

GEOTECHNICAL ENGINEERING UNIT FIELD SCOUR REPORT

PROJECT: 33356.1.1 ID: B-3922 COUNTY: WATAUGA

DESCRIPTION(1): BRIDGE NO. 316 ON SR 1149 OVER COVE CREEK

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

COUNTY BRIDGE NO. 316 BRIDGE LENGTH 60 FT NO. BENTS IN: CHANNEL 3 FLOOD PLAIN 2

FOUNDATION TYPE: \_\_\_\_\_

**EVIDENCE OF SCOUR(2):**

ABUTMENTS OR END BENT SLOPES: NONE

INTERIOR BENTS: SCOUR ON WEST BANK AT NEW B2

CHANNEL BED: SCOUR POOL IN CHANNEL BED

CHANNEL BANKS: SCOUR ON WEST BANK AND ALONG BASE OF US321 EMB. UPSTR. OF NEW BRIDGE

**EXISTING SCOUR PROTECTION:**

TYPE(3): NONE

EXTENT(4) N/A

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): 3 BARREL CULVERT AT MOUTH OF TRIBUTARY 100 FT UPSTR.

**DESIGN INFORMATION**

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): FINE TO COARSE SAND AND GRAVEL

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): SANDY SILT (SE SS-1)

FOUNDATION BEARING MATERIAL(9): WEATHERED ROCK AND HARD ROCK

CHANNEL BANK COVER(10) GRASS

FLOOD PLAIN WIDTH(11): 200 FEET

FLOOD PLAIN COVER(12): GRASS AND FEW TREES

**DESIGN INFORMATION CONT.**

STREAM IS  DEGRADING  AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: : RECENT FLOOD ERODED BANK AT NEW B2-B SITE

AND AT BASE OF US 321 EMBANKMENT

CHANNEL MIGRATION TENDENCY (14): HARD CURRENT AGAINST WEST BANK AT NEW B2

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15):

EBI-A	2626.3 FT	EB1-B	2626.9 FT
B1-A	2626.2 FT	B1-B	2626.0 FT
B2-A	2625.0 FT	B2-B	2623.3 FT
EB2-A	2625.3 FT	EB2-B	2625.5 FT

REPORTED BY: L. L. ACKER DATE: 6/9/04

**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.