



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

January 11, 2007

NC Division of Water Quality
Attention: Mr. Brian Wrenn
1621 Mail Service Center
Raleigh, NC 27699

Subject: **Additional Information Request for Section 401 Modification** for US 1 Vass Bypass, Moore/Lee County; TIP No. R-0210WM; Federal Aid No. NHS-1 (108); State Project No. 6.569005T; Division 8; WBS 34330.4.3.

Dear Mr. Wrenn:

The North Carolina Department of Transportation (NCDOT) received a request for additional information to supplement the 401 Modification for R-0210 (Vass Bypass) that was submitted on December 18, 2006. The items requested are listed below. Information addressing each item can be found on the attached documents.

Requested Items:

Item #1

Direct discharges of stormwater at Stations 29+10 L (Site AA) and 31+10 L (Site BB)

NCDWQ Comment: The proposed corrective action places a rip-rap berm in the buffer of a stream relocation for which NCDOT was given mitigation credit. NCDWQ has concerns with placing hardening structures in the buffer of an on-site mitigation project. NCDWQ would like to discuss other options for correcting the direct discharge of stormwater.

NCDOT Response: See Attachment titled: DWQ Inquiry from Brian Wrenn 03 January 2007

Item #2

Attachment B plan drawings

NCDWQ Comment: NCDOT describes the structures to be installed in the narrative and provides typicals for the planned structures, but does not show the structures on the plan drawings. Please provide to scale drawings of the structures on the plans showing the fill and excavation limits in relation to the existing facility, stormwater management structures, and jurisdictional waters.

NCDOT Response: See Attachment titled: DWQ Inquiry from Brian Wrenn 03 January 2007

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
NATURAL ENVIRONMENT UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1334 or
919-715-1335

FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BLVD. SUITE 240
RALEIGH NC 27604

Item #3

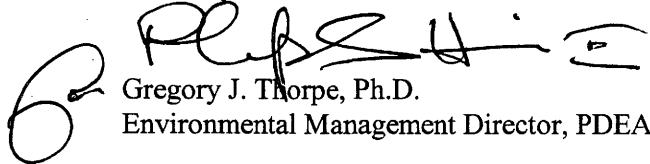
Attachment C Storage Volume Calculations

NCDWQ Comment: NCDOT has provided the available storage volumes for the proposed structures. However, it unclear if the available volumes are equivalent to the required 2,600 gallon storage volume plus the 2-year storm flow (per the March 15, 2005 guidance). Please provide the necessary calculation to show that the proposed storage volumes are adequate.

NCDOT Response: See Attachments titled: Storage Needs

If you have any questions regarding this letter or the attachments, please contact Ms. Deanna Riffey at (919) 715-1409.

Sincerely,

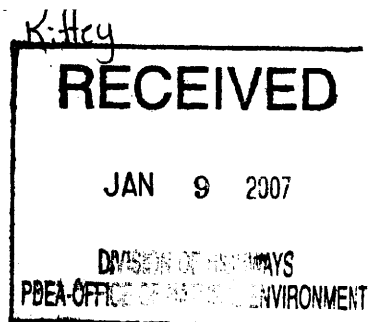


Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

cc

Mr. John Hennessy, NCDWQ
Ms. Paul Rawls, NCDWQ
File R-0210

DWQ Inquiry from Brian Wrenn 03 January 2007



Item 1

On Section R-210C left of stations 29+10 (site AA) and 31+10 (site BB), elimination of the direct discharge from the highway proposes construction of swale and berm parallel to the toe of roadway slope and the natural stream relocation mitigation is proposed. The construction and installation will not encroach into the mitigation site. During construction the contractor installed silt fence barrier with washed stone along the edge of the mitigation site and 10'-12' from toe of fill slope. When project was stabilized, the contractor removed the silt fence barrier and spread the washed stone in the open area between toe of slope and mitigation site limits. The installation of swale and berm is to be made in this gravel field zone and not in the mitigation floodplain. The scale of plan sheet 22 is so small that reference is made to sheet 3 Typical Section.

Item 2

Attached are revised copies of plan sheets 9 & 13 that show excavated basins 1 & 5, respectively. At all other locations the construction limits are so small the scale on the sheets renders them not distinguishable. Therefore, Detail Sheets 26-38 are provided. It should be noted that on sheet 13, site CC, is a Preformed Scour Hole and the Standard Symbol is shown to assist the reviewer in locating the site and does not represent the "to scale" construction limits on the plan sheet scale of 1" = 26.67 meters.

Item 3

Attached, please find storage volume calculations for 2,600-gallon spill plus 2 year storm event.

To be conservative watersheds analysed as 100% impervious or saturated condition
Spill Storage Req'd = 12.87 c.y. & 2 yr. rainfall = 0.52 inches
(per NOAA Atlas 14)

Section: R-210 A

60+50 Lt.

$$1.0 \text{ Ha} \times 209.95 \text{ cy/Ha} = 209.95 \text{ cy} + 12.87 \text{ cy} = 222.8 \text{ cy.}$$

75+80 Rt.

$$0.31 \text{ Ha} \times 209.95 \text{ cy/Ha} = 65.85 \text{ cy} + 12.87 \text{ cy} = 78.7 \text{ cy.}$$

77+00 Lt.

$$0.12 \text{ Ha} \times 209.95 \text{ cy/Ha} = 25.19 \text{ cy} + 12.87 \text{ cy} = 38.0 \text{ cy.}$$

77+20 Lt.

$$0.446 \text{ Ha} \times 209.95 \text{ cy/Ha} = 93.55 \text{ cy} + 12.87 \text{ cy} = 106.4 \text{ cy.}$$

75+00 Rt.

$$4.3 \text{ Ha} \times 209.95 \text{ cy/Ha} = 902.79 \text{ cy} + 12.87 = 915.7 \text{ c.y.}$$

79+00 Lt.

$$0.446 \text{ Ha} \times 209.95 \text{ cy/Ha} = 251.19 \text{ cy} + 12.87 \text{ cy} = 106.4 \text{ cy.}$$

81+80 Rt.

$$0.0974 \text{ Ha} \times 209.95 \text{ cy/Ha} = 20.45 \text{ cy} + 12.87 \text{ cy} = 33.3 \text{ cy.}$$

86+30 Rt.

$$0.150 \text{ Ha} \times 209.95 \text{ cy/Ha} = 31.49 \text{ cy} + 12.87 \text{ cy} = 44.4 \text{ cy.}$$

To be conservative watersheds analysed as 100% impervious or saturated condition
Spill Storage Req'd = 12.7 c.y. & 2yr rainfall = 0.52" (per NOAA Atlas 14)

Section R-210 B

140+80 Rt.

$$0.389 \text{ Ha} \times 209.95 \text{ c.y./Ha} = 81.67 \text{ c.y.} + 12.87 \text{ c.y.} = 94.5 \text{ c.y.}$$

Section R-210 C

20+80 Lt.

$$0.526 \text{ Ha} \times 209.95 \text{ c.y./Ha} = 110.51 \text{ c.y.} + 12.87 \text{ c.y.} = 123.4 \text{ c.y.}$$


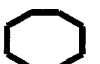
31+60 Rt.

$$0.203 \text{ Ha} \times 209.95 \text{ c.y./Ha} = 42.61 \text{ c.y.} + 12.87 \text{ c.y.} = 55.4 \text{ c.y.}$$

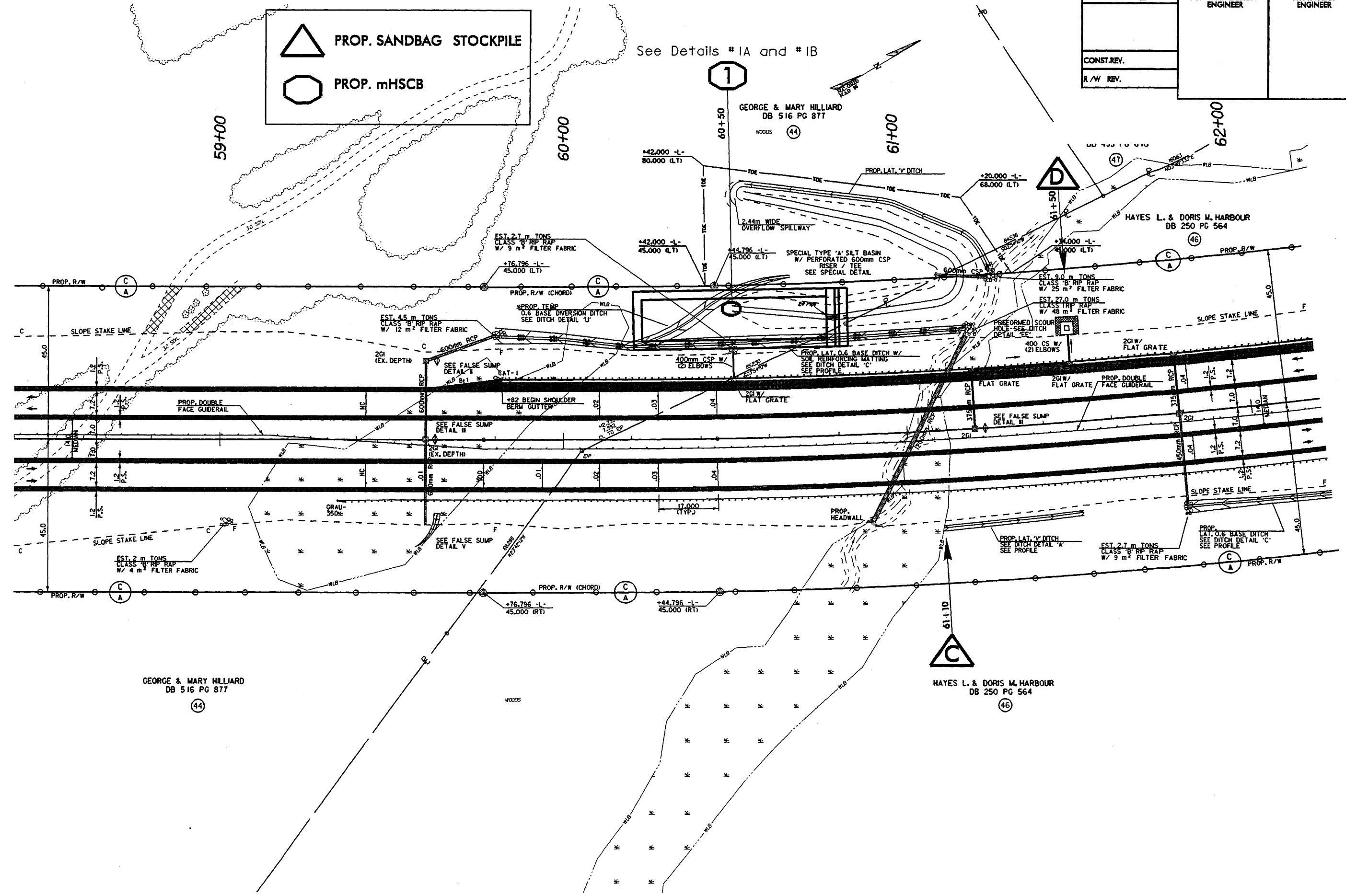
31+80 Lt

$$1.133 \text{ Ha} \times 209.95 \text{ c.y./Ha} = 237.87 \text{ c.y.} + 12.87 \text{ c.y.} = 250.7 \text{ c.y.}$$

METRIC	PROJECT REFERENCE NO.	SHEET NO.
	R-02101W	9
	R-0210A	16
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.		
R/W REV.		

 PROP. SANDBAG STOCKPILE
 PROP. mHSCB

See Details # 1A and # 1B




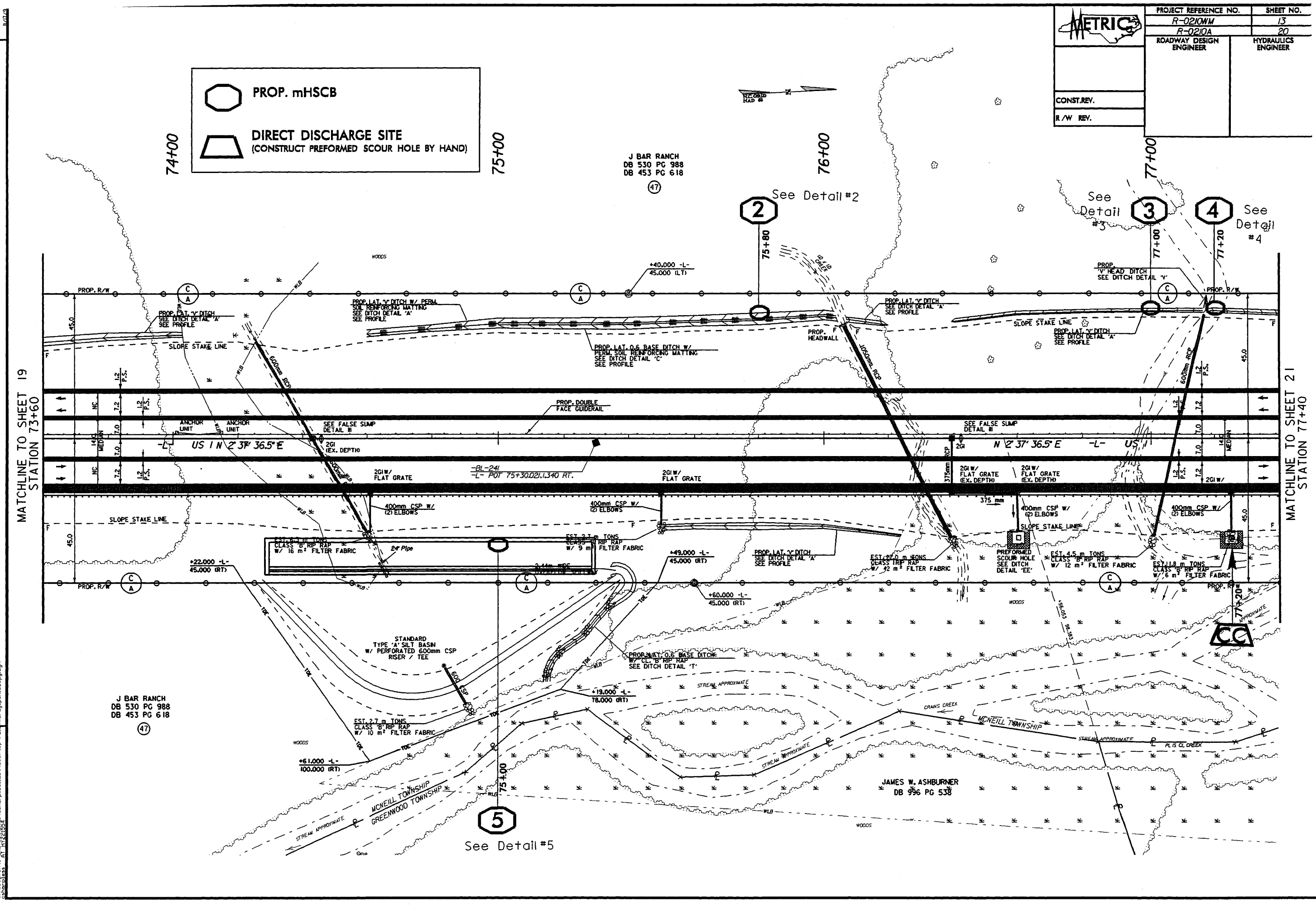
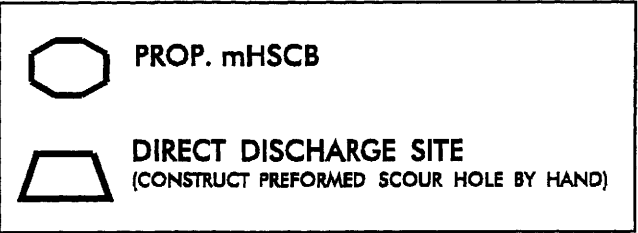
REVISIONS

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GEORGE & MARY HILLIARD
 DB 516 PG 877
 (44)

HAYES L. & DORIS M. HARBOUR
 DB 250 PG 564
 (46)

	PROJECT REFERENCE NO.	SHEET NO.
	R-0210NM R-0210A	13 20
	ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
CONST. REV.		
R/W REV.		



MATCHLINE TO SHEET 19
STATION 73+60

MATCHLINE TO SHEET 21
STATION 77+40

REVISIONS

J BAR RANCH
DB 530 PG 988
DB 453 PG 618

J BAR RANCH
DB 530 PG 988
DB 453 PG 618

JAMES W. ASHBURNER
DB 996 PG 538

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74+00

75+00

76+00

77+00

2 See Detail #2

3 See Detail #3

4 See Detail #4

5 See Detail #5

