

## CURRICULUM VITAE

### **FRANKLIN FONG, G.E.**

#### **CONSULTING GEOTECHNICAL ENGINEER**

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## **PROFESSIONAL PROFILE**

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Mr. Fong is a Registered Geotechnical Engineer with over 40 years of professional experience on major project assignments, including soil and foundation investigations, geologic and seismic investigations, field exploration and laboratory testing programs, engineering analysis, and on monitoring of earthwork and foundation construction for commercial, municipal, industrial, school, hospital, waterfront and residential developments.

Since 1995, Mr. Fong has served as an independent geotechnical engineering consultant on over 600 design and construction projects, case reviews, and consulting assignments. He served as geotechnical engineering consultant to established engineering firms in California and Nevada, and as expert witness for legal dispute resolutions and insurance claim assessments.

## **EDUCATION**

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M. Engr., 1972, Geotechnical Engineering, University of California, Berkeley

B.S., 1971, Civil Engineering, California State Polytechnic University, Pomona

A.A., 1968, Engineering Technology, Merritt Jr. College, Oakland, California

## **PROFESSIONAL REGISTRATIONS**

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Registered Geotechnical Engineer, California, No. GE 315

Registered Civil Engineer, California, No. C 24179

Registered Civil Engineer, Nevada, No. 14567

## **PROFESSIONAL AFFILIATIONS**

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Fellow, American Society of Civil Engineers

Member, Geo-Institute of ASCE

Member, International Society for Soil Mechanics and Geotechnical Engineering

Member, Earthquake Engineering Research Institute

## **PROFESSIONAL EXPERIENCE**

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1995-	Consulting Geotechnical Engineer
1991-1994	Principal Engineer, MAA Engineering Consultants, Inc., Los Angeles, California
1986-1991	Senior Engineer, LeRoy Crandall and Associates, Los Angeles, California
1984-1985	Assistant Manager of Engineering, Irvine Soils Engineering, Inc., Irvine, California
1979-1984	Project Engineer, Converse Consultants, Inc., Anaheim, California
1977-1979	Senior Staff Engineer, Woodward-Clyde Consultants, Orange/Los Angeles, California
1976-1977	Staff Engineer, W.A. Wahler & Associates, Newport Beach, California
1972-1975	Staff Engineer, Woodward-Clyde Consultants, Oakland, California

## **AREAS OF SPECIALTY**

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**Distress Investigation, Forensic Studies and Expert Testimonies:** Perform investigation of distress to structural foundations and earth embankments, including damages caused by expansive soil, settlement, slope instability, groundwater seepage, soil liquefaction, erosion, design deficiencies, defective construction and earthquakes. Review and determine causes for damages or failures, and obtain supporting evidences for damage claim assessments and for legal dispute resolutions. Provide recommendations for corrective measures and repair, and assist in legal dispute resolutions and insurance claim assessments. Review and assess alleged damage claims, and provide supporting evidences and expert witness testimony, for both plaintiff and defense legal actions.

**Landslides and Slopes:** Review, evaluate and determine causes of landslides and slope instability. Perform slope stability analyses using limit-equilibrium method-of-analysis to evaluate slope instability and deformation. Provide recommendations for appropriate landslide remediation, slope stabilization and site grading procedures.

**Foundation Engineering:** Provide recommendations for design and construction of spread foundations, mat foundations, driven piles, cast-in-drilled hole (CIDH) piles and piers, belled caissons, auger-cast piles, and mini-pile foundation systems. Perform and evaluate pile load tests, monitor and evaluate piles during installation, including evaluation of results of non-destructive sonic testing and pile driving analyzer (PDA) test data. Review and evaluate foundation performance in weak and compressible, problematical soil conditions, including liquefiable soil condition during earthquakes.

**Retaining Structures:** Provide review, analysis and design recommendations for retaining walls, Mechanically Stabilized Earth (MSE) Retaining Structures, permanent soldier pile and tieback anchored walls.

**Deep Excavations and Shoring:** Provide review and recommendations for temporary shoring systems, perform and evaluate testing of tieback anchors, review protocols for shoring performance and protection of adjacent properties during construction, and review of shoring monitoring data during construction.

**Subsurface Drainage and Dewatering:** Review and evaluate groundwater and seepage conditions. Perform and evaluate well design and installation, pumping tests, and monitoring of seepage pressures during construction dewatering. Provide recommendations for subdrainage and dewatering systems, and for control and protection against groundwater intrusion.

**Pipelines and Tunneling:** Review and evaluate, and prepare recommendations for pipe excavations and bedding support, backfill requirements, and for pipeline installation by jacking, tunneling and micro-tunneling techniques.

**Ground Stabilization and Improvement:** Review and evaluate, and prepare recommendations for site grading and fill compaction, grouting, and stabilization or improvement of existing site and soil conditions for proposed or existing construction.

**Earthfill Embankment Dams and Levees:** Assist in the design, review and evaluation of proposed and existing earthfill dams and levees, installation and monitoring of instrumentations for settlement, lateral deflection and seepage, and prepare dam surveillance reports for State regulatory review and approval.

**Pavement Design and Rehabilitation:** Review and evaluate, and prepare recommendations for pavement design and construction, including recommendations for reconstruction, restoration, recycling and resurfacing of existing pavements.

## REPRESENTATIVE PROJECT EXPERIENCE

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Mr. Fong has participated in over 1,400 design and construction projects, case reviews, and consulting assignments during his professional career. Listed below are few selected projects and consulting assignments, which represent his broad range of experience and practice within the geotechnical field. Most of these job assignments, unless otherwise noted, are located in California.

**Bishop Creek Intake 2 Dam, Inyo County, California (2011)** – In response to comments by the Federal Energy Regulatory Commission (FERC) on the stability evaluation of Bishop Creek Intake 2, specifically on the shear strength of the embankment materials used in the stability analysis of the dam embankment and appurtenant structures, Mr. Fong was tasked by the Southern California Edison (SCE) Dam Safety Group to review the dam technical files and evaluate the shear strength of the dam embankment and foundation soils that were previously used for the Bishop Creek Intake 2 stability evaluation. The soils are generally characterized as coarse grained soil with hard, angular to partly rounded particles originating from the glacial moraine deposits from the immediate site vicinity used in the construction of the existing dam embankment. Because sampling of coarse grained soils and the performance of conventional laboratory tests on such soil is difficult and generally not practical to obtain meaningful soil properties for geotechnical evaluations, an evaluation of the material strength of the dam was based on Mr. Fong's research of the available information in the project files, review of pertinent published information and research papers, and upon analysis and engineering judgment. Accordingly, it was concluded that the previous strength parameters used in the stability analyses appear reasonable and conservative. A memorandum was prepared presenting the results of Mr. Fong's evaluation and response to FERC comment on the embankment/foundation soil shear strength.

**Whirlwind Substation Subsurface Bridge, Rosamond, California (2011)** – Tasked by SCE Geotechnical Group to review geotechnical report and provide recommendations for pile foundation design for a subsurface bridge over-crossing of the Los Angeles DWP Aqueduct at the Whirlwind 500-kV Substation access road entrance. The bridge is designed to protect an existing underground 89-inch diameter aqueduct from excess vehicle and truck traffic loads with maximum wheel load rating of AASHTO HS20-44. Bridge consisted of cast-in-place reinforced concrete single-span slab supported on reinforced concrete piles placed 5 feet on each side of the aqueduct. The bridge span is approximately 17.4 feet between the inside faces of the piles and 100 feet wide and supported on drilled cast-in-place reinforced concrete piles, since vibration from driven piles may be detrimental to the integrity of the aqueduct.

**Kern River Powerhouse No. 1 Access Roadway Widening (2010-2012)** – Assisted Southern California Edison (SCE) on independent review of the project geotechnical report and the civil/geotechnical design of the planned Hilfiker (MSE) walls and site grading improvements for the widening of the access roadways between SR 178 and Kern River at SCE Powerhouse No. 1, Sequoia National Forest, Kern County. Performed major design modifications, including realignment of one access roadway for increased efficiency in geometric design. As result, one of three planned Hilfiker walls was eliminated and replaced with a graded earth embankment, and one Hilfiker wall (Wall No. 1) was redesigned structurally for new roadway alignment and grade. Subsequently, upon further plan review, Hilfiker Wall No. 2 was partially redesigned for changes in final line and grade above the wall. Mr. Fong led in the review, analysis and redesign of the Hilfiker walls. As construction progressed, he assisted in additional design changes to reduce excavation difficulties in boulder deposits, to address unanticipated site conditions, and to finalize finished grade elevations for paving and site drainage work. Also, assisted in the review and response to contractor RFI submittals and in the preparation of design change notices, attended meetings with SCE staff and contractor personnel, and visited the site construction work as needed to address design and/or construction issues.

**Mammoth Pool Fishwater Turbine-Generator Powerhouse, San Joaquin River, Sierra National Forest (2010-present)** – Assist SCE as geotechnical engineering expert to review the site investigation and design recommendations by SCE geotechnical staff and the proposed foundation design by SCE design consultants. Based on review, recommendations were provided for static design only, and data was found insufficient for proper dynamic foundation design to support the anticipated vibration loadings from the powerhouse T/G unit, H-B valve, and energy reducer baffles. SCE staff was compelled to address such soil/foundation dynamic response issues, in order that plans for foundation design and site preparation can be properly finalized for construction. Because of the highly variable, complex soil/bedrock conditions at the

project site, various site constraints, complex foundation design, and the given limited design/construction time schedule, it was recommended to SCE staff to retain expertise in the field of soil dynamics to assist the SCE Geotechnical Group to adequately address soil dynamic/foundation vibration design issues and properly complete plans for the powerhouse foundation design and site preparation. Mr. Fong assisted in identifying and retaining two world renowned experts in the fields of soil dynamics and dynamics field testing by SCE Geotechnical Group. Additional field work currently delayed pending Federal permit approval.

**Lower Santa Ana River Reach 9, Phase 2B Project (2009)** – Assisted Genterra Consultants, Inc. project team as consultant and independent technical reviewer (ITR) during the geotechnical investigation and design for a proposed single-span roadway bridge over the Santa Ana River channel, paved access road and bike trail, and staging design for the Lower Santa Ana River Reach 9, Phase 2B project along the Green River Golf Course in Orange/Riverside Counties for the US Army Corps of Engineers. Professional opinions and technical review were provided on the preparation of geotechnical reports and technical memoranda, and independent technical review was performed on 90% and 100% completed plans and specifications submitted by the civil design consultant. Reviewed and commented on planned cast-in-drilled-hole (CIDH) concrete piles design, driven steel pipe piles, bridge abutment wall design, rip-rap slope and channel scour protection, pavement design, and temporary bridge support for a bike trail during construction. Reviewed and commented on the contractor's proposed oscillatory drilling method for installation of 60-inch diameter CIDH piles in loose, granular cobble soils at the bridge site.

**Ka Loko Dam Failure, Kilauea, Kauai, Hawaii (2009)** - Consultant and expert witness on civil case for counsel representing insurance company for victims of catastrophic failure of hydraulic earthfill dam. Work tasks included compilation and review of historical data, correspondences, drawings, consultants reports and photographs, deposition transcripts and exhibits, and data analysis. Reviewed findings with counsel and provided verbal professional opinions on origin and causes for dam failure. Case settled out-of-court.

**Hangar 6 Modifications, Marine Corps Air Station, Miramar, San Diego (2008-2009)** – Geotechnical Consultant to Nova Engineering and Environmental on geotechnical investigation for design of hangar extension and concrete apron/tarmac to an existing hangar structure. Technical assistance were provided for foundation design alternatives to support vertical downward and upward reaction loads and to resist horizontal loads under static and dynamic conditions based on Department of Defense, Unified Facilities Criteria, UFC 1-200-01 Seismic Design Criteria (2006 International Building Code). Provided assistance during report preparation and responses to comments during project design review.

**Moapa Valley, Nevada (2007, 2009)** - As geotechnical consultant to Owens Geotechnical, Inc. (Las Vegas, Nevada), Mr. Fong assisted on the analysis and review of the stability of proposed graded cut slopes and natural slopes along the perimeter of proposed flood control retention basins, and for the Indian Basin North and Indian Basin West, in Moapa Valley near Logandale, Nevada. Stability analyses were performed on slope cross sections to evaluate factors-of-safety for the slopes under empty, full pool, partial pool and rapid drawdown cases for both static and seismic conditions. Later in 2009, he analyzed and reviewed the stability of proposed graded slopes for proposed river channel improvements along the Muddy River for the Muddy River Riverine Improvements project in Moapa Valley, Nevada. Stability analyses were performed to evaluate proposed river embankment slope designs and provide adequate factors-of-safety for slopes under normal river flow, full flood stage and rapid drawdown for static and seismic conditions. Evaluations performed indicated high potential for lateral spreading due to soil liquefaction during seismic conditions.

**New Top of the Cove Restaurant, La Jolla (2008)** – Geotechnical Consultant to Nova Engineering and Environmental on limited geotechnical investigation for design of a proposed new restaurant adjacent to an existing building with a 5-level underground parking structure. Technical assistance were provided on field exploration, preparation of design recommendations for spread foundations and belled piers that preclude surcharging adjacent existing parking structure, static and dynamic earth pressures for retaining wall design, shoring design, and report preparation.

**SB Tower II Development, Los Angeles (2007-2009)** – Mr. Fong has been assisting on the geotechnical investigation for design of a proposed 31-story, high-rise residential condominium tower over a 7-level structure consisting of two levels for retail/commercial/amenities and five levels for parking; one level of parking is planned below the adjacent street grade. The proposed project covers one-third of a city block at

6<sup>th</sup> and Main Streets in downtown Los Angeles, surrounded by existing buildings extending 6 to 19 stories in height and to 5 levels below grade. Recommendations were provided for mat foundation design, walls below grade, and for temporary slope and shoring design. Supplemental recommendations may be provided as required pending future design progress.

**East Imperial Highway Relief Trunk Sewer, Los Angeles County (2008)** - Geotechnical Consultant to Geo-Environmental, Inc. on the investigation, feasibility and recommendations for the proposed installation of 1,368 lineal feet of 12-inch VCP trunk sewer beneath Imperial Highway using pilot tube micro-tunneling (PTMT) method of installation by the County Sanitation Districts of Los Angeles County.

**Mallett v. Union Pacific Railroad & W.T. Byler Co. (2007-2008)** – Expert Witness for plaintiff attorney representing railroad employee injured in construction excavation slope failure in San Antonio, Texas. Work tasks included compilation and review of deposition transcripts and exhibits, drawings, reports and photographs, and analyzed data and prepared report with professional opinions on origin and causes for temporary excavation slope failure. Testified before defense counsel during deposition on findings and opinions on failure of construction excavation. Case successfully settled out-of-court in favor of plaintiff.

**Wathen Education Center, Flabob Airport, Rubidoux, Riverside County (2007)** – Geotechnical Consultant to Aragón Geotechnical on the geotechnical investigation for design of proposed new classroom and administration facilities, and for a multi-purpose hall and hangar for aviation high school and air academy. Expert assistance were provided on field exploration for driven pile foundation, mitigation for soil liquefaction, recommendations for spread foundations and driven piles, lateral resistance design, remedial site grading and report preparation. Design recommendations were prepared based on new 2007 California Building Code (prior to code adoption on January 1, 2008) and State of California, Division of State Architect requirements.

**Tustin Centre Phase 2-B Office Building and Parking Structure Addition, Santa Ana (2007)** - Mr. Fong assisted as geotechnical consultant to Geo-Environmental, Inc. on the geotechnical investigation for design of a 4-story office building over a one-level underground parking structure, and for the expansion of an existing 7-level parking structure with one level below grade constructed between an existing 7-level parking structure and existing on-site building. Technical assistance were provided for field and laboratory investigation, preparation of design recommendations for spread foundations, walls below grade, site grading, excavation and shoring design, and report preparation. Review of as-built drawings and recommendations for spread footings, concrete paving, and excavation and shoring were provided for parking structure expansion.

**Joint Outfall “H” Unit 1B Replacement Trunk Sewer, Section 4, South Gate (2007)** - Geotechnical Consultant to Geo-Environmental, Inc. on the review of contractor’s submittals and for recommendations on proposed tunneling and pipe-jacking procedures for installation of 8,500 lineal feet of a replacement trunk sewer along beneath the Los Angeles River and Rio Hondo River levees in South Gate, California, with outside diameters ranging from 107 to 138 inches for the tunnel liner plates, steel pipe casings and RCP pipes.

**Base Line Relief Trunk Sewer, Section 1, Azusa (2006-2007)** - Geotechnical Consultant to Geo-Environmental, Inc. on the investigation for the installation of trunk sewer beneath I-210 Foothill Freeway (429 lineal feet) and Little Dalton Creek (165 lineal feet) by pipe-jacking through sand, gravel, cobbles and boulder alluvial deposit. Recommendations were prepared for permeation grouting using chemical grout injections to stabilize soils and minimize caving and ground loss during jacking adjacent to existing bridge foundations under Caltrans' approval. Contractor’s proposed pipe-jacking procedures were reviewed and reports prepared for project approval and construction.

**Loring Ranch, Tentative Tract 31503, Rubidoux, Riverside County (2006)** – Mr. Fong assisted Medall, Aragón Geotechnical, Inc. on evaluation of lateral spreading from soil liquefaction for a proposed residential tract development that is underlain by loose sand deposits and high groundwater north of the Santa Ana River. Limit-equilibrium method-of-analyses were performed on ground sections adjacent to an existing open unlined drainage channel to evaluate the feasibility of mitigating lateral spreading using stone columns. Based on the analyses, various widths of stabilized ground sections using stone columns were determined in

respect to width of development protection. Stone columns were accepted as feasible for mitigating lateral spreading.

**The Village Community Presbyterian Church, Rancho Santa Fe (2006)** – Assisted Davis Earth & Materials, Inc. on the geotechnical investigation for design of proposed new sanctuary/administration building and new two-story education building. Recommendations were provided for spread footings and floor slabs for highly expansive on-site soil.

**San Juan Hills Estates Homeowners Association v. Taylor Woodrow Homes, Inc., et al (2005-2006)** – Geotechnical Consultant and Expert Witness to defense attorney representing V-ditch subcontractor on major hillside residential development in San Juan Capistrano, California. Reviewed case files, design drawings, observed and documented site conditions, and attended expert meetings. Assessed alleged construction defect claims by plaintiff experts for damages to hillside drainage facilities and slopes, and reviewed proposed resolutions. Provided professional opinion to client defense attorney on evidences and causes for alleged damages. Case successfully defended and settled with minimal financial loss to client.

**Sapphire Tower/Santa Fe 6 High-rise Condominium Development, San Diego (2004-2007)** - Geotechnical Consultant to Davis Earth & Materials, Inc. on the geotechnical investigation for design and construction of proposed 34-story high-rise residential tower over five-level underground parking garage. Performed design analyses and prepared reports with recommendations for mat foundation design with settlement mitigation using concrete columns, walls below grade, and shoring extending below adjacent existing structures, railroads and groundwater level conditions. Provided consultation during shoring and tieback installation, placement of concrete columns for foundation ground improvement, and evaluated monitoring data on shoring and site dewatering during construction. Settlements monitored on mat foundation during construction and after building completion (January 2009) were within acceptable limits as predicted.

**Library Tower, San Diego (2004-2006)** - Geotechnical Consultant to Davis Earth & Materials, Inc. on the geotechnical investigation for design of proposed mixed-use commercial, office and 43-story high-rise residential tower development over five-level underground parking structure covering two-thirds of city block within Gaslamp Quarter of San Diego. Site is mapped within an Alquist-Priolo Earthquake Fault Zone and the City of San Diego “Downtown Special Fault Zone”. Exploratory trenches indicated site is traversed by an active secondary strand of the Rose Canyon Fault. Based on the trenching, structural setbacks of 25 feet and 17 feet from trace of active fault were provided for design. Design analyses were performed and reports prepared with recommendations for spread footings and mat foundation design, and design of walls below grade and shoring extending below groundwater and adjacent existing structures, streets and light rail line.

**Rahim Warehouse Facility Flood Damage, Temple City (2005)** – Geotechnical Consultant and Expert Witness to plaintiff attorney on investigation of the origin and causes for discharge of stormwater onto existing warehouse facility adjacent to a construction site that resulted in damages to merchandise and interrupted business operations, and of the future impact of adjacent construction on the Rahim facility. Prepared report and provided consultation for judicial resolution.

**Nikken, Inc. v. Harding ESE, Inc., et al (2004)** – Geotechnical Consultant and Expert Witness to defense attorney representing plumbing subcontractor on major warehouse facility in Irvine, California. Reviewed case files, observed and documented site conditions, attended expert meetings, assessed claims by plaintiff for alleged damages to facility from expansive soil, and reviewed proposed resolutions. Provided professional opinion to client defense attorney on evidences and causes for damages and assessment of proposed resolutions for repair. Case successfully defended and settled with minimal financial loss to client.

**74<sup>th</sup> Street Bridge over Alameda Corridor, Walnut Park (2004)** - Mr. Fong assisted as geotechnical consultant to Bing Yen & Associates, Inc. on the geotechnical investigation, seismic evaluation and design for a 60-foot long, single-span concrete bridge supported at the top over the Alameda Corridor. An evaluation of the geologic-seismic conditions, and the potential and effects of soil liquefaction on the bridge facility were made. Recommendations were provided for design and installation of cast-in-drilled-hole (CIDH) concrete piles under axial and lateral loadings at the bridge abutments, Caltrans seismic design criteria, static and dynamic lateral earth pressures, and site grading at the bridge approaches. Responses were made to

comments by Los Angeles County review on effects of liquefaction on bridge performance and global stability of site.

**Santa Barbara Cottage Hospital Parking Structures, Santa Barbara (2004)** - Geotechnical Consultant to Geotechnical Professional Inc. on the geotechnical investigation for design of four-level and five-level parking structures and a daycare facility. Assistance were provided on evaluation of seismic hazards, including faulting and soil liquefaction, and on preparation of recommendations for site excavation and shoring, spread foundations and lateral resistance design, subterranean walls below grade, and report preparation.

**Downey Unified School District, Downey (2003-2004)** - Geotechnical Consultant to ATC Associates, Inc. on the investigation and construction for new buildings and site improvements, and for major stadium facilities at Downey High School and at Warren High School in Downey, California. Assisted on the geotechnical analysis and preparation of design geotechnical reports, and provided training of field inspectors for pile driving inspection and consultation during stadium construction at each school site in compliance with State of California, Division of State Architect requirements.

**Vintage Homes Development, Hacienda Heights (2003)** – As Geotechnical Consultant to defense expert witness, assisted in observation and documentation of plaintiff expert's field exploratory boring and sampling procedures. Assisted in review and compilation of defensive evidences for defense attorney on legal case involving alleged defective construction damage claims.

**Riverside Canal, Colton-Grand Terrace (2003)** - Mr. Fong assisted as geotechnical consultant to Geo-Environmental, Inc. on the investigation, seismic evaluation and design for the rehabilitation of the open channel and tunnel portions of the Riverside Canal for irrigation water conveyance. Options for rehabilitation of portions of the existing 3,374-foot long tunnel were provided for design and construction consideration.

**Roadway Bridge at Bridge Road, California Aqueduct, Palmdale (2003)** – Mr. Fong assisted as geotechnical consultant to Medal, Aragón Geotechnical, Inc. on proposed Bridge Road bridge to be supported on pile-supported concrete abutments at each end of the single-span bridge on top of the existing California Aqueduct earth embankment levees. Recommendations were provided for cast-in-drilled-hole (CIDH) concrete piles for axial and lateral loadings.

**Anaverde, LLC Residential Development, Palmdale (2003)** – Geotechnical Consultant to Medall Aragón Geotechnical, Inc. on the geotechnical review and stability analysis of cut slopes for a major residential development. Assisted on final review and design of stabilization fills and buttresses.

**Azusa Library, Azusa (2002)** – Mr. Fong assisted ATC Associates, Inc. on the geotechnical investigation for a two-story library building over a single-level underground parking structure. Assisted on the geologic-seismic evaluation of faulting and seismicity for the site, and on the evaluation of soil liquefaction. Performed geotechnical analysis and prepared recommendations for spread footings, walls below grade, floor slabs, soil corrosivity, site excavation and shoring, and preparation of geotechnical report.

**Juanita's Foods Administration Building, Wilmington (2001-2002)** - Mr. Fong assisted as geotechnical consultant to Geo-Environmental, Inc. on the geotechnical investigation for design and construction of a 2-story wood-frame administration office building supported on a rigid mat foundation in lieu of driven piles. Technical assistance was provided for field and laboratory investigation, evaluation of soil liquefaction and settlements, site excavation and dewatering, preparation of design recommendations for mat foundation design, and report preparation. Also, he prepared responses to review comments by the City of Los Angeles for project approval.

**Parking Structure, Toyota of North Hollywood, North Hollywood (2001)** - Geotechnical Consultant to ATC Associates, Inc. on the geotechnical investigation for two-level parking structure with additional new showrooms, restrooms, offices, and service facilities at the ground level. Assisted on the geologic-seismic evaluation of faulting and seismicity for the site, and on the evaluation of soil liquefaction. Performed geotechnical analysis and prepared recommendations for driven end-bearing pile foundation, spread footings, retaining wall design, floor slabs, soil corrosivity, and geotechnical report.

**Big League Dreams Sports Park, Chino Hills (2000)** - Mr. Fong assisted as geotechnical consultant to Bing Yen & Associates, Inc. on the geotechnical and geologic-seismic investigation for design of a community baseball sports facility, which includes six baseball diamonds, group picnic areas, administrative office/entry facility, restaurants, a multi-purpose structure, maintenance shed, batting cage, youth play areas, volleyball courts, light towers up to 100 feet in height, and paved parking. Evaluations of soil liquefaction, seismically-induced ground subsidence, and shallow groundwater conditions at the site were made. Recommendations were prepared for site drainage and dewatering, foundation design, slabs for the expansive on-site soils, retaining walls, pavements, and site grading. Assistance was provided for preparation of geotechnical report.

**New Classroom Buildings and Site Improvements, Crescenta Valley Adventist School, La Crescenta (2000-2002)** – Mr. Fong performed geotechnical investigation, testing and observations during grading and foundation construction for one-story classroom buildings and attached music room, kitchen, and bathroom facilities, and for retaining walls and associated site improvements and underground utilities. Prepared reports for design and construction, and final report on grading and foundation observations for City of Los Angeles certification.

**Sprint PCS (1999-2002)** – Geotechnical Consultant assisting ATC Associates, Inc. on the geotechnical investigation for design of numerous wireless communications facilities in northern, central and southern California, and parts of Washington, Oregon and Nevada.

**Sludge Loading Facility, Fountain Valley (1999)** – Mr. Fong assisted as geotechnical consultant to Converse Consultants, Inc. on investigation for new sludge loading facility at Orange County Sanitation District, Plant 2. Based on his analyses, he recommended the use of stone columns to mitigate liquefaction, provide improved bearing capacity of the underlying natural soils, and increased lateral resistance with the use of shallow spread foundation for structural support in lieu of driven piles.

**P1-33 Primary Clarifiers, Plant 1, Fountain Valley (1999)** - Mr. Fong assisted as geotechnical consultant to Converse Consultants, Inc. on investigation for County Sanitation Districts of Orange County expansion of primary clarifier units. Recommendations were provided for driven end-bearing piles and for auger-cast piles to be installed within existing plant structures with limited vertical clearance.

**FEMA-1203-DR-CA Emergency Declaration, California (1998)** - Mr. Fong served as Geotechnical Public Assistant Inspector on the review of landslides for the assessment of claims for damages caused by landslides triggered by the El Niño storms of February 1998 on public facilities in southern, central and northern California.

**Jamboree Road/Edinger Avenue Grade Separation, Tustin (1998)** – As Consultant to Geofon, Inc., Mr. Fong provided expertise to County of Orange on the installation, monitoring and load testing of 24-inch diameter steel pipe piles driven for new bridge structure. He reviewed and evaluated pile load test data, including PDA data, and confirmed design pile capacity, and reviewed and approved contractor's MSE wall design shop drawings/submittals for construction.

**Route 30 Improvements, Segments 5 and 7, Fontana and Rancho Cucamonga (1998-1999)** – Assisted Geofon, Inc., on the review and preparation of final geotechnical design reports and specific reports for bridge structures at Knox Avenue, Rochester Avenue, Cypress Avenue and Day Creek Boulevard, as well as specific reports for various sound walls, retaining walls, drainage channels and other right-of-way structures for Caltrans approval.

**Union Pacific Railroad Overcrossing at Azusa Avenue (Bridge #1506), City of Industry (1996)** - Mr. Fong assisted as geotechnical consultant to Geo-Environmental, Inc. on data research and evaluation of an existing railroad bridge for the Los Angeles County Bridge Seismic Retrofit Program. Mr. Fong reviewed as-built drawings and evaluated the existing bridge pile foundations and abutments. Earthquake ground motion information, estimates of pile axial and lateral capacities and deflections for existing pile foundation, pile spring constant, passive soil resistance, vertical and horizontal subgrade soil moduli, and lateral earth pressures on abutments walls were provided for static and dynamic structural analyses.



**Southern Pacific Railroad Overcrossing at Brand Boulevard (Bridge #3116), Glendale (1996)** - Mr. Fong assisted as geotechnical consultant to Geo-Environmental, Inc. on the data research and evaluation of an existing railroad bridge for the Los Angeles County Bridge Seismic Retrofit Program. Mr. Fong reviewed as-built drawings and evaluated the existing bridge spread foundations and abutments. Earthquake ground motion information, estimates of the ultimate bearing capacities for existing bridge foundation, passive soil resistance, vertical and horizontal subgrade soil moduli, soil shear modulus, and earth pressures on abutments walls were provided for static and dynamic structural analyses.

**Pier A Back Area Storm Water Pump Station, Port of Long Beach (1996)** - As Consultant to Geofon, Inc., assisted in the geotechnical investigation and preparation of report for a major pumping facility located at a site below sea level. Recommendations were provided for settlement considerations, liquefaction mitigation, site surcharge effects, excavation and shoring, dewatering, mat foundation design, and installation of associated storm drains and force mains.

**Union Pacific Railroad Lead Line, Riverside County (1996)** - Consultant to Converse Consultants, Inc. on investigation for the design and construction of approximate 1.5-mile railroad lead track to the Aqua Mansa Industrial Center. Recommendations were provided for grading and sloped embankments, and for track roadbed preparation and support.

**Channel Slope Lining Protection Studies, Orange County (1995)** – As geotechnical consultant and principle investigator to Converse Consultants, Inc., Mr. Fong assisted in the channel slope lining protection studies for the Orange County Flood Control District. Existing flood control channels were evaluated and recommendation were prepared for the District on the repair, rehabilitation and protection of eroded side slopes along the East Garden Grove/Wintersburg, Fountain Valley, Santa Ana Gardens, and San Diego Creek Channels in Orange County.

**Hyperion Treatment Plant Full Secondary Facilities, Playa Del Rey, Los Angeles (1991-1994)** – As Supervising Geotechnical Engineer, in association with the City of Los Angeles Geotechnical Services, served in full-time, responsible charge for all geotechnical inspection and testing, review and approval of submittals and shop drawings, and training and supervision of field engineering personnel, during construction of the City of Los Angeles' \$200,000,000 Hyperion Full Secondary (HFS) C-109, Phase 1 project at the Hyperion Treatment Plant. Project involved various complex major structures, which included Operational Center and Compressor Building, Cryogenics Facility, Water Service and Chlorination Facilities, Oxygen Reactors, 16 Final Clarifiers units, West Basin Pumping Station, interconnecting influent and effluent channels, access/service/utility tunnels, effluent/outfall Emergency Bypass Structure, Utility Compressor Building, and retaining walls. Construction oversight included deep excavations, foundation construction, shoring and tieback systems, dewatering systems, chemical grouting, installation and testing of temporary and permanent tieback systems, installation and testing of auger-cast pressure-grouted piles, tunneling, compacted fill embankments and structural backfills, and major yard pipings and electrical duct banks. Prepared and submitted required formal reports for City's Department of Building & Safety final approval.

**Hyperion Storm Drain, Playa Del Rey (1993-1994)** - Supervising Geotechnical Engineer in responsible charge for review and approval of contractor shop drawings and construction procedures, and for monitoring installation of 990 linear feet of 60- and 72-inch RCP storm drain in sand by tunnel boring machine and pipe-jacking procedure. Also, monitored excavation of 60-foot by 7-foot diameter tunnel section performed by manual labor and supported using ribs and spillings for a 54-inch lateral. Work was performed as part of the City of Los Angeles' Hyperion Treatment Plant improvements.

**Permanent Tie-back Retaining Wall, Playa Del Rey (1992-1993)** - Supervising Geotechnical Engineer in charge of construction inspection and testing for 600-foot by 37-foot high permanent tieback retaining wall at south end of the City of Los Angeles Hyperion Treatment Plant. Construction included ground stabilization with chemical grouting, soldier pile installation, installation and testing of approximately 300 permanent tieback anchors, load cell installation, and placement of permanent wall facing.

**Kaiser Permanente West Anaheim Medical Center, Anaheim (1991)** - Project Manager in charge of geotechnical and seismic investigation under State Architect review for proposed new hospital facility. Work included evaluation of liquefaction potential and dewatering requirements in area of high ground water and marginal soil conditions.

**Unocal Polymers Research and Development Facility, Brea (1990)** - Senior Engineer in charge of foundation investigation for new research facility consisting of laboratory buildings, polymers storage, and chemical testing facilities for Unocal.

**Roadway Bridge over Los Angeles River, Warner Brothers Studios north of Forest Lawn Drive, Los Angeles (1990)** – Mr. Fong participated in geotechnical investigation for 140-foot long, single-span concrete bridge supported at the top of the concrete-lined Los Angeles River channel. An evaluation of the geologic-seismic conditions and liquefaction potential of the underlying soils were made. Recommendations were provided for design and installation of cast-in-drilled-hole (CIDH) concrete piles for axial and lateral loadings at the bridge abutments, Caltrans seismic design criteria, excavation and slopes, retaining walls, and grading for the bridge approaches.

**Forest City-La Brea High Rise Residential Development, Los Angeles (1990)** - Senior Engineer in charge of foundation investigation for multiple 15-stories condominium tower complex in the Park La Brea District of Los Angeles. Investigation included determination for the present of methane gas and asphaltic tar/sand deposits, and recommendations foundation design and construction.

**ARCO Refinery, Carson (1990)** - Senior Engineer in charge of foundation investigations for various refinery tank facilities for ARCO.

**Nursing Wing Addition, Beverly Hospital, Montebello (1990)** – Mr. Fong participated in geotechnical investigation for nursing wing addition to existing hospital facility under State Architect jurisdiction.

**Pasadena City College New Library, Pasadena (1990-1991)** - Mr. Fong participated in the geotechnical investigation for new library facility at Pasadena City College. Geologic-seismic evaluations on faulting, seismicity and geologic hazards from landsliding, lurching, ground subsidence, flooding, seiches or tsunamis were performed to satisfy State Architect requirements. Evaluations on liquefaction and seismic settlement potential, and recommendations for belled caissons, walls below grade, site excavation and grading, and floor slab and paving support were provided for design and construction. Provided responses to comments by State Architect for project review and approval.

**Tahquitz Debris Basin Dam, Palm Springs (1989-1991)** – As Senior Engineer, Mr. Fong lead in the design and construction of Tahquitz Debris Basin Dam in Palm Springs for the Riverside County Flood Control and Water Conservation District. The project included a 60-foot high by 600-foot long homogenous earthfill dam and adjoining 1,000-foot levee sections constructed of well-graded material containing maximum 12-inch size particles placed in 18-inch thick lifts. Tasks included review of plans and specifications, and review of design and construction methodology, including fill test pads, in cooperation with the California Division of Safety of Dams, for project approval. Mr. Fong also provided consultation to the District's engineering personnel in developing special field testing program and equipment for quality control of gradation and compaction of soil material containing boulder-size (12-inch) particles during construction.

**OB/Surgery Expansion, St. Luke's Hospital Medical Center, Pasadena (1989-1990)** - Mr. Fong participated in a foundation investigation for a two-story expansion adjacent to an existing hospital facility. An updated geologic-seismic evaluation for hospital facility was performed to satisfy State Architect requirements. Evaluations on liquefaction and seismic settlement potential, and recommendations for spread footings, walls below grade, site grading, and floor slab support were provided for design and construction. Seismically-induced earth pressures were provided in response to comments by State Architect.

**Douglas Center, Long Beach (1989)** - Mr. Fong participated in geotechnical and seismic investigation for a major development consisting of a group of office buildings and parking structure, including a pedestrian bridge for MacDonald Douglas Corporation.

**Emergency Room Addition, St. Mary Medical Center, Long Beach (1989)** - Mr. Fong participated in a foundation investigation for a one-story emergency room addition to an adjacent hospital building complex with one to two basement levels. Recommendations were provided for alternate foundation design, including deep spread footings and drilled cast-in-place concrete piles, and for lateral load resistance design, site grading, and floor slab support under jurisdiction of State Architect.

**Cement Transfer Terminal, Southwestern Portland Cement, La Mirada (1989)** - Senior Engineer in charge of geotechnical investigation for design and construction of a rail-to-truck bulk cement transfer facility, which included loadout storage silos, railcar unloading pit, office building and warehouse. Recommendations were provided for spread footings for building support, drilled and belled caissons for cement silos and hopper support, site grading, walls below grade, floor slabs and concrete paving.

**Paramount Pictures Corporation Film Archive and Backdrop, Los Angeles (1989-1990)** - Senior Engineer in charge of geotechnical investigation for design and construction of a halogen-suppressed film archive with attached backdrop for motion picture filming production. Recommendations were provided for foundation design alternatives including spread footings, driven piles and auger-cast concrete pile foundations under axial and lateral loading.

**Water Transmission Lines Relocation, Pomona (1989)** - Senior Engineer in charge of geotechnical investigation for relocation of the Metropolitan Water District Orange County Feeder and the adjacent Walnut Valley Water District transmission main around the Spadra Landfill. Recommendations were developed to avoid landslide and creep affected areas, for pipeline installations adjacent to landfill slopes, for protection of water lines from contamination due to adjacent landfill area, for excavation and pipeline backfills, and for design of storage tank foundations.

**Oxford Centre, Torrance (1989)** - Project Manager for geotechnical and seismic investigations for development consisting of several mid-rise to high-rise office buildings, restaurants, and parking structure in former oil field.

**Lopez Canyon Landfill, Los Angeles (1988-1990)** - Senior Engineer in charge of geotechnical investigation for major landfill expansion, including investigation and analyses of proposed landfill cut slopes, compacted fill slopes and landfill refuse fill slopes, and stability of natural bedrock slopes under static and earthquake conditions. Also, prepared recommendations/design for containment structure, construction materials, clay and geomembrane liners, LCRS, gas recovery system, construction and inspection procedures, operations, monitoring, and final cover design. Prepared landfill design report, plans and specifications in compliance to Subchapter 15, Chapter 3, Title 22 of the California Administrative Code. Work performed for City of Los Angeles Bureau of Sanitation.

**Disneyland, Anaheim (1988-1991)** - Senior Engineer on soil investigations for various amusement park facilities, including *Splash Mountain* and *Mickey's Fantasmic* attractions, new *Rivers of America* boat dock facility, and retail stores and support facilities. Recommendations were prepared for foundation design and construction, and for grading and shored excavations.

**Monterey Hills Building Rehabilitation, Los Angeles (1988-1990)** - Senior Engineer on investigation of the causes for severe lateral and vertical earth movements beneath existing three-level condominium over parking structure in a graded hillside area. Recommendations were developed for rehabilitation of structure and preparation of report presenting results of study to the City of Los Angeles Redevelopment Agency.

**Japanese Retirement Home, Los Angeles (1988-1989)** - Project Manager in charge of geotechnical investigation for 5-story senior citizen retirement facility and pedestrian structures for Japanese Retirement Home. Project included recommendations for shallow and deep foundations on sloping site, and observation and testing of compacted fill and foundations during construction.

**Palevsky Residence, Los Angeles (1988)** - Senior Engineer assisting on foundation investigation, and on repair and restoration of bearing support for distressed residence using compaction grouting procedures.

**Building Additions, Lancaster Community Hospital, Lancaster (1988)** – Mr. Fong participated in a foundation investigation for additions to existing hospital facility, including a two-story building addition adjacent to an existing building with a basement, and one-story administration building addition. Recommendations were provided for drilled cast-in-place concrete piles and spread footings, lateral load resistance design, site grading, and floor slabs designed under jurisdiction of State Architect.

**Auto Technology Center Addition, Cerritos Community College, Norwalk (1988)** – Mr. Fong participated in a foundation investigation for a one-story, steel-frame building addition with metal roof and masonry walls. Recommendations were provided for foundation design, site grading, and floor slab support.

**The Broadway, Los Angeles (1987-1989)** – Senior Engineer on post-seismic investigation, after October 1987 Whittier Narrows Earthquake, of distressed floor slab at warehouse Building "E" constructed over former landfill. Recommendations for restoration of floor slab, for seismic retrofit of building structure, and for foundation support of new conveyor system were provided.

**North Outfall Replacement Sewer (NORS), Los Angeles (1987-1988)** - Senior Engineer in charge of field exploration, laboratory testing, analyses, and preparation of geotechnical report for major 9-mile, 12-foot diameter sewer tunnel for City of Los Angeles. Prepared recommendations and report for tunneling, instrumentation and monitoring for potential ground subsidence during tunneling, excavation and shoring systems, dewatering, and recommendations for design of deep access shafts and junction structures.

**El Torito Restaurant Warehouse, Irvine (1987)** – Mr. Fong investigated distressed warehouse building, which was initially believed by others caused by foundation deficiency; repairs were proposed that included pile support. Distresses were determined to be caused by defect and deficiency in building construction, not inadequate foundation support, resulting in significant savings in repair costs.

**Ruben S. Ayala High School, Chino Hills (1987)** – Mr. Fong participated in foundation investigation for new high school campus in the Chino Unified School District, and provided evaluation on liquefaction potential and recommendations for foundation design, retaining walls, site grading, and floor slab and paving support.

**Embassy Suites-LAX, Los Angeles (1986-1989)** - Project Manager for foundation investigation for design and construction of hotel structure over subterranean parking. Recommendations provided included criteria for uplift piles for resisting seismic overturning, shoring design, and underpinning of existing adjacent structures.

**University of Southern California, Los Angeles (1986-1990)** - Project Manager in charge of foundation investigation and construction for University of Southern California on various building projects, including new library addition, Hedco Neuroscience Building, and Kaprielian Hall.

**Disney Corporate Headquarters, Burbank (1986-1989)** - Project Manager for geotechnical and seismic investigations for new headquarters, which included several high-rise office towers and subterranean parking facilities for The Walt Disney Company. Recommendations were provided for shallow and deep foundation design, deep excavation and shoring, and seismic design criteria.

**Kaiser Permanente Medical Center, Montebello (1986)** - Senior Engineer in charge of foundation investigation for 5-story medical office building supported on spread footings and cast-in-drilled-hole piles established in bedrock.

**Los Angeles Unified School District (1986-1990)** - Senior Engineer and Project Manager in charge of geotechnical investigations for various new school construction, including work at Bell High School, Lincoln High School, Franklin High School new cafeteria and science building, South Gate High School, South Gate Elementary School No. 4, and Belmont Elementary School No. 3, Belmont New Elementary School No. 4, and White House Place Elementary School. Work included appropriate geologic-seismic evaluations on faulting, seismicity and geologic hazards from landsliding, lurching, ground subsistence, flooding, seiches or tsunamis to satisfy State Architect requirements. Evaluation on liquefaction potential and recommendations for foundation design, retaining walls, site grading, and floor slab and paving support were provided as appropriate for design and construction.

**Veterans Memorial Stadium, Long Beach City College, Long Beach (1986)** – Mr. Fong assisted in the geologic-seismic investigations for existing grandstand structure and pile foundation to evaluate and correct any structural deficiencies to meet State Architect requirements. Liquefaction potential, the axial and lateral capacities of the existing piles, and soil passive resistance were evaluated and presented in a formal report for structural evaluation.

**Koll Center, Irvine (1981-1983)** - Project Manager in charge of geotechnical and seismic investigation, and observations and testing during construction for major high-rise office development consisting of four towers, parking structure and restaurants for The Koll Company.

**Building Reconstruction, Fullerton (1983)** - Project Engineer in charge of geotechnical investigation and observation during construction of CIDH pile foundation and earthwork for severely damaged existing building adjacent to distressed concrete channel along Fullerton Creek, Fullerton, as part of damage claim settlement.

**Irvine Marriott Hotel, Irvine (1981-1982)** - Project Manager for foundation investigation and inspection during construction of 10-story hotel complex for Marriott Hotel. Project included pile load tests and inspection of pile driving installation.

**Anaheim Convention Center, Anaheim (1980)** - Project Manager in charge of foundation investigation for expansion and improvements to Anaheim Convention Center for City of Anaheim. Investigation included the use of cone penetration tests with conventional test borings. Recommendations were provided for site grading and cast-in-drilled-holes (CIDH) reinforced concrete piles.

**Plataro Dam, Colorado (1980)** - Project Engineer on the safety evaluation of existing earthfill dam for U.S. Bureau of Reclamation under SEED program. Work included review and compilation of pertinent historical design, construction, and operational performance records for initial screening of dam for later detailed analysis.

**Nambes Falls Dam, New Mexico (1980)** - Project Engineer on the safety evaluation of existing combination earthfill and concrete gravity arch dam for the U.S. Bureau of Reclamation under SEED program. Assignment included review and compilation of pertinent historical design, construction, and operational performance records for initial screening of dam for detailed analysis.

**Pacific Gateway Center, Los Angeles (1979-1983)** - Project Manager in charge of foundation investigation for 5 to 10 stories office buildings and parking structure development over former synthetic rubber plant site for Cadillac-Fairview of California. Recommendations were provided for site preparation, remedial grading and spread foundation design.

**Dry Dock No. 1 Hydrostatic Relief Wells and Dewatering System, Long Beach Naval Shipyard (1977-1978)** - Senior Staff Engineer during installation of deep wells and piezometers, performing series of six pumping tests, analyses, and design of a major relief well and dewatering system to reduced the potential of liquefaction during major earthquakes, which could affect stability of a critical dry dock facility. Work included preparation of plans and specifications for sand drains and deep wells construction. Work was performed for the U.S. Navy, Naval Facilities Engineering Command.

**Santa Ana River Channel Improvements, Orange County (1977-1978):** Senior Staff Engineer assisted in stability analyses of proposed channel side slopes under dry, flood, and high flood stage conditions for channel and levee section along an approximate two miles segment of the Santa Ana River. Recommendations were provided for slope gradients and control of seepage for levee embankment sections.

**Harry S. Truman Airport Improvements, St. Thomas, U.S. Virgin Islands (1977)** - As Senior Staff Engineer, assisted in geotechnical and geophysical investigation for major airport improvements and runway extension into the Caribbean Sea, including seismic refraction and rock corings for blasting and rip rap source feasibility studies, and offshore bathymetry, seafloor, and shallow seafloor subsurface profiling studies. Supervised onshore and offshore exploratory borings, and developed recommendations for

foundations and airfield pavement design, and for extension of proposed runway into sea by hydraulic method of fill placement.

**Rattlesnake Dam, Sand Canyon Dam, and San Joaquin Dam, Orange County (1976)** - Project Manager in charge for surveillance and inspection of dam facilities and operational performance for Irvine Ranch Water District. Work included installation and rehabilitation of dam instrumentations and piezometers, field inspection and review of dam embankments and internal seepage conditions, compilation and evaluation of dam instrumentation data, and preparation of required reports for submittal to the California Division of Safety of Dams.

**General Foods Corporation Cereal Plant, Ceres (1974-1975)** - Project Manager in charge of geotechnical investigation for design and construction of new cereal manufacturing plant for General Foods Corporation. Project included recommendations for spread footings and driven piles, and design and construction of on-site storm runoff retention basin. Also, performed series of pile load tests under compression, tension, and laterally-loaded conditions, and monitored pile driving operations.

**Bank of Tokyo Building, San Francisco (1974)** – Staff Engineer on geotechnical investigation for 22-story office tower supported on driven end-bearing piles in reclaimed fill area underlain by Bay Mud.

**Oakland City Center, Oakland (1973-1975)** - Staff Engineer on geotechnical investigation and construction for major commercial, office and hotel development consisting of several high-rise towers, parking structure, and plaza for Oakland City Redevelopment Agency. Work included exploratory borings and recommendations for deep foundation design, pile load tests, and monitoring of pile driving vibration effects on adjacent BARTD subway station.

**Fairfield-Cordelia Interceptor Tunnel, Cordelia (1973-1974)** – Staff Engineer in charge of geotechnical investigation for approximate 500-foot by 8-foot high horseshoe-shaped, unlined tunnel for installation of steel pipeline for wastewater interceptor through Cordelia Hill, Solano County, California. Tunnel was excavated by blasting through volcanic tuff, agglomerate and breccia. Ground velocities and effects from blast vibrations on nearby facilities were monitored during construction.

**Fairfield-Suisun and Cordelia Interceptors, Fairfield (1972-1975)** - Staff Engineer in charge of geotechnical investigation for pump stations and six miles of forced interceptors. Project included recommendations for excavation and shoring in Bay Mud, dewatering, pipeline excavation and backfill, pipe-jacking requirements beneath roadways and railroads, and for construction of a 500-foot long tunnel.

**Fairfield Sub-Regional Wastewater Treatment Plant, Fairfield (1972-1975)** – Staff Engineer in charge of geotechnical investigation for site selection, design, and construction of new 24-MGD wastewater treatment plant supported on spread foundations and over 2,000 driven precast/prestressed concrete piles. Project included construction of shallow and deep pile foundations, containment dike fill embankments for sludge drying beds, and sewer outfall across marshland.

**Piercy Pushup Landslide Investigation, Piercy (1972-1974)** - Staff Engineer assisting in the investigation, monitoring, and analysis of massive landslide along east side of U.S. 101 and South Fork Eel River canyon for Caltrans on defensive against legal actions by adjacent property owners. Investigation included exploratory test borings, installation of slope indicators to 120-feet deep on side of canyon slope, field monitoring of slope indicators, and analyses.

**Brickyard Cove Development, Richmond (1972)** - As Resident Engineer, monitored the placement of fill in San Francisco Bay over soft Bay Mud for a marina/bayfront residential development. The construction of the fill embankments and the stability of the embankments in Bay Mud for the development were achieved by displacing the underlying Bay Mud as fill was placed, forming mud waves, until fill equilibrium was achieved.

## **PUBLICATION**

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Fong, F. and Davis, C.M. [2008]. "Case History - Settlement Mitigation for Mat Foundation using Lean Concrete Columns", *Proc. of the 6<sup>th</sup> International Conference on Case Histories in Geotechnical Engineering*, Arlington, VA, August 11-16, 2008, Paper No. 7.31a, Missouri University of Science and Technology.

## **PROFESSIONAL COMMITTEES AND SERVICES**

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February 2005 - Geotechnical Engineer expert on KCAL 9 News on landslide issues.

June 2002      Presentation on "Pavement Rehabilitation - Design Considerations" for seminar on Street Rehabilitation Projects in Southern California, Hyatt Regency Hotel, Irvine.

Spring 1999    Instructor for CE 327L Soil Mechanics Laboratory, California State Polytechnic University, Pomona, California.

1994-1998      Planning Commissioner, City of Diamond Bar, California

1981-1986      Board of Directors and Chairman, Geotechnical Engineering Group, Los Angeles Section, American Society of Civil Engineers.

1976-1980      Board of Directors, Associate Member Forum, Los Angeles Section, American Society of Civil Engineers.