

E3RA provides a full range of geotechnical engineering and consulting services.

Our professionals team with the owner, contractor, and other professionals to develop the most cost-effective solution for the project.

We understand the increasing legal and environmental constraints surrounding available property and have the technical competence and practical experience to develop innovative geotechnical solutions within that framework.

Geotechnical Services & Engineering

E3RA

E3RA's Geotechnical Services Include:

Foundation Engineering

- Bearing Capacity
- Settlement Analysis and Mitigation
- Machine Foundations
- Pile and Pier Foundations
 - Steel, Concrete, Timber, Augercast
- Pile Driving Analyses
- Shallow Spread Footings
- Lateral Capacity Analyses
- Forensic Investigations
- Mat and Raft Foundations

Underground Engineering

- Dewatering Analysis / Design
- Soft Ground and Hard Rock Tunneling
- Thrust Block Design
- Microtunneling
- Mine Hazard Abatement

Slopes and Retaining Structures

- Shoring and Trench Safety
- Modular Block Wall Design
 - Keystone, MESA, Ultrablock
- Landslide Analysis and Repair
- Retaining Wall Design
- Mine Pit Stability
- Soil Anchor/Tieback Design
- Dam Engineering and Permitting

Regulatory Compliance

- Landslide and Erosion
- Steep-Slope Engineering
- Underground Mining Hazards
- Shoreline Development
- Stormwater Runoff Analysis

Earthquake Engineering

- UBC/IBC Earthquake Design
- Seismic Response Spectra
- Soil-Structure Interaction Analysis
- Liquefaction Analysis
- Lateral Spreading

Engineering Geology

- Fault Mapping
- Seismic Hazard Assessments
- Borrow Source Investigations
- Rippability Evaluations
- Geohazard Assessments
- Mining and Minerals Exploration

Construction Services

- Constructability Reviews
- Value Engineering
- Specification Writing
- Blast and Vibration Monitoring
- Quality Control/Assurance
- Construction Monitoring
- Fill Control and Testing

Transportation & Utility Corridors

- Embankment Design
- Pipeline Support Structures
- Pavement Design and Evaluation
- Traffic Signal Supports
- Sheet Pile Walls

Marine Engineering

- Pier, Wharf, & Dock Foundations
- Marine Bulkhead Support
- Underwater Stability Analysis
- Shoreline Protection Analysis

Everett Office

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Toll Free: (800) 994-3372

Tacoma Office

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P.O. Box 44890
Tacoma, Washington 98444

Phone: (253) 537-9400
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Environmental Services & Engineering

E3RA provides comprehensive environmental consulting services based on thorough knowledge of environmental science and engineering principles. Our professionals have the experience and expertise of regulatory and technical issues necessary to provide comprehensive services ranging from environmental investigations and remediation, due diligence and assessments, to compliance permitting and auditing.

E3RA's Environmental Services Include:

Environmental Site Assessment / Due Diligence

Commercial / Industrial Due Diligence Services
Phase I Environmental Site Assessments
Phase II Investigations
Environmental Audit

Site Investigation / Remediation

Geology / Hydrogeology Services
Remediation System Design / Build
Remediation System Installation, Operation, and Maintenance
Groundwater Investigation Services

Industrial Hygiene

Mold Investigations
AHERA Inspection Services
Lead Inspection Services
Hazardous Materials Surveys
Indoor Air Quality Surveys
Abatement Management
Employee Exposure Monitoring

Construction / Facility Management

Environmental Construction Management
Environmental Oversight
Employee Awareness Training
Waste profiling / disposal management

Underground Storage Tank

UST Site Assessment Services
Soil / Groundwater Sampling
Comprehensive Site Closures

Water Resource

Erosion & Sediment Control Design / Permitting
NEPA / SEPA / Shoreline Permitting
Stormwater Design & Permitting

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