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PROJECT REFERENCE NO.	SHEET NO.
U-3615B	6
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 022999 ENGINEER PERGS PURVIS

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 012575 ENGINEER Paul F. Fisher

WETHERILL ENGINEERING
559 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
Liscense No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

-L-

PIs Sta 183+08.94	PI Sta 185+93.34	PIs Sta 188+72.39
Θs = 3° 26' 15.9"	Δ = 21° 14' 35.1" (RT)	Θs = 3° 26' 15.9"
Ls = 150.00'	D = 4° 35' 01.2"	Ls = 150.00'
LT = 100.02'	L = 463.45'	LT = 100.02'
ST = 50.02'	T = 234.42'	ST = 50.02'
	R = 1,250.00'	
	DS = 50 MPH	
	SE = 0.04	
	RO = SEE PLANS	

DETAIL AB
LATERAL BASE DITCH
(Not to Scale)

Min. D = 3.5 Ft.
d = 3.5 Ft.
B = 6.0 Ft.
b = 5.0 Ft.
*When B is > 6.0' Std. No. 876.01
Type of Liner = CLASS "B" Rip-Rap

FROM STA. 182+10 TO STA. 185+50 -L-(LT) (DDE 559 CY, EST. QTY. 170 TONS RIPRAP, 378 SY GEOTEXTILE)

DETAIL 2A
STANDARD 2.5' BASE DITCH
(Not to Scale)

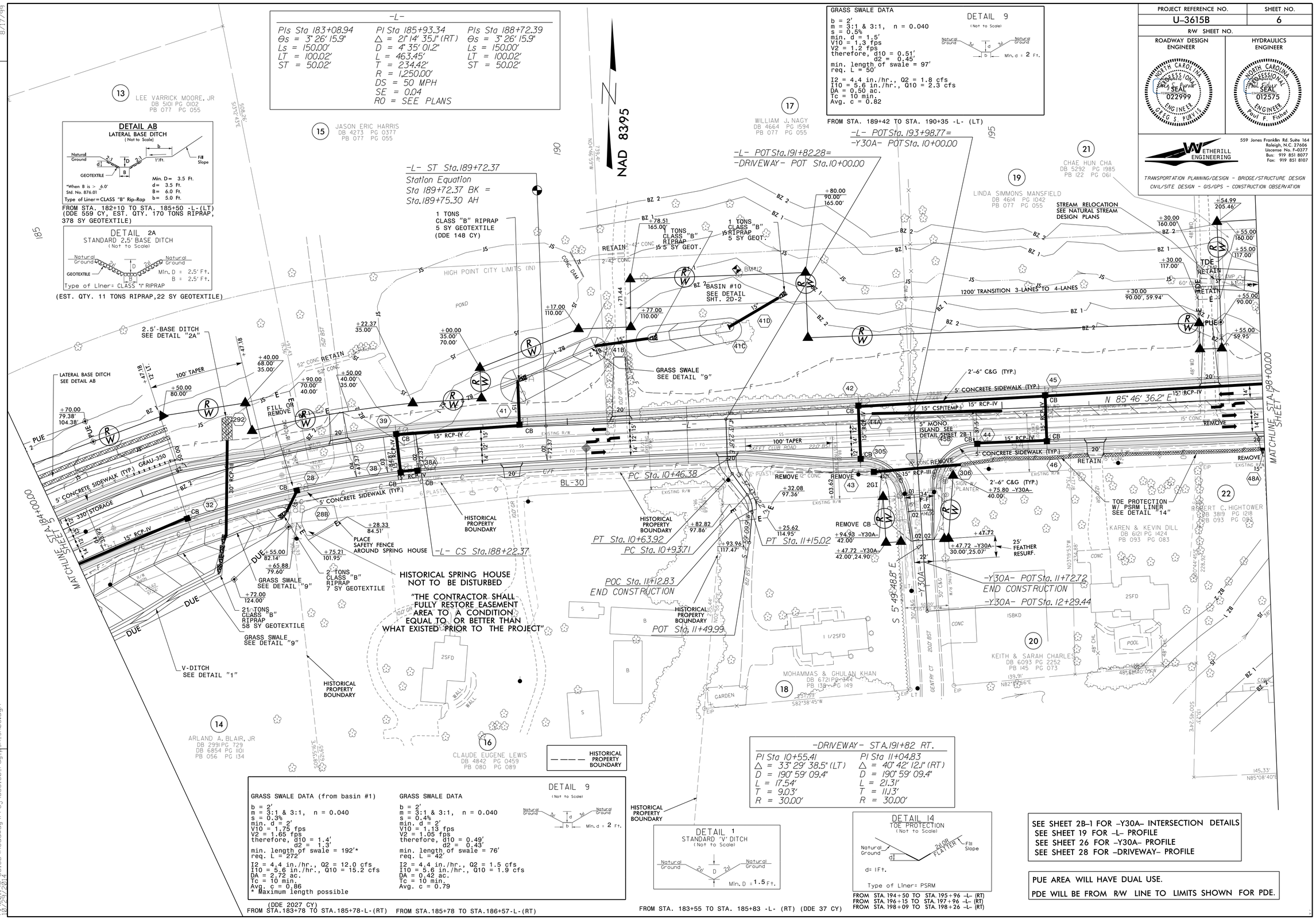
Min. D = 2.5' Ft.
B = 2.5' Ft.
Type of Liner: CLASS "I" RIPRAP

(EST. QTY. 11 TONS RIPRAP, 22 SY GEOTEXTILE)

GRASS SWALE DATA
b = 2'
m = 3:1 & 3:1, n = 0.040
s = 0.5%
min. d = 1.5'
V10 = 1.3 fps
V2 = 1.2 fps
therefore, d10 = 0.51'
d2 = 0.45'
min. length of swale = 97'
req. L = 50'
I2 = 4.4 in./hr., Q2 = 1.8 cfs
I10 = 5.6 in./hr., Q10 = 2.3 cfs
DA = 0.50 ac.
Tc = 10 min.
Avg. c = 0.82

DETAIL 9
(Not to Scale)
Min. d = 2 Ft.

FROM STA. 189+42 TO STA. 190+35 -L- (LT)



HISTORICAL PROPERTY BOUNDARY

-DRIVEWAY- STA.191+82 RT.

PI Sta 10+55.41	PI Sta 11+04.83
Δ = 33° 29' 38.5" (LT)	Δ = 40° 42' 12.1" (RT)
D = 190° 59' 09.4"	D = 190° 59' 09.4"
L = 17.54'	L = 21.31'
T = 9.03'	T = 11.13'
R = 30.00'	R = 30.00'

GRASS SWALE DATA (from basin #1)
b = 2'
m = 3:1 & 3:1, n = 0.040
s = 0.3%
min. d = 2'
V10 = 1.75 fps
V2 = 1.65 fps
therefore, d10 = 1.4'
d2 = 1.3'
min. length of swale = 192'*
req. L = 272'
I2 = 4.4 in./hr., Q2 = 12.0 cfs
I10 = 5.6 in./hr., Q10 = 15.2 cfs
DA = 2.72 ac.
Tc = 10 min.
Avg. c = 0.86
* Maximum length possible

(DDE 2027 CY)
FROM STA.183+78 TO STA.185+78-L-(RT)

GRASS SWALE DATA
b = 2'
m = 3:1 & 3:1, n = 0.040
s = 0.4%
min. d = 2'
V10 = 1.13 fps
V2 = 1.05 fps
therefore, d10 = 0.49'
d2 = 0.43'
min. length of swale = 76'
req. L = 42'
I2 = 4.4 in./hr., Q2 = 1.5 cfs
I10 = 5.6 in./hr., Q10 = 1.9 cfs
DA = 0.42 ac.
Tc = 10 min.
Avg. c = 0.79

FROM STA.185+78 TO STA.186+57-L-(RT)

DETAIL 9
(Not to Scale)
Min. d = 2 Ft.

DETAIL 1
STANDARD 'V' DITCH
(Not to Scale)
Min. D = 1.5 Ft.

FROM STA. 183+55 TO STA. 185+83 -L- (RT) (DDE 37 CY)

DETAIL 14
TOE PROTECTION
(Not to Scale)
d= 1Ft.
Type of Liner= PSRM

FROM STA. 194+50 TO STA. 195+96 -L- (RT)
FROM STA. 196+15 TO STA. 197+96 -L- (RT)
FROM STA. 198+09 TO STA. 198+26 -L- (RT)

SEE SHEET 2B-1 FOR -Y30A- INTERSECTION DETAILS
SEE SHEET 19 FOR -L- PROFILE
SEE SHEET 26 FOR -Y30A- PROFILE
SEE SHEET 28 FOR -DRIVEWAY- PROFILE

PUE AREA WILL HAVE DUAL USE.
PDE WILL BE FROM R/W LINE TO LIMITS SHOWN FOR PDE.

REVISIONS

8/17/99

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