

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2511001 ID: B-3696 COUNTY: Rockingham

DESCRIPTION(1): Bridge 84 over Jones Creek on SR 2579 (Brooks Road)

INFORMATION ON EXISTING BRIDGES Information obtained from: X field inspection microfilm(Reel: Pos: ) other

COUNTY BRIDGE NO. 84 BRIDGE LENGTH 52 NO. BENTS IN: CHANNEL 2 FLOOD PLAIN 4

FOUNDATION TYPE: Timber Piles

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None observed

INTERIOR BENTS: Minor local scour

CHANNEL BED: Minor scour on west side of channel

CHANNEL BANKS: Sloughing upstream and downstream of existing bridge

EXISTING SCOUR PROTECTION:

TYPE(3): Timber wingwalls at end bents, none at interior bents

EXTENT(4): 8 feet outside of bridge

EFFECTIVENESS(5): Good

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): Log jam at upstream side of existing bridge & approx 100' downstream

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Alluvial: V. Loose Brown Silty Cse to F

SAND (A-1-b); Residual: V Dense Grey-White Mic. Silty Cse to F SAND (A-1-b); Weathered Rock

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvial: V. Loose Silty Cse to F SAND (A-2-4),

Soft to Med Stiff Mic F Sdy SILT (A-4), Med Stiff F Sdy Silty CLAY (A-6); Residual: V Dense Cse to F SAND (A-1-b)

CHANNEL BANK COVER(9): Grass & heavy underbrush

FLOOD PLAIN WIDTH(10): ± 500 feet

FLOOD PLAIN COVER(11): Trees & heavy underbrush

DESIGN INFORMATION CONT.

STREAM IS DEGRADING X AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY (13): Slightly northwest

REPORTED BY: [Signature] DATE: 9/2/03 GEOSCIENCE GROUP, INC.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (14):

The Geotechnical Engineering Unit agrees with the computed scour listed in the Bridge Survey & Hydraulic

Design Report dated 7/2/03.

REPORTED BY: NCDOT GEOTECHNICAL ENGINEERING UNIT DATE:

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 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 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.