

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2801601 TIP NO.: B-3828 COUNTY: CLEVELAND

DESCRIPTION(1): BRIDGE NO. 233 ON SR 1906 (COSTNER RD.) OVER BUFFALO CREEK

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

COUNTY BRIDGE NO. 233 BRIDGE LENGTH 120.1' NO. BENTS 4 NO. BENTS IN: CHANNEL 2 FLOODPLAIN 4

FOUNDATION TYPE: END BENTS: ABUTMENT W/ WING WALLS, INTERIOR BENTS: PILES

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: N/A

INTERIOR BENTS: N/A

CHANNEL BED: STA. 14+80 +/- IS 2' +/- DEEPER THAN REST OF CHANNEL DUE TO SWIFT WATER

CHANNEL BANKS: CHANNEL BANK BETWEEN EXISTING B2 & EB2 BEING REMOVED BY CHANNEL MIGRATION.

◆ **EXISTING SCOUR PROTECTION:**

TYPE(3): NONE

EXTENT(4): N/A

EFFECTIVENESS(5): N/A

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

◆ **DESIGN INFORMATION**

CHANNEL BED MATERIAL(7) (Sample Results Attached): AS SS-4, GRAY-BRN SAND W/ COBBLES

CHANNEL BANK MATERIAL(8) (Sample Results Attached): AS SS-2 OR SS-2A, BRN SILT ON TOP OF SAND

FOUNDATION BEARING MATERIAL(9): UNKNOWN

CHANNEL BANK COVER(10): GRASS, BRIARS, VINES

FLOOD PLAIN WIDTH(11): 300' +/-

FLOOD PLAIN COVER(12): GRASS & TREES (6"-2' DIA.)

STREAM IS: DEGRADING AGGRADING (13)

OTHER OBSERVATIONS AND COMMENTS: SANDBAR FROM PROPOSED B1-A TO 30' UPSTREAM. FIELD TO THE LEFT OF STA. 13+00

DRAINS INTO CREEK BETWEEN EB1 & B1. 2'-3' DEEP & 2'-3' WIDE DITCH EATING AWAY CHANNEL BANK STARTING AT STA. 14+00 +/- AND GOING ALL THE WAY TO THE CREEK

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◆ **DESIGN INFORMATION CONT.**

CHANNEL MIGRATION TENDENCY(14): SLIGHT TO MODERATE TENDENCY FOR EAST / N.E. MIGRATION

GEOTECHNICAL ADJUSTED SCOUR ELEVATIONS (15): NO SCOUR ANTICIPATED ON END BENTS ASSUMING ADEQUATE RIP-RAP IS USED. OUR G.A.S.E. ARE AS FOLLOWS: BENT ONE - 773.00'. THIS ELEVATION FOR ALL OF BENT ONE MATCHES THE PREDICTION MADE BY THE HYDRAULICS UNIT.

REPORTED BY: J.P. ROGERS DATE: 2/27/03

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.