



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

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SECRETARY

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STATE PROJECT: 6.469002T (R-0513BA)  
F. A. PROJECT: N/A  
COUNTY: Robeson

DESCRIPTION: US 74 from east of SR 1166 (Cabinet Shop Rd.) to west of SR 1157 (Henry Berry Rd.)

SUBJECT: Geotechnical Report - Structure Inventory for Dual Structures No. 3 & 4 on -L- (US 74) over CSX Railroad

**Project Description**

The proposed dual structures are a single-span bridge, 51.0 meters in length, on new location. It will carry proposed US 74 (-L-) over existing CSX Railroad. The Bents will be constructed on a 69° 30' 56.1" skew. The project is located in Robeson County about 12 kilometers east of Maxton.

A subsurface investigation was conducted during April and May of 2003, utilizing an ATV-mounted CME 550 drill machine. Standard Penetration Test borings were performed at each of the proposed end bent locations. All borings were advanced using rotary with bentonite drilling fluid. Representative soil samples were obtained for visual classification in the field and selected samples were sent to the Materials and Test Unit for laboratory analysis. Shelby Tube samples were also collected to test for triaxial CU and consolidation by the Materials and Test Unit. Results are pending.

**Physiography and Geology**

The project is located in flat terrain of the Coastal Plain Physiographic Province. Geologically, the site is underlain by sands and clays of the Pliocene age Duplin Formation and the Cretaceous age Black Creek Formation. The area consists of a mixture of wooded land with scattered homes.

**Soil Properties**

Soils encountered at the project site consist of Coastal Plain soils.

Coastal Plain soils in the Duplin Formation were encountered in all borings and range in thickness from 8.00 to 8.72 meters. The soils predominantly consist of tan-gray, moist to wet, soft to medium stiff, sandy and silty clay (A-6, A-7-6) interlayered with tan-gray-white, wet to saturated, very loose to medium dense, fine to coarse sand and clayey sand (A-3, A-1-b, A-2-6).

Soils belonging to the Black Creek Formation were encountered in all borings from an elevation of 38.47 to 38.06 meters. These soils predominantly consist of tan-brown-gray, wet, medium stiff to hard, sandy and silty clay (A-6, A-7-6) and tan-gray, wet to saturated, loose to very dense, silty and clayey sand (A-2-4, A-2-6). Borings were advanced to an elevation of 24.0 ± meters with no significant change in stratigraphy.

**Groundwater**

Groundwater was encountered at each bent location. Groundwater elevations ranged from 44.86 to 44.57 meters at the end bents at the time of this investigation.

**Notice**

The Geotechnical foundation report is based on the Preliminary General Drawing for dual structures no. 3 & 4 on -L- (US 74) over CSX Railroad dated January 15, 2003. 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,

A handwritten signature in black ink, appearing to read "Joseph I. Milkovits, Jr.".

Joseph I. Milkovits, Jr.  
Project Geologist