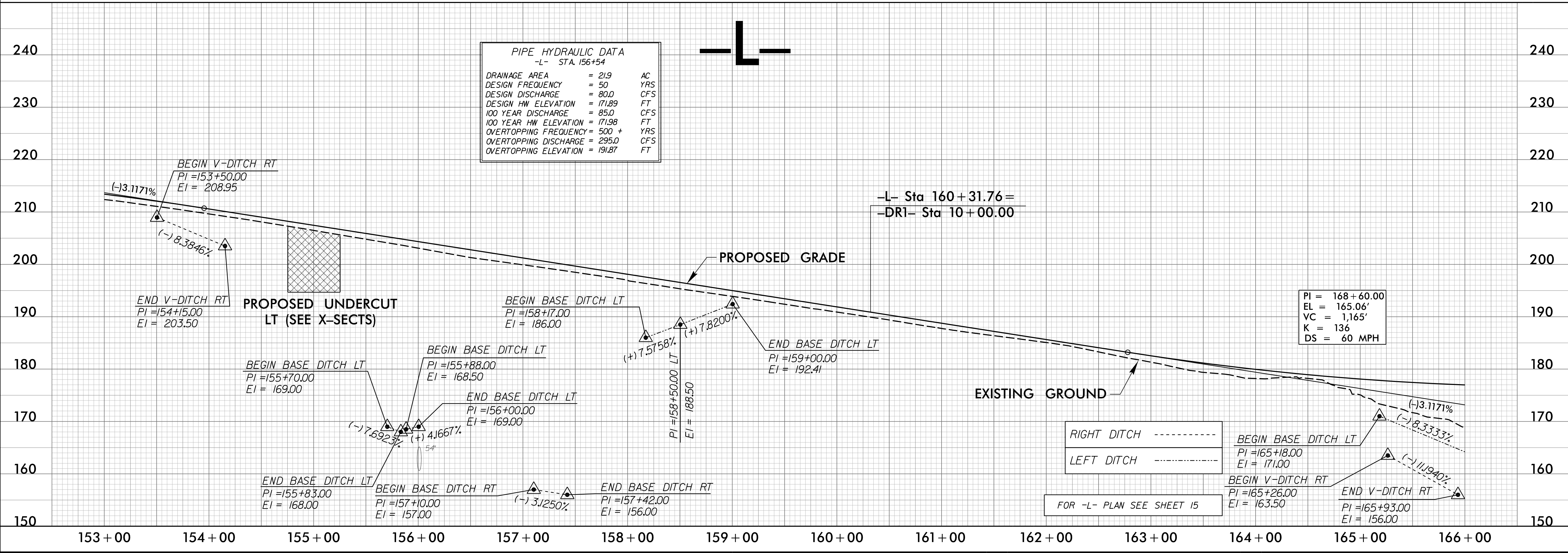
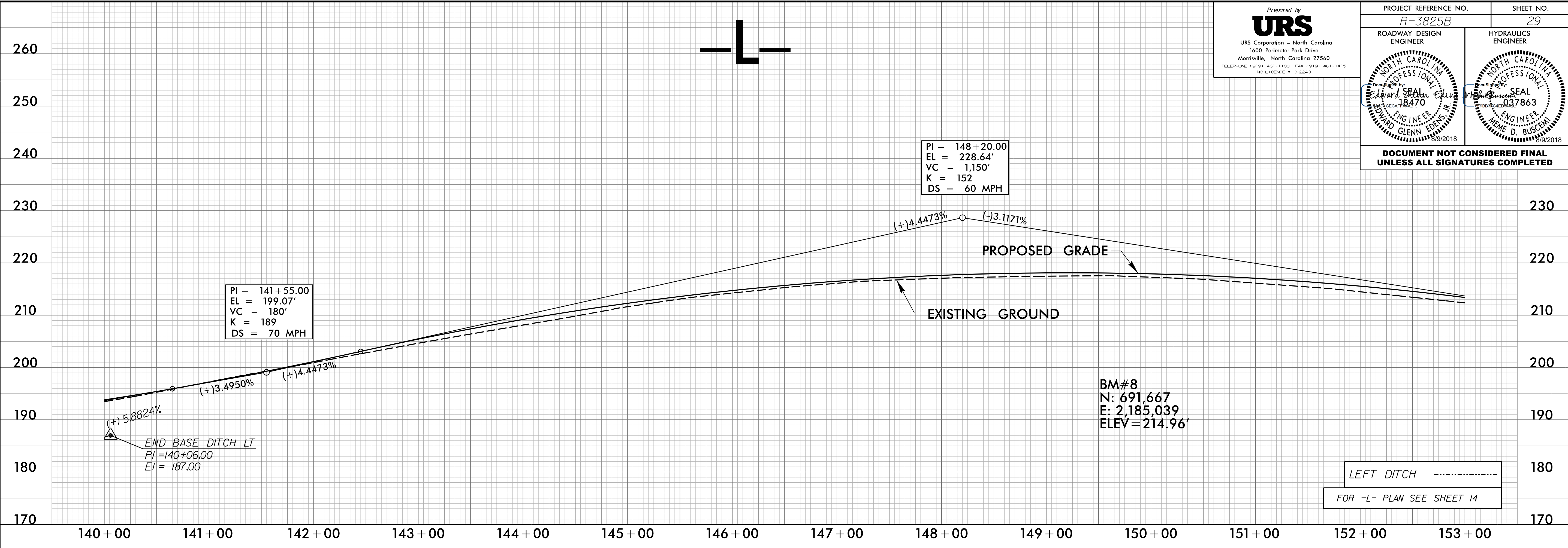


5/28/19

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415
 NC LICENSE # C-2243

PROJECT REFERENCE NO. R-3825B		SHEET NO. 29
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



R:\2018\081919\1903825B-r.dwg, pf129.dgn

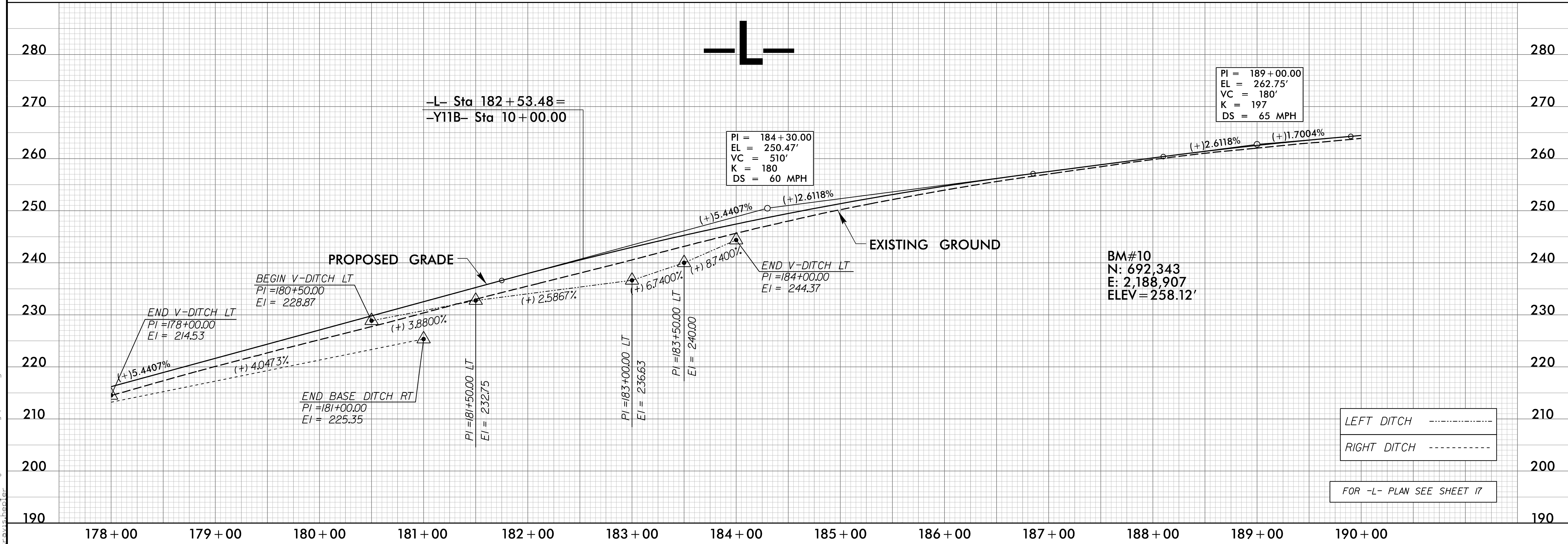
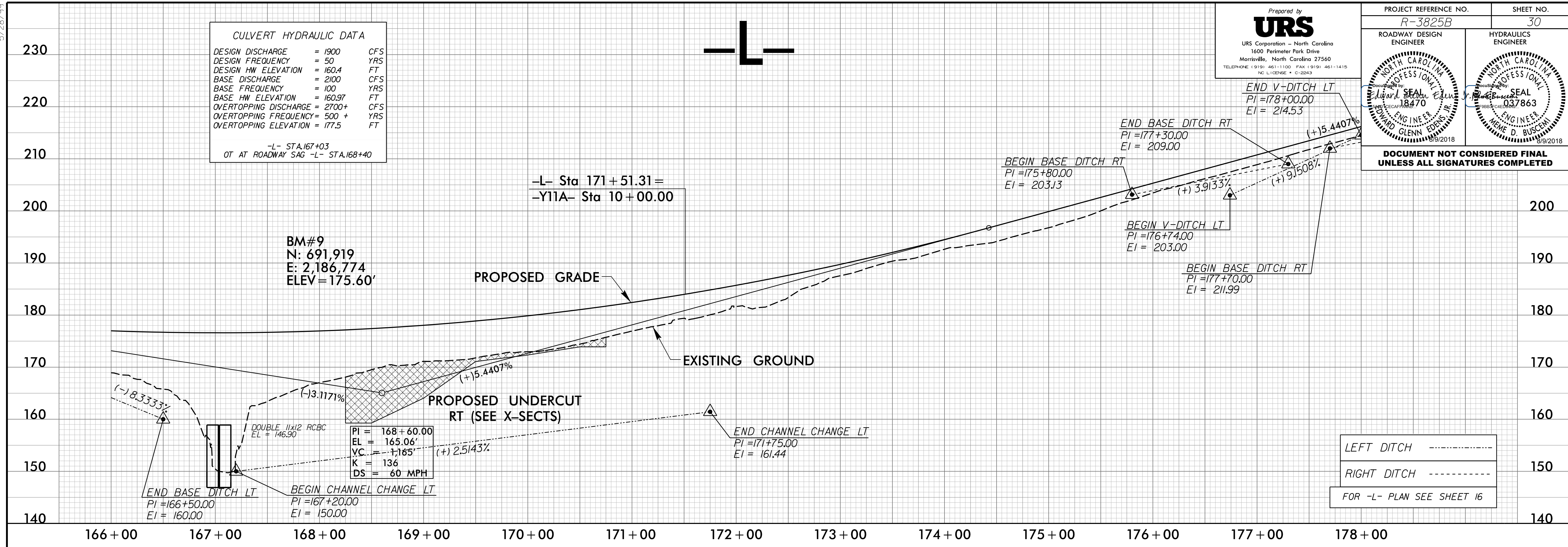
CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1900	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 160.4	FT
BASE DISCHARGE	= 2100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 160.97	FT
OVERTOPPING DISCHARGE	= 2700+	CFS
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING ELEVATION	= 177.5	FT

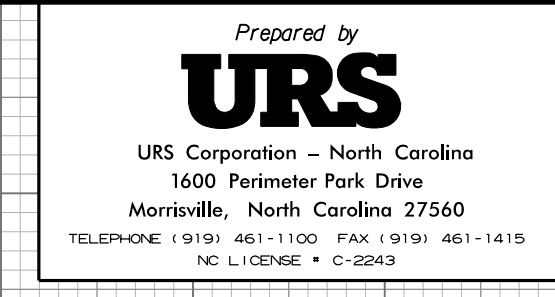
-L- STA.167+03
OT AT ROADWAY SAG -L- STA.168+40

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-25243

PROJECT REFERENCE NO. R-3825B		SHEET NO. 30
ROADWAY DESIGN ENGINEER Glenn Edeis		HYDRAULICS ENGINEER Glenn Edeis
SEAL 18470		SEAL 037863
8/9/2018		8/9/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



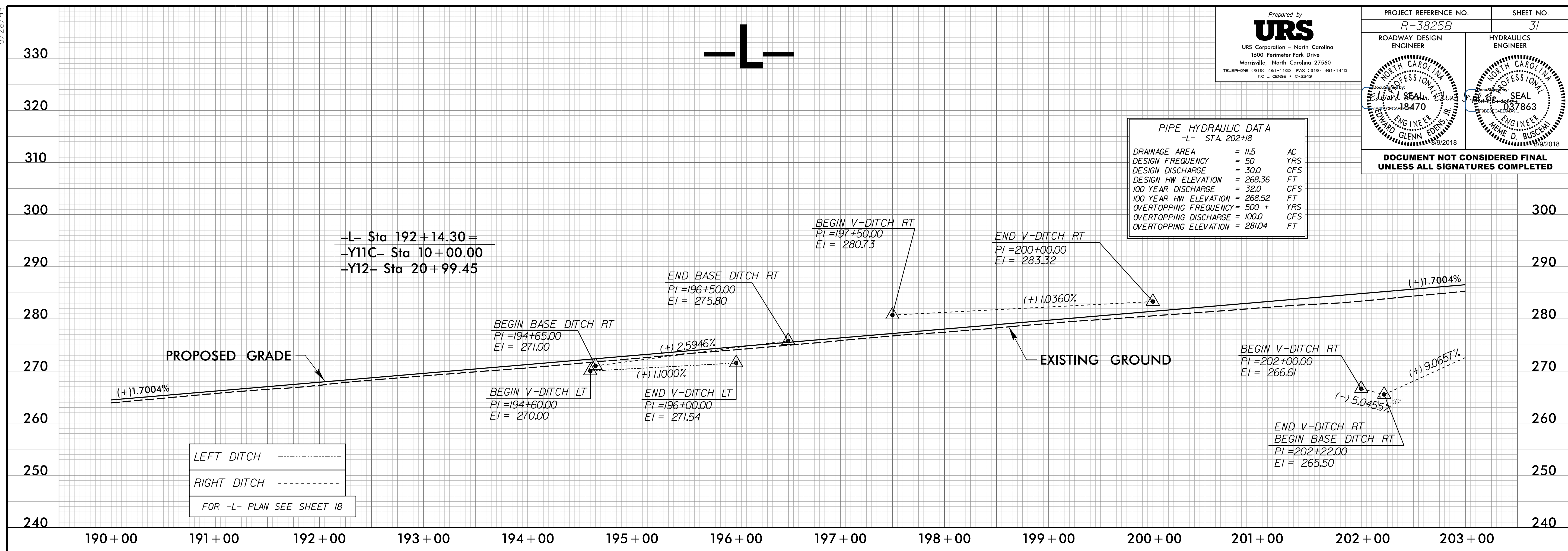
5/28/19



PROJECT REFERENCE NO. R-3825B		SHEET NO. 31
ROADWAY DESIGN ENGINEER Glenn Edes	HYDRAULICS ENGINEER Glenn Edes	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

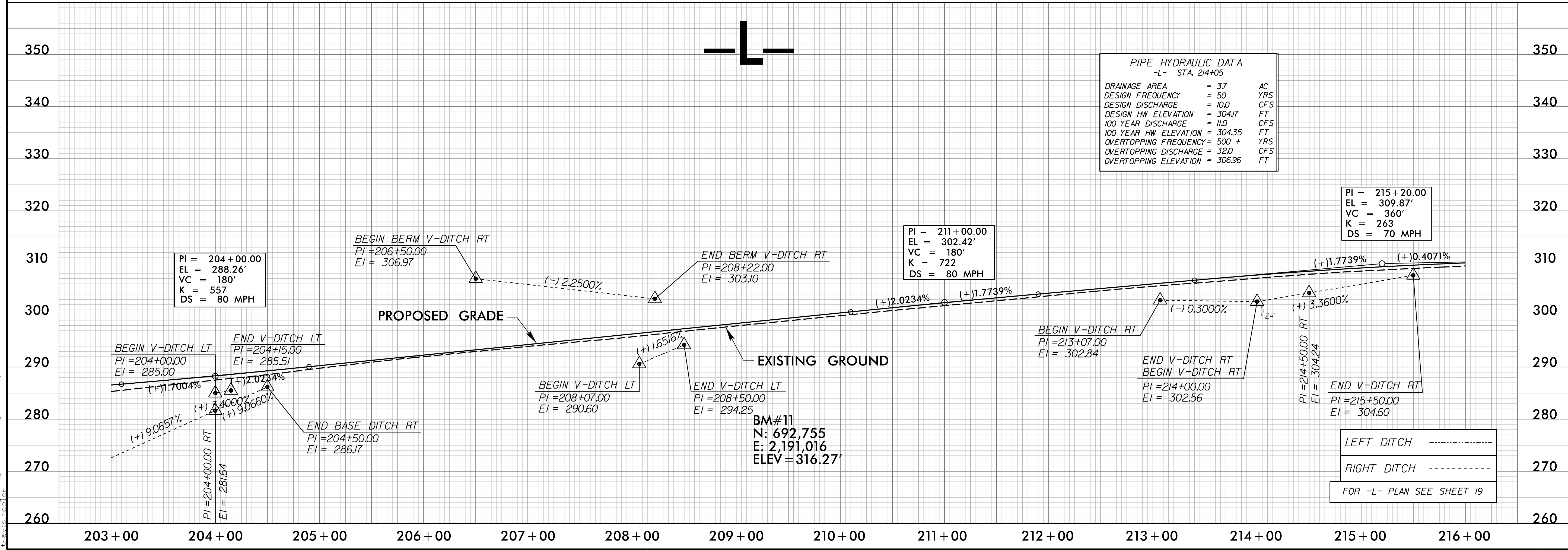
PIPE HYDRAULIC DATA
-L- STA. 202+18

DRAINAGE AREA	= 11.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 30.0	CFS
DESIGN HW ELEVATION	= 268.36	FT
100 YEAR DISCHARGE	= 32.0	CFS
100 YEAR HW ELEVATION	= 268.52	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 100.0	CFS
OVERTOPPING ELEVATION	= 281.04	FT



PIPE HYDRAULIC DATA
-L- STA. 214+05

DRAINAGE AREA	= 3.7	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 10.0	CFS
DESIGN HW ELEVATION	= 304.17	FT
100 YEAR DISCHARGE	= 11.0	CFS
100 YEAR HW ELEVATION	= 304.35	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 32.0	CFS
OVERTOPPING ELEVATION	= 306.96	FT



10/16/2019 - CONSTRUCTION REVISION: REVISED BEGIN BASE DITCH RT TO START AT -L- STA. 228+80.00 EL. 286.51. HN
 08/17/2020 - CONSTRUCTION REVISION: ADDED PROFILE FOR GRADING DETAIL #2001 FROM -L- STA. 224+00 TO STA. 227+50. ADDED PROFILE FOR DRAINAGE GRADING DETAIL #2101 FROM -L- STA. 231+00 TO STA. 232+00 RIGHT. HN

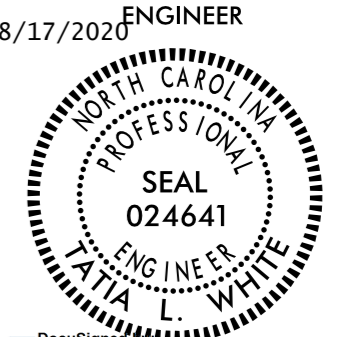

5/28/19

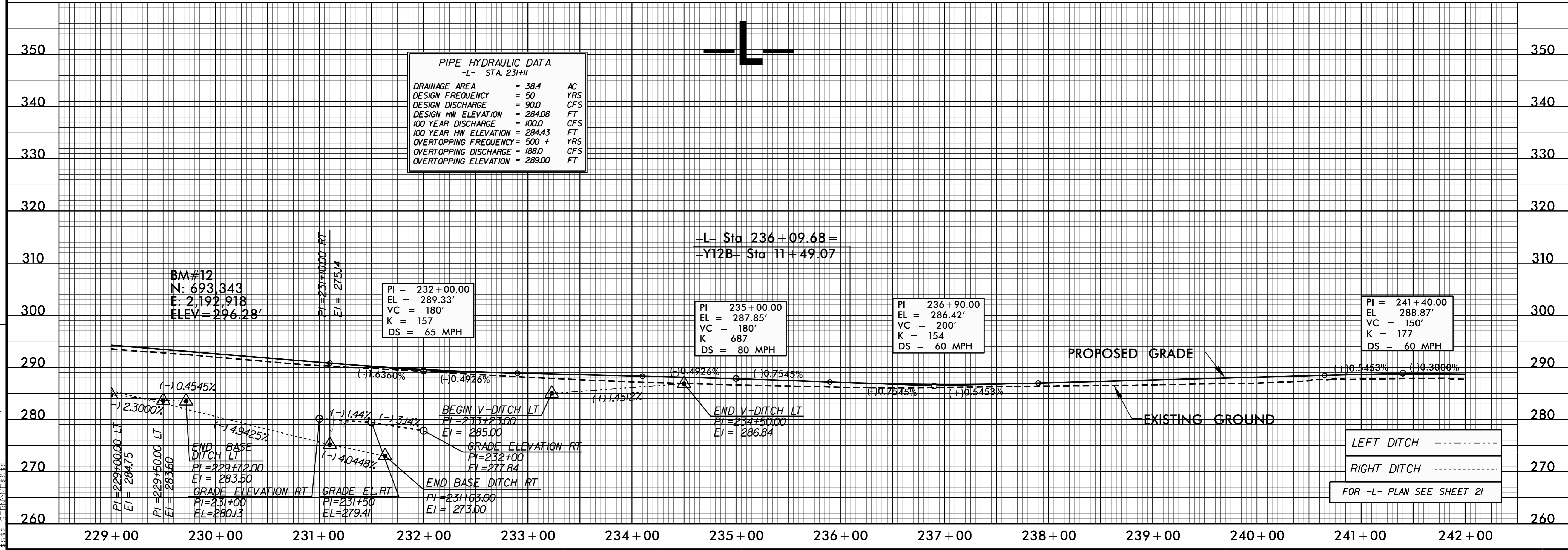
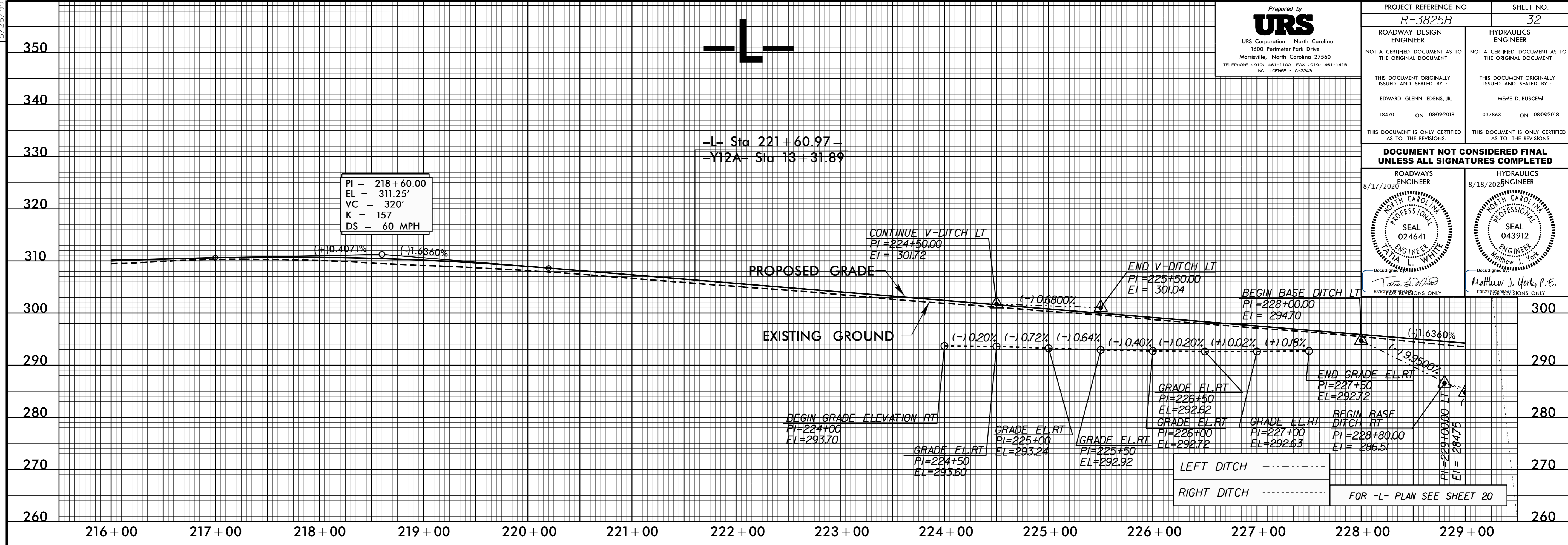
P:\AUG-2020_18-21\18221\18221_P3825B_r-01-df132.dgn
 8:33:30 PM 8/17/2020

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415
 NC LICENSE # C-2243

PROJECT REFERENCE NO. R-3825B	SHEET NO. 32
ROADWAY DESIGN ENGINEER NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT	HYDRAULICS ENGINEER NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY: EDWARD GLENN EDENS, JR. 18470 ON 08/09/2018	THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY: MEHE D. BUSCEMI 037863 ON 08/09/2018
THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.	THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAYS 8/17/2020 ENGINEER 	HYDRAULICS 8/18/2020 ENGINEER 
Signature: <i>Edward Glenn Edens, Jr.</i>	Signature: <i>Mehe D. Buscemi</i>



5/28/19



PROJECT REFERENCE NO. **R-3825B** SHEET NO. **33**

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

SEAL
8470
GLENN EDWARDS
9/2018

SEAL
037863
W. D. BUSCEM
9/2018

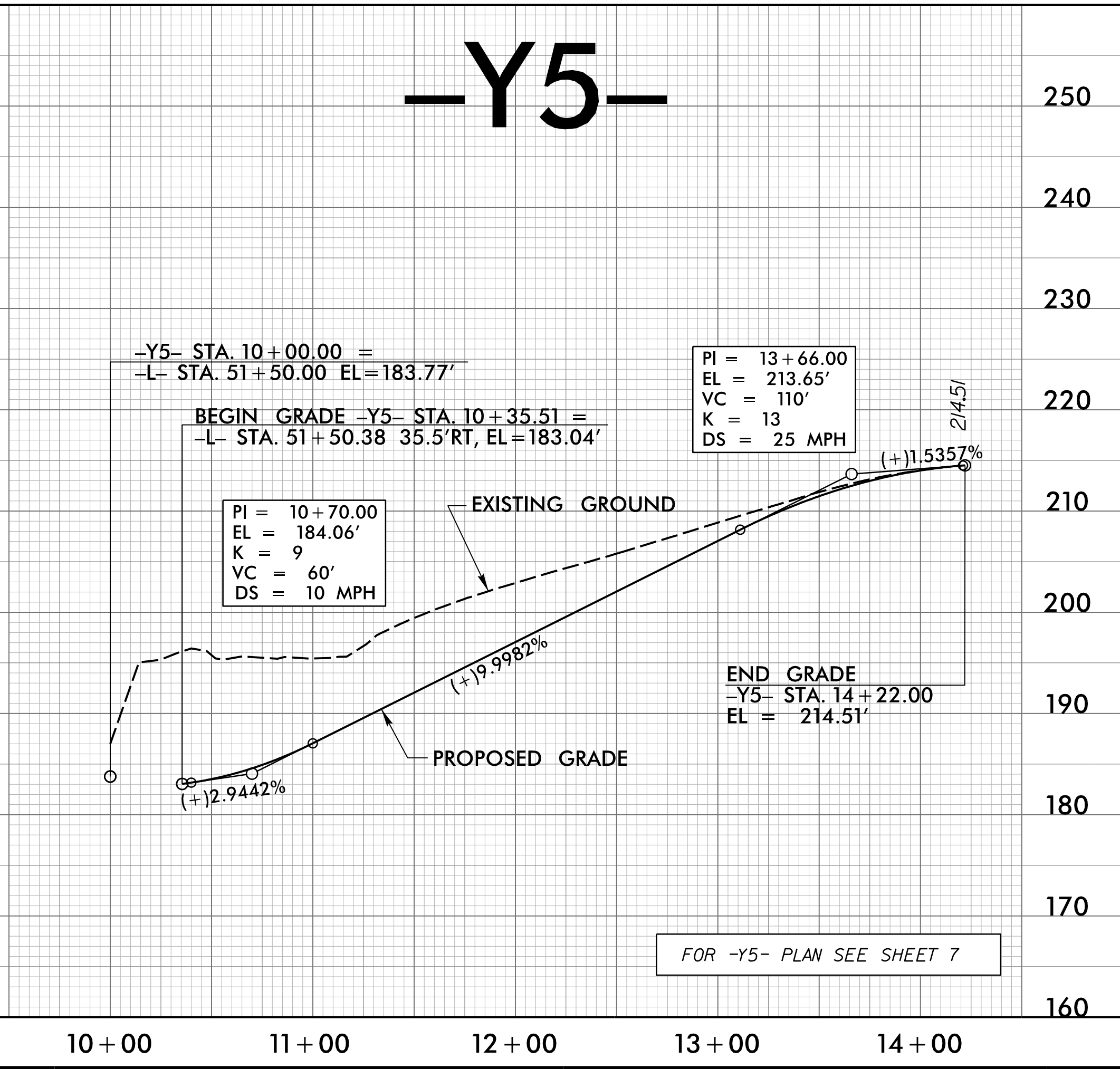
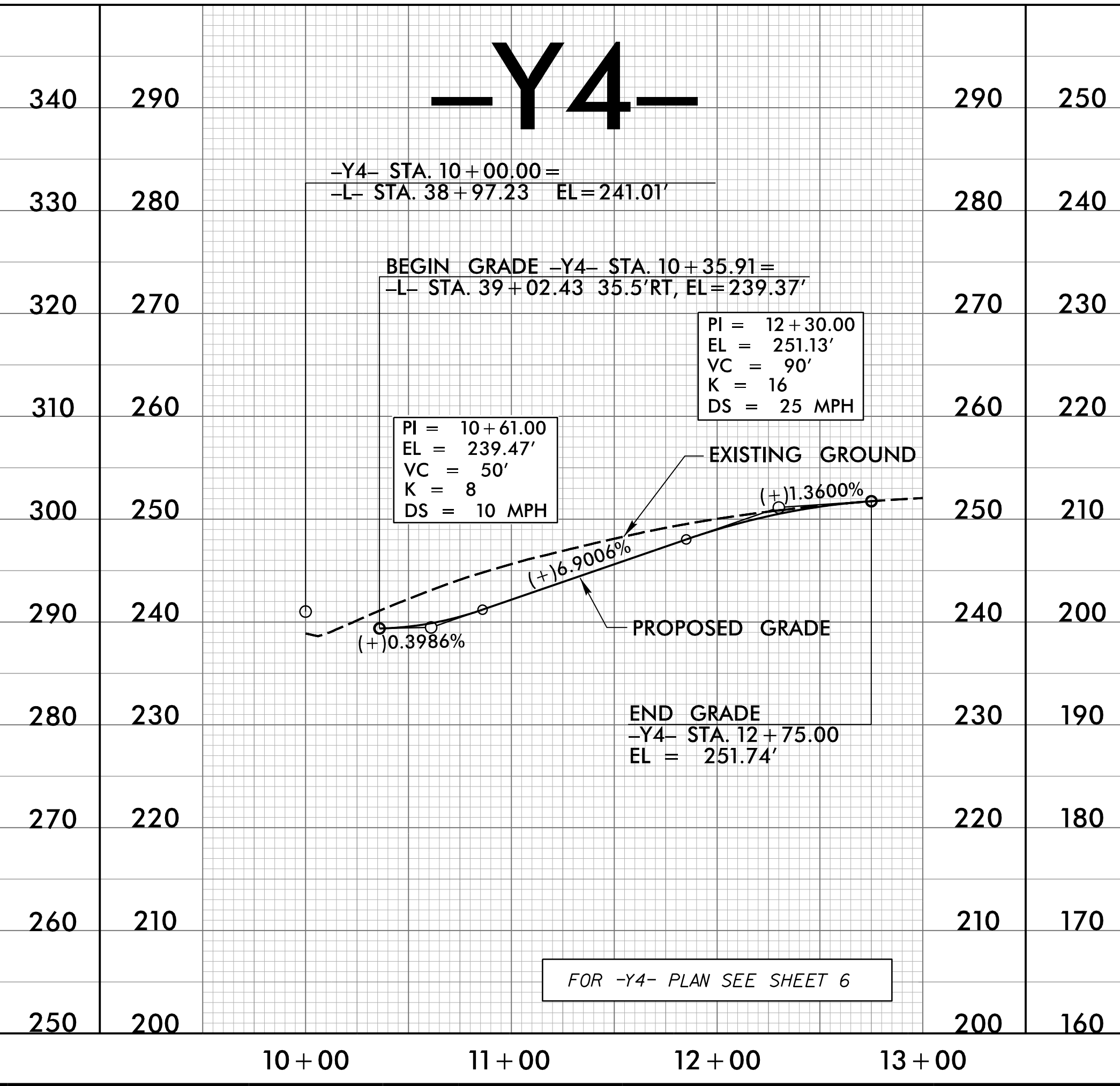
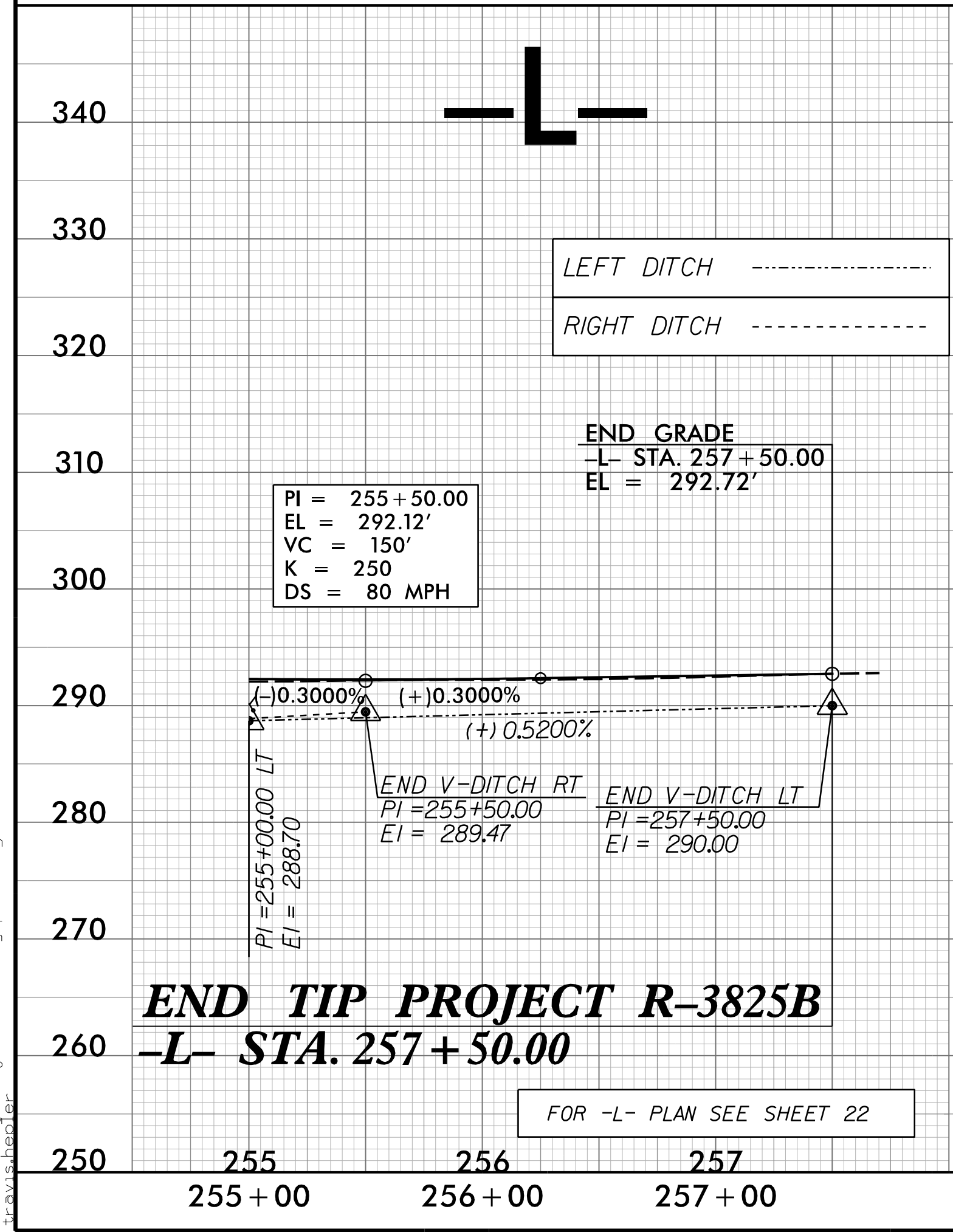
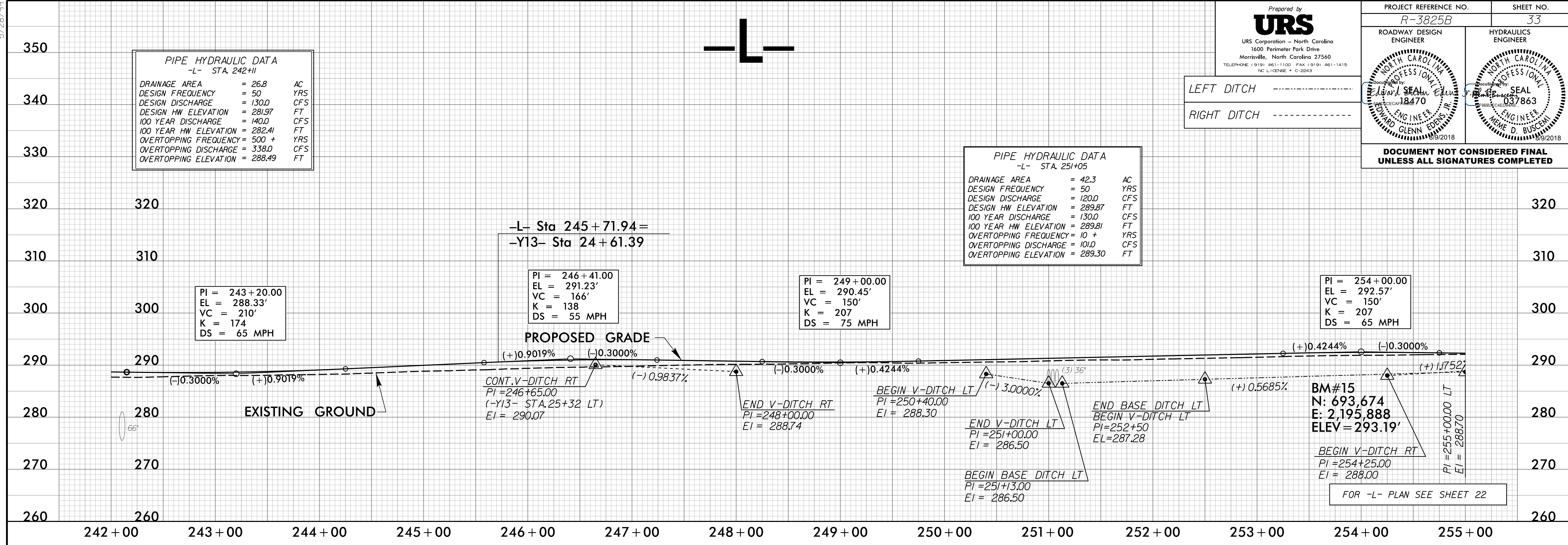
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PIPE HYDRAULIC DATA
-L- STA. 242+11

DRAINAGE AREA	= 26.8	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 130.0	CFS
DESIGN HW ELEVATION	= 281.97	FT
100 YEAR DISCHARGE	= 140.0	CFS
100 YEAR HW ELEVATION	= 282.41	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 338.0	CFS
OVERTOPPING ELEVATION	= 288.49	FT

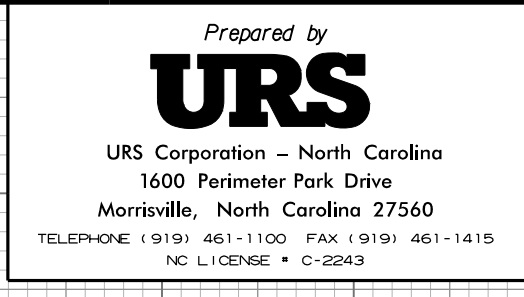
PIPE HYDRAULIC DATA
-L- STA. 251+05

DRAINAGE AREA	= 42.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 120.0	CFS
DESIGN HW ELEVATION	= 289.87	FT
100 YEAR DISCHARGE	= 130.0	CFS
100 YEAR HW ELEVATION	= 289.81	FT
OVERTOPPING FREQUENCY	= 10 +	YRS
OVERTOPPING DISCHARGE	= 101.0	CFS
OVERTOPPING ELEVATION	= 289.30	FT



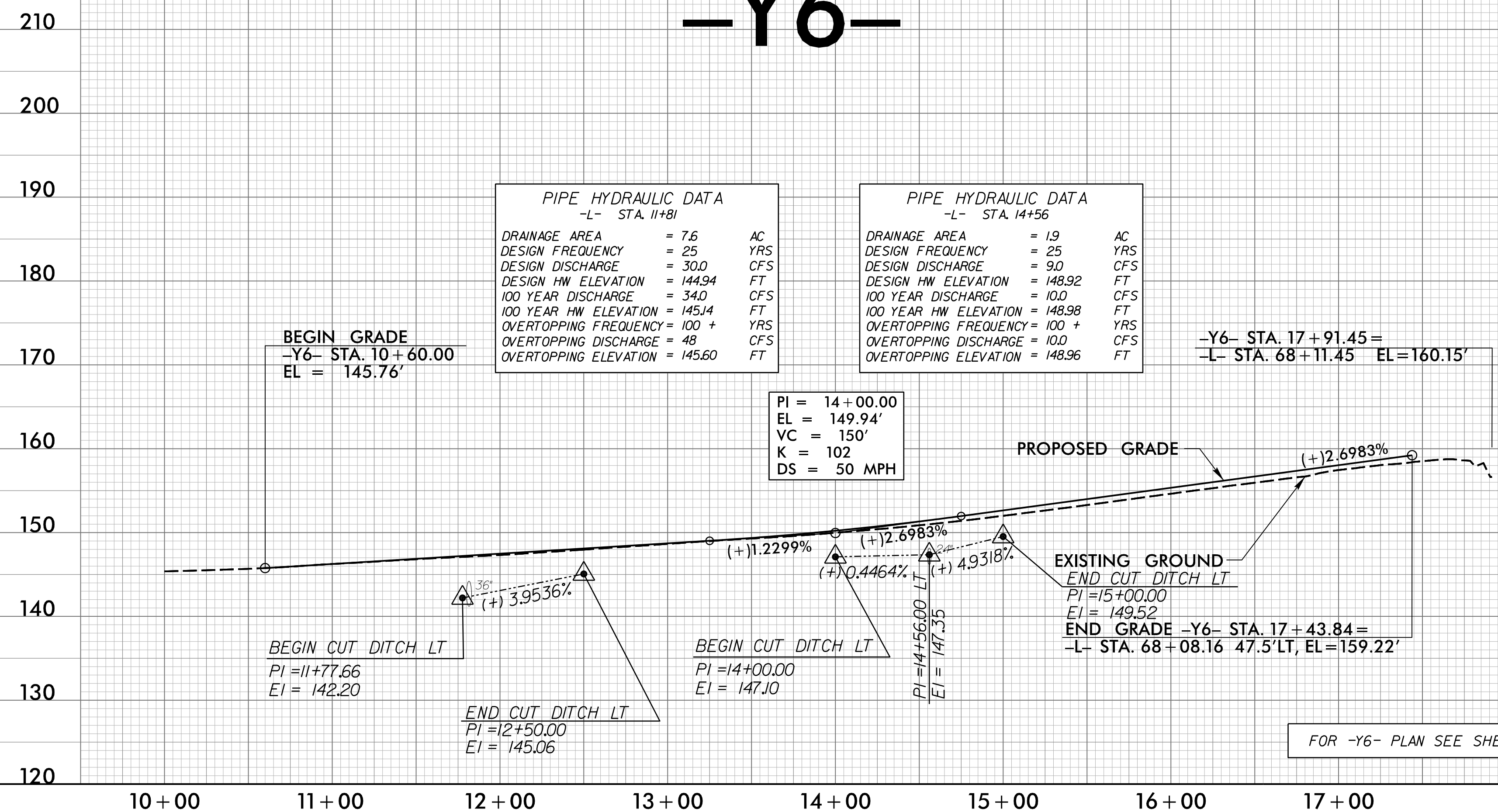
R:\2018\proj\p_o\13825b_r.dwg - pf133.dgn

5/28/19

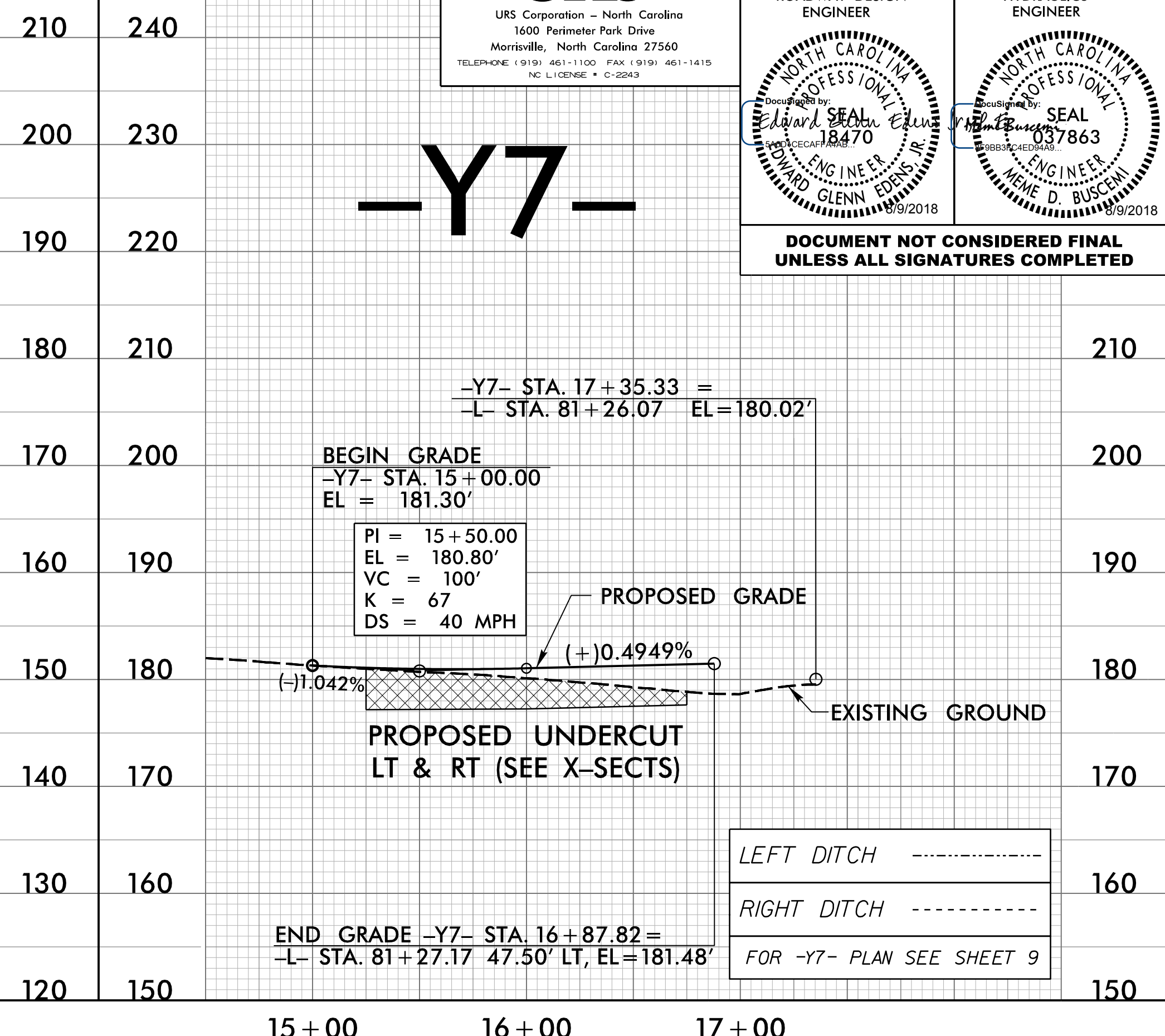


PROJECT REFERENCE NO. R-3825B SHEET NO. 34. ROADWAY DESIGN ENGINEER and HYDRAULICS ENGINEER seals for Glenn Edes and Neme D. Bussem.

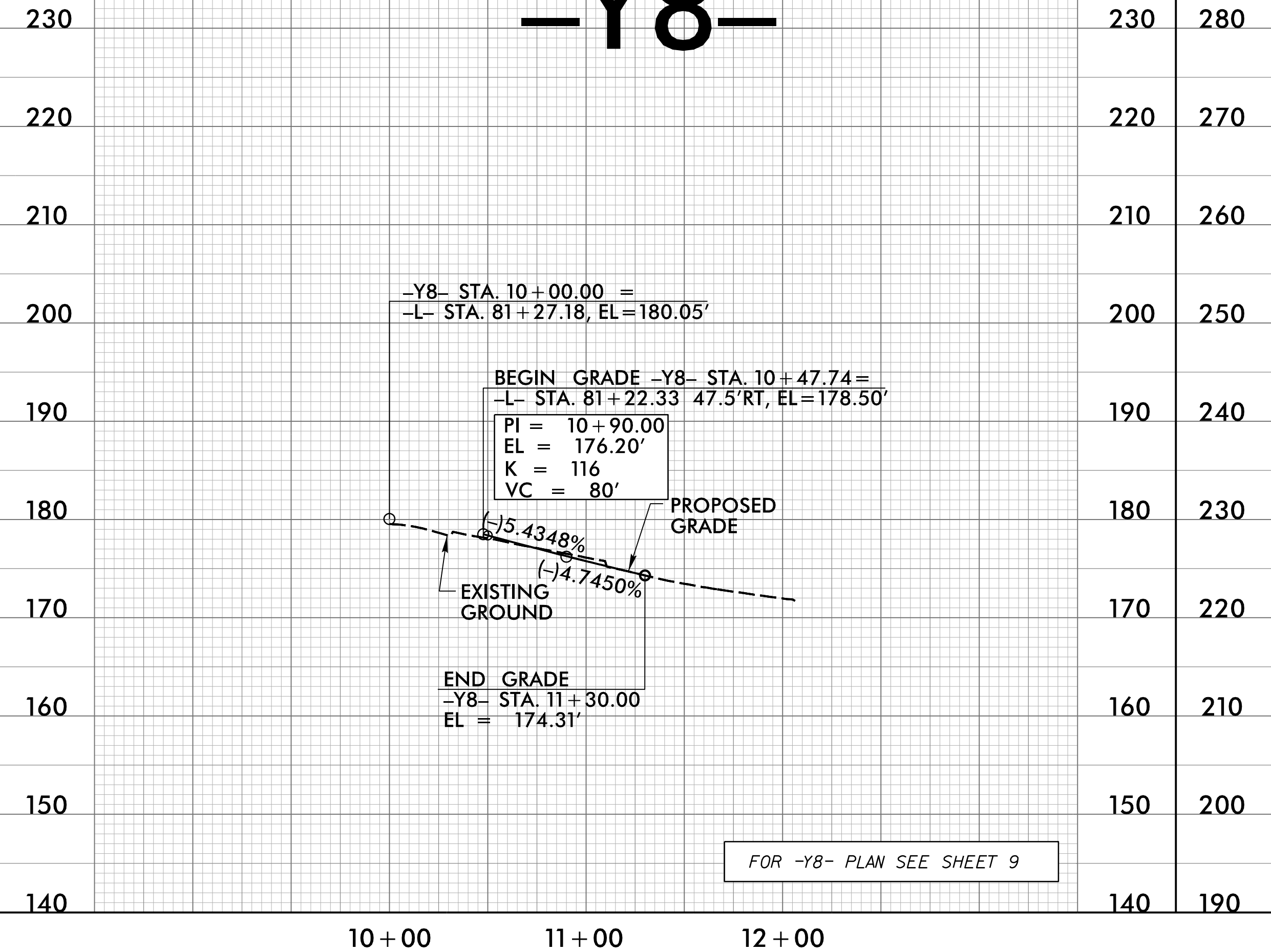
-Y6-



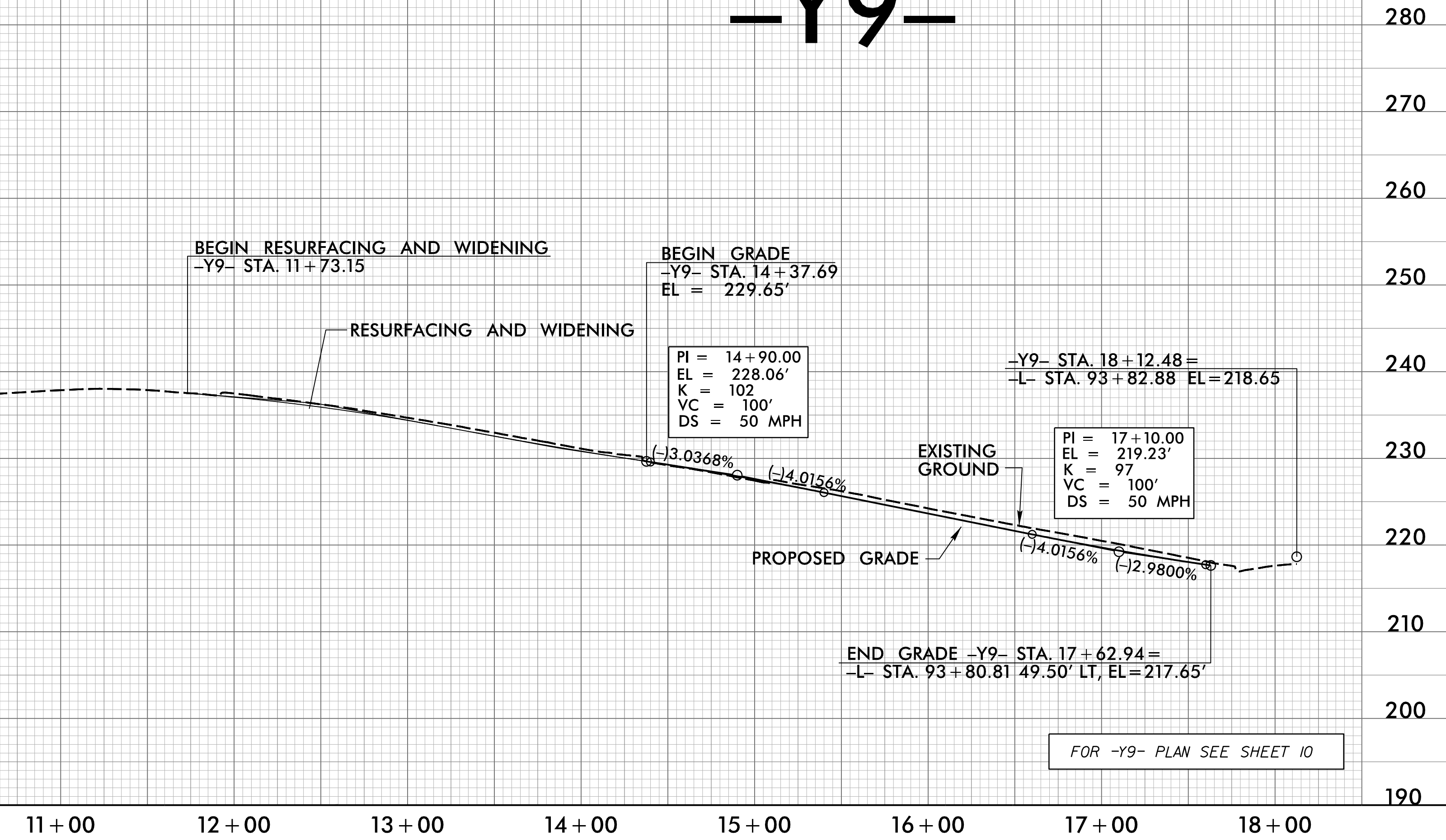
-Y7-



-Y8-



-Y9-

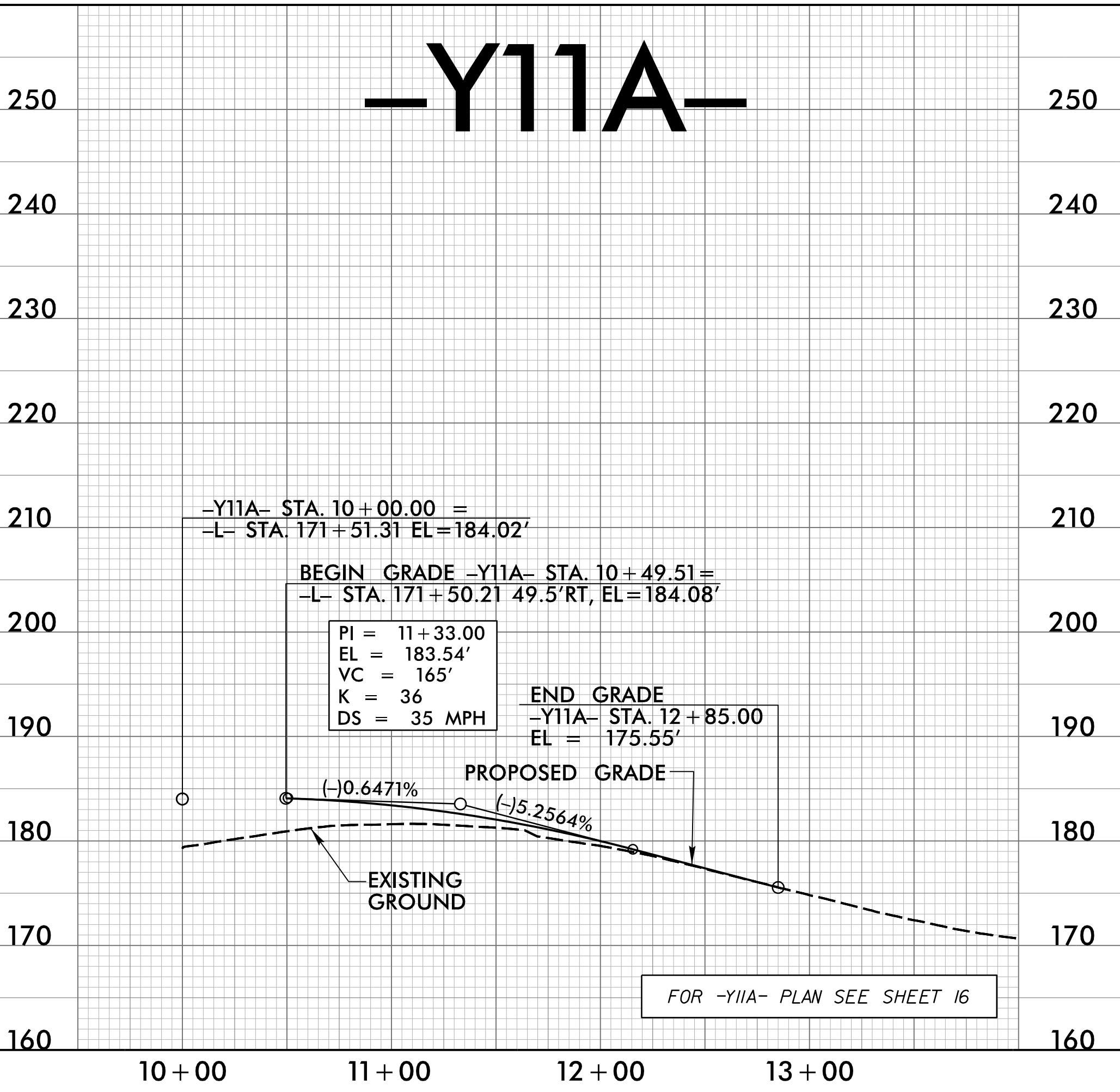
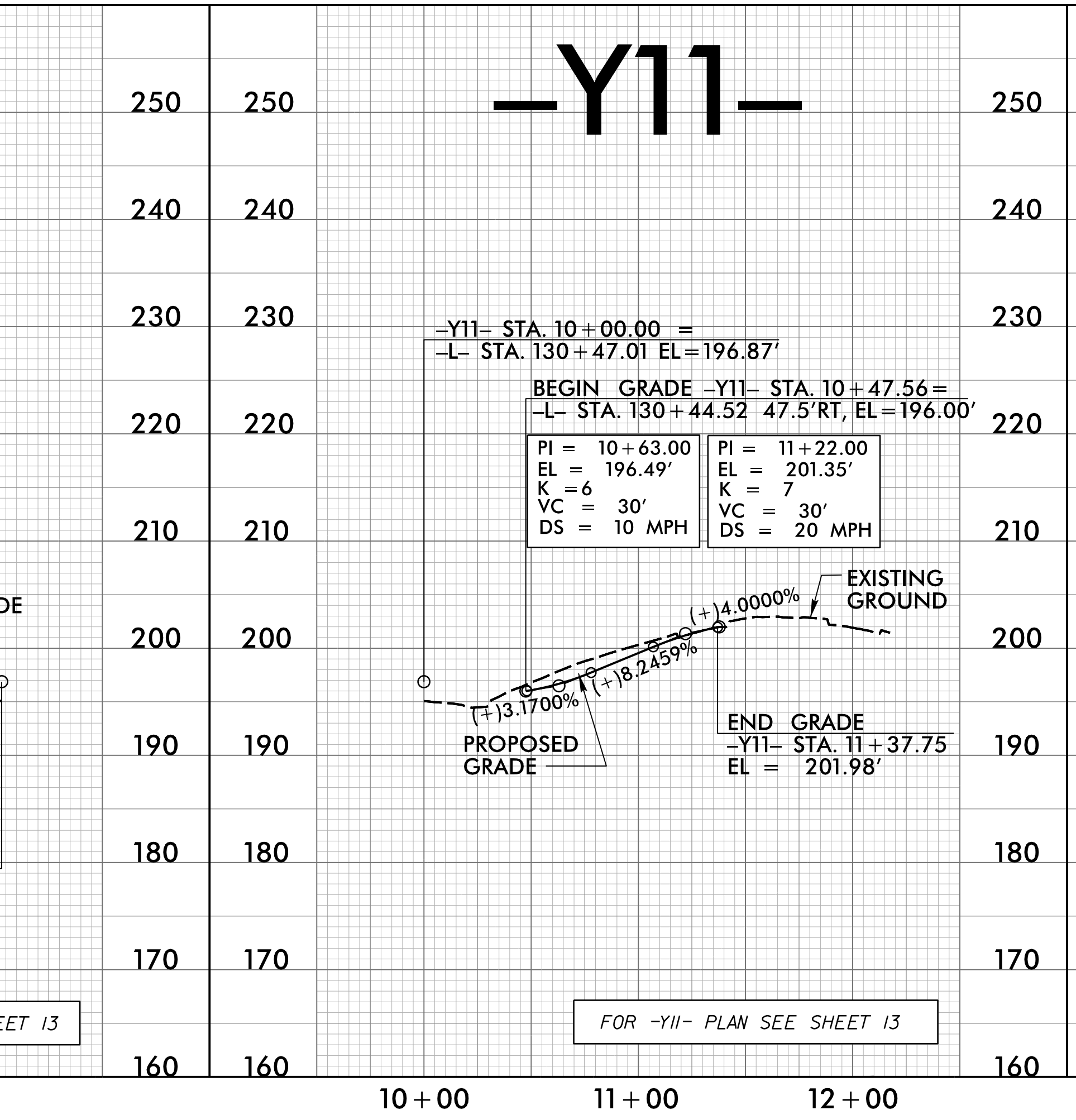
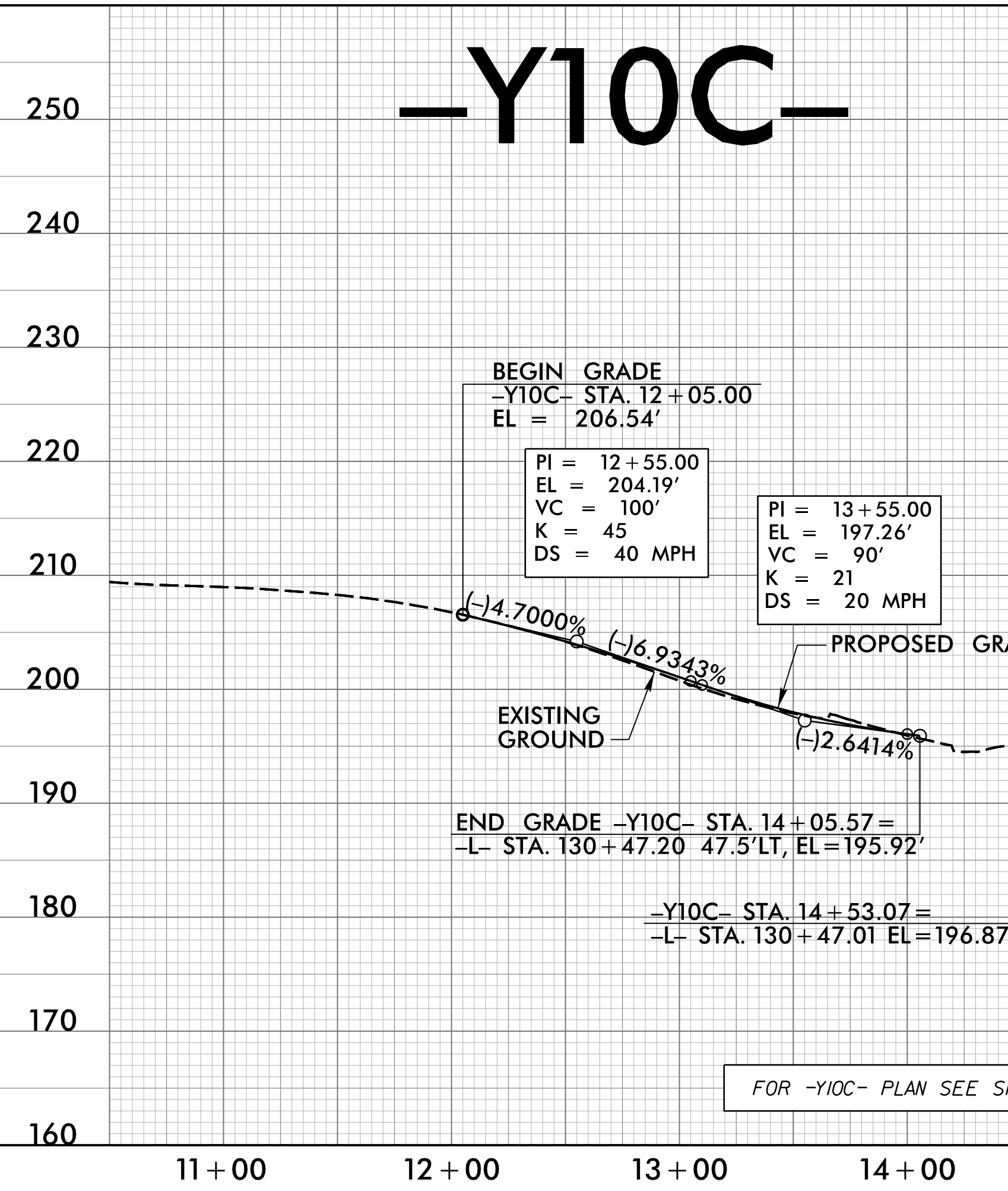
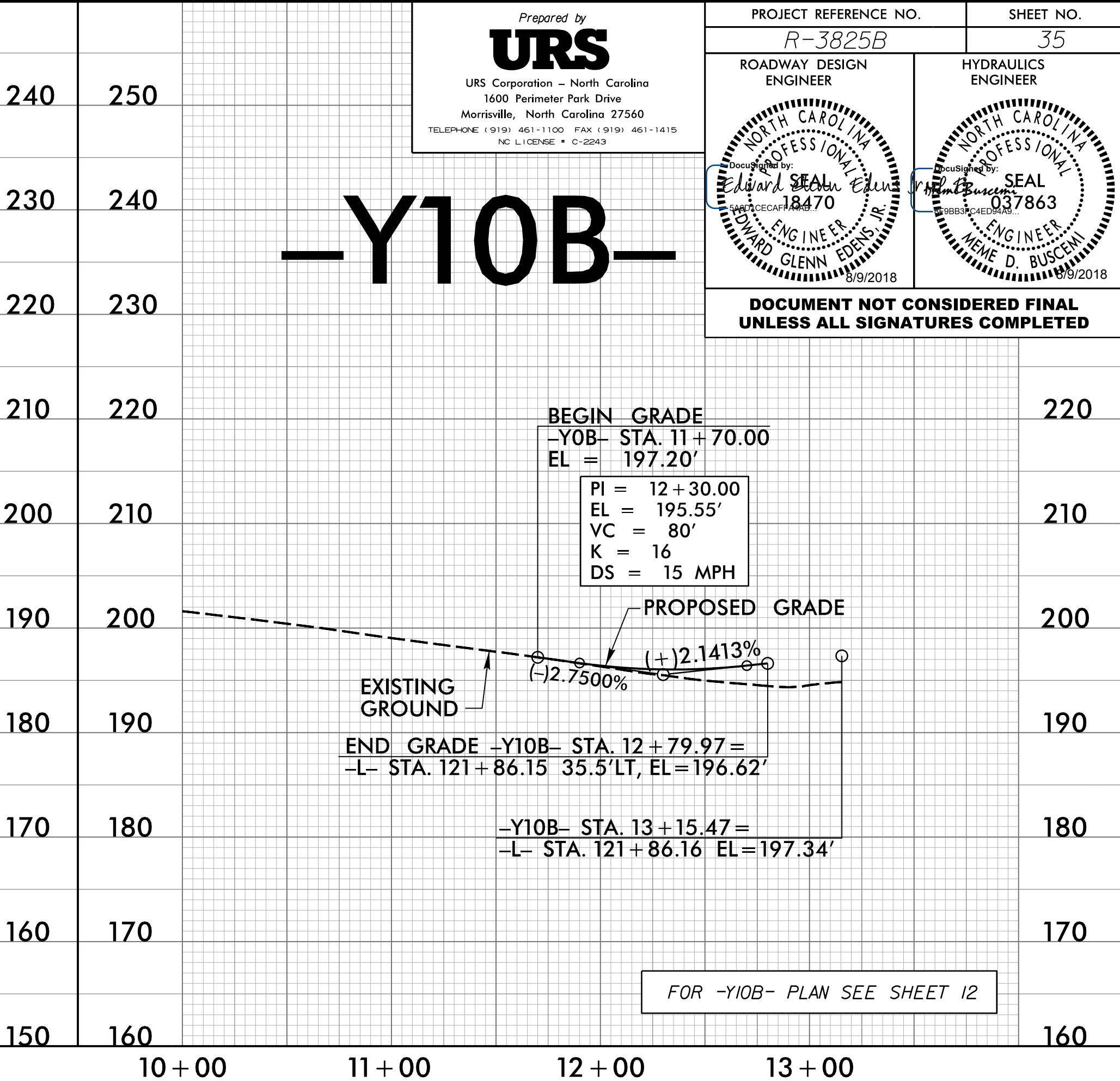
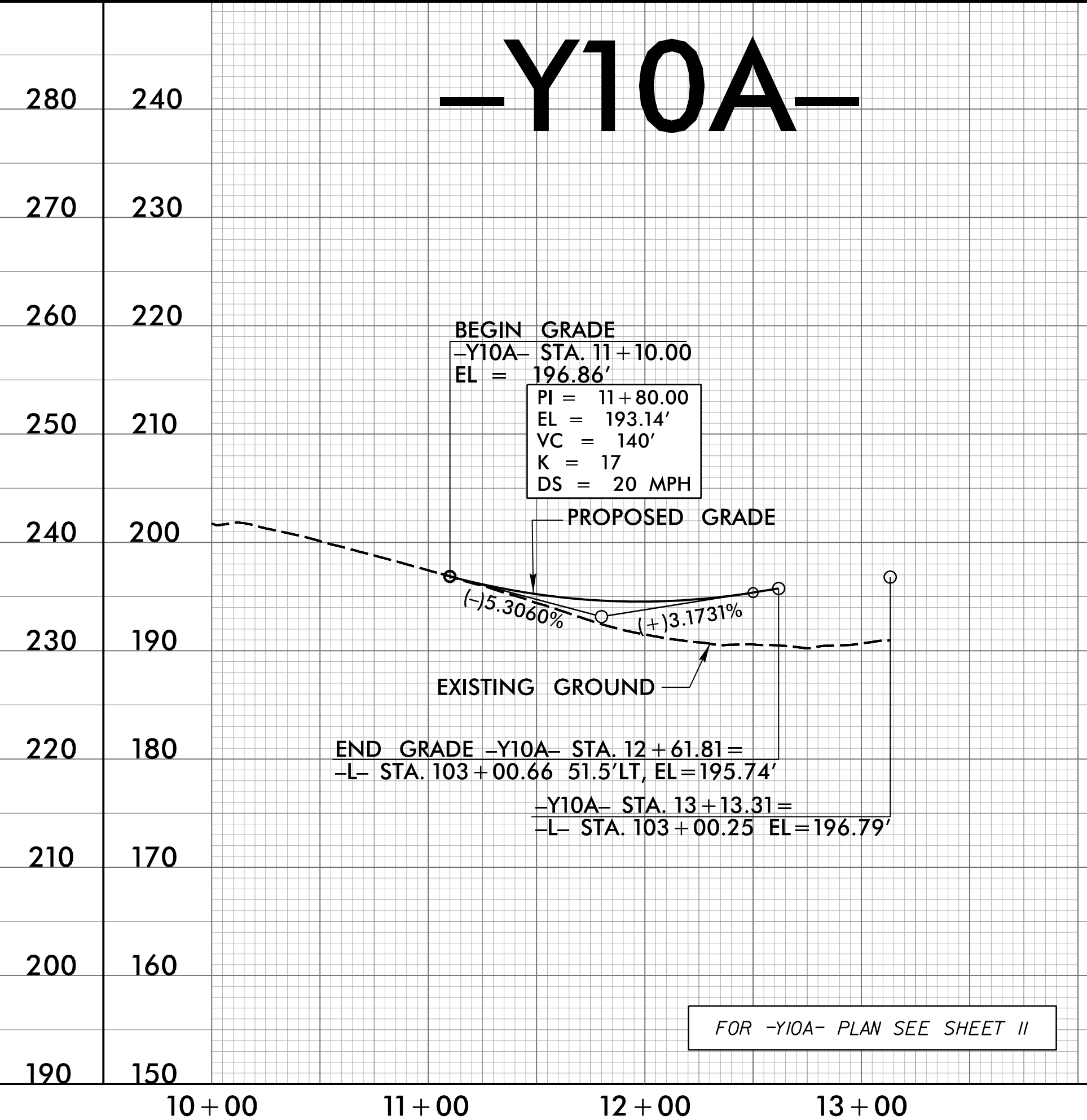
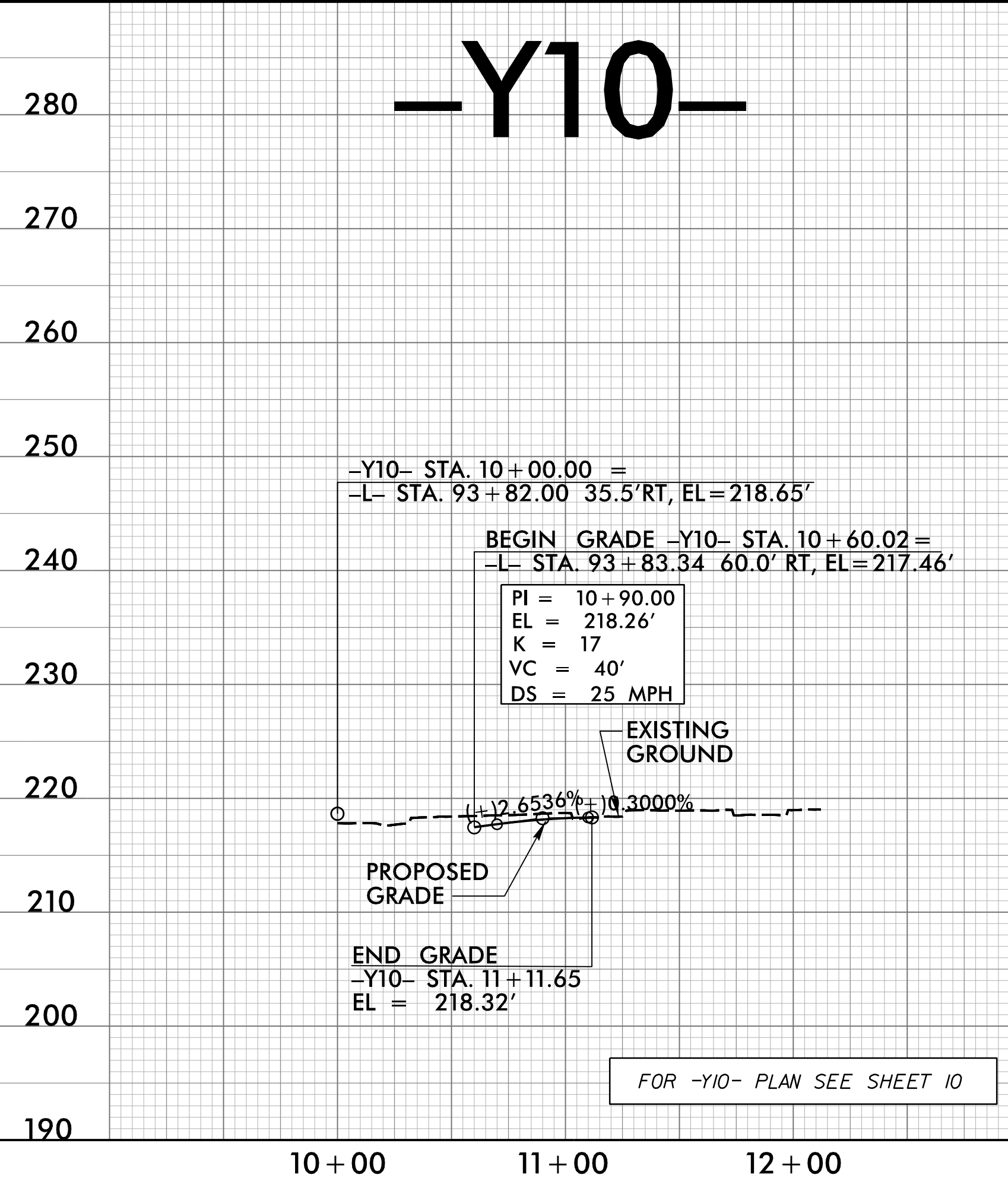


8/9/2018 10:00 AM P:\o\13825b_rdlr_pf134.dgn

5/28/19

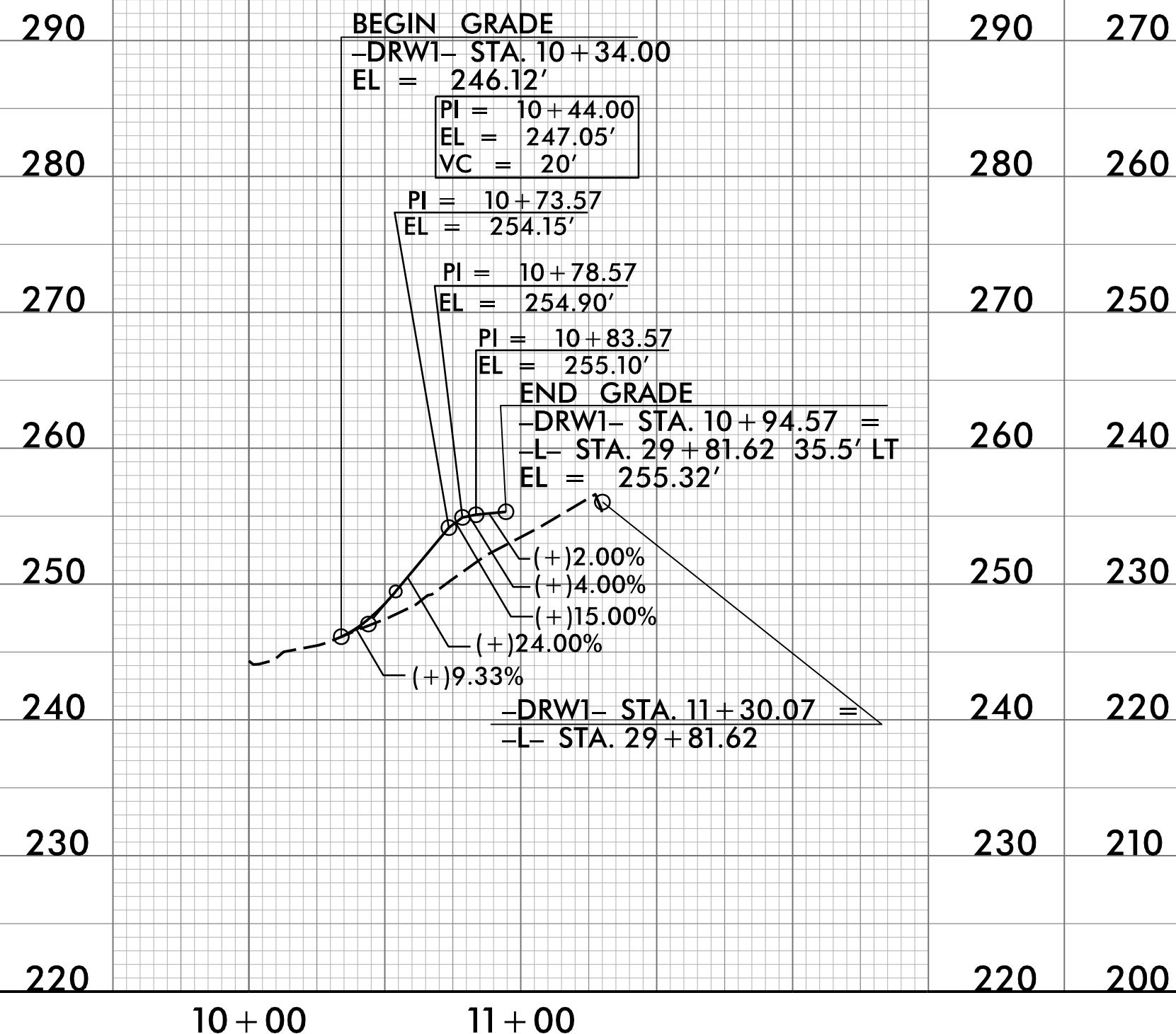
Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-25243

PROJECT REFERENCE NO. R-3825B		SHEET NO. 35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

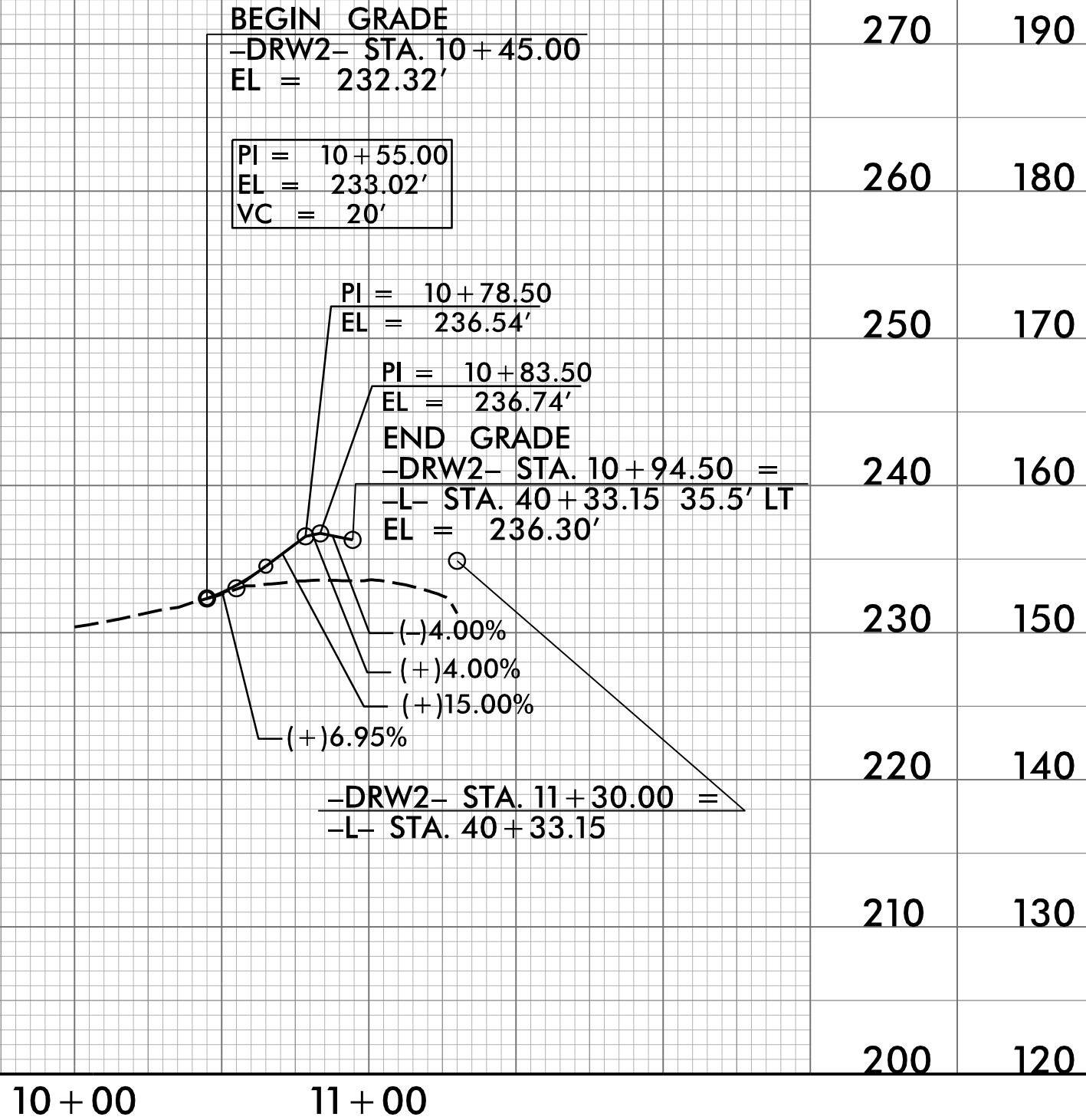


R:\2018\05\19\130255_r.dwg, pf135.dwg
11/20/18
11/20/18
11/20/18

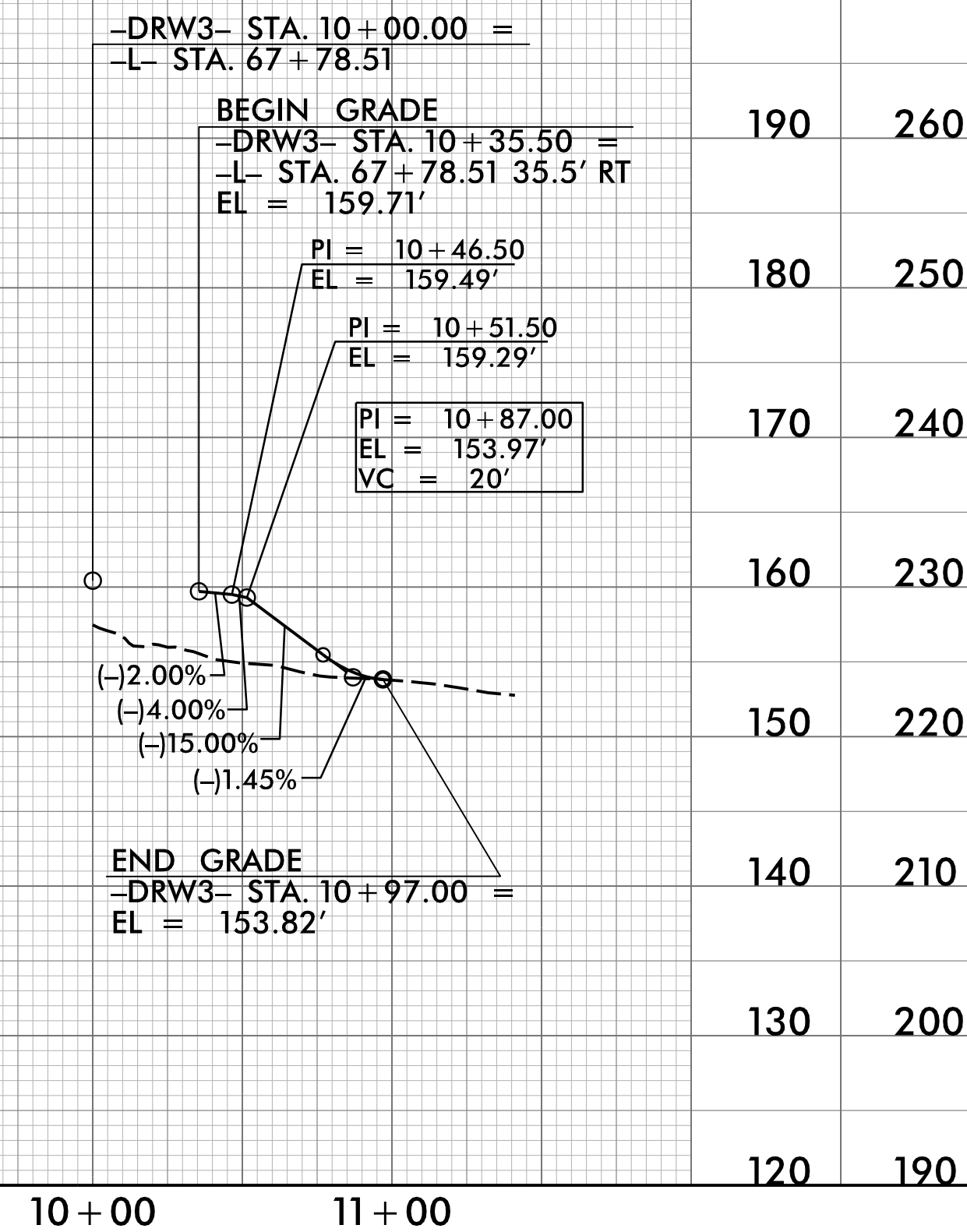
-DRW1-



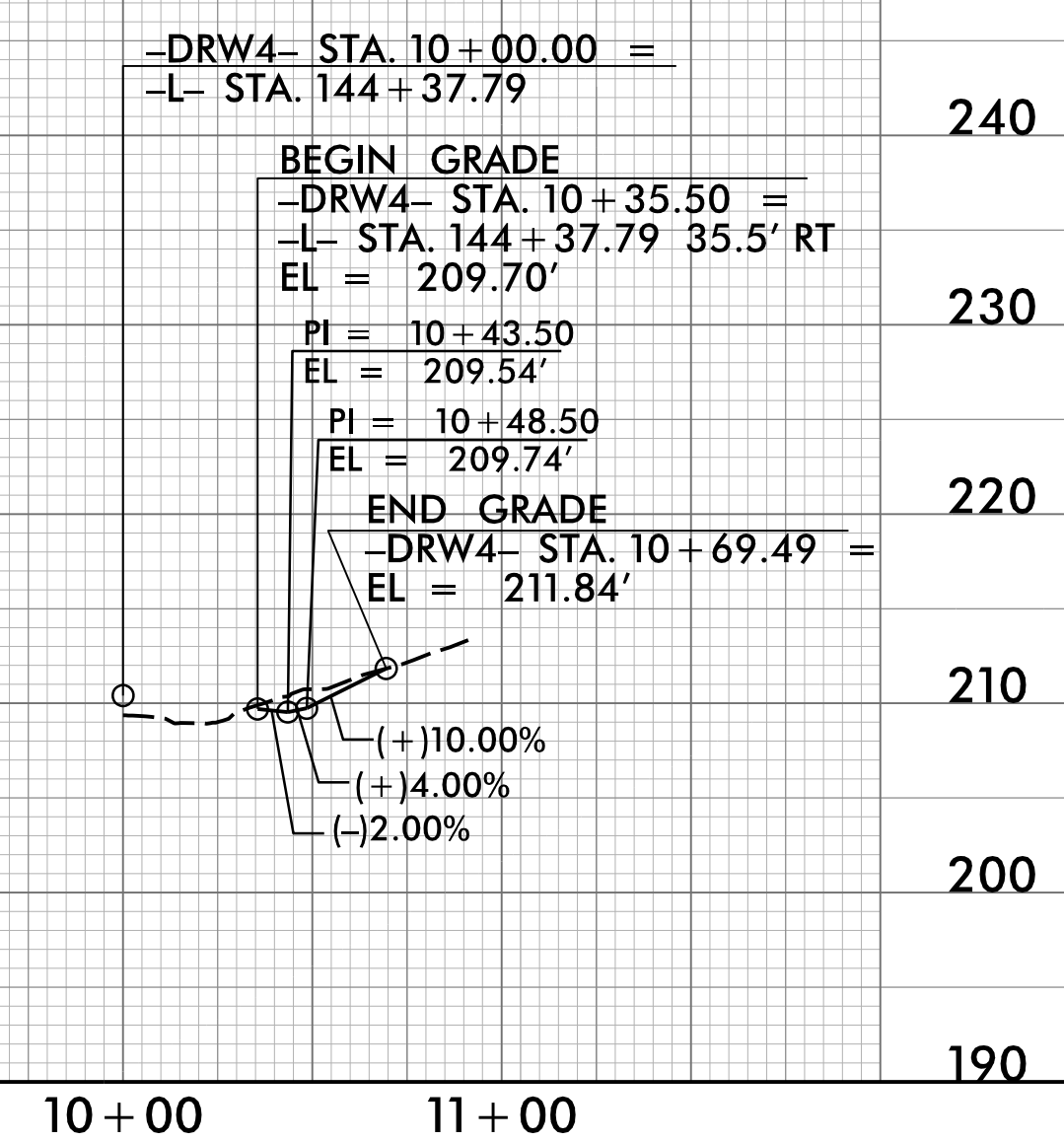
-DRW2-



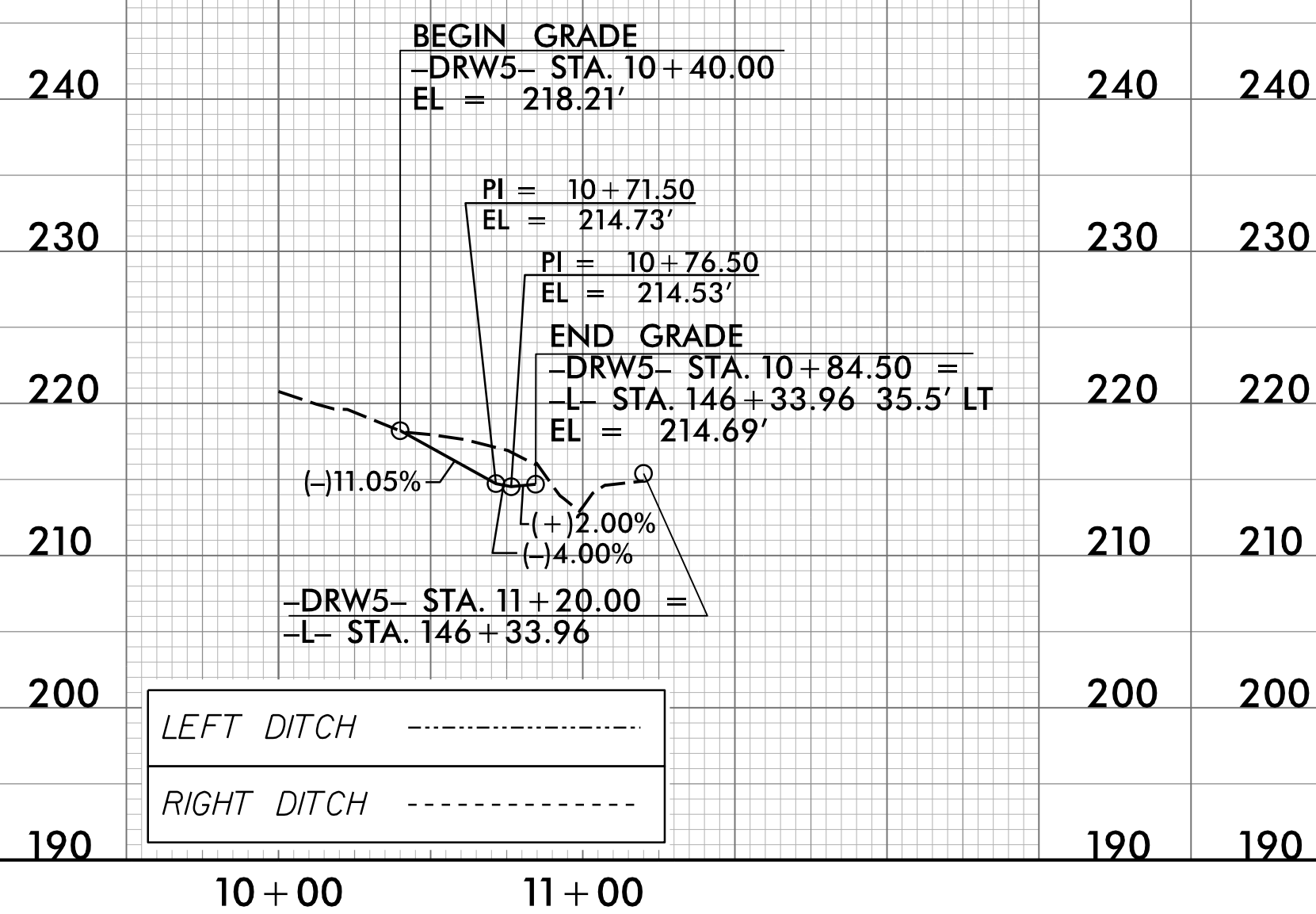
-DRW3-



-DRW4-

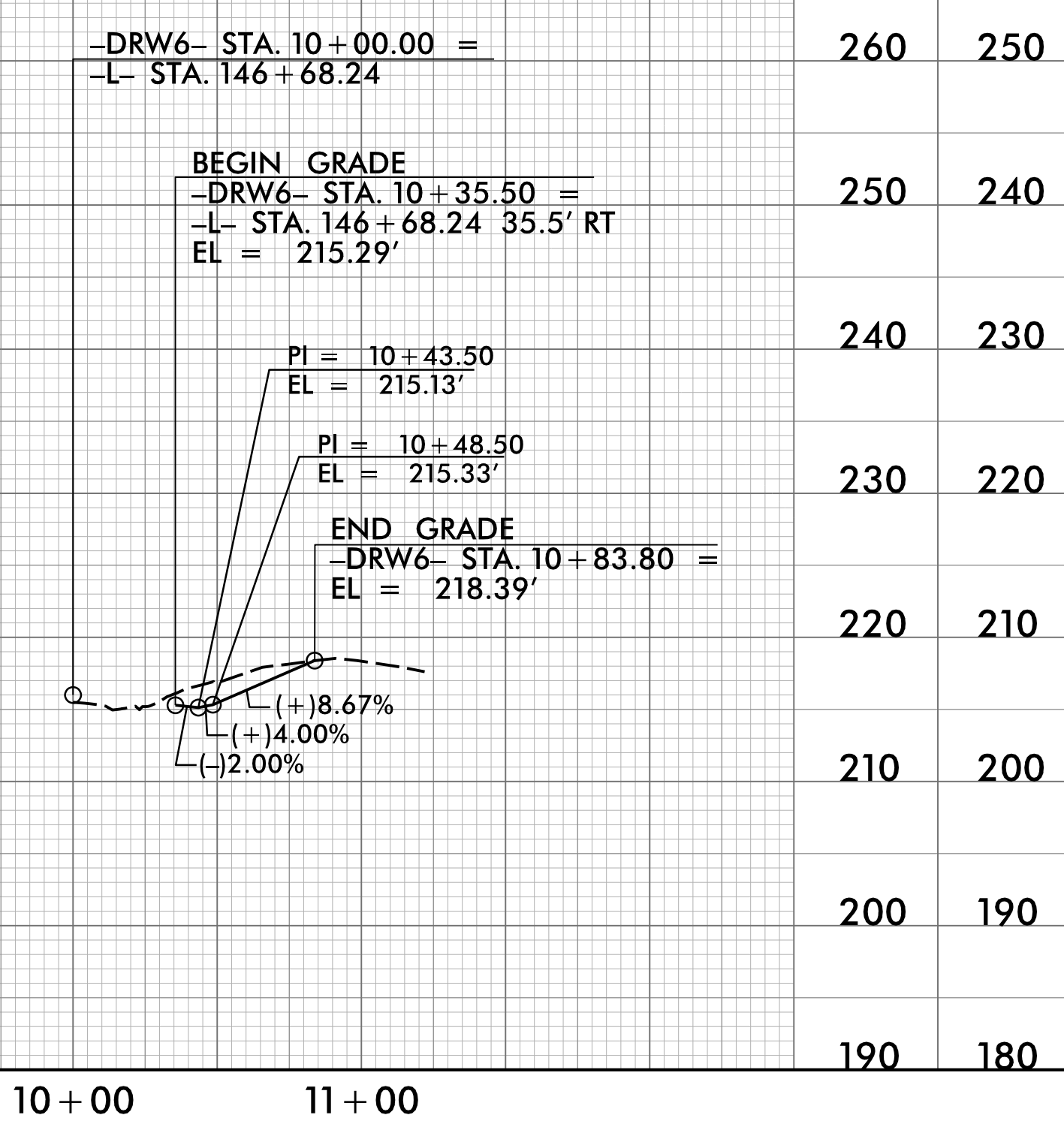


-DRW5-

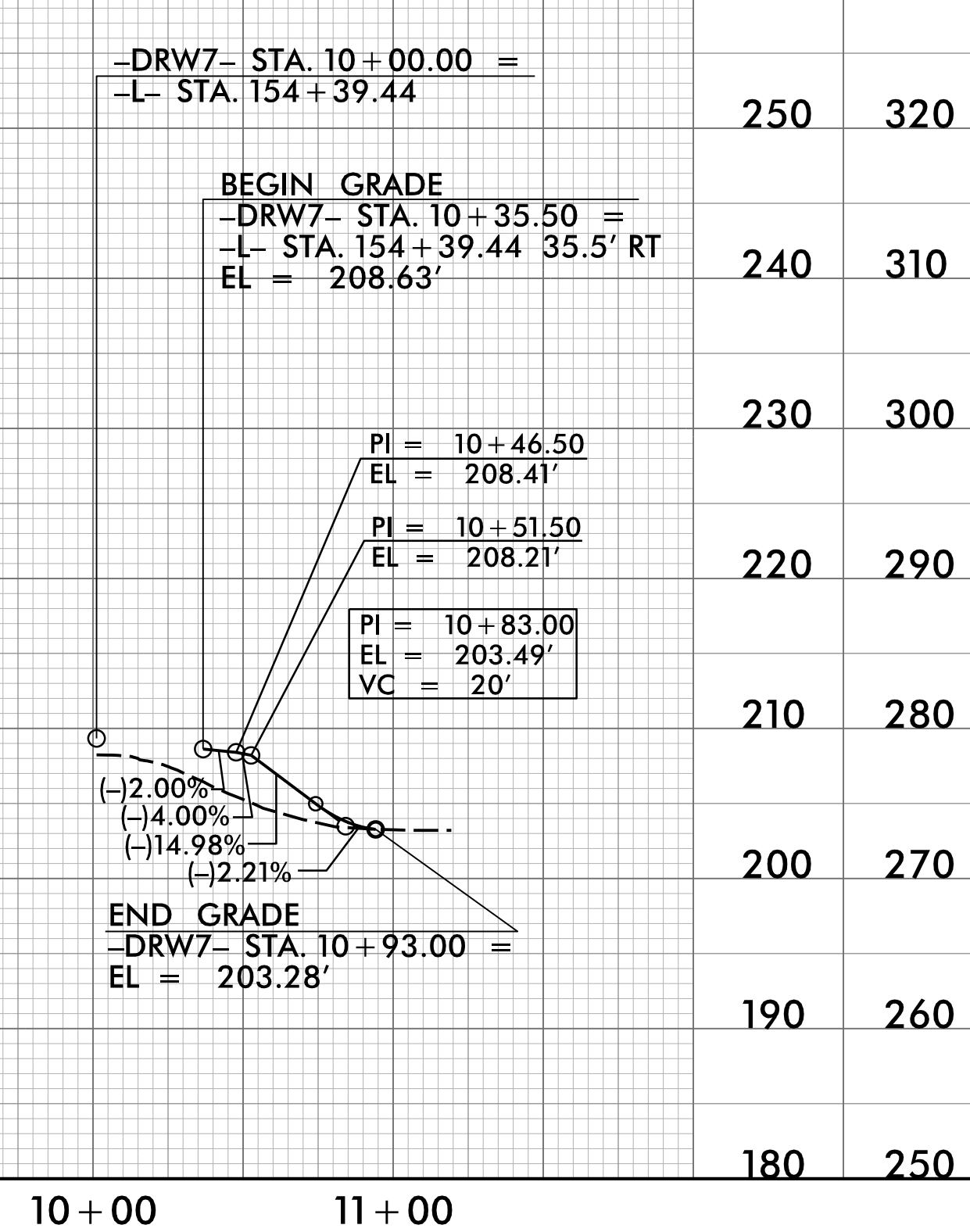


LEFT DITCH	-----
RIGHT DITCH	-----

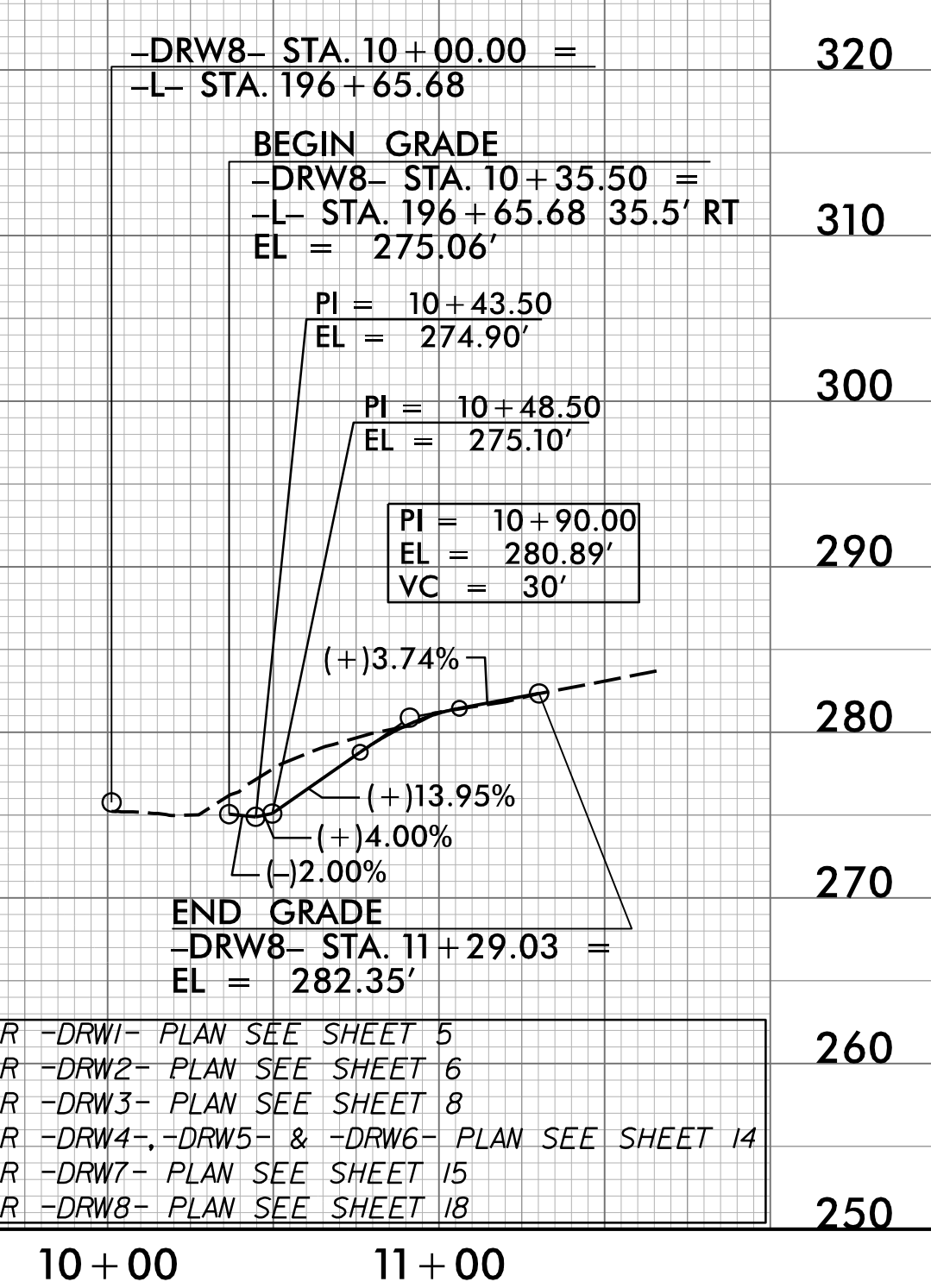
-DRW6-



-DRW7-



-DRW8-



FOR -DRW1- PLAN SEE SHEET 5
FOR -DRW2- PLAN SEE SHEET 6
FOR -DRW3- PLAN SEE SHEET 8
FOR -DRW4-, -DRW5- & -DRW6- PLAN SEE SHEET 14
FOR -DRW7- PLAN SEE SHEET 15
FOR -DRW8- PLAN SEE SHEET 18

Prepared by

URS

URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-2243

PROJECT REFERENCE NO.
R-3825B

SHEET NO.
38

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Professional Engineer Seal for Glenn Edeis, No. 8470, State of North Carolina, Exp. 12/2018

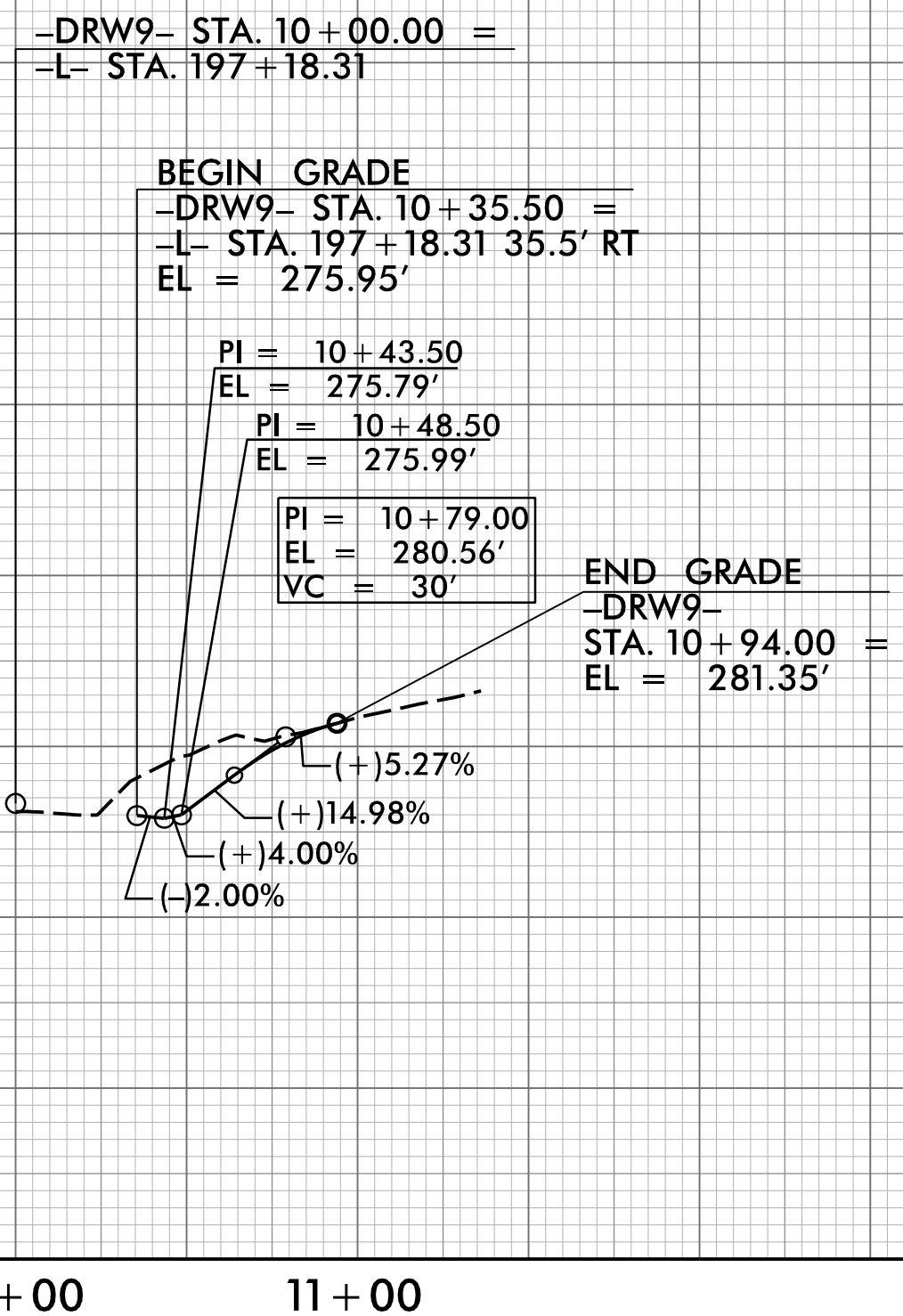
Professional Engineer Seal for Glenn Edeis, No. 8470, State of North Carolina, Exp. 12/2018

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

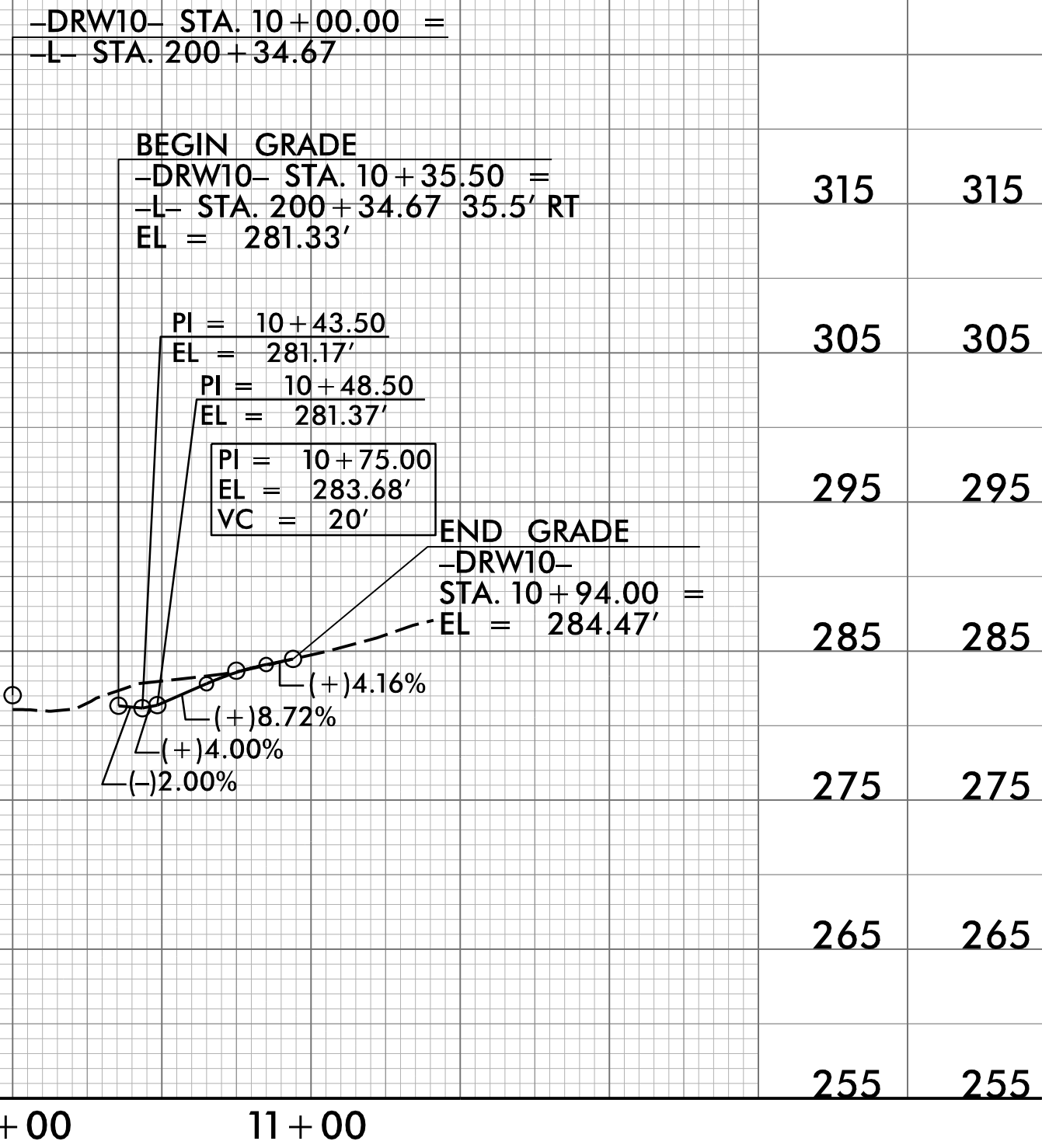
R:\2019\Projects\1903825B_rdu_pf138.dgn

5/28/19

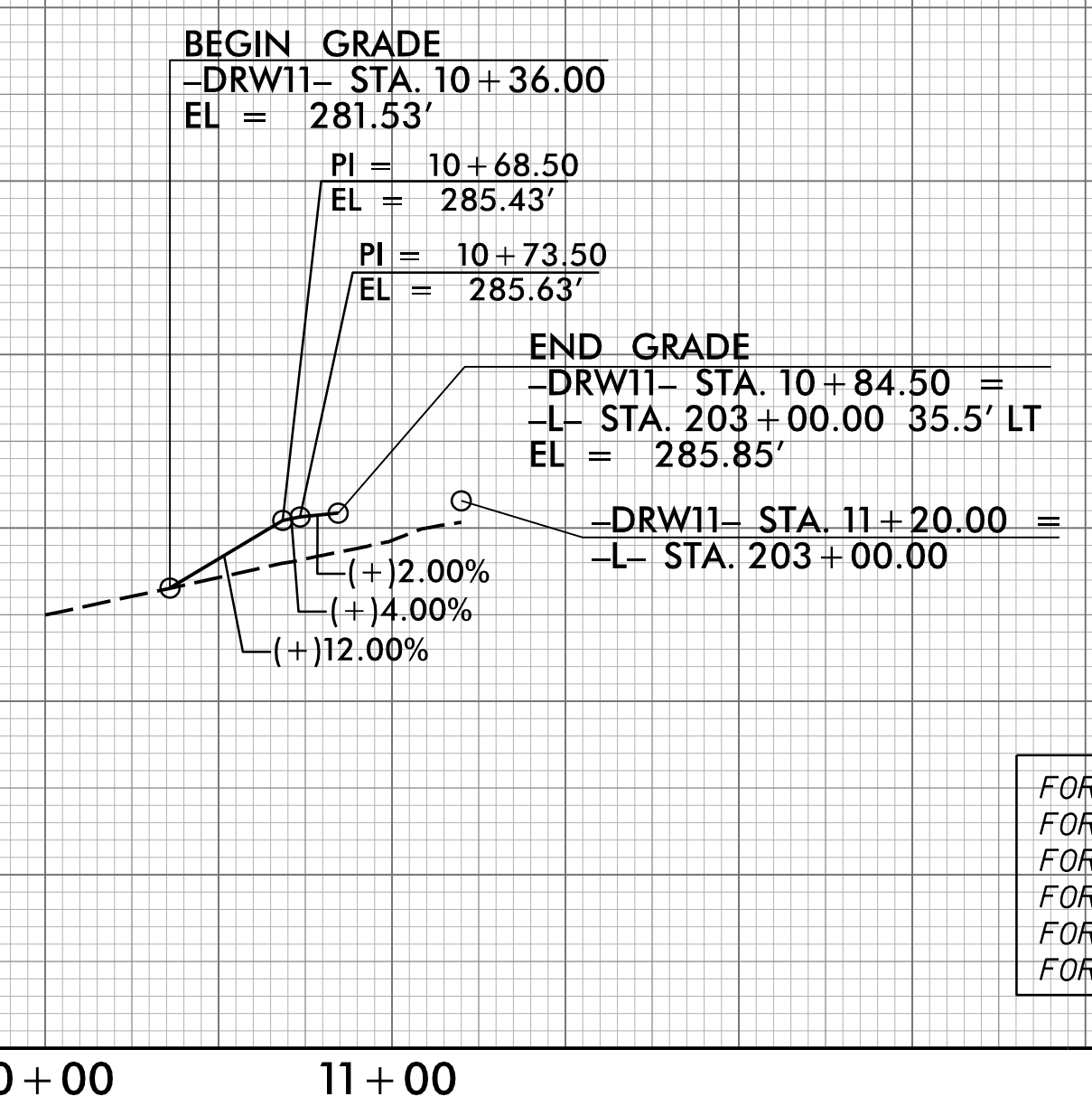
-DRW9-



-DRW10-



-DRW11-



FOR -DRW9- & -DRW10- PLAN SEE SHEET 18
FOR -DRW11- PLAN SEE SHEETS 18 & 19
FOR -DRW12- PLAN SEE SHEET 19
FOR -DRW13- PLAN SEE SHEETS 20 & 21
FOR -DRW14- PLAN SEE SHEET 21
FOR -DRW15- PLAN SEE SHEET 6

Prepared by
URS
URS Corporation - North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE # C-2543

PROJECT REFERENCE NO.
R-3825B

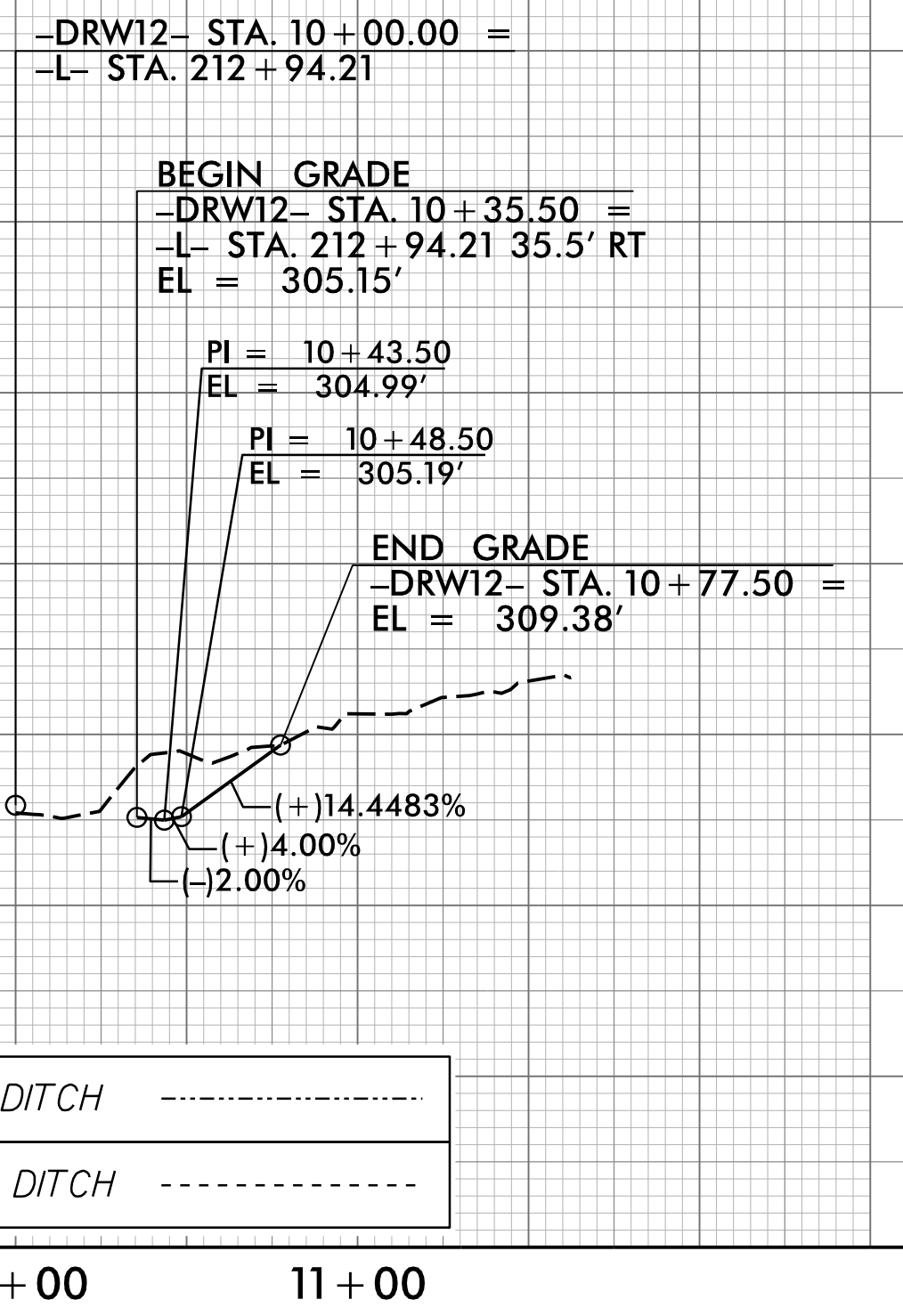
SHEET NO.
39

ROADWAY DESIGN ENGINEER
Glenn E. Ediss
Professional Engineer
No. 18470
9/2018

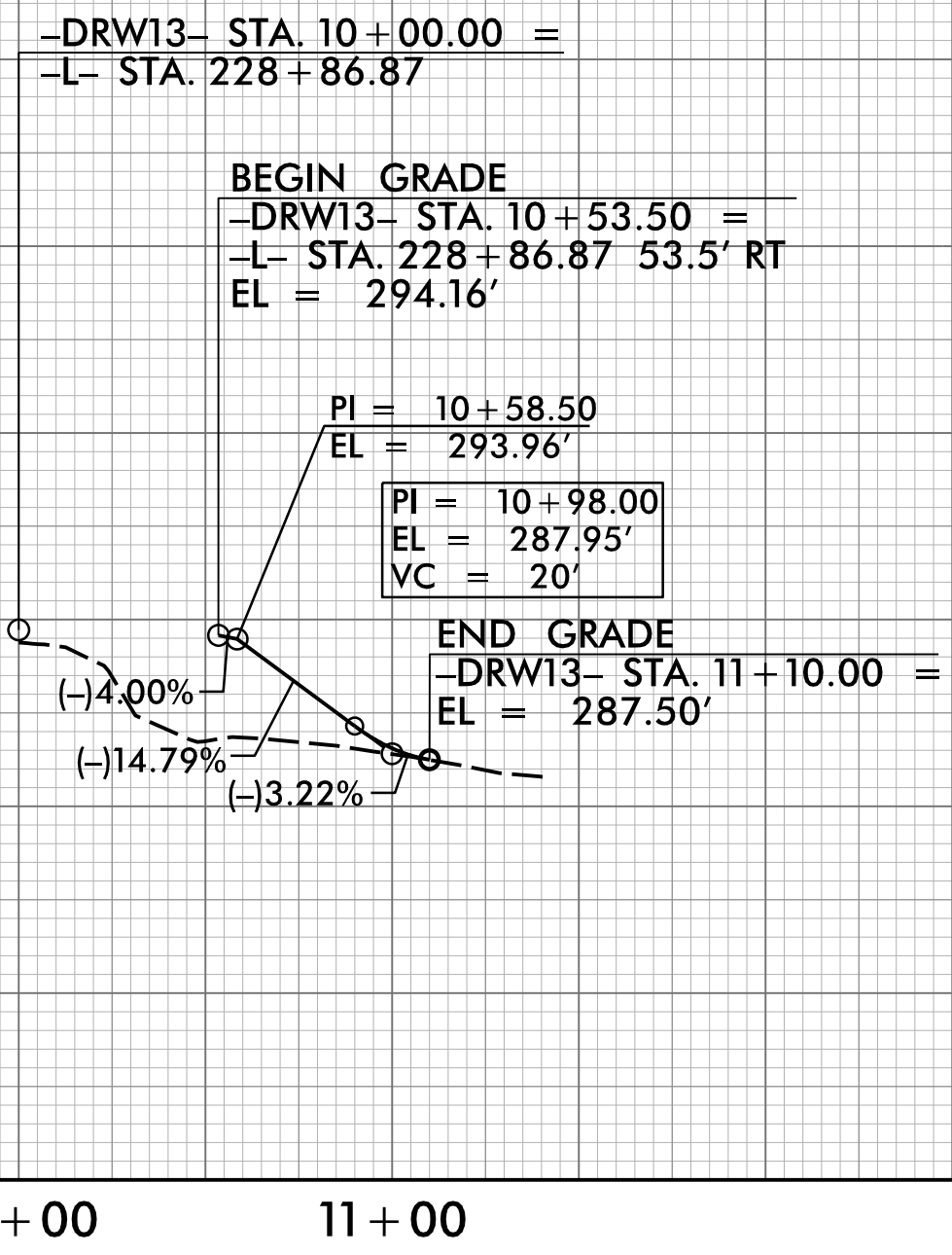
HYDRAULICS ENGINEER
Glenn E. Ediss
Professional Engineer
No. 037863
9/2018

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

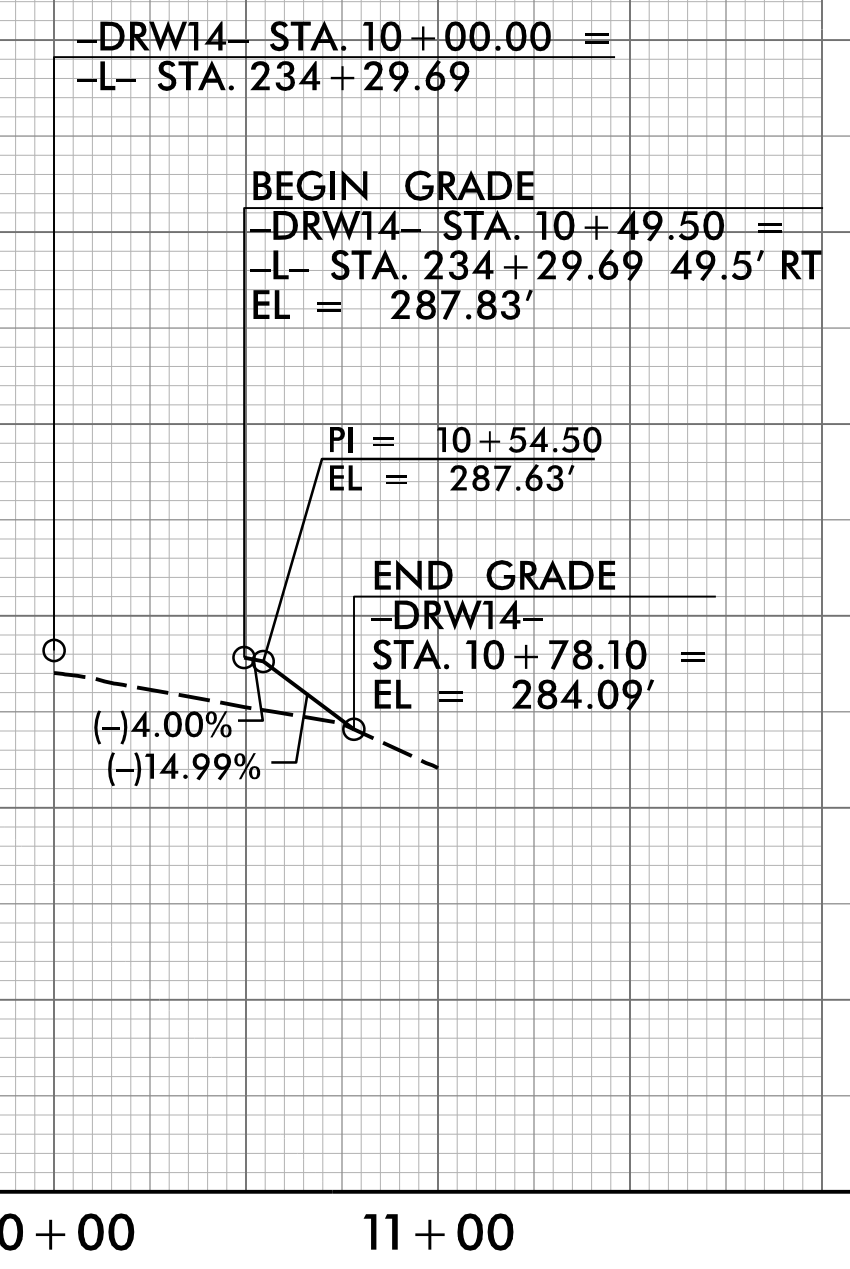
-DRW12-



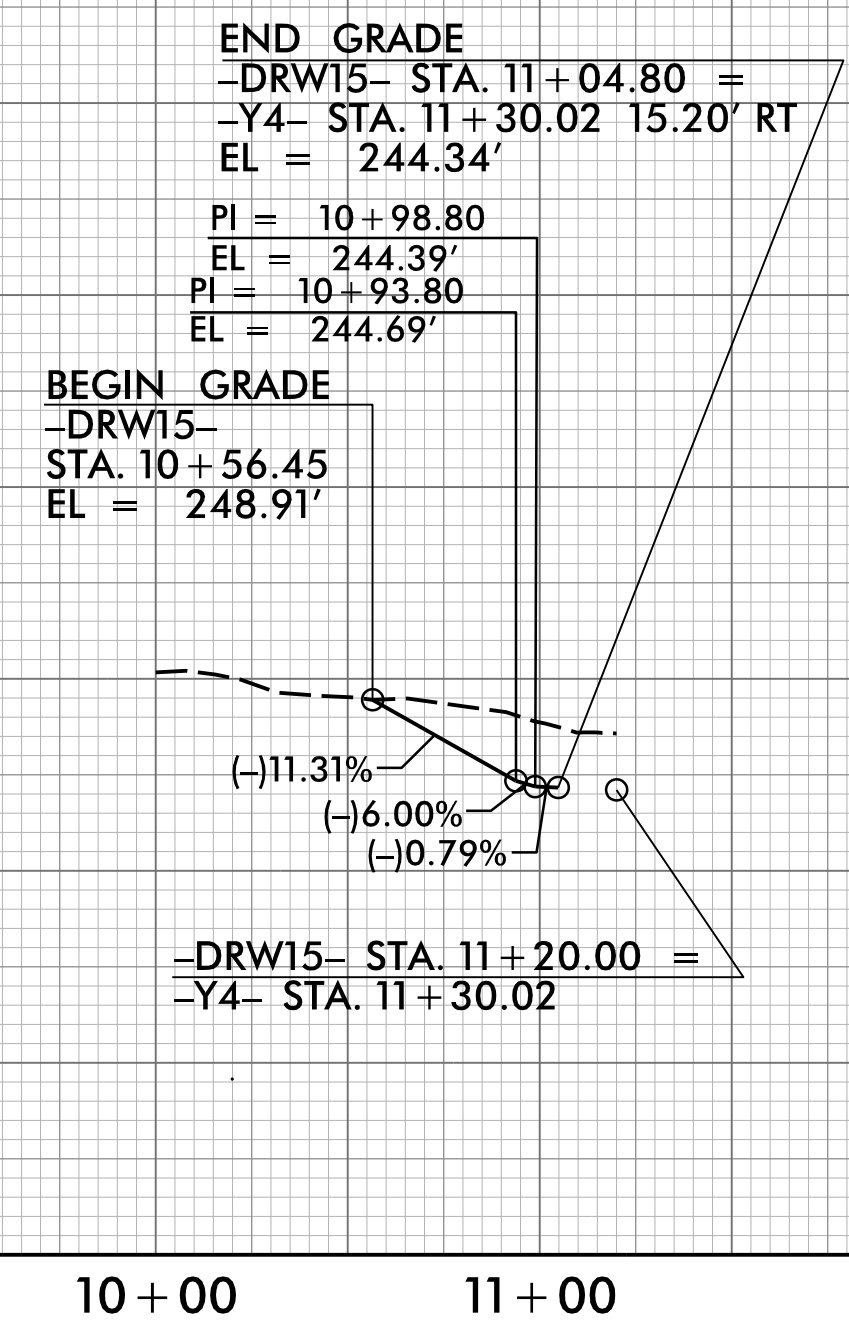
-DRW13-



-DRW14-



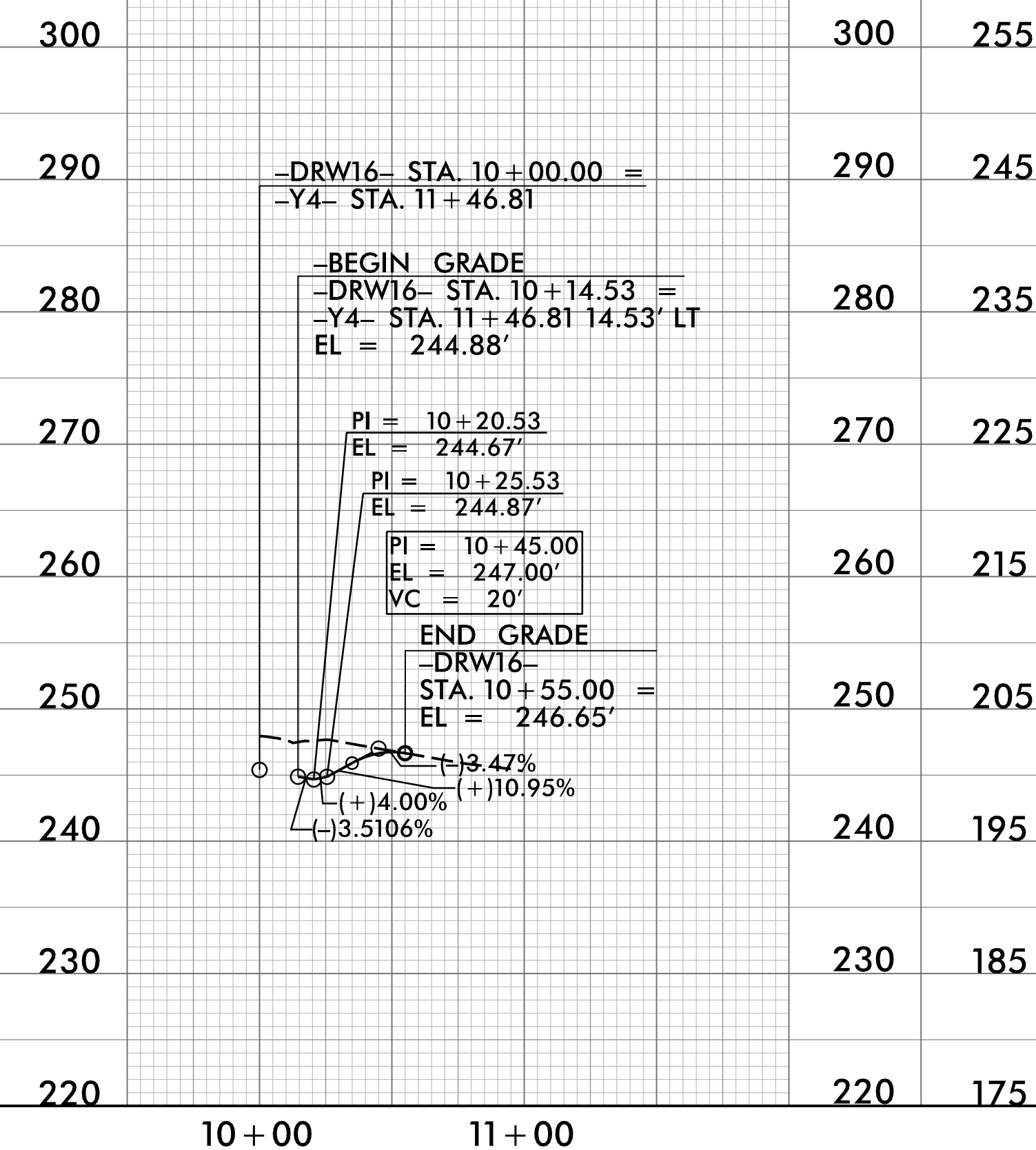
-DRW15-



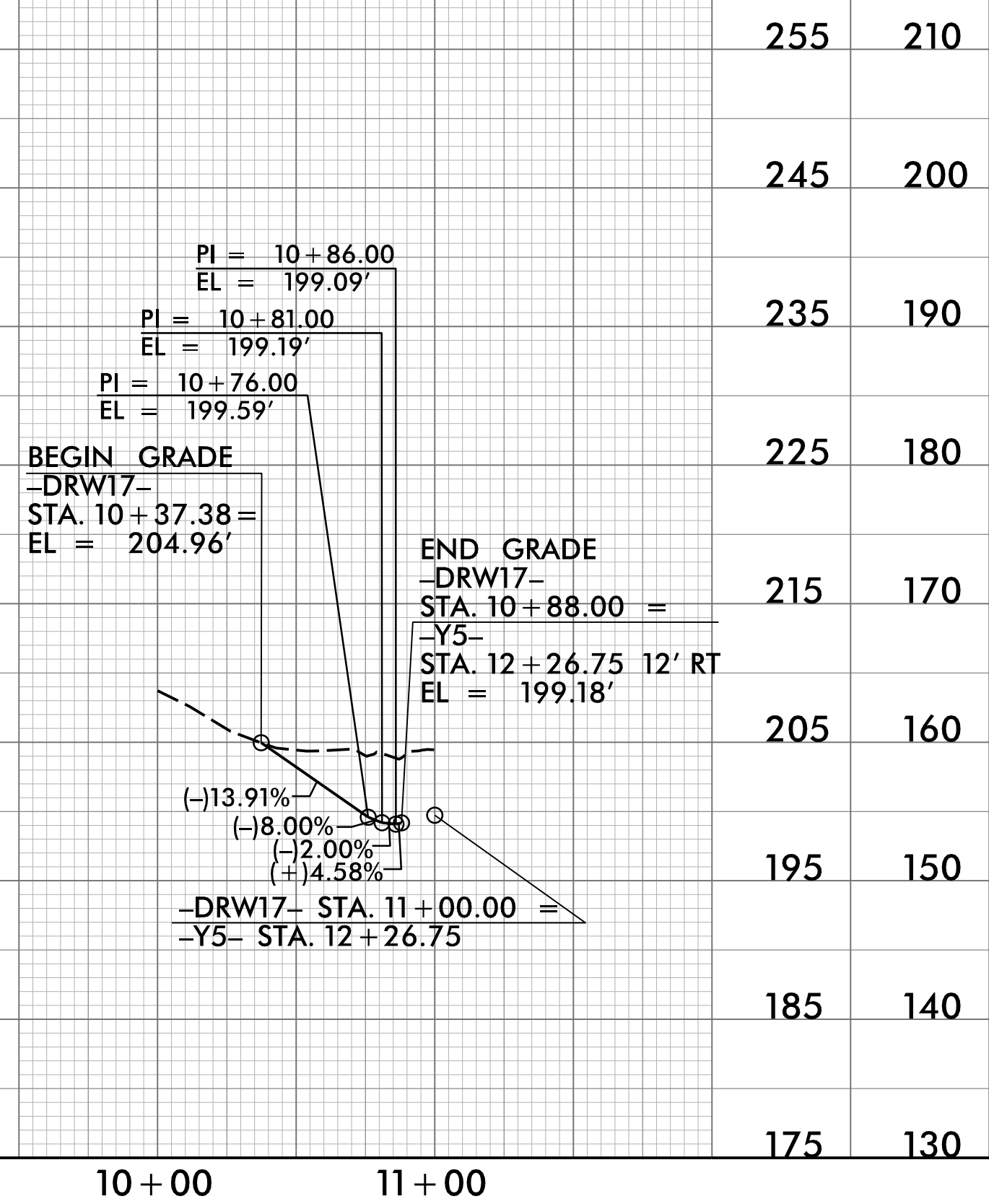
R:\2018\191\191_P\0\193825B_r.dwg, p139.dgn
11/20/18

5/28/19

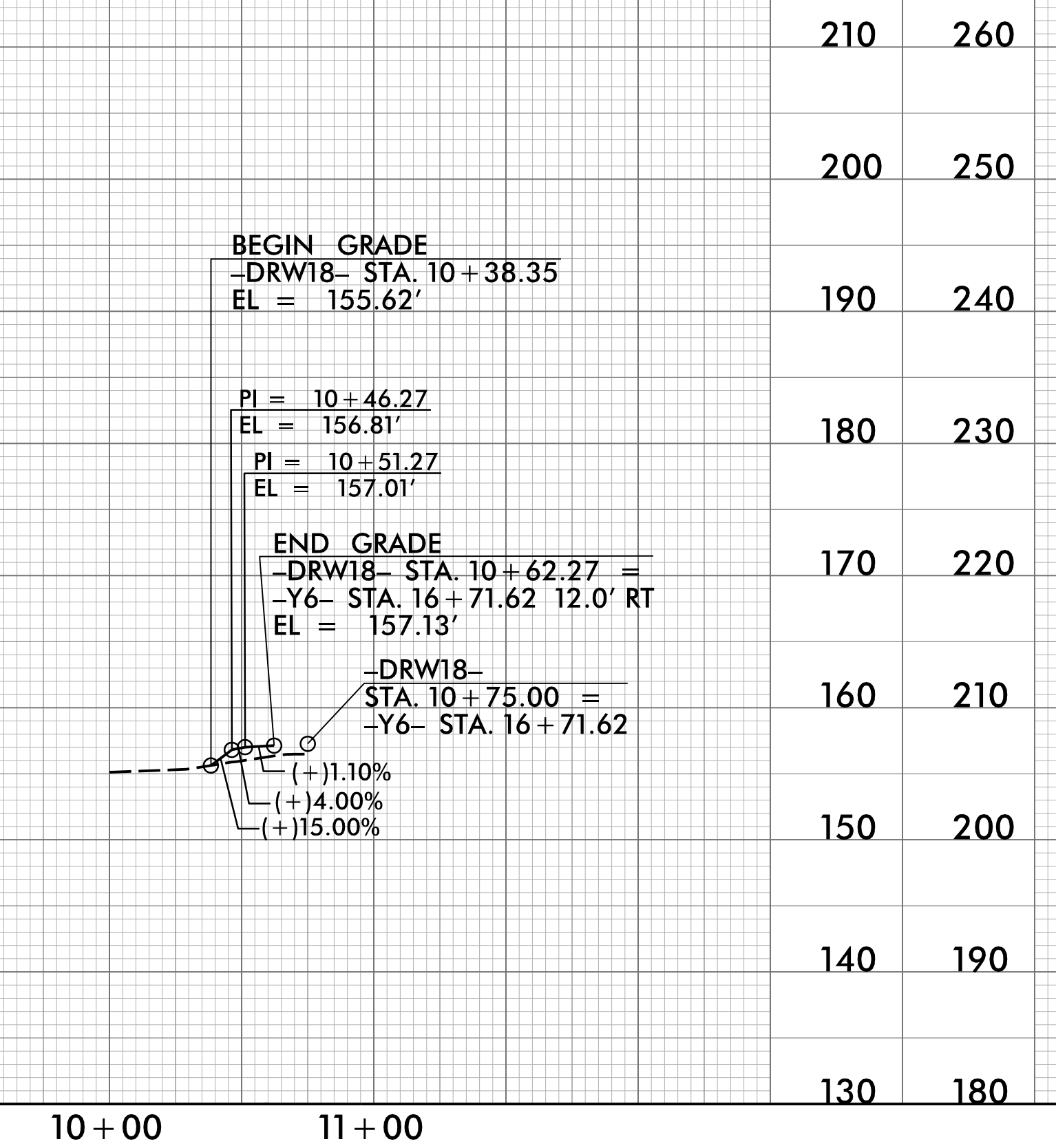
-DRW16-



-DRW17-



-DRW18-



Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE (919) 461-1100 FAX (919) 461-1415
 NC LICENSE # C-25243

PROJECT REFERENCE NO.
R-3825B

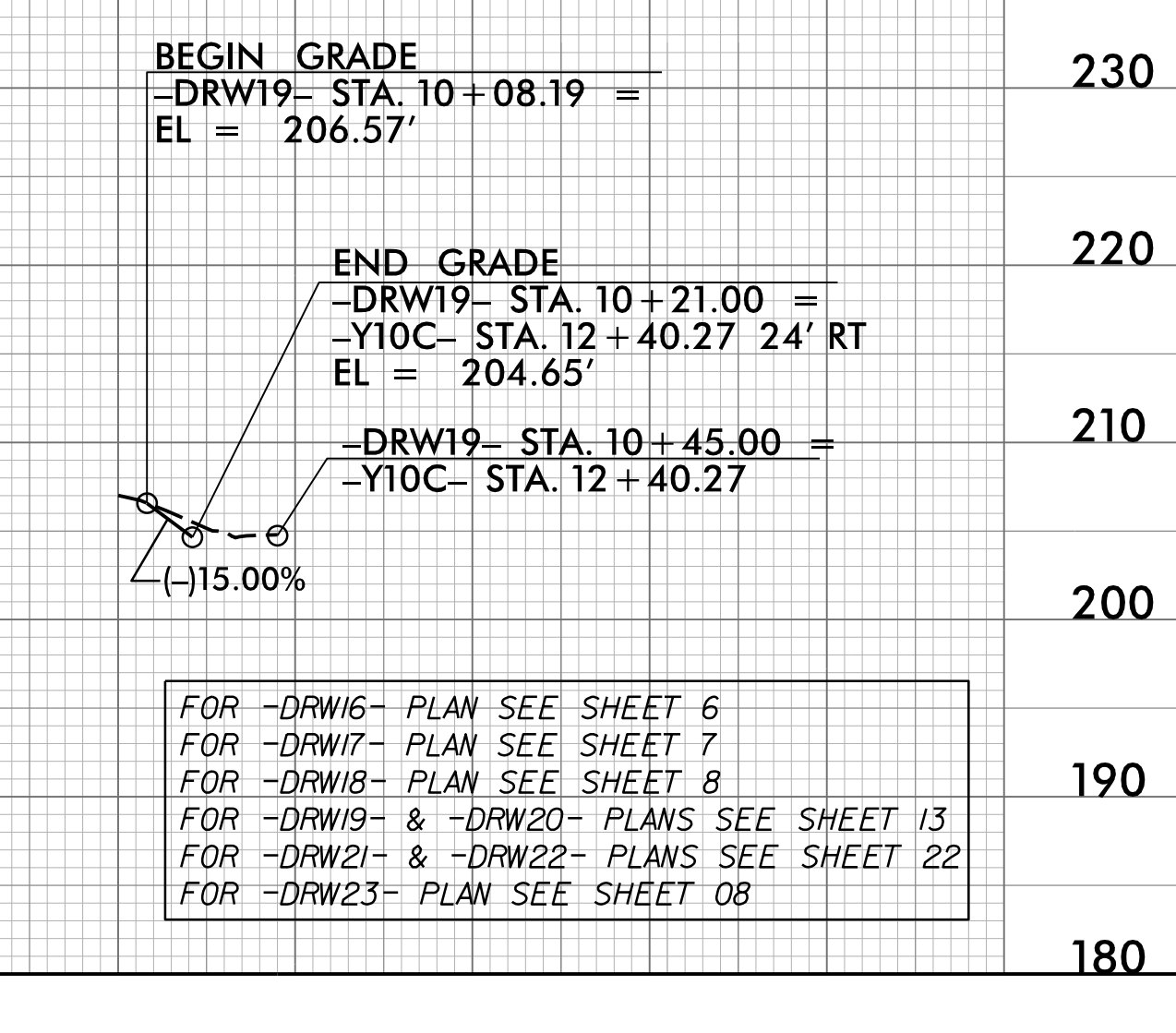
SHEET NO.
40

ROADWAY DESIGN ENGINEER
 Edward E. Edis
 SEAL
 8470
 8/9/2018

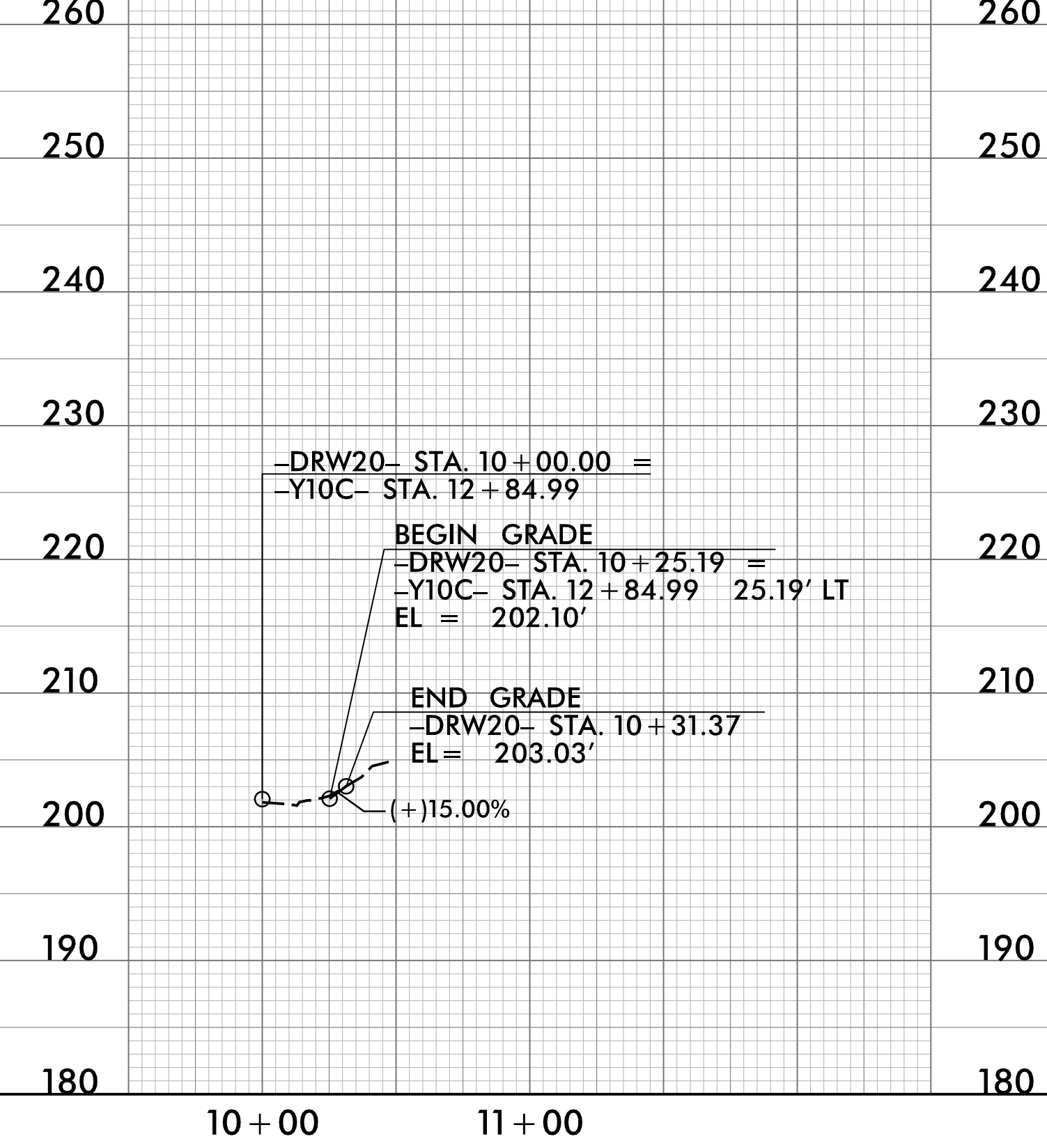
HYDRAULICS ENGINEER
 Glenn E. Edis
 SEAL
 037863
 8/9/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

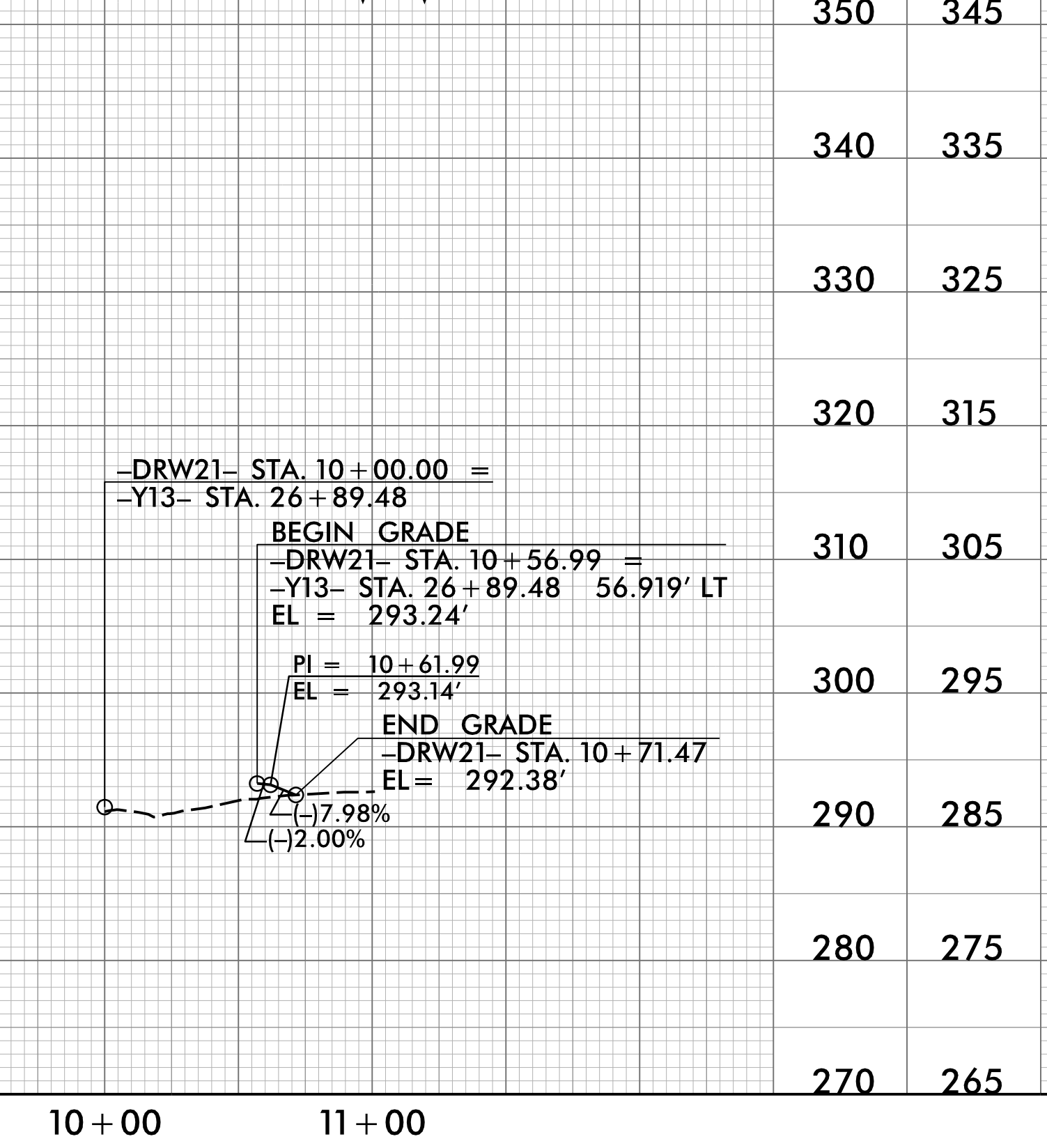
-DRW19-



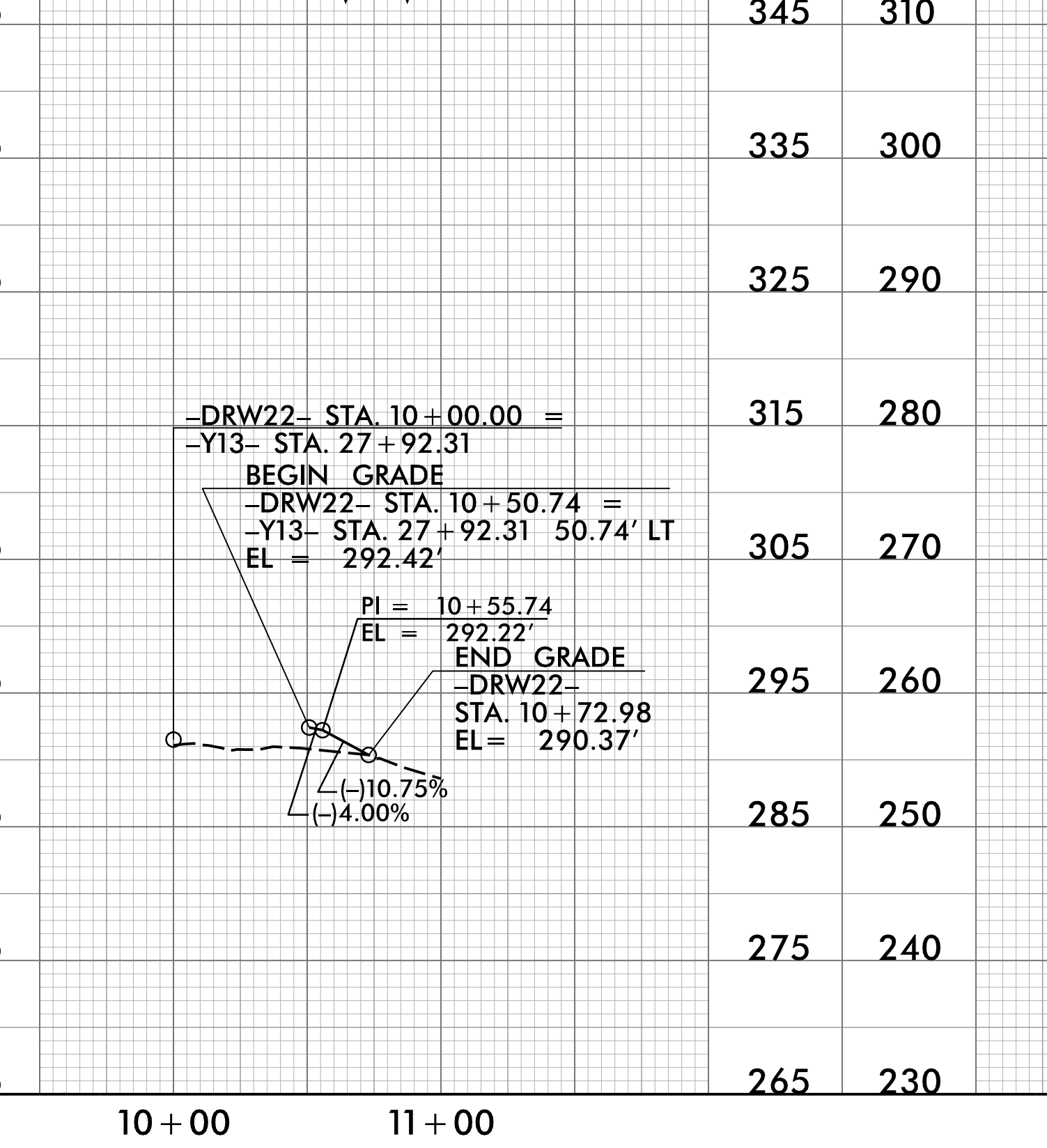
-DRW20-



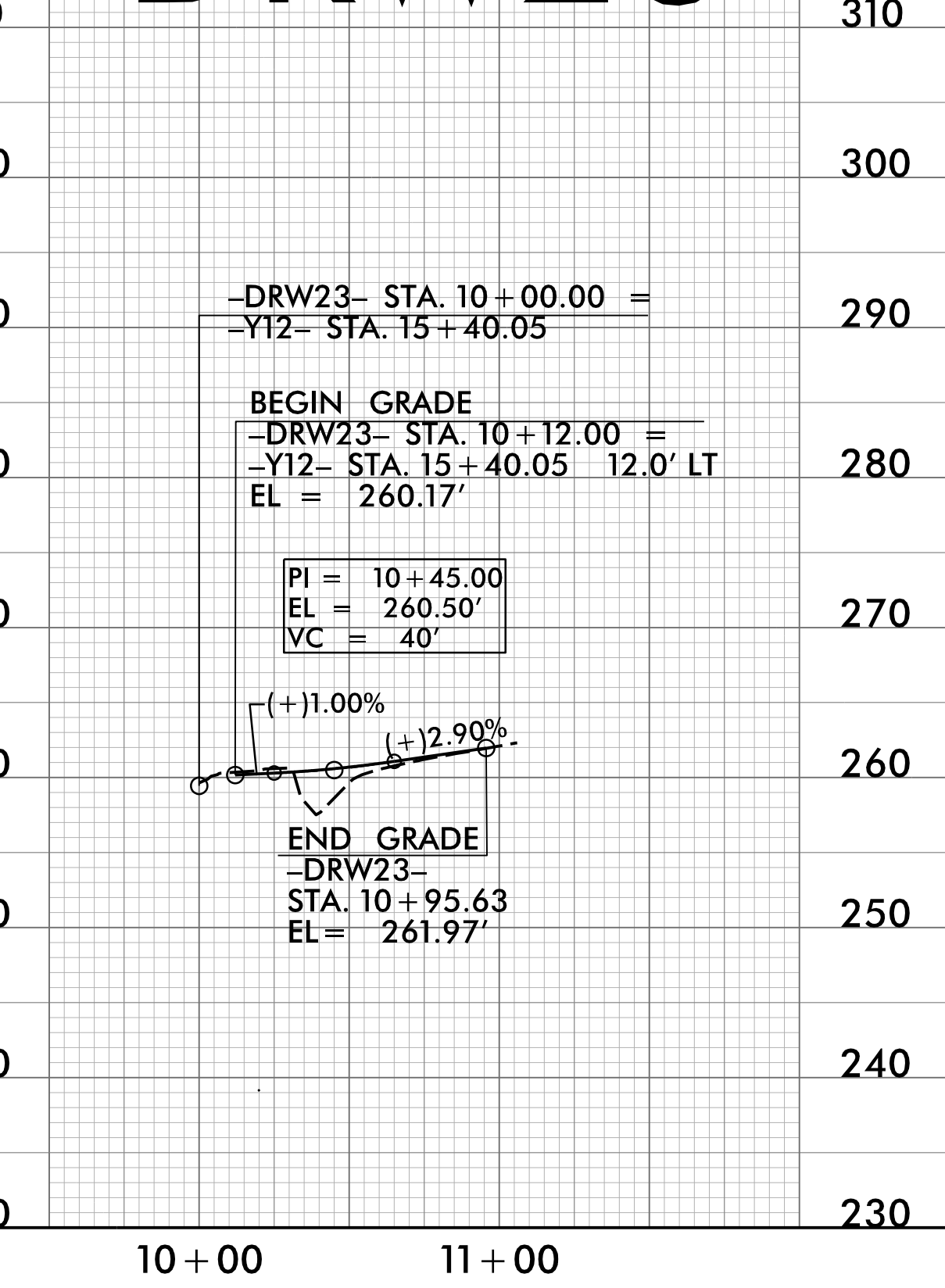
-DRW21-



-DRW22-



-DRW23-



R:\2018\180825\180825_r.dwg

5/28/2018

-DRW24-

-DRW25-

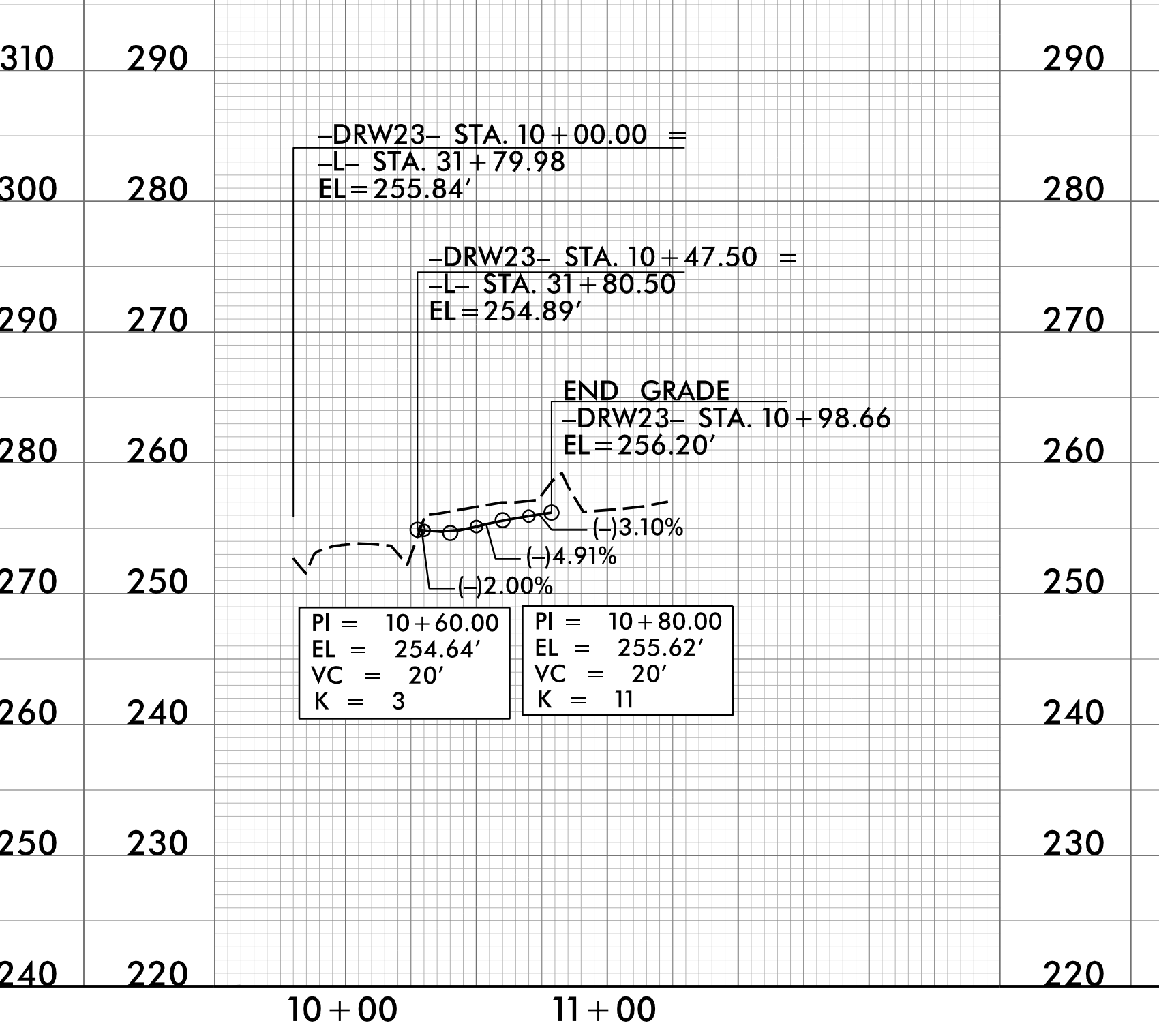
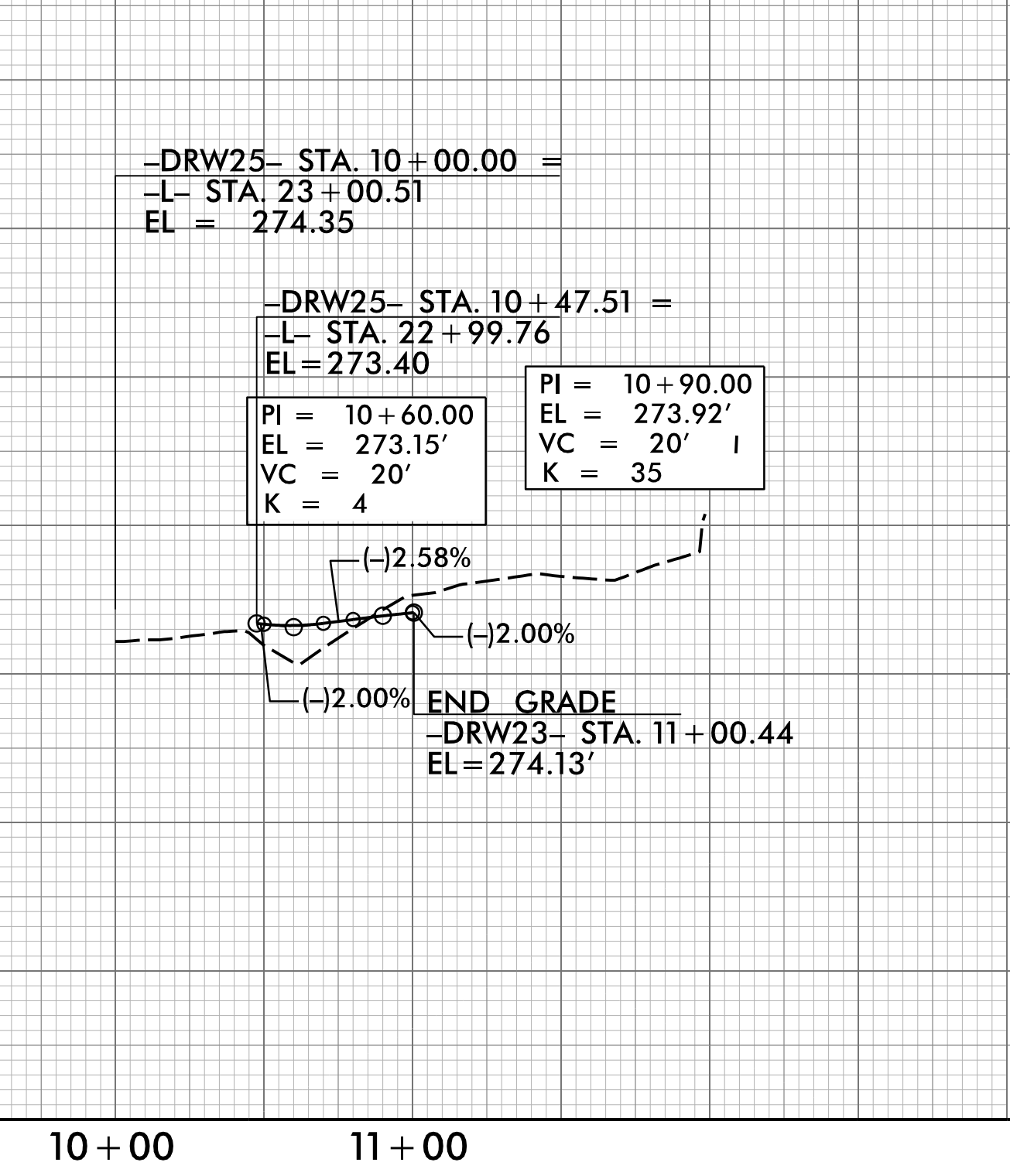
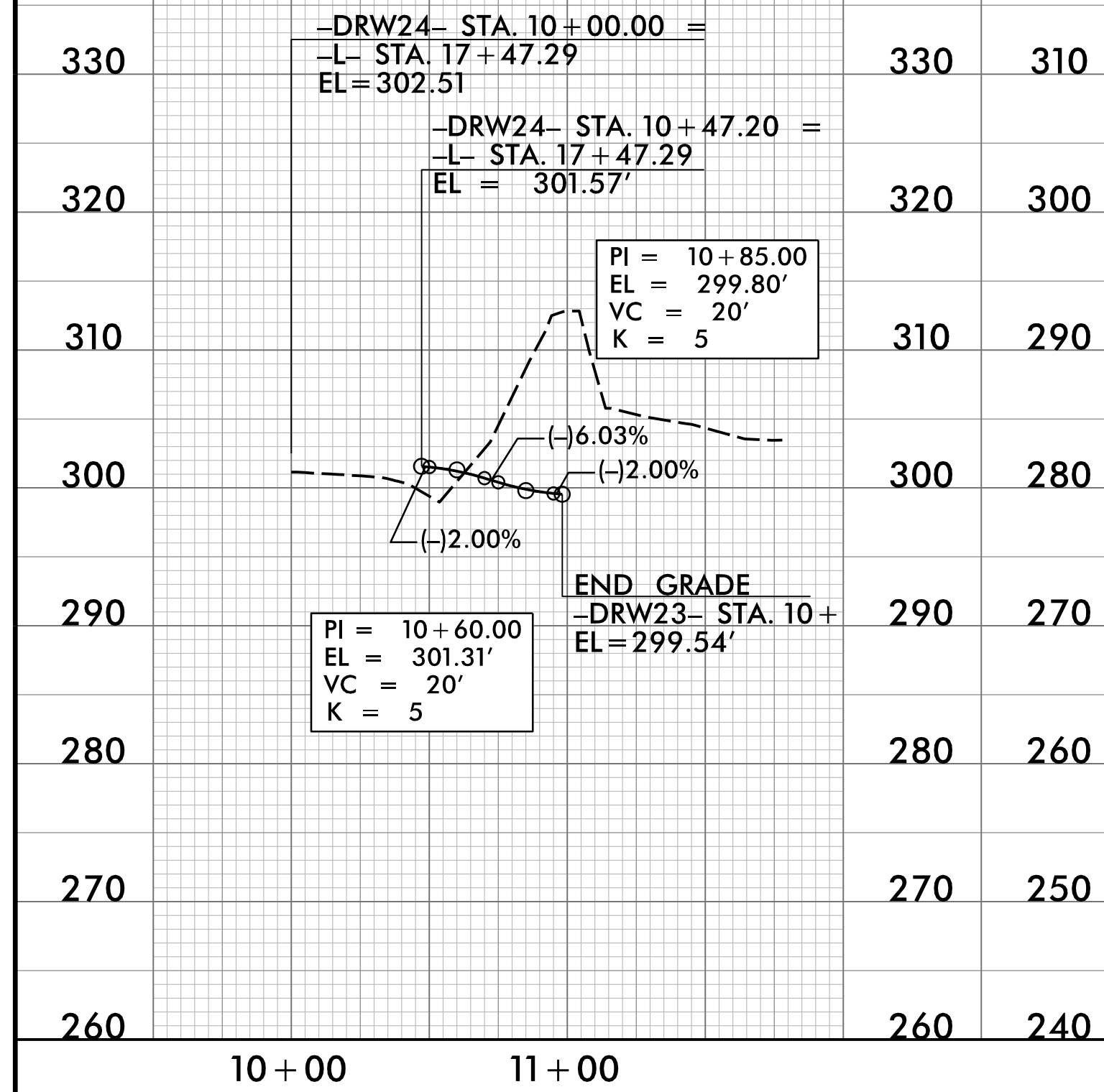
-DRW26-

Prepared by
URS
 URS Corporation - North Carolina
 1600 Perimeter Park Drive
 Morrisville, North Carolina 27560
 TELEPHONE 1.919.461.1100 FAX 1.919.461.1415
 NC LICENSE # C-2843

PROJECT REFERENCE NO. <i>R-3825B</i>	SHEET NO. 41
ROADWAY DESIGN ENGINEER <i>Edward Seaton</i>	HYDRAULICS ENGINEER <i>Memo D. Busciani</i>

Professional Engineer Seal for Edward Seaton, License # 18470, expires 12/31/2018. Professional Engineer Seal for Memo D. Busciani, License # 037863, expires 12/31/2018.

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



FOR -DRW24- PLAN SEE SHEET 4
 FOR -DRW25- PLAN SEE SHEET 4
 FOR -DRW26- PLAN SEE SHEET 5

8/9/2018
 C:\Users\edward.seaton\Documents\Projects\R3825B\rdy\pf141.dgn
 Edward Seaton