DATE: 9-11-97

MEMORANDUM TO ROAD DESIGN SQUAD LEADER GRESHAM

FROM: HYDRUALIC ENGINEER HULBERT

SUBJECT: Hydrology Data for Bridge over HORSE CREEK

Rt/Rd S-254 (LANGLEY DAM RD.) - AIKEN CO.

Bridge Length 40 M. Bridge Roadway Width 10.2 M.

Beg. Sta. 0+315.310 End Sta. 0+355.310

Skew Angle 0° Minimum F.G. Elev. 49.47

End Fill Slope 2:1 Riprap Req'd ✓ Yes ___ No

To Elev. 47.00

Comments: 2-15 m TYPE II SPANS (STA. 0+315.31 TO STA. 0+345.31) AND 1-10m FLAT SLAB SPAN (STA. 0+345.31 TO STA. 0+355.31)

CHANGED TO 5@10m PER PROJ. ENGR. 2-12-98

High Water Data:

25 year H.W. Elev. = 46.44 including 0.07 m.

100 year H.W. Elev. = 46.83 including 0.06 m.

NORMAL WATER ~~Highwater~~ Elev. = 44.76 (NORMAL WATER DATE 3/5/97)

Highwater Elev. = 45.82

Hydrology Data:

D.A. = 238.28 sq. km.

Q_{25} = 53.8 cms.

Area furnished under Elev. 46.44 = 50.13 sq. m.

$Vel._{25}$ = 1.07 m/sec.

Q100 = 74.4 cms.

Area furnished under Elev. 46.83 = 60.81 sq. m.

$Vel._{100}$ = 1.23 m/sec.

Overtopping Flood:

Q = 263.2 cms.

Probability LESS THAN 0.002

William H. Hulbert
Hydraulic Engineer