LISA L. BATES, PG, CEG

Associate Geologist

PROFESSION

Engineering Geologist

REGISTRATIONS

Certified Engineering Geologist – State of California
Professional Geologist – State of California

EDUCATION

B.S., Geological Sciences, University of California at Santa Barbara, 1994
Summer Field Studies, Oregon State University, 1994

PROFESSIONAL EXPERIENCE

GMU Geotechnical, Inc.
(2000 to present)
Project Geologist to Associate Geologist, Rancho Santa Margarita, California

Leighton and Associates, Inc.
(1995 to 2000)
Senior Staff Geologist, Irvine, California

AFFILIATIONS

National Association of Women In Construction, Orange County Chapter – Past Chapter President

South Coast Geological Society

SUMMARY OF GENERAL EXPERIENCE AND QUALIFICATIONS

Ms. Bates has over 23 years of experience in various aspects of the geotechnical field. She has worked successfully with homeowners' associations, residential and commercial developers, master community planners, and governmental agencies on both private and public works projects. She has extensive experience in a wide variety of projects including: residential and commercial development, public works projects, hillside grading, landslide investigation and mitigation, and forensic investigations. Ms. Bates excels at landslide and slope failure investigations and repairs, and has worked with many homeowners' associations on slope issues. In addition, she has served as an expert witness for several legal matters. She is also the Reviewing Geologist for several public agencies. Her goal is to provide an outstanding product to her clients in a timely and cost efficient manner, while upholding the high standards and mission of GMU. Selected project categories representative of Ms. Bates' experience are described below:

- Landslide/Slope Failure Investigation and Repair
- Construction Management
- Geotechnical Review/Consulting Services for Multiple Cities
- Public Works Projects
- Fault Studies
- Legal Consultation
- Residential/Commercial Projects
- Single Family Residential Custom Developments

Additional information and notable projects from Ms. Bates' portfolio are summarized on the following pages.

LANDSLIDE/SLOPE FAILURE INVESTIGATION AND/OR REPAIR

Ms. Bates' experience investigating and/or repairing landslides, slope failures, and erosion includes dozens of projects. The list below includes highlights of her project experience, including high-profile and complex landslides.

- Hacienda Road, La Habra Heights - City of La Habra Heights: Project included geotechnical investigation of a portion of roadway with steep natural slopes and existing distress. Investigation included large- and small-diameter borings, installation and monitoring of a slope inclinometer, geologic analyses, and development of repair options. Project also included development of design repair plans and specifications, as well as coordination with bidders and impacted agencies.
- Poppy Trail Landslide, Rolling Hills – California Joint Powers Insurance Authority: Project included geotechnical investigation and design of repair of a large landslide within a hillside residential area. Challenges included steep terrain, adjacent properties, and complex geology. Duties included geologic investigation and grading observations, project oversight, and construction management advisor services.
- Philemon Landslide, Dana Point – Private Developer: Project included geotechnical investigation and design of repair of a landslide impacting four residential structures. Challenges included existing residences and adjacent properties, adverse geologic structure, and poor shear strengths for onsite soils. Repair design included innovative slurry backfill of keyway excavation. Duties included geologic investigation, project oversight, and grading observations. Project was awarded the 2014 CalGeo Project Award and was presented at 2013 Geo-Congress in San Diego.
- Horseshoe Landslide, Anaheim Hills – Homeowners Association: Project included emergency geotechnical services after re-activation of ancient landslide within developed area. Duties included geotechnical investigation, construction management advisor services, long-term monitoring, groundwater monitoring, development of repair plan, coordination with the Association and their legal counsel, and communication with public agencies. Landslide is underlain by complex geology, and crosses City boundary.
- Portuguese Bend Landslide Complex, Rancho Palos Verdes – Various Clients: Multiple projects within the ancient landslide complex included investigations of:
    - Active Portuguese Bend Landslide
    - "Parcel 4" Landslide
    - Abalone Cove Landslide

  Tasks included coordinating complex geologic field investigations with multiple drilling methodologies, analyzing data collected to prepare maps and geologic cross-sections, creation of a structure contour map of the entire landslide complex, and development of mitigation measures to stabilize the landslides.
- South Shores Landslide, Rancho Palos Verdes – Harris & Associates: Project included study of the inactive landslide's potential impact on a new storm drain system, including large-diameter and continuous core drilling, analyses, and development of conceptual designs.

CONSULTANT TO PUBLIC AGENCIES

Ms. Bates has over 23 years' experience working with various governing agencies, including 14 years providing on-call geotechnical services to a variety of clients. A chronological list of Ms. Bates' experience is described below:

- City of Aliso Viejo (2011 to 2012):
    - Construction Observation
    - Emergency Services (Slope Failures)

- City of Rancho Santa Margarita (2008 to current):
    - Development Reviews
    - Geotechnical Investigation and Design

- City of Laguna Niguel (2002 to current):
    - Development Reviews (Building, Grading, and Planning/Entitlement)
    - Geotechnical Investigation and Design
    - Construction Observation
    - Emergency Services (Landslides, Public Safety, "Red Tagging", etc.)
    - Geotechnical Monitoring
    - Project Management

- City of Chino Hills (2002 to current):
    - Development Reviews (Building, Grading, and Planning/Entitlement)
    - Geotechnical Investigation and Design
    - Construction Observation
    - Emergency Services (Landslides, Public Safety, etc.)
    - Geotechnical Monitoring
    - Project Management

- City of Dana Point (2008 to current):
    - Geotechnical Investigation and Design
    - Construction Observation
    - Emergency Services (Slope Failures, Blufftop Failures, Public Safety, etc.)
    - Geotechnical Monitoring

- City of Laguna Hills (2010 to current):
    - Development Reviews (Grading, Planning, and Entitlement)
    - Geotechnical Investigation and Design

- City of Mission Viejo (2016 to current):
    - Development Reviews (Engineering)
    - Geotechnical Investigation and Design
    - Construction Observation
    - Emergency Services (Landslides, Public Safety, etc.)
    - Geotechnical Monitoring

PUBLIC WORKS PROJECTS

- Tier 1, Tier 2, and Tier 3 Improvement Projects, Crown Valley Community Park, Laguna Niguel – City of Laguna Niguel: Three phases of improvements at the City's largest park included: New tot lot, splashground, amphitheater, parking lots, bridge, and community building, as well as retaining walls, and other non-structural elements. Scope included geotechnical investigations and design support for these improvements, as well as construction geotechnical observations, testing, special inspection, non-destructive testing, and materials testing.

- La Pata Avenue Gap Closure, South Orange County – County of Orange: Geotechnical investigation for proposed alignments of widening and extension of La Pata Avenue from Ortega Highway to San Clemente. Project included study of multiple large landslide complexes, fault alignments, and complex geology.

- La Pata Interim Widening for New High School, San Juan Capistrano – Capistrano Unified School District: Project included geotechnical investigation and construction observation during widening and re-paving of existing roadway.

- Reclaimed and Domestic Water Reservoirs, Chino Hills – City of Chino Hills: Geotechnical investigation for proposed water reservoirs in semi-developed areas. Project included subsurface investigation for reservoir sites and access roadways as well as review of proposed plans. Scope during construction of reservoirs included geotechnical observation and testing, and special inspection.

- Dana Point Harbor, City of Dana Point – County of Orange: Geotechnical investigation for redevelopment of existing harbor facilities, including new parking structure, retail, restaurants, boat storage and supporting improvements.

- Long Beach Sports Park, Long Beach – PBS&J/City of Long Beach: Geotechnical investigation for planned recreational sports complex including artificial turf soccer and baseball fields, clubhouse/concessions, office building and skate park to be constructed on property used for oil field operations and debris disposal. Project included complex investigation to evaluate buried alluvial channel and marshland overlain by debris and fill soils, and development of geotechnical recommendations for corrective grading and design of structures.

- Sports Park, Chino Hills – City of Chino Hills: Project included geotechnical investigation, input on design, and construction observations during rough and precise grading, including paving and construction of artificial grass fields.

- City Hall, Laguna Niguel – City of Laguna Niguel: Geotechnical investigation for proposed City Hall site on existing graded area. Project included subsurface investigation, design support, and grading observations.

- Portuguese Bend Beach Club, Rancho Palos Verdes - Army Corps of Engineers: Geotechnical investigation for proposed seawall and buttress at toe of active Portuguese Bend landslide. Investigation included design and analysis of alternative methods to preserve coastal environment.

- Government Center, Chino Hills – City of Chino Hills: Geotechnical investigation, design recommendations, plan review, and observation of construction of new Civic Center. Center includes new parking structure, City Hall, fire, and police buildings as well as residential development.

- Ortega Highway (State Route 74) Widening between San Juan Creek and Orange/Riverside County Line, Orange County – Private Contractor: Project included providing on-call geotechnical services to general contractor, including evaluation of temporary slope stability in hard rock and rock fill.

FAULT STUDIES

- Cielo Vista Residential Development, County of Orange – North County BRS LLC: Supplemental fault study of site crossed by Whittier fault. Included excavation and detailed logging of over 500 feet of trench. Fault study analyses methodologies included fracture mechanics, physical characteristics, geomorphology, and datable sediments. Fault study reviewed and approved by County of Orange as part of development approval.

- The Ranch Plan, Orange County – Rancho Mission Viejo: Fault investigation of Mission Viejo fault located within proposed development bubble.

- Seacliff Shopping Center, Huntington Beach - Shea Homes: Fault investigation of branch of Newport-Inglewood fault zone located within Alquist-Priolo Earthquake Studies Zone for proposed shopping center. Investigation included extensive trenching and design review.

- Hoag Hospital, Newport Beach - Hoag Hospital: Fault investigation of Newport-Inglewood fault zone and observation during grading of additional parking area and proposed structures.

- Foothill Transportation Corridor, CP Alignment, Orange County - Transportation Corridor Agencies: Fault investigation of branch of Cristianitos fault crossing proposed toll road alignment.

RESIDENTIAL/COMMERCIAL DEVELOPMENT

- Cielo Vista, County of Orange – North County BRS LLC: Residential development planned on undeveloped land required fault studies, geotechnical investigation, and foundation investigation for entrance bridge. Tasks included developing recommendations for rough grading, retaining wall, bridge, and residential structure design and providing design input

during plan preparation. Provided project management for structural design of retaining and MSE walls. Project required approval from MWD for geotechnical impacts to existing Lower Feeder pipeline, involving detailed analyses, multiple meetings with MWD staff, and coordination of responses to MWD requirements and comments.

- Talega, San Clemente – Talega Associates: Geotechnical investigation and geotechnical design recommendations for master planned community, including landslide and slope stability mitigation for hillside development. Investigation included drilling and logging numerous bucket auger and hollow stem borings.

- Ladera Ranch, Rancho Mission Viejo - DMB Ladera, LLC: Geotechnical investigation and grading/construction observations of 8000+ unit master planned community. Tasks include drilling numerous bucket auger and hollow stem borings and geologic mapping and observation during mass and rough grading.

LEGAL CONSULTATION

Ms. Bates has provided geotechnical consultation for litigation on a variety of projects for over 10 years in the State of California. She has been deposed and participated in mitigation for several cases, including the following issues:

- Landslides
- Slope failure
- Construction dispute
- Slope repair
- Concrete type/source

PUBLICATIONS:

Silver, Gregory, Bates, Lisa, 2012, "Landslide Stabilization Using High Strength Aggregate-Cement Slurry".