

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.1944601 ID: B-3470 COUNTY: Haywood

DESCRIPTION(1): Bridge No. 163 on US-276 Over West Fork Pigeon River Overflow

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

COUNTY BRIDGE NO. 163 BRIDGE LENGTH 89 ft. NO. BENTS IN: CHANNEL 3 FLOOD PLAIN 2

FOUNDATION TYPE: Vertical timber abutments, footings.

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: None

CHANNEL BED: None

CHANNEL BANKS: None

EXISTING SCOUR PROTECTION:

TYPE(3): None

EXTENT(4) N/A

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): None

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Alluvial silt, sand, and gravel.

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvial sand.

FOUNDATION BEARING MATERIAL(9): Weathered Rock / saprolitic silty sand.

CHANNEL BANK COVER(10): Vegetation, shrubs.

FLOOD PLAIN WIDTH(11): ± 2000 ft.

FLOOD PLAIN COVER(12): Vegetation, shrubs.

DESIGN INFORMATION CONT.

STREAM IS DEGRADING X AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: Contains standing water and wetland flora in overflow channel.

CHANNEL MIGRATION TENDENCY (14): Toward End Bent Two.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): To be determined by erosion function apparatus.

REPORTED BY: J. W. Mann, TEG-III DATE: 12/16/02

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.