

GEOTECHNICAL UNIT FIELD SCOUR REPORT

SHEET OF

2

SHEET 25 OF 34

PROJECT: B-3629 TIP NO.: 8.2481401 COUNTY: CASWELL

DESCRIPTION(1): SR-1566/COUNTY LINE CREEK

◆ **INFORMATION ON EXISTING BRIDGES** Information obtained from Field Inspection
 Microfilm (Reel: Position:)
 Other *HYDRO SKETCH*

COUNTY BRIDGE NO. BR-11 BRIDGE LENGTH 201 NO. BENTS 10 NO. BENTS IN: CHANNEL 5 FLOODPLAIN 10

FOUNDATION TYPE: STEEL H PILE

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: NONE OBSERVED BUT EB-1 ABUNMENT IS ROTTEN & SOIL CAN WASH OUT OF IT.

INTERIOR BENTS: LOCAL SCOUR AROUND EVERY H PILE

CHANNEL BED: LOCAL SCOUR BETWEEN EACH LOG JAM BETWEEN BENTS

CHANNEL BANKS: EB1-A SIDE BEING ERODED NOW BECAUSE OF LOG JAM. EB2-B SIDE HAS BEEN ERODED RECIENTLY AS NEW ROOTS ARE EXPOSED.

◆ **EXISTING SCOUR PROTECTION:**

TYPE(3): WOODEN ABUTMENT AND WING WALLS AT EB1. COROGATED ABUTMENT WALL AT EB2

EXTENT(4): WOODEN WING WALLS ABOUT 5' IN LENGTH. WOODEN ABUTMENT NEW TIN BUT NO WINGWALLS ON EB2.

EFFECTIVENESS(5): EB1 ABUTMENT WALL IS ROTTEN TIN IS NEW

OBSTRUCTIONS(6) (DAMS, DEBRIS, ETC.): MANY LOG JAMS BETWEEN EXISTING H PILES. ONE WASHED OUT AND ONE REPLACED WHILE WE WERE THERE. THIS HAS CAUSED WATER TO BACK UP & CAUSE THE WATER TO GO OVER THE BANK TOWARDS THE EB2-B SIDE AND CAUSE SCOUR FROM THE BRIDGE BEAMS TO SCOUR BEYOND THE BRIDGE.

◆ **DESIGN INFORMATION**

CHANNEL BED MATERIAL(7) (Sample Results Attached): SS-6

CHANNEL BANK MATERIAL(8) (Sample Results Attached): CHANNEL BANK HAS BEEN WASHED AWAY ON BOTH SIDES BECAUSE OF DEBRIS DAMS. OLD STONE DAM ON DOWNSTREAM SIDE. WATER HAS SCoured AROUND BOTH SIDES OF THEE OLD DAM.

FOUNDATION BEARING MATERIAL(9): WEATHERED ROCK OR CRYSTALLINE ROCK

CHANNEL BANK COVER(10): TREES

FLOOD PLAIN WIDTH(11): 1200'

FLOOD PLAIN COVER(12): WOODS ON EB1 SIDE, FIELDS ON EB2 SIDE

STREAM IS: DEGRADING AGGRADING (13)

◆ **DESIGN INFORMATION CONT.**

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY(14): TOWARD THE EB2 SIDE AT PRESENT AS THERE IS A LOG JAM BETWEEN EXSISTING B3 & B4.

GEOTECHNICAL ADJUSTED SCOUR ELEVATIONS (15):

BENT	PRED SCOUR	PRED SCOUR ELEV.	WEATHERED ROCK ELEV.	ADJ SCOUR ELEV.
B1	0	387	369.31	382
B2	6.5	380	369.48	380
B3A	12'	367	368.98	365
B3B	12'	367	365.12	365
B4	14'	374	369.33	369.3

REPORTED BY: CCM DATE: 12.12.03

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 (RIPRAP, 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, RIPRAP, 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 GEOTECHNICAL 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 GEOTECHNICAL ADJUSTED SCOUR ELEVATION. IF THE GEOTECHNICAL ADJUSTED SCOUR ELEVATION IS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIPRAP ARMORING ON SLOPES, ETC.) THE GEOTECHNICAL ADJUSTED SCOUR ELEVATION IS BASED ON THE ERODABILITY OF MATERIALS WITH CONSIDERATION FOR JOINTING, FOLIATION, BEDDING ORIENTATION AND FREQUENCY; CORE RECOVERY PERCENTAGE; PERCENT RQD; DIFFERENTIAL WEATHERING; SHEAR STRENGTH; OBSERVATIONS AT EXISTING STRUCTURES; OTHER TESTS DEEMED APPROPRIATE; AND OVERALL GEOLOGIC CONDITIONS AT THE SITE.