

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2852001 B-3419 COUNTY: BURKE

DESCRIPTION(1): BRIDGE NO. 46 ON SR-1223 OVER CATAWBA RIVER

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

COUNTY BRIDGE NO. 46 BRIDGE LENGTH 82 NO. BENTS IN: CHANNEL 3 FLOOD PLAIN 2

FOUNDATION TYPE: CONCRETE

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: SOME EROSION BEHIND NE WING EXTENSION

INTERIOR BENTS: N/A

CHANNEL BED: BOULDERS OVER BEDROCK UP AND DOWNSTREAM.

CHANNEL BANKS: EAST BANK IS CUT BANK BUT IS VERY STABLE. WEST BANK ARMORED UPSTREAM.

EXISTING SCOUR PROTECTION:

TYPE(3): CONCRETE WINGS ALL 4 SIDES W/ STONE EXTENSION ON N WALLS. RIP RAP ON WEST BANK.

EXTENT(4): CONCRETE WINGS 6-12' HIGH, 12' LONG, STONE EXTENSIONS APPROX. 8 FEET LONGER.

EFFECTIVENESS(5): VERY GOOD

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

DESIGN INFORMATION

CHANNEL BED MATERIAL(7) (SAMPLE RESULTS ATTACHED): DID NOT SAMPLE (BOULDERS)

CHANNEL BANK MATERIAL(8) (SAMPLE RESULTS ATTACHED): COBBLES, BOULDERS AND SAND ON THE WEST BANK. SAPROLITIC SAND (SS-3) WITH WEATHERED ROCK AND BEDROCK ON EAST BANK.

FOUNDATION BEARING MATERIAL(9): BEDROCK

CHANNEL BANK COVER(10): WEEDS AND BRUSH WEST BANK - TREES ON EAST BANK.

FLOOD PLAIN WIDTH(11): 300 FEET

FLOOD PLAIN COVER(12): TREES AND WEEDS

DESIGN INFORMATION CONT.

PAGE:

STREAM IS XXX DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: THE GREATEST POTENTIAL SCOUR IS ON THE WEST BANK.

MINIMAL POTENTIAL SCOUR FOR THE EAST BANK.

CHANNEL MIGRATION TENDENCY (14): LONG TERM TO THE EAST - SHORT TERM TO WEST.

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): THE GEOTECHNICAL UNIT AGREES

WITH INFORMATION GIVEN BY THE HYDRAULICS UNIT AS SHOWN ON PLANS DATED 1/8/2003.

REPORTED BY: PQ LOCKAMY DATE: 6/4/03

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.