

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 33209.1.1 ID: B-3664 COUNTY: Henderson

DESCRIPTION(1): Bridge No. 21 on SR-1528 over Mud Creek

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

COUNTY BRIDGE NO. 21 BRIDGE LENGTH 51' NO. BENTS IN: CHANNEL 1 FLOOD PLAIN 2

FOUNDATION TYPE: Steel Piles

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: Scoured at EB2.

INTERIOR BENTS: Not Evident

CHANNEL BED: Not Evident

CHANNEL BANKS: Slumping on both banks.

EXISTING SCOUR PROTECTION:

TYPE(3): None

EXTENT(4):

EFFECTIVENESS(5): N/A

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Logs upstream.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): Gravel, cobbles, sand.

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): Alluvial silt, sand, and gravel.

FOUNDATION BEARING MATERIAL(9):

CHANNEL BANK COVER(10): Shrubs and trees.

FLOOD PLAIN WIDTH(11): 2000 ft.

FLOOD PLAIN COVER(12): Grass, shrubs, and trees.

DESIGN INFORMATION CONT.

STREAM IS [X] DEGRADING [] AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY (14): Toward EB2.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): Stream Bed: 2046 ft.

REPORTED BY: J. W. Mann, Project Engineering Geologist DATE: 11/15/2004

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.