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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.	SHEET NO.
R-3825B	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT	NOT A CERTIFIED DOCUMENT AS TO THE ORIGINAL DOCUMENT
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY :	THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY :
EDWARD GLENN EDENS, JR.	MEME D. BUSCEMI
18470 ON 08/09/2018	037863 ON 08/09/2018
THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.	THIS DOCUMENT IS ONLY CERTIFIED AS TO THE REVISIONS.

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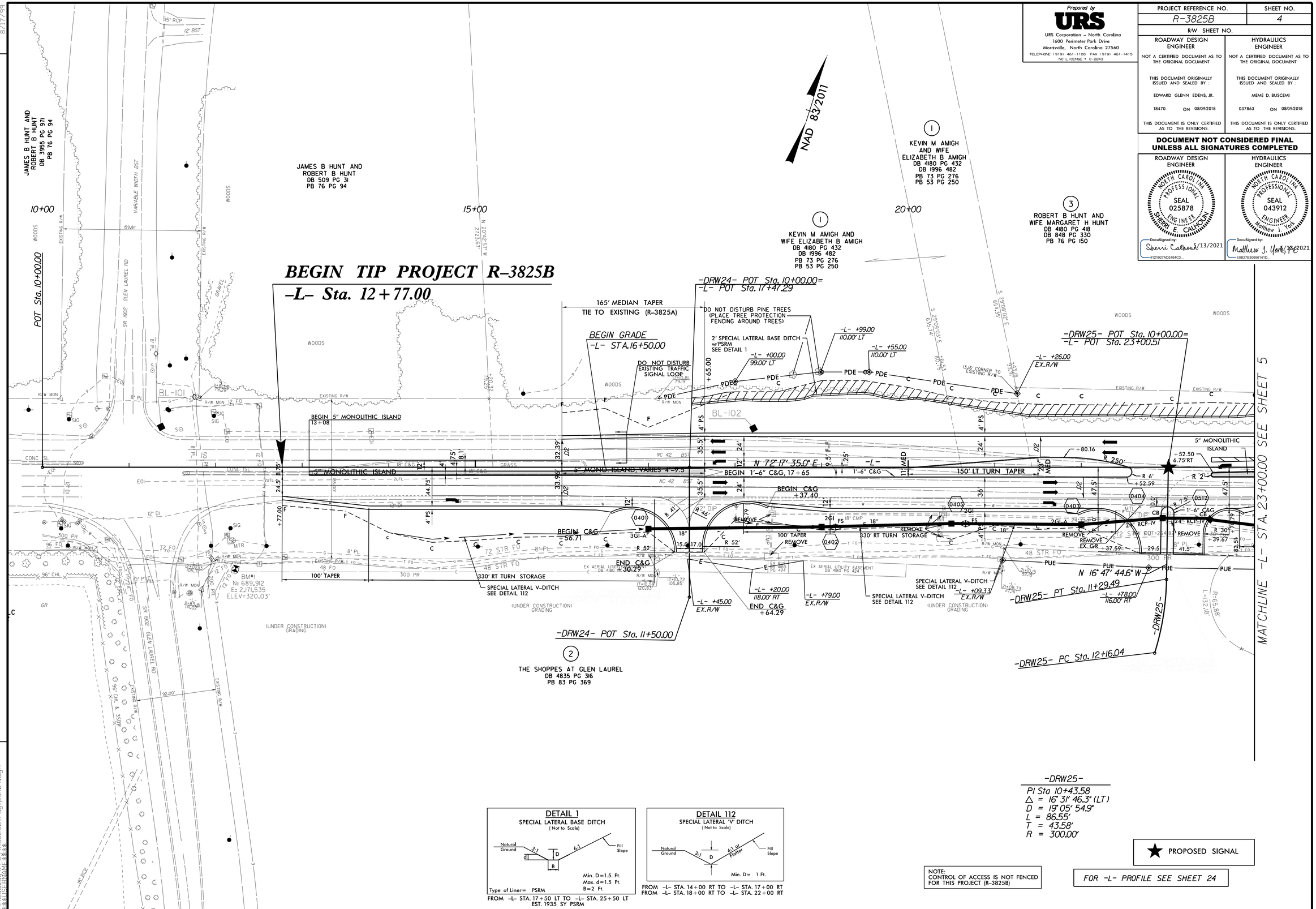
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 025878 ENGINEER SHERRI E. CALHOUN	NORTH CAROLINA PROFESSIONAL SEAL 043912 ENGINEER Matthew J. York
DocuSigned by: Sherri Calhoun 5/13/2021 4121927AD5764C3...	DocuSigned by: Matthew J. York, PE 5/13/2021 E0B27B306961410...

REVISIONS

05/14/2021–CONSTRUCTION REVISION: EXTENDED LEFT TURN LANE FROM L STA 13+08 TO 21+50. (HN)

8/17/99



-DRW25-
PI Sta 10+43.58
Δ = 16° 31' 46.3" (LT)
D = 19° 05' 54.9"
L = 86.55'
T = 43.58'
R = 300.00'

★ PROPOSED SIGNAL

NOTE:
CONTROL OF ACCESS IS NOT FENCED FOR THIS PROJECT (R-3825B)

FOR -L- PROFILE SEE SHEET 24

DETAIL 1
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
Type of Liner = PSRM
FROM -L- STA. 17+50 LT TO -L- STA. 25+50 LT
EST. 1935 SY PSRM

DETAIL 112
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Min. D = 1 Ft.
FROM -L- STA. 14+00 RT TO -L- STA. 17+00 RT
FROM -L- STA. 18+00 RT TO -L- STA. 22+00 RT

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	5

R/W SHEET NO.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, III
DocuSigned by: Edward Glenn Edens III
8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER NIEMIE D. BUSCEMI
DocuSigned by: Niemie Buscemi
8/9/2018

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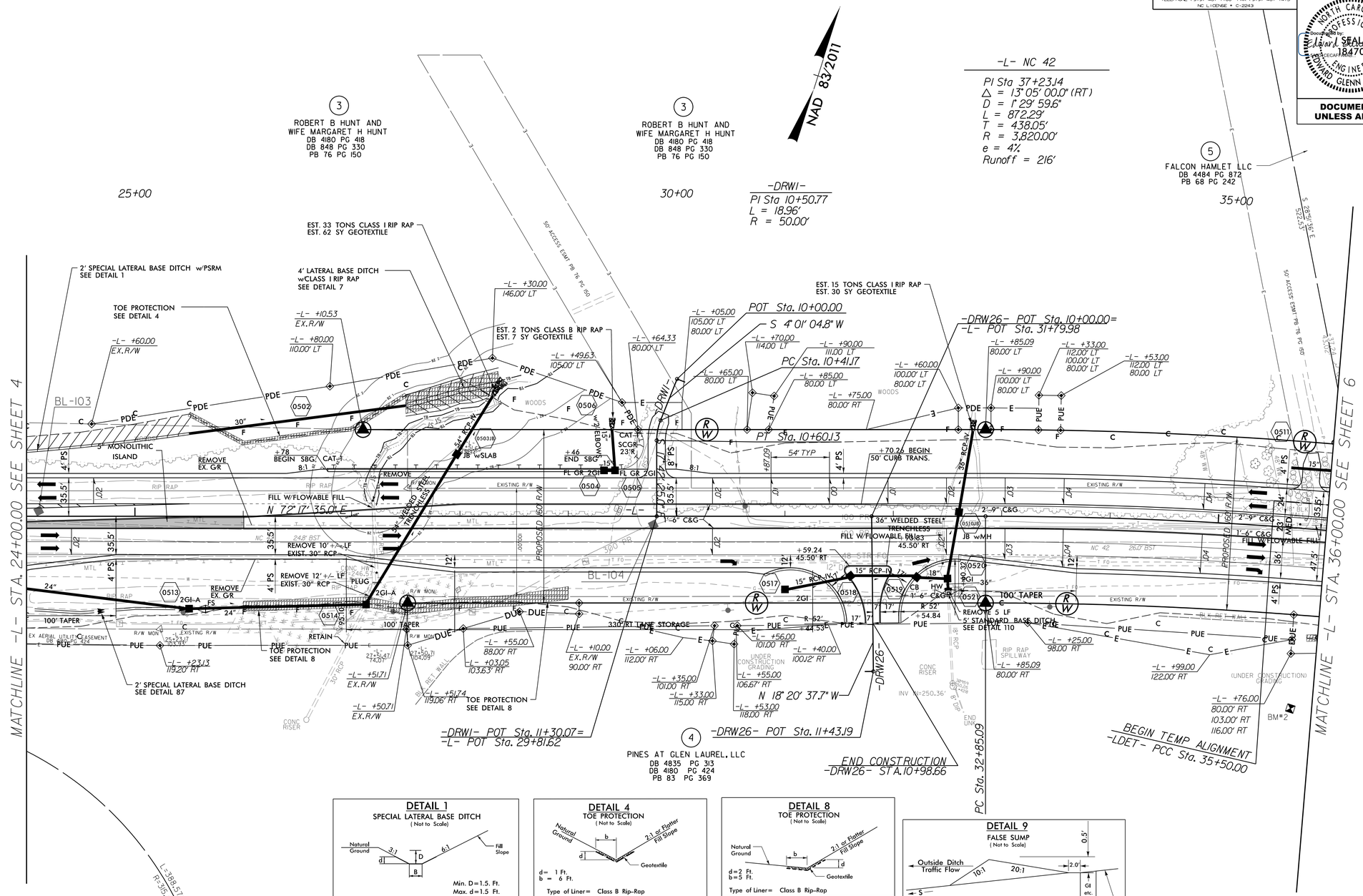


DETAIL 1
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Min. D=1.5. Ft.
Max. d=1.5 Ft.
B=2 Ft.
Type of Liner= PSRM

FROM -L- STA. 17+50 LT TO -L- STA. 25+50 LT
EST. 1935 SY

DETAIL 4
TOE PROTECTION
(Not to Scale)

d= 1 Ft.
b = 6 Ft.
Type of Liner= Class B Rip-Rap

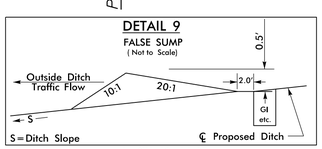
FROM -L- STA. 25+50 LT TO -L- STA. 27+50 LT
EST. 65 TONS CLASS B RIP RAP
EST. 100 SY GEOTEXTILE

DETAIL 8
TOE PROTECTION
(Not to Scale)

d=2 Ft.
b=5 Ft.
Type of Liner= Class B Rip-Rap

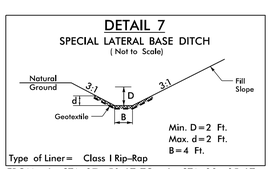
FROM -L- STA. 26+00 RT TO -L- STA. 27+15 RT
EST. 56 TONS CLASS B RIP RAP
EST. 128 SY GEOTEXTILE
FROM -L- STA. 27+15 RT TO -L- STA. 29+00 RT
EST. 90 TONS CLASS B RIP RAP
EST. 204 SY GEOTEXTILE

DETAIL 9
FALSE SUMP
(Not to Scale)



-L- STA. 19+14 RT
-L- STA. 20+64 RT
-L- STA. 25+64 RT
-L- STA. 32+49 RT

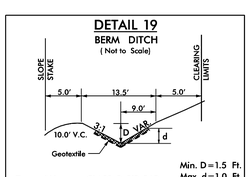
DETAIL 7
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D=2 Ft.
Max. d=2 Ft.
B=4 Ft.
Type of Liner= Class I Rip-Rap

FROM -L- STA. 27+50 LT TO -L- STA. 28+35 LT
EST. 110 TONS CLASS I RIP RAP
EST. 190 SY GEOTEXTILE

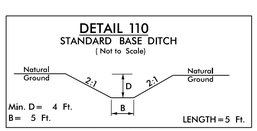
DETAIL 19
BERM DITCH
(Not to Scale)



Min. D=1.5 Ft.
Max. d=1.0 Ft.
Type of Liner= CLASS B RIP RAP

FROM -L- STA. 35+90 RT TO -L- STA. 38+00 RT
EST. 70 TONS CLASS B RIP RAP
EST. 150 SY GEOTEXTILE

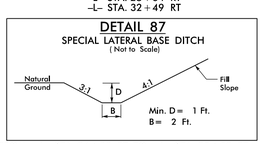
DETAIL 110
STANDARD BASE DITCH
(Not to Scale)



Min. D= 4 Ft.
B= 5 Ft.
LENGTH=5 Ft.

-L- STA. 32+50 RT
EST 362 CY DDE

DETAIL 87
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 1 Ft.
B= 2 Ft.

FROM -L- STA. 24+00 RT TO -L- STA. 25+50 RT

FROM -L- STA. 35+90 RT TO -L- STA. 38+00 RT
EST. 70 TONS CLASS B RIP RAP
EST. 150 SY GEOTEXTILE

FOR -L- PROFILE SEE SHEET 24
FOR -DRW1- PROFILE SEE SHEET 38
FOR -DRW26- PROFILE SEE SHEET 41
FOR -LDET- PLAN SEE SHEET 2B-1

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS JR.
DocuSigned by: Edward Glenn Edens Jr.
8/20/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
DocuSigned by: Meme Buscemi
8/20/2018

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-L- NC 42

PI Sta 37+23.14
△ = 13° 05' 00.0" (RT)
D = 1° 29' 59.6"
L = 872.29'
T = 438.05'
R = 3,820.00'
e = 4%
Runoff = 216'

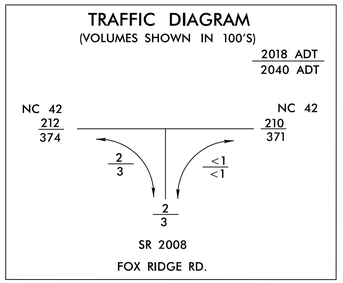
-DRW2-
PI Sta 10+49.85
L = 31.97'
R = 50.00'

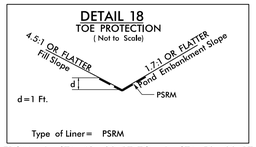
-Y4- FOX RIDGE RD

PI Sta 10+25.69
△ = 12° 41' 31.1" (LT)
D = 24° 48' 12.1"
L = 51.17'
T = 25.69'
R = 231.00'

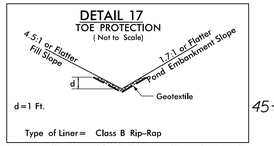
PI Sta 11+42.18
△ = 3° 18' 13.3" (LT)
D = 5° 43' 46.5"
L = 57.66'
T = 28.84'
R = 1,000.00'

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)



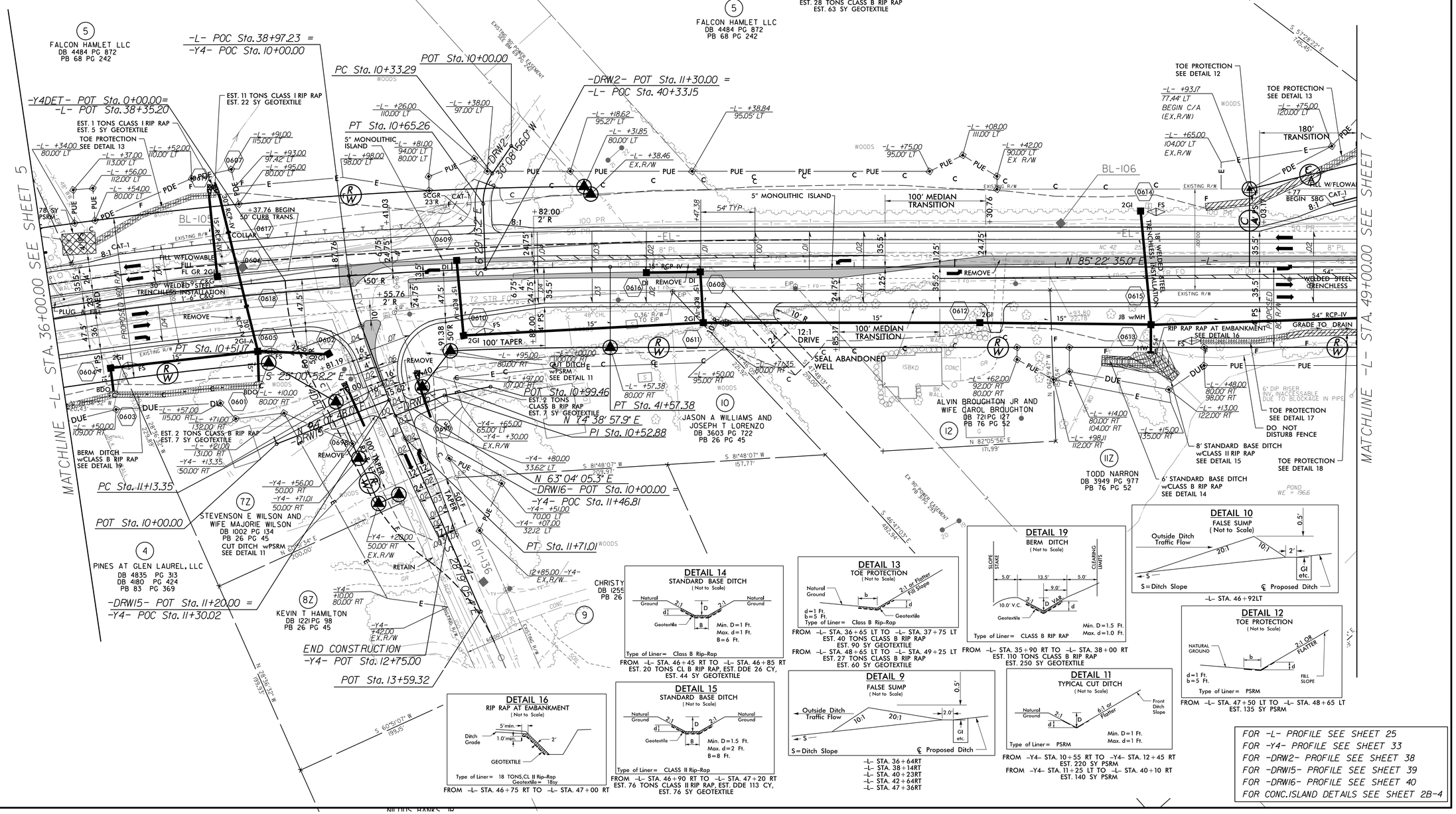


FROM -L- STA. 48+30 RT TO -L- STA. 50+00 RT
EST. 167 SY PSRM



FROM -L- STA. 47+36 RT TO -L- STA. 48+30 RT
EST. 28 TONS CLASS B RIP RAP
EST. 63 SY GEOTEXTILE

NAD 83/2011



-L- STA. 46+92LT

FROM -L- STA. 35+90 RT TO -L- STA. 38+00 RT
EST. 110 TONS CLASS B RIP RAP
EST. 250 SY GEOTEXTILE

FROM -L- STA. 36+65 LT TO -L- STA. 37+75 LT
EST. 40 TONS CLASS B RIP RAP
EST. 90 SY GEOTEXTILE
FROM -L- STA. 48+65 LT TO -L- STA. 49+25 LT
EST. 27 TONS CLASS B RIP RAP
EST. 60 SY GEOTEXTILE

FROM -L- STA. 46+45 RT TO -L- STA. 46+85 RT
EST. 20 TONS CL B RIP RAP, EST. DDE 26 CY,
EST. 44 SY GEOTEXTILE

-L- STA. 36+64RT
-L- STA. 38+14RT
-L- STA. 40+23RT
-L- STA. 42+64RT
-L- STA. 47+36RT

FROM -Y4- STA. 10+55 RT TO -Y4- STA. 12+45 RT
EST. 220 SY PSRM
FROM -Y4- STA. 11+25 LT TO -L- STA. 40+10 RT
EST. 140 SY PSRM

FROM -L- STA. 47+50 LT TO -L- STA. 48+65 LT
EST. 135 SY PSRM

FROM -L- STA. 46+75 RT TO -L- STA. 47+00 RT

FROM -L- STA. 46+90 RT TO -L- STA. 47+20 RT
EST. 76 TONS CLASS II RIP RAP, EST. DDE 113 CY,
EST. 76 SY GEOTEXTILE

FOR -L- PROFILE SEE SHEET 25
FOR -Y4- PROFILE SEE SHEET 33
FOR -DRW2- PROFILE SEE SHEET 38
FOR -DRW15- PROFILE SEE SHEET 39
FOR -DRW16- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-4

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
Designed by: Edward Glenn Edens, Jr.
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
8/20/2018

HYDRAULICS ENGINEER
Designed by: Meme D. Buscemi
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
8/20/2018

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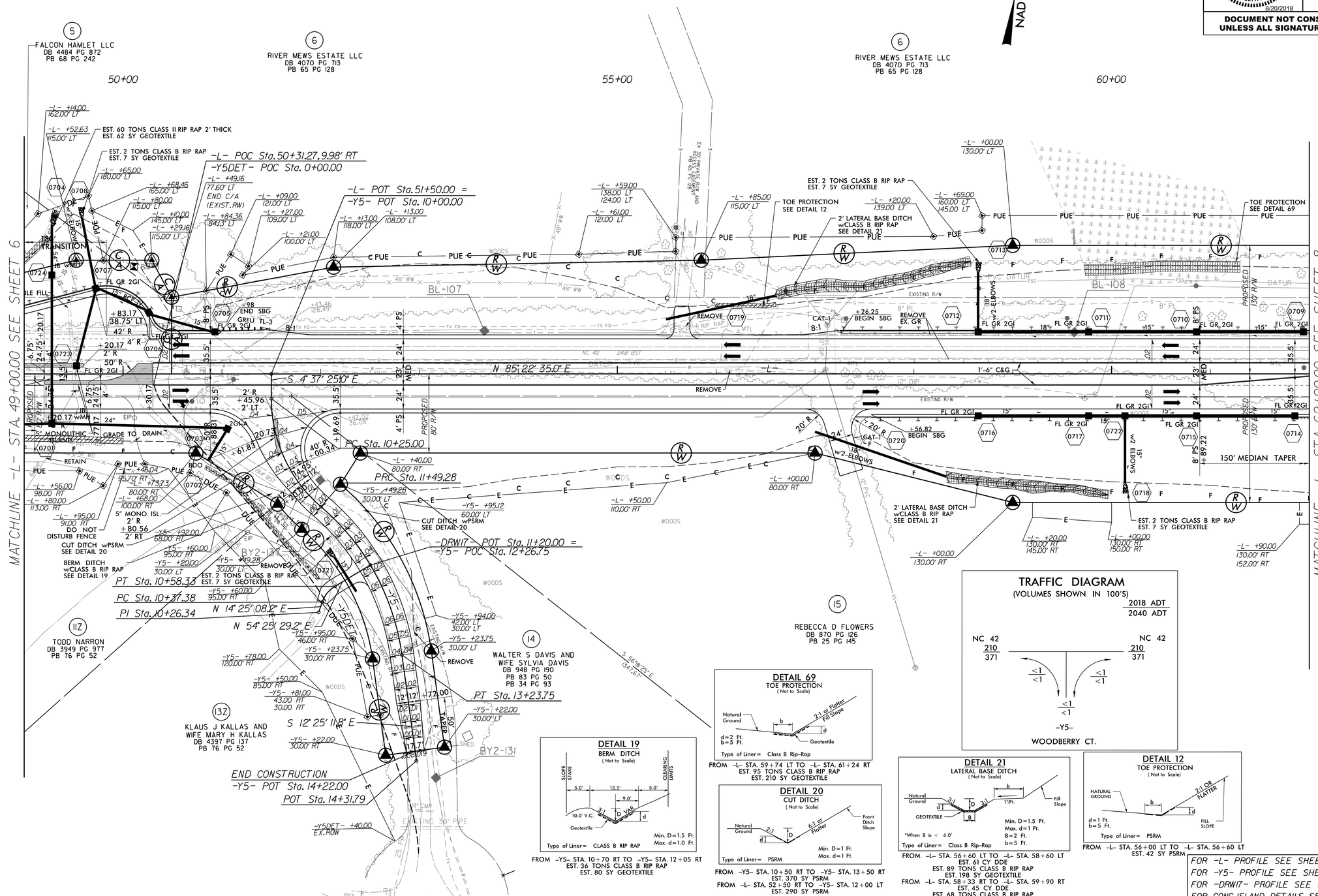

FOR -L- PROFILE SEE SHEET 25
FOR -Y5- PROFILE SEE SHEET 33
FOR -DRW17- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-4

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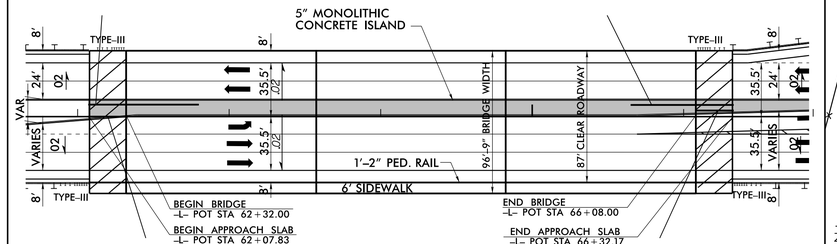
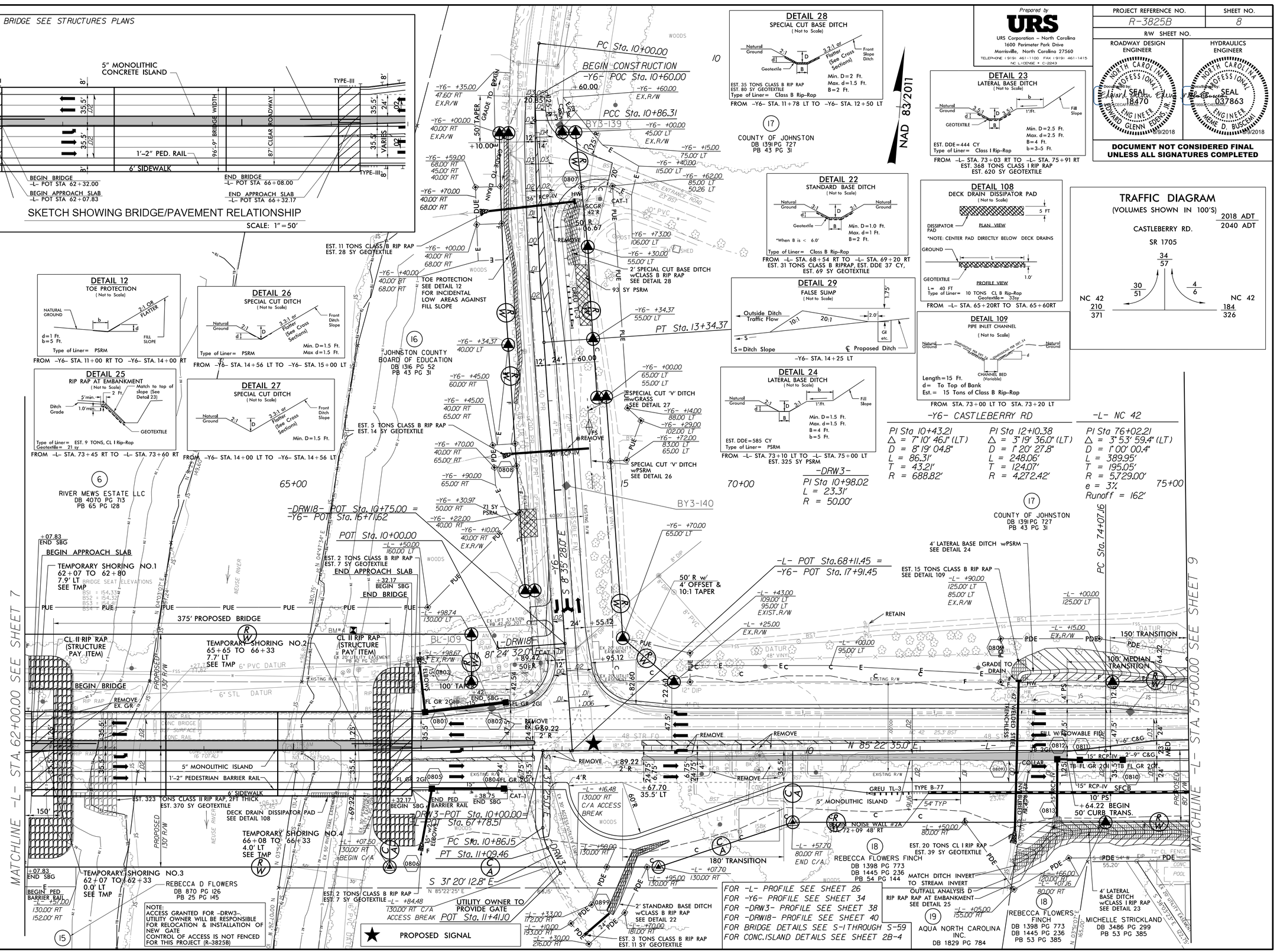
FOR DETAILS ON BRIDGE SEE STRUCTURES PLANS



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

SCALE: 1" = 50'



NOTE:
ACCESS GRANTED FOR -DRW3-.
UTILITY OWNER WILL BE RESPONSIBLE FOR RELOCATION & INSTALLATION OF NEW GATE
CONTROL OF ACCESS IS NOT FENCED FOR THIS PROJECT (R-3825B)

FOR -L- PROFILE SEE SHEET 26
FOR -Y6- PROFILE SEE SHEET 34
FOR -DRW3- PROFILE SEE SHEET 38
FOR -DRW18- PROFILE SEE SHEET 40
FOR BRIDGE DETAILS SEE S-1 THROUGH S-59
FOR CONC. ISLAND DETAILS SEE SHEET 2B-4

DETAIL 12
TOE PROTECTION
(Not to Scale)

d = 1 Ft.
b = 5 Ft.
Type of Liner = PSRM
FROM -Y6- STA. 11+00 RT TO -Y6- STA. 14+00 RT

DETAIL 25
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner = EST. 9 TONS, CL I Rip-Rap
Geotextile = 21 sy
FROM -L- STA. 73+45 RT TO -L- STA. 73+60 RT

DETAIL 26
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
Type of Liner = PSRM
FROM -Y6- STA. 14+56 LT TO -Y6- STA. 15+00 LT

DETAIL 27
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1.5 Ft.
FROM -Y6- STA. 14+00 LT TO -Y6- STA. 14+56 LT

DETAIL 28
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D = 2 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
EST. 35 TONS CLASS B RIP RAP
EST. 80 SY GEOTEXTILE
Type of Liner = Class B Rip-Rap
FROM -Y6- STA. 11+78 LT TO -Y6- STA. 12+50 LT

DETAIL 22
STANDARD BASE DITCH
(Not to Scale)

Min. D = 1.0 Ft.
Max. d = 1 Ft.
B = 2 Ft.
*When B is < 6.0'
Type of Liner = Class B Rip-Rap
FROM -L- STA. 68+54 RT TO -L- STA. 69+20 RT
EST. 31 TONS CLASS B RIPRAP, EST. DDE 37 CY,
EST. 69 SY GEOTEXTILE

DETAIL 29
FALSE SUMP
(Not to Scale)

-Y6- STA. 14+25 LT

DETAIL 24
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.
EST. DDE = 585 CY
Type of Liner = PSRM
FROM -L- STA. 73+10 LT TO -L- STA. 75+00 LT
EST. 325 SY PSRM

DETAIL 23
LATERAL BASE DITCH
(Not to Scale)

Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 4 Ft.
b = 3-5 Ft.
EST. DDE = 444 CY
Type of Liner = Class I Rip-Rap
FROM -L- STA. 73+03 RT TO -L- STA. 75+91 RT
EST. 368 TONS CLASS I RIP RAP
EST. 620 SY GEOTEXTILE

DETAIL 108
DECK DRAIN DISSIPATOR PAD
(Not to Scale)

L = 40 FT
Type of Liner = 10 TONS CL B Rip-Rap
Geotextile = 33sy
FROM -L- STA. 65+20RT TO STA. 65+60RT

DETAIL 109
PIPE INLET CHANNEL
(Not to Scale)

Length = 15 Ft.
d = To Top of Bank
Est. = 15 Tons of Class B Rip-Rap
FROM STA. 73+00 LT TO STA. 73+20 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

-Y6- CASTLEBERRY RD

PI Sta 10+43.21
Δ = 7° 10' 46.1" (LT)
D = 8° 19' 04.8"
L = 86.31'
T = 43.21'
R = 688.82'

PI Sta 12+10.38
Δ = 3° 19' 36.0" (LT)
D = 1° 20' 27.8"
L = 248.06'
T = 124.07'
R = 4,272.42'

-L- NC 42

PI Sta 76+02.21
Δ = 3° 53' 59.4" (LT)
D = 1° 00' 00.4"
L = 389.95'
T = 195.05'
R = 5,729.00'
e = 3%
Runoff = 162'

-DRW3-

PI Sta 10+98.02
L = 23.31'
R = 50.00'

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
DocuSigned by: Edward Glenn Edens III
18470
SEAL
ENGINEER
EDWARD GLENN EDENS, JR.
8/8/2018

HYDRAULICS ENGINEER
DocuSigned by: Renee D. Buscemi
037863
SEAL
ENGINEER
RENEE D. BUSCEMI
8/8/2018

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DETAIL 30
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'Ft., B, Fill Slope

Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

FROM –L– STA. 82+10 RT TO –L– STA. 85+00 RT
(EST. DDE = 173 CY)
FROM –L– STA. 86+00 RT TO –L– STA. 90+50 RT
(EST. DDE = 378 CY)
FROM –L– STA. 92+00 RT TO –L– STA. 93+24 RT
(EST. DDE = 36 CY)

DETAIL 33
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 3:1, Natural Ground, d, Geotextile, B

Min. D=1 Ft.
Max. d=3 Ft.
B=8 Ft.

Type of Liner= CLASS I Rip-Rap

FROM –L– STA. 87+50 LT TO –L– STA. 87+55 LT
EST. 46 TONS CLASS I RIPRAP, EST. DDE 58 CY,
EST. 78 SY GEOTEXTILE

DETAIL 31
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, B, 4:1 or Flatter, Front Ditch Slope

Min. D=2 Ft.
Max. d=2 Ft.
B=2 Ft.

Type of Liner= PSRM

FROM –L– STA. 81+80 LT TO –L– STA. 83+00 LT
EST. 154 SY PSRM
FROM –Y7– STA. 15+67 LT TO –L– STA. 16+54 LT
EST. 110 SY PSRM

DETAIL 34
SPECIAL LATERAL DITCH
(Not to Scale)

Natural Ground, 2:1, D, 6:1, Fill Slope

Min. D=1.0 Ft.

FROM –L– STA. 76+10 LT TO –L– STA. 79+00 LT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope

Min. D=1.5 Ft.

FROM –Y7– STA. 15+67 RT TO –L– STA. 80+28 LT

DETAIL 35
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, 6:1, Geotextile, B, Fill Slope

Min. D=0.5 Ft.*
Max. d=2.0 Ft.
B=4.0 Ft.

Type of Liner= Class I Rip-Rap

FROM –L– STA. 75+00 LT TO –L– STA. 76+10 LT
*DITCH ELEVATION AND DEPTH SET TO
INTERCEPT STREAM FROM POND

DETAIL 36
CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, 4:1 or Flatter, Front Ditch Slope

Min. D=1.5 Ft.
Max. d=1.5 Ft.

Type of Liner= PSRM

FROM –L– STA. 83+00 LT TO –L– STA. 85+00 LT
EST. 280 SY PSRM

DETAIL 21
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, d, 3:1, b, 1'Ft., B, GEOTEXTILE, Fill Slope

*When B is < 6.0'

Min. D=1.5 Ft.
Max. d=1 Ft.
B=2 Ft.
b=5 Ft.

Type of Liner= Class B Rip-Rap

FROM –L– STA. 85+00 RT TO –L– STA. 86+00 RT
EST. 73 CY DDE
EST. 87 TONS CLASS B RIP RAP
EST. 194 SY GEOTEXTILE
FROM –L– STA. 90+50 RT TO –L– STA. 92+00 RT
EST. 95 CY DDE
EST. 95 TONS CLASS B RIP RAP
EST. 155 SY GEOTEXTILE

DETAIL 10
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 20:1, 10:1, 2', 0.5', GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

–L– STA. 87+41 RT
–L– STA. 84+91 RT
–L– STA. 78+41 RT

DETAIL 9
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5', GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

–L– STA. 80+14 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

2018 ADT
2040 ADT

–Y7–
EAST SCHOOL RD

NC 42 184/326
14/18, 4/5, 9/13, 2/2, 1/2, 3/4
NC 42 189/334

–Y8–
BENNET PLACE

DETAIL 37
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 20:1, 10:1, 2.0', 1.5', GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

–L– STA. 87+19 LT (HEIGHT = 1.5')

DETAIL 12
TOE PROTECTION
(Not to Scale)

NATURAL GROUND, b, d, 2:1 OR FLATTER, FILL SLOPE

d=1 Ft.
b=5 Ft.

Type of Liner= PSRM

FROM –L– STA. 84+80 LT TO –L– STA. 87+30 LT
EST. 260 SY PSRM

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
Docu Signed by: Howard Glenn Edens Jr.
HOWARD GLENN EDENS JR.
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER
8/9/2018

HYDRAULICS ENGINEER
Docu Signed by: Renee D. Buscemi
RENEE D. BUSCEMI
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER
8/9/2018

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–L– NC 42

PI Sta 76+02.21
△ = 3° 53' 59.4" (LT)
D = 1° 00' 00.4"
L = 389.95'
T = 195.05'
R = 5,729.00'
e = 3%
Runoff = 162'

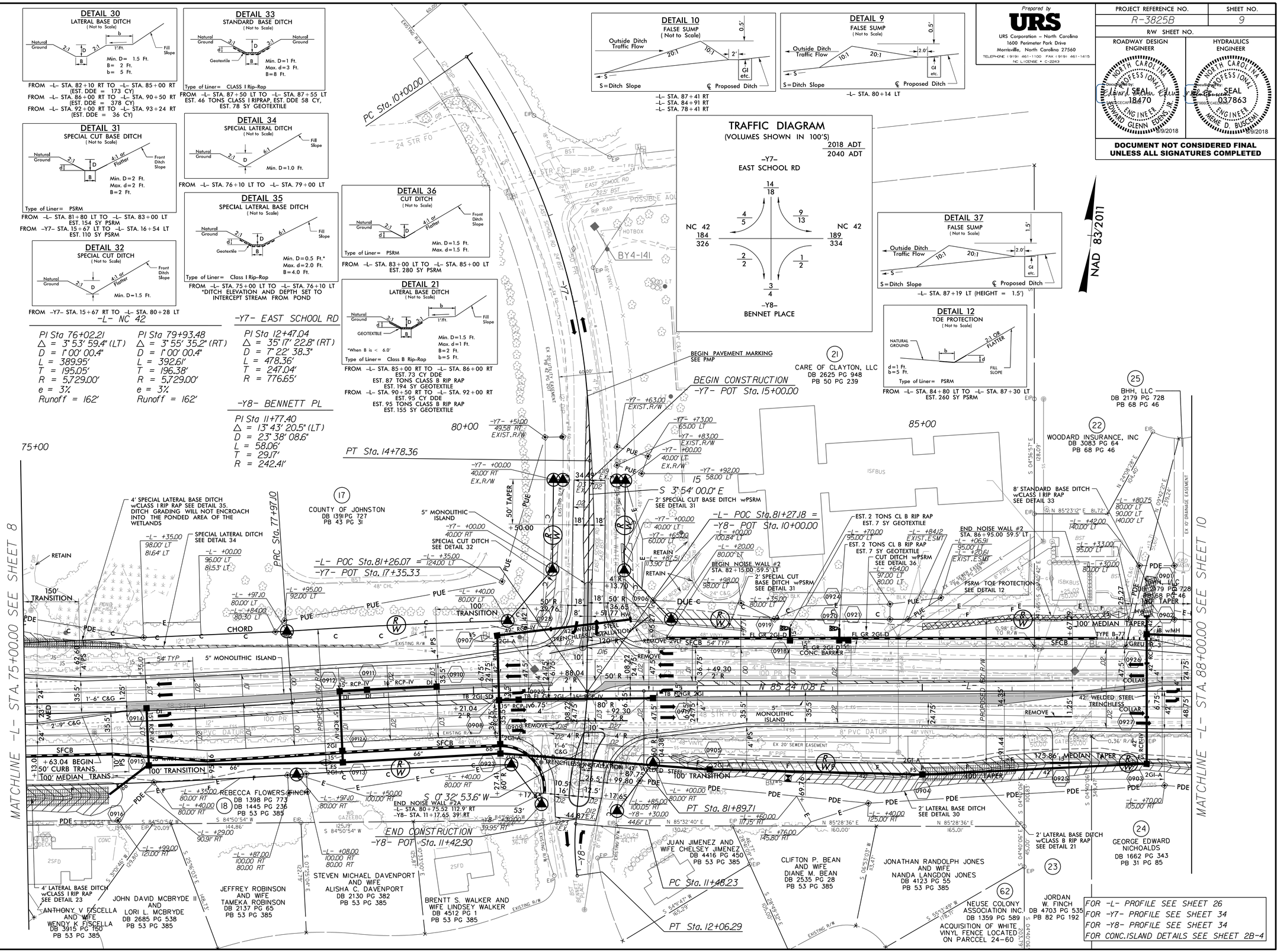
PI Sta 79+93.48
△ = 3° 55' 35.2" (RT)
D = 1° 00' 00.4"
L = 392.61'
T = 196.38'
R = 5,729.00'
e = 3%
Runoff = 162'

–Y7– EAST SCHOOL RD

PI Sta 12+47.04
△ = 35° 17' 22.8" (RT)
D = 7° 22' 38.3"
L = 478.36'
T = 247.04'
R = 776.65'

–Y8– BENNETT PL

PI Sta 11+77.40
△ = 13° 43' 20.5" (LT)
D = 23° 38' 08.6"
L = 58.06'
T = 29.17'
R = 242.41'



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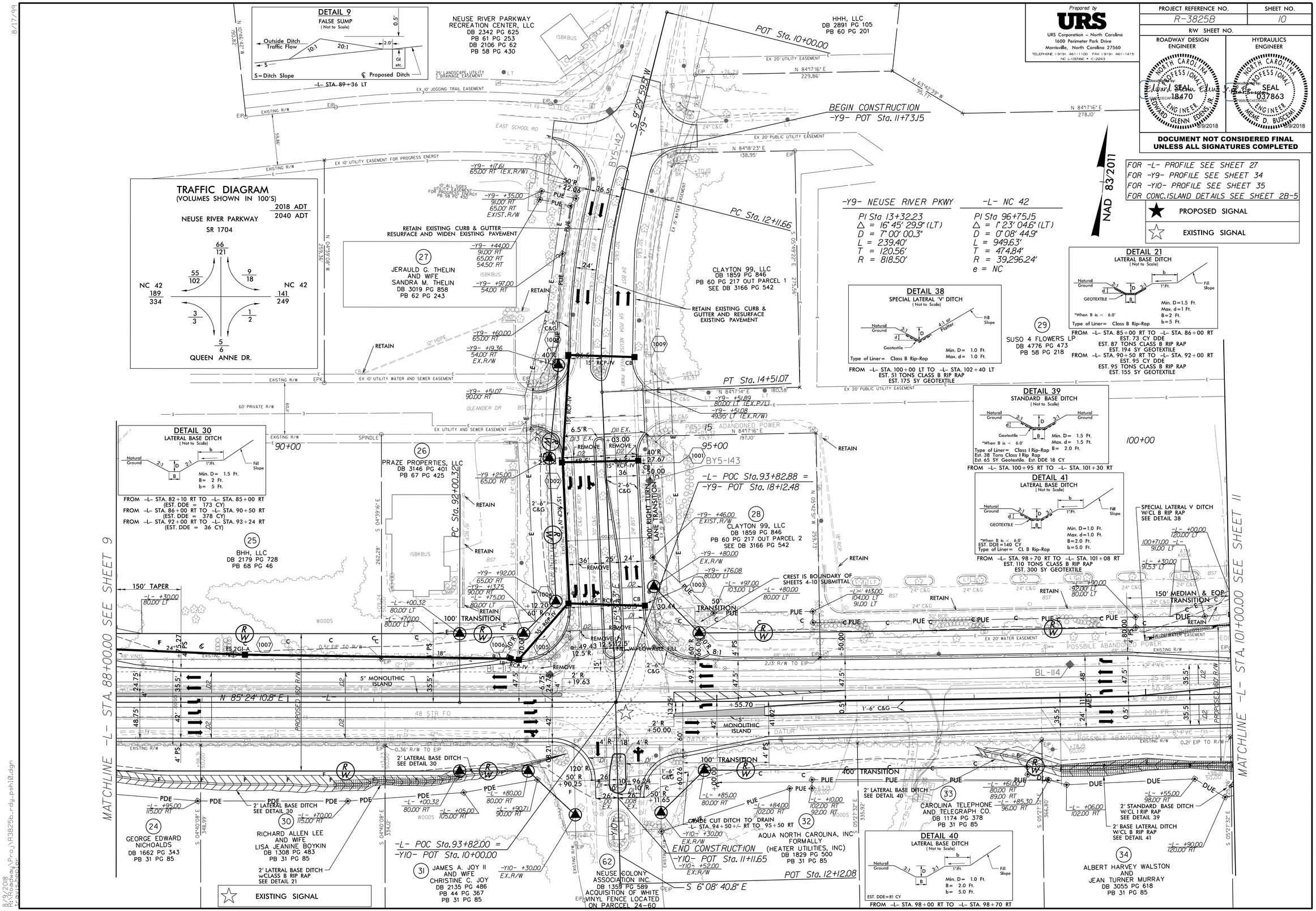

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PROJECT REFERENCE NO.	SHEET NO.
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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER RENE D. BUSCEMI
DocuSigned by: Rene Buscemi
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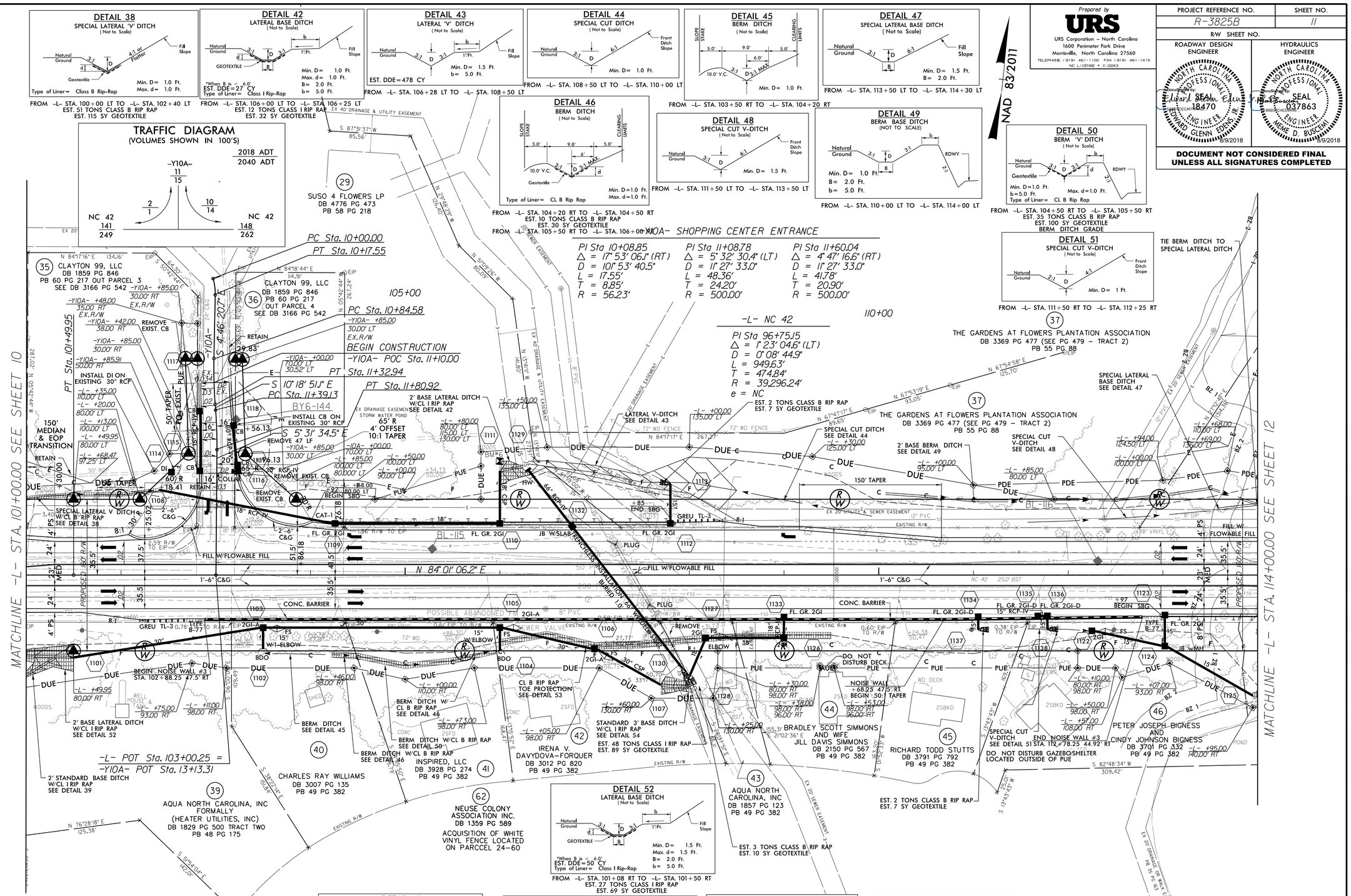

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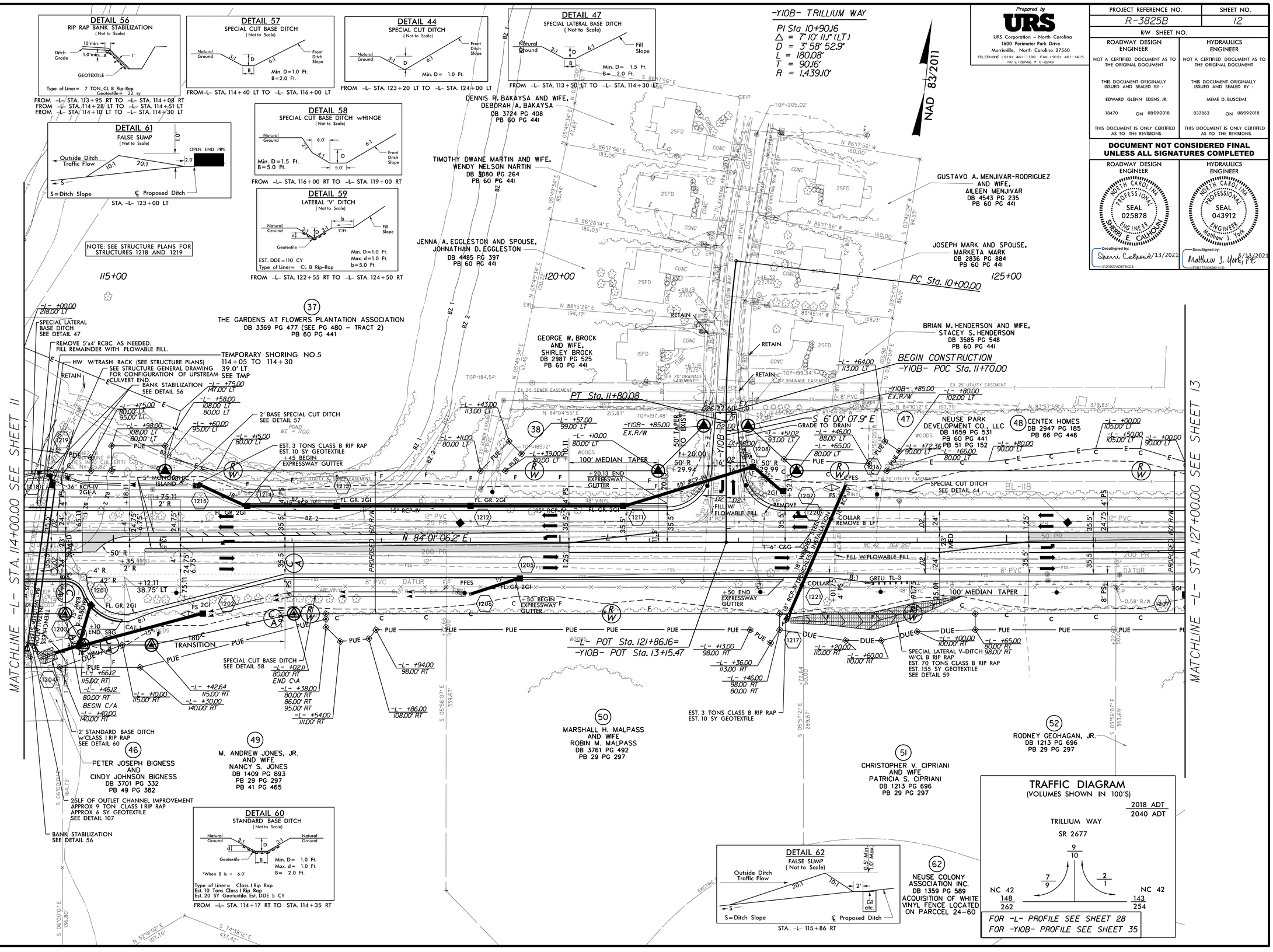
REVISIONS

05142021-CONSTRUCTION REVISION: EXTENDED GUARDRAIL FROM L STA 127+05 TO 123+41.75 RIGHT. FRONT DITCH SLOPE AND FILL SLOPE WERE ALSO STEEPENED IN THIS AREA. (HN)



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NORTH CAROLINA PROFESSIONAL SEAL 025878 ENGINEER SHERRI E. CALHOUN	NORTH CAROLINA PROFESSIONAL SEAL 043912 ENGINEER Matthew J. York
DocuSigned by: Sherri Calhoun 8/13/2021 4121927AD5764C3...	DocuSigned by: Matthew J. York, PE 8/13/2021 E0827B3069614170...

13-MAY-2021 09:47
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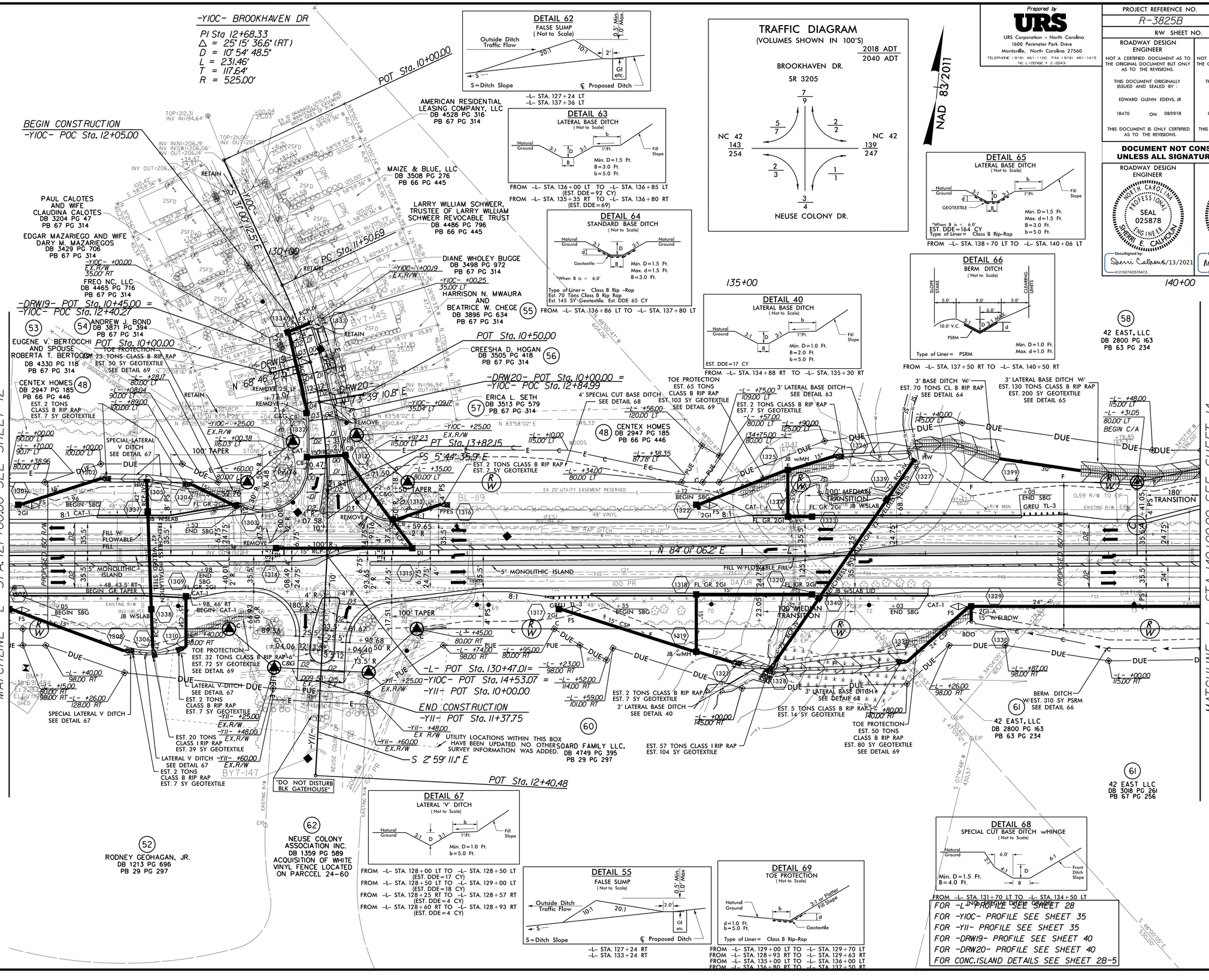

DETAIL 62
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow; 20:1; 10:1; 2'; 0.5' Min. 1.0' Max.; GI etc.; S = Ditch Slope; ℄ Proposed Ditch

–L– STA. 127+24 LT
–L– STA. 137+36 LT

DETAIL 63
LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; B; b; 1'Ft.; Fill Slope

Min. D = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

FROM –L– STA. 136+00 LT TO –L– STA. 136+85 LT (EST. DDE = 92 CY)
FROM –L– STA. 135+35 RT TO –L– STA. 136+80 RT (EST. DDE = 69)

DETAIL 64
STANDARD BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; B; Geotextile

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.

*When B is < 6.0'

Type of Liner = Class B Rip –Rap
Est. 70 Tons Class B Rip Rap
Est. 145 SY Geotextile. Est. DDE 65 CY

FROM –L– STA. 136+86 LT TO –L– STA. 137+80 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

2018 ADT / 2040 ADT

BROOKHAVEN DR.
SR 3205

NC 42: 143/254
NC 42: 139/247
NEUSE COLONY DR.: 7/9; 5/7; 2/2; 2/3; 1/1; 3/4

DETAIL 40
LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; B; b; 1'Ft.; Fill Slope

Min. D = 1.0 Ft.
B = 2.0 Ft.
b = 5.0 Ft.

EST. DDE = 17 CY

FROM –L– STA. 134+88 RT TO –L– STA. 135+30 RT

DETAIL 65
LATERAL BASE DITCH
(Not to Scale)

Natural Ground; 3:1; D; d; B; b; 1'Ft.; Fill Slope; GEOTEXTILE

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 3.0 Ft.
b = 5.0 Ft.

*When B is < 6.0'
EST. DDE = 164 CY
Type of Liner = Class B Rip–Rap

FROM –L– STA. 138+70 LT TO –L– STA. 140+06 LT

DETAIL 66
BERM DITCH
(Not to Scale)

SLOPE STAKE; CLEARING LIMITS; 5.0'; 9.0'; 5.0'; 6.0'; 3:1 MAX.; D; d; 10.0' V.C.; PSRM

Min. D = 1.0 Ft.
Max. d = 1.0 Ft.

Type of Liner = PSRM

FROM –L– STA. 137+50 RT TO –L– STA. 140+50 RT

DETAIL 67
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground; 3:1; D; b; 1'Ft.; Fill Slope

Min. D = 1.0 Ft.
b = 5.0 Ft.

FROM –L– STA. 128+00 LT TO –L– STA. 128+50 LT (EST. DDE = 17 CY)
FROM –L– STA. 128+50 LT TO –L– STA. 129+00 LT (EST. DDE = 18 CY)
FROM –L– STA. 128+25 RT TO –L– STA. 128+57 RT (EST. DDE = 4 CY)
FROM –L– STA. 128+60 RT TO –L– STA. 128+93 RT (EST. DDE = 4 CY)

DETAIL 55
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow; 10:1; 20:1; 2.0'; 0.5' Min. 1.0' Max; GI etc.; S = Ditch Slope; ℄ Proposed Ditch

–L– STA. 127+24 RT
–L– STA. 133+24 RT

DETAIL 69
TOE PROTECTION
(Not to Scale)

Natural Ground; b; d; 3:1 or Flatter Fill Slope; Geotextile

d = 1.0 Ft.
b = 5.0 Ft.

Type of Liner = Class B Rip–Rap

FROM –L– STA. 129+00 LT TO –L– STA. 129+70 LT
FROM –L– STA. 128+93 RT TO –L– STA. 129+63 RT
FROM –L– STA. 135+00 LT TO –L– STA. 136+00 LT
FROM –L– STA. 136+80 RT TO –L– STA. 137+50 RT

DETAIL 68
SPECIAL CUT BASE DITCH w/HINGE
(Not to Scale)

Natural Ground; 3:1; 6.0'; 4:1; D; B; 6:1; Front Ditch Slope

Min. D = 1.5 Ft.
B = 4.0 Ft.

FROM –L– STA. 131+70 LT TO –L– STA. 134+50 LT

FOR -L- PROFILE SEE SHEET 28
FOR -Y10C- PROFILE SEE SHEET 35
FOR -Y11- PROFILE SEE SHEET 35
FOR -DRW19- PROFILE SEE SHEET 40
FOR -DRW20- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-5

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18470 ON 080918	037863 ON 080918
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NORTH CAROLINA PROFESSIONAL SEAL 025878 ENGINEER SHERRI E. CALHOUN	NORTH CAROLINA PROFESSIONAL SEAL 043912 ENGINEER Matthew J. York
DocuSigned by: Sherri Calhoun 5/13/2021 4121927AD5764C3...	DocuSigned by: Matthew J. York, PE 5/13/2021 E0B27B30696141D...

REVISIONS

ROW REVISION – ADDED TCE PUE AND ROW TO PARCEL 62. ADDED 'DO NOT DISTURB BLK GATEHOUSE' NOTE ADDED NOTE 'UTILITY LOCATIONS WITHIN THIS BOX HAVE BEEN UPDATED. NO OTHER SURVEY INFORMATION WAS ADDED. (HN)
05142021-NO CHANGE TO SUPERELEVATION WAS ADDED. (HN)
05142021-CONSTRUCTION REVISION:-MODIFIED GUARDRAIL AND SHOULDER BERM GUTTER TO HAVE A 50' TAPER FROM –L– STATION 128+48 TO 128+98 RIGHT. (HN)

8/17/99

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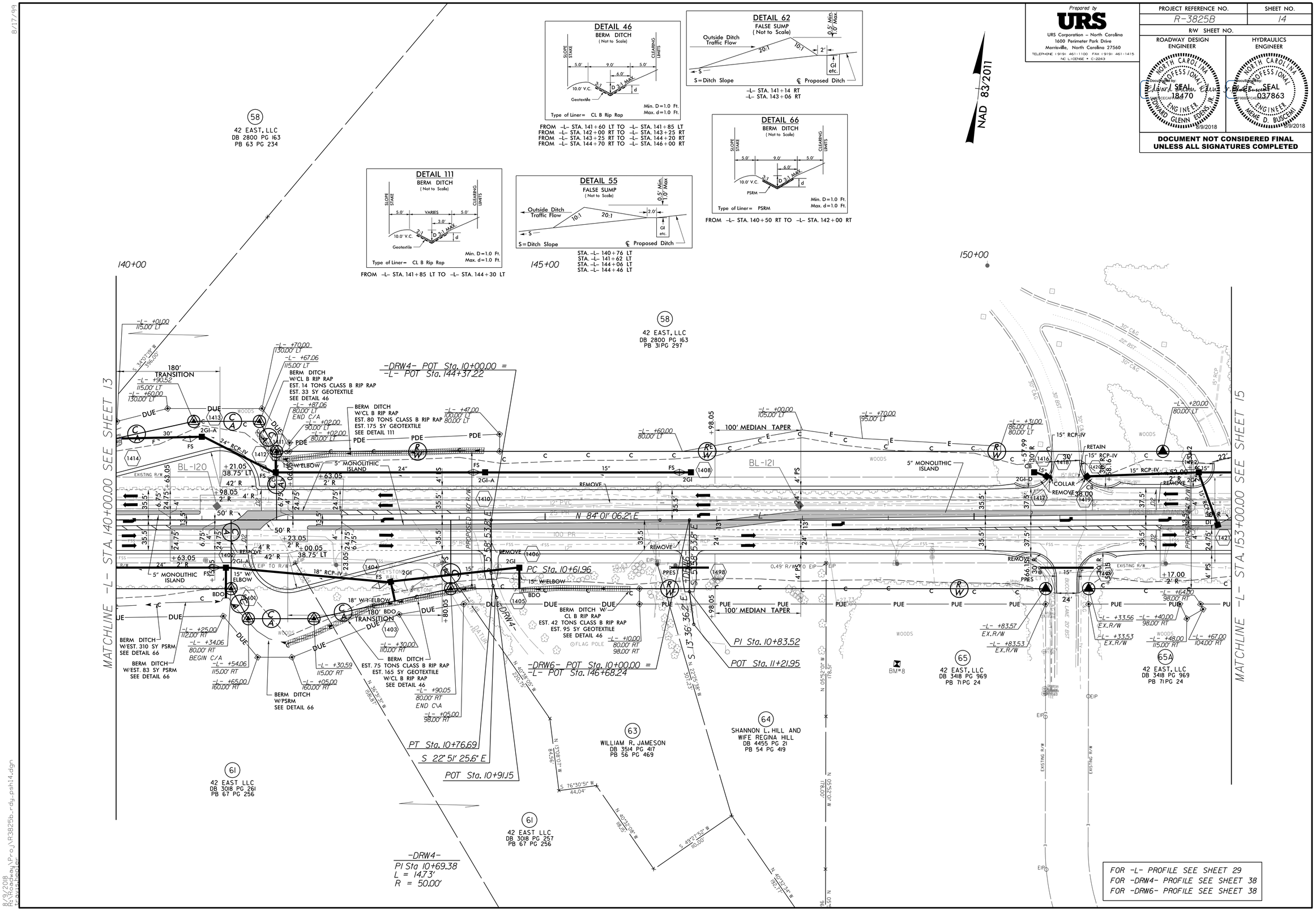

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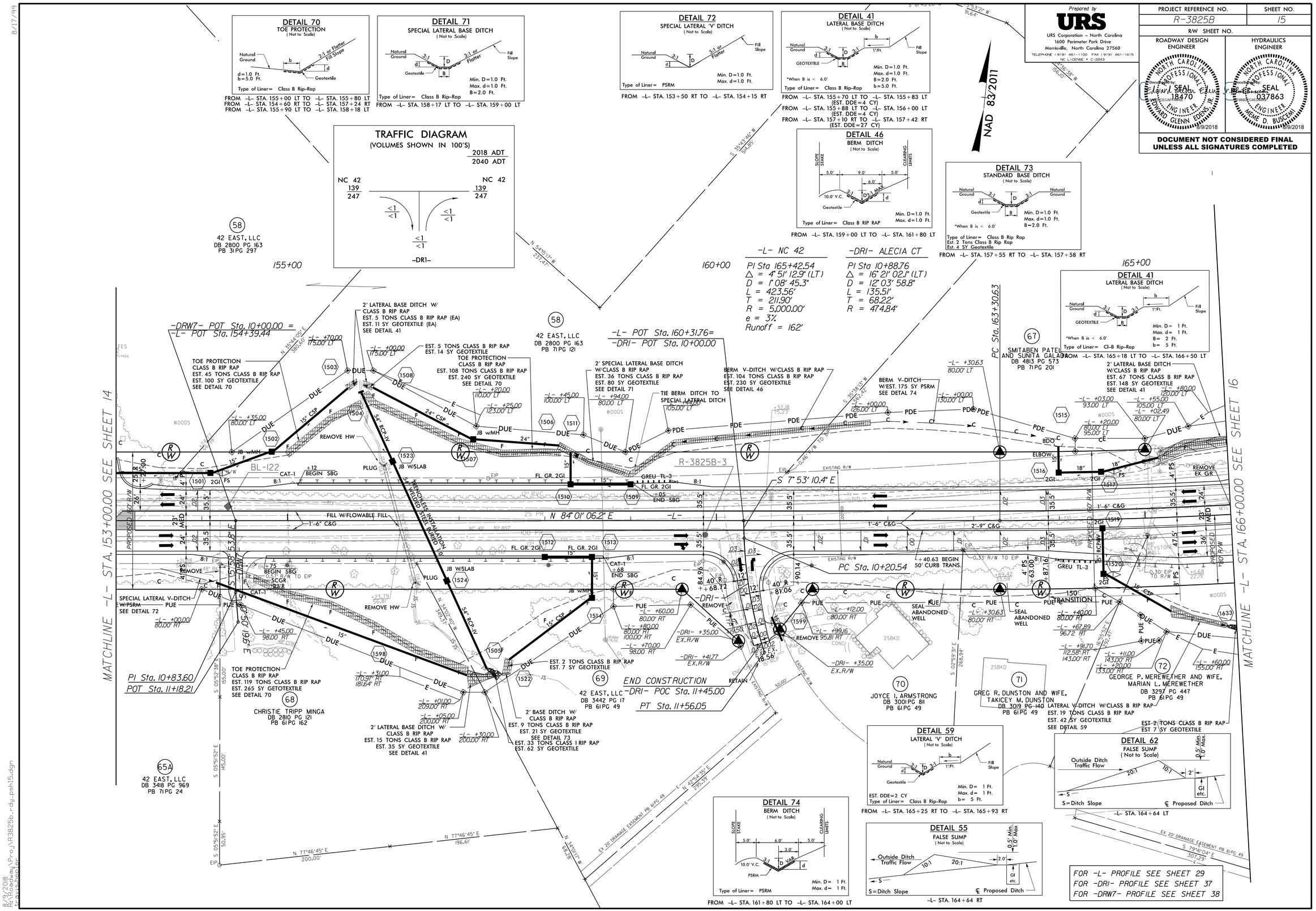

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R-3825B	15
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DocuSigned by: Renee D. Buscemi
SEAL 037863
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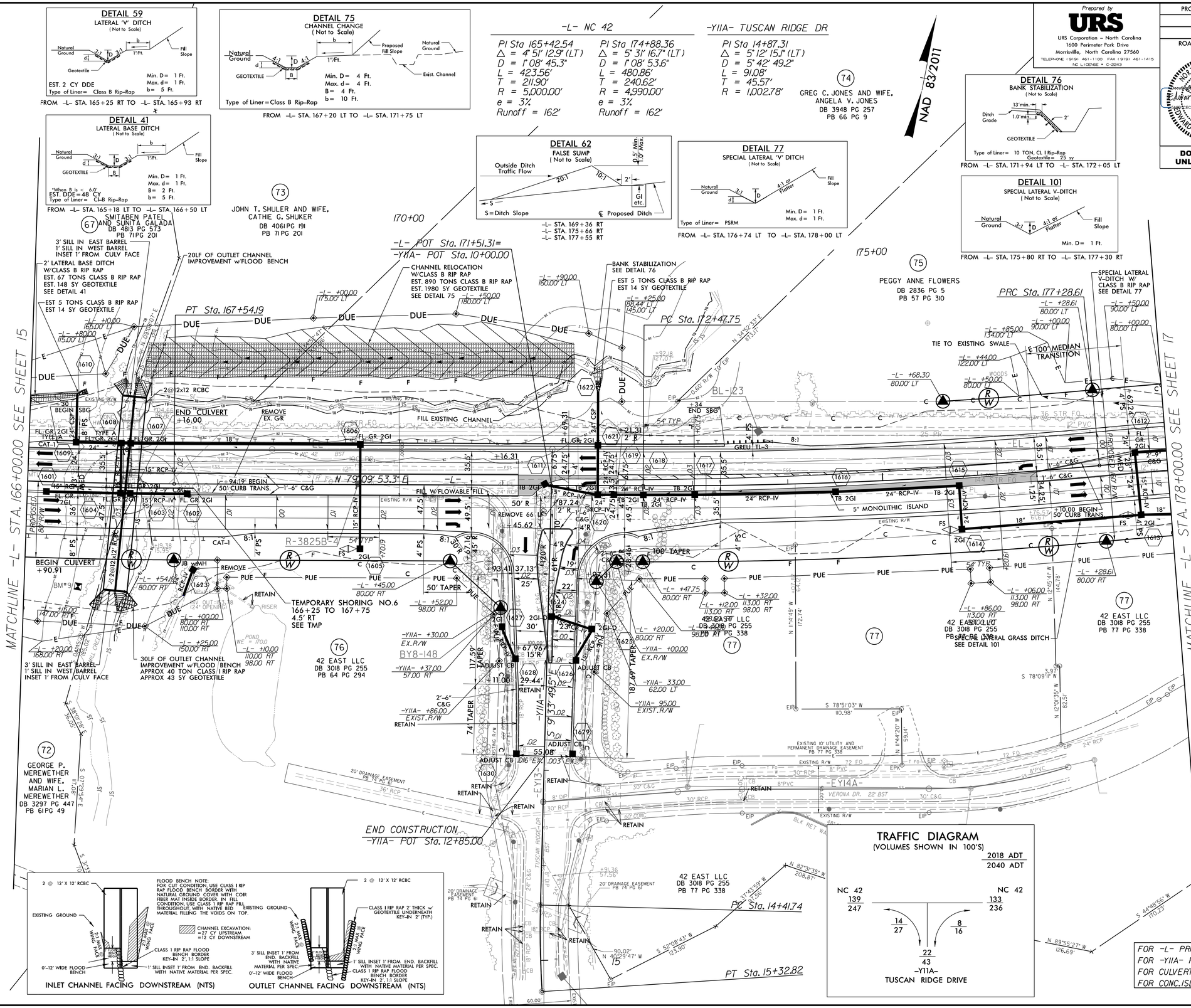

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DocuSigned by: Heme D. Buscemi — SEAL 037863 — NORTH CAROLINA PROFESSIONAL ENGINEER — HEME D. BUSCEMI — 8/9/2018

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ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDDINS JR.
DocuSigned by: Edward Glenn Eddins Jr. 8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER RENE D. BUSCEMI
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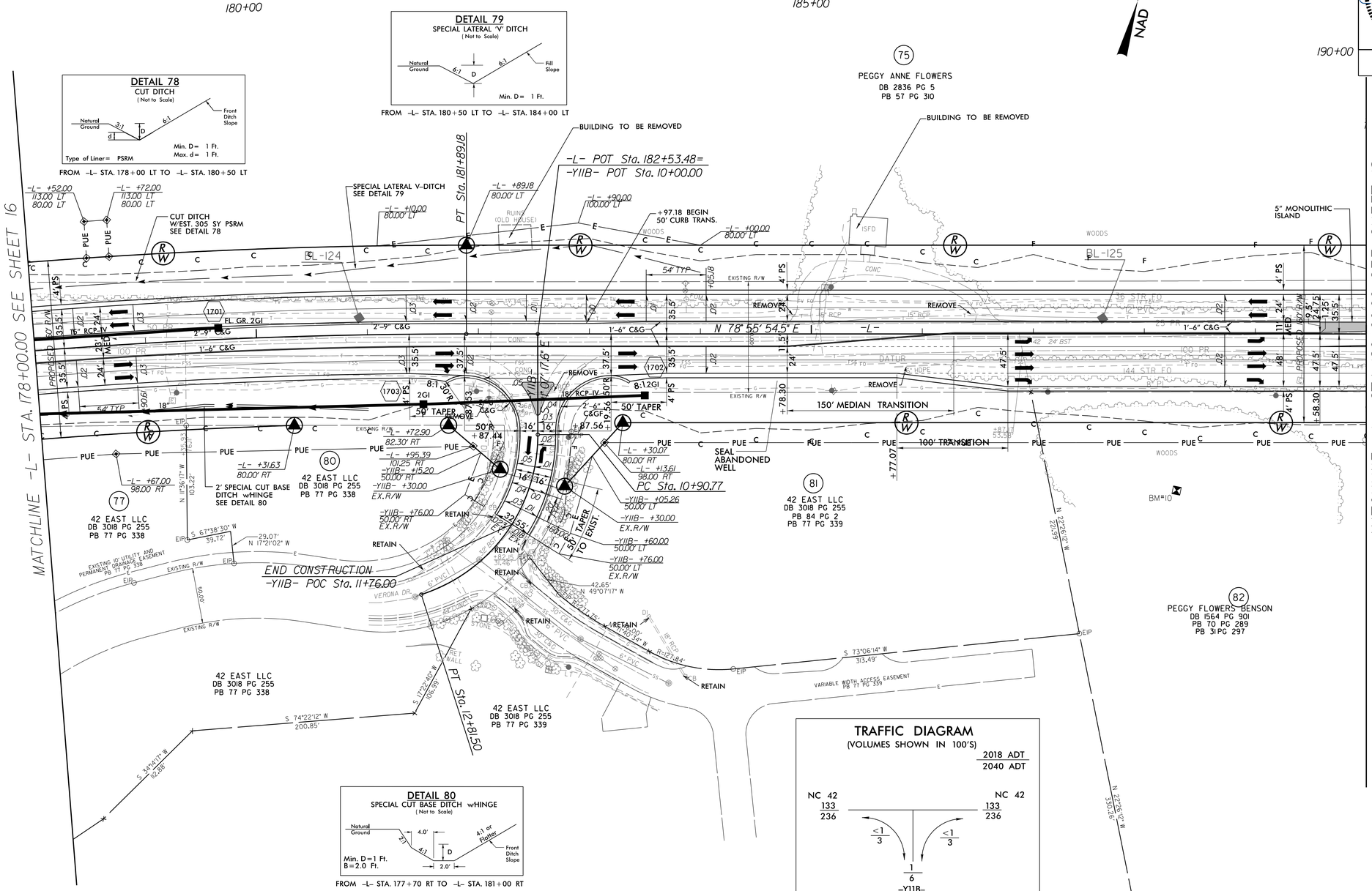
NAD 83/2011

-L- NC 42
PI Sta 179+59.06
△ = 5° 17' 17.9" (RT)
D = 1° 08' 53.6"
L = 460.57'
T = 230.45'
R = 4,990.00'
e = 3%
Runoff = 162'

-Y11B- VERONA DR
PI Sta 12+01.17
△ = 72° 15' 26.8" (RT)
D = 37° 53' 05.4"
L = 190.73'
T = 110.40'
R = 151.24'



DETAIL 80
SPECIAL CUT BASE DITCH wHINGE
(Not to Scale)
Natural Ground
4:1 or Flatter
Front Ditch Slope
Min. D = 1 Ft.
B = 2.0 Ft.
FROM -L- STA. 177+70 RT TO -L- STA. 181+00 RT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

	2018 ADT / 2040 ADT
NC 42	133 / 236
NC 42	133 / 236
-Y11B- VERONA DRIVE	1 / 6
≤	1 / 3
≤	1 / 3

FOR -L- PROFILE SEE SHEET 30
FOR -Y11B- PROFILE SEE SHEET 35
FOR CONC.ISLAND DETAILS SEE SHEET 2B-5

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NORTH CAROLINA PROFESSIONAL SEAL 024641 ENGINEER TATIA L. WHITE	NORTH CAROLINA PROFESSIONAL SEAL 043912 ENGINEER Matthew J. York
DocuSigned by: Tatia L. White 59CECEBF9E1472... 1/7/2021	DocuSigned by: Matthew J. York, P.E. E0827B3006614ID... 1/6/2021

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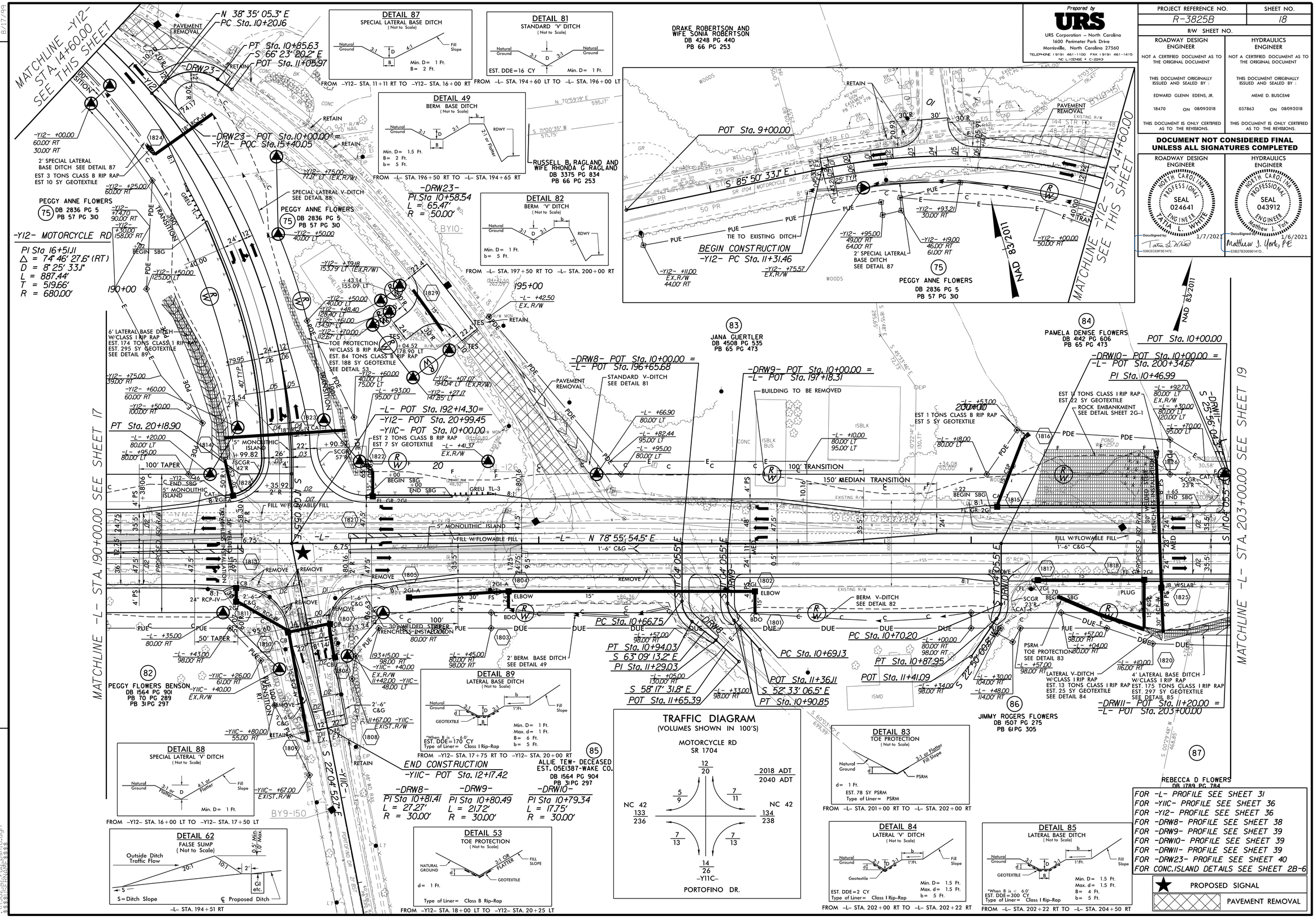
REVISIONS
02/19/2020 – CONSTRUCTION REVISION: REVISED LANE CONFIGURATION AND DRAINAGE TO INCLUDE A RIGHT TURN LANE ON –Y11C–. REMOVED MEDIAN STRIPING ON –Y12– TO CONTINUE SOUTHBOUND THROUGH LANE HN
01/08/2021–CONSTRUCTION REVISION: EXTENDED FULL WIDTH RIGHT TURN LANE AND CHANGED BERM TO 6' FROM –Y11C– STA 11+17.42 TO 12+17.42 LEFT. MODIFIED ADJACENT DRAINAGE.(HN)



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NORTH CAROLINA PROFESSIONAL ENGINEER EDWARD GLENN EDENS, JR.
8/9/2018

HYDRAULICS ENGINEER
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SEAL 037863
NORTH CAROLINA PROFESSIONAL ENGINEER RENEE D. BUSCEMI
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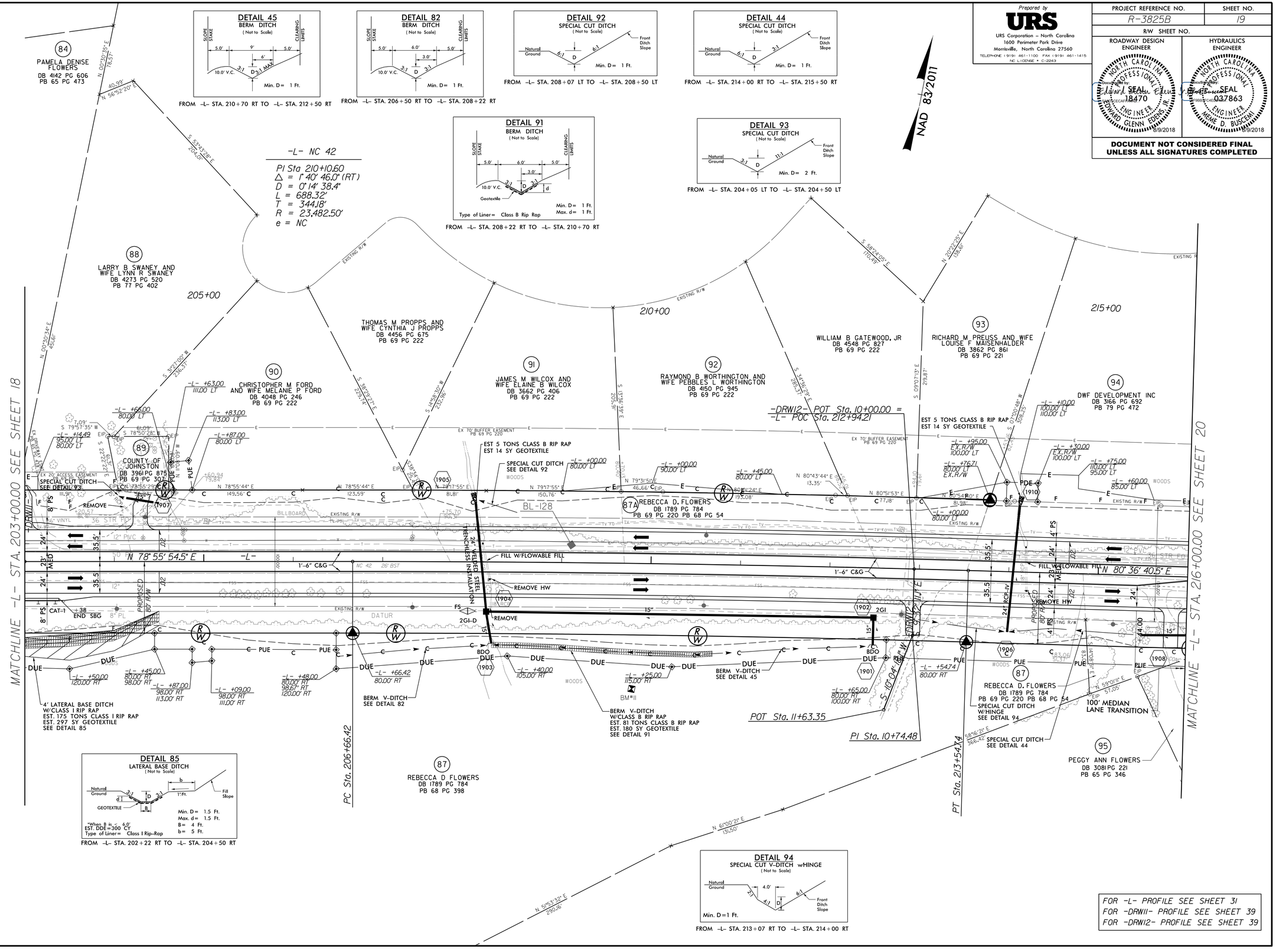

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8/17/99

REVISIONS

1 – ROW, PUE, PDE, AND EASEMENTS UPDATED ON PARCEL 100 FROM STA. 218+77 TO 244+77 (10/12/2018) TLH
10/16/2019 – CONSTRUCTION REVISION: ADDED A RIGHT TURN FROM –L– STATION 224+35.00 TO 229+08.67 RIGHT AND REMOVED –DRW13– AT –L– STA. 228+86.87 TO 229+52.33. HYDRAULICS WAS ALSO REVISED IN THESE AREAS. HN
08/17/2020 – CONSTRUCTION REVISION: ADDED AN EXCLUSIVE LEFT TURN LANE TO –DRW27– AND –Y12A–, WIDENED THE INGRESS RADIUS FOR THE DRIVEWAY AT –L– STATION 227+84, REVISED THE BERM AND SLOPES FROM –L– STA. 224+00 TO 227+50 RT. TO TIE TO THE DEVELOPER'S GRADING PLAN, AND ADDED GRADING DETAIL #2001. THE ASSOCIATED DRAINAGE WAS UPDATED. HN

DETAIL 95
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)

Min. D = 1 Ft.

FROM –L– STA. 222+27 LT TO –L– STA. 228+00 LT

DETAIL 96
LATERAL BASE DITCH
(Not to Scale)

*When B is < 6.0'
EST. DDE=115 CY
Type of Liner= Class B Rip-Rap

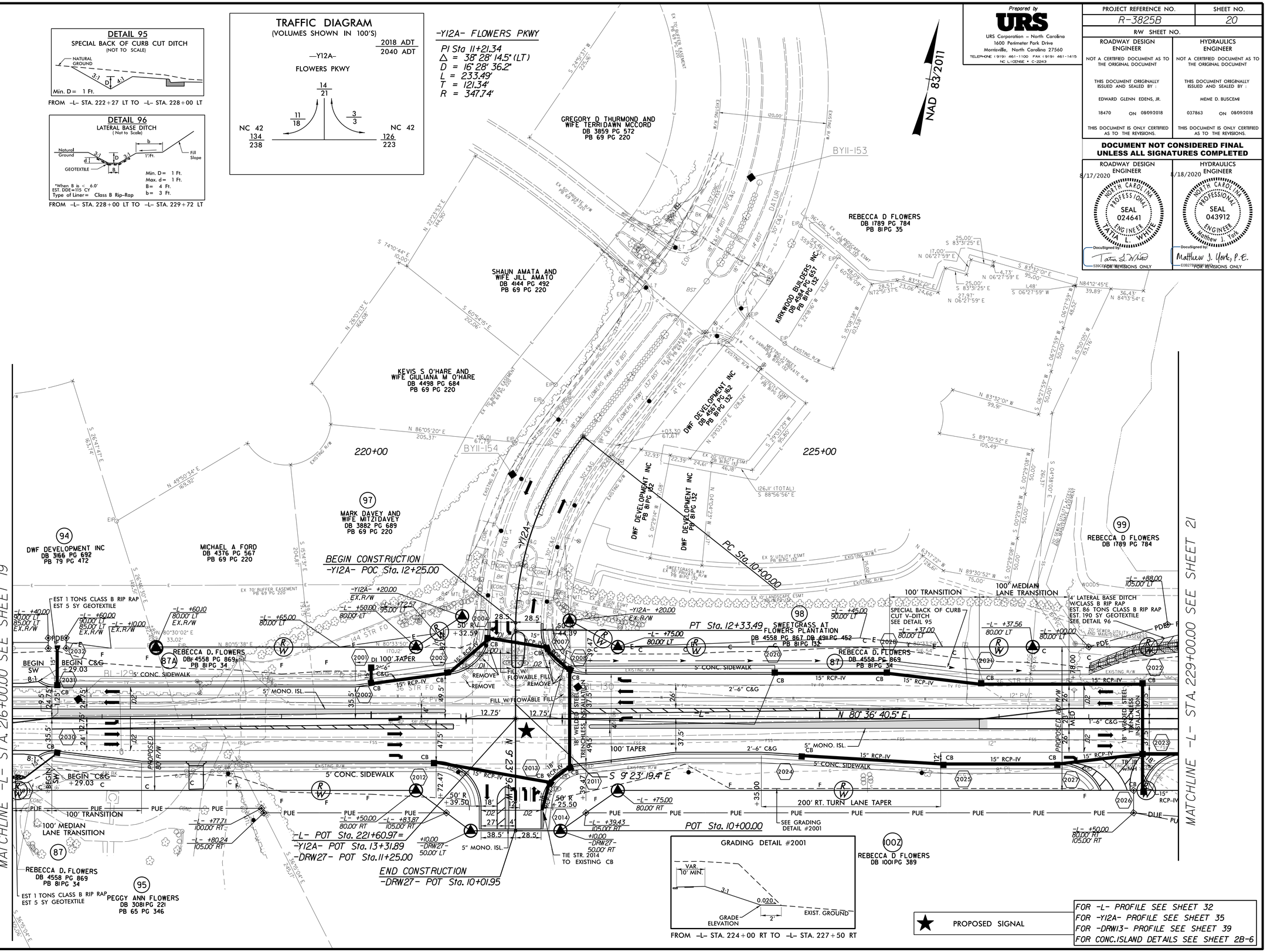
Min. D = 1 Ft.
Max. d = 1 Ft.
B = 4 Ft.
b = 3 Ft.

FROM –L– STA. 228+00 LT TO –L– STA. 229+72 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

–Y12A– FLOWERS PKWY

PI Sta 11+21.34
Δ = 38° 28' 14.5" (LT)
D = 16° 28' 36.2"
L = 233.49'
T = 121.34'
R = 347.74'



GRADING DETAIL #2001

FROM –L– STA. 224+00 RT TO –L– STA. 227+50 RT

★ PROPOSED SIGNAL

FOR –L– PROFILE SEE SHEET 32
FOR –Y12A– PROFILE SEE SHEET 35
FOR –DRW13– PROFILE SEE SHEET 39
FOR CONC.ISLAND DETAILS SEE SHEET 2B-6

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	20
R/W SHEET NO.	

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THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY : EDWARD GLENN EDENS, JR. 18470 ON 08/09/2018	THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY : MEME 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.

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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
8/17/2020	8/18/2020
NORTH CAROLINA PROFESSIONAL SEAL 024641 ENGINEER TATIA L. WHITE	NORTH CAROLINA PROFESSIONAL SEAL 043912 ENGINEER Matthew J. York
DocuSigned by: Tatia L. White 539CE8F7B9C8F...	DocuSigned by: Matthew J. York, P.E. E0B27B9D0F9E4...
FOR REVISIONS ONLY	FOR REVISIONS ONLY

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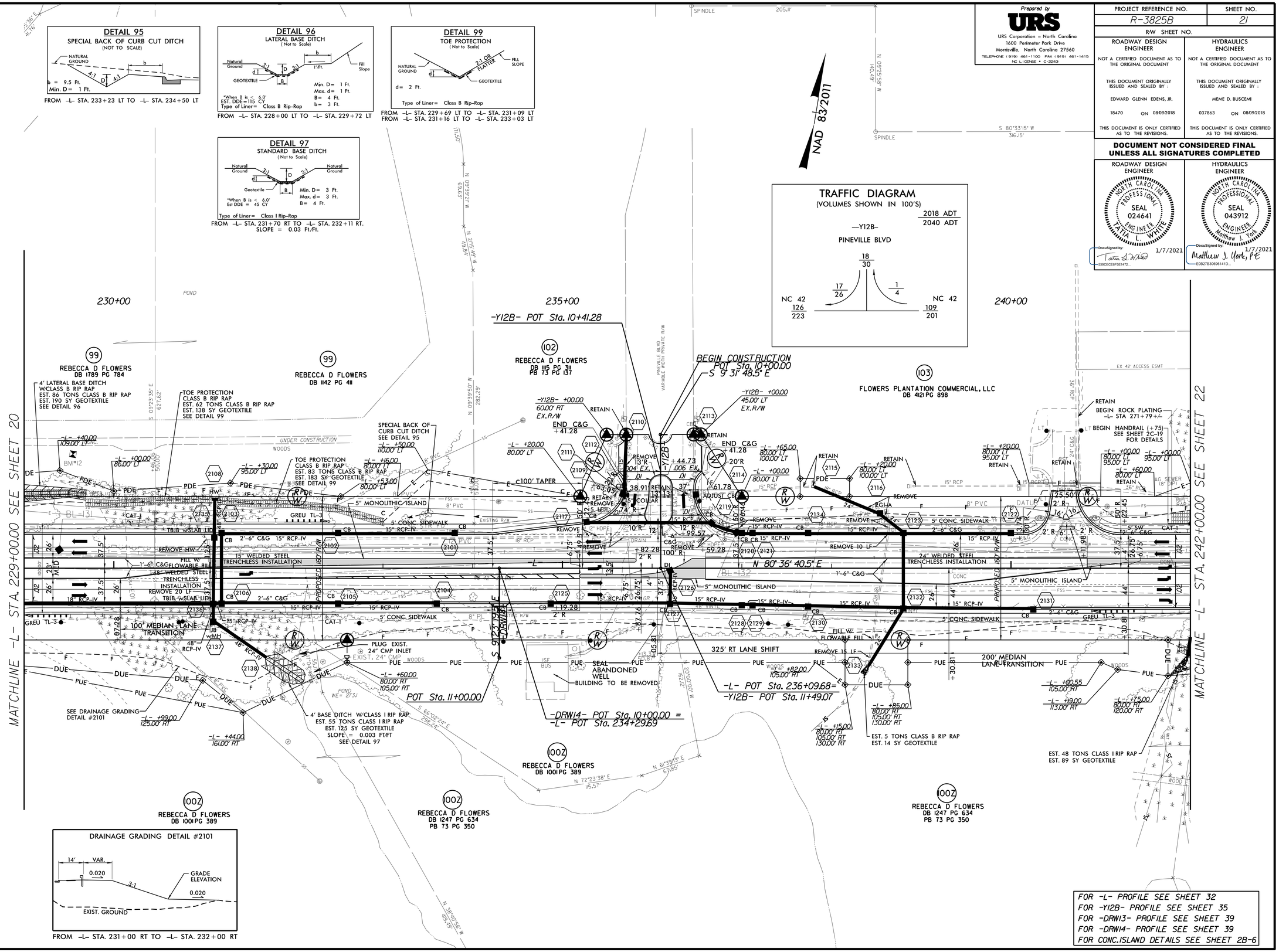
REVISIONS

1 – ROW, PUE, PDE, AND EASEMENTS UPDATED ON PARCEL 100 FROM STA. 218+77 TO 244+77 (10/12/2018) TLH
10/16/2019 – CONSTRUCTION REVISION: REMOVED –DRW13– AT –L– STA. 228+86.87 TO 229+52.33 RIGHT. HYDRAULICS PIPE AND DITCH WAS REVISED FOR –DRW13– REMOVAL. HN
08/17/2020 – CONSTRUCTION REVISION: REVISED THE BERM WIDTH, SLOPES AND DRAINAGE TO TIE TO THE DEVELOPER'S SITE PLAN FROM –L– STA. 229+00 TO 233+00; AND ADDED A DRAINAGE GRADING DETAIL #2101. HN
01/08/2021 – CONSTRUCTION REVISION: ADJUSTED GUARDRAIL. WIDENED BERM AND ADDED HANDRAIL. STEEPENED SLOPE AND ADDED ROCK PLATING. –L– STA. 241+75 TO 242+00 LT. (HN)

8/17/99



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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	21
R/W SHEET NO.	

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NORTH CAROLINA PROFESSIONAL SEAL 024641 ENGINEER TATIA L. WHITE	NORTH CAROLINA PROFESSIONAL SEAL 043912 ENGINEER Matthew J. York
DocuSigned by: Tatia L. White 539CECEEF5E1472... 1/7/2021	DocuSigned by: Matthew J. York, P.E. E0B27B306961410... 1/7/2021

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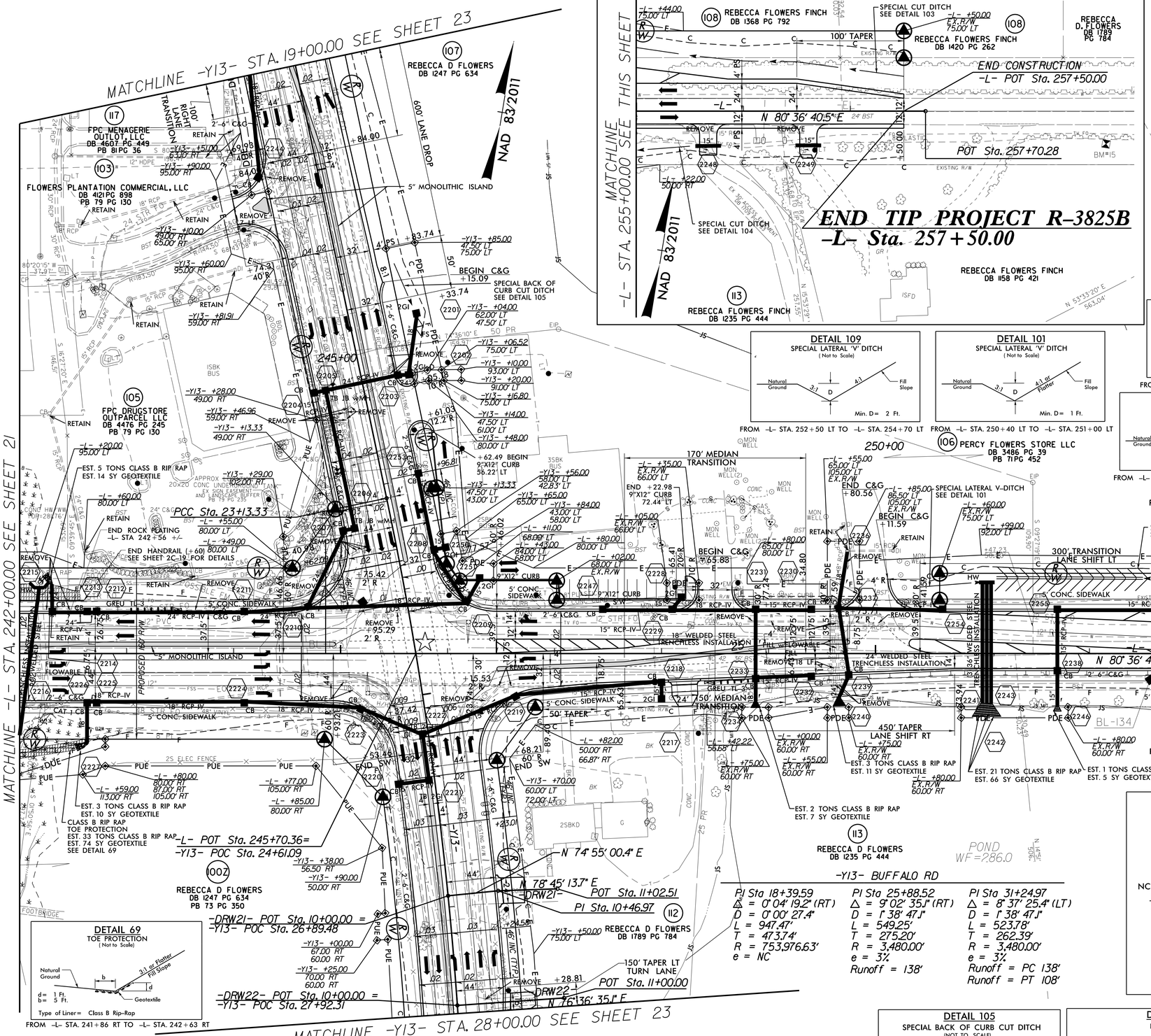
REVISIONS

1 – ROW, PUE, PDE, AND EASEMENTS UPDATED ON PARCEL 100 FROM STA. 218+77 TO 244+77 (10/12/2018) TLH
2 – TCE ADDED TO PARCEL 105 FROM –Y13– STA. 20+81.91 TO 22+46.96, 59' RT (11/12/2019) HN
01/08/2021–CONSTRUCTION REVISION: WIDENED BERM AND ADDED HANDRAIL. STEEPENED SLOPE AND ADDED ROCK PLATING. ADJUSTED GUARDRAIL AND DRAINAGE. –L– STA. 242+00 TO 242+60.00 LT (HN)



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R-3825B	22
R/W SHEET NO.	

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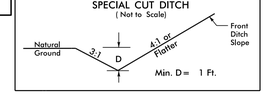
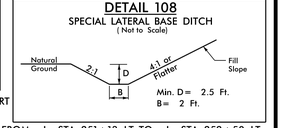
DETAIL 104
SPECIAL CUT DITCH
(Not to Scale)



FROM –L– STA. 254+25 RT TO –L– STA. 255+50 RT

DETAIL 108
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM –L– STA. 251+13 LT TO –L– STA. 252+50 LT

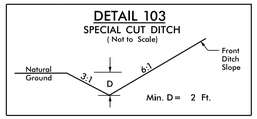
DETAIL 109
SPECIAL LATERAL "V" DITCH
(Not to Scale)

FROM –L– STA. 252+50 LT TO –L– STA. 254+70 LT

DETAIL 101
SPECIAL LATERAL "V" DITCH
(Not to Scale)

FROM –L– STA. 250+40 LT TO –L– STA. 251+00 LT

DETAIL 103
SPECIAL CUT DITCH
(Not to Scale)

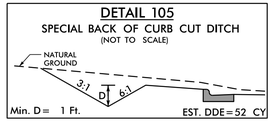


FROM –L– STA. 254+70 LT TO –L– STA. 257+50 LT

DETAIL 69
TOE PROTECTION
(Not to Scale)

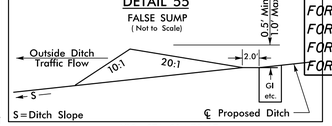
FROM –L– STA. 241+86 RT TO –L– STA. 242+63 RT

DETAIL 105
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



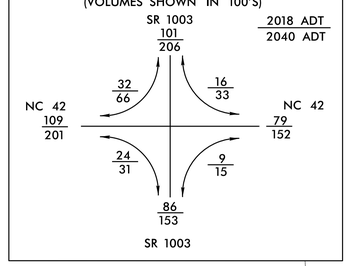
FROM –Y13– STA. 21+00 LT TO –Y13– STA. 21+50 LT

DETAIL 55
FALSE SUMP
(Not to Scale)



–Y13– STA. 21+72 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)



FOR -L- PROFILE SEE SHEET 33
FOR -Y13- PROFILE SEE SHEET 36
FOR -DRW21- PROFILE SEE SHEET 40
FOR -DRW22- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-6

☆ EXISTING SIGNAL (SIGNAL MOD. REQUIRED)

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
DocuSigned by: Edward Glenn Edens Jr. 8/9/2018

NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER REMME D. BUSCEMI
DocuSigned by: 8/9/2018

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-Y13- BUFFALO RD

PI Sta 11+82.97
△ = 3° 02' 15.7" (RT)
D = 0° 49' 49.1"
L = 365.85'
T = 182.97'
R = 6,900.57'

PI Sta 18+39.59
△ = 0° 04' 19.2" (RT)
D = 0° 00' 27.4"
L = 947.47'
T = 473.74'
R = 753,976.63'
e = NC

NAD 83/2011

-Y13- BUFFALO RD

PI Sta 31+24.97
△ = 8° 37' 25.4" (LT)
D = 1° 38' 47.1"
L = 523.78'
T = 262.39'
R = 3,480.00'
e = 3%
Runoff = PC 138'
Runoff = PT 108'

PI Sta 36+48.41
△ = 4° 54' 58.8" (LT)
D = 1° 43' 03.0"
L = 286.25'
T = 143.21'
R = 3,336.00'
e = 3% / MATCH EXIST.
Runoff = 108'

BEGIN CONSTRUCTION
-Y13- POC Sta. 14+83.74

END CONSTRUCTION
-Y13- POC Sta. 35+70.00

MATCHLINE -Y13- STA. 19+00.00 SEE SHEET 22

MATCHLINE -Y13- STA. 28+00.00 SEE SHEET 22

107 REBECCA D FLOWERS DB 1247 PG 634

113 REBECCA D FLOWERS DB 1235 PG 444

113 REBECCA D FLOWERS DB 1789 PG 784

112 REBECCA D FLOWERS DB 1789 PG 784

100 REBECCA D FLOWERS DB 1247 PG 634

116 FPC PHASE 1 LLC DB 4377 PG 511 PB 79 PG 21

103 FLOWERS PLANTATION COMMERCIAL, LLC DB 4121 PG 898 PB 79 PG 130

117 FPC MENAGERIE OUTLOT, LLC DB 4607 PG 449 PB 81 PG 36

600' LANE DROP

RETAIN EX. ISLAND IN DRIVE

100' MEDIAN LANE TRANSITION

150' RT EOP TAPER

5" MONOLITHIC ISLAND

100' RIGHT LANE TRANSITION

150' TRANSITION LT TURN LANE

200' TRANSITION LANE SHIFT RT & LT

SPECIAL ROADWAY DITCH SEE DETAIL 106

SPECIAL LATERAL V-DITCH SEE DETAIL 101

SPECIAL ROADWAY DITCH SEE DETAIL 107

EST. 2 TONS CLASS B RIP RAP
EST. 7 SY GEOTEXTILE

150' TRANSITION

TIE BACK TO EXISTING DITCH

PT Sta. 33+86.36

PC Sta. 35+05.20

PRC Sta. 28+62.58

PCC Sta. 13+65.85

DETAIL 106
SPECIAL ROADWAY DITCH
(Not to Scale)

Natural Ground, 3:1, 4:1, Shoulder Point, 3.0', VARIES

FROM -Y13- STA. 29+00 RT TO -Y13- STA. 29+50 RT
FROM -Y13- STA. 30+50 RT TO -Y13- STA. 34+00 RT
FROM -Y13- STA. 28+15 LT TO -Y13- STA. 29+00 LT

DETAIL 107
SPECIAL ROADWAY DITCH
(Not to Scale)

Natural Ground, 3:1, 4:1, Shoulder Point, VARIES, 4.0'

FROM -Y13- STA. 31+50 LT TO -Y13- STA. 32+00 LT

DETAIL 101
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Fill Slope

Min. D = 1 Ft.

FROM -Y13- STA. 29+50 RT TO -Y13- STA. 30+50 RT
FROM -Y13- STA. 34+00 RT TO -Y13- STA. 36+96 RT
FROM -Y13- STA. 29+00 LT TO -Y13- STA. 29+25 LT
FROM -Y13- STA. 32+00 LT TO -Y13- STA. 33+16 LT

FOR -Y13- PROFILE SEE SHEET 37

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	24

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
DocuSigned by: Edward Glenn Edens, Jr. 3/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
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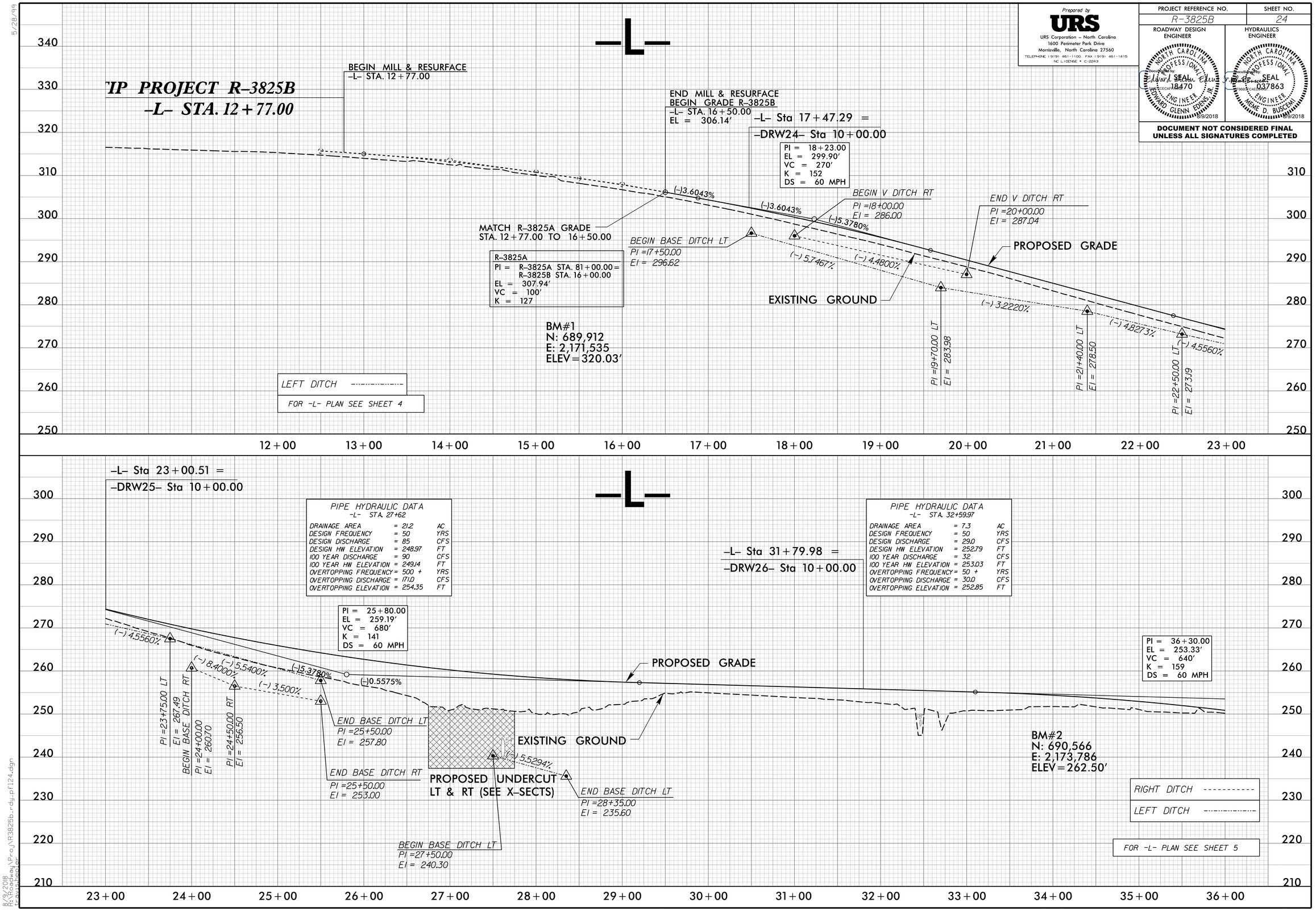

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R-3825B	25

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NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
DocuSigned by: Meme Buscemi
5/8/2018

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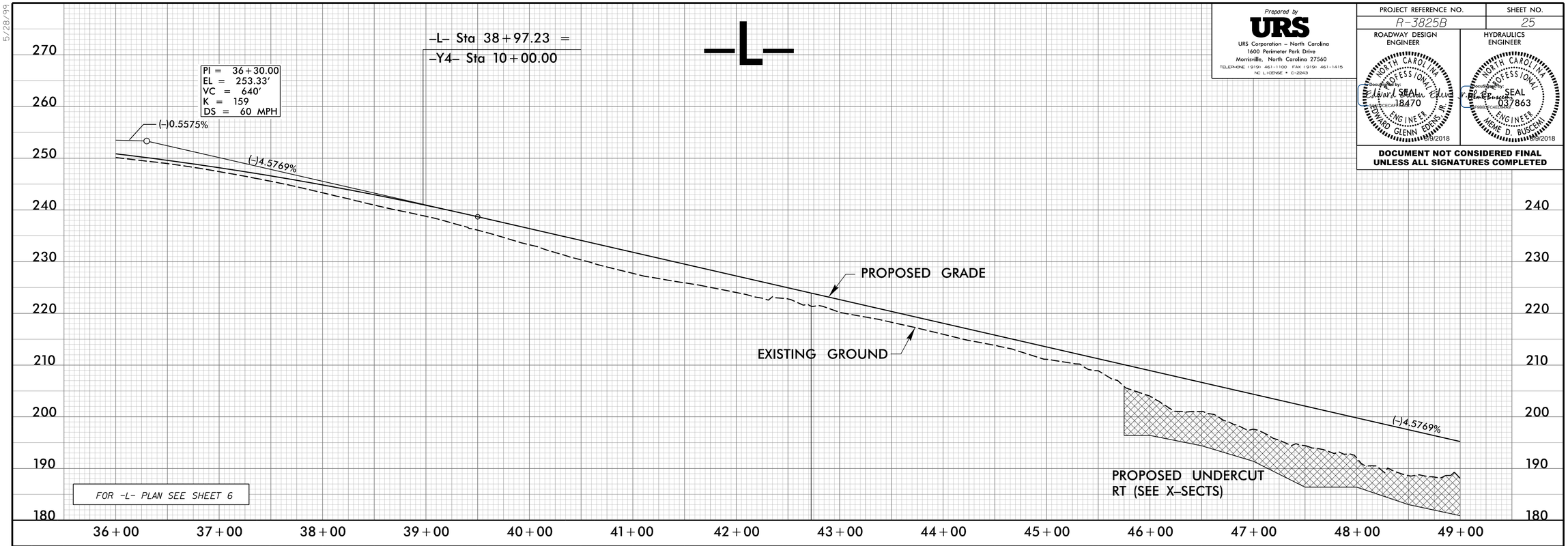

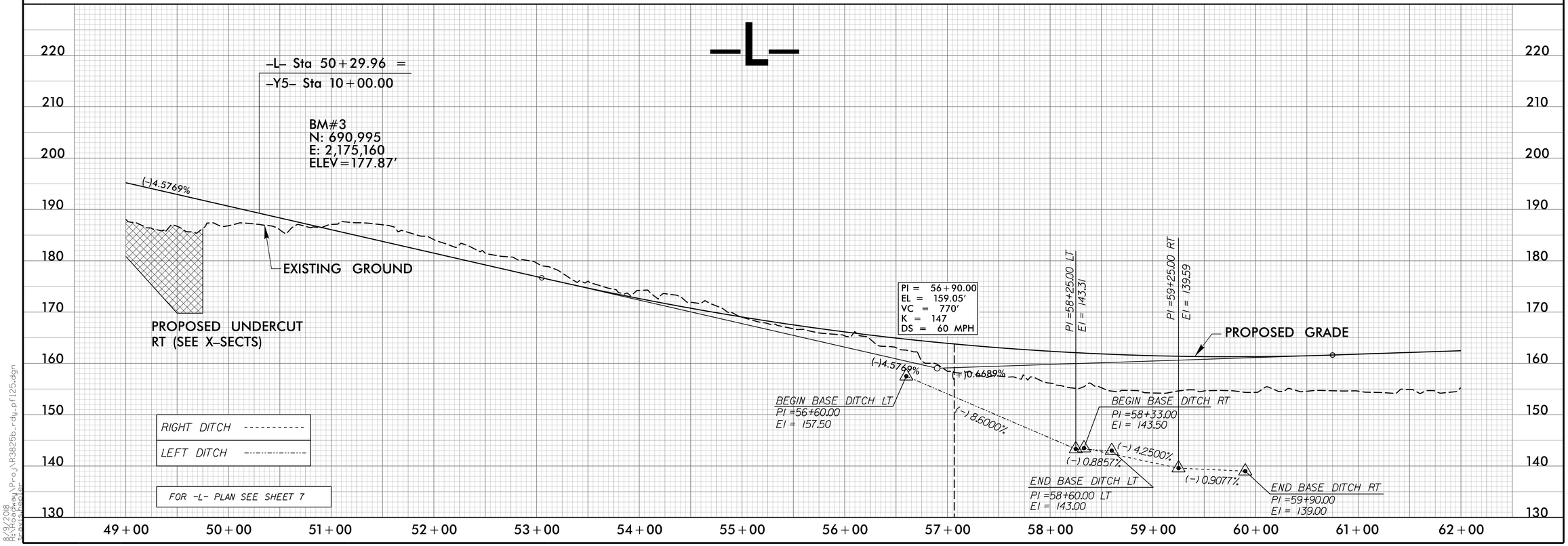

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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
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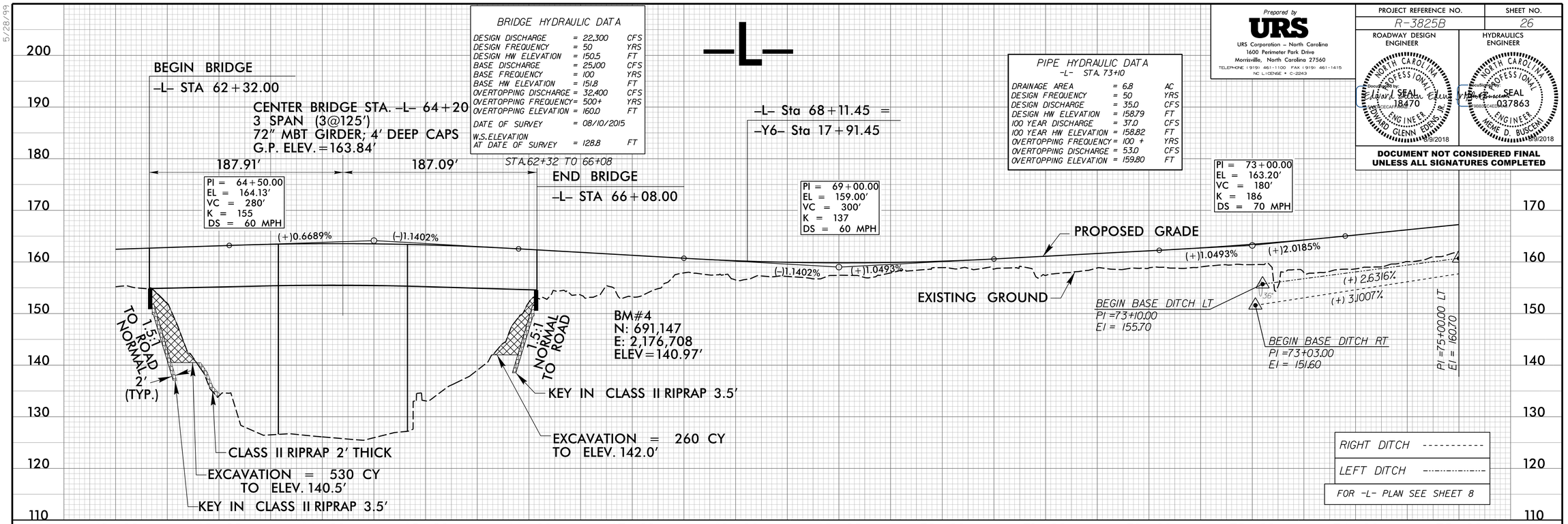

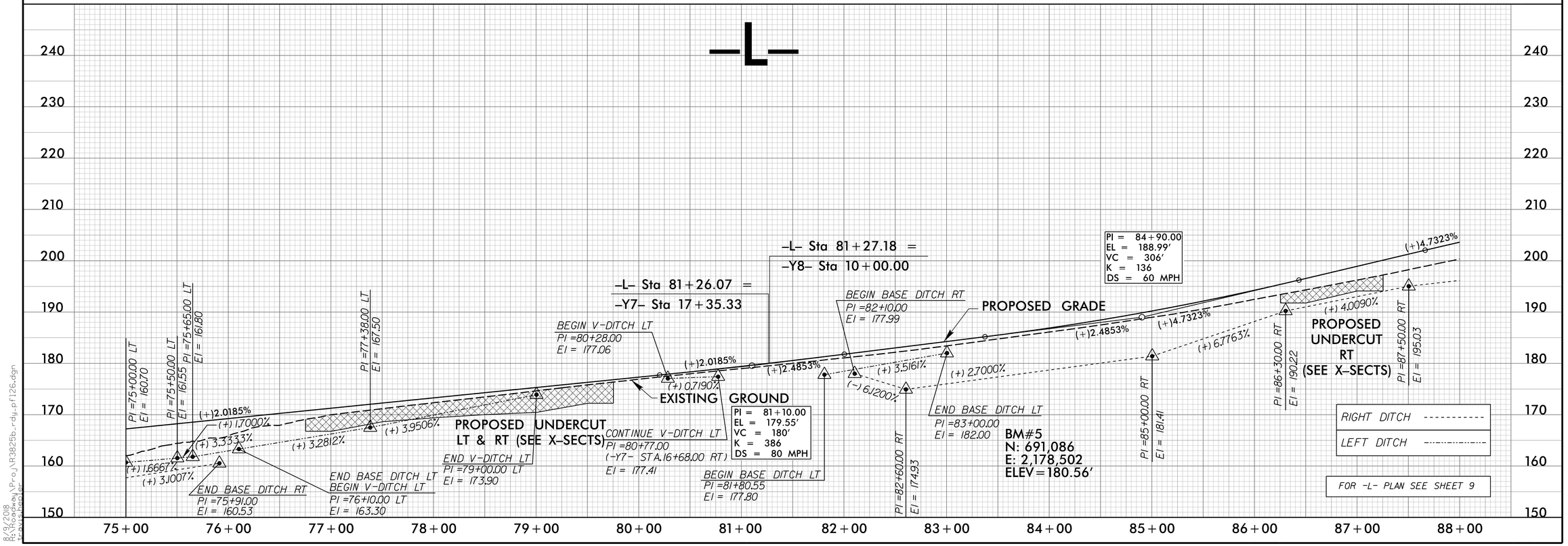

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	27

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HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI — 8/9/2018

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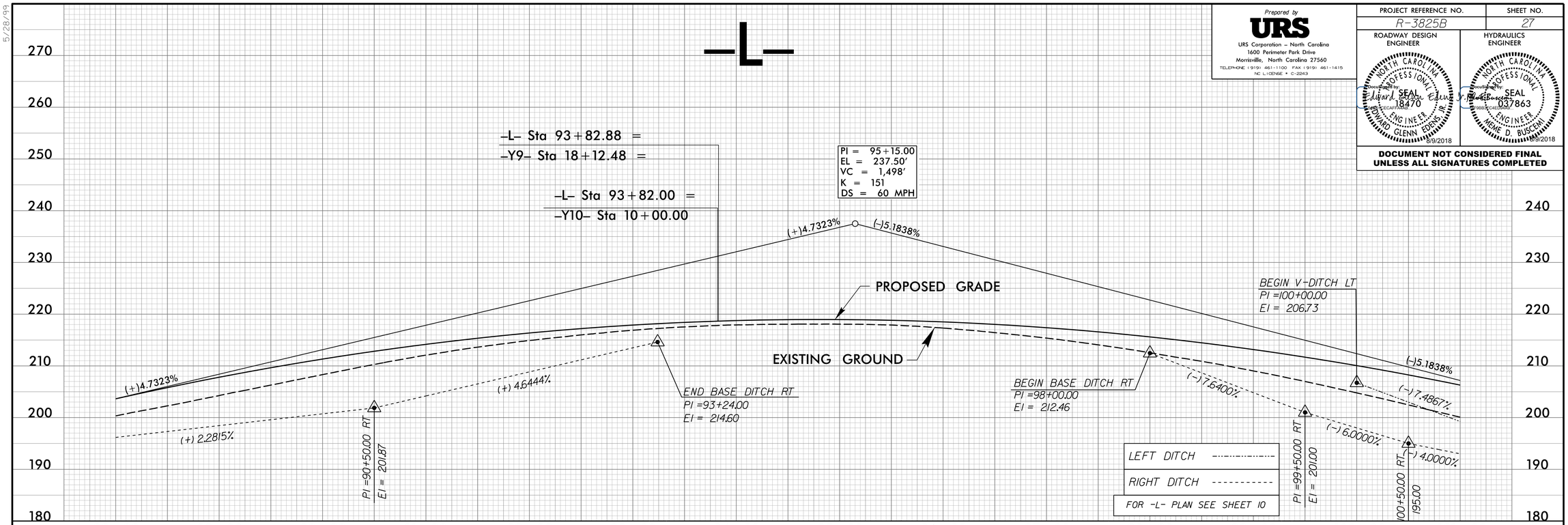

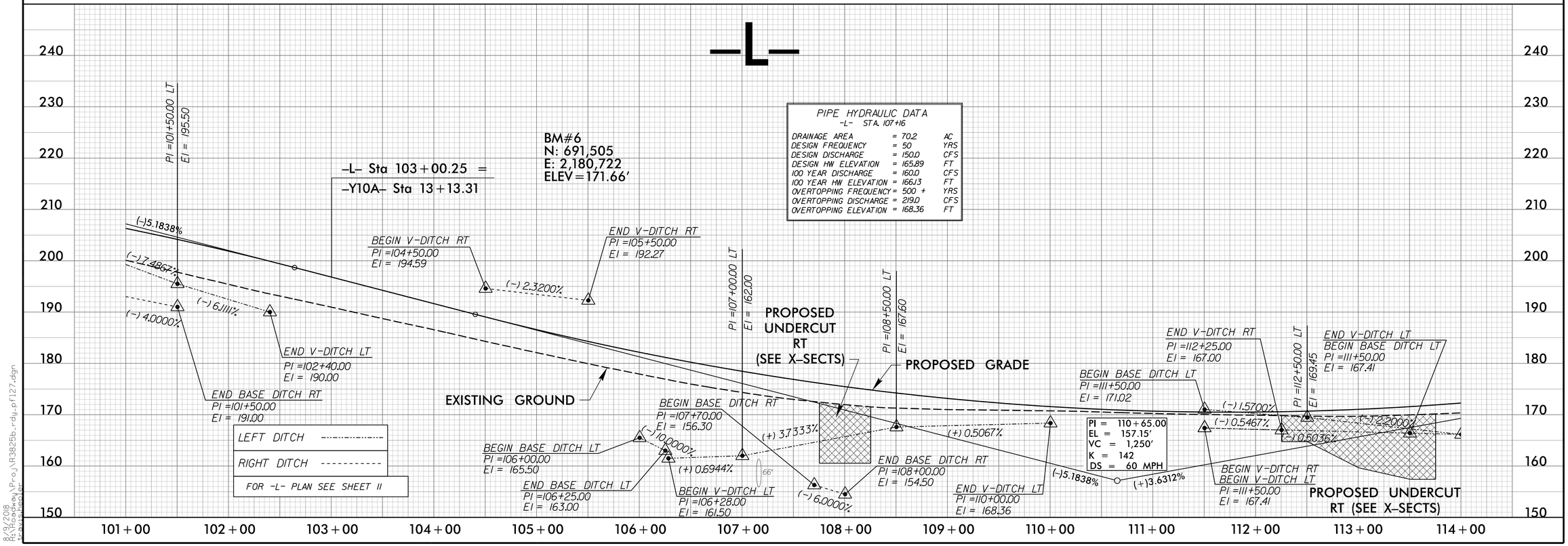

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HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI — DocuSigned by: Meme Buscemi — 10/9/2018

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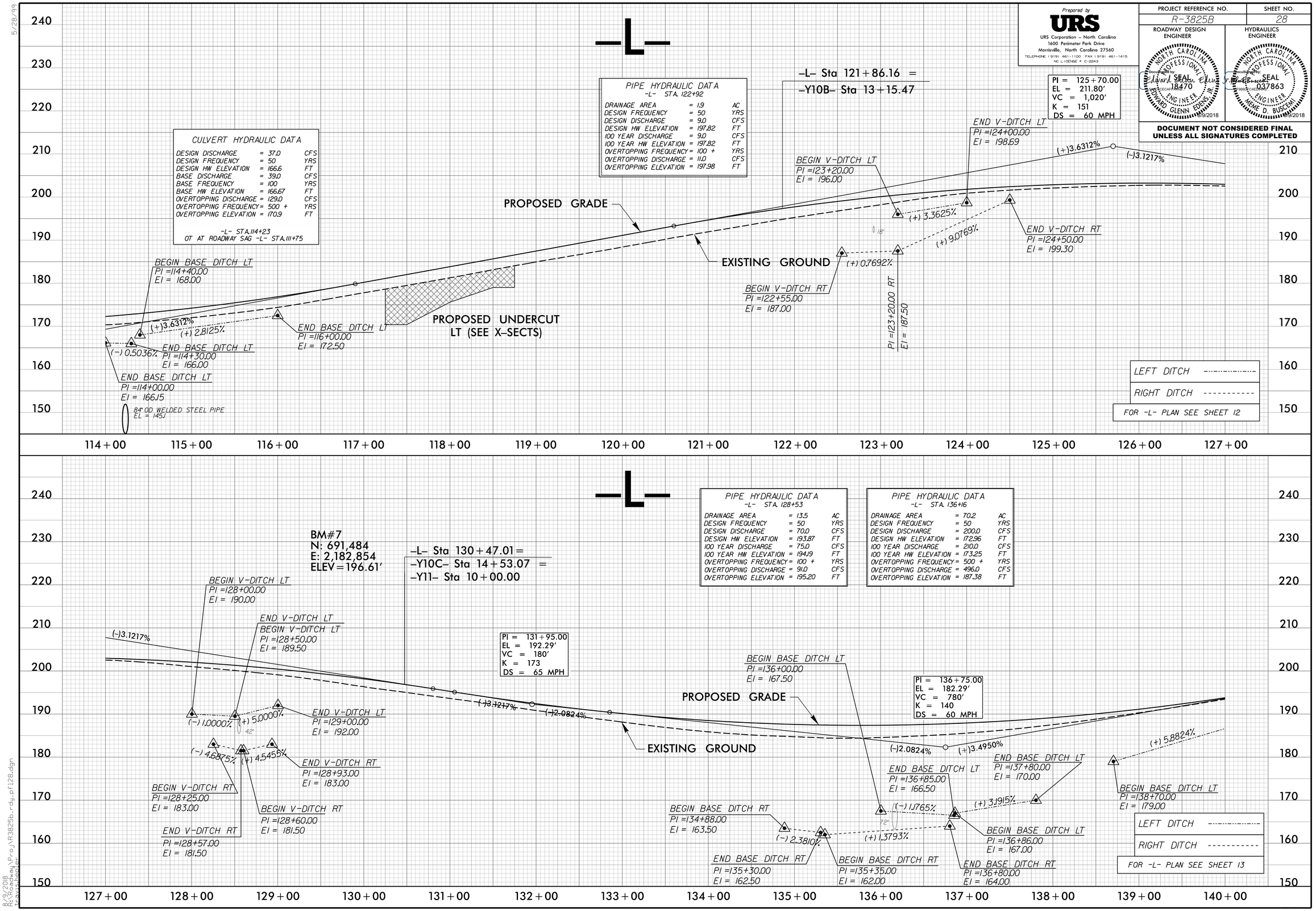

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