

SUMMARY

Engineering geologist with twenty years experience in the greater San Francisco Bay Area, providing geologic consulting & geotechnical support services to civil & geotechnical engineers for public works and private development projects. Specialty in mounting turn-key field investigations on short notice; extensive experience working with State, county, and municipal agencies on infrastructure projects and as-needed services.

EXPERTISE

Geotechnical Field Investigations

Project Lead - Consult with engineer to identify best surface & subsurface exploration techniques to characterize site geology and obtain soil, rock & groundwater data for analysis. Engage subcontractors; schedule & manage the work, including permits, utility clearance, access, safety, environmental considerations and regulatory compliance.

Principal Geologist - Conduct investigation, implementing the exploration methods & capturing results, such as logging rock cores and soil borings, supervising subcontractors, and collecting samples for laboratory testing. Develop geologic model from site survey, desk studies, and data from the investigation; write reports.

Skills

Subsurface investigation techniques:

Soil borings, rock cores, test pits, & trenches; cone penetrometer soundings; seismic refraction surveys; rippability evaluation

Downhole instrumentation: Inclinometers, extensometers, piezometers, remote data loggers

Detailed geologic mapping:

Identify discontinuity features, develop cross sections and geologic model

Field & laboratory testing: Soil, groundwater

Project Examples

Geotechnical Investigation & Site Characterization
Mountain Tunnel Repair Project
Hetch Hetchy Water & Power System

Slope Stability & Geotechnical Evaluation
200 Unit Condominium Complex, Serramonte

Geotechnical Investigation
Bay Trail at BIO-RAD Laboratories, Hercules

Geotechnical Investigation
Solar Array at Oakland Airport

Geologic Hazards Studies

Fault location studies on Hayward, San Andreas, Greenville, San Gregorio, Calaveras & Rogers Creek faults; slope failure evaluations of landslides & rock falls; flooding potential, erosion, expansive soils, liquefaction.

Skills

Slope failure field investigations, geomorphology

Identify/locate/mitigate expansive soils

Fault trench logging and geologic mapping in AP zone to identify/constraints fault-related natural and cultural features

Downhole wide-diameter drilled shafts

Identify slip planes, slope creep, seepage

Project Examples

Fault Location Studies: Oakland Zoo; Bishop O'Dowd HS, Oakland; Ashland Community Center, San Lorenzo; Camp Parks, Dublin; Stege Sanitary District, El Cerrito

Landslide Investigations: Millbrae Ave, Millbrae; Canyon Lakes, San Ramon; Cragmont Ave, Frontage Road, Berkeley; Wallace Street, Snake Road, Oakland

Geologic & Seismic Hazards Studies for Schools:
Projects for Danville, Hayward, Emeryville, Oakland

Construction Monitoring

Geotechnical and materials inspection & testing; observe & document adherence to building code per engineer's recommendations on plans & specifications; worksite safety assessments.

Skills

Earthwork observation/documentation:

Fill/compaction, pile driving, rebuilt slopes keyways, retaining walls, sub drain installation, ground improvement including dynamic compaction

Project Examples

Geotechnical & Materials Construction Services
ConocoPhillips ULSD Upgrade, Rodeo Refinery

Geotechnical Support Services for Caltrans
Posey-Webster Tunnels Retrofit, Alameda County

Wallace Street Landslide Investigation & Construction Services, City of Oakland

WORK EXPERIENCE

Consulting Geologist 2011- present

Engineering geology consulting & geotechnical support services, primarily planning & executing field investigations in Northern California, subcontracted to engineering firms or prime contractors. Operated as Tuolumne Geoservice, a CA S-corporation, in 2015-2017; all other work performed as independent contractor.

Projects include:

Mountain Tunnel Repair - Geotechnical Investigation & Site Characterization Tuolumne County, CA

Client: San Francisco Public Utilities Commission

Prime: McMillen/Jacobs

Geologic Consulting

Performed detailed geologic logging of two rock core borings drilled to 645 and 980 feet deep. Emphasized weathering characteristics, RQD, fracture density and recording various discontinuity features in continuous 10-foot core runs.

Geotechnical Support Services

Downhole geophysical instrumentation including optical and acoustic imaging, temperature profiles, flowmeter and seismic velocity surveys, and installation of vibrating wire piezometers prior to grouting; single & double Packer tests.

Wastewater Storage & Reclamation Project Occidental, CA

Client: Sonoma County Water Agency

Prime: M2 Consultants, Inc.

Geologic Consulting

Feasibility study for siting a potential 12.5 million gallon capacity wastewater reservoir. Generated cross-sections and geologic model which formed the framework for the engineering analysis. Drafted plates and authored geology sections of final report.

Geotechnical Support Services

Planned & executed multifaceted geotechnical investigations of two sites. Engaged excavation and instrumentation subcontractors; logged test pits, soil borings, and rock cores; conducted CPT soundings and seismic refraction surveys.

Transit/Road Project - Law & Justice Center Sonora, CA

Client: County of Tuolumne

Prime: Richard D. Short and Associates

Geologic Consulting

Conducted geologic reconnaissance and site characterization, focusing on slope stability and groundwater conditions. Compiled final report: authored the geology section; drafted plates; provided graphic design and production services.

Geotechnical Support Services

Planned & executed the geotechnical field investigation for a new Transit Center; engaged subcontractor to excavate 18 test pits. Logged test pits; conducted field and laboratory tests.

Albany Beach Access Improvements Albany, CA

Client: East Bay Regional Park District

Prime: Gordon N. Ball, Inc.

Geologic Consulting

Engaged during construction phase to obtain additional subsurface data for the site of a vehicle-rated pedestrian bridge to be built near Golden Gate Fields on the Bay Trail.

Geotechnical Support Services

Conducted supplemental geotechnical investigation comprising two borings on Fleming Point. Engaged the drilling subcontractor; obtained permits; logged borings; conducted grouting inspections for Alameda County.

Residential Construction Point Richmond, CA

Client: Private Developer

Prime: Richard D. Short and Associates

Geologic Consulting

Write-up of geologic data and boring logs were used by the geotechnical engineer for geotechnical design & construction of two proposed driven concrete pile supported homes.

Geotechnical Support Services

Managed subsurface geotechnical investigation comprising borings advanced through fill, Bay Mud and bearing layer strata. Conducted driven pile inspections during construction.

WORK EXPERIENCE (continued)

Geologist Kleinfelder, Inc. 1997 – 2011

Engineering Geologist — Extensive fieldwork logging soil borings, rock cores, test pits, & fault trenches; installing & operating downhole geophysical equipment; geologic reconnaissance and mapping.

Project Manager — Coordinated subconsultants & subcontractor personnel; liaison with clients, prime contractors, other vendors and government agencies; client service manager for City of Berkeley and City of Oakland As-Needed Services multi-year contracts. Health and safety officer for Oakland Office. Worked on over 450 projects all over the Bay Area and beyond, such as:

Strawberry Creek Storm Culvert Collapse - Geotechnical Distress Investigation

Mapping and rehabilitation of deteriorating and collapsed section of a storm culvert in Berkeley, using soil borings, concrete cores, GPR imaging of culvert sections, and petrographic analysis of culvert concrete lining. Served as Department of Public Works consultant advisor during construction remediation phase.

Hayward Fault at the Oakland Zoo

Completed multiple fault location studies for planned habitable structures within the Hayward Fault AP zone; personally logged 400 linear feet of fault trench to depths of up to 27 feet, identified fault related discontinuities within Holocene strata, and developed the geologic model used to assign setbacks. Delivered construction phase services involving large retention cut-slope wall, rock anchor installation and pull testing, and soils nail wall installation for structures and animal exhibits at the Oakland Zoo at Knowland Park.

Alameda Towne Centre Redevelopment

Ten year project redeveloping the South Shore Center. Led client engagement and fieldwork activities throughout phased development lifecycle. Delivered numerous subsurface geotechnical investigations and construction phase geotechnical and materials testing services for retail buildings, underground utilities and roadways.

Caltrain Transportation Authority Ballast Conformance Study

Conducted field visits to sixteen quarries in the region to assess their potential as Caltrain ballast sources based on the field, laboratory, and background information obtained for each, including its geologic setting, aggregate sampling methodology, hand sample petrology, mineral processing, production volume details, and likely methods of transport. Collected ballast samples from each operation and tested them in accordance with standard American Railway Engineering and Maintenance-of-Way Association (AREMA) ballast test criterion.

LICENSE

California Professional Geologist (PG) License #7149

EDUCATION

Bachelor of Science (BSc), with Honours Geology University of Derby, England	Master of Science (MSc) with Distinction Industrial Rocks & Minerals University of Leicester, England
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