



Earthquake engineering

Our advanced design practices and collaborative approach foster success for our clients, partners, and the earthquake engineering practice.

Earthquakes are shifts in the earth's crust that can result in small-scale damage to regional devastation. Whether you're seeking geotechnical and seismic engineering services for a building, bridge, or port, there is much to consider. You cannot risk the costs and schedule impacts that come with design modifications from permit reviewers, especially for performance-based seismic design (PBSD) of tall buildings – a smooth review process is essential. If you'll own a site for the long-term, you may need a cost-effective design that exceeds code minimums and is focused on resiliency with reduced damage and repair/replacement costs following a major earthquake.

Regardless of the project, you need a trusted partner who stays ahead of the evolving seismic regulatory requirements, is at the cutting-edge of the practice, and will advocate for you at every step.

Haley & Aldrich's earthquake engineering team has earned a reputation for excellence in advancing the practice for more than 20 years. We continually improve upon leading-edge earthquake engineering tools, technologies, and approaches for one purpose – to serve our clients' best interest. As a result, our clients experience efficient peer review and permitting processes, and ultimately reduced seismic risk, construction time, and costs.

We were involved in the first PBSD project in Seattle over 20 years ago and have the most experience of any geotechnical earthquake engineering firm in PBSD in the Northwest. We stay abreast of the changing ASCE 7 peer review standards and have been first to implement those concepts for our clients' benefit – even before some are officially adopted. In one case, our early adoption allowed us to use more realistic ground motions that resulted in lower seismic forces and a less costly building.

Talk to our service experts



[Brice Exley](#)

Principal Consultant



[Doug Lindquist](#)

Principal Consultant, Geotechnical Engineering

Service highlights

- Constitutive modeling
- Ground motion selection and scaling
- Liquefaction assessment and effects
- Performance-based seismic design
- Resiliency
- Seismic hazard analysis
- Soil-structure-interaction numerical modeling and slope stability