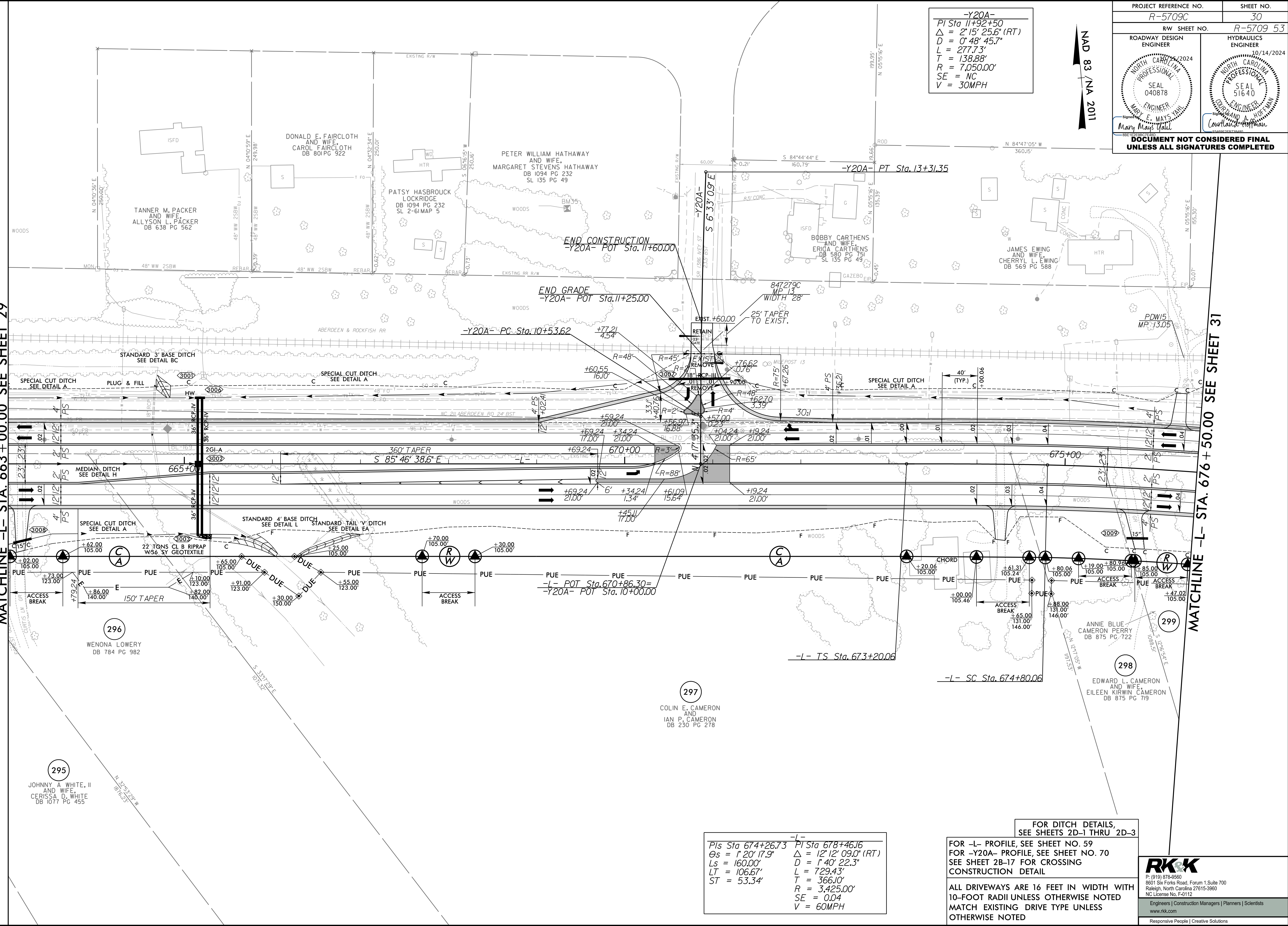


8/17/24

R:\2024\Projects\15709C\_Rd4\_psh30.dgn  
10/16/23  
M. Packer

MATCHLINE -L- STA. 663 + 00.00 SEE SHEET 29

MATCHLINE -L- STA. 676 + 50.00 SEE SHEET 31



-Y20A-  
 PI Sta 11+92+50  
 $\Delta = 2' 15' 25.6''$  (RT)  
 $D = 0' 48' 45.7''$   
 $L = 277.73'$   
 $T = 138.88'$   
 $R = 7,050.00'$   
 $SE = NC$   
 $V = 30MPH$

NAD 83 / NA 2011

PROJECT REFERENCE NO. R-5709C	SHEET NO. 30
RW SHEET NO. R-5709 53	HYDRAULICS ENGINEER 10/14/2024
ROADWAY DESIGN ENGINEER MAYNARD E. MAYS SEAL 040878 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER COURTLAND A. HOFFMAN SEAL 51640 NORTH CAROLINA PROFESSIONAL ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

296  
WENONA LOWERY  
DB 784 PG 982

295  
JOHNNY A. WHITE, II  
AND WIFE  
CERISSA D. WHITE  
DB 1077 PG 455

297  
COLIN E. CAMERON  
AND  
IAN P. CAMERON  
DB 230 PG 278

298  
EDWARD L. CAMERON  
AND WIFE  
EILEEN KIRWIN CAMERON  
DB 875 PG 719

299  
ANNIE BLUE CAMERON PERRY  
DB 875 PG 722

-L-  
 PIs Sta 674+26.73 PI Sta 678+46.16  
 $\Delta = 1' 20' 17.9''$   $\Delta = 12' 12' 09.0''$  (RT)  
 $Ls = 160.00'$   $D = 1' 40' 22.3''$   
 $LT = 106.67'$   $L = 729.43'$   
 $ST = 53.34'$   $T = 366.10'$   
 $R = 3,425.00'$   
 $SE = 0.04$   
 $V = 60MPH$

FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-3

FOR -L- PROFILE, SEE SHEET NO. 59  
 FOR -Y20A- PROFILE, SEE SHEET NO. 70  
 SEE SHEET 2B-17 FOR CROSSING  
 CONSTRUCTION DETAIL

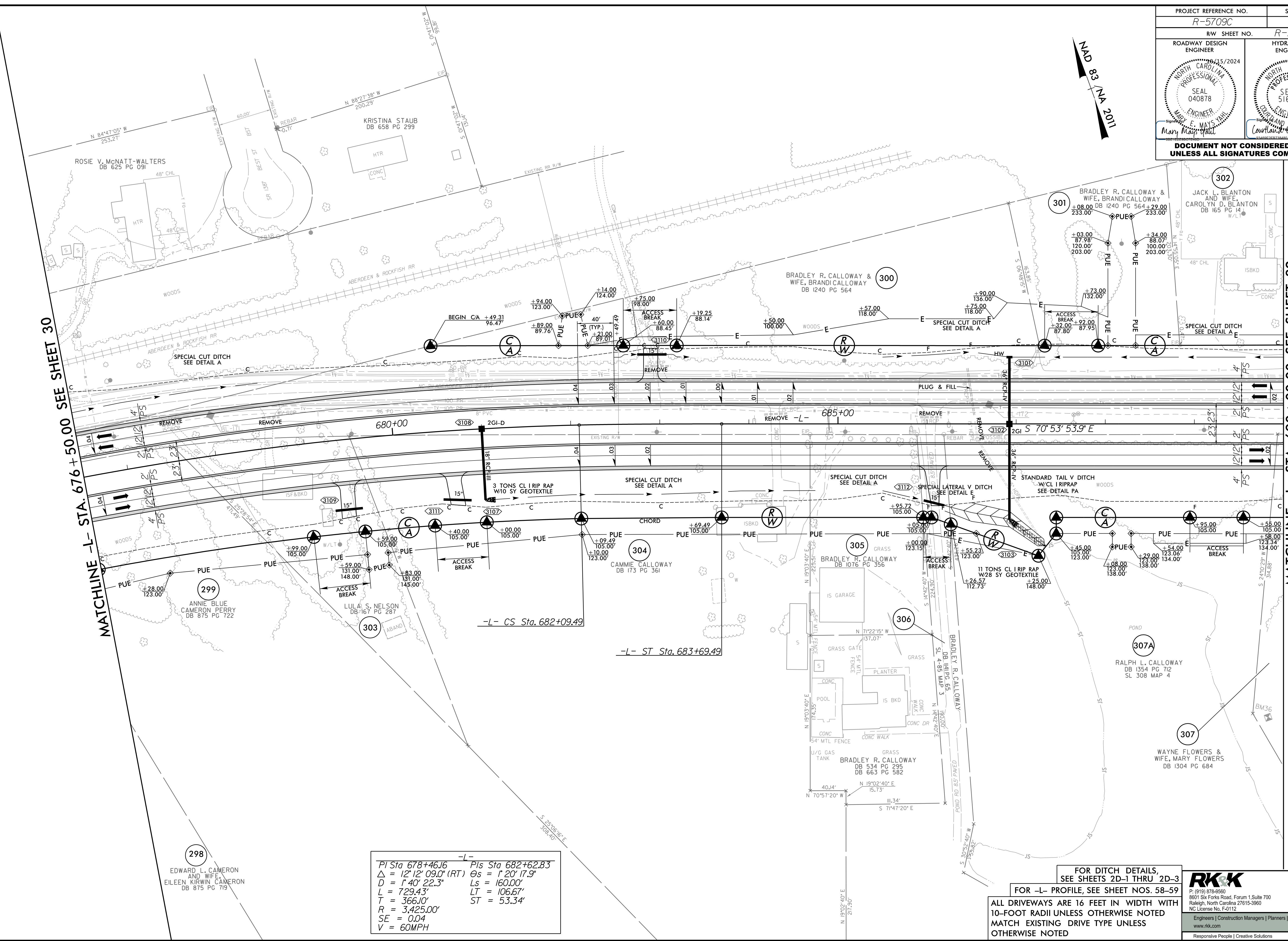
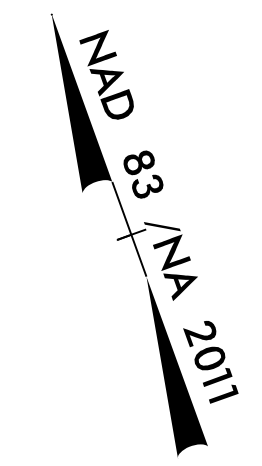
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
 10-FOOT RADII UNLESS OTHERWISE NOTED  
 MATCH EXISTING DRIVE TYPE UNLESS  
 OTHERWISE NOTED

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PROJECT REFERENCE NO. R-5709C	SHEET NO. 31
RW SHEET NO. R-5709 54	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 040878 Mary Mays	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 51640 Crawford A. Hoffman
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 676 + 50.00 SEE SHEET 30

MATCHLINE -L- STA. 690 + 00.00 SEE SHEET 32

-L-

PI Sta 678+46.16	PIs Sta 682+62.83
$\Delta = 12' 12" 09.0"$ (RT)	$\Theta_s = 1' 20" 17.9"$
$D = 1' 40" 22.3"$	$L_s = 160.00'$
$L = 729.43'$	$LT = 106.67'$
$T = 366.10'$	$ST = 53.34'$
$R = 3,425.00'$	
$SE = 0.04$	
$V = 60MPH$	

FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-3  
FOR -L- PROFILE, SEE SHEET NOS. 58-59

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS  
OTHERWISE NOTED

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10/20/24



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UNLESS ALL SIGNATURES COMPLETED

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 812 PG 18  
SL 173 PG 104  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 1)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

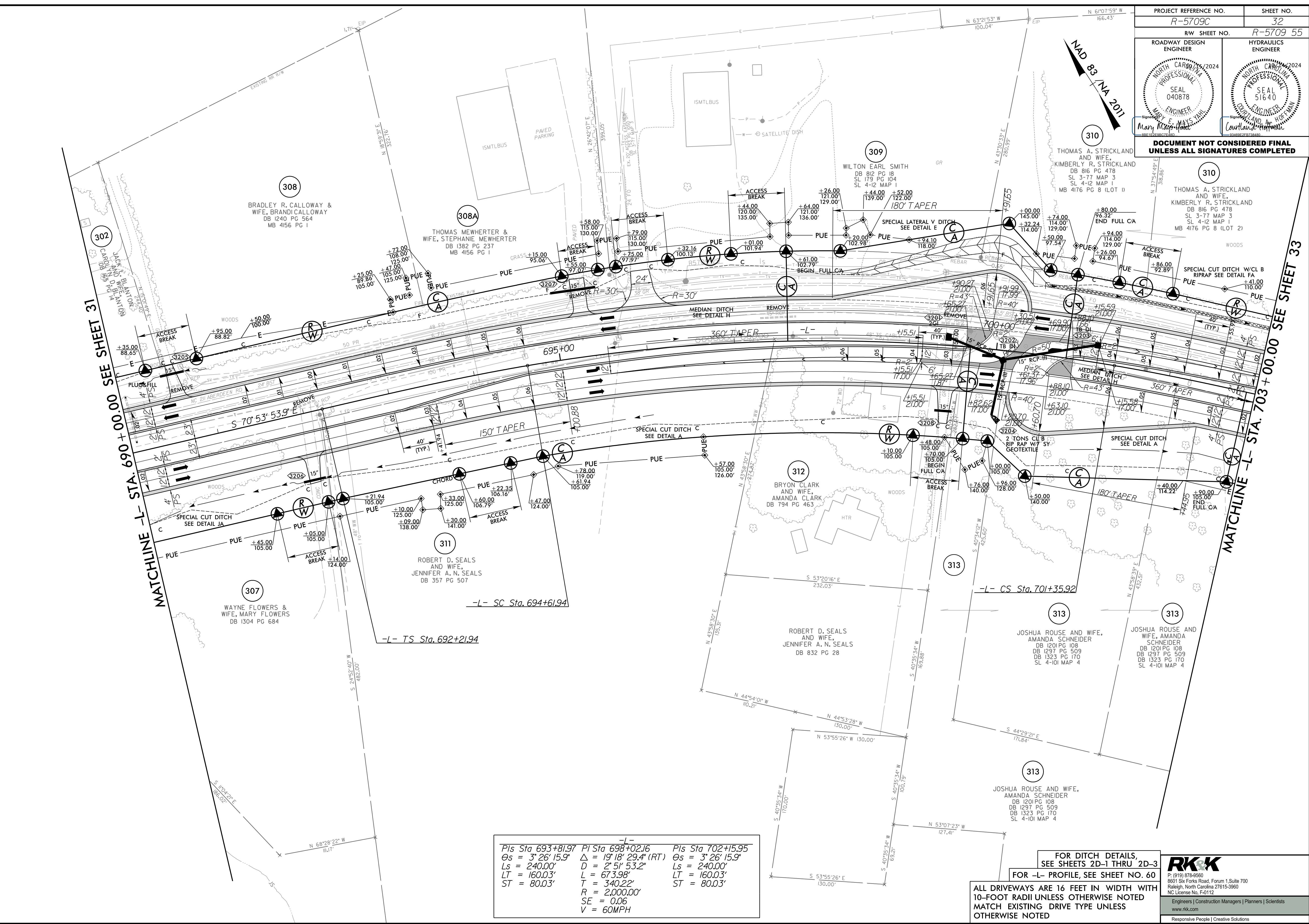
310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)

310  
THOMAS A. STRICKLAND AND WIFE, KIMBERLY R. STRICKLAND  
DB 816 PG 478  
SL 3-77 MAP 3  
SL 4-12 MAP 1  
MB 4176 PG 8 (LOT 2)



MATCHLINE -L- STA. 690+00.00 SEE SHEET 31

MATCHLINE -L- STA. 703+00.00 SEE SHEET 33

Pls Sta 693+81.97 θs = 3° 26' 15.9" Ls = 240.00' LT = 160.03' ST = 80.03'	PI Sta 698+02.16 Δ = 19° 18' 29.4" (RT) D = 2° 51' 53.2" L = 673.98' T = 340.22' R = 2,000.00' SE = 0.06 V = 60MPH	Pls Sta 702+15.95 θs = 3° 26' 15.9" Ls = 240.00' LT = 160.03' ST = 80.03'
---	---	---

FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-3  
FOR -L- PROFILE, SEE SHEET NO. 60

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS  
OTHERWISE NOTED

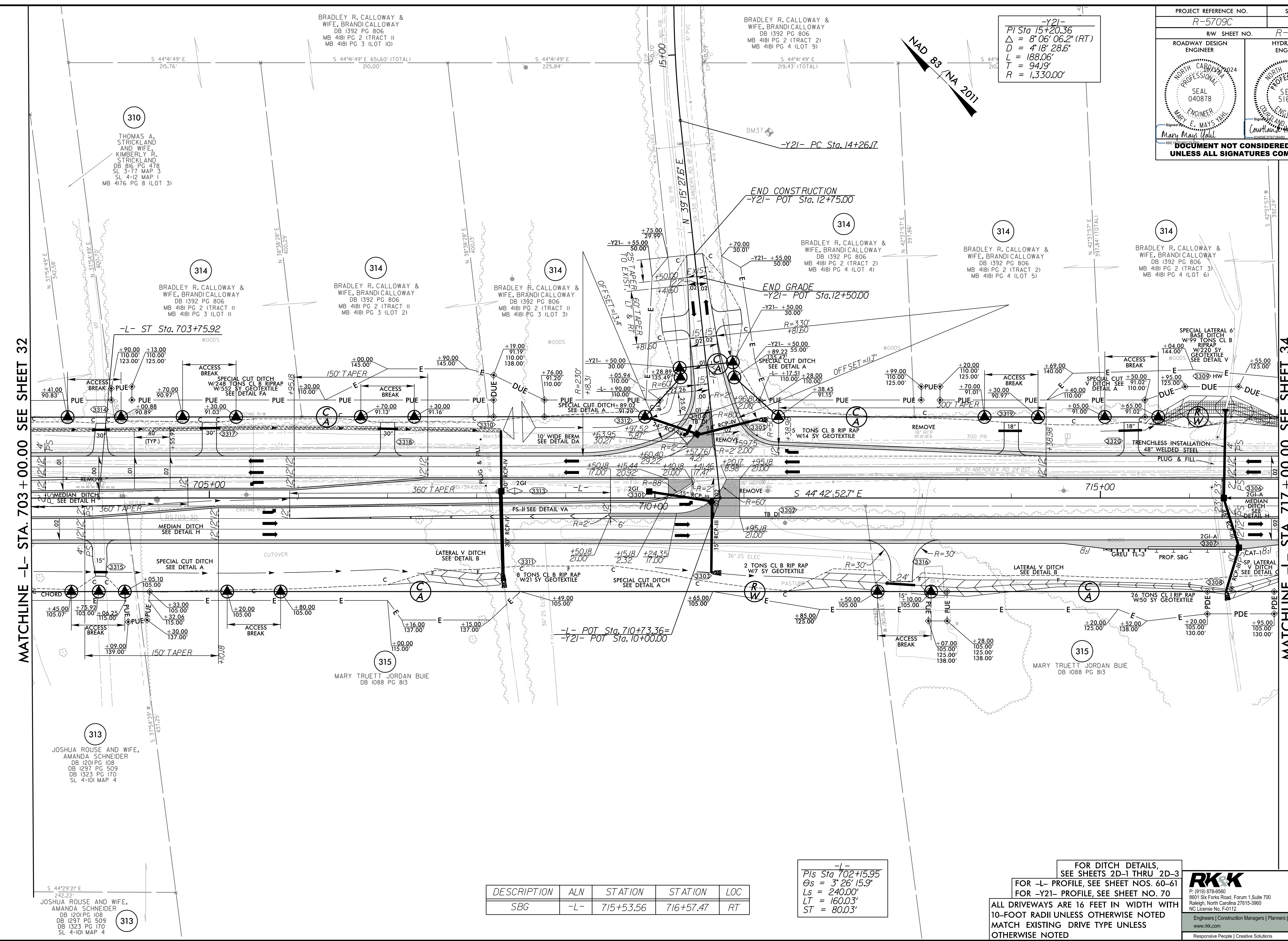
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12/2024



-Y21-  
 $PI Sta 15+20.36$   
 $\Delta = 8' 06'' 06.2'' (RT)$   
 $D = 4' 18'' 28.6''$   
 $L = 188.06'$   
 $T = 94.19'$   
 $R = 1,330.00'$



MATCHLINE -L- STA. 703 + 00.00 SEE SHEET 32

MATCHLINE -L- STA. 717 + 00.00 SEE SHEET 34

DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	715+53.56	716+57.47	RT

-L-  
 $PIs Sta 702+15.95$   
 $\Theta s = 3' 26' 15.9''$   
 $Ls = 240.00'$   
 $LT = 160.03'$   
 $ST = 80.03'$

FOR DITCH DETAILS,  
 SEE SHEETS 2D-1 THRU 2D-3  
 FOR -L- PROFILE, SEE SHEET NOS. 60-61  
 FOR -Y21- PROFILE, SEE SHEET NO. 70  
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
 10-FOOT RADII UNLESS OTHERWISE NOTED  
 MATCH EXISTING DRIVE TYPE UNLESS  
 OTHERWISE NOTED

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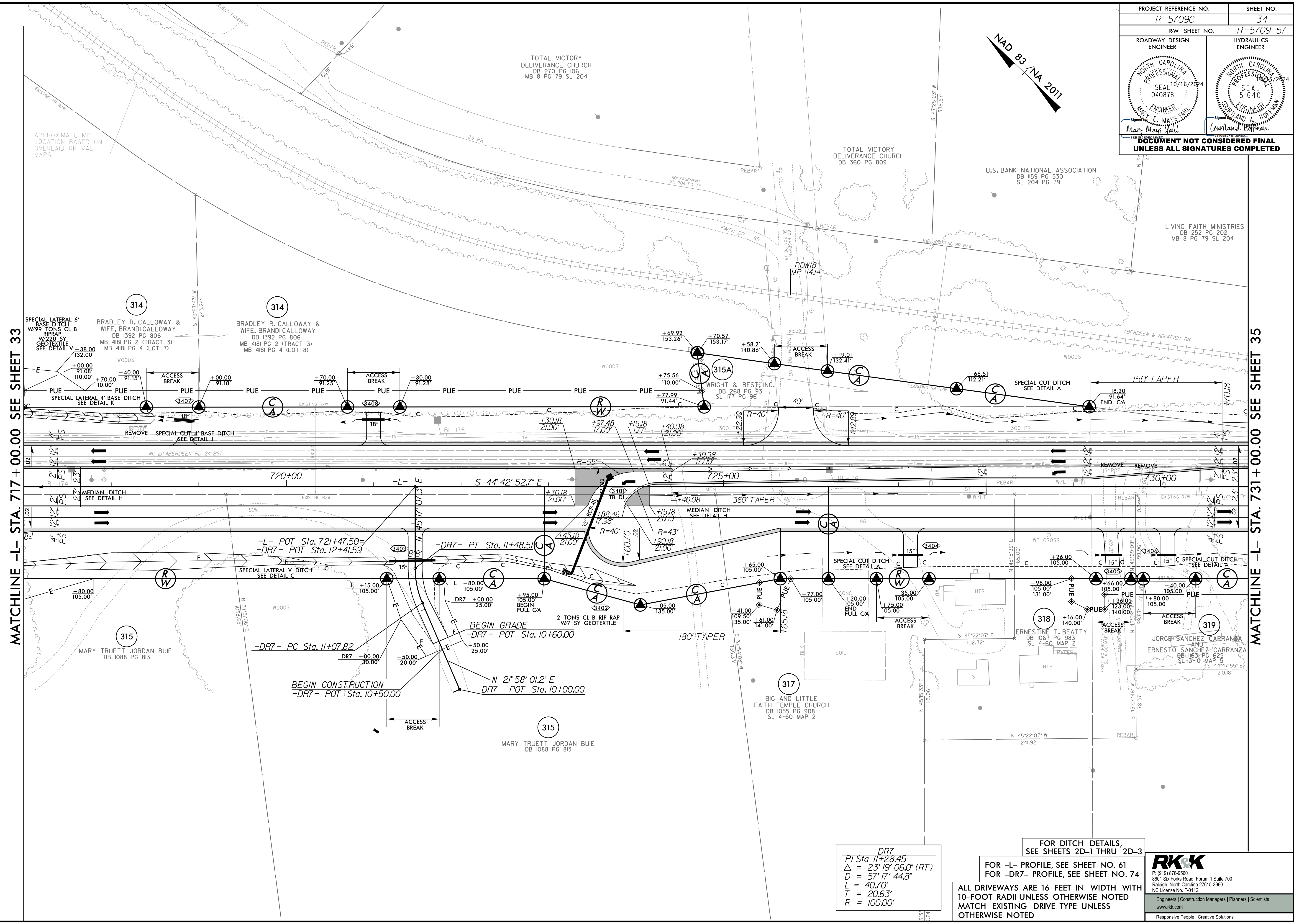
8/17/24

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PROJECT REFERENCE NO. R-5709C	SHEET NO. 34
RW SHEET NO. R-5709 57	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

NAD 83 / NA 2011



MATCHLINE -L- STA. 717 + 00.00 SEE SHEET 33

MATCHLINE -L- STA. 731 + 00.00 SEE SHEET 35

-DR7-  
PI Sta. 11+28.45  
 $\Delta = 23^{\circ}19'06.0'' (RT)$   
 $D = 57^{\circ}17'44.8''$   
 $L = 40.70'$   
 $T = 20.63'$   
 $R = 100.00'$

FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-3

FOR -L- PROFILE, SEE SHEET NO. 61  
FOR -DR7- PROFILE, SEE SHEET NO. 74

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS  
OTHERWISE NOTED

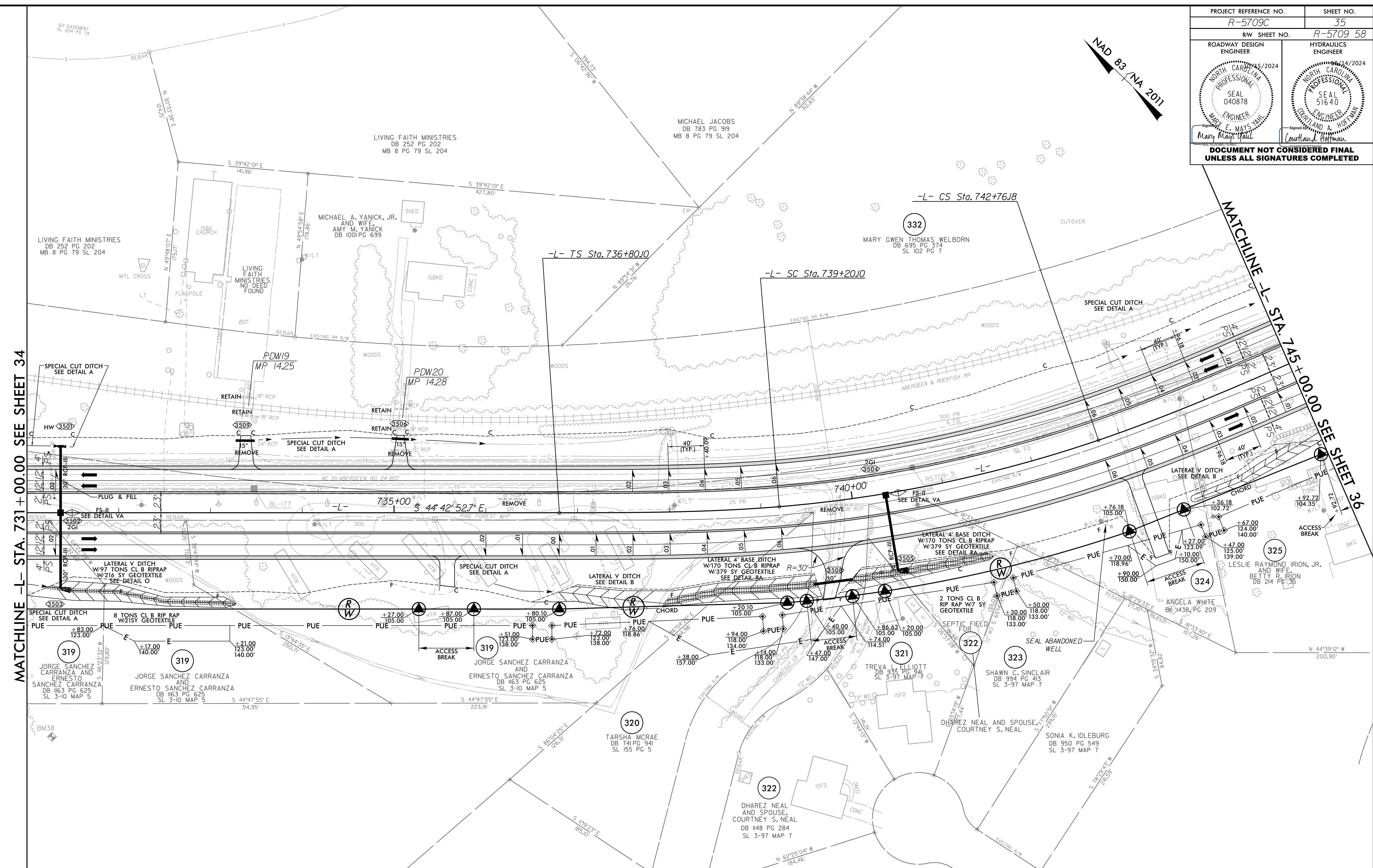
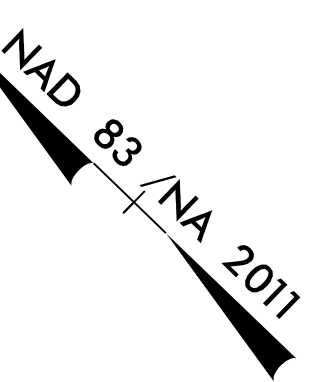
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10/15/2024



PROJECT REFERENCE NO. R-5709C	SHEET NO. 35
RW SHEET NO. R-5709 58	
ROADWAY DESIGN ENGINEER MARY E. MAYS SEAL 040878 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER COURTLAND A. HOFFMAN SEAL 51640 NORTH CAROLINA PROFESSIONAL ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 731 + 00.00 SEE SHEET 34

MATCHLINE -L- STA. 745 + 00.00 SEE SHEET 36

-L-  
 Pls Sta 738+40.15 PI Sta 740+99.04 Pls Sta 743+56.24  
 $\Delta s = 4' 44'' 30.2''$   $\Delta = 14' 04'' 14.0''$  (LT)  $\Delta s = 4' 44'' 30.2''$   
 $Ls = 240.00'$   $D = 3' 57'' 05.2''$   $Ls = 240.00'$   
 $LT = 160.06'$   $L = 356.09'$   $LT = 160.06'$   
 $ST = 80.05'$   $T = 178.94'$   $ST = 80.05'$   
 $R = 1,450.00'$   
 $SE = 0.06$   
 $V = 60MPH$

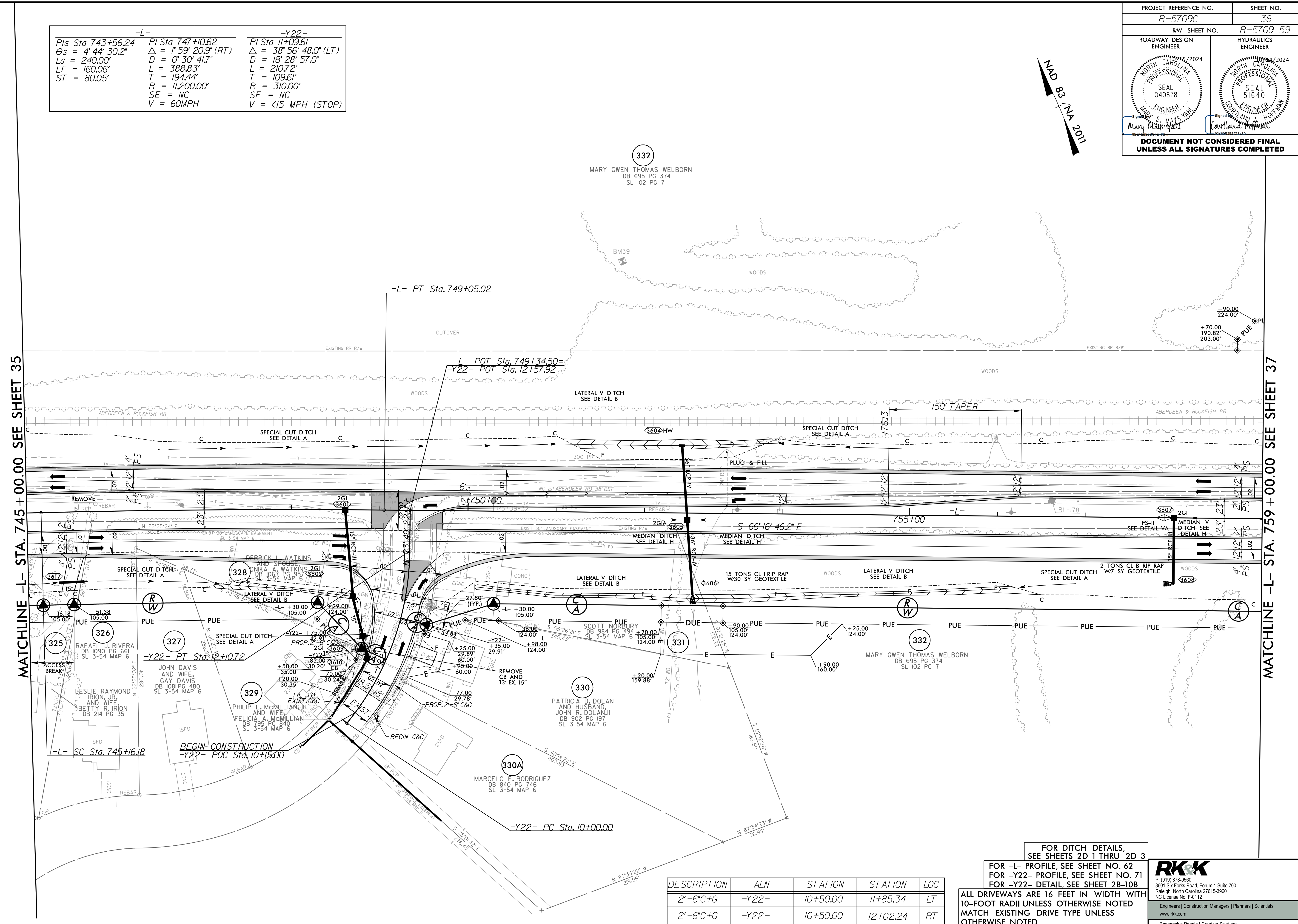
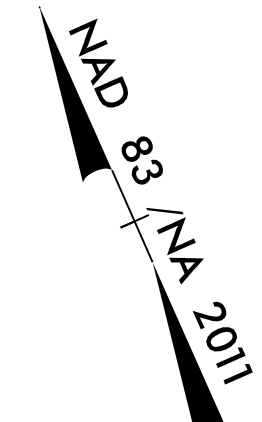
FOR DITCH DETAILS,  
 SEE SHEETS 2D-1 THRU 2D-3  
 FOR -L- PROFILE, SEE SHEET NOS. 61-62  
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
 10-FOOT RADII UNLESS OTHERWISE NOTED  
 MATCH EXISTING DRIVE TYPE UNLESS  
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-L-		-Y22-	
PIs Sta 743+56.24	PI Sta 747+10.62	PI Sta 11+09.61	PI Sta 12+57.92
Os = 4' 44" 30.2"	Δ = 1' 59" 20.9" (RT)	Δ = 38' 56" 48.0" (LT)	
Ls = 240.00'	D = 0' 30" 41.7"	D = 18' 28" 57.0"	
LT = 160.06'	L = 388.83'	L = 210.72'	
ST = 80.05'	T = 194.44'	T = 109.61'	
	R = 11,200.00'	R = 310.00'	
	SE = NC	SE = NC	
	V = 60MPH	V = <15 MPH (STOP)	



MATCHLINE -L- STA. 745+00.00 SEE SHEET 35

MATCHLINE -L- STA. 759+00.00 SEE SHEET 37

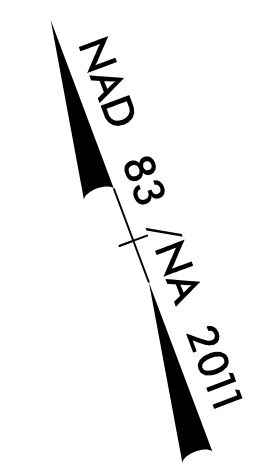
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6"C+G	-Y22-	10+50.00	11+85.34	LT
2'-6"C+G	-Y22-	10+50.00	12+02.24	RT

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-3  
 FOR -L- PROFILE, SEE SHEET NO. 62  
 FOR -Y22- PROFILE, SEE SHEET NO. 71  
 FOR -Y22- DETAIL, SEE SHEET 2B-10B  
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED  
 MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

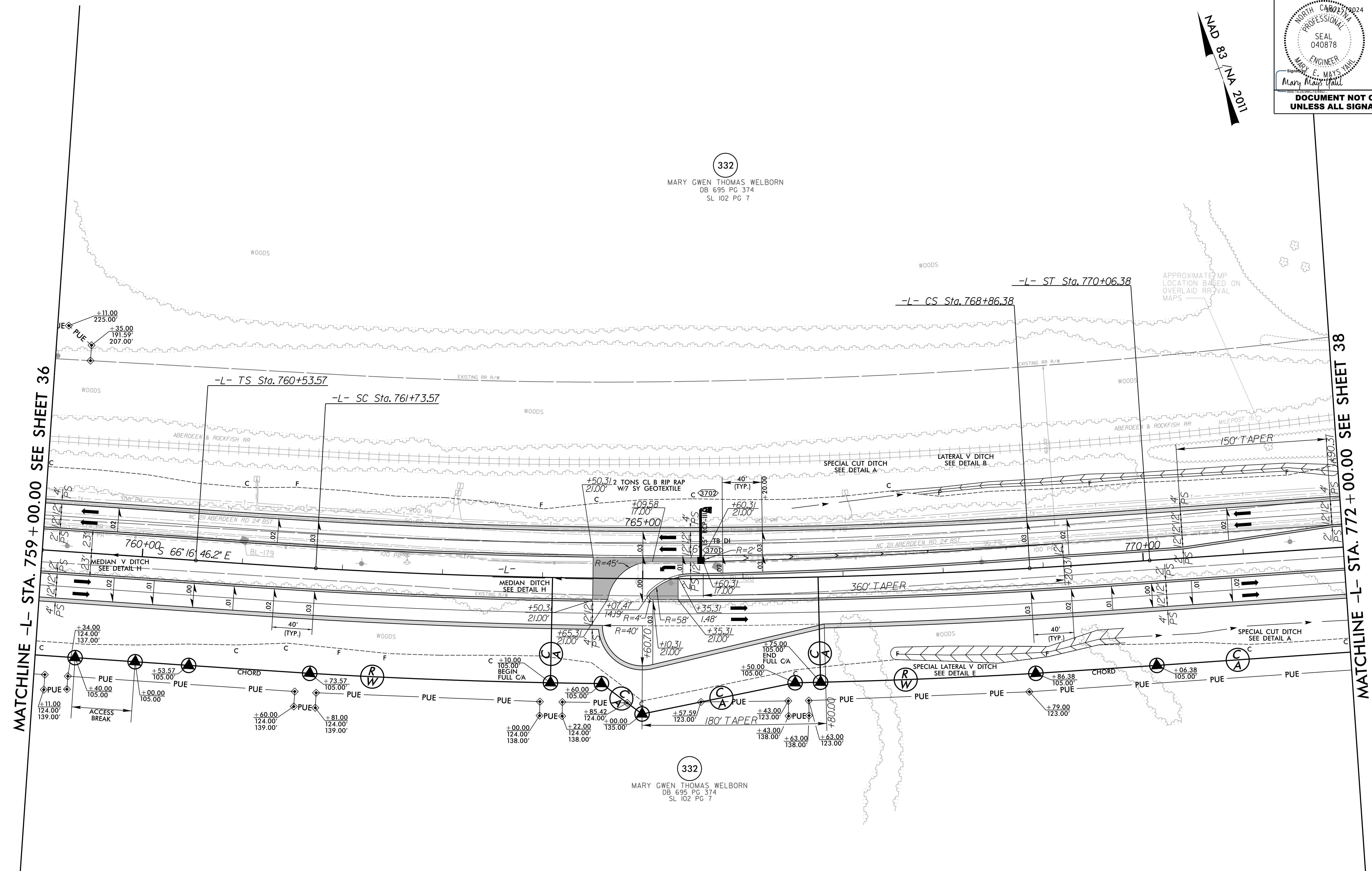
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332  
MARY GWEN THOMAS WELBORN  
DB 695 PG 374  
SL 102 PG 7



MATCHLINE -L- STA. 759 + 00.00 SEE SHEET 36

MATCHLINE -L- STA. 772 + 00.00 SEE SHEET 38

Pls Sta 761+33.57	PI Sta 765+30.38	Pls Sta 769+26.38
$\theta_s = 0^\circ 33' 57.2''$	$\Delta = 6^\circ 43' 21.9''$ (LT)	$\theta_s = 0^\circ 33' 57.2''$
$L_s = 120.00'$	$D = 0^\circ 56' 35.3''$	$L_s = 120.00'$
$LT = 80.00'$	$L = 712.80'$	$LT = 80.00'$
$ST = 40.00'$	$T = 356.81'$	$ST = 40.00'$
	$R = 6,075.00'$	
	$SE = 0.03$	
	$V = 60MPH$	

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-3  
FOR -L- PROFILE, SEE SHEET NOS. 62-63

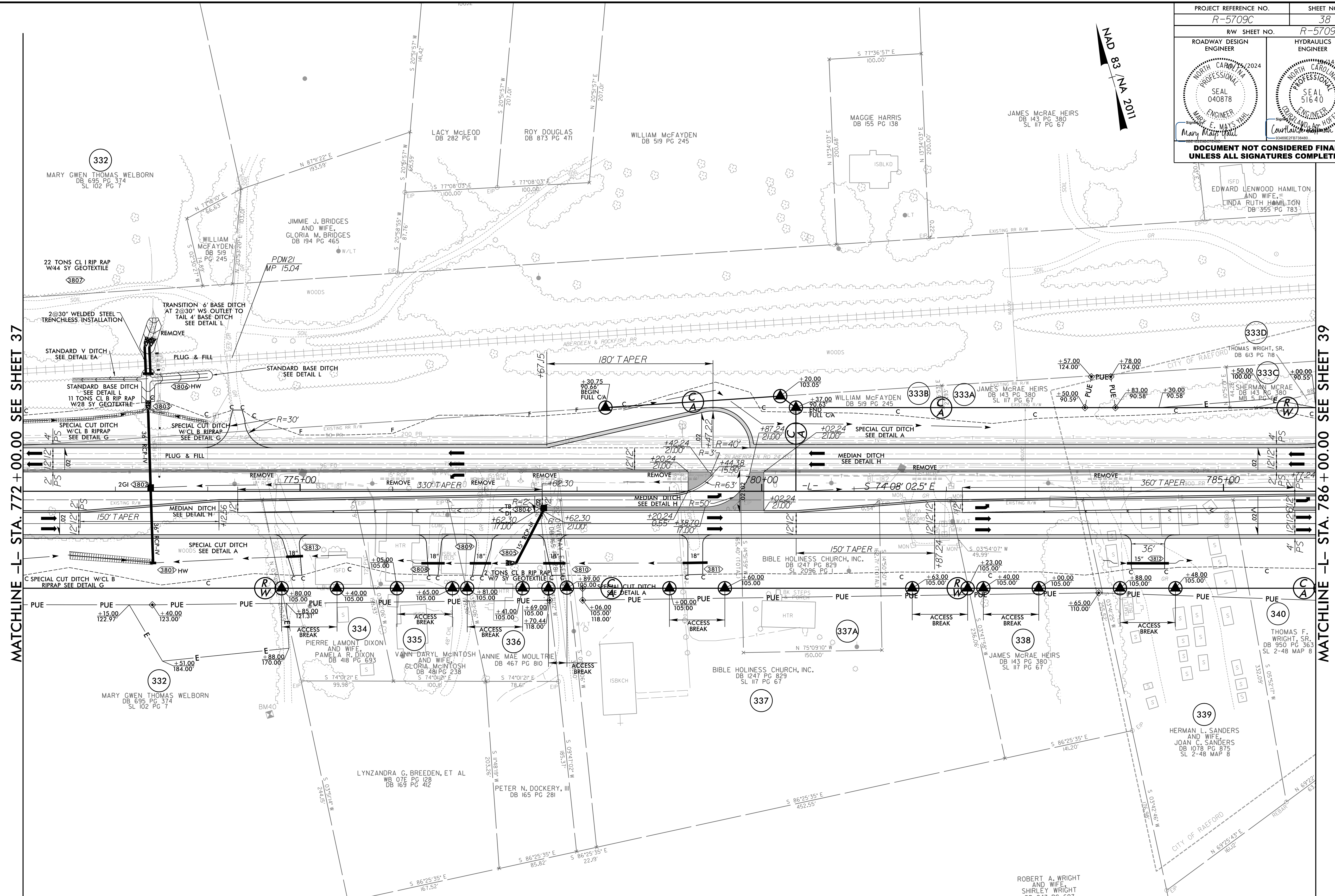
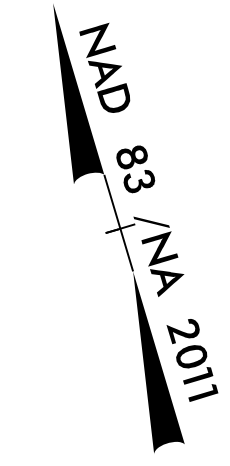
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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PROJECT REFERENCE NO. R-5709C	SHEET NO. 38
RW SHEET NO. R-5709 61	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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MATCHLINE -L- STA. 772 + 00.00 SEE SHEET 37

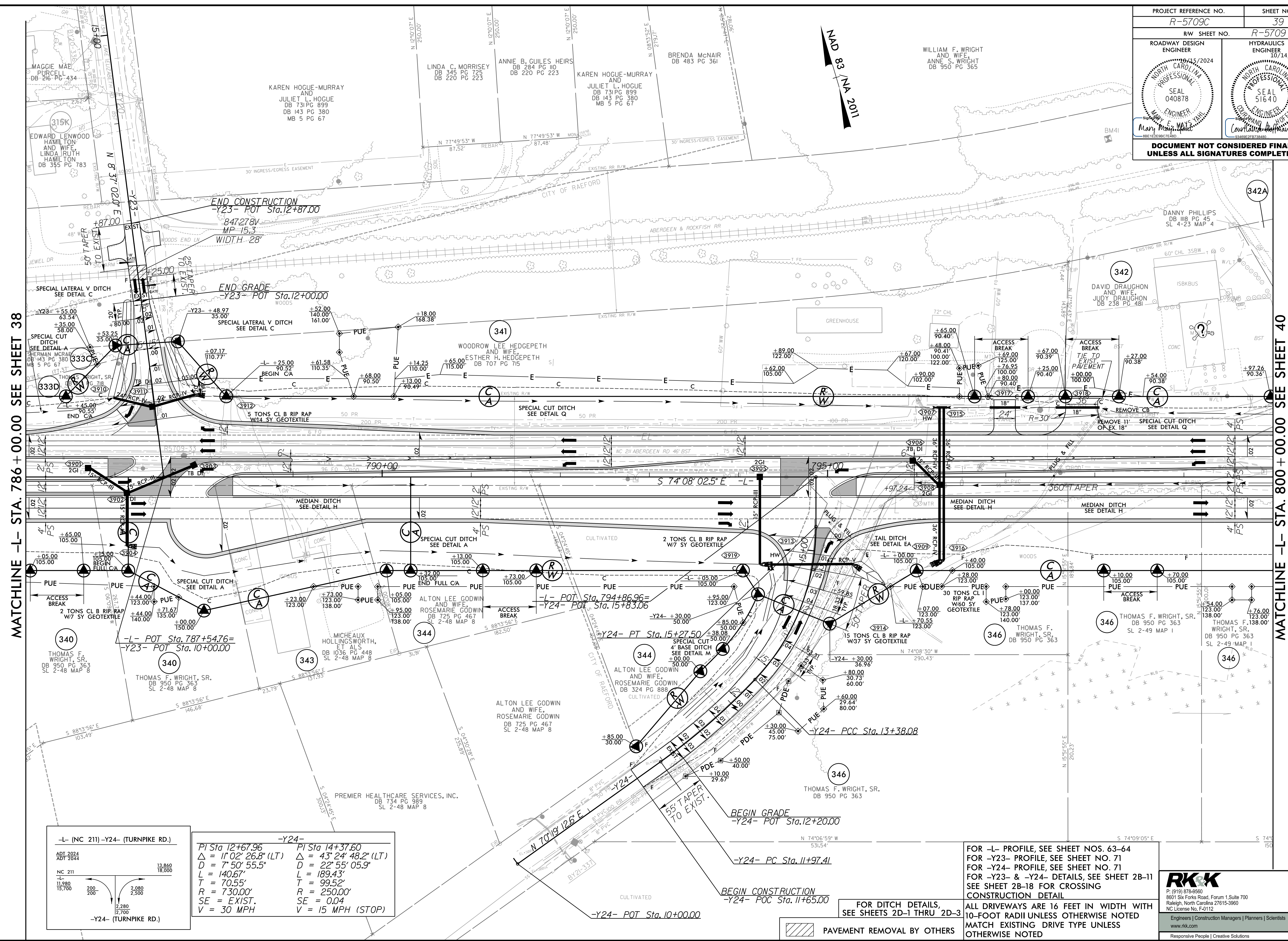
MATCHLINE -L- STA. 786 + 00.00 SEE SHEET 39

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-3  
 FOR -L- PROFILE, SEE SHEET NO. 63  
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED  
 MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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 M. Dockery





-L- (NC 211) -Y24- (TURNPIKE RD.)		-Y24-	
ADT 2024	13,860	PI Sta 12+67.96	PI Sta 14+37.60
ADT 2044	18,000	$\Delta = 11' 02" 26.8" (LT)$	$\Delta = 43' 24" 48.2" (LT)$
		$D = 7' 50" 55.5"$	$D = 22' 55" 05.9"$
		$L = 140.67'$	$L = 189.43'$
		$T = 70.55'$	$T = 99.52'$
		$R = 730.00'$	$R = 250.00'$
		$SE = EXIST.$	$SE = 0.04$
		$V = 30 MPH$	$V = 15 MPH (STOP)$

8/17/24

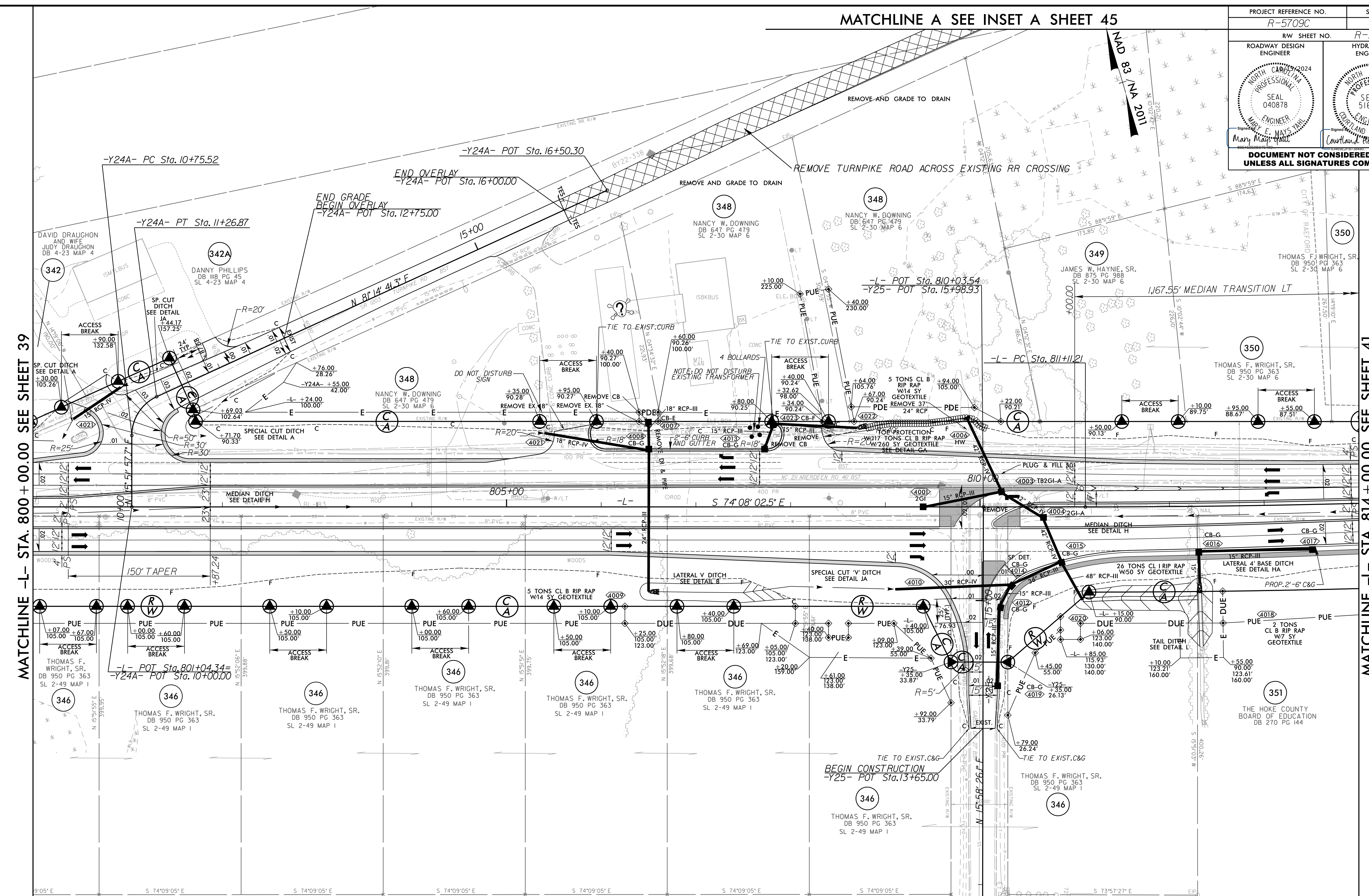
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8/17/24



MATCHLINE A SEE INSET A SHEET 45

PROJECT REFERENCE NO. R-5709C	SHEET NO. 40
RW SHEET NO. R-5709.63	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 800 + 00.00 SEE SHEET 39

MATCHLINE -L- STA. 814 + 00.00 SEE SHEET 41

-L-		-Y24A-	
PI Sta 816+89.90	PI Sta 11+04.40		
$\Delta = 5^{\circ} 58' 07.5''$ (LT)	$\Delta = 65^{\circ} 22' 43.6''$ (RT)		
$D = 0^{\circ} 30' 58.2''$	$D = 127^{\circ} 19' 26.2''$		
$L = 1156.34'$	$L = 51.35'$		
$T = 578.69'$	$T = 28.88'$		
$R = 11100.00'$	$R = 45.00'$		
$SE = NC$	$SE = 0.04$		
$V = 60MPH$	$V = 20MPH$		

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6"C+G	-L-	805+86.4	807+92.91	LT
2'-6"C+G	-L-	810+54.57	823+32.12	RT
2'-6"C+G	-Y25-	14+00.00	15+30.19	RT
2'-6"C+G	-Y25-	14+00.00	14+36.44	LT

THOMAS F. WRIGHT, SR.  
DB 950 PG 363  
SL 2-49 MAP 5

SEE SHEET 2B-14 FOR PAVEMENT REMOVAL AND CROSSING CLOSURE DETAILS

FOR -L- PROFILE, SEE SHEET NO. 64  
FOR -Y24A- PROFILE, SEE SHEET NO. 71  
FOR -Y25- PROFILE, SEE SHEET NO. 72  
FOR -Y25- DETAILS, SEE SHEET NO. 2B-12

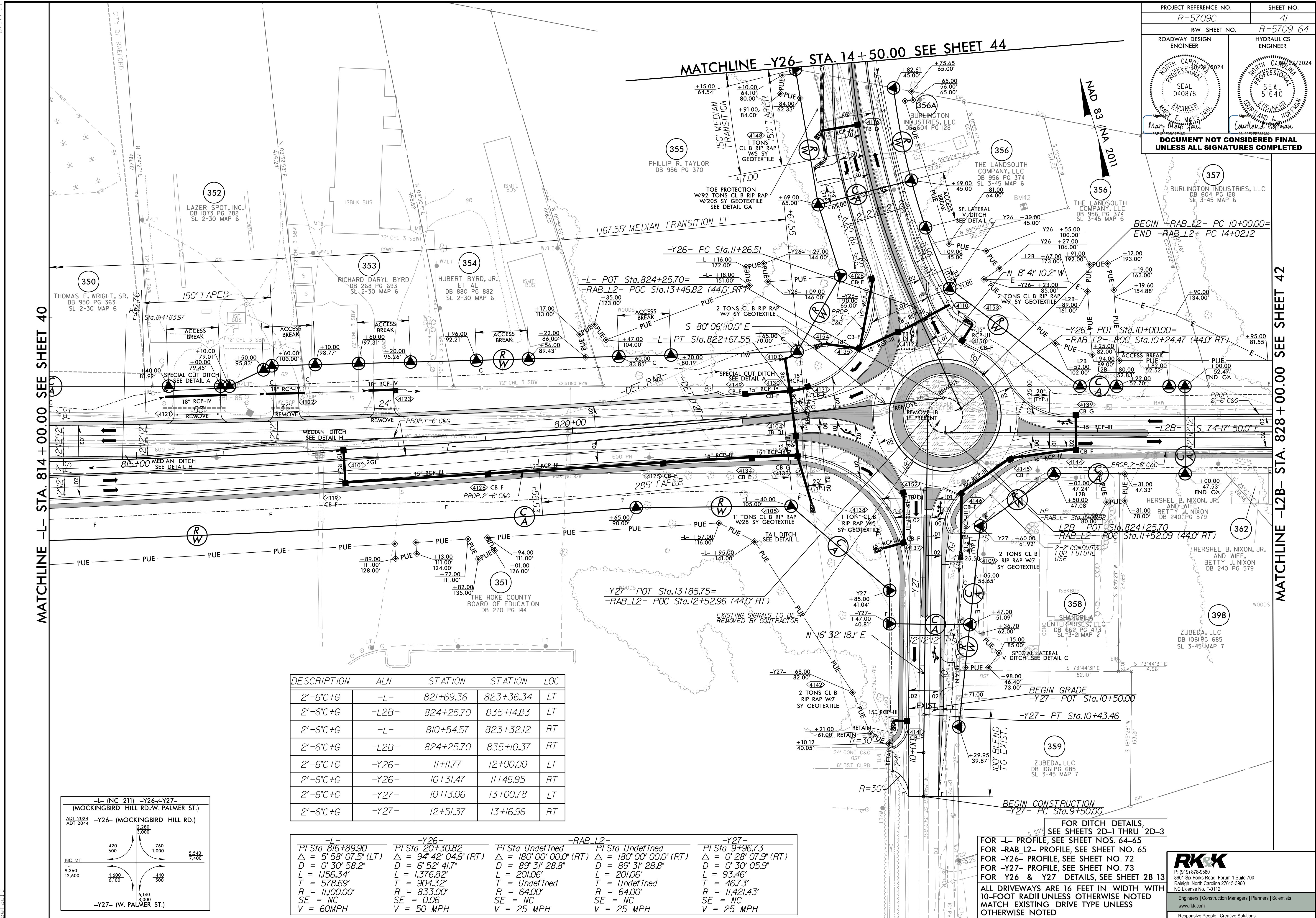
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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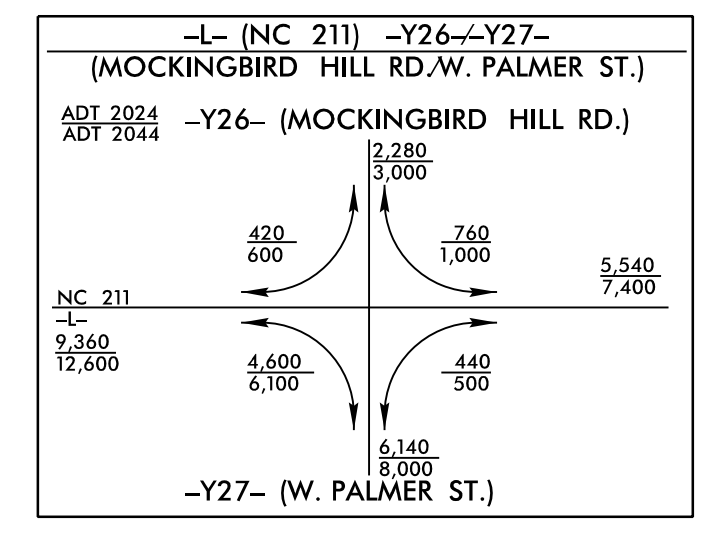


MATCHLINE -L- STA. 814+00.00 SEE SHEET 40

MATCHLINE -L2B- STA. 828+00.00 SEE SHEET 42

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6"C+G	-L-	821+69.36	823+36.34	LT
2'-6"C+G	-L2B-	824+25.70	835+4.83	LT
2'-6"C+G	-L-	810+54.57	823+32.12	RT
2'-6"C+G	-L2B-	824+25.70	835+10.37	RT
2'-6"C+G	-Y26-	11+11.77	12+00.00	LT
2'-6"C+G	-Y26-	10+31.47	11+46.95	RT
2'-6"C+G	-Y27-	10+13.06	13+00.78	LT
2'-6"C+G	-Y27-	12+51.37	13+16.96	RT

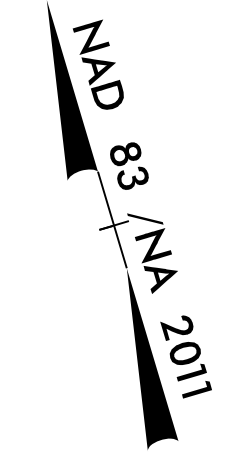
-L-	-Y26-	-RAB L2-	-Y27-
PI Sta 816+89.90	PI Sta 20+30.82	PI Sta Undef Ined	PI Sta 9+96.73
$\Delta = 5' 58" 07.5" (LT)$	$\Delta = 94' 42" 04.6" (RT)$	$\Delta = 180' 00" 00.0" (RT)$	$\Delta = 180' 00" 00.0" (RT)$
$D = 0' 30" 58.2"$	$D = 6' 52' 41.7"$	$D = 89' 31' 28.8"$	$D = 89' 31' 28.8"$
$L = 1156.34'$	$L = 1,376.82'$	$L = 201.06'$	$L = 93.46'$
$T = 578.69'$	$T = 904.32'$	$T = Undefined$	$T = 46.73'$
$R = 11,000.00'$	$R = 833.00'$	$R = 64.00'$	$R = 11,421.43'$
$SE = NC$	$SE = 0.06$	$SE = NC$	$SE = NC$
$V = 60MPH$	$V = 50 MPH$	$V = 25 MPH$	$V = 25 MPH$



FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-3  
 FOR -L- PROFILE, SEE SHEET NOS. 64-65  
 FOR -RAB L2- PROFILE, SEE SHEET NO. 65  
 FOR -Y26- PROFILE, SEE SHEET NO. 72  
 FOR -Y26- & -Y27- DETAILS, SEE SHEET 2B-13  
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED  
 MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

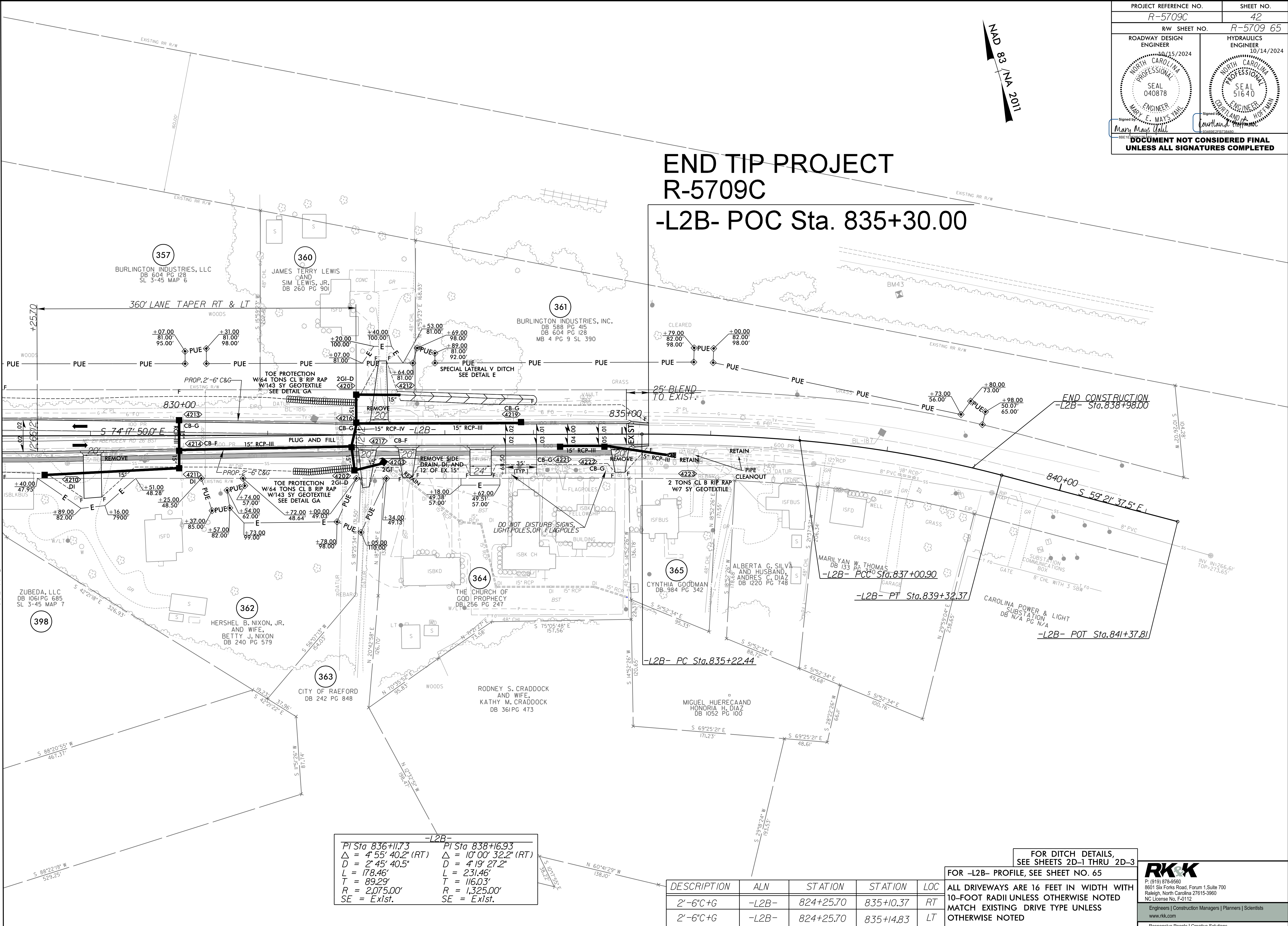
8/17/2024  
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 10/23/2024  
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# END TIP PROJECT R-5709C -L2B- POC Sta. 835+30.00

MATCHLINE -L2B- STA. 828 + 00.00 SEE SHEET 41



-L2B-

PI Sta 836+11.73	PI Sta 838+16.93
$\Delta = 4' 55' 40.2''$ (RT)	$\Delta = 10' 00' 32.2''$ (RT)
$D = 2' 45' 40.5''$	$D = 4' 19' 27.2''$
$L = 178.46'$	$L = 231.46'$
$T = 89.29'$	$T = 116.03'$
$R = 2,075.00'$	$R = 1,325.00'$
$SE = Exist.$	$SE = Exist.$

FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-3

FOR -L2B- PROFILE, SEE SHEET NO. 65  
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS  
OTHERWISE NOTED

DESCRIPTION	ALN	STATION	STATION	LOC
2'-6\"/>				

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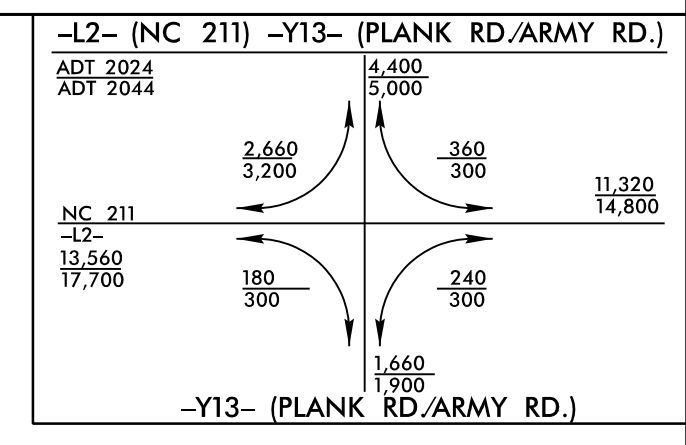
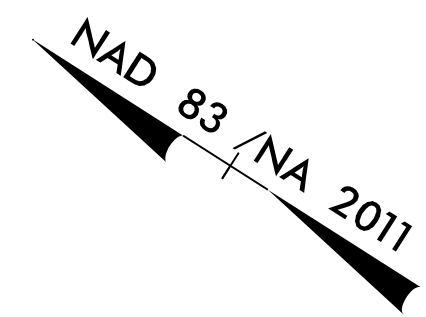


8/17/99

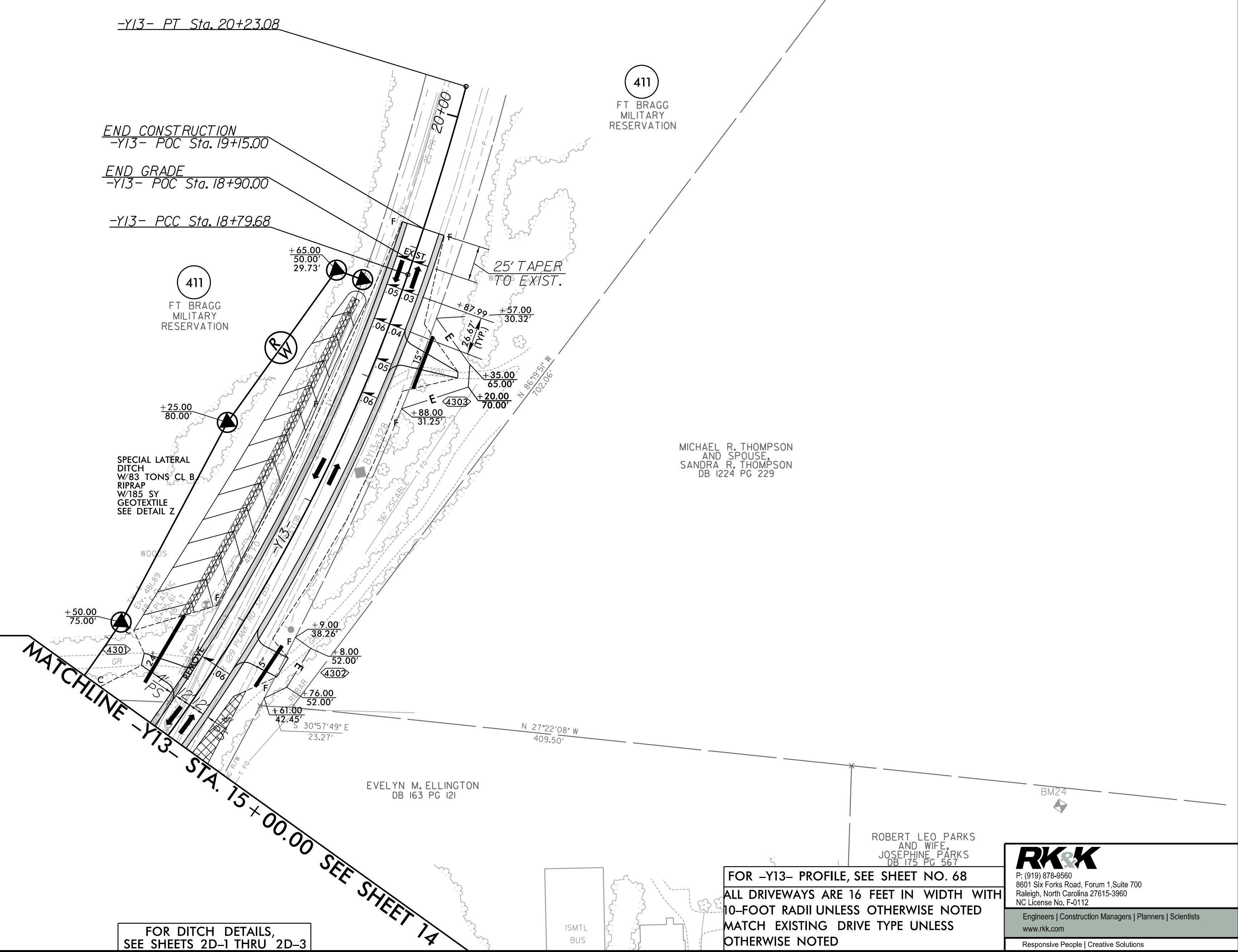
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PROJECT REFERENCE NO. R-5709C	SHEET NO. 43
RW SHEET NO. R-5709 70	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



-Y13-	
PI Sta 15+98.84	PI Sta 19+51.41
$\Delta = 24' 34" 53.4" (LT)$	$\Delta = 4' 12" 48.2" (LT)$
$D = 4' 18" 28.6"$	$D = 2' 56" 17.7"$
$L = 570.6'$	$L = 143.40'$
$T = 289.76'$	$T = 71.73'$
$R = 1,330.00'$	$R = 1,950.00'$
$SE = 0.06$	
$V = 60 \text{ MPH}$	



**MATCHLINE -Y13- STA. 15+00.00 SEE SHEET 14**

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-3

FOR -Y13- PROFILE, SEE SHEET NO. 68  
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

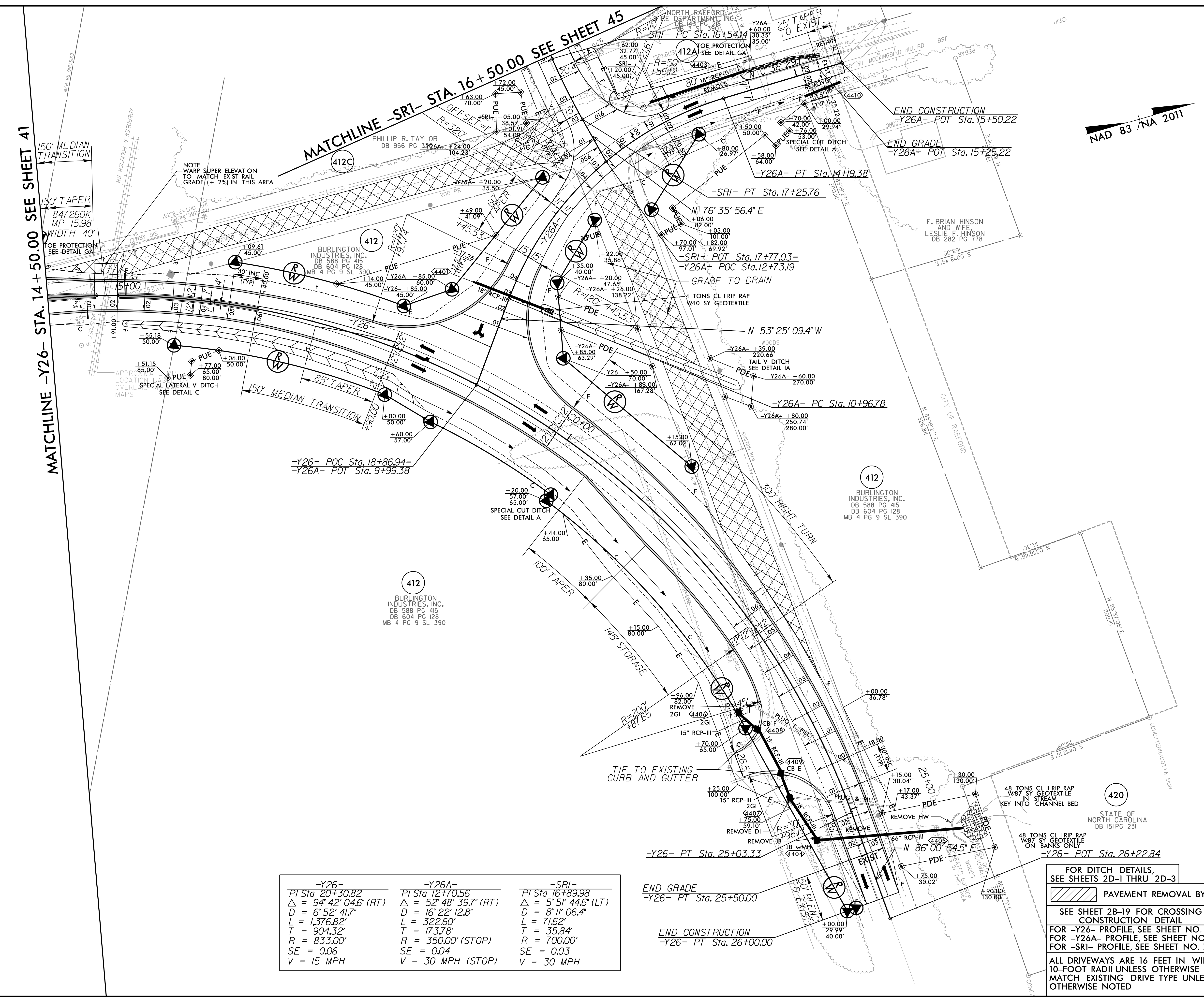
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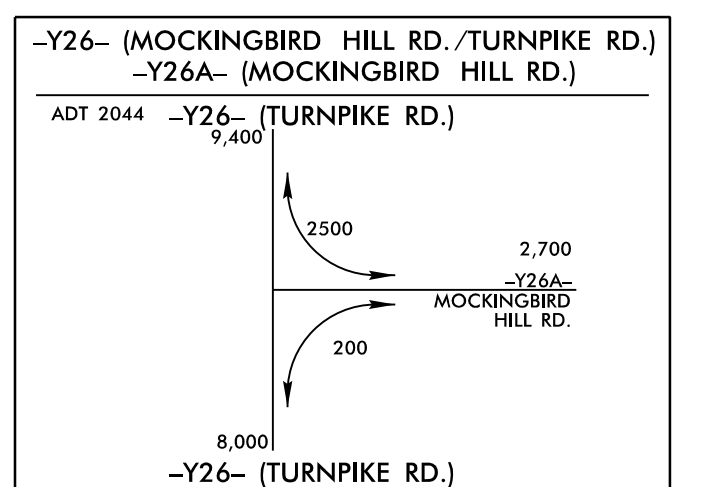


PROJECT REFERENCE NO. R-5709C	SHEET NO. 44
RW SHEET NO. R-5709 71	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

NAD 83 / NA 2011



-Y26-	-Y26A-	-SRI-
PI Sta 20+30.82	PI Sta 12+70.56	PI Sta 16+89.98
Δ = 94° 42' 04.6" (RT)	Δ = 52° 48' 39.7" (RT)	Δ = 5° 51' 44.6" (LT)
D = 6° 52' 41.7"	D = 16° 22' 12.8"	D = 8° 11' 06.4"
L = 1,376.82'	L = 322.60'	L = 71.62'
T = 904.32'	T = 173.78'	T = 35.84'
R = 833.00'	R = 350.00' (STOP)	R = 700.00'
SE = 0.06	SE = 0.04	SE = 0.03
V = 15 MPH	V = 30 MPH (STOP)	V = 30 MPH



FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-3

PAVEMENT REMOVAL BY OTHERS

SEE SHEET 2B-19 FOR CROSSING  
CONSTRUCTION DETAIL

FOR -Y26- PROFILE, SEE SHEET NO. 72  
FOR -Y26A- PROFILE, SEE SHEET NO. 73  
FOR -SRI- PROFILE, SEE SHEET NO. 73

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH  
10-FOOT RADII UNLESS OTHERWISE NOTED  
MATCH EXISTING DRIVE TYPE UNLESS  
OTHERWISE NOTED

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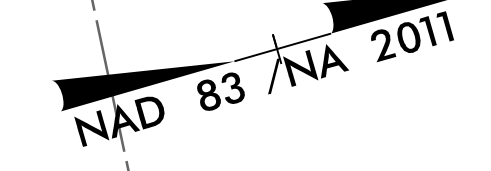
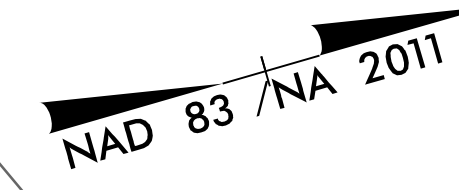
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 8/17/24 10:00 AM



MATCHLINE B SEE INSET A THIS SHEET

# Milepost 15.83 Turnpike Road



PROJECT REFERENCE NO. R-5709C	SHEET NO. 45
RW SHEET NO. R-5709 72	
ROADWAY DESIGN ENGINEER 10/15/2024	HYDRAULICS ENGINEER 10/15/2024

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

MATCHLINE A SEE SHEET 40

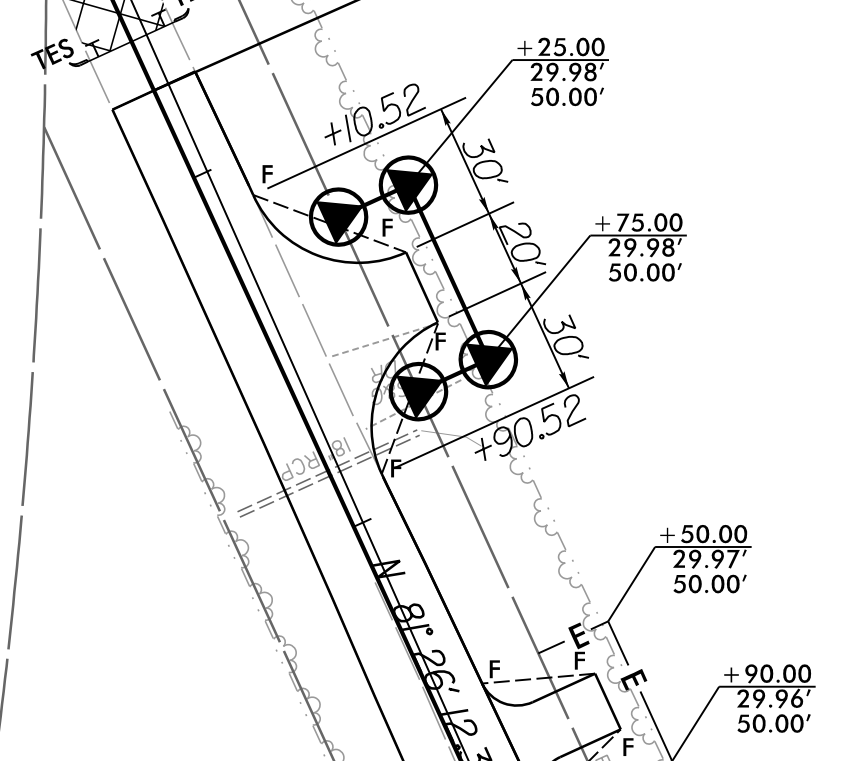
GRADE TO DRAIN

MATCHLINE B THIS SHEET

INSET A

GRADE TO DRAIN  
-SRI- POT Sta. 10+00.00

BEGIN OVERLAY  
-SRI- POC Sta. 10+75.00



333  
WILLIAM F. WRIGHT  
AND WIFE,  
ANNE S. WRIGHT  
DB 950 PG 365

PHILLIP R. TAYLOR  
DB 956 PG 370  
412C

-SRI- PC Sta. 14+93.78

END OVERLAY  
BEGIN GRADE  
-SRI- POC Sta. 15+00.00

412A  
NORTH RAEFORD  
FIRE DEPARTMENT, INC.  
DB 143 PG 218  
MB 3 SL 390

RALPH D. CURRIE  
AND WIFE,  
BETTY H. CURRIE  
MB 3 SL 390  
DB 143 PG 218

FRANKLIN HINSON  
DB 96E PG 28  
DB 99 PG 581  
MB 3 SL 390

-SRI- PT Sta. 15+06.29

-SRI-  
PI Sta. 15+00.04  
 $\Delta = 1' 01'' 28.7'' (RT)$   
 $D = 8' 11'' 06.4''$   
 $L = 12.52'$   
 $T = 6.26'$   
 $R = 700.00'$   
 $SE = 0.03$   
 $V = 30 MPH$

Milepost 15.91

MATCHLINE -SRI- STA. 16+50.00 SEE SHEET 44

PAVEMENT REMOVAL BY OTHERS

SEE SHEET 2B-14  
FOR CLOSURE DETAIL  
FOR DITCH DETAILS,  
SEE SHEETS 2D-1 THRU 2D-6  
FOR -SRI- PROFILE, SEE SHEET NO. 73

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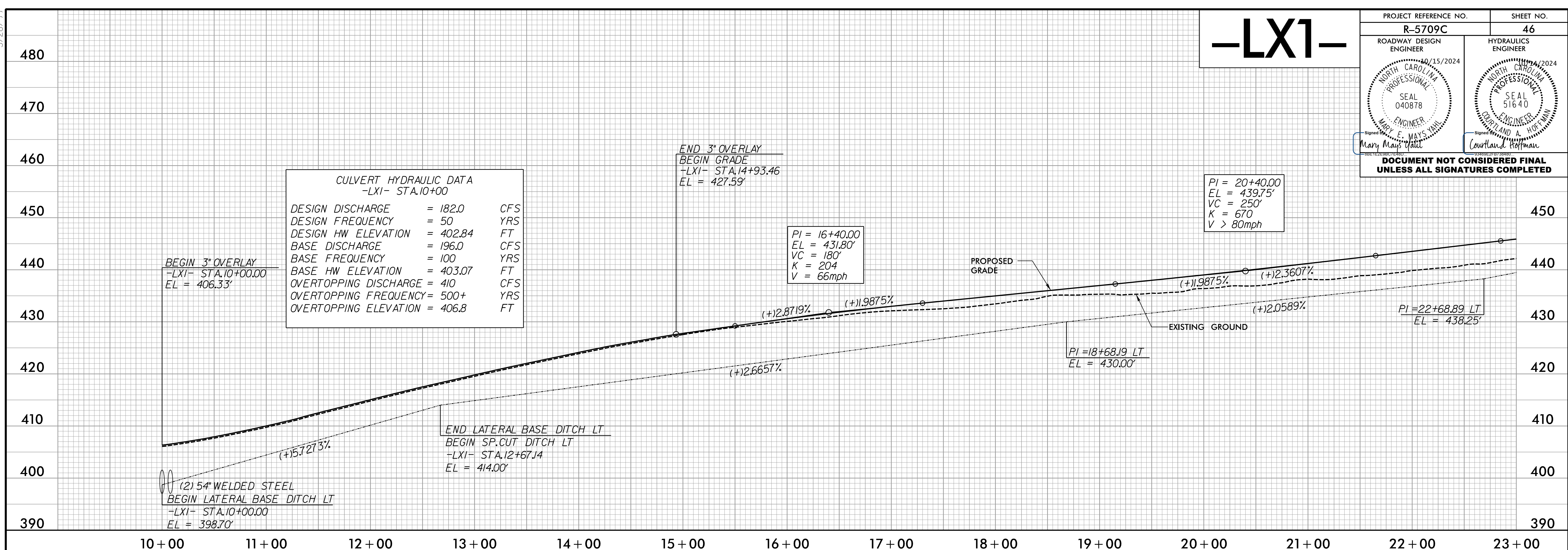
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8/28/2024  
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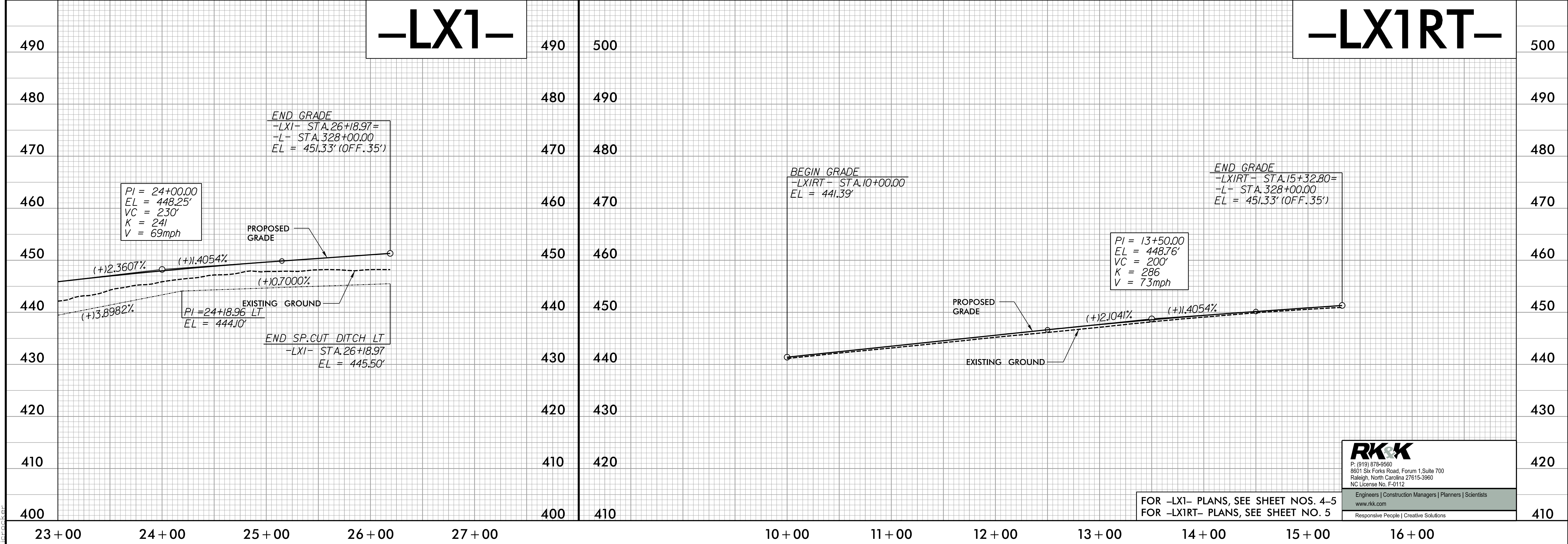
# -LX1-

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>46</b>
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 040878 MAY 15, 2024 Mary May Yall	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 51640 MAY 15, 2024 Crawland Hoffman
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



# -LX1-

# -LX1RT-



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FOR -LX1- PLANS, SEE SHEET NOS. 4-5  
FOR -LX1RT- PLANS, SEE SHEET NO. 5

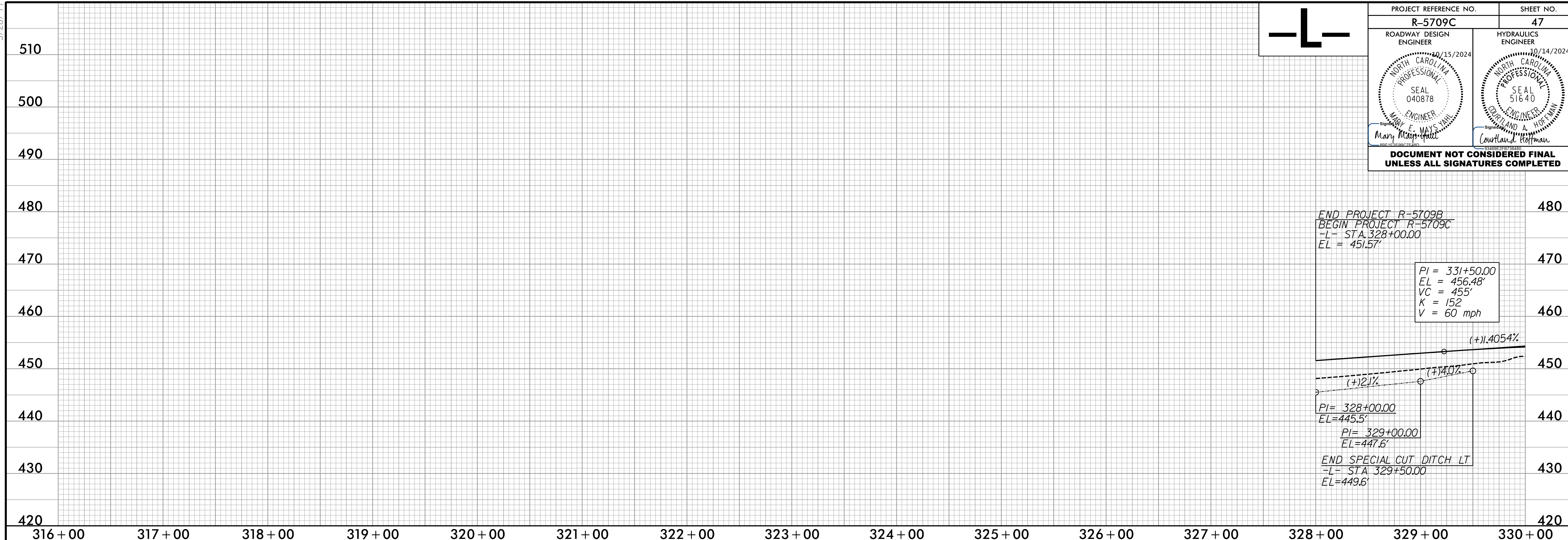
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5/28/24



PROJECT REFERENCE NO. <b>R-5709C</b>		SHEET NO. <b>47</b>
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		



END PROJECT R-5709B  
 BEGIN PROJECT R-5709C  
 -L- STA 328+00.00  
 EL = 451.57'

PI = 331+50.00  
 EL = 456.48'  
 VC = 455'  
 K = 152  
 V = 60 mph

PI = 328+00.00  
 EL = 445.5'

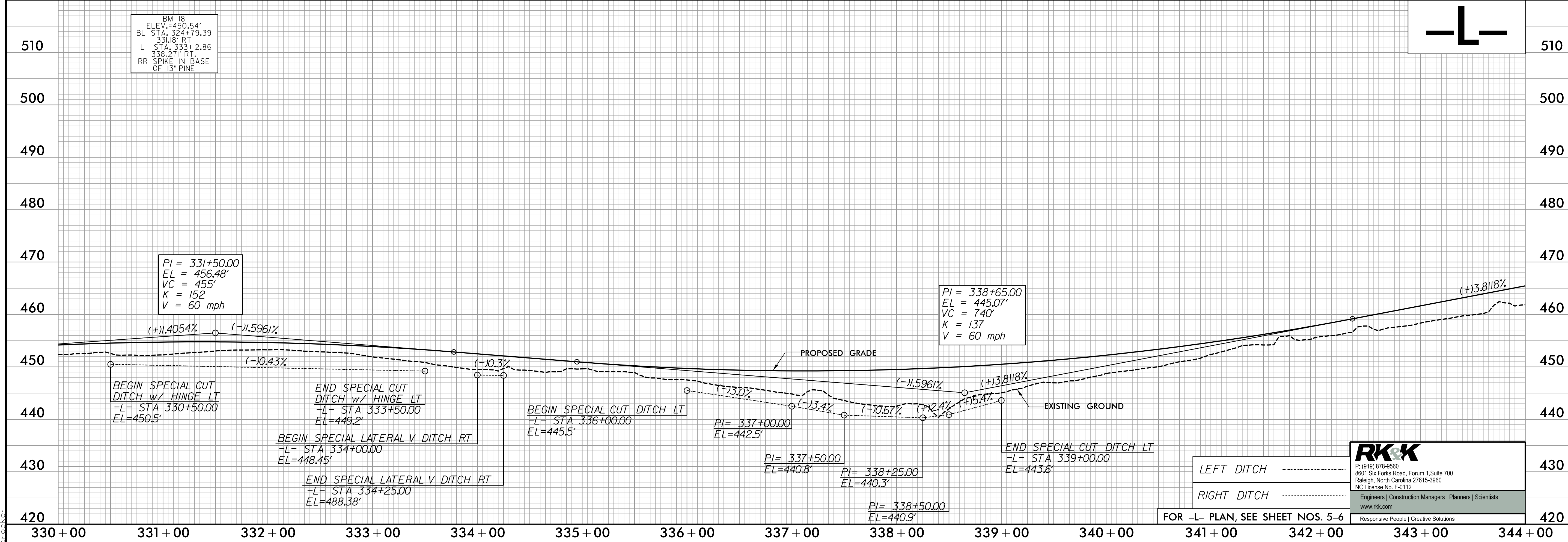
PI = 329+00.00  
 EL = 447.6'

END SPECIAL CUT DITCH LT  
 -L- STA 329+50.00  
 EL = 449.6'

BM 18  
 ELEV. = 450.54'  
 BL STA. 324+79.39  
 331.18' RT  
 -L- STA. 333+12.86  
 338.21' RT  
 RR SPIKE IN BASE  
 OF 13' PINE

PI = 331+50.00  
 EL = 456.48'  
 VC = 455'  
 K = 152  
 V = 60 mph

PI = 338+65.00  
 EL = 445.07'  
 VC = 740'  
 K = 137  
 V = 60 mph



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LEFT DITCH .....  
 RIGHT DITCH .....

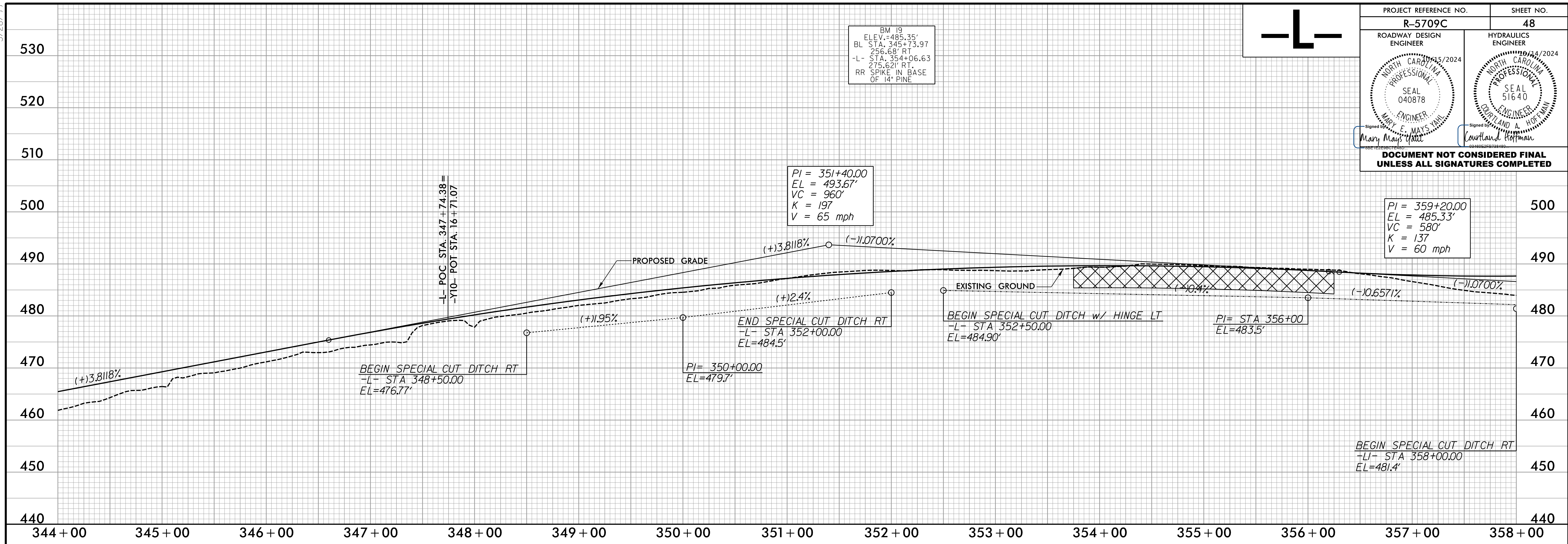
FOR -L- PLAN, SEE SHEET NOS. 5-6

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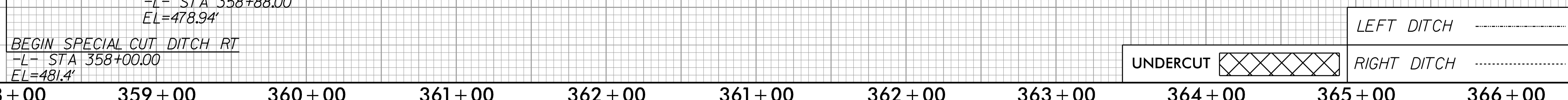
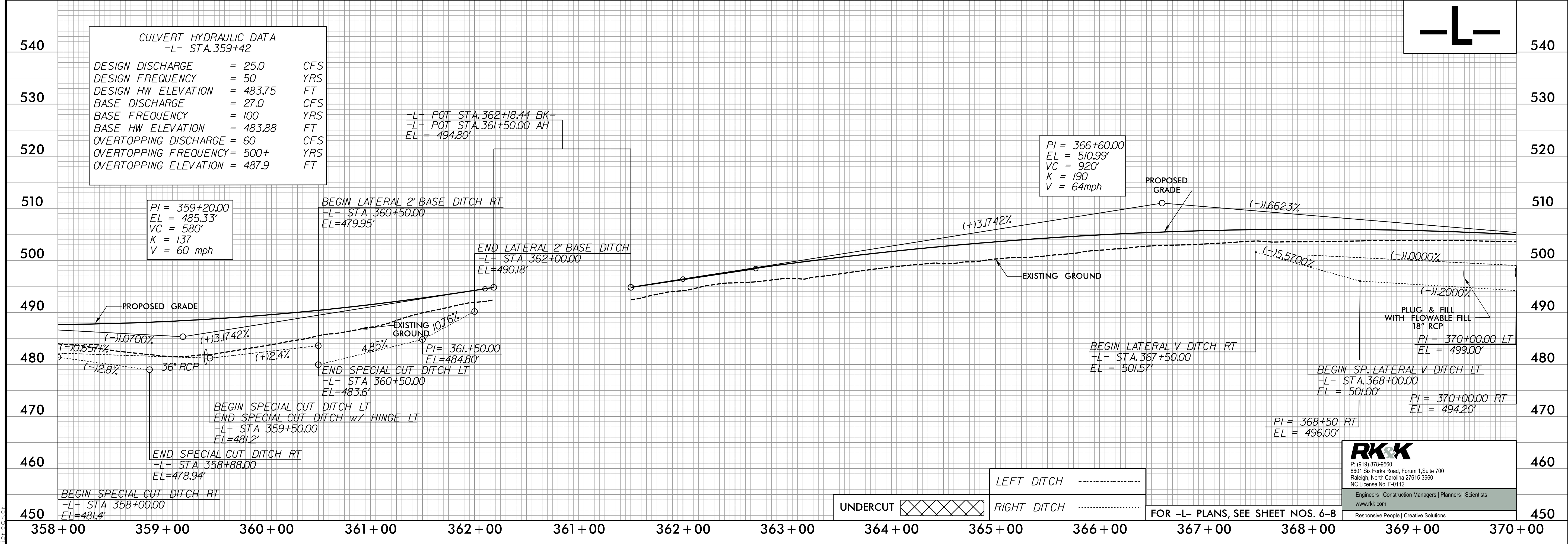


5/28/24

PROJECT REFERENCE NO. <b>R-5709C</b>		SHEET NO. <b>48</b>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			



CULVERT HYDRAULIC DATA -L- STA. 359+42		
DESIGN DISCHARGE	= 25.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 483.75	FT
BASE DISCHARGE	= 27.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 483.88	FT
OVERTOPPING DISCHARGE	= 60	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 487.9	FT



FOR -L- PLANS, SEE SHEET NOS. 6-8

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5/28/2024

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>49</b>
ROADWAY DESIGN ENGINEER <i>Mary E. Mays</i>	HYDRAULICS ENGINEER <i>Courtland A. Hoffman</i>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**PIPE HYDRAULIC DATA**  
48" RCP PIPE -L- STA.377+88

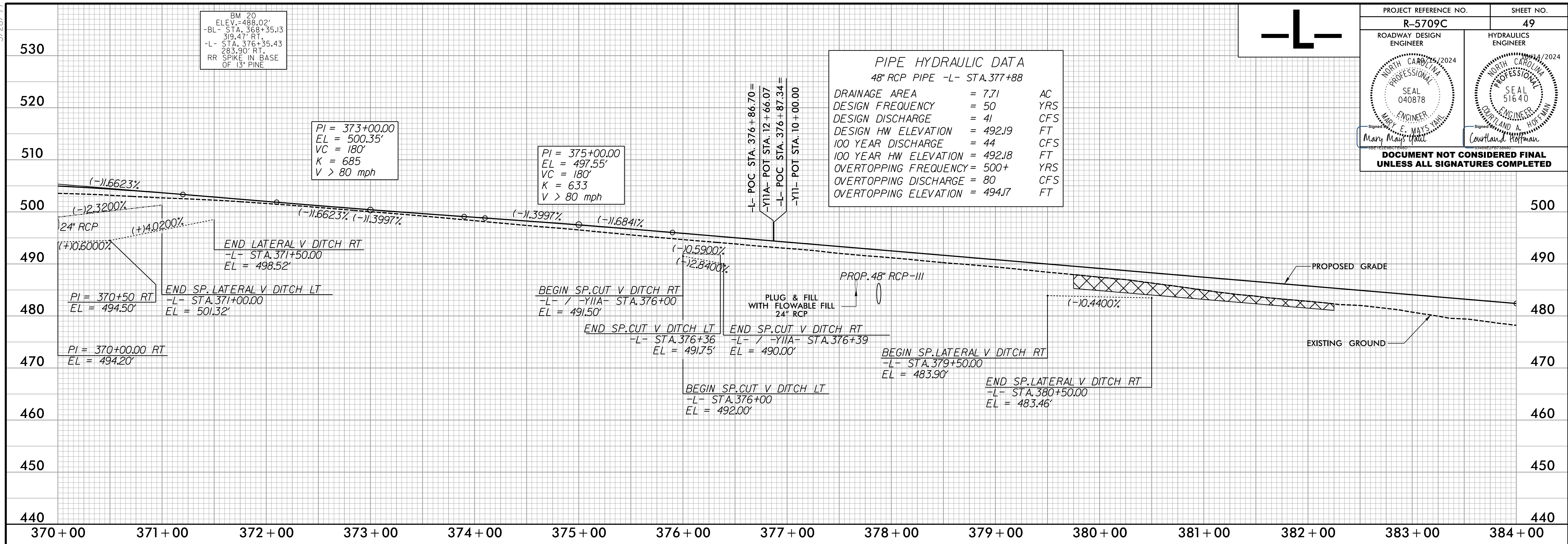
DRAINAGE AREA	= 7.71	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 41	CFS
DESIGN HW ELEVATION	= 492.19	FT
100 YEAR DISCHARGE	= 44	CFS
100 YEAR HW ELEVATION	= 492.18	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 80	CFS
OVERTOPPING ELEVATION	= 494.17	FT

BM 20  
ELEV. = 488.02'  
-BL- STA. 368+35.13  
319.47' RT.  
-L- STA. 376+35.43  
283.90' RT.  
RR SPIKE IN BASE  
OF 13" PINE

PI = 373+00.00  
EL = 500.35'  
VC = 180'  
K = 685  
V > 80 mph

PI = 375+00.00  
EL = 497.55'  
VC = 180'  
K = 633  
V > 80 mph

-L- POC STA. 376+86.70 =  
-Y11A- POT STA. 12+66.07  
-L- POC STA. 376+87.34 =  
-Y11- POT STA. 10+00.00



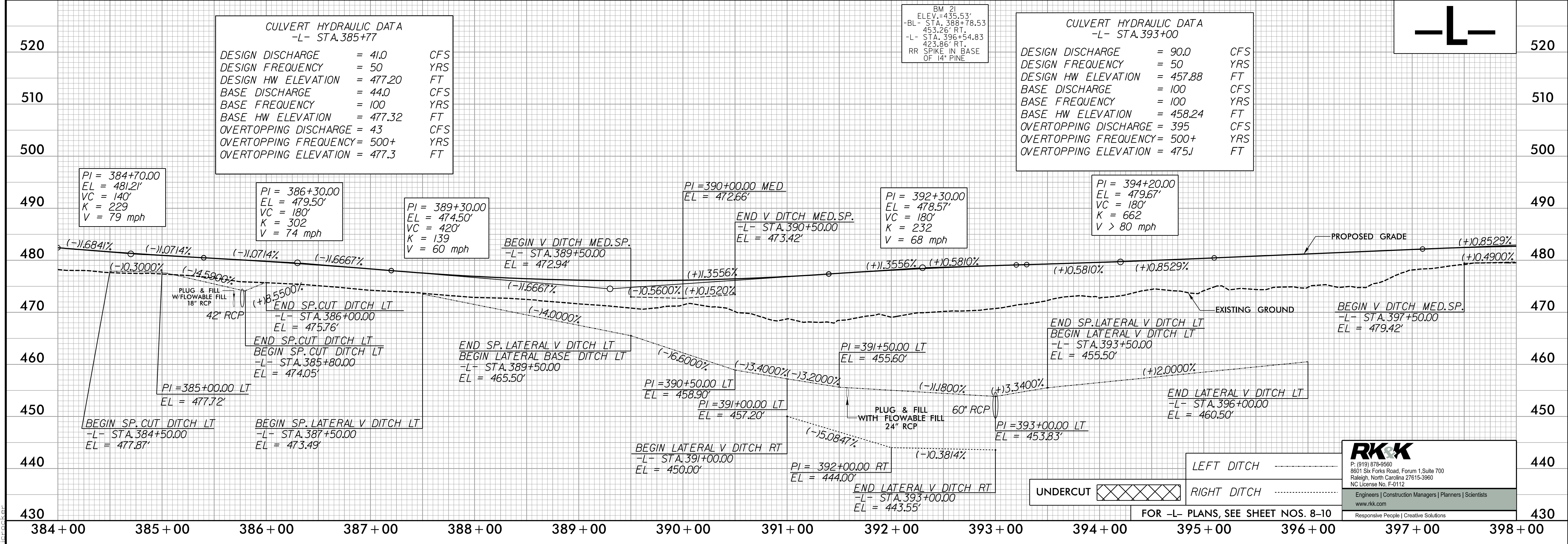
**CULVERT HYDRAULIC DATA**  
-L- STA. 385+77

DESIGN DISCHARGE	= 41.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 477.20	FT
BASE DISCHARGE	= 44.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 477.32	FT
OVERTOPPING DISCHARGE	= 43	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 477.3	FT

BM 21  
ELEV. = 435.53'  
-BL- STA. 388+78.53  
453.26' RT.  
-L- STA. 396+54.83  
423.86' RT.  
RR SPIKE IN BASE  
OF 14" PINE

**CULVERT HYDRAULIC DATA**  
-L- STA. 393+00

DESIGN DISCHARGE	= 90.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 457.88	FT
BASE DISCHARGE	= 100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 458.24	FT
OVERTOPPING DISCHARGE	= 395	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 475.1	FT



PI = 384+70.00  
EL = 481.21'  
VC = 140'  
K = 229  
V = 79 mph

PI = 386+30.00  
EL = 479.50'  
VC = 180'  
K = 302  
V = 74 mph

PI = 389+30.00  
EL = 474.50'  
VC = 420'  
K = 139  
V = 60 mph

PI = 390+00.00 MED  
EL = 472.66'

PI = 392+30.00  
EL = 478.57'  
VC = 180'  
K = 232  
V = 68 mph

PI = 394+20.00  
EL = 479.67'  
VC = 180'  
K = 662  
V > 80 mph

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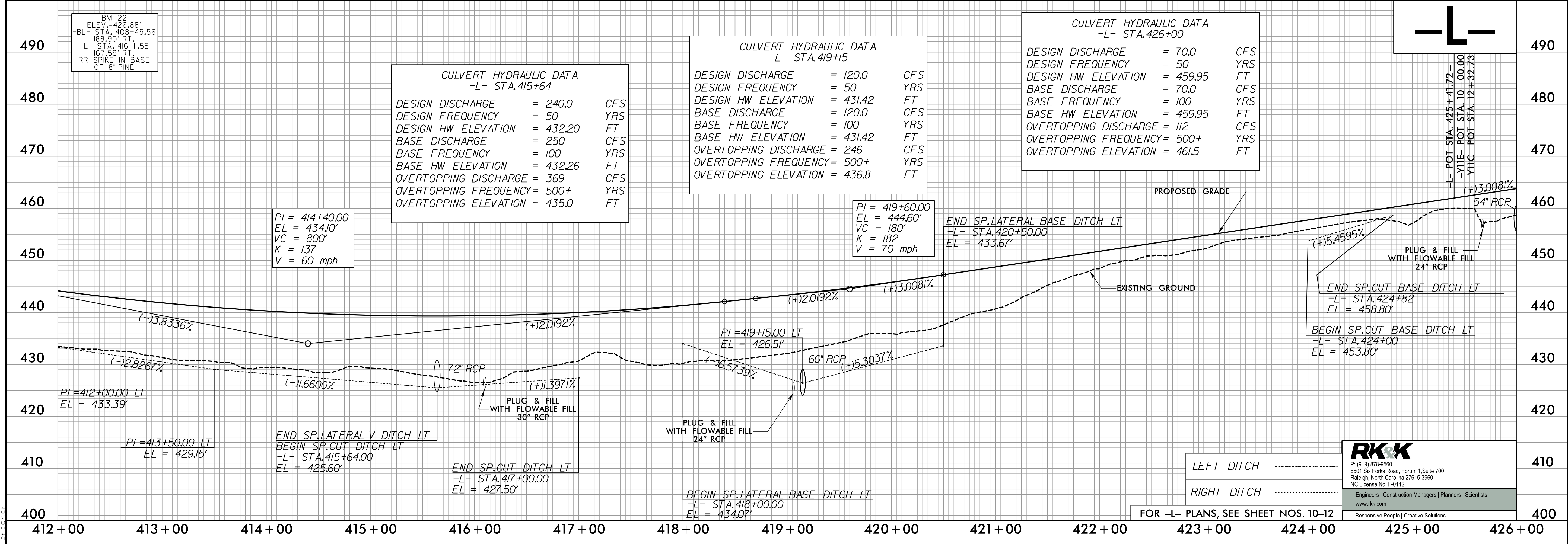
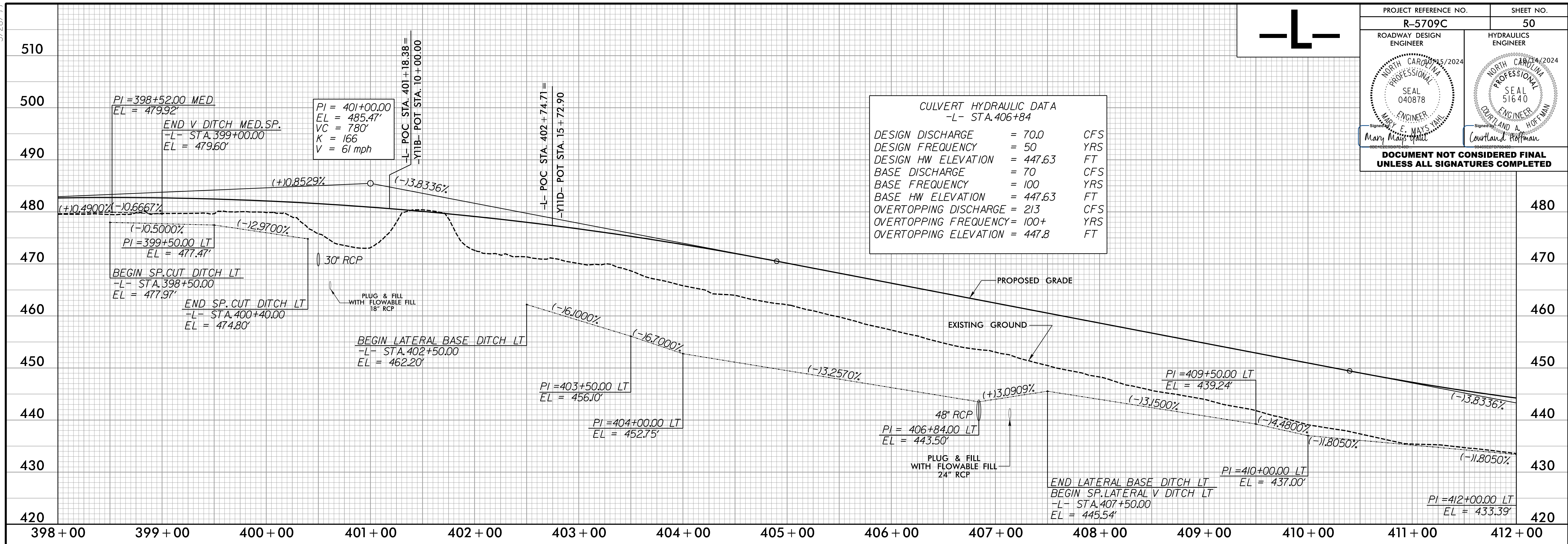
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PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>50</b>
ROADWAY DESIGN ENGINEER <i>Mary E. Mays</i> NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040878	HYDRAULICS ENGINEER <i>Lawland A. Hoffman</i> NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 51640
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FOR -L- PLANS, SEE SHEET NOS. 10-12

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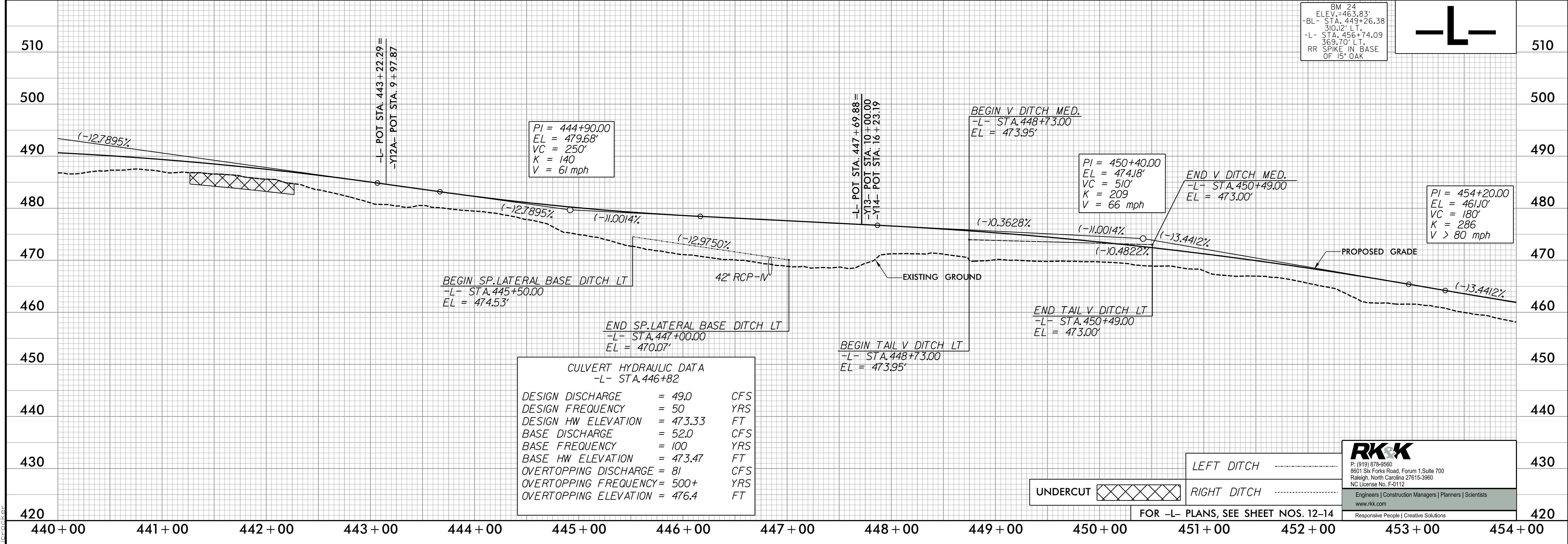
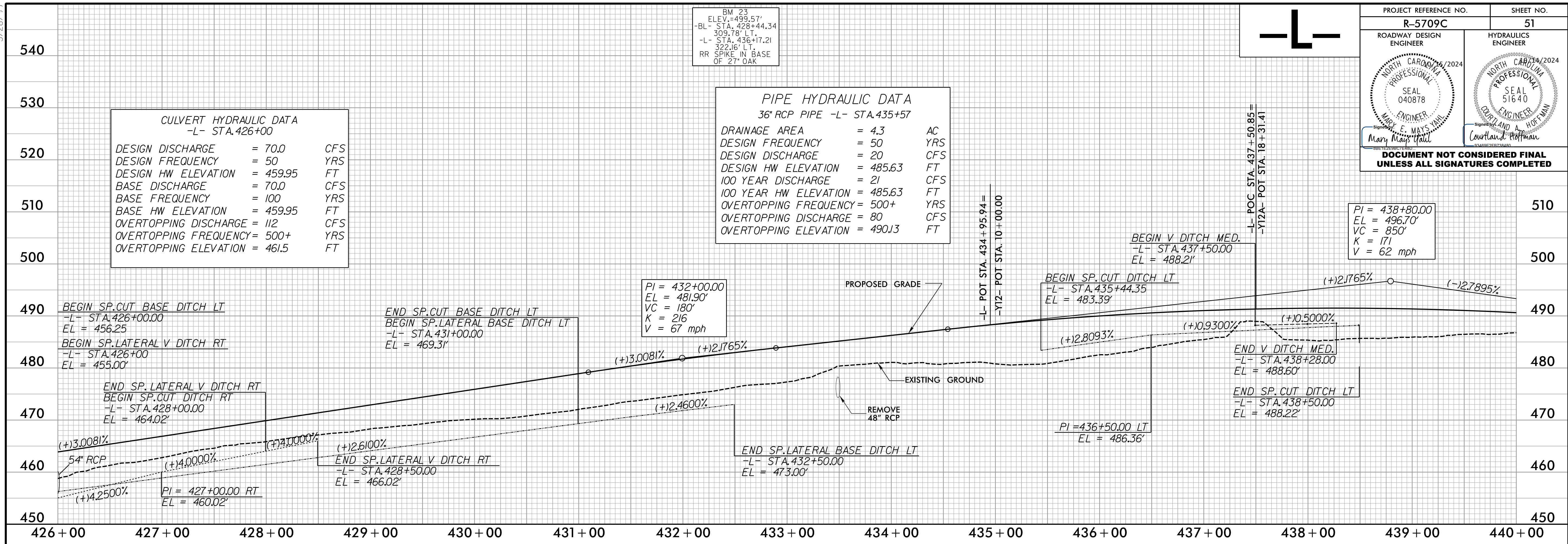
PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>51</b>
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**CULVERT HYDRAULIC DATA**  
-L- STA. 426+00

DESIGN DISCHARGE	= 70.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 459.95	FT
BASE DISCHARGE	= 70.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 459.95	FT
OVERTOPPING DISCHARGE	= 112	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 461.5	FT

**PIPE HYDRAULIC DATA**  
36" RCP PIPE -L- STA. 435+57

DRAINAGE AREA	= 4.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 20	CFS
DESIGN HW ELEVATION	= 485.63	FT
100 YEAR DISCHARGE	= 21	CFS
100 YEAR HW ELEVATION	= 485.63	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 80	CFS
OVERTOPPING ELEVATION	= 490.13	FT



**CULVERT HYDRAULIC DATA**  
-L- STA. 446+82

DESIGN DISCHARGE	= 49.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 473.33	FT
BASE DISCHARGE	= 52.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 473.47	FT
OVERTOPPING DISCHARGE	= 81	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 476.4	FT

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FOR -L- PLANS, SEE SHEET NOS. 12-14

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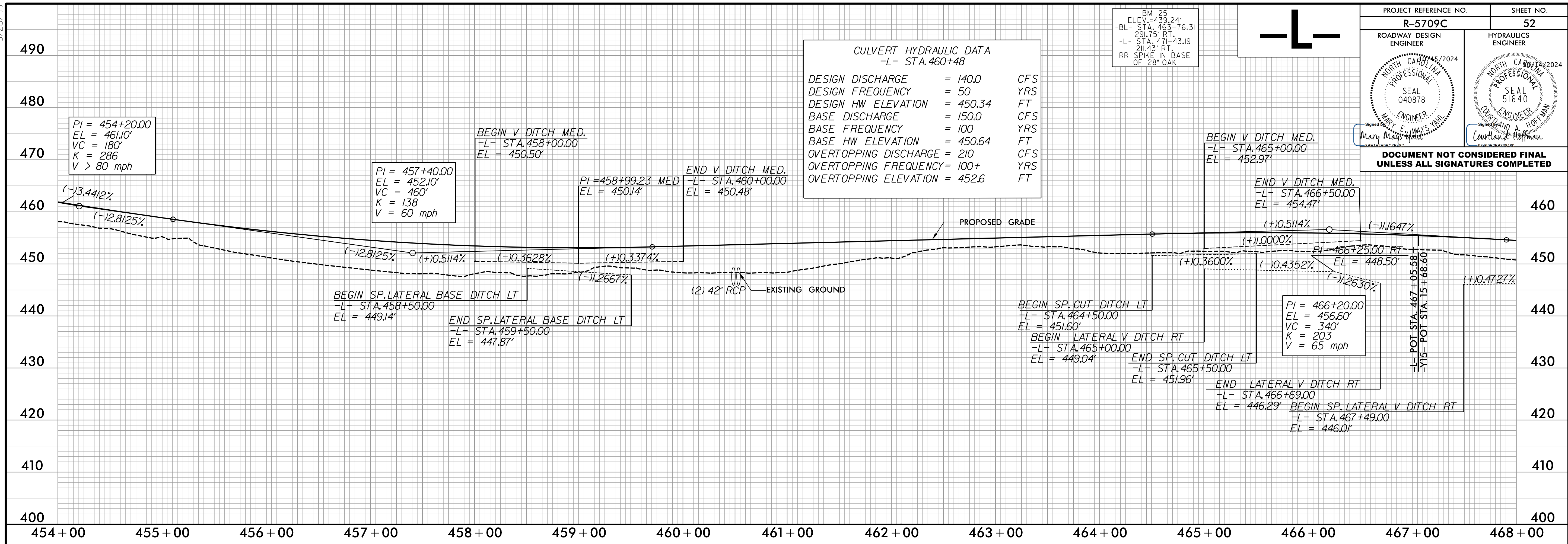
5/28/24

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>52</b>
ROADWAY DESIGN ENGINEER <b>MARY E. MAYES</b>	HYDRAULICS ENGINEER <b>COURTLAND A. HOFFMAN</b>
PROFESSIONAL SEAL 040878 MAY 15, 2024	PROFESSIONAL SEAL 51640 MAY 15, 2024

**CULVERT HYDRAULIC DATA**  
-L- STA. 460+48

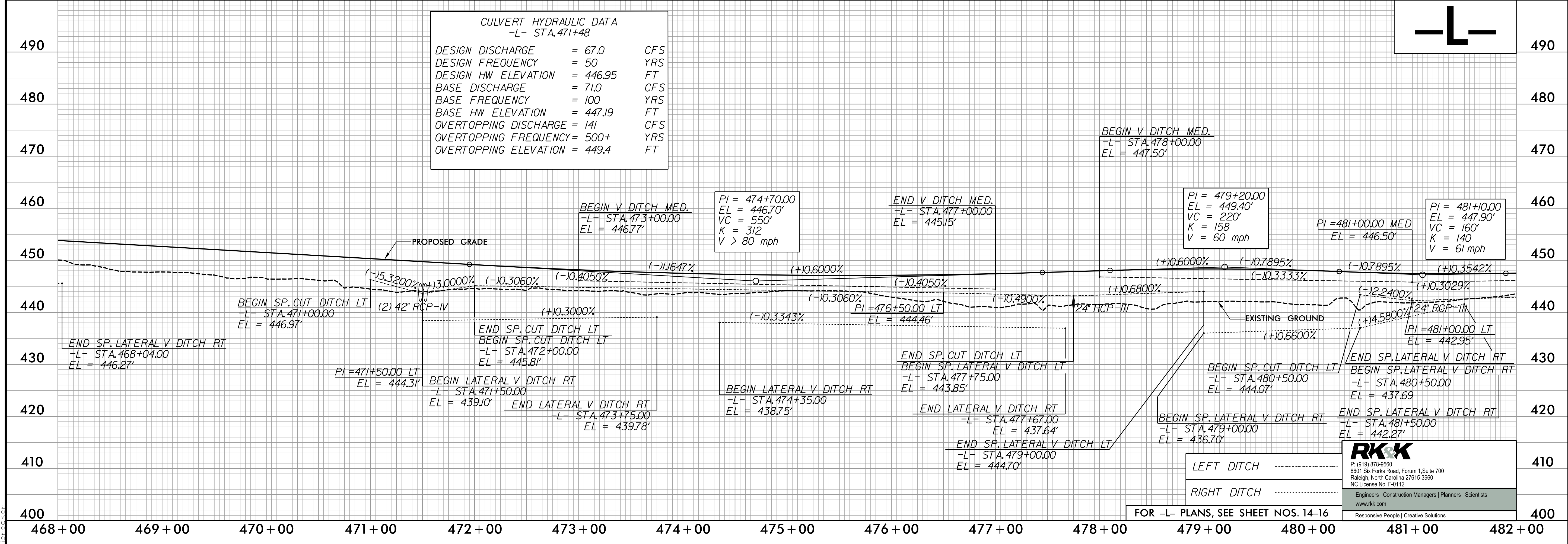
DESIGN DISCHARGE = 140.0 CFS  
DESIGN FREQUENCY = 50 YRS  
DESIGN HW ELEVATION = 450.34 FT  
BASE DISCHARGE = 150.0 CFS  
BASE FREQUENCY = 100 YRS  
BASE HW ELEVATION = 450.64 FT  
OVERTOPPING DISCHARGE = 210 CFS  
OVERTOPPING FREQUENCY = 100+ YRS  
OVERTOPPING ELEVATION = 452.6 FT

BM 25  
ELEV. = 439.24'  
-BL- STA. 463+76.31  
291.75' RT.  
-L- STA. 471+43.19  
211.43' RT.  
RR SPIKE IN BASE  
OF 28" OAK



**CULVERT HYDRAULIC DATA**  
-L- STA. 471+48

DESIGN DISCHARGE = 67.0 CFS  
DESIGN FREQUENCY = 50 YRS  
DESIGN HW ELEVATION = 446.95 FT  
BASE DISCHARGE = 71.0 CFS  
BASE FREQUENCY = 100 YRS  
BASE HW ELEVATION = 447.19 FT  
OVERTOPPING DISCHARGE = 141 CFS  
OVERTOPPING FREQUENCY = 500+ YRS  
OVERTOPPING ELEVATION = 449.4 FT



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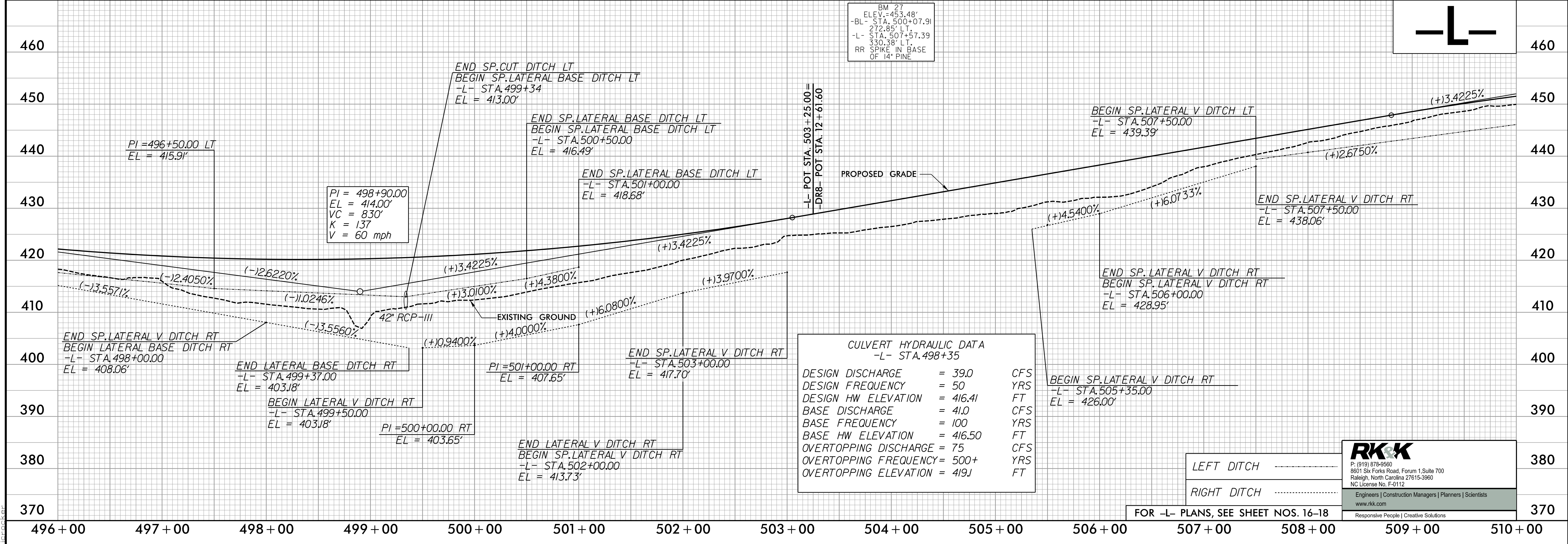
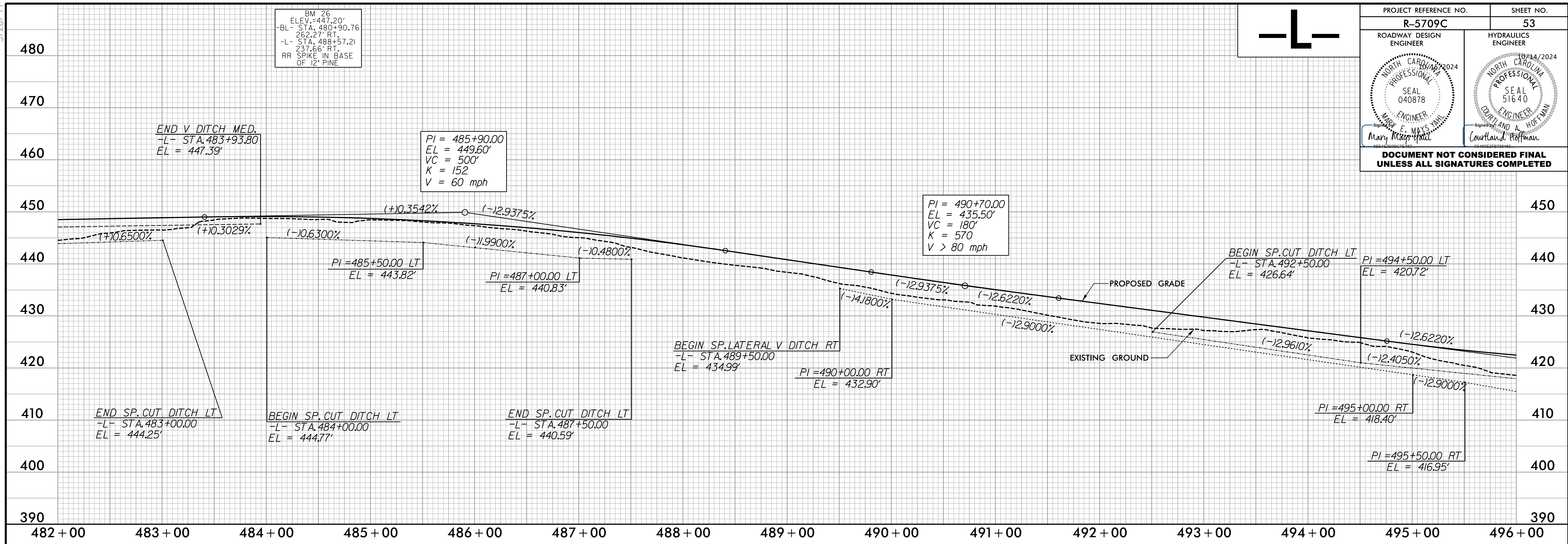
FOR -L- PLANS, SEE SHEET NOS. 14-16

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5/28/24

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>53</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



CULVERT HYDRAULIC DATA		
-L- STA. 498+35		
DESIGN DISCHARGE	= 39.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 416.41	FT
BASE DISCHARGE	= 41.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 416.50	FT
OVERTOPPING DISCHARGE	= 75	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 419J	FT

LEFT DITCH .....  
RIGHT DITCH .....

FOR -L- PLANS, SEE SHEET NOS. 16-18

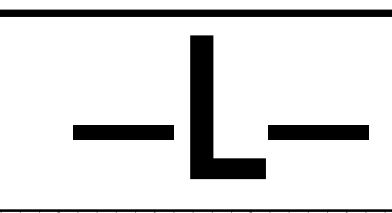
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BM 28  
ELEV. = 446.13'  
-BL- STA. 517+25.00  
289.60' LT.  
-L- STA. 524+82.34  
351.07' LT.  
RR SPIKE IN BASE  
OF 12" PINE

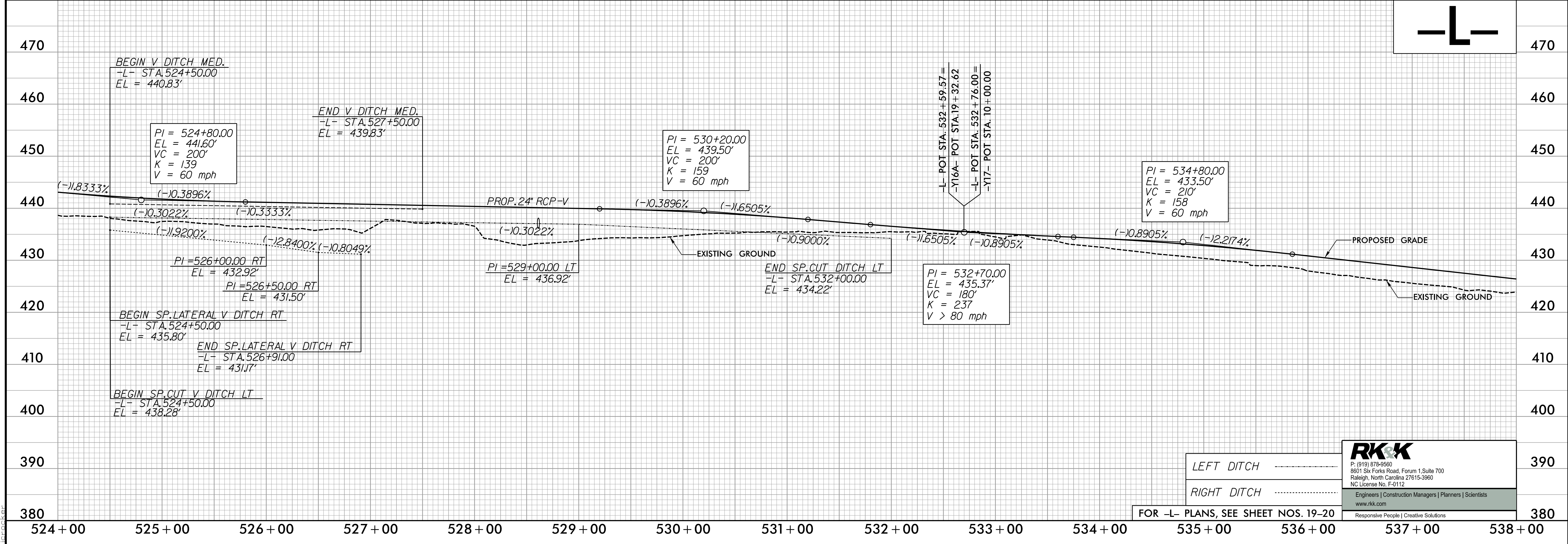
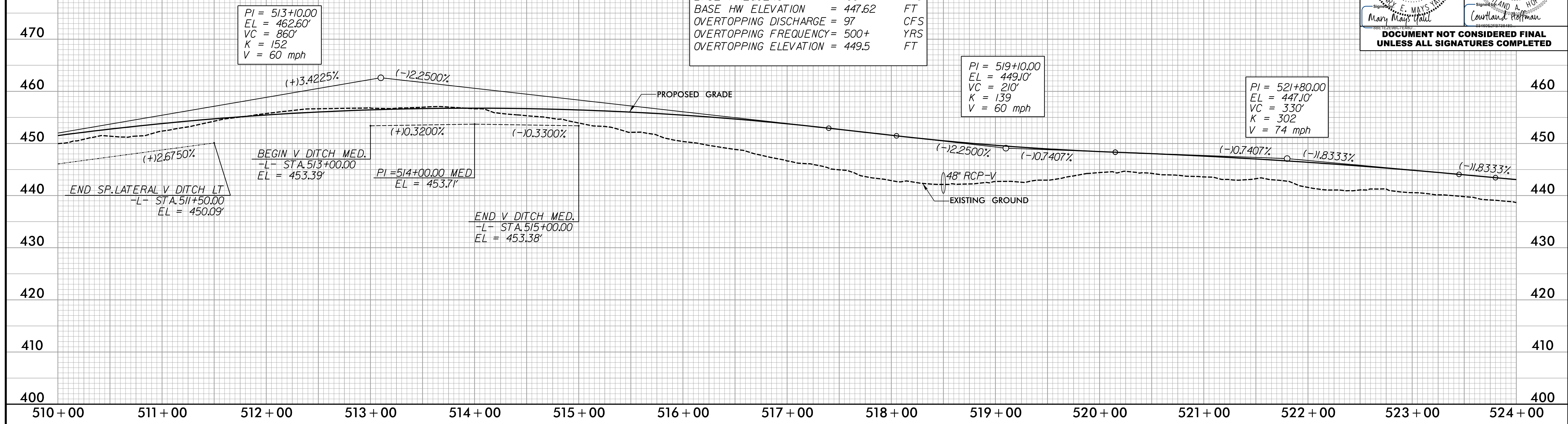


PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>54</b>
ROADWAY DESIGN ENGINEER <i>Mary May Hall</i>	HYDRAULICS ENGINEER <i>Courtland Hoffman</i>
PROFESSIONAL SEAL 040878 MAY 15 2024	PROFESSIONAL SEAL 51640 MAY 15 2024

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

**CULVERT HYDRAULIC DATA**  
-L- STA. 518+50

DESIGN DISCHARGE	= 56.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 447.48	FT
BASE DISCHARGE	= 60.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 447.62	FT
OVERTOPPING DISCHARGE	= 97	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 449.5	FT



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LEFT DITCH .....  
RIGHT DITCH .....

FOR -L- PLANS, SEE SHEET NOS. 19-20



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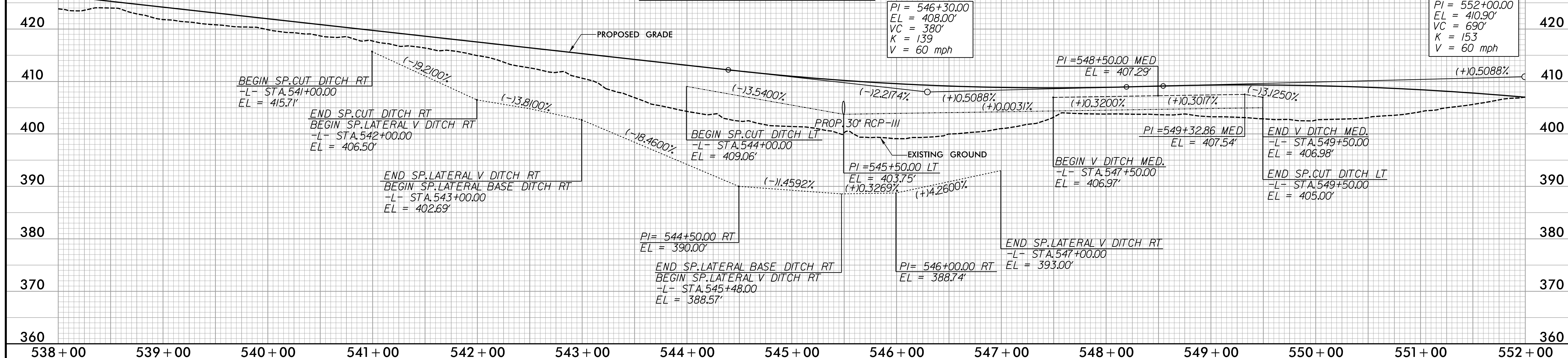
PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>55</b>
ROADWAY DESIGN ENGINEER Mary Mary Hall	HYDRAULICS ENGINEER Cleveland A. Hoffman
Professional Seal Mary Mary Hall 040878	Professional Seal Cleveland A. Hoffman 51640

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UNLESS ALL SIGNATURES COMPLETED**

BM 29  
ELEV. = 374.23'  
BL STA. 538+50.03  
423.0' RT.  
-L- STA. 546+06.71  
396.99' RT.  
RR SPIKE IN BASE  
OF 15' PINE

**PIPE HYDRAULIC DATA**  
30" RCP PIPE -L- STA. 545+50

DRAINAGE AREA	= 2.0	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 9.0	CFS
DESIGN HW ELEVATION	= 405.31	FT
100 YEAR DISCHARGE	= 10.0	CFS
100 YEAR HW ELEVATION	= 405.39	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 24	CFS
OVERTOPPING ELEVATION	= 407.80	FT

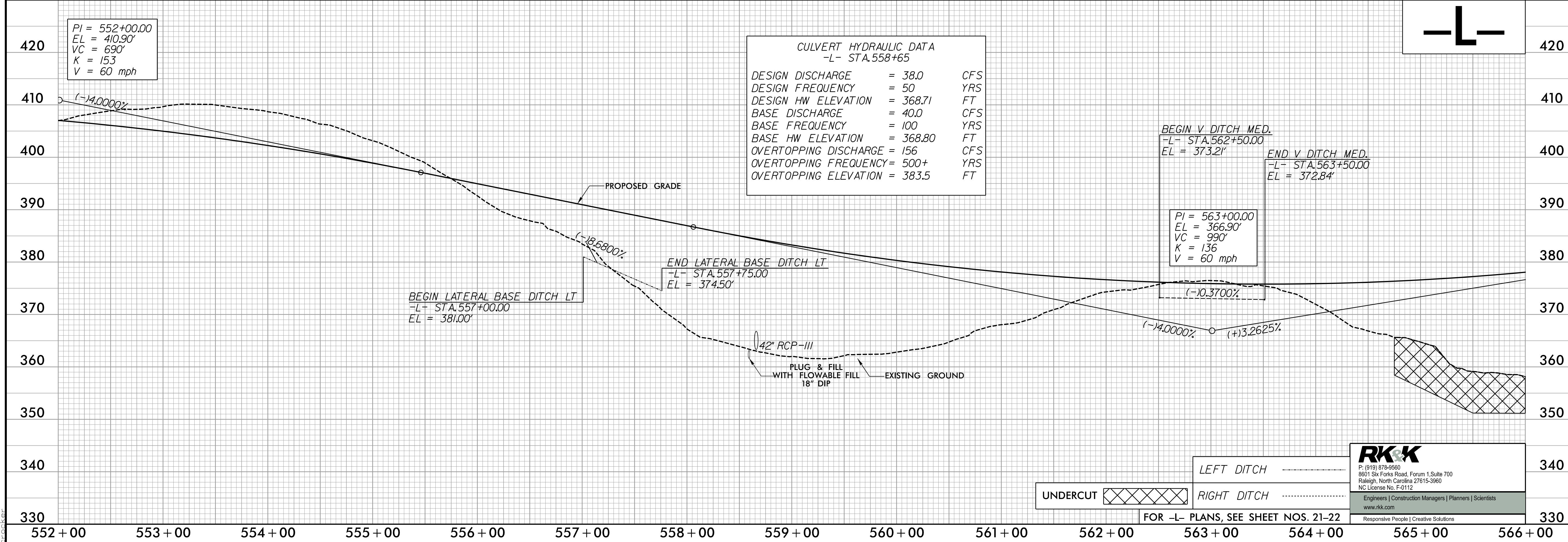


PI = 546+30.00  
EL = 408.00'  
VC = 380'  
K = 139  
V = 60 mph

PI = 552+00.00  
EL = 410.90'  
VC = 690'  
K = 153  
V = 60 mph

**CULVERT HYDRAULIC DATA**  
-L- STA. 558+65

DESIGN DISCHARGE	= 38.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 368.71	FT
BASE DISCHARGE	= 40.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 368.80	FT
OVERTOPPING DISCHARGE	= 156	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 383.5	FT



PI = 552+00.00  
EL = 410.90'  
VC = 690'  
K = 153  
V = 60 mph

PI = 563+00.00  
EL = 366.90'  
VC = 990'  
K = 136  
V = 60 mph

UNDERCUT

LEFT DITCH   
RIGHT DITCH

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FOR -L- PLANS, SEE SHEET NOS. 21-22

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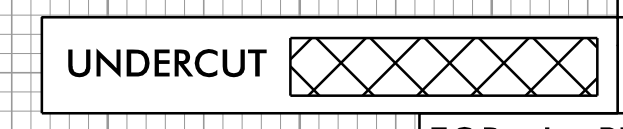
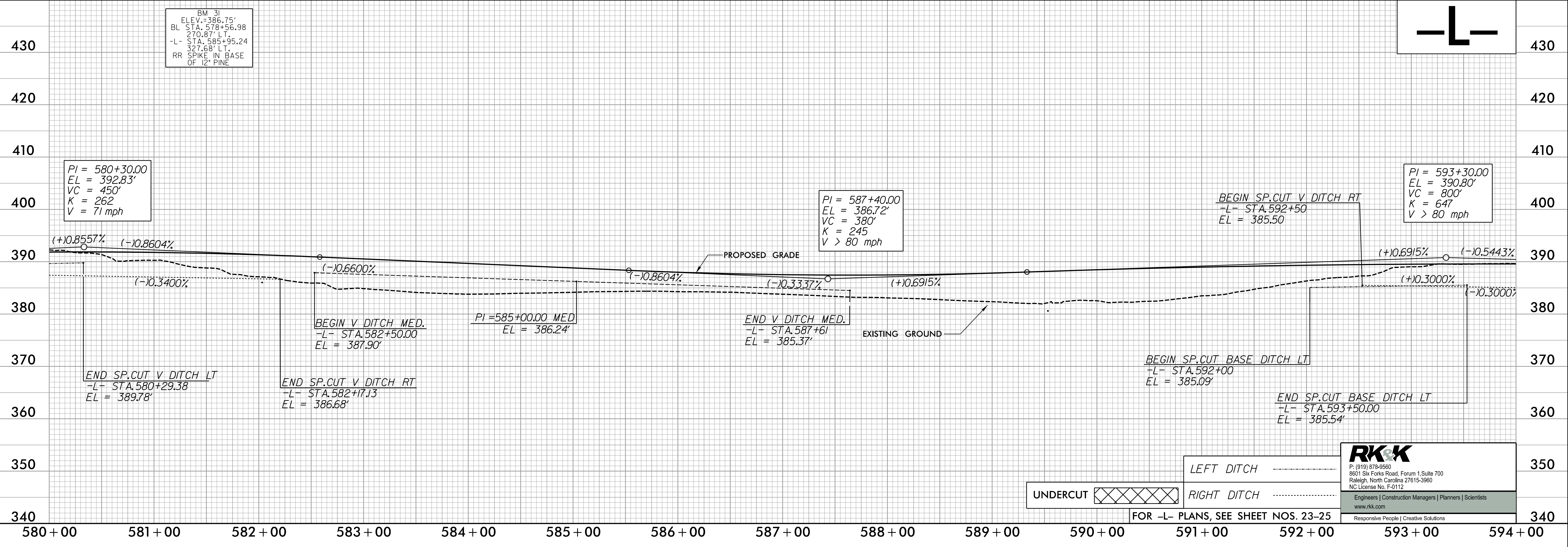
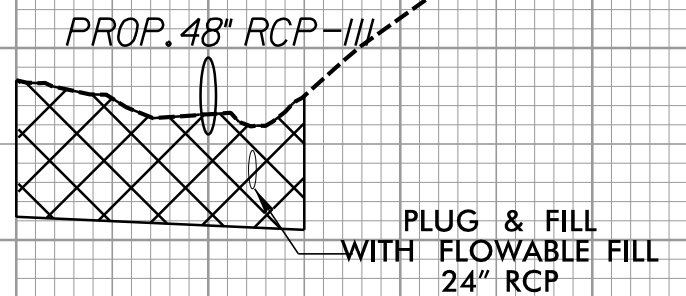
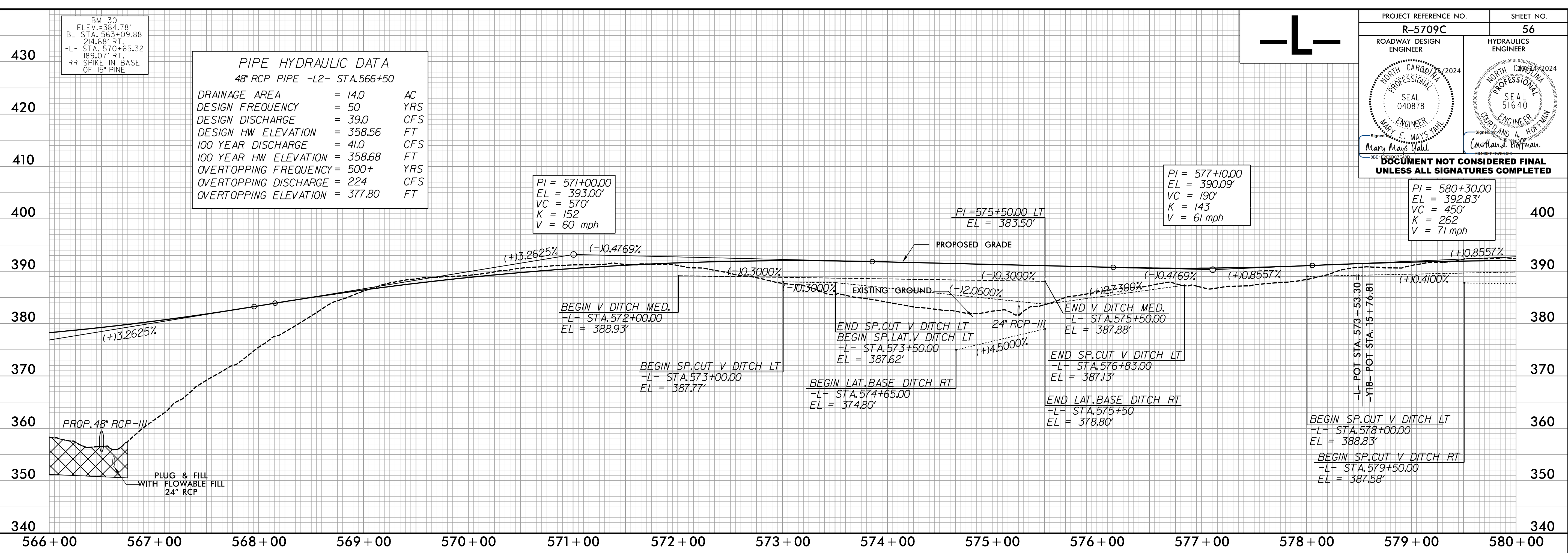


5/28/24

BM 30  
ELEV. = 384.78'  
BL STA. 563+09.88  
214.68' RT.  
-L- STA. 570+65.32  
189.07' RT.  
RR SPIKE IN BASE  
OF 15" PINE

**PIPE HYDRAULIC DATA**  
48" RCP PIPE -L2- STA.566+50  
DRAINAGE AREA = 14.0 AC  
DESIGN FREQUENCY = 50 YRS  
DESIGN DISCHARGE = 39.0 CFS  
DESIGN HW ELEVATION = 358.56 FT  
100 YEAR DISCHARGE = 41.0 CFS  
100 YEAR HW ELEVATION = 358.68 FT  
OVERTOPPING FREQUENCY = 500+ YRS  
OVERTOPPING DISCHARGE = 224 CFS  
OVERTOPPING ELEVATION = 377.80 FT

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>56</b>
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
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LEFT DITCH

RIGHT DITCH

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FOR -L- PLANS, SEE SHEET NOS. 23-25

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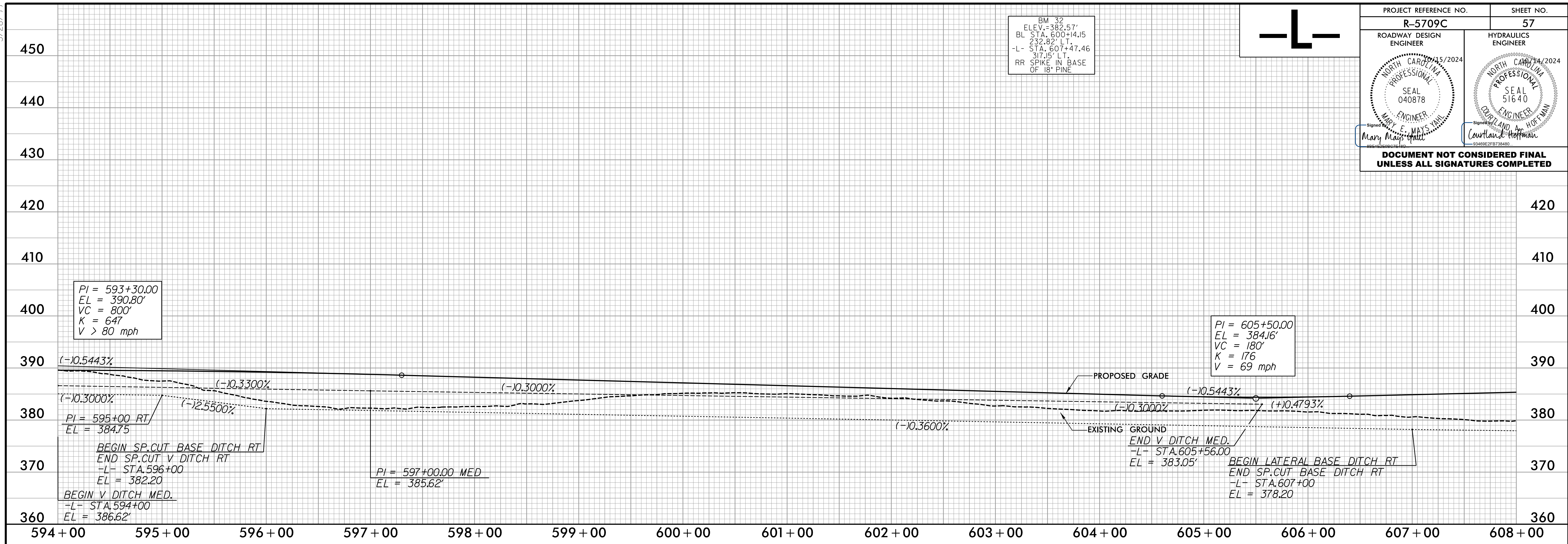
5/28/24

BM 32  
ELEV. = 382.57'  
BL STA. 600+4.15  
232.82' LT  
-L- STA. 607+47.46  
317.15' LT  
RR SPIKE IN BASE  
OF 18" PINE



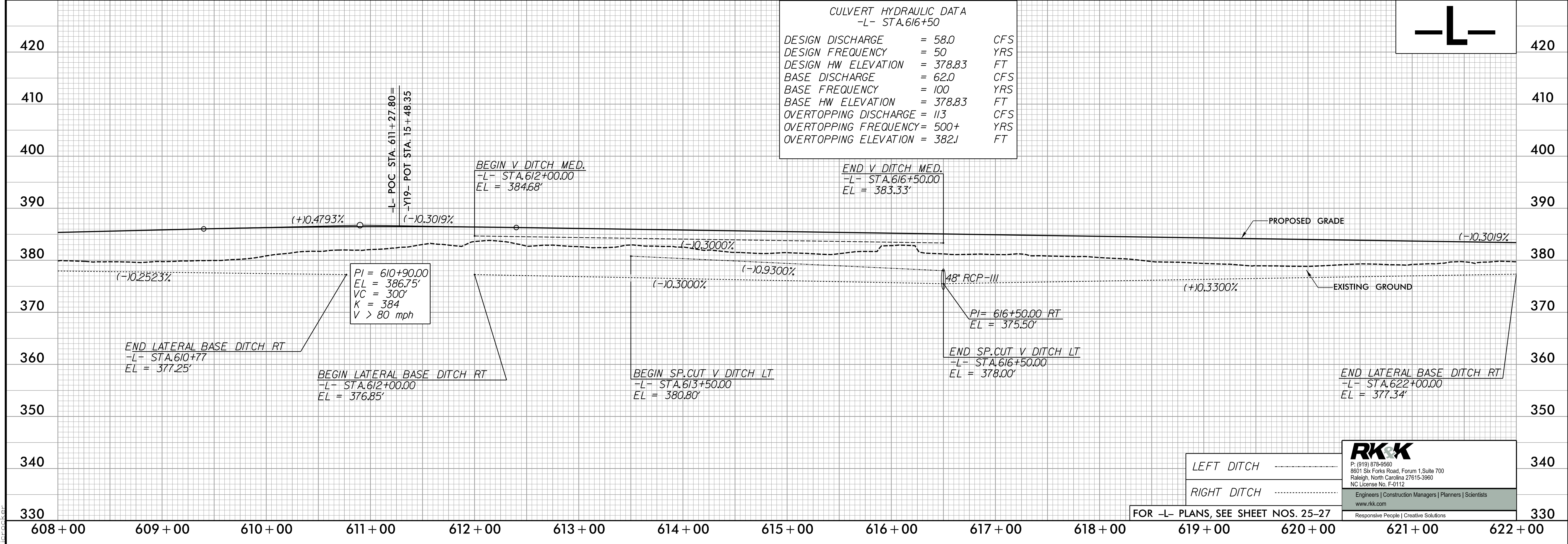
PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>57</b>
ROADWAY DESIGN ENGINEER <i>MARY E. MAYS</i> SEAL 040878 NORTH CAROLINA PROFESSIONAL ENGINEER 05/2024	HYDRAULICS ENGINEER <i>COURTLAND HOFFMAN</i> SEAL 51640 NORTH CAROLINA PROFESSIONAL ENGINEER 05/2024

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**CULVERT HYDRAULIC DATA**  
-L- STA. 616+50

DESIGN DISCHARGE	= 58.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 378.83	FT
BASE DISCHARGE	= 62.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 378.83	FT
OVERTOPPING DISCHARGE	= 113	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 382J	FT



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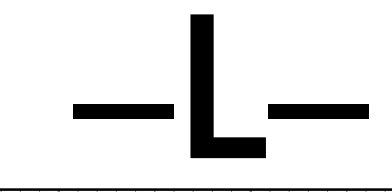
FOR -L- PLANS, SEE SHEET NOS. 25-27

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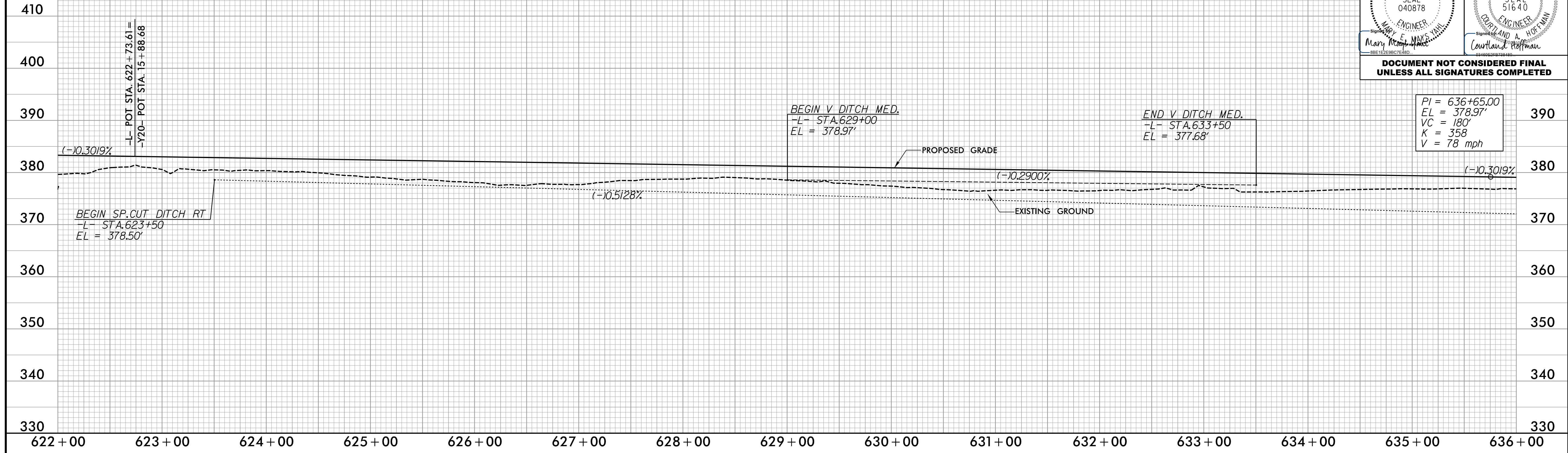


5/28/24

BM 33  
ELEV. = 377.98'  
BL STA. 618+15.98  
243.58' LT  
-L- STA. 626+22.74  
312.38' LT  
RR SPIKE IN BASE  
OF 22' PINE



PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>58</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

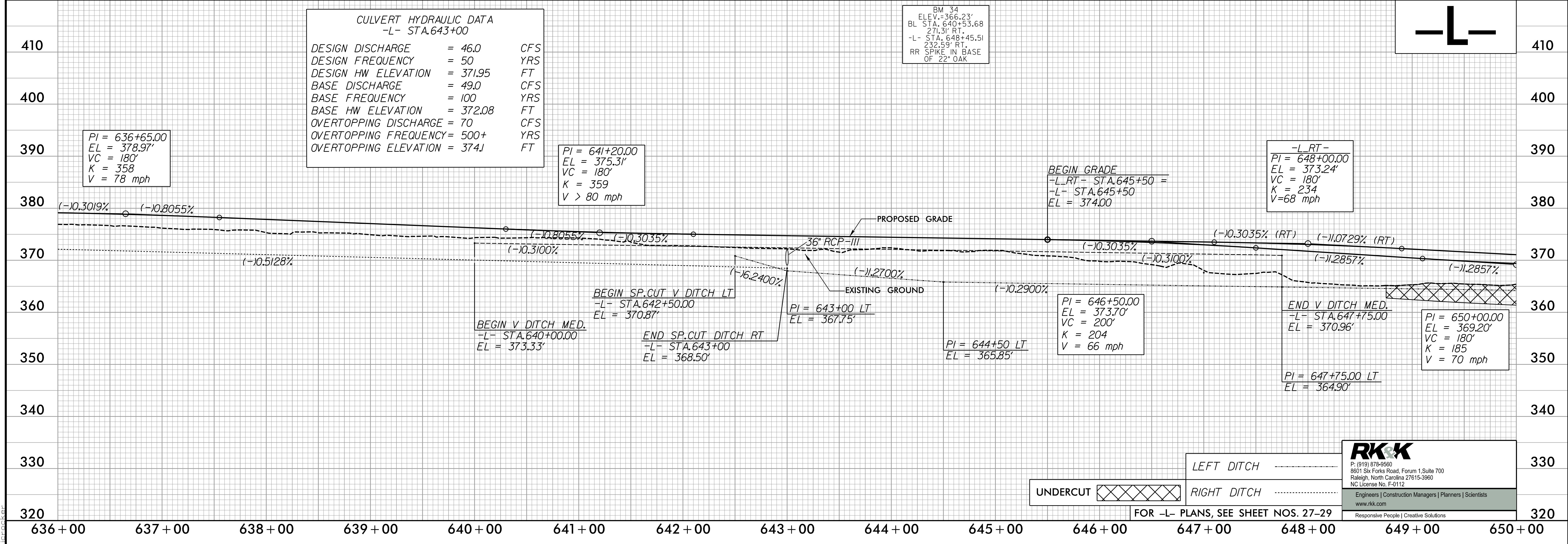


BEGIN SP. CUT DITCH RT  
-L- STA. 623+50  
EL = 378.50'

BEGIN V. DITCH MED.  
-L- STA. 629+00  
EL = 378.97'

END V. DITCH MED.  
-L- STA. 633+50  
EL = 377.68'

PI = 636+65.00  
EL = 378.97'  
VC = 180'  
K = 358  
V = 78 mph



**CULVERT HYDRAULIC DATA**  
-L- STA. 643+00

DESIGN DISCHARGE	= 46.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 371.95	FT
BASE DISCHARGE	= 49.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 372.08	FT
OVERTOPPING DISCHARGE	= 70	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 374.1	FT

BM 34  
ELEV. = 366.23'  
BL STA. 640+53.68  
271.31' RT  
-L- STA. 648+45.51  
232.53' RT  
RR SPIKE IN BASE  
OF 22' OAK

PI = 636+65.00  
EL = 378.97'  
VC = 180'  
K = 358  
V = 78 mph

PI = 641+20.00  
EL = 375.31'  
VC = 180'  
K = 359  
V > 80 mph

BEGIN GRADE  
-L-RT- STA. 645+50 =  
-L- STA. 645+50  
EL = 374.00

-L-RT-  
PI = 648+00.00  
EL = 373.24'  
VC = 180'  
K = 234  
V = 68 mph

BEGIN V. DITCH MED.  
-L- STA. 640+00.00  
EL = 373.33'

BEGIN SP. CUT V. DITCH LT  
-L- STA. 642+50.00  
EL = 370.87'

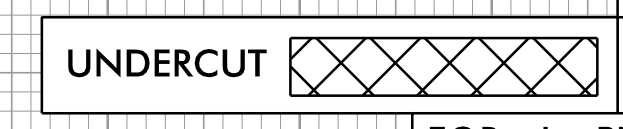
PI = 643+00 LT  
EL = 367.75'

PI = 644+50 LT  
EL = 365.85'

PI = 646+50.00  
EL = 373.70'  
VC = 200'  
K = 204  
V = 66 mph

END V. DITCH MED.  
-L- STA. 647+75.00  
EL = 370.96'

PI = 650+00.00  
EL = 369.20'  
VC = 180'  
K = 185  
V = 70 mph



LEFT DITCH .....  
RIGHT DITCH .....

FOR -L- PLANS, SEE SHEET NOS. 27-29

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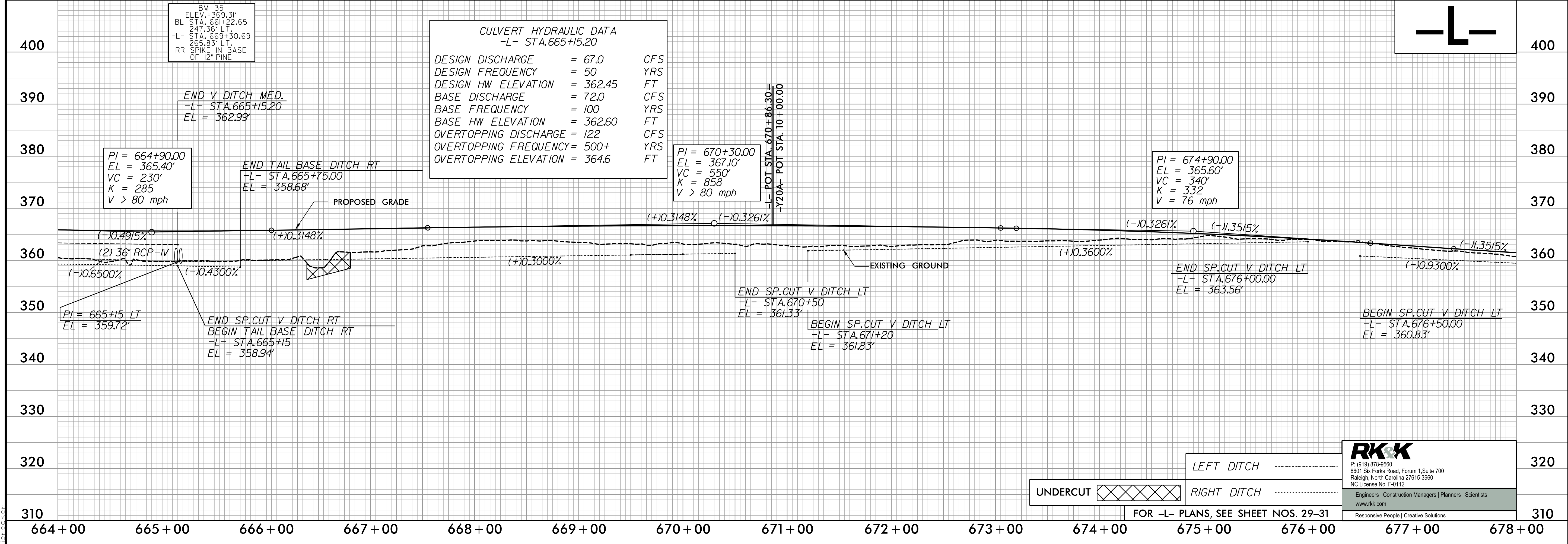
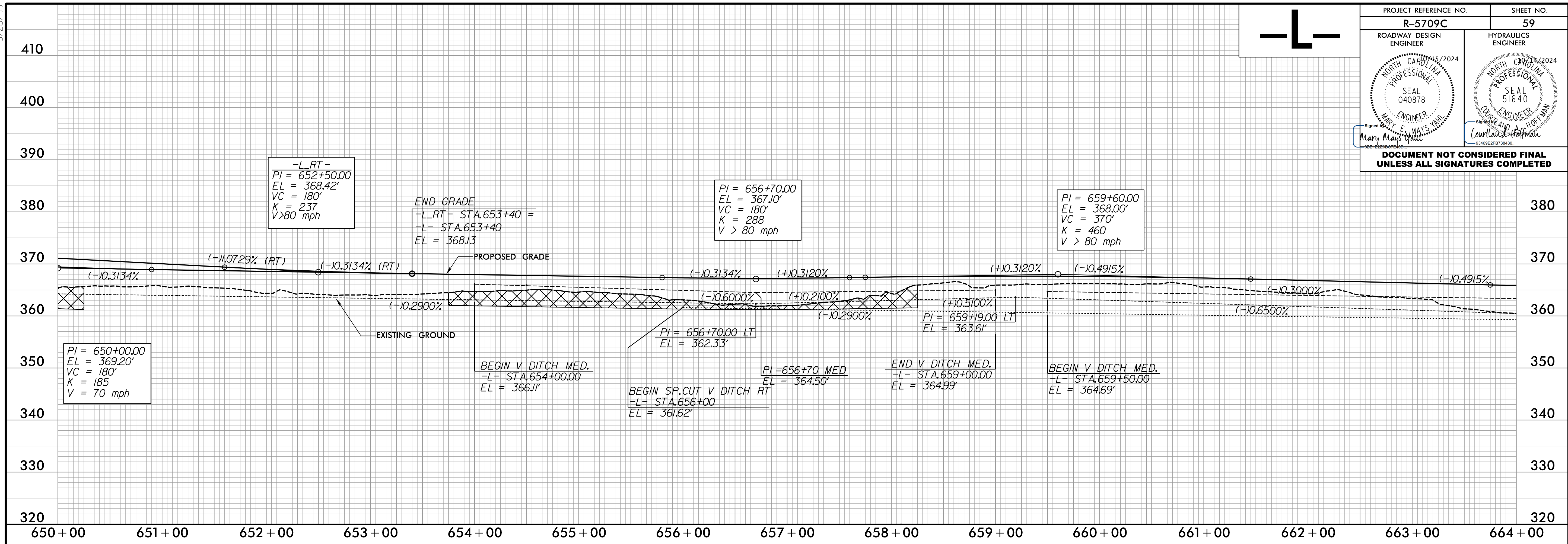
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PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>59</b>
ROADWAY DESIGN ENGINEER <i>Mary May Hall</i>	HYDRAULICS ENGINEER <i>Courtland A. Hoffman</i>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



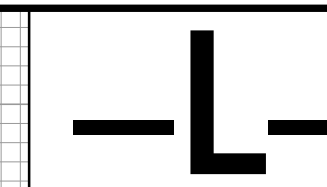
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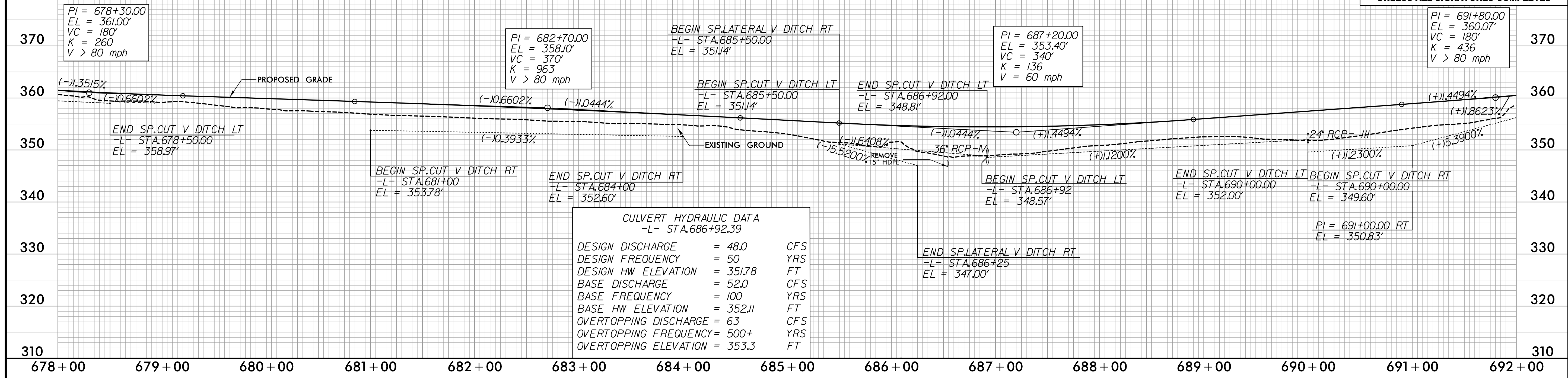


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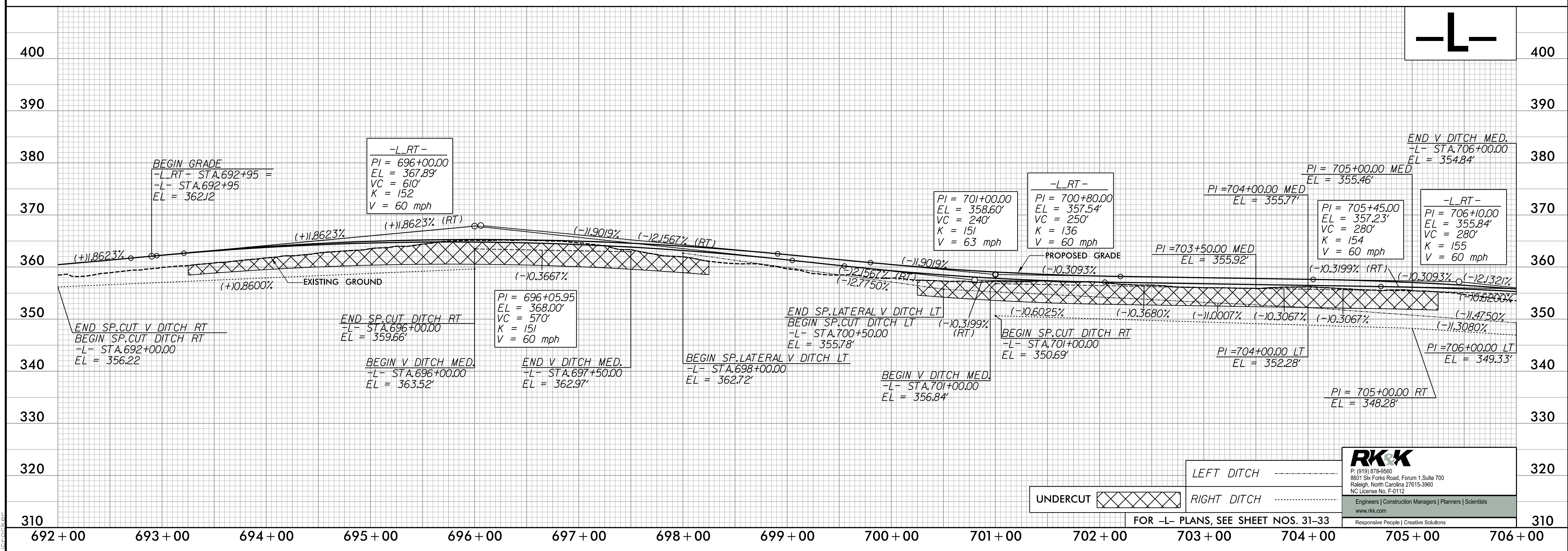
BM 36  
ELEV. = 347.56'  
BL STA. 681+69.42  
359.35' RT.  
-L2- STA. 689+81.87  
329.42' RT.  
RR SPIKE IN BASE  
OF 18" PINE



PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>60</b>
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



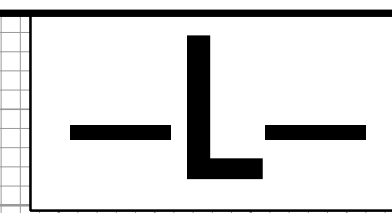
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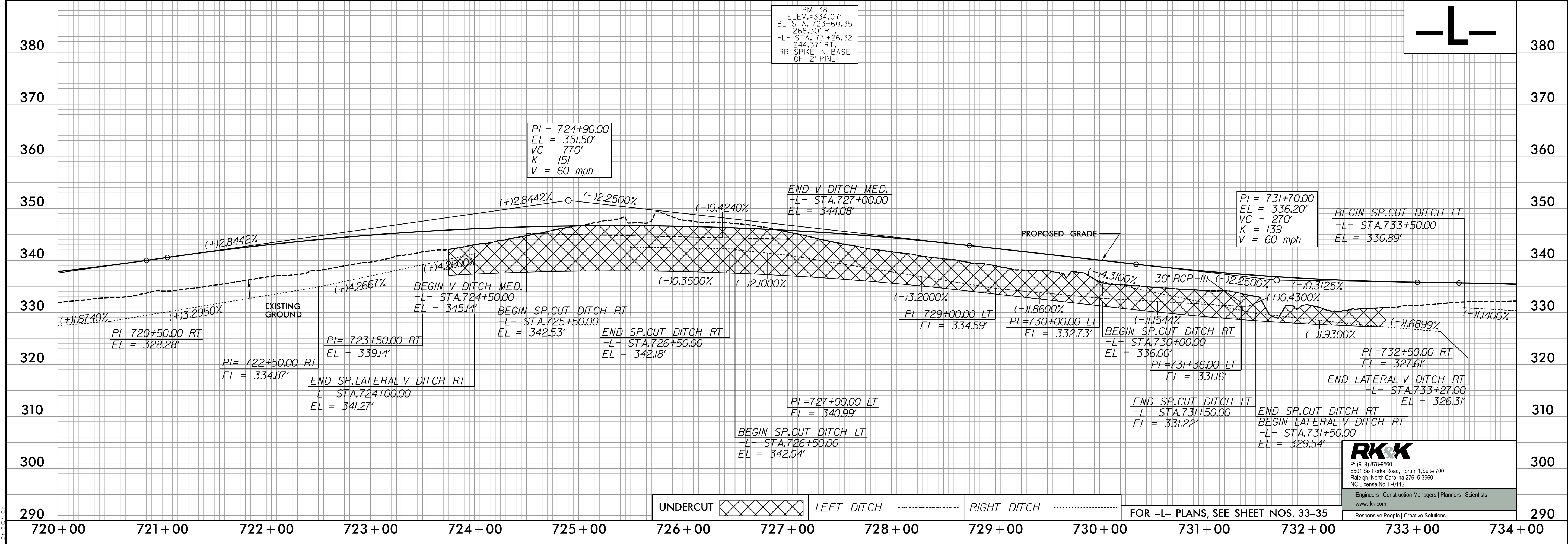
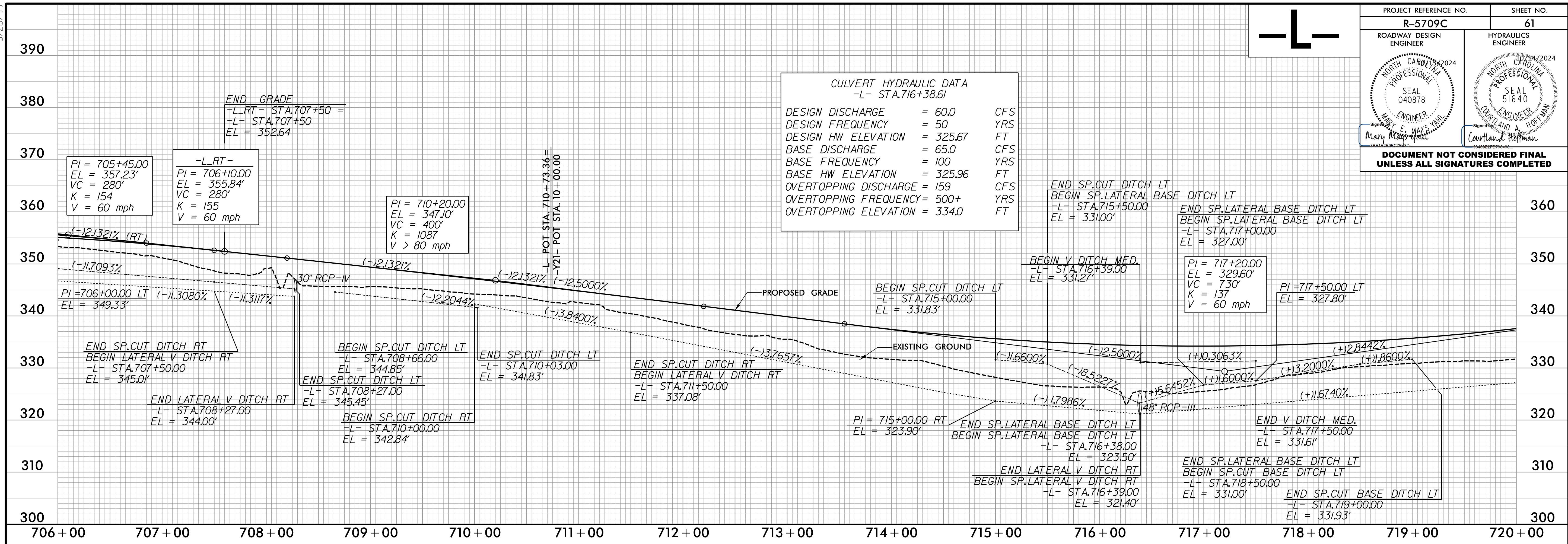


5/28/24



PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>61</b>
ROADWAY DESIGN ENGINEER <b>MARY E. WAYS</b> NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 040878	HYDRAULICS ENGINEER <b>COURTLAND A. HOFFMAN</b> NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 51640
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

CULVERT HYDRAULIC DATA	
-L- STA.716+38.61	
DESIGN DISCHARGE	= 60.0 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 325.67 FT
BASE DISCHARGE	= 65.0 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 325.96 FT
OVERTOPPING DISCHARGE	= 159 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 334.0 FT



UNDERCUT LEFT DITCH RIGHT DITCH

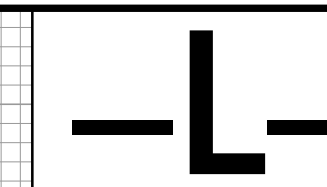
FOR -L- PLANS, SEE SHEET NOS. 33-35

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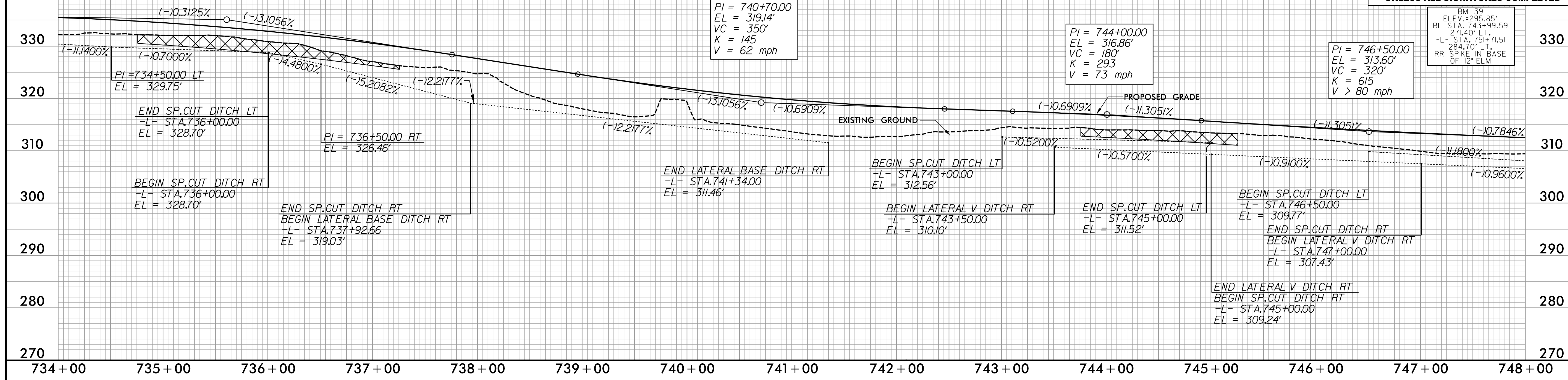
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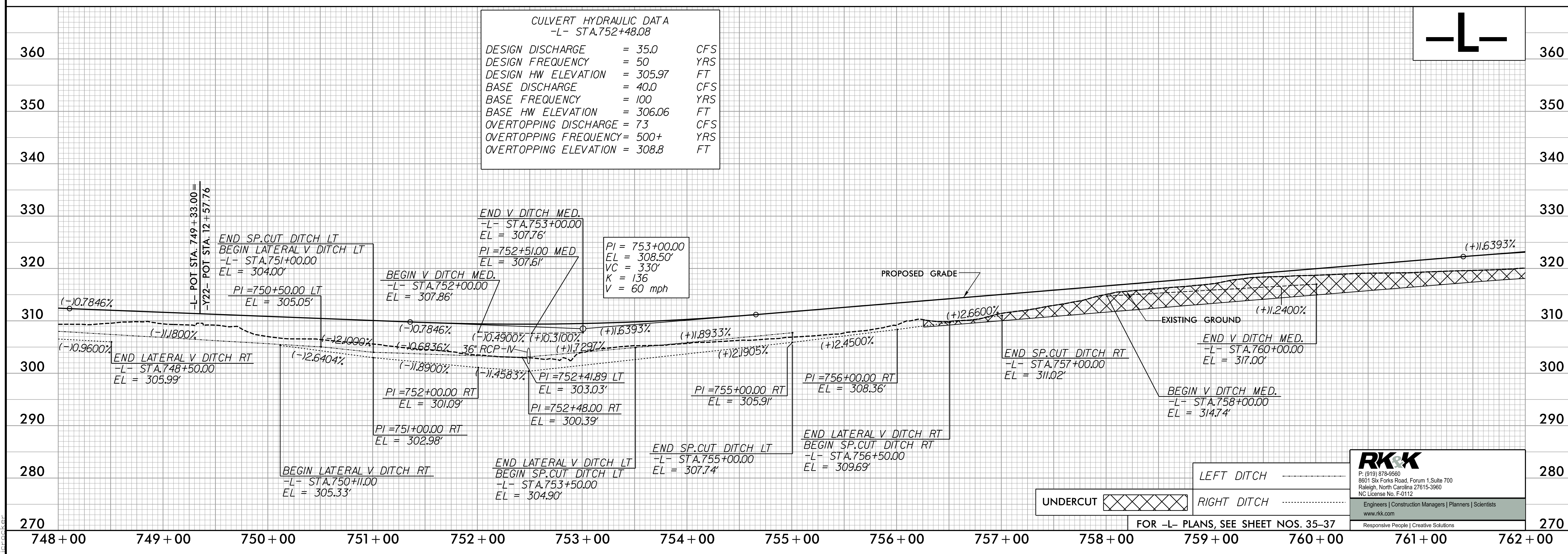
5/28/24



PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>62</b>
ROADWAY DESIGN ENGINEER Mary E. Mays Professional Seal 040878 05/14/2024	HYDRAULICS ENGINEER Courtland A. Hoffman Professional Seal 51640 05/14/2024
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



CULVERT HYDRAULIC DATA -L- STA.752+48.08	
DESIGN DISCHARGE	= 35.0 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 305.97 FT
BASE DISCHARGE	= 40.0 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 306.06 FT
OVERTOPPING DISCHARGE	= 73 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 308.8 FT



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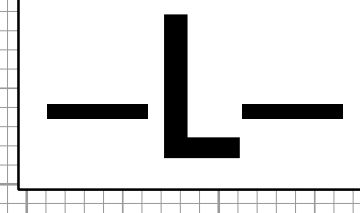
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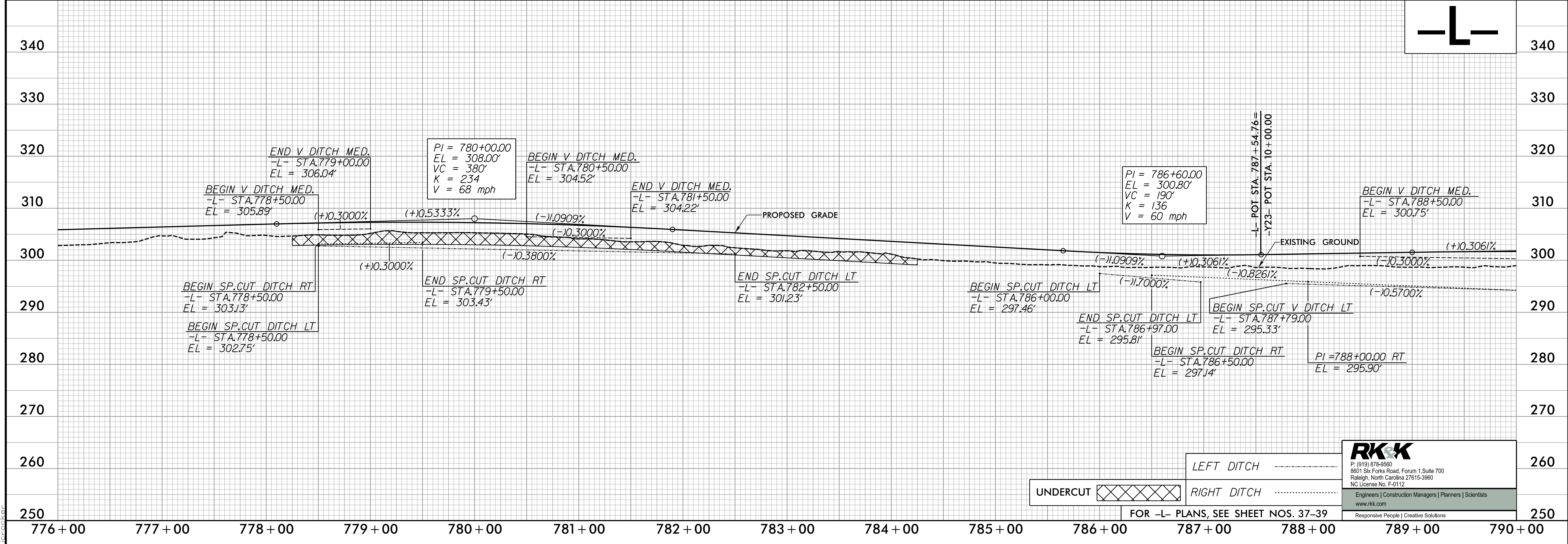
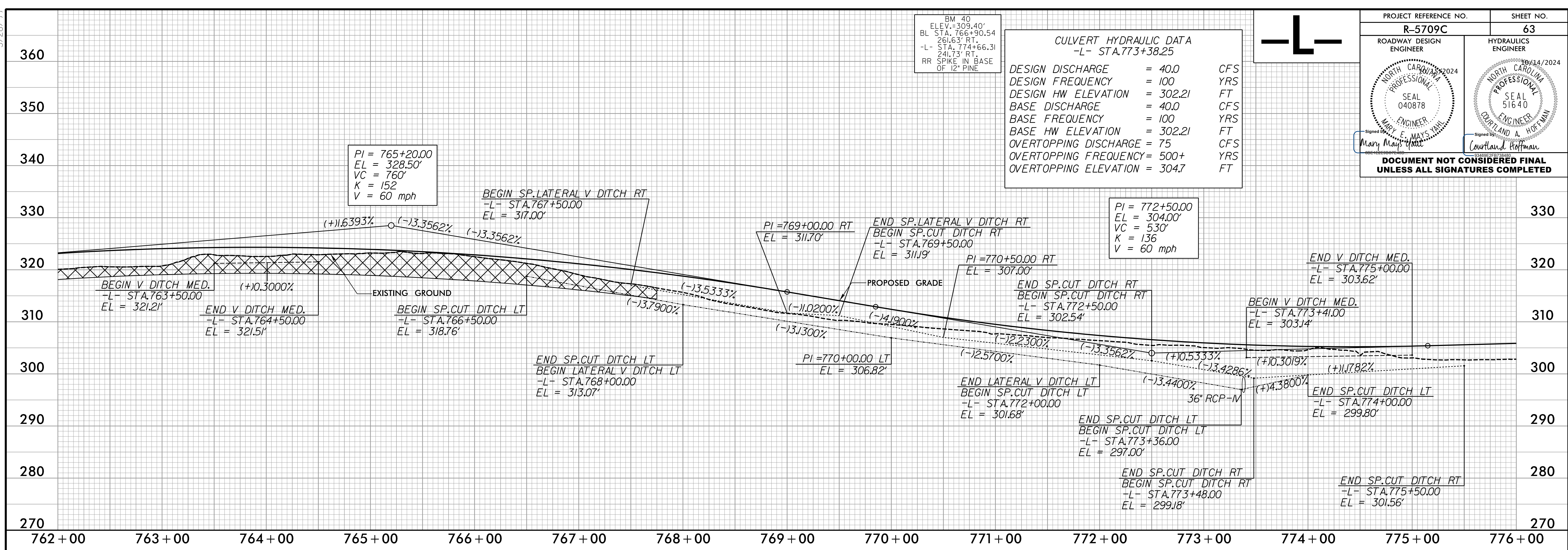
5/28/24

BM 40  
ELEV. = 309.40'  
BL STA. 766+90.54  
261.63' RT.  
STA. 774+66.31  
241.73' RT.  
RR SPIKE IN BASE  
OF 12" PINE

CULVERT HYDRAULIC DATA -L- STA. 773+38.25		
DESIGN DISCHARGE	= 40.0	CFS
DESIGN FREQUENCY	= 100	YRS
DESIGN HW ELEVATION	= 302.21	FT
BASE DISCHARGE	= 40.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 302.21	FT
OVERTOPPING DISCHARGE	= 75	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 304.7	FT



PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>63</b>
ROADWAY DESIGN ENGINEER <i>Mary E. Mays</i>	HYDRAULICS ENGINEER <i>Courtland A. Hoffman</i>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



UNDERCUT

LEFT DITCH

RIGHT DITCH

FOR -L- PLANS, SEE SHEET NOS. 37-39

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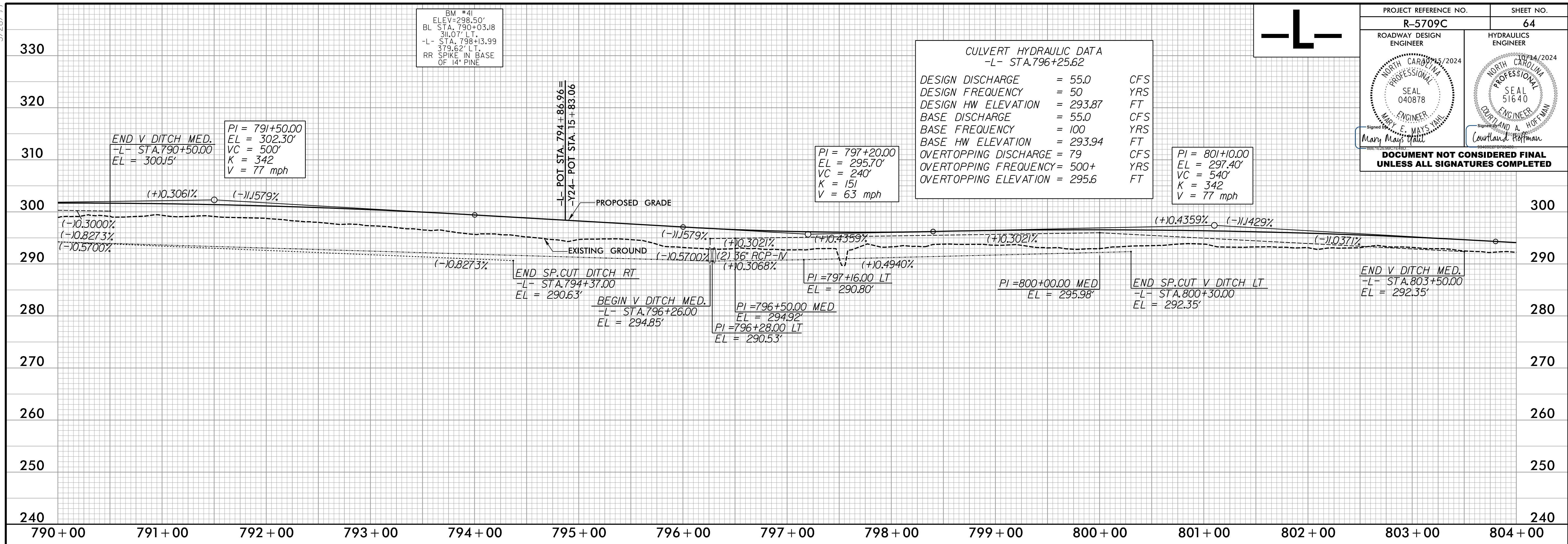
5/28/24

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>64</b>
ROADWAY DESIGN ENGINEER <i>Mary E. Mays</i>	HYDRAULICS ENGINEER <i>Courtland A. Hoffman</i>

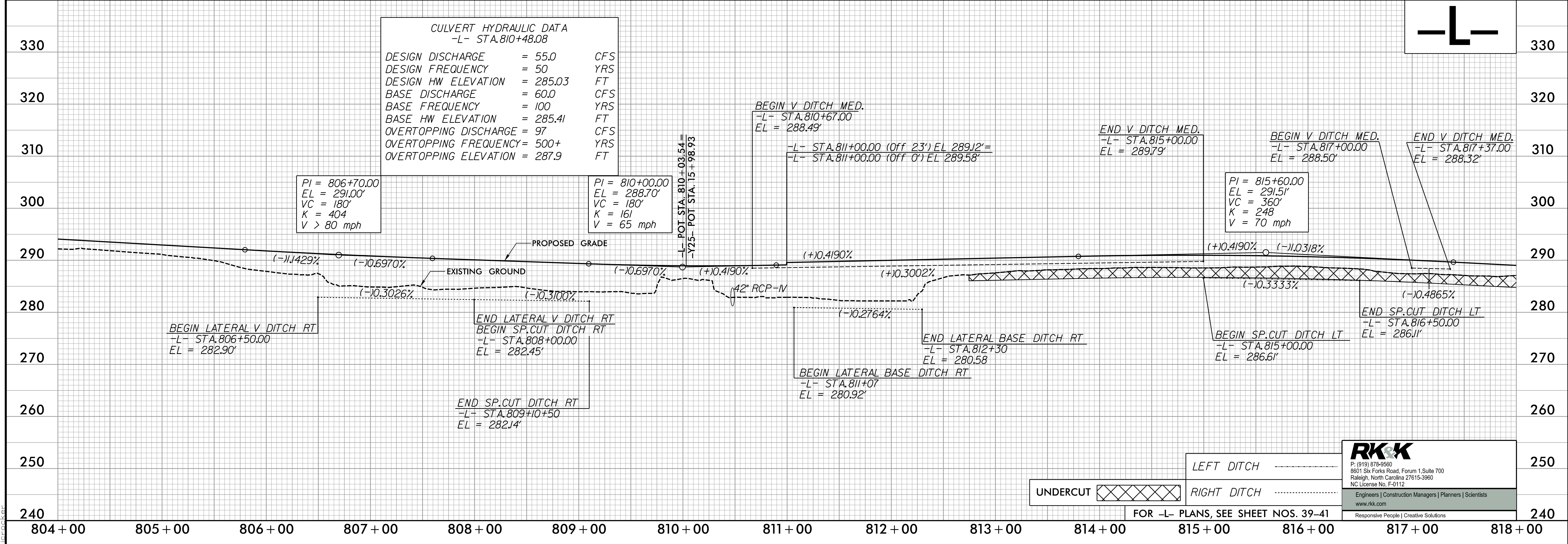
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**CULVERT HYDRAULIC DATA**  
-L- STA.796+25.62

DESIGN DISCHARGE	= 55.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 293.87	FT
BASE DISCHARGE	= 55.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 293.94	FT
OVERTOPPING DISCHARGE	= 79	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 295.6	FT



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LEFT DITCH .....  
RIGHT DITCH .....  
UNDERCUT

FOR -L- PLANS, SEE SHEET NOS. 39-41

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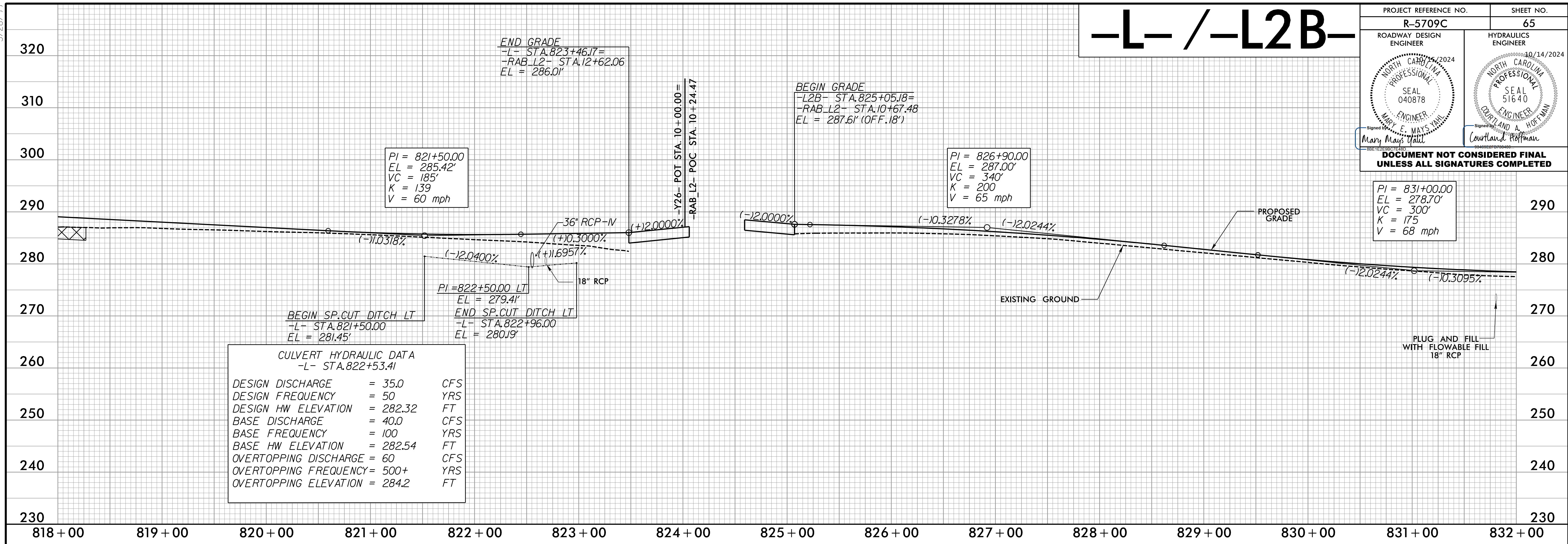


5/28/24

# -L- / -L2B-

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>65</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

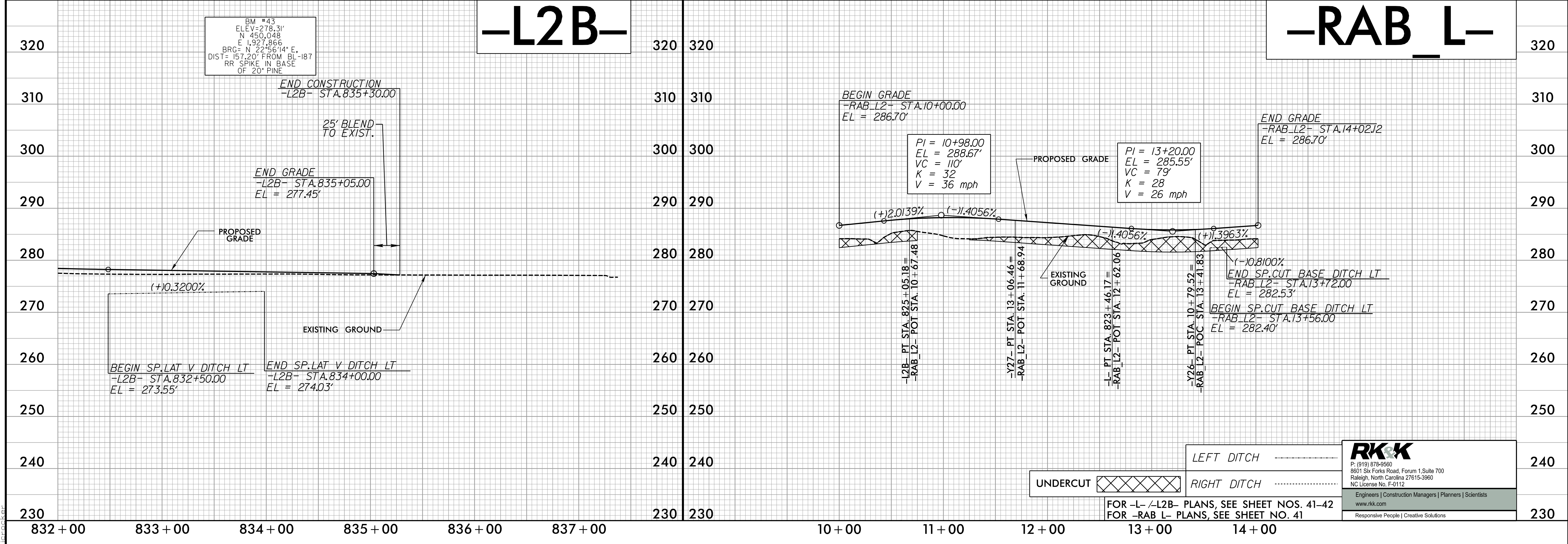


**CULVERT HYDRAULIC DATA**  
-L- STA.822+53.41

DESIGN DISCHARGE	= 35.0	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 282.32	FT
BASE DISCHARGE	= 40.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 282.54	FT
OVERTOPPING DISCHARGE	= 60	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 284.2	FT

# -L2B-

# -RAB L-



BM #43  
ELEV=278.31'  
N 450.048  
E 1,927.866  
BRG= N 22°56'14" E  
DIST= 157.20' FROM BL-187  
RR SPIKE IN BASE  
OF 20' PINE

LEFT DITCH	.....
RIGHT DITCH	.....
UNDERCUT	

FOR -L- / -L2B- PLANS, SEE SHEET NOS. 41-42  
FOR -RAB L- PLANS, SEE SHEET NO. 41

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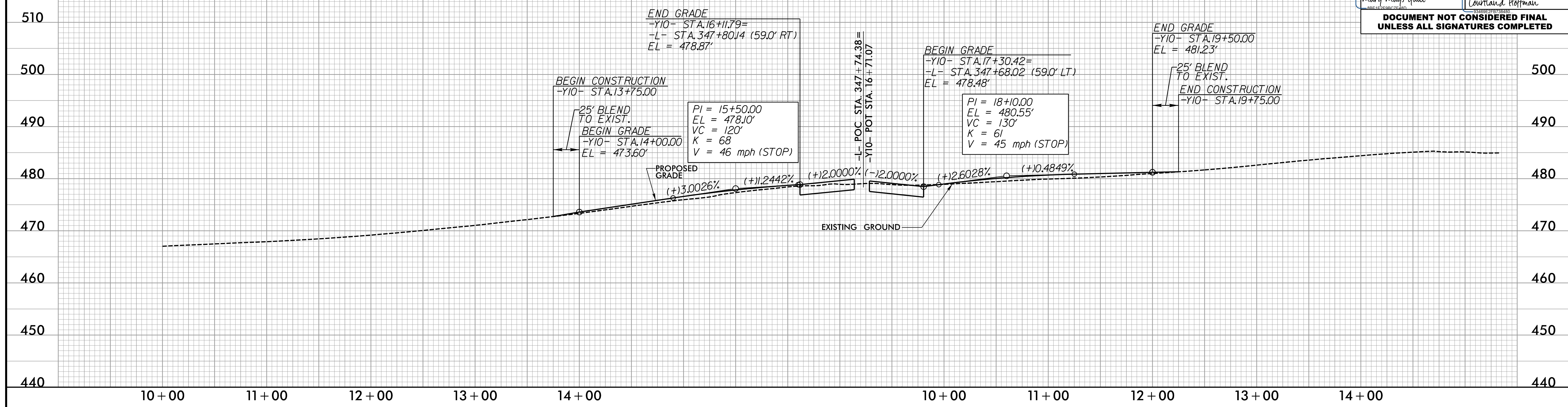


5/28/24

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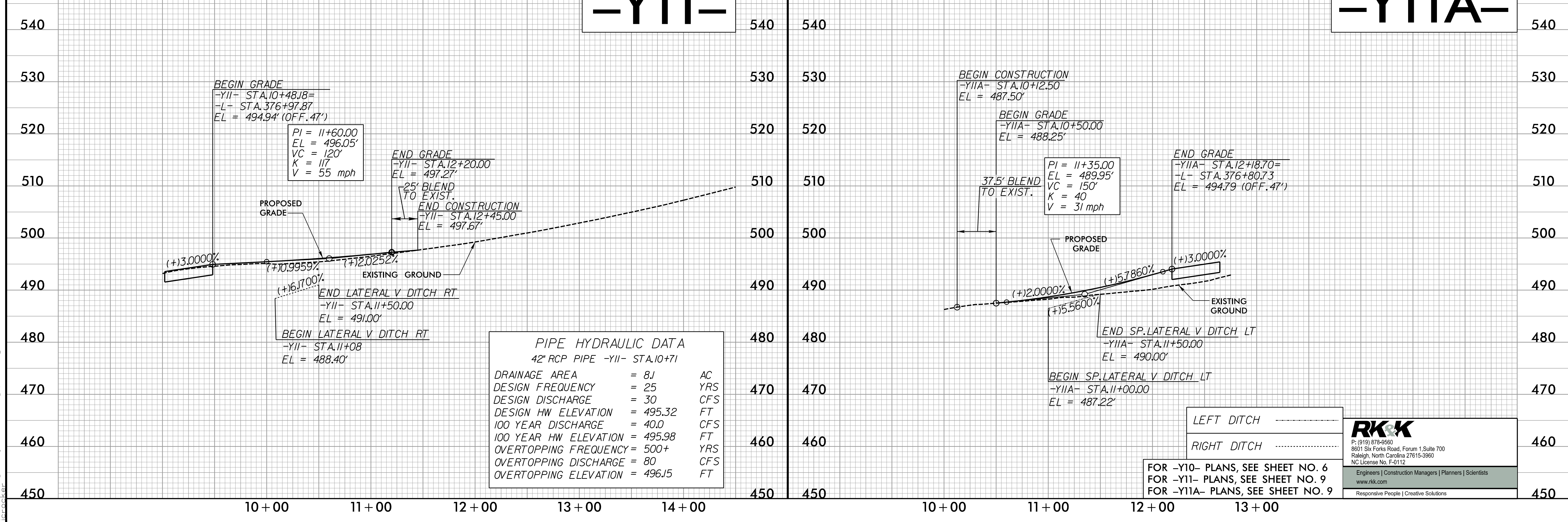
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PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>66</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



# -Y11-

# -Y11A-



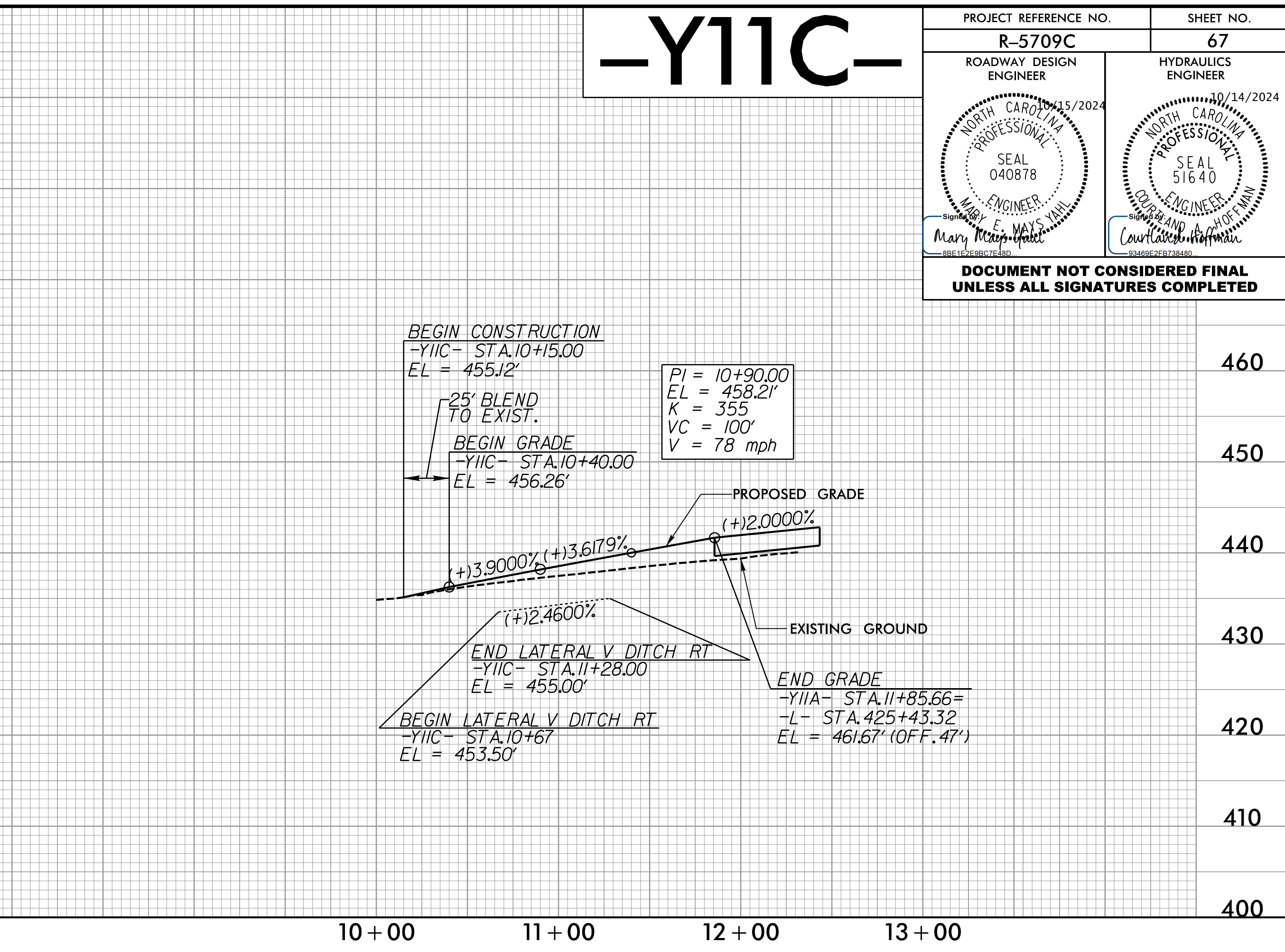
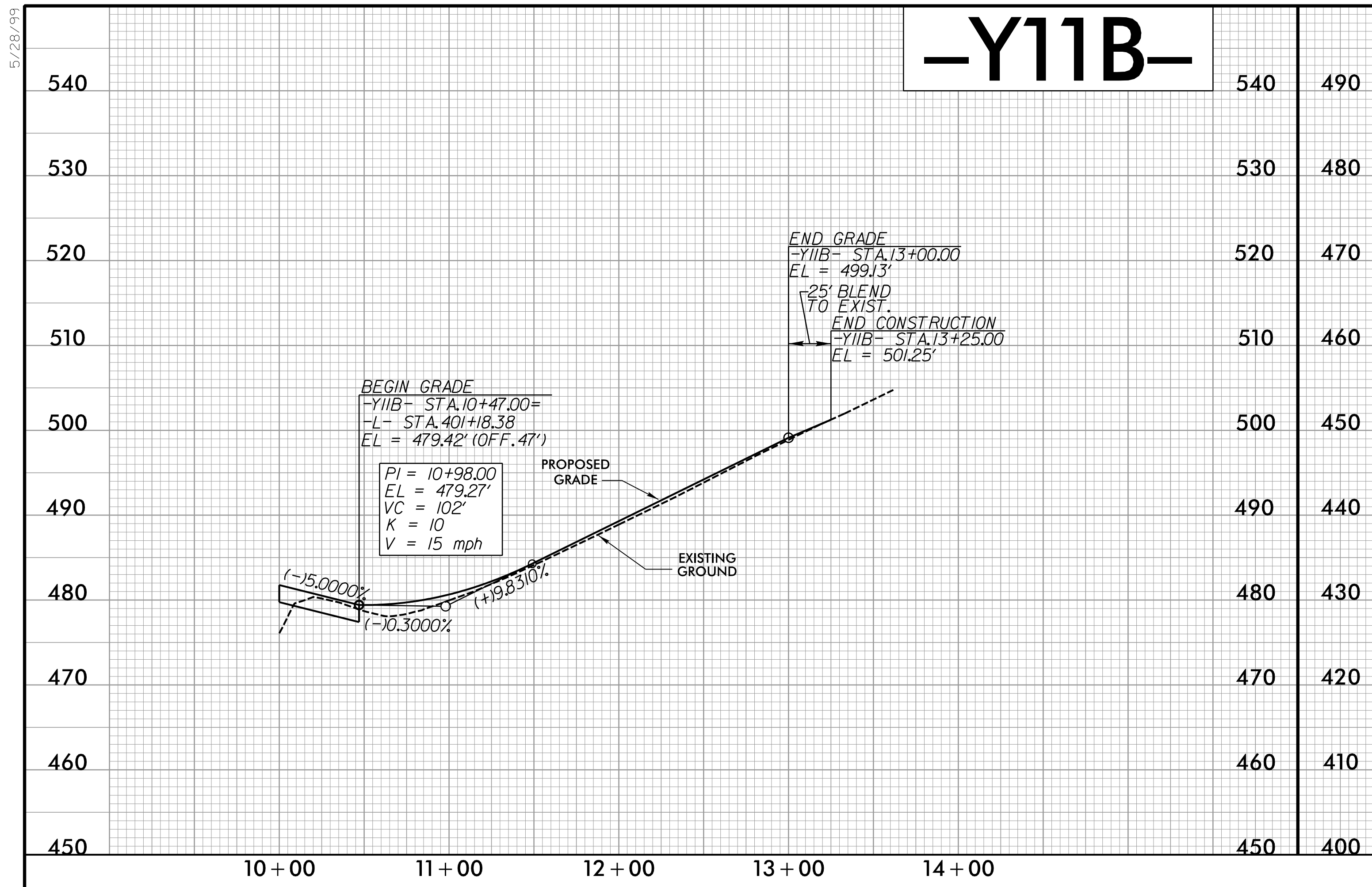
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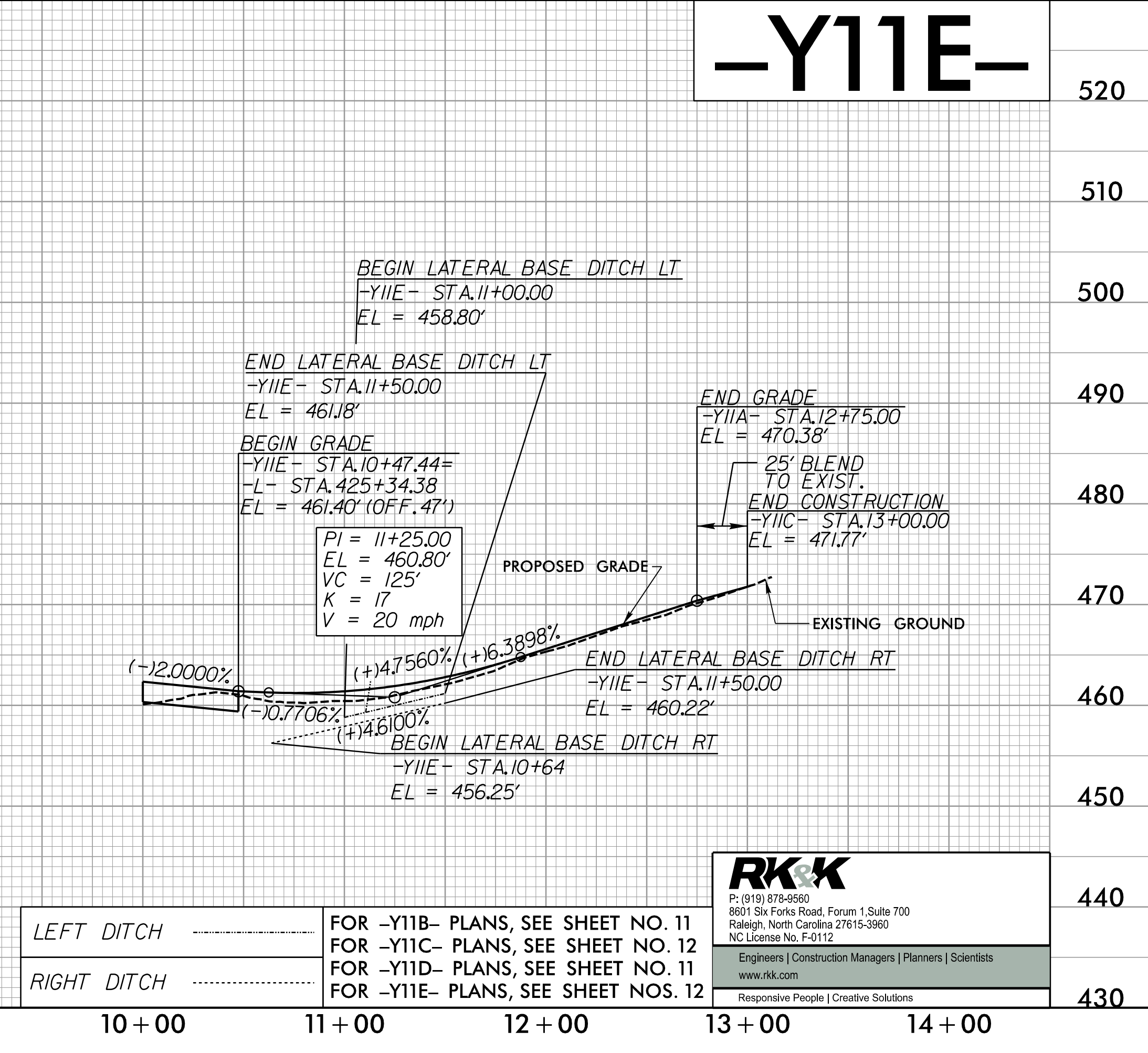
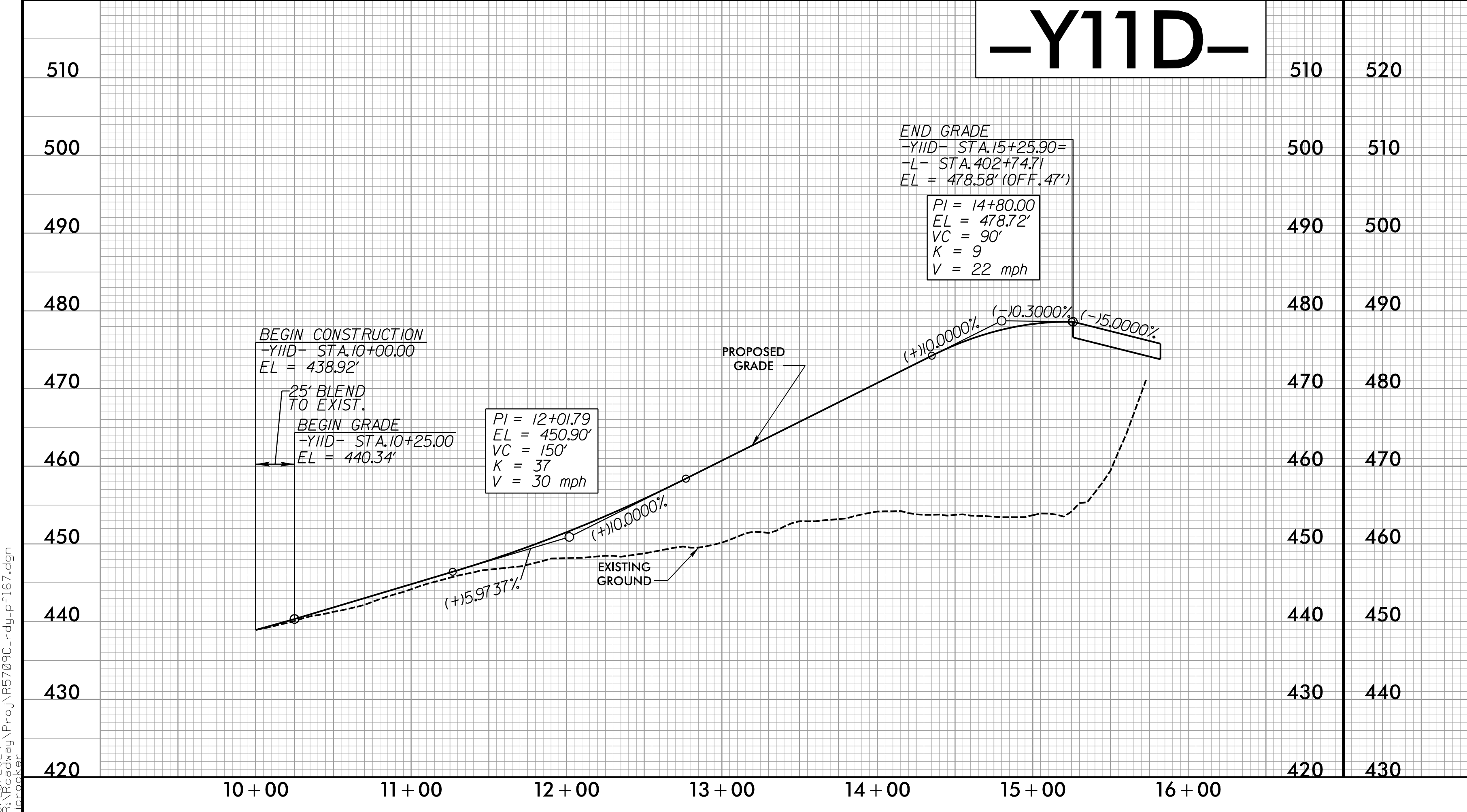
# -Y11B-

# -Y11C-



# -Y11D-

# -Y11E-



LEFT DITCH	FOR -Y11B- PLANS, SEE SHEET NO. 11
RIGHT DITCH	FOR -Y11C- PLANS, SEE SHEET NO. 12
	FOR -Y11D- PLANS, SEE SHEET NO. 11
	FOR -Y11E- PLANS, SEE SHEET NOS. 12

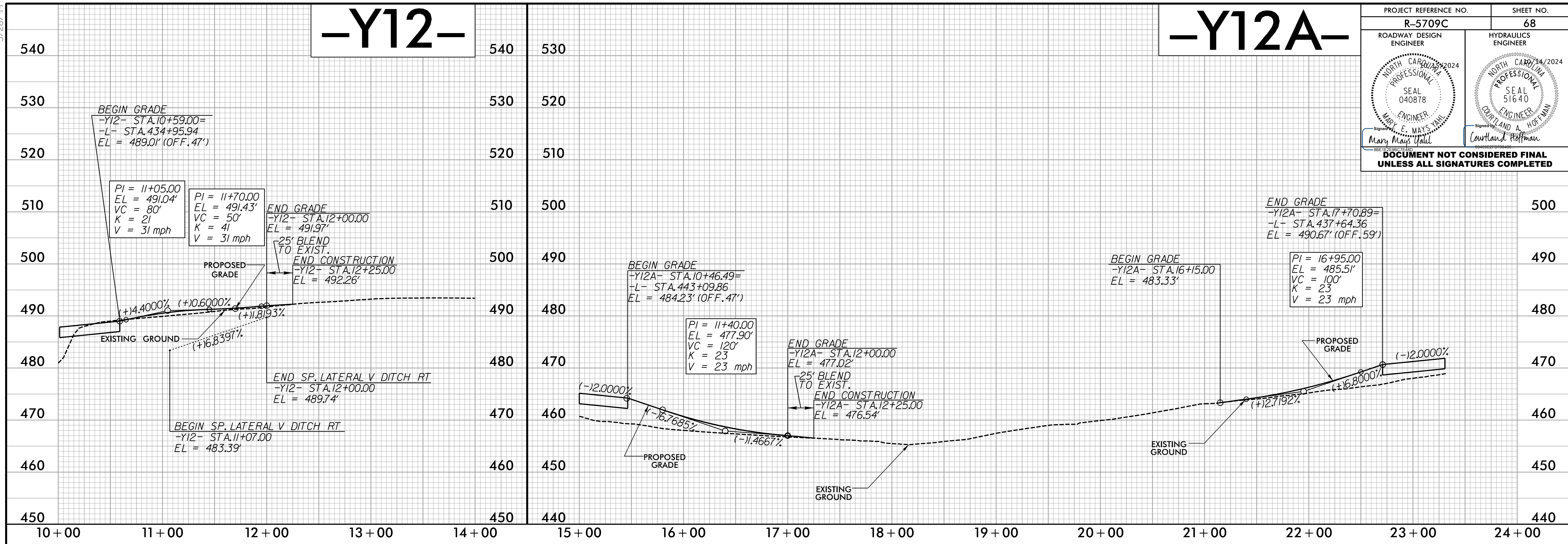
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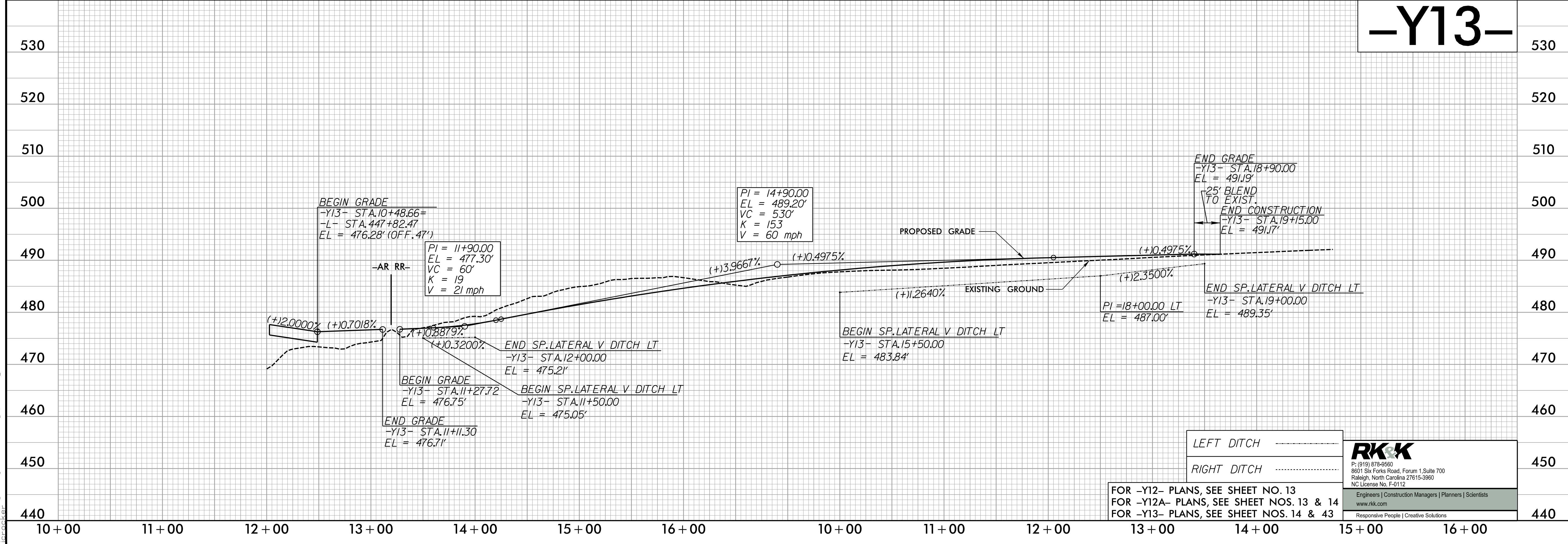


# -Y12-

# -Y12A-



# -Y13-



FOR -Y12- PLANS, SEE SHEET NO. 13  
 FOR -Y12A- PLANS, SEE SHEET NOS. 13 & 14  
 FOR -Y13- PLANS, SEE SHEET NOS. 14 & 43

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 5/28/24

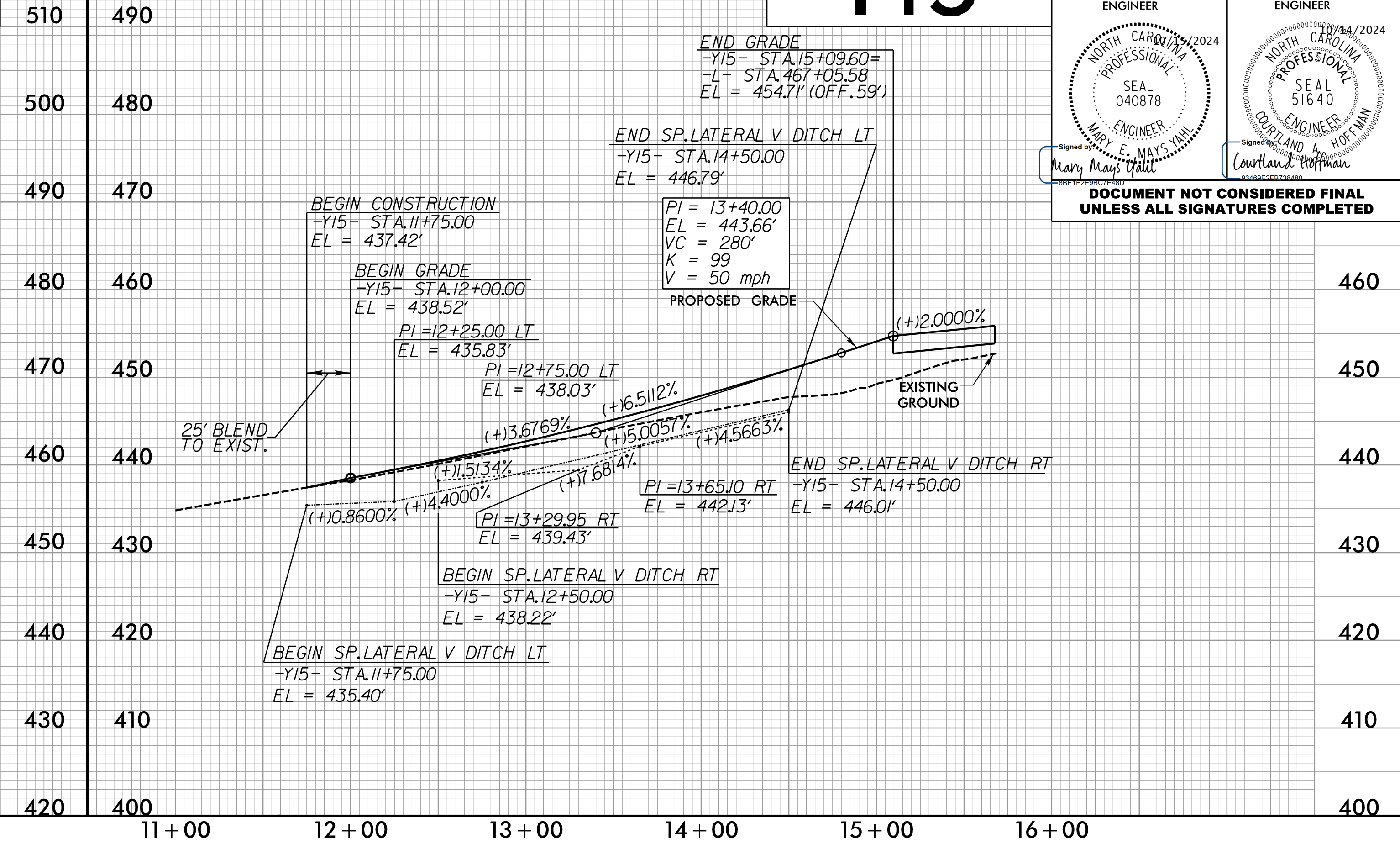
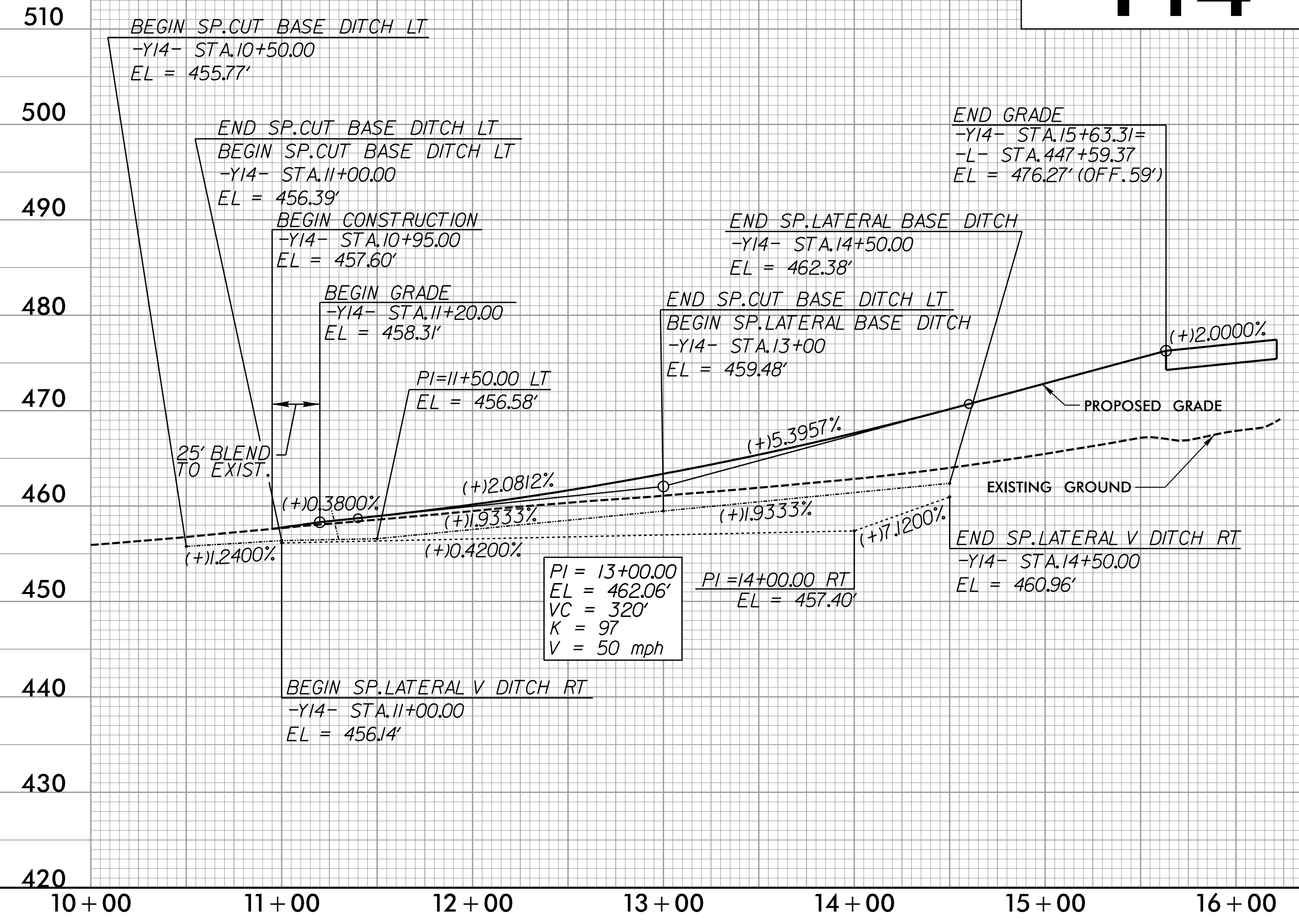


5/28/24

# -Y14-

# -Y15-

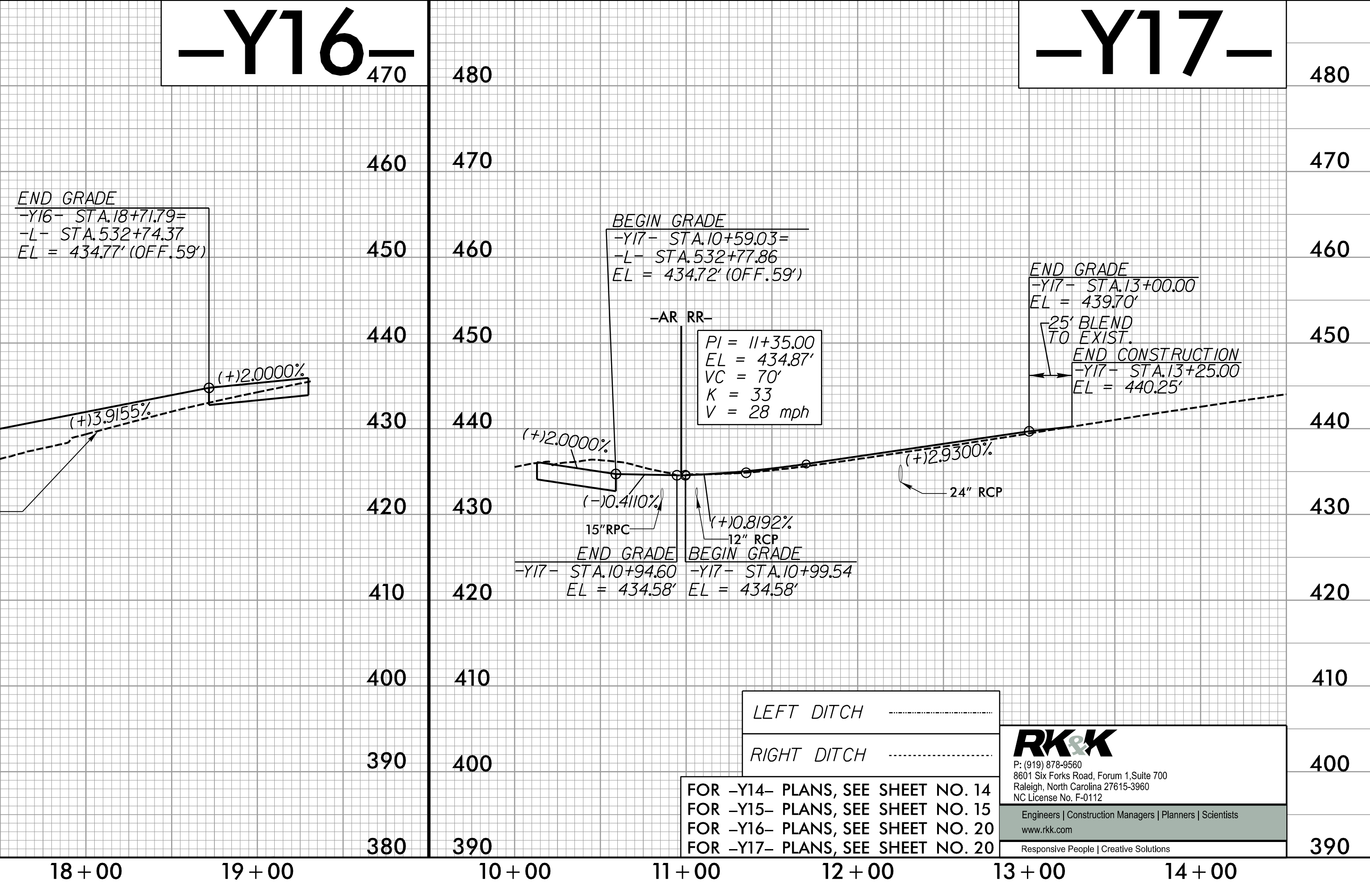
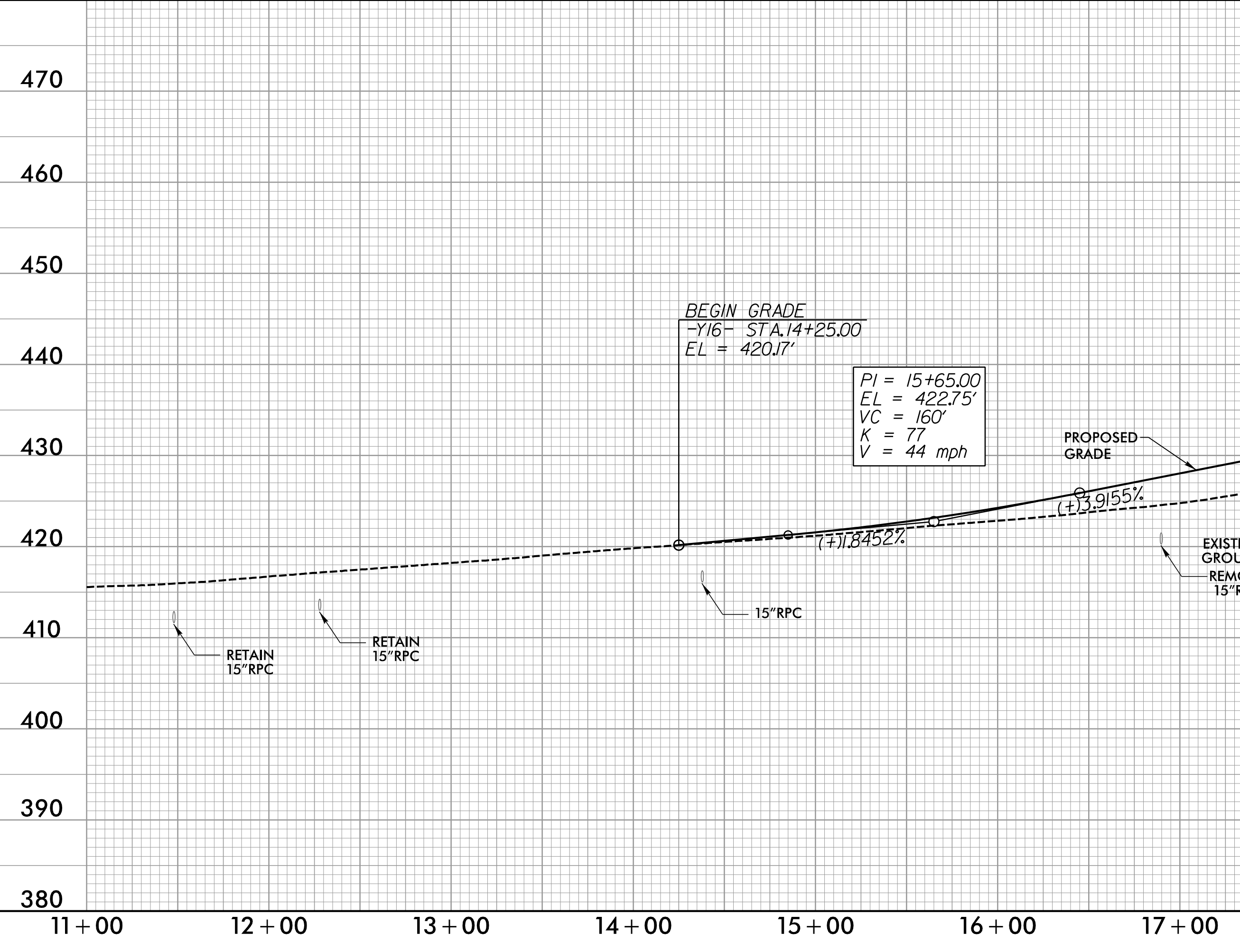
PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>69</b>
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



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# -Y16-

# -Y17-



LEFT DITCH .....  
RIGHT DITCH .....

FOR -Y14- PLANS, SEE SHEET NO. 14  
FOR -Y15- PLANS, SEE SHEET NO. 15  
FOR -Y16- PLANS, SEE SHEET NO. 20  
FOR -Y17- PLANS, SEE SHEET NO. 20

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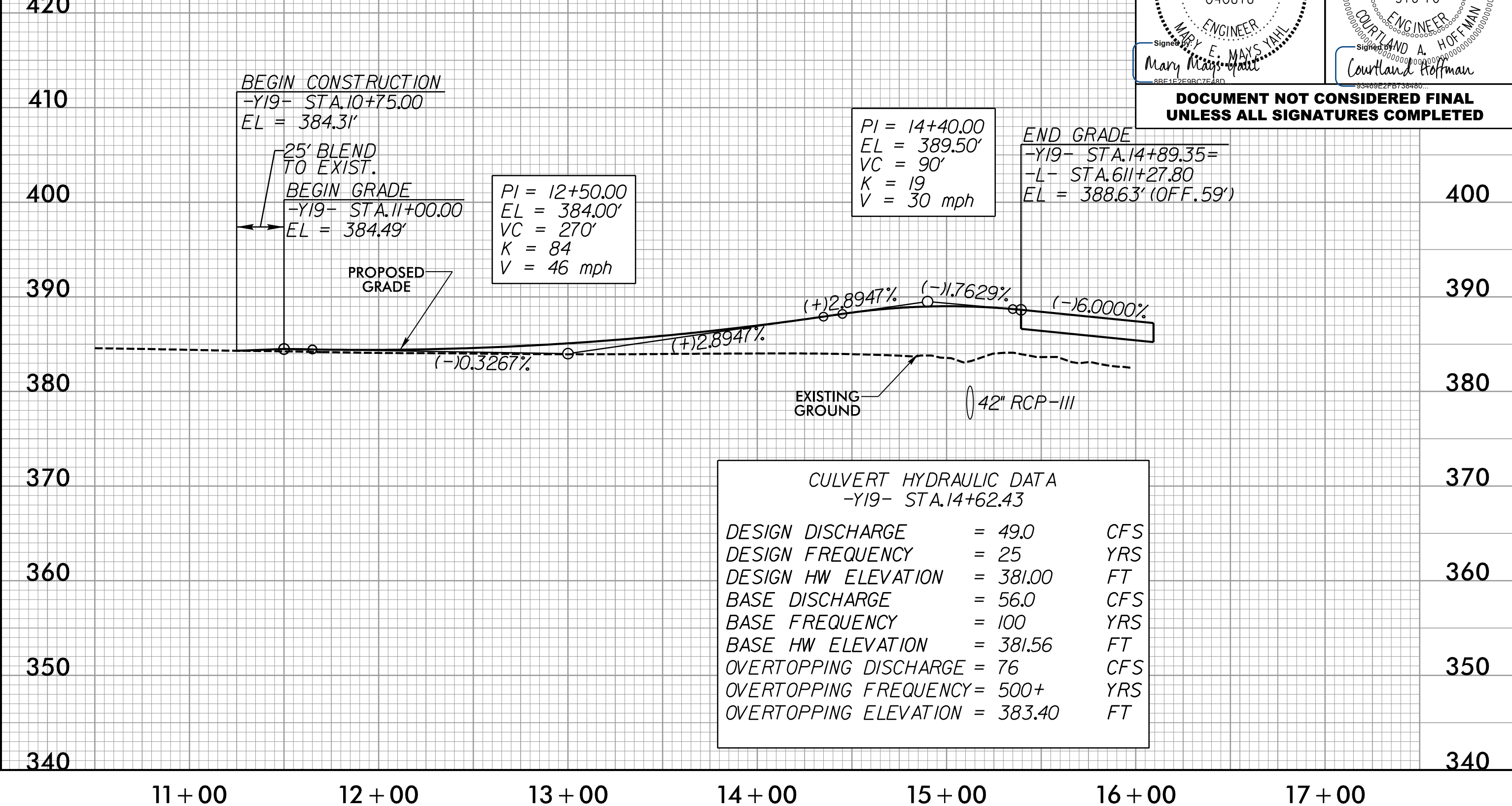
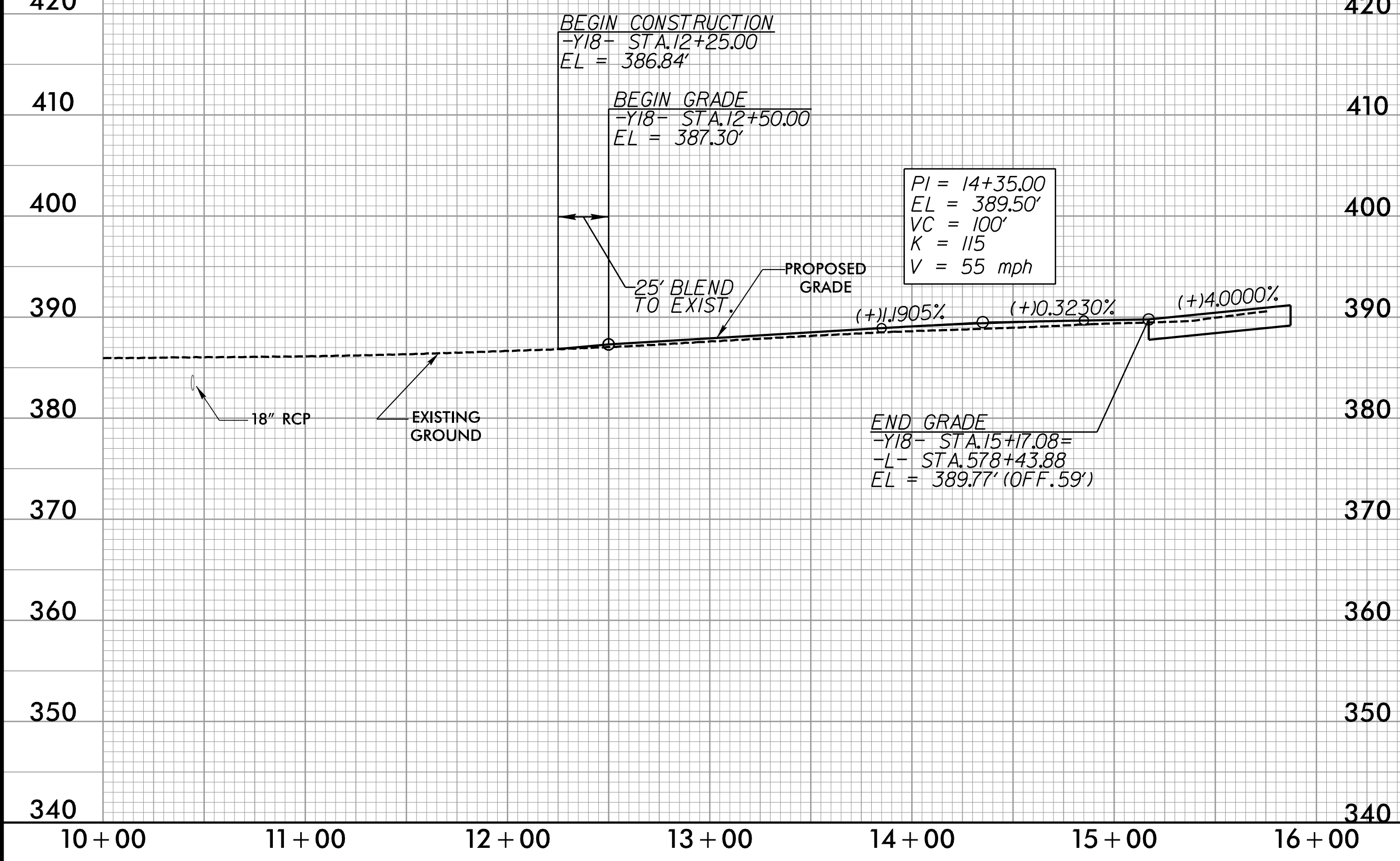
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# -Y18-

# -Y19-

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>70</b>
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

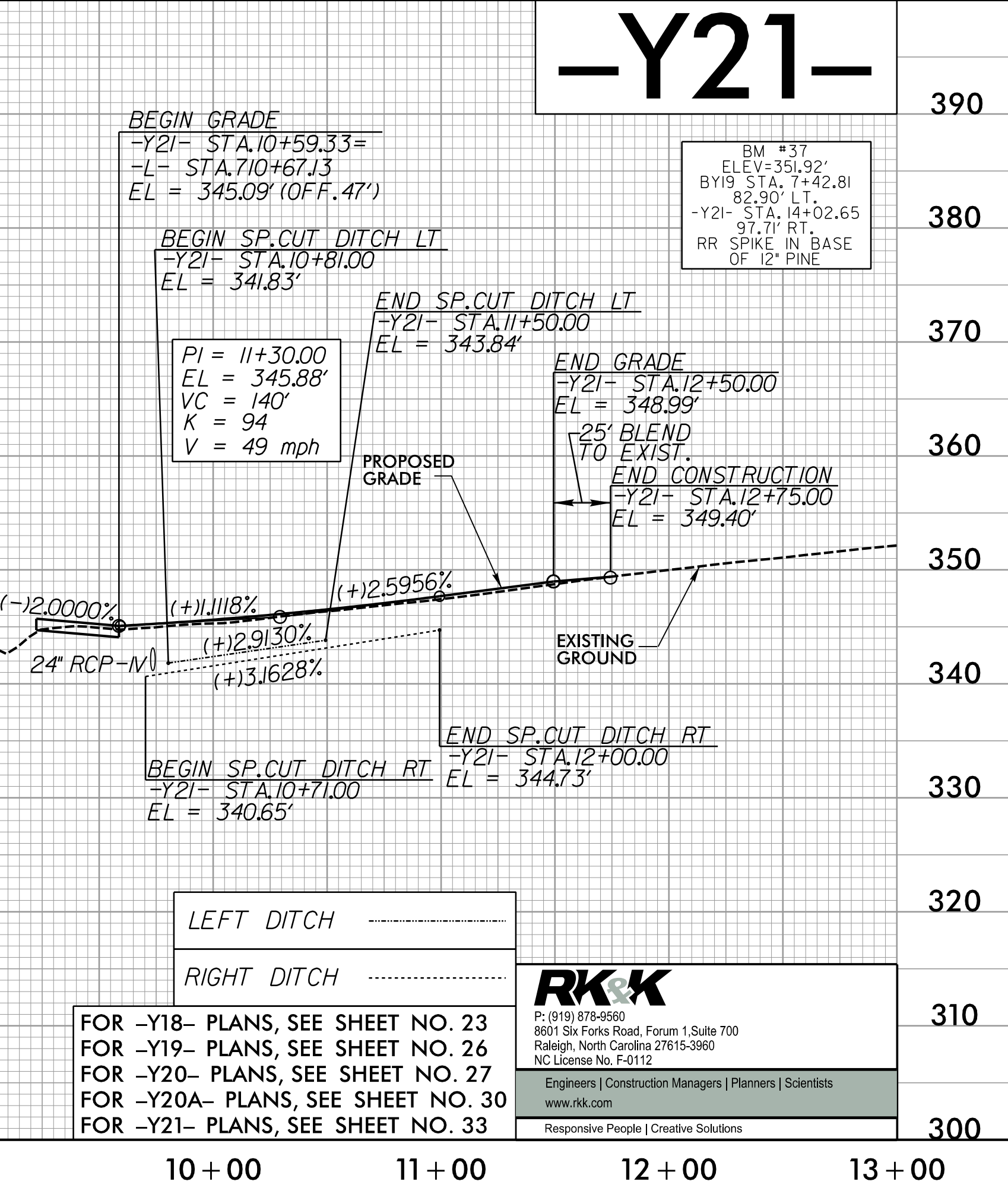
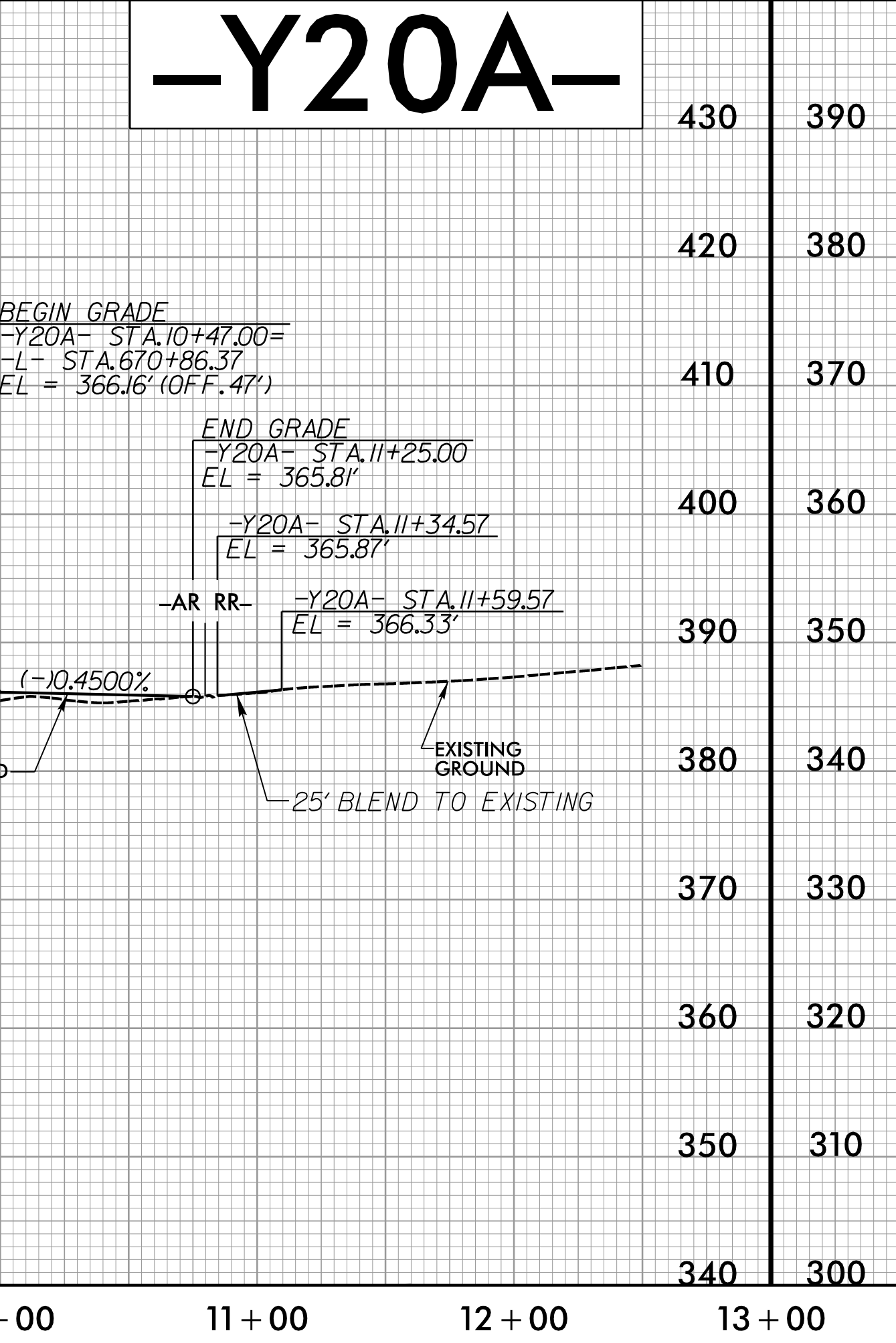
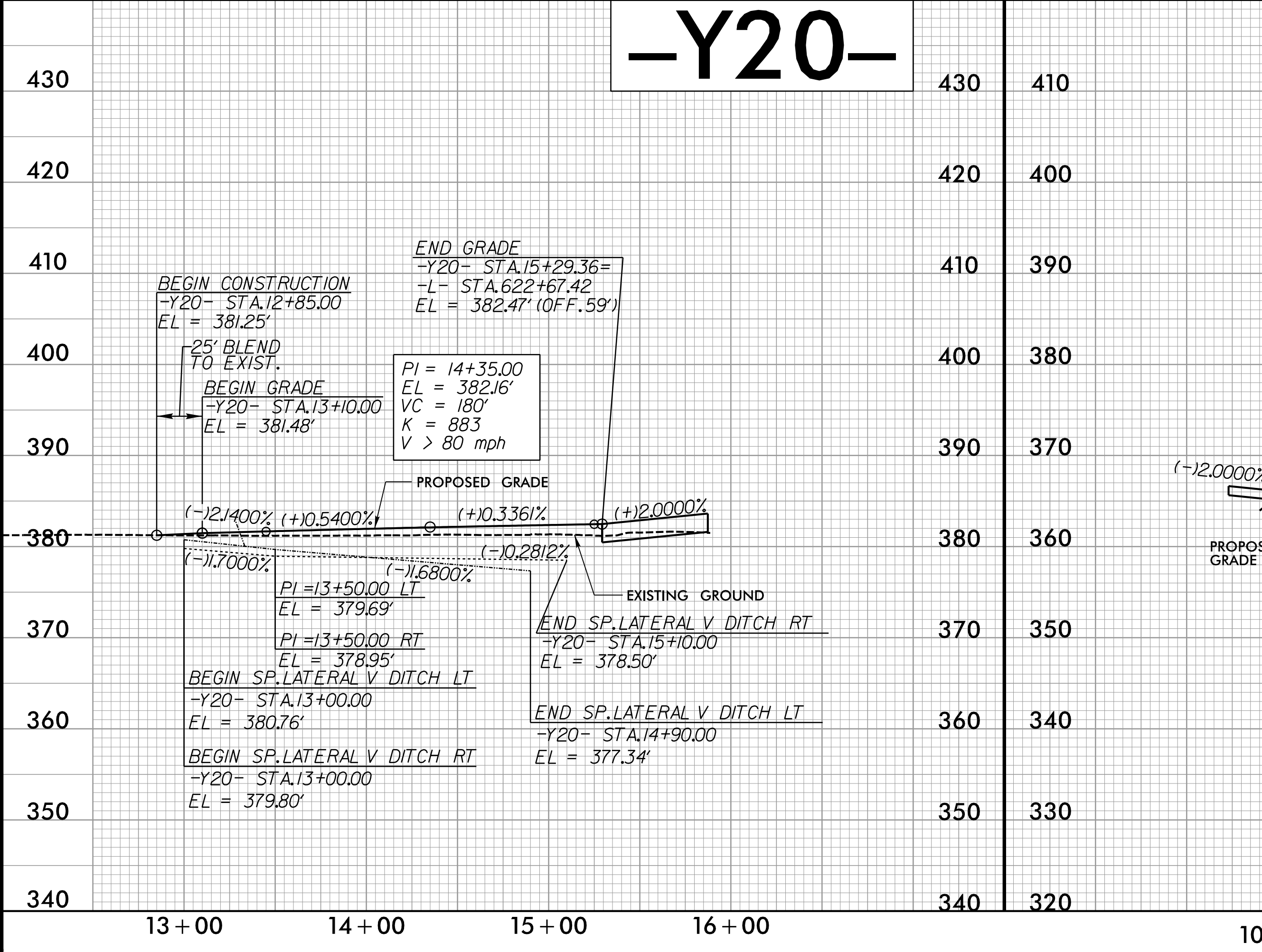


DESIGN DISCHARGE	= 49.0	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 381.00	FT
BASE DISCHARGE	= 56.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 381.56	FT
OVERTOPPING DISCHARGE	= 76	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 383.40	FT

# -Y20-

# -Y20A-

# -Y21-



LEFT DITCH .....  
RIGHT DITCH .....

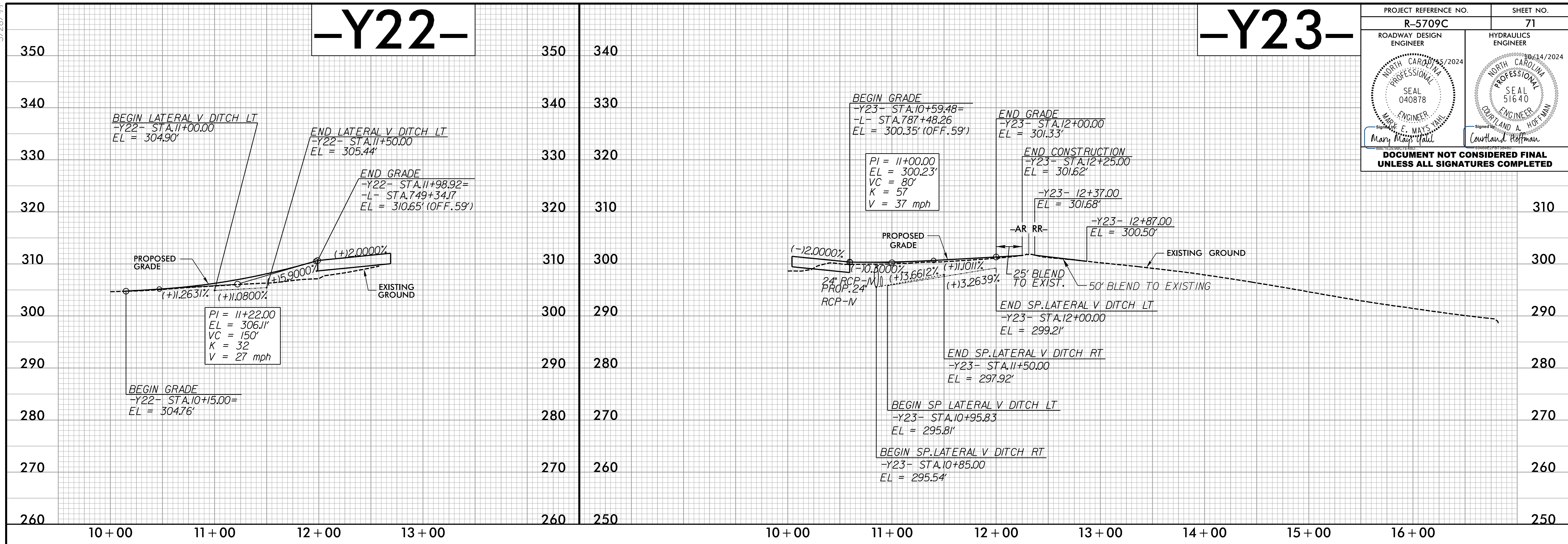
FOR -Y18- PLANS, SEE SHEET NO. 23  
FOR -Y19- PLANS, SEE SHEET NO. 26  
FOR -Y20- PLANS, SEE SHEET NO. 27  
FOR -Y20A- PLANS, SEE SHEET NO. 30  
FOR -Y21- PLANS, SEE SHEET NO. 33

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# -Y22-

# -Y23-



PIPE HYDRAULIC DATA		
42" RCP PIPE -L- STA.14+92		
DRAINAGE AREA	12.8	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 45.0	CFS
DESIGN HW ELEVATION	= 293.87	FT
100 YEAR DISCHARGE	= 50	CFS
100 YEAR HW ELEVATION	= 294.04	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 86.2	CFS
OVERTOPPING ELEVATION	= 295.69	FT

LEFT DITCH	.....
RIGHT DITCH	.....

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FOR -Y22- PLANS, SEE SHEET NO. 36  
 FOR -Y23- PLANS, SEE SHEET NO. 39  
 FOR -Y24- PLANS, SEE SHEET NO. 39  
 FOR -Y24A- PLANS, SEE SHEET NO. 40

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5/28/24

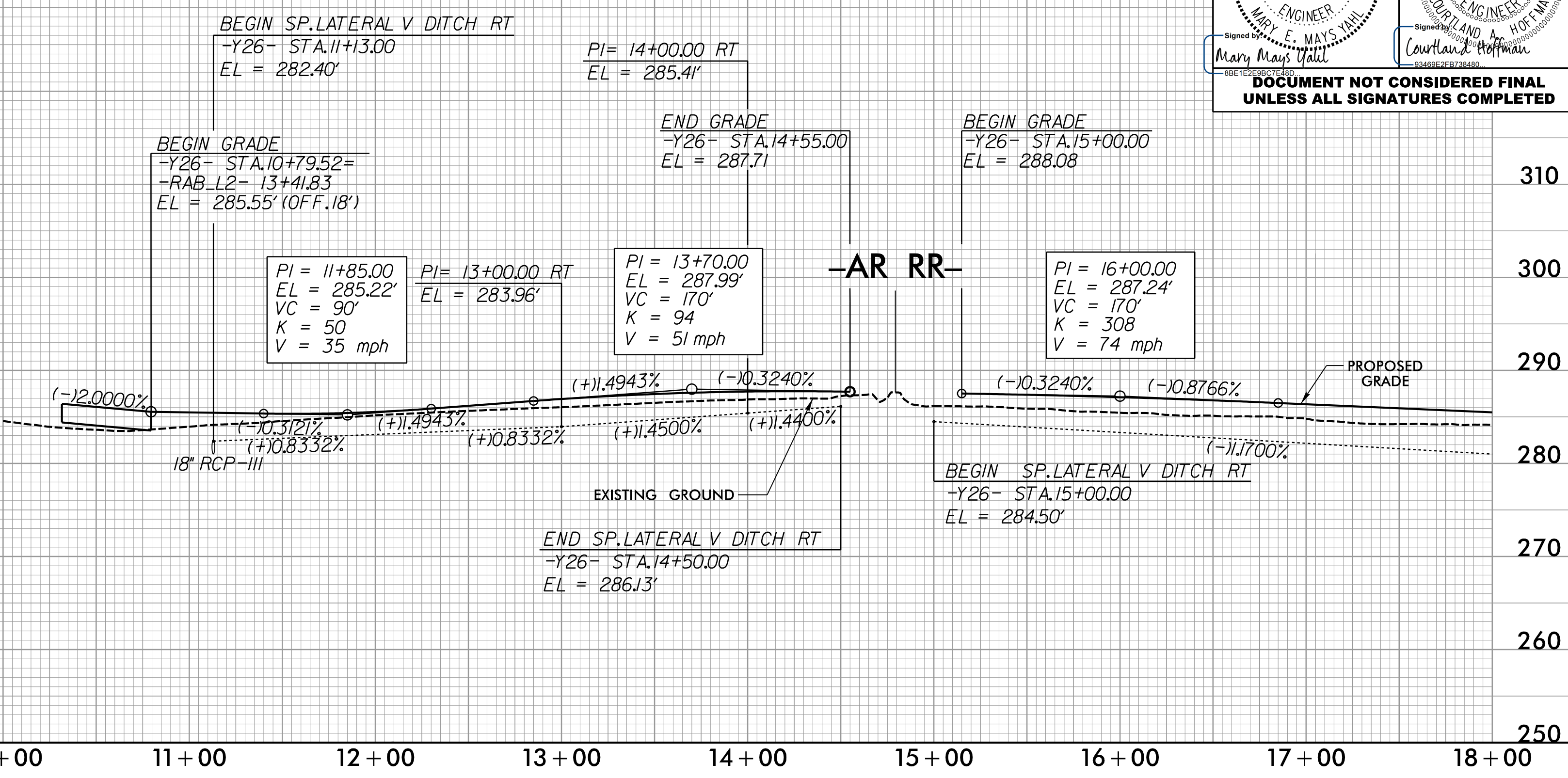
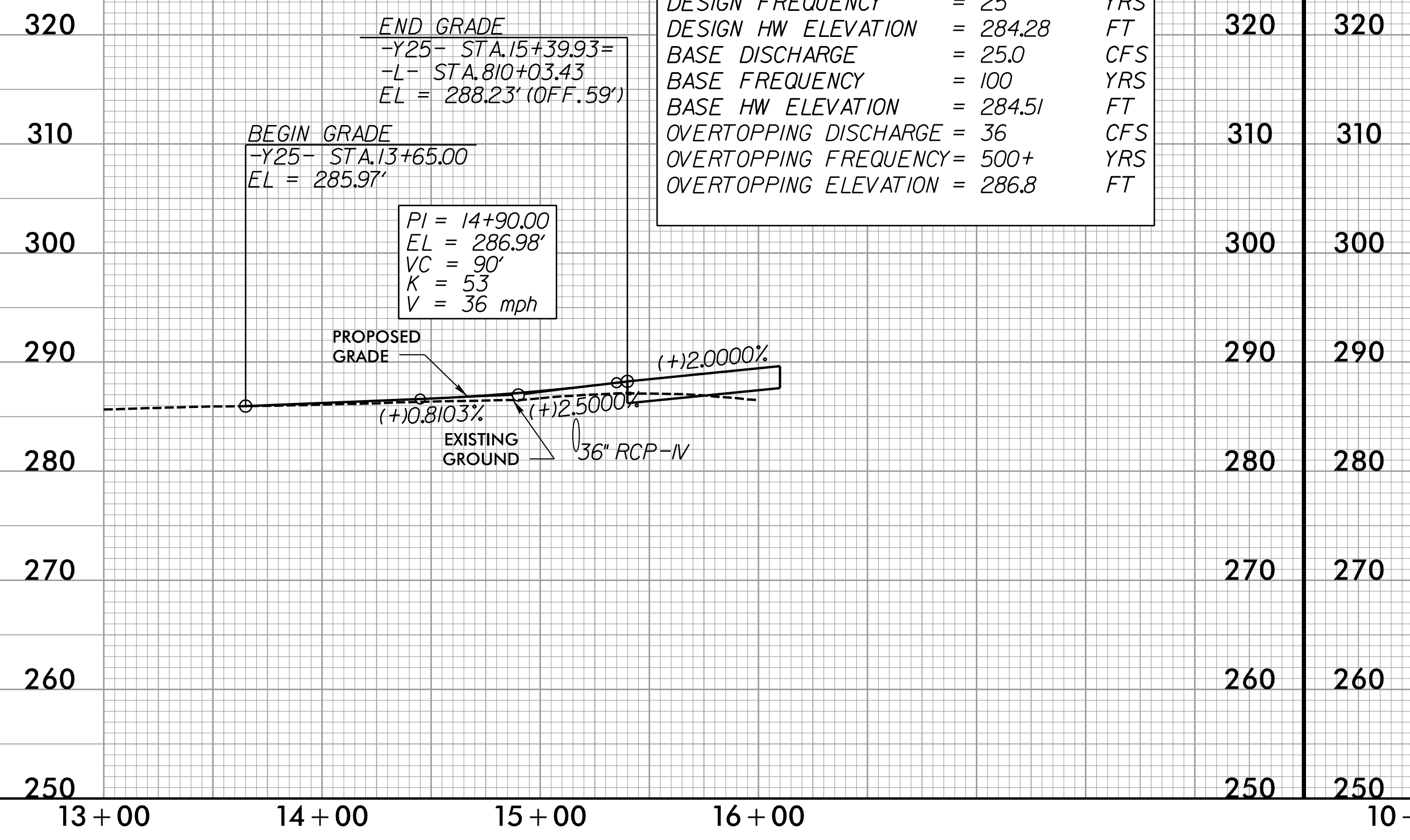
# -Y25-

# -Y26-

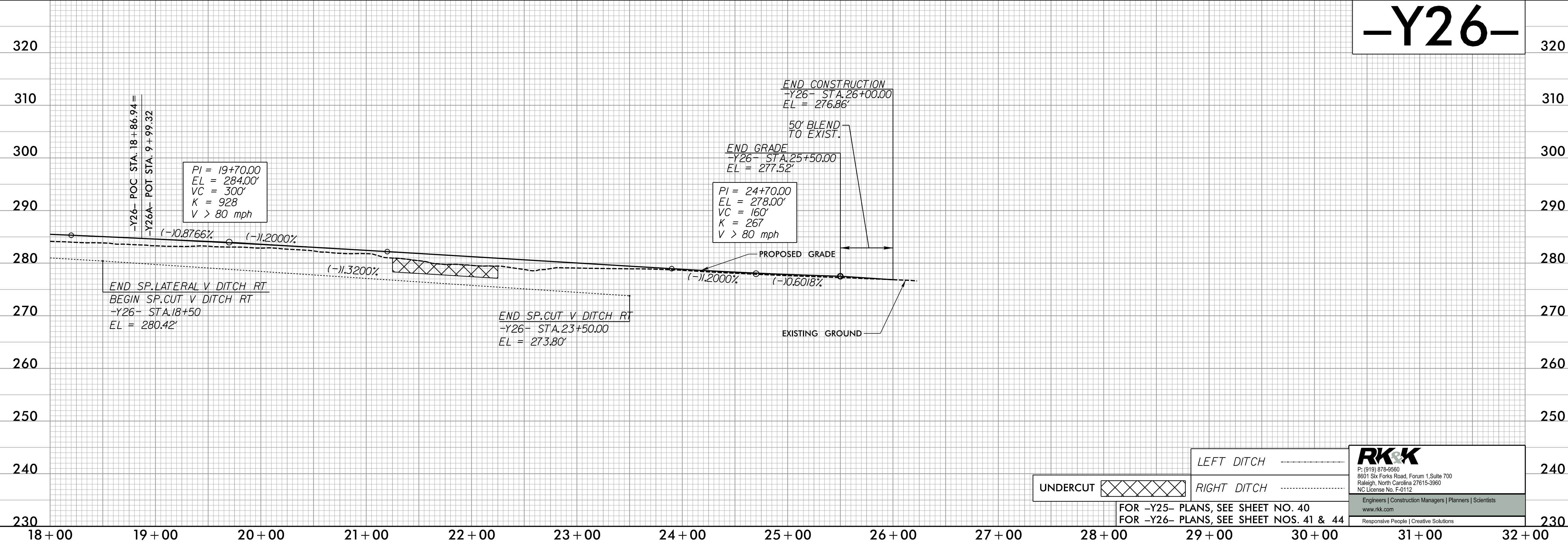
PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>72</b>
ROADWAY DESIGN ENGINEER <i>Mary E. Mays</i>	HYDRAULICS ENGINEER <i>Courtland A. Hoffman</i>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**CULVERT HYDRAULIC DATA**  
-Y25- STA.15+16.45

DESIGN DISCHARGE	= 25.0	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 284.28	FT
BASE DISCHARGE	= 25.0	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 284.51	FT
OVERTOPPING DISCHARGE	= 36	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 286.8	FT



# -Y26-



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FOR -Y25- PLANS, SEE SHEET NO. 40 FOR -Y26- PLANS, SEE SHEET NOS. 41 & 44	



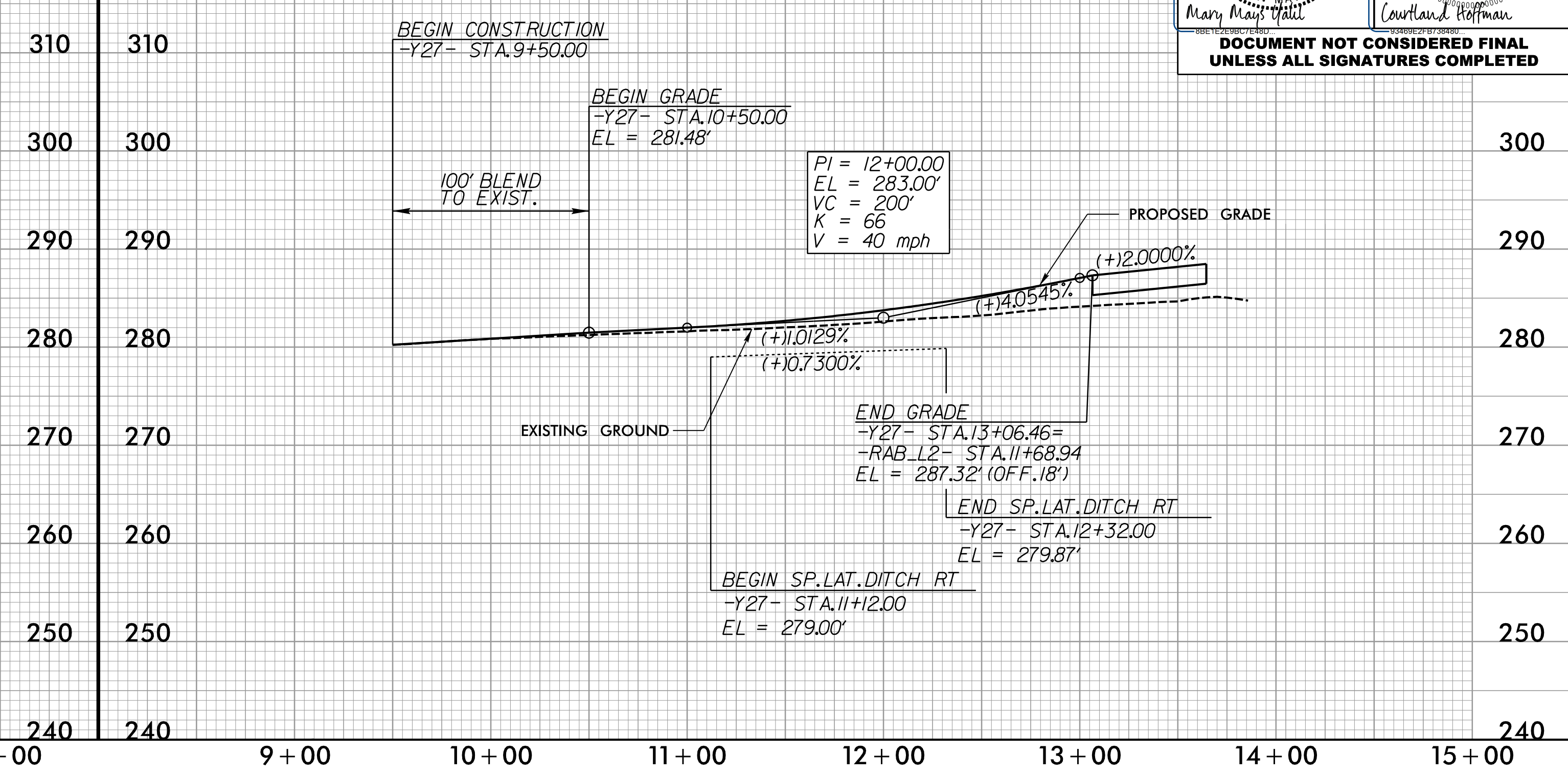
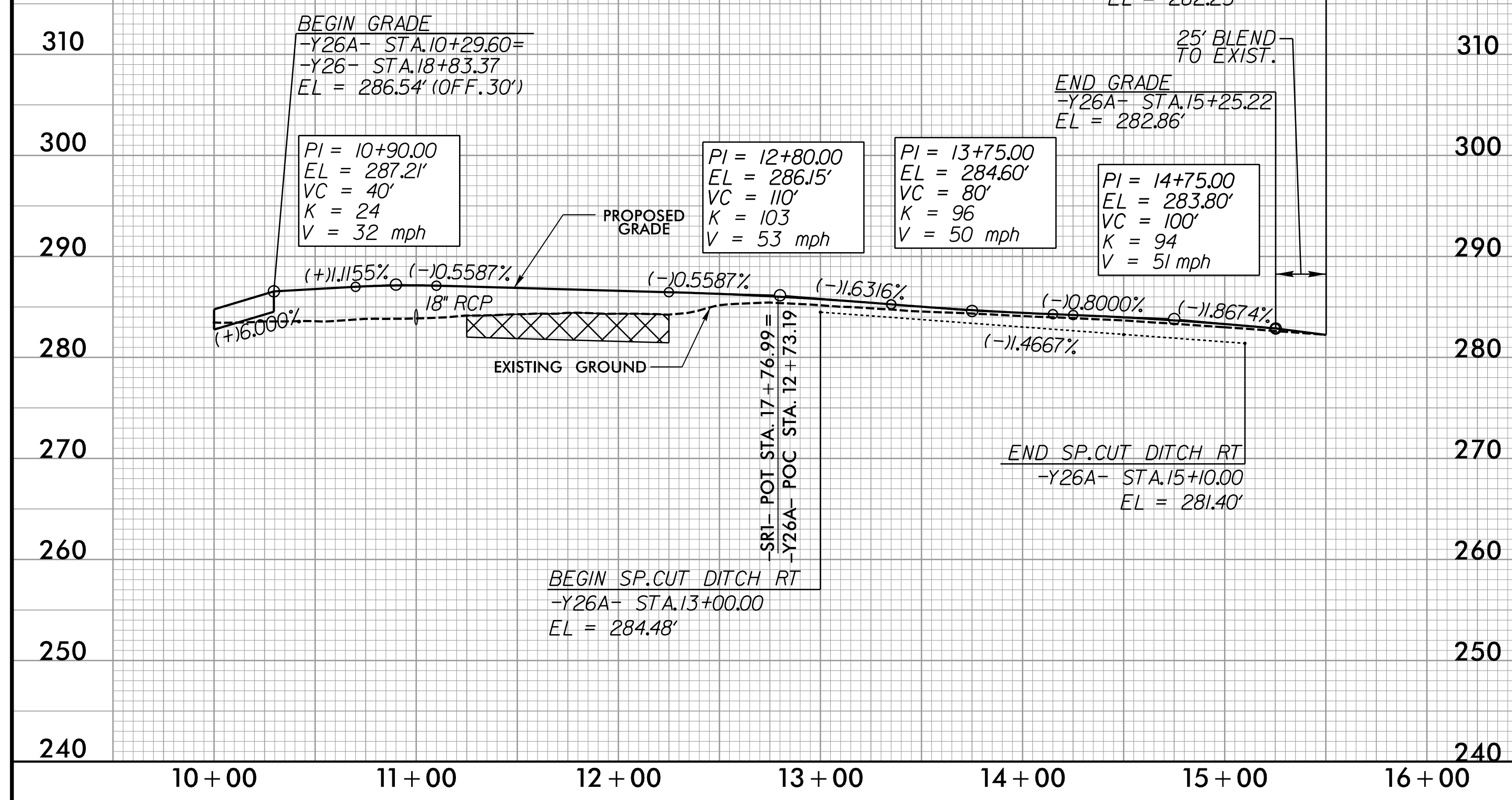
5/28/24

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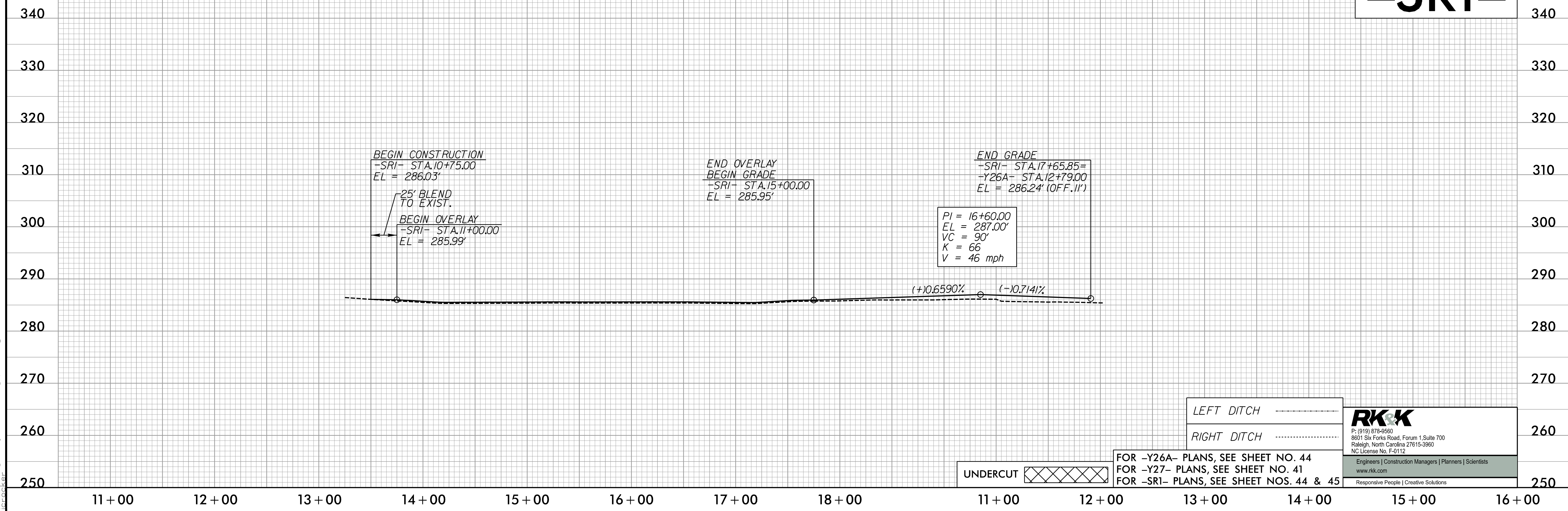
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# -Y27-

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>73</b>
ROADWAY DESIGN ENGINEER SEAL 040878 MAY 15/2024 Mary Mary Hall	HYDRAULICS ENGINEER SEAL 51640 MAY 14/2024 COURTLAND A. HOFFMAN
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



# -SRI-



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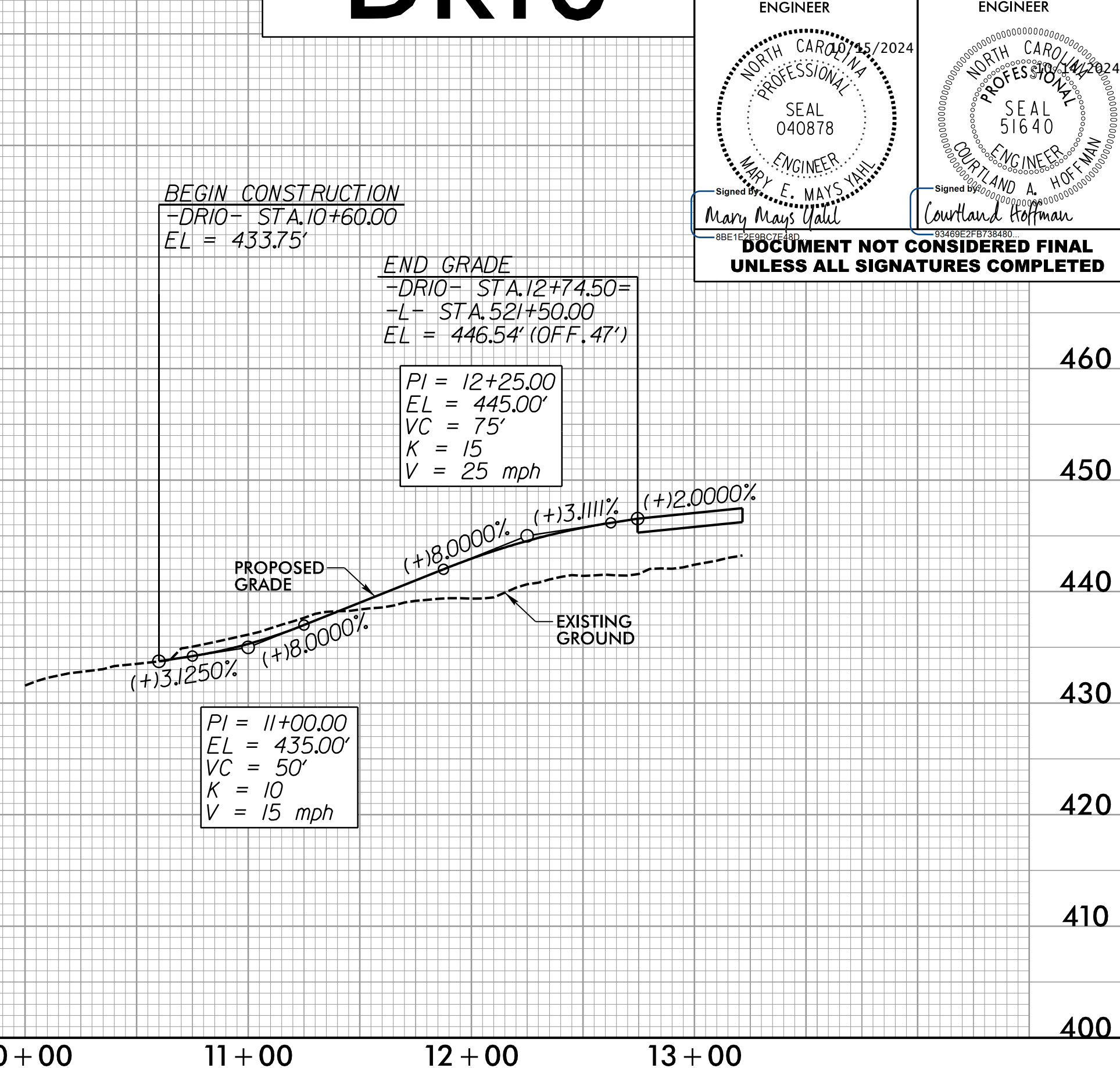
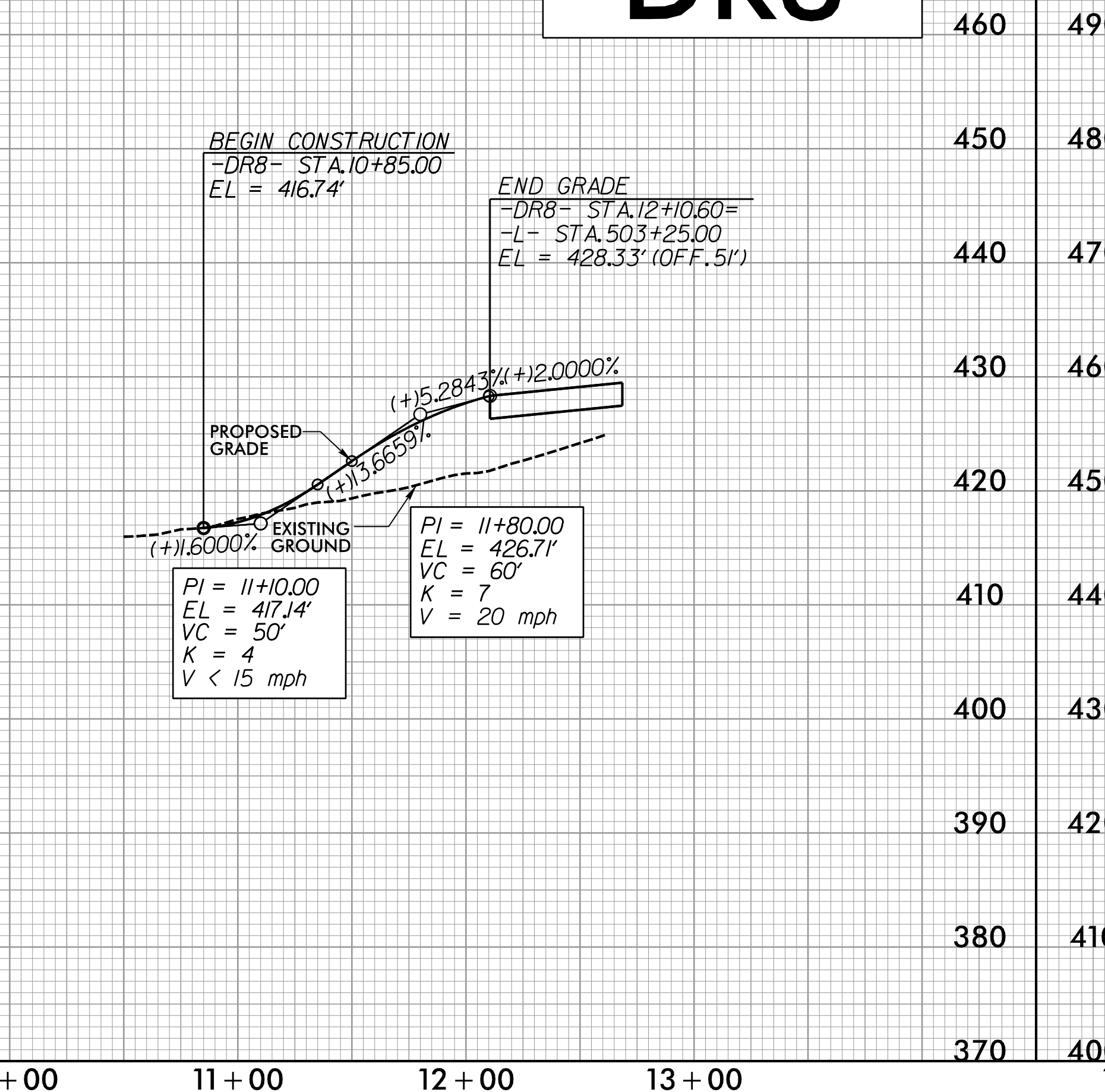
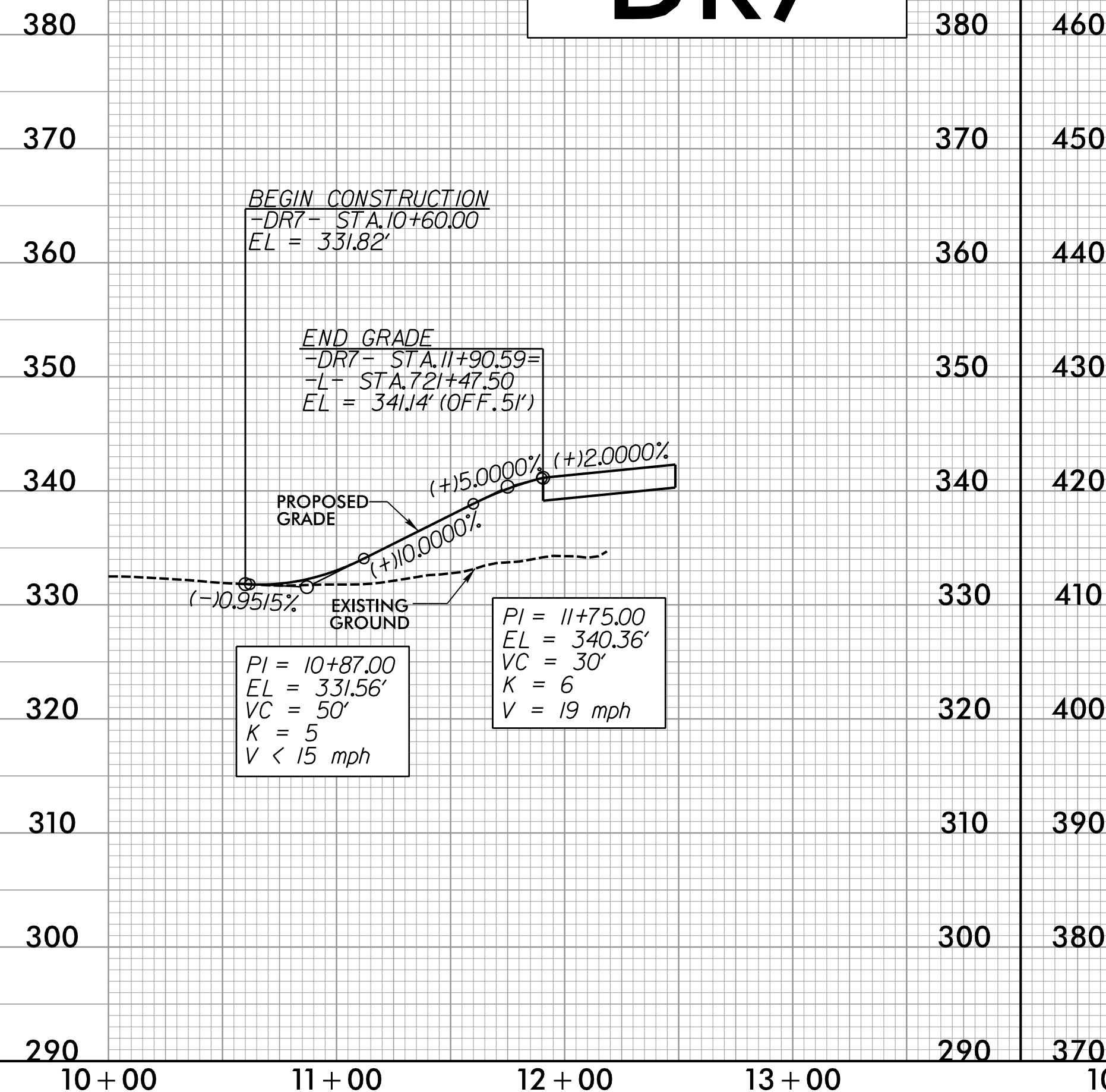
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# -DR7-

# -DR8-

# -DR10-

PROJECT REFERENCE NO. <b>R-5709C</b>	SHEET NO. <b>74</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



LEFT DITCH .....  
 RIGHT DITCH .....

FOR -DR7- PLAN, SEE SHEET NO. 34  
 FOR -DR8- PLAN, SEE SHEET NO. 18  
 FOR -DR10- PLAN, SEE SHEET NO. 19

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