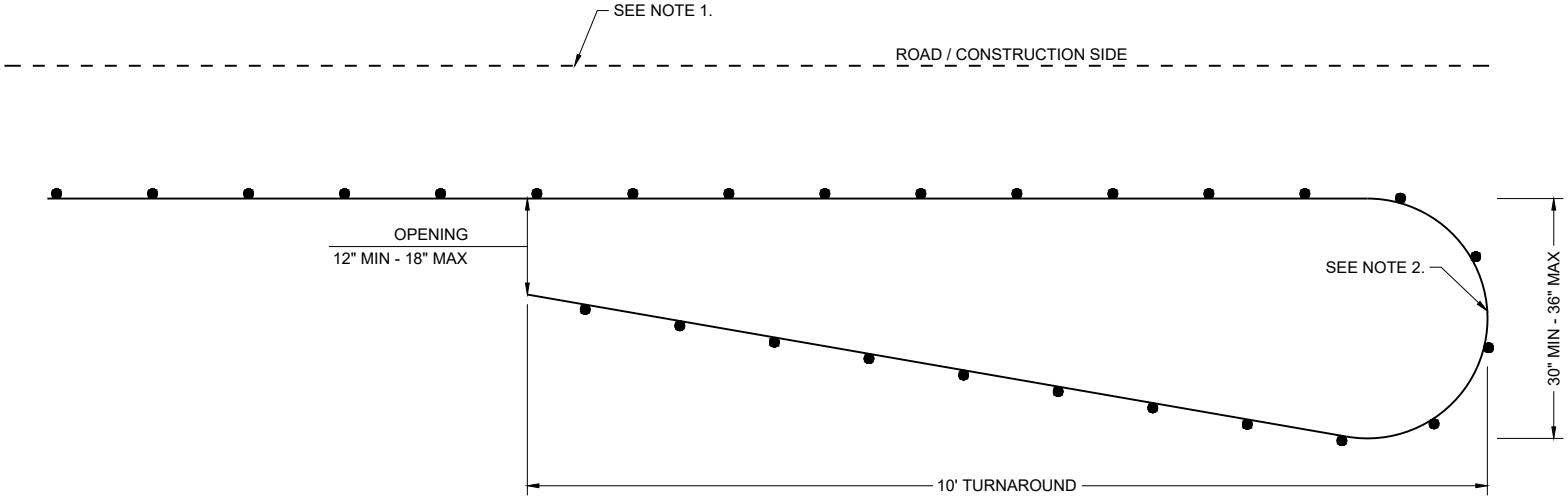
May 2023
DATE

/S/ Kristen Sommers
STATE RAILROAD ENGINEERING
AND SAFETY SUPERVISOR

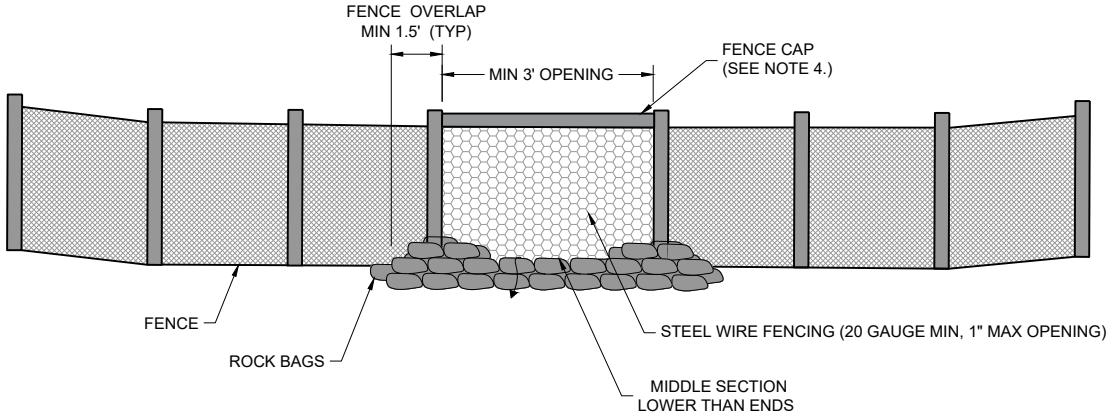
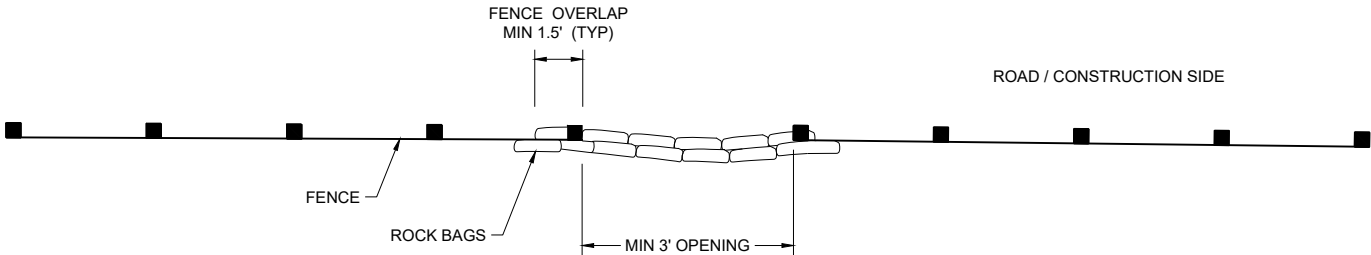
FHWA

GENERAL NOTES:

1. WHERE SILT FENCE IS REQUIRED, IT SHALL BE PLACED ON THE CONSTRUCTION SIDE OF THE EXCLUSION FENCING, OR COMBINED WITH THE EXCLUSION FENCING AS ALLOWED IN THE SPECIFICATIONS. STAKES ON THIS DETAIL ARE OPPOSITE OF STANDARD SILT FENCE FOR SEDIMENT CONTROL.
2. PLACE TURNAROUNDS AT ALL TERMINI ENDS OF THE EXCLUSION FENCING.
3. IF TEMPORARY ACCESS POINTS ARE NEEDED DURING CONSTRUCTION THAT REQUIRE OPENINGS IN THE EXCLUSION FENCING, ACCESS OPENINGS SHOULD BE TIGHTLY SECURED WITH BALES OF HAY OR STRAW WHENEVER CONSTRUCTION RELATED ACTIVITIES ARE NOT OCCURRING. REINSTALL EXCLUSION FENCING WHEN THE WORK REQUIRING THE TEMPORARY ACCESS OPENING IS COMPLETED.
4. THE FENCE CAP MAY BE A 6" UNDER DRAIN PIPE, SLIT DOWN THE CENTER AND PLACED OVER THE FENCE. COMMERCIALY AVAILABLE SAFETY CAPS WITH A LIP MAY BE USED. OTHER DNR APPROVED METHODS TO PREVENT TURTLES FROM PASSING OVER THE TOP OF THE FENCE MAY BE USED.
- SECURELY FASTEN THE CAP TO PREVENT IT FROM BEING DISLODGED.



PLAN VIEW
CLIMBING TURTLE EXCLUSION FENCE DETAIL

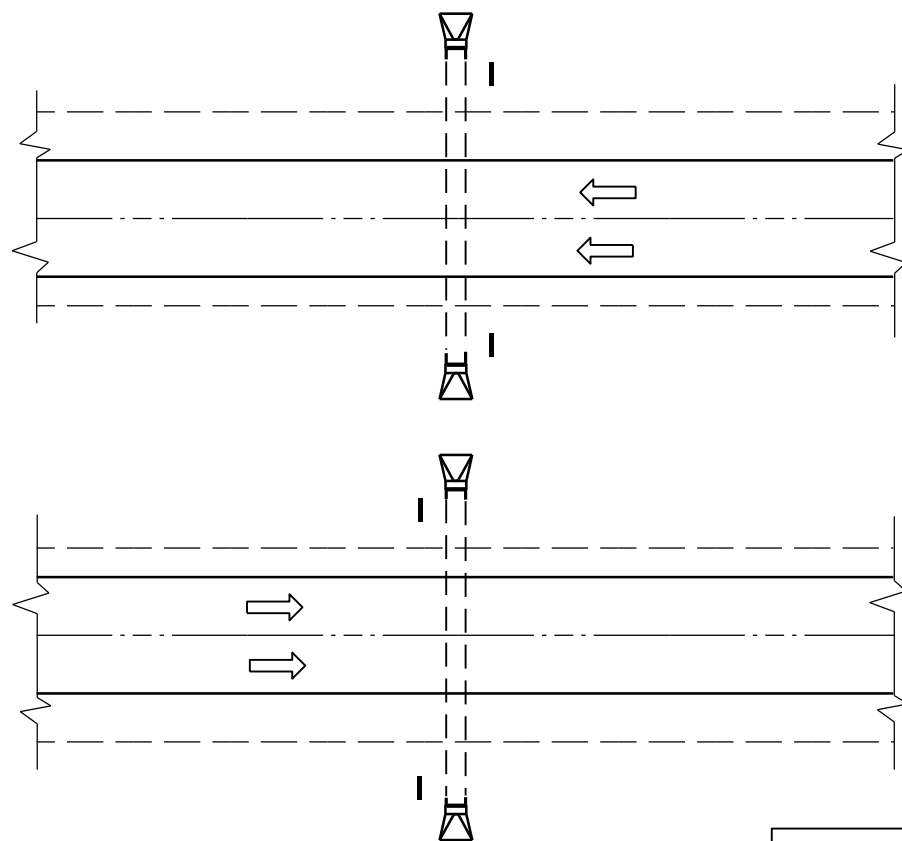


FRONT VIEW
CLIMBING TURTLE FENCE RELIEF DETAIL

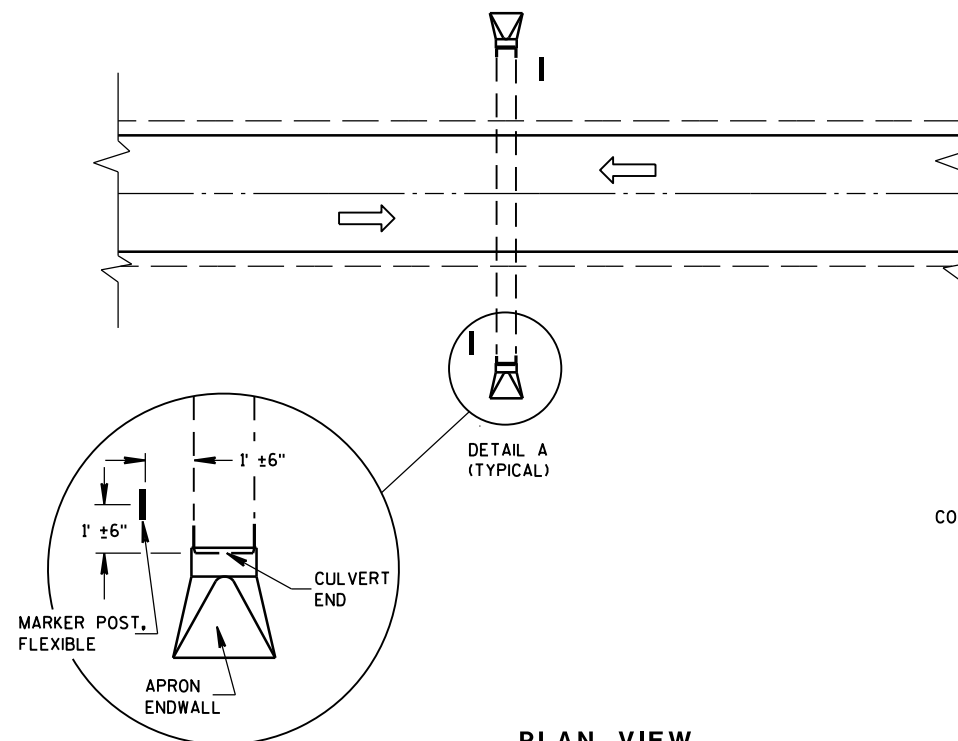
TURTLE EXCLUSION FENCE CLIMBING TURTLE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED AUGUST 2025 DATE	/S/ ALYSSA BARRETTE CHIEF STATEWIDE ENVIRONMENTAL SERVICES BUREAU OF TECHNICAL SERVICES
FHWA	



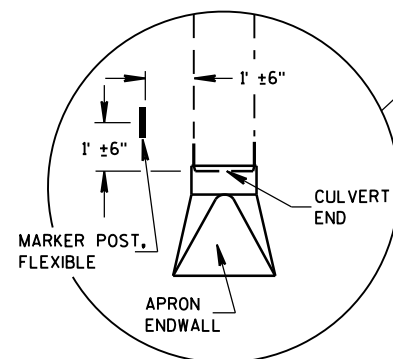
SDD 15A3-a Flexible Marker Post for Culvert End



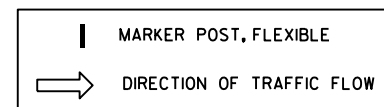
PLAN VIEW
DIVIDED HIGHWAY



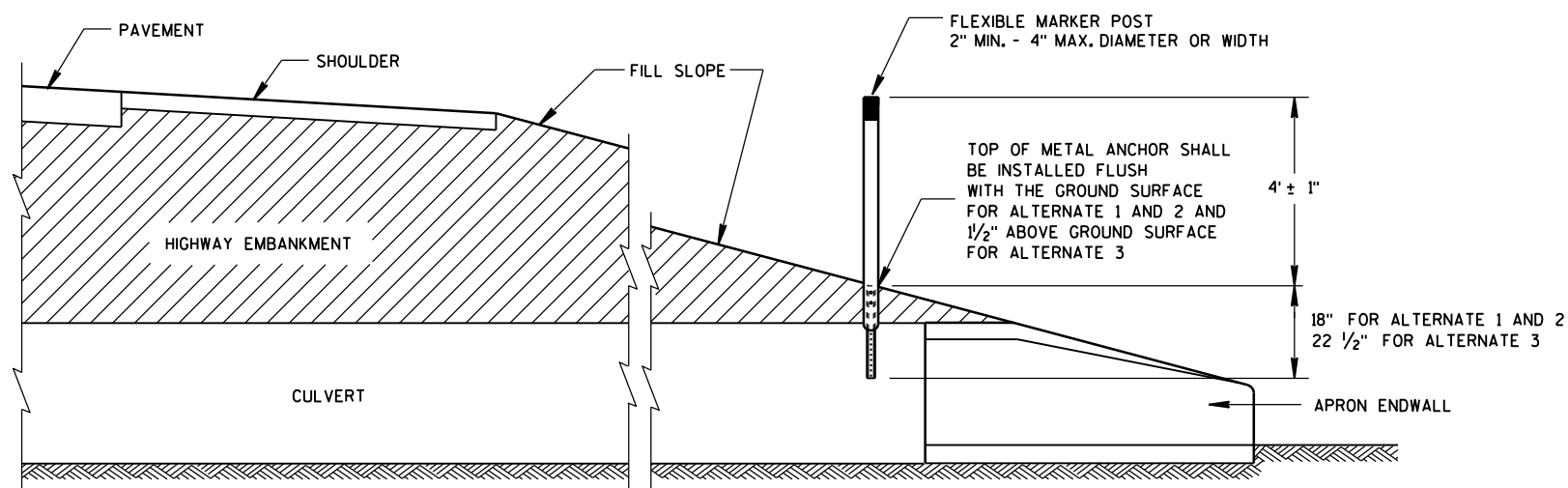
PLAN VIEW
UNDIVIDED HIGHWAY



DETAIL A
(TYPICAL)



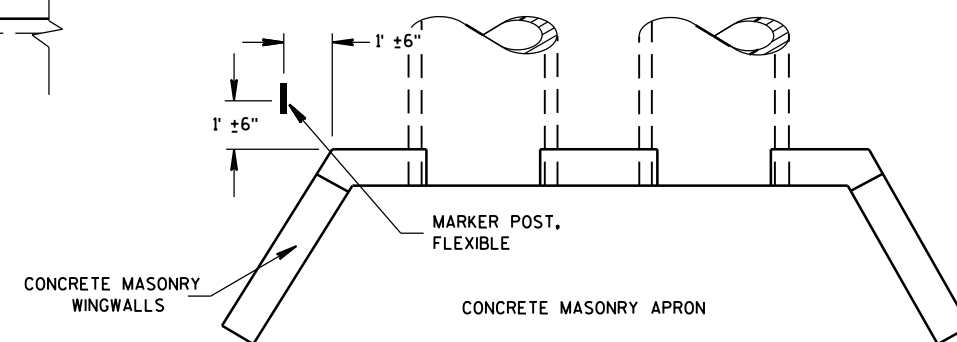
FLEXIBLE MARKER POST LOCATION



CROSS SECTION
FLEXIBLE MARKER POST

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.



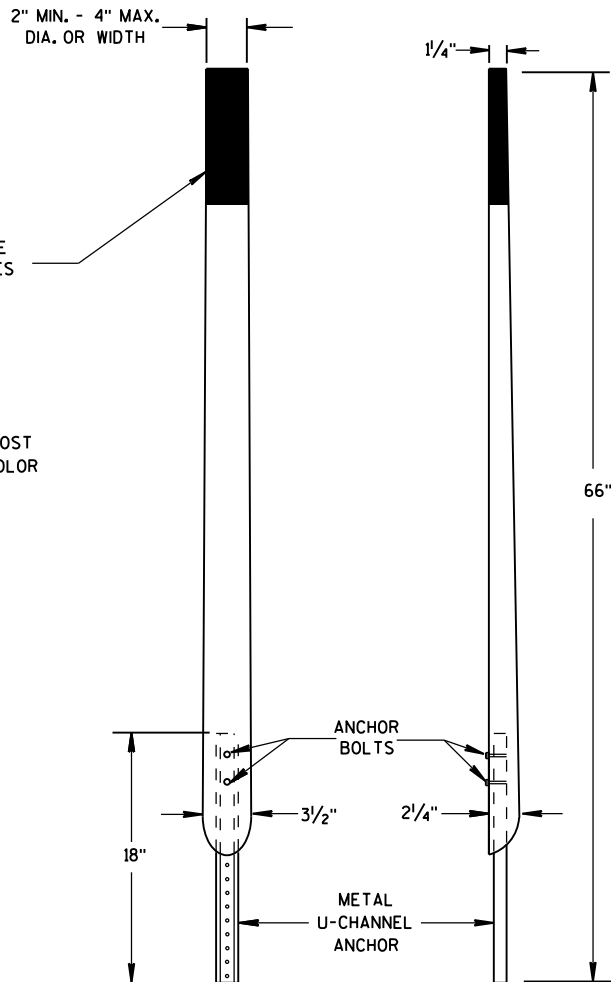
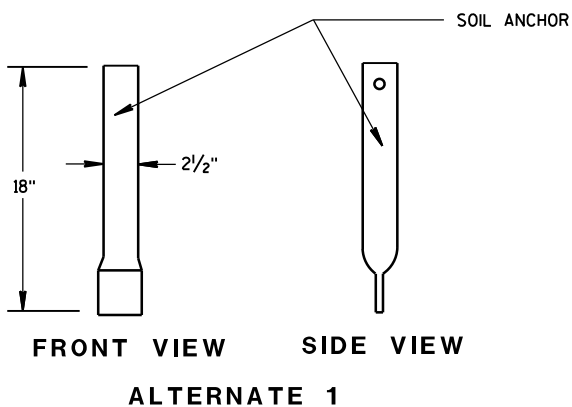
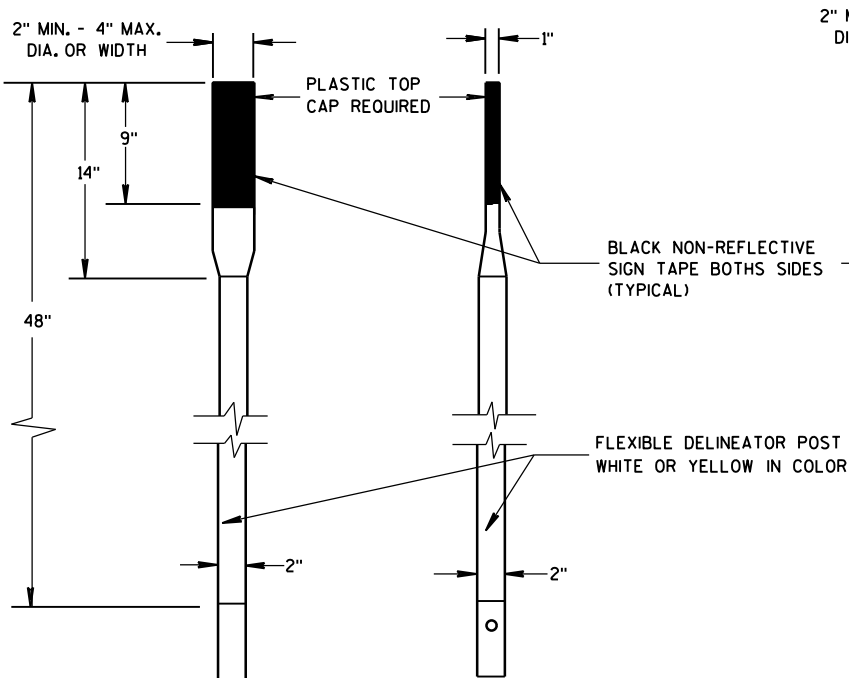
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST
FOR CULVERT END

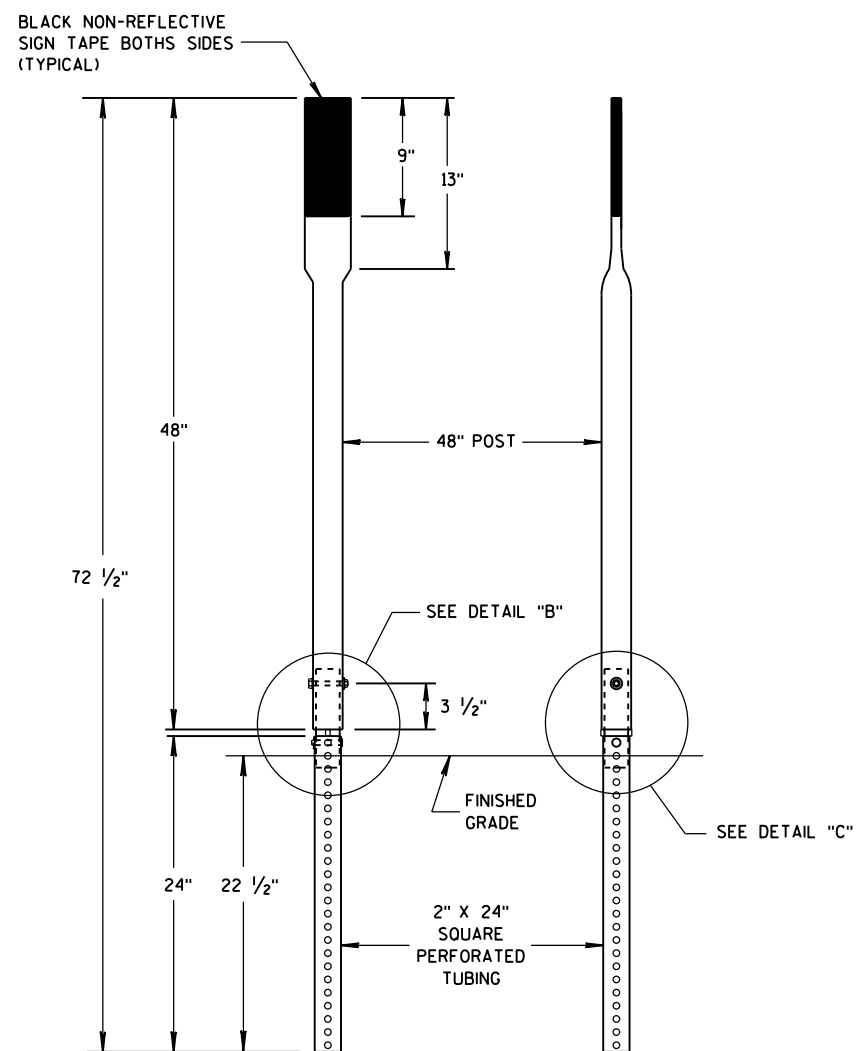
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



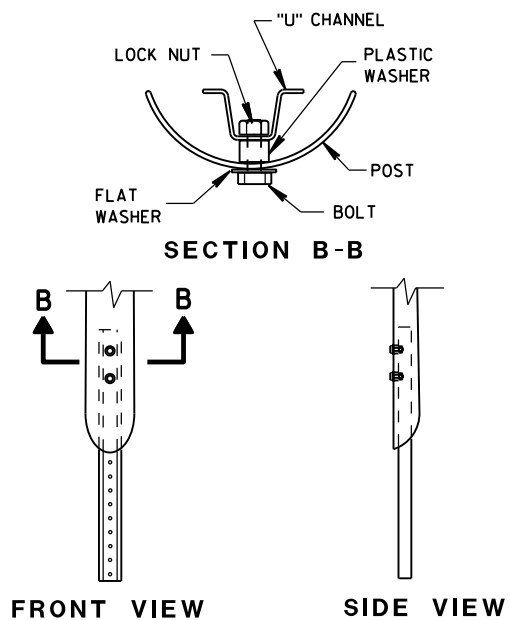
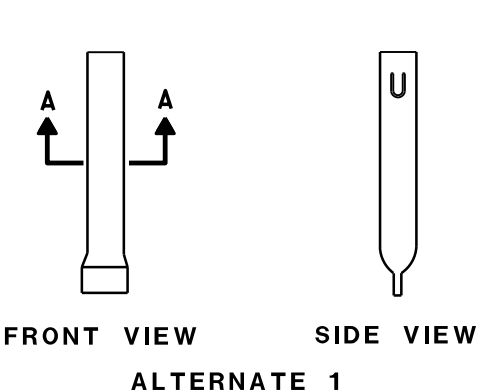
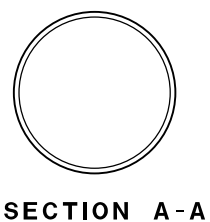
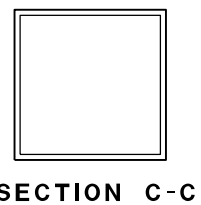
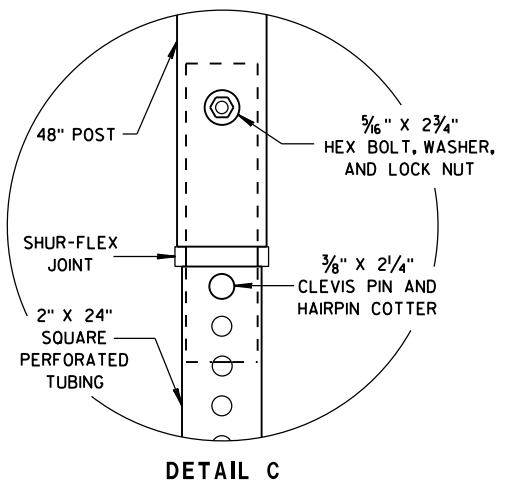
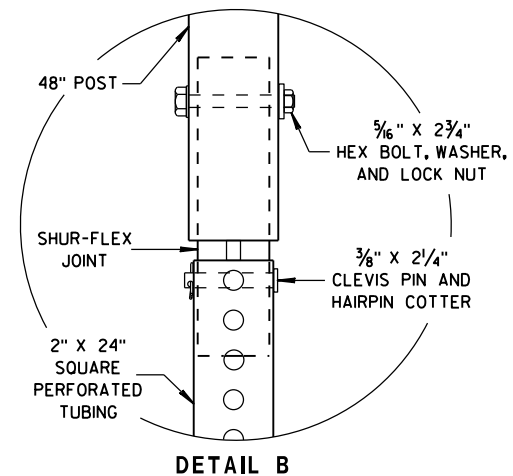
SDD 15A3-b Flexible Marker Post for Culvert End



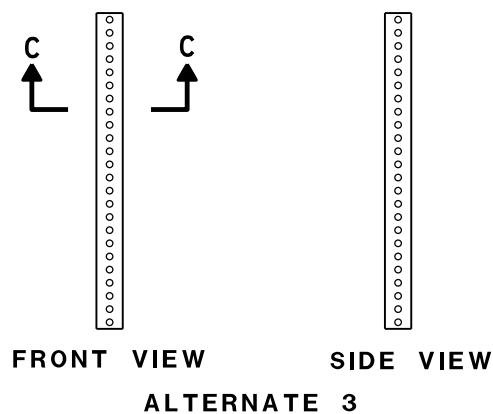
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POSTS



FRONT VIEW SIDE VIEW
ALTERNATE 3



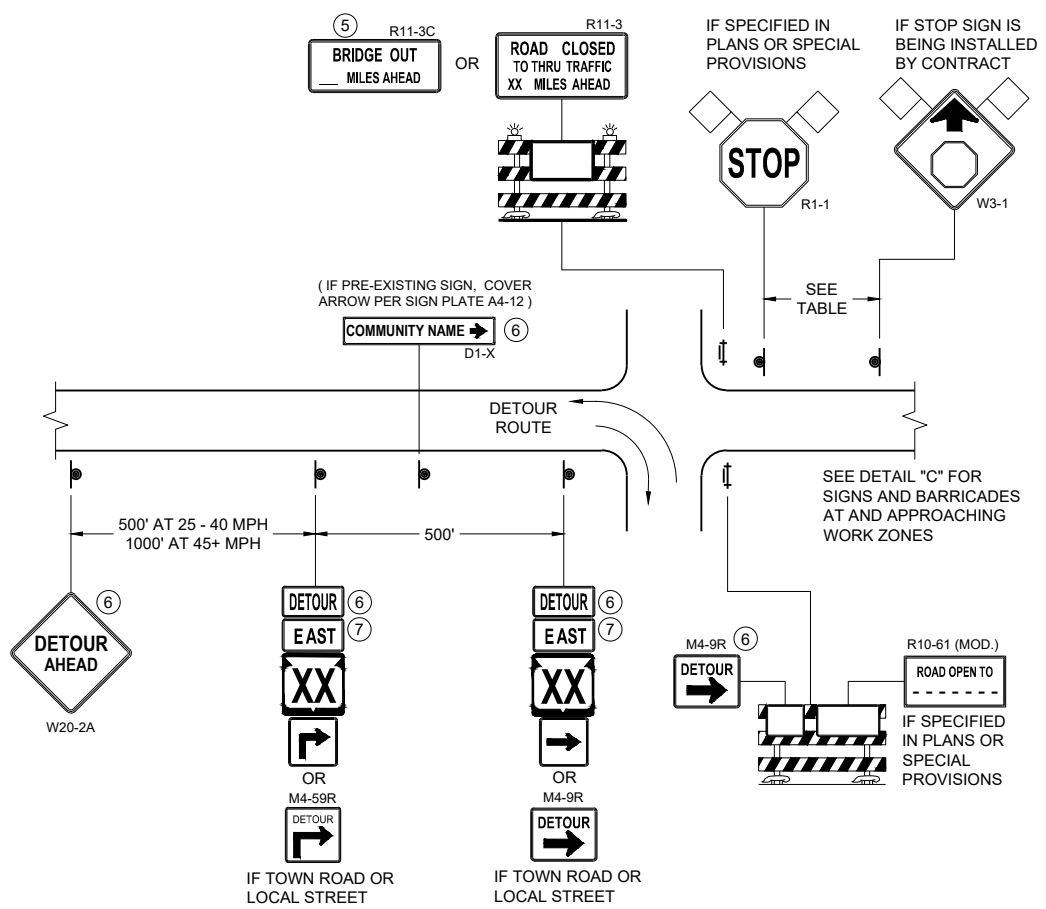
FRONT VIEW SIDE VIEW
ALTERNATE 2
FLEXIBLE MARKER POST ANCHORS



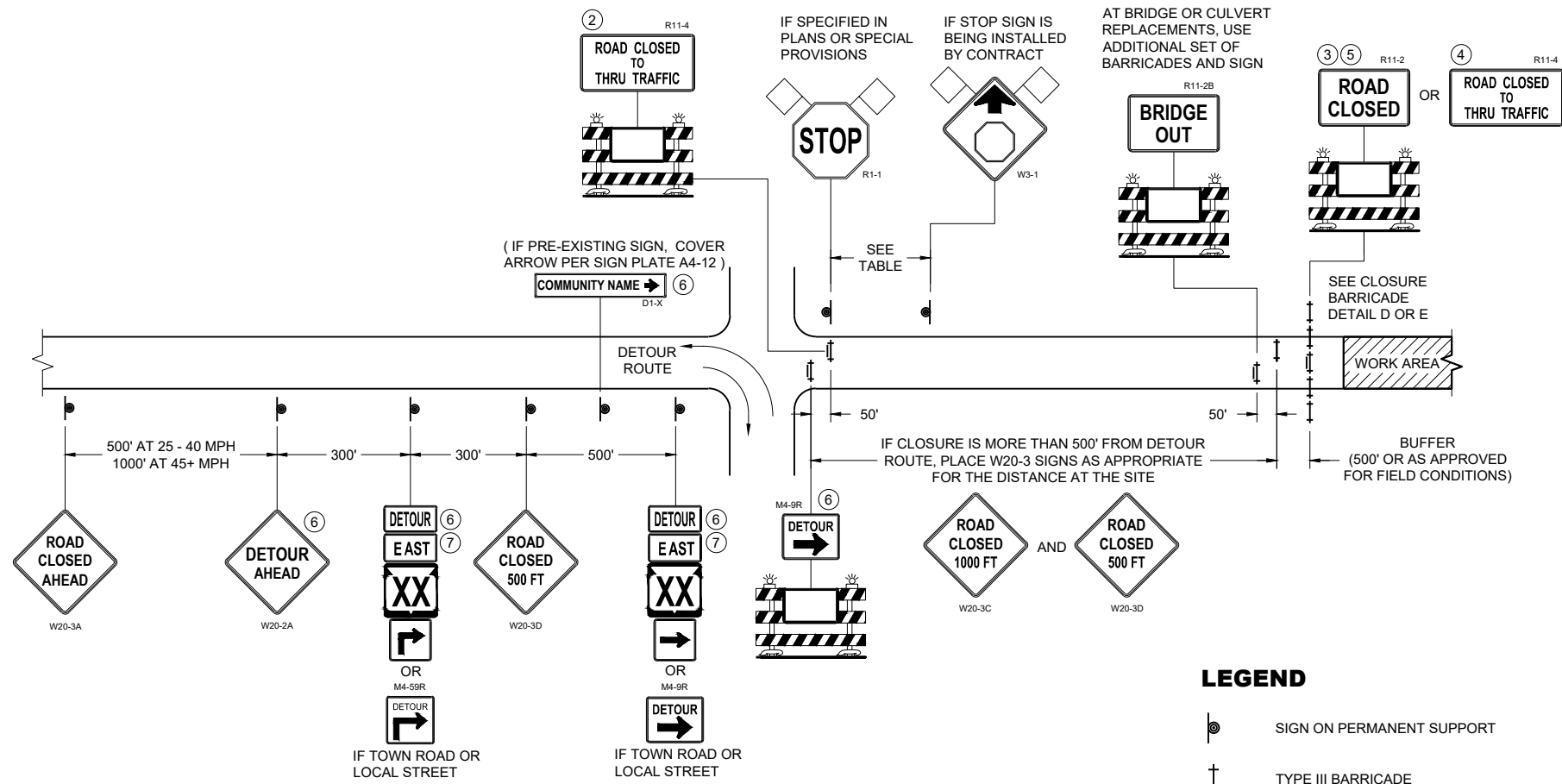
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



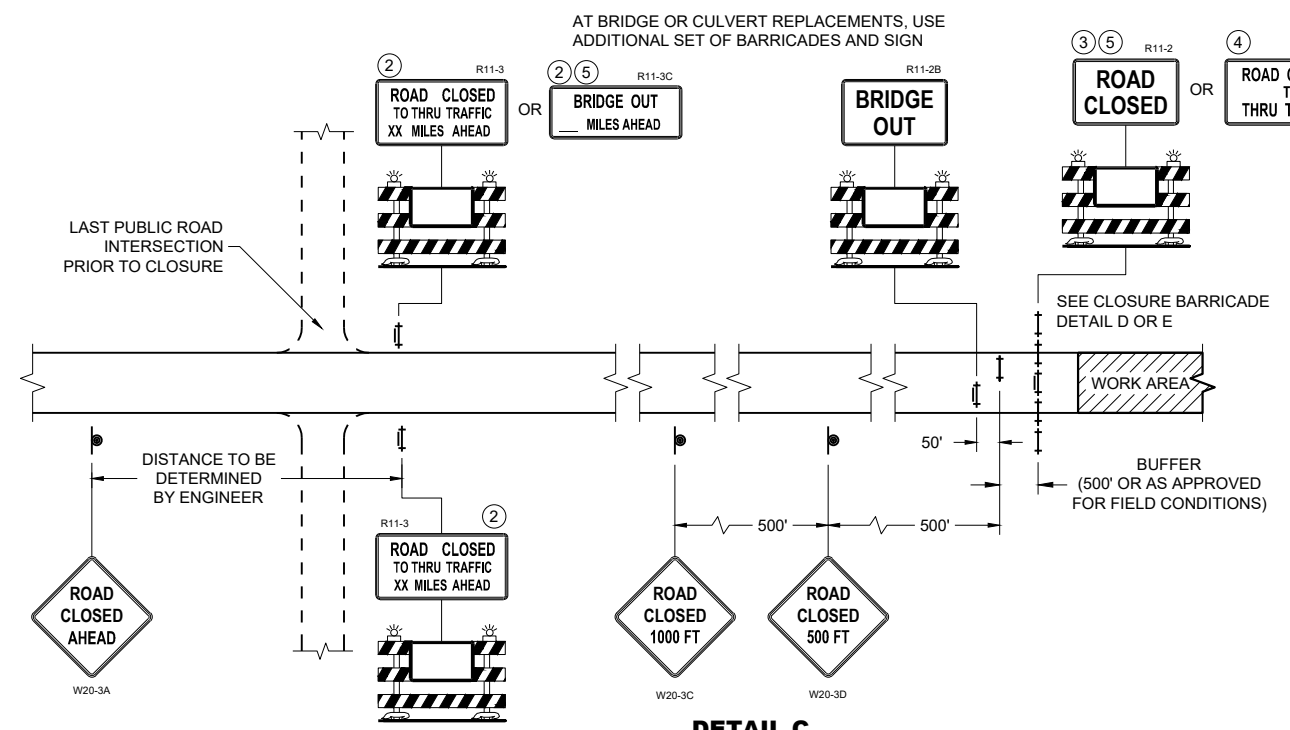
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



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

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

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

LEGEND

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

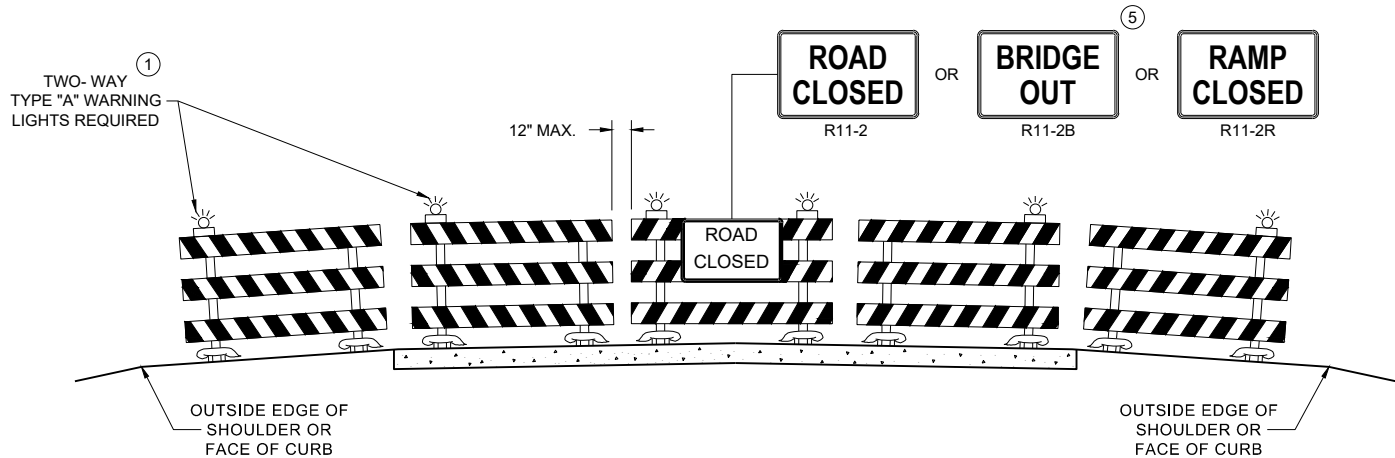
DETOUR M4 - 8
EAST M3 - X
XX OR **XX** OR **COUNTY X**
M1 - 4 M1 - 6 M1 - 5A
→ OR **→**
M05 - 1 M06 - 1

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

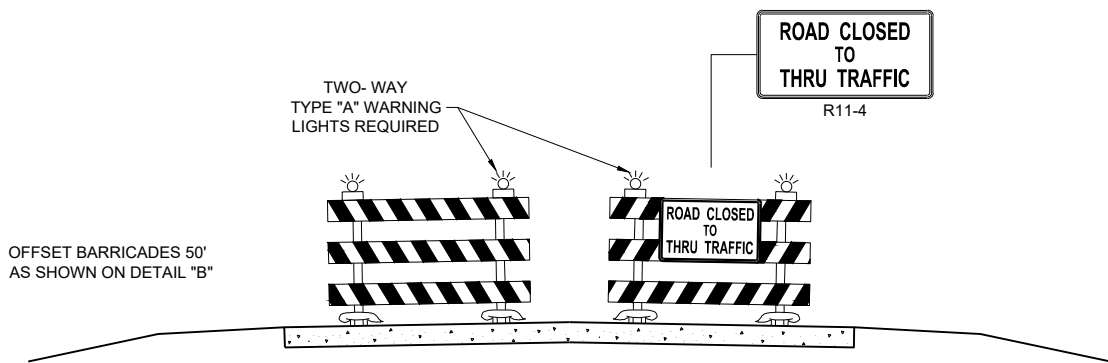
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

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

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

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

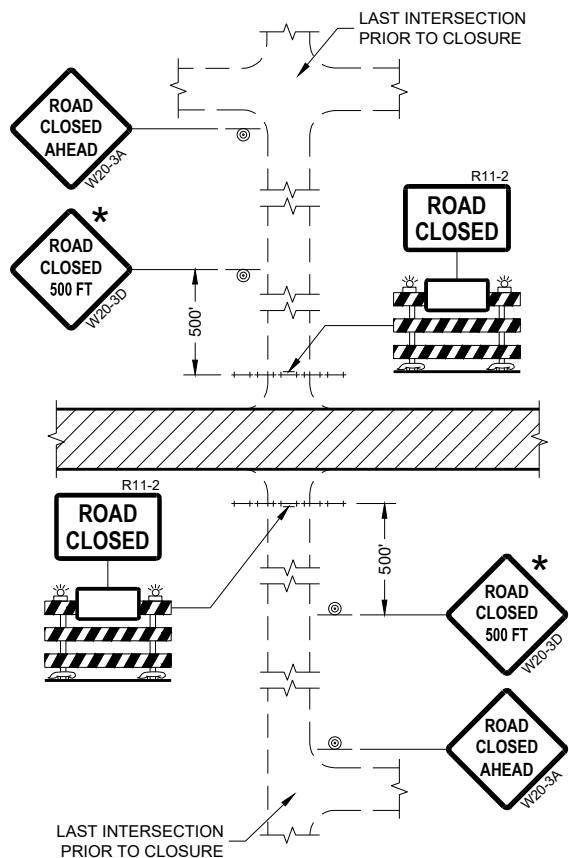
SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

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

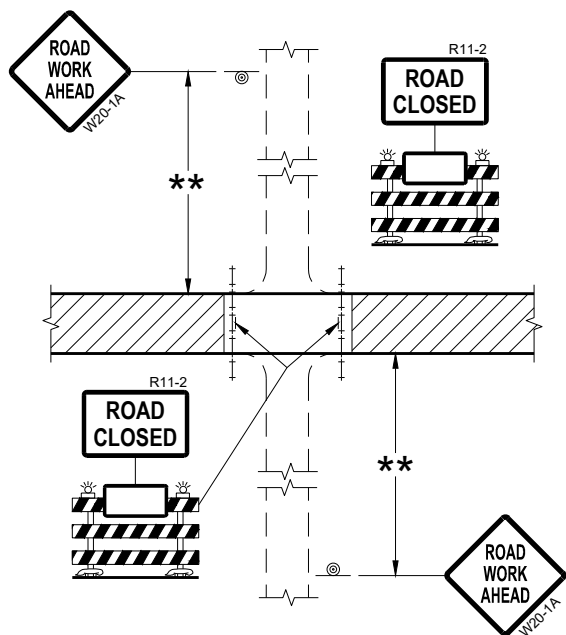
BARRICADES AND SIGNS FOR VARIOUS CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2025 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



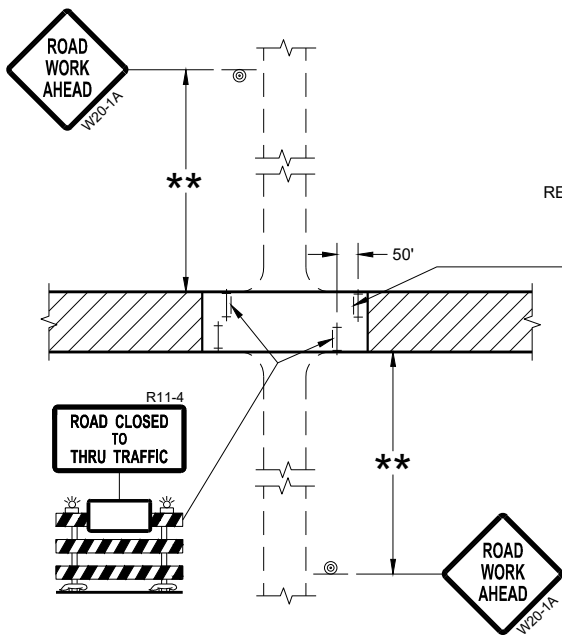
SDD 15C03 Barricades and Signs for Sideroad Closures



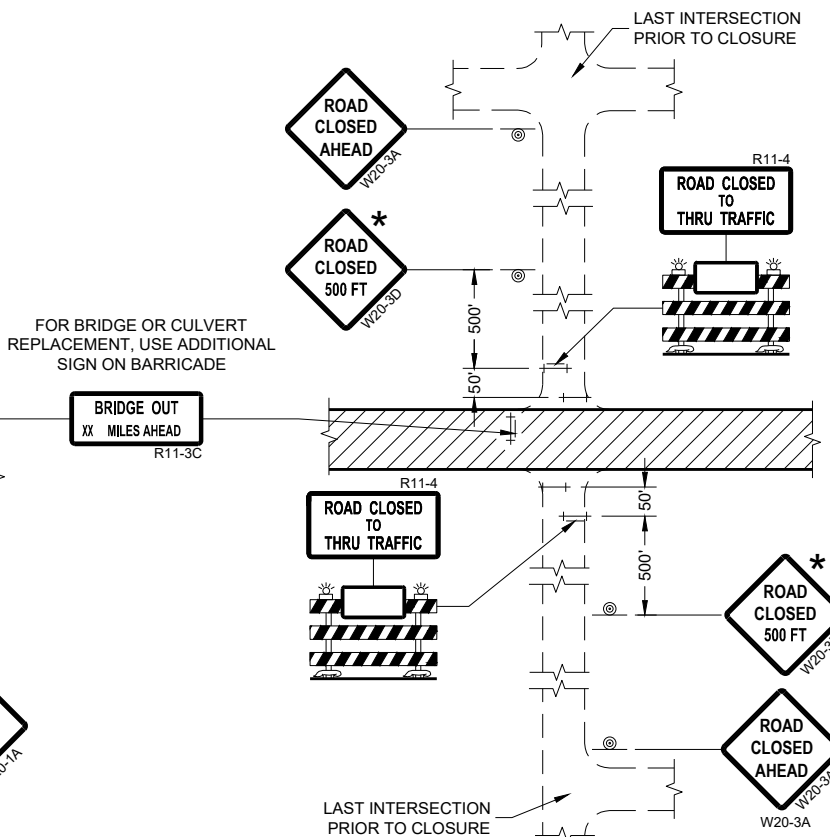
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

LEGEND

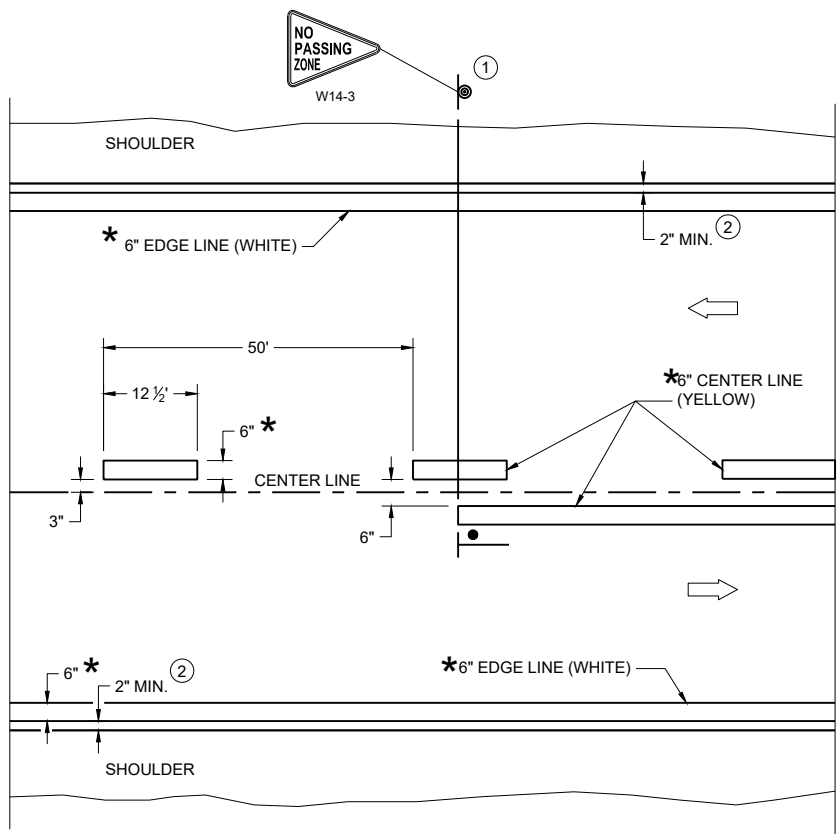
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

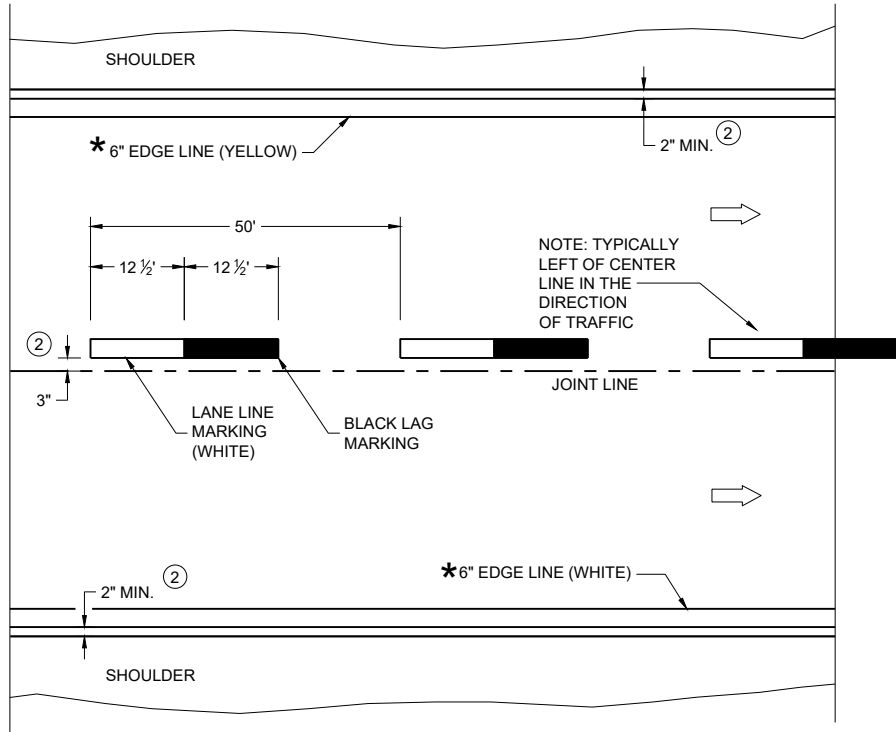
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

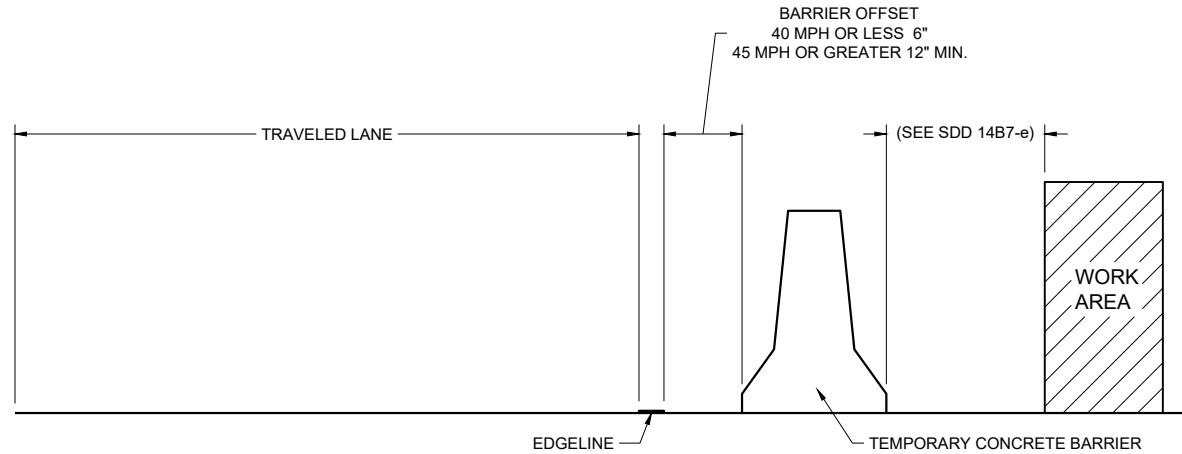
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

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

LEGEND

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

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



TEMPORARY BARRIER OFFSET FROM EDGE LINE

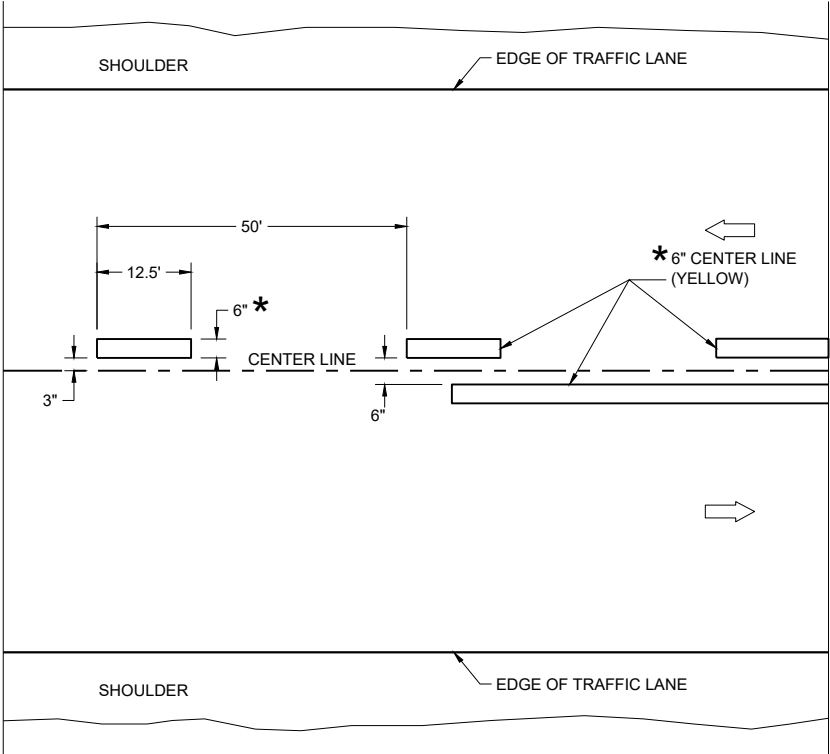
GENERAL NOTES

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

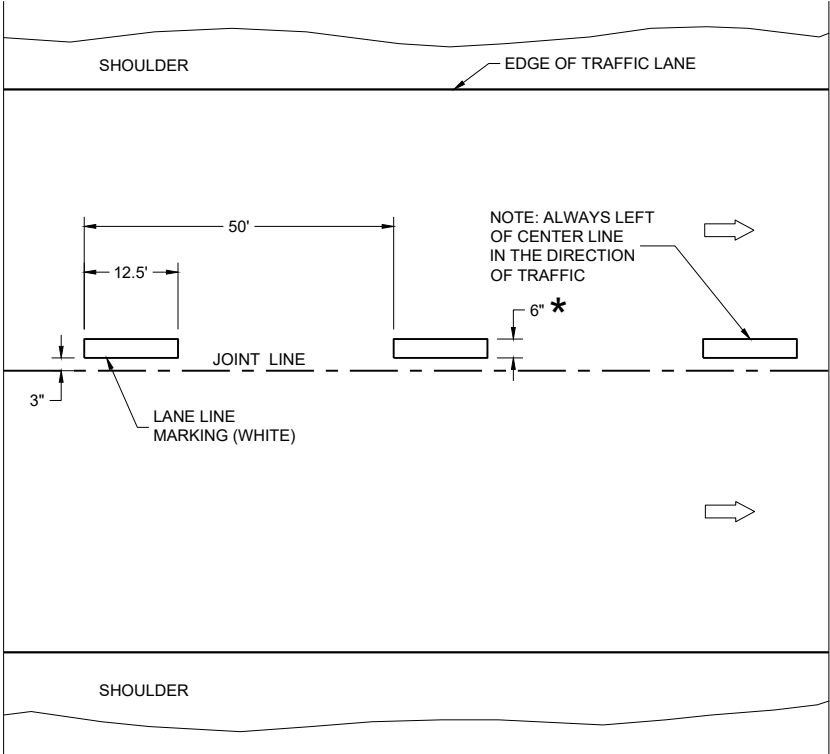
LEGEND

DIRECTION OF TRAFFIC

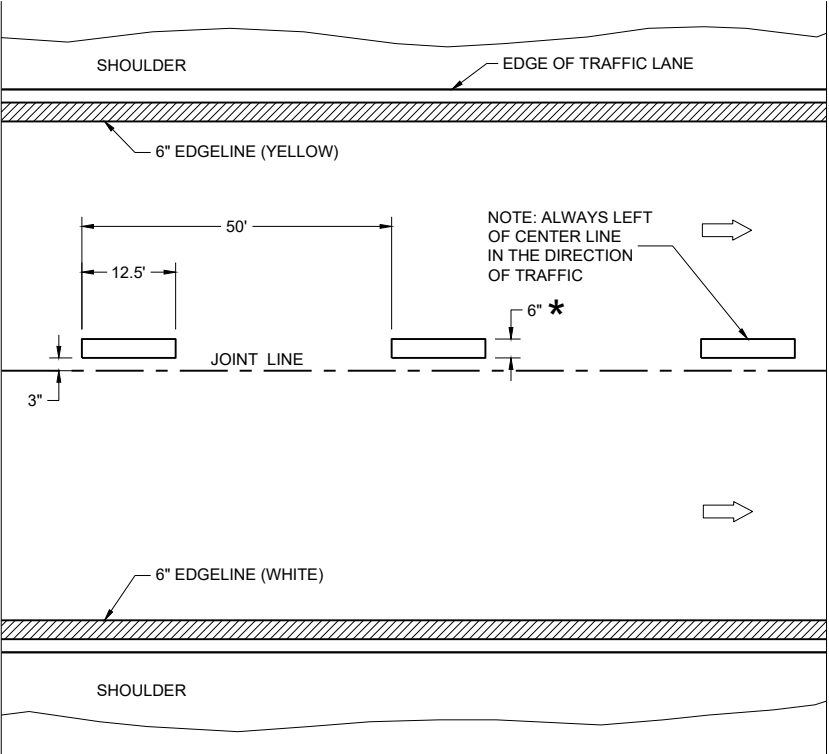
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



SDD 15C12-a Traffic Control for Lane Closure With Flagging Operation

LEGEND

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

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.

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

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

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

FLAGGING

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 REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

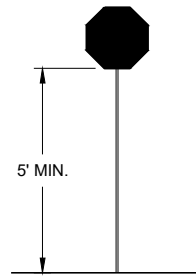
- EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



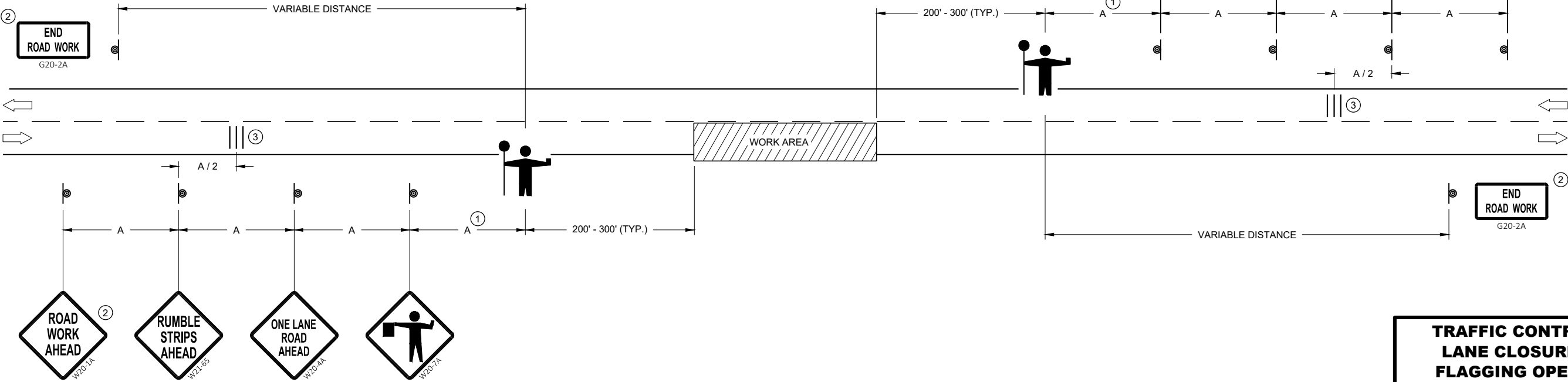
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".

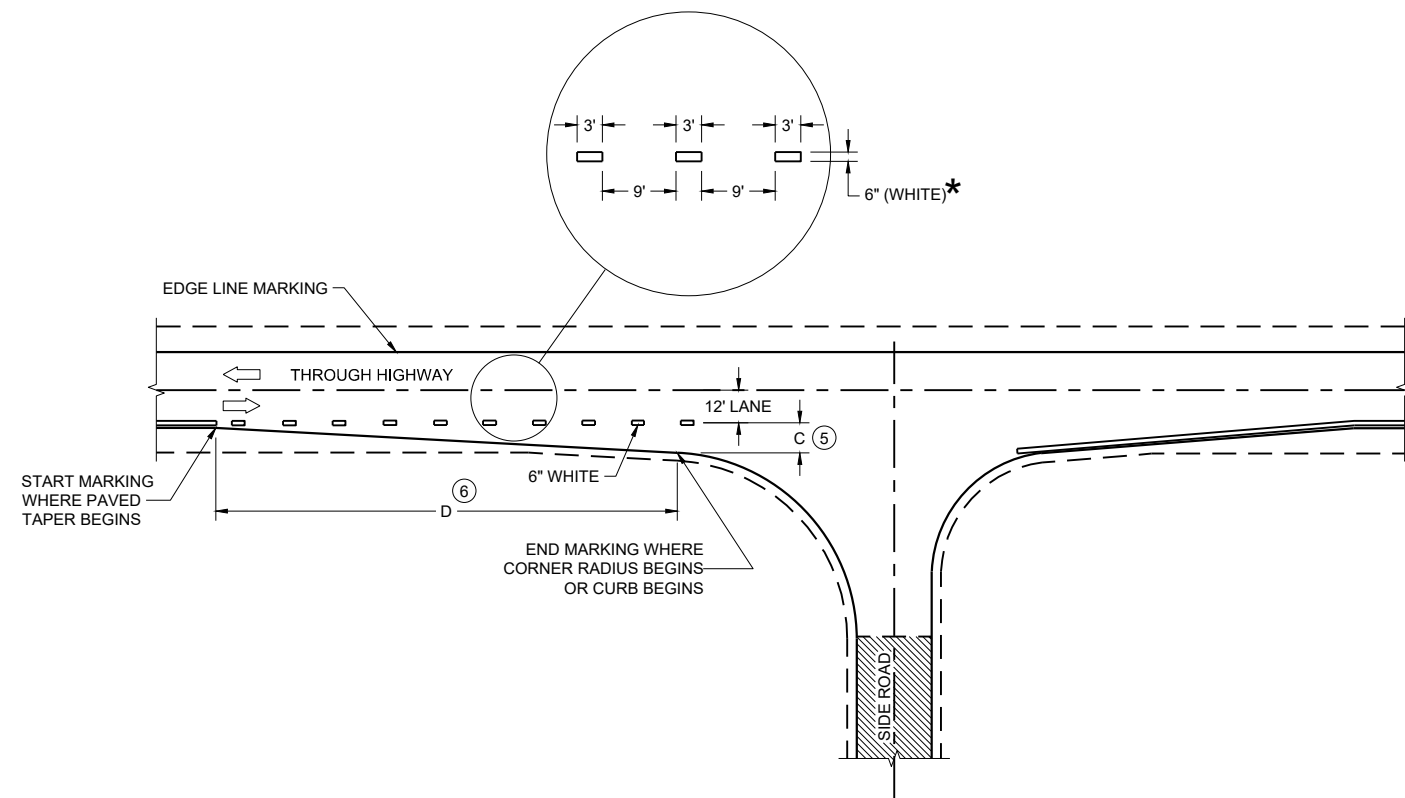


TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

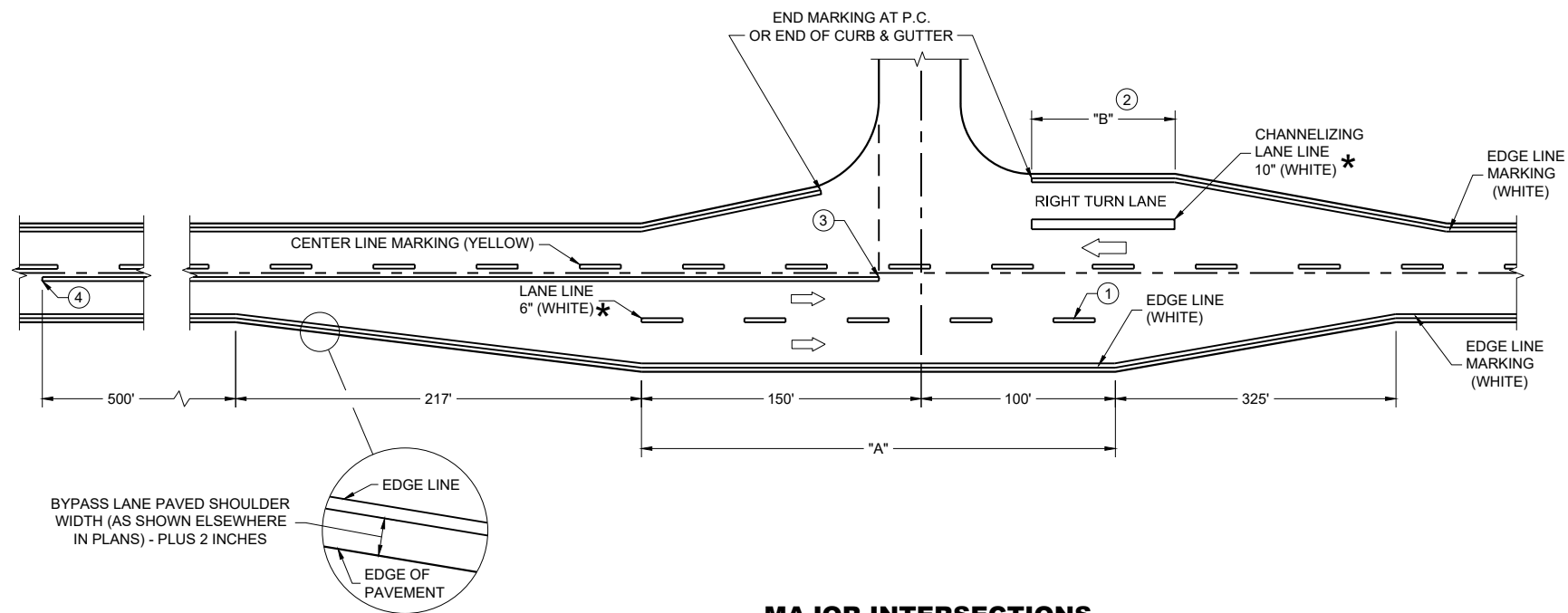
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



MINOR INTERSECTION



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

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

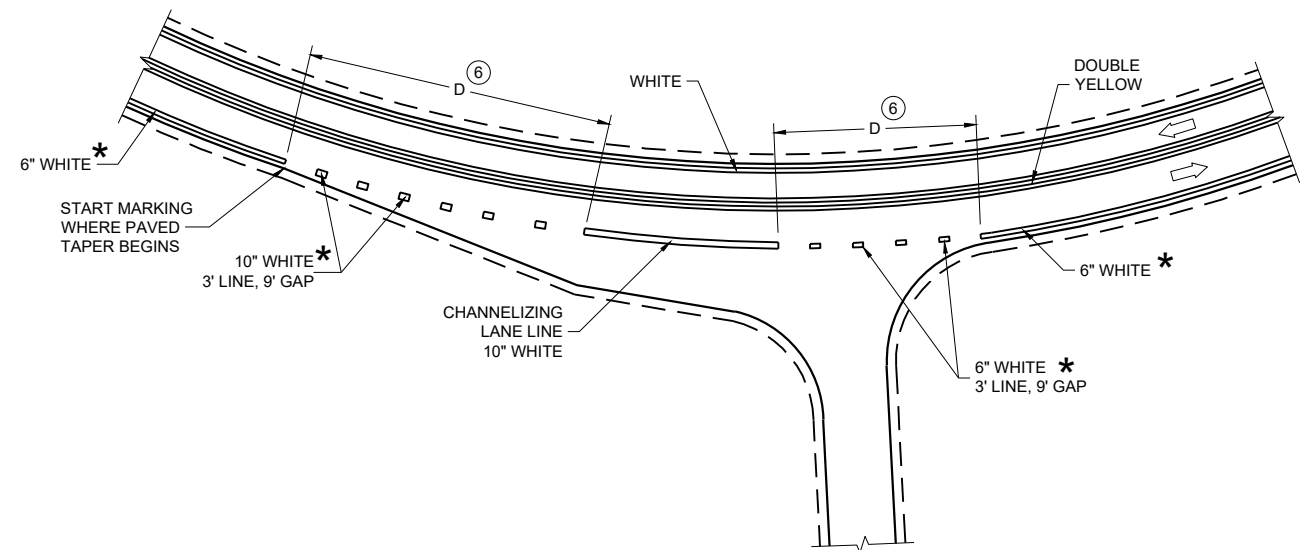
GENERAL NOTES

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

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

LEGEND

➡ DIRECTION OF TRAVEL

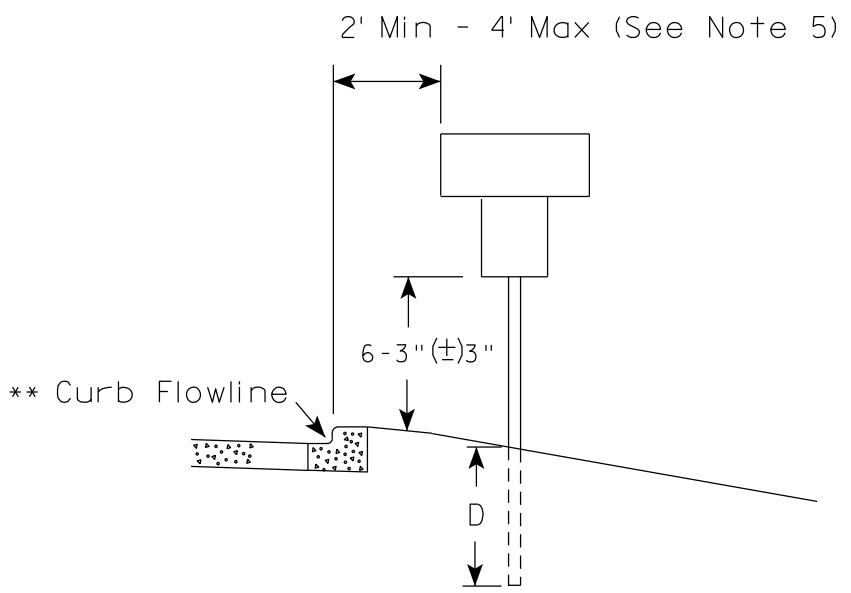
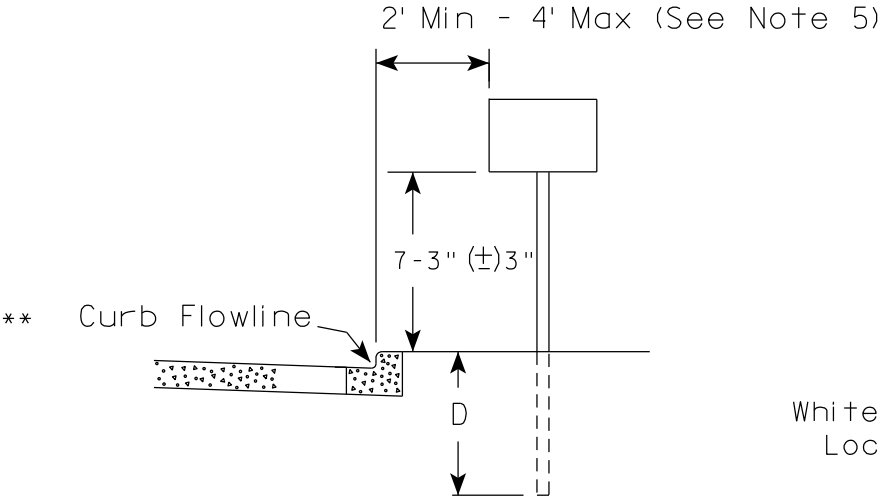


INTERSECTION ON OUTSIDE OF CURVE

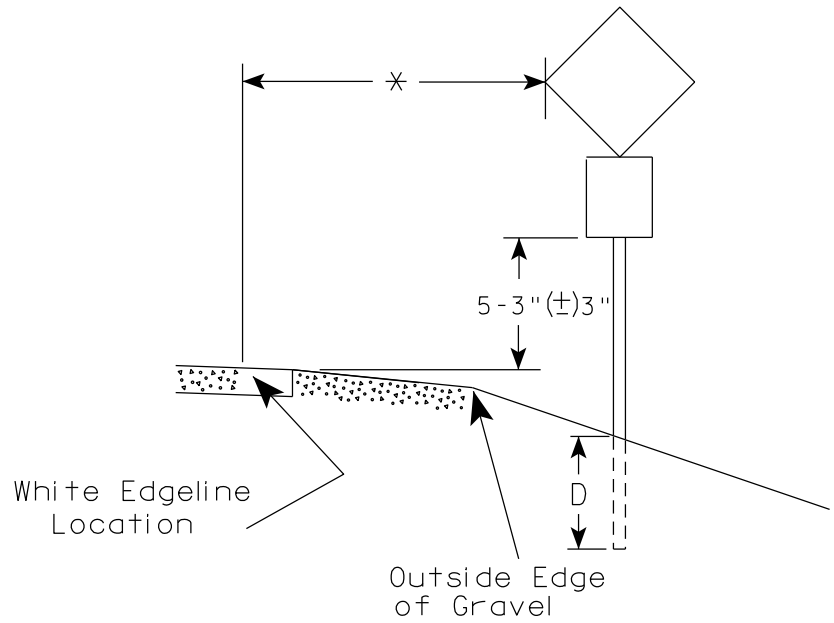
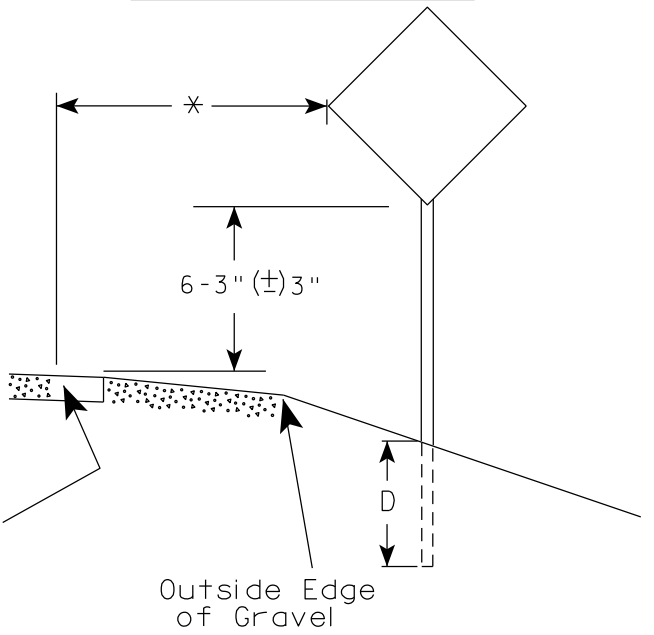
PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

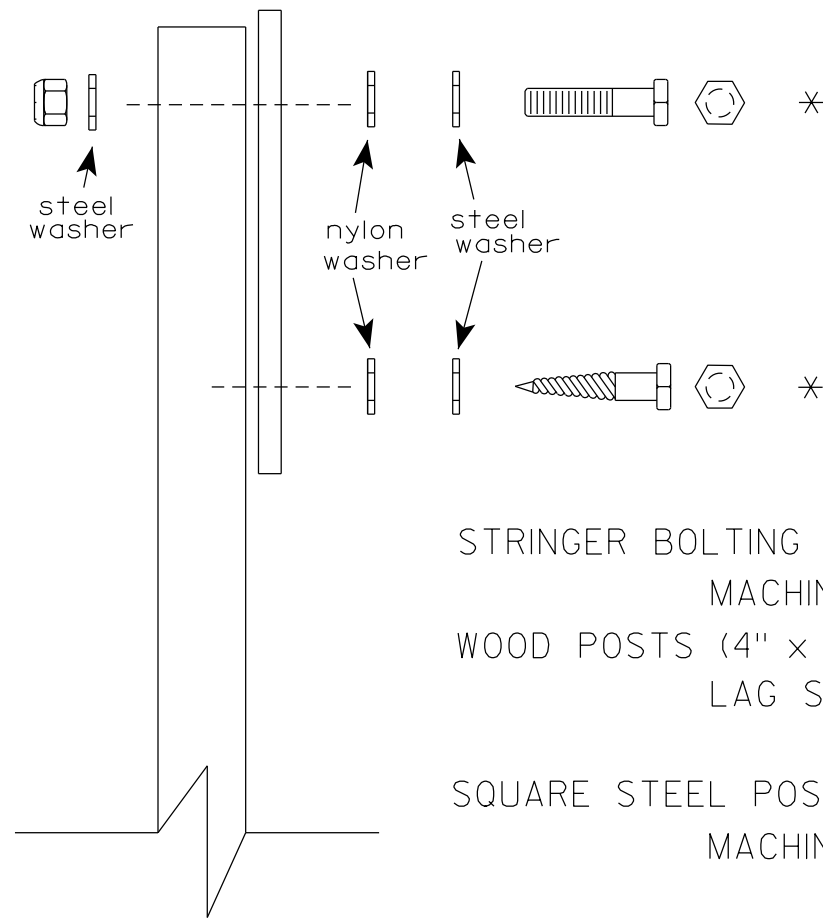
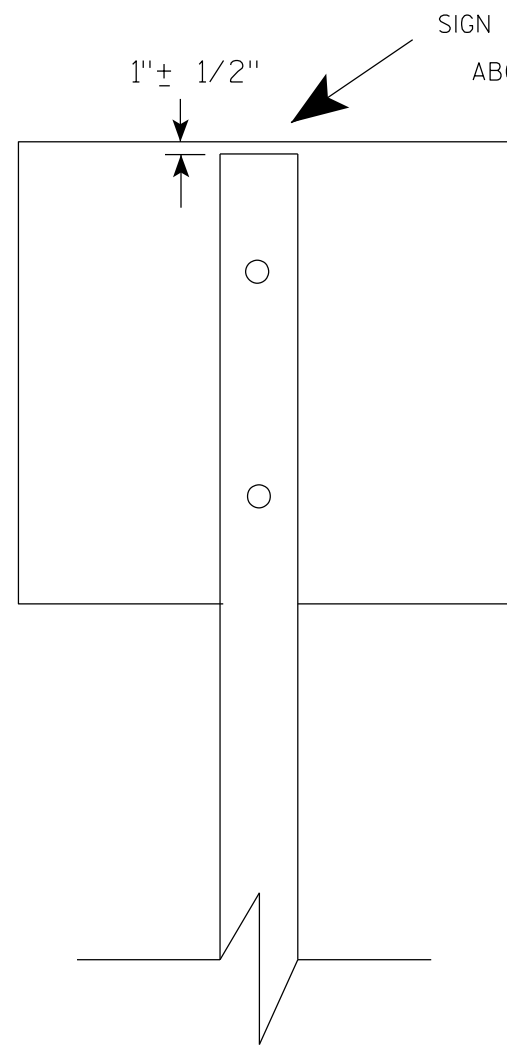
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23



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

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

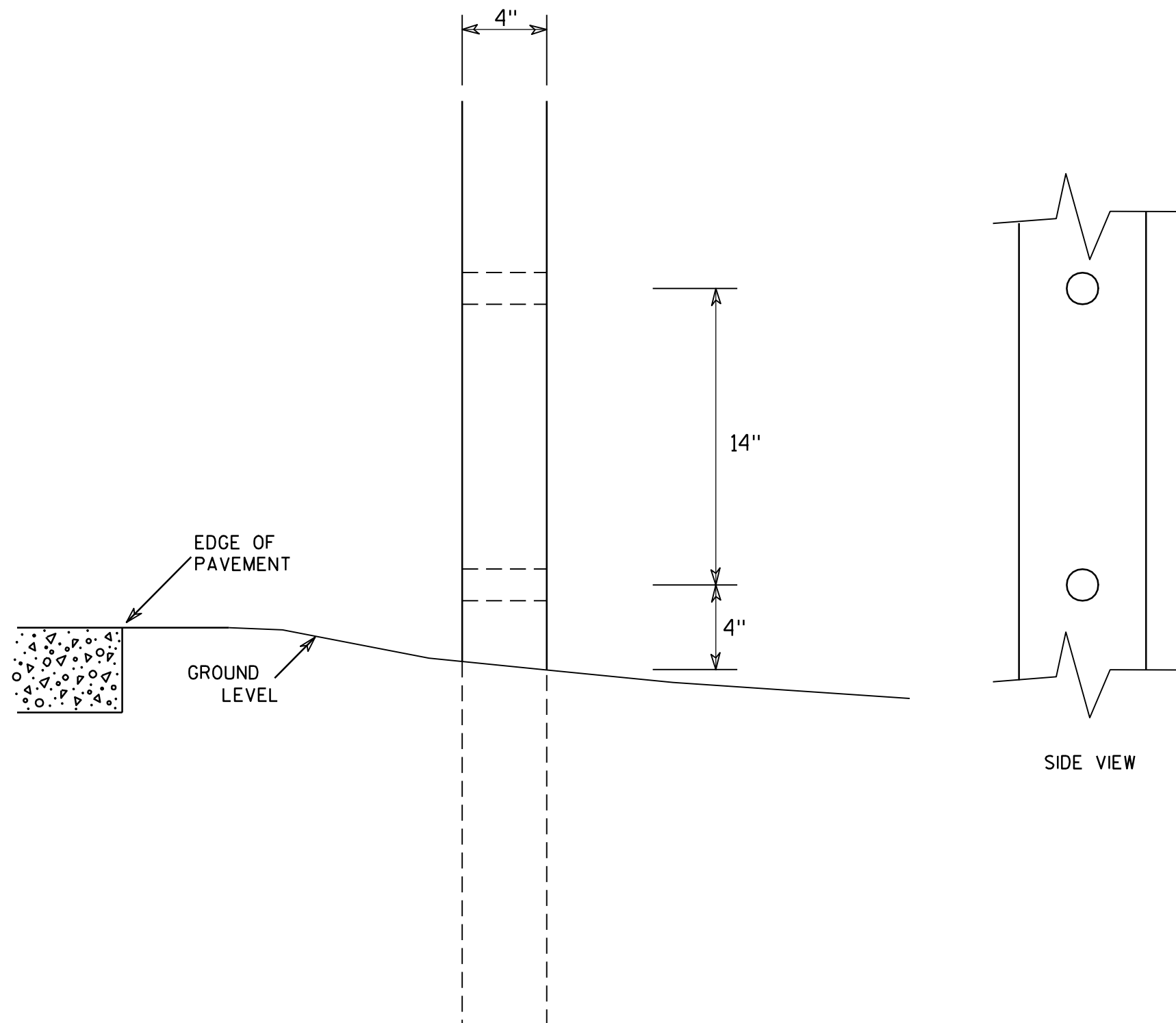
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

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

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

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

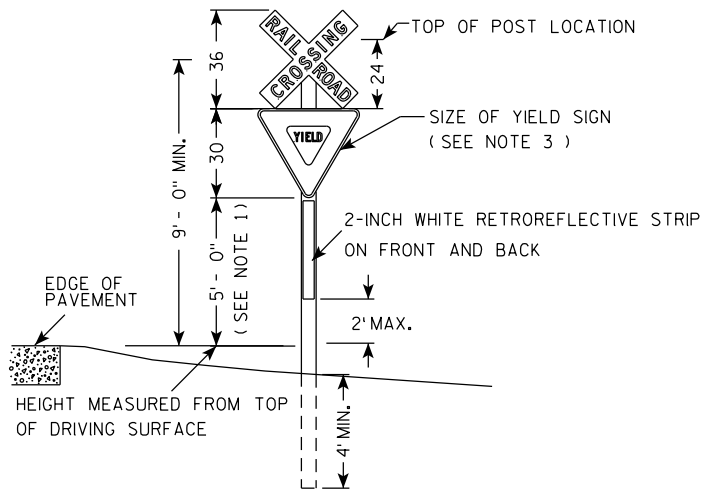
COUNTY:

SHEET NO:

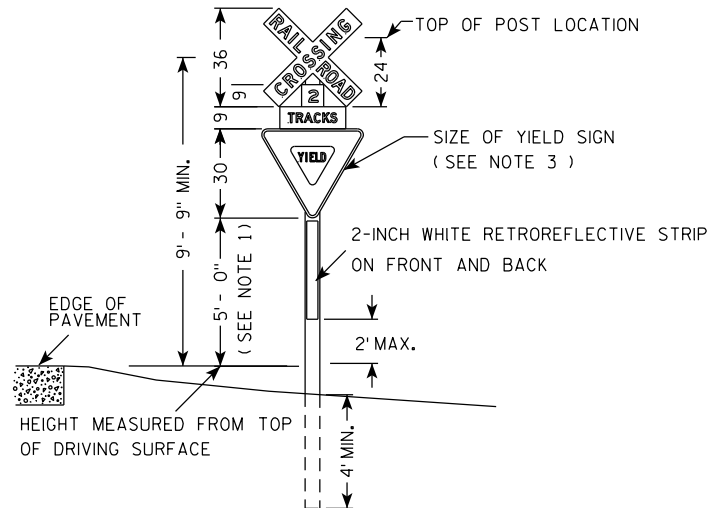
E

YIELD SIGN INSTALLATIONS AT CROSSBUCK LOCATIONS

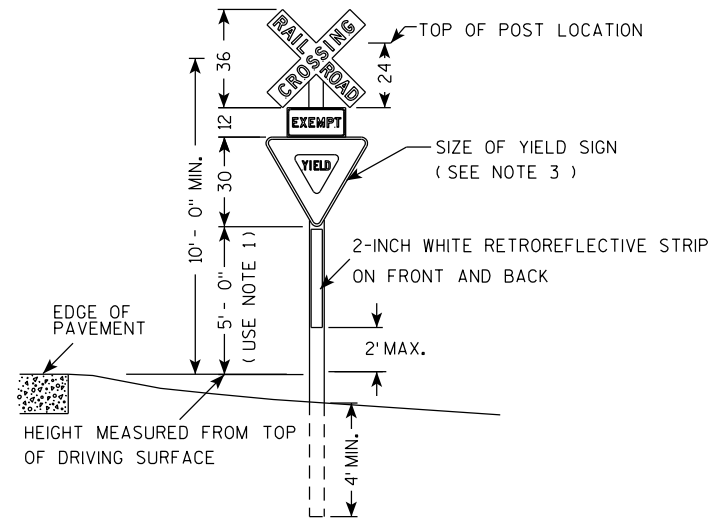
36" X 36" X 36" YIELD SIGN



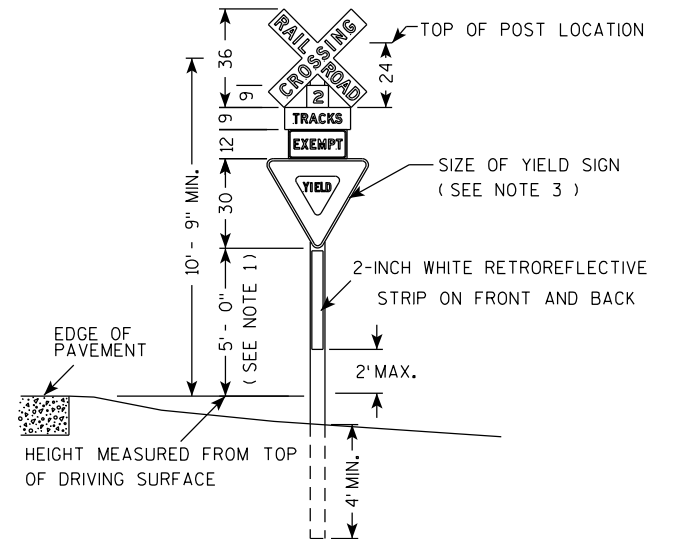
36" X 36" X 36" YIELD SIGN



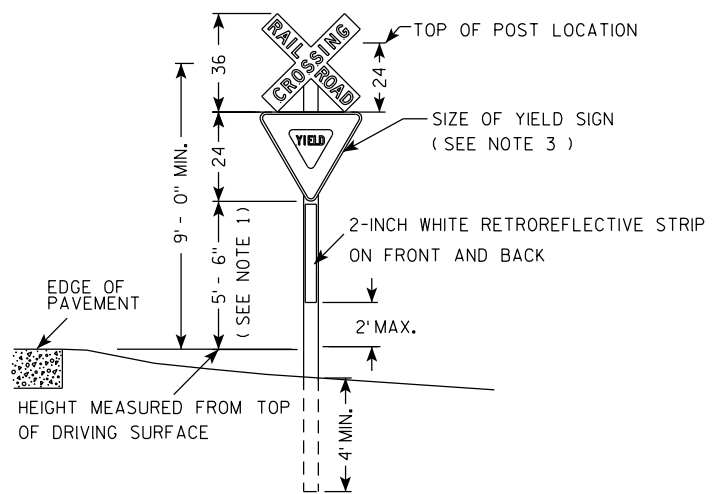
36" X 36" X 36" YIELD SIGN



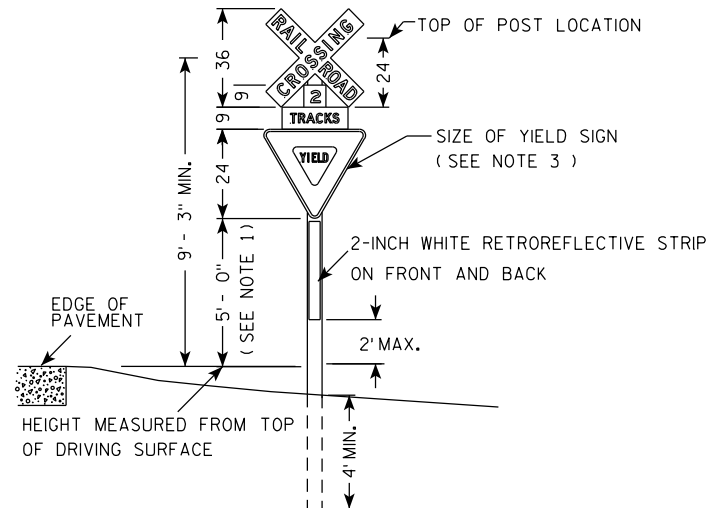
36" X 36" X 36" YIELD SIGN



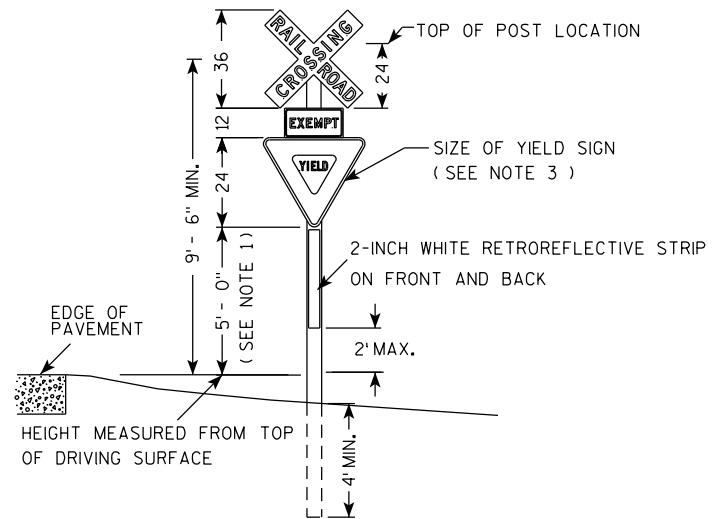
30" X 30" X 30" YIELD SIGN



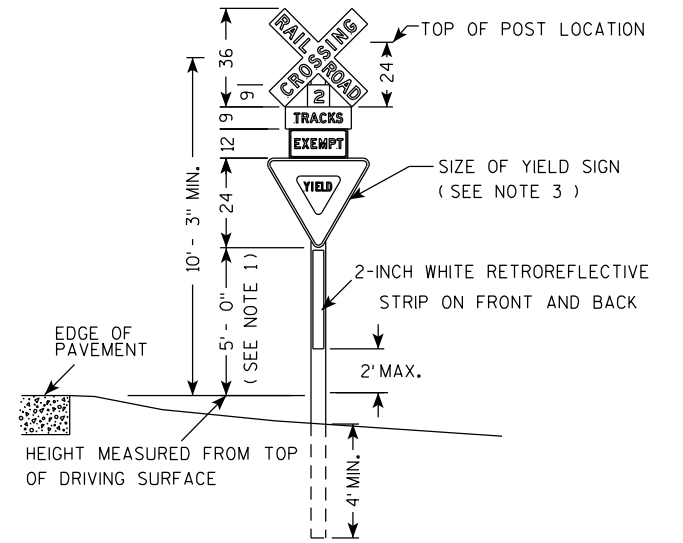
30" X 30" X 30" YIELD SIGN



30" X 30" X 30" YIELD SIGN



30" X 30" X 30" YIELD SIGN



NOTES: 1.) 5'- 0" MIN. MOUNTING HEIGHT FOR NEW INSTALLATIONS, EXCEPT AS NOTED
7'- 0" MIN. MOUNTING HEIGHT IN AREAS WITH PEDESTRIAN OR PARKING CONFLICTS

2.) YIELD SIGNS SHALL HAVE A MINIMUM OF HIGH INTENSITY REFLECTIVE SHEETING (EITHER ENCAPSULATED BEAD OR PRISMATIC.)

3.) THE 36" X 36" X 36" YIELD SIGN IS THE STANDARD SIZE USED FOR MOST LOCATIONS. HOWEVER A 30" X 30" X 30" YIELD SIGN CAN BE USED ON ROADWAYS THAT HAVE A SPEED LIMIT OF 30 MPH OR LESS, AND ARE NOT STATE HIGHWAYS OR CONNECTING STATE HIGHWAYS AND HAVE NO MORE THAN ONE LANE OF TRAFFIC IN EACH DIRECTION.

TYPICAL INSTALL OF YIELD SIGN AT RR

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthaeus P Rauch

DATE 5/10/22 PLATE NO. A4-17.3

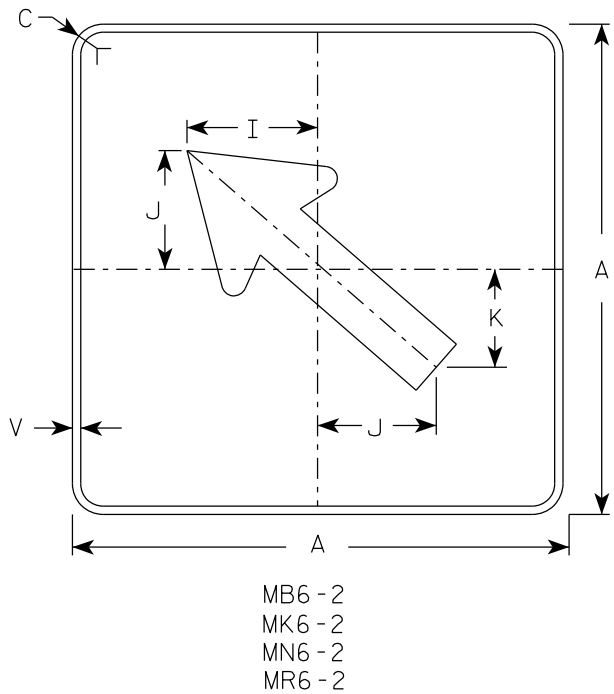
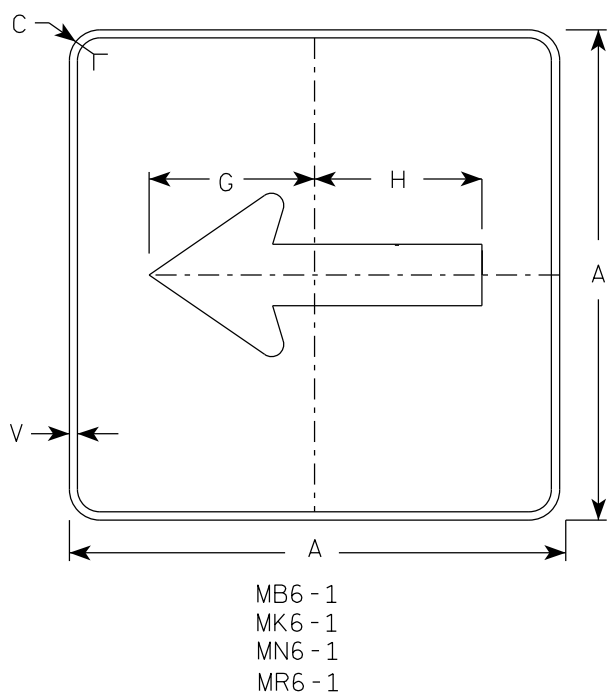
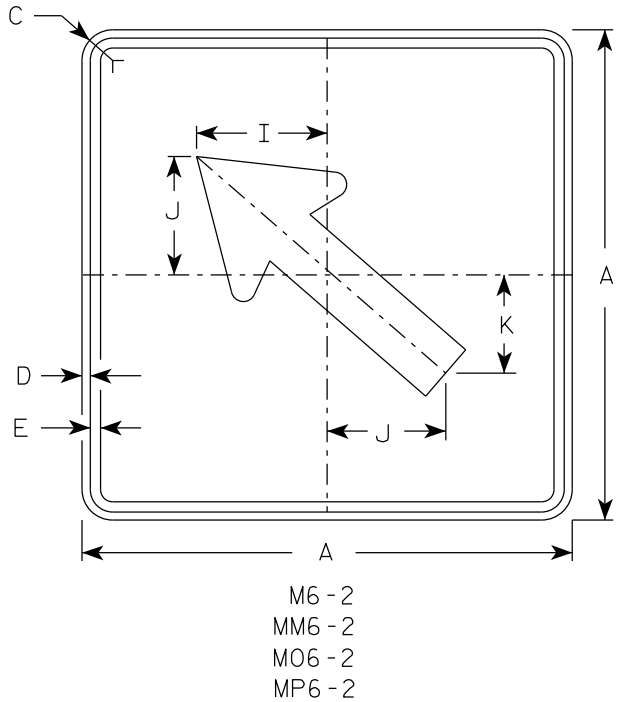
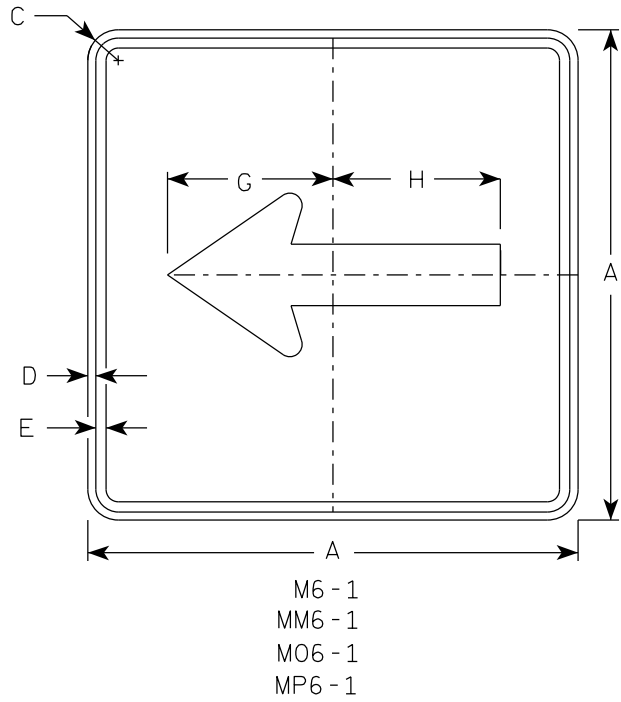
PROJECT NO:

HWY:

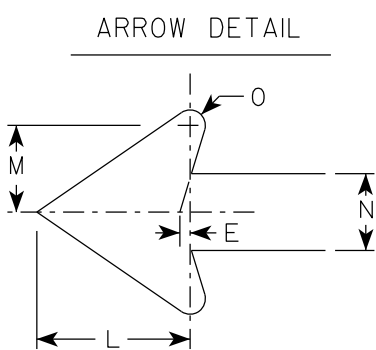
COUNTY:

SHEET NO:

11



- NOTES**
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

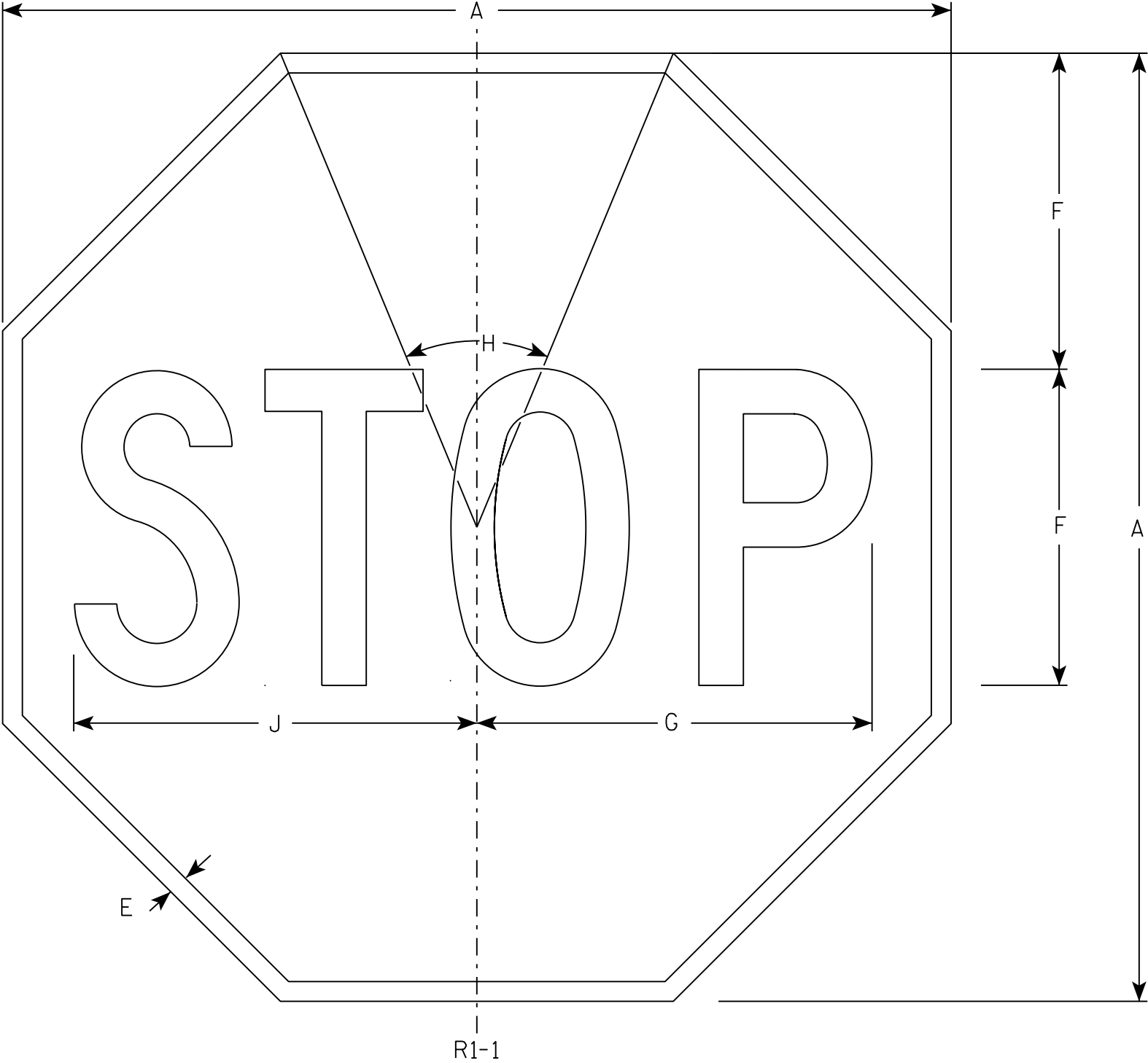
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

7



NOTES

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

7

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

STANDARD SIGN

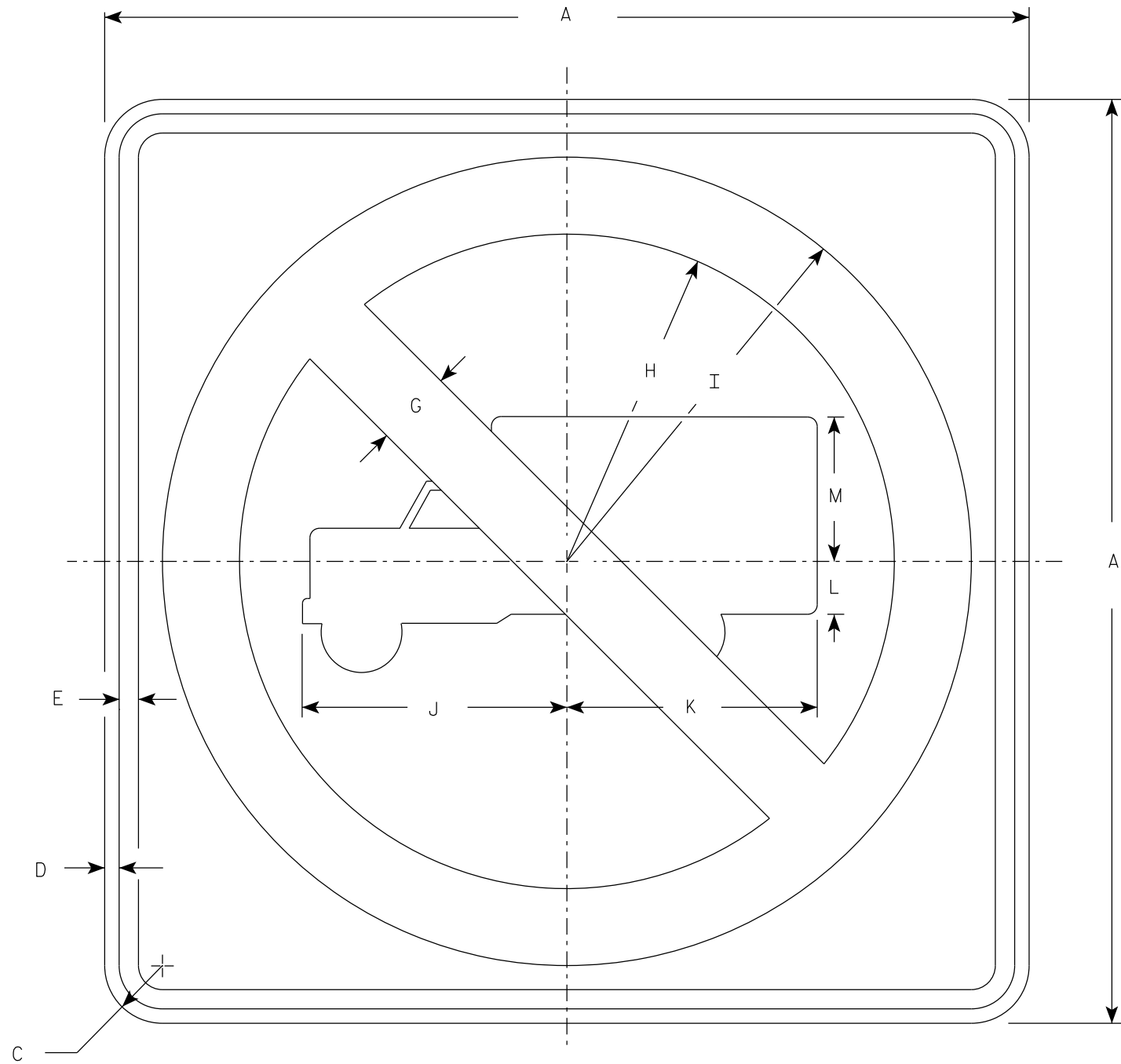
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



R5-2

NOTES

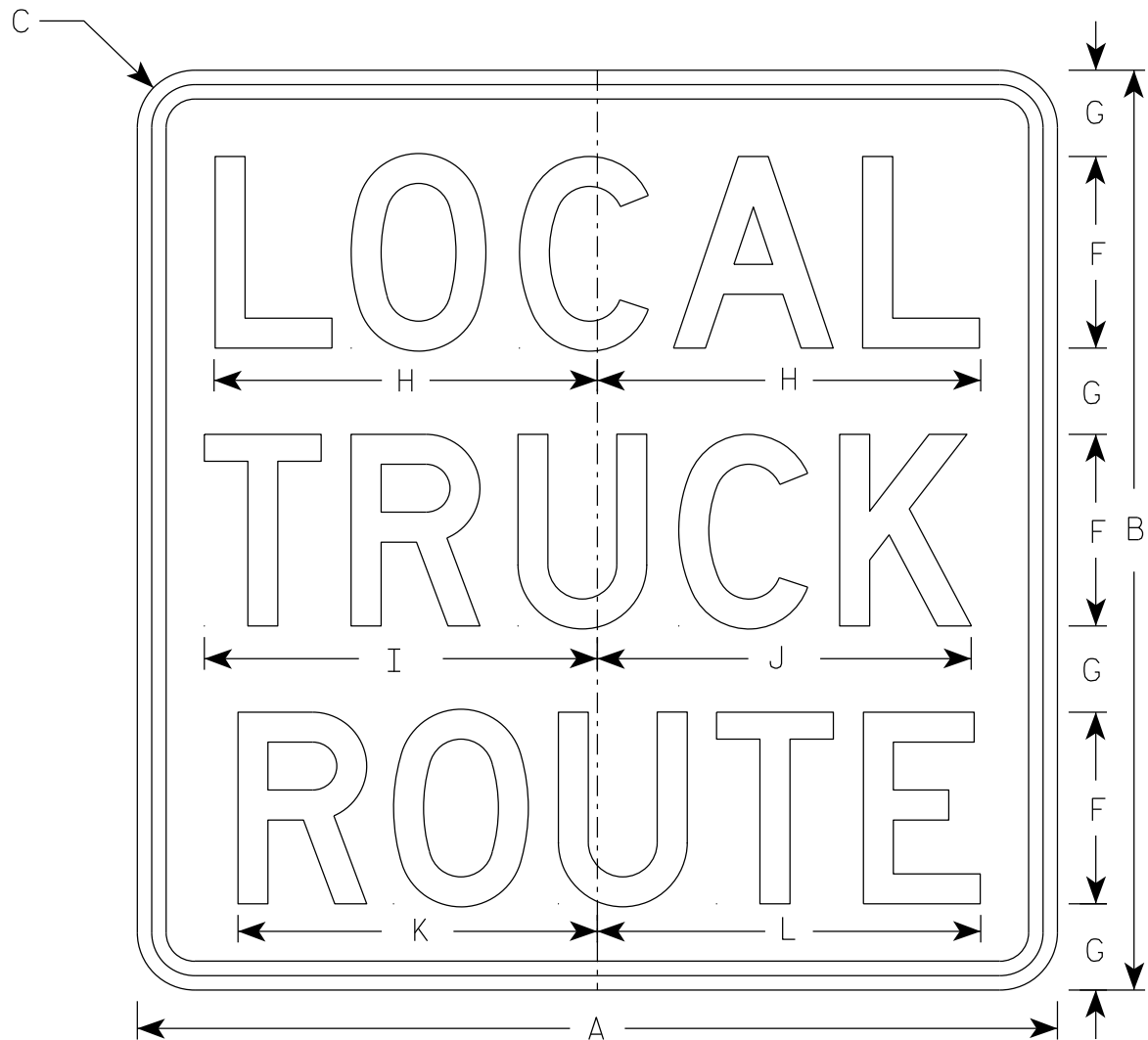
1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - See Note 3
3. Circle & Diagonal - Red
Truck Symbol & Border - Black

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/2	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
2M	24		1 1/2	3/8	1/2		2	8 1/2	10 1/2	6 7/8	6 1/2	1 3/8	3 3/4														4.0
3	30		1 7/8	1/2	5/8		2 1/2	10 5/8	13 1/8	8 1/2	8 1/8	1 5/8	4 3/4														6.25
4	36		2 1/4	5/8	3/4		3	12 3/4	15 3/4	10 1/4	9 3/4	2	5 3/4														9.0
5	48		2 1/4	3/4	1		4	17	21	13 5/8	13	2 5/8	7 5/8														16.0

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



R14-52

NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	24	1 1/2	3/8	3/8	5	2 1/4	10	10 1/4	9 3/4	9 3/8	10															4.00
2M	24	24	1 1/2	3/8	3/8	5	2 1/4	10	10 1/4	9 3/4	9 3/8	10															4.00
3	30	30	1 7/8	3/8	3/8	6	3	12 1/2	13	12 3/4	11 3/4	12 1/2															6.25
4	42	42	1 7/8	1/2	5/8	8	4 1/2	16 3/4	17 3/8	17 1/4	16 3/4	17															12.25
5																											

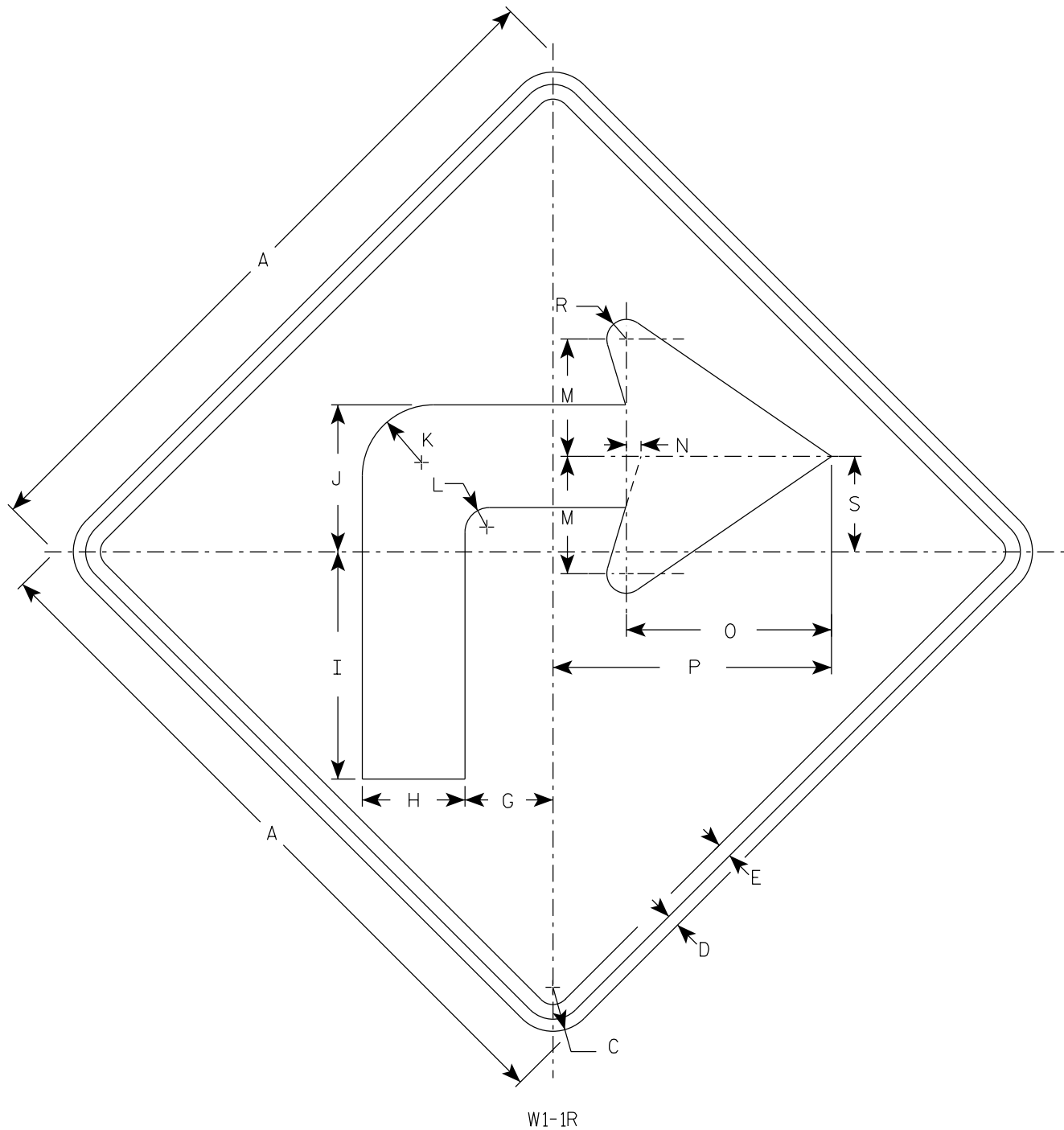
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black
3. W1-1L is the same as W1-1R 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 1/2	3/8	1/2		3	3 1/2	7 3/4	5	2 1/2	7/8	4	1/2	7	9 1/2		5/8	3 1/4								4.0
2S	36		2 1/4	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
2M	36		2 1/4	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
3	36		2 1/4	5/8	3/4		4 1/2	5 1/4	11 5/8	7 1/2	3 5/8	1 1/4	6	3/4	10 1/2	14 1/4		1	4 7/8								9.0
4	48		3	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0
5	48		3	3/4	1		6	7	15 1/2	10	4 7/8	1 5/8	8	1	14	19		1 1/4	6 1/2								16.0

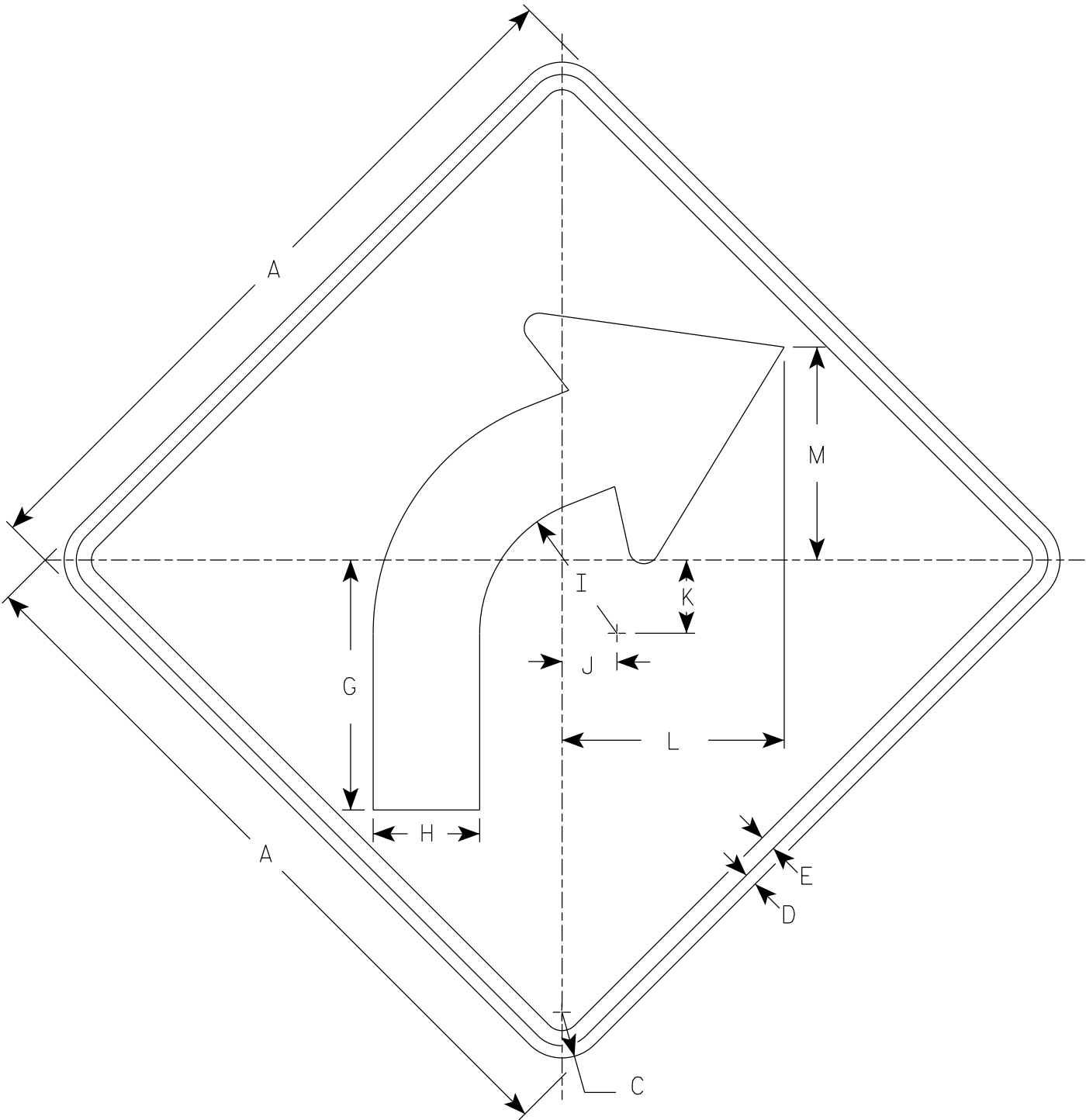
STANDARD SIGN
W1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/22/2023 PLATE NO. W1-1.12

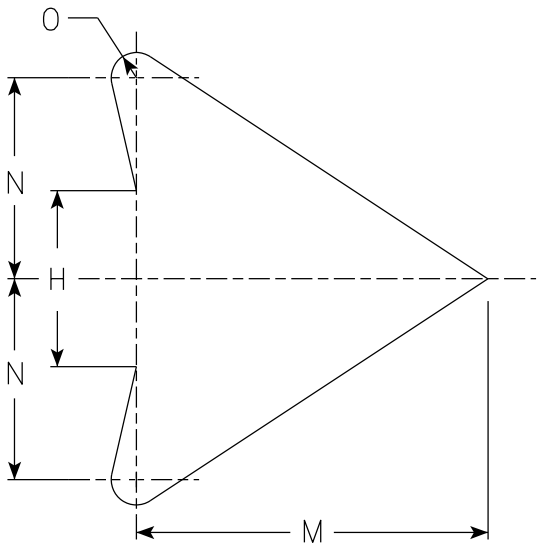
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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W1-2R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



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 1/2	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 7/8	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		2 1/4	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		2 1/4	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		2 1/4	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		3	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 3/23/2023 PLATE NO. W1-2.11

7

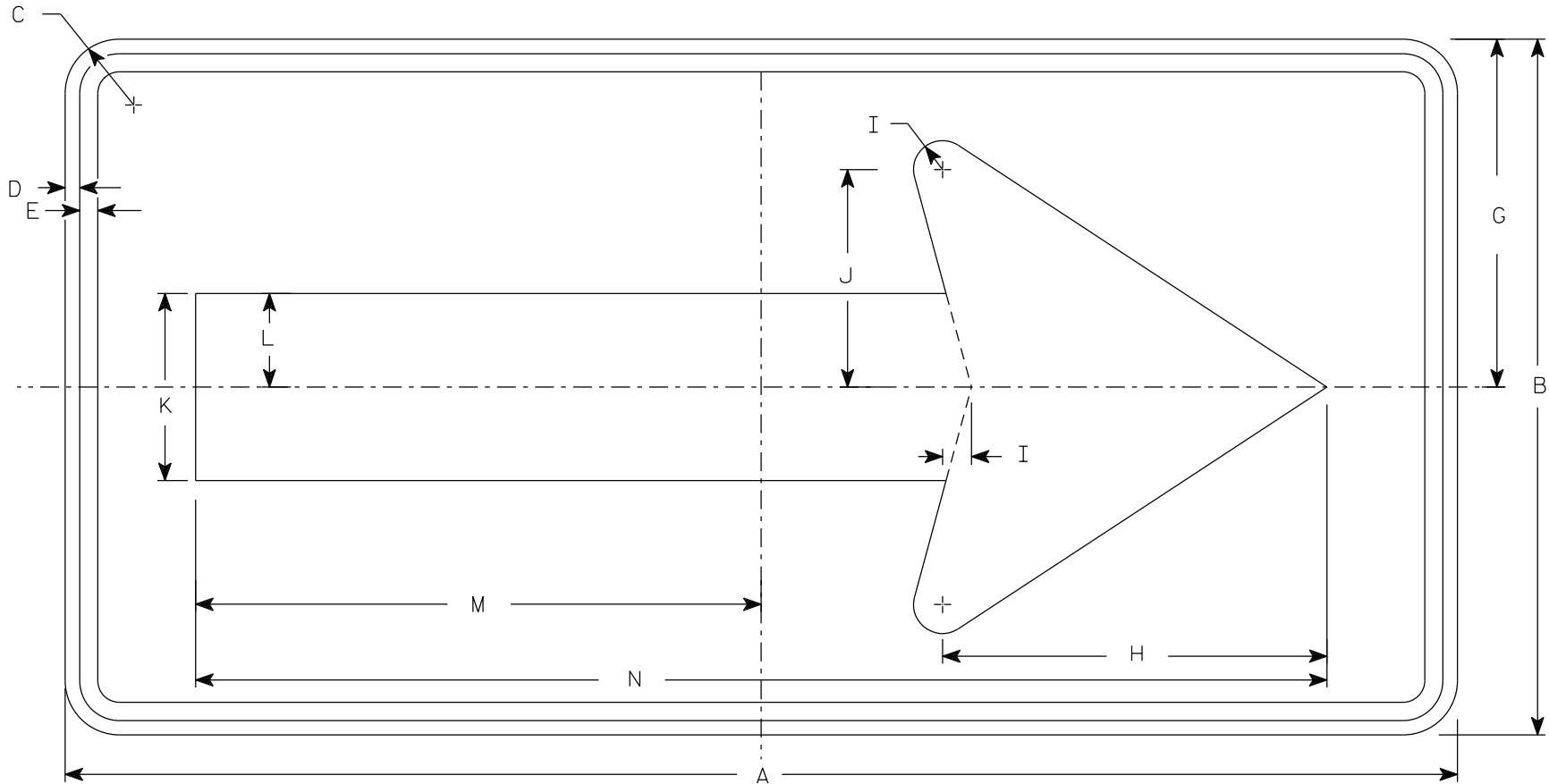
7

NOTES

1. Sign is Type II - Type F Reflective
2. Color:

Background - Yellow

Message - Black



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 1/2	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 7/8	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 7/8	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 7/8	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 7/8	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	3	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN

W1-6

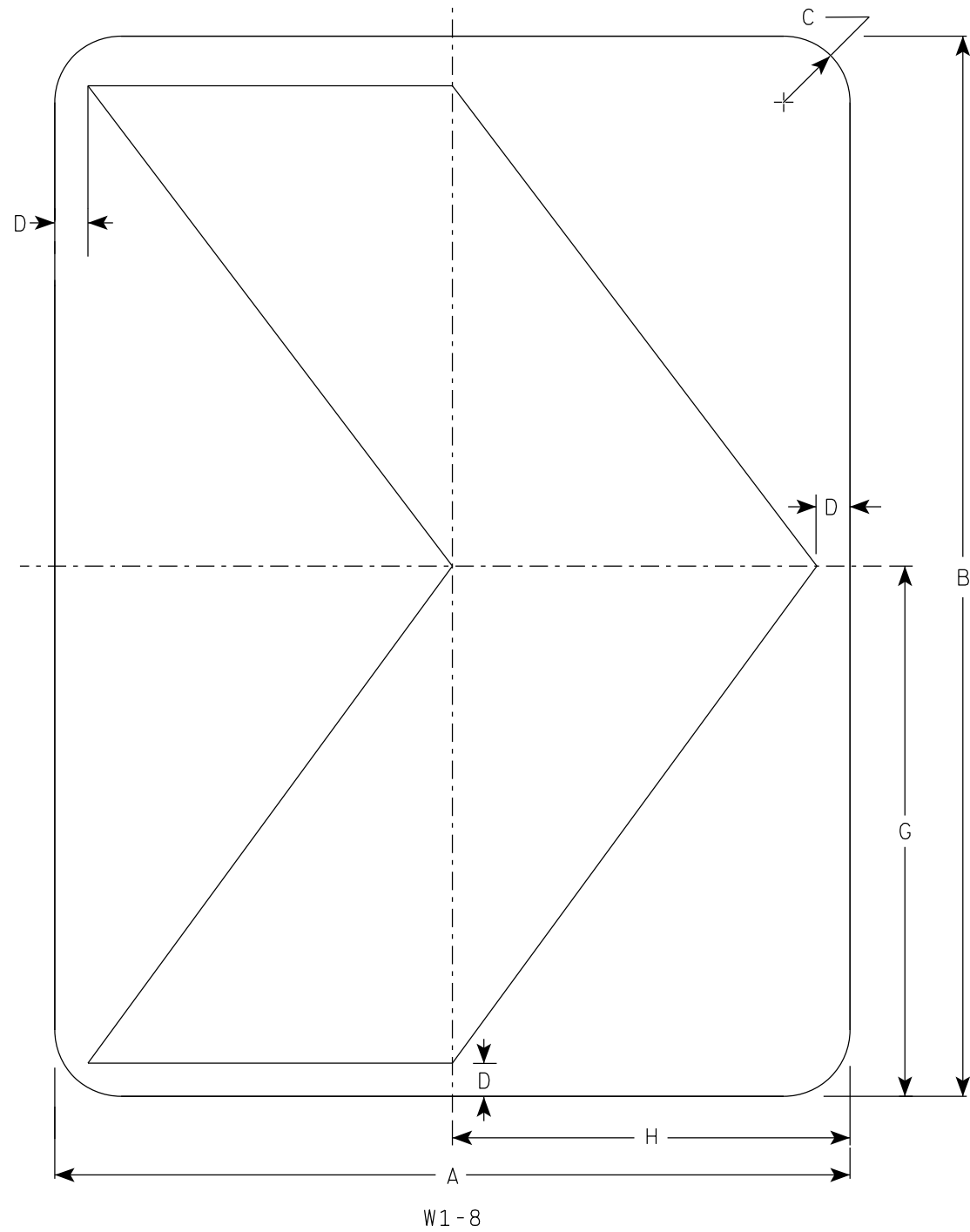
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthae R Rauch*
for State Traffic Engineer

DATE 4/13/2023

PLATE NO. W1-6.9

7



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	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	1 7/8	1 1/2			24	18																			12.0

STANDARD SIGN
W1-8

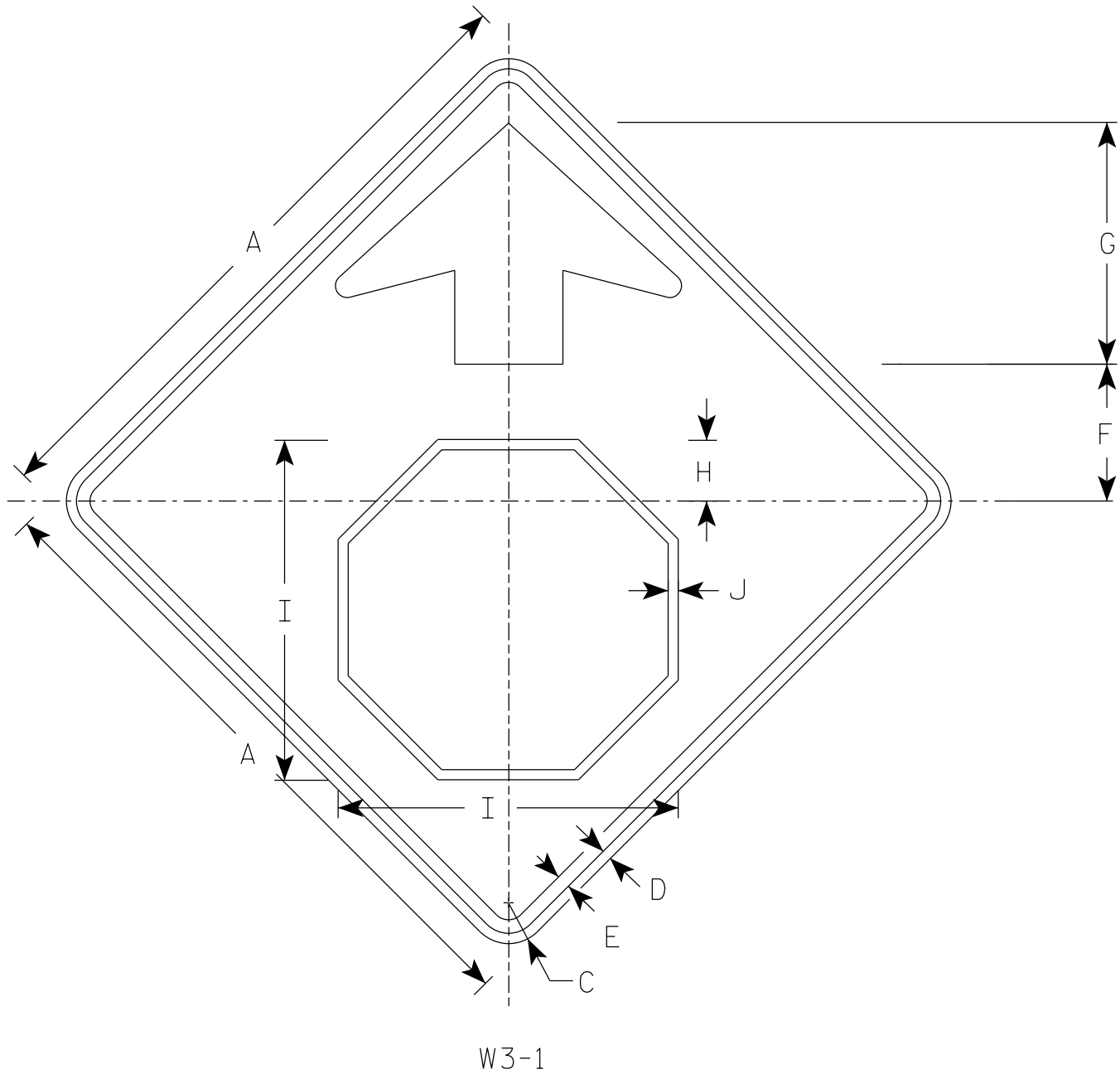
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/11/2023 PLATE NO. W1-8.7

SHEET NO: E

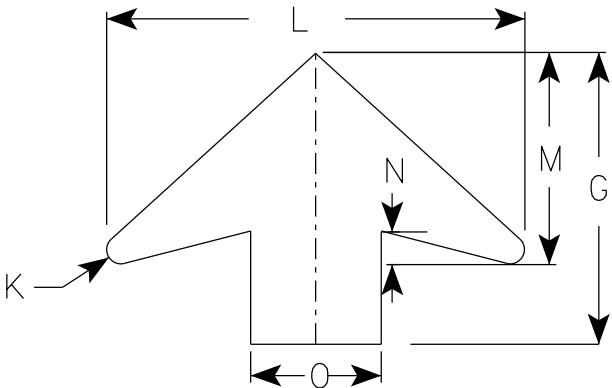
7



W3-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Arrow & Border - Black
 - Stop Symbol - White Border on Red Background



ARROW DETAIL

7

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

STANDARD SIGN

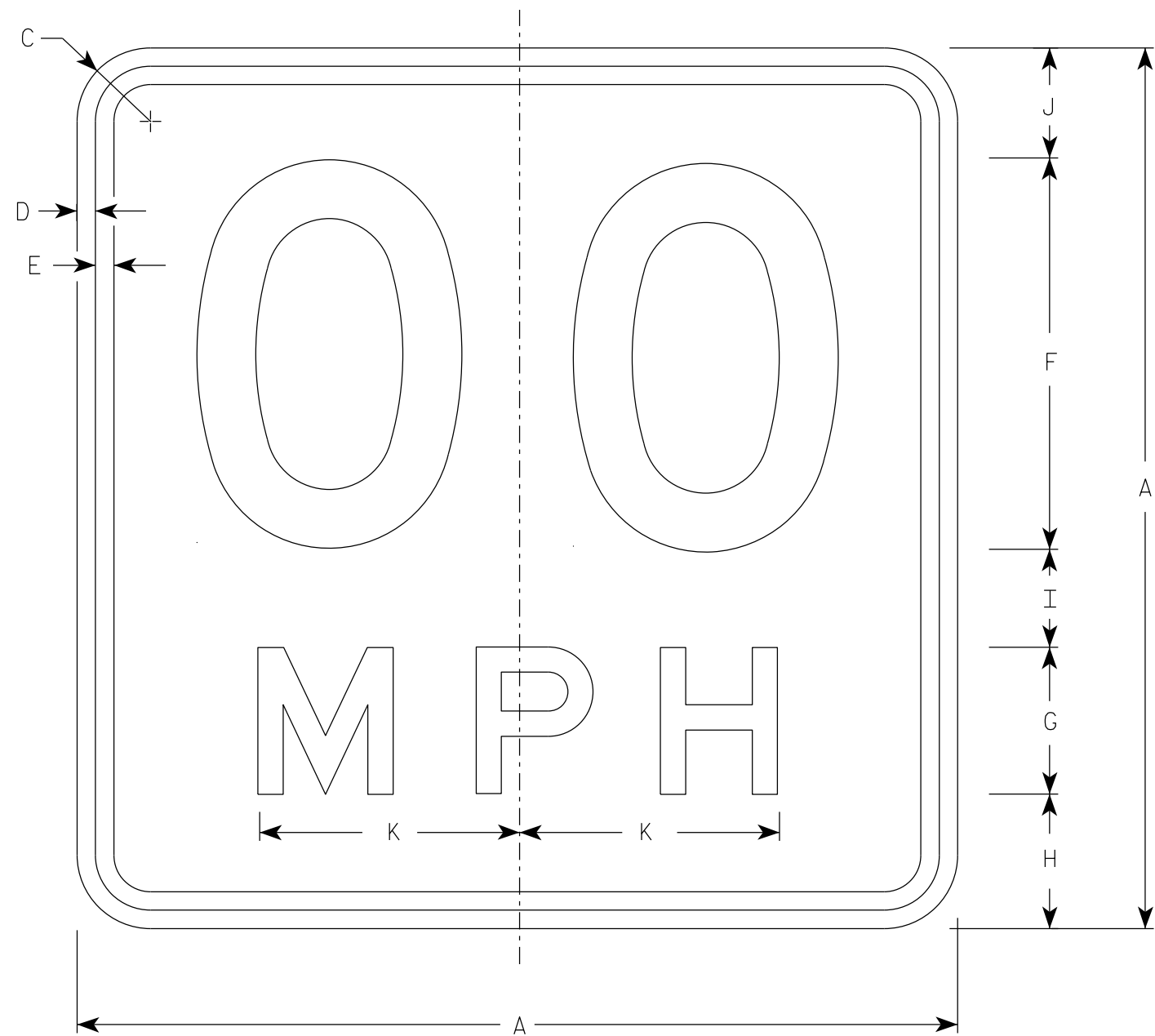
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/17/2023

PLATE NO. W3-1.13



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black
3. Message Series - See Note 5
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
5. 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.
✱ 2S	1	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
	2	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
✱ 2M	3	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
	4	24		1 1/2	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8															4.00
	5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00
	6	36		2 1/4	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 1/8/2024 PLATE NO. W13-1.17

PROJECT NO: HWY: COUNTY: SHEET NO: E

DIVISION - FORMICA RD (PHASE 1)

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
							NOTE 1		NOTE 4
100+25.00	63.32	7.33	0.00	0	0	0	0	0	0
101+00.00	60.57	7.33	0.30	172	20	0	172	0	152
102+00.00	54.47	7.33	2.04	213	27	4	385	5	333
103+00.00	53.45	7.33	1.13	200	27	6	585	13	499
104+00.00	52.37	7.33	4.87	196	27	11	781	26	654
104+05.77	52.46	7.33	4.52	11	2	1	792	28	662
104+94.28	47.76	7.33	0.88	164	24	9	956	39	790
105+00.00	49.49	7.33	0.78	10	2	0	966	39	798
106+00.00	29.20	7.33	4.03	146	27	9	1112	50	906
106+05.00	26.85	7.33	4.15	5	1	1	1117	51	909
107+00.00	12.79	7.33	6.27	70	26	18	1187	74	930
107+97.07	10.90	7.33	19.68	43	26	47	1230	133	889
108+03.85	11.94	7.33	24.32	3	2	6	1233	140	882
109+00.00	9.73	7.33	11.13	39	26	63	1272	219	816
110+00.00	11.38	7.33	10.53	39	27	40	1311	269	778
111+00.00	11.25	7.33	20.77	42	27	58	1353	341	721
111+25.00	20.44	7.33	0.11	15	7	10	1368	354	716
111+32.13	19.37	7.33	2.60	5	2	0	1373	354	719
112+00.00	6.01	7.33	17.10	32	18	25	1405	385	702
113+00.00	21.72	7.33	16.16	51	27	62	1456	463	649
114+00.00	18.46	7.33	14.86	74	27	57	1530	534	624
114+55.08	26.21	7.33	2.53	46	15	18	1576	556	633
115+00.00	30.17	7.33	4.89	47	12	6	1623	564	660
116+00.00	38.52	7.33	2.38	127	27	13	1750	580	744
117+00.00	41.28	7.33	1.64	148	27	7	1898	589	856
118+00.00	47.11	7.33	1.40	164	27	6	2062	596	986
118+50.00	36.87	7.33	3.11	78	14	4	2140	601	1045
119+00.00	37.57	7.33	2.95	69	14	6	2209	609	1092
120+00.00	15.66	7.33	4.58	99	27	14	2308	626	1147
121+00.00	3.38	7.33	11.94	35	27	31	2343	665	1116
122+00.00	23.12	7.33	0.94	49	27	24	2392	695	1108
123+00.00	58.84	7.33	0.00	152	27	2	2544	698	1231
123+25.00	71.33	7.33	0.00	60	7	0	2604	698	1284
124+00.00	21.10	7.33	7.66	128	20	11	2732	711	1378
125+00.00	31.80	7.33	3.37	98	27	20	2830	736	1424
125+50.00	27.39	7.33	0.73	55	14	4	2885	741	1460
126+00.00	18.49	7.33	8.27	42	14	8	2927	751	1478
127+00.00	11.03	7.33	22.67	55	27	57	2982	823	1435
128+00.00	4.04	7.33	28.84	28	27	95	3010	941	1317
128+50.00	4.29	7.33	26.79	8	14	52	3018	1006	1246
129+00.00	0.36	7.33	27.85	4	14	51	3022	1070	1172
130+00.00	2.19	7.33	14.28	5	27	78	3027	1168	1053
130+25.00	8.02	7.33	14.02	5	7	13	3032	1184	1034
131+00.00	69.82	7.33	0.00	108	20	19	3140	1208	1099
132+00.00	39.38	7.33	1.65	202	27	3	3342	1211	1270

DIVISION - FORMICA RD _CONTINUED (PHASE 1)

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
							NOTE 1		NOTE 4
133+00.00	12.32	7.33	7.37	96	27	17	3438	1233	1318
134+00.00	10.97	7.33	2.27	43	27	18	3481	1255	1311
135+00.00	26.86	7.33	0.50	70	27	5	3551	1261	1348
136+00.00	25.96	7.33	1.70	98	27	4	3649	1266	1414
136+05.97	26.37	7.33	1.93	6	2	0	3655	1266	1418
137+00.00	64.52	7.33	0.10	158	26	4	3813	1271	1545
138+00.00	57.56	7.33	0.04	226	27	0	4039	1271	1744
139+00.00	45.35	7.33	0.22	191	27	0	4230	1271	1908
139+75.00	42.00	7.33	1.14	121	20	2	4351	1274	2006
140+00.00	43.67	7.33	1.71	40	7	1	4391	1275	2038
141+00.00	45.85	7.33	7.93	166	27	18	4557	1298	2155
141+75.00	46.48	7.33	14.47	128	20	31	4685	1336	2224
142+00.00	48.00	7.33	17.88	44	7	15	4729	1355	2242
142+50.00	42.38	7.33	12.10	84	14	28	4813	1390	2277
143+00.00	32.46	7.33	14.25	69	14	24	4882	1420	2302
143+50.00	42.56	7.33	10.16	69	14	23	4951	1449	2328
145+25.00	49.85	7.33	14.11	299	48	79	5250	1548	2481
146+00.00	59.19	7.33	5.40	151	20	27	5401	1581	2578
147+00.00	38.88	7.33	18.30	182	27	44	5583	1636	2678
148+00.00	5.77	7.33	29.40	83	27	88	5666	1746	2624
149+00.00	0.00	7.33	73.30	11	27	190	5677	1984	2370
150+00.00	1.96	7.33	69.24	4	27	264	5681	2314	2017
151+00.00	10.44	7.33	55.76	23	27	231	5704	2603	1725
152+00.00	2.14	7.33	50.92	23	27	198	5727	2850	1473
153+00.00	0.00	7.33	45.15	4	27	178	5731	3073	1228
154+00.00	0.00	7.33	58.94	0	27	193	5731	3314	959
155+00.00	10.51	7.33	7.34	19	27	123	5750	3468	798
155+55.00	30.45	7.33	0.00	42	15	7	5792	3476	816
156+00.00	46.79	7.33	0.00	64	12	0	5856	3476	868
157+00.00	56.71	7.33	0.09	192	27	0	6048	3476	1033
157+15.00	57.09	7.33	0.32	32	4	0	6080	3476	1061
				6,080	1,543	2,781			

NOTES:
1 - CUT (SALVAGE/UNUSABLE PAVEMENT MATERIAL INCLUDED)
2 - SALVAGE/UNUSABLE PAVEMENT MATERIAL. (THIS DOES NOT SHOW UP IN THE CROSSE SECTIONS)
3 - FILL (DOES NOT INCLUDE UNUSABLE PAVEMENT VOLUME)
4 - THE MASS ORDINATE + OR - QUANTITIES CALCULATED. PLUS QUANTITIES AS EXCESS MATERIAL. MINUS A SHORTAGE OF MATERIAL

EBS IS ANTICIPATED.

DIVISION - ESTATE RD (PHASE 1)

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
				NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
201+00.00	27.78	3.67	12.40	0	0	0	0	0	0
202+00.00	21.58	3.67	11.38	91	14	44	91	55	22
203+00.00	5.43	3.67	7.92	50	14	36	141	100	13
204+00.00	3.77	3.67	17.50	17	14	47	158	159	-43
205+00.00	0.00	3.67	41.46	7	14	109	165	295	-186
206+00.00	0.00	3.67	30.80	0	14	134	165	463	-368
207+00.00	0.06	3.67	17.42	0	14	89	165	574	-493
207+18.10	2.18	3.67	8.57	1	2	9	166	585	-505
208+00.00	0.00	3.67	31.70	3	11	61	169	661	-589
209+00.00	0.09	3.67	19.81	0	14	95	169	780	-722
210+00.00	1.50	3.67	31.93	3	14	96	172	900	-853
211+00.00	31.89	3.67	4.72	62	14	68	234	985	-890
212+00.00	4.01	3.67	17.86	66	14	42	300	1038	-891
213+00.00	0.00	3.67	33.78	7	14	96	307	1158	-1018
213+54.10	0.65	3.67	18.12	1	7	52	308	1223	-1089
214+00.00	0.00	3.67	29.96	1	6	41	309	1274	-1145
215+00.00	0.00	3.67	34.97	0	14	120	309	1424	-1309
216+00.00	0.00	3.67	44.51	0	14	147	309	1608	-1507
217+00.00	46.24	3.67	0.37	86	14	83	395	1711	-1538
217+25.10	61.36	3.67	0.00	50	3	0	445	1711	-1491
218+00.00	40.56	3.67	3.42	141	10	5	586	1718	-1367
219+00.00	8.19	3.67	35.33	90	14	72	676	1808	-1381
219+20.10	3.27	3.67	30.06	4	3	24	680	1838	-1410
220+00.00	4.95	3.67	10.57	12	11	60	692	1913	-1484
221+00.00	57.68	3.67	0.00	116	14	20	808	1938	-1407
221+08.74	66.24	3.67	0.00	20	1	0	828	1938	-1388
222+00.00	22.02	3.67	3.48	149	12	6	977	1945	-1258
223+00.00	0.00	3.67	53.20	41	14	105	1018	2076	-1362
224+00.00	0.00	3.67	48.80	0	14	189	1018	2313	-1613
224+54.10	0.00	3.67	19.26	0	7	68	1018	2398	-1705
225+00.00	0.00	3.67	52.08	0	6	61	1018	2474	-1787
				1,018	331	1,979			

DIVISION - ESTATE RD (PHASE 2)

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
							1.00	1.25	
				NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
225+00.00	0.00	3.67	52.08	0	0	0	0	0	0
226+00.00	0.00	3.67	19.78	0	14	133	0	166	-180
227+00.00	12.86	3.67	0.16	24	14	37	24	213	-217
228+00.00	5.15	3.67	10.84	33	14	20	57	238	-223
228+37.10	14.54	3.67	6.46	14	5	12	71	253	-229
229+00.00	21.16	3.67	1.18	42	9	9	113	264	-207
230+00.00	17.35	3.67	4.57	71	14	11	184	278	-164
231+00.00	9.50	3.67	6.07	50	14	20	234	303	-153
232+00.00	23.45	3.67	0.34	61	14	12	295	318	-121
233+00.00	9.92	3.67	5.87	62	14	12	357	333	-88
234+00.00	0.00	3.67	12.96	18	14	35	375	376	-127
234+75.19	32.71	3.67	1.38	46	10	20	421	401	-116
235+00.00	53.53	3.67	0.00	40	3	1	461	403	-81
236+00.00	33.23	3.67	0.34	161	14	1	622	404	65
236+08.58	24.50	3.67	1.82	9	1	0	631	404	73
236+87.10	3.59	3.67	11.05	41	11	19	672	428	80
237+00.00	2.85	3.67	14.78	2	2	6	674	435	72
238+00.00	21.96	3.67	3.22	46	14	33	720	476	63
239+00.00	37.04	3.67	1.64	109	14	9	829	488	147
240+00.00	22.68	3.67	7.50	111	14	17	940	509	222
240+10.00	25.31	3.67	5.95	9	1	2	949	511	228
240+35.00	34.83	3.67	1.86	28	3	4	977	516	248
241+00.00	56.00	3.67	0.00	109	9	2	1086	519	345
241+50.00	49.30	3.67	0.66	97	7	1	1183	520	434
242+00.00	42.26	3.67	3.36	85	7	4	1268	525	507
242+20.00	45.19	3.67	1.84	32	3	2	1300	528	534
242+75.00	60.53	3.67	0.00	108	7	2	1408	530	632
243+00.00	68.49	3.67	0.00	60	3	0	1468	530	689
244+00.00	46.55	3.67	1.05	213	14	2	1681	533	886
245+00.00	11.27	3.67	2.75	107	14	7	1788	541	970
				1,788	277	433			

NOTES:
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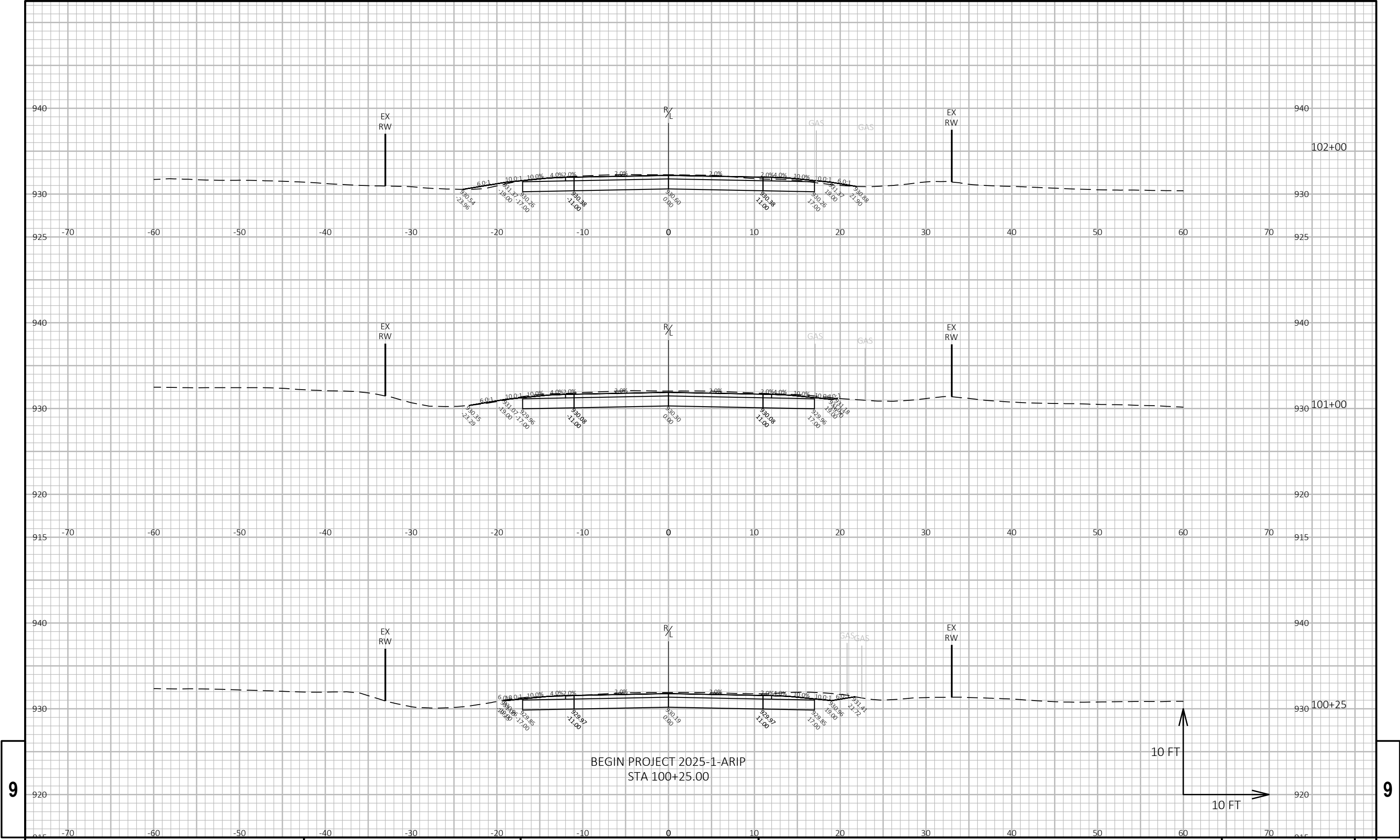
EBS IS ANTICIPATED.

DIVISION - ESTATE RD_ESSEX AVE (PHASE 2)

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				1.00	1.25				
				NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 4
245+00.00	11.27	3.67	2.75	0	0	0	0	0	0
246+00.00	10.85	3.67	7.69	41	14	19	41	24	3
247+00.00	12.01	3.67	7.12	42	14	27	83	58	-3
248+00.00	4.56	3.67	14.24	31	14	40	114	108	-36
248+10.10	3.83	3.67	13.10	2	1	5	116	114	-41
249+00.00	4.80	3.67	17.35	14	12	51	130	178	-103
250+00.00	0.00	3.67	35.14	9	14	97	139	299	-229
251+00.00	0.00	3.67	58.16	0	14	173	139	515	-459
252+00.00	11.36	3.67	22.36	21	14	149	160	701	-638
253+00.00	6.97	3.67	24.28	34	14	86	194	809	-726
254+00.00	0.00	3.67	27.71	13	14	96	207	929	-847
255+00.00	18.04	3.67	1.75	33	14	55	240	998	-897
256+00.00	2.63	3.67	7.73	38	14	18	278	1020	-895
257+00.00	9.37	3.67	4.44	22	14	23	300	1049	-916
258+00.00	27.10	3.67	1.73	68	14	11	368	1063	-876
259+00.00	38.26	3.67	0.21	121	14	4	489	1068	-774
260+00.00	42.52	3.67	0.70	150	14	2	639	1070	-640
261+00.00	54.01	3.67	0.76	179	14	3	818	1074	-479
261+55.10	31.75	3.67	34.43	88	7	36	906	1119	-443
262+00.00	44.34	3.67	1.11	63	6	30	969	1156	-423
263+00.00	36.79	3.67	0.33	150	14	3	1119	1160	-291
264+00.00	39.12	3.67	1.94	141	14	4	1260	1165	-169
265+00.00	41.30	3.67	0.46	149	14	4	1409	1170	-39
265+42.21	37.02	3.67	2.93	61	6	3	1470	1174	12
266+00.00	36.95	3.67	2.19	79	8	5	1549	1180	77
267+00.00	49.37	3.67	0.27	160	14	5	1709	1186	217
268+00.00	45.98	3.67	1.06	177	14	2	1886	1189	377
269+00.00	35.68	3.67	1.23	151	14	4	2037	1194	509
270+00.00	42.96	3.67	0.61	146	14	3	2183	1198	638
271+00.00	66.41	3.67	0.00	203	14	1	2386	1199	825
272+00.00	43.68	3.67	4.21	204	14	8	2590	1209	1005
272+40.00	48.19	3.67	9.93	68	5	10	2658	1221	1056
273+00.00	35.36	3.67	10.27	93	8	22	2751	1249	1113
274+00.00	46.88	3.67	0.01	152	14	19	2903	1273	1228
274+10.34	48.40	3.67	0.00	18	1	0	2921	1273	1245
274+20.10	49.52	3.67	0.00	18	1	0	2939	1273	1262
275+00.00	47.91	3.67	1.04	144	11	2	3083	1275	1392
276+00.00	48.47	3.67	1.90	178	14	5	3261	1281	1550
276+50.00	45.98	3.67	2.77	87	7	4	3348	1286	1625
277+00.00	44.19	3.67	4.19	83	7	6	3431	1294	1693
277+57.60	44.59	3.67	1.29	95	8	6	3526	1301	1773
278+00.00	42.69	3.67	1.12	69	6	2	3595	1304	1833
279+00.00	50.49	3.67	0.30	173	14	3	3768	1308	1989
280+00.00	48.32	3.67	0.01	183	14	1	3951	1309	2156
280+59.10	55.55	3.67	0.27	114	8	0	4065	1309	2262
281+00.00	59.59	3.67	0.02	87	6	0	4152	1309	2343
281+75.00	56.94	3.67	0.00	162	10	0	4314	1309	2495
				4,314	510	1,047			

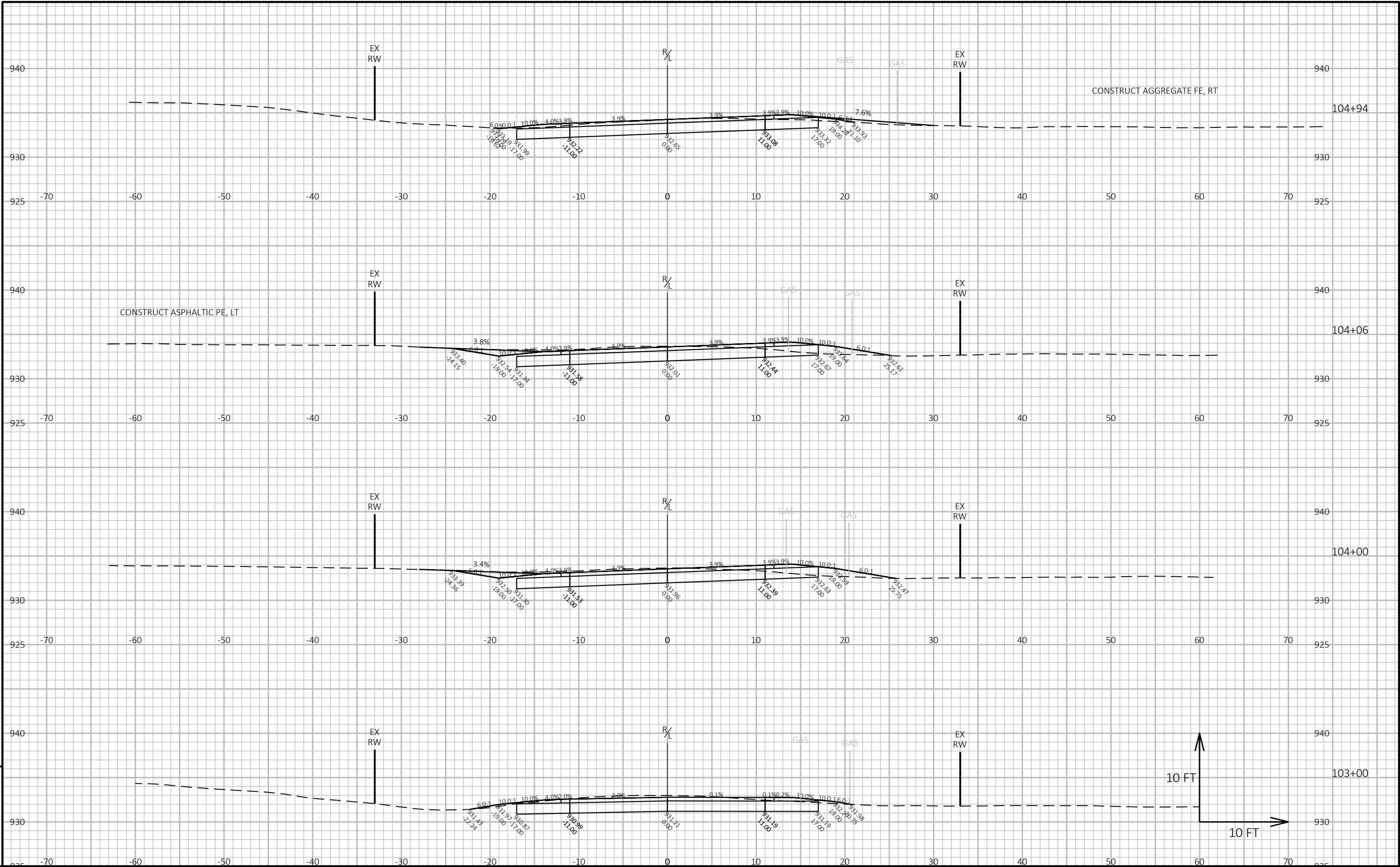
NOTES:
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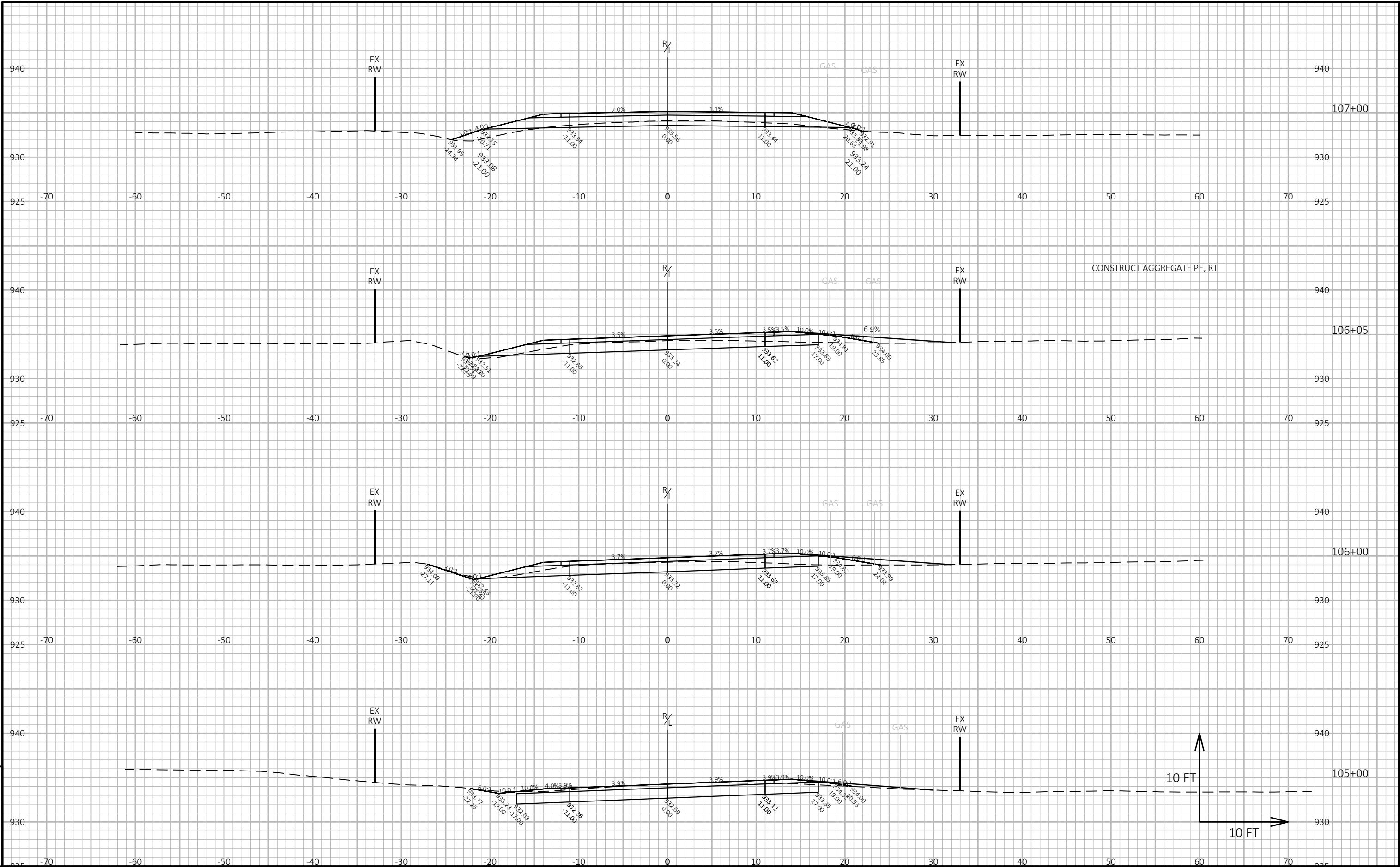
EBS IS ANTICIPATED.

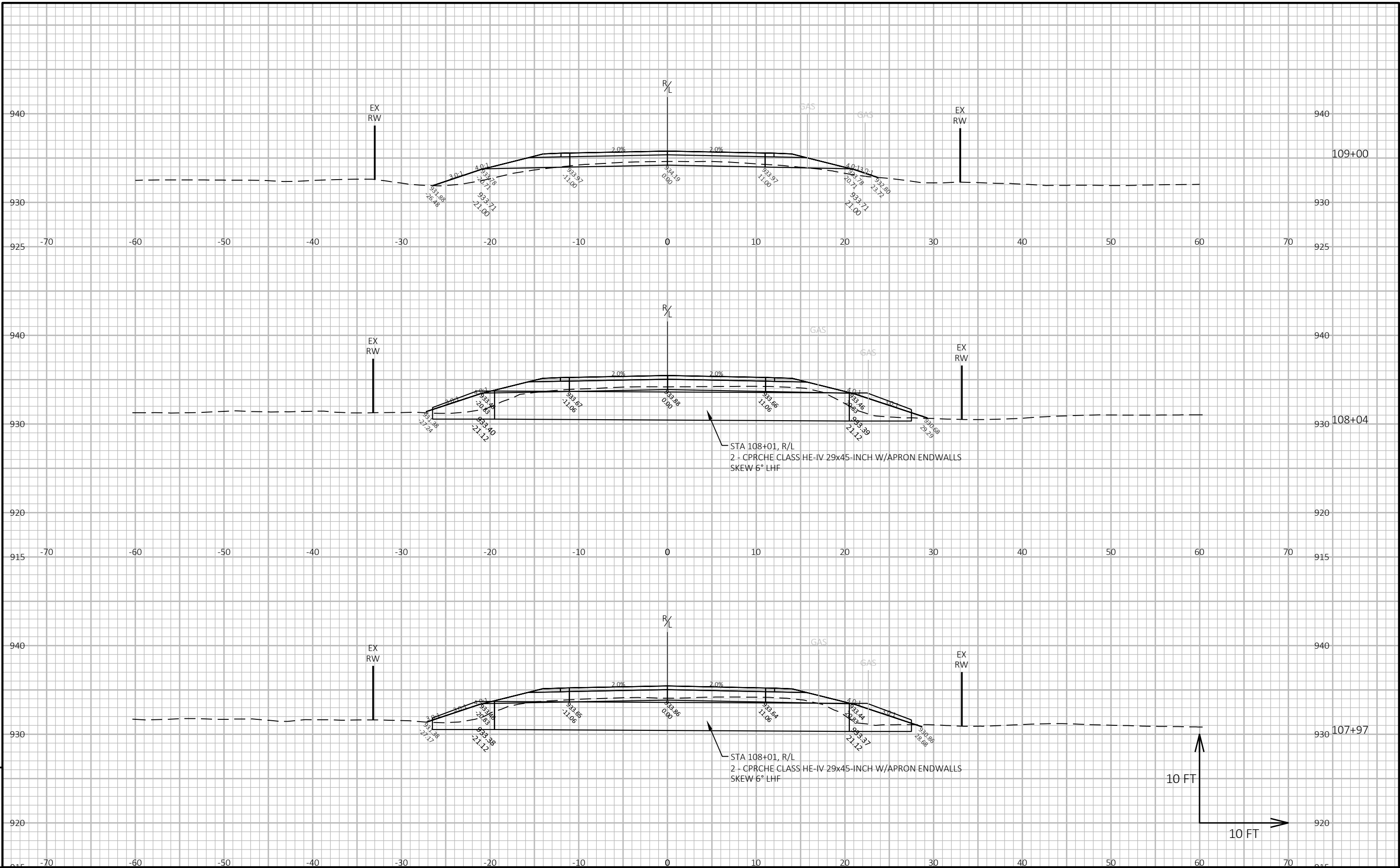


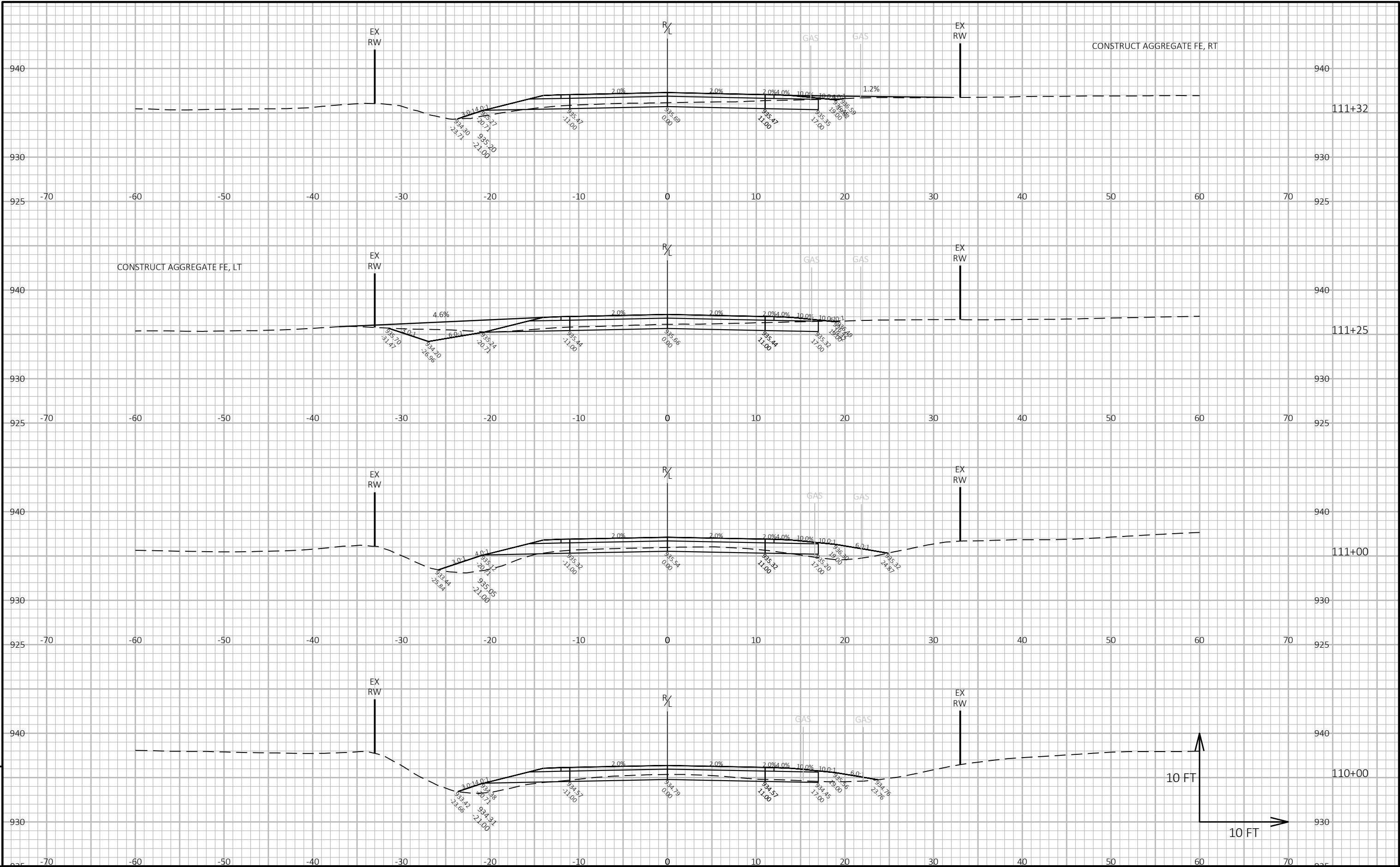
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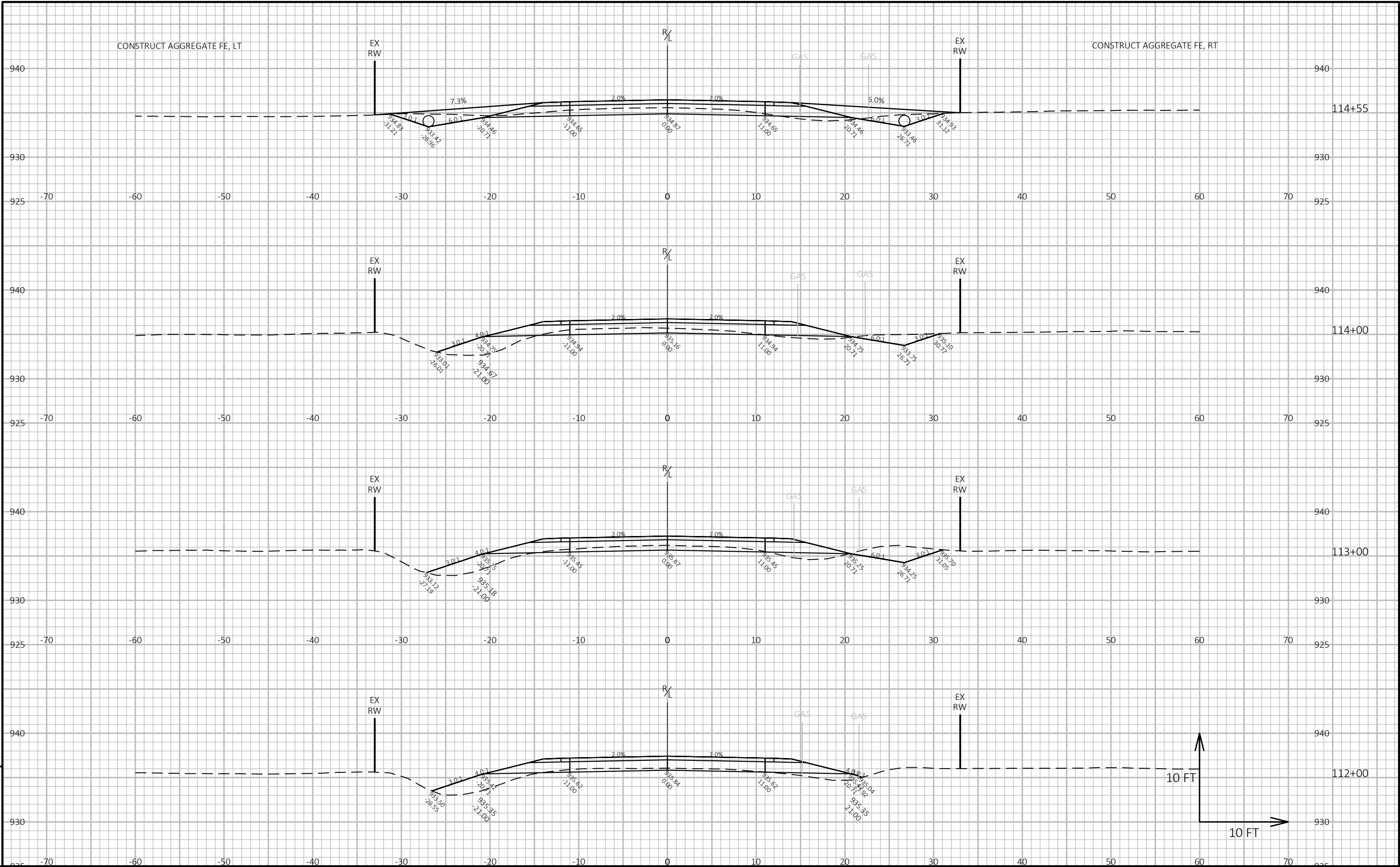
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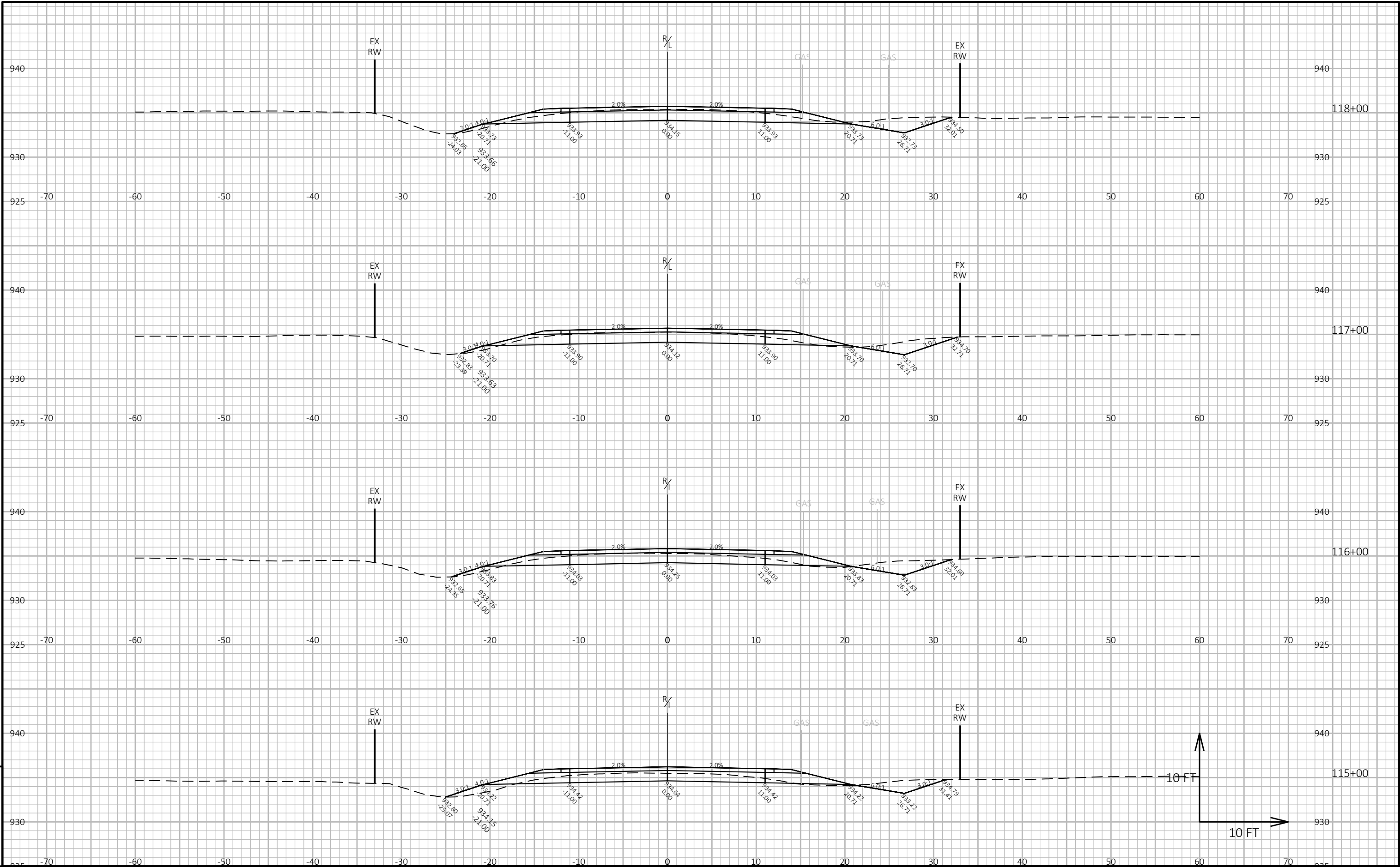


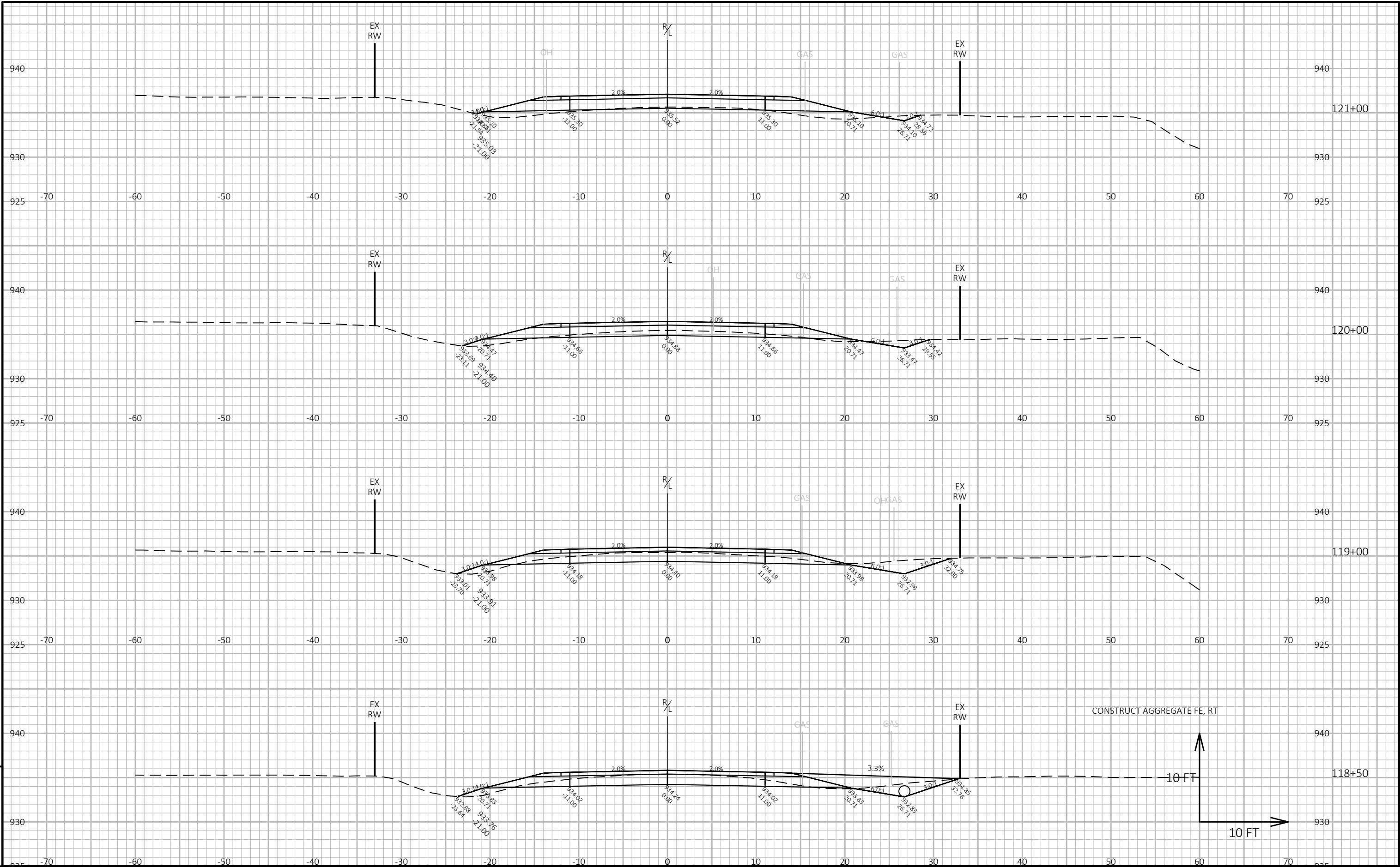


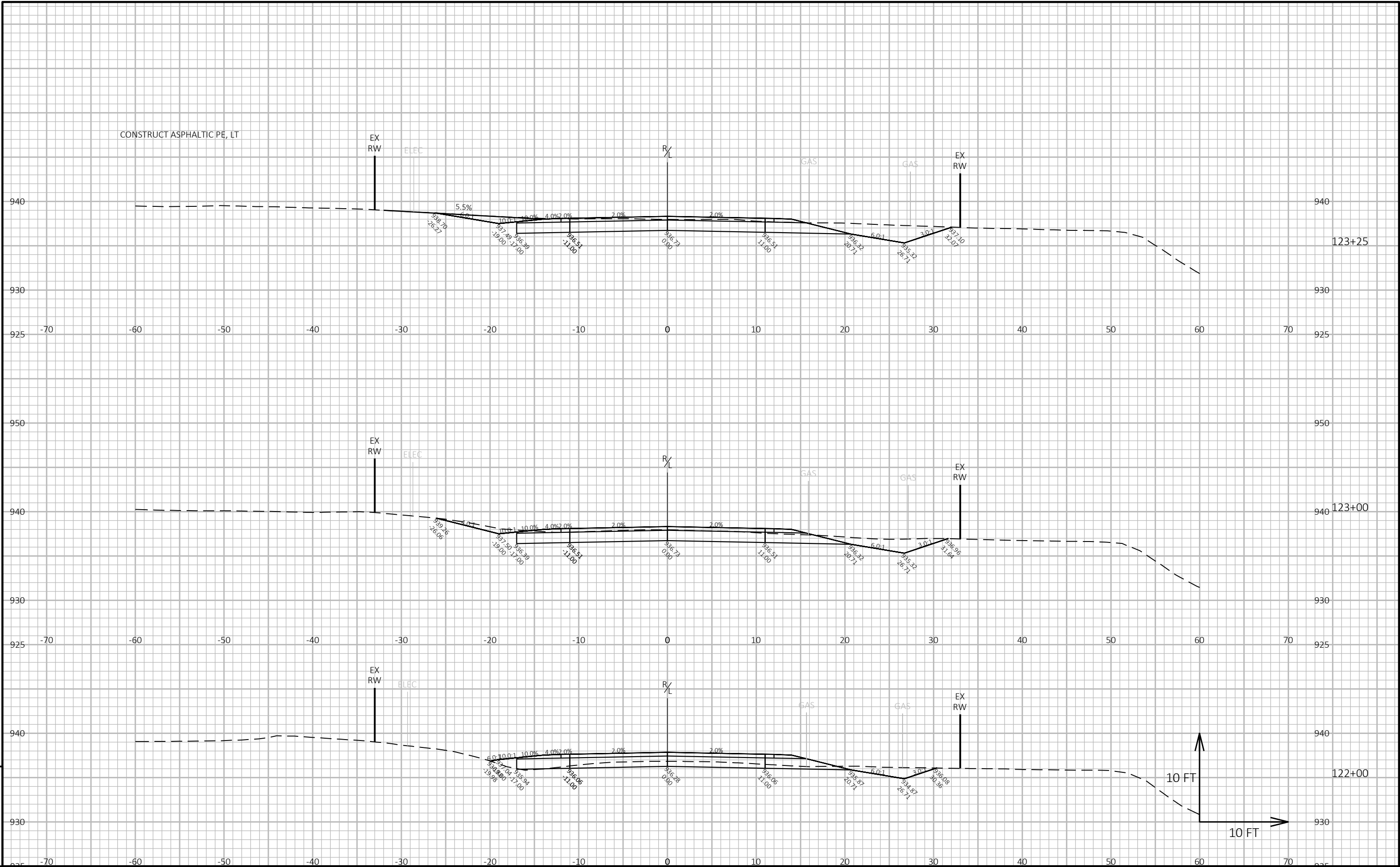


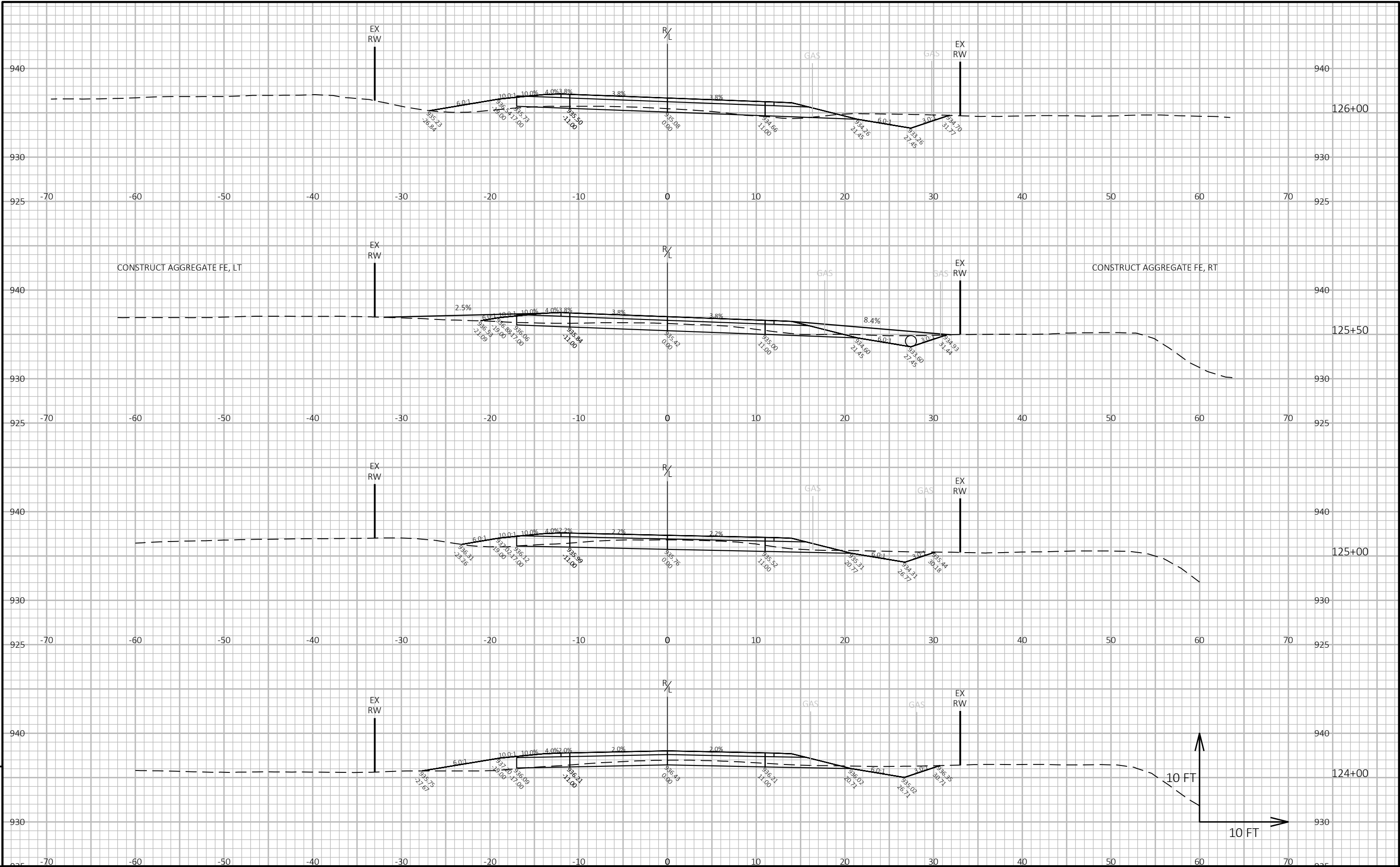








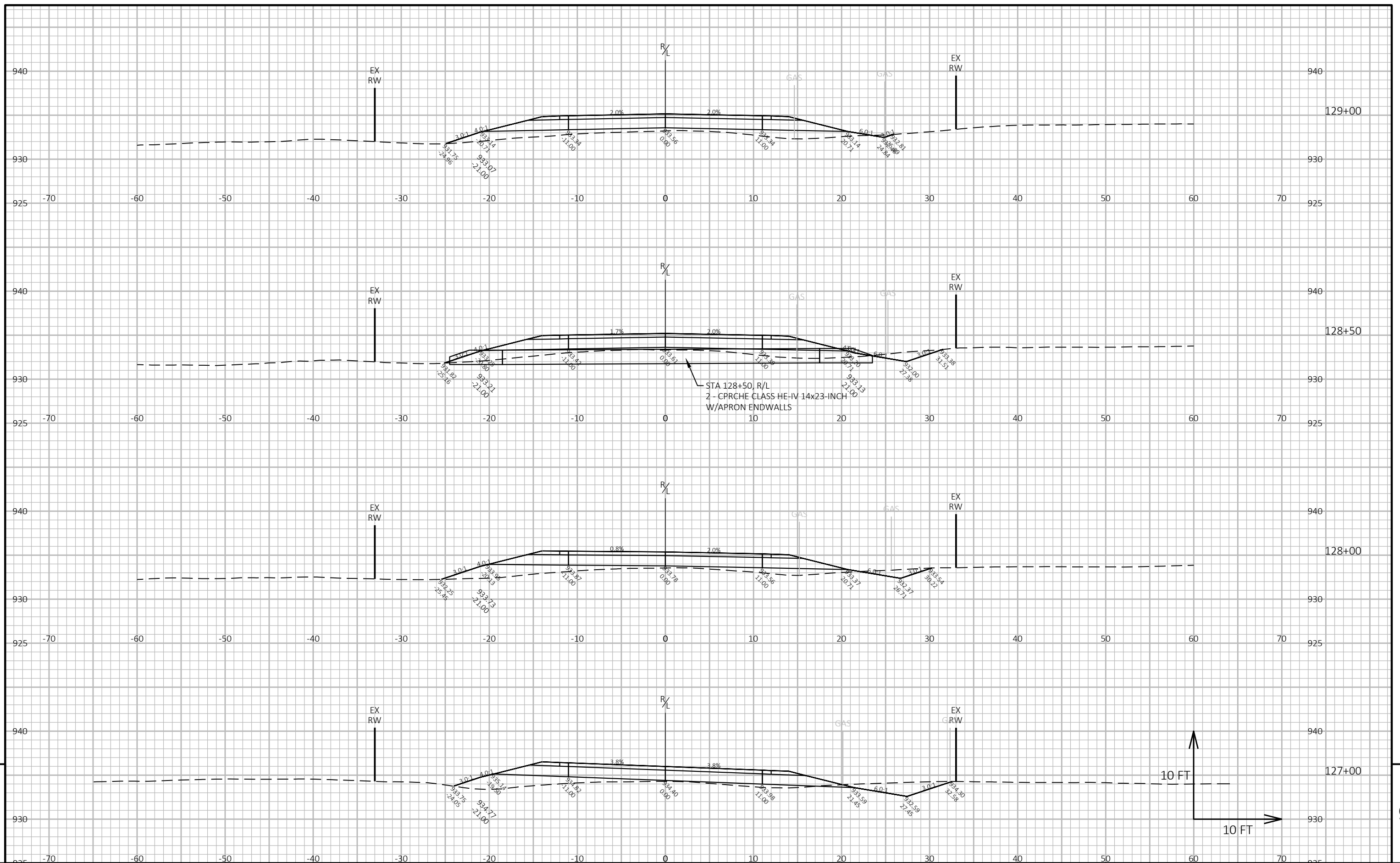




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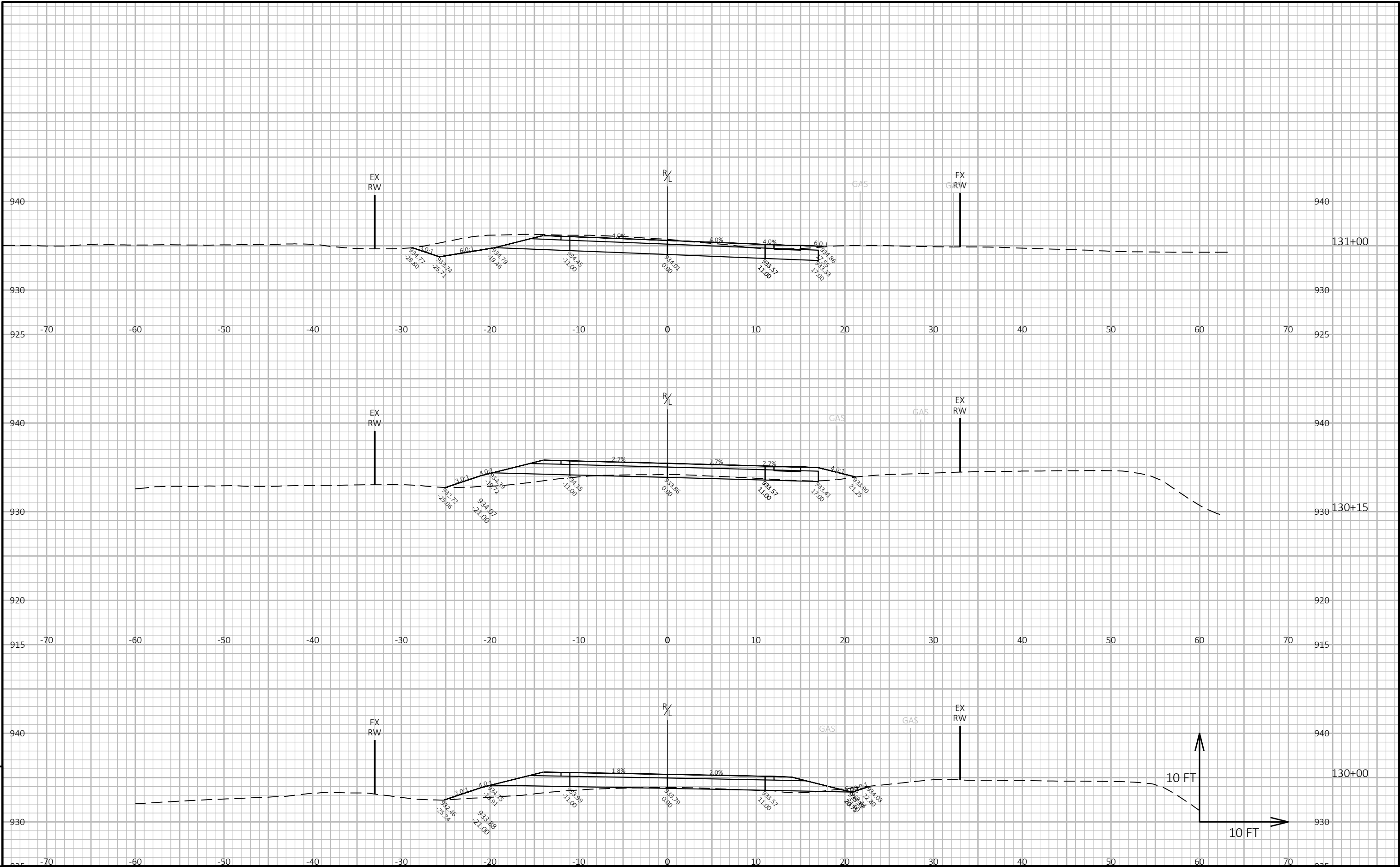
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PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	CROSS SECTIONS: FORMICA ROAD	SHEET E
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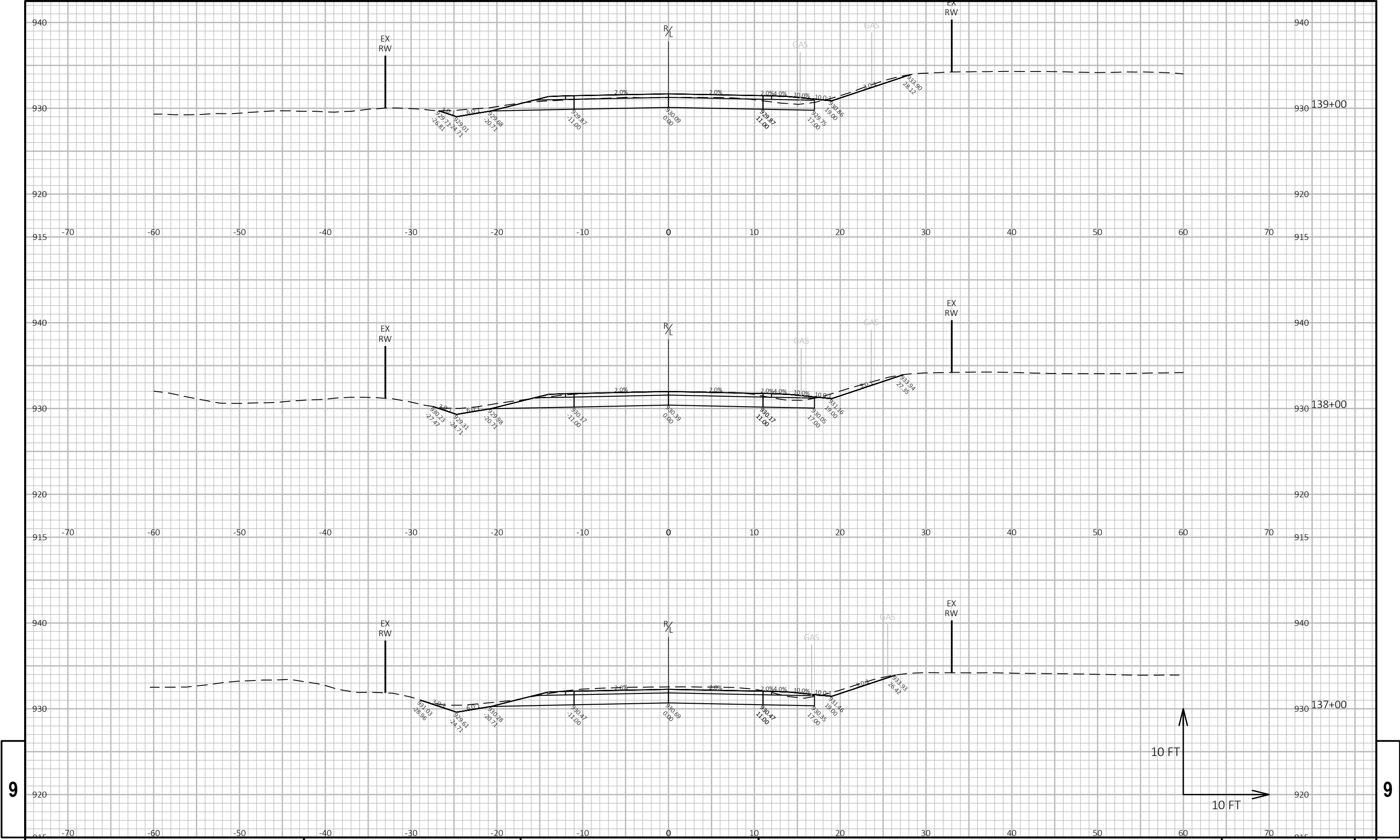
PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	CROSS SECTIONS: FORMICA ROAD	SHEET	E
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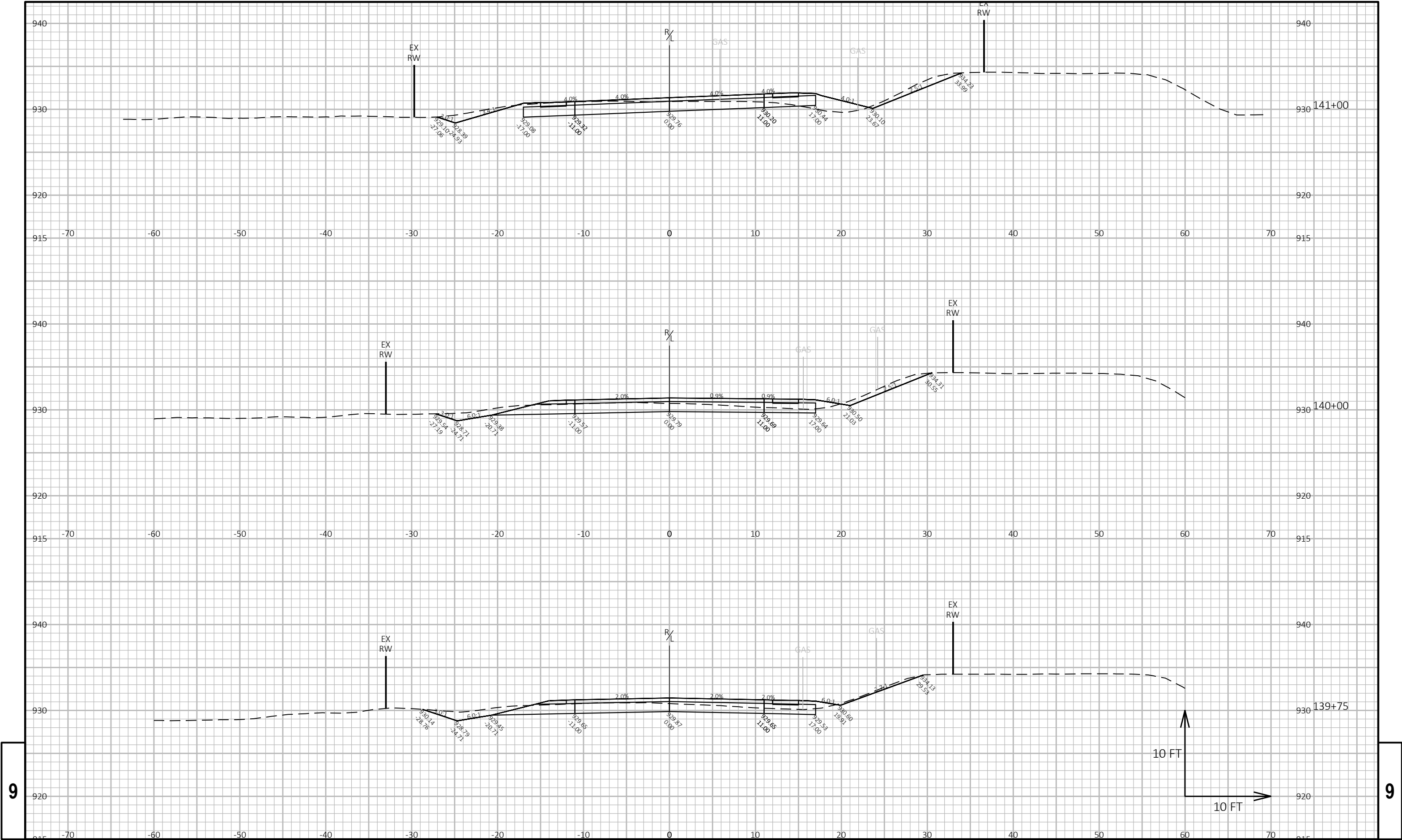
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LAYOUT NAME -	11										



PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	CROSS SECTIONS:	FORMICA ROAD	SHEET	E
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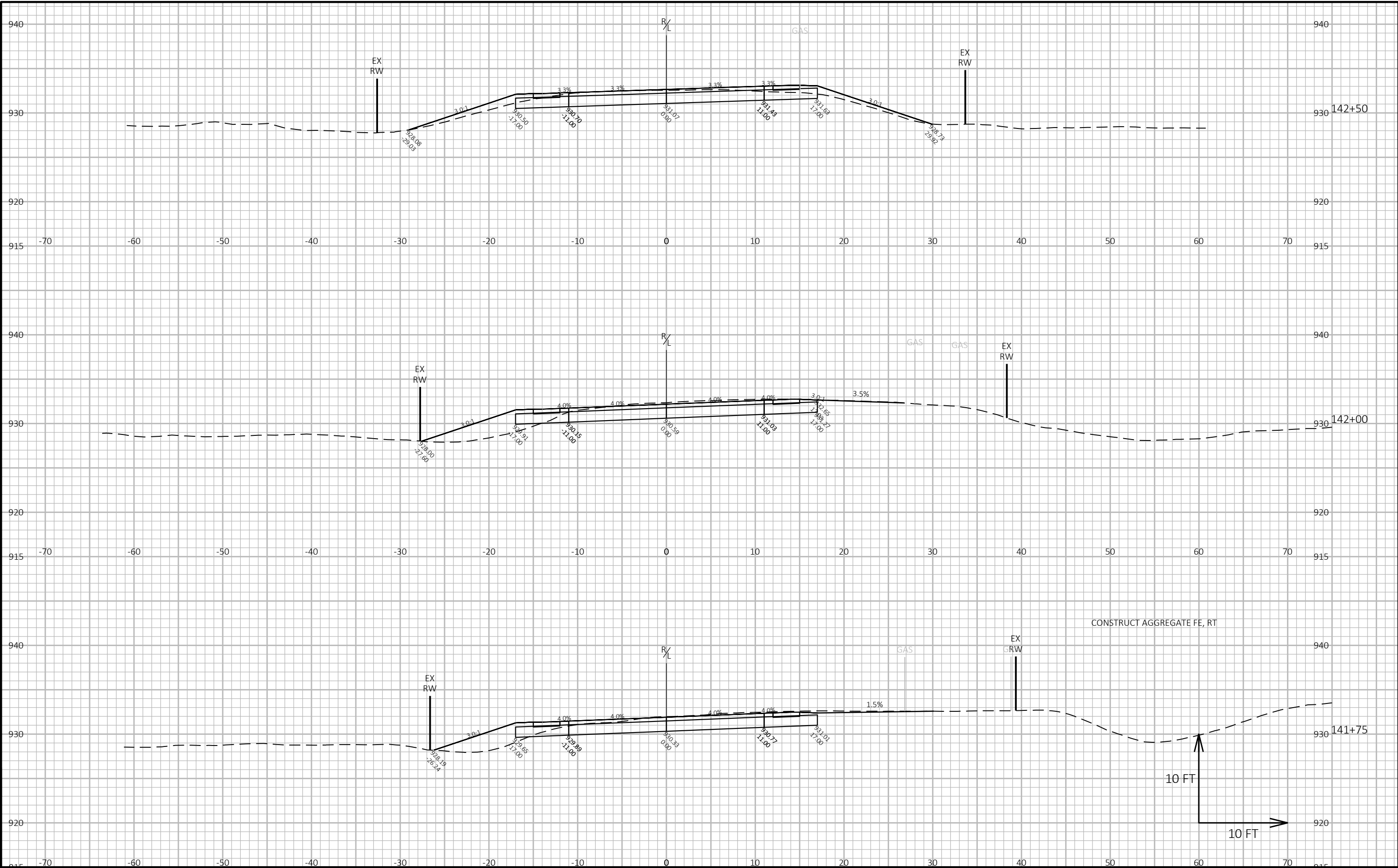


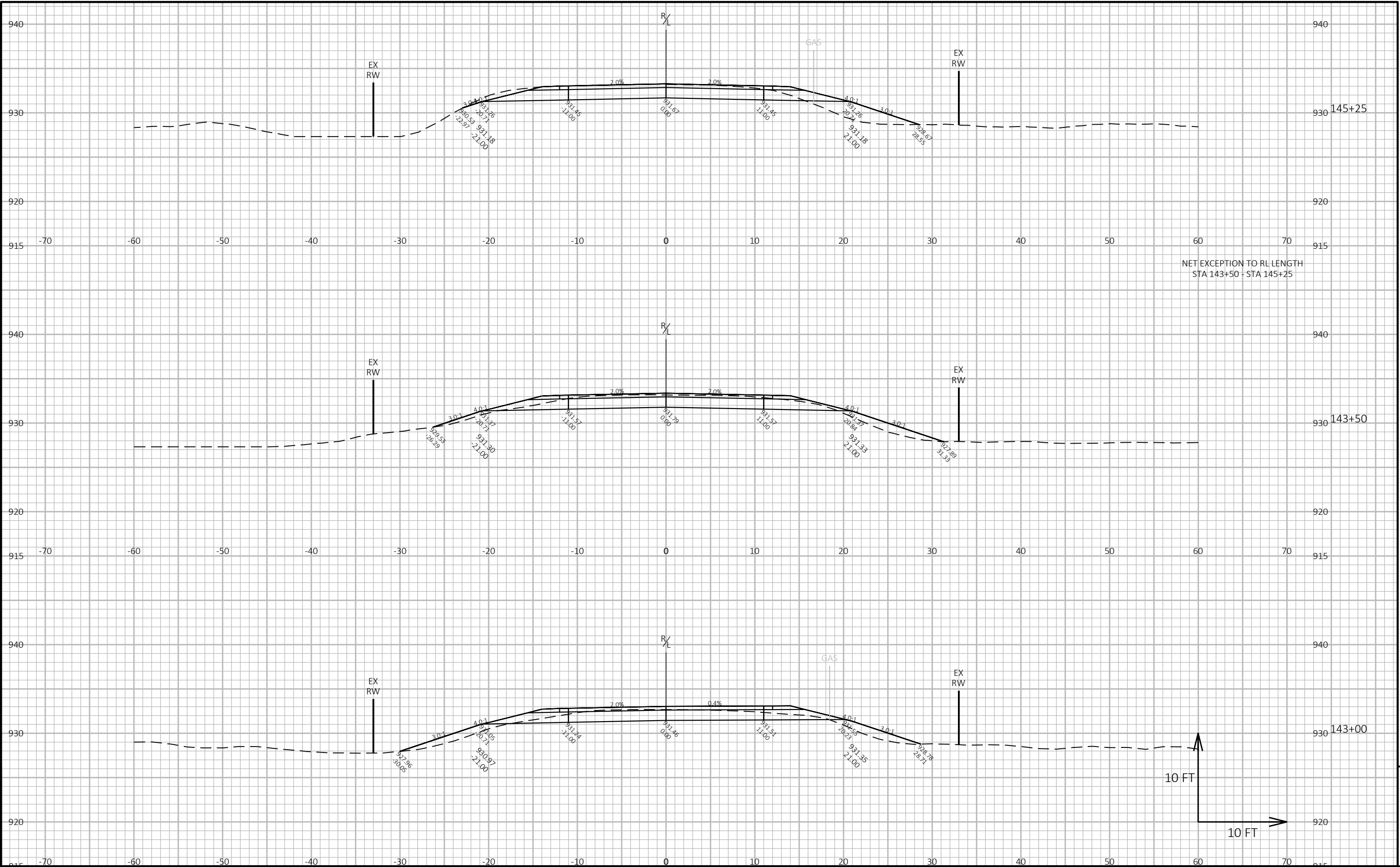


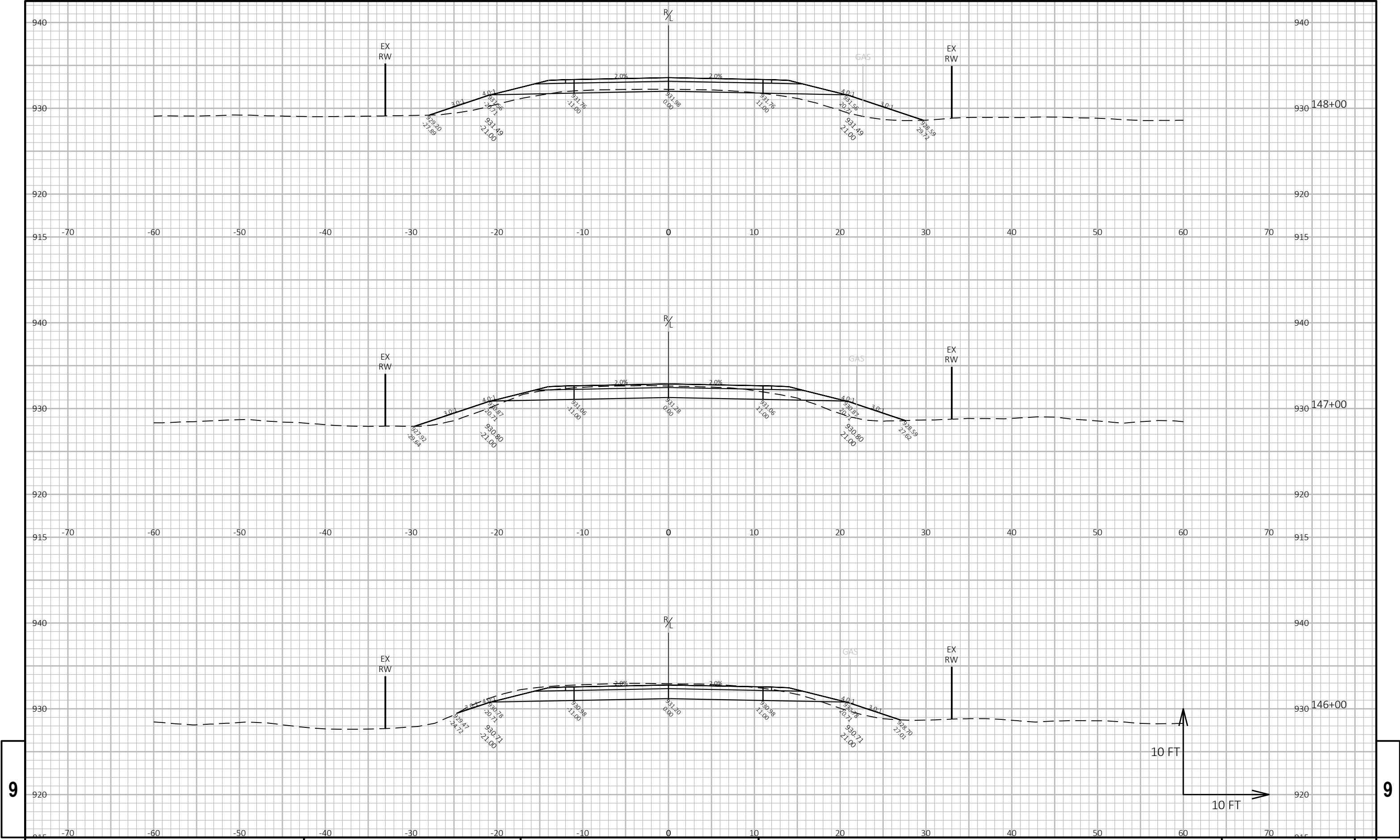
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PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	CROSS SECTIONS:	FORMICA ROAD	SHEET	E
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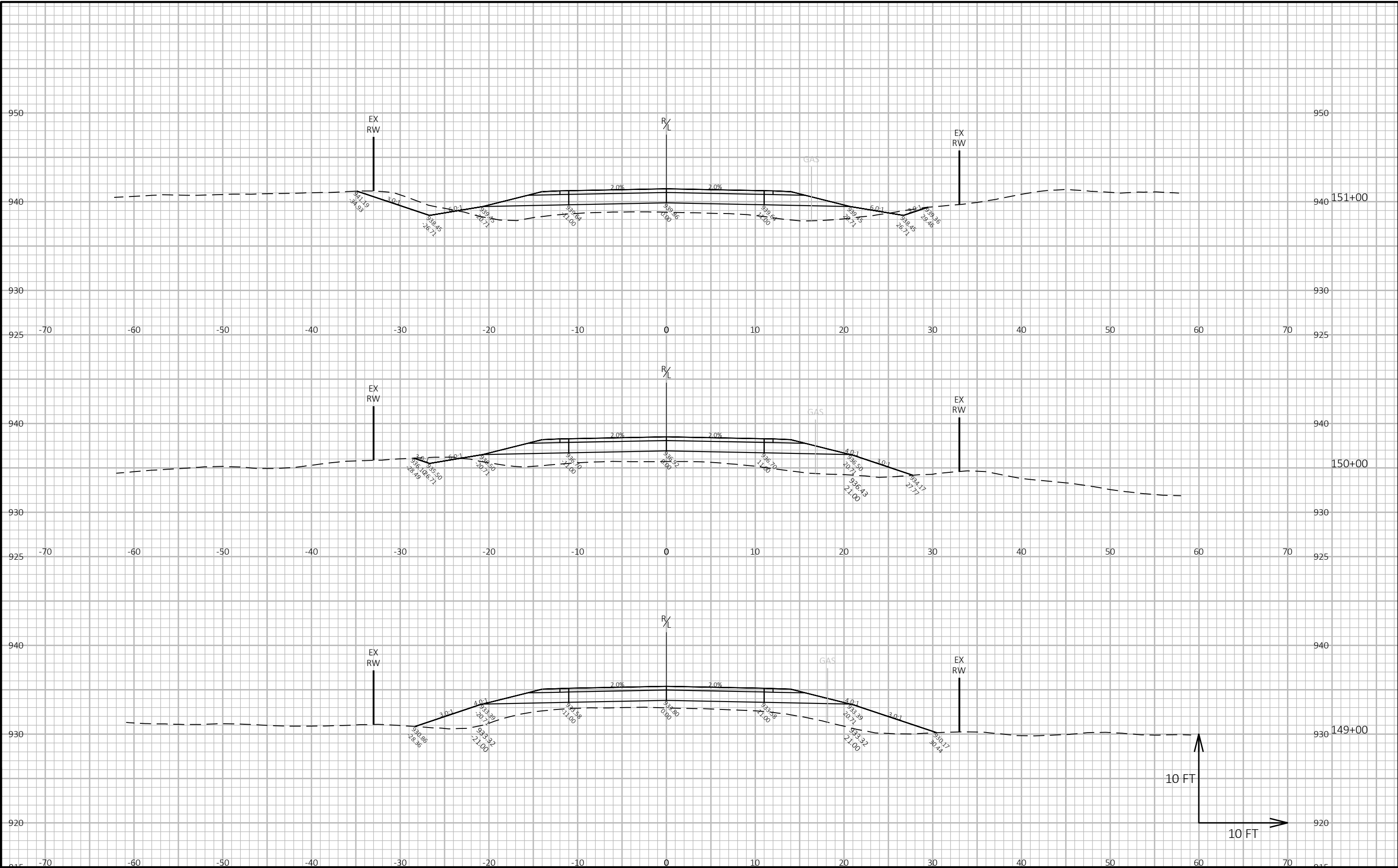






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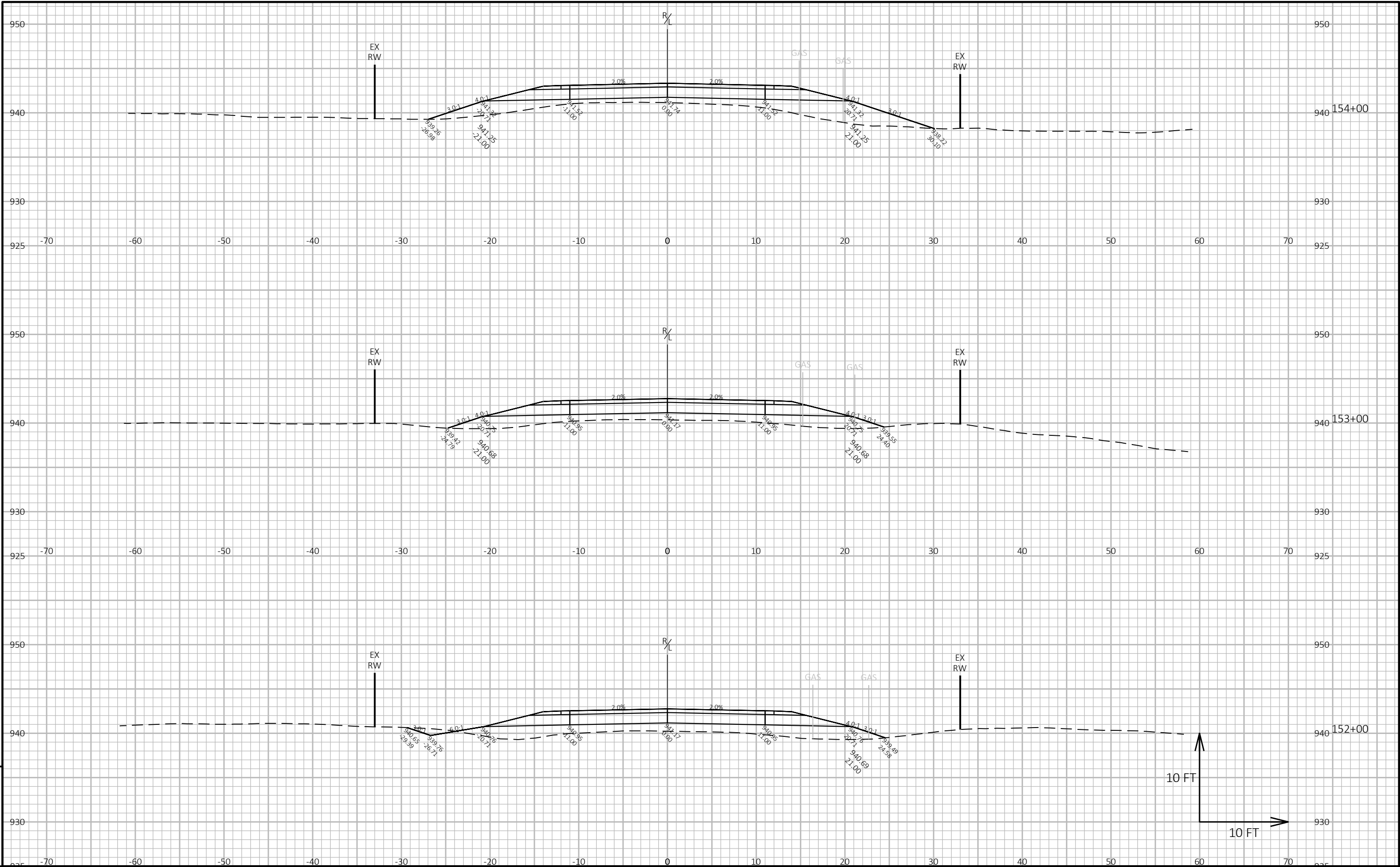
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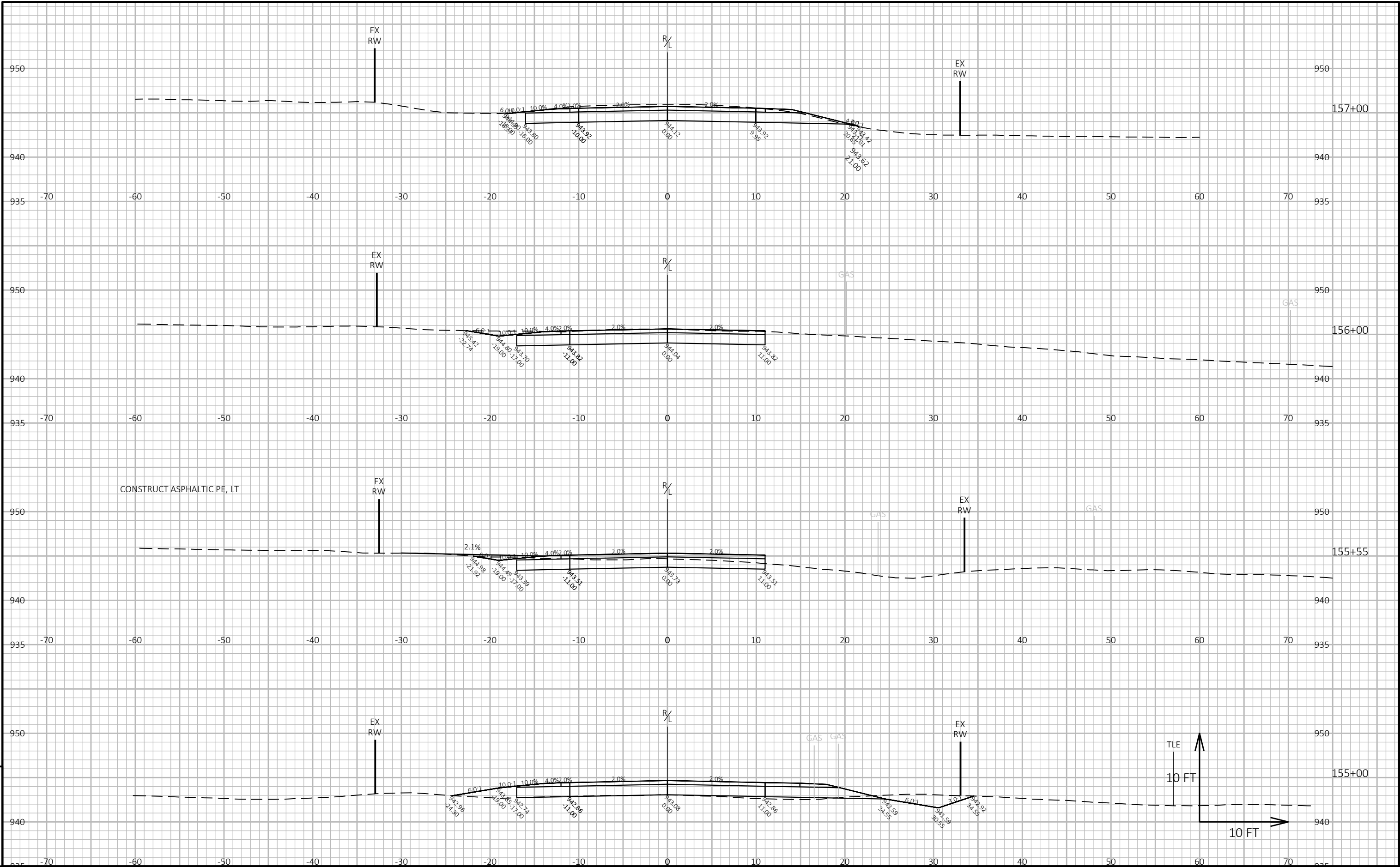
PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	CROSS SECTIONS: FORMICA ROAD	SHEET E
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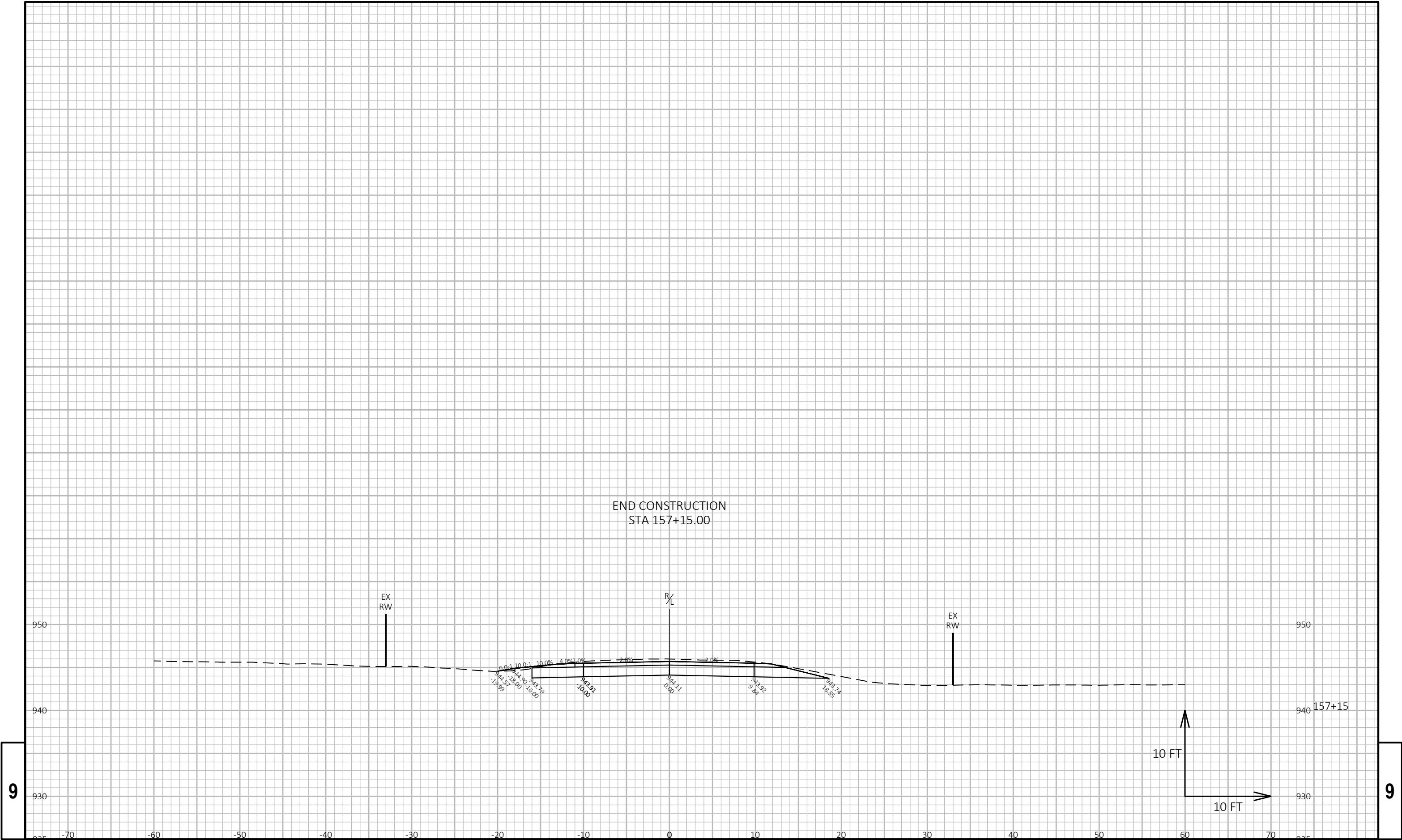


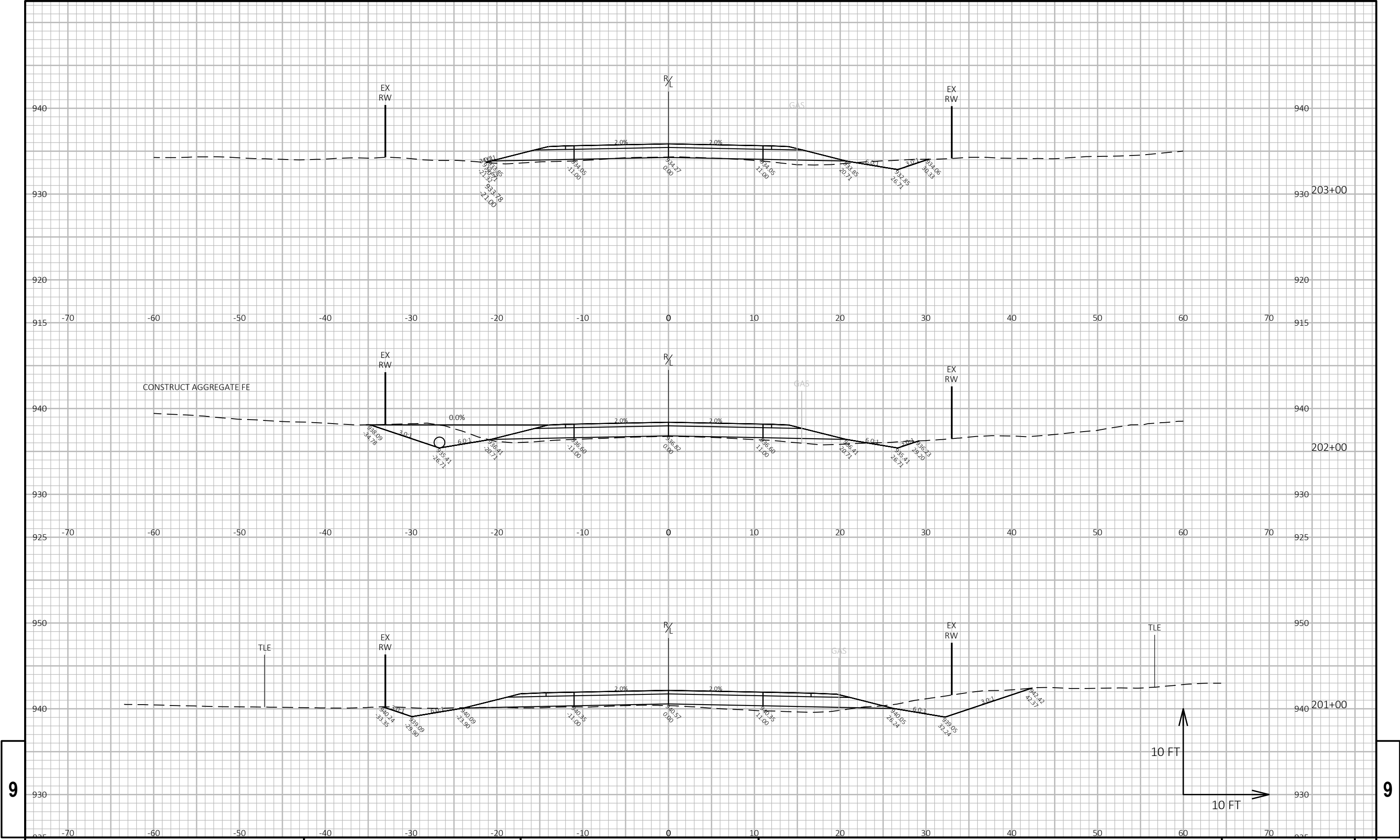
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PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	CROSS SECTIONS:	FORMICA ROAD	SHEET	E
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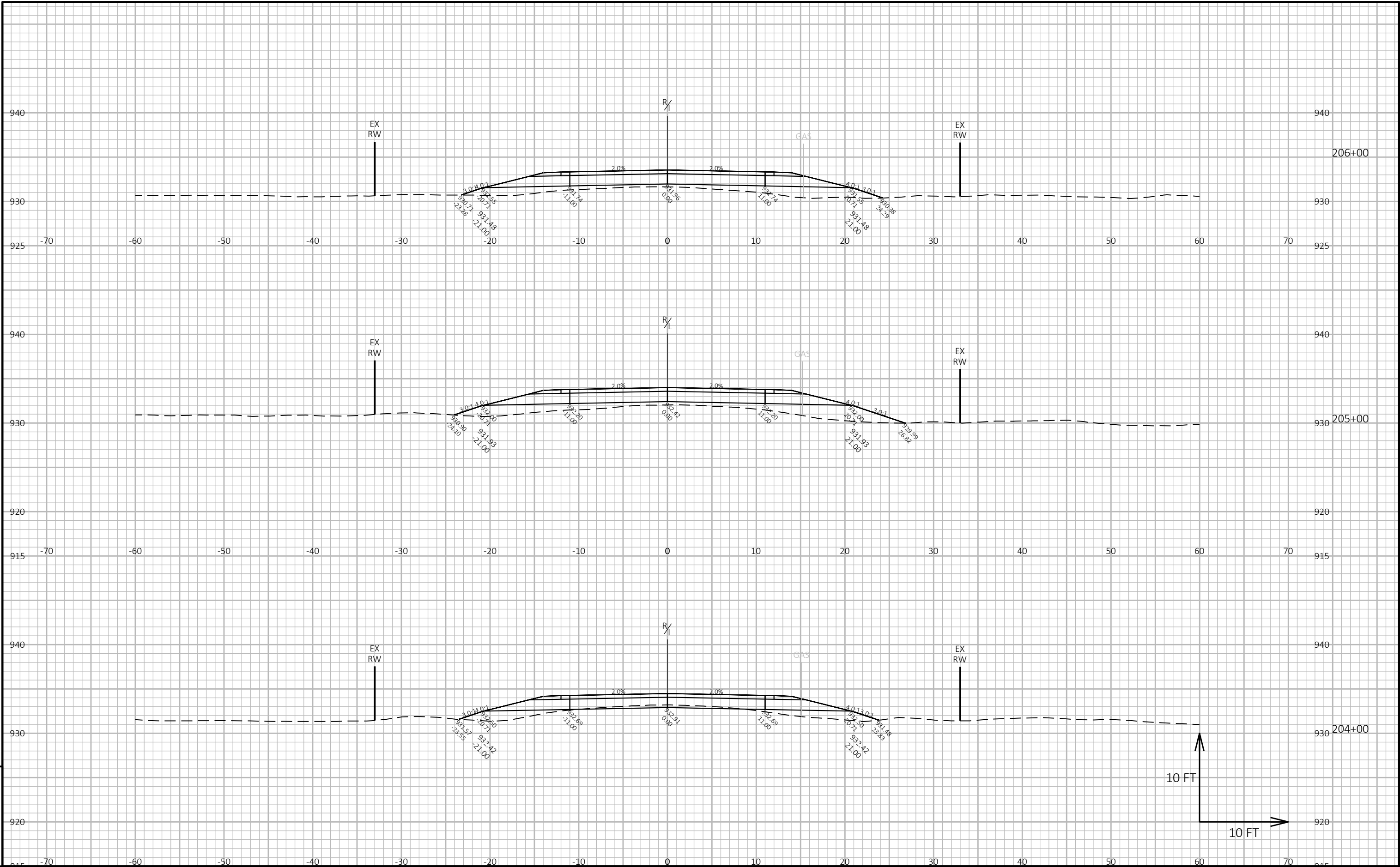


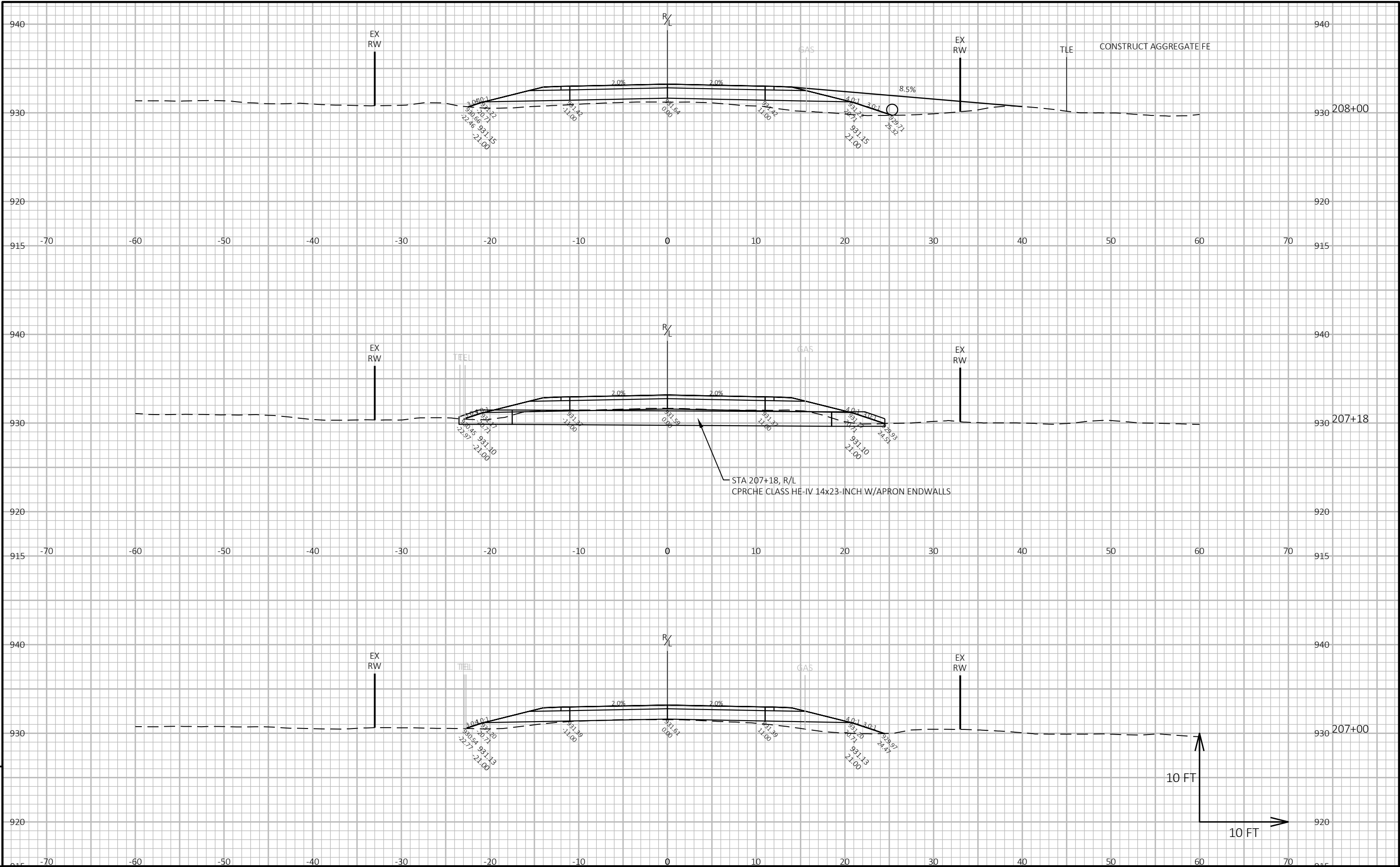


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PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	CROSS SECTIONS:	ESTATE ROAD AND ESSEX AVENUE	SHEET	E
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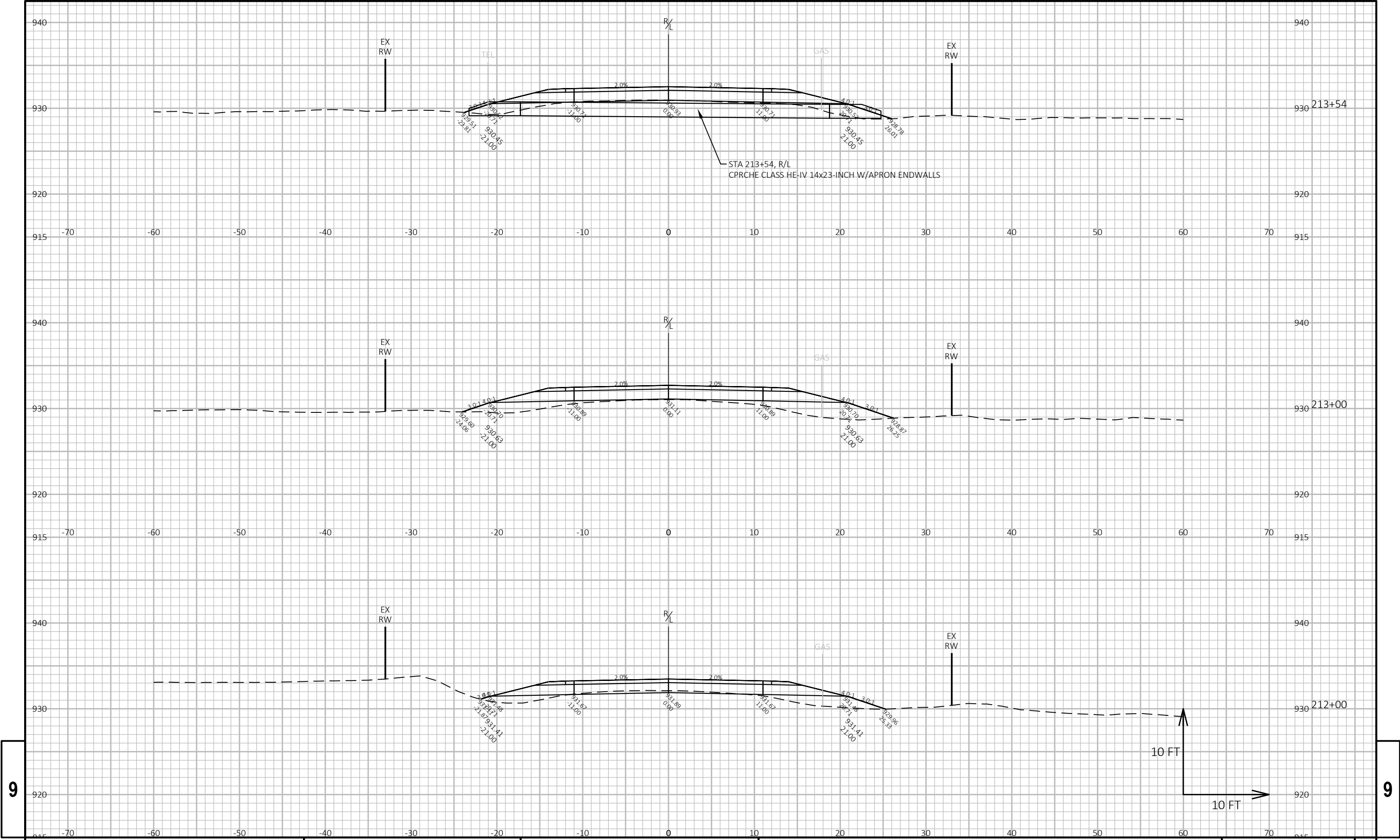
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PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	CROSS SECTIONS: ESTATE ROAD AND ESSEX AVENUE	SHEET E
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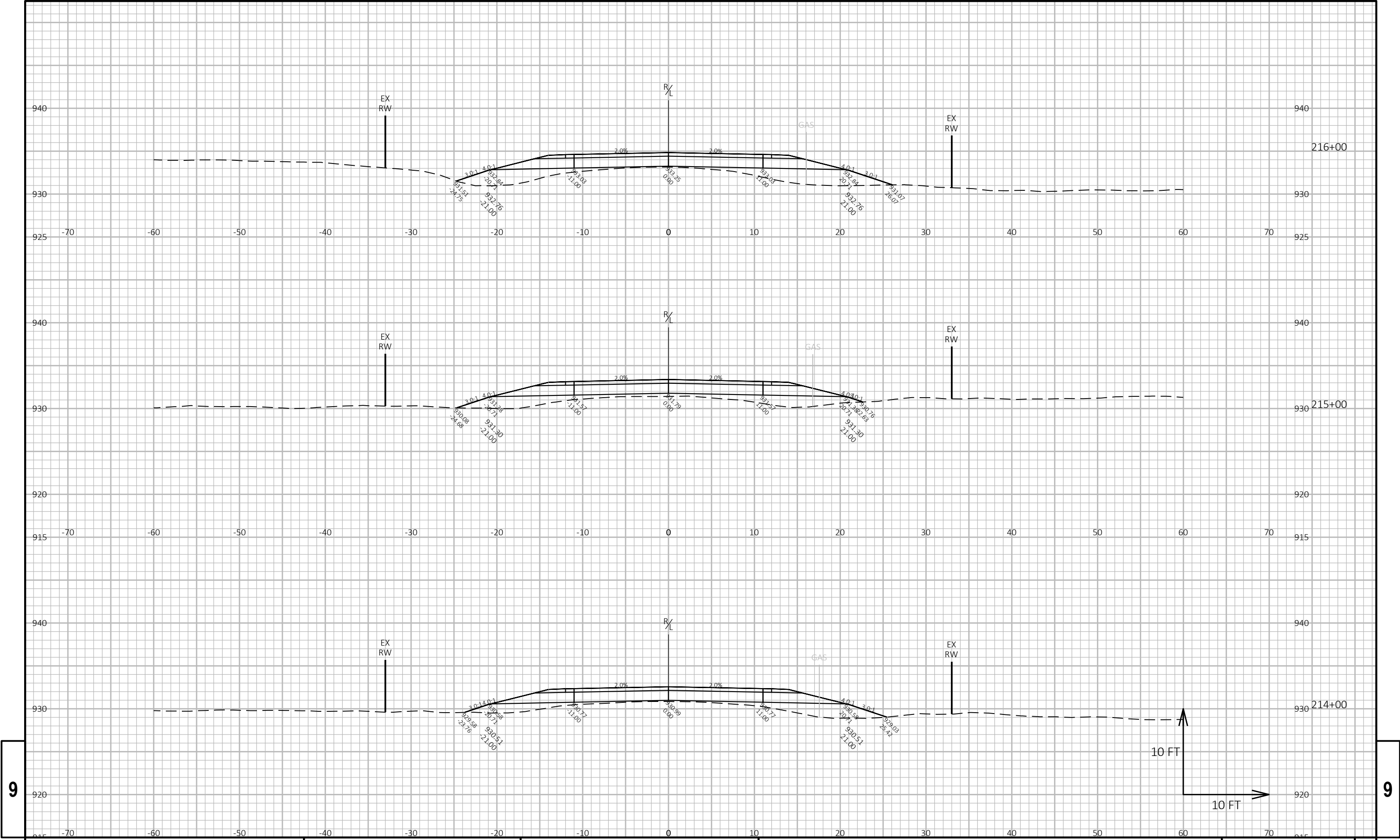
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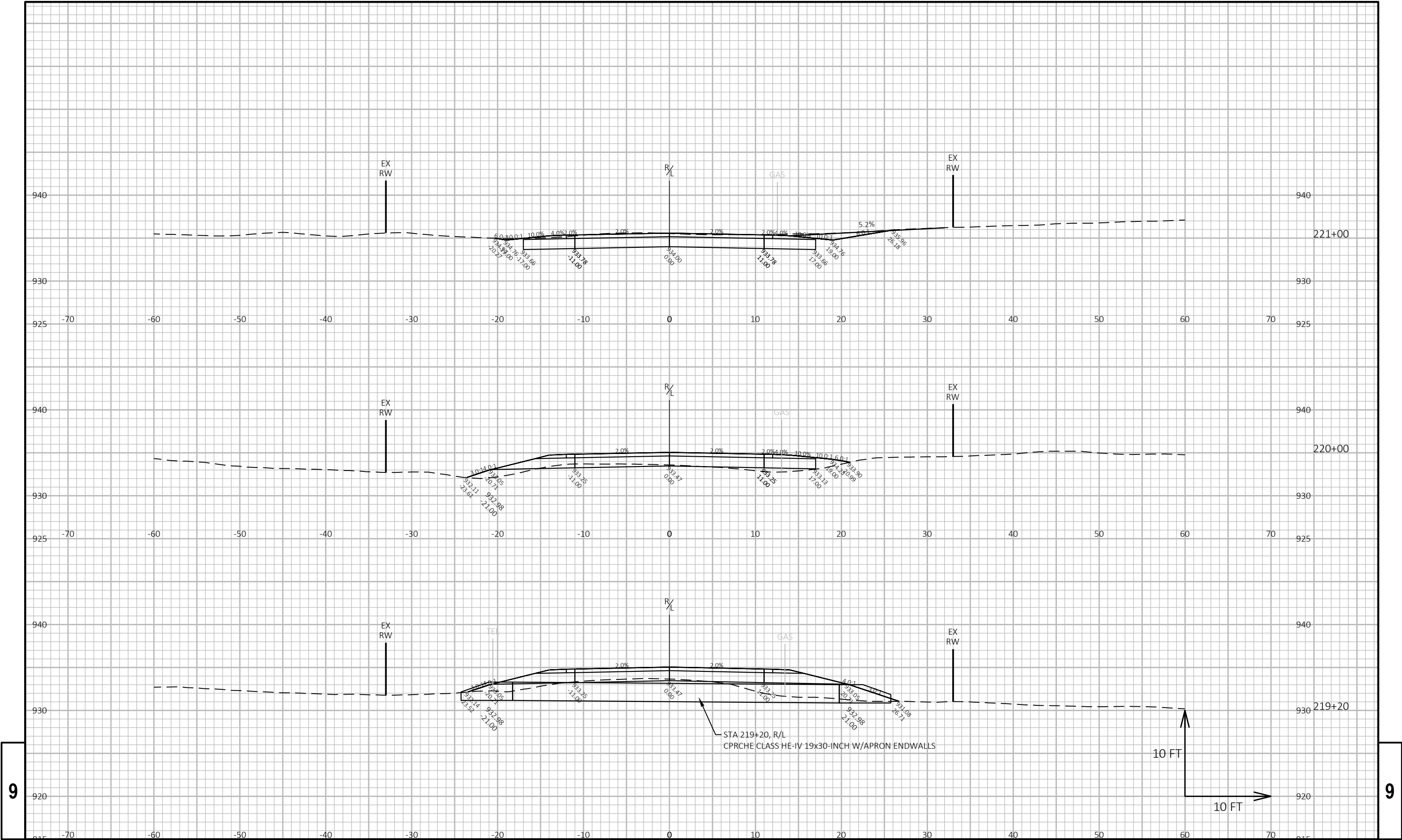
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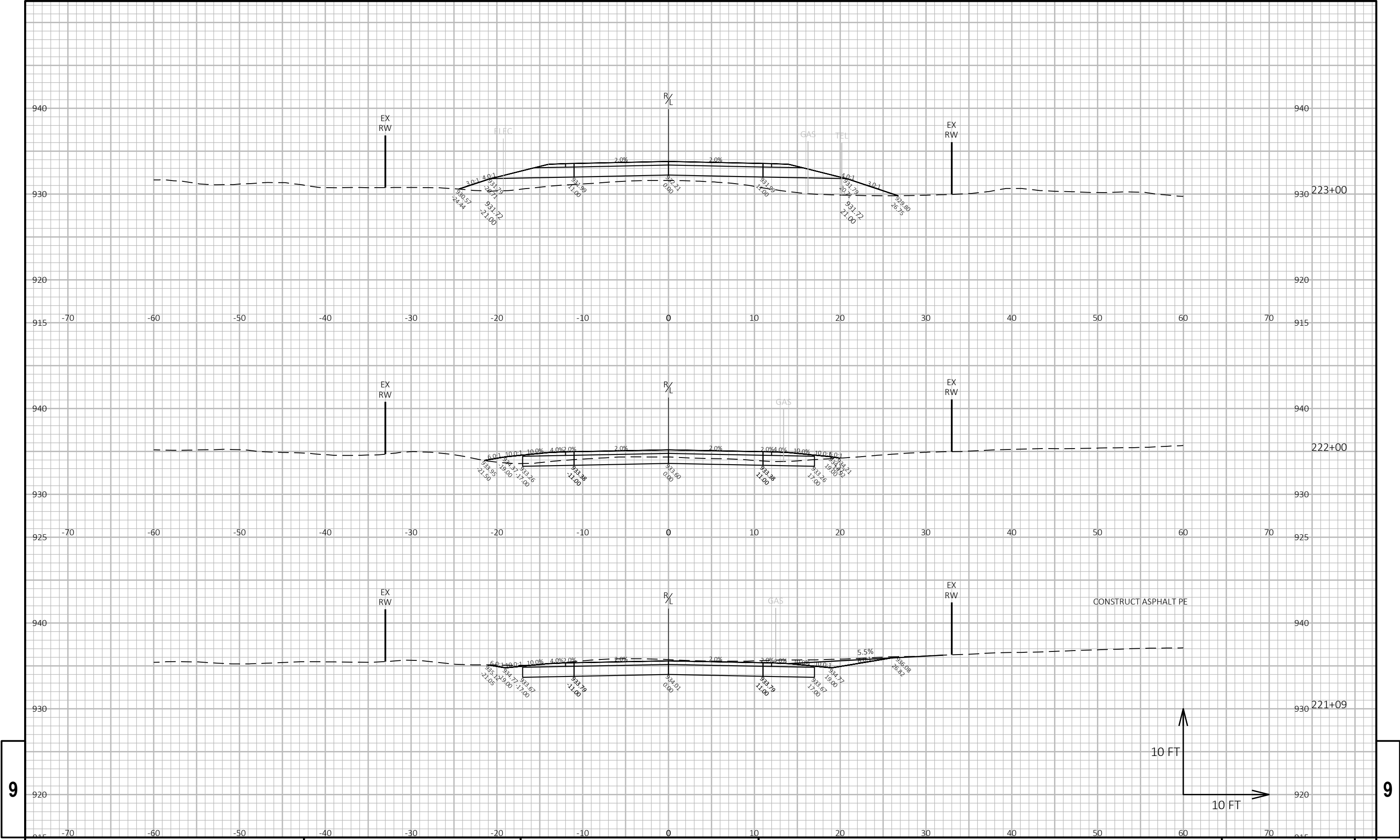


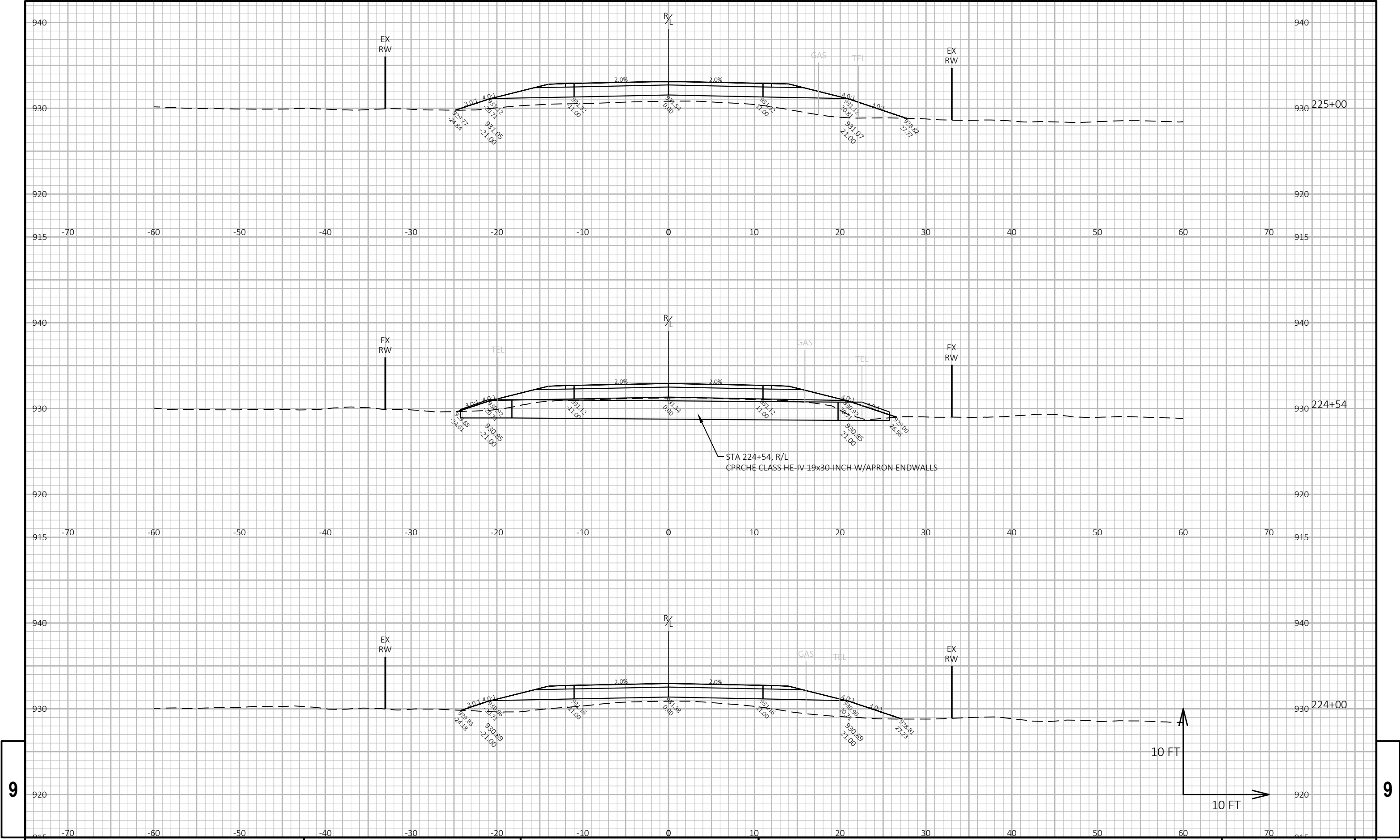
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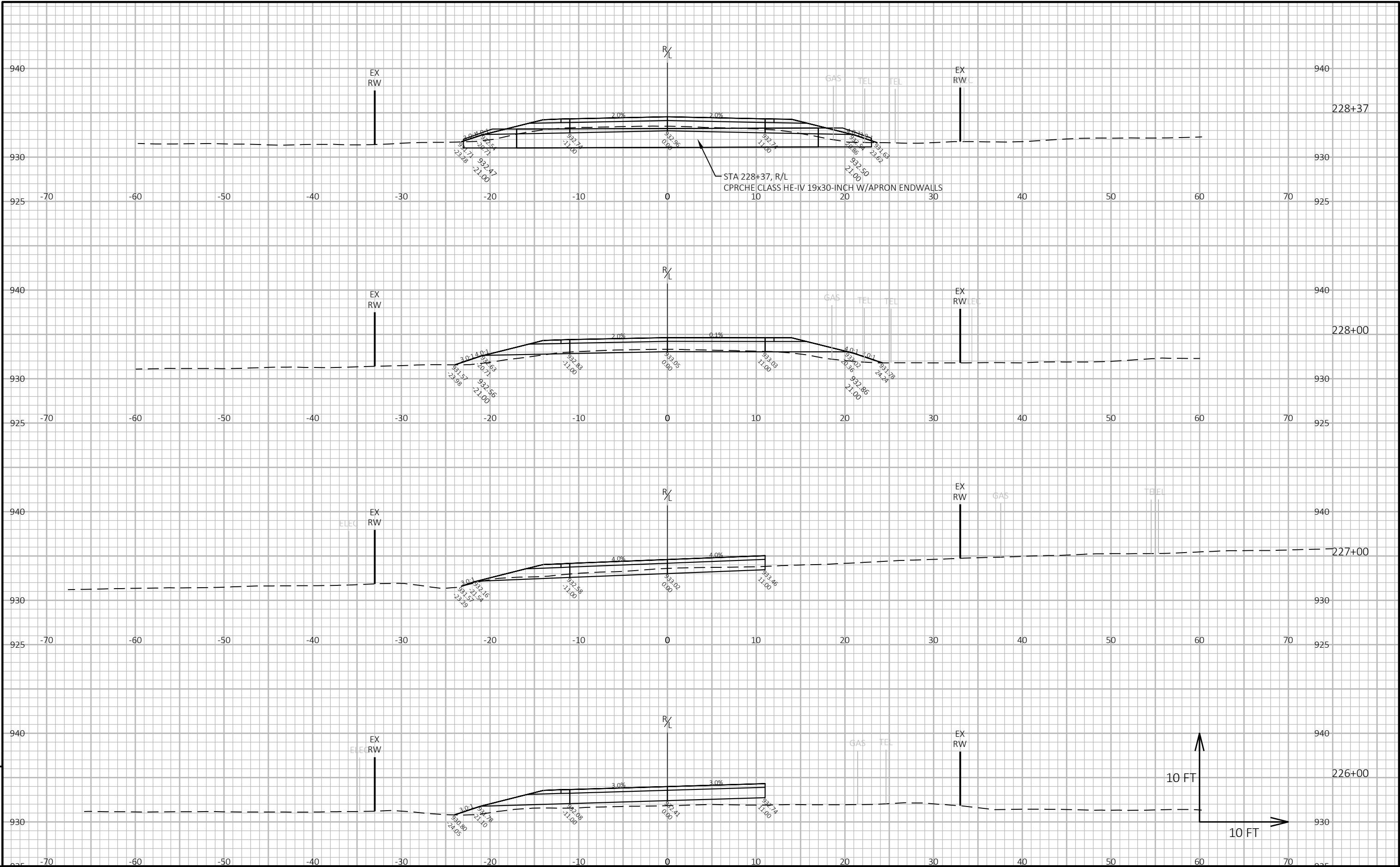


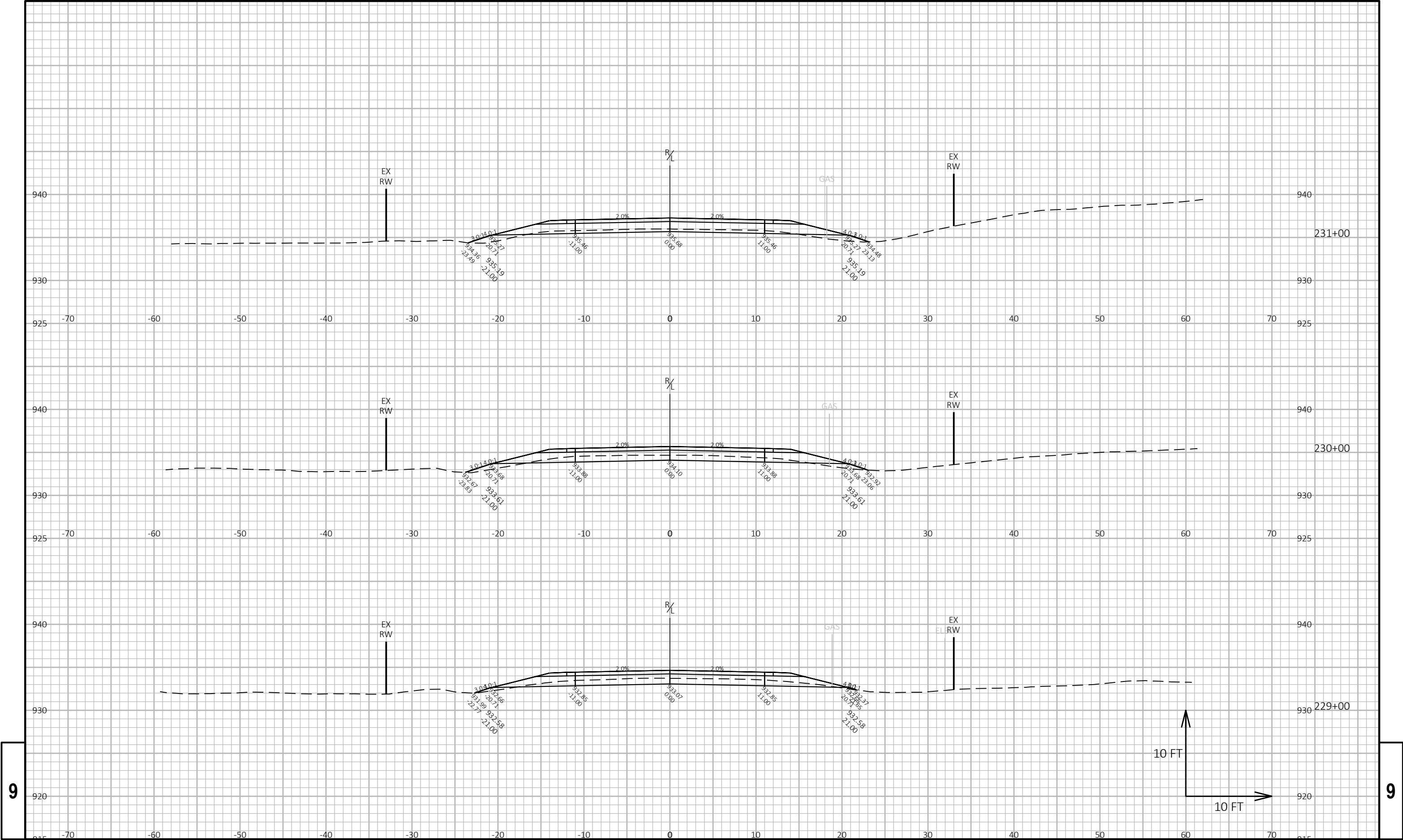


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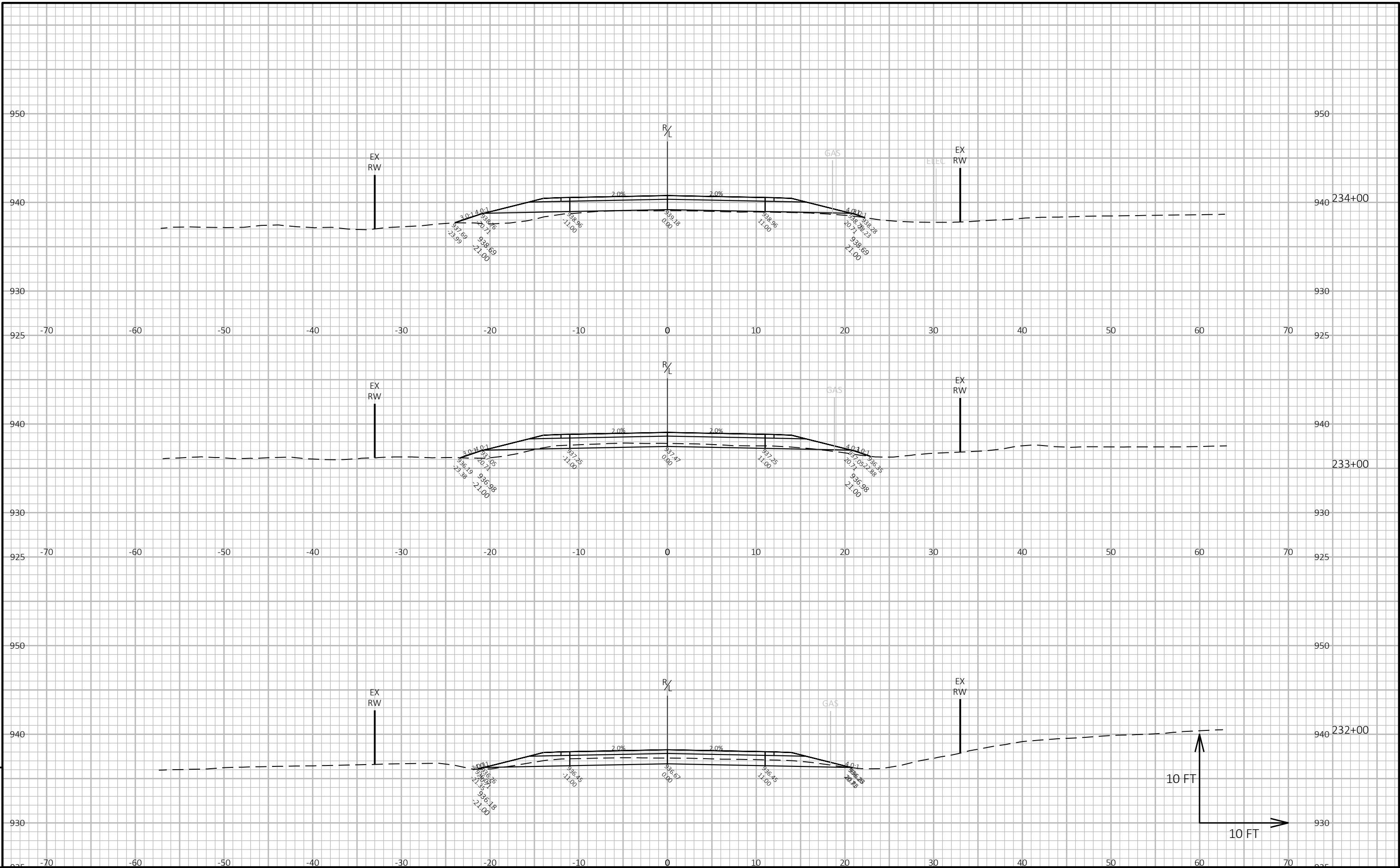
PROJECT NO:	2025-1-ARIP	HWY:	LAGRANGE BYRON ARIP	COUNTY:	MONROE	CROSS SECTIONS:	ESTATE ROAD AND ESSEX AVENUE	SHEET	E
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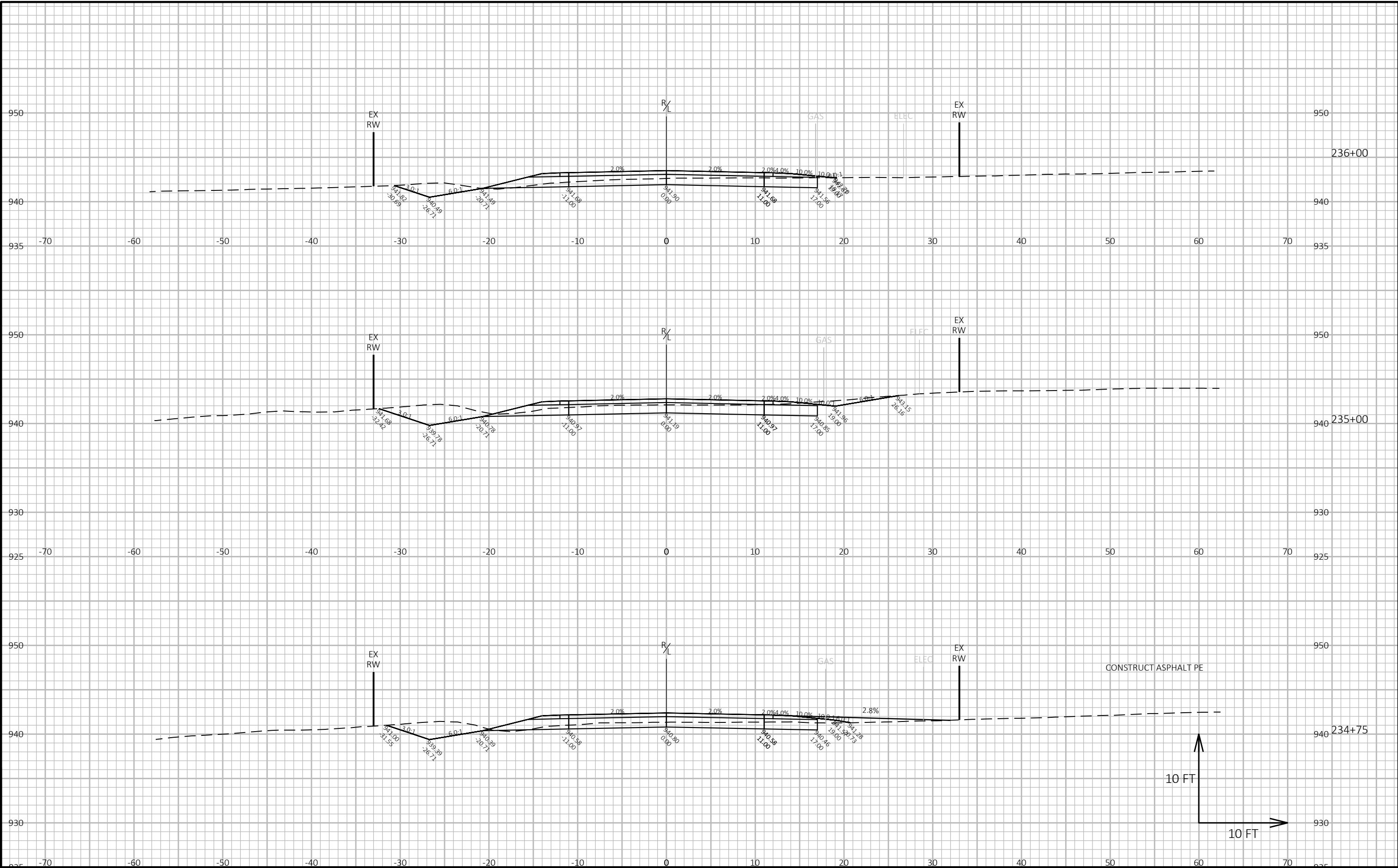


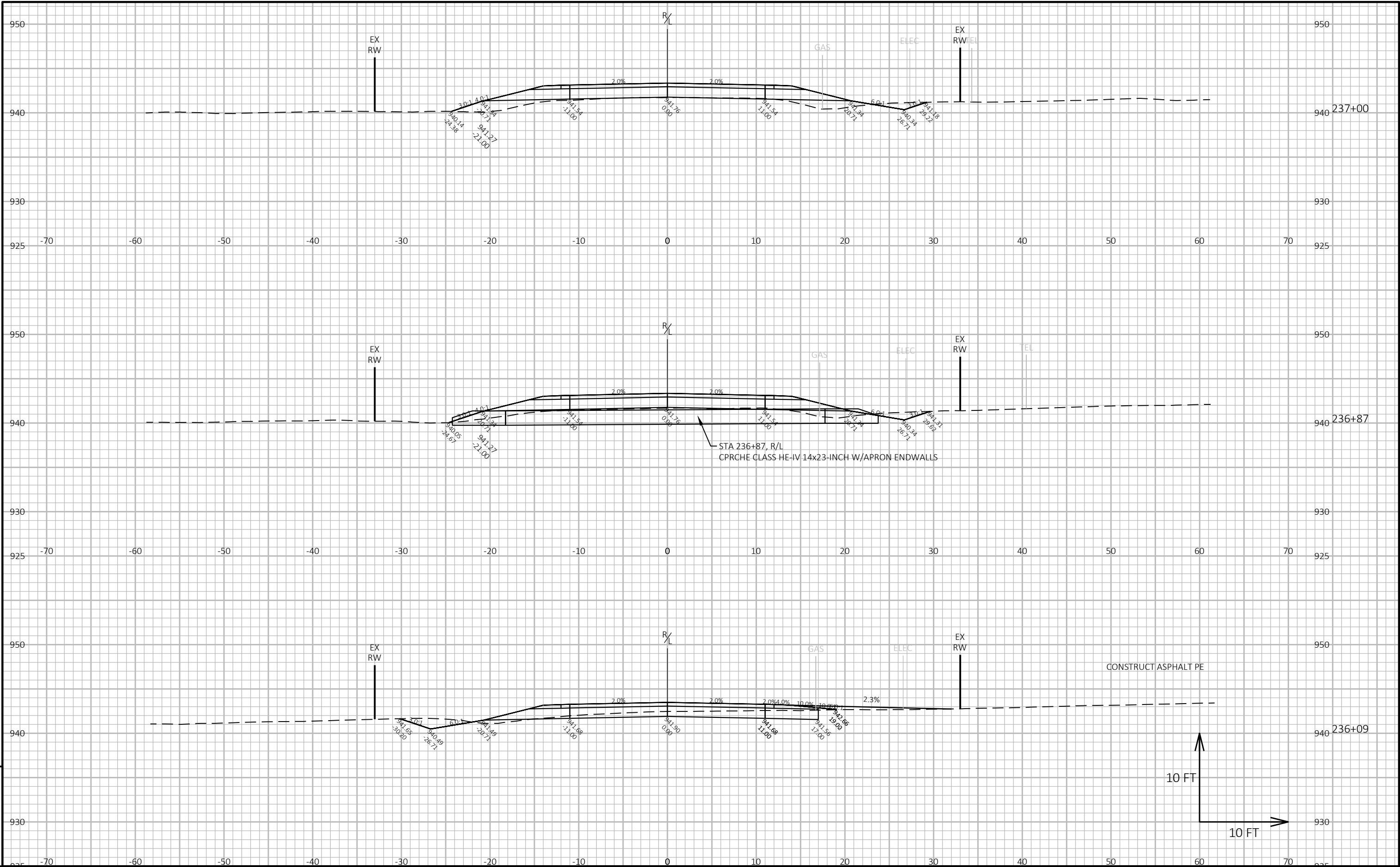


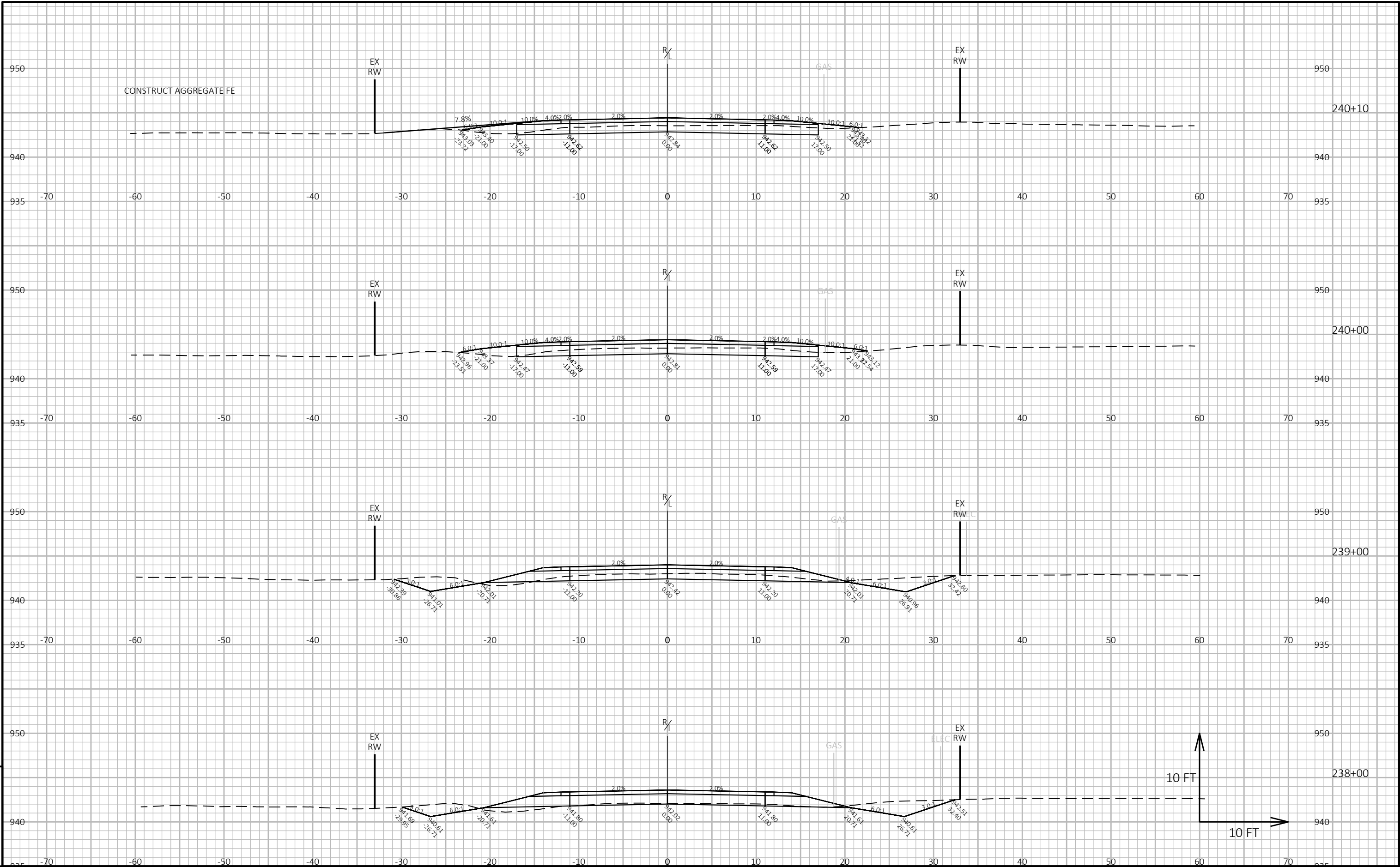
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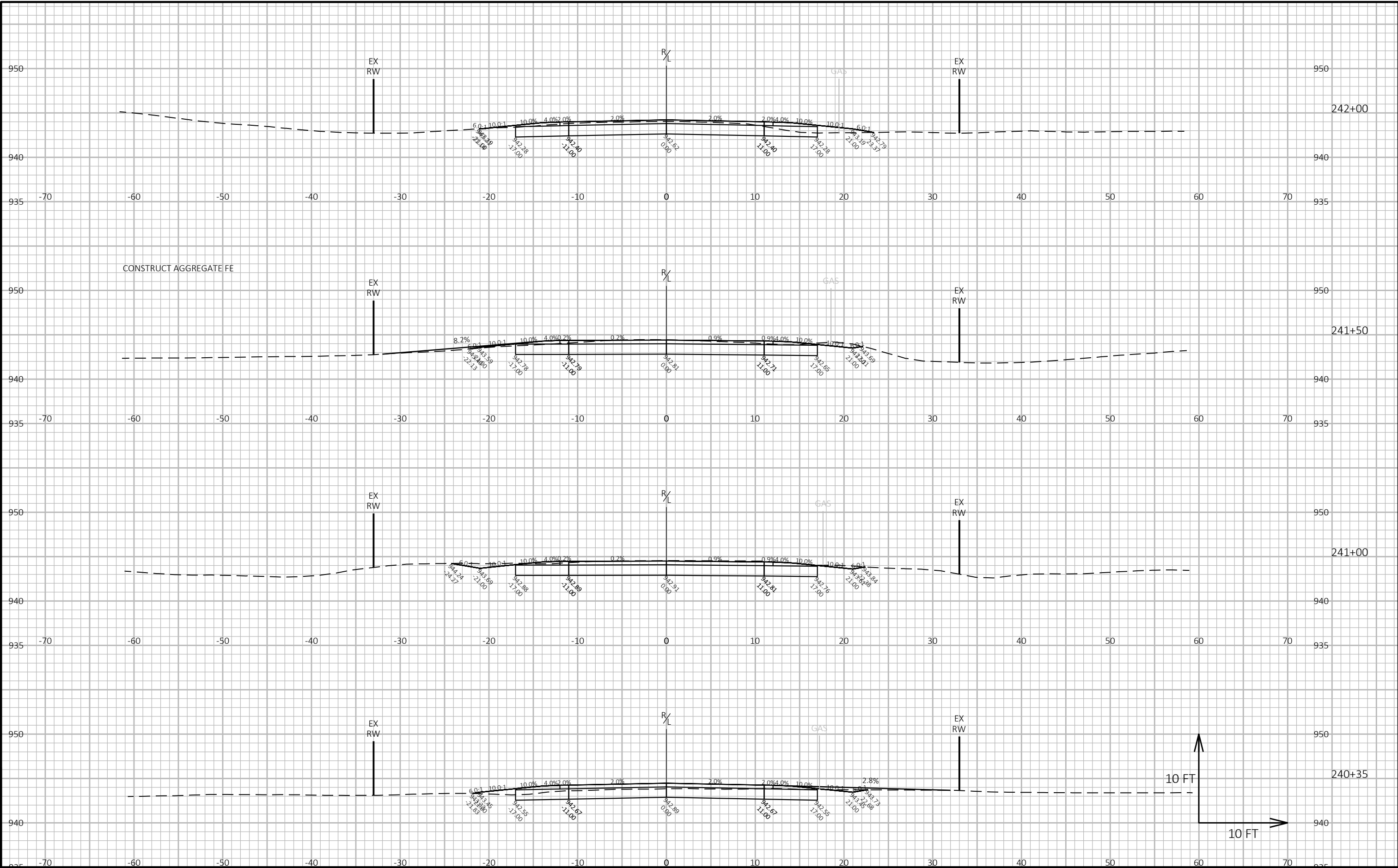
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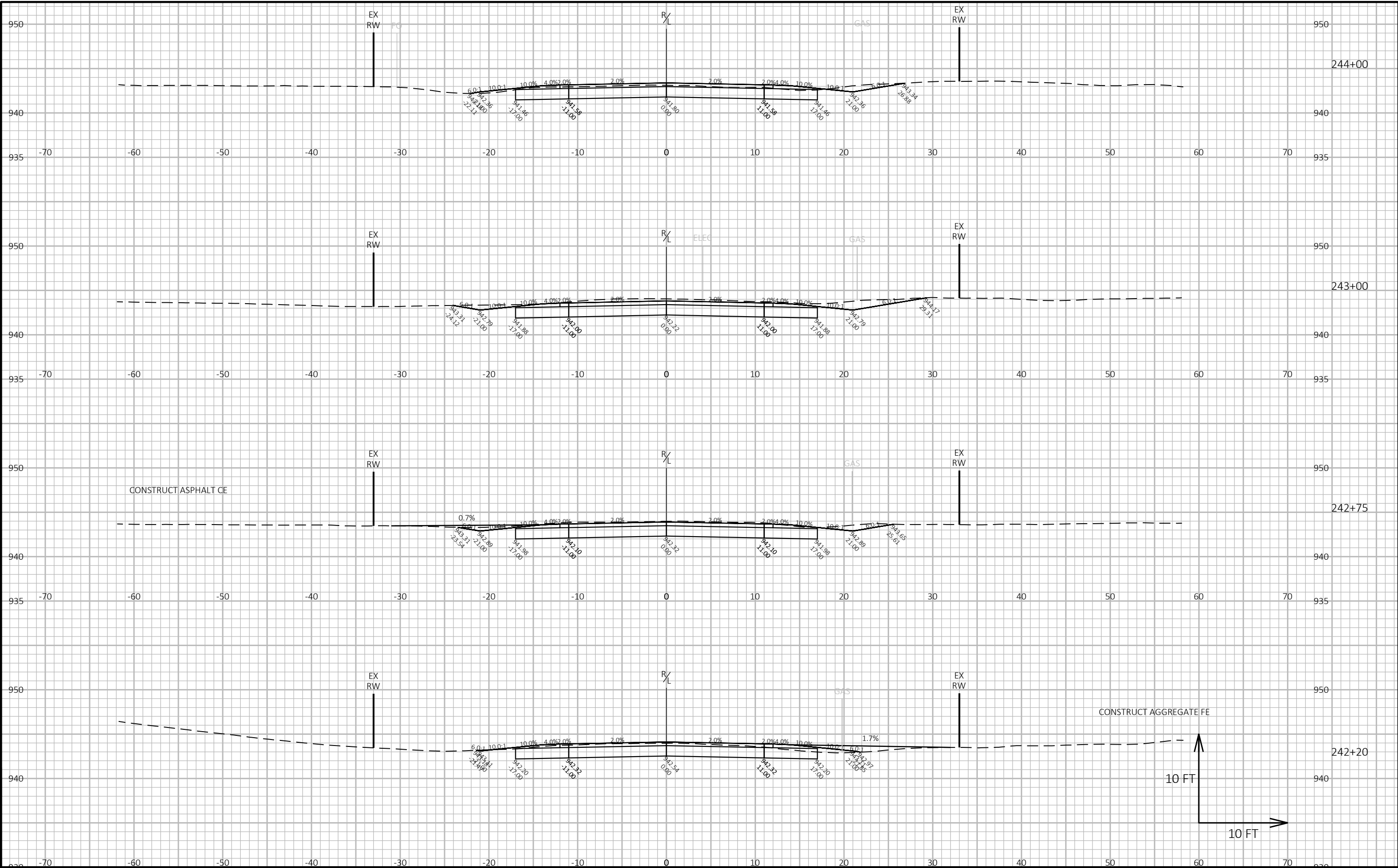


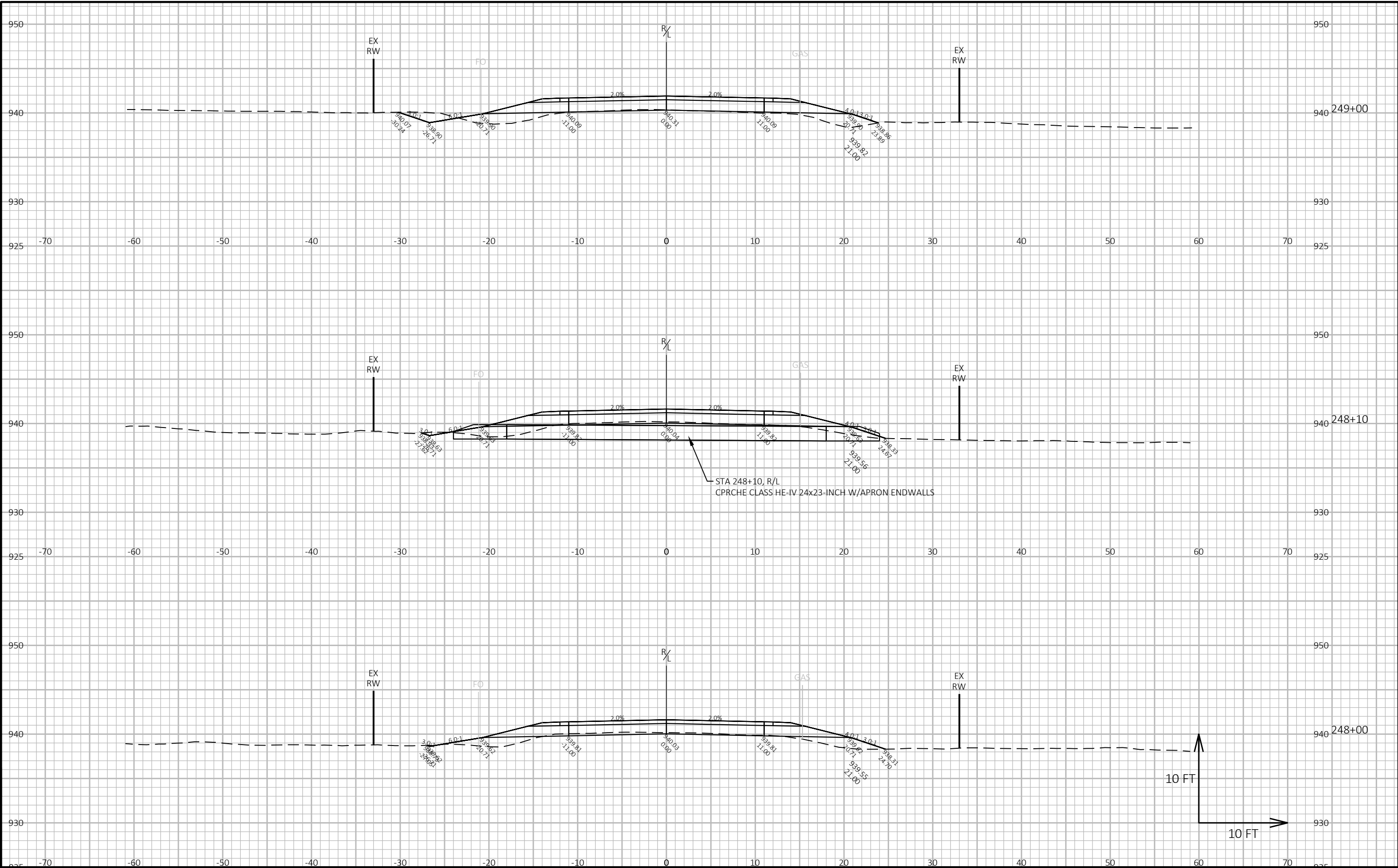






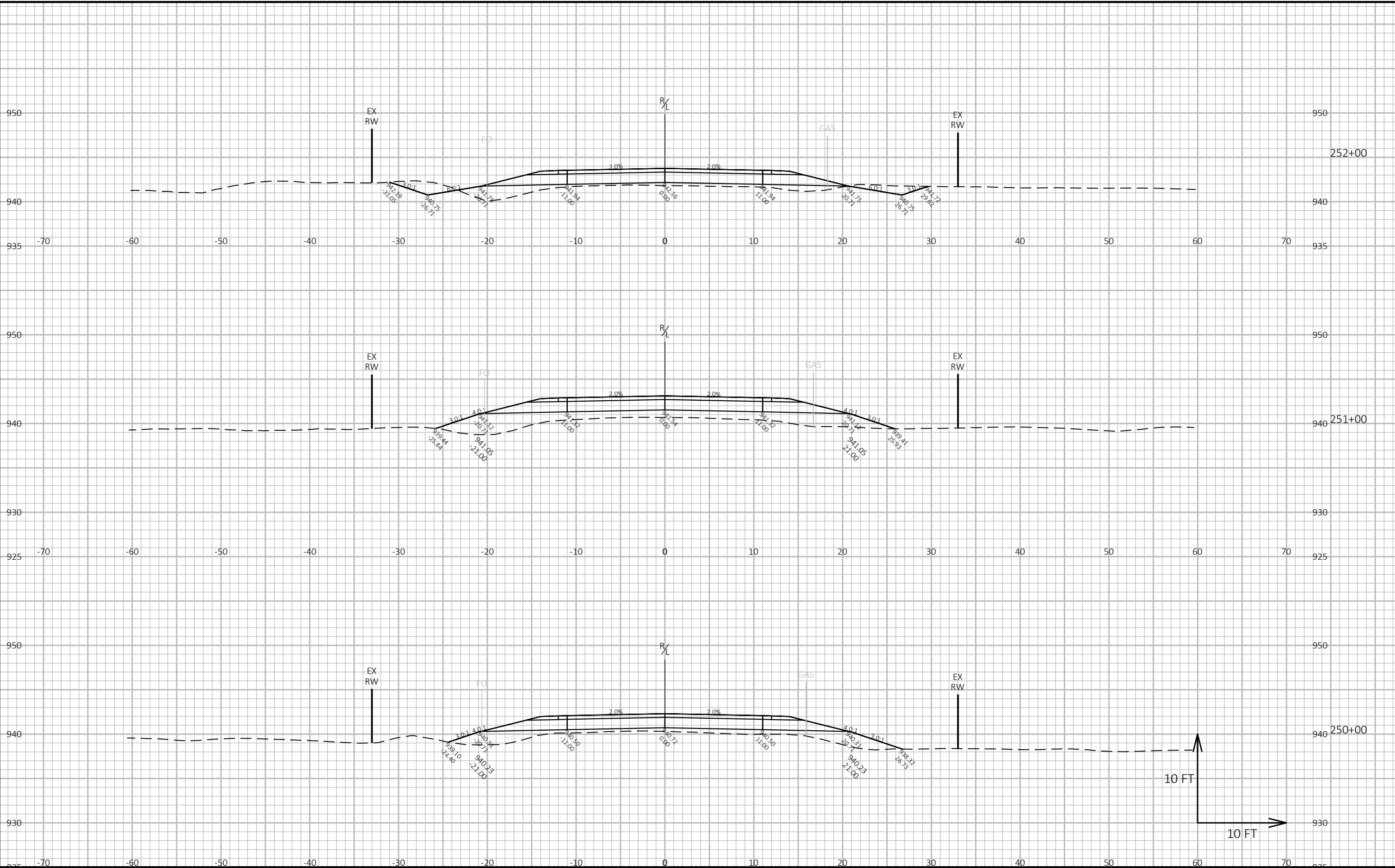






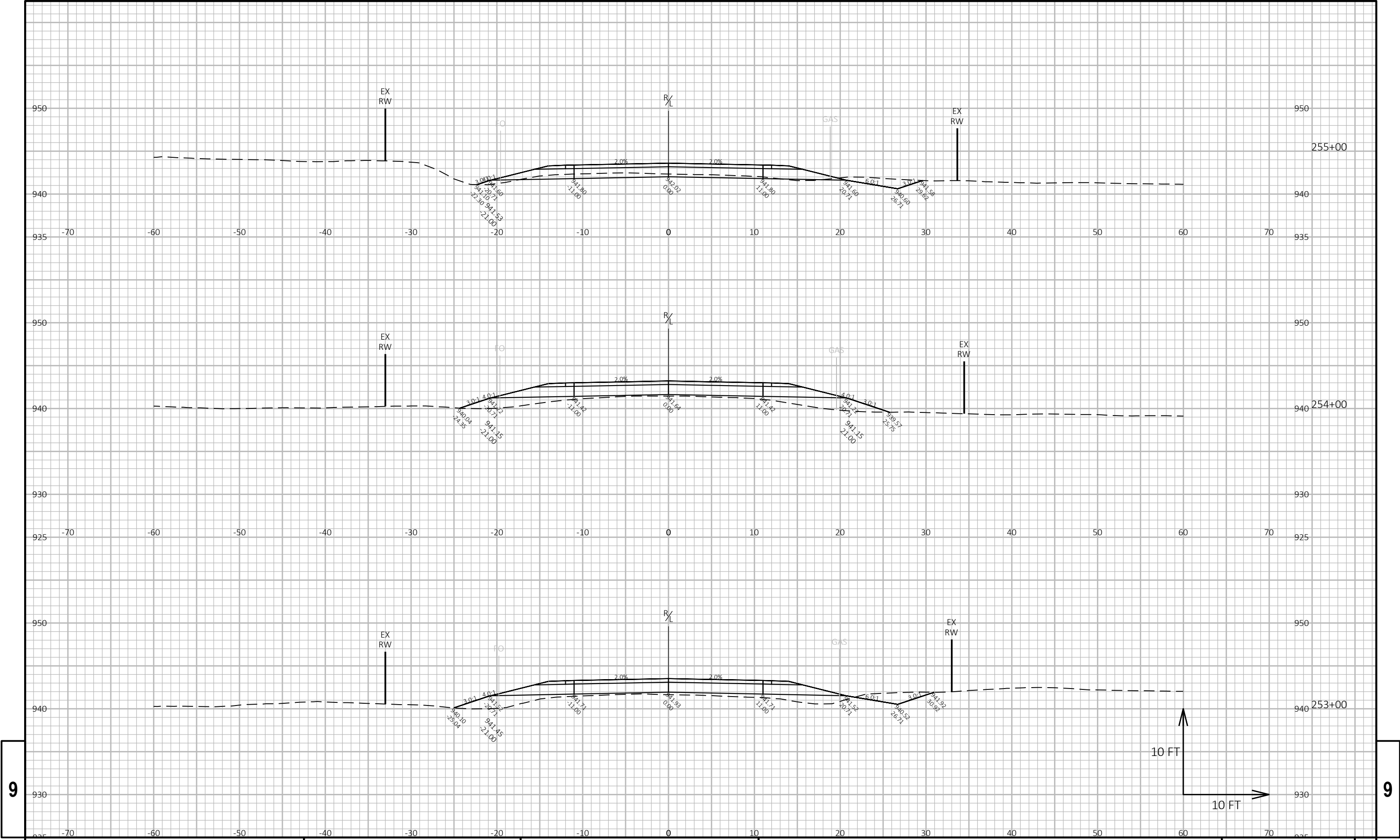
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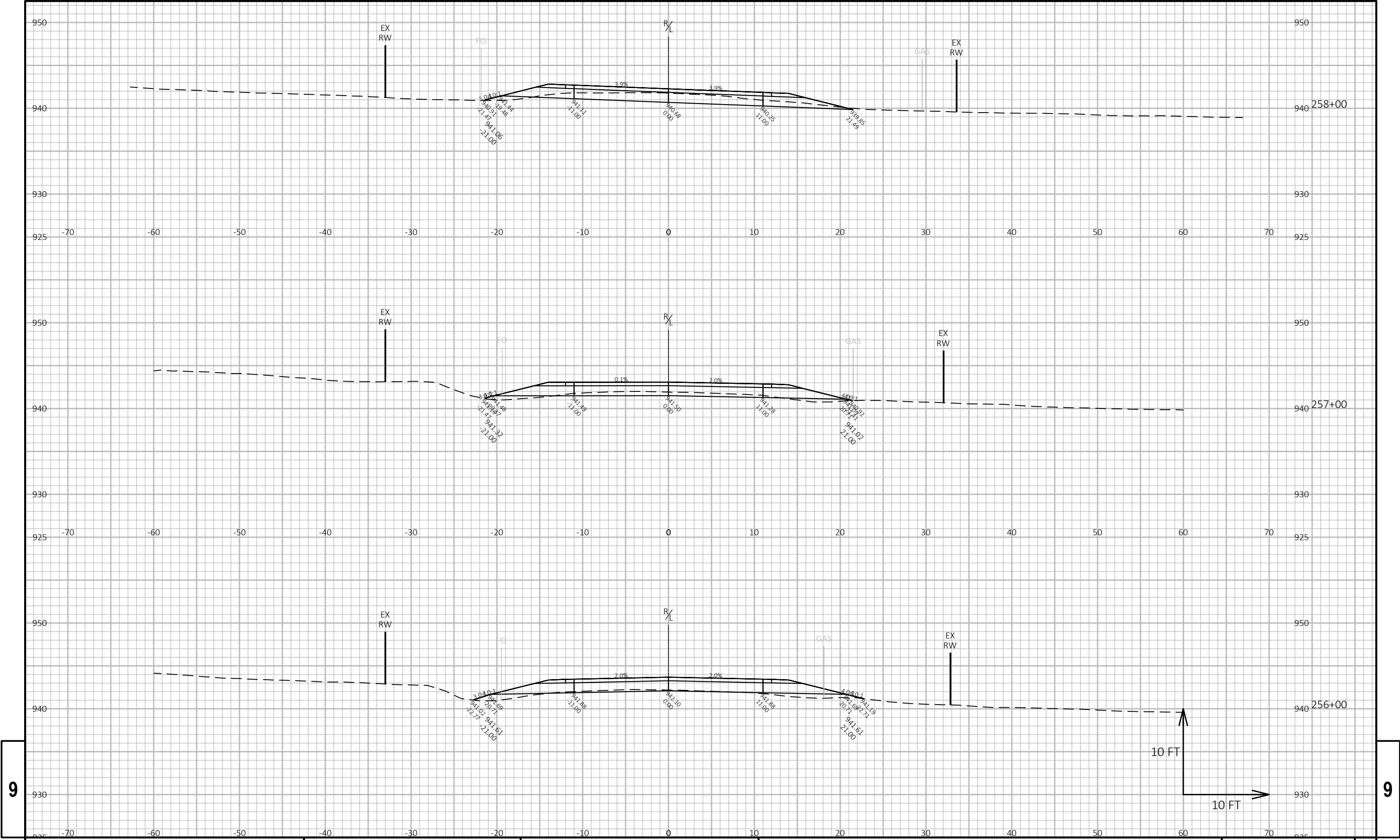
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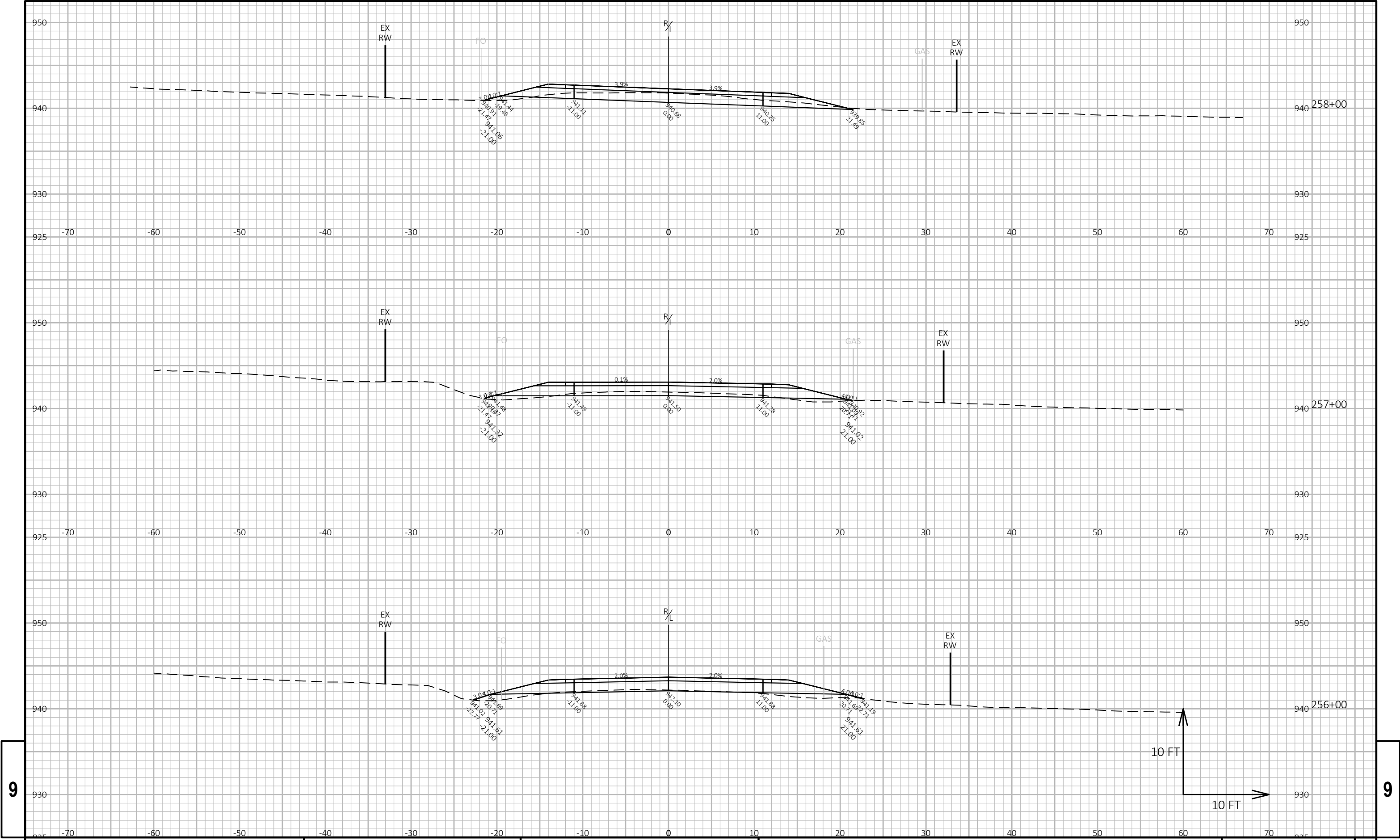
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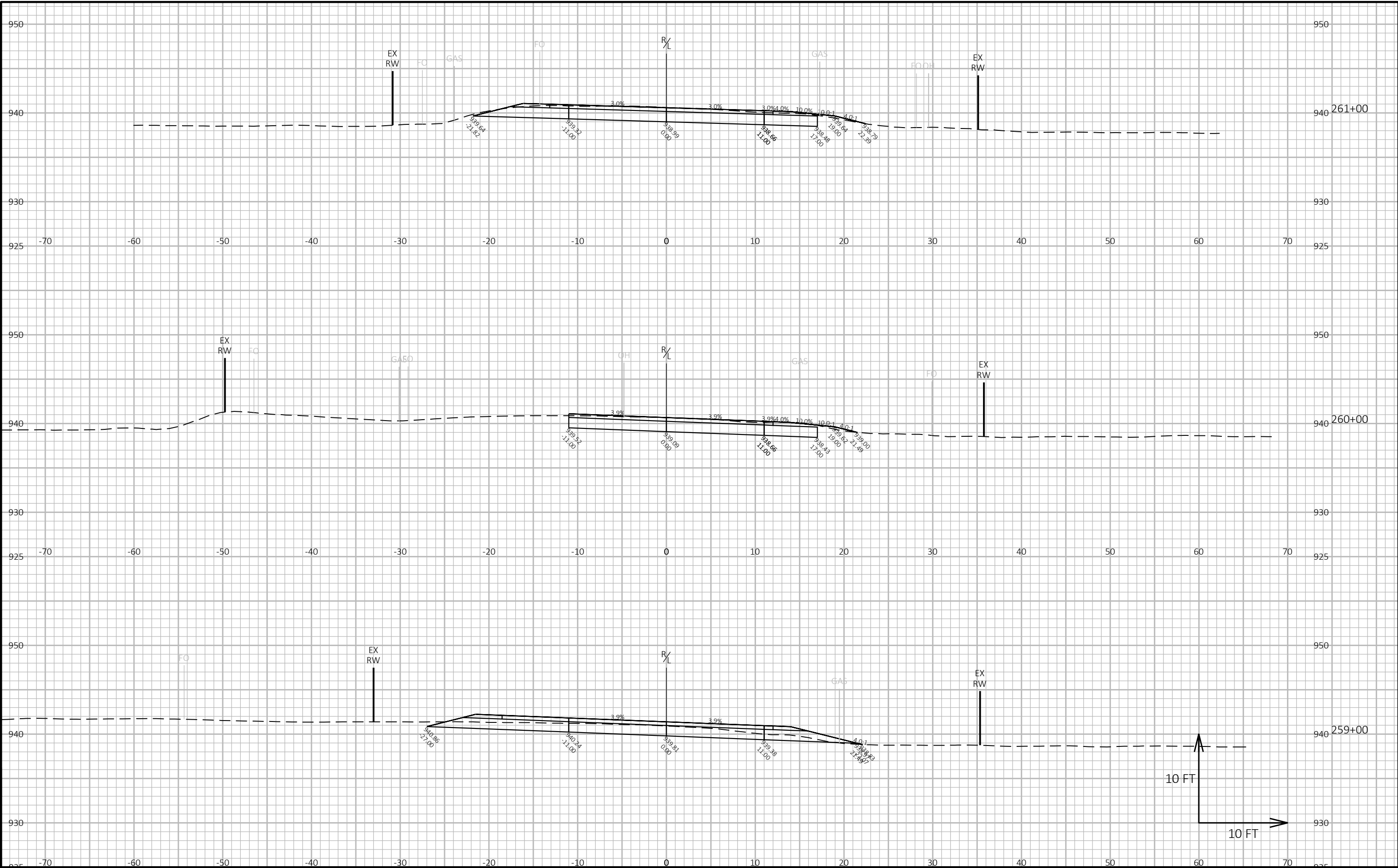
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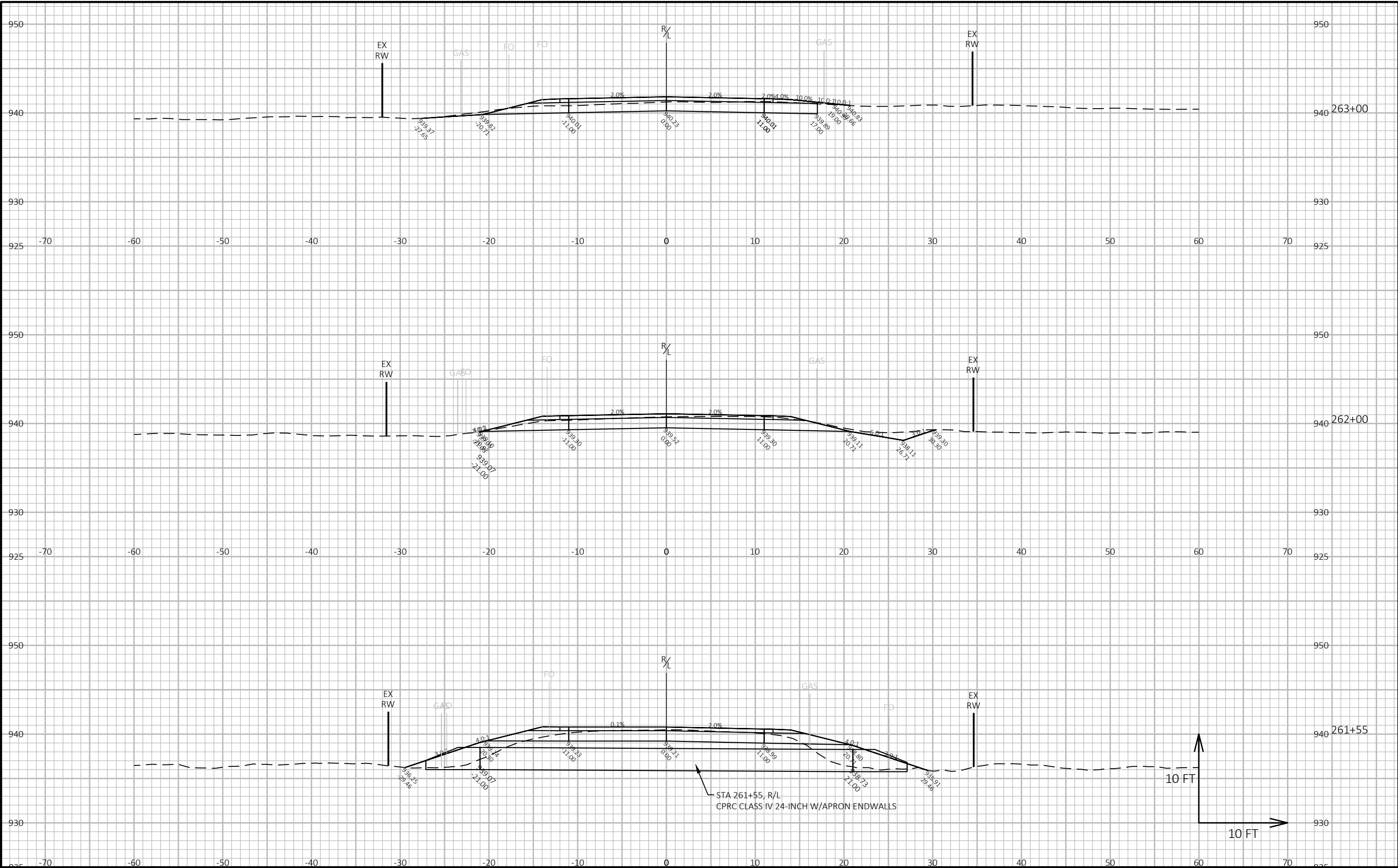
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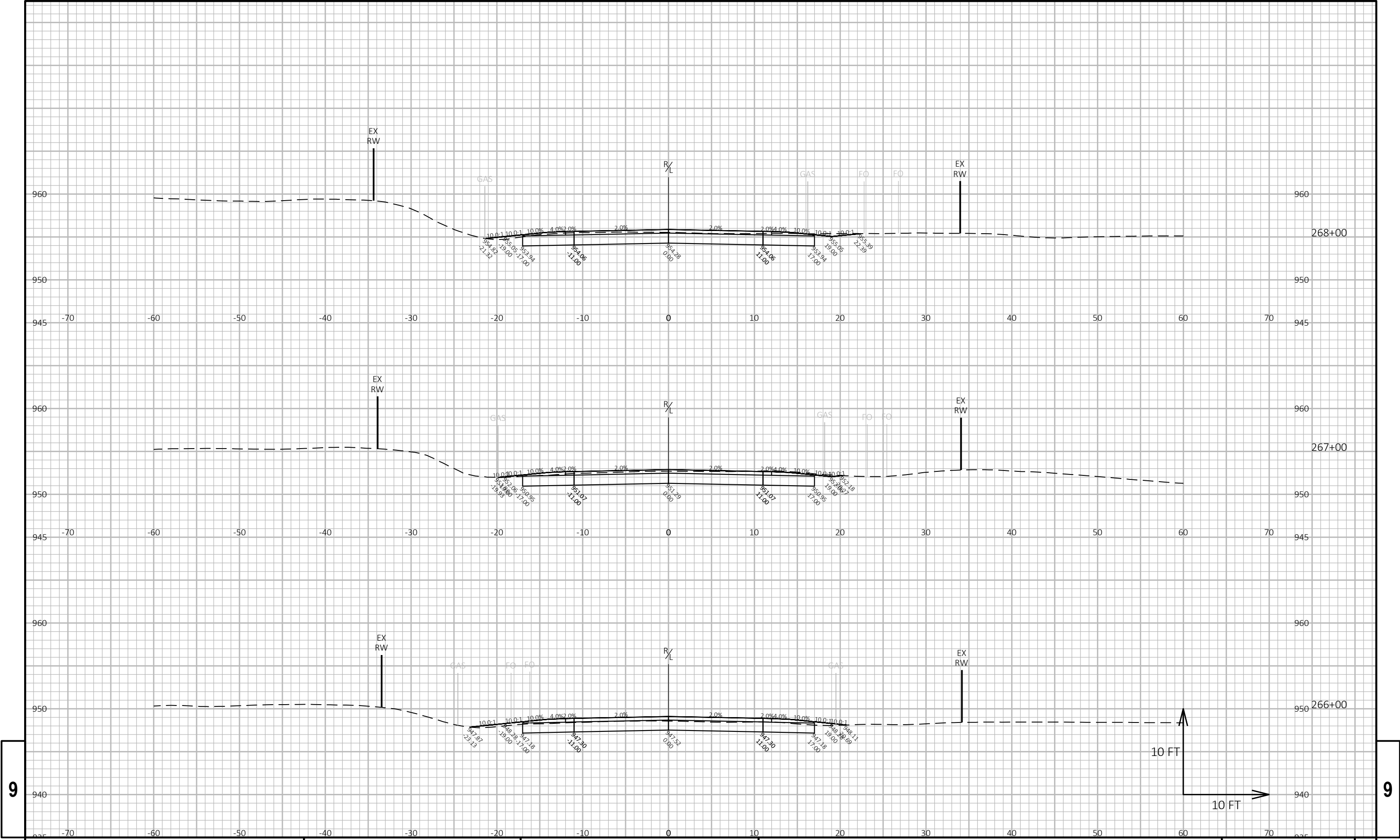


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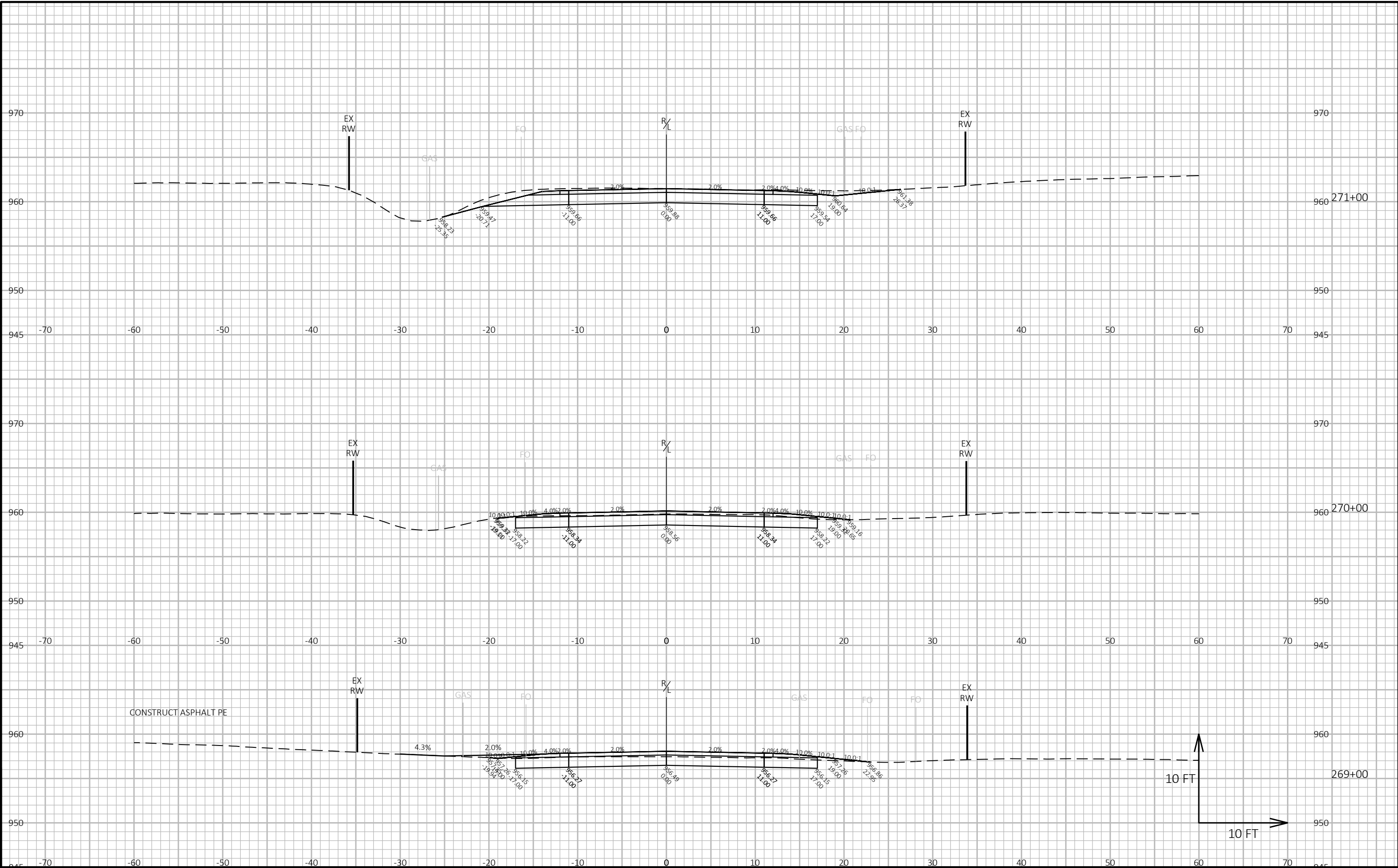






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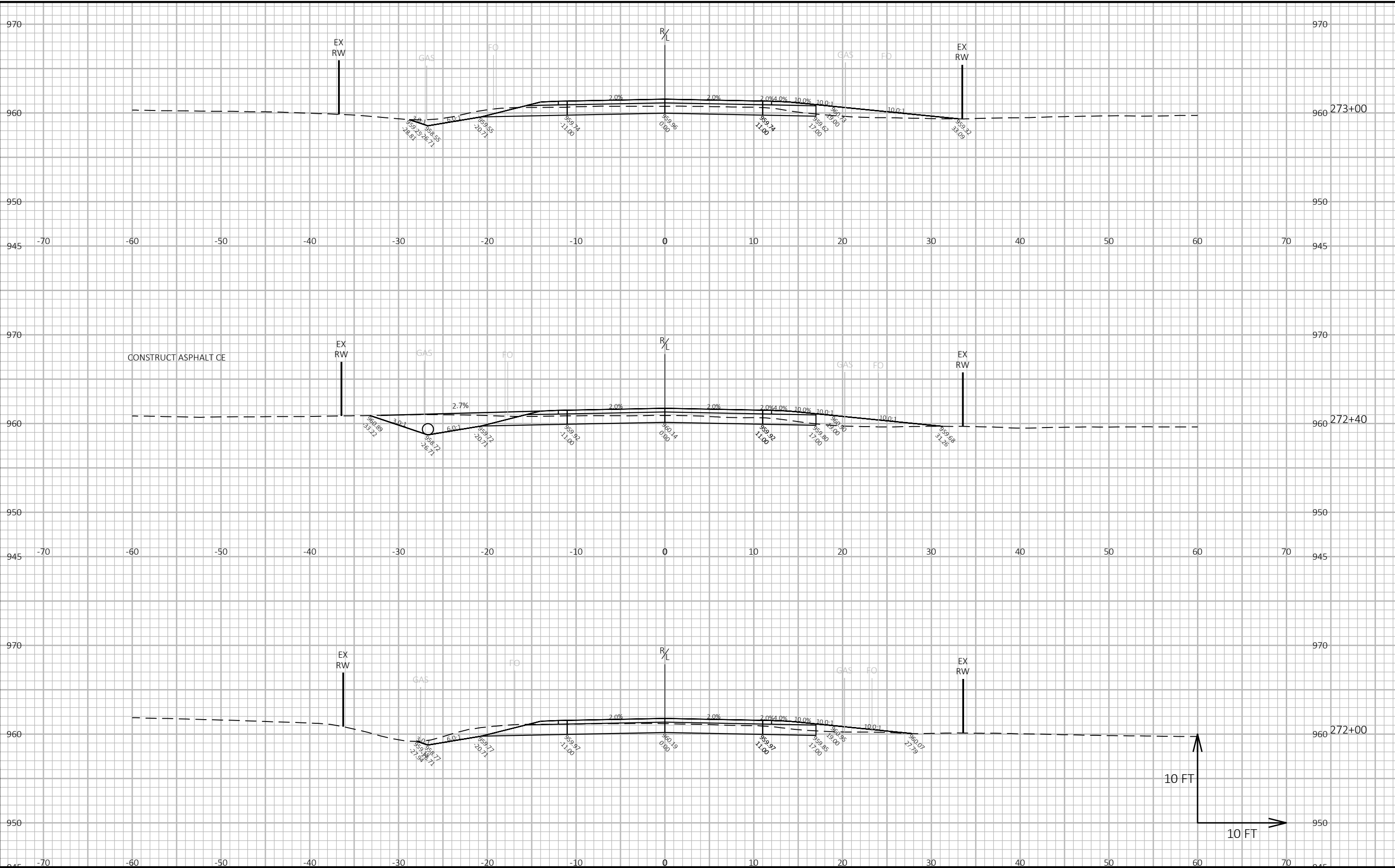
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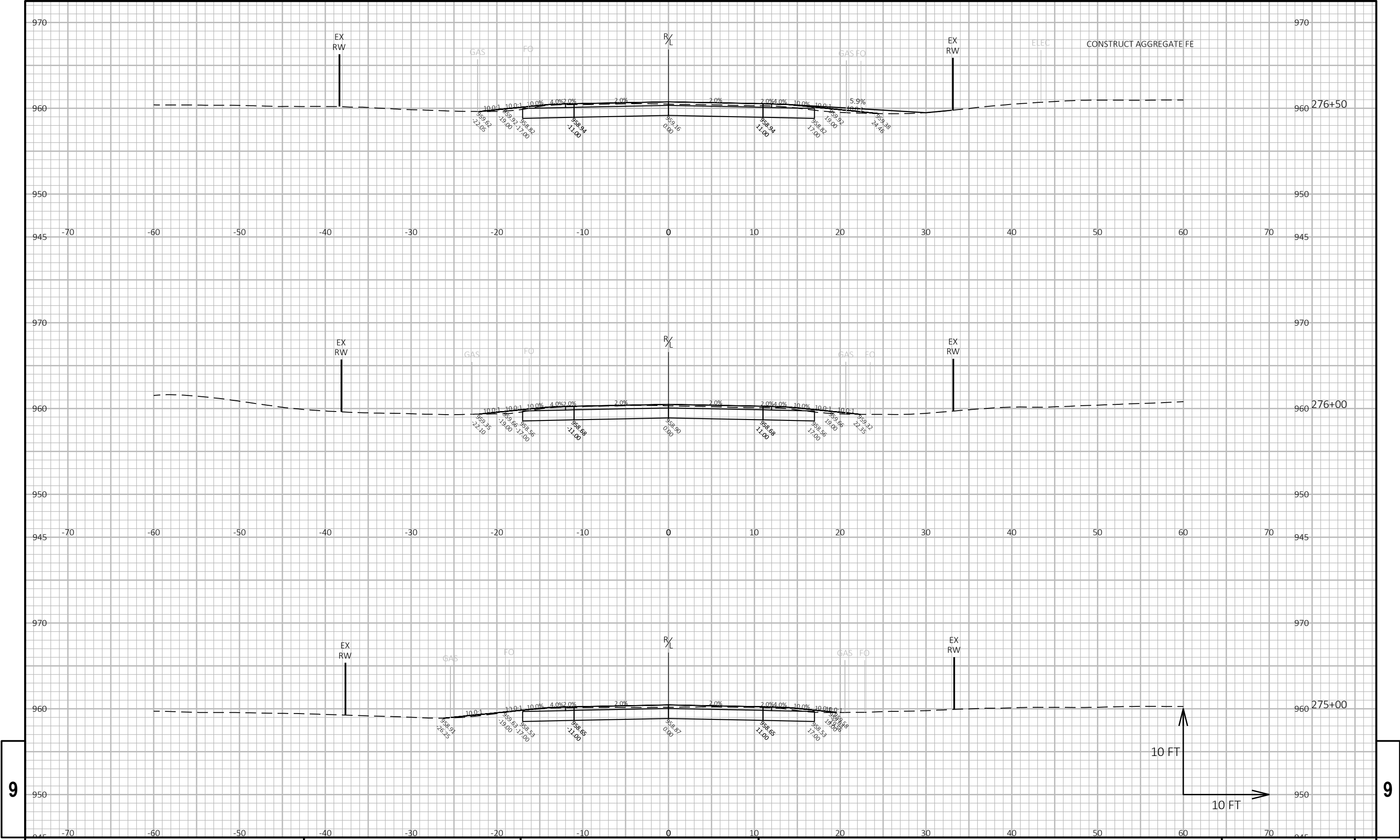


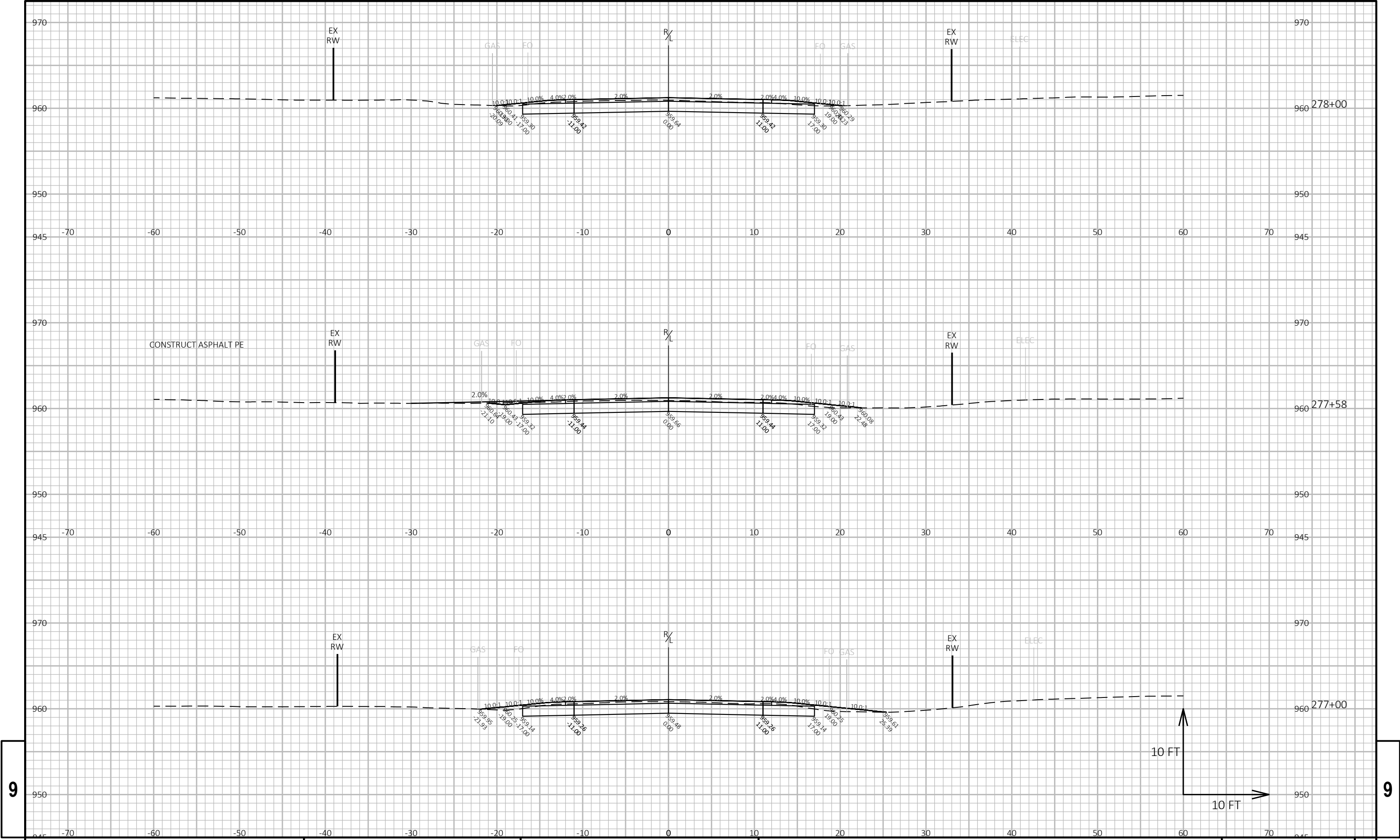
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PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	CROSS SECTIONS: ESTATE ROAD AND ESSEX AVENUE	SHEET E
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PROJECT NO: 2025-1-ARIP	HWY: LAGRANGE BYRON ARIP	COUNTY: MONROE	CROSS SECTIONS: ESTATE ROAD AND ESSEX AVENUE	SHEET E
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