

3.0 AREAS OF SPECIAL GEOTECHNICAL INTEREST

A Surficial ground water within two meters of proposed grade was identified at the following locations:

ALIGNMENT	START	END
-RPC@Y1-	0+70	2+80
-Y2 Lt.-	10+00	18+19
-Y2 Rt.-	11+70	15+40
-COAD-	16+80	22+70
-COBC-	18+40	21+90
-RPA@Y2-	0+00	2+00
-RPD@Y2-	7+00	8+40
	9+95	11+28
-LPD@Y2-	4+60	5+40
-Y3-	40+00	43+40
-RPD@Y3-	0+00	2+00
-Y5-	27+00	28+00
-Y8-	9+80	16+60
	53+50	55+10
	62+50	66+80
	67+80	73+17
-Y9-	9+70	10+65
	29+20	30+80

Ground water characteristics are discussed in Section 6.0.

B. High plasticity clays [Plasticity Index (PI)  $\geq 33$ ] were encountered in the shallow ( $\leq 2m$  proposed grade) subsurface at the following locations:

ALIGNMENT	START	END
-L-	265+35	269+65
	295+00	297+90
-RPC@Y2-	2+65	4+90
-RPD@Y2-	0+00	0+30
-LPC@Y2-	2+20	3+35
-Y5-	25+95	28+00
-Y8-	9+80	14+65
	35+35	38+90

Similar high PI clays were identified along RPD@-Y3- Station 5+00; RPD@-Y3- Station 5+00; and RPB@-Y1- Station 4+90 at depths between 5m and 20m BLS.

Additional clay strata exhibiting high PI were identified from depths of roughly 21m to 25m BLS along line -L- Station 278+60 and RPA@-Y3- Station 5+00.

C. Numerous streams, ditches, and wetland areas were observed crossing the project corridor. These areas may present construction related problems when attempting to traverse with heavy equipment. Additionally, the streams and ditches appear to be actively draining the area. Problems with standing water may arise if these features are filled in and alternate means of drainage are not provided.

D. Two ponds were identified within the project corridor. The first pond, (POND 1), was a "T" shaped pond located near the intersection of lines -L- and -Y1-. Lines -L- (Station 254+96 to 255+20) and -RPC@Y1- (Station 2+28 to 2+44) intersect the pond. Pond 1 had a surface area of roughly 2,190 square meters with water depth averaging between one and two meters. Probes were advanced at three points along the proposed alignments of line -L- and three points along the proposed alignment of line -RPC@Y1-. Soft alluvial soils were identified in the base of the pond along lines -L- and -RPC@Y1- at thickness of 0.15m and 0.17m respectively. The second pond (POND 2) was a rectangular shaped pond located near the junction of lines -RPC@Y3- and -RPD@Y3- with line -Y3-. Lines -Y3- (Station 35+48 to 35+75) and -RPC@Y3- (Station 5+40 to 5+60) intersect the pond. Pond 2's surface area was calculated at approximately 1,284 square meters with an average water depth of one to two meters. Probes were advanced at three points along the proposed alignment of line -Y3- and two points along the proposed alignment of line -RPC@Y3-. Soft alluvial sediments were measured in the base of the pond along proposed lines -Y3- and -RPC@Y3- at average thicknesses of 0.18m and 0.41m respectively. In addition to the unnamed ponds, low-lying areas of ephemeral ponds and swampland are found throughout the project corridor. The most expansive of these areas is located along -Y8- at approximate Station 35+00 and extends east to approximate Station 71+50. In review, soft alluvial sediments were identified at the following locations:

ALIGNMENT	START	END
-L-	254+96	255+20
-RPC@Y1-	2+28	2+44
-Y3-	35+48	35+75
-RPC@Y3-	5+40	5+60

E. Additional information contained in the Soil Survey of Robeson County, North Carolina (1978), indicate that sediments within two meters of existing land surface may be moderate to highly corrosive to steel and concrete. The pH values for the soils located throughout the project corridor ranged from 4.5 to 8.5 with an average pH value of approximately 5.5.

F. Three water wells were identified through field reconnaissance within proposed construction limits of the project. No additional water wells were identified within the proposed right-of-way. The approximate locations of the identified water wells are as follows: