



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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STATE PROJECT: 8.T311002 (R-2552AB)
FEDERAL PROJECT: NHF-60-1(9)
COUNTY: Johnston

DESCRIPTION: US 70 Clayton Bypass from SR 1525 (Cornwallis Rd.) to East of NC 42

SUBJECT: Geotechnical Report – Inventory –REVISED-

Project Description

This project is located in northern central Johnston County 6 kilometers southwest of the town of Clayton. This project consists of a four-lane divided facility along 3.10 kilometers of new alignment as well as 8 other lines consisting of service roads, ramps, detours, and -Y- lines totaling 4.53 kilometers of roadway along new alignment and existing alignment. There are a total of three structures proposed with one over -L- and two over Austin Pond. Two culverts are also proposed under -L-.

A geotechnical investigation was conducted between April and December 2000 utilizing ATV-mounted BK-51 and CME-45C drill machines. Borings were advanced with continuous flight and hollow stem augers. Standard Penetration Tests were conducted at select locations. Representative soil samples were obtained for visual classification in the field, and for laboratory analysis by the Material and Tests Unit.

The following survey lines were investigated.

Line	Station
-L-	28+00 – 58+00
-Y2DET-	11+82 – 16+50
RPA	10+00 – 15+00
RPB	10+00 – 16+03
RPC	10+00 – 14+90
RPD	10+00 – 16+30



Line	Station
SERVICE RD. -B-	9+93 – 15+71
SERVICE RD. -D-	9+90 – 13+19

Areas of Special Geotechnical Interest

- 1) Groundwater: Groundwater was found to be above or within 2 meters of the proposed grade at the following locations.

Line	Station
-L-	28+00 – 31+20
-L-	32+80 – 33+40
-L-	51+20 – 54+40
RPA	11+80 – 12+20
RPA	13+00 – 13+70
RPB	11+60 – 14+20

- 2) Soft Foundation Soils: The following areas call for proposed embankments that will impact on soft alluvial soils with organics in some areas.

Line	Station
-L-	36+80 – 38+40
-L-	57+00 – 57+40
RPA	10+50 – 10+80
RPD	10+00 – 10+40
RPD	12+50 – 13+80

- 3) High Plasticity Clays: The following areas contain residual clays that have plasticity indices higher than 35 or coastal plain soils with plasticity indices higher than 25 within the proposed construction limits.

Line	Station
-L-	38+63 – 39+17
-L-	43+34 – 43+88
-L-	49+60 – 50+20
-L-	52+10 – 54+40
-L-	55+80 – 56+80
-Y2DET-	17+60 – 19+40
RPA	11+20 – 14+60
RPD	11+60 – 12+40

- 4) Hard Rock: Hard rock was found to be above or within 2 meters of grade at the following locations.

Line	Station
-L-	44+45 – 45+30