



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

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STATE PROJECT: 8.1830501 (R-2206C)  
F.A. PROJECT: F-24-1(34)  
COUNTY: Lincoln-Catawba  
DESCRIPTION: NC 16 from north of SR1386 in Lincoln County to north of SR1895 near Chronicle in Catawba County

SUBJECT: Geotechnical Report - Inventory

This Geotechnical Inventory Report presents the findings of the Geotechnical Investigation for section C of N.C. 16 from north of SR 1386 in Lincoln County to north of SR 1895 near Chronicle in Catawba County. Stations encompassed on this project are from -L- 180+68 to 267+30. The project generally proceeds in a north to northwesterly direction from beginning to end.

The geotechnical field investigation for this project was conducted between June and August of 2000. An ATV mounted drill machine with automatic hammer was utilized for this investigation.

The following survey lines were investigated:

Line	Station
-L-	180+68 to 267+30
-SBL-	267+36 to 274+60
-NBL-	10+00 to 13+88
Ramp A at -Y14-	10+00 to 15+58
Ramp B at -Y14-	10+00 to 14+35
Ramp C at -Y14-	10+00 to 15+26
Ramp D at -Y14-	10+60 to 14+96
-Y11-	10+00 to 15+80
-Y13-	10+00 to 17+40
-Y14-	11+50 to 21+26

Line	Station
-LDET-	11+25 to 15+27
-Y11DET-	10+65 to 12+73
-Y13DET-	10+47 to 12+21
-Y14DET-	12+26 to 20+79
-Y16-	10+00 to 13+91
-Y17-	10+16 to 13+00

Areas of Special Geotechnical Interest:

1. Alluvial Soils:

There are numerous areas containing alluvial soils throughout the project corridor. Although many of the alluvial areas encountered are of no special interest, there were a few areas containing soft alluvial silt and clay soils. These soils lie at the bottom of proposed fills with heights ranging from 2 to 18 meters and usually are the result of adjacent streams and tributaries. It appears that some of these areas are merely "seasonally wet". The following locations contain soft alluvial soils:

- A. A small floodplain beginning right of -L- stations 202+25 to 203+00 has soils consisting of soft silty sandy clay (A-7-6) approximately 2 meters thick.
- B. A small floodplain left and right of -L- at station at 203+80 has soils consisting of very soft silty sandy clay (A-6) approximately 3.5 meters thick.
- C. A floodplain encountered left and right of -L- station 256+81 to 257+22 contains soils consisting of soft to stiff clayey sandy silt (A-4) approximately 3 meters thick.
- D. A small floodplain left and right of -L- station 263+42 to 264+00 contains 2.5 meters of very soft to soft clayey sandy silt (A-4).

2. High PI Soils: (PI's Greater than 30)

- A. The area between -L- stations 184+73 to 186+05 contains A-7-5 clay with a Plasticity Index of 32. This stiff to very stiff sandy silty clay extends from ground surface to approximately 3 meters in depth.
- B. The area between -L- stations 192+00 to 192+68 contains A-7-5 clay with a Plasticity Index of 34. This stiff sandy silty clay extends from ground surface to approximately 2 meters in depth.
- C. The area between -L- stations 220+56 to 220+88 contains A-7-6 clay with a Plasticity Index of 36. This medium stiff to very stiff micaceous sandy clay extends from the ground surface to approximately 3 meters in depth.
- D. The area between -L- stations 232+50 to 234+70 contains A-7-5 clay with a Plasticity Index of 53. This stiff sandy silty clay extends from the ground surface to approximately 2 meters in depth.