DocuSign Envelope ID: 0D21928F-9F62-466F-9790-CE3A8AB4FCB4

| PROJECT REFERENCE | SHEET NO. |
|---|---|
| B-5687 – WARREN 43 | 4 |

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21102 ENGINEER
DocuSigned by: 4/4/2018
MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 34364 ENGINEER
DocuSigned by: 4/4/2018
HDR ENGINEERING
LICENSE NO. F-0116

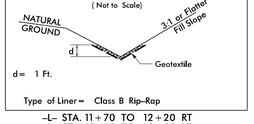
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

Prepared in the Office of:
MOTT MACDONALD
PO Box 700
Fuquay-Varina, NC 27526
www.mottmac.com

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

HORIZONTAL SCALE
25' 0 25' 50'

## DETAIL A
TOE PROTECTION
( Not to Scale)

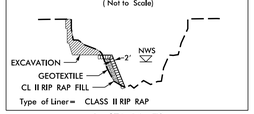



d= 1 Ft.

Type of Liner= Class B Rip-Rap

-L- STA. 11+70 TO 12+20 RT
-L- STA. 17+10 TO 18+50 LT

## DETAIL B
BANK STABILIZATION
( Not to Scale)



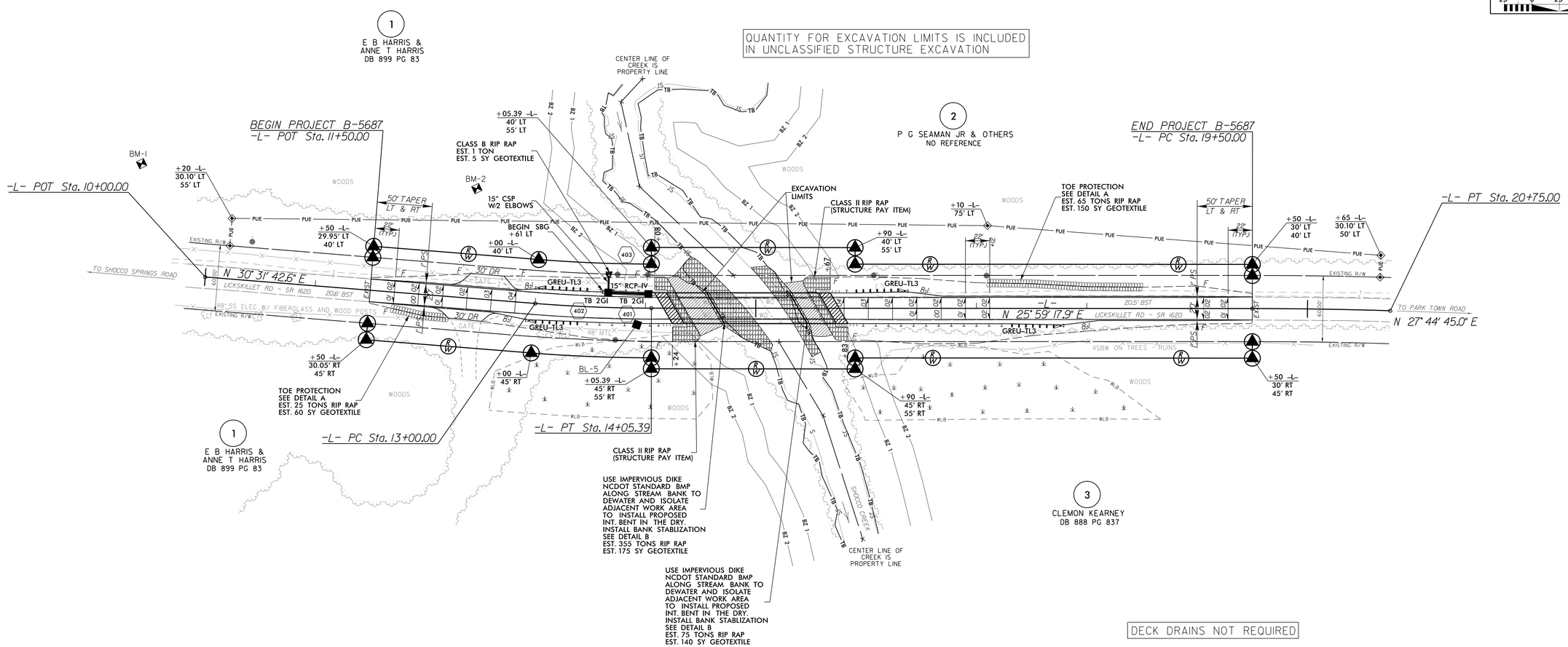

Type of Liner= CLASS II RIP RAP

-L- STA. 14+70
-L- STA. 15+35

NAD 83/NA 2011

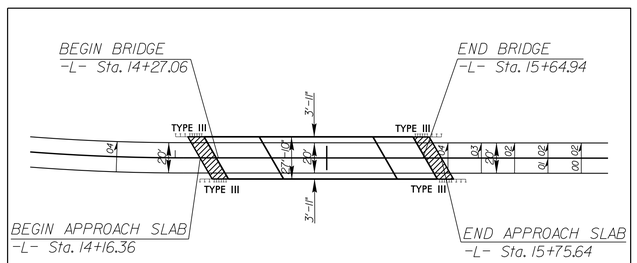
15+00

QUANTITY FOR EXCAVATION LIMITS IS INCLUDED IN UNCLASSIFIED STRUCTURE EXCAVATION




IMPERVIOUS DIKE SHALL BE CONSIDERED INCIDENTAL TO THE REMOVAL OF THE EXISTING STRUCTURE

DECK DRAINS NOT REQUIRED




SKETCH SHOWING RELATIONSHIP OF BRIDGE TO PAVEMENT

FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-24

ENVIRONMENTAL COMMITMENTS:

- BEST MANAGEMENT PRACTICES FOR BRIDGE DEMOLITION AND REMOVAL WILL BE IMPLEMENTED DURING THE REMOVAL OF THE EXISTING BRIDGE.
- THE BRIDGE WILL BE REMOVED FROM THE TOP DOWN, FIRST REMOVING THE ASPHALT WITH CONTAINMENT MEASURES IN PLACE TO PREVENT ASPHALT FROM DROPPING INTO THE STREAM. THE METHOD OF CONTAINMENT WILL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THIS WILL BE FOLLOWED BY REMOVAL OF THE DECKING, GIRDERS, ETC., AND FINALLY THE WOODEN PILES. AN ATTEMPT WILL BE MADE TO REMOVE THE PILES; HOWEVER, IF THIS CANNOT BE ACCOMPLISHED WITH MINIMAL SUBSTRATE DISTURBANCE, THE PILES WILL BE PINCHED OFF ONE FOOT BELOW THE MUD LINE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL NOT BE ALLOWED TO DRAG REMOVED TIMBER PILES ON OR ACROSS THE STREAMBED.
- IF STILL PRESENT AT THE TIME OF CONSTRUCTION, A FALLEN TREE CROSSING THE STREAM BELOW THE EXISTING BRIDGE WILL BE REMOVED TO PREVENT POTENTIAL BANK EROSION CAUSED BY THE TREE. THE ENGINEER WILL EVALUATE IF THE ROOT BALL CAN REMAIN IN PLACE. THE REMOVAL OF THE TREE IS CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING.
- EXISTING TIMBER ABUTMENTS WILL BE COMPLETELY REMOVED.

-L-

| PI Sta 13+52.72 | PI Sta 20+12.50 |
|---|---|
| Δ = 4° 32' 24.7" (LT) | Δ = 1° 45' 27.1" (RT) |
| D = 4° 18' 28.6" | D = 1° 24' 21.7" |
| L = 105.39' | L = 125.00' |
| T = 52.72' | T = 62.50' |
| R = 1,330.00' | R = 4,075.00' |

4/4/2018 9:54:13 AM
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PB56855