

station 171+40, roughly 55 meters left of the alignment. The pond is rectangular shaped with the long axis at an east/west orientation.

- D. 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. According to the Soil Survey, pH values for the soils located throughout the project corridor range from 4.5 to 8.5 with an average pH value of approximately 5.5.
- E. Four water wells were identified within proposed construction limits of the project. The approximate locations of the identified water wells are as follows:

<u>ALIGNMENT</u>	<u>STATION</u>	<u>PROPERTY OWNER</u>
-L-	168+92 (10Lt.)	Mr. Charles C. Cummings
-L-	177+52 (21Lt.)	Mr. E.W. Stone
-L-	177+55 (10 Rt.)	Mr. E.W. Stone
-Y5-	15+41 (64Lt.)	Ms. Judy R. Smith

Four additional water wells were identified adjacent to the proposed construction limits of the project. The approximate locations of the identified water wells are as follows:

<u>ALIGNMENT</u>	<u>STATION</u>	<u>PROPERTY OWNER</u>
-SR5-	10+50 (39Rt.)	Mr. Calvin Lowry
-Y5-	19+05 (81Lt.)	Mr. Scott J. Furman
-Y-	18+02 (48Lt.)	Mr. Tony Chavis
-L-	237+82 (24Rt.)	Dexter and Deborah Locklear

No additional water supply wells were located. However, additional water supply wells are likely to exist within, and adjacent to, the proposed limits of construction. Specific areas where additional water supply wells may exist were identified along alignment -L- at stations 224+00 and 163+00. These areas contained structures that likely were supplied with water from potable wells due to lack of community water.

4.0 PHYSIOGRAPHY AND GEOLOGY

4.1 Regional Geology

The project is located within the southwestern portion of the Inner Coastal Plain physiographic province of North Carolina. The Inner Coastal Plain lies between the Tidewater Region to the east and the fall line to the west.

Stuckey (1965) recognized three subdivisions of the Inner Coastal Plain. The project lies within the second subdivision which, as presented by Winner and Coble (1989), consists of the eastern part of the Inner Coastal Plain south of the area north of Craven, Lenoir, and Wayne Counties. In this area, broad, flat uplands between major streams are commonly swampy and very similar to those in the Tidewater area. Numerous circular to elliptical depressions known as Carolina bays occur

throughout the region. These depressions typically have their long axis oriented in a northwest to southeast direction. Sand ridges are often located along the east and southeast margins of the depressions. Although a number of the bays contain water, many have been drained for agricultural purposes. The land near major rivers tends to be highly dissected and may be incised as much as 15 meters or more into the flat swampy uplands. The uplands near dissected valleys are swampy attesting to the lack of extensive drainage of the swamps through the shallow aquifers. In general, predominantly clastic rocks ranging from clays to gravels with lesser amounts of marine limestones characterize Coastal Plain sediments. Sediments in this region dip generally eastward with a thickening and increase of individual beds in the seaward (eastward) direction indicative of deposition in marine or near-shore environments (Winner & Coble, 1989).

4.2 Site Topography and Geomorphology

Relief of the project area is relatively flat and is consistent with what is typically observed in the eastern section of the Inner Coastal Plain physiographic province. Elevations within the project corridor exhibit low relief with an overall average elevation of approximately +46m MSL. The project corridor traverses residential and agricultural areas, typical Inner Coastal Plain upland areas, and wetland areas.

4.3 Surface Drainage

The project lies within the Lumber River drainage basin that is defined by a network of naturally occurring and manmade streams, creeks, and channels, which drain into the Lumber River. Overall, the drainage pattern of the area is dendritic which is typical for the Inner Coastal Plain physiographic province. Drainage along the project corridor is provided by a series of small creeks and manmade ditches that drain into the numerous swamps in the surrounding area and eventually discharge to the Lumber River. Surface drainage throughout the project varies, but averages good to fair. However, near-surface soils are typically saturated, presumably due to the high water table and the relatively flat terrain.

As previously mentioned, a pond was identified along the edge of the proposed construction limits at approximate -L- station 171+40, roughly 55 meters left of the alignment. The pond is rectangular shaped with the long axis at an east/west orientation. Based on the physical features of the pond and the surrounding area, it appears to be man-made and presumably used for irrigation. The pond has a surface area of roughly 835 square meters with water depth averaging between 0.4 and 1.4 meters. It should be noted that at the time of this investigation, water levels were at reduced levels due to a lack of precipitation. Probes were advanced at three points along the long axis of the pond and two points along the short axis. Alluvial material consisting of organic debris and surficial sediment run-off was identified across the bottom of the pond ranging in thickness from 0.02 to 0.3m thick. Material identified below the alluvial material consisted predominantly of sands with varying amounts of silt and clay.