

Rev. 5/91

GEOTECHNICAL UNIT FIELD SCOUR REPORT

PROJECT: 8.2110401 ID: B-4222 COUNTY: PasquotankDESCRIPTION (1): Bridge No. 24 on SR 1140 over Halls Creek

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

COUNTY BRIDGE NO. 24 BRIDGE LENGTH 70' NO. BENTS 9 NO. BENTS IN CHANNEL 7 FLOOD PLAIN 2FOUNDATION TYPE: Steel piles

EVIDENCE OF SCOUR (2): _____

ABUTMENTS OR END BENT SLOPES: None notedINTERIOR BENTS: None notedCHANNEL BED: None notedCHANNEL BANKS: None noted**EXISTING SCOUR PROTECTION:**TYPE (3): Timber end wallEXTENT (4): 3' outside bridgeEFFECTIVENESS (5): Some erosion of embankment around bulkhead at north cornerOBSTRUCTIONS (6) (DAMS, DEBRIS, ETC.): None noted**DESIGN INFORMATION**CHANNEL BED MATERIAL (7) (SAMPLE RESULTS ATTACHED): Organic sand, fine to coarse sand (SS-10)CHANNEL BANK MATERIAL (8) (SAMPLE RESULTS ATTACHED): *NW - fine to coarse sand (SS-1), SE - muck(SS-20) *Channel bank consists of a timber bulkheadFOUNDATION BEARING MATERIAL (9): Fine to coarse sandCHANNEL BANK COVER (10): Wooded**DESIGN INFORMATION CONT.**FLOOD PLAIN WIDTH (11): 200± feetFLOOD PLAIN COVER (12): WoodedSTREAM IS DEGRADING AGGRADING X EQUILIBRIUM (13)

OTHER OBSERVATIONS AND COMMENTS: _____

CHANNEL MIGRATION TENDENCY (14): UnlikelyGEOTECHNICALLY ADJUSTED SCOUR ELEVATION (15): Scour depths should approximate theoretical scourelevations provided by the Hydraulics Unit at an elevation of -13 feet (4.3' depth)REPORTED BY: Stuart A Brown DATE: 4/14/03**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.