DocuSign Envelope ID: 50EC93AC-B2A2-42E2-AC39-16E1BFE29170

8/17/99

REVISIONS

SEE MATCH LINE THIS SHEET
-L- STA. 12+00.00

POT Sta. 10+00.00

1
MINKLES BROADPOINTE LLC,
DB 1621 PG 361
PLAT 9773

BL-101

S 37° 02' 38.8" E

SR 1690
BROADPOINTE DR

4' PLASTIC

2
EMPIRE DISTRIBUTORS
OF NORTH CAROLINA, INC.
DB 1553 PG 234
PLAT 9095

35BW 96" CHL FENCE

SEE MATCH LINE THIS SHEET
-L- STA. 12+00.00

-L-

PI Sta 14+00.00
Δ = 2° 01' 26.7" (LT)
D = 1° 49' 08.1"
L = 111.28'
T = 55.65'
R = 3,150.00'
SE = N.C.
V = 30 mph

PI Sta 17+56.77
Δ = 5° 37' 54.0" (RT)
D = 1° 49' 08.1"
L = 309.62'
T = 154.93'
R = 3,150.00'
SE = N.C.
V = 30 mph

NAD 83
NA 2011

1
MINKLES BROADPOINTE LLC,
DB 1621 PG 361
PLAT 9773

3
STATE OF NORTH CAROLINA
DB 1585 PG 327
SLIDE 9331
TRACT 3

BEGIN TIP PROJECT R-5771
-L- POT STA. 12+50.00

PC Sta. 13+44.35

PT Sta. 14+55.63

PC Sta. 16+01.84

PT Sta. 19+11.46

-L- S 39° 04' 05.4" E

+30
30' LT

+50
35' LT

+84.44
30' LT

+44.35
30' LT

+55.63
30' LT

+01.84
30' LT

+00
44.81'

+11.46
87.96' LT

+84.44
30' RT

+73.10
44.17' RT

+44.72
55.49' RT

+71.64
56' RT

+11.46
60' RT

+11.46
105'

+75
60' RT

+50
95' RT

+15
60.55'
& 105'

DETAIL TP1
TOE PROTECTION
(Not to Scale)

2.1 or Flatter Fill Slope
d
Geotextile

d = 1.5 Ft.

Type of Liner = Class B Rip-Rap

FROM -L- STA. 19+45 TO 20+10 RT
FROM -L- STA. 21+46 TO 22+25 LT
FROM -DR1- STA. 12+00 TO 12+50 LT

DELTA = 75°23'59" RT
RADIUS = 139.60'
ARC = 183.71'

DELTA = 86°30'46" LT
RADIUS = 128.90'
ARC = 194.63'

DELTA = 12°54'36" RT
RADIUS = 472.26'
ARC = 106.41'

BRIDGE DESCRIPTION
NO RAILS
WD. WING WALLS
WD. ENDBENTS
BST. SURFACE
9" STEEL BEAMS

STANDARD V DITCH
SEE DETAIL V1
EST. 5 CY DDE
EST. 4 TONS CL B RIP RAP
EST. 11 SY GEOTEXTILE

PIPE OUTLET CHANNEL
SEE DETAIL C1

SPECIAL LATERAL V DITCH
SEE DETAIL SLV1

CL B RIPRAP
EST. 1 TON
EST. 5 SY GEOTEXTILE

GRADE TO DRAIN

REMOVE

F GRAU 350
8d TL-2

15" w/ 2 ELBOWS

15" RCP-IV

2@30" RCP-IV
BURIED 6"

42" RCP-III
BURIED 9"

INSTALL 20'x50'
GRAVEL DRIVE.
TIE TO EX.
GROUND EL.

TOE PROTECTION
SEE DETAIL TP1
EST. 22 TONS CL B RIP RAP
EST. 65 SY GEOTEXTILE

SHOULDER BERM GUTTER
-L- STA 19+79 TO 19+95.25 LT
-L- STA 19+79 TO 20+07.63 RT

BEGIN APPR. SLAB
-L- STA. 20+01.44

BEGIN BRIDGE
-L- STA. 20+12.38

END BRIDGE
-L- STA. 21+42.63

END APPR. SLAB
-L- STA. 21+53.56

RETAIN

BEGIN CONSTRUCTION
-DR1- STA. 10+50.00

PT Sta. 10+03.39
S 41° 46' 49.8" W

PC Sta. 10+32.07

PT Sta. 11+08.51

S 72° 38' 02.5" E

PC Sta. 12+40.16

PT Sta. 12+88.70

PT Sta. 11+04.58

POT Sta. 11+87.00

END CONSTRUCTION
-DR2- STA. 11+50.00

-DR1-

PI Sta 9+58.09
Δ = 5° 46' 20.1" (RT)
D = 6° 21' 58.3"
L = 90.67'
T = 45.37'
R = 900.00'

PI Sta 10+73.49
Δ = 54° 44' 52.3" (LT)
D = 71° 37' 11.0"
L = 76.44'
T = 41.42'
R = 80.00'

PI Sta 12+67.92
Δ = 69° 31' 51.1" (RT)
D = 143° 14' 22.0"
L = 48.54'
T = 27.76'
R = 40.00'

DETAIL SLV2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
2.1 or Flatter
d
D
3.1 or Flatter
Fill Slope
Geotextile

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

Type of Liner = Class B Rip-Rap

FROM -DR1- STA. 10+50 TO 12+00 LT
FROM -DR1- STA. 12+50 LT TO -DR1- STA. 12+69 LT
FROM -L- STA. 22+75 LT TO 23+25 LT
FROM -DR2- STA. 11+10 TO 11+29.62 LT

6
UPM RAFLATAC INC
DB 970 PG 402
PLAT 2815

SPECIAL LATERAL V DITCH
SEE DETAIL SLV2
EST. 89 TONS CL B RIP RAP
EST. 250 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL TP1
EST. 42 TONS CL B RIP RAP
EST. 115 SY GEOTEXTILE

TOE PROTECTION
SEE DETAIL TP1
EST. 22 TONS CL B RIP RAP
EST. 67 SY GEOTEXTILE

SPECIAL LATERAL V DITCH
SEE DETAIL SLV2
EST. 43 TONS CL B RIP RAP
EST. 119 SY GEOTEXTILE

GRADE C&G TO DRAIN
EST. 6 TONS CL B RIP RAP
EST. 18 SY GEOTEXTILE

POT Sta. 26+09.92

END TIP PROJECT R-5771
-L- POT 25+50.00

-L- POT Sta. 22+57.34
-DRI- POT Sta. 13+02.73
BRG.BK= S 56° 33' 48.6" W

-L- POT Sta. 22+75.81
-DR2- POT Sta. 10+00.00
BRG.AH= S 56° 33' 48.6" W

5' TRANSITION
(2'-6" C&G TO EX.C&G)

S 33° 26' 11.4" E

PC Sta. 10+22.91

REMOVE 35' OF 24" HDPE & REPLACE W/
STANDARD 2' TAIL DITCH
SEE DETAIL SB1
EST. 49 CY DDE
EST. 20 TONS CL I RIP RAP
EST. 41 SY GEOTEXTILE

LATERAL 2' BASE DITCH
SEE DETAIL LB2
EST. 320 CY DDE
EST. 72 TONS CL I RIP RAP
EST. 150 SY GEOTEXTILE

SPECIAL LATERAL V DITCH
SEE DETAIL SLV2
EST. 5 TONS CL B RIP RAP
EST. 29 SY GEOTEXTILE

LATERAL 2' BASE DITCH
SEE DETAIL LB1
EST. 65 CY DDE
EST. 71 TONS CL I RIP RAP
EST. 148 SY GEOTEXTILE

CL I RIPRAP
EST. 11 TON
EST. 22 SY GEOTEXTILE

DO NOT DISTURB
DRY DETENTION BASIN

2
EMPIRE DISTRIBUTORS
OF NORTH CAROLINA, INC.
DB 1553 PG 234
PLAT 9095

3
STATE OF NORTH CAROLINA
DB 1585 PG 327
SLIDE 9331
TRACT 4

5
THE BOARD OF TRUSTEES
OF THE ENDOWMENT
FUND OF NORTH CAROLINA
STATE UNIVERSITY AT RALEIGH
DB 1580 PG 313
SLIDE 9331
TRACT 5

8
MARIE JEANNE ELIZABETH CADENE
NARCISSA SUZANNE TIO CADENE
DB 9331 PG 713
SLIDE 9331

7
RAUMEDIC INC.
DB 1610 PG 99
SLIDE 9650

DETAIL SLV1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground
2.1
D
3.1 or Flatter
Fill Slope

Min. D = 1.5 Ft.

FROM -L- STA. 17+00 TO 18+50 RT
FROM -L- STA. 17+00 TO 18+64 LT

DETAIL LB1
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
d
D
2.1
b
1'/Ft.
Fill Slope
GEOTEXTILE
B

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

*When B is < 6.0'

Type of Liner = Class I Rip-Rap

FROM -L- STA. 21+30 TO 22+25 RT

DETAIL V1
STANDARD 'V' DITCH
(Not to Scale)

Natural Ground
2.1
d
D
Geotextile

Min. D = 1.5 Ft.
Max. d = 1 Ft.

Type of Liner = Class B Rip-Rap

FROM -DR1- STA. 10+50 (14' RT) TO 10+44 (24' RT)

DETAIL C1
PIPE OUTLET CHANNEL
(Not to Scale)

Natural Ground
MIN. 2.5 FB OR EXISTING BANK
d
CHANNEL BED (Variable)

Length = 23 Ft.
d = 3 Ft.
Est. = 36 Tons of Class I Rip-Rap

FROM -L- STA. 18+64 (35' LT) TO 18+64 (59' LT)

DETAIL LB2
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
d
D
2.1
b
1'/Ft.
Fill Slope
GEOTEXTILE
B

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

Type of Liner = Class I Rip-Rap

FROM -L- STA. 23+16 TO 24+00 RT

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP (N.T.S.)

PAVED SHOULDER (VAR.)
20' TYPE-III
5'
12'
N.C.
34'
F-F
-L-
TYPE-III
SHOULDER BERM GUTTER

DETAIL SB1
STANDARD TAIL DITCH
(Not to Scale)

Natural Ground
d
D
2.1
Geotextile
B

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.

*When B is < 6.0'

Type of Liner = Class I Rip-Rap

FROM -L- STA. 23+63 TO STA. 23+89 RT

-DR2-

PI Sta 10+65.40
Δ = 38° 59' 49.6" (LT)
D = 47° 44' 47.3"
L = 81.68'
T = 42.49'
R = 120.00'

PROJECT REFERENCE NO.	SHEET NO.
R-5771	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 19814 ENGINEER
Robert W. Hayes, Jr., P.E.
06CF5B6E67914A...
4/11/2017

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20117 ENGINEER
Scott M. Bradshaw
461B10842306A48...
4/11/2017

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

M A Engineering Consultants, Inc.
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Phone: 919.297.0220 Fax: 919.297.0221

FOR -L-, -DR1-, & -DR2- PROFILES, SEE SHEET NO. 5

FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-29

SE NOTE (DRI & DR2)
TRANSITION SUPERELEVATION USING 5' INCREMENTS (NOT SHOWN FOR CLARITY)

4/11/2017
12:00:00 PM
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