

**GEOTECHNICAL UNIT FIELD SCOUR REPORT**

PROJECT: 33422.1.1 ID: B-4058 COUNTY: CASWELL

DESCRIPTION(1): Bridge No. 85 over North Hyco Creek on -L- (SR 1767, Gunn Poole Road)

**INFORMATION ON EXISTING BRIDGE**

field inspection  
 Information obtained from:  microfilm (Reel: \_\_\_\_\_ Pos: \_\_\_\_\_)  
 other: \_\_\_\_\_

BR. NO.: 85 BR. LENGTH: 51' NO. BENTS: 4 NO. BENTS IN: CHANNEL: 2 FLOODPLAIN: 2

FOUNDATION TYPE: The foundation consists of timber piles.

**EVIDENCE OF SCOUR(2):**

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: None

CHANNEL BED: None

CHANNEL BANKS: None

**EXISTING SCOUR PROTECTION:**

TYPE(3): None

EXTENT(4): N/A

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Sand bar in creek bed has risen near the bridge girders.

**DESIGN INFORMATION**

CHANNEL BED MATERIAL(7): Channel bed material consists of coarse sand (ss-16)

CHANNEL BANK MATERIAL(8): Channel bank material consists of silty sand and sandy silt with a few clay lenses (ss-1, ss-16)

CHANNEL BANK COVER(9): The channel banks are covered with trees and vegetation.

FLOOD PLAIN WIDTH(10): The flood plain width is approximately 300 feet.

FLOOD PLAIN COVER(11): The flood plain cover consists of trees and vegetation.

**DESIGN INFORMATION CONT.**

STREAM IS: \_\_\_\_\_ DEGRADING  AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS: \_\_\_\_\_

CHANNEL MIGRATION TENDENCY (13): None

GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(14):

B1= 501.4 B2= 501.4

The Geotechnically Adjusted Scour Elevation is unchanged from the Hydraulic Unit estimates.

REPORTED BY: *Eugene C Campbell* DATE: 12/08/2003  
 E C CAMPBELL

**INSTRUCTIONS**

- (1) GIVE THE DESCRIPTION OF THE SPECIFIC SITE, INCLUDING ROUTE NUMBER AND BODY OF WATER CROSSED.
- (2) NOTE ANY EVIDENCE OF SCOUR AT THE EXISTING END BENTS OR ABUTMENTS (UNDERMINING, SLOUGHING, SCOUR LOCATIONS, DEGRADATIONS, ETC.)
- (3) NOTE ANY EXISTING SCOUR PROTECTION (RIP RAP, ETC.)
- (4) DESCRIBE THE EXTENT OF ANY EXISTING SCOUR PROTECTION.
- (5) DESCRIBE WHETHER OR NOT THE SCOUR PROTECTION APPEARS TO BE WORKING.
- (6) NOTE ANY DAMS, FALLEN TREES, DEBRIS AT BENTS, ETC.
- (7) DESCRIBE THE CHANNEL BED MATERIAL BASED ON OBSERVATION AND/OR SAMPLES.
- (8) DESCRIBE THE CHANNEL BANK MATERIAL BASED ON OBSERVATION AND/OR SAMPLES.
- (9) DESCRIBE THE BANK COVERING (GRASS, TREES, RIP RAP, NONE, ETC.)
- (10) GIVE THE APPROXIMATE FLOOD PLAIN WIDTH (ESTIMATE).
- (11) DESCRIBE THE FLOOD PLAIN COVERING (GRASS, TREES, CROPS, ETC.)
- (12) CHECK THE APPROPRIATE SPACE AS TO WHETHER THE STREAM IS DEGRADING OR AGGRADING.
- (13) DESCRIBE THE POTENTIAL OF THE BODY OF WATER TO MIGRATE LATERALLY DURING THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS).
- (14) GIVE THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION EXPECTED OVER THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS). THIS CAN BE GIVEN AS AN ELEVATION RANGE ACROSS THE SITE, OR ON A BENT BY BENT BASIS WHERE VARIATIONS EXIST. DISCUSS THE RELATIONSHIP BETWEEN THE HYDRAULICS THEORETICAL SCOUR AND THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION. IF THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION IS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIPRAP ARMORING ON SLOPES, ETC.) THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION IS BASED ON THE ERODABILITY OF MATERIALS WITH CONSIDERATION FOR JOINTING, FOLIATION, BEDDING ORIENTATION AND FREQUENCY, CORE RECOVERY PERCENTAGE, PERCENTAGE RQD, DIFFERENTIAL WEATHERING, SHEAR STRENGTH, OBSERVATIONS AT EXISTING STRUCTURES, OTHER TESTS DEEMED APPROPRIATE, AND OVERALL GEOLOGIC CONDITIONS AT THE SITE.