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: Structure No. 606 on -FLYOVER- over -Y4- (US 70) at Sta. 9+28.021

Project Description

A two-span bridge, 72.5 meters in length with a 58°31'30" skew at the interior bent and a 90° skew at the end bents is proposed on -FLYOVER- over -Y4- (US 70). The project is located in Johnston County about two miles southeast of Clayton.

The subsurface investigation was conducted during February and October of 2004 using a CME-550 and B-57 drill machines. One Standard Penetration Test boring was performed at each of the three proposed bents. 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 the gently rolling terrain of the Coastal Plain Physiographic Province. Geologically, Coastal Plain Terrace deposits overlap Residual soils and weathered mica schist of the Raleigh Belt. The area consists of farmland, sparse homes and businesses.

Soil Properties

Soils encountered on the project include Roadway Embankment, Coastal Plain, and Residual soils.

Roadway Embankment soils were encountered in borings EB1-B and B1-B and range in thickness from 0.00 to 2.80 meters. Roadway Embankment soil consists of medium stiff, silty clay (A-7).

Coastal Plain soils were encountered in each boring and range in thickness from 11.36 to 12.89 meters. Coastal Plain soil consists predominantly of very soft to hard, sandy and silty clay (A-6, A-7), and loose to medium dense, silty and clayey sand (A-2-4, A-2-7). The Coastal Plain soils were deposited on Residual soil.

Residual soils were encountered in each boring and range in thickness from 1.82 to 4.42 meters. Residual soils consist of very stiff to hard, saprolitic, silty clay (A-7), and hard, saprolitic sandy and clayey silt (A-4, A-5).

Rock Properties

Soft weathered rock is derived from underlying mica schist and ranges in thickness from 0.27 to over 1.80 meters. The top of the soft weathered rock was encountered at elevation 74.91 meters in EB1-B, 71.43 meters in B1-B, and 71.84 meters in EB2-A.

Groundwater

Groundwater elevations ranged from 89.13 to 86.44 meters across the bridge site.

Notice

This Geotechnical foundation report is based on the Preliminary General Drawing for Structure No. 606, dated August, 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,

Neil T. Roberson

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Project Geologist