

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2352901 ID: B-3451 COUNTY: Durham

DESCRIPTION(1): Bridge No. 119 on SR 1306 over Prong of Mud Creek

INFORMATION ON EXISTING BRIDGE

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

BR. NO.: 119 BR. LENGTH: 52' NO. BENTS: 3 NO. BENTS IN: CHANNEL: 1 FLOODPLAIN: 2

FOUNDATION TYPE: Timber Piles

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: End Bent 1 has some minor scour at base of abutment at center

INTERIOR BENTS: Minor scour around piles

CHANNEL BED: None

CHANNEL BANKS: None

EXISTING SCOUR PROTECTION:

TYPE(3): Concrete encasing some of the piles at each end bent

EXTENT(4): Approximately 2 feet above and below water elevation

EFFECTIVENESS(5): Somewhat effective

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): Large branches and logs caught in interior bent

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Alluvial sandy silt and sandy clay
(SS-12, SS-13)

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvial silty sand, sandy silt and
sandy clay (SS-11, SS-12, SS-13)

FOUNDATION BEARING MATERIAL(9): Triassic Sandstone

CHANNEL BANK COVER(10): Trees, grass and brush

FLOOD PLAIN WIDTH(11): 500+/- feet

FLOOD PLAIN COVER(12): Trees, grass and brush

DESIGN INFORMATION CONT.

STREAM IS: X DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: _____

CHANNEL MIGRATION TENDENCY (14): None

GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(15):

INTERIOR BENTS	
	ELEVATION
BENT 1	269.3 FEET
BENT 2	271.0 FEET

The Geotechnically Adjusted Scour Elevations are unchanged from the Hydraulic Unit's estimates of scour for a 500 year storm for Bent 1 and Bent 2.

REPORTED BY: J. L. Love DATE: 12/12/02
J. L. Love

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.
- (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 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.