



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

April 7, 2015

MEMORANDUM TO: Jennifer Harris, P.E.  
Project Development/Turnpike Section Head

ATTENTION: Greg M. Blakeney  
Project Development Engineer

FROM: John Pilipchuk, L.G., P.E.  
State Geotechnical Engineer

TIP: B-5385  
WBS: 46103.1.1

COUNTY: Caldwell  
DESCRIPTION: Estes Mill Creek. Replace Bridge No. 123

SUBJECT: Geotechnical Report for Planning

DocuSigned by:

*John Pilipchuk*

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The Geotechnical Engineering Unit has completed the Geotechnical Impact Report, and presents the following information.

### Techniques and Methodologies

This geotechnical investigation consists of 2 SPT borings and a field reconnaissance. Borings were made at the south east and north west corners of the existing bridge by contract drillers Trigon. The site recon was made in February 2015.

### Findings

This single span bridge on SR-1356 is 20 long and about 6-7 feet above Estes Mill Creek. This Estes Mill Creek joins the Johns River and bridge number 123 is essentially on the Johns River floodplain. Approximately 3 miles north of this site another creek named Estes Mill Creek flows into Wilson Creek. The creek has sand, gravel and cobbles exposed in its bed with boulders

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[www.ncdot.gov/doh/preconstruct/highway/geotech](http://www.ncdot.gov/doh/preconstruct/highway/geotech)

LOCATION:  
CENTURY CENTER COMPLEX  
ENTRANCE B-2  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC

below. The road is not elevated above the floodplain. The borings were terminated on boulders at depths of 5 and 8 feet. While not encountered in either boring, bedrock is identified on geologic maps as Blowing Rock Gneiss.

#### Anticipated Impacts

- Drilled in piles are anticipated
- Embankment slopes of 2:1 (H:V) are suitable.

Please direct any geotechnical questions or comments to PQ Lockamy 828 294-3874