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5/14/19

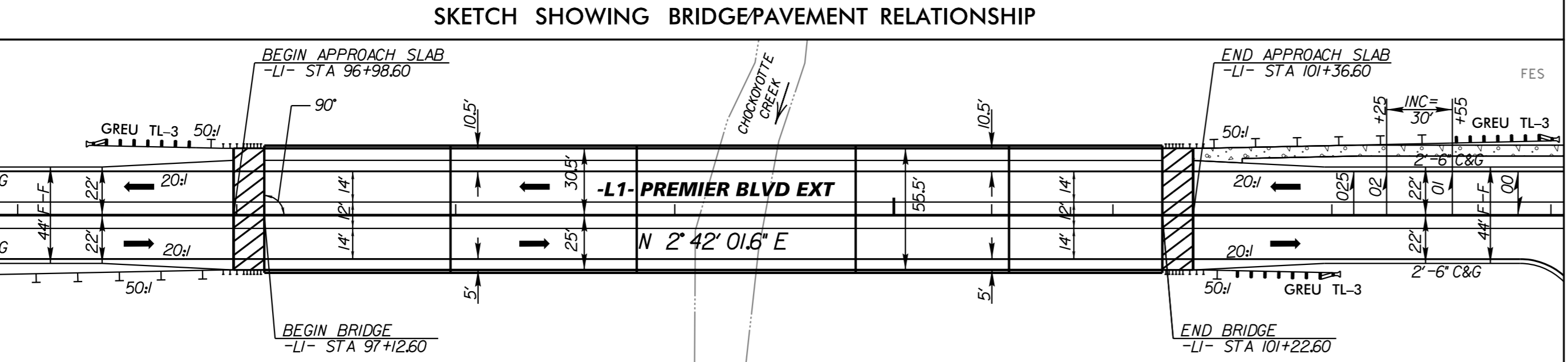
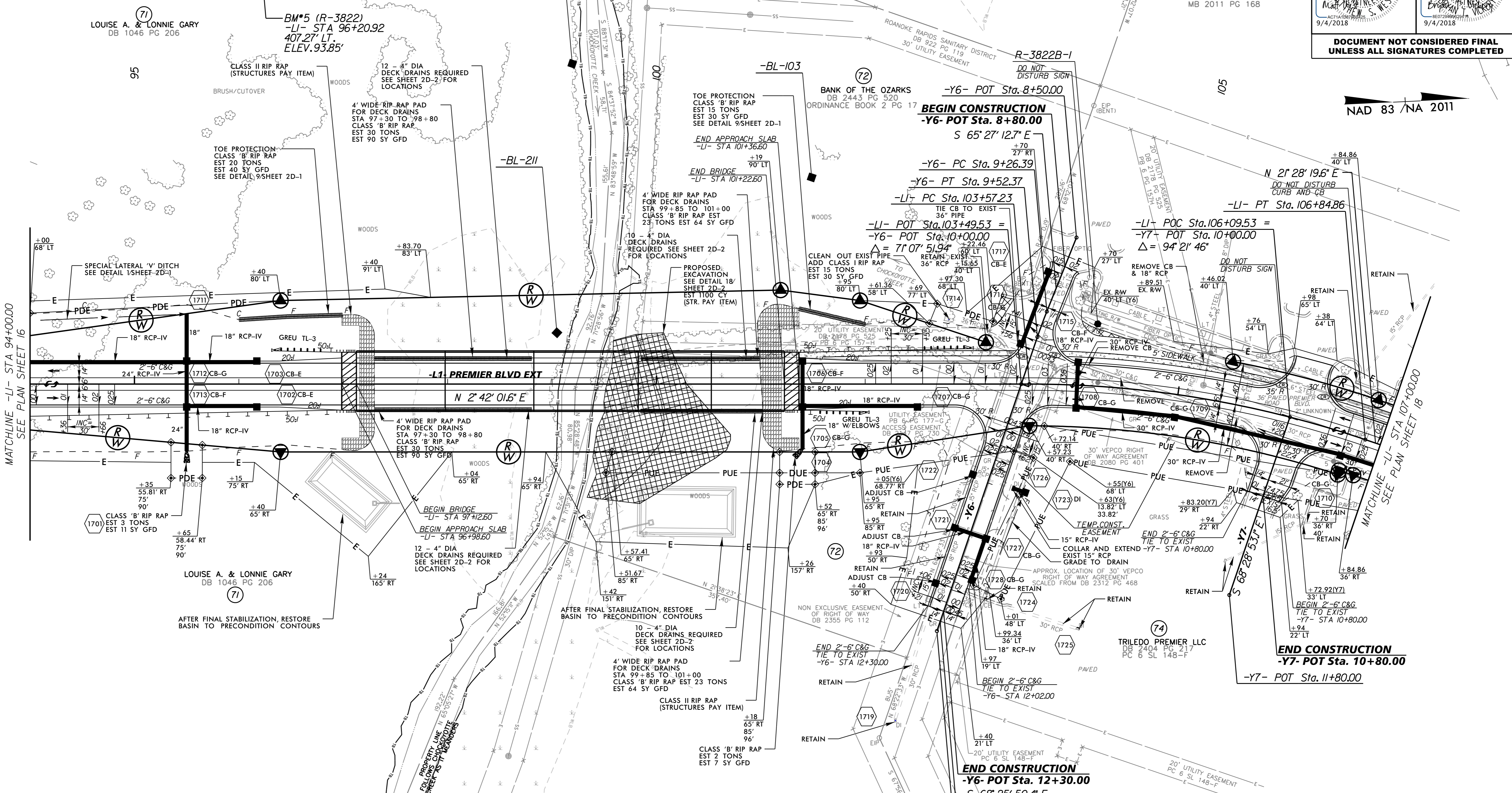
Kimley Horn

421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, N.C. 27601. NC LICENSE #F-0102

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-L1-
 PI Sta 105+22.53
 $\Delta = 18' 46" 18.0" (RT)$
 $D = 5' 43' 46.5"$
 $L = 327.63'$
 $T = 165.29'$
 $R = 1,000.00'$
 $e = 3.6'$
 $R_w = 108'$

-Y6-
 PI Sta 9+39.38
 $\Delta = 2' 58' 37.7" (LT)$
 $D = 11' 27' 33.0"$
 $L = 25.98'$
 $T = 12.99'$
 $R = 500.00'$



NOTE: ALL TEMPORARY SEDIMENT TRAPS SHALL BE REMOVED AND REGRADED TO PRECONSTRUCTION TOPOGRAPHY PRIOR TO PROJECT COMPLETION.

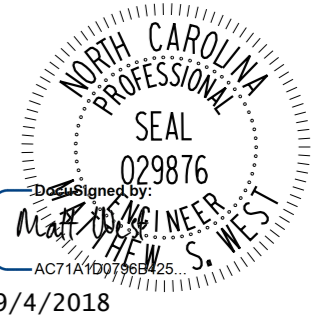
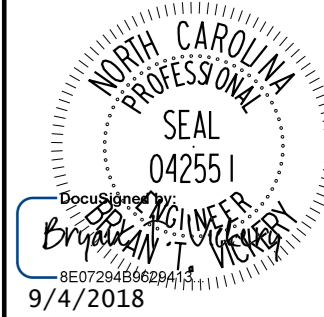
SEE SHEET NO. 27 FOR -L1- PROFILE
SEE SHEET NO. 29 FOR -Y6- PROFILE
SEE SHEET NO. 29 FOR -Y7- PROFILE
SEE SHEETS S-1 THRU S-58 FOR STRUCTURE PLANS

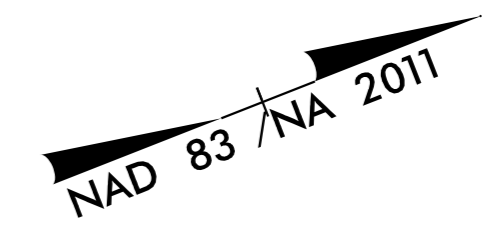
9/14/2018

5/14/19

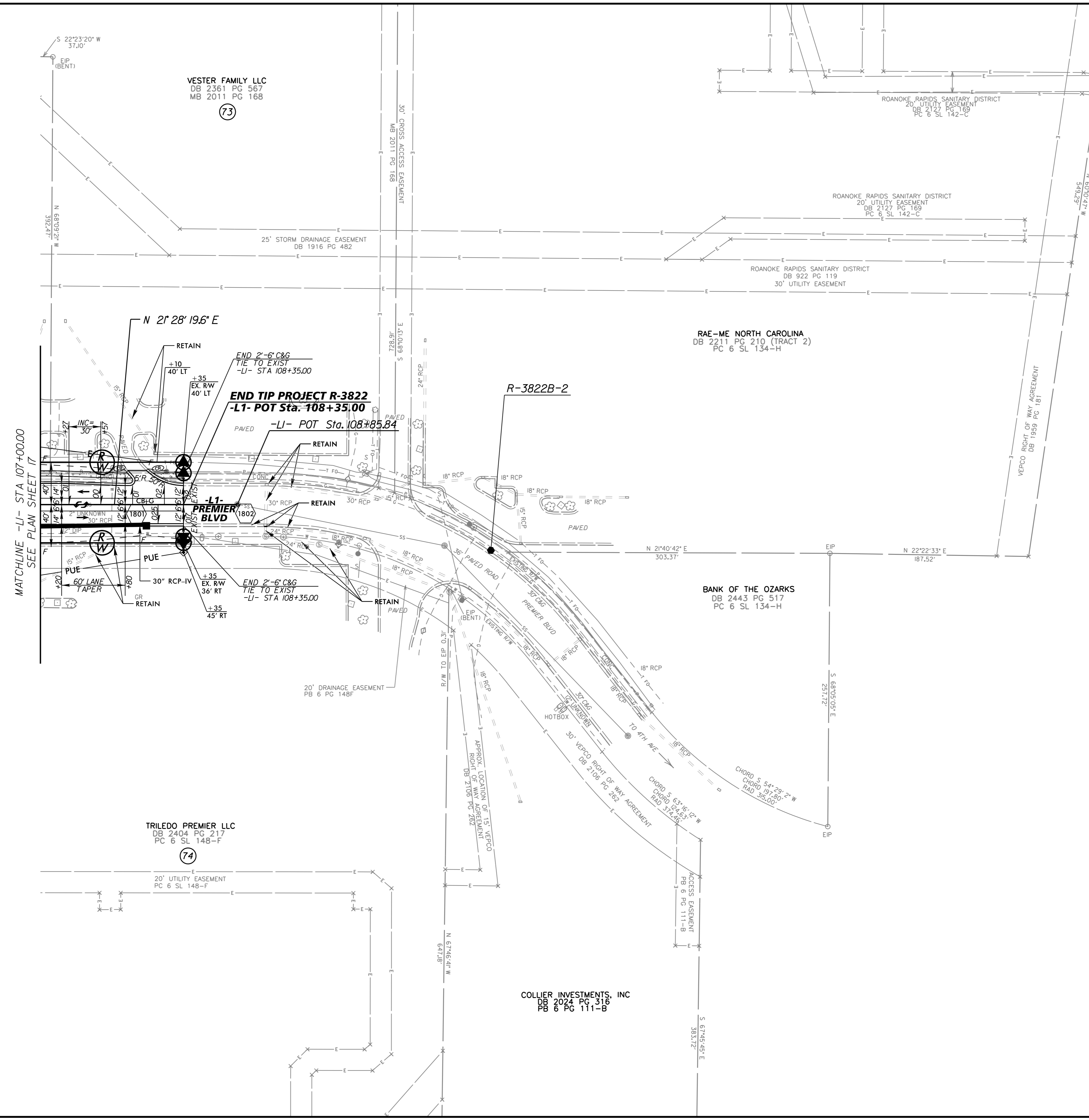
Kimley Horn

421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, N.C. 27601. NC LICENSE #F-0102

PROJECT REFERENCE NO. U-5725/R-3822		SHEET NO. 18	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



REVISIONS



MATCHLINE -L1- STA 107+00.00
SEE PLAN SHEET 17

NOTE: ALL TEMPORARY SEDIMENT TRAPS SHALL BE REMOVED AND REGRADED TO PRECONSTRUCTION TOPOGRAPHY PRIOR TO PROJECT COMPLETION.
SEE SHEET NO. 27 FOR -L1- PROFILE

9/4/2018

5/14/19

-Y3-
 PI Sta 26+58.52
 $\Delta = 18^{\circ} 25' 43.3" (RT)$
 $D = 5^{\circ} 43' 46.5"$
 $L = 321.64'$
 $T = 162.22'$
 $R = 1,000.00'$
 $e = 3.6$
 $R_{\text{ext}} = 90'$

(70)
 EDWARD L. DICKENS
 SEE NOTE IN SURVEY REPORT
 DB 1455 PG 116
 PB 19 PG 74

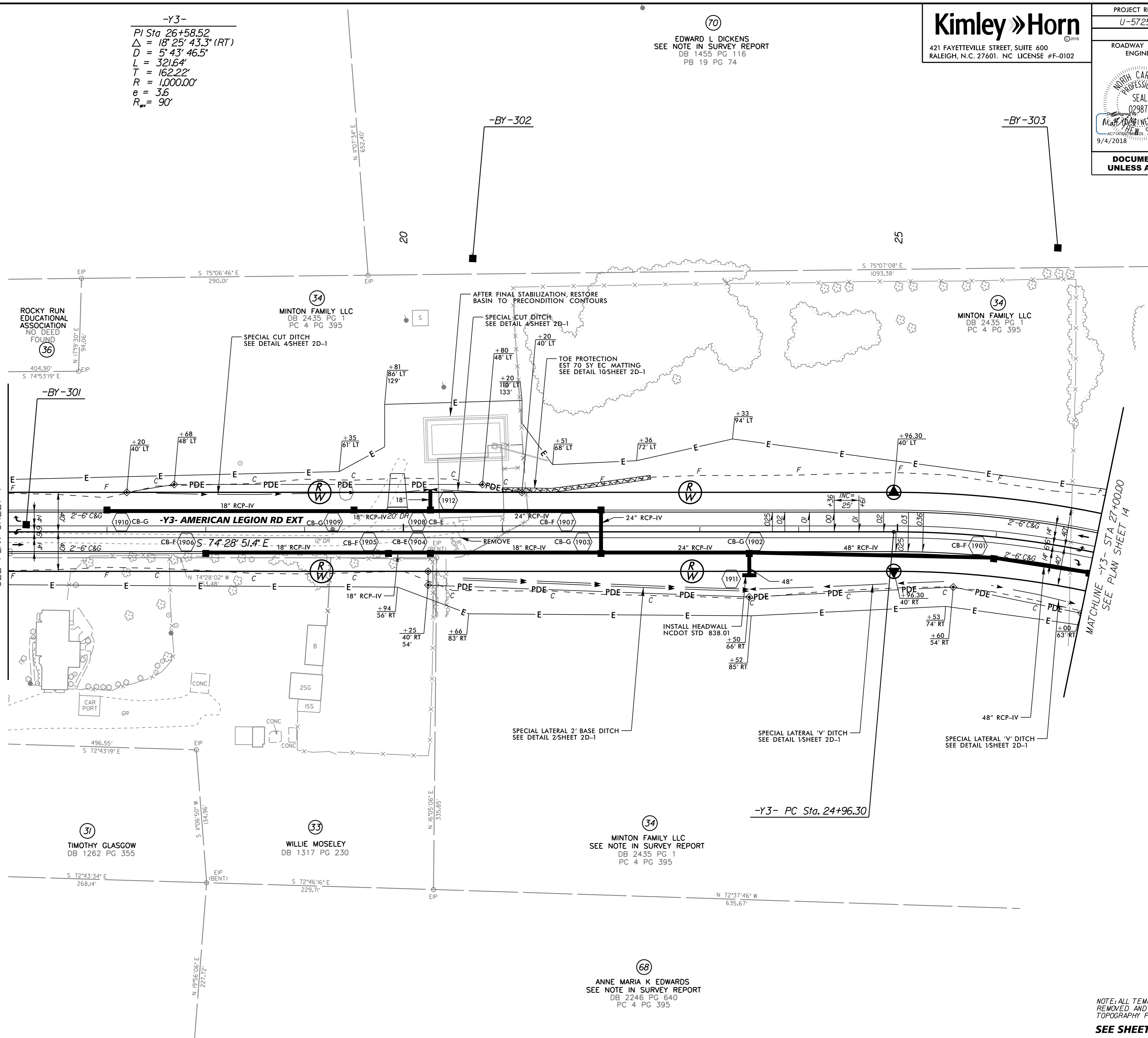
PROJECT REFERENCE NO. U-5725/R-3822		SHEET NO. 19	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NAD 83 / N.A. 2011

REVISIONS

MATCHLINE -Y3- STA 16+00.00
SEE PLAN SHEET 7

MATCHLINE -Y3- STA 27+00.00
SEE PLAN SHEET 14



(37)
 TIMOTHY GLASGOW
 DB 1262 PG 355

(33)
 WILLIE MOSELEY
 DB 1317 PG 230

(34)
 MINTON FAMILY LLC
 SEE NOTE IN SURVEY REPORT
 DB 2435 PG 1
 PC 4 PG 395

(68)
 ANNE MARIA K EDWARDS
 SEE NOTE IN SURVEY REPORT
 DB 2246 PG 640
 PC 4 PG 395

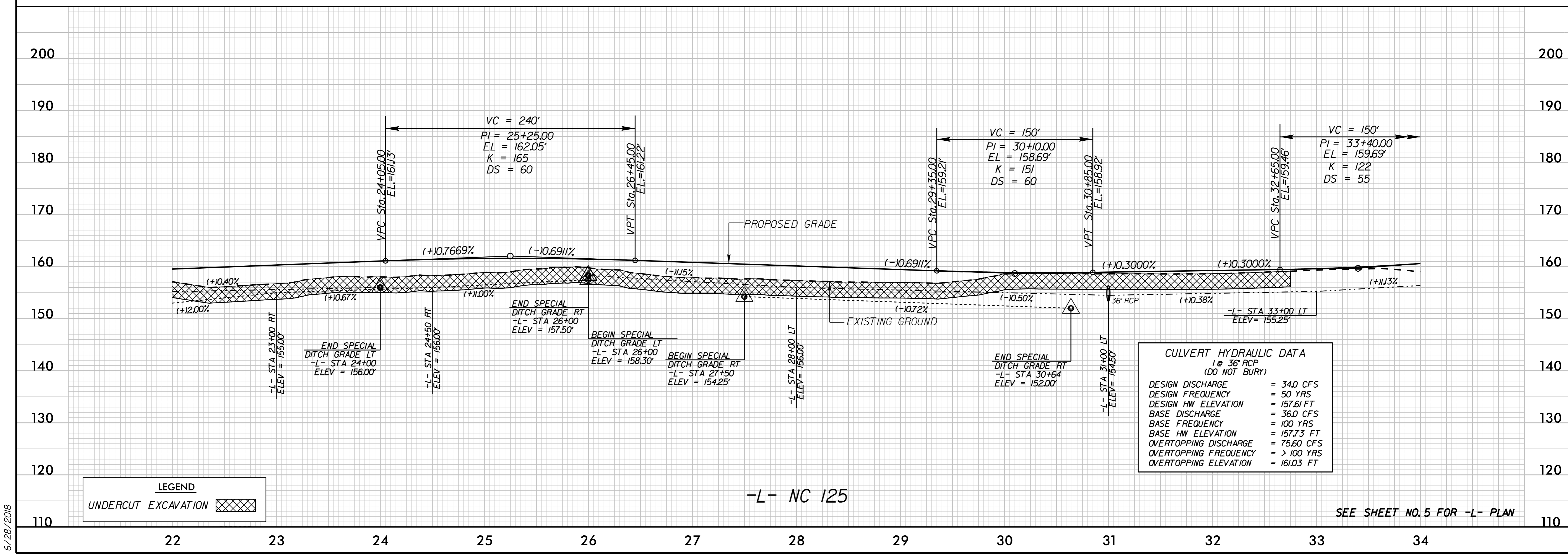
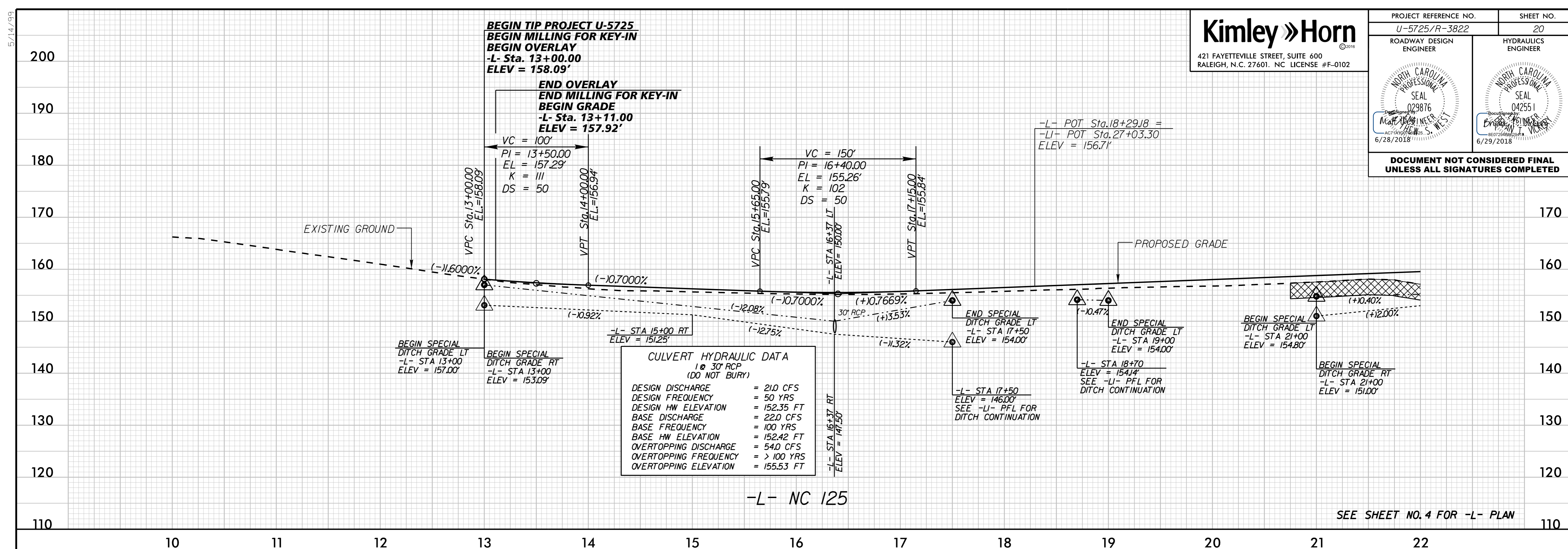
NOTE: ALL TEMPORARY SEDIMENT TRAPS SHALL BE REMOVED AND REGRADED TO PRECONSTRUCTION TOPOGRAPHY PRIOR TO PROJECT COMPLETION.
 SEE SHEET NO. 28 FOR -Y3- PROFILE

9/4/2018

5/14/99

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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LEGEND
 UNDERCUT EXCAVATION

6/28/2018

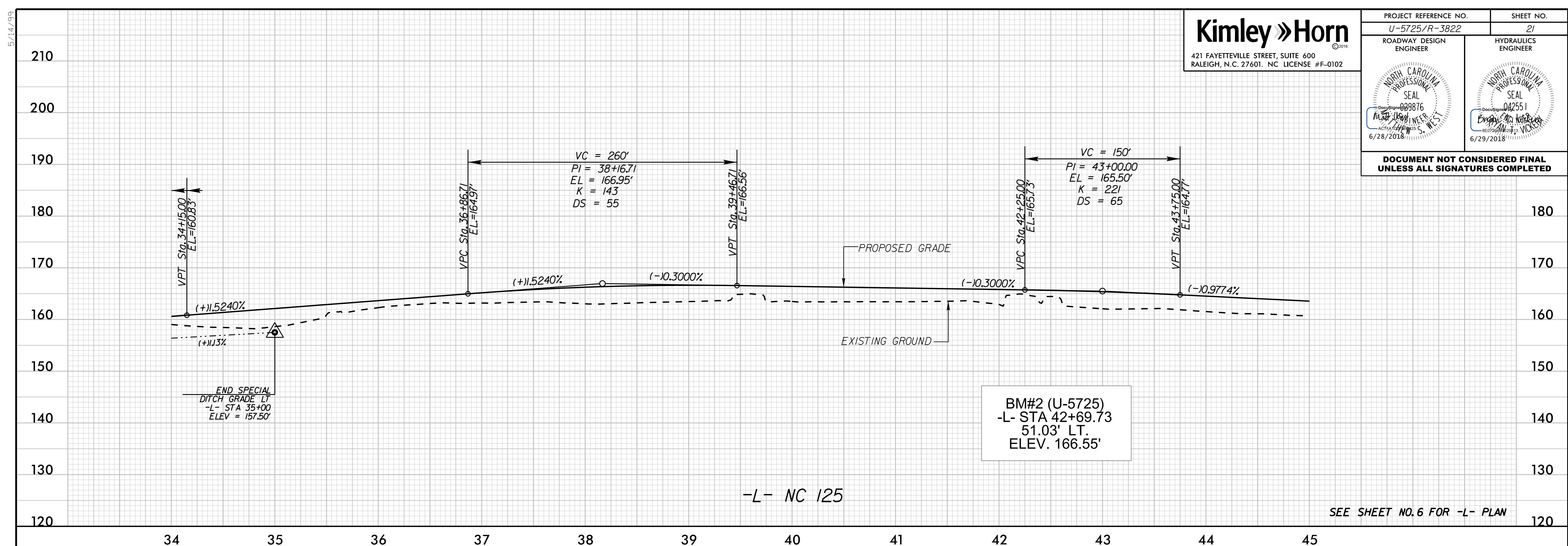
SEE SHEET NO. 4 FOR -L- PLAN

SEE SHEET NO. 5 FOR -L- PLAN

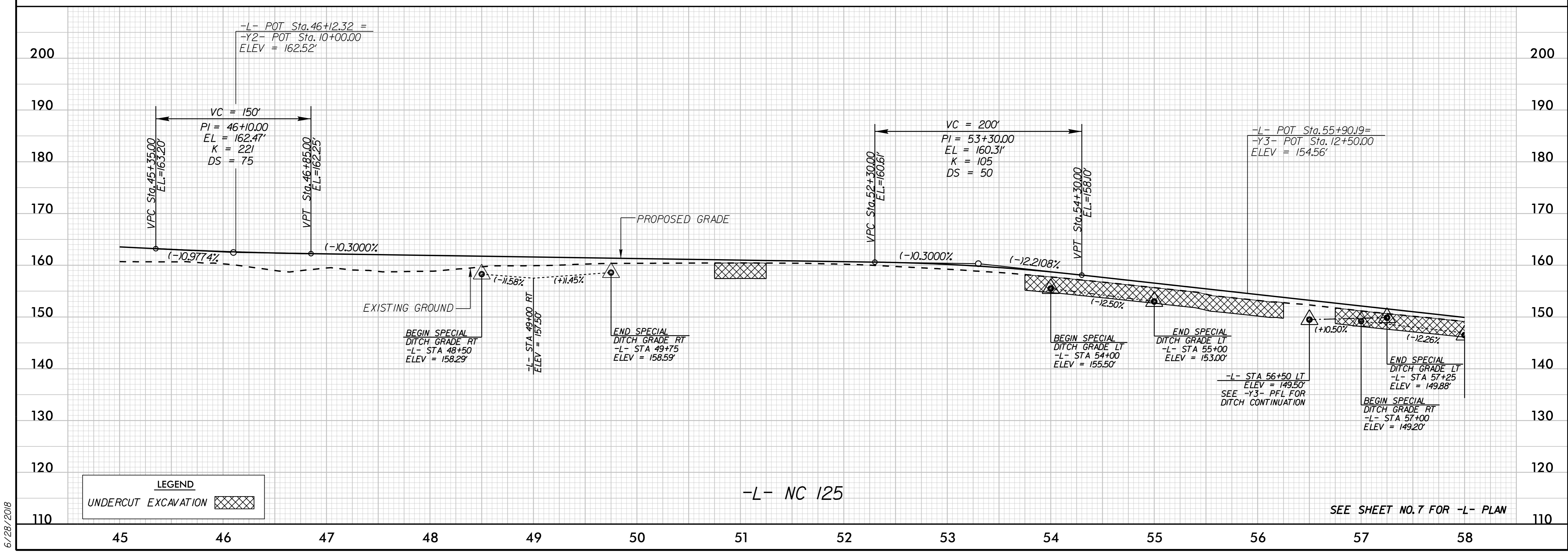
5/14/1999

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 6/28/2018	 6/29/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SEE SHEET NO. 6 FOR -L- PLAN



LEGEND
 UNDERCUT EXCAVATION

SEE SHEET NO. 7 FOR -L- PLAN

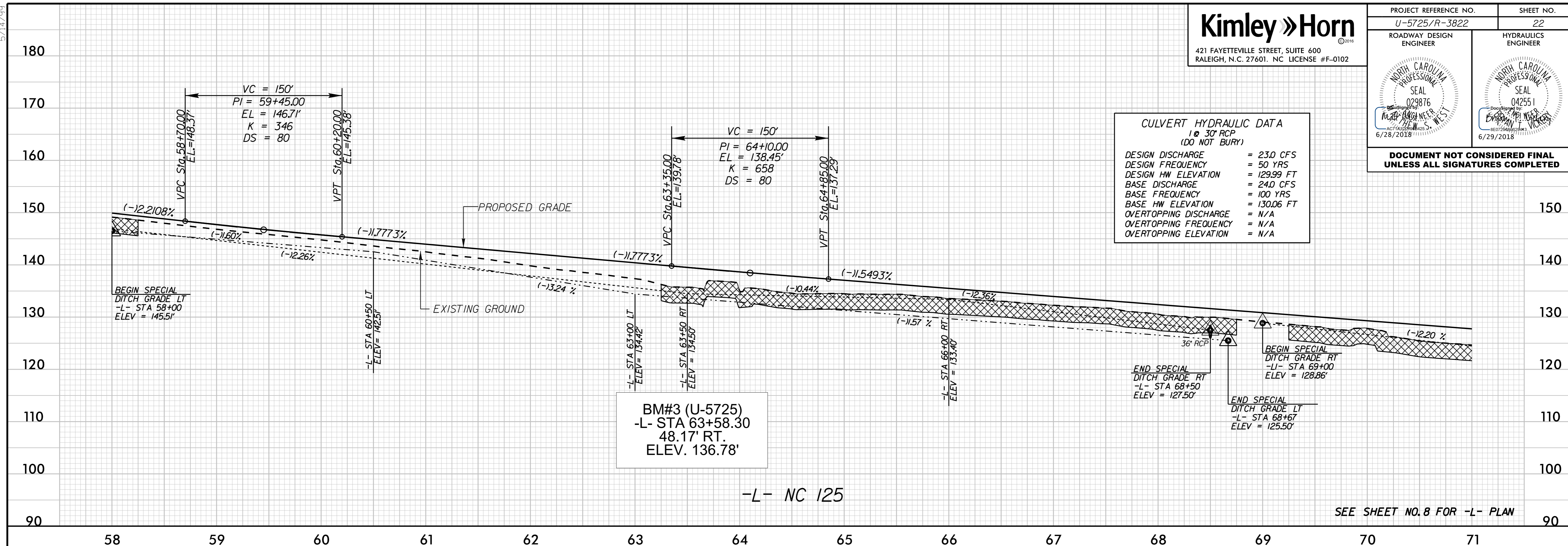
6/28/2018

5/14/19

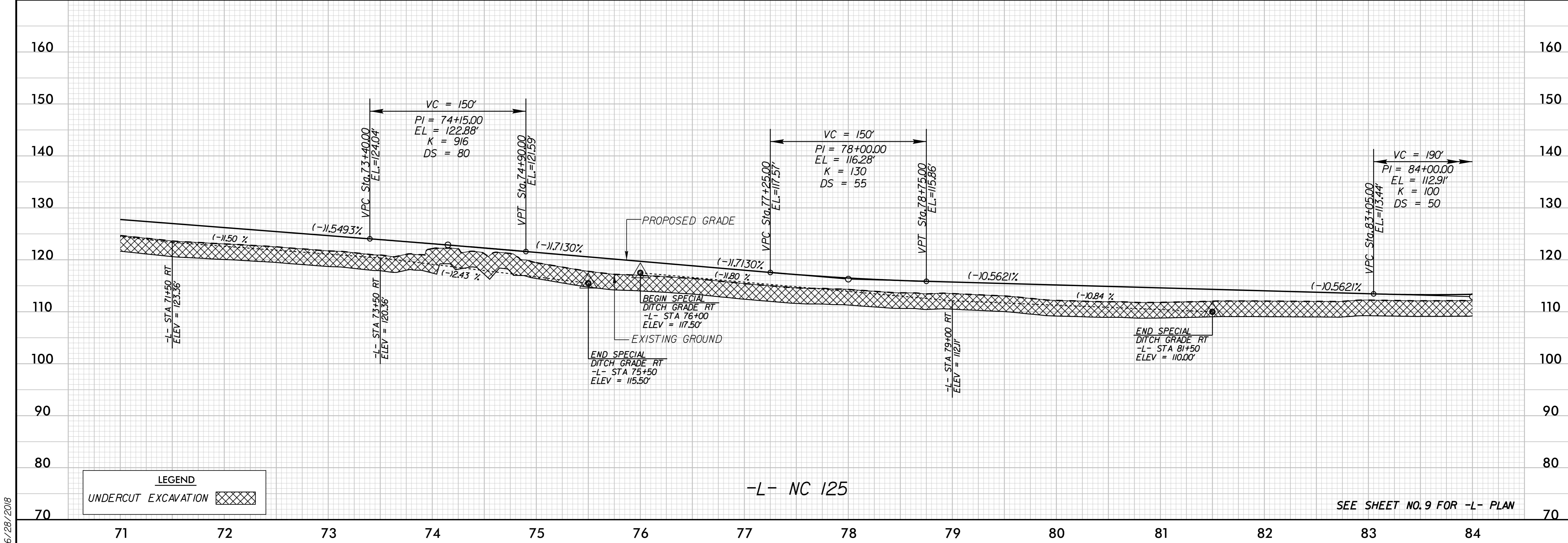
PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

CULVERT HYDRAULIC DATA
1 @ 30" RCP
(DO NOT BURY)

DESIGN DISCHARGE	= 23.0 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 129.99 FT
BASE DISCHARGE	= 24.0 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 130.06 FT
OVERTOPPING DISCHARGE	= N/A
OVERTOPPING FREQUENCY	= N/A
OVERTOPPING ELEVATION	= N/A



SEE SHEET NO. 8 FOR -L- PLAN



SEE SHEET NO. 9 FOR -L- PLAN

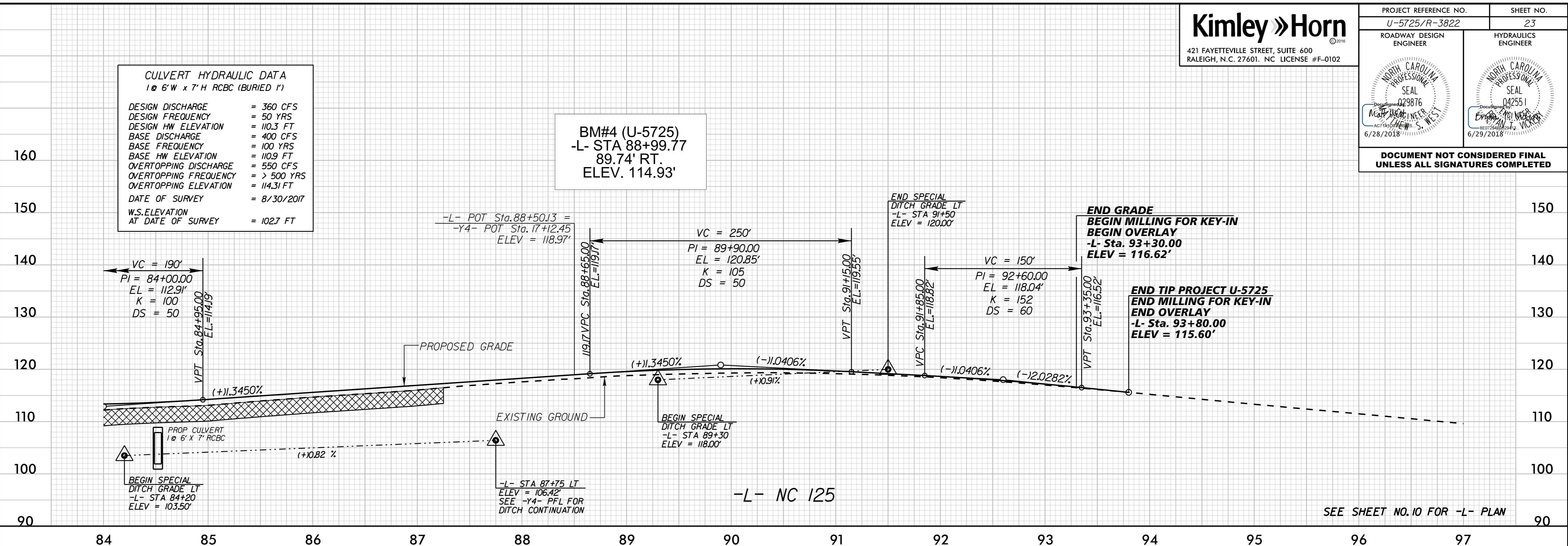
6/28/2018

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UNLESS ALL SIGNATURES COMPLETED**

CULVERT HYDRAULIC DATA
1 @ 6'W x 7'H RCBC (BURIED 1')

DESIGN DISCHARGE	= 360 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 110.3 FT
BASE DISCHARGE	= 400 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 110.9 FT
OVERTOPPING DISCHARGE	= 550 CFS
OVERTOPPING FREQUENCY	= > 500 YRS
OVERTOPPING ELEVATION	= 114.31 FT
DATE OF SURVEY	= 8/30/2017
W.S. ELEVATION AT DATE OF SURVEY	= 102.7 FT

BM#4 (U-5725)
-L- STA 88+99.77
89.74' RT.
ELEV. 114.93'



SEE SHEET NO. 10 FOR -L- PLAN

**BEGIN MILLING FOR KEY-IN
BEGIN OVERLAY**
-L1- Sta. 14+95.00
ELEV = 160.27'

**END OVERLAY
END MILLING FOR KEY-IN
BEGIN GRADE**
-L1- Sta. 15+45.00
ELEV = 160.26'

BM#5 (U-5725)
-L1- STA 10+00.00 (-6.71')
60.27' RT.
ELEV. 160.84

CULVERT HYDRAULIC DATA
1 @ 18" RCP
(DO NOT BURY)

DESIGN DISCHARGE	= 120 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 157.74 FT
BASE DISCHARGE	= 140 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 157.78 FT
OVERTOPPING DISCHARGE	= 1320 CFS
OVERTOPPING FREQUENCY	= > 100 YRS
OVERTOPPING ELEVATION	= 160.23 FT

LEGEND
UNDERCUT EXCAVATION

-L1- SR 1627 (THREE BRIDGES RD)

SEE SHEET NO. 11 FOR -L1- PLAN

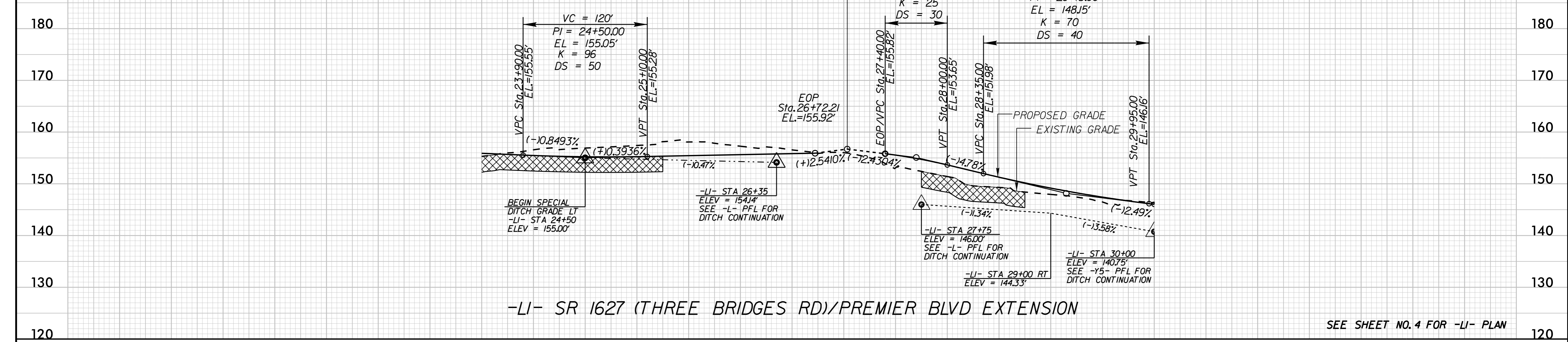
5/14/1999

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5/14/1999

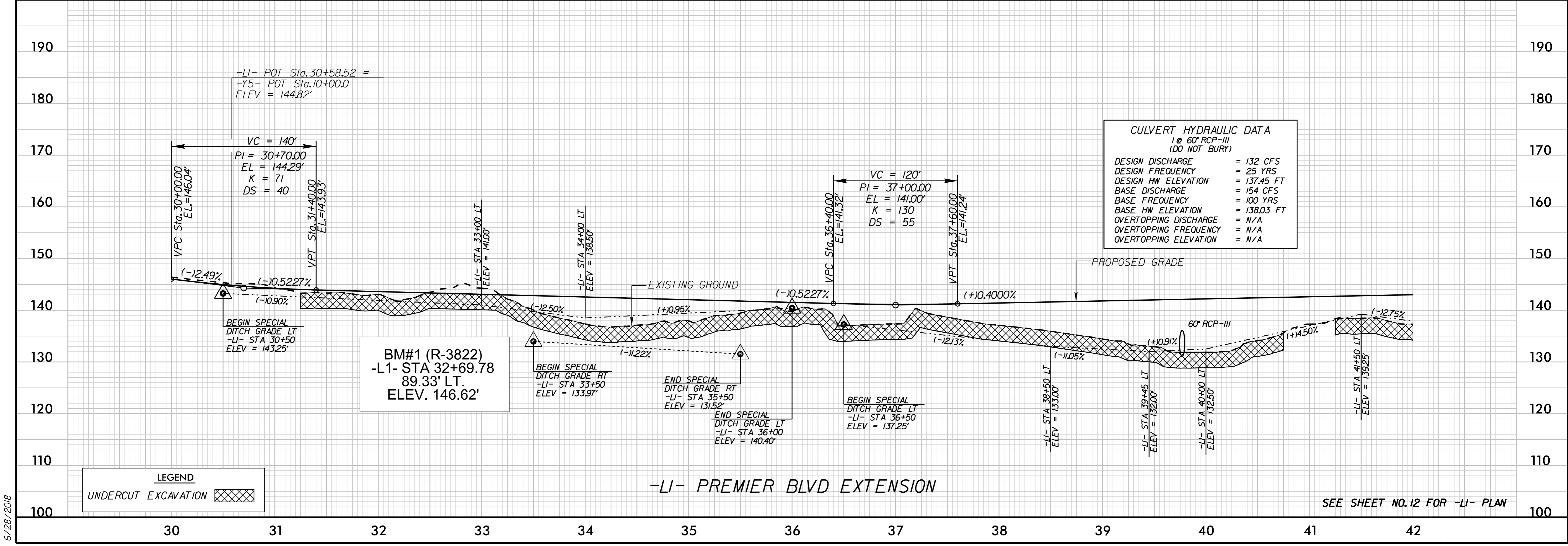
PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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UNLESS ALL SIGNATURES COMPLETED**



-LI- SR 1627 (THREE BRIDGES RD)/PREMIER BLVD EXTENSION

SEE SHEET NO. 4 FOR -LI- PLAN



CULVERT HYDRAULIC DATA	
1 @ 60" RCP-III (DO NOT BURY)	
DESIGN DISCHARGE	= 132 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 137.45 FT
BASE DISCHARGE	= 154 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 138.03 FT
OVERTOPPING DISCHARGE	= N/A
OVERTOPPING FREQUENCY	= N/A
OVERTOPPING ELEVATION	= N/A

LEGEND
 UNDERCUT EXCAVATION

SEE SHEET NO. 12 FOR -LI- PLAN

6/28/2018

5/14/19

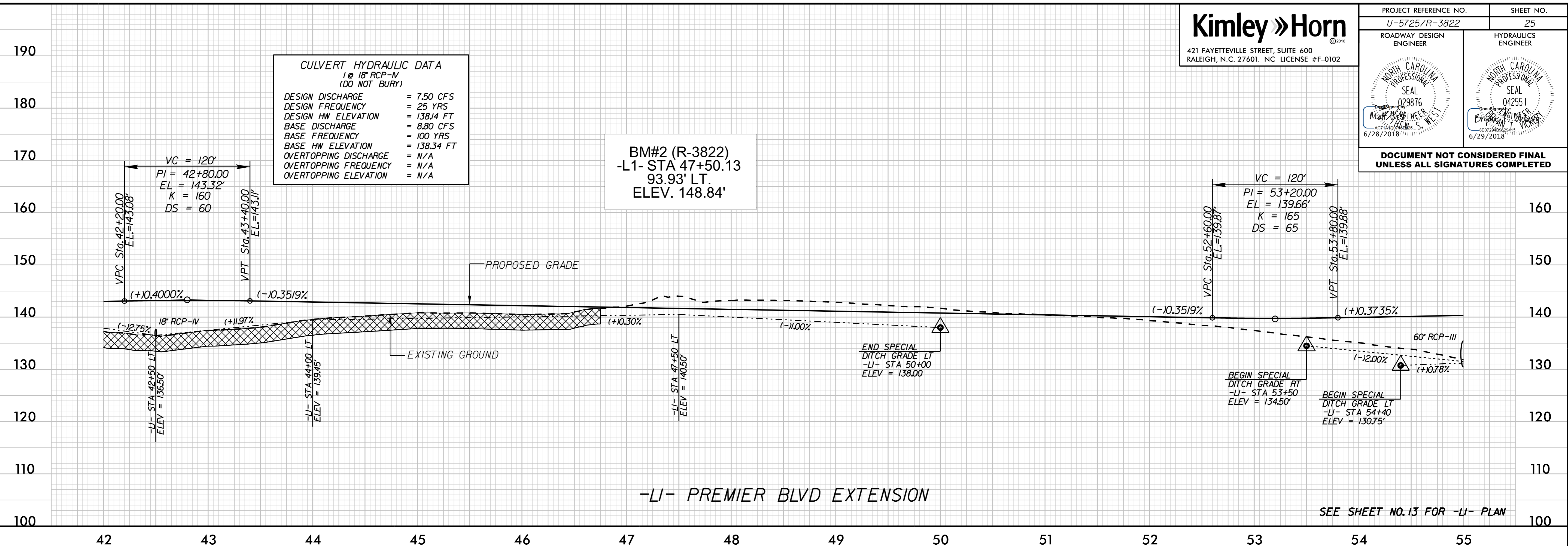
PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

CULVERT HYDRAULIC DATA
1 @ 18" RCP-IV
(DO NOT BURY)

DESIGN DISCHARGE = 7.50 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 138.14 FT
BASE DISCHARGE = 8.80 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 138.34 FT
OVERTOPPING DISCHARGE = N/A
OVERTOPPING FREQUENCY = N/A
OVERTOPPING ELEVATION = N/A

BM#2 (R-3822)
-L1- STA 47+50.13
93.93' LT.
ELEV. 148.84'



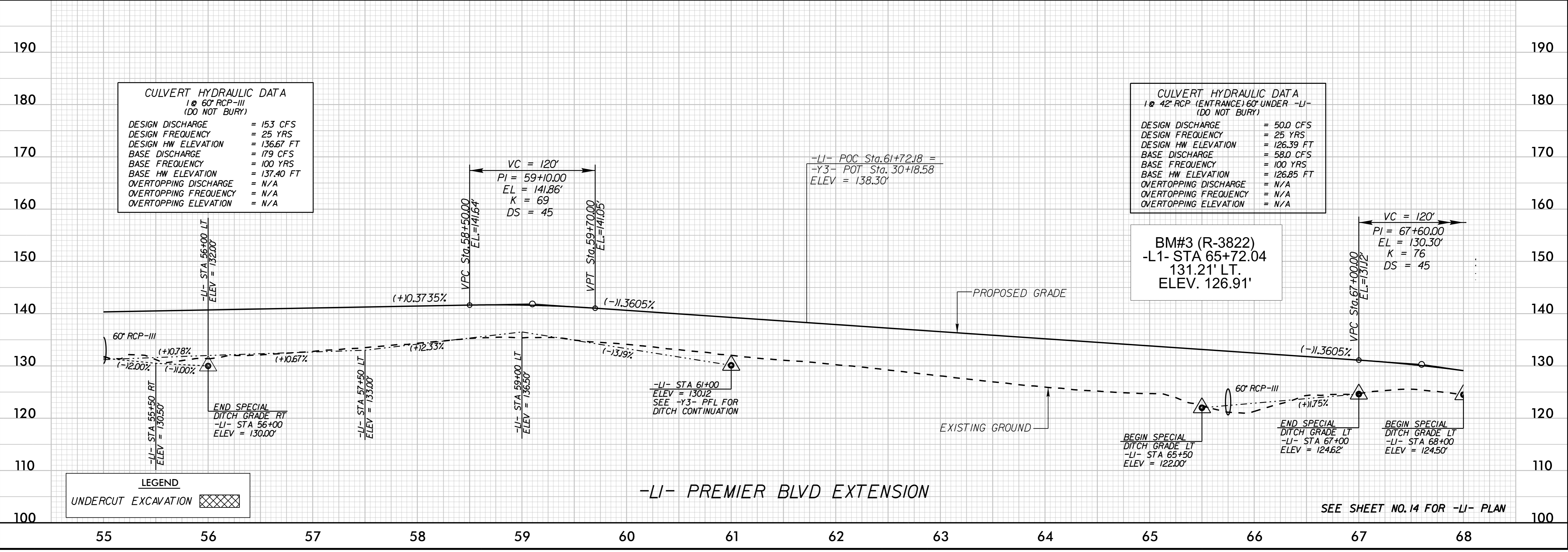
CULVERT HYDRAULIC DATA
1 @ 60" RCP-III
(DO NOT BURY)

DESIGN DISCHARGE = 153 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 136.67 FT
BASE DISCHARGE = 179 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 137.40 FT
OVERTOPPING DISCHARGE = N/A
OVERTOPPING FREQUENCY = N/A
OVERTOPPING ELEVATION = N/A

CULVERT HYDRAULIC DATA
1 @ 42" RCP (ENTRANCE) 60" UNDER -L1-
(DO NOT BURY)

DESIGN DISCHARGE = 50.0 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 126.39 FT
BASE DISCHARGE = 58.0 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 126.85 FT
OVERTOPPING DISCHARGE = N/A
OVERTOPPING FREQUENCY = N/A
OVERTOPPING ELEVATION = N/A

BM#3 (R-3822)
-L1- STA 65+72.04
131.21' LT.
ELEV. 126.91'



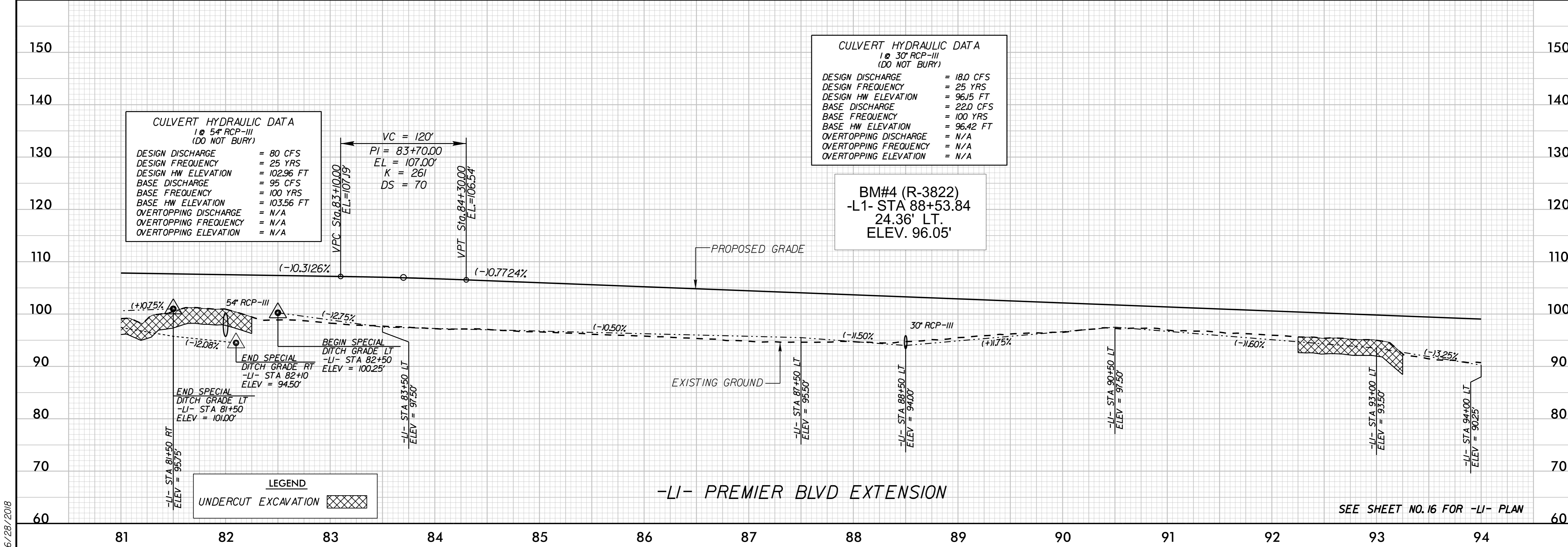
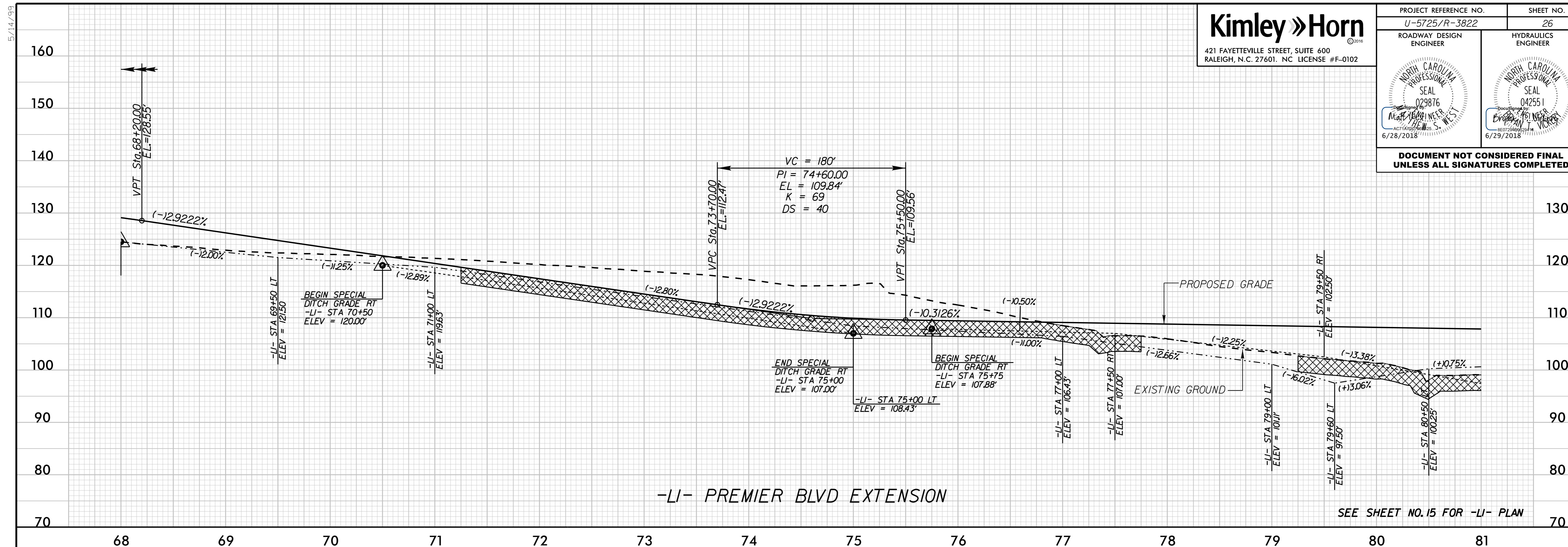
LEGEND
UNDERCUT EXCAVATION

SEE SHEET NO. 14 FOR -L1- PLAN

6/28/2018

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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6/28/2018

5/14/1999

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

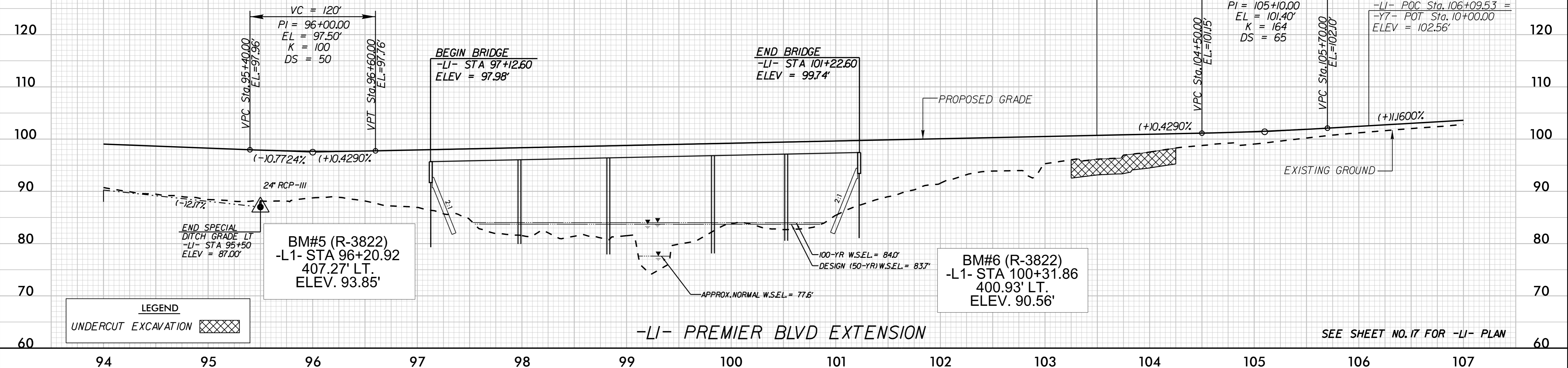
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CULVERT HYDRAULIC DATA
1 @ 18" RCP-III (ENTRANCE) 24" UNDER -LI- (DO NOT BURY)

DESIGN DISCHARGE	= 5.90 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 88.43 FT
BASE DISCHARGE	= 6.80 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 88.57 FT
OVERTOPPING DISCHARGE	= N/A
OVERTOPPING FREQUENCY	= N/A
OVERTOPPING ELEVATION	= N/A

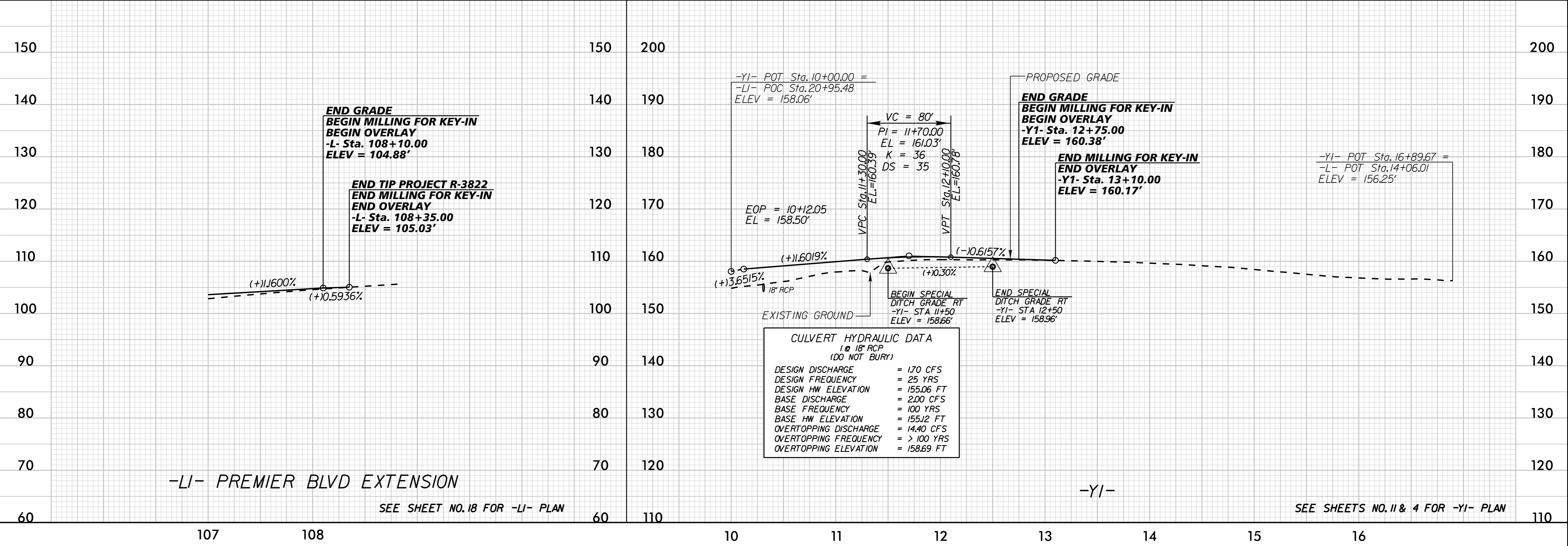
BRIDGE HYDRAULIC DATA
2@85', 1@100', 2@70' PRESTRESSED CONCRETE GIRDERS

DESIGN DISCHARGE	= 1600 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 83.7 FT
BASE DISCHARGE	= 1900 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 84.0 FT
OVERTOPPING DISCHARGE	= 47.800 CFS
OVERTOPPING FREQUENCY	= >500 YRS
OVERTOPPING ELEVATION	= 97.7



LEGEND
UNDERCUT EXCAVATION

SEE SHEET NO. 17 FOR -LI- PLAN



CULVERT HYDRAULIC DATA
1 @ 18" RCP (DO NOT BURY)

DESIGN DISCHARGE	= 1.70 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 155.06 FT
BASE DISCHARGE	= 2.00 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 155.12 FT
OVERTOPPING DISCHARGE	= 14.40 CFS
OVERTOPPING FREQUENCY	= > 100 YRS
OVERTOPPING ELEVATION	= 158.69 FT

-LI- PREMIER BLVD EXTENSION

-YI-

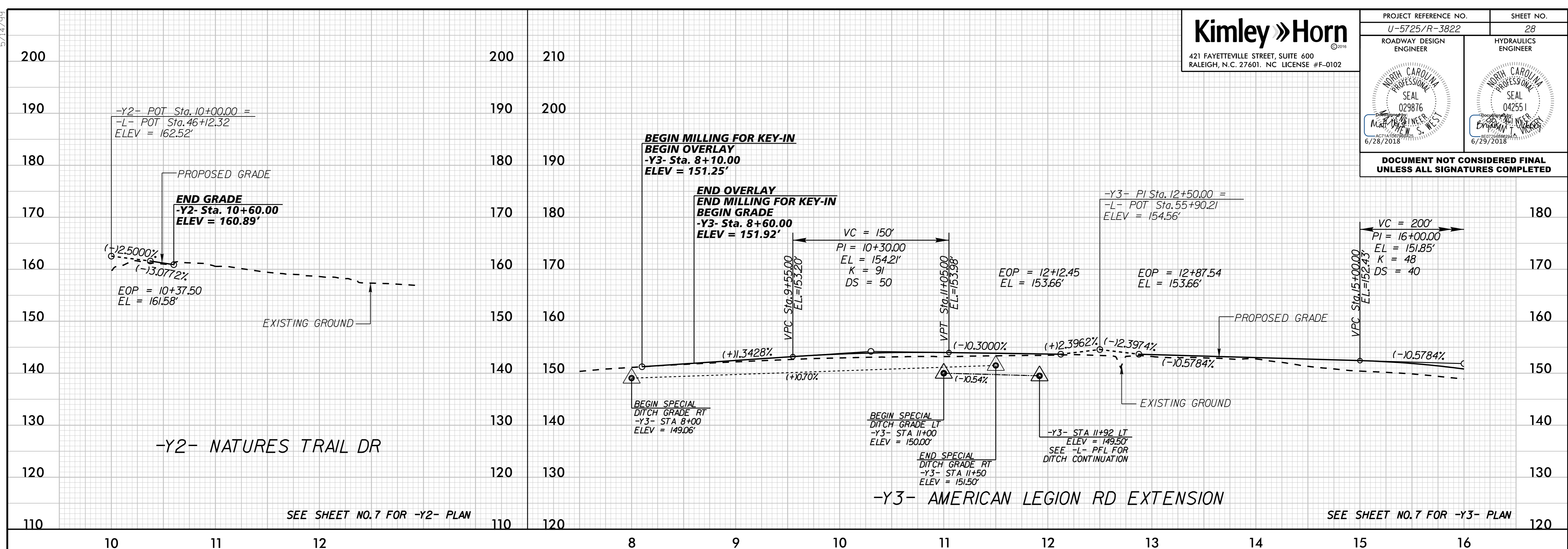
SEE SHEET NO. 18 FOR -LI- PLAN

SEE SHEETS NO. 11 & 4 FOR -YI- PLAN

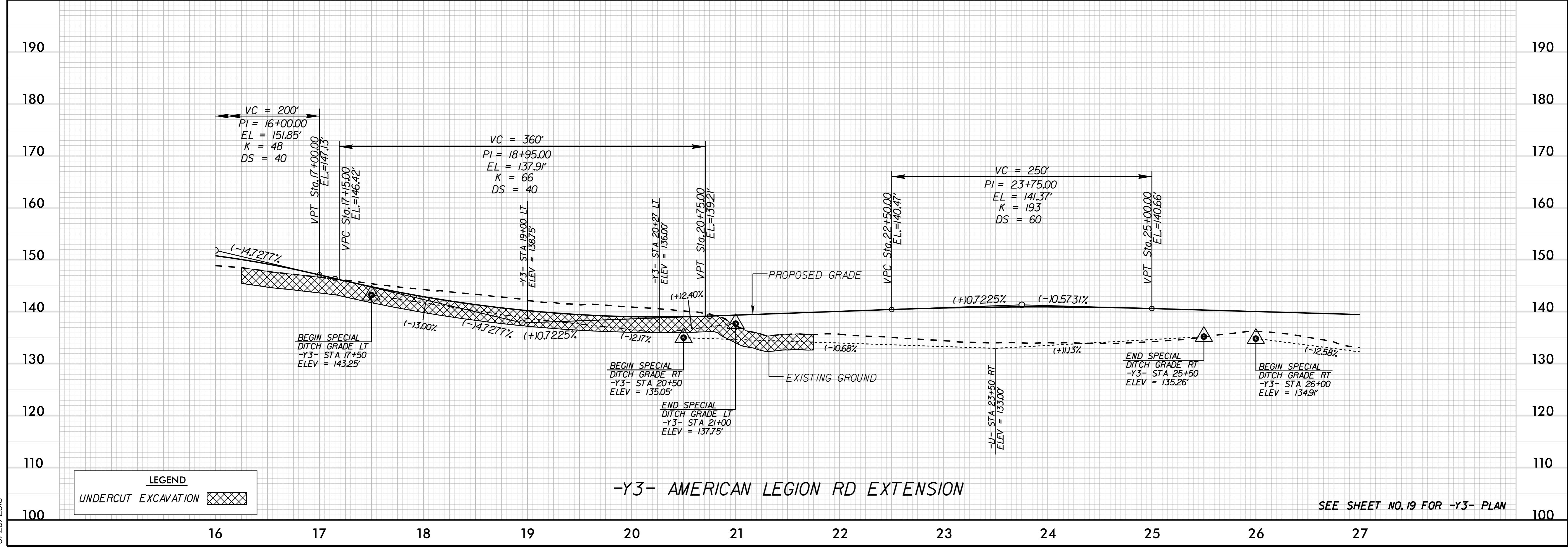
6/28/2018

5/14/1999

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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6/28/2018

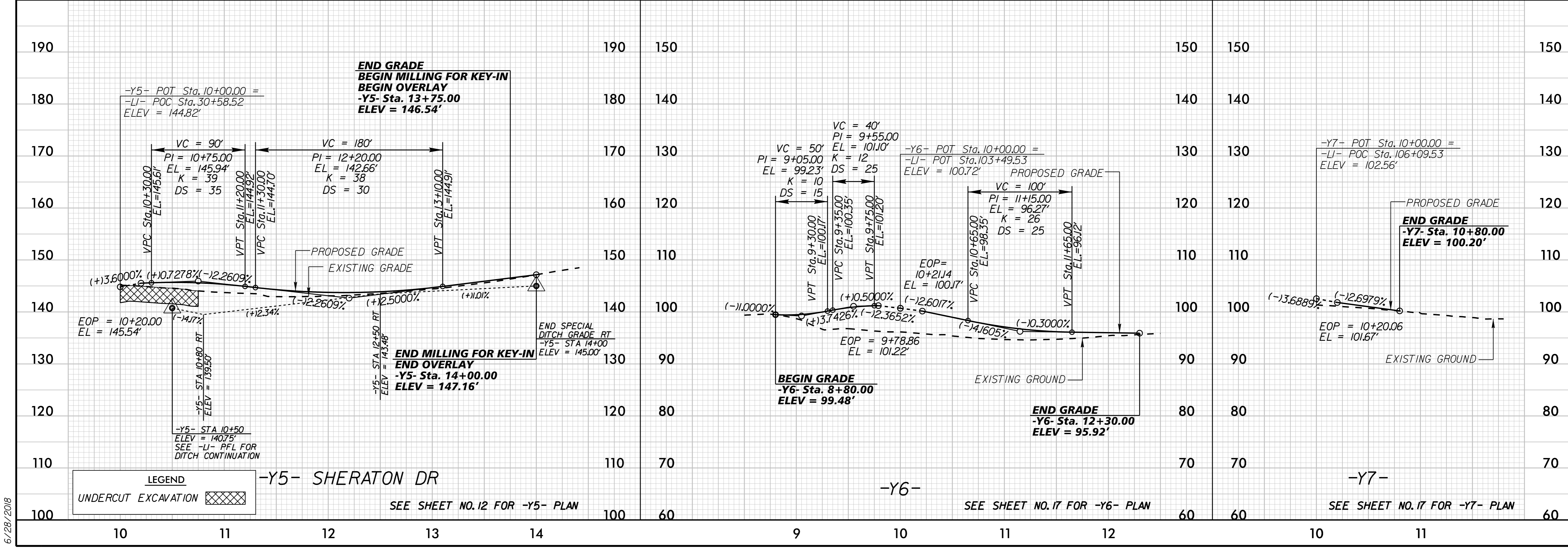
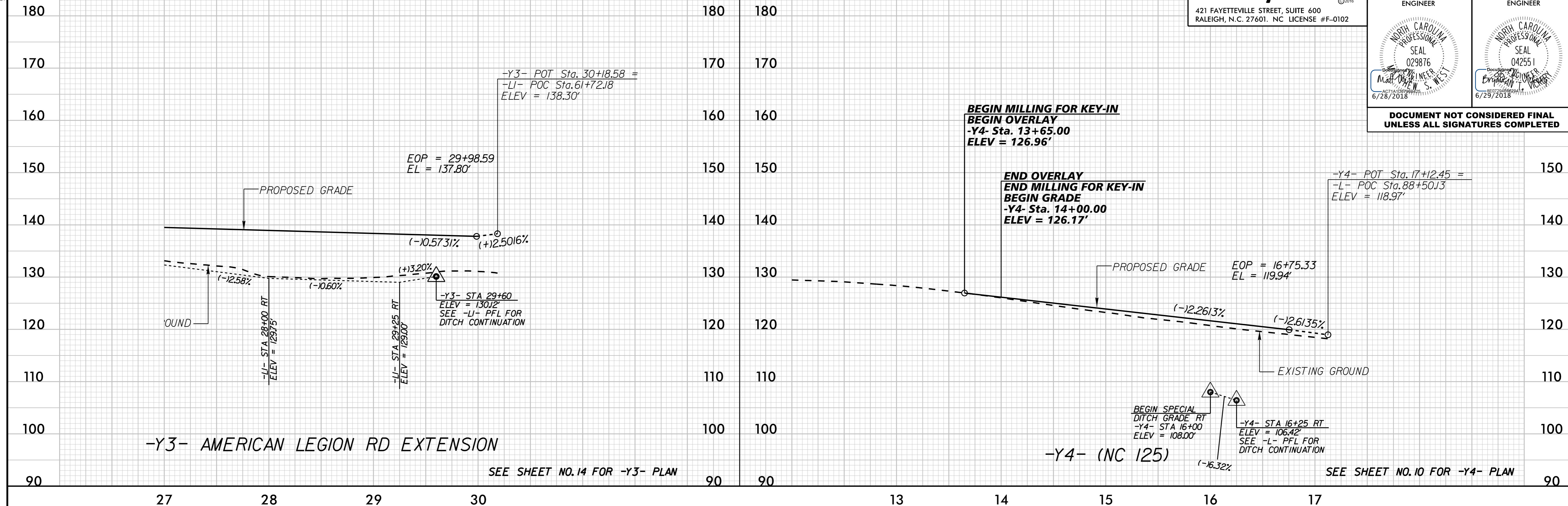


LEGEND
 UNDERCUT EXCAVATION

SEE SHEET NO. 19 FOR -Y3- PLAN

5/14/1999

PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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LEGEND
 UNDERCUT EXCAVATION

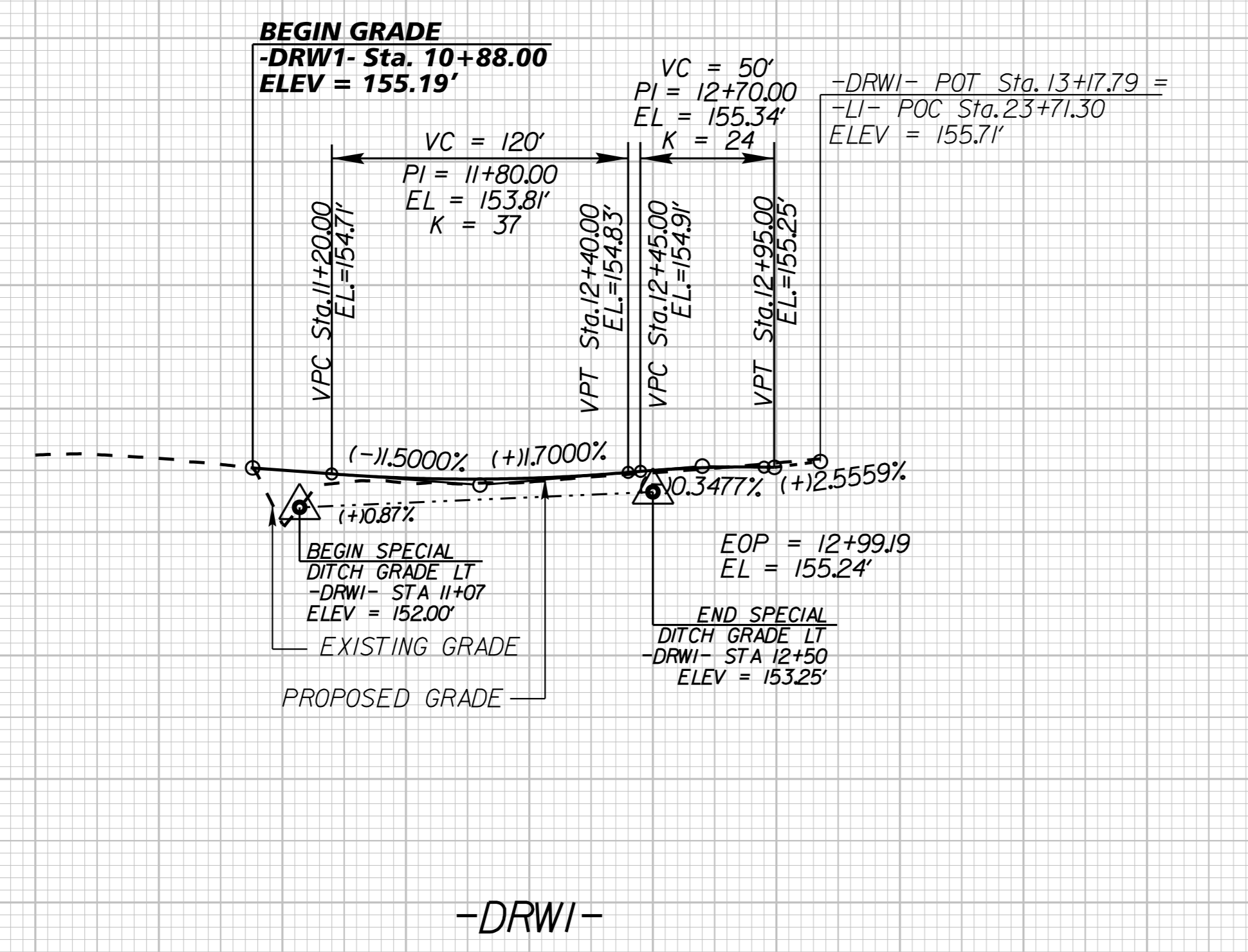
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PROJECT REFERENCE NO. U-5725/R-3822	SHEET NO. 30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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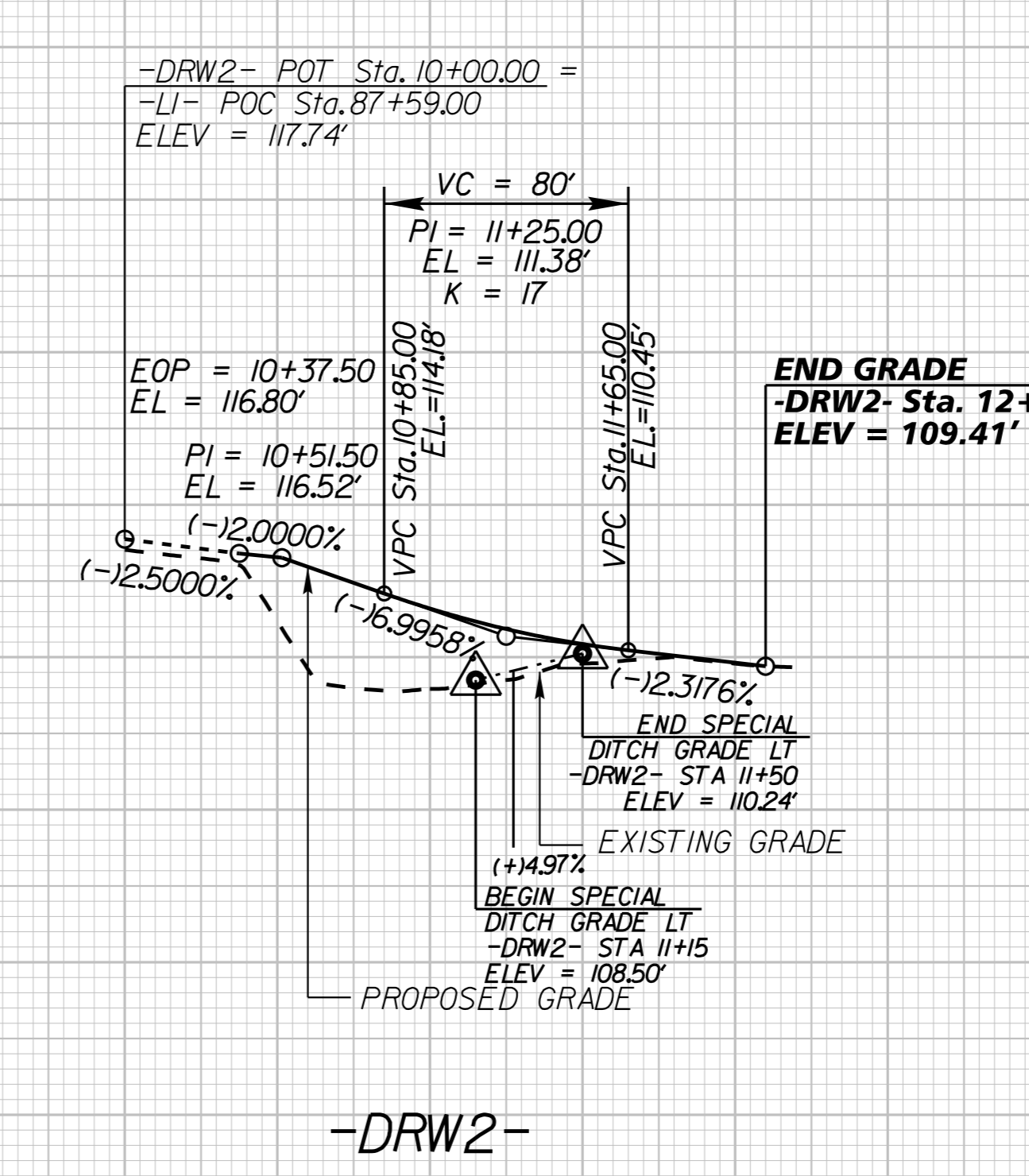
200
190
180
170
160
150
140
130
120
110



-DRW1-

SEE SHEET NO.4 FOR -DRW1- PLAN

200
190
180
170
160
150
140
130
120
110



-DRW2-

SEE SHEET NO.10 FOR -DRW2- PLAN

130
120
110
100
90
80
70

10 11 12 13 10 11 12

6/28/2018