

Geotechnical Engineering

Every project has a foundation. Tony Huff & Associates can provide geotechnical engineering, which is the application of earth sciences through engineering principles:

- To characterize a site's subsurface conditions,
- To identify the soil, rock, and groundwater conditions that can affect the project's construction and performance,
- To provide site development, foundation design, and earth construction recommendations,
- To verify that the earth and foundation construction activities comply with the geotechnical requirements, and
- To evaluate post construction performance issues, should problems emerge.



Foundation Design

The maximum total and differential settlement a structure can sustain usually controls a foundation design. While all new structures settle, the amount of settlement depends upon the imposed weight and the engineering properties of the earth materials that support that weight.

Excessive settlement has caused loss of functionality, including:

- Damage to incoming/exiting utility lines
- Uneven floors
- Misaligned facility equipment
- Binding windows/doors
- Cracking of interior and exterior surfaces
- Complete loss of use of the facility

THA can estimate the settlement your facility may sustain, and help you identify practical limits on total settlement and angular distortion due to differential settlement that a structure can sustain while continuing to function satisfactorily.

Earth and Foundation Construction

During construction, a geotechnical engineer monitors the earthwork and foundation construction process and performs certain inspections and tests to verify that the construction work complies with the geotechnical design requirements.



Post Construction Performance Evaluations

Subsurface problems are the principal cause of construction delays, cost overruns, claims, and disputes in the construction industry. While geotechnical engineering cannot eliminate these risks, well-planned and executed geotechnical engineering during design and construction provides the best opportunity for the project team to manage them. If these geotechnical risks materialize on your project, please call THA to evaluate your project's performance and learn what happened and how to fix it.

