

Geotechnical Engineering

Our diverse staff of geotechnical, civil, and materials engineers, as well as earth scientists and computer specialists provides a wide range of technical resources and a depth of professional experience to fit our clients' project requirements. Our diverse geography provides an added benefit of local experience which results in cost-effective and timely service.

Laboratory Testing

- Our fully certified laboratories and staff have capabilities ranging from simple soil characterization to intricate triaxial and permeability testing.



Kleinfelder's geotechnical engineering services are founded on responsive personal attention and delivery of technical excellence.

STABILITY AND SAVINGS

Working with project partners as part of our clients' design teams, Kleinfelder provides focused geotechnical services within schedule requirements. We also strive to develop alternatives that may offer opportunities for construction costs savings. Kleinfelder supports successful project construction through our soils and material testing services. Our field staff and laboratories are fully certified to provide materials testing and inspection in compliance with project requirements and local building codes. As a result, our professionals have the training, knowledge, project experience, and resources to perform a wide array of geotechnical services.

GEOTECHNICAL SERVICES

Site Investigations - The depth of our capabilities allows us to match the appropriate level of investigation to the project. Our typical to highly sophisticated methods involve conventional drilling, cone penetration, in-situ testing, geophysical, downhole instrumentation, and excavation methods as appropriate.

Foundation Engineering - We match the type of foundation system to the needs of the project team, schedule, budget, and the subsurface conditions we encounter. Our proven experts are knowledgeable about all aspects of foundation types, including driven piles, shallow footings, surcharging, drilled piers, specialty foundation systems, soil and concrete mats, and proven as well as experimental soil improvement measures.



Geotechnical Engineering

Specialty Designs:

- We work on roadways, civil projects, “green” construction, channels, tunnels, design built projects, instrumentation construction management, and waterway reconstruction.

Foundation Engineering:

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Engineering Geology Services

- **Earth retention** - Our earth retention designs involve evaluation of existing retention structures such as dams and levees, as well as new structures. We also provide design criteria for convention and specialty shoring systems, including sheet pile, soldier beam and lagging, shotcrete, soil nailing, rock bolting, soil/cement columns, and geogrid systems. We can also provide dewatering evaluations.
- **Slope stability evaluations** - Our work is based on geologic and geotechnical experience combined with analyses ranging from “back-of-the-envelope” calculations to three-dimensional computer programs to finite differential modeling. Our analysis is based on a proven working relationship with our geologic staff. We can model the various types of materials such as rock, soil, and intermediate materials. Our field experience brings an added element of strengthened capabilities.
- **Earthquake engineering** - Our latest approaches and models, such as probability and risk-based analyses, were developed internally and by internationally recognized experts.
- **Geohazards evaluations** - These evaluations include seismic conditions, flooding, expansive soils, soft and compressible soils, rock hardness, liquefaction, dynamic settlement, tsunamis, seiches, stability of existing slopes, and lateral spreading.

