



**PATRICK C. LUCIA**

**geotechnical engineering  
landslides  
slope stability**

## **EDUCATION**

University of California: Ph.D., Civil Engineering, 1980  
University of California: M.S., Civil Engineering, 1975  
University of California: B.S., Civil Engineering, 1974

## **REGISTRATION**

California Geotechnical Engineering (G.E.) Number GE2033  
California Civil Engineer (P.E.) Number C33274

## **PROFESSIONAL HISTORY**

GeoSyntec Consultants, Walnut Creek, California, Principal, 1993-Present  
Woodward-Clyde Consultants, Principal and Vice President, 1984-1993  
The Tensar Corporation, Pleasant Hill, California Western Regional Engineer, 1983-1984  
Converse Consultants, San Francisco, California, Senior Engineer, 1980-1983  
Geotechnical Engineers, Inc., Winchester Massachusetts, Senior Engineer, 1975-1977  
Harding Lawson Associates, San Rafael, California, Engineer, 1974  
United States Army Corps of Engineers, 1966-1969

## **ACADEMIC APPOINTMENTS AND INVITED LECTURES**

NATO Advanced Study Institute on Groundwater Pollution Control and Remediation, Invited Lecturer, Kemer, Antalya, Turkey, 1995  
National Groundwater Association, In-situ Remediation Course, Lecturer, 1994-1995  
American Society of Civil Engineers, San Francisco Section, Remediation/Clean-up of Soil and Groundwater Contamination, Spring 1994 Seminar, Invited Lecturer  
Georgia Institute of Technology, 1994 Monie A. Ferst Symposium, Invited Lecturer  
University of Wisconsin, Slope Stability Short Course, Lecturer, 1994  
University of Wisconsin, In-situ Remediation Short Course, Lecturer, 1993-1994

University of California, Berkeley Extension Program, Member of Advisory Panel on the Certification Program in Remediation, 1992  
University of California, Davis, Senior Lecturer, 1990-1991  
The Application of United States Pollution Control Technology in Korea, Invited Lecturer, Seoul, Korea, 1989  
University of California, Berkeley, Adjunct Lecturer, 1986; Visiting Lecturer, 1984-1986; Research Engineer, 1978-1980; Teaching Assistant, 1977-1978

### **OTHER APPOINTMENTS**

San Francisco Bay Conservation and Development Commission, Engineering Criteria Review Board, 1985 to 1996

### **REPRESENTATIVE EXPERIENCE**

Dr. Lucia is a civil engineer specializing in the areas of geotechnical engineering and waste management. During more than 25 years of professional practice, he has been responsible for directing a broad range of projects requiring knowledge of foundation and earthquake engineering. Dr. Lucia has worked at various facilities ranging from industrial commercial sites to power plants, and has negotiated with federal, state, and local agencies. In addition, he provides litigation support on environmental and geotechnical matters, and has provided depositions and testimony at trial.

### **REPRESENTATIVE PROJECT EXPERIENCE**

- As a member of the San Francisco Bay Conservation and Development Commission Engineering Criteria Review Board, Dr. Lucia served as reviewer for the repairs and upgrade of the Benicia Bridge and the Richardson Bay Bridge. Dr. Lucia also served as reviewer of the seismic analyses and subsequent repairs of the Golden Gate and Bay Bridges following the 1989 Loma Prieta earthquake.
- Investigation and development of recommendations for repair of a 200-foot deep landslide at the Keller Canyon Landfill in Pittsburgh California. Mitigation included construction of a toe buttress and unloading of the head of the landslide requiring the movement of over one million cubic yards of soil.

- Investigation and design of the repair of the San Pablo landslide. Mitigation included installation of horizontal drains up to 600 feet long, excavation and compaction of over one million cubic yards of soil, buttresses up to 120 feet high, drilled piers up to 3 feet in diameter and 60 feet deep, and construction of a 40-foot high, 900-foot long Tensar reinforced earth wall.
- Served as Project Manager for the geotechnical investigation and development of recommendations for lateral earth pressures in a deep excavation, foundation preparation, and handling of contaminated soil and groundwater at a major medical facility in San Francisco, California.
- Provided geotechnical analysis and support to Panama Canal Commission to address landslides that have occurred during the widening of the Panama Canal.
- Foundation investigation and recommendations for the Napa County Courthouse.
- Evaluation of settlement and stability of a proposed shoreline development in Vallejo, California.
- Investigation and development of recommendations for roadway widening in Concord, California.
- Investigation and development of recommendations for sanitary sewer installation and development of a training program for inspectors for the Central Contra Costa Sanitary District.
- Evaluation of building settlement in San Francisco, California.
- Numerous landslide repairs for Marin County Department of Public Works.
- Developed recommendations for the installation of a slurry wall and dewatering system at the Pilgrim Nuclear Power Plant, Plymouth, Massachusetts.
- Evaluated the static and seismic stability of the East Bay Municipal Utilities District's (EBMUD) Mokelumne Aqueducts in the San Joaquin Delta region of California.
- Evaluation of the static and seismic stability of EBMUD's Summit Reservoir.
- Developed plans and specifications for five miles of erosion protection at Pacific Gas & Electric Company's Bass Lake Reservoir in Northern California.

- Siting study, site characterization, and preparation of preliminary plans, specifications, and cost estimates for four (4) landfill sites in Sonoma County, California.
- Site characterization, preparation of plans and specifications for the proposed 600 foot high Kirker Pass Landfill, Contra Costa County, California.
- Provided review and testimony before the State Water Resources Control Board on the stability of the Keller Canyon Landfill, Contra Costa County, California.
- Design of a geosynthetic reinforced buttress to stabilize portions of the Operating Industries Landfill in Monterey Park, California.

#### REPRESENTATIVE LITIGATION SUPPORT

- On behalf of counsel for a geotechnical engineering firm, provided expert testimony in deposition and trial for litigation involving the Discovery Bay residential development in the San Joaquin Delta region of California. Testimony concerned the cause of slope settlement and the engineers' compliance with the Standard of Care.
- Provided expert testimony in deposition and trial on the probability of failure and potential remediation costs for over 20 landslides at the Rancho Solano development in Fairfield, California.
- Provided expert testimony in deposition for litigation involving a major landslide at a housing development in San Ramon, California. Testimony concerned the cause of failure, and the geotechnical engineer's compliance with the Standard of Care.
- Provided expert testimony in deposition and in arbitration for a \$3.5M claim concerning the cause of failure of several retaining structures in the geysers area of Northern California. Addressed contractor compliance with plans and specifications.
- Provided expert testimony representing the contractor in depositions and in arbitration in a \$2.5M claim relative to the cause of pipeline settlement and contractor compliance with plans and specifications for a project in Pleasanton, California.
- Provided expert testimony in nonbinding arbitration in a \$250,000 changed condition claim representing the contractor in a pipeline construction project in Santa Clara County.

- Provided expert testimony in deposition and trial in San Mateo County representing a homeowner regarding settlement of a building due to construction adjacent to the property.
- Provided litigation support representing the developer of a condominium project in Contra Costa County. Evaluated the cause of settlement, probable mitigation alternatives and cost of foundation repair of the buildings.
- Provided litigation support to a geotechnical engineering firm regarding settlement of numerous buildings in a condominium project in San Mateo County. Evaluated cause of settlement, amount of settlement remaining over the next 30 years and reasonable mitigation alternatives.
- Currently providing litigation support for cost allocation and the likely sources of PCE and TCE in groundwater on behalf of counsel representing a manufacturing facility in Mountain View, California.
- Provided expert testimony in deposition on the allocation of cost and closure alternatives for a landfill with an extensive volatile organic compound (VOC) contaminated groundwater plume in Ventura County, California.
- Served as a member of the Board of Consultants charged with reviewing the closure design for a hazardous and low-level radioactive waste landfill including stabilization and closure of surface impoundments, in West Chicago, Illinois. Provided expert testimony in trial and in hearings before the Nuclear Regulatory Commission.
- On behalf of counsel to a potentially responsible party (PRP), provided expert testimony in trial on causes of lead contamination at the Point Isabel site in Richmond, California.
- Provided expert testimony in deposition and mediation on alternatives and remediation costs at a site in Sacramento, California, contaminated with over 700 cubic yards of battery casings.
- Provided expert testimony in deposition on remedial alternatives and remediation costs concerning a lead-contaminated site in San Francisco, California.

- On behalf of counsel representing municipalities, provided review and expert testimony in deposition on the remediation, closure methods, and estimated cost of closure for a Class II landfill in Richmond, California.

## AFFILIATIONS

American Society of Civil Engineers  
Society of American Military Engineers  
Tau Beta Pi  
Phi Beta Kappa

## RECENT PUBLICATIONS

- "Evaluation of Remedial System and Strategies"*, Invited paper presented at the NATO Advanced Study Institute on Groundwater Pollution Control and Remediation, Turkey, 1995.
- "Design of Landfills"*, Invited paper presented at the Application of U.S. Pollution Control Technology in Korea, Conference on Solid and Hazardous Waste Technology, Seoul, Korea, 1989.
- "Application of GeoSynthetics in Waste Management"*, Invited paper presented at the Application of U.S. Pollution Control Technology in Korea, Conference on Solid and Hazardous Waste Technology, Seoul, Korea, 1989.