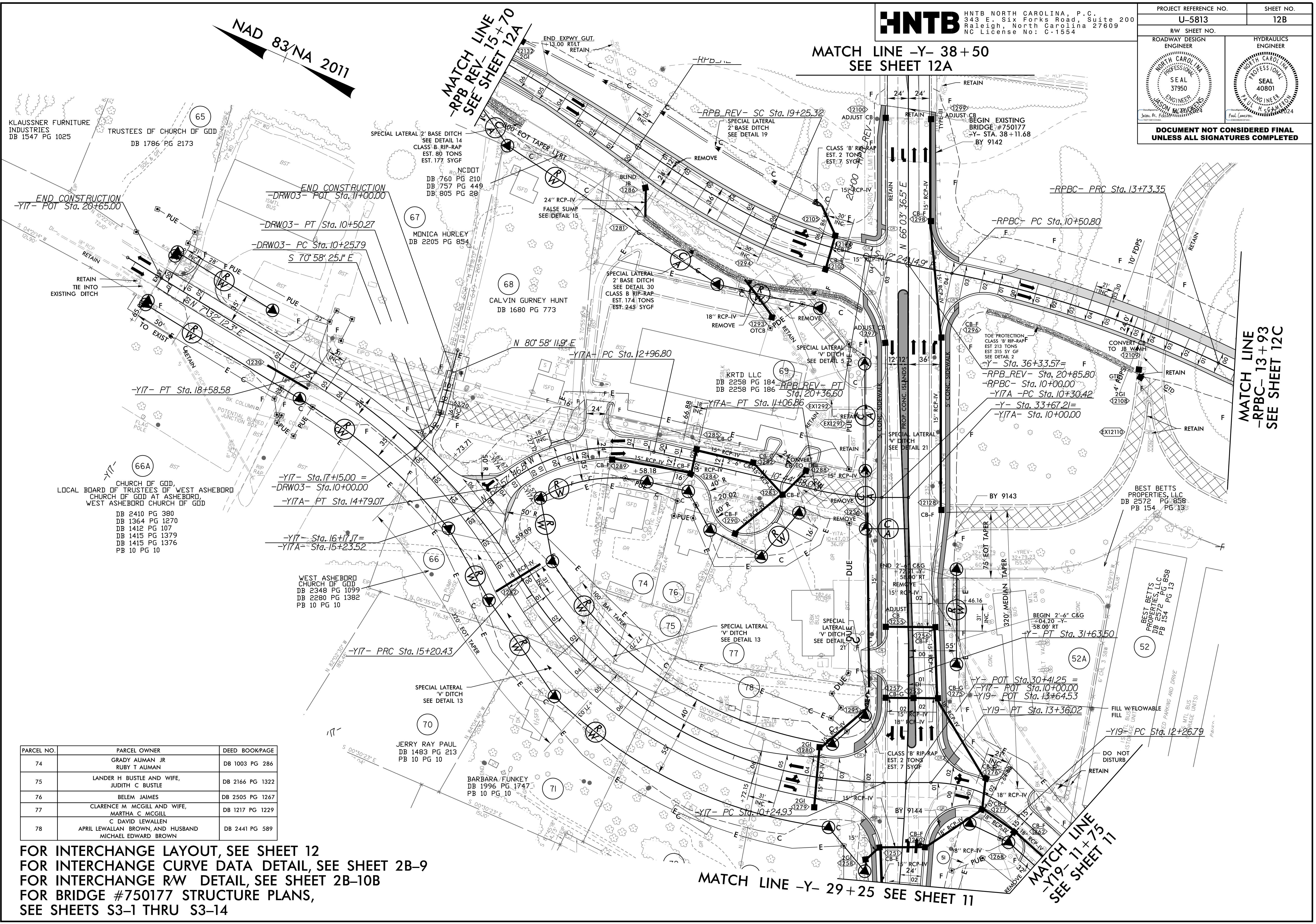


PROJECT REFERENCE NO. U-5813	SHEET NO. 12B
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	SEAL 37950
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	


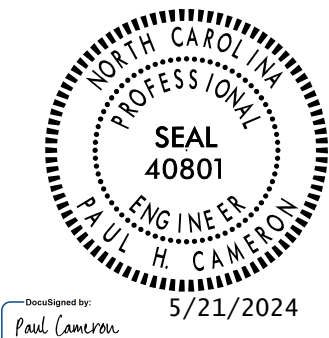


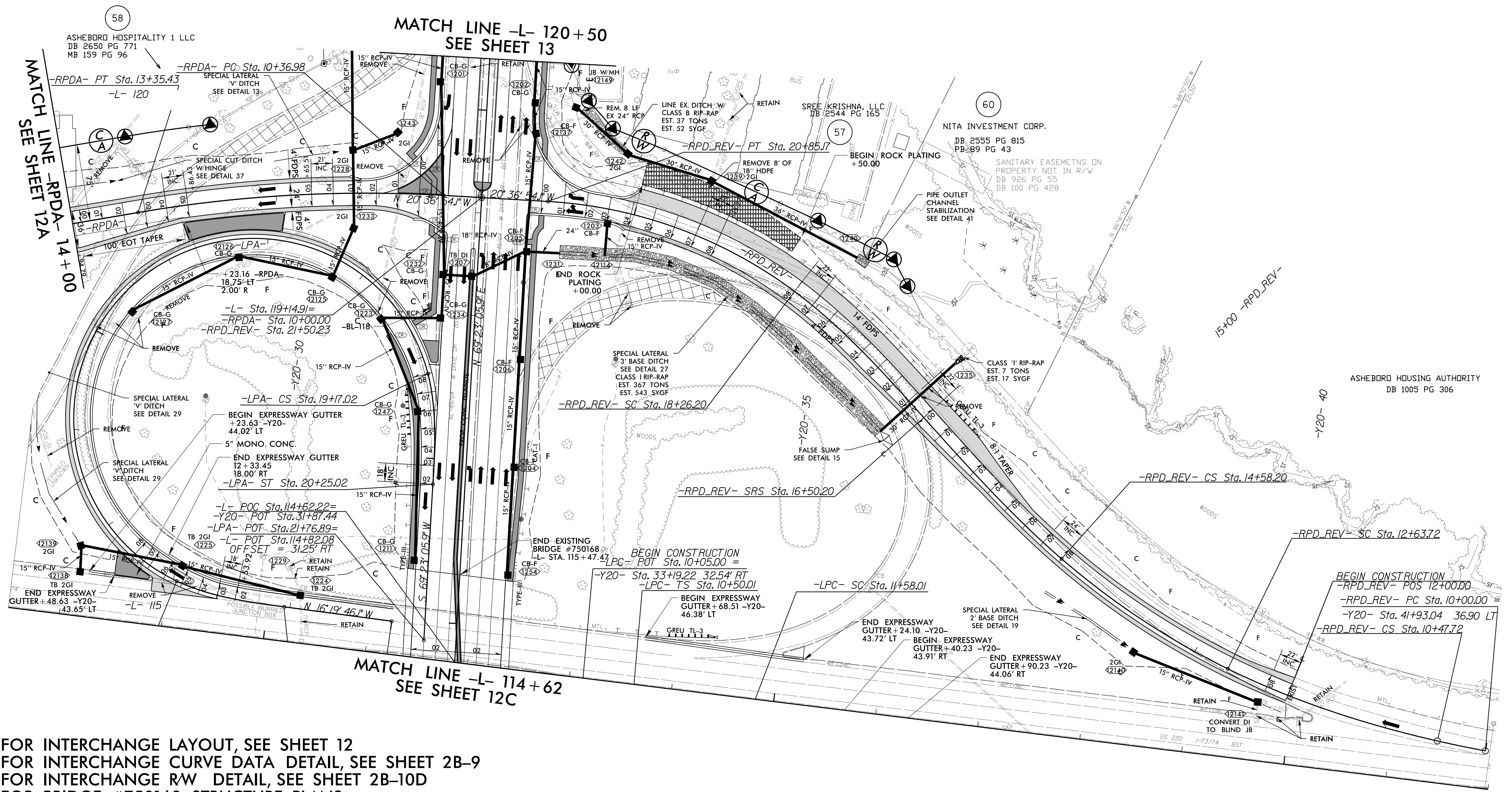
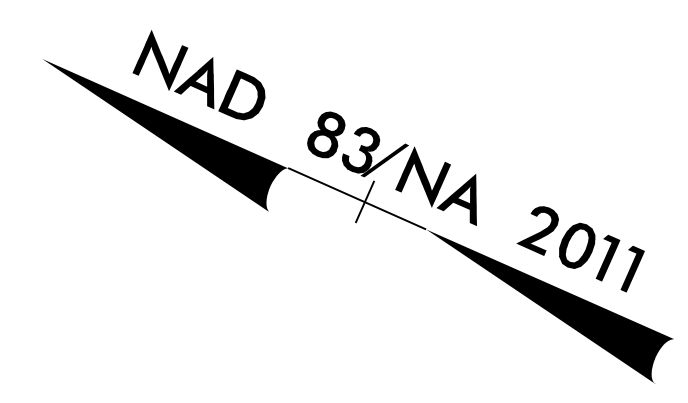
PARCEL NO.	PARCEL OWNER	DEED BOOK/PAGE
74	GRADY AUMAN JR RUBY T AUMAN	DB 1003 PG 286
75	LANDER H BUSTLE AND WIFE, JUDITH C BUSTLE	DB 2166 PG 1322
76	BELEM JAIMES	DB 2505 PG 1267
77	CLARENCE M. MCGILL AND WIFE, MARTHA C. MCGILL	DB 1217 PG 1229
78	C DAVID LEWALLEN APRIL LEWALLEN BROWN, AND HUSBAND MICHAEL EDWARD BROWN	DB 2441 PG 589

FOR INTERCHANGE LAYOUT, SEE SHEET 12
 FOR INTERCHANGE CURVE DATA DETAIL, SEE SHEET 2B-9
 FOR INTERCHANGE RW DETAIL, SEE SHEET 2B-10B
 FOR BRIDGE #750177 STRUCTURE PLANS,
 SEE SHEETS S3-1 THRU S3-14


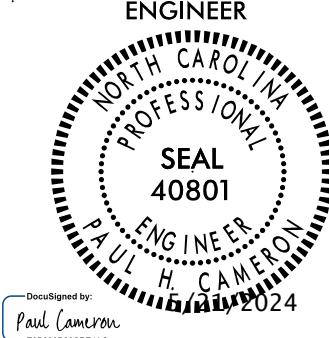
8/17/99

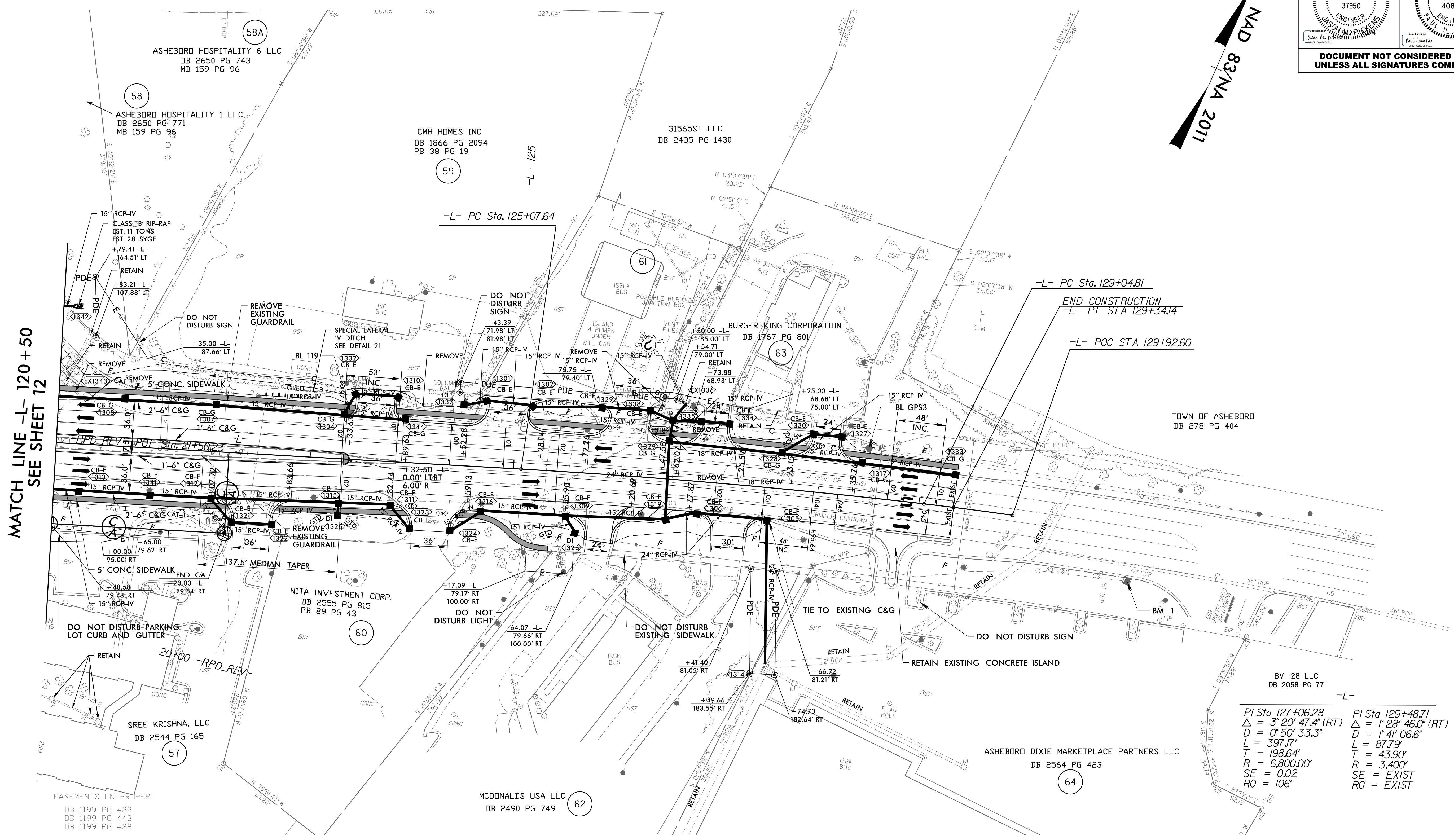
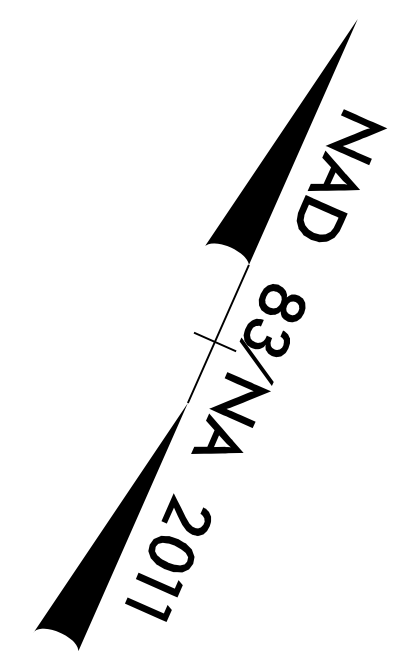
8/17/99

PROJECT REFERENCE NO. U-5813	SHEET NO. 12D
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



FOR INTERCHANGE LAYOUT, SEE SHEET 12
 FOR INTERCHANGE CURVE DATA DETAIL, SEE SHEET 2B-9
 FOR INTERCHANGE RW DETAIL, SEE SHEET 2B-10D
 FOR BRIDGE #750168 STRUCTURE PLANS,
 SEE SHEETS S2-1 THRU S2-6

PROJECT REFERENCE NO. U-5813	SHEET NO. 13
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCH LINE -L- 120+50
SEE SHEET 12

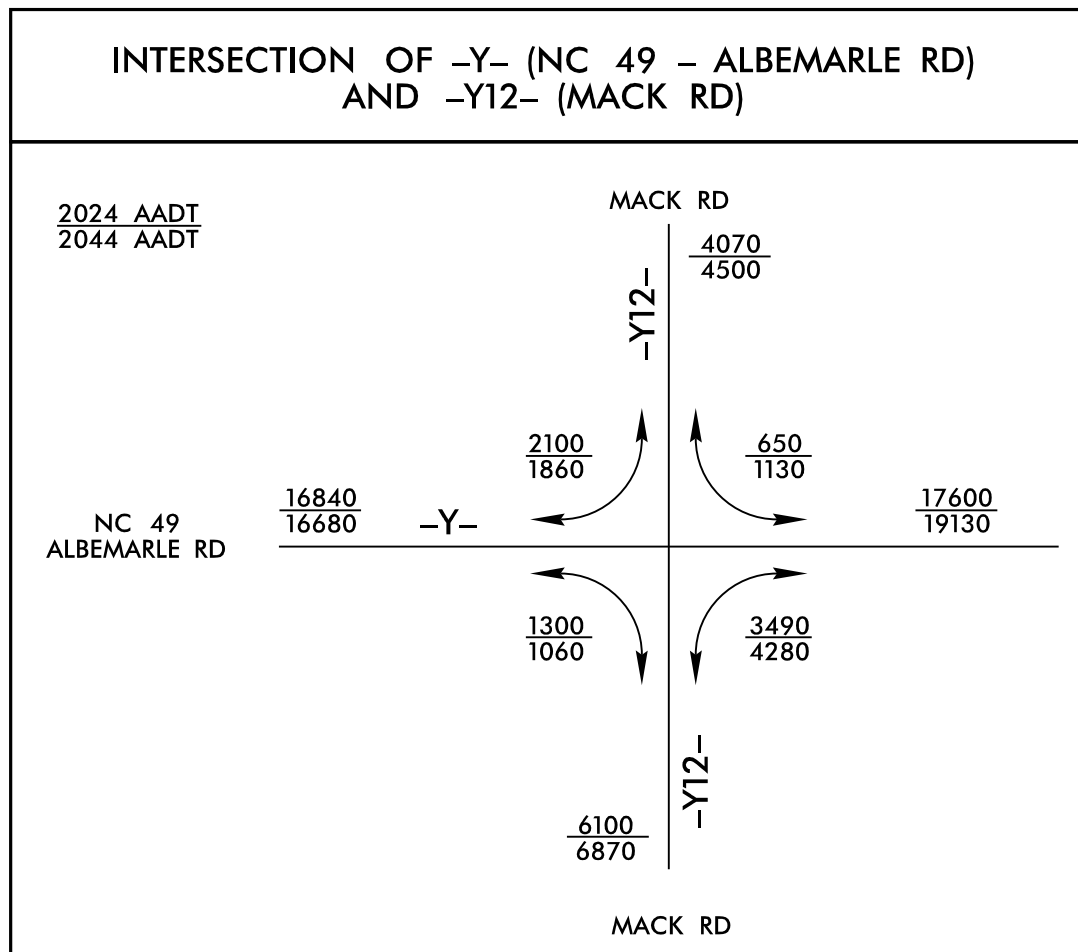
NOTE:
1.) ALL DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

$PI\ Sta\ 127+06.28$ $\Delta = 3^{\circ} 20' 47.4" (RT)$ $D = 0^{\circ} 50' 33.3"$ $L = 397.17'$ $R = 198.64'$ $R = 6,800.00'$ $SE = 0.02$ $RO = 106'$	$PI\ Sta\ 129+48.71$ $\Delta = 1^{\circ} 28' 46.0" (RT)$ $D = 1^{\circ} 41' 06.6"$ $L = 87.79'$ $T = 43.90'$ $R = 3,400'$ $SE = EXIST$ $RO = EXIST$
---	--

FOR -L- PROFILE, SEE SHEETS 19,20

8.17/199

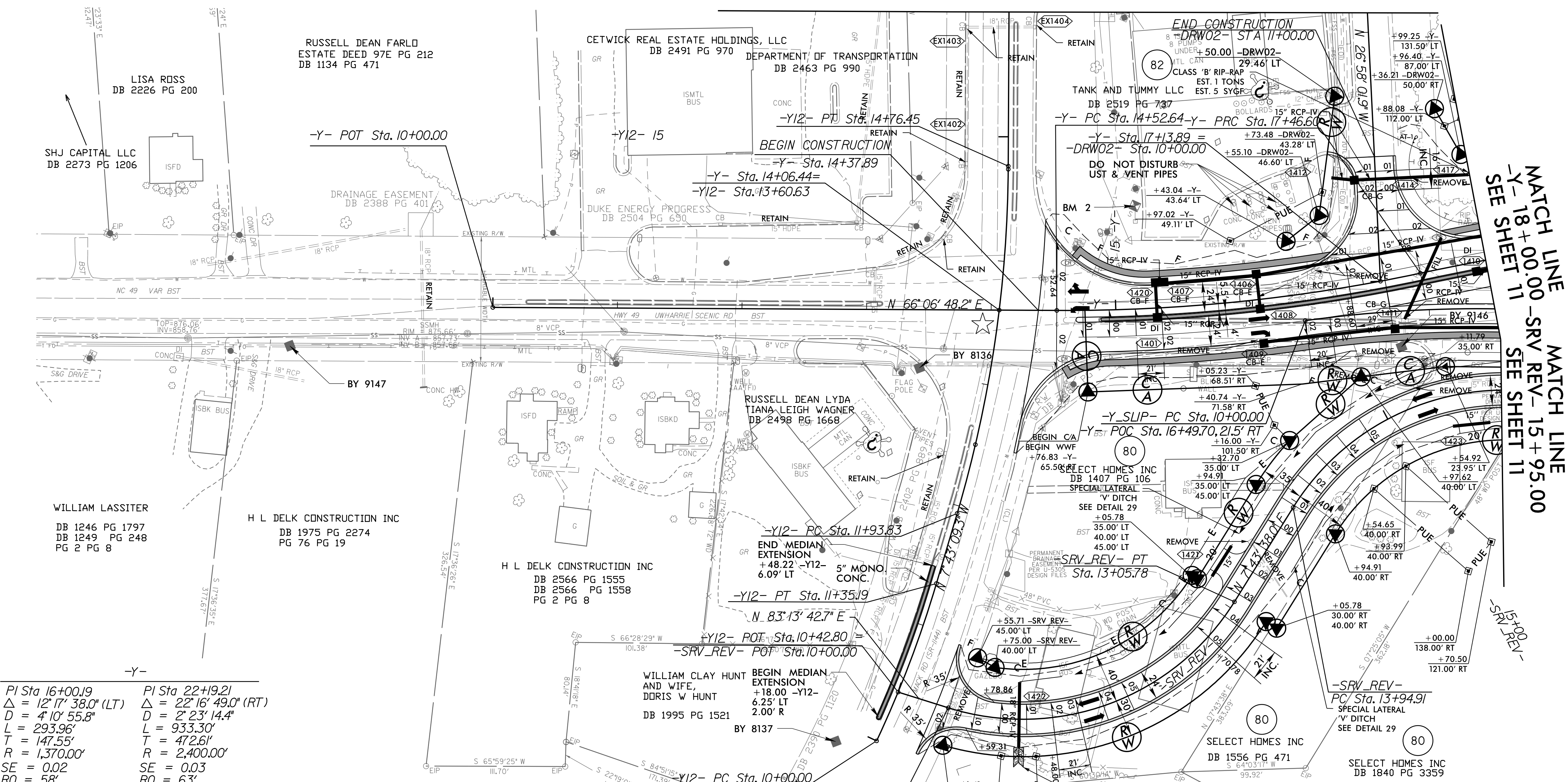
PROJECT REFERENCE NO. U-5813	SHEET NO. 14
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCH LINE -Y12- 16+00
SEE SHEET 10

MAD 83/NA 2011

☆ EXISTING SIGNAL



MATCH LINE -SRV REV- 15+95.00
SEE SHEET 11

-Y-	-Y12-
PI Sta 16+00.19 Δ = 12°17' 38.0" (LT) D = 4°10' 55.8" L = 293.96' T = 147.55' R = 1,370.00' SE = 0.02 RO = 58'	PI Sta 22+19.21 Δ = 22°16' 49.0" (RT) D = 2°23' 14.4" L = 933.30' T = 472.61' R = 2,400.00' SE = 0.03 RO = 63'

-Y12-	-YSLIP-
PI Sta 10+67.72 Δ = 8°42' 10.6" (LT) D = 6°26' 15.8" L = 135.19' T = 67.72' R = 890.00' SE = EXIST RO = N/A	PI Sta 13+36.09 Δ = 16°11' 34.4" (LT) D = 5°43' 46.5" L = 282.62' T = 142.26' R = 1,000.00' SE = EXIST RO = N/A

-SRV_REV-	-SRV_REV- PC Sta. 10+42.23
PI Sta 11+97.09 Δ = 75°30' 04.7" (LT) D = 28°38' 52.4" T = 154.86' L = 263.55' R = 200.00' SE = 0.05 RO = 105'	PI Sta 15+33.11 Δ = 69°17' 20.1" (RT) D = 28°38' 52.4" T = 138.20' L = 241.86' R = 200.00' SE = 0.05 RO = 105'

FOR -Y-, -Y12-, & -DRW02- DIMENSIONS, SEE SHEET 2B-3
 -Y12- & -SRV_REV- DIMENSIONS AND MEDIAN EXTENSION, SEE SHEET 2B-3
 FOR -Y- PROFILE, SEE SHEET 21
 FOR -Y12- PROFILE, SEE SHEET 25
 FOR -Y SLIP- & -DRW02- PROFILES, SEE SHEET 26 FOR -SRV_REV- PROFILE, SEE SHEET 32

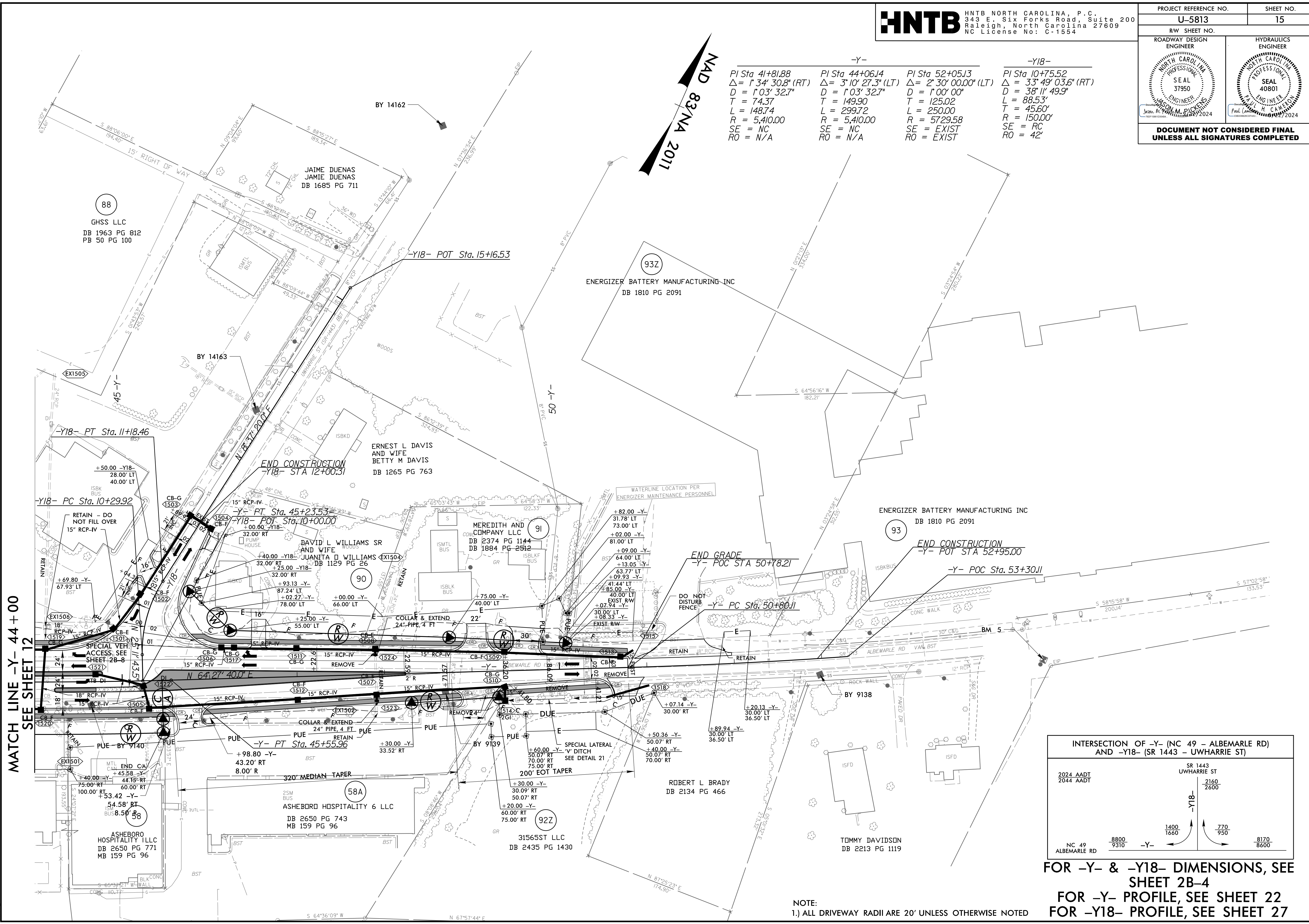
22-MAY-2024 14:26
\\p01\proj\p01\U5813-RDY_PSH14.dgn
HNTB

8.17/17.99
22-MAY-2024 14:27
Roadway\Projects\U5813-RDY_PSH15.dgn
DATE

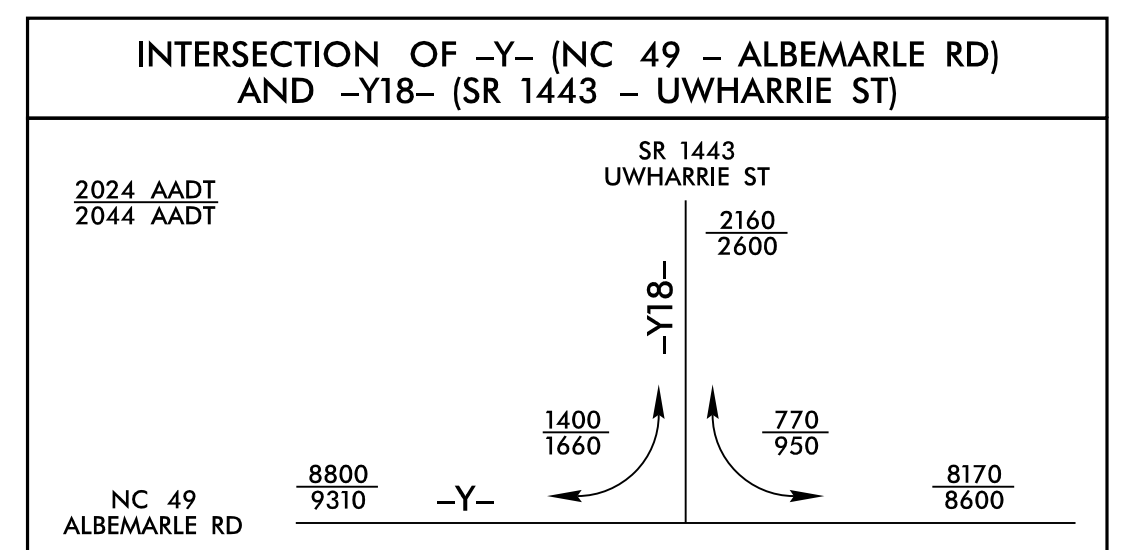
PROJECT REFERENCE NO. U-5813	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-Y-	-Y18-
PI Sta 41+81.88 $\Delta = 1' 34' 30.8''$ (RT) $D = 1' 03' 32.7''$ $T = 74.37$ $L = 148.74$ $R = 5,410.00$ $SE = NC$ $RO = N/A$	PI Sta 44+06.14 $\Delta = 3' 10' 27.3''$ (LT) $D = 1' 03' 32.7''$ $T = 149.90$ $L = 299.72$ $R = 5,410.00$ $SE = NC$ $RO = N/A$
PI Sta 52+05.13 $\Delta = 2' 30' 00.00''$ (LT) $D = 1' 00' 00''$ $T = 125.02$ $L = 250.00$ $R = 5,729.58$ $SE = EXIST$ $RO = EXIST$	PI Sta 10+75.52 $\Delta = 3' 49' 03.6''$ (RT) $D = 38' 11' 49.9''$ $L = 88.53'$ $T = 45.60'$ $R = 150.00'$ $SE = RC$ $RO = 42'$

NAD 83/NA 2011



**MATCH LINE -Y- 44+00
SEE SHEET 12**



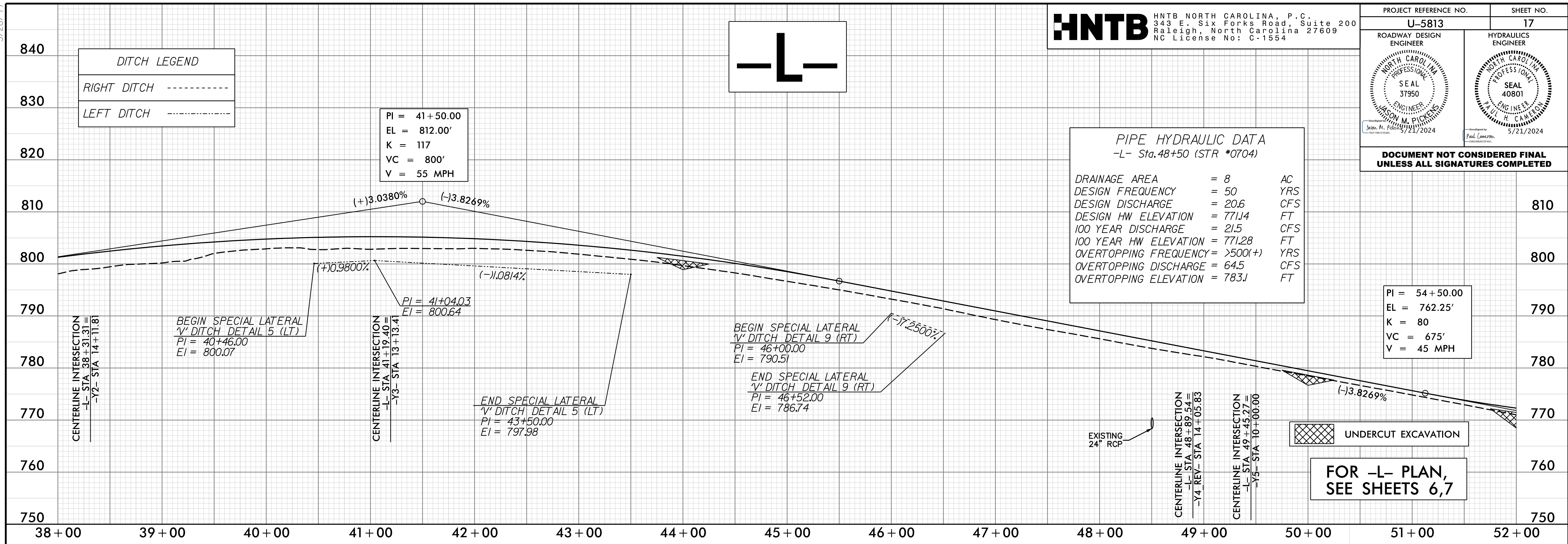
NOTE:
1.) ALL DRIVEWAY RADII ARE 20' UNLESS OTHERWISE NOTED

**FOR -Y- & -Y18- DIMENSIONS, SEE SHEET 2B-4
FOR -Y- PROFILE, SEE SHEET 22
FOR -Y18- PROFILE, SEE SHEET 27**

5/28/24

PROJECT REFERENCE NO. U-5813	SHEET NO. 17
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER

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



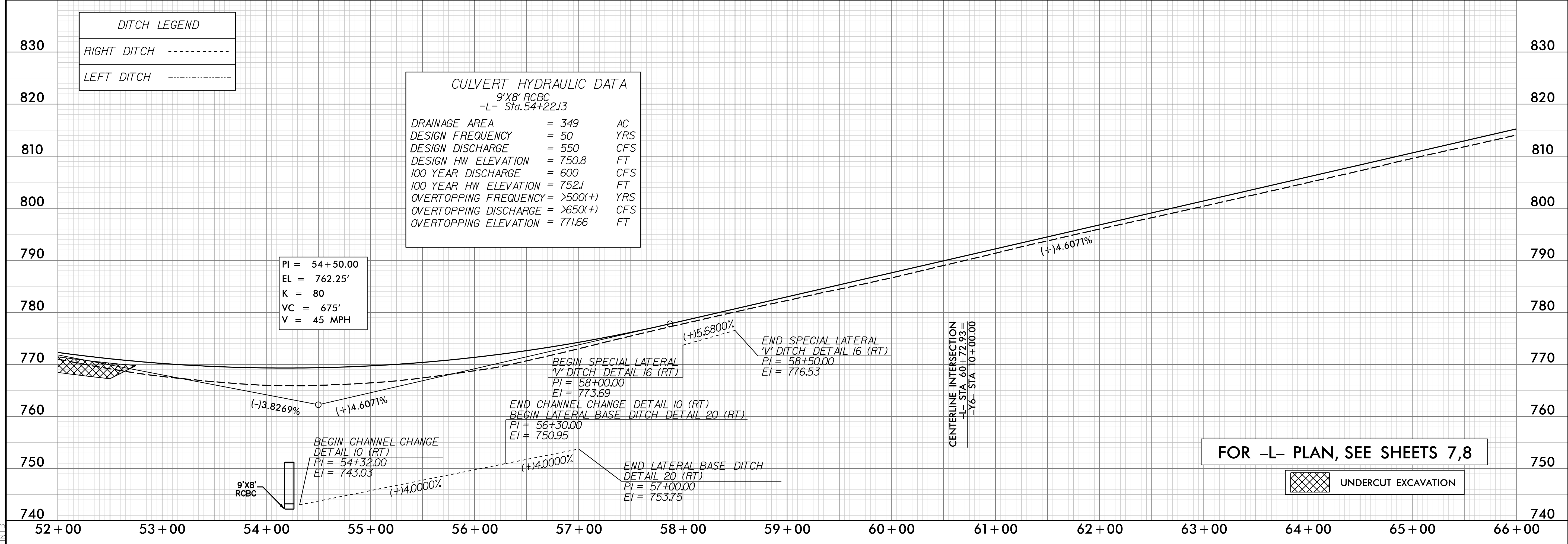
PIPE HYDRAULIC DATA
-L- Sta.48+50 (STR #0704)

DRAINAGE AREA	= 8	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 20.6	CFS
DESIGN HW ELEVATION	= 771.14	FT
100 YEAR DISCHARGE	= 21.5	CFS
100 YEAR HW ELEVATION	= 771.28	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 64.5	CFS
OVERTOPPING ELEVATION	= 783.1	FT

PI = 54+50.00
EL = 762.25'
K = 80
VC = 675'
V = 45 MPH

UNDERCUT EXCAVATION

**FOR -L- PLAN,
SEE SHEETS 6,7**



CULVERT HYDRAULIC DATA
9'x8' RCBC
-L- Sta.54+22.13

DRAINAGE AREA	= 349	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 550	CFS
DESIGN HW ELEVATION	= 750.8	FT
100 YEAR DISCHARGE	= 600	CFS
100 YEAR HW ELEVATION	= 752.1	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= >650(+)	CFS
OVERTOPPING ELEVATION	= 771.66	FT

PI = 54+50.00
EL = 762.25'
K = 80
VC = 675'
V = 45 MPH

UNDERCUT EXCAVATION

FOR -L- PLAN, SEE SHEETS 7,8

28 NOV 2023 11:57 AM
C:\Users\jpickens\OneDrive\Documents\U5813.RDY_PEL_PSH17.dgn

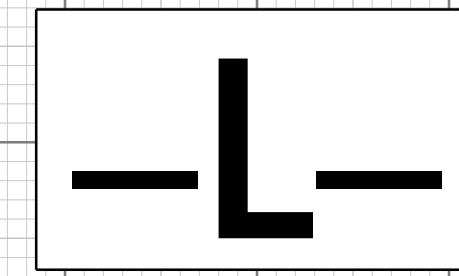
5/28/24

PROJECT REFERENCE NO. U-5813	SHEET NO. 18
ROADWAY DESIGN ENGINEER <i>(Signature)</i>	HYDRAULICS ENGINEER <i>(Signature)</i>
SEAL 37950 ENGINEER JASON M. PICKENS 5/21/2024	SEAL 40801 ENGINEER PAUL CAMERON 5/21/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DITCH LEGEND

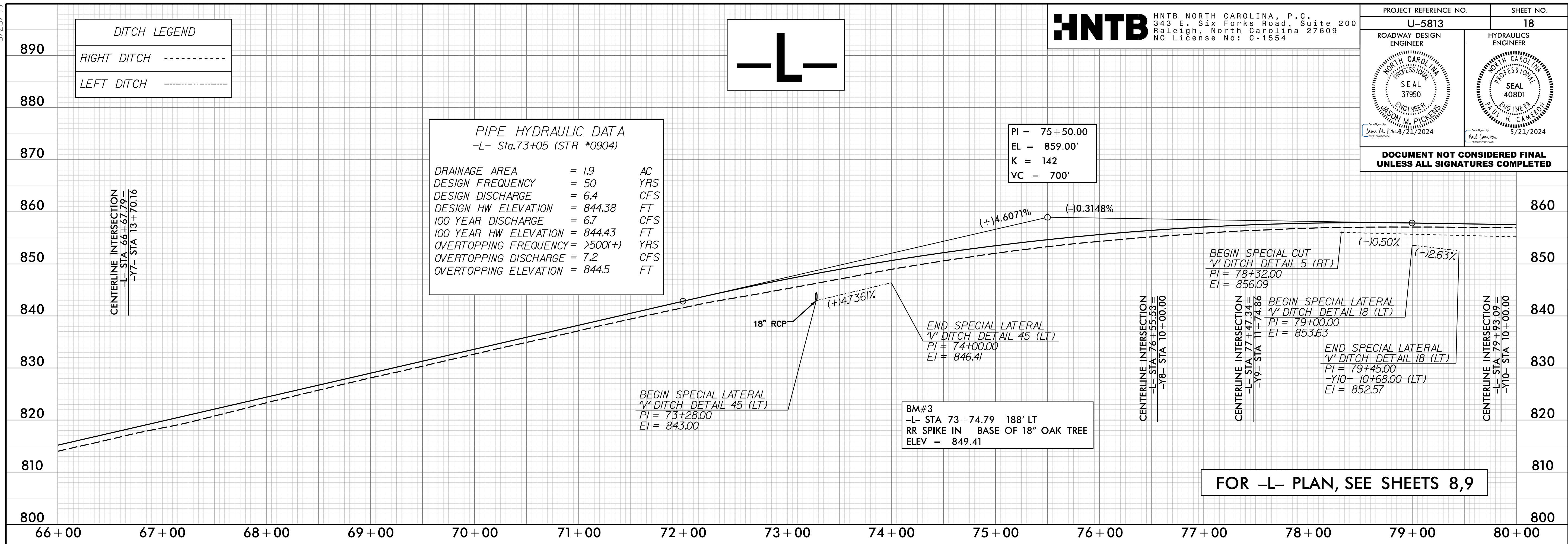
RIGHT DITCH	-----
LEFT DITCH	-----



PIPE HYDRAULIC DATA
-L- Sta.73+05 (STR *0904)

DRAINAGE AREA	= 1.9	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 6.4	CFS
DESIGN HW ELEVATION	= 844.38	FT
100 YEAR DISCHARGE	= 6.7	CFS
100 YEAR HW ELEVATION	= 844.43	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 7.2	CFS
OVERTOPPING ELEVATION	= 844.5	FT

PI = 75+50.00
 EL = 859.00'
 K = 142
 VC = 700'

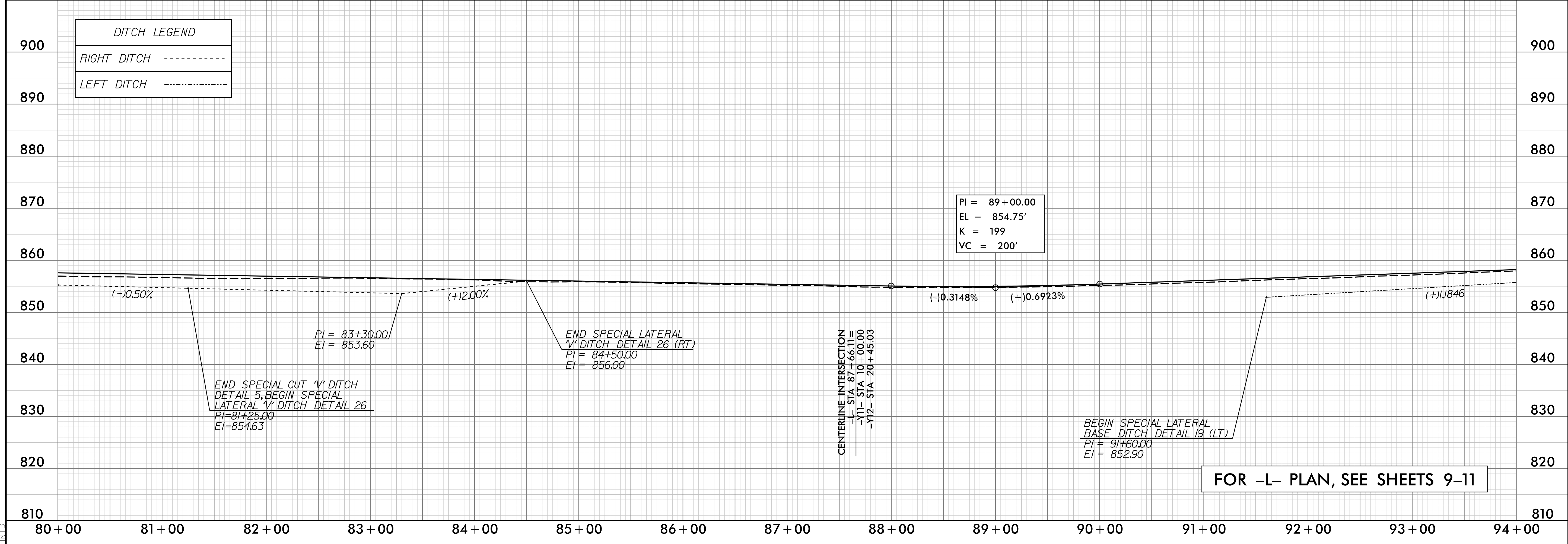


FOR -L- PLAN, SEE SHEETS 8,9

DITCH LEGEND

RIGHT DITCH	-----
LEFT DITCH	-----

PI = 89+00.00
 EL = 854.75'
 K = 199
 VC = 200'



FOR -L- PLAN, SEE SHEETS 9-11

28 NOV 2023 11:57 AM
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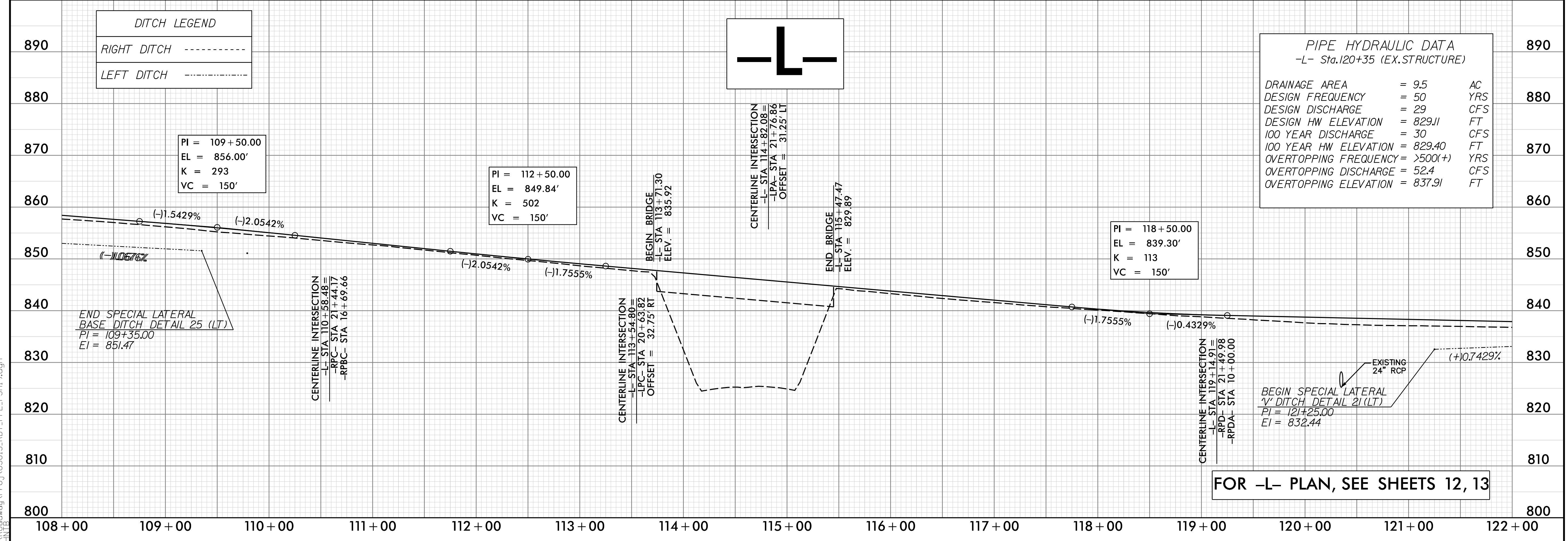
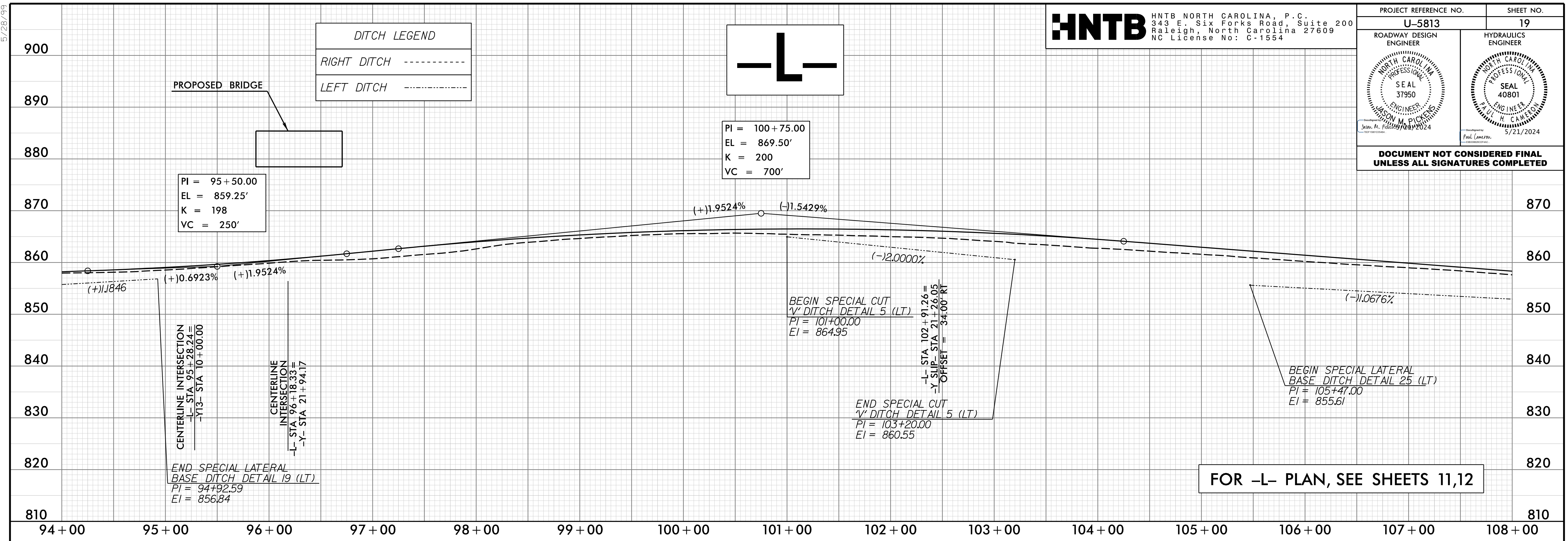
5/28/24

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 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554

PROJECT REFERENCE NO. U-5813	SHEET NO. 19
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER

DATE: 5/23/2024

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

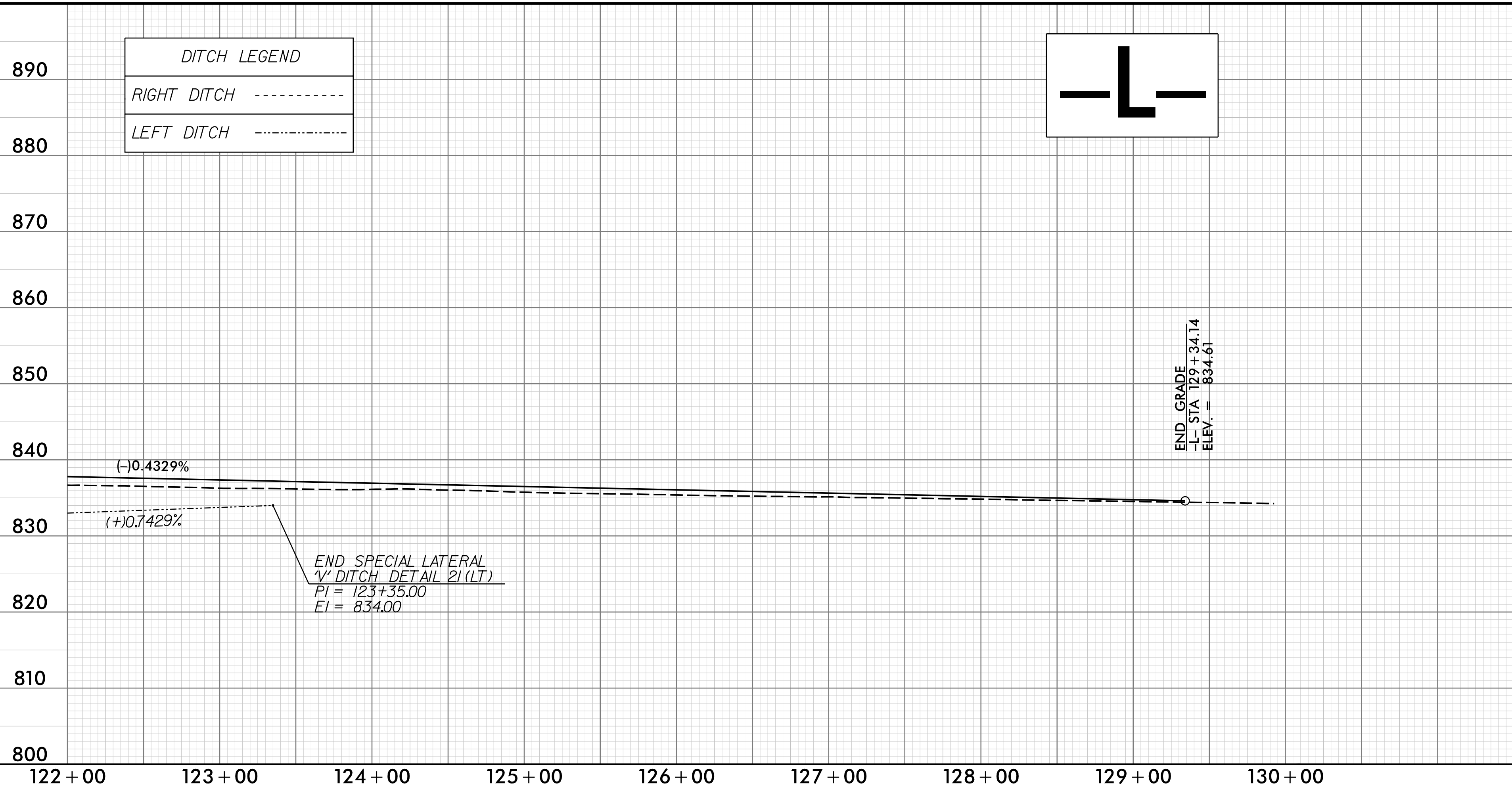


PIPE HYDRAULIC DATA
 -L- Sta.120+35 (EX.STRUCTURE)

DRAINAGE AREA	= 9.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 29	CFS
DESIGN HW ELEVATION	= 829.11	FT
100 YEAR DISCHARGE	= 30	CFS
100 YEAR HW ELEVATION	= 829.40	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 52.4	CFS
OVERTOPPING ELEVATION	= 837.91	FT

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 DATE

5/28/24



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PROJECT REFERENCE NO. U-5813	SHEET NO. 20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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UNLESS ALL SIGNATURES COMPLETED**

860
850
840
830
820
810
800

122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

FOR -L- PLAN, SEE SHEET 13

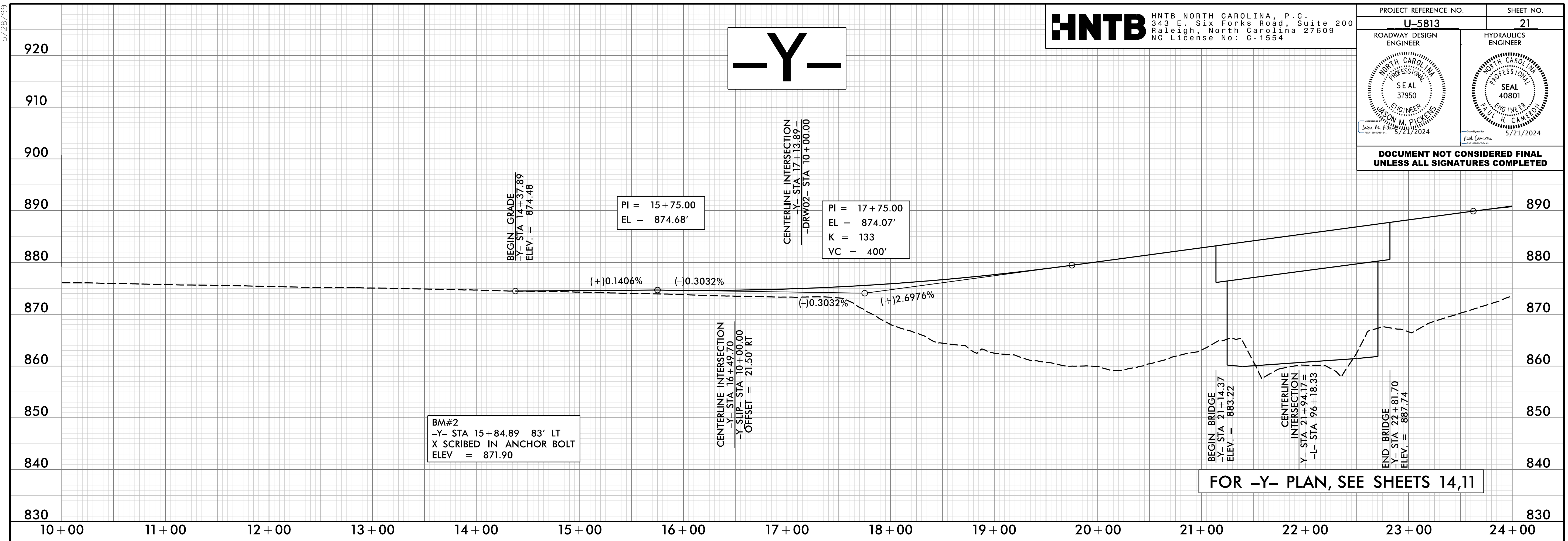
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5/28/24

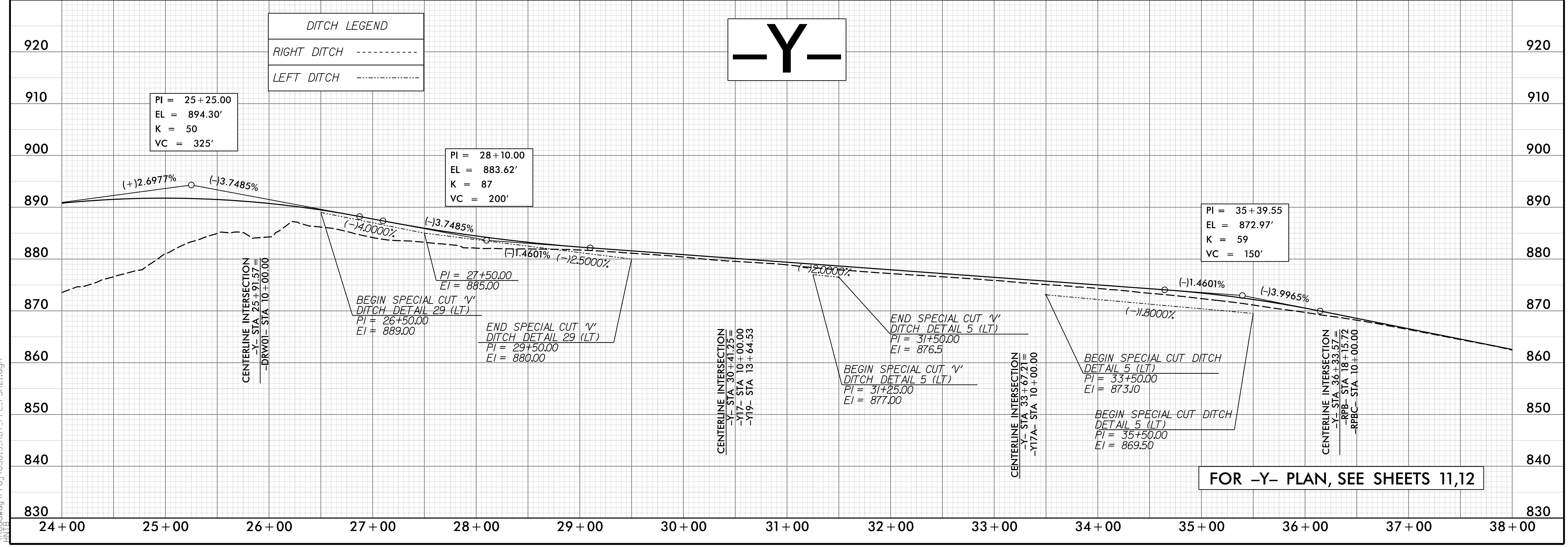
HNTB HNTB NORTH CAROLINA, P.C.
 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554

PROJECT REFERENCE NO. U-5813	SHEET NO. 21
ROADWAY DESIGN ENGINEER [Signature]	HYDRAULICS ENGINEER [Signature]
SEAL 37950 [Stamp]	SEAL 40801 [Stamp]
DATE: 5/21/2024	DATE: 5/21/2024

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



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[File Path]



DITCH LEGEND

RIGHT DITCH	-----
LEFT DITCH	-----

5/28/24

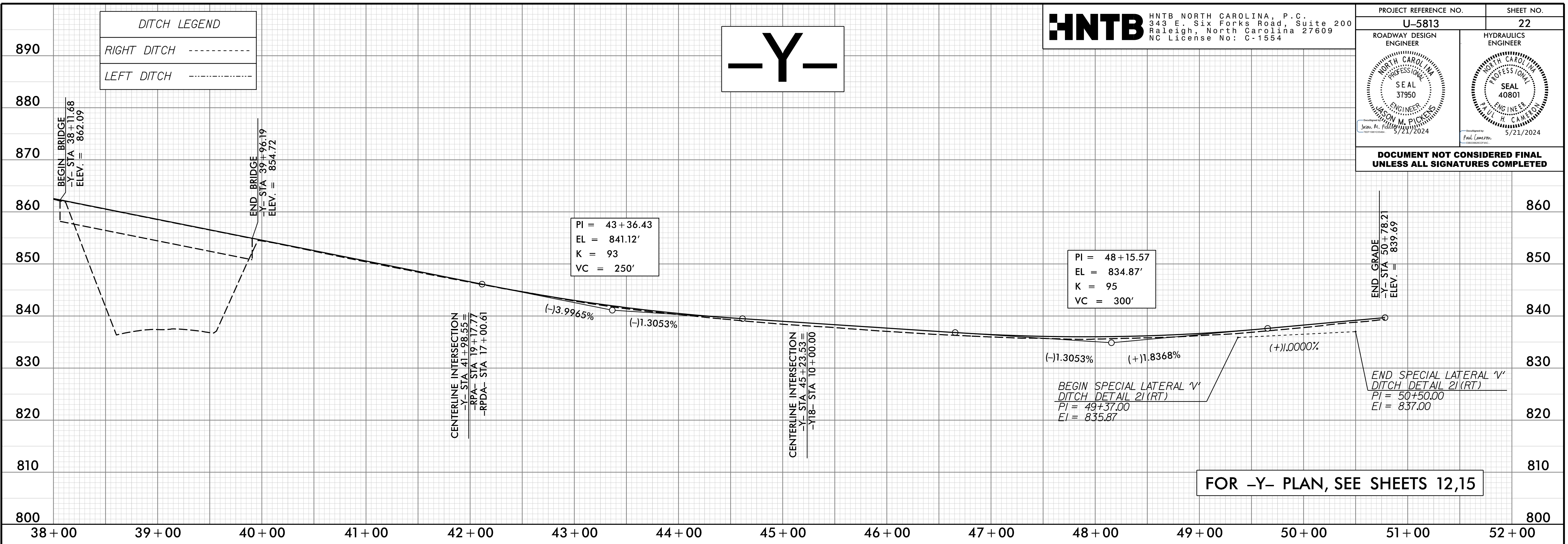
DITCH LEGEND	
RIGHT DITCH	-----
LEFT DITCH	-----

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PROJECT REFERENCE NO.	SHEET NO.
U-5813	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-Y-



FOR -Y- PLAN, SEE SHEETS 12,15

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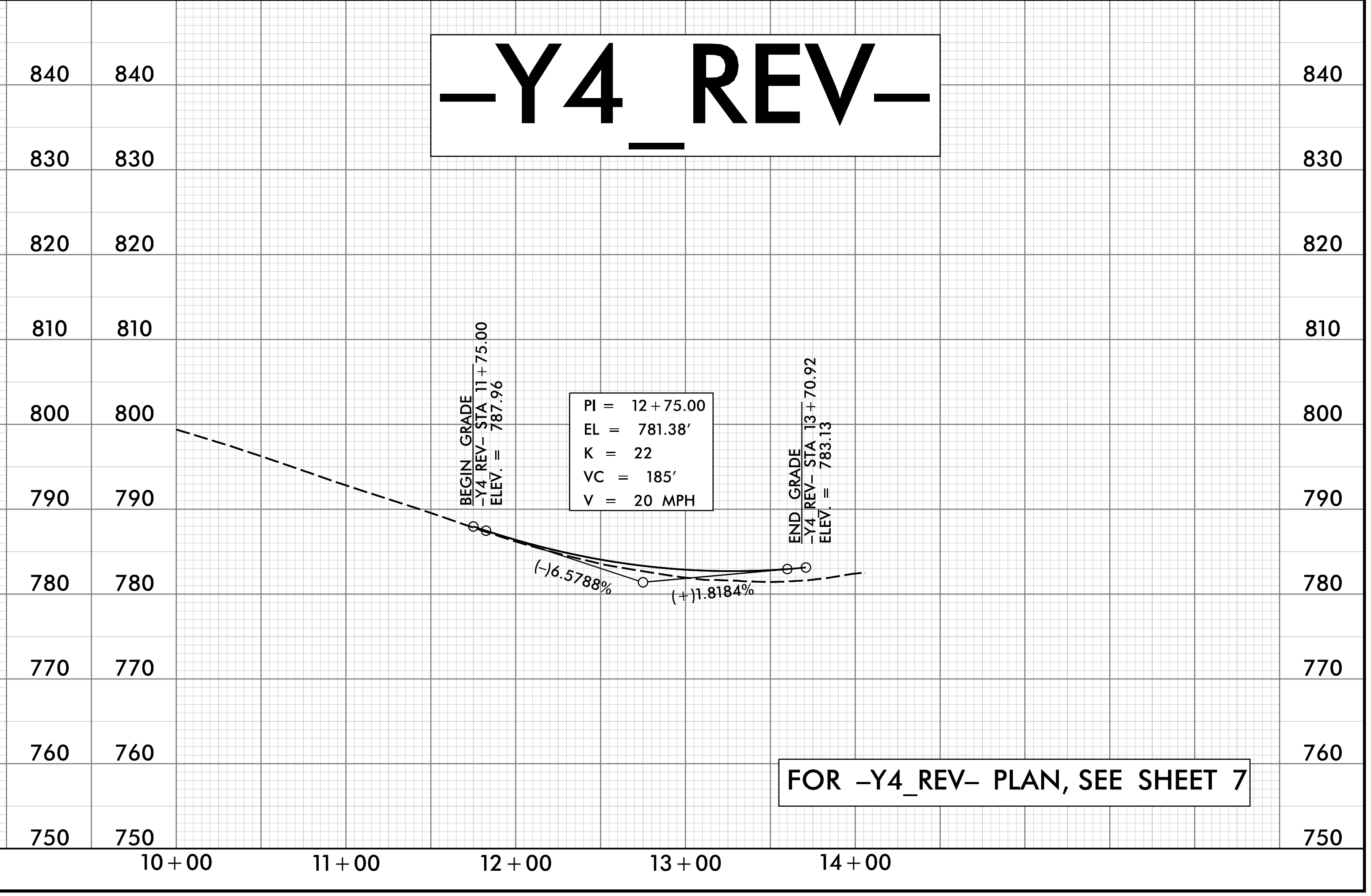
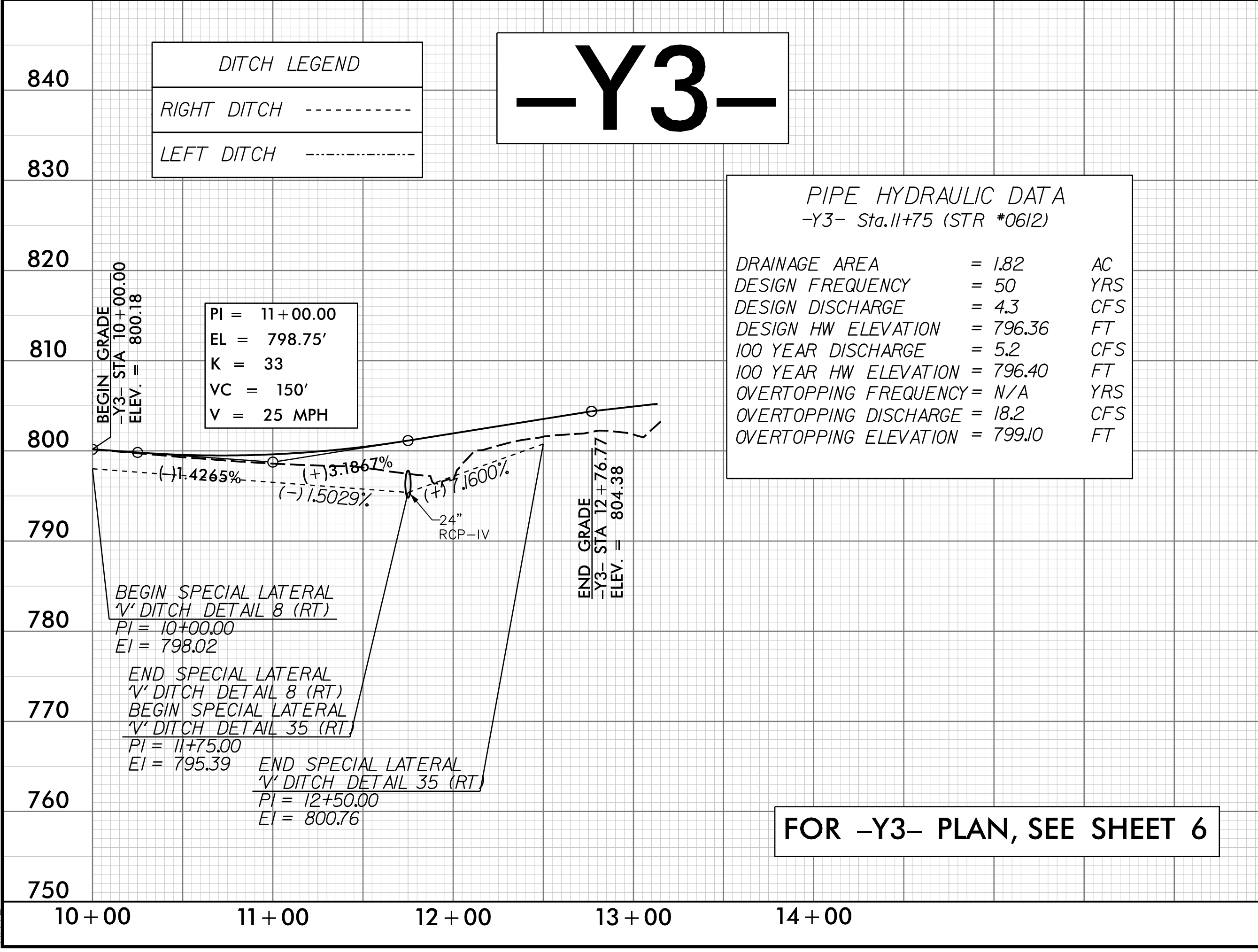
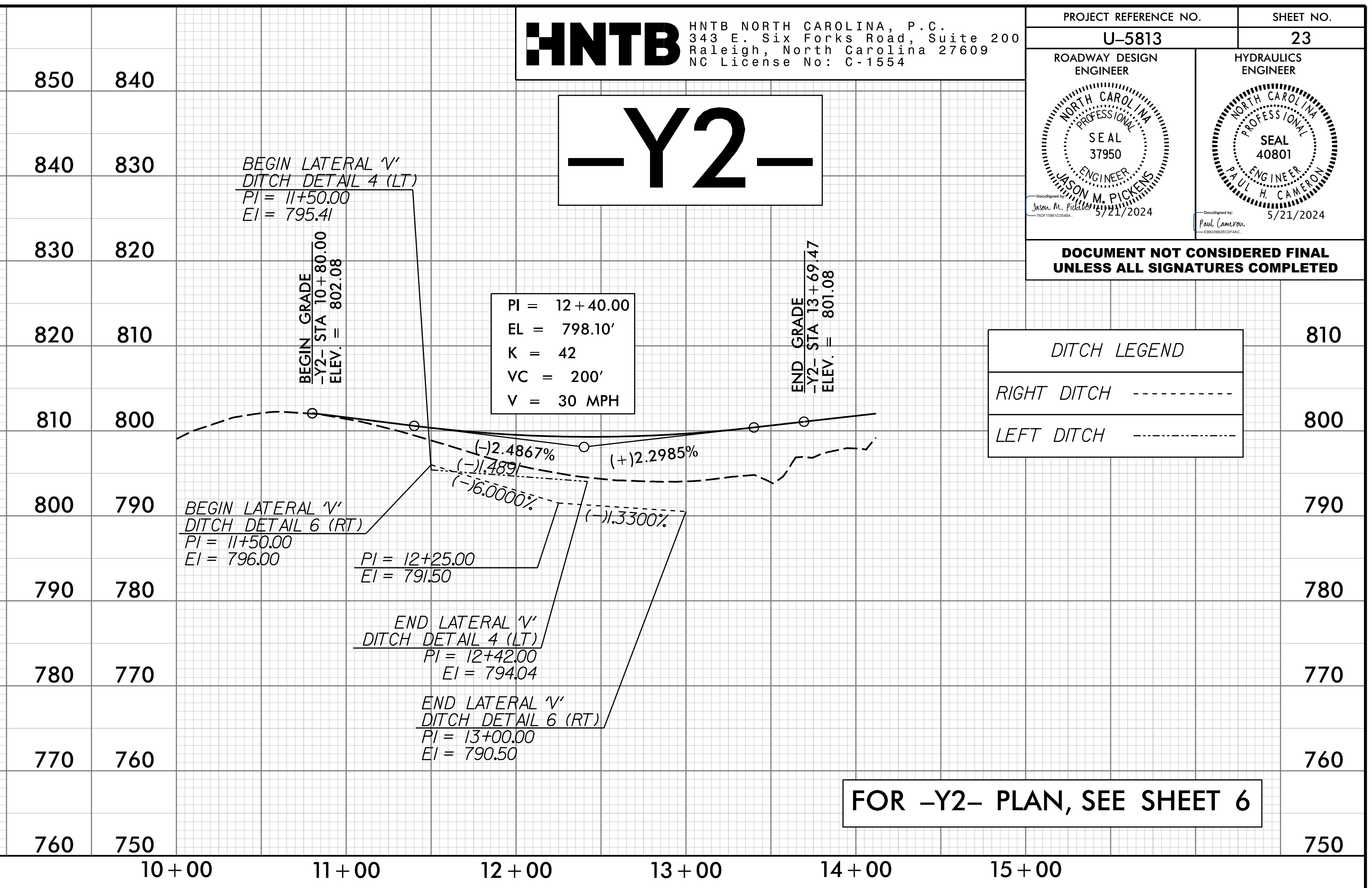
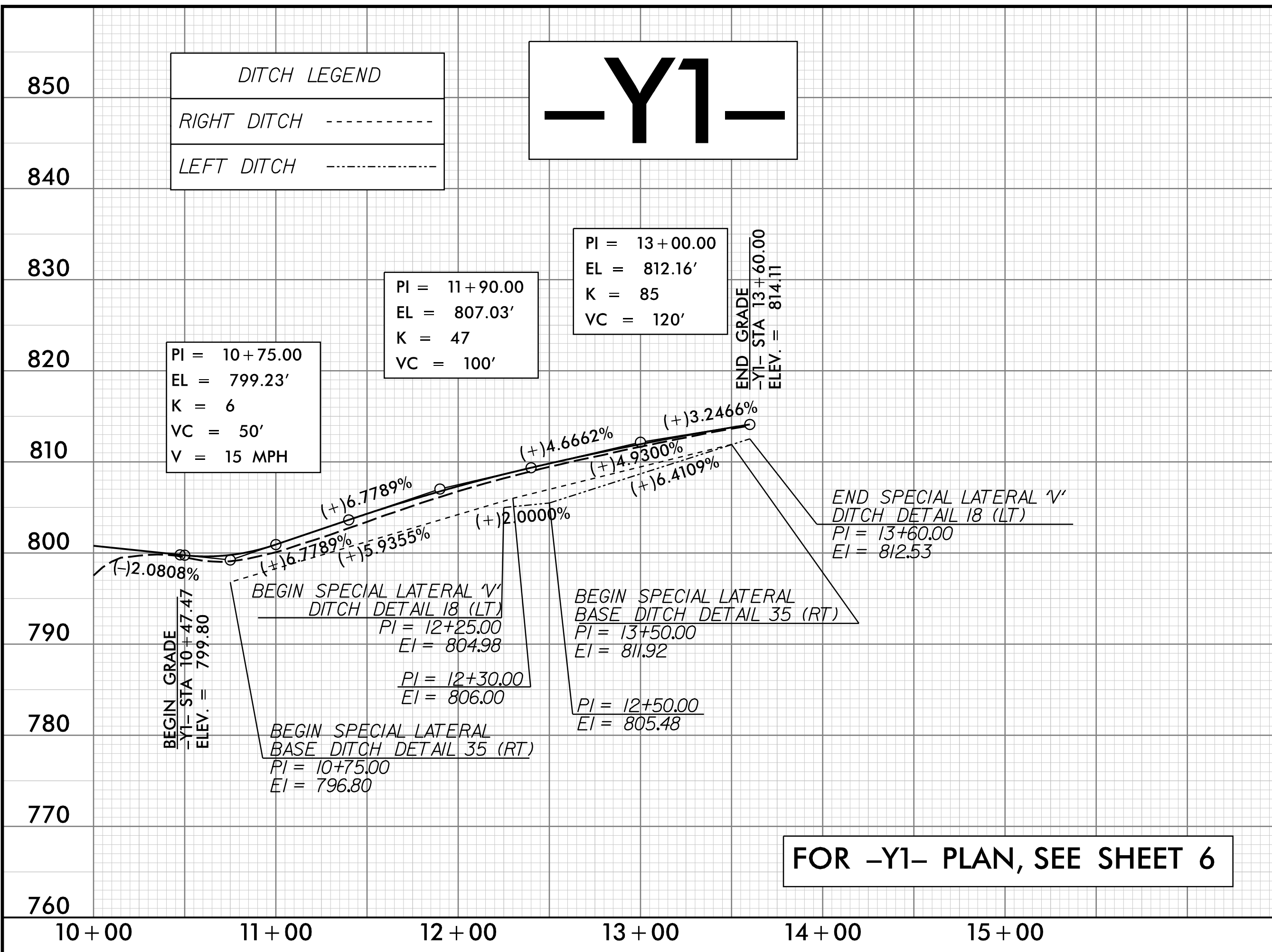
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HNTB

5/28/24

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 NC License No: C-1554

PROJECT REFERENCE NO. U-5813	SHEET NO. 23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

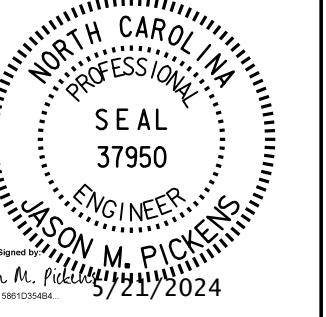

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

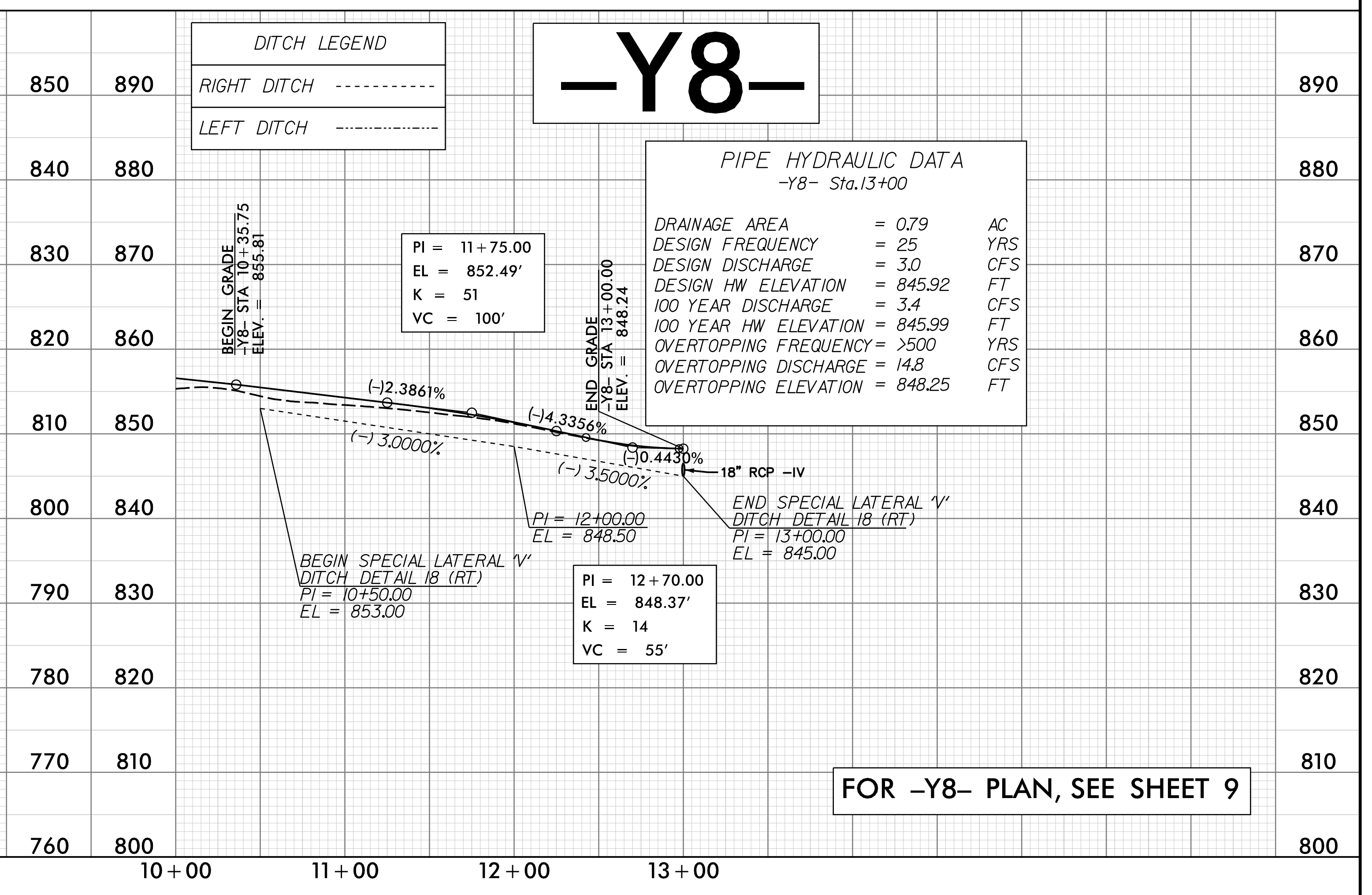
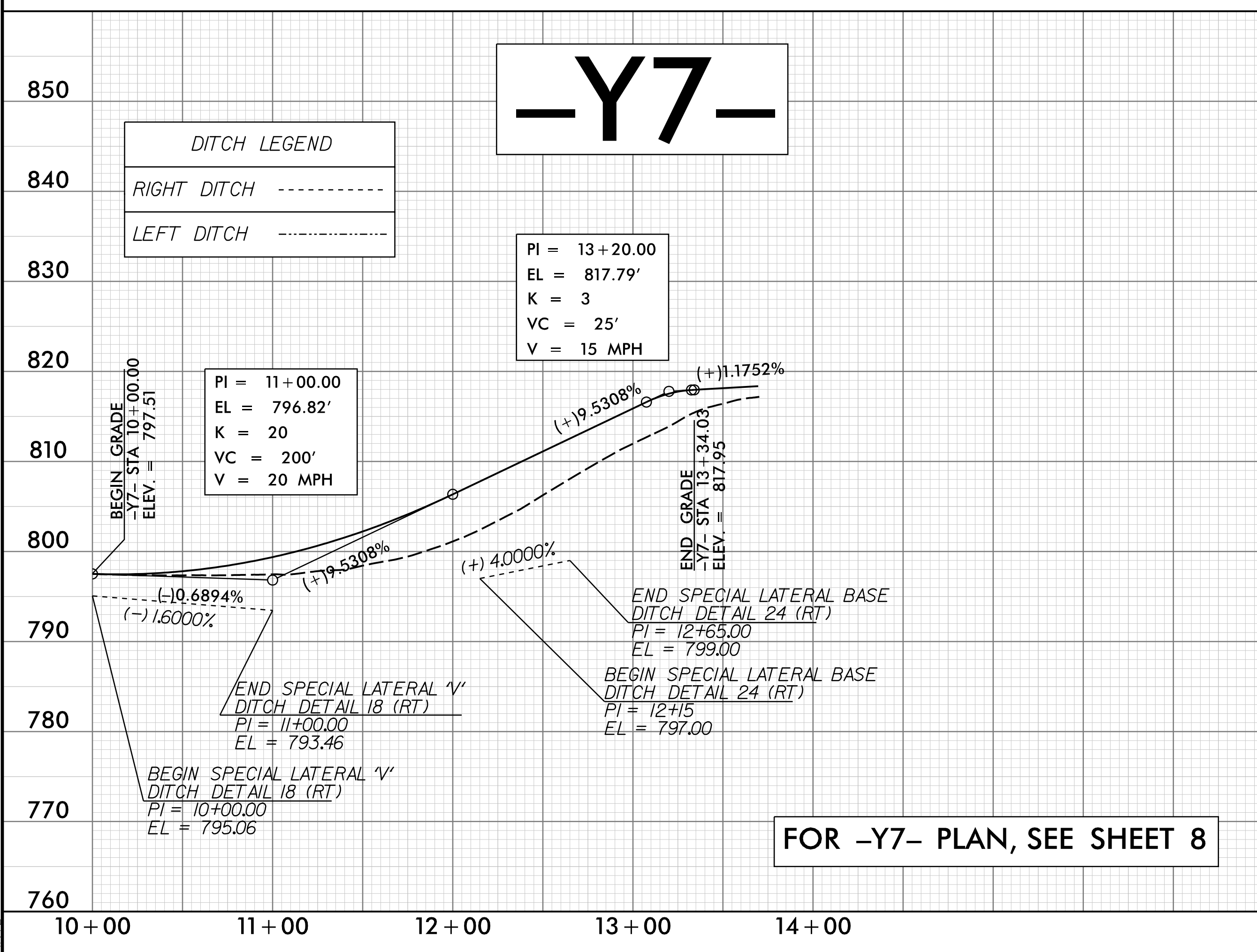
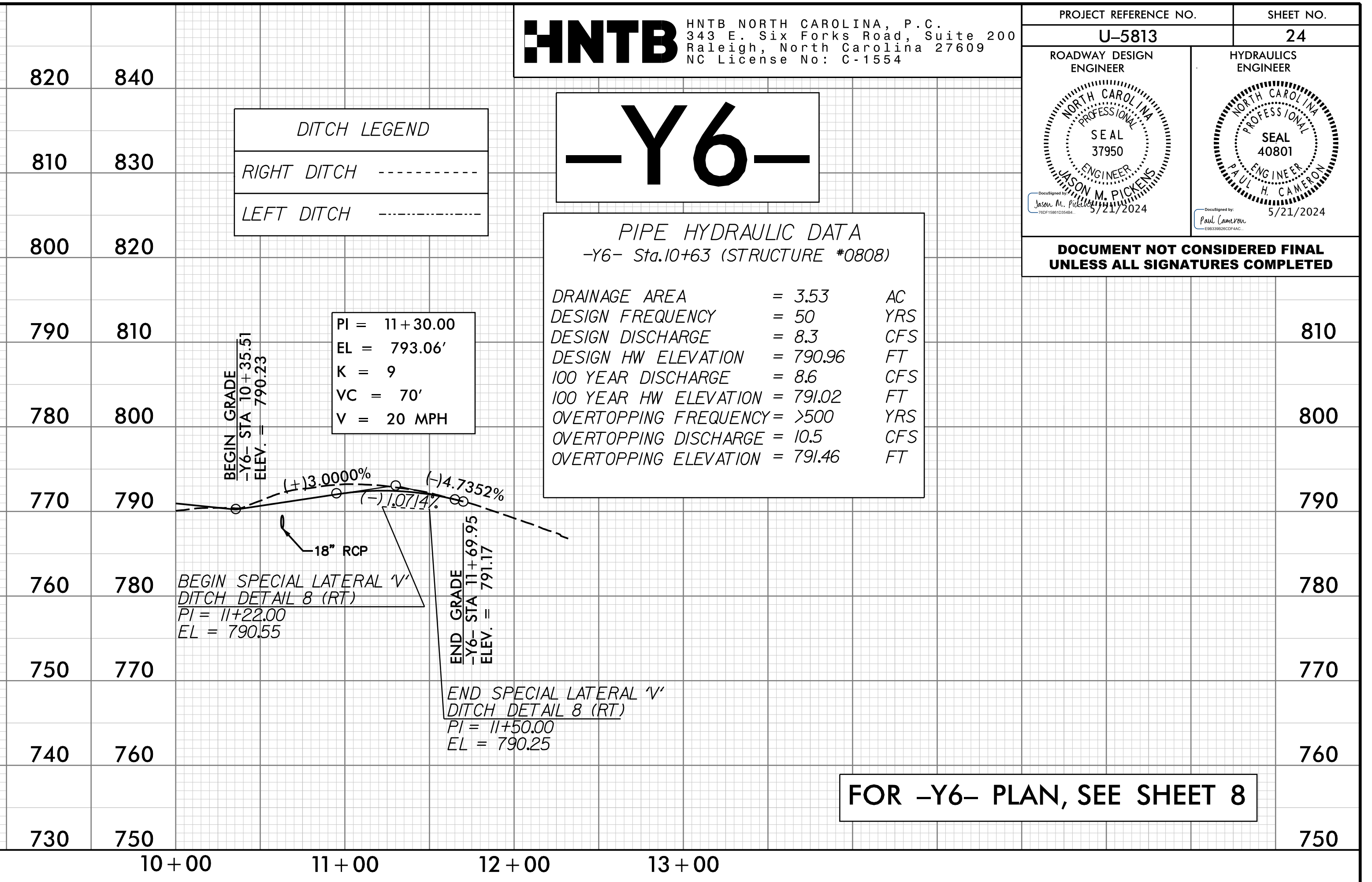
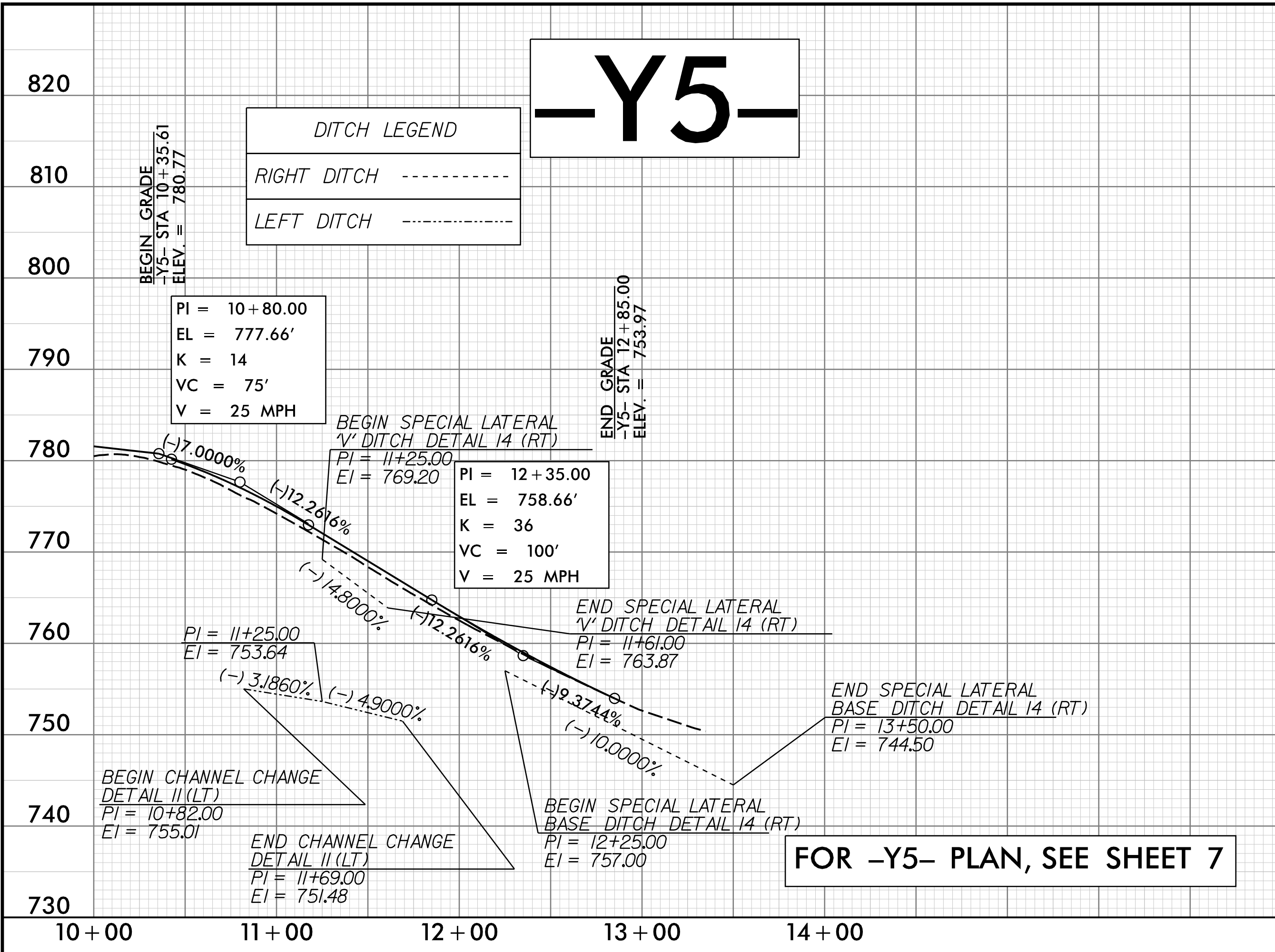


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 Raleigh, North Carolina 27609
 NC License No: C-1554

PROJECT REFERENCE NO. U-5813	SHEET NO. 24
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 



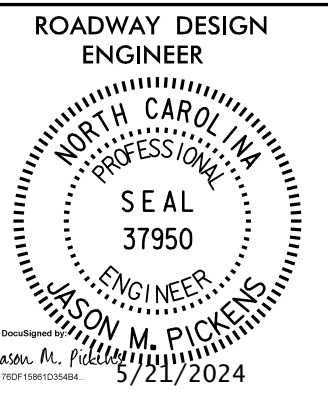
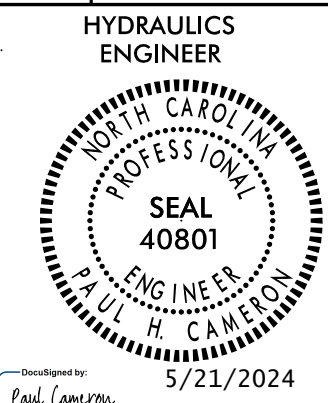
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5/28/24

-Y9-

-Y10-

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 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554

PROJECT REFERENCE NO. U-5813	SHEET NO. 25
ROADWAY DESIGN ENGINEER  JASON M. PICHENS <small>5/21/2024</small>	HYDRAULICS ENGINEER  PAUL CAMERON <small>5/21/2024</small>

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

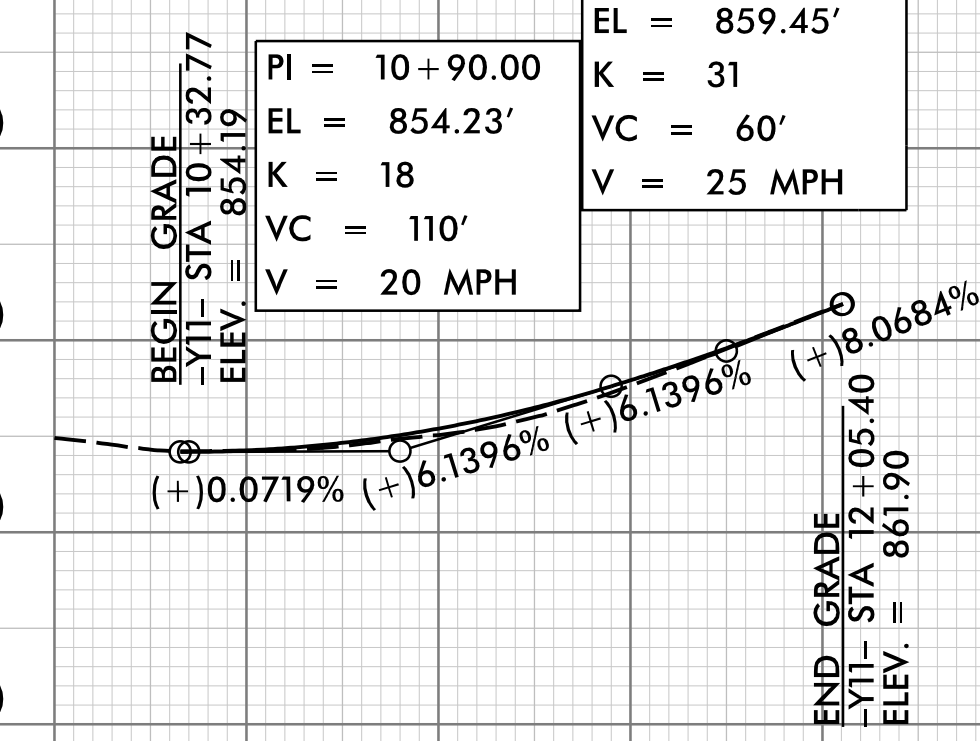
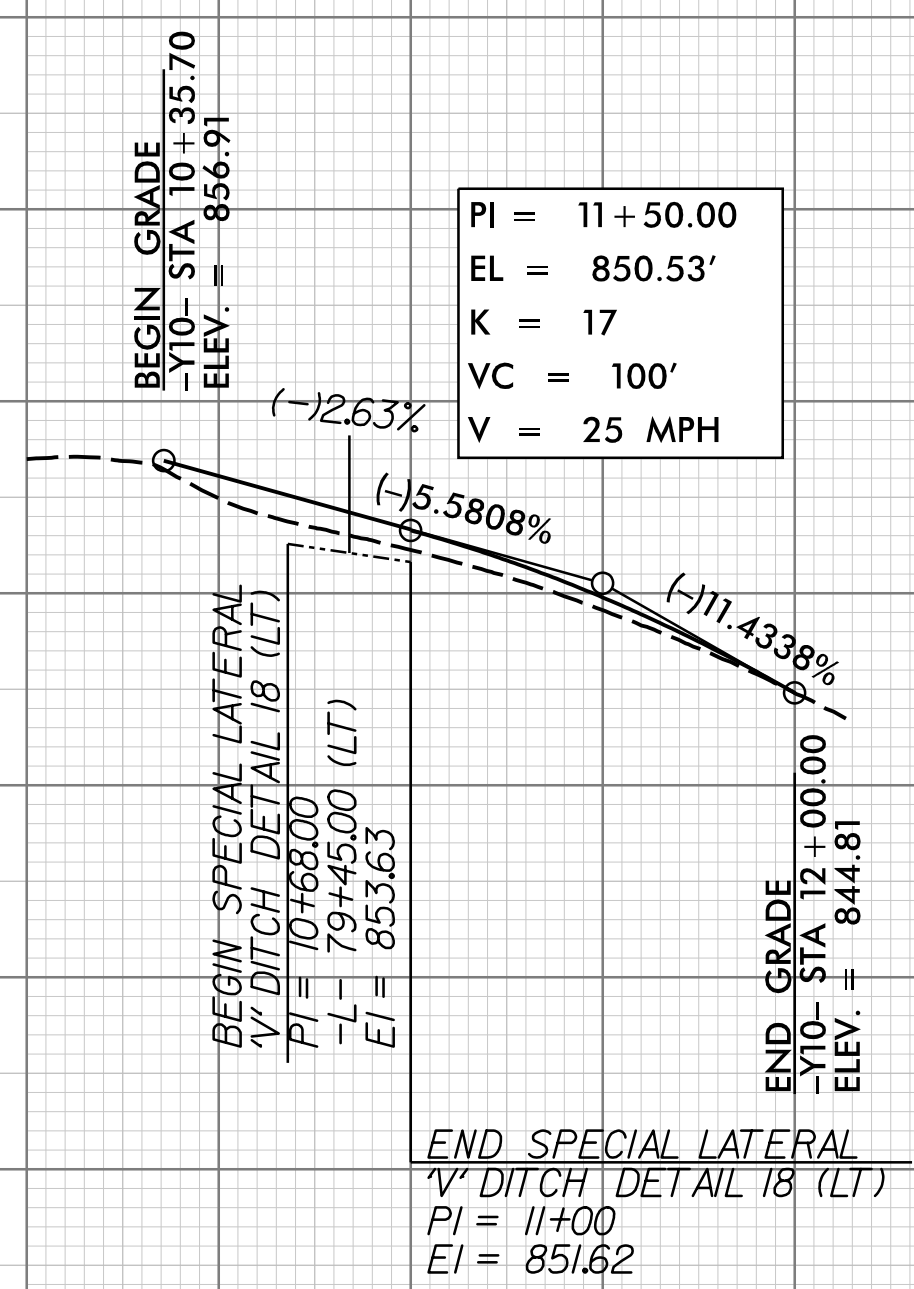
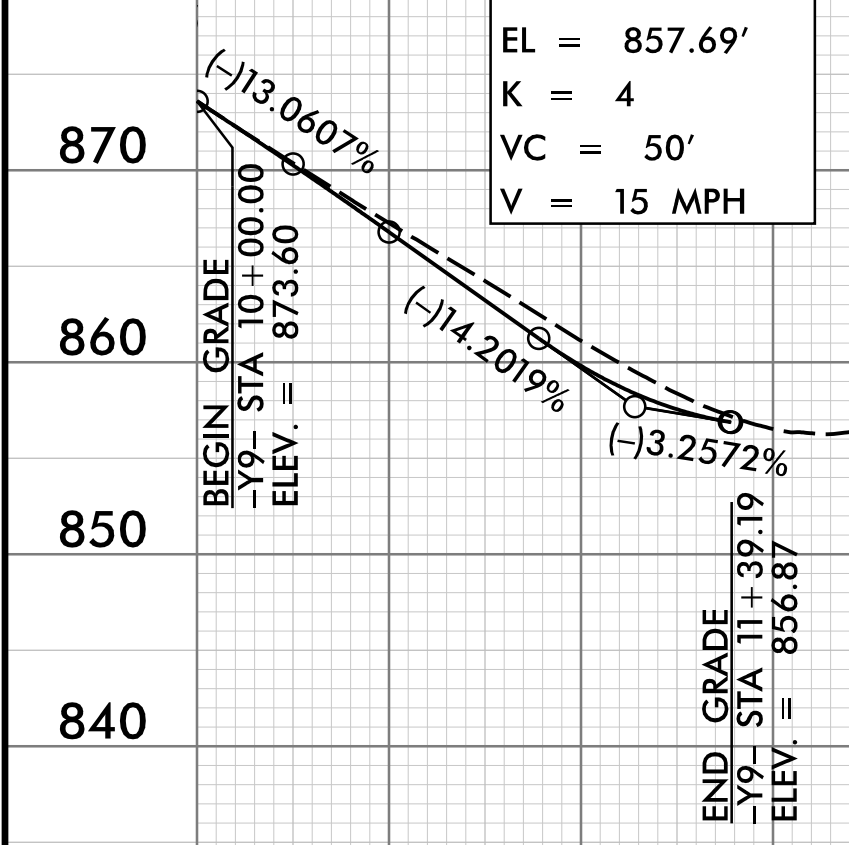
PI = 10+25.00
 EL = 870.33'
 K = 44
 VC = 50'
 V = 35 MPH

PI = 11+14.00
 EL = 857.69'
 K = 4
 VC = 50'
 V = 15 MPH

PI = 11+50.00
 EL = 850.53'
 K = 17
 VC = 100'
 V = 25 MPH

PI = 10+90.00
 EL = 854.23'
 K = 18
 VC = 110'
 V = 20 MPH

PI = 11+75.00
 EL = 859.45'
 K = 31
 VC = 60'
 V = 25 MPH

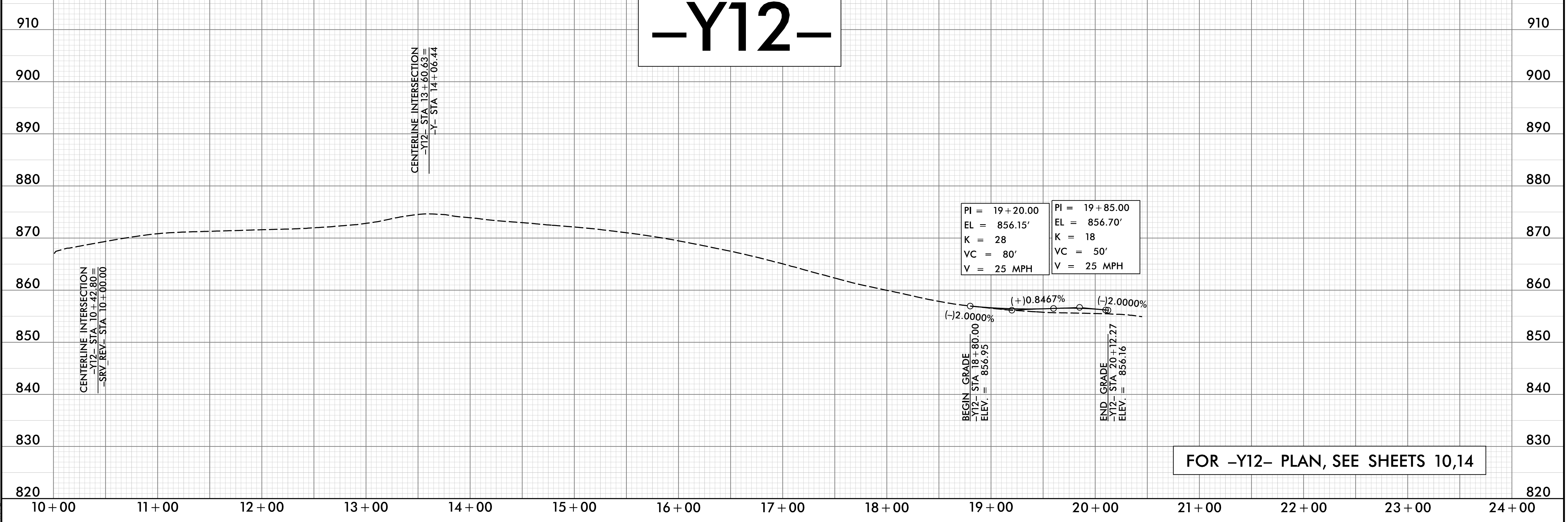


FOR -Y9- PLAN, SEE SHEET 9

FOR -Y10- PLAN, SEE SHEET 9

FOR -Y11- PLAN, SEE SHEET 10

-Y12-



FOR -Y12- PLAN, SEE SHEETS 10,14

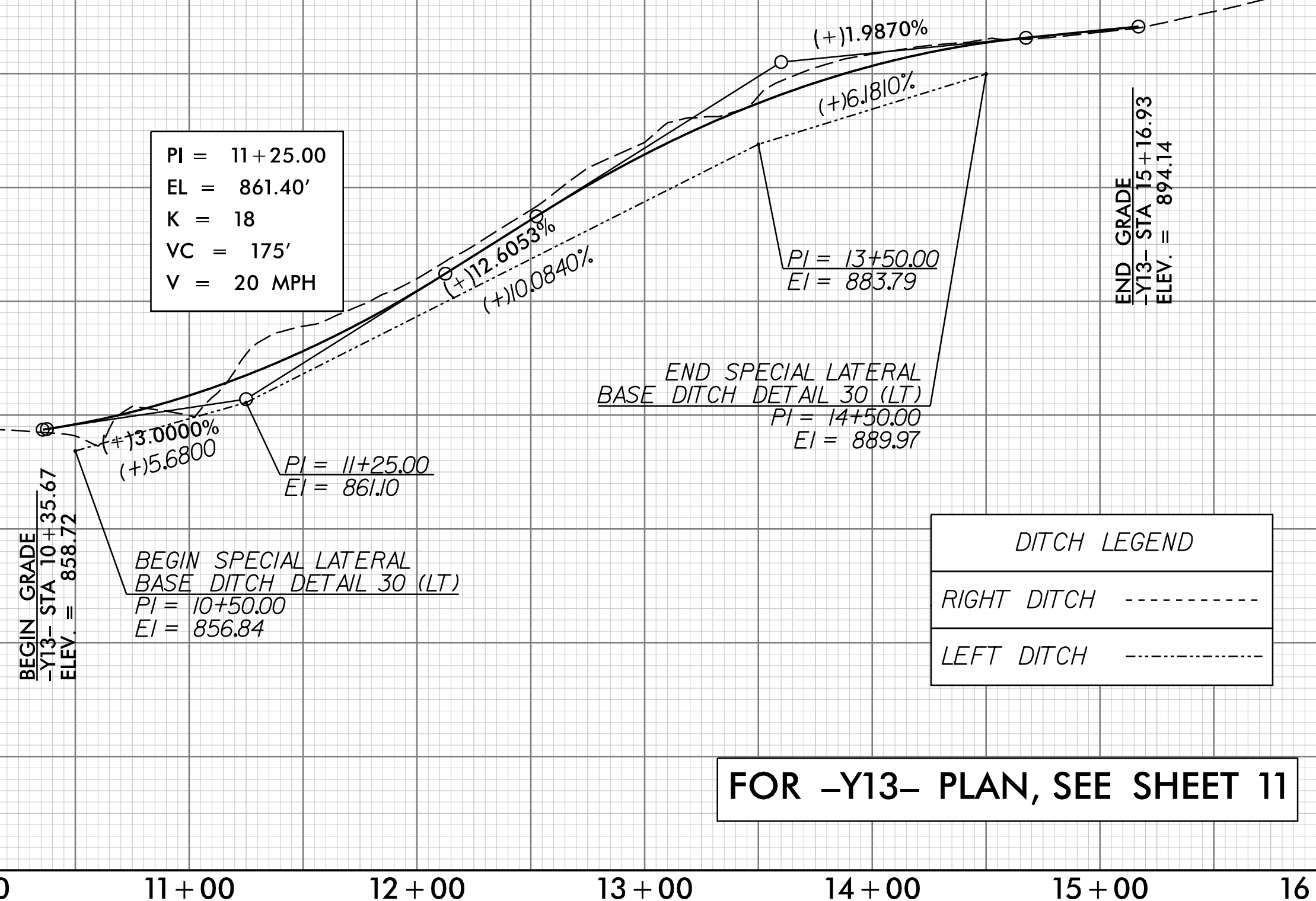
28-NOV-2023 11:57
 \\p02dway\p02\U5813_RDY_PFL_PSH25.dgn
 JML

5/28/24

-Y13-

PI = 13+60.00
 EL = 891.02'
 K = 20
 VC = 215'
 V = 30 MPH

PI = 11+25.00
 EL = 861.40'
 K = 18
 VC = 175'
 V = 20 MPH



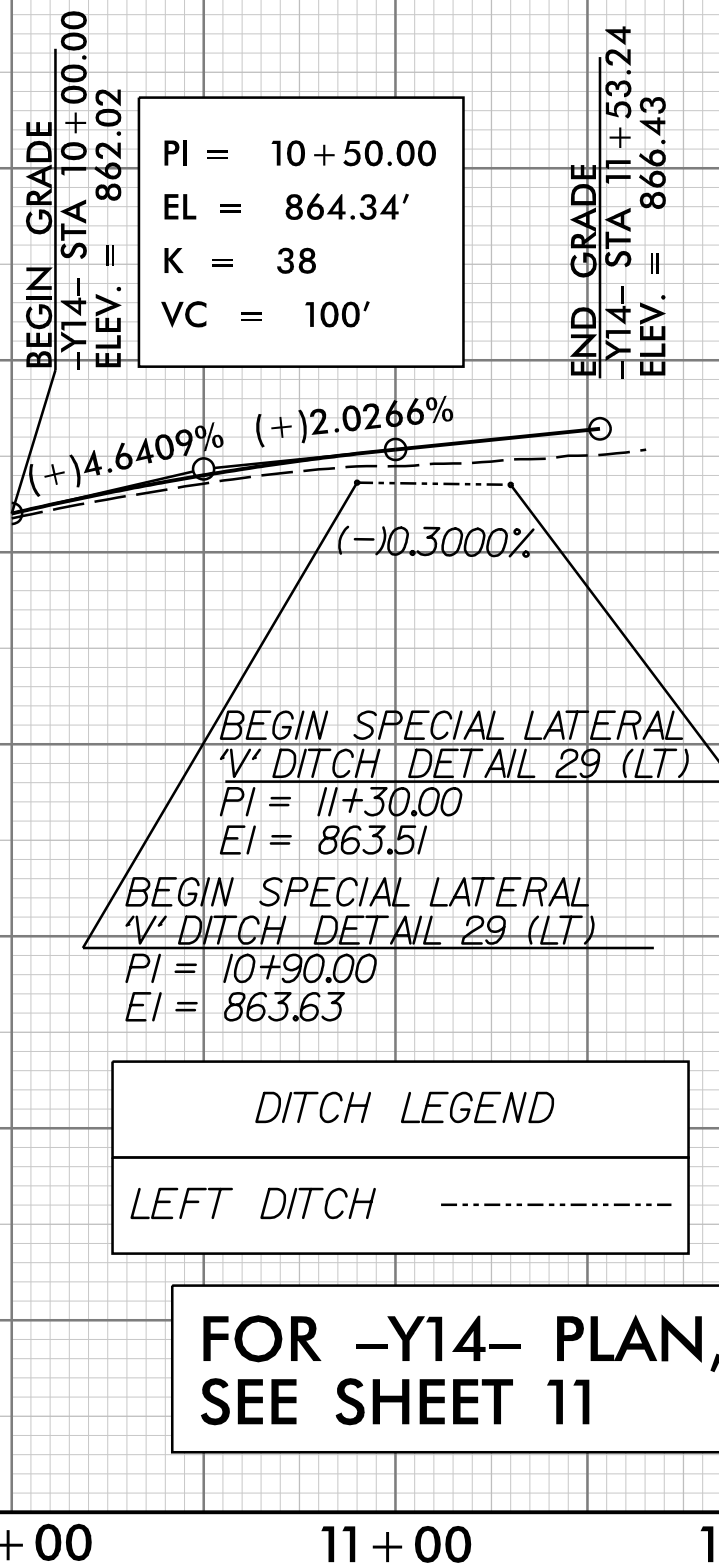
END GRADE
 -Y13- STA 15+16.93
 ELEV. = 894.14

DITCH LEGEND
 RIGHT DITCH - - - - -
 LEFT DITCH - - - - -

FOR -Y13- PLAN, SEE SHEET 11

-Y14-

PI = 10+50.00
 EL = 864.34'
 K = 38
 VC = 100'



BEGIN GRADE
 -Y14- STA 10+00.00
 ELEV. = 862.02

END GRADE
 -Y14- STA 11+53.24
 ELEV. = 866.43

DITCH LEGEND
 LEFT DITCH - - - - -

FOR -Y14- PLAN, SEE SHEET 11

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PROJECT REFERENCE NO. U-5813	SHEET NO. 26
ROADWAY DESIGN ENGINEER SEAL 37950 JASON M. PICKENS Professional Engineer 5/23/2024	HYDRAULICS ENGINEER SEAL 40801 PAUL LAMERON Professional Engineer 5/23/2024

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-DRW02-



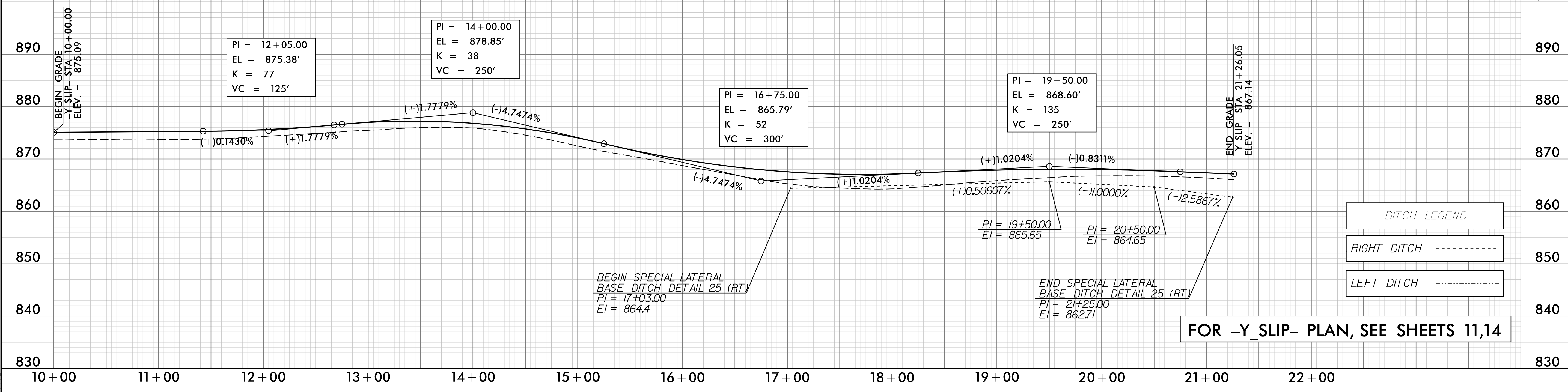
BEGIN GRADE
 -DRW02- STA 10+18.68
 ELEV. = 874.81

END GRADE
 -DRW02- STA 11+00.00
 ELEV. = 870.25

FOR -DRW02- PLAN, SEE SHEET 14

-Y_SLIP-

DITCH LEGEND
 RIGHT DITCH - - - - -
 LEFT DITCH - - - - -



PI = 12+05.00
 EL = 875.38'
 K = 77
 VC = 125'

PI = 14+00.00
 EL = 878.85'
 K = 38
 VC = 250'

PI = 16+75.00
 EL = 865.79'
 K = 52
 VC = 300'

PI = 19+50.00
 EL = 868.60'
 K = 135
 VC = 250'

BEGIN SPECIAL LATERAL
 BASE DITCH DETAIL 25 (RT)
 PI = 17+03.00
 EI = 864.4

END SPECIAL LATERAL
 BASE DITCH DETAIL 25 (RT)
 PI = 21+25.00
 EI = 862.71

DITCH LEGEND
 RIGHT DITCH - - - - -
 LEFT DITCH - - - - -

FOR -Y_SLIP- PLAN, SEE SHEETS 11,14

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 TITLE

5/28/2024

DITCH LEGEND

RIGHT DITCH - - - - -

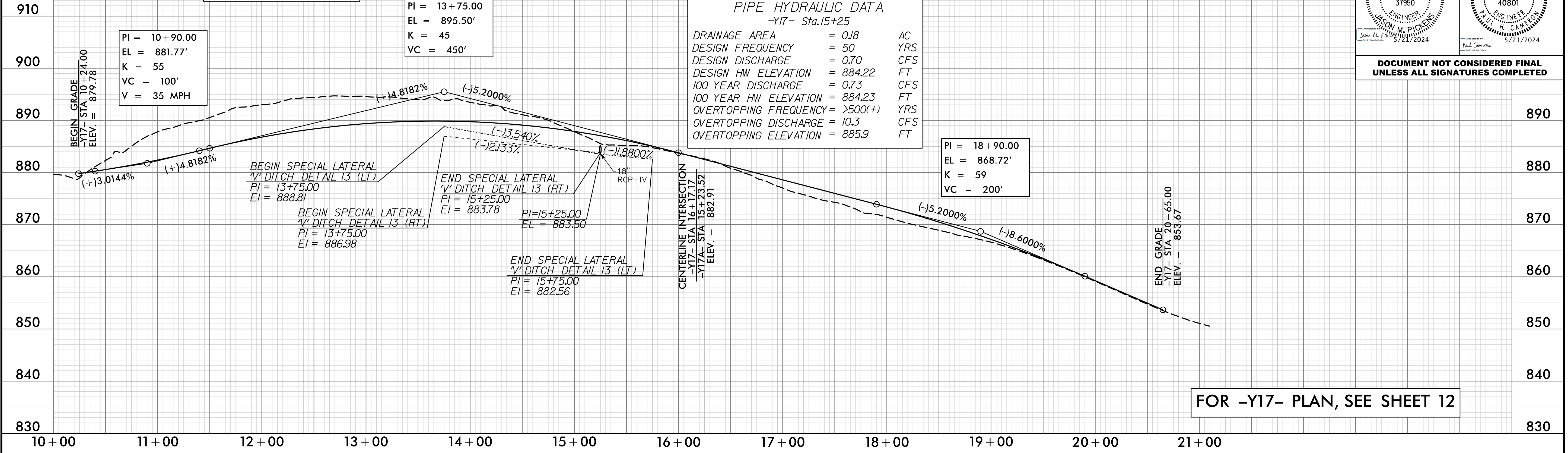
LEFT DITCH - - - - -

-Y17-

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PROJECT REFERENCE NO. U-5813	SHEET NO. 27
ROADWAY DESIGN ENGINEER JASON M. PICKENS SEAL 37950 5/21/2024	HYDRAULICS ENGINEER PAUL LAMSON SEAL 40801 5/21/2024

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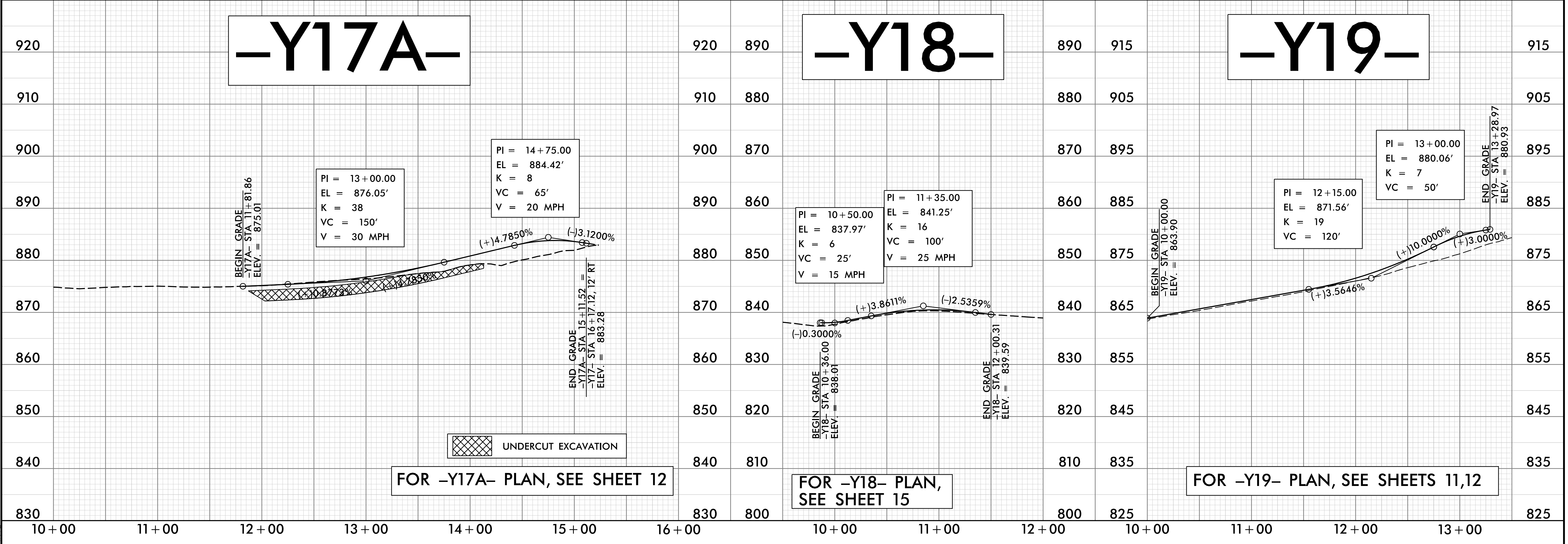


FOR -Y17- PLAN, SEE SHEET 12

-Y17A-

-Y18-

-Y19-



FOR -Y17A- PLAN, SEE SHEET 12

FOR -Y18- PLAN, SEE SHEET 15

FOR -Y19- PLAN, SEE SHEETS 11,12

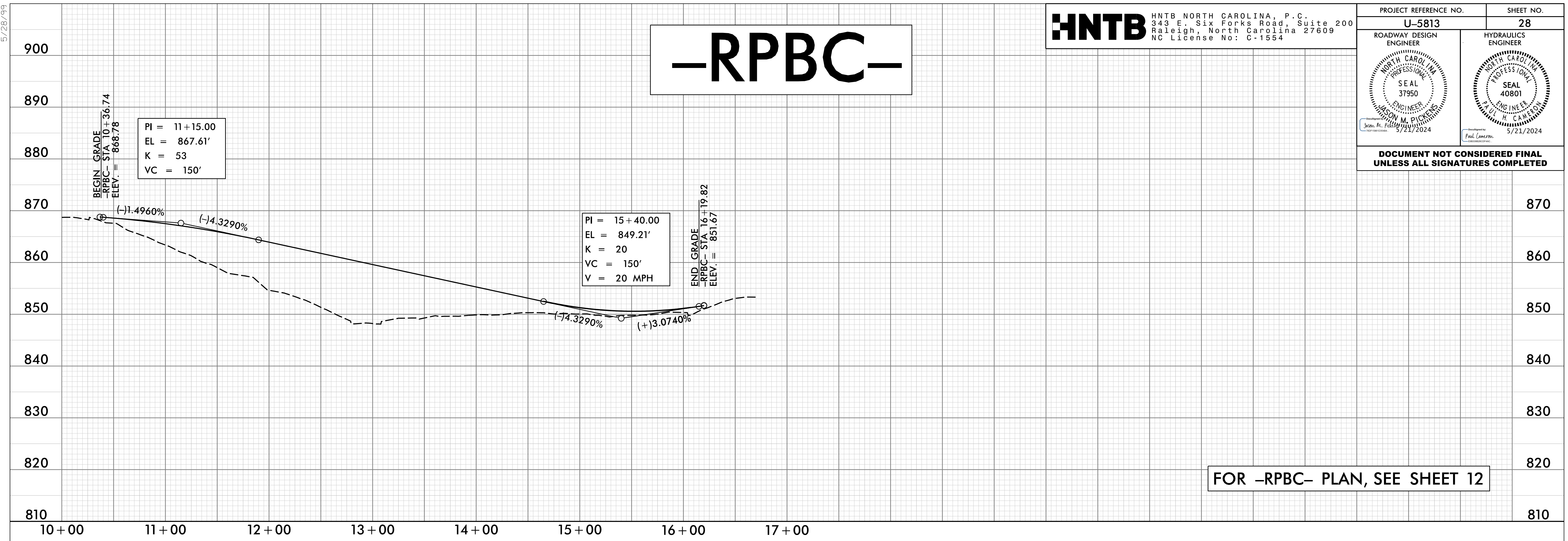
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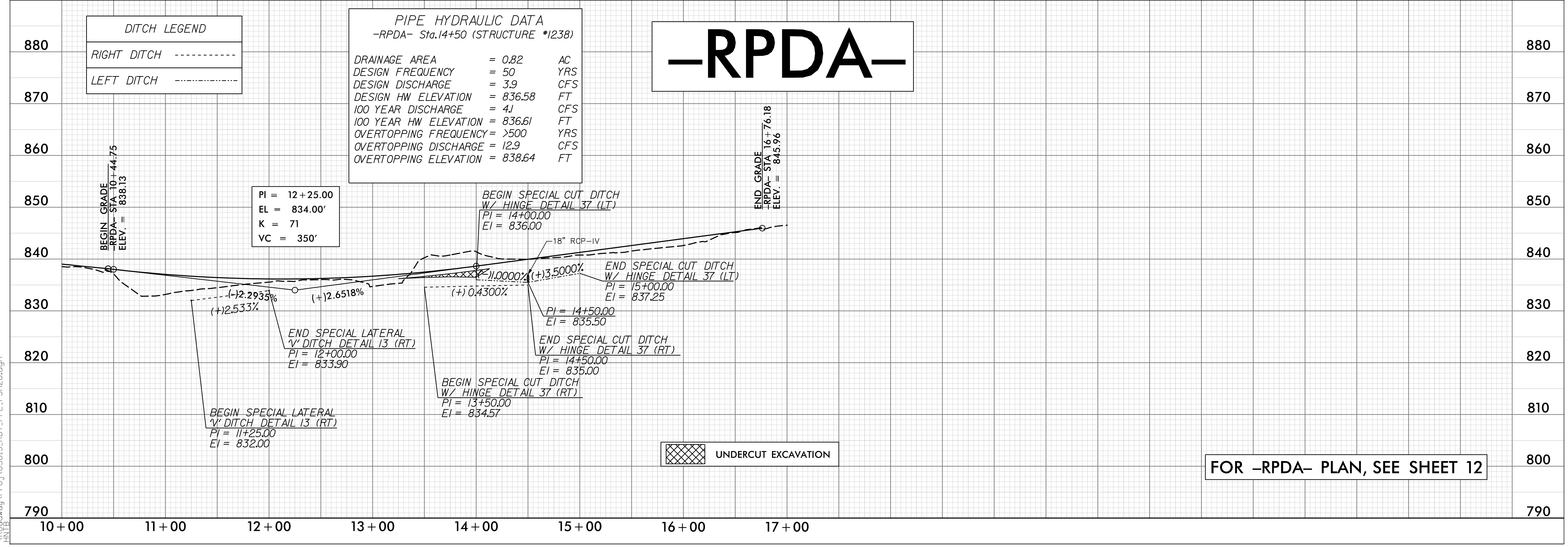
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PROJECT REFERENCE NO. U-5813	SHEET NO. 28
ROADWAY DESIGN ENGINEER JASON M. PICKENS SEAL 37950 5/21/2024	HYDRAULICS ENGINEER PAUL CONNER SEAL 40801 5/21/2024

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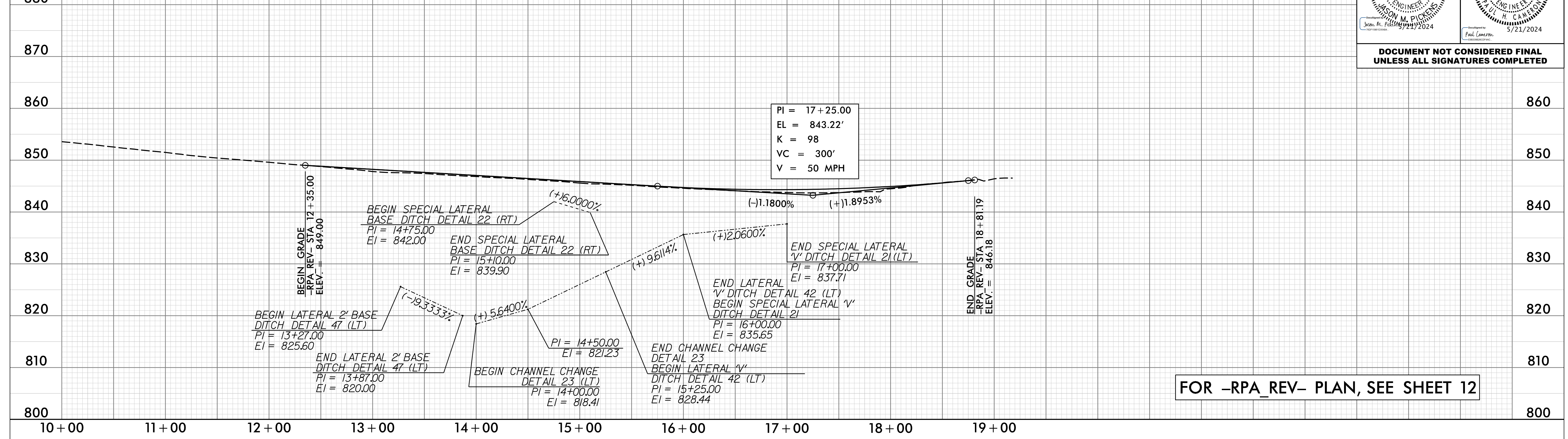
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DITCH LEGEND	
RIGHT DITCH	-----
LEFT DITCH	-----

-RPA REV-

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PROJECT REFERENCE NO.	SHEET NO.
U-5813	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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FOR -RPA_REV- PLAN, SEE SHEET 12

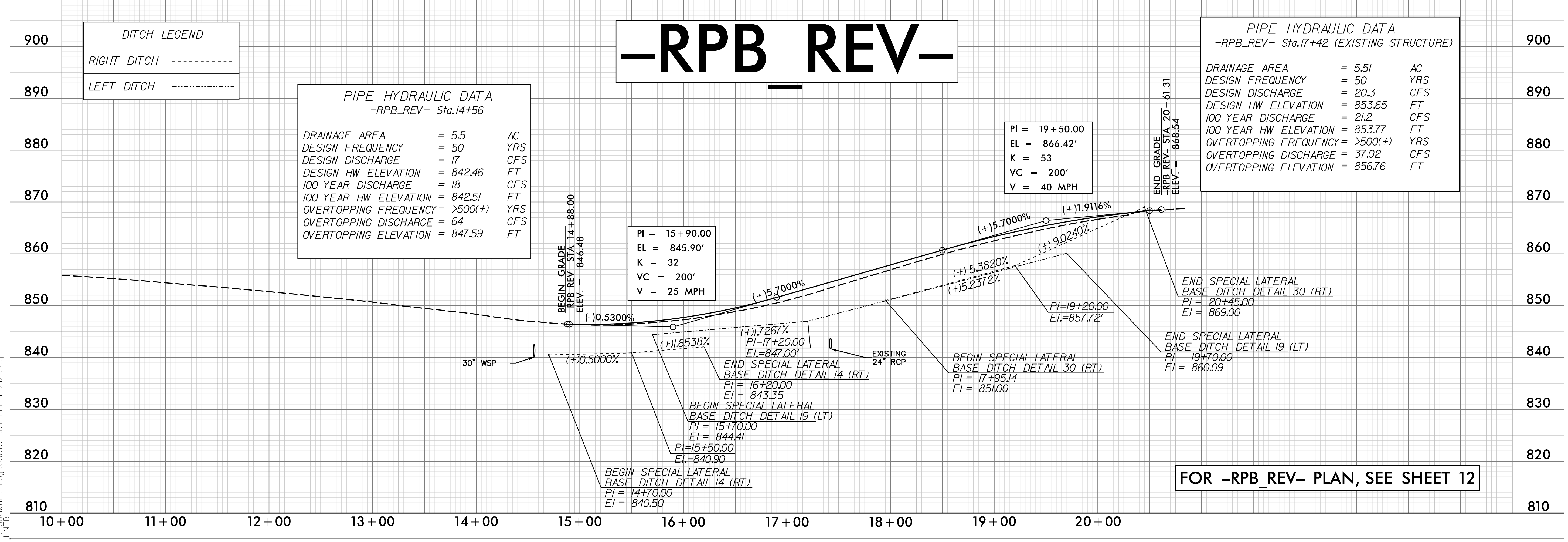
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DITCH LEGEND	
RIGHT DITCH	-----
LEFT DITCH	-----

-RPB REV-

PIPE HYDRAULIC DATA -RPB_REV- Sta.14+56		
DRAINAGE AREA	= 5.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 17	CFS
DESIGN HW ELEVATION	= 842.46	FT
100 YEAR DISCHARGE	= 18	CFS
100 YEAR HW ELEVATION	= 842.51	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 64	CFS
OVERTOPPING ELEVATION	= 847.59	FT

PIPE HYDRAULIC DATA -RPB_REV- Sta.17+42 (EXISTING STRUCTURE)		
DRAINAGE AREA	= 5.51	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 20.3	CFS
DESIGN HW ELEVATION	= 853.65	FT
100 YEAR DISCHARGE	= 21.2	CFS
100 YEAR HW ELEVATION	= 853.77	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 37.02	CFS
OVERTOPPING ELEVATION	= 856.76	FT

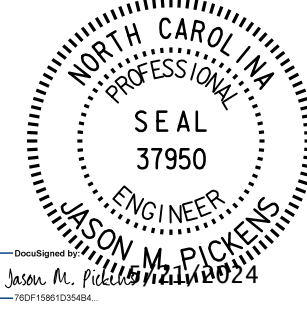



FOR -RPB_REV- PLAN, SEE SHEET 12

5/28/19

-RPC_REV-

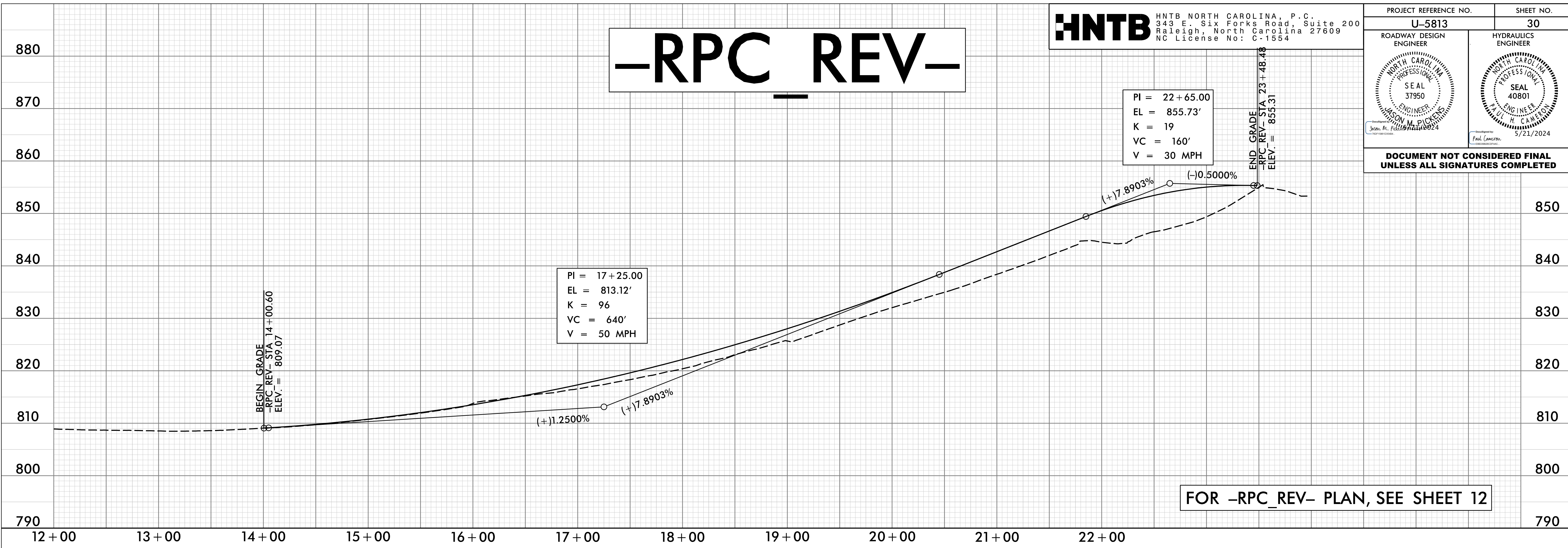
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PROJECT REFERENCE NO. U-5813	SHEET NO. 30
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
DATE: 5/21/2024	

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PI = 22+65.00
EL = 855.73'
K = 19
VC = 160'
V = 30 MPH

PI = 17+25.00
EL = 813.12'
K = 96
VC = 640'
V = 50 MPH

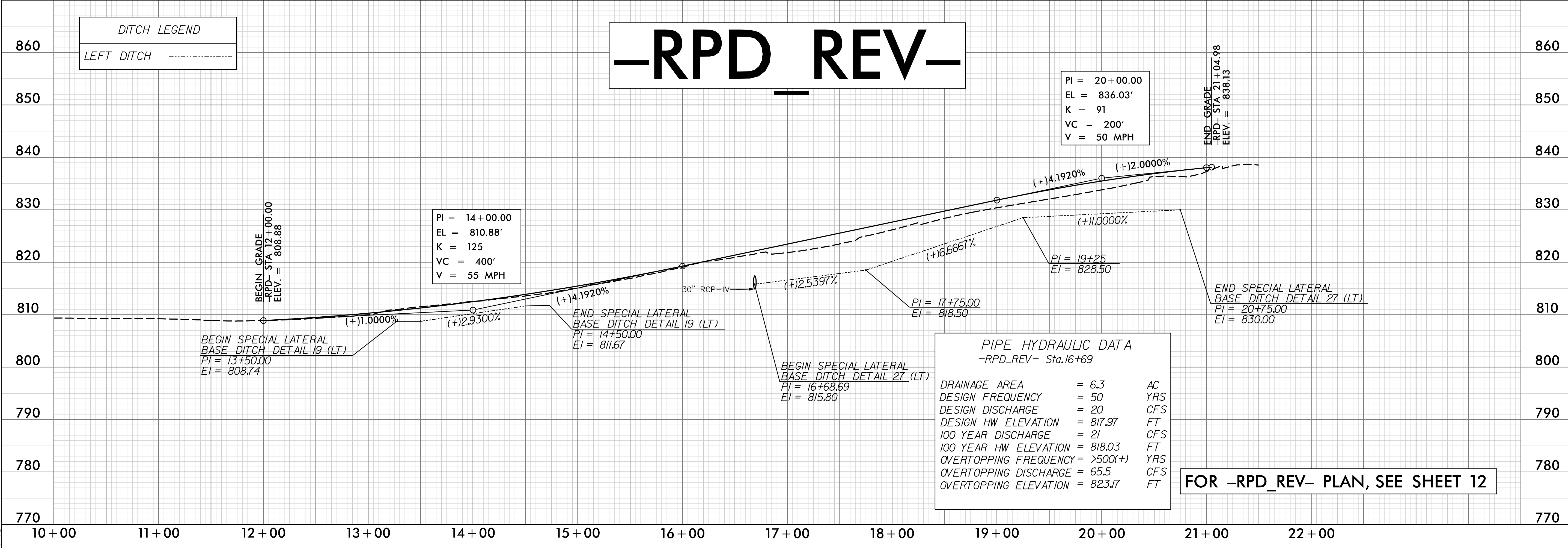


DITCH LEGEND
LEFT DITCH - - - - -

-RPD_REV-

PI = 20+00.00
EL = 836.03'
K = 91
VC = 200'
V = 50 MPH

PI = 14+00.00
EL = 810.88'
K = 125
VC = 400'
V = 55 MPH



PIPE HYDRAULIC DATA
-RPD_REV- Sta. 16+69

DRAINAGE AREA	= 6.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 20	CFS
DESIGN HW ELEVATION	= 817.97	FT
100 YEAR DISCHARGE	= 21	CFS
100 YEAR HW ELEVATION	= 818.03	FT
OVERTOPPING FREQUENCY	= >500(+)	YRS
OVERTOPPING DISCHARGE	= 65.5	CFS
OVERTOPPING ELEVATION	= 823.17	FT

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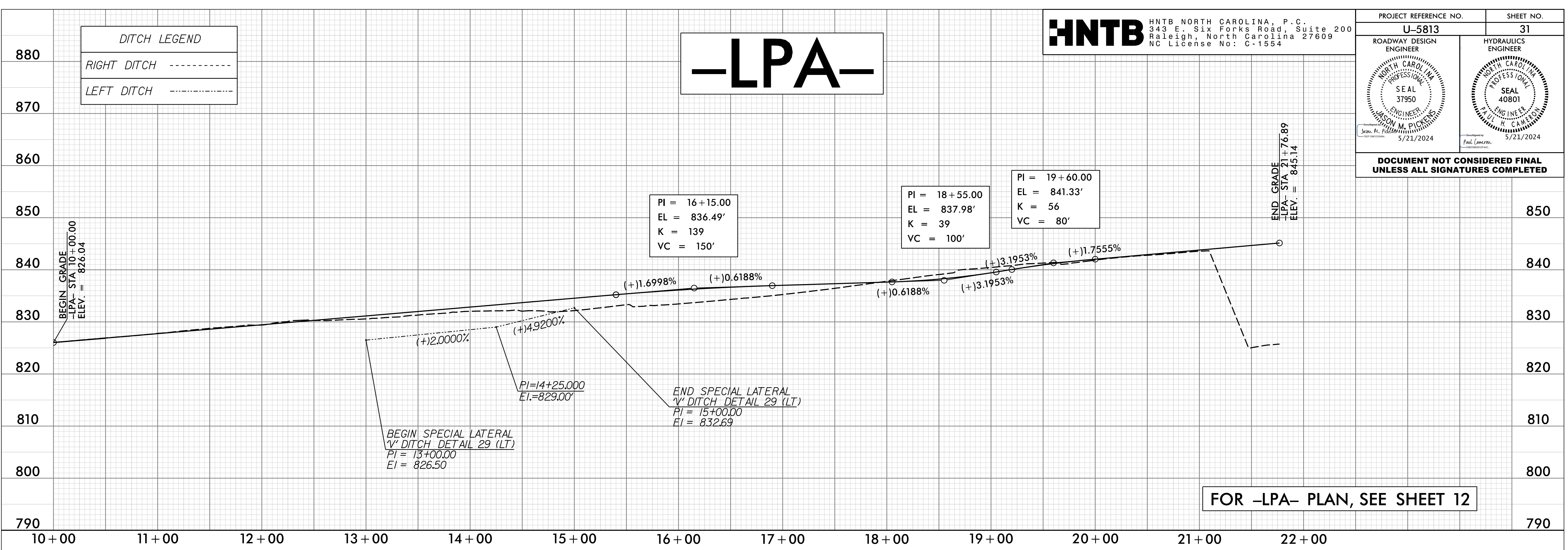
DITCH LEGEND	
RIGHT DITCH	-----
LEFT DITCH	-----

-LPA-

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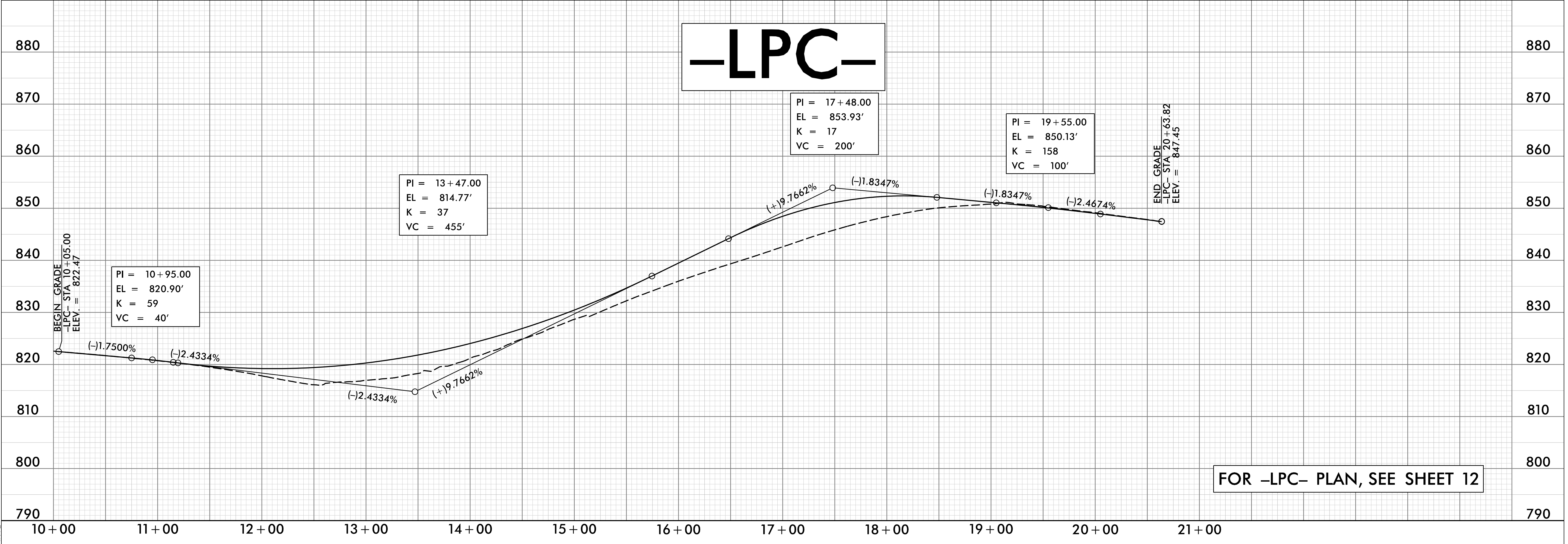
PROJECT REFERENCE NO.	U-5813	SHEET NO.	31
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

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FOR -LPA- PLAN, SEE SHEET 12

-LPC-



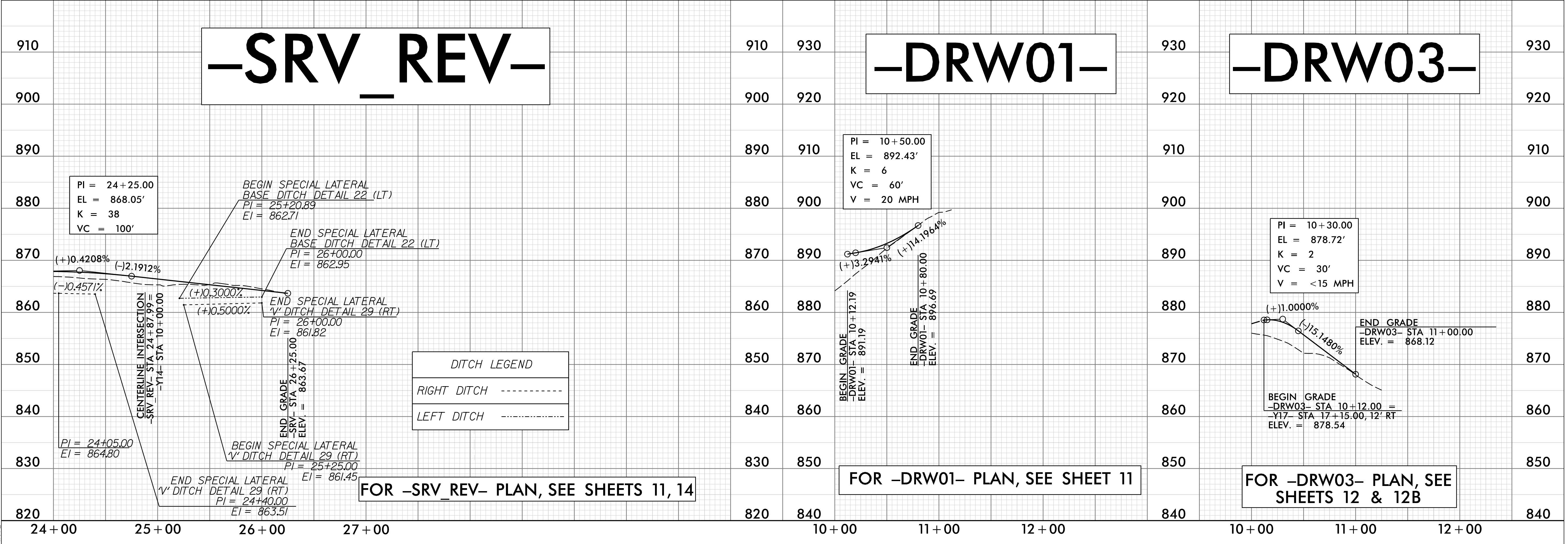
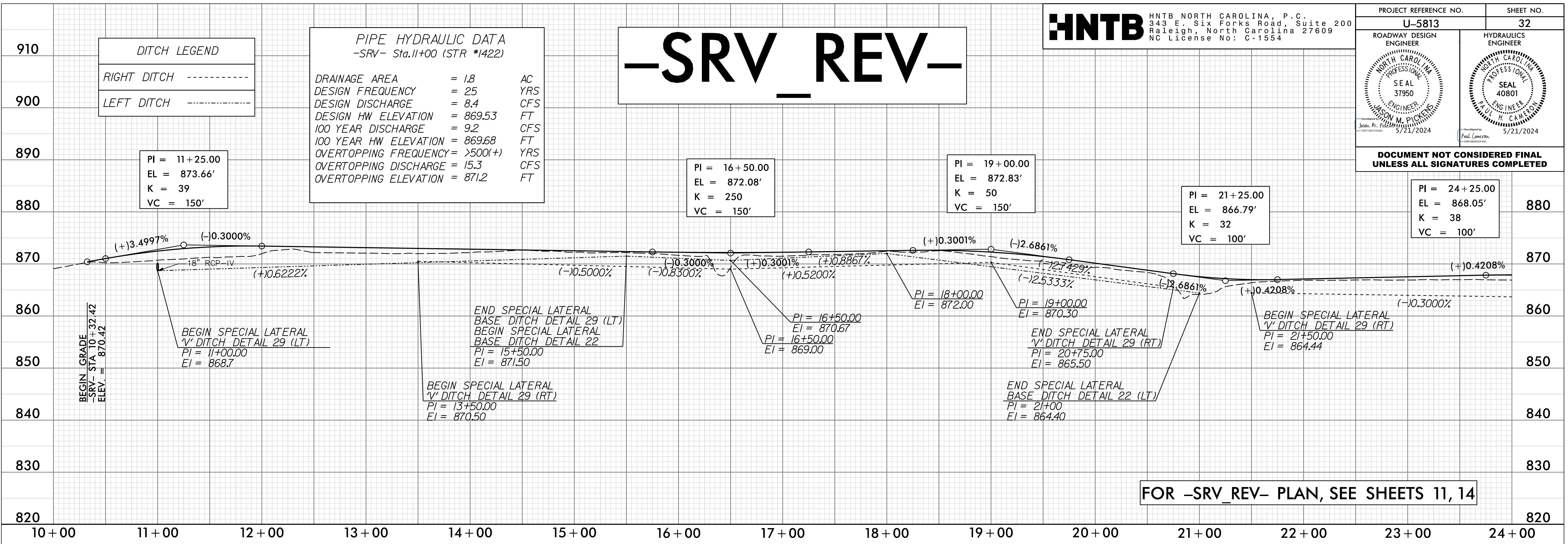
FOR -LPC- PLAN, SEE SHEET 12

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PROJECT REFERENCE NO. U-5813	SHEET NO. 32
ROADWAY DESIGN ENGINEER SEAL 37950 NORTH CAROLINA PROFESSIONAL ENGINEER JASON M. PICKENS 5/21/2024	HYDRAULICS ENGINEER SEAL 40801 NORTH CAROLINA PROFESSIONAL ENGINEER PAUL H. CAMERON 5/21/2024

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