



What is Geotechnical Engineering?

It's all in the Details!

But a quick synopsis is all you need...

Geotechnical engineers typically perform two types of geotechnical services for properties. These are;

1) investigations, and 2) inspections.

Two Types of Geotechnical Consulting Needs:

1. Investigations (pre-construction)

A geotechnical *investigation will include surface and subsurface exploration of a site*. Analysis includes:

- Property development needs
- Foundation stability analysis
- Slope stabilization
- Geohydrology, Water Balance
- Geology
- Requirements for municipal site development approvals (often mandated in Ontario)
- Water discharge approvals into the systems (water table)

Proposed Work: Is about obtaining information on the physical properties of the soil and underlying rock or bedrock on a property, sometimes adjacent to the site, for the design of earthworks and foundations for proposed structures.

Timing: With Fisher, investigative work usually takes 4-6 weeks. Quote to job completion can happen in one month!

Repair Work: Is required for the repair of distressed earthworks and structures caused by subsurface conditions.

2. Inspections (during construction)

Inspections which include *materials testing* are required:

- by structural engineers and architects as data testing for their assessment and causative action.
- to comply with applicable standards and specifications.
- to ensure construction proceeds safely and according to the reports and plans.
- to provide quality control and quality assurance of the construction project.

Examples include:

- Concrete sampling and testing: slump, entrained air, compressive strength
- Reinforcing Steel Inspection
- Compaction Testing - Soils, Asphalt
- Soil Bearing Capacity / Footing Inspection
- Pile Driving and Installation Inspection
- Caisson Inspection
- Subgrade Inspection
- Asphalt and Concrete Mix Design Reviews

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