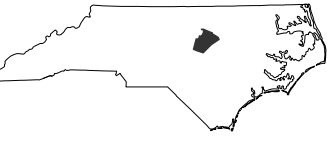


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
DITCH DETAILS

HE-0002

4RDI2D-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY



DIVISION 5
HYDRAULICS
ENGINEER

SEAL

4/30/2024

026306

ENGINEER



F48A5E08178488

PREPARED BY

CDM
Smith

CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
Raleigh, NC 27612-3228
NC CDR No. F-1355

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DETAIL F-C
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground

Geotextile

tuck in geotextile
a minimum of 1ft (TYP)

Min. D=1.5 Ft.
Max. d=1.0 Ft.
b=Varies

Type of Liner= Class 1 Rip-Rap

FROM -L- STA. 33+84 TO STA. 35+00 LT
-L- STA. 48+00 TO STA. 48+85 LT
-L- STA. 52+26 TO STA. 53+00 LT

DETAIL U
INLET/OUTLET CHANNEL IMPROVEMENTS
(Not to Scale)

Natural Ground

Geotextile*

Class 1 Rip-Rap
In Streambed
(Keyed-In)

Tuck Geotextile
a Minimum of 1ft
(TYP)

Channel Bed
(Variable)

*Place Geotextile Under Riprap
in Locations Directed by Engineer

Length=VARIES

-L- STA. 19+25 LT/RT
-L- STA. 33+84 LT/RT
-L- STA. 51+60 LT/RT

DETAIL R
PIPE STABILIZATION
(Not to Scale)

Natural Ground

Geotextile*

Tuck Geotextile
a Minimum of 1ft
(TYP)

Width
(Variable)

*Place Geotextile Under Riprap
in Locations Directed by Engineer

Length=VARIES

Type of Liner= Class 1 Rip-Rap - Keyed-In

-L- STA. 27+75 LT/RT
-L- STA. 48+25 RT

DETAIL T
TOE PROTECTION
(Not to Scale)

Natural Ground

Geotextile

tuck in geotextile
a minimum of 1ft
(TYP)

d= 2.0 Ft.
b= 2.0 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM -L- STA. 18+48 TO STA. 19+10 RT
-L- STA. 19+29 TO STA. 20+95 RT
-L- STA. 27+47 TO STA. 27+78 LT
-L- STA. 27+88 TO STA. 28+07 LT
-L- STA. 30+38 TO STA. 30+87 RT
-L- STA. 31+03 TO STA. 31+50 RT
-L- STA. 30+91 TO STA. 32+27 LT
-L- STA. 32+62 TO STA. 33+71 RT
-L- STA. 32+77 TO STA. 33+71 LT
-L- STA. 33+96 TO STA. 36+44 RT
-L- STA. 37+00 TO STA. 37+73 LT
-L- STA. 48+27 TO STA. 49+42 RT
-L- STA. 48+88 TO STA. 49+52 LT
-Y1- STA. 12+53 TO STA. 13+25 RT
-Y1- STA. 14+85 TO STA. 15+71 RT
-Y1- STA. 15+87 TO STA. 16+20 RT
-Y1- STA. 14+65 TO STA. 15+80 LT
-Y1- STA. 15+88 TO STA. 17+50 LT

RCBC INLET DETAIL
NTS

Natural Ground

1@12'x7' RCBC

EXCAVATION
EST 348 CY

TUCK GEOTEXTILE
MINIMUM OF
1' (TYP)

CLASS 2 RIP RAP
w/GEOTEXTILE (TYP)
THICKNESS = 2.0'

2' SILL (TYP)
3' WIDE

1' SILL (TYP)
6' WIDE

BEDSTREAM
INVERT 270.95

RCBC TOP OF BOTTOM
SLAB INVERT 269.95

CLASS 1 RIP RAP IN
STREAMBED (KEYED-IN)
THICKNESS = 1.5'

-L- STA. 33+84 LT

RCBC OUTLET DETAIL
NTS

Natural Ground

1@12'x7' RCBC

EXCAVATION
EST 21 CY

TUCK GEOTEXTILE
MINIMUM OF
1' (TYP)

CLASS 2 RIP RAP
w/GEOTEXTILE (TYP)
THICKNESS = 2.0'

2' SILL (TYP)
3' WIDE

1' SILL (TYP)
6' WIDE

BEDSTREAM
INVERT 269.93

RCBC TOP OF BOTTOM
SLAB INVERT 268.93

CLASS 1 RIP RAP IN
STREAMBED (KEYED-IN)
THICKNESS = 1.5'

-L- STA. 33+84 RT

DETAIL S
PIPE CHANNEL STABILIZATION
(Not to Scale)

Natural Ground

Geotextile*

Tuck Geotextile
a Minimum of 1ft
(TYP)

Channel Bed
(Variable)

*Place Geotextile Under Riprap
in Locations Directed by Engineer

Length=VARIES

Type of Liner= Class 1 Rip-Rap - Keyed-In

-L- STA. 30+79 LT

DETAIL Z
RIP-RAPPED ENERGY DISSIPATOR BASIN

RIP RAP NOT SHOWN

CULVERT

APRON

DISSIPATOR POOL

FILL SLOPE

NATURAL GROUND

GEOTEXTILE

CLASS 1 RIP RAP

tuck in geotextile
a minimum of 1ft
(TYP)

-Y1- STA. 15+83 LT

7/08