

PROJECT: 8.2407701 ID: B-3530 COUNTY: Wake

DESCRIPTION(1): Bridge No. 174 on -L- (SR 2320, Riley Hill Rd.) over Buffalo Creek

INFORMATION ON EXISTING BRIDGE

- field inspection
 Information obtained from: microfilm (Reel: Pos:)
 other: Hydro Report

BR. NO.: 174 BR. LENGTH: 40 NO. BENTS: 2 NO. BENTS IN: CHANNEL: FLOODPLAIN: 2

FOUNDATION TYPE: Timber Piles with wood abutments

EVIDENCE OF SCOUR(2):

ABUTMENTS OR END BENT SLOPES: None

INTERIOR BENTS: N/A

CHANNEL BED: None

CHANNEL BANKS: Minimal

EXISTING SCOUR PROTECTION:

TYPE(3): concrete block on south - End Bent 2 / Wooden End Wall

EXTENT(4): 2 ft.X 6 ft. / 10 ft. from bridge

EFFECTIVENESS(5): Satisfactory

OBSTRUCTIONS(6) (DAMS,DEBRIS,ETC.): Dam is approximately 50 ft.+/- on the north side of the bridge.

DESIGN INFORMATION

CHANNEL BED MATERIAL(7): Sand

CHANNEL BANK MATERIAL(8): Sand

CHANNEL BANK COVER(9): Trees, grass and brush

FLOOD PLAIN WIDTH(10): 100 ft.+/-

FLOOD PLAIN COVER(11): Trees, grass and brush

DESIGN INFORMATION CONT.

STREAM IS: X DEGRADING AGGRADING (12)

OTHER OBSERVATIONS AND COMMENTS:

CHANNEL MIGRATION TENDENCY (13): None

GEOTECHNICALLY ADJUSTED SCOUR ELEVATIONS(14):

BENT 1: 306.1 FEET GASEs agrees with the scour elevation indicated on the Hydraulics Report.

BENT 2: 309.0 FEET At Bent 2 geotechnical analysis based on a correlation of scourability with material strength yields scour elevation 3+/- feet higher than the elevation indicated on the Hydraulic Report.

REPORTED BY: C. Doy Gja DATE: 9-29-03
C. D. Czajka

INSTRUCTIONS

- (1) GIVE THE DESCRIPTION OF THE SPECIFIC SITE, INCLUDING 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 BASED ON OBSERVATION AND/OR SAMPLES.
- (8) DESCRIBE THE CHANNEL BANK MATERIAL BASED ON OBSERVATION AND/OR SAMPLES.
- (9) DESCRIBE THE BANK COVERING (GRASS, TREES, RIP RAP, NONE, ETC.)
- (10) GIVE THE APPROXIMATE FLOOD PLAIN WIDTH (ESTIMATE).
- (11) DESCRIBE THE FLOOD PLAIN COVERING (GRASS, TREES, CROPS, ETC.)
- (12) CHECK THE APPROPRIATE SPACE AS TO WHETHER THE STREAM IS DEGRADING OR AGGRADING.
- (13) DESCRIBE THE POTENTIAL OF THE BODY OF WATER TO MIGRATE Laterally DURING THE LIFE OF THE BRIDGE (APPROXIMATELY 100 YEARS).
- (14) 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 THE RELATIONSHIP BETWEEN THE HYDRAULICS THEORETICAL SCOUR AND THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION. IF THE GEOTECHNICALLY ADJUSTED SCOUR ELEVATION IS DEPENDENT ON SCOUR COUNTER MEASURES, EXPLAIN. (RIPRAP ARMORING ON SLOPES, ETC.) 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.