STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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January 2004

STATE PROJECT: 8.1761801 (B-3714)
F.A. PROJECT: BRSTP-268 (7)
COUNTY: Wilkes

DESCRIPTION: Roadway and Approaches to Bridge No. 83 on NC-268 over Mulberry Creek

SUBJECT: Geotechnical Report – Inventory

This project is located in central Wilkes County, partially within the city limits of North Wilkesboro. The proposed roadway will provide approaches to a new bridge. This bridge is to be located approximately 40.0 feet upstream of the existing structure.

The subsurface investigation was conducted using a CME-550 drill machine. Borings were advanced using 8-inch hollow stem augers and -NX- casing with advancer. Standard Penetration Tests (SPT's) were performed at intervals of 5.0 feet.

Physiography, Land Use and Surface Drainage

The project is located at the border of the Inner Piedmont Belt and the Blue Ridge Belt. The valley containing Mulberry Creek is broad and gently rolling. The elevation difference within the project corridor is approximately 48.0 feet.

Most of the land within the construction limits is fallow fields. There is a light to medium industrial site to the right of approximate Station 12+00.

Drainage within the project corridor is provided by Mulberry Creek.

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LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Geotechnical Descriptive Analysis

The beginning of this project involves a minor amount of cut to establish the ditchlines. From approximate Station 10+50, increasing amounts of embankment are needed to approach the proposed bridge elevation. The maximum amount of embankment is slightly less than 10.0 feet.

All of the borings advanced within the project corridor encountered alluvium as the surface horizon. This material was usually comprised of loose silty sands and soft sandy silts. In the boring at Station 17+87, a very soft horizon of slightly organic silty clay was found to 10.0 to 15.0 feet thick. The bottom of the alluvium is generally marked by a gravel layer.

The alluvium rests upon saprolite. Throughout the project, the saprolite is usually a stiff to hard sandy silt with interlayers of silty sand. Mica is present in trace to minor amounts.

Where it was encountered at all, weathered rock was usually below 25.0 feet in depth.

Static groundwater was recorded from two borings. The boring at Station 16+45 had static groundwater at 2.6 feet (elevation 983.9). The boring at Station 17+87 had water at 12.0 feet (elevation 985.5). Rainfall probably elevated the water level in the boring at Station 16+45.

Respectfully Submitted,

C. A. Dunnagan, PEG-III