

PROJECT: 8.2495201 ID: B-3646 COUNTY: Guilford

DESCRIPTION(1): Bridge No. 185 over the Haw River on SR 2712

INFORMATION ON EXISTING BRIDGES Information obtained from: field inspection
 microfilm(Reel: Pos:)
 other Bridge Survey and Hydraulic Design Report dated 3/14/03

COUNTY BRIDGE NO. 185 BRIDGE LENGTH 91' NO. BENTS IN: CHANNEL 1 FLOOD PLAIN 2

FOUNDATION TYPE: Timber deck on steel girders; timber cap and piles @ end bents, post and beam at interior bents

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None evident

INTERIOR BENTS: Could not get near bent to probe due to strong current

CHANNEL BED: None evident

CHANNEL BANKS: Tree rootballs exposed all along banks due to undercutting of stream banks; sloughing of stream banks.

EXISTING SCOUR PROTECTION:

TYPE(3): Timber wingwalls. Rip rap along both sides of stream directly underneath existing bridge.

EXTENT(4): At end bent slopes.

EFFECTIVENESS(5): Very effective; scour not evident in areas with rip rap.

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): Large uprooted tree, stumps, and limbs against existing bridge interior bent.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Gravel, cobbles, and small boulders underlain by and/or intermixed with coarse to fine sandy SILT (A-4) with a trace of clay, and silty, fine to coarse SAND with gravel (A-1-b) and a trace of clay

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Clayey, fine to coarse sandy SILT (A-4 and A-5), and clayey, silty, fine to coarse SAND (A-2-4)

FOUNDATION BEARING MATERIAL(9): Weathered rock and crystalline rock - Metamorphosed granitic rock and metamorphosed diorite.

CHANNEL BANK COVER(10): Hardwoods, brush, grasses, and weeds

FLOOD PLAIN WIDTH(11): Approximately 400 feet

FLOOD PLAIN COVER(12): Hardwoods, brush, grasses, and weeds

DESIGN INFORMATION CONT.

STREAM IS DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: Majority of stream bed is fairly heavily armored with gravel, cobbles, and small boulders. Attempts to obtain grab and Shelby Tube samples of stream bed material were unsuccessful due to abundance of gravel and cobbles.

CHANNEL MIGRATION TENDENCY (14): There is potential for lateral migration of the channel with a tendency to migrate towards the End Bent-1 (west side) of the channel due to bend in river.

REPORTED BY: Paul N. Wilson DATE: 7/7/2003
 Trigon Engineering Consultants, Inc.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15):

	B1-A	B1-B	B2-A	B2-B
<i>Overtopping Scour</i>	604.8	602.8	606.2	605.8

REPORTED BY: _____ DATE: 8/25/2003
 NCDOT GEOTECHNICAL UNIT

INSTRUCTIONS

- (1) GIVE THE DESCRIPTION OF THE SPECIFIC SITE GIVING 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: A SAMPLE SHOULD BE TAKEN FOR GRAIN SIZE DISTRIBUTION, ATTACH LAB RESULTS.
- (8) DESCRIBE THE CHANNEL BANK MATERIAL: A SAMPLE SHOULD BE TAKEN FOR GRAIN SIZE DISTRIBUTION, ATTACH LAB RESULTS.
- (9) DESCRIBE THE FOUNDATION BEARING MATERIAL.
- (10) DESCRIBE THE BANK COVERING (GRASS, TREES, RIP RAP, NONE, ETC.)
- (11) GIVE THE APPROXIMATE FLOOD PLAIN WIDTH (ESTIMATE).
- (12) DESCRIBE THE FLOOD PLAIN COVERING (GRASS, TREES, CROPS, ETC.)
- (13) CHECK THE APPROPRIATE SPACE AS TO WHETHER THE STREAM IS DEGRADING OR AGGRADING
- (14) DESCRIBE THE POTENTIAL OF THE BODY OF WATER TO MIGRATE Laterally DURING THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS).
- (15) 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 RELATIONSHIP BETWEEN THE HYDRAULICS THEORETICAL SCOUR AND THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION. 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.