

HNTB

HNTB NORTH CAROLINA, P.C.
4000 Center at North Hills St.
Suite 500
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.
DF18314.2045330

SHEET NO.
2D-2

RW SHEET NO.

HYDRAULICS ENGINEER

6/30/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SEAL

40801

6/30/2026

6/30/2026

6/30/2026

6/30/2026

6/30/2026

DETAIL 4-3

UPSTREAM EXCAVATION AND BANK STABILIZATION

(Not to Scale)

Left Bank
12 CY Fill

CLASS 'II' RIP RAP
2.0' THICK (TYP.)

LT BANK EXCAVATION:
282 CY

FLOOD BENCH
@ 1562.0'

CLASS 'II' RIP RAP
2.0' THICK

30' BASE CHANNEL
BOTTOM ELEV 1560.0'

MAIN CHANNEL EXCAVATION:
117 CY

EXISTING BRIDGE

POST HURRICANE
EX GROUND

CLASS 'II' RIP RAP
2.0' THICK (TYP.)

RT BANK EXCAVATION:
149 CY

FLOOD BENCH
@ 1562.0'

CLASS 'II' RIP RAP
2.0' THICK

MAIN CHANNEL
APPROX
2 CY FILL

EXCAVATION

GRADING/FILL

DETAIL E1

EMBANKMENT STABILIZATION

(Not to Scale)

1.0' min.

1.5'

Place Geotextile Under
Riprap in Locations
Directed by Engineer

Press Riprap into
Graded Berm
Until Refusal

Type of Liner= 10 TONS CL 'B'; Rip-Rap, Keyed-In
16 SY GEOTEXTILE

FROM -DETOUR- STA. 11+37 TO STA. 11+50 LT

DETAIL SC1

SPECIAL CUT 'V' DITCH

(Not to Scale)

Natural Ground

2:1 or Flatter

D

4:1

Front Ditch Slope

Min. D = 1.5 Ft.

FROM -L- STA. 21+25 TO STA. 23+25 LT

DETAIL SC2

SPECIAL CUT 'V' DITCH

(Not to Scale)

Natural Ground

2:1

D

4:1 or Flatter

Front Ditch Slope

Min. D = 1 Ft.

FROM -DETOUR- STA. 11+50 TO STA. 11+75 LT
FROM -DETOUR- STA. 12+25 TO STA. 12+57 LT

DETAIL S1

STANDARD 'V' DITCH

(Not to Scale)

Natural Ground

2:1

D

2:1

Natural Ground

Min. D = 2 Ft.

FROM -L- STA. 21+23 (44.4' LT) TO STA. 21+75 (32.5' LT)
EST. 51 CY DDE

DETAIL 4-4

DOWNSTREAM EXCAVATION AND BANK STABILIZATION

(Not to Scale)

POST HURRICANE
EX GROUND

FLOOD BENCH
ELEV=1562.0

RT BANK EXCAVATION:
241 CY

CLASS 'II' RIP RAP
2.0' THICK

2:1

FLOOD BENCH
ELEV=1562.0

MAIN CHANNEL EXCAVATION
294 CY

CLASS 'II' RIP RAP
2.0' THICK

2:1

LEFT OVERBANK
APPROX 40 CY FILL

30' BASE CHANNEL
ELEV= 1560.0'

EXCAVATION

GRADING/FILL

30-JUN-2026 07:45
\\Hydraulics\CENTRAL\30-JUN-2026 07:45
30-JUN-2026 07:45