5.08 PRELIMINARY SOIL SURVEY

Preliminary soil survey includes drilling soil samples for one or more of the following: proposed pavement rehabilitation, widening, new roadway alignment, or changes in grade cut and fill areas described in the CDOT Field Materials Manual. Additional information on the preliminary soil survey can be found in the Soil Survey section in Chapter 200 of the Field Materials Manual.

The investigations are needed to examine sites of proposed cut and fill areas, ground water problems, embankment failures, and soil problems related to pavement condition and structures such as CBC's, bridges, and retaining walls. These investigations provide information for pavement design.

The Region Materials Engineer (RME) or the Resident Engineer usually initiates the request to the Region Materials personnel for preliminary soil survey investigation and drilling soil samples for the proposed projects.

If the equipment available to Region personnel is not capable of drilling to the prescribed depth of a cut area or performing the needed drilling methods or procedures, the Geotechnical Program of the Materials and Geotechnical Branch or a commercial drilling contractor will be requested to provide drilling services.

Region Materials and Materials and Geotechnical Branch personnel perform a variety of field and laboratory tests and analyze data, CDOT Forms, and soil test reports. Region Materials will work with project personnel or consultants to ensure soil profile plan sheets are prepared.

Region Materials personnel will ensure the following actions are taken to collect and document information required for project design:

1. Research files for existing reports on proposed sites.
2. Examine sites of proposed projects and identify need for utility clearances.
3. Assign or perform drilling of proposed locations and collect samples of subsurface materials.
4. Assign or perform laboratory testing of samples.
5. Prepare reports and provide recommendation of pavement types, pavement rehabilitation, soil and base stabilization, etc.
6. Provide soil survey results and boring log information to the Project Engineer; The Project Engineer/Manager will assure incorporation of the information into the design plans.
7. Ensure that reports and plan sheets are submitted to the appropriate agency.

The Region Materials Engineer should coordinate with the Materials and Geotechnical Branch Soils Lab Manager at the inception of the project to allow sufficient time to perform the R-value test for pavement analysis and design. The Region Materials Engineer will review the analysis and design when it is prepared by a consultant.

The Region should retain a copy of the soil profile and test results in the project file.

During the design phase of the project, if it is determined that additional data or samples are needed, they will be obtained and a supplemental report submitted.

Additional References:

1. *CDOT Field Materials Manual (Latest Edition)*
2. *CDOT Pavement Design Manual (Latest Edition)*