STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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STATE PROJECT: 34459.1.6 (R-2552C)
F.A. PROJECT: NHF-60-1(9)
COUNTY: Johnston
DESCRIPTION: US 70 (Clayton Bypass) from east of SR 1560 to US 70 east of Clayton

SUBJECT: Dual bridges No. 602 on -L2RT- Sta. 122+14.8 and No. 603 on -L2LT- Sta. 121+97.2 over SR 1563 (Little Creek Church Road)

Project Description

Two one-span bridges, 31 meters in length are proposed on -L2LT- and -L2RT- (US 70 bypass) over Little Creek Church Road. The project is located in Johnston County about two miles southeast of Clayton. The skews vary at each end bent but range from 72°05'39.7" to 73°18'11.5".

The subsurface investigation was conducted during February, September and October of 2004 using a CME-550 and Mobile B-57 drill machines. Six Standard Penetration Test borings were performed at the proposed end bent locations to define the subsurface conditions. Representative soil samples were obtained for visual classification in the field and selected samples were submitted to the Materials and Test Unit for laboratory analysis.

Physiography and Geology

The project is located in gently rolling terrain of the Coastal Plain Physiographic Province. Geologically, Coastal Plain Terrace Deposits overlie residual soils and weathered mica schist of the Raleigh Belt. The area consists of farmland and sparse dwellings.

Soil Properties

Soils encountered on the project site include Coastal Plain and residual soils.

Coastal Plain soils were encountered in each boring and range in thickness from 15.27 to over 21.17 meters. Coastal Plain soil consists predominantly of very soft to hard, silty clay (A-7-6), very loose to dense, clayey sand (A-2-7) and medium stiff to hard, sandy silt (A-4). The Coastal Plain soils were deposited on residual soil and weathered rock.

Residual soils were encountered in EB2-A (WBL) and range in thickness from 1.62 to 2.17 meters. These soils consist of very stiff to hard, saprolitic, silty clay (A-7).

Rock Properties

Soft weathered rock is derived from underlying mica schist. It ranges in thickness from 0.79 to 2.08 meters. The top of the soft weathered rock was encountered at elevation 73.78 meters in EB2-A (WBL) and 70.16 meters in EB1-A (WBL).

Groundwater

Groundwater was encountered at in all six borings. Groundwater elevations ranged from 88.55 to 86.91 meters.

Notice

This Geotechnical foundation report is based on the Preliminary General Drawing for Structure No. 602 and 603, dated August 2, 2004. If significant changes are made in the design or location of the proposed structure, the subsurface information should be reviewed and modified as necessary.

Respectfully submitted,

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Project Geologist