

Rev. 5/91

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2281301 ID: B-4270 COUNTY: Sampson

DESCRIPTION (1): Bridge No. 93 on SR 1240 over Little Coharie Creek

INFORMATION ON EXISTING BRIDGES Information obtained from [X] field inspection [] microfilm (Reel: Position:) [X] other Bridge Survey Report of 11/19/02

COUNTY BRIDGE NO. 93 BRIDGE LENGTH 154'5" NO. BENTS 10 NO. BENTS IN CHANNEL 3 FLOOD PLAIN 7

FOUNDATION TYPE: Timber piles, some replaced with steel H piles or reinforced with concrete collars and timber braces

EVIDENCE OF SCOUR (2):

ABUTMENTS OR END BENT SLOPES: None observed

INTERIOR BENTS: Minor scour at bents 4 through 6, 2 to 3 feet of scour at bents 7 and 8

CHANNEL BED: None observed

CHANNEL BANKS: Some leaning trees downstream

EXISTING SCOUR PROTECTION:

TYPE (3): Timber abutments with wing walls

EXTENT (4): To approximate toe of fill

EFFECTIVENESS (5): Appears satisfactory

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

DESIGN INFORMATION

CHANNEL BED MATERIAL (7) (SAMPLE RESULTS ATTACHED): Loose to medium dense fine to coarse sand (SS-10)

CHANNEL BANK MATERIAL (8) (SAMPLE RESULTS ATTACHED): Very soft silty fine sandy clay (SS-20) and slightly organic clayey fine sandy silt (SS-9)

FOUNDATION BEARING MATERIAL (9):

CHANNEL BANK COVER (10): Trees and brush

DESIGN INFORMATION CONT.

FLOOD PLAIN WIDTH (11): Approximately 0.4 miles

FLOOD PLAIN COVER (12): Woodland

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

OTHER OBSERVATIONS AND COMMENTS: None

CHANNEL MIGRATION TENDENCY (14): Unlikely

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): The Geotechnically adjusted scour elevation should concur with the overtopping Hydraulics theoretical scour of 58 feet at Bent 1, 68.5 feet at Bent 2 and 67 feet at Bent 3.

REPORTED BY: EA Wint DATE: 4-28-03

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, AGGRADING, OR EQUILIBRIUM. (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.