

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2700501 ID: B-3403 COUNTY: Alleghany

DESCRIPTION(1): Bridge No. 53 on SR-1522 Over Brush Creek.

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

COUNTY BRIDGE NO. 53 BRIDGE LENGTH 81 FT. NO. BENTS IN: CHANNEL 1 FLOOD PLAIN 2

FOUNDATION TYPE: Concrete Footing

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None noted.

INTERIOR BENTS: Minor at Bent One: upstream end.

CHANNEL BED: None noted.

CHANNEL BANKS: Undercutting of bank at End Bent One.

EXISTING SCOUR PROTECTION:

TYPE(3): None

EXTENT(4) N/A

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): None other than old footings from previous low water bridge.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Silt, sand, cobbles, and boulders.

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Upstream: same as above. Channel Bank
 composed of rip-rap protected earthen dam downstream at EB2-side (north bank).

FOUNDATION BEARING MATERIAL(9): Rock.

CHANNEL BANK COVER(10) Grass, bramble, and brush.

FLOOD PLAIN WIDTH(11): 800 feet

FLOOD PLAIN COVER(12): Grass, trees, bramble, brush.

DESIGN INFORMATION CONT.

STREAM IS DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS _____

CHANNEL MIGRATION TENDENCY (14): Slight tendency toward End Bent One.

CRITICAL SCOUR ELEVATION (15): _____

B1-A: 2493 ft. B1-B: 2493 ft.

B2-A: 2496 ft. B2-B: 2494 ft.

REPORTED BY: J. W. Mann, TEG-III DATE: 05/13/01

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 CRITICAL 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 CRITICAL SCOUR ELEVATION. IF THE CRITICAL SCOUR ELEVATIONS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIP RAP ARMORING ON SLOPES, ETC.) THEORETICAL 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.