Rev. 5/91

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2261201 ID: B-3682 COUNTY: Onslow

DESCRIPTION (1): Bridge No. 3 on SR 1423 over Little Northeast Creek

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

COUNTY BRIDGE NO. 3 BRIDGE LENGTH 70' NO. BENTS 3 NO. BENTS IN CHANNEL 1 FLOOD PLAIN 2

FOUNDATION TYPE: Piles

EVIDENCE OF SCOUR (2):

ABUTMENTS OR END BENT SLOPES: Little to none

INTERIOR BENTS: Some small scour pockets around piles, very shallow

CHANNEL BED: None

CHANNEL BANKS: Over steepened banks on the outside of bends

EXISTING SCOUR PROTECTION:

TYPE (3): Rip-rap and head-wall

EXTENT (4): Rip-rap minor around base of wing walls

EFFECTIVENESS (5): Very good

OBSTRUCTIONS (6) (DAMS, DEBRIS, ETC.): No obstructions

DESIGN INFORMATION

CHANNEL BED MATERIAL (7) (SAMPLE RESULTS ATTACHED): N/A

CHANNEL BANK MATERIAL (8) (SAMPLE RESULTS ATTACHED): Fine to coarse sand (SS-1)

FOUNDATION BEARING MATERIAL (9): Weathered limestone and sandstone

CHANNEL BANK COVER (10): Trees, grasses and wetland plants adjacent to bridge

DESIGN INFORMATION CONT.

FLOOD PLAIN WIDTH (11): 660± feet

FLOOD PLAIN COVER (12): Trees and undergrowth, some wetland plants adjacent to bridge

STREAM IS X DEGRADING ____AGGRADING ____EQUILIBRIUM (13)

OTHER OBSERVATIONS AND COMMENTS: Very little change in erosion or deposition, stream is near equilibrium

CHANNEL MIGRATION TENDENCY (14): Migration is low over life of the bridge

GEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): Scour should approximate theoretical scour elevations provided by the Hydraulics Unit: Bents 1 & 2: elev. 2'±; Bents 3 & 4: elev. 5.5' and 4.5' respectively.

REPORTED BY: John R. McCray DATE: 1-22-03

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.