CHRIS JOSEPH
President/Principal

Experience Summary

Mr. Chris Joseph, founder and owner of **CAJA**, is responsible for management of the firm and for providing leadership, strategy, and direction in the preparation of environmental impact documents for both private development projects and government programs. Mr. Joseph has built the firm around the concept of providing personalized, senior-level professional services to clients. As such, Mr. Joseph maintains an active role with clients and their projects, and assures that he and his senior staff will be accessible and involved in successfully guiding projects through the environmental clearance process. Under his direction, and with a hand-selected team of experienced, highly qualified, and specialized environmental professionals, **CAJA** has earned a reputation for efficiently providing comprehensive, thorough, and conscientious work.

Education Background and Professional Affiliations

- M.A. in Administration in Environmental Management - University of California, Riverside
- B.A. in Geography - California State University, Northridge
- Association of Environmental Professionals (AEP)
- American Planning Association (APA)
- Urban Land Institute (ULI)
- Participates in periodically held CEQA and NEPA workshops and conferences

Employment History

- 1993-Present: Christopher A. Joseph & Associates
  - President/Principal
- 1987-1993: Environmental Planning Associates
  - Founding Partner
- 1986-1987: Cordoba Corporation
  - Environmental Project Manager
- 1985-1986: Planning Consultants Research
  - Project Manager
- 1984-1985: Republic Geothermal, Inc
  - Environmental Affairs Manager/Environmental Affairs Specialist
- 1981-1984: UNOCAL Corporation
  - Environmental Specialist and Environmental Engineer

CHRIS JOSEPH (Continued)
President/Principal

Project Experience

- 9th and Flower, South Park Mixed-Use Development Project (EIR)
- Suites at The L.A. Mart (IS/MND)
- North Hollywood Arts and Entertainment District (EIR/EIS)
- Santa Monica College Madison Theater Project (EIR)
- Sunset Millennium Project (Peer Review)
- BreitBurn Energy Drillsite Modernization Project (EIR)
- Cinerama Dome Retail/Entertainment Center (EIR)
- KTLA Entertainment Center and Studio Expansion Project (EIR)
- Village Center Westwood (EIR)
- Los Altos Drive-In Theater in Long Beach (EIR)
- Los Angeles Memorial Coliseum Renovation Project (EIR)
- Santa Monica College Municipal Pool Replacement (EIR/EA)
- The Costco Project in Culver City (EIR)
- Self-Realization Fellowship Master Plan (EIR)
- West Hollywood Gateway Project (EIR)
- Avalon Del Rey Apartments (EIR)
- Redevelopment of the Santa Monica Pier (EIR)

MARC MELINKOFF
Senior Project Manager

Experience Summary

Mr. Melinkoff, Senior Project Manager at **CAJA**, has more than 28 years of experience in the fields of environmental and urban planning. Prior to joining **CAJA**, Mr. Melinkoff was senior project manager with Jim Hindzel and Associates, an environmental consulting firm in Playa del Rey. Mr. Melinkoff has also provided environmental consultation services on an independent contract basis. The emphasis of Mr. Melinkoff's experience is in environmental planning. Mr. Melinkoff has acted both as project manager and principal writer for numerous CEQA and NEPA projects, including redevelopment projects, specific plans, major mixed-use urban developments, office buildings, hotels, university master plans, and residential subdivisions. Mr. Melinkoff's reports have addressed a diversity of unique environmental issues ranging from wetlands preservation, wildlife corridors, beach erosion, crude oil pipeline risk assessment, and historical preservation, to methane gas migration and windjetting effects.

Education Background and Professional Affiliations

- M.A. in Urban and Regional Planning - University of Southern California
- B.A. in Physical Anthropology - University of California, Los Angeles
- Association of Environmental Professionals (AEP)
- Participates in CEQA and NEPA workshops and conferences

Employment History

- 1997-Present: Christopher A. Joseph & Associates
  - Senior Project Manager
- 1995-2001: Marc Melinkoff & Associates
  - Principal
- 1981-1995: Jim Hindzel and Associates
  - Project Manager
- 1976-1981: Los Angeles County Department of Regional Planning Impact Analysis Section
  - Regional Planner II

MARC MELINKOFF (Continued)
Senior Project Manager

Project Experience

- Galpin Motors Automobile Storage Facility (IS/MND)
- Panorama City Project (IS)
- Suites at The L.A. Mart (IS/MND)
- Marlton Square (IS/MND and EA)
- Costco La Habra (IS/MND)
- Qtopia Entertainment (IS/MND)
- Canyon Hills (EIR)
- Triangle Ranch (EIR)
- Soka University Master Plan (EIR)
- Calabasas Estates (EIR)
- Adams/La Brea Center (EIR)
- Wildlife Waystation (EIR)
- Cinerama Dome Retail/Entertainment Center (EIR)
- Village Center Westwood (EIR)
- Bee Canyon Residential Development (EIR)

PAULETTE FRANCO
Project Manager

Experience Summary

Ms. Franco is a Project Manager at **CAJA**. Her responsibilities include research and analysis for environmental review documents. Ms. Franco has six years of experience in the preparation of environmental review documents pursuant to the California Environmental Quality Act and the National Environmental Policy Act. Prior to joining **CAJA**, Ms. Franco worked for Planning Consultants Research (PCR) as a Planner/Geographic Information Systems (GIS) Specialist. While working for PCR, Ms. Franco prepared analyses for the Los Angeles International Airport (LAX) Master Plan Draft EIS/EIR and served as PCR's Project Coordinator for the LAX Master Plan Draft Supplemental EIS/EIR. Ms. Franco also has experience in project scheduling, budgeting, and proposal preparation. Using GIS, Ms. Franco has modeled complex planning and environmental issues, including demographic, land use, and environmental justice analyses.

Education Background and Professional Affiliations

- M.S. in Geography, focus in Resource Management/GIS - Portland State University
- B.A. in Geography, Cum Laude, option in Physical Geography/Environmental Conservation - California State University, Northridge
- Association of Environmental Professionals (AEP) - 2001 Los Angeles AEP Membership Director
- Participates in periodically held CEQA and NEPA workshops and conferences

Employment History

- 2003-Present: Christopher A. Joseph & Associates
  - Project Manager
- 1999-2003: PCR Services Corporation
  - Planner/GIS Specialist
- 1998-1999: Michael Brandman Associates
  - Environmental Planner
- 1997-1998: Washington County Surveyor's Office (Oregon)
  - GIS Technician
- 1996-1997: Metro Data Resource Center (Oregon)
  - GIS Specialist
- 1995-1996: Mt. Hood National Forest (Oregon)
  - Fisheries/Biological Technician

PAULETTE FRANCO (Continued)
Project Manager

Project Experience

- Spring Street Parking Structure (EIR)
- Canyon Hills (EIR)
- Triangle Ranch (EIR)
- Los Banos College Campus Master Plan and the Merced College Campus Master Plan (EIR)
- Furama Hotel Redevelopment Project (Final IS)
- Los Angeles International Airport (LAX) Master Plan (EIS/EIR)
- Los Angeles International Airport (LAX) Master Plan (Supplemental EIS/EIR)
- The Coliseum Center (EIR)
- East Valley Area New Middle School No. 1 (EIR)
- STAPLES Open Space Needs Assessment (GIS modeling and mapping)
- Lucille J. Smith Elementary School (IS/MND)
- Santa Monica College Parking Structure B Replacement Project (EA)
- Citrus Plaza Regional Mall (Subsequent EIR)
- Metropolis Mixed-Use Project (Subsequent EIR)
- Courtroom Trailer Addition at the South Gate Municipal Court (IS/MND)
- Huntington Park Home Depot Retail (IS/MND)
- Sierra Vineyards Specific Plan (EIR)
- Anaheim Stadium Master Land Use Plan (EIR)
- AutoNation USA, Baldwin Park (EIR)
- Northeast Bakersfield Bike Path and Water Facilities (IS/EA)
- Oak Park Joint Use Replacement Library (IS/ND)

SHANE E. PARKER
Principal

Experience Summary

Mr. Parker, a Principal/Project Manager at **CAJA**, has ten years of experience in environmental resource management, planning and research. Mr. Parker possesses a broad understanding of environmental and regulatory issues and has successfully managed the environmental review process under environmentally sensitive and controversial settings. Mr. Parker's project experience includes preparing environmental analyses for various multi-faceted projects including mixed-use developments, urban redevelopment projects, residential subdivisions, industrial parks, and educational campus developments. With a diverse background in ecology and resource management, regulatory land-use issues, and CEQA case law, Mr. Parker provides valuable insight to developers and agency staff in assessing environmental constraints and identifying effective and solutions to mitigate the environmental effects of urban development.

Education Background and Professional Affiliations

- B.A. in Geography/Environmental Studies - University of California, Los Angeles
- Association of Environmental Professionals (AEP)
- Member, City of Malibu Environmental Review Board
- Member, Urban Land Institute
- Participates in CEQA and NEPA workshops and conferences

Employment History

- 1999-Present: Christopher A. Joseph & Associates
  - Principal
- 1995-1999: PCR Services Inc.
  - Senior Planner
- 1994-1995: National Environmental Testing Inc.
  - Environmental Laboratory Technician
- 1992: United States Forest Service, Angeles National Forest
  - Forestry Aid/Seasonal Firefighter

SHANE E. PARKER (Continued)
Principal

Project Experience

- Los Angeles Memorial Coliseum Renovation Project (EIR)
- Del Amo Fashion Center South Mall and Residential Development Project (EIR)
- Palazzo Westwood Project (Final EIR)
- Colburn School of Performing Arts Phase II Expansion Project (IS/MND)
- Washington Square Lofts (IS/MND)
- Santa Monica College Liberal Arts Replacement Project (IS/MND-FEMA/EA)
- Los Angeles Memorial Coliseum Project (EIR)
- Santa Monica College Madison Theater Project (EIR)
- 9th and Flower, South Park Mixed-Use Development (EIR)
- Palazzo Westwood Project (Final EIR)
- Malibu Forge Lodge Bed & Breakfast (EIR)
- Malibu Civic Center – La Paz Development Project (EIR)
- Hillcrest Christian School West Campus Expansion Plan (EIR)
- City of Manhattan Beach Civic Center Metlox Development (EIR)
- Marlborough School Faculty Parking Lot (IS/MND)
- Viewpoint School Modernization Program (EIR)
- Getty Villa Master Plan (EIR)
- Rye Canyon Business Park (EIR)
- Pepperdine Upper Campus Wetland Delineation
- Westbluffs Residential Subdivision (EIR)
- Santa Monica–UCLA Medical Center Facilities Reconstruction Plan (EIR)
- LARC Ranch Residence Structures Reconstruction Project (FEMA/EA)
- Westside Children's Center (IS/MND)
- Howard Hughes Entertainment Center (EIR)
- Hollywood and Highland (EIR)
- Calmat–Sun Valley Inert Landfill Permit Extension (IS/MND)
- Colburn School of Performing Arts (IS/MND)
- Santa Monica College Liberal Arts Replacement Building (IS/MND,EA)

JENNIFER K. JOHNSON
Manager of Special Projects

Experience Summary

Ms. Johnson is the Manager of Special Projects at **CAJA**. Prior to working for **CAJA**, Ms. Johnson worked for Craig Lawson & Co., LLC, a land-use consulting firm, where she worked as an assistant planner on numerous land use and zoning projects. Ms. Johnson has more than five years of experience in land use and environmental impact analysis. Since joining **CAJA** in September 1999, Ms. Johnson's responsibilities include writing specific environmental sections; incorporating technical reports; and preparing and organizing graphic presentation materials including charts, base maps, land use and zoning overlays, shade/shadow overlays, aerial photographs, and photographic displays. Ms. Johnson's responsibilities also include management of the company website and of special projects, as required by upper level staff. In addition, Ms. Johnson has been the acting manager on several recent projects, such as the Furama Hotel Redevelopment Project IS/MND, Silverlake Red Car Development IS/MND, Santa Monica MEA, and Pierce Brothers Westwood Memorial Park IS/MND.

Education Background and Professional Affiliations

- B.A. in Environmental Studies with an emphasis in Public Policy and Management - University of Southern California
- Association of Environmental Professionals (AEP)
- AEP 2004 Spring Conference Sponsor Chairperson
- Valley Industry and Commerce Association (VICA)
- Participates in periodically held CEQA and NEPA workshops and conferences

Employment History

- 1999-Present: Christopher A. Joseph & Associates
  - Manager of Special Projects
- 1999: Craig Lawson & Co., LLC
  - Assistant Planner
- 1998: C.W. Cook & Company
  - Planning Intern

JENNIFER K. JOHNSON (Continued)
Manager of Special Projects

Project Experience

- Los Banos College Campus Master Plan and the Merced College Campus Master Plan (EIR)
- Panorama City Project (IS)
- Plaza del Segundo and Sepulveda/Rosecrans Site Rezoning Project (EIR)
- Napa Valley College Master Plan (EIR)
- Malibu Sycamore Grove Office Park and Civic Center Way Retail Park (EIR)
- Malibu La Paz Development Agreement Project (EIR)
- Santa Monica College Madison Theater Project (EIR)
- El Segundo Corporate Campus Project (EIR)
- Laguna Beach Community/Senior Center (EIR)
- 9th and Flower, South Park Mixed-Use Development (EIR)
- Pacific Palisades Landmark Condominium Project (EIR)
- Edgewood Estates and Rathgar Court Subdivisions (EIR)
- Walgreen's Drug-Store With Drive Through Pharmacy (IS/MND)
- Malibu Forge Lodge Bed & Breakfast (EIR)
- Hillcrest Christian School and Church Expansion (EIR)
- Viewpoint School Modernization Program (EIR)
- LAAFB Land Conveyance, Construction and Development Project (EIS/EIR)
- Furama Hotel Redevelopment Project (IS/MND)
- Silverlake Red Car Development (IS/MND)
- Pierce Brothers Westwood Memorial Park (IS/MND)
- City of Santa Monica Master Environmental Assessment (MEA)
- City of Manhattan Beach Civic Center Metlox Development(EIR)
- North Hollywood Arts and Entertainment District (EIR/EIS)
- Capitol Records Campus Development (IS/EA)
- Self-Realization Fellowship Church Revised Master Plan (EIR)

REBECCA SHOKRIAN
Research Assistant

Experience Summary

As a research assistant, **Ms. Shokrian's** duties range from document production, land use and site surveys, and Internet research, to quality control and assurance protocol. Ms. Shokrian aids in the preparation of various EIR sections, in addition to related projects lists which concentrate on cumulative environmental impacts.

Education Background and Professional Affiliations

- B.A. in Geography/Environmental Studies - University of California, Los Angeles
- Participates in periodically held CEQA and NEPA workshops and conferences

Employment History

- 2003-Present: Christopher A. Joseph & Associates
  - Research Assistant

Project Experience

- Los Angeles Memorial Coliseum (EIR)
- Malibu La Paz Development Agreement (EIR)
- Los Banos College Campus Master Plan and the Merced College Campus Master Plan (EIR)
- Canyon Hills (EIR)
- Westwood Manatt (EIR)
- Laguna Beach Community Center/Senior Center (EIR)
- Oxford Avenue Apartment Project (EIR)
- Colburn School of Performing Arts Expansion Project (IS)
- Wiseburn School District School Reconstructions (MND)
- Napa Valley College Master Plan (EIR)
- Howard Hughes Center (IS/MND)
- Spring Street Parking Structure (EIR)

HEIDI MCWHORTER
Assistant Environmental Planner

Experience Summary

Ms. McWhorter began working as a Research Assistant with **CAJA** in 2003, soon after she graduated from USC. As an Assistant Environmental Planner, her duties primarily involve: conducting research both in the office and in the field, including onsite noise measurements; preparing graphics using Adobe Illustrator 10; writing various sections, including Project Descriptions and Public Services, Utilities, and Alternatives analyses for environmental review documents; incorporating technical reports into documents, including Traffic, Noise, Hydrology, and Geology Reports; and personally corresponding with a variety of public service and utility agencies which contribute essential information to the environmental review process. Also, with a Minor in English, Ms. McWhorter is largely responsible for ensuring the written quality of **CAJA's** environmental documents and proposals.

Education Background and Professional Affiliations

- B.S. in Environmental Studies with an emphasis in Biology and a Minor in English – University of Southern California
- Participates in periodically held CEQA and NEPA workshops and conferences

Employment History

- 2003-Present: Christopher A. Joseph & Associates
  - Assistant Environmental Planner

Project Experience

- Los Banos College Campus Master Plan and the Merced College Campus Master Plan (EIR)
- Los Angeles Memorial Coliseum (EIR)
- Canyon Hills (EIR)
- Oxford Avenue Apartment Project (EIR)
- Barrington-Wilshire (EIR)
- Malibu La Paz Development Agreement (EIR)
- Kahan-Century Landmark Project (EIR)
- Bee Canyon Residential Development (EIR)
- Palazzo Westwood Project (FEIR)
- Mills-Del Amo Shopping Center (EIR)
- Lennar-Washington Square (IS/MND)
- Napa Valley College Master Plan (EIR)
- Costco La Habra (EIR)
- Plaza del Segundo and Sepulveda/Rosecrans Site Rezoning Project (EIR)

BRETT POMEROY
Intern

Experience Summary

As an intern at **CAJA**, **Mr. Pomeroy** is responsible for assisting planners with project-related tasks including site photography, land use surveys, graphics presentations, internet research and document management, production and distribution. In addition Mr. Pomeroy assists staff in fulfilling the public noticing requirements of CEQA and NEPA documentation and compiles and maintains comment-response databases. Mr. Pomeroy is a Senior at Loyola Marymount University and is pursuing a Bachelor of Science Degree in Natural Sciences. Mr. Pomeroy has completed accredited science curriculum courses in: Evolution/Ecology, Cell Function, Genetics, Plant Physiology and Lab, General Chemistry I & II, and corresponding Labs, Organic Chemistry I, and Lab, General Physics I & II, and corresponding Labs, Animal Behavior and Lab, General Biology I & II, and corresponding Labs. Mr. Pomeroy is also proficient in the use of all Microsoft Operating Systems, Microsoft Power Point, Microsoft Word, and Microsoft Excel.

Education Background

- Pursuing a B.S. in Natural Sciences from Loyola Marymount University

Employment History

While maintaining a full-time course schedule at Loyola Marymount University, Mr. Pomeroy has maintained part-time employment status as an Assistant Manager with the University's Event Operations Department. Prior to this experience, Mr. Pomeroy maintained part-time employment positions with the Sierra Hills Swim and Racquet Club as a certified Red Cross Lifeguard and Swim Instructor and at All Canyon Appliance as a customer service representative.

JEFFREY A. DAEMS
Research Assistant

Experience Summary

Mr. Jeffrey Daems is the word processor at **CAJA**. His primary responsibility is the formatting of environmental documents including Draft and Final EIR sections, Initial Studies, Mitigated Negative Declarations, Environmental Assessments, and other environmental planning documents.

Education Background and Professional Affiliations

- B.A. in Economics - University of California, San Diego
- B.A. in History, with a minor in Chemistry – University of California, San Diego

Employment History

- 2003-Present: Christopher A. Joseph & Associates
  - Research Assistant

Project Experience

- Oxford Avenue Apartments Projects (EIR)
- Palazzo Westwood (Final EIR)
- Laguna Beach Community Center/Senior Center (EIR)
- Triangle Ranch (EIR)
- La Paz Development Agreement (EIR)
- LAAFB Land Conveyance, Construction and Development Project (EIS/EIR)
- Wildlife Waystation (EIR)
- Santa Monica College Madison Theater Project (EIR)
- Pacific Palisades Landmark Condominium Project (EIR)
- Canyon Hills (EIR)
- Silverlake Red Car Development (IS/MND)

FORMA & FORMA SYSTEMS QUALIFICATIONS

Environmental Mapping and Simulations

FORMA and FORMA Systems have extensive experience in the GIS mapping and analyses related to resource identification, conservation, impact analyses, and restoration. This includes work done in conjunction with CEQA and NEPA documentation (e.g., EIRs, NDs, etc.) as well as comprehensive data base inventories and focused environmental studies done for public agencies, multi-jurisdictional stewardship entities, and major private landowners such as The Irvine Company, Tejon Ranch, and Newhall Land and Farming.

FORMA and FORMA Systems also have significant experience in the 3-D modeling and simulation of public and private land development, on parcels varying from 5 acres to over 10,000 acres. This work has been done both as part of the project design process and in support of environmental impact analyses and public presentations of the "before" and "after" physical appearance of proposed projects.

The following sections first describe 1) FORMA Design's experience in large-scale community planning and specific plans, and then elaborate in more detail on 2) FORMA Systems' experience in environmental mapping and simulations, including some notable independent projects.

1. FORMA DESIGN

FORMA Design (or simply FORMA) is composed of professional designers, planners, entitlement specialists, landscape architects, and technology experts who combine to present innovation in built environments. Specializing in "place-making" from conceptual visions to construction of innovative planned developments, FORMA applies its full capabilities to every project.

FORMA's Clients are from both the public and private sectors, and include public agencies, corporate landowners, developers, and builders looking for practical solutions with an innovative approach for complex development issues. FORMA has responded with award-winning solutions in a timely and responsive manner.

FORMA's progressive design process is delivered by a horizontally structured network of project teams organized to serve externally (the Client) and not internally (the Firm). FORMA has a commitment to harness technology to serve the development community, and is a business partner in both hardware and software with several computer companies. This commitment and partnership enables FORMA to provide management oriented solutions powered by GIS. FORMA uses this technology in communication, including three dimensional computer modeling, photo simulation, multi-media productions, and web sites. Leadership is provided by seasoned Directors who constantly strive for environmental excellence and aesthetic balance in every project. A diverse resume of project experience allows FORMA to provide our Clients with design development services proven for success.

FORMA DESIGN'S PROJECTS AND RELATED EXPERIENCE

FORMA has current and extensive experience in Los Angeles County, and has provided successful specific plan services to major Southern California landowners for more than 20 years. This has given us experience with environmental issues, an understanding of how to provide our Clients with needed flexibility, and credibility with agency staff that streamlines the process. For instance, our ability to deliver hyper-linked text and graphics has provided agencies with plans they respect, can easily review, and thus eagerly incorporate into jurisdictional use.

Environmental Mapping and Simulations

This includes award-winning projects such as Newhall Ranch and many planned communities on the Irvine Ranch. It also includes:

San Diego County ..... Otay Ranch, Santa Fe Valley, Villages of La Costa, and Fanita Ranch
Orange County.....Coto de Caza, Newport Coast, Treasure Island, and Vista del Verde
Los Angeles County.....Canyon Hills, Long Point Resort, and Newhall Ranch
Ventura County.....Ahmanson Ranch, The Canyons, and North Ormond Specific Plan
Kern and Santa Barbara Counties..... Tejon Ranch and Rice Ranch

2. FORMA SYSTEMS

EIR maps and GIS analysis, graphics, and related tables and exhibits, hardcopy executive summaries, visual simulations, aerial photographic collages, and multi-media presentations have been key to our Clients' success, and are particularly effective in communicating resource management programs, viewshed protection, traffic mitigations, phasing, development impacts and mitigations, project impacts on jurisdictional waters, and water quality management programs. As recently demonstrated in the Newhall Ranch Specific Plan, Rice Ranch Specific Plan, and the Long Point Resort Coastal Development Permit in Rancho Palos Verdes, we have proven how to be clear, concise, and convincing (not "slick") in presenting important NCCP, SEA, and other resource conservation, restoration, enhancement, and creation programs.

FORMA SYSTEMS' PROJECTS AND RELATED EXPERIENCE

Our methodology and familiarity with data collecting efforts within the Los Angeles region has been proven through projects such as the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC) Open Space Plan, and the Los Angeles County Significant Ecological Areas (SEA). We are well experienced with data collection efforts including the documentation of data and contacts, as well as the California Environmental Resources Evaluation System (CERES) online catalog.

FORMA Systems has extensive experience in working with numerous corporations and governmental agencies on major planning projects, regulatory compliance issues, GIS development, 3-D Modeling and Simulations.

ADDITIONAL QUALIFICATIONS

We are experts in leading edge software, and technologies such as:

- Data Collection and Analysis
- Data Conversion
- Database Development
- GIS Mapping and Planning Strategies
- GIS Implementation and Training
- GIS Application Programming
- GIS Training
- Integration of GIS applications with Visual Basic Applications and Open Database Connectivity (ODBC) using SQL to communicate with compliant databases such as Microsoft Access
- Site Visualization and Simulations

Environmental Mapping and Simulations

FORMA Systems is an ESRI-authorized application developer, instructor, and GIS desktop product reseller. In addition, we have an ESRI-authorized trainer on staff.

Additional computer and application development support offered by FORMA Systems includes:

- 3-D Modeling and Visual Analysis
- Dispatch and Routing
- Business Geographics and Marketing Studies
- Desktop Mapping and Analysis Application Development
- Public Information Kiosk Design
- Environmental Monitoring
- Document Management and Imaging
- Permit Management
- Cost/Quantity Estimating
- Project Management/Scheduling
- Impact Analysis
- Office Automation
- Hardware/Software Procurement
- System Installation

PAUL V. EDWARDS, SENIOR ASSOCIATE

FORMA

PROFESSIONAL EXPERIENCE

Paul Edwards has almost 30 years experience in the master planning, environmental evaluation, graphic presentation, and governmental processing of planned communities, resorts, regional parks, and mixed-use development projects in Southern California. This includes more than 25 major Specific Plans totaling over 30,000 homes. Paul is a charter member of the American Planning Association (APA).

Since joining FORMA in 1985, Mr. Edwards has been Team Leader and major contributor for a wide variety of sensitive land planning assignments. His projects are distinguished by their ability to clearly present, thoroughly document, and successfully resolve complex environmental and public policy issues, often as part of a multi-agency public review process. Projects that Paul has led or played a major role in include:

Long Point Resort	105-acre Resort, Public Facilities, and Habitat Management Program S Rancho Palos Verdes
Newport Coast LCP	Master Planned Community, Coastal Policies, and Open Space Dedication Program S Orange County
Newport Ridge	Planned Community and environmental mapping adjacent Landfill S Orange County
Bolsa Chica	1,600-acre Local Coastal Program and Wetlands Restoration Program S Huntington Beach
Treasure Island Resort	LCP/CDP and Coastal Resource ProgramS Laguna Beach
Olinda Heights	300-acre Specific Plan and Resource Management Program S Brea
Playa Vista	Graphic and Digital Presentations of Habitat/Resource Programs - Marina del Rey
Calabasas Park West	1,200-acre Master Planned Community S Los Angeles County
Ahmanson Ranch	Resource Management Program for Specific Plan
City/County of San Diego	6,700-acre Mission Trails Regional Park Master Plan and Resource Management Program
County of Orange	County-wide Regional Recreation Facilities Management Study
County of Orange	5,500 acres Caspers Wilderness Park Master Plan, Resource Management, Maintenance and Public Improvement Plans
Walnut Village	550-acre Specific Plan near BKK Landfill S Walnut

Several of the above were APA award-winning projects including Newport Coast, Bolsa Chica, Ahmanson Ranch, and Tustin Ranch. Public planning projects have included Specific Plans for the cities of Rancho Cucamonga, San Marcos, and Chino (APA Award).

Current projects of Mr. Edwards include Canyon Hills (Los Angeles), Fanita Ranch (Santee/San Diego), North Ormond Beach Planned Community (Oxnard), and MCAS Tustin Urban Regional Park (Tustin).

PROFESSIONAL HISTORY

- FORMA S Senior Associate/Associate/Senior Director
- The Reynolds Environmental Group S Principal/Director of Planning
- City of Redondo Beach S Senior/Associate/Assistant Planner

EDUCATION

- Bachelor of Architecture, USC
- Master of Urban and Regional Planning, USC

AFFILIATIONS/COMMUNITY ACTIVITIES

- Guest Lecturer for APA, CPRS, Golden West College, and UC Irvine
- 750-home HOA Board Officer and 12 years AYSO Coach

TONY V. HOWZE, SENIOR SYSTEMS MANAGER

PROFESSIONAL EXPERIENCE

Tony Howze has been involved with Geographic Information Systems for over four years. He has in-depth experience with ArcInfo, ESRI's staple GIS product. He uses a variety of components daily: GRID, TIN, NETWORK, as well as the basic components of ARC, ARCEDIT, and ARCPLOT. Tony is proficient in the ArcInfo programming language, Arc Macro Language (AML), and has written many routines to perform a variety of tasks. Tony has worked closely with ArcView, and a wide range of extensions including: Spatial Analyst, 3D Analyst, Image Analyst, Network Analyst, Business Analyst, and Site Builder. Tony also has experience in ArcView's programming language, Avenue. He has developed a variety of scripts ranging from simple to complex, as well as a number of extensions. In addition, Tony is FORMA's on staff ESRI Authorized Instructor for ArcView GIS.

NOTEWORTHY PROJECTS INCLUDE:

- **RMC Open Space Plan**

  Tony provided the San Gabriel and Lower Los Angeles Rivers and Mountain Conservancy (RMC) with detailed analysis utilizing the GIS data collected by FORMA Systems. The socio-economic analysis consisted of demographic and economic statistics by ZIP-Code and by community. The demographic analysis included a summary of results for year 2000 estimated population, age, and ethnicity percentages within each community. Tony also provided graphic support, maps, charts and spreadsheets for the RMC project.

- **Los Angeles Significant Ecological Area Study**

  Tony was the project manager for the Los Angeles Significant Ecological Area Study update project. The project involved updating the existing SEA's created in 1976. He worked closely with the biologist of the lead consultant. The project required preparing field plots for the biologist surveys, digitizing results, data conversion, database management, preparing multiple plots for the final reports, and providing analytical support for the team.

- **Tejon Ranch Company**

  Tony has been involved with this project from its early stages. The early stages of this project included data collection from a variety of sources including engineers, manual drawings, and United States Geological Survey. He was involved in implementing GIS software and data for a self-sufficient GIS for the entire Ranch. He also created an ArcView application for elementary users of ArcView. The Extension allowed for quick, easy display of the numerous data sources of the Ranch. The Tejon Ranch project has progressed throughout the years and has now reached the Planning phase. Tony has been deeply involved with providing support for FORMA's planning department, by providing data, analysis, and graphics.

- **Newhall Ranch Company**

  Tony has been involved in a wide variety of projects for the Newhall Ranch Company. He has provided vegetation impact analysis for the Specific Plan submittal. The analysis required impact reports as well as a series of illustrations that have been presented in a legal battle. Tony also supports FORMA's planning department with a variety of graphics and analysis.

- **Irvine Company** Tony was involved in maintaining and updating the Irvine Company's GIS data. Editing of the parcel library, road networks and general plan information was done within ArcInfo. In addition, he wrote AML procedures to provide maps and reports for the Irvine Company's Urban Development Department.

PROFESSIONAL HISTORY

- FORMA Systems, Senior Project Manager, Irvine, California, 1998 – Present
- City of Huntington Beach, GIS Technician, Huntington Beach, California, 1997-1998

EDUCATION

- B.A. Geography, California State University, Long Beach, California
- ESRI Classroom Certificates: Introduction to ArcView GIS, Working with Spatial Analyst, Programming MapObjects with Visual Basic, Migrating from Avenue to VBA.
- ESRI Online Certificates: Using ArcView 3D Analyst Analysis Tools, Using Avenue with ArcView 3D Analyst, Advanced Techniques in ArcView 3D Analyst.

GEOFF PRESTON, PROJECT MANAGER

FORMA

PROFESSIONAL EXPERIENCE

Geoff offers expertise and experience in both CADD and traditional applications in all areas of planning, regional design and public agency work. Mr. Preston has devoted most of the last six years to expanding the role of CADD into urban design and planning entitlement. The scope of his computer-based project experience includes: schematic design, infrastructure and utilities mapping, design process graphics, and resource analysis mapping. His focus in recent years has been the integration of 3-D modeling/view analysis/photo simulations into the design process and project presentations.

NOTEWORTHY PROJECTS INCLUDE:

❑ **Wonder Palms - The Evans Company**	Office/retail complex proposed for the City of Rancho Mirage -Entitlement Documents.
❑ **Canyon Hills - Whitebird**	887 acres - development plan to retained rural character and 3-D photo simulations in support of the EIR Environmental and Habitat Analysis.
❑ **Azusa Quarry - Vulcan Materials Company**	3D Simulation modeling of Project Phases during mining activities for City review.
❑ **Rice Ranch -McCadden Development**	580-acre Master Planned Community; Entitlement Processing, Open Space Habitat Management Program, and EIR support in Santa Barbara County.
❑ **North Yorba Linda Estates & Yorba Linda Heights**	View simulations and 3D Simulation modeling supporting the EIR Process for the City of Yorba Linda.
❑ **The Montage Resort - The Athens Company**	LCP/CDP and Coastal Resource Program – Laguna Beach.
❑ **Long Point Resort – Destination Development**	105-acre Resort, Public Facilities, and Habitat Management Program – Rancho Palos Verdes.
❑ **Brightwater - Hearthside Homes**	1,600-acre Local Coastal Program and Wetlands Restoration Program – Huntington Beach.
❑ **Playa Vista**	Graphic and Digital Presentations of Habitat/Resource Programs - Marina del Rey.
❑ **Palm Island - Cameo Homes**	Senior Living Complex Entitlement support.

PROFESSIONAL HISTORY

- FORMA - Project Manager
- EDAW - Environmental Documentation

EDUCATION

- B.A. Environmental Studies, Specialization in Urban Planning, University of Santa Barbara, CA
- 3ds Max Course, University of California, Irvine, CA
- Coursework in Adobe Photoshop and Illustrator

ZEISER KLING Consultants, Inc.

January 28, 2004

Mr. Chris Joseph
President
Chris Joseph & Associates
11849 W. Olympic Boulevard, Suite 101
Los Angeles, CA 90064

Subject: Statement of Qualifications Letter Regarding Zeiser Kling Consultants, Inc.

Dear Chris:

I am pleased to provide you with this statement of qualifications letter and resumes of key personnel involved in the Canyon Hills project.

Zeiser Kling Consultants, Inc. is a full-service consulting firm in the fields of geology and geotechnical engineering. We have been providing geotechnical consulting services of the highest quality for the past eighteen years. As a result of this commitment to our clients, we have developed an excellent reputation in the Southern California area for team workmanship, innovative solutions, and timely and cost effective professional services. Members of our staff have been involved internationally with a wide variety of experience. In addition to our private clients, we also provide services to various public entities including a variety of special district, city, county and state agencies.

Typical projects in which our firm has been engaged include:

- Geotechnical input for Planning documents such as Seismic Safety Elements, EIR/EIS reports, Specific and General Plans.
- Level 1 Preliminary Site Assessments.
- Regional coastal erosion studies.
- Geotechnical investigations and review of design plans for large planned communities as well as individual residential, commercial and industrial developments.

- Geotechnical investigations and review of design plans for public works projects including major highways, bridges, reservoirs, landfills and backbone utility systems for private and public agencies.

- Second party review of major development projects prior to acquisition for developers.

- Third party review of technical reports for public agencies.

- Field inspection, observation, testing and quality control of grading operations and fill compaction on private development and public works projects in hillside and level terrain.

- Soil and Construction Materials testing.

- Expert witness and forensic consulting services to establish geotechnical causes of distress in engineered structures.

Zeiser Kling Consultants, Inc. appreciates the opportunity to provide you with this information. I would be happy to answer any questions or provide additional information you require concerning our firm's capabilities. Also, please feel free to visit our web site at **http://www.zkci.com** or call me at (714) 755-1355. It is my hope that we will have the opportunity to demonstrate these capabilities while being of service to you or teaming with you in the future.

Sincerely,

ZEISER KLING CONSULTANTS, INC.

Frederick L. Zeiser
Chief Executive Officer

FLZ:lw

Enclosures: Frederick L. Zeiser, Matthew G. Rogers and James M. Lancaster, Jr. Resumes

FREDERICK L. ZEISER
CHIEF EXECUTIVE OFFICER

PROFESSIONAL HISTORY

2000 to Present:	**ZEISER KLING CONSULTANTS, INC.** Chief Executive Officer and Principal Engineering Geologist
1986 to 2000:	**ZEISER KLING CONSULTANTS, INC.** President and Principal Engineering Geologist
1978 to 1986:	**LEIGHTON AND ASSOCIATES, INC.** Chief Engineering Geologist

EXPERIENCE SUMMARY

Mr. Zeiser has extensive geotechnical experience within California, particularly with the planning, design and construction phases of hillside development projects. These projects include land development for reservoirs, pipelines, residential, roadway alignments, golf courses, commercial and infrastructure, slope stability studies, landslide stabilization and fault investigations.

The land development projects range from small acreage parcels to over 6,000 acre sites. Many of these projects were Master Planned Communities with a varied mix of planned unit densities and development products. The projects included commercial, retail and residential products. The clients include individual site landowners, merchant builders and regional developers.

Infrastructure project experience has included reservoirs, pipelines and roadways throughout Southern California. These specialty projects consist of water reservoirs for the Irvine Ranch Water District and the Laguna Beach County Water District and sanitary sewer alignment studies and pump stations for the Irvine Ranch Water District and the Moulton Niguel Water District. Design planning and roadway alignment studies have been performed on the San Joaquin Hills Transportation Corridor, Newport Coast Drive, Culver Drive, portions of the Eastern Transportation Corridor, Santiago Canyon Road, the North-South Weir Canyon arterial in Orange County, portions of Grand Avenue, Chino Hills Parkway in Los Angeles and San Bernardino County and Valley Center Road in San Diego County.

Mr. Zeiser has provided geotechnical review services to many public agencies within California, including, but not limited to, the Cities of Laguna Beach, Encinitas, Dana Point, San Clemente, Rancho Palos Verdes and Rolling Hills.

Mr. Zeiser has been retained as an expert on development projects in Alameda, Contra Costa, Los Angeles, Napa, Orange, San Bernardino, San Diego, San Mateo, Solano, Sonoma, Riverside, Ventura and Yolo Counties. These cases have included land subsidence, subdrainage, expansive soils, slope stability and landsliding. His professional role includes expert consultation, attendance at depositions, Mediation and Arbitration and technical support during trial preparation, as well as expert testimony.

EDUCATION

B.S., Geologic Sciences, California State University at Long Beach.

FREDERICK L. ZEISER
CHIEF EXECUTIVE OFFICER
(Continued)

PROFESSIONAL AFFILIATIONS

Association of Engineering Geologists
American Association of Petroleum Geologists
Association of Environmental Professionals
American Geological Institute
Associated General Contractors of California
California Geotechnical Engineers Association
Home Builders Council of the Building Industry Association
American Shore and Beach Preservation Association
National Association of Home Builders
Building Industry Association
California Building Industry Association
National Commercial Builders Council

REGISTRATIONS

Registered Geologist No., 3702, State of California (1982)
Certified Engineering Geologist, No. 1131, State of California (1982)

MATTHEW G. ROGERS, P.E., G.E.
PRINCIPAL GEOTECHNICAL ENGINEER

PROFESSIONAL HISTORY

2000 to Present:	**ZEISER KLING CONSULTANTS, INC.** Associate Geotechnical Engineer
1999 to 2000:	**ZEISER KLING CONSULTANTS, INC.** Project Geotechnical Engineer
1995 to 1999:	**BING YEN AND ASSOCIATES** Project Engineer
1993 to 1995:	**STONEY-MILLER CONSULTANTS, INC.** Senior Staff Engineer
1989 to 1992:	**LEJMAN AND LEE, INC.** Staff Engineer
1986 to 1989:	**GOFFMAN, McCORMICK AND URBAN, INC.** Soils Technician

EXPERIENCE SUMMARY

Mr. Rogers has over 10 years of experience in the geotechnical engineering field, most recently as project manager and geotechnical design engineer for a variety of geotechnical construction projects for a broad assortment of private and public entities.

Mr. Rogers' duties include project management and geotechnical engineering analysis and design for earth dams and embankments, bridge foundations, landslide and slope stabilization, hillside residential developments, geotechnical forensic evaluations and foundation remediation including compaction grouting and underpinning design.

Mr. Rogers also has extensive experience in design and implementation of geotechnical instrumentation programs including inclinometers, borehole extensometers, tiltmeters, pore pressure transducers, and other devices to measure slope movement, settlement, and subsurface water pressure.

Municipal experience also includes evaluation of roadway failures, and settlement damage to public and private properties, from initial investigation phases through design and construction of remedial measures. Mr. Rogers has also acts as Geotechnical Engineering Peer Reviewer for the Cities of Laguna Beach, Dana Point, Rancho Palos Verdes and previously for the Cities of Malibu, Agoura Hills, Chino Hills, Moorpark, and Hidden Hills.

MATTHEW G. ROGERS, P.E., G.E.
PRINCIPAL GEOTECHNICAL ENGINEER
(continued)

EDUCATION
Bachelor of Science, Civil Engineering, California State University Long Beach, 1991.
Graduate Level coursework in Geotechnical Engineering, University of California, Irvine.

PROFESSIONAL REGISTRATION
Geotechnical Engineer 2495, State of California
Registered Professional Engineer in Civil Engineering 54546, State of California

PROFESSIONAL AFFILIATIONS
Member, American Society of Civil Engineers
Individual Member, American Public Works Association
Member, South Coast Geologic Society

TECHNICAL PUBLICATIONS
Guidelines for Preparation of Geotechnical Engineering and Engineering Geologic Reports, City of Moorpark (with Christopher Dean and Patrick Jenks).

JAMES M. LANCASTER, JR.
ASSOCIATE ENGINEERING GEOLOGIST

PROFESSIONAL HISTORY

1999 to Present:	**ZEISER KLING CONSULTANTS, INC.** Associate Engineering Geologist
1997 to 1999:	**ZEISER KLING CONSULTANTS, INC.** Project Engineering Geologist
1994 to 1997:	**EBERHART & STONE, INC.** Project Engineering Geologist
1988 to 1994:	**EBERHART & STONE, INC.** Project Geologist
1986 to 1988:	**EBERHART & STONE, INC.** Staff Geologist

EXPERIENCE SUMMARY

Mr. James M. Lancaster, Associate Engineering Geologist, is a Registered Geologist and a Certified Engineering Geologist in the State of California and a Certified Engineering Geologist in the State of Oregon. He has over 12 years of experience in the geologic and geotechnical fields. Mr. Lancaster has conducted geologic, engineering geologic, forensic and hydrogeologic studies for all phases of projects from planning to construction, for residential, commercial and public works projects. Projects have included feasibility investigations, fault investigations, preliminary geotechnical investigations, mass grading, second party review, technical review, and forensic investigations. As part of these projects, Mr. Lancaster has developed work proposals, schedules and cost estimates, set-up and managed both field and office phases of the projects and prepared technical reports. His field experience has included field mapping, surface logging of rotary, bucket auger, hollow stem and core borings, downhole geologic logging of bucket auger borings, downhole geophysical logging, geologic logging of exploratory trenches, installation of dewatering wells, installation of inclinometers and the installation of groundwater monitoring wells. His office experience includes background literature reviews, data analysis, and report preparation.

EDUCATION/CERTIFICATION/CONTINUING EDUCATION

B.S. Geology, California State University at Los Angeles
40 Hour OSHA Hazwoper Certification
8 Hour OSHA Hazwoper Supervisor Certification
American Consulting Engineers Council – Spring Training for Project Managers
Borehole Geophysical Methods

PROFESSIONAL REGISTRATIONS

Certified Engineering Geologist, No. 1927, State of California (1995)
Registered Geologist, No. 6157, State of California (1995)
Certified Engineering Geologist, No. E1640, State of Oregon (1995)

PROFESSIONAL AFFILIATIONS

Association of Engineering Geologists

FIRM DESCRIPTION

JHA Environmental Consultants, LLC, was established in July 1990 and works exclusively on air quality impact assessments and policy studies. The firm has in-depth knowledge of air quality regulatory and review requirements, including federal conformity demonstrations. JHA is also known for its ability to meet deadlines and its flexibility in adjusting to schedule changes.

Located in Pacific Palisades, California, the firm's principal owner is Jo Anne H. Aplet, who has more than 30 years experience researching and analyzing issues and directing projects and programs related to air quality. This experience includes more than 10 years as Director of Planning at the South Coast Air Quality Management District (SCAQMD) and 15 years as an air quality consultant. JHA specializes in air quality impact assessment and demonstrating compliance with regional, state and federal requirements.

JHA utilizes current California Air Resources Board (CARB) and U.S. Environmental Protection Agency (EPA) models to assess transportation and land use impacts in required CEQA and NEPA formats. Since its establishment, JHA has analyzed air quality issues related to a number of diverse projects, with emphasis on impacts related to transportation and land uses. Examples include both large and small mixed-use residential and commercial developments; specific plans and general plan amendments; transportation projects, including highway, port, rail and airport facilities; water storage and conveyance facilities, and recreation and open space projects.

JHA has provided on-call air quality assessment services to the Metropolitan Water District, City of Los Angeles Community Redevelopment Agency, Los Angeles County Parks and Recreation Department, Los Angeles County Department of Public Works, California Department of Corrections, California Department of Mental Health, the State of California Real Estate Division; the University of California, Irvine, the University of California, Los Angeles, and the Los Angeles Community College District. JHA has also prepared air quality elements of general plans for several cities and counties, impact assessment guidelines for local governments, components of the master regional air quality element, and a review of the SCAQMD's CEQA Air Quality Handbook.

Recent projects have included air quality assessments for a large planned mixed-use development in southern Orange County and residential developments in Diamond Bar and Santa Clarita that require general and specific plan amendments. JHA has also recently performed air quality assessments for a number of highway and street improvements requiring the demonstration of conformity to state and federal highway and air quality requirements. In addition, JHA has conducted air quality reviews of environmental documents prepared for projects in Pasadena and in the vicinity of the Los Angeles Harbor area.

1101 Chautauqua Blvd., Pacific Palisades, CA 90272-3809• Phone: 310/459-7358•FAX: 310/454-1850•e-mail: japlet@earthlink.net

JHA Environmental Consultants, LLC

JO ANNE H. APLET, Air Quality Manager

EXPERIENCE

Jo Anne Aplet has more than 30 years experience in air quality planning and management, including developing regional air quality plans. As Director of Planning at the South Coast Air Quality Management District (SCAQMD) from 1978 to 1988, she directed development of three regional air quality management plans (AQMPs), working closely with the Southern California Association of Governments. In 1994, she assisted SCAG develop and assess impacts of the Regional Comprehensive Plan.

Since 1990 Ms. Aplet has headed JHA Environmental Consultants, LLC, which specializes in air quality planning and impact assessment related to land use and transportation projects. In addition to many diverse individual residential, commercial and industrial development projects throughout the region, Ms. Aplet has assessed air quality impacts for diverse projects as a member of on-call environmental assessment teams. Examples of such assessments include those for new buildings at UCLA and the University of California, Irvine; state hospital and prison construction and expansion; new and expanded parks throughout Los Angeles County; state office and service buildings throughout Southern California, water development projects for the Metropolitan Water District (MWD) and other water agencies, and road, bridge, highway and transit centers for Caltrans and local transportation agencies.

EMPLOYMENT

President: JHA Environmental Consultants, LLC
Director of Air Quality Programs: Michael Brandman Associates
Lecturer: UCLA Graduate School of Architecture and Urban Planning
Director of Planning: South Coast Air Quality Management District
Regional Planner: Southern California Association of Governments
Consultant: League of Women Voters and American Lung Association
Traffic Manager, KUGN Radio Station, Eugene, Oregon
Assistant Editor, Sunset Magazine (Los Angeles office)

EDUCATION

M.A., UCLA (Environmental Planning and Management)
B.A., University of Oregon (English/Political Science)

PROFESSIONAL ORGANIZATIONS

Pacific Palisades Design Review Board
American Planning Association (Past Chair, Environment, Natural Resources & Energy Division)
Association of Environmental Professionals (AEP)
Air and Waste Management Association
Southern California Planning Congress
Westside Urban Forum

1101 Chautauqua Blvd., Pacific Palisades, CA 90272-3809• Phone: 310/459-7358•FAX: 310/454-1850•e-mail: japlet@earthlink.net

CROSBY MEAD BENTON & ASSOCIATES

Crosby Mead Benton & Associates is an established engineering firm serving continuously since 1987. Our mission includes solving engineering, facilities, planning and expansion challenges on a broad range of project types. Throughout Southern California and the Western States, we have served on projects of significant notoriety requiring a wide scope of services related to planning, engineering and construction.

Crosby Mead Benton & Associates' Principals retain a combined career engineering background exceeding 100 years. Likewise, a fully mature staff of Project Management talent has developed with a varied and extensive project background. Additionally, the technical staff is responsive, creative and knowledgeable maintaining a long tenure with Crosby Mead Benton & Associates.

Crosby Mead Benton & Associates maintains a policy to involve company Principals in project development. To accomplish all required project design standards in a timely and efficient manner, project teams are formed and lead by a company Principal who remains personally responsible and actively involved in project development and client consultations. Our Principals and Project Management staff maintain a philosophy of hard work and dedication to quality and service as the highest priority. Our goal is to provide credible solutions to augment the efficiency of your operations, creative ideas to enhance your applications, and practical methodology to achieve your project goals and timelines.

Crosby Mead Benton & Associates provides the following services:

- Preparation and coordination of Feasibility Studies
- Preliminary Design
- Entitlement Processing
- Production of Construction Drawings including Sewer, Storm Water, General Utility Systems and Hydrology Analysis
- Comprehensive Cost Estimating and Construction Scheduling Services
- Construction Survey, Staking and Field Coordination
- Construction Management

Crosby Mead Benton & Associates joined the Keith Companies in October 2000. The combination of our efforts has significantly increased the capacity of the firm by allowing us to draw on the resources of the Keith Companies to complete large and complex projects. Established in 1983, The Keith Companies (TKC) provides integrated planning, engineering, and design services for private and public sector projects. TKC is proud to provide comprehensive consulting services to an array of clients and strives to respond to client expectations by providing them with paramount service today and into the future.

With approximately 850 professionals, TKC currently operates from 16 divisions throughout Arizona, California, Michigan, Nevada, Oregon, Texas, and Utah. The company offers specialized services in Civil Engineering, Surveying & Mapping, Site Acquisition, Archaeology, Construction Management, Fire Protection, Chemical/Process Engineering, Instrumentation/Control Systems Integration, Environmental, Electrical Engineering, Mechanical Engineering, Planning, and Water Resources.

TKC’s clients benefit from the synergy created from the multi-disciplinary team approach that combines particular talents and experience to achieve client goals. The firms technical excellence, creativity, and unparalleled client responsiveness spans across all

disciplines. Behind the successes of every TKC project stands dedicated relationships between our staff and client and agency representatives. Exceptional service is TKC's trademark. The firm is committed to the philosophy that to provide the best planning, engineering, and design services requires an intimate understanding of the processes and continual and personal communication. From electronic data collection and GPS technology to automated design through scheduling and project close-out, TKC uses modern technology and resources to deliver a product with minimal costs in a timely manner.

TKC believes in setting and continually meeting the highest possible standards when it comes to the stability that clients require, these include individual relationships and technical proficiency. The firm is known for its meticulous selection of personnel, and dedicates itself to finding qualified people and creating an environment in which they can thrive. By developing professionals who combine specialized skills with broad-based knowledge as well as management skills, the TKC staff is able to manage projects through teamwork to achieve the most beneficial results for its clients. TKC professionals are your most valuable resource for providing creative, cost-sensitive solutions in an ever-changing environment.

FRED S. CUNNINGHAM
Vice President
Director of Planning
Southern California

As Crosby Mead Benton's Vice President and Director of Planning, Mr.Cunningham is responsible for coordinating the many processes involved in obtaining government approvals for large land development projects. This includes initial consultation with clients to determine development potential, negotiation with City/County officials, preliminary subdivision design and feasibility analysis. He is also responsible for processing all applications through public hearings to secure development entitlements and approvals.

An expert on legislation and the analysis of critical development trends, Mr. Cunningham has been involved in many of the large residential developments in Southern California together with continuing efforts in Northern California, Nevada, Utah, and Colorado to provide planning expertise in preliminary subdivision development. Projects range from 30-unit coastal subdivisions for view-oriented custom homesites to very large, mixed-use master plans ranging from 400 to 7,000 acres. Depending on the needs of the client, Mr. Cunningham fills various roles, from being the primary project coordinator to being a design landplaning consultant for a larger project team.

Mr. Cunningham has been a guest-lecturer at both Cal Poly, San Luis Obispo and Cal State Northridge regarding private sector planning and physical design. Mr. Cunningham has also provided services to the City of Los Angeles Department of Water & Power and the City Attorney's Office as an expert witness in Superior Court for subdivision aspects related to condemnation actions.

Prior to joining CMB, Mr. Cunningham was Vice President in charge of planning with VTN West where he founded the planning division, expanding it to accommodate 20 concurrent projects.

This Thousand Oaks resident graduated from Cal Poly, San Luis Obispo with a Bachelor of Science Degree in City and Regional Planning from its School of Architecture and Environmental Design. He is a member of the American Planning Association and Urban Land Institute.

RAYMOND V. MACIAG
Principal Planner

A graduate of Rutgers University, with a degree in Administrative Studies/Business, Mr. Maciag has been serving the development industry in Southern California since 1988. His primary activities are focused on the successful completion of legislative, land use, and governmental entitlements for a broad spectrum of projects, including residential master plans, hillside subdivisions, infill housing, redevelopment, office buildings, retail commercial, industrial centers, and wireless communication facilities. Mr. Maciag is an accomplished negotiator and problem solver, providing project management services as a client liaison in government relations, legislative advocacy, and entitlement processing.

Mr. Maciag has a high degree of planning and development experience in difficult and politically sensitive projects. He is accustomed to representing his clients in governmental hearings and public presentations ranging from friendly to hostile. Mr. Maciag is thorough and detail oriented in the preparation of entitlement applications and is experienced in the subtleties of the CEQA process.

Mr. Maciag is licensed as a Professional Planner in New Jersey and as a Professional Land Surveyor in New Jersey and Pennsylvania. Prior to coming to California, he spent twelve years as a Division Manager and Chief Surveyor for the City of Newark, New Jersey. Mr. Maciag was also involved in the planning and development of Columbia, Maryland.

Mr. Maciag is a member of the Southern California Planning Congress.

GLENN LUKOS ASSOCIATES

Regulatory Services

GLENN LUKOS ASSOCIATES, INC. has a staff of 20 to serve your regulatory and biological resources needs. We specialize in "wetland" and other water-related permitting, wetland delineation, habitat restoration design, mitigation implementation, mitigation monitoring, biological surveys, and endangered species coordination. We assist clients through the maze of regulations associated with federal and state permits including:

Section 404 of the Clean Water Act **("wetland" permitting)**
Section 404(b)(1) of the Clean Water Act **(alternatives analysis)**
Section 401 of the Clean Water Act **(water quality certification)**
Biological surveys to satisfy requirements of the California Environmental Quality Act (**CEQA**)
Section 7 of the Endangered Species Act **(endangered species surveys and consultation)**
Section 10 of the Endangered Species Act **(habitat conservation plans)**
National Environmental Policy Act **(environmental assessment)**
Section 1601/3 of the California Fish and Game Code **(streambed alteration agreement)**
Section 2081 of the California Fish and Game Code **(endangered species permitting)**
Section 10 of the Rivers and Harbors Act **(navigable waters permitting)**

Our objective is to become involved in a project early in the design process. In doing so, we can help the client avoid or minimize impacts to federal and state jurisdiction and help the client avoid or minimize regulatory involvement associated with such impacts. When total avoidance is not possible, we strive to help the client reach a solution that meets the needs of the client, while satisfying the regulations and policies of the permitting agencies.

Collectively, we have over 100 years of federal regulatory experience extending through California, Arizona, Nevada, Utah, and Louisiana. Additionally we have extensive experience with natural resource regulatory requirements in the state of California. During the past 13 years, GLA has worked on over 500 wetland-related projects for both public and private entities.

GLA also has a staff of biologists with nearly 100 years of combined experience in southern California plant communities and aquatic habitats including three botanists and five wildlife biologists. GLA biologists have extensive experience in conducting surveys for listed and other special-status plants and lichens, avifauna, reptiles and amphibians, small mammals, fairy shrimp and other invertebrates, as well as medium- and large-bodied mammals. GLA wildlife Biologists

have particular expertise (and hold Section 10(a)(1)(A) Permits) for the California gnatcatcher, and listed branchipods (fairy shrimp). GLA wildlife biologists also have expertise in raptors (including focused raptor foraging studies), riparian avifauna such as least Bell's vireo, yellow-breasted chats and southwestern willow flycatcher. GLA wildlife biologists have conducted numerous wildlife movement studies in southern California, including studies of medium- and large-bodied mammals and avifauna such as the California gnatcatcher.

During the last 13 years, GLA biologists have conducted hundreds of biological investigations ranging from constraints-level analysis to very comprehensive biological investigations for large controversial projects that include very detailed focused floral and faunal surveys, vegetation mapping, wildlife movement studies, and tree surveys.

TONY BOMKAMP

Senior Biologist/Regulatory Specialist

Mr. Bomkamp is a field biologist, wetlands ecologist, and regulatory specialist with an extensive background in environmental studies. As a botanist, Mr. Bomkamp has diverse field experience extending back over 25 years in all of the major vegetation communities in Southern California. He is a recognized expert in the Southern California flora and is past President of the Orange County Chapter of the California Native Plant Society (CNPS). Mr. Bomkamp has particular expertise in wetland and riparian ecology, having been the primary field investigator on a two-year study of all riparian and coastal wetlands in Los Angeles and Ventura counties for the Los Angeles Regional Water Quality Control Board. He has also performed and directed numerous focused botanical surveys across southern California. In addition to his work in biological consulting, Mr. Bomkamp serves as an adjunct faculty member at California State University, Fullerton, for the graduate Environmental Studies Program, teaching courses on wetlands, urban ecology, and endangered habitats.

Professional Experience

Served as task manager for base line botanical surveys and wetland delineations of 12,000-acre study area associated with the Foothill Transportation Corridor in southern Orange County. Duties include performance of general botanical surveys, preparation of protocols for sensitive plant surveys, direction of the botanical team in performance of sensitive plant surveys, performance of sensitive plant surveys, direction of vegetation mapping for the study area, and direction of the wetland delineation team in performance of wetland delineation and provision of regulatory services required to obtain Section 404 and 401 permits and Section 1601 Streambed Alteration Agreement.

Served as principal botanist, responsible for focused botanical surveys for 25,000 acres southern Orange County NCCP/HCP between 1997 and 2003. Duties included performance of focused botanical surveys for and mapping of a suite of special-status plant species, direction of botanical team in performance of focused botanical surveys; and development of translocation programs for species potentially affected by various project alternatives.

Conducted and directed comprehensive biological surveys including focused botanical surveys for the 6,300 acre East Orange General Plan Area in central Orange County during 2001, 2002, and 2003. Surveys included *Microseris douglasii platycarpha, Nolina cismontane, Dudleya multicaulis, Calochortus weedii intermedius, Convolvulus similans, and Romneya coulteri.*

TONY BOMKAMP [cont.]

Directed detailed biological surveys for the San Jacinto River project in western Riverside County. Duties included performance of focused botanical surveys for and mapping of *Brodiaea filifolia, Atriplex coronata notatior, Navarretia fossalis, Atriplex davidsonii,* and *Atriplex parishii*. Other tasks included performance of focused surveys for the California gnatcatcher and listed species of fairy shrimp.

Conducted detailed biological surveys and habitat restoration for vernal pools at Fairview Park in Costa Mesa. Tasks included focused surveys for and mapping of special-status plants including *Navarretia prostrate, Microseris douglasii platycarpha, Nama stenocarpum and Hordeum intercedens*. Other tasks include surveys for burrowing owl and listed species of fairy shrimp.

Conducted protocol surveys for San Diego fairy shrimp (*Branchinecta sandiegoensis*), Riverside fairy shrimp (*Streptocephalus woottonii*), and vernal pool fairy shrimp (*Branchinecta lindali*) within the 10,000-acre study area associated with the Foothill Transportation Corridor in southern Orange County, the 5,000-acre Ladera Planned Community study area in southern Orange County, eight vernal pools at Fairview Park, Costa Mesa in central Orange County, nine vernal pool basins at University Research Park, Irvine.

Performed numerous focused surveys for sensitive and endangered plant species, including (but not limited to) Santa Ana River woolystar (*Eriastrum densifolium* ssp. *sanctorum*), Santa Ana Mountain beargrass (*Nolina cismontana*), Braunton's milk vetch (*Astragalus brauntonii*), San Fernando Valley spineflower (*Chorizanthe parryi fernandina*), Otay Mesa mint (*Pogogyne nudiscula*), southern tarweed (*Hemizonia parryi* ssp. *australis*), big-leaved crown beard (*Verbesina dissita*), San Diego button celery (*Eryngium aristulatum* ssp. *parishii*), Orcutt's grass (*Orcuttia californica*), spreading navarretia (*Navarretia fossalis*), prostrate navarretia (*Navarretia prostrata*), Conejo buckwheat (*Eriogonum crocatum*), Nevin's barbarry (*Berberis nevinii*), Davidson's bushmallow (*Malocothamnus davidsonii*), Fish's milkwort (*Polygala cornuta fishae*), many-stemmed dudleya (*Dudleya multicaulis*), thread-leaved brodiaea (*Brodiaea filifolia*), and Blochman's dudleya (*Dudleya blochmaniae*).

Education

M.S. Environmental Studies, California State University, Fullerton.
B.A. Biology, California State University, Fullerton.

Professional Affiliations

Orange County Chapter of the California Native Plant Society, President
Southern California Botanists

GREG EVERETT
Senior Habitat Restoration Specialist/Arborist

Mr. Everett (formerly Prettyman) is a regulatory specialist, project manager, and habitat restoration specialist with extensive background in environmental science. As Senior Habitat Restoration Specialist for Glenn Lukos Associates he oversees design and management of habitat restoration projects for a wide variety of plant communities. He is responsible for preparing and supervising others in the preparation of planting and grading designs, construction specifications, and monitoring programs. He is a Certified Arborist with over ten years of experience in California native plant species and their horticultural needs. He has a Master's degree in Landscape Architecture; his background in site planning and project installation combined with his expertise in ecological planning principles enable him to work effectively on projects incorporating human uses with natural resource conservation. He has over nine years of experience in preparing and processing permit applications with the California Department of Fish and Game, the California Regional Water Quality Control Board, the United States Army Corps of Engineers, and the United States Fish and Wildlife Service. He has been involved with projects requiring the creation or restoration of oak woodland, freshwater marsh, riparian woodland, and coastal sage scrub plant communities.

Professional Experience

Designed numerous riparian and wetland habitat creation and restoration projects and coordinated their approval with California Department of Fish and Game, United States Army Corps of Engineers, and United States Fish and Wildlife Service staff. Served as project manager for acquiring Section 404 permits and 1600 Agreements. Projects located throughout San Bernardino, Riverside, Orange, Ventura, and San Diego Counties.

Supervised installation of numerous habitat restoration and creation mitigation projects, monitored progress, and reported findings to state and federal resource agencies.

Served as project manager for endangered species permitting pursuant to the federal Endangered Species Act and the California Endangered Species Act for projects in San Bernardino County.

Designed standardized monitoring methodologies for use by Metropolitan Water District of Southern California on all of its future habitat restoration and mitigation projects. Design includes standardized field measurement techniques using most current and cost effective means and standardized report formats. The new standardized monitoring methodology will be used by all Metropolitan personnel and consultants working for Metropolitan.

Served as primary field investigator responsible for delineating U.S. Army Corps of Engineers and California Department of Fish and Game jurisdiction on private and public sector development projects in Southern and Central California and Eastern Nevada.

Served as primary investigator for tree surveys in San Bernardino County. Responsibilities include site surveys for tree health and aesthetics, impact analysis, and providing recommendations for preservation and minimization of impacts to trees during project construction.

Co-authored "A Management Framework for The Irvine Company Open Space Reserve", a planning document produced in cooperation with and funded by The Nature Conservancy for use by The Irvine Company as a guide for a phased transfer of 16,000 acres of privately held ranch land to public domain. The report developed goals and objectives, analyzed issues, and made recommendations for treatment of rare and endangered plants and animals, fire management, public access, and habitat restoration.

Managed a nursery specializing in native plants and supervised and participated in seed collection, and the salvaging, propagation, and maintenance of native plant species for restoration projects.

Conducted and directed numerous tree surveys in Orange, Los Angeles and Ventura Counties.

Professional History

Glenn Lukos Associates, Senior Habitat Restoration Specialist
Walsh and Associates, Associate Landscape Planner

Education

M.L.A.	Landscape Architecture, California State Polytechnic University, Pomona
B.A.	Biology, Pitzer College

Affiliations

International Society of Arboriculture, Certified Arborist (no. WC-3977)
Society for Ecological Restoration
California Native Plant Society
American Society of Landscape Architects, Associate

Urban Forestry – Qualifications

Dudek & Associates' Urban and Community Forestry Division provides services to local, regional and national public agencies, community associations and non-profit organizations, as well as private developers and corporations. As a solutions-oriented group, our central focus is on natural resource management with an emphasis on cost-effective, non-invasive and sustainable methods. Projects range from those associated with urban and community forestry, watershed management, water conservation and fire prevention, to those that deal with community-level water and resource-efficient landscape management. As a component of our services, we also assist with grant-writing to help our clients leverage project resources. Our staff includes specialists in: arboriculture, community forestry, water conservation, fire management, landscape management, natural resources and computer information systems. Our specific capabilities include:

Tree and Vegetation Management

- Urban and community forestry programs, master plans and ordinance development
- General arboriculture including tree preservation and relocation feasibility
- Hazard risk management, construction impact analysis and mitigation
- Computerized, GPS-based inventories, audits, and evaluations

Natural Resources and Watershed Management

- Tree, forest and natural vegetation management plans
- Erosion control, surface water and sedimentation run-off management
- BMP review and implementation
- Hydrological analysis and storm water/drainage plans

Best Management Practices for Landscape

- "Best Management Practices" implementation
- Landscape maintenance specifications, manuals and training
- Site audits and assessments
- Irrigation retrofit, design and specifications, AB325 Calculations
- Water re-use plans and on-site recycling programs
- Waste reduction, recycling and composting program development
- Research, design and marketing of waste-stream derived products
- Training, education and on-site demonstration programs

Fire Prevention and Open Space Management

- Risk analysis, modeling, hazard evaluation and mitigation
- Site management for fuel modification and reduction
- Fire-safe planning, fire awareness and prevention education
- Native habitat restoration, exotic plant removal and rangeland improvement

Experience

The Irvine Company's East Orange Area Oak Tree Assessment
Over 40,000 native oak trees were inventoried and assessed on over 20,000 acres of wildlands. Each tree stand was surveyed and plotted for data analysis and management plan details. A GIS plan and report was produced that defined and clarified all the attribute data for each oak tree stand. This data was used as the basis for the Tree Management and Preservation Plans, which address specific oak replanting and woodland enhancement protocols for each development within the East Orange Area.

San Dimas Arroyo Oaks, Los Angeles County, California
DUDEK staff evaluated the health, safety and relocation feasibility of 69 trees on a site with a deep canyon and stream. We also examined the native vegetation and habitats on site and potential impact from construction, and recommended a revegetation plan. The canyon area was overgrown and a potential fire hazard. A vegetation management program was developed to create a safe but natural arroyo.

PA 11.4 Mitigation and Revegetation, Aliso Viejo, California
DUDEK staff determined the health and relocation feasibility of native Oak trees in a natural canyon area. We studied the vegetation, wildlife and habitats of the canyon, seasonal stream, and surrounding area. We also developed a complete mitigation plan that would win the support of both the developer and County Environmental Management Agency. Staff collected and propagated 6,000 acorns from the site in order to preserve the natural gene pool, and coordinated the growing and planting of the oak seedlings at various stages using inmate and volunteer labor in the adjacent Aliso and Wood Canyons Regional Park. We are currently monitoring the seedlings' growth and progress, and performing various maintenance functions.

Limestone Canyon Reforestation, Habitat Enhancement and Stewardship Plan, Irvine, California
DUDEK staff developed a reforestation and woodland management plan for the Limestone Canyon Reserve under USDA's Stewardship Incentive Program. We analyzed all site factors including existing vegetation, soils, macro and microclimates, wildlife, and natural and archeological resources. We specified tree species and planting locations that enhance the natural vegetation and wildlife on site. We also provided detailed cost analysis and time schedules, and assisted The Nature Conservancy in collecting and propagating acorns to be used in the reforestation efforts.

Wood Canyon Visual Enhancement, Orange County, California
DUDEK staff provided mitigation, re-vegetation consulting, landscape architecture, irrigation and on-going monitoring services for the visual enhancement of a slope along the periphery of Aliso and Wood Canyon Regional Park in Orange County. Our staff has coordinated with technical staff as well as the County, developer and contractor representatives to meet project design objectives, budgets and schedules and monitor success for each of the two phases. In Phase I, we developed landscape and irrigation plans with specifications for a native plant screen to separate the Wood Canyon Trail from an adjacent housing development in progress along the western edge of the park. The area includes 3,200 linear feet of fast-growing native trees irrigated by reclaimed water with the goal to create a five-foot tall screen within three years of planting. Phase II involves planting the 14 acre graded slope that overlooks Wood Canyon. Our staff also designed the site's vegetation plan to integrate native plant species with the park's environment and also meet strict fuel modification area requirements set by the Orange County Fire Authority. In conjunction with the project, we also monitored plant establishment, growth, health and screen functions.

Oak Trees in Bouquet Canyon, Los Angeles County, California
DUDEK staff evaluated all oak trees within 470 acres of hilly and rugged oak woodland and chaparral according to the Los Angeles County Oak Tree Ordinance. We individually tagged, photographed and recorded detail information on 378 trees and prepared a comprehensive plan to protect and manage the trees during construction and maintain/preserve the trees after construction. We also provided recommendations for mitigation and replanting.

Las Flores Oak Tree Preservation Plan, Orange County, California
DUDEK staff evaluated some 53 native Coast Live Oak trees located within a 5-acre canyon bowl. The perimeter of the bowl is being developed for residential use. The purpose of the project was to make recommendations on what measures need to be taken to protect and preserve the oak trees, to assess and reduce any hazards the trees might have, and to preserve the riparian oak woodland habitat. We also evaluated and provided recommendations on grading and drainage flow patterns, plant materials and irrigation systems to be used for the inside slopes, and soils and erosion factors.

Oak/Willow Tree Inventory, Appraisal, and Global Positioning Mapping, Murrieta, California
The site for a proposed new residential development in the City of Murrieta in Riverside County had extensive mature native trees. A total of 260 native trees were inventoried, assessed, and appraised by DUDEK staff according to International Society of Arboriculture standards. The trees' positions were digitally captured and descriptive data digitally stored with the use of Trimble Pro-XL, global positioning and a data collection system. This digital data was then electronically transferred to AutoCAD for creation of tree base maps. The trees are located in an agricultural area proposed for development. The appraised value of the 260 trees is $815,000. GPS positioning allows the project developer to design grading plans that do not disturb the valuable native tree resources on site.

Black Oaks Ranch, Tehachapi, Kern County, California
This project included an impact and relocation study of 451 native oak trees and an evaluation of the vegetation and wildlife habitats throughout a 4.5-mile long, 100-foot wide impact area. DUDEK staff provided recommendations to minimize the impact of the Mojave Pipeline Corridor on the native trees and vegetation. The site consisted of streamside, riparian, savanna, and grassland habitat. Wide ranges of fauna were represented, including two endangered species. The proposed corridor would pass through four soil types, which were factors in preserving and restoring the habitat areas. Our staff also systematically catalogued, analyzed and appraised all trees and habitats in order to preserve the greatest number of plant communities. Staff also supervised construction of the pipeline corridor and was able to save over 250 of the 451 oak trees

The Nichols Institute, San Juan Capistrano, California
Nichols Institute is a large commercial facility with approximately 600-700 trees on site. The majority are natives, primarily oaks, some of which were relocated on site, others purchased from local nurseries, and the remaining were natural on the site. When the health of many of the trees' was failing, DUDEK staff provided an inspection of all trees on the site, diagnosis of problems, and written recommendations on treatment and care. Since then, DUDEK staff has supervised the implementation of these and other landscape maintenance recommendations. Landscape management services were also provided for the facility. Water conservation is a critical element at the site due to an undetermined, limited well water supply. Management of the site also includes extensive turfgrass, ground cover, irrigation, etc. A cost containment program has reduced irrigation water use by 20 percent and landscape maintenance costs by 40 percent.

James Production Auxiliary Parking Area Oak Trees & Slope Planting, Orange County, California
DUDEK staff provided care and maintenance specifications for 37 large native oak trees in a coastal sage scrub habitat that were severely impacted by construction grading. As part of this work, DUDEK staff also developed a base-line condition rating for the trees and vegetation, including photographic documentation, and a system of restoring and monitoring the revegetation program, coordinated with Orange County Environmental Management Agency (OCEMA) in preparing and inspection plan and mitigation measures and prepared specifications for re-vegetating cut slopes with a native seed mix.

Coto de Caza Native Trees, Coto de Caza, California
DUDEK staff provided a team of arborists to produce a tree inventory and hazard evaluation for approximately 1,500 native trees managed by the Coto de Caza Association. Focusing on native oak trees, the DUDEK team utilized Global Positioning System (GPS) equipment, pen-based computers, and hand mapping techniques to collect and record tree information in the field. A general ISA hazard evaluation was then conducted based on external tree appearance. In addition to photographing and tagging trees with identification numbers, DUDEK staff also coordinated meetings with landscape staff and offered additional technical support after tree inventory completion.

Ladera Oaks, San Juan Capistrano, California
DUDEK staff provided arboricultural services for eleven Coast live oak trees (*Quercus agrifolia*) in Village 1 at Ladera Ranch, a new 4,000-acre planned community in South Orange County. We developed planting specifications for three boxed oaks, as well as an immediate maintenance program for the eight planted oaks on the site. Finally, DUDEK STAFF designed an eighteen-month monitoring and reporting program, including individual tree inspections and memo reports, to ensure overall tree vitality.

The Irvine Company, BonTerra Oaks, City of Orange, California
DUDEK staff was asked to provide a detailed arborist report and assist with the preparation of a tree resource inventory plan for a planned development in a currently open area of Orange. In accordance with the conditions of the City of Orange's Tree Preservation Ordinance, the project team collected tree and attribute information using global positioning system (GPS) receivers, an electronic compass, and an electronic distance measuring (EDM) device. DUDEK staff presented a written report containing size/health/structure information for larger trees, as well as tree protection and maintenance specifications for the approximately 400 trees on site.

THOMAS A. LARSON
PRINCIPAL

EDUCATION

- California State Polytechnic University, Pomona, B.S., Agricultural Sciences

PROFESSIONAL CERTIFICATIONS

- Certified Arborist, #WC602
  International Society of Arboriculture
- Registered Consulting Arborist, #389
  American Society of Consulting Arborists

EXPERIENCE SUMMARY

Mr. Larson has over 30 years of experience in urban and community forestry with an emphasis in ecosystem management. This includes vegetation management, watershed planning, and restoration. His work experience includes urban forest assessments, community forest management plans, tree inventories, and tree protection plans. Mr. Larson served on the State of California Urban Forestry Advisory Council Executive Board, one of twelve appointed professionals who advise the State's Director of Forestry and Fire Protection on urban and community forestry matters. Mr. Larson is the Founder of the Tree Society of Orange County, past president of the Orange County Natural History Association and he presently serves as the academic advisory chairman for the Forestry and Natural Resources Department of Cal Poly San Luis Obispo.

Shady Canyon Oak and Sycamore Tree Monitoring
The Irvine Company's native landscape in the exclusive Shady Canyon development has over 600 specimen native oaks and sycamore trees. Mr. Larson is monitoring each tree for pest, disease, and water management practices. An individual tree care program has been developed to insure the appropriate care is given to these large specimen trees. Landscape maintenance training programs have been developed and presented to the landscape maintenance contractor. The purpose of these training program is to help the field maintenance staff better address the cultural needs of the tree resource.

The Irvine Company's East Orange Oak Tree Assessment
Over 40,000 native oak trees were inventoried and assessed on over 20,000 acres of wildlands. Each tree stand was surveyed and plotted for data analysis and management plan details. A GIS plan and report was produced that defined and clarified all the attribute data for each oak tree stand.

Sand Canyon Avenue Heritage Oak Tree Preservation Plan, Irvine, California
Mr. Larson coordinated support for this project from all interested parties. The Historical Society, Environmental Organizations, City Planners, and public works staff along with the general public were part of the design process. Oak tree assessments and oak tree relocation plans and budgets were prepared. Oak tree contract growing was established to ensure that quality replacement trees would be available for the landscape areas. Construction supervision and monitoring is an essential part of this contract, and is currently being performed by urban forestry staff.

Las Flores Oak Tree Preservation Plan, Orange County, California
Mr. Larson evaluated some 53 native Coast Live Oak trees located within a 5-acre canyon bowl. The perimeter of the bowl is being developed for residential use. The purpose of the project was to make recommendations on what measures need to be taken to protect and preserve the oak trees, to assess and reduce any hazards the trees might have, and to preserve the riparian oak woodland habitat. Staff also evaluated and provided recommendations on grading and drainage flow patterns, plant materials and irrigation systems to be used for the inside slopes, and soils and erosion factors.

Oak Trees in Bouquet Canyon, Los Angeles County, California
Mr. Larson evaluated all Oak trees occurring within 470 acres of hilly and rugged oak woodland and chaparral according to the Los Angeles County Oak Tree Ordinance. The team individually tagged, photographed and recorded detail information on 378 trees and prepared a comprehensive plan to protect and manage the trees during construction and maintain/preserve the trees after construction. He also provided recommendations for mitigation and replanting.

San Dimas Arroyo Oaks, Los Angeles County, California
Mr. Larson directed the staff who evaluated the health, safety and relocation feasibility of 69 trees on a site with a deep canyon and stream. The team also examined the native vegetation and habitats on site and potential impact from construction, and

recommended a revegetation plan. The canyon area was overgrown and a potential fire hazard. A vegetation management program was developed to create a safe but natural arroyo.

PA 11.4 Mitigation and Revegetation, Aliso Viejo, California
Mr. Larson led the effort which determined the health and relocation feasibility of native Oak trees in a natural canyon area. The team studied the vegetation, wildlife and habitats of the canyon, seasonal stream, and surrounding area. The team also developed a complete mitigation plan that would win the support of both the developer and County Environmental Management Agency. Staff collected and propagated 6,000 acorns from the site in order to preserve the natural gene pool, and coordinated the growing and planting of the oak seedlings at various stages using inmate and volunteer labor in the adjacent Aliso and Wood Canyons Regional Park. He is currently monitoring the seedlings' growth and progress, and performing various maintenance functions.

Limestone Canyon Reforestation, Habitat Enhancement and Stewardship Plan, Irvine, California
Mr. Larson developed a reforestation and woodland management plan for the Limestone Canyon Reserve under USDA's Stewardship Incentive Program. He analyzed all site factors including existing vegetation, soils, macro and microclimates, wildlife, and natural and archeological resources. He specified tree species and planting locations that enhance the natural vegetation and wildlife on site. He also provided detailed cost analysis and time schedules, and assisted The Nature Conservancy in collecting and propagating acorns to be used in the reforestation efforts.

Wood Canyon Visual Enhancement, Orange County, California
Mr. Larson and his staff provided mitigation, re-vegetation consulting, landscape architecture, irrigation and on-going monitoring services for the visual enhancement of a slope along the periphery of Aliso and Wood Canyon Regional Park in Orange County. The staff has coordinated with technical staff as well as the County, developer and contractor representatives to meet project design objectives, budgets and schedules and monitor success for each of the two phases. In Phase I, the team developed landscape and irrigation plans with specifications for a native plant screen to separate the Wood Canyon Trail from an adjacent housing development in progress along the western edge of the park. The area includes 3,200 linear feet of fast-growing native trees irrigated by reclaimed water with the goal to create a five-foot tall screen within three years of planting. Phase II involves planting the 14 acre graded slope that overlooks Wood Canyon. Staff also designed the site's vegetation plan to integrate native plant species with the park's environment and also meet strict fuel modification area requirements set by the Orange County Fire Authority. In conjunction with the project, the team also monitored plant establishment, growth, health and screen functions.

Black Oaks Ranch, Tehachapi, Kern County, California
This project included an impact and relocation study of 451 native oak trees and an evaluation of the vegetation and wildlife habitats throughout a 4.5-mile long, 100-foot wide impact area. Mr. Larson provided recommendations to minimize the impact of the Mojave Pipeline Corridor on the native trees and vegetation. The site consisted of streamside, riparian, savanna, and grassland habitat. Wide ranges of fauna were represented, including two endangered species. The proposed corridor would pass through four soil types, which were factors in preserving and restoring the habitat areas. He also systematically catalogued, analyzed and appraised all trees and habitats in order to preserve the greatest number of plant communities. Staff also supervised construction of the pipeline corridor and was able to save over 250 of the 451 oak trees

Coto de Caza Native Trees, Coto de Caza, California
Mr. Larson directed a team of arborists to produce a tree inventory and hazard evaluation for approximately 1,500 native trees managed by the Coto de Caza Association. Focusing on native oak trees, the team utilized Global Positioning System (GPS) equipment, pen-based computers, and hand mapping techniques to collect and record tree information in the field. A general ISA hazard evaluation was then conducted based on external tree appearance. In addition to photographing and tagging trees with identification numbers, staff also coordinated meetings with landscape staff and offered additional technical support after tree inventory completion.

ArupAcoustics

Profile

Arup Acoustics

2440 S Sepulveda Boulevard
Suite 180
Los Angeles California 90064
Tel 310 312 5040
Fax 310 312 5788

155 Avenue of the Americas
New York New York 10013
Tel 212 229 2669
Fax 212 229 1056

901 Market Street
Suite 260
San Francisco California 94103
Tel 415 957 9445
Fax 415 957 9096

USC Annenberg School of Communications

UCLA ChemBio Laboratories

The Getty Tram

Arup Acoustics is an independent consulting group that exists alongside Arup to offer acoustic consulting services. During the twenty plus years since our founding, we have built a strong network of one hundred staff worldwide, serving the globe from offices in New York, San Francisco, Los Angeles, London, Winchester U.K., Cambridge U.K., Manchester U.K.; Sydney, Melbourne, and Hong Kong.

Our strength lies in our people, many of whom are leading figures in their specialist fields. We are bonded by common goals and connected by a strong global technical infrastructure providing resources, databases and information archives. Working alongside Arup engineers, and other Arup specialist consulting practices, has resulted in our developing an integrated approach to our work and a broad understanding of the issues. We believe this is beneficial to both projects for which Arup is providing full engineering services and when we are working with other firms.

The services we provide to clients include:

Architectural Acoustics
Arup Acoustics has extensive experience in architectural acoustics for all building types, including, concert halls, film and music studios, libraries and galleries, schools and universities, airport terminals, hospitals, corporate offices, and industrial buildings. Architectural acoustics services include work during all stages of a project, from programming to construction administration. Design targets are recommended for room acoustics, sound insulation, and occupational noise control. Design concepts are suggested and proposed designs are evaluated with respect to the design targets.

Building Services Noise and Vibration Control
Arup Acoustics work in noise and vibration control includes setting target limits for noise and vibration transmission to internal areas and to the exterior, assessment of preliminary design, and recommendations as the design progresses. Advice is provided on all acoustic aspects of mechanical and electrical system design, and specialist equipment to control distribution of noise and vibration.

Design for Vibration Sensitive Buildings
Arup Acoustics assists in building design for vibration sensitive buildings such as laboratories, research buildings, and microelectronic fabrication facilities. Services include site surveys for new construction, determination of appropriate vibration limits, consultation on structural systems to meet design vibration limits, and diagnostics to determine sources of existing vibration and provide appropriate vibration isolation.

Audio Visual System Design
Arup Acoustics designs audio and video systems for a wide range of project types. Systems which we design include high quality sound reinforcement, production communications, video, and control systems for performance venues, public address systems for spaces such as hospitals and airports, media distribution systems for university and corporate campuses, presentation systems for lecture halls and multipurpose spaces, video conference and distance learning systems, large venue video displays, and active signage.

Environmental Acoustics
Arup Acoustics performs all aspects of environmental acoustics, including measurement of existing noise levels, prediction of future construction and operation noise, and assessment of noise impact on neighboring land uses. Arup Acoustics works on residential and commercial developments, transportation projects, and industrial facilities. Mitigation measures are recommended as necessary for land use zoning and intended development. Advice is given on alternative operating and construction methods. Environmental documents are prepared, as required, during and upon completion of the study.

ARUP

ArupAcoustics

Environmental Noise and Vibration Capabilities

Arup Acoustics works on all aspects of environmental acoustics, measuring, existing noise levels, predicting future noise levels, assessing impacts, and providing noise control solutions. We provide comprehensive noise and vibration measurement capabilities, extensive experience with noise modeling software, and an understanding of regulatory requirements for transportation projects, land development, industrial facilities, and construction activities.

Noise and Vibration Measurement

The measurement of environmental noise and vibration is carried out using precision instrumentation. All sound monitoring instruments used meet ANSI noise standards. In cases which require long term continuous measurement, environmental noise monitoring equipment is used. These measurement systems can be set to provide a variety of noise descriptor information, including the day-night level (L_{dn}), statistical noise levels (L_{50}, L_{90}, etc.), and community noise equivalent level (CNEL).

For cases where frequency content is important, the equipment can measure noise levels in octave, 1/3 octave, and narrower frequency bands.

Computer Modeling

Arup Acoustics has a full range of computer modeling software designed to analyze and illustrate the propagation of noise and vibration from various noise sources. Arup Acoustics uses proprietary noise modeling programs and the following:

- Integrated Noise Model (INM), NOISEMAP, and HNM aircraft noise prediction models.
- Stamina and SOUND32 highway traffic noise prediction models.

Transportation

Arup Acoustics has a thorough understanding of federal and state transportation noise regulations and guidelines. The experience of Arup Acoustics noise control engineering staff in railway, roadway, and air transport noise is extensive and includes projects involving:

- Prediction and evaluation of the effects of rapid transit, highway, and railway transportation noise and vibration on commercial buildings, residences, and passengers;
- Monitoring of aircraft, train, and automobile noise;
- Design and recommendation of measures to reduce transportation noise and vibration, including the specification and design of noise barriers and the design of building envelopes.

Residential & Commercial Development

Arup Acoustics has extensive experience preparing noise studies according to CEQA and NEPA requirements. During the project planning stage, city and state noise standards are reviewed, the characteristics of the surrounding community are evaluated, and noise sources affecting the outdoor environment are investigated and analyzed. Existing noise sources such as aircraft flyover, roadway traffic, railroad, and stationary sources are measured and analyzed to establish baseline conditions.

Computer noise models are calibrated with measurements of existing noise at the proposed project site, and used to predict future impacts. Potential noise problems associated with the project are identified and evaluated to satisfy permitting requirements. Noise control design measures can be developed to comply with noise criteria and design goals.

Industrial & Power Generation Facilities

Arup Acoustics staff is experienced in the measurement and evaluation of industrial noise sources. During the planning and design of new facilities, noise modeling software is used to rank equipment in terms of potential noise impact. Guidance is given on selection of alternate equipment and noise control devices. For operating facilities, Arup Acoustics investigates community noise complaints and uses noise measurement equipment and computer software to determine offending noise sources. Practical noise mitigation devices, enclosures, and barriers are recommended which will have the least impact on the facilities operations. In addition, Arup Acoustics can evaluate workplace noise to check for compliance with OSHA requirements, and provide equipment noise control recommendations and establish hearing conservation programs.

Construction

Construction noise and vibration can be predicted and its impact on nearby landuses evaluated. Arup Acoustics staff is experienced in producing construction noise monitoring and abatement plans, involving construction machinery selection, noise barrier designs, and staging of construction activities. During construction, Arup Acoustics monitors noise and vibration levels, and works with construction contractors to investigate community complaints and determine additional mitigation measures.





ARUP

Amir M Yazdanniyaz PE

Acoustic Discipline Leader

Profession
Acoustics Consultant

Current Position
Principal Consultant
Associate Principal

Joined Arup 1992

Professional History
Bolt Beranek and Newman Acentech Inc 1986 - 1992
Coffeen Anderson Fricke and Associates 1984 - 1986

Professional Qualifications
BS Mechanical Engineering, Kansas State University
BS Civil Engineering, Kansas State University
PE, California
Certified Acoustical Consultant, County of Orange

Professional Associations
Member, Institute of Noise Control Engineering
Member, ASHRAE

Publications
"Noise Control in Research Laboratories", Noise-Con 1994
"Railroad Track Noise and Vibration Impact Study and Soundwall Design", Transportation Research Board, 1993.
"Aircraft Sound Insulation Study for a School Building", article in Sound and Vibration, October 1993.
"A Review of Noise Issues in Semiconductor Clean Rooms", Noise-Con 1990
"Noise Prediction and Control in Microelectronics Clean Rooms", Inter-Noise 1989

Key Data
Mr. Yazdanniyaz is a Principal Acoustic Consultant and Associate Principal of Ove Arup & Partners. He has 18 years experience consulting in California, and throughout the US. He has experience in all aspects of building acoustics, noise control, environmental noise assessment, and transportation noise analysis.

With respect to environmental noise studies and transportation noise, Mr. Yazdanniyaz has carried out Freeway Sound Wall Studies for CalTrans District 7. He has used FHWA's *STAMINA* and CalTrans' *Sound32* computer prediction software on many projects. He has participated in public presentations of noise assessment documents on behalf of community groups, facility owners and environmental consultants.

He has managed and conducted numerous projects involving aircraft sound insulation, including three schools near the Burbank-Glendale-Pasadena airport as part of the Federal Aviation Administration's FAR Part 150 noise mitigation program.

Relevant Projects
The J Paul Getty Villa Master Plan
Malibu California
Conducted an environmental noise impact study which addressed the following noise sources: Construction activities, outdoor mechanical (central plant), outdoor classical theater, auto traffic, and visitor-related noise. Managed the overall acoustics works including: field measurements of existing noise environment, measurement of artificial sound source propagation from various locations on-site to off-site residences, calculation of future noise levels.

Universal Studios
Universal City, California
Peer Review of proposed Master Plan Environmental Noise Impact Report and Noise Mitigation Measures for Theme Park and Studios. Responsibilities included organizing and leading surveys of existing noise environment, analysis of noise produced by stunt show in held in outdoor theater, review of work performed by lead acoustic consulting firm, and production of noise contours establishing varying noise limits depending on location on the site.

Greek Theater
Los Angeles, California
Peer review of proposed community noise impact mitigation for the Mitigated Negative Declaration Report prepared for the City of Los Angeles for large outdoor amphitheater near residential community. Responsibilities included measurement of noise produced by the existing amphitheater and review of Mitigated Negative Declaration Report.

Mingay Adult School
Sound Insulation Program
Burbank California
Insulating existing wood and stucco school buildings against aircraft noise to meet Federal Aviation Administration Requirements. Managed the acoustics works including the field noise testing of the existing building shell, evaluation of noise mitigation measures, and construction administration.

St Patrick Elementary School
Sound Insulation Program
Burbank, California
Insulation existing school buildings against aircraft noise to meet Federal Aviation Administration Requirements. Managed the acoustics works.

Aimee L Lalime

Acoustics Consultant

Profession
Acoustics Consulting

Current Position
Consultant

Joined Arup 2002

Professional Qualifications
MS (honors) Mechanical Engineering
Virginia Polytechnic Institute and State University
BS (honors) Mechanical Engineering
Virginia Polytechnic Institute and State University

Professional Associations
Member, Acoustical Society of America

Publications
A Yazdanniyaz, A Carlson, S Bui, C Wenger, A Lalime; Design Of Vibration-Sensitive Laboratory Floors: Vibration Criteria and Prediction Methods Compared With Measured Vibrations; AEI, 2003

A Lalime; Development of an Efficient Binaural Simulation for the Analysis of Structural Acoustic Data; VT MS Thesis, 2002

A Lalime, M Johnson; Development of an Efficient Binaural Simulation for the Analysis of Structural Acoustics Data," NASA [CR-2002-211753], 2002

Key Data
Aimee Lalime joined Arup Acoustics after graduating from Virginia Tech with degrees in Mechanical Engineering and a concentration in Acoustics. Her thesis work involved the development of computationally efficient methods of three-dimensional acoustic simulation of distributed sources.

She has worked on projects that include prediction and control of mechanical noise, prediction and control of environmental noise, design for sound insulation, and assessment of building vibration. Her areas of particular technical interest are three-dimensional acoustic simulation and vibro-acoustics.

Relevant Projects

Canyon Hills
Los Angeles, California
Prepared the noise portion of the environmental impact report for the proposed housing development, with respect to construction, mechanical, and traffic noise.

California Institute of Technology
Broad Arts Center
Los Angeles, California
Assisted in performing the site vibration study to allow sensitive equipment to be used in a new biology laboratory.

California Water Services Company
Fremont, California
Performed site noise measurements and analysis and prepared the noise impact study for the future corporation yard.

Donahue Publishing Company
Los Angeles, California
Operated as the vibration consultant in the site vibration study, data analysis, and preparation of the vibration impact report.

Exposition Park Intergenerational Community Center (EPICC)
Los Angeles, California
Assisted in analyzing measurement data and determining the vibro-acoustic performance of the floating floor assembly.

Kaiser Permanente Hospital
Santa Clara, California
Assisted in vibration analysis to allow use of sensitive surgical equipment.

Tempe Visual and Performing Arts Center
Tempe, Arizona
Assisted in the noise analysis of building mechanical services.

University of California, Davis
Medical Center
Davis, California
Aided in analyzing the acoustic impact due to air-conditioning noise and proposing drawing modifications to mitigate this impact.

ARUP

FIRM PROFILE

Patrick B. Quigley & Associates, Inc. (PBQA) was formed in 1985. Designers come from various disciplines including architecture, engineering, landscape architecture, interior design, and theatrical lighting. Services include full architectural lighting design as well as daylighting consultation, custom fixture design, and historic restoration. A special emphasis of the firm is the development of environmentally friendly lighting strategies using the latest energy conservation and management technologies, specification of the most ecologically responsible lamps and fixtures, and designing with sensitivity to light trespass, “dark sky” considerations and other light pollution issues that are of particular importance. PBQA services both a national and international clientele from its offices in Southern California.

PBQA connects the designer, electrical engineer, and owner, attending to the concerns of each in the development of lighting solutions. Good illumination creates mood, reveals form and structure, choreographs the users visual experience, enhances performance of tasks, and makes people feel safe. All of these objectives must be met by lighting systems that are also empathetic to architectural style, cost effective and require a minimum of maintenance. Our work strives to balance the quantitative and the aesthetic in bringing the power of light to the art of design.

Approximately 40% of PBQA’s projects are landscape lighting assignments. These have included “jewels” such as the Getty Center’s Central Garden in Los Angeles and Aspen Colorado’s Pedestrian Malls, as well as much larger expanses such as: the Old Pasadena District Master Plan, and the 2002 Winter Olympics Athletes Village. It is on the strength of its landscape lighting portfolio that the firm was selected to design the recently opened Franklin Delano Roosevelt Memorial on the Capitol Mall in Washington, D.C.

The cross pollination of ideas and solutions borne of our diverse personnel and wide-ranging project experience has contributed exceptional lit environments to our clients' projects. The approach and talent of PBQA has been validated by a long list of repeat clients and over fifty major design awards.

ERIN ERDMAN *– Principal*
(no longer with firm)

Erin Erdman has been an integral part of Patrick B. Quigley & Associates, Inc. (PBQA) for the past eight years and was named an Associate in 1997 and a Principal in 2001. Erin received a Bachelor's degree in Architectural Engineering from the University of Colorado, Boulder. Her specialization in Illumination engineering under the influential lighting educator, David DiLaura, helped her secure her first lighting position at Schiller Associates, an Energy Consulting and Project Management firm in Boulder.

As a designer and project manager for Patrick B. Quigley & Associates, Inc. Ms. Erdman has gained experience in a wide assortment of architectural lighting project types. Perhaps her most notable accomplishment at PBQA is the successful management for PBQA of the construction phase of the Franklin D. Roosevelt Memorial in Washington DC. Erin's broad range of talents have been put to the test in projects such as the interactive "World of Coca Cola" museum in Las Vegas, where she overcame a fast track schedule, uncommon budget restrictions and difficult equipment supply issues to deliver a dramatic, functional illuminated environment. A recently completed 52 acre palace façade and landscape project in Saudi Arabia continues her reputation for delivering excellent design along with efficient project management.

Her other commercial project experience includes the SuperMall at Lippo Village in Jakarta, Indonesia, the Packard's West Rug Store in Santa Fe, and Rusnak Jaguar's Showroom Renovation in Pasadena, among others. A sampling of her other projects: E! Networks Corporate Headquarters in Los Angeles, the IBM e-Business offices in Santa Monica which received the Neocon 2000 award - "Best of Competion", the Boeing Visitors Center in Long Beach, the St. Louis Ritz Carlton's Wine Cellar, and the "Oak Room" Fine Dining Experience at the Kansas City Fairmont Hotel.

In addition to an accomplished commercial design portfolio, she has developed numerous residential projects treating the owner-clients to her comforting and efficient management style. Her residential design work ranges from ultra-modern to mountain lodge vernacular and are located throughout the west, including Los Angeles, Vail, Aspen, Telluride, and Steamboat Springs, Colorado.

LINSCOTT
LAW &
GREENSPAN
ENGINEERS

Linscott, Law & Greenspan, Engineers, (LLG) provides transportation planning, traffic engineering and parking consulting services. Since our founding in 1966, over 6,000 engagements have been completed involving a wide variety of projects throughout the United States and Overseas, with the core of our practice in Southern California and Nevada. LLG's specialties include:

- Traffic Planning and Operations Studies
- Traffic Impact Studies
- General Plan Circulation
- Traffic Signal Design
- Traffic Signing and Striping Design
- Construction Zone Traffic Control Plans
- Preliminary/Conceptual Engineering
- Site Access and Circulation
- Shared Parking Demand Forecasting
- Parking Design and Planning

LLG is a well-respected firm of medium size, comprised of dedicated professionals who serve our clients on a wide variety of traffic and transportation issues. LLG Principals and Senior Staff are recognized experts in these practice areas and possess professional registration in Traffic Engineering, Civil Engineering, or both. Our diverse experience and expertise enable us to provide services to both public agencies and the private sector. Project organization is structured so that Principals and Senior Staff maintain direct involvement from project initiation to completion. A quality and successful outcome is LLG's primary objective.

LLG maintains fully staffed offices as follows:

234 East Colorado Boulevard, Suite 400, Pasadena, CA 91101
Telephone No. (626) 796-2322 Fax No. (626) 792-0941
Jack M. Greenspan, P.E., Principal
David S. Shender, P.E., Principal
Clare M. Look-Jaeger, P.E., Principal

1580 Corporate Drive, Suite 122, Costa Mesa, CA 92626
Telephone No. (714) 641-1587 Fax No. (714) 641-0139
Paul W. Wilkinson, P.E., Principal

1565 Hotel Circle South, Suite 310, San Diego, CA 92108
Telephone No. (619) 299-3090 Fax No. (619) 299-7041
John P. Keating, P.E., Principal
John A. Boarman, P.E., Principal

LINSCOTT LAW & GREENSPAN
ENGINEERS

DAVID S. SHENDER, P.E.
Principal

Professional Registration

Civil Engineer, State of California (#C45324)
Civil Engineer, State of Nevada (#10220)
Professional Engineer, Commonwealth of Pennsylvania (PE-042115-R)

Professional Experience

Transportation Engineer: Linscott Law & Greenspan, Engineers

Areas of Professional Expertise

Site Access, Internal Circulation and Parking Master Planning
Traffic Impact Studies for Environmental Review Documentation
Corridor/Freeway Interchange Conceptual Design and Analysis
Conceptual Geometric Design
Expert Witness/Litigation Support
Traffic Signal Design

REPRESENTATIVE EXPERIENCE

Site Access, Internal Circulation and Parking Master Planning

Mr. Shender has provided traffic-related Master Plan consultation for a number of large private and public development proposals. Working within a team of architects and land planners, Mr. Shender has offered suggestions for innovative approaches to internal circulation, site access and parking to not only ensure project success at build-out, but also to provide maximum flexibility in phasing. Representative Projects include: Cedars-Sinai Medical Center Master Plan development with a 700,000 SF addition to existing 1.57 million SF Medical Center; MGM Grand temporary and permanent casino facilities in the CBD of Detroit, Michigan; and AMC Theaters/Promenade Mall in Warner Center. Consultation provided to the University of Southern California (University Park and Health Sciences campuses); J. Paul Getty Trust (The Getty Center), and Fairplex (Los Angeles County Fairgrounds).

Traffic Impact Studies for Environmental Documentation

Mr. Shender has directed the preparation of numerous traffic impact studies for a variety of residential, office, retail, hospital and other types of uses. A significant number of these studies have been incorporated into official Environmental Review documentation. Mr. Shender has appeared before City Councils, Planning Commissions, and other similar bodies to represent the work produced by the firm.

Representative Projects include: Getty Villa Master Plan; the renovation and expansion of the Getty Museum in Malibu; a 70,000 seat football stadium at Hollywood Park; Academy Park, a 700,000 SF commercial project in Thousand Oaks; a 500,000 SF entertainment complex in Westwood Village adjacent to the University of California at Los Angeles Campus; East Pasadena Specific Plan, 2 million SF of additional commercial space for the City of Pasadena; and Soka University of America, a 650 student campus in the Santa Monica Mountains.

Corridor/Freeway Interchange Conceptual Design and Analysis

Working for both public and private agencies, Mr. Shender has provided traffic demand forecasts and projected capacity deficiencies at a number of key freeway interchanges and arterial corridors. Based on expected growth patterns, both near-term and long-term solutions have been offered based on capacity improvements, feasibility and costs. Representative Projects include: Wendy Drive at U.S. 101 Interchange, Thousand Oaks; Hampshire Road at U.S. 101 Interchange, Thousand Oaks; Cahuenga Pass Corridor, Los Angeles; San Vicente Boulevard, Los Angeles;

Conceptual Geometric Design

Mr. Shender has provided conceptual geometric designs for capacity enhancements at numerous intersections and street segments. The scope of the recommendations included roadway striping, signing, traffic signal modifications, utility relocations, sight distance considerations, and parking control. Representative Projects include: Wilshire Boulevard, Los Angeles; Ventura Boulevard, San Fernando Valley; Las Virgenes Road, Calabasas; Lake Avenue, Pasadena;

Expert Witness/ Litigation Support

Mr. Shender has been retained to provide input regarding disputes over land use and transportation issues. Generally working for legal counsel, Mr. Shender has provided expert review of relevant documents and submitted supporting evidence and testimony as required.

Education

Drexel University, Philadelphia, Pennsylvania
Bachelor of Science in Civil Engineering
Master of Science in Civil Engineering

Professional Membership

Institute of Transportation Engineers - Associate Member
American Planning Association - Member

LINSCOTT LAW & GREENSPAN
ENGINEERS

SARAH M. DROBIS, P.E.
Transportation Engineer II

Professional Registration

Civil Engineer, State of California (C65604***)***

Professional Experience

Transportation Engineer: Linscott, Law & Greenspan, Engineers
Transportation Engineer: Post, Buckley, Schuh, & Jernigan, Inc. (PBS&J)

Areas of Professional Competence

Traffic Impact Studies for Environmental Review Documentation
Site Access, Internal Circulation and Parking Master Planning
Parking Demand and Utilization Studies
Shared Parking Analysis
Traffic Simulation Modeling
Transportation Master Planning and Design
Regional Transportation Facility Operational Analysis

REPRESENTATIVE EXPERIENCE

Traffic Impact Studies for Environmental Review Documentation

Ms. Drobis has prepared or participated in the preparation of numerous traffic impact studies for a variety of residential, office, retail and other types of commercial land uses. A significant number of these studies have been incorporated into official Environmental Review documentation.

Representative Projects include:

Oakmont View V Residential project included a comprehensive traffic analysis of a development plan comprising residential dwelling units and seven additional alternative developments, to be located in the City of Glendale, California;

Avalon Bay Communities project involved which the development of a 143 dwelling unit apartment complex in the City of Glendale, California;

Parklane Senior Apartments project consisted of the development of senior housing in the City of Moorpark, California;

Canyon Hills Residential project of approximately 280 single family homes in the Tujunga area of the City of Los Angeles;

Stephen S. Wise Temple Improvement project which involved the relocation of an existing off-site nursery school to the main Stephen S. Wise Temple campus, as well as development of an elementary school and additional parking facilities on the main campus in Los Angeles, California; USC Neurogenetic Research Center project which consisted of the development of a 125,000 square foot building on the USC Medical campus in Los Angeles, California; Hollywood/Orange Building project which consisted of the development of approximately

37,000 square feet of retail, restaurant, and entertainment uses in Hollywood, California; Carnation Site Re-Development project of approximately 270,000 square feet of light industrial and warehouse space in Los Angeles, California;

Site Access, Internal Circulation and Parking Master Planning

Ms. Drobis has participated in the research and resolution of problems related to site access, internal circulation and parking for a variety of public and private development proposals.

Representative Projects include:

Cedars-Sinai Medical Center Master Plan was prepared to meet specific future access, circulation and parking needs based on projected hospital activity levels and development;

Getty Center South Gate Utilization Study which included a traffic assessment of the potential utilization of the Getty Center South Gate as an additional access point to and from the Getty Center.

Getty Villa Project Engineering Evaluation Report (PEER) was prepared and submitted to Caltrans for the proposed Sunset Boulevard and Pacific Coast Highway intersection improvements.

Fry=s Development PEER was prepared and submitted to Caltrans for the proposed signal installation near SR 60 ramps in the City of Industry.

Shared Parking Analysis and Parking Feasibility Studies

Ms. Drobis has prepared several shared parking analyses and parking demand and utilization studies for a wide range of development projects.

Representative Projects include:

Westlake Corporate Center Parking Demand Analysis involved the evaluation of the parking demand generated by an additional office building to the existing office complex.

Computer Skills

TRANPLAN, VIPER, TP PLUS, CORSIM/NETSIM, HCS, Word, Excel, Lotus 1-2-3, WordPerfect, Powerpoint, Access, MSDOS, TRANSCAD, and basic knowledge of GIS software packages.

Education

Vanderbilt University, Bachelor of Engineering
Majors in Civil Engineering and Mathematics

Professional Memberships

Institute of Transportation Engineers

Firm Introduction

Leighton Consulting, Inc. (Leighton) is a multi-disciplined engineering firm, providing environmental and geotechnical services. We provide a professional staff of Registered Geologists, Registered Civil, Geotechnical, Chemical, and Quality Engineers, Registered Hydrogeologists, and Registered Environmental Assessors. From the early planning stage through site development, Leighton has experience to help your project.

Until June 2003, the environmental services were offered under Gradient Engineers, Inc. which has since merged with Leighton Consulting.

We approach each project as a team, structured to provide the correct mix of engineers, scientists, technicians, and specialists to fit the project's size and complexity. Field and analysis work is performed by professionals based in a local office. However, when you have special geotechnical or environmental site conditions, we assign the best experts from any of our offices to address your specific issue.

With 42 years of local experience, we've either worked on your site or very near it, giving us an incomparable history and basis for understanding your site's issues and constraints.

Environmental Engineering and Remediation

Leighton's environmental services begin in the early phase of the real estate transaction, often during due diligence. Through the regulatory process and site remediation, our environmental specialists are here to help your project from the ground down. Experienced managers using state-of-the-art resources and tools support the group. Additional staff includes experts in geology, environmental engineering, occupational health & safety, regulatory compliance and permitting, and litigation support.

Phase I Environmental Site Assessments

Phase I Environmental Site Assessments are performed to identify potential environmental issues. We have assessed more than 4,000 sites for industrial, commercial, agricultural, undeveloped and redeveloped (brownfields) properties ranging from small lots to parcels containing several thousands of acres. We do all of our work in compliance with applicable standards, as described below:

- Phase I Site Assessments for commercial properties (ASTM E1527)
- Transaction Screening Assessments (ASTM E1528)
- Asbestos-Containing Construction Materials (ACCM) Surveys (EPA, AHERA)
- Lead-Based Paint Surveys (EPA and HUD residential LBP guidelines)

Phase II Environmental Site Assessments

We provide comprehensive Phase II Environmental Assessments and remedial investigations, evaluating sites for the possible presence of contamination, and using a variety of field and sampling techniques and equipment. Cost-effective screening techniques allow us to evaluate and adjust the level of testing and work needed for the assessments as they progress.

Our environmental technicians have extensive experience with various drill rigs, hydraulic push sampling equipment, soil gas probes for the collection of air, soil, soil vapor, groundwater, and surface water samples to support the following types of studies and investigations:

- Soil and groundwater investigations
- Soil gas surveys

- Remedial Investigations/Feasibility Studies
- Methane gas monitoring and mitigation
- Vadose zone modeling
- Groundwater and contaminant transport modeling
- Human health and environmental risk assessment

Regulatory Compliance Services

We assist clients in developing strategies for responding to and complying with regulatory agency directives including dealing with critical issues such as Notification of Potentially Responsible Parties, Remedial Investigation/Feasibility Study (RI/FS), and Clean-Up and Abatement Orders. Our personnel work with numerous regulatory agencies, at all levels of government, regarding major environmental compliance issues such as:

- Acquisition of permits
- Environmental compliance auditing
- Environmental permitting
- Hazardous materials inventory
- Stormwater Pollution Prevention Plans
- Stormwater monitoring

Environmental Construction and Remediation

Leighton provides comprehensive environmental construction and remediation services. We bring all of our experience in civil and environmental engineering, geology, hydrogeology, field sampling, and construction to support clients in the following areas:

- Risk-Based Corrective Actions (RBCA)
- Pilot testing for remedial treatment systems
- Corrective Action Plans/Remedial Action Plans
- Remedial system design, construction, operation and maintenance
- UST removal/replacement (Class A/Hazardous Contractors License #734297)

Expert Witness Testimony

We provide comprehensive expert witness testimony for litigation support.

KRISTIN STOUT, REA I

Project Manager

EDUCATION

- B.A., Liberal Arts (emphasis in Environmental Studies), California Lutheran University, Thousand Oaks, 1995

PROFESSIONAL REGISTRATIONS

- 2001 / Registered Environmental Assessor I / California / 07604

PROFESSIONAL SUMMARY

Ms. Stout has seven years of experience in environmental consulting. Ms. Stout currently serves as a Project Manager, responsible for the execution of Preliminary Site Assessments, Remedial Investigations/Site Characterizations, Site Closures, regulatory agency coordination, and the review of environmental documents. Ms. Stout is the primary coordinator of all aspects of Phase I Environmental Site Assessments (ESAs) including site inspections, photographic documentation, background and historical research to determine the potential for impact from hazardous materials on soil and groundwater at the property sites. In addition, Ms. Stout acts as liaison and environmental coordinator for Unocal Corporation, numerous school districts and other public agencies, as well as interfacing with the regulatory agencies involved in the projects. Ms. Stout is also very experienced in Phase II ESAs, groundwater monitoring reports, and underground storage tank (UST) removals and closures. Ms. Stout is also a licensed Asbestos Hazard Emergency Response Act (AHERA) Building Inspector.

Ms. Stout has performed sampling for asbestos, radon, lead paint, and lead-containing water. She is also experienced in inspecting, writing and preparing Structural Architectural and Mechanical Property Condition Reports.

CERTIFICATIONS

- CFR 1910.120 OSHA 40-Hour Training
- CFR 1910.120 OSHA 8-Hour Supervisors' Training
- AHERA Certified Building Inspector
- Alameda Corridor-East Construction Authority Roadway Worker

KRIS LUTTON, RG, REA II

Senior Vice President

EDUCATION

- B.S., Geology, San Diego State University, San Diego, California, 1988

PROFESSIONAL REGISTRATIONS

- 2003 / Registered Environmental Assessor II / California / REA II 20227
- 1996 / Registered Geologist / California / RG 6622

PROFESSIONAL SUMMARY

Mr. Lutton has 14 years of experience in conducting hydrogeologic, geologic, geochemical and hazardous waste investigations. Mr. Lutton has supervised all aspects of soil and groundwater assessment investigations including drilling soil borings, installing groundwater monitoring wells, oversight of Underground Storage Tank (UST) removals/installations and associated remedial excavations. He has managed hundreds of Phase I and Phase II site assessments, as well as the design, installation, operation and maintenance of various soil/groundwater remediation systems utilizing vapor extraction, multiple phase extraction, in-situ bioremediation and soil fixation. Mr. Lutton has utilized Risk Based Corrective Action to achieve regulatory closure with in-place soil and groundwater contamination. He has served as a member of both the Soil Sampling and Natural Attenuation of Petroleum Hydrocarbons technical work groups for the County of San Diego, Department of Environmental Health, Site Assessment and Mitigation Division (SD-DEH). These work groups established standards for environmental investigations and remediation in San Diego County.

Mr. Lutton is laboratory-trained in gas chromatography and infrared organic analysis and provides in-house expertise in the interpretation of laboratory data. Mr. Lutton provides training to staff personnel on investigative techniques, field sampling procedures, data interpretation, report preparation and proper safety procedures. In addition, he has completed graduate level coursework in Contaminant Fate and Transport and Risk Assessment.

CERTIFICATIONS

- CFR 1910.120 OSHA 40-Hour Training
- CFR 1910.120 OSAH 8-Hour Refresher Training
- CFR 1910.120 OSHA 8-Hour Supervisor Training

QUALIFICATIONS STATEMENT OF PALEO ENVIRONMENTAL ASSOCIATES, INC., IN PALEONTOLOGIC RESOURCE MANAGEMENT

Submitted by:

E. Bruce Lander, Ph.D.
Paleo Environmental Associates, Inc.
2248 Winrock Avenue
Altadena, California 91001
626/797-9895
paleo@earthlink.net

SECTION 1

PALEONTOLOGIC RESOURCE MANAGEMENT CONSULTING EXPERIENCE OF PEAI

Paleo Environmental Associates, Inc. (PEAI), is an environmental consulting firm providing specialized support services in paleontologic resource management to private industry, public utilities, and government agencies requiring assistance with NEPA/CEQA compliance. PEAI expertise includes the preparation of paleontologic resource/impact assessment technical reports in support of environmental impact review documents, and conducting impact mitigation programs in support of major construction projects in the western United States. These tasks were completed to ensure project compliance with appropriate environmental statutes, regulations, and guidelines, permit requirements, impact mitigation measures presented in supporting environmental impact review documents, and recently issued Society of Vertebrate Paleontology standard paleontologic resource impact assessment and impact mitigation measures. PEAI personnel have many years of paleontologic resource management experience throughout the western United States.

PEAI, a small business enterprise under Small Business Administration guidelines, is a California-based corporation established in 1988. The company maintains southern California offices in the Los Angeles and Orange County areas. PEAI staffing, facilities, and financial resources are sufficient to provide PEAI with the ability to conduct more than one large project concurrently while still maintaining the level of effort required for timely completion of all tasks.

Although PEAI is a comparatively new company, PEAI personnel have a depth of professional paleontologic resource management experience beginning in the 1970s, and provide PEAI with the ability to perform all of the specialized tasks necessary for preparing the resource/impact assessment technical reports and conducting the impact mitigation programs required in paleontologic resource management. These abilities have helped PEAI develop a solid reputation for completing all aspects of resource management in a professional, coordinated, time-efficient, and cost-effective manner by meeting or exceeding performance requirements and delivery schedules, completing projects at or under budget by employing stringent effective cost control procedures, and for conducting resource/impact assessments and impact mitigation programs in full compliance with environmental guidelines while still being fully responsive to client cost and scheduling requirements. For most of the over 100 assessments and mitigation programs conducted in the past 7 years, PEAI served as prime contractor.

PEAI and PEAI personnel have extensive experience completing paleontologic resource inventories and resource/impact assessments, developing impact mitigation programs, and preparing the technical appendices and corresponding sections of numerous environmental impact review documents, including environmental assessments and reports, environmental impact statements and reports, negative declarations, initial studies, notices of intent, and applications for certification. Preparation of the technical appendices entailed conducting data searches (field surveys, archival searches, literature reviews, consultation with other paleontologists) to develop baseline inventories of the paleontologic resources (including fossiliferous rock units, recorded fossil sites, fossil specimens) in the areas of potential environmental effect; describing the paleontologic environmental settings of these areas and assessing the scientific importance of their paleontologic resources by rock unit; assessing the significance of potential project-related adverse environmental impacts on these resources; formulating mitigation measures to reduce these impacts to an insignificant level; coordinating with clients and lead/permitting agency personnel; and assisting in preparation of direct testimony for presentation before government agencies. When appropriate, these assessments have been in compliance with recently issued Society of Vertebrate Paleontology standard paleontologic resource assessment measures.

PEAI and PEAI personnel also have considerable experience conducting paleontologic resource impact mitigation programs. These programs have entailed preconstruction field surveys to locate unrecorded fossil sites, supervising field personnel, monitoring earth-moving activities and inspecting excavations and spoils piles, developing and implementing resource treatment plans, recovery of larger fossil remains, collecting and processing rock samples for smaller fossil remains, recovering associated geologic and geographic site data, developing storage agreements with designated museum repositories, preparing and identifying recovered remains, and depositing them in a museum, where they will be available for future study by qualified investigators, and preparing progress and summary reports to ensure project compliance with permitting agency requirements and impact mitigation measures developed during the environmental impact review process. The programs have been in full compliance with federal, state, regional, county, and city environmental statutes, regulations, and guidelines, authorizing agency permit requirements, impact mitigation measures presented in supporting environmental impact review documents, and, when appropriate, with recently issued Society of Vertebrate Paleontology standard paleontologic resource impact mitigation measures. Excavation and removal of fossil remains as part of these mitigation programs were allowed under CEQA Appendix G (j). Reporting the results of a mitigation program in progress and final reports prepared by PEAI and submitted to the appropriate California permitting agency by the project proponent has ensured compliance by the proponent with California Public Resources Code Section 21081.6, which requires an

authorizing agency demonstrate project compliance with mitigation measures developed during the environmental review process.

These paleontologic resource management consulting services were provided in support of a multitude of construction projects in California, Oregon, Washington, Idaho, Nevada, Utah, Wyoming, Arizona, New Mexico, Texas, and Maryland. Projects include municipal solid waste and toxic waste landfills; aggregate quarries; dams and reservoirs; aqueducts; flood control and groundwater recharge facilities; irrigation systems; cogeneration plants; solar energy and electrical generating plants; oil refineries; water pipelines/tunnels; steam pipelines; oil and natural gas pipelines; electrical transmission lines; freeways, tunnels, and other roadways; subways; airports; tramways; fiber optic cables; waste water treatment facilities; housing developments; planned communities; hotels; office buildings/complexes; business and industrial parks; shopping centers; hospitals and medical centers; convention centers; movie studios; industrial complexes; parking lots/structures; marinas and marine supply facilities; space vehicle launch facilities; landslide stabilization and lagoon enhancement projects; geotechnical drilling programs; land exchanges; regional overviews; and conditional use permit, specific plan, and general plan revisions.

Clients include private industry, public utilities, conservancies, and federal, state, county, city, and regional governmental agencies requiring assistance complying with NEPA, CEQA, other environmental statutes, regulations, and guidelines, and authorizing agency permit requirements regarding the identification, assessment, and mitigation of project-related adverse environmental impacts on paleontologic resources.

A. Inland Feeder (Metropolitan Water District of Southern California)

Under a subcontract with P&D Technologies and Greenwood and Associates, PEAI conducted a paleontologic resource/impact assessment of approximately 175 miles of corridor comprising the five alternative pipeline alignments being considered for the Inland Feeder in San Bernardino and Riverside Counties, California. Two of the alignments pass through the continental Mount Eden and San Timoteo Formations, which have yielded abundant remains representing a diversity of upper Miocene to lower Pleistocene land mammals. Mitigation measures were formulated to reduce the potential adverse effects of trenching for pipelines. PEAI prepared the paleontologic resource assessment technical report in support of the EIR. PEAI has been selected to conduct the 4-year paleontologic resource impact mitigation program.

B. Midway/Mojave Gas Pipeline (Midway Sunset Cogeneration Company)

PEAI conducted a paleontologic resource assessment to ensure project compliance with CEC CEQA guidelines and permit requirements for a 4-mile-long natural gas pipeline in the San Joaquin Valley, Kern County, California. PEAI conducted the literature review, archival search, and field survey and prepared the technical report (including mitigation measures) for the assessment. PEAI also conducted the paleontologic resource impact mitigation program during construction. PEAI monitored trenching for the pipeline and test screened sediment samples from the debris piles for smaller fossil remains to ensure project compliance. A number of fossil sites yielding the remains of small land mammals were identified as the result of test screening. However, after evaluating the spoils at each fossil site, it was concluded the sites were too unproductive and the fossil remains insufficiently diagnostic or too poorly preserved to warrant processing of a larger sample (up to 2 cubic yards or 3 tons) of fossiliferous rock from any site. This determination resulted in a large though unanticipated cost savings. The results of the mitigation program were summarized in a final report of findings.

C. Sycamore-Dexzel Pipeline (Sycamore Cogeneration Company)

Under a subcontract with BioSystems, Inc., PEAI conducted a paleontologic resource assessment to ensure project compliance with CEC CEQA guidelines and permit requirements for a 1.5-mile-long natural gas pipeline in the San Joaquin Valley, Kern County, California. PEAI conducted the literature review, archival search, and field survey and prepared the technical report (including mitigation measures) for the assessment. PEAI also conducted the paleontologic resource impact mitigation program during construction. PEAI monitored trenching for the pipeline and test screened sediment samples from the debris piles for smaller fossil remains to ensure project compliance. Four fossil sites yielding the remains of small land mammals were identified as the result of test screening. However, after evaluating the spoils at each fossil site, it was concluded three sites were too unproductive and the fossil remains insufficiently diagnostic or too poorly preserved to warrant processing of a larger sample (up to 2 cubic yards or 3 tons) of fossiliferous rock from any site. This determination resulted in a large though unanticipated cost savings. A smaller-than-standard (1-ton rather than 3-ton) fossiliferous rock sample was processed from the fourth site, the smaller sample size resulting in additional cost savings. The results of the mitigation program were summarized in a final report of findings.

D. PGT-PG&E Pipeline Expansion (Pacific Gas Transmission Company and Pacific Gas and Electric Company)

PEAI conducted a paleontologic resource assessment to ensure project compliance with FERC and PUC NEPA/CEQA guidelines and permit requirements for 845 miles of a 1,040-mile-long interstate natural gas pipeline extending from the San Joaquin Valley, California, through Oregon, Washington, and Idaho to the Canadian border. PEAI conducted the literature review, archival search, and field survey and prepared the technical reports (including mitigation measures) for the assessment. Under a subcontract with Bechtel Corporation, PEAI also conducted the paleontologic resource impact mitigation program during construction. PEAI monitored trenching for the pipeline and test screened sediment samples from the debris piles for smaller fossil remains in California, Oregon, and Washington to ensure project compliance (assessment identified no important paleontologic resource in pipeline right-of-way in Idaho). Numerous fossil sites were identified and highly productive fossiliferous rock samples were recovered and processed with no delay in construction. The remains of larger land mammals (mammoth, horse, camel) were also recovered. At a fossil site in California, it was necessary to mobilize a crew to allow the rapid recovery of a giant ground sloth skeleton. At another fossil site in Oregon, it was necessary for PEAI to work closely with Infotec Research, Inc., archaeologists. The monitoring and resource recovery program was in compliance with Federal Energy Regulatory Commission and California Public Utilities Commission permit requirements. The results of the mitigation program were summarized in final reports of findings.

E. Los Angeles Metro Rail Red Line, Segments 1 to 3 (Los Angeles County Metropolitan Transportation Authority)

Working under two subcontracts with Greenwood and Associates beginning in 1988, PEAI conducted paleontological monitoring and resource recovery programs at seven station sites and three access shafts for Segments 1 and 2, and has been conducting the program for Segment 3 under a new 5-year subcontract with Engineering-Science, Inc., and Greenwood and Associates. PEAI personnel started the mitigation program in 1987, and prepared the Phase 2 assessment technical report and mitigation plan before the formation of PEAI. A treatment plan was developed by PEAI for each Phase 2 construction site. Prior to station and access shaft cut-and-cover excavation, bore logs and auger spoils were examined to determine rock unit and type, presence of fossil remains, if any, and depth of occurrence to ensure monitors would be on site when and where rock suitable for the preservation of fossil remains was most likely to be encountered by excavation. The program has resulted in the recovery of diverse marine megainvertebrate (mollusks, etc.) and fish assemblages containing many species previously unrecorded from the metropolitan Los Angeles area. Whale and mammoth remains were also recovered. After the first year of monitoring construction of Segment 2, PEAI was 54.5% under budget. As part of a worker incentive program to reduce the loss of fossil specimens as a result of unauthorized fossil collecting by construction personnel, PEAI attended management meetings and gave informational presentations to construction workers at safety meetings to instruct workers on their responsibilities (avoidance of remains and notification of monitor) if fossil remains were uncovered when the monitor was not on site. The program has resulted in the recognition of several workers for their recovery of fossil remains and associated data, and the submission of the remains to the monitor. The Ice Age mammal remains recovered from the tunnel by a construction worker in Hollywood received wide media coverage. The monitoring and resource recovery programs have been in compliance with U.S. Department of Transportation Federal Transit Administration Los Angeles County Metropolitan Transportation Authority requirements.

F. Eastside Reservoir (Metropolitan Water District of Southern California)

Under a subcontract with and Infotec Research, Inc., and Greenwood and Associates, PEAI conducted a paleontologic resource/impact assessment of the five alternative reservoir sites being considered for the Eastside Reservoir in San Bernardino and Riverside Counties, California. The project includes road relocations and the construction of haul roads, pipelines, tunnels, canals, and transmission lines. Two of the sites are in the continental Mount Eden and San Timoteo Formations and Temecula Arkose, which have yielded abundant remains representing a diversity of upper Miocene to lower Pleistocene land mammals. Approximately 345 fossil sites, including many found during the field surveys, were documented in the project area as a result of the assessment. Mitigation measures were formulated to reduce the potential adverse effects of earth-moving activities, including tunneling and trenching for pipelines. PEAI prepared the paleontological resource sections of the MWD Eastside Reservoir Project EIR, FEIR statement of findings and overriding considerations/mitigation monitoring plan, and environmental planning technical report. PEAI submitted monthly progress reports.

G. Simi Valley Landfill expansion (Waste Management of California, Inc.)

Working under six consecutive contracts with Waste Management of California, Inc. (WMCI) since 1989, PEAI has processed over 75 tons of fossiliferous rock and recovered nearly 4,000 small identifiable continental vertebrate specimens, many representing species new to science. One specimen, which received wide media coverage, represented the first new fossil primate species found in the region in 50 years. Detailed study of the recovered material has resulted in a number of scientific publications. PEAI also assisted WMCI in media coverage regarding

the fossil primate, and in preparation of a public relations videotape regarding WMCI environmental programs. PEAI personnel prepared the paleontologic resource assessment technical appendix and corresponding sections of the EIR in support of the expansion, and started the mitigation program in 1987, prior to the formation of PEAI. The monitoring and resource recovery program has been in compliance with Ventura County Resource Management Agency Planning Division permit requirements.

H. Santiago Canyon Landfill (Orange County Integrated Waste Management Department)

Under a subcontract with Chambers Group, Inc., PEAI recovered over 1,500 identifiable fossil specimens from the undifferentiated Sespe and Vaqueros Formations and the Topanga Formation at the Santiago Canyon Landfill. The remains, including comparatively complete skulls, from the undifferentiated Sespe and Vaqueros Formations represent nearly 30 species of land mammals previously unrecorded from the region and the rock unit. Some of the rodent specimens, which were recovered by processing large fossiliferous rock samples, represent species new to science. The remains of sharks, rays, bony fish, amphibians, tortoises, lizards, snakes, and birds also were recovered from the rock unit. Detailed study of the recovered material will result in a number of scientific publications. The remains of marine snails and clams, sharks, rays, bony fish, crocodiles, and marine mammals were recovered from the Topanga Formation, as were the first records of rodents from the rock unit. The monitoring and resource recovery program contract was renewed after the first year. PEAI prepared, identified, curated, and cataloged the specimens and entered specimen and associated geologic and geographic site data into the Ralph B. Clark Interpretive Center computerized database. The monitoring and resource recovery program contract was renewed after the first year. The program was in compliance with Orange County Integrated Waste Management Department and Environmental Management Agency guidelines.

I. Eastern Transportation Corridor (Foothill/Eastern Transportation Corridor Agency)

Under a subcontract with Raytheon Infrastructure Services, Inc., PEAI is conducted a multi-year paleontologic resource impact mitigation program during construction of a major toll road. Rare fossil giant marine turtle and dinosaur remains, as well as clam and ammonite remains, the leaves, needles, and fossilized wood of land plants, have been recovered from the Holz Shale Member of the Ladd Formation; fossilized wood, marine sand dollar, snail, and shark remains, and land mammal remains from the Santiago Formation; and marine mollusk and land mammal and marine shark remains from the undifferentiated Sespe and Vaqueros Formations. PEAI prepared, identified, curated, and cataloged the specimens and entered specimen and associated geologic and geographic site data into the computerized database of the designated repository. The monitoring and resource recovery program contract was renewed after the first year. The program was conducted in compliance with Orange County Environmental Management Agency guidelines. PEAI prepared the paleontologic resource assessment technical report in support of the EIR for the project and is preparing the final report.

Resume of

E. BRUCE LANDER, Ph.D.

Principal Investigator

Experience Summary

Extensive paleontologic resource management experience conducting and managing paleontologic resource/impact assessments and impact mitigation programs for large construction projects in California, Nevada, Utah, Wyoming, Arizona, New Mexico, Texas, and Maryland. Projects include municipal solid waste landfills; aggregate quarries; dams and reservoirs; aqueducts; flood control and groundwater recharge facilities; irrigation systems; cogeneration plants; solar energy and electrical generating plants; oil refineries; water pipelines/tunnels; oil and natural gas pipelines; electrical transmission lines; freeways, tunnels, and other roadways; subways; tramways; waste water treatment facilities; housing developments; planned communities; hotels; office buildings/complexes; business and industrial parks; shopping centers; hospitals and medical centers; convention centers; movie studios; parking lots/structures; marinas and marine supply facilities; space vehicle launch facilities; landslide stabilization and lagoon enhancement projects; geotechnical drilling programs; land exchanges; regional overviews; and conditional use permit, specific plan, and general plan revisions. Clients include private industry, public utilities, and federal, state, county, city, and regional agencies. Paleontologic resource assessments entailed data searches (literature reviews, archival searches, field surveys, consultation with other paleontologists) to develop baseline inventories, evaluation of scientific importance of resources and potential for disturbance by adverse project-related impacts, and formulation of mitigation measures to reduce these impacts to an acceptable level. Paleontologic resource impact mitigation programs required monitoring of earth-moving activities, recovery of fossil remains and fossiliferous rock samples, supervision of field personnel, and preparation of progress and final reports. Projects involved extensive coordination and consultation with project proponents, other consulting firms, and permitting agencies; adherence to strict delivery schedules; and completion within specified budget limits. Over 35 years of professional experience as a paleontologist and 25 years as a paleontologic consultant involved in paleontologic resource management and NEPA/CEQA compliance. Extensive paleontologic research background in land mammal faunas and vertebrate biostratigraphy of Tertiary continental formations of the southeastern, central, and western United States. Research entailed literature reviews, archival searches, field surveys, and consultation with other paleontologists.

Experience Record

1988-Date Paleo Environmental Associates, Inc., Altadena, California. Principal Investigator. Developed and manages paleontologic resource management consulting program; prepared paleontologic resource assessments and corresponding EIR/EIS sections for numerous major earth-moving projects in California, including Puente Hills, Weldon Canyon, Marsh Canyon, Elsmere Canyon, and Altamont Landfill EIRs; Eastern Transportation Corridor EIR/EIS; Luz Solar Energy Generating System III to XII AFCs; Playa Vista EIR; Metropolitan Water District of Southern California Eastside Reservoir and Inland Feeder EIRs; Santa Monica Mountains National Recreation Area Land Exchange EIS; and City Ranch, West End Area, and Santa Fe Ranch Specific Plan EIRs; managed Simi Valley Landfill expansion, Santiago Canyon Landfill, Puente Hills Landfill expansion, Foothill Ranch, Shell Oil Company Wilmington Manufacturing Complex SCOT unit, Los Angeles Metro Red Line, State Route 14 widening, Sutter Power Plant Project, Eastern Transportation Corridor, and Metropolitan Water District of Southern California Inland Feeder and Cajalco Creek Dam and Detention Basin Project paleontologic resource impact mitigation programs.

1985-1990 Engineering-Science, Inc., Pasadena, California. Project Manager, Paleontologist/Geologist. Developed and managed paleontologic resource management consulting program; prepared numerous paleontologic resource assessments for projects in California, Arizona, Utah, Wyoming, New Mexico, Texas, Nevada, and Maryland, including Simi Valley Landfill Expansion EIR, Pacific Texas Pipeline Project EIR/EIS, Mojave-Kern River-El Dorado Natural Gas Pipeline Projects EIR/EIS, Los Angeles Metro Rail MOS-2 EIR/EIS, and Orange County Foothill Transportation Corridor EIR; prepared paleontologic resource assessment overviews of southern Ventura County for Ventura County Resource Management Agency and City of Simi Valley sphere of influence for City of Simi Valley Department of Community Development; supervised Los Angeles Metro Rail MOS-1 and interim Simi Valley Landfill paleontologic resource impact mitigation programs; assisted in preparing public relations program for Waste Management of California; prepared geology/seismicity sections of environmental documents for numerous construction projects.

1984-1985 Wirth Environmental Services/Dames and Moore, San Diego and Santa Barbara, California. Paleontologic Consultant. Prepared paleontologic resource assessments for Mead/McCullough-Victorville/Adelanto Transmission Project ER, Argus Cogeneration Expansion Project AFC, and Midway-Sunset Cogeneration Project AFC.

1984-1985 San Bernardino County Museum, Redlands, California. Paleontologist. Identified vertebrate fossil remains; prepared educational fossil exhibits; assisted in docent training, preparation of technical reports regarding results of paleontologic resource impact mitigation program for Los Angeles Department of Water and Power Intermountain Power Project transmission line corridor and Western Association of Vertebrate Paleontologists 1985 Field Trip Guidebook and Volume.

1982-1985 Marine and Environmental Science Associates, Inc. (MESA^2, Inc.), La Crescenta, California. Project Manager, Paleontologist/Geologist. Developed and managed paleontologic resource management consulting program; prepared paleontologic resource assessments for projects throughout California, including Sacramento Municipal Utility District's Geothermal Public Power Line Project (NOI and AFC) and ARCO's Coal Oil Point Project EIS/EIR; assisted in preparing geologic reports and maps on southern California continental borderland; assisted in preparing expert testimony for presentation before California Energy Commission.

PALEO ENVIRONMENTAL ASSOCIATES

1980-1981 Woodward-Clyde Consultants, San Francisco, California. Paleontologic Consultant. Supervised paleontologic resource impact mitigation program for MAPCO pipeline in Wyoming; assisted in preparation of paleontologic resource assessment. Projects included MAPCO's Rocky Mountain high-pressure liquid hydrocarbon pipeline project and Public Service Company of New Mexico's New Mexico Generating Station project.

1980 Research Reports Center (division of William Kauffman, Inc.), Los Altos, California. Copy Editor. Edited and abstracted technical reports for EPRI (Electric Power Research Institute) Guide and Journal.

1977-1979 U.S. Geological Survey Paleontology/Stratigraphy Branch, Menlo Park, California. Physical Science Technician. Conducted paleontologic resource impact mitigation program at Stanford Linear Accelerator Positron Electron Project ring.

1970-1976 University of California Museum of Paleontology, Berkeley, California. Research Assistant. Supervised vertebrate fossil collections and curatorial assistants during summer, 1976. Other positions included Teaching Assistant and Senior Museum Preparator.

1965-1970 University of California Department of Geology, Los Angeles. Laboratory Assistant. Prepared, identified, and curated fossils.

Education

B.S., Geology, 1969, University of California, Los Angeles

M.A., Paleontology, 1972, University of California, Berkeley

Ph.D., Paleontology, 1977, University of California, Berkeley

Professional Registrations

Registered Paleontologic Consultant, County of Orange, California

Professional Societies

Paleontological Society

Society for Sedimentary Geology

Society of Vertebrate Paleontology

Western Association of Vertebrate Paleontologists

Geological Society of America

American Association for the Advancement of Science

Association of Environmental Professionals

Institutional Affiliations

Research Associate, Natural History Museum of Los Angeles County

Publications

Lander, E.B., 1972, A review of the John Day oreodonts: University of California, Berkeley, unpublished M.A. thesis.

___, 1977, A review of the Oreodonta (Mammalia, Artiodactyla), Parts I, II and III: University of California, Berkeley, unpublished Ph.D. dissertation.

___, 1978, A review of the Oreodonta (Mammalia, Artiodactyla), Parts I, II and III: Dissertation Abstracts International 38(8).

___, 1980, Marine-nonmarine Tie-ins in the Southern California Coast Ranges and Recalibration of the Earlier Part of the Arikareean Land Mammal Age: Geological Society of America Abstracts with Programs 12(7):468.

___, 1983, Continental Vertebrate Faunas from the Upper Member of the Sespe Formation, Simi Valley, California, and the Terminal Eocene Event, pp. 142-153, in Squires, R.L., and Filewicz, M.V., editors, Cenozoic Geology of the Simi Valley Area, Southern California: Society of Economic Paleontologists and Mineralogists, Pacific Section, Fall Field Trip Volume and Guidebook.

___, 1984, Biochronologic Implications of Climatically Induced Changes in Mammalian Adult Body through Time: Society of Economic Paleontologists and Mineralogists, Abstracts, First Annual Midyear Meeting 1:47.

___, and Butcher, J.J., 1984, Late Paleogene Regression, Plate Tectonics, and the Terminal Eocene Event, California Continental Margin: Society of Economic Paleontologists and Mineralogists, Abstracts, First Annual Midyear Meeting 1:47.

Lander, E.B., 1985, Early and Middle Miocene Continental vertebrate Assemblages, Central Mojave Desert, San Bernardino County, California, pp. 127-144, in Reynolds, R.E., compiler, Geological Investigations Along Interstate 15, Cajon Pass to Manix Lake: San Bernardino County Museum.

W. H. Bonner Associates

Archaeofaunal Studies
Archaeological Surveys
Historical & Genealogical Research

15619 Orgam Avenue
Gardena, CA 90249-4445

(310) 675-2745
whbonner@aol.com

STATEMENT OF QUALIFICATIONS

W. H. Bonner Associates specializes in archaeological records searches, surveys and monitoring, archaeofaunal studies, both vertebrate and invertebrate, and historical and genealogical research. Some of our projects have included monitoring for fiber optic cable lines, performing phase 1 surveys for city, county, and federal agencies, record searches and surveys for over 2,000 cellular telephone antenna sites for Sprint, Cingular, and others, monitoring for the construction of several new buildings at Cedars-Sinai Medical Center, surveys for the U.S. Forest Service and faunal analysis for several transportation corridor projects.

Wayne H. Bonner and Diane F. Bonner formed W.H. Bonner Associates in 1994. Mr. Bonner is the principal investigator and has a bachelors and masters degree in anthropology. He has completed post-graduate studies in archaeology, specializing in archaeofaunal identification and interpretation. He has over 30 years of local archaeological experience and over 10 years of archaeofaunal experience both locally and abroad. Mr. Bonner also has been involved in paleontological studies for nearly 40 years, having been a member of the Southern California Paleontological Society since he was a teenager.

Mr. Bonner is certified by the international Registry of Professional Archaeologists (RPA) in Field Research and Archaeometric and Natural Science research. Certification by RPA is mandatory to conduct archaeological work in many counties in California. In addition to RPA, professional memberships are held in the Society for American Archaeology (SAA), the Society for California Archaeology (SCA), and the Southern California Paleontological Society. Mr. Bonner is certified to work in all southern California counties plus many in central and northern California as well.

Diane F. Bonner is the geoarchaeology specialist for W.H. Bonner Associates. She has a masters degree in geology and a bachelors degree in chemistry. Her experience includes over 15 years of geological and paleontological projects with over 10 years spent in the field of geoarchaeology. She is a member of the professional Geologic Society of America (GSA), Archaeological Geology Division. Ms. Bonner is also an experienced researcher for both historic and genealogic projects, and is a member of the Southern California Genealogical Society and the Southern California Paleontological Society.

W.H. Bonner Associates employs state of the art equipment and methods. This includes multiple computes, printers, laptops, scanners, high-speed Internet access, and software.

For archaeofaunal lab work, an electronic digital balance is used with a weighing capability as little as a hundredth of a gram. Each specimen is identified using a comparative collection numbering into the thousands, representing several hundred southern California species. The reference library includes the latest texts for taxonomic nomenclature and numbers over five thousand volumes. Results are recorded on data entry sheets using an adaptation of the cataloguing system developed by the University of Santa Barbara, now required by many government agencies. Database programs are both Macintosh and Windows compatible.

February 2004

WAYNE H. BONNER, M.A.
15619 Ogram Avenue
Gardena, CA 90249-4445
310 675-2745
FAX 310 675 2745
E-Mail: whbonner@aol.com

ACADEMIC DEGREES AND CREDENTIALS

1999	Certification by the Registry of Professional Archaeologists
1990-97	Post Graduate Studies, Department of Archaeology, University of Reading, England
1986	Certification by the Society of Professional Archaeologists: Field Archaeology
1985	M.A. California State University, Long Beach
1979	Certificate in Archaeology, University of California at Los Angeles
1978	Lifetime Teaching Credential, State of California
1970	B.A. California State College, Long Beach

PROFESSIONAL ASSOCIATIONS

Certified Archaeologist for Santa Barbara, Orange, Ventura, and Los Angeles, San Diego, and Kern Counties
Registry of Professional Archaeologists (RPA)
Society of American Archaeology (SAA)
Society of California Archaeology (SCA)
Rancho de los Palos Verdes Historical Society Museum, archaeological consultant
National Trust for Historic Preservation

PROFESSIONAL EXPERIENCE

1994-Present	Principal Archaeofaunalist and Archaeologist. Archaeofaunal analysis, Phase I surveys, historic and genealogical research. W.H. Bonner Associates. Gardena, California.
1992-94	Senior Archaeologist. Scientific Resource Surveys, Inc. Huntington Beach, California.
1991-98	Faunal Analyst, Archaeological/Paleontological Monitor. The Keith Companies, Archaeological Division. Costa Mesa, California.

1991 Technical Writer, Archaeozoologist. Scientific Resource Surveys, Inc. Huntington Beach, California.

1990 Archaeozoological Consultant. Linear Ditch Project. English Heritage. London, England.

1990 Archaeozoological Consultant. Cotswold Archaeological Unit. Cirencester, England.

1988 Field Director. Rail Garrison Peace Keeper Project, Vandenberg Air Force Base, California. Tetra Tech. San Bernardino, California.

1987-88 Staff Archaeologist and Archival Researcher. Scientific Resource Surveys, Inc. Huntington Beach, California.

1987-88 Historic Archaeology Field Monitor. MetroRail Project, Los Angeles, California. Greenwood and Associates. Pacific Palisades, California.

1987-88 Paleontology Consultant. Simi Landfill Project. Engineering-Science, Inc. Pasadena, California.

1987 Archaeology Consultant. Chambers Group, Inc. Santa Ana, California.

1986 Field Director. Historical Remote Sensing Project, Lake County, California. Scientific Resource Surveys, Inc. Huntington Beach, California.

1986 Field Director. Archaeological/Historical Remote Sensing Project, Riverside and San Bernardino Counties, California. Scientific Resource Surveys, Inc. Huntington Beach, California.

1986 Field Director. Fossil Cetacea Paleontological Project, Orange County, California. Scientific Resource Surveys, Inc. Huntington Beach, California.

1985-88 Archival Researcher, Technical Report Writer, and Editor. Scientific Resource Surveys, Inc. Huntington Beach, California.

1984 Archaeology Field and Lab Consultant. Scientific Resource Surveys, Inc. Huntington Beach, California.

1984 Archaeological Consultant. Television Mini-series on the History of the City of Los Alamitos, California. Communications Department, California State University, Long Beach.

1983-87 Archaeological Consultant. Larry Seeman Associates, Inc. Newport Beach, California.

1983-84 Archaeological Consultant. Archaeological Associates, Sun City, California.

1983-84 Archaeological Field Consultant. Archaeological Survey, University of California, Los Angeles.

1982 Project Field Director. Test Excavations of LAn-235. Physical Planning and Facilities Development, California State University, Long Beach.

1980 Director, Rock Art Archives. University of California, Los Angeles, Institute of Archaeology.

1979 Site Director. Smithland Pool Project, Illinois. Southern Illinois University in Cooperation with the U.S. Army Corps of Engineers.

1979 Archaeological Field Consultant. Railroad Relocation Project, Springfield, Illinois. Illinois State Museum, Springfield.

1978 Archaeological Field and Lab Member. Pajarito Archaeological Research Project, New Mexico. University of California, Los Angeles.

1978-79 Archaeological Field and Lab Consultant. Vandenberg Air Force Base Archaeological Project. University of California, Santa Barbara.

FIELD EXPERIENCE

2003 Cultural Resource Assessment and Survey City of Bellflower Redevelopment Project.

1999-Present Cultural Resource Surveys for the Angeles National Forest, Arcadia, District.

1895 –Present Cultural Resource Assessments and Monitoring for AT&T, Cingular Wireless, PacBell, Sprint, and Verizon.

1985-Present Archaeological/Paleontological Monitor for Hollyhills Storm Drain Project. Los Angeles County Department of Public Works.

1987- Present Field director of numerous archaeological surveys and excavations, paleontological surveys and recoveries in Orange, Los Angeles, Riverside, Kern, San Bernardino, Santa Barbara, and San Diego Counties, California. Various Cultural Resource Management Firms.

1988 Field Director, excavation and mitigation of twelve archaeological sites, Rail Garrison Peace Keeper Project, Vandenberg Air Force Base, California.

1987-88 Historic archaeology monitoring, Old Santa Fe Railroad Passenger Depot, Los Angeles, California. for MetroRail Project.