

Physiography/Geology:

The project corridor is located in the piedmont region of North Carolina in Rowan County west of the city of Salisbury. Geologically this site is part of the Charlotte Belt and is underlain by metamorphosed mafic rock types. The topography consists of gently rolling hills and gently sloping interstream areas ranging in elevation from approximately 640 to 770 feet. Densely wooded areas, open fields, and residential homes along existing US 70 surround the proposed project corridor. There are many small streams and wet weather drainage features bisecting the project with the main watercourse being North Second Creek at approximate -L- station 304+00.

Soil Properties:

1. Residual Soils:

Residual soils are derived from in place weathering of parent materials. They occur in a variety of consistencies, classifications, and stratigraphic sequences. Residual soils are further subdivided into clays, silts, and sands.

Clays are found consistently throughout the project corridor as both near surface soils and subsoils. They consist of stiff to hard red-tan, tan-brown and tan silty sandy clay, sandy silty clay and silty clay (A-6, A-7-5, A-7-6) up to 22 feet thick. These soils are typically well drained and possess Atterburg Limits in the intermediate range. Soil test results for these soils indicate a plasticity index range of 12 to 41 and a liquid limit range of 34 to 66.

Silts encountered on the project were of both the A-4 and A-5 AASHTO Classifications and occur as both near surface soils and subsoils. They generally consist of stiff to hard red-tan, tan, and gray white clayey sandy silt, and sandy silt with thicknesses up to 16 feet.

Sands encountered on the project were of the A-1-b, A-2-4, and A-2-5 AASHTO Classifications and occur as both surface soils and subsoils with a thickness of up to 3 meters. They consist of medium dense to very dense gray, gray-brown and red-brown clayey sand with thicknesses up to 24 feet.

2. Alluvial Soils:

Alluvial soils originate from water transportation and deposition in a floodplain environment. These deposits are shallow in some cases, but range up to approximately 20 feet in thickness at the floodplain right of -L- stations 296+00 to 307+00. Alluvial soils range in consistency from very soft to stiff and are comprised of brown silty sandy clay and sandy silty clay (A-6, A-7-5) along with brown sandy clayey silt (A-5) and loose brown-gray silty or clayey sand (A-2-4).

3. Fill Soils:

The only fill soils encountered on the project were existing roadway fill soils associated with existing US 70 and tie in roads.

Rock Properties:

Rock is defined as that material which refuses penetration of power augers. Hard rock was encountered toward the end of the project corridor.

Groundwater:

Groundwater was rarely encountered in residual soils during our investigation. In alluvial floodplain areas the water table is typically at or near ground surface.

Well Locations:

Wells discovered within the proposed project corridor during our investigation were located at the following locations:

<u>Survey Line</u>	<u>Station / Offset (m)</u>
-L-	341+20, 85 RT
-L-	345+80, 95 RT
-L-	353+30, 45 RT

Respectfully Submitted,

J.E. Beverly, Project Geologist

