

Vicki Hoffman
Senior Air Quality Specialist



Vicki Hoffman is a Consultant within ERM based in Walnut Creek, California. Ms. Hoffman has 20 years experience as an air quality scientist and specializes in emission estimation, atmospheric dispersion modeling analyses, health risk assessment, impact assessments, and technical report preparation. She has used numerous EPA-approved and agency recommended atmospheric dispersion models (including AERMOD, ISCST3 and other regulatory models) which simulate the downwind transport and dispersion from emissions of both criteria pollutants and toxic air contaminants. Ms. Hoffman also has experience with the URBEMIS model which was developed by the California Air Resources Board and used for calculating air emissions from both project construction activities and from project operations. Ms. Hoffman is also an expert with CALPUFF, a long range dispersion model that can not only estimate pollutant impacts, but also calculate changes in visibility and estimate potential acid deposition. The above stated analyses are necessary to comply with requirements mandated under state and federal rules, regulations and laws. She has participated in numerous air quality permits, health risk assessments, environmental impact reports and risk management prevention programs. Ms. Hoffman has worked with many local air agencies throughout California and other Western States. Most of her experience, however, has been in the Bay Area Air Quality Management District.

Fields of Competence

- Air Toxics/ Health Risk Assessment
- PSD/NSR permitting and modeling
- Atmospheric dispersion modeling
- Criteria pollutant impact analyses
- Visibility and regional haze analyses
- Offsite Consequence Analysis

Education

- B.A., Environmental Studies and Physical Geography, University of California, Santa Barbara, 1981

Publications

- Koehler, J. and Hoffman, V.J., "Review of Health Risk Assessments for Airborne Emissions from Major California Universities," Paper 69899, 96th Annual meeting of the air and Waste Management Association, 2003.

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Key Projects

Health Risk Assessments

Project manager for and prepared a multi-pathway Health Risk Assessment for compliance with the Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588) for an Aerospace facility located Northern California. The analysis includes meteorological data processing, atmospheric dispersion modeling using the AERMOD modeling system and health risk calculations using the Hotspots Analysis and Reporting Program (HARP).

Project manager for and prepared a multi-pathway Health Risk Assessment for Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588) for the University of California Davis Medical Center located in Sacramento, California. The analysis included calculating emissions from combustion sources, atmospheric dispersion modeling using the AERMOD modeling system and health risk calculations to estimate impacts to the surrounding community.

Prepared a Screening Health Risk Assessment for a new Hazardous Materials Yard to be constructed at the University of California Davis Medical Center. The analysis included atmospheric dispersion modeling and health risk calculations.

Project manager for and prepared a multi-pathway Health Risk Assessment for the University of California Davis Medical Center located in Sacramento, California. The Health Risk Assessment was prepared in support of permitting efforts to expand emergency power generation. The analysis includes all on campus combustion sources (including planned future sources), the Central Plant cooling tower and the gasoline dispensing area. Atmospheric dispersion modeling is being completed using the EPA-approved AERMOD modeling system and the California Air Resources Board's HARP model. The technical report is being prepared for submittal to the Sacramento Metropolitan Air Quality Management District.

Performed an AB2588 Health Risk Assessment for the University of California at Davis (2007/2008). Recently revised (2010) the analysis to include newly installed sources and existing diesel-fired internal combustion engines. The analyses included atmospheric dispersion modeling and health risk impact due to facility wide

emissions from campus laboratories, combustions sources, the on campus landfill, and the waste water treatment center. The dispersion modeling was performed using the ISCST3 model in conjunctions with ONRAMP and HARP. HARP was used to calculate both on and off-site health risks due to UC Davis campus operations.

Performed health risk assessments to estimate potential impacts due to the modification of a northern California Refinery. The analyses were in support of local air district permitting efforts as well as the California Environmental Quality Act (CEQA).

Performed multi-pathway health risk assessment for the University of California, San Diego campus in support of the 2004 Long Range Development Plan EIR. Responsibilities included the development of analysis methodologies, protocol preparation, emission estimates of toxic air contaminants from on campus combustion sources, atmospheric dispersion modeling (ISCST3 model), toxic risk calculations (ACE2588 HRA model), and technical report preparation.

Performed multi-pathway health risk assessment for the University of California, Berkeley campus in support of the 2004 Long Range Development Plan EIR. Responsibilities included development of HRA methodologies and protocol preparation, emission estimates of toxic air contaminants from some on campus sources types, atmospheric dispersion modeling (ISCST3 model), toxic risk calculations (ACE2588 HRA model), and technical report preparation.

Performed multi-pathway health risk assessment for the University of California, Davis campus in support of the 2003 Long Range Development Plan EIR. Responsibilities included emission estimates for toxic air contaminants from on campus combustion sources types, atmospheric dispersion modeling (ISCST3 model), toxic risk calculations (ACE2588 HRA model), and technical report preparation.

Performed an all campus multi-pathway health risk assessment for the University of California, Berkeley to determine impacts due to current operating conditions in 2000. Responsibilities included preparation and submittal of a modeling protocol, atmospheric dispersion modeling and health risk estimates for both on- and off-site receptor locations.

Performed screening health assessment for proposed Center for Clinical Sciences Research and Science and Engineering Quadrangle at Stanford University. Health risk assessment was in support of a CEQA Compliance document. Health risk assessment included source identification and identification of chemicals of concern, emission estimates, atmospheric dispersion modeling and health risk calculations. Technical report was prepared describing technical methodologies of analysis and health risk assessment results.

Project manager for health risk assessment performed for compliance with California's Air Toxics "Hot Spots" Law (AB 2588) for Army Facility in Fresno, CA. Analysis included source characterization, risk identification, atmospheric dispersion, and health risk calculations.

Performed multi-pathway health risk assessments as part of permitting process for numerous Application for Certification (AFCs) file in 1998 through 2001 with California Energy Commission CEC. CEC requires AFCs cover all environmental resource areas as part of power plant licensing to comply with California Environmental Protection Act (CEQA). Analyses included toxic air contaminant emission calculations and atmospheric dispersion modeling for estimating offsite concentrations. Concentrations were then used to estimate offsite risks due to facility operations.

Health risk assessment task manager for two major electric producing power plants located in northern California. Developed a protocol to describe approach and methodologies to be used for atmospheric dispersion modeling and health risk characterization. Responsible for atmospheric dispersion modeling and health risk assessments. Health risk assessments were used to support to air permit applications.

Performed modeling and health risk assessment calculations for oil recycling facility in San Francisco Bay Area to support an air permit application for Bay Area Air Quality Management District (BAAQMD) and RCRA Part B permit application for California Department of Toxic Substances Control (DTSC). Modeling included point, area and volume sources. The multi-pathway health risk calculations were performed using methods required by BAAQMD, OEHHA and DTSC.

Assisted with preparation of several AB 2588 health risk assessments. Specific task included preparation of health risk assessment modeling protocol, performing all

aspects of atmospheric dispersion modeling, health risk calculations and report preparation. Isopleths were developed to illustrate extent to which carcinogenic risks and non-carcinogenic health hazards would occur.
Air Quality Impact Assessment

Performed PSD modeling analysis and permit applications for two major refineries located in the San Francisco Bay Area. Responsibilities included the preparation of a protocol that was submitted to the BAAQMD, atmospheric dispersion modeling for estimating offsite criteria pollution concentrations, and the preparation of PSD Permit Applications for submittal to the BAAQMD.

Prepared health risk assessments for proposed new and expanded schools for Los Angeles Unified School District (LAUSD).

Contributed to large-scale emission inventory effort and performed senior review on modeling and health risk calculations for major Southern California Port expansion project.

Atmospheric dispersion modeling to estimate diesel concentrations due to diesel emissions from highway truck travel in Roseville to support land use permit for proposed residential development.

Performed health risk assessment as part of an Environmental Impact Report for Sonoma Landfill Expansion Project. Analysis included source identification and characterization. Source emissions were also characterized for each source. Atmospheric dispersion modeling was performed to estimate project and cumulative landfill pollutant concentrations. Results were then used to calculate potential health risk impacts on surrounding area.

Assisted with large modeling analysis for confidential client in Romania. Analysis was performed using EPA-approved AERMOD dispersion model. Surfer and ARCVIEW were used to identify source locations, and to identify peak pollutant concentration locations. Surfer was used for creating maps illustrating regional pollutant concentrations due to facility emissions

Air quality impact analysis for numerous power plant projects located in California, Nevada, Oregon, and Arizona. Analyses also included health risk assessments as well as deposition and visibility modeling assess

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project impacts on nearby Class I National Parks and Wilderness Areas.

Performed atmospheric dispersion modeling to estimate odor impacts from automobile manufacturing company located in northern California. Emissions used in this analysis were in the form of odor units, or dilution to threshold.

Air Quality Permitting

Performed air quality impact analysis for proposed Hu Hanua Bioenergy, LLC, to be located on the east coast of the Island of Hawaii, near Pepeekeo. The analysis included meteorological data processing and atmospheric dispersion modeling. The modeling analysis was performed using the AERMOD modeling system including AERSURFACE, AERMET, AERMAP, and AERMOD.

Performed air quality impact analysis for numerous power plant projects located in California, Nevada, Oregon and Arizona. Analyses included atmospheric dispersion modeling to estimate impacts of criteria pollutants as well as air toxic impact analyses. Analyses for PSD permit applications were also performed including visibility and regional haze analyses. As part of the PSD permitting, visibility and deposition modeling was performed to estimate project effects on Class I National Parks and Wilderness Areas.

Project manager for a PSD permit application for equipment upgrades and production increases at fiberglass manufacturing company in California. Application included the estimation of historical emissions and potential to emit after proposed modifications. Additionally, full modeling analysis was necessary to determine project impacts including comparison with NAAQS and an increment consumption analysis.

In charge of and performed atmospheric dispersion modeling using the CALPUFF modeling system to estimate mercury deposition in the San Francisco Bay Area drainage basins due to emissions from the Bay Area Refineries. This analysis was performed for the Western States Petroleum Association (WSPA). This analysis included the processing of meteorological data utilizing information obtained from the California Air Resources Board and the preparation of a technical report.

Performed atmospheric dispersion modeling for estimating the deposition of various metals being emitted from Refineries located in the Los Angeles Area. The modeling included the processing of meteorological data using the CALMET, part of the CALPUFF modeling system. The CALPUFF model was used to simulate the dispersion and deposition. The analysis also included the preparation of a technical report.

Performed atmospheric dispersion modeling for permitting efforts in Washington, Oregon and Utah. The analyses were performed simultaneously as potential site locations for a new Proctor & Gamble manufacturing facility. The modeling was performed using both the USEPA ISCST3 and the AERMOD dispersion models.

Atmospheric dispersion modeling for the Arizona Clean Fuels Refinery. The analysis is being performed for compliance with updated emissions and modeling requirements. The analysis includes the preparation of a modeling protocol and modeling using the AERMOD dispersion modeling.

Project manager and dispersion modeling modeling for a California facility which performs solid rocket testing. The analyses are performed for PSD purposes and to address internal concerns on short term impact on the surrounding community. The modeling includes the use of multiple dispersion models including EPA recommended models as well as USEPA listed Alternative models including the Open Burn Open Detonation Model (OBOD).

Coordinated all aspects of, and performed technical tasks necessary to prepare permit application for paint pigment manufacturing company located within Bay Area Air Quality Management District. Project included emissions inventory for toxic air contaminants, airflow efficiency testing and demonstration of "total enclosure", BACT analysis, and health risk assessment.

Provided technical assistance for development of PSD permit application for proposed landfill site located in Clark County, NV. Technical analyses included preparation of air quality impact assessment for criteria pollutants, increment consumption analysis for PM₁₀ and TSP, and health risk assessment for emissions of toxic air contaminants.

Accidental Release Evaluation

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Performed offsite consequence analyses for several proposed power plants located in California. Analyses included estimation of offsite impacts using atmospheric dispersion modeling.

Performed offsite consequence analysis for large electric power plant in northern California. Analysis was used as part of air permit application's CEQA documentation. Atmospheric dispersion modeling was used to estimate impacts from various spill scenarios of aqueous ammonia. Modeling results were then used in conjunction with specific concentrations known to cause adverse health effects (i.e., levels of concern) to estimate potential zones of potential vulnerability.

Performed accidental release modeling to estimate impacts from accidental releases of solid, dry acrylamide and chloroacetic acid, and liquid sulfuric acid. Modeling of dry chemicals was performed using INPUFF model. INPUFF model can estimate impacts from instantaneous releases and can address particulate deposition and settling. Release of sulfuric acid was performed using SLAB. Modeling was performed as part of RMPP exemption letter.

Odor Evaluation

Assisted in odor analyses for Odor Source Prioritization and Control Evaluation for Tesoro Golden Eagle Refinery and for several waste water treatment facilities in the north-west. Analyses included meteorological processing and atmospheric dispersion modeling using EPA-approved Industrial Source Complex Short-Term (ISCST3) model.



Frederic H. Knapp, AIA

Qualifications	Principal, registered architect with 23 years' experience, including project management, from concept design through post-occupancy services. Preservation specialty: architectural design, planning, feasibility studies, regulatory services at local, state, and federal levels. Firm management: financial (including budget, analysis of monthly results), recruiting & personnel, project management, business development. Six years' experience in newspaper reporting & editing, published book and journal author.
Experience	Knapp Architects, 2006-present Page & Turnbull, San Francisco, CA 1988-2006; principal, architect Interactive Resources, Richmond, CA 1986-1988; intern architect George Horvath Associates, Alameda, CA 1986; intern architect Jeter, Cook & Jepson, Hartford, CT 1985; summer intern Leroy Van Lent Associates, Somers, NY 1983/4; summer intern The Hartford Courant, Hartford, CT 1980-1982; reporter Acorn Press, Ridgefield, CT 1976-1980; reporter, editor
Registration	California Architects Board C23056 Arizona Board of Technical Registration #2388
Education	M. Arch., Syracuse University, 1986; University Fellow 1982-83; teaching assistant 1985; Syracuse University Center, Florence, Italy, Fall 1984 B. A., Classics, Trinity College, Hartford, CT, 1976
Publications	<i>Hotel Renovation Planning and Design</i> New York: McGraw-Hill, 1995 "The Sheraton Palace: Preserving the Past, Positioning for the Future," <i>Cornell Hotel and Restaurant Administration Quarterly</i> , Ithaca, New York: Cornell University School of Hotel Administration, December 1991
Presentations	<i>Preservation & Prosperity in Downtown Environments</i> ; Menlo Park El Camino Real/Downtown Vision Plan; Menlo Park, CA; February 2008. <i>Preservation or Demolition: Decision-Making at UC Berkeley</i> ; SCUP 2007 Pacific Symposium The Dilemma of Mid-20th Century Campus Buildings, Portland, OR, October 2007 co-presenter with Emily Marthinsen, director of planning, University of California, Berkeley.

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Is It Worth Teaching an Old Building (or Site) New Tricks? concurrent session, Society of College and University Planners national conference, Washington, DC; July 2005; co-presenter with Emily Marthinsen, director of planning, University of California, Berkeley.

- Training** National Preservation Institute, Cultural Landscapes training, 2000
National Preservation Institute, Section 106 training (three day), 2001
Association for Preservation Technology, Williamsburg, VA, annual conference and historic coatings training workshop, November 1998
- Memberships** Board of Directors and Issues Committee, San Francisco Heritage Board of Directors, Episcopal Community Services, San Francisco American Institute of Architects
National Trust for Historic Preservation
Berkeley Architectural Heritage Association
Oakland Heritage Alliance
Preservation Action Council, San Jose
Preservation Committee, St. Augustine's Episcopal Church, Oakland
- Project Experience** Historic Structure Reports: Hearst Greek Theatre, Durant Hall, Anna Head School, Faculty Club, and California Hall, University of California, Berkeley. Research, documentation, evaluation and report preparation.
- Central (Golden Gate) YMCA, San Francisco
Preservation architect, including application for federal tax credits for conversion of historic Y into housing for formerly homeless people.
- Berkeley Branch Libraries Facilities Master Plan, Berkeley, CA
Historical consultant to Noll & Tam Architects
Research and evaluation of four existing libraries for historic resources considerations in master plan process
- California Pacific Medical Center Long Range Development Plan, San Francisco
Historical consultant to Turnstone Consulting
Preparation of Historic Resource Evaluations for submission to San Francisco Planning Department
- Dublin Historic Park, Dublin, CA, consultant to Royston Hanamoto Alley & Abey Architect for moving and rehabilitation of buildings from the historic Kolb Ranch

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Downtown Historic Resources Inventory, Martinez, CA
with Kelley & VerPlanck Historical Consulting
Survey, research, and preparation of documentation for historic resources
inventory for two downtown planning sectors

Casino, Hotel and Residential development, Point Molate, Richmond, CA
Historical consultant with Cheryl Widell to Upstream Point Molate LLC and
Guidiville Band of Pomo Indians
Research, evaluation, and documentation for NEPA, Section 106, CEQA, and
City of Richmond preservation ordinance

Pier 35, San Francisco
Consulting historical architect on Tom Eliot Fisch team
Rehabilitation, including extensive repairs to deteriorated façade of bulkhead
building

Southeast Campus Integrated Projects (SCIP), University of California, Berkeley
Historical consulting architect, CEQA compliance

Picchetti Ranch Winery, Cupertino
Construction administration for seismic upgrade of historic masonry building
under county heritage grant program.

Mission Square Development, Sonoma, CA
Historical consultant to Design, Community & Environment
Historical section of EIR for proposed development straddling National Register
District boundary

734 Waverley Street, Palo Alto
Architect for rehabilitation and addition to 1910 bungalow.

Laguna Hill Housing Project, San Francisco
Consultations on preservation regulations and entitlements for conversion of
historic San Francisco State University campus to housing.

Ghirardelli Square, San Francisco
Historic preservation tax credits and entitlements for conversion of office space in
historic buildings into hospitality use.

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Building 507, Ft. Baker, Golden Gate National Recreation Area
Architect, rehabilitation of former barracks/Nike support building for National Park Service office use.

227-16th Avenue, 1300-22nd Street, 26-25th Avenue, 250 Brannan Street, 25 Dolores Street, 200 Dolores Street, 1301 Divisadero Street, 70 Douglass Street, 231 Franklin Street, 921 Front Street, 631 Howard Street, 1269 Lombard Street, 3577 Pacific Avenue, 324 San Carlos Street, 530 Sanchez Street, 840 Sutter Street, 1080 Sutter Street, 452 Tehama Street, 111 Townsend Street, 1104 York Street, San Francisco
Historical evaluation and documentation (various services) for San Francisco Planning Department under CEQA and Planning Code

345 and 404 Hartz Avenue, Danville, CA
Danville Hotel Site, Danville, CA
Evaluation of new buildings under historic downtown design guidelines for Town of Danville.

St. Francis Episcopal Church, San Francisco
Architect, rehabilitation of church, kitchen, and parish hall.

(with Page & Turnbull)
Ghirardelli Square, San Francisco, CA (design); principal in charge as preservation architect for \$80 million conversion to hospitality use of National-Register property significant for 1960s conversion of 19th Century factory complex to retail; includes federal tax credits.

Stanford University, Roble Hall (design); principal in charge for \$6.5 million phased renovation of National-Register eligible dormitory.

Piers 1-1/2, 3, and 5, San Francisco, CA (design and partial construction phase); principal in charge as preservation architect on \$45 million rehabilitation of City-Beautiful-inspired shipping piers to office and restaurant use. Includes federal tax credits.

Alameda Naval Air Station, Alameda, CA and Mare Island Naval Base, Vallejo, CA (planning); principal in charge for preservation consultations for conversion of former military bases into residential and commercial use. Includes Section 106 and California Environmental Quality Act.

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Presidio of San Francisco; principal in charge, project manager, and designer for multiple planning studies and architecture projects for the federal Presidio Trust, individual tenants, and the US Army. Projects ranged from rehabilitation of historic duplex housing for non-commissioned officers to consultations on 850,000 square foot project to replace a 1960s hospital complex. Includes NEPA and Section 106.

Hotel Montgomery, San Jose, CA; principal in charge; 63,000 SF, \$15- million rehabilitation of 83-room hotel. Includes federal tax credits. Completed 2004.

Asian Art Museum, San Francisco, CA; project manager as preservation architect for \$150-million conversion of historic library into museum. Completed 2002.

University of California, San Francisco and Berkeley campuses, CA; principal in charge, project manager, and project designer for multiple planning, survey, and architecture projects. Projects included preservation component of New Century Plan for Berkeley, HABS documentation at San Francisco and Berkeley, and seismic upgrades and rehabilitation of historic buildings at Berkeley.

Fairmont Hotel, San Francisco, CA; project architect as preservation architect for \$80-million renovation with federal tax credits. Completed 2001.

Junipero Serra State Office Building, Los Angeles, CA; project architect as preservation architect on design-build team for \$50-million rehabilitation of previously-gutted historic 500,000 SF department store as state office building in Downtown Los Angeles. Completed 2000.

References

Available on request

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RICHARD B. RODKIN, PE

Mr. Rodkin has been responsible for a wide range of studies in environmental noise, architectural acoustics, and noise control engineering. He worked with staff of the California Energy Commission assessing noise impacts of power cogeneration projects, a solar project, and a transmission line. Mr. Rodkin has been involved with transportation research studies for Caltrans that investigated long-distance diffraction and reflection of noise from sound walls and changes to noise levels from different pavement surfaces. Transportation noise and vibration studies include freeways and light-rail systems in the Bay Area and San Diego, and numerous road widening and improvement projects for cities and counties. Other environmental noise studies include port expansions in the Bay Area and Los Angeles; Clean Fuels projects at Bay Area refineries; aircraft noise; new and expanding mines and quarries; power plants and cogeneration projects; landfills/transfer stations, geothermal and on-shore oil fields; noise ordinance violations; commercial, institutional, housing and other miscellaneous development projects; Specific Plans, and Noise Elements of the General Plans. He has acted as an expert witness in cases involving traffic noise, construction noise, and a murder case where audibility was an issue.

During the past 35 years Mr. Rodkin has worked continuously in all aspects of acoustical design relating to new buildings including architectural acoustics, sound isolation, and the control of noise and vibration from mechanical equipment. Projects include housing, office buildings, hospitals, university buildings, TV studios and teleconferencing facilities, churches, an airport expansion, hotels, small power plants, and cogeneration facilities.

Mr. Rodkin also possesses expertise in measuring and assessing underwater sounds from pile driving and other construction activity. He advises the Fisheries and Hydroacoustic Work Group on issues regarding this topic. He has designed and participated in numerous underwater measurement programs including the monitoring efforts to assess underwater impacts to fish and marine mammals for the San Francisco-Oakland Bay Bridge replacement project. He received the 2005 Environmental Excellence Award from FHWA for his participation in assessing and mitigating underwater noise impacts from construction of transportation projects.

PROFESSIONAL EXPERIENCE

1987-Present Principal Consultant	Illingworth & Rodkin, Inc. Petaluma, California
1976-1987 Acoustical Consultant	Charles M. Salter Associates, Inc., San Francisco, California
1973-1976 Acoustical Consultant	Buonaccorsi & Associates San Francisco, California

EDUCATION

1978	University of California at Berkeley M.S. Mechanical Engineering, Major: Acoustics
1973	University of California at Davis B.S. Mechanical Engineering, Major: Power/Propulsion

PROFESSIONAL REGISTRATION AND SOCIETIES

California: Mechanical Engineer
No. 23900 (1985)
Institute of Noise Control Engineers
Acoustical Society of America
ASHRAE

Experience

Nelson\Nygaard Consulting Associates Inc.

Principal, 2002–Present

Siegmán & Associates

Principal, 1998–2002

Patrick Siegmán has managed projects in the following areas since 1998:

- **Parking and Transportation Demand Management Plans.** For cities such as Pasadena, Ventura and Petaluma, CA, as well as a variety of major employers and commercial districts, Siegmán has helped to identify the most cost effective mix of investments in new parking, improved parking management and transportation alternatives to meet local economic and quality-of-life goals. The **Ventura Downtown Mobility & Parking Plan** includes a far-reaching menu of parking policies and traffic reduction steps, including replacing free parking throughout downtown with variable-rate parking pricing. The **Pasadena Traffic Reduction Strategies Study**, for example, proposes a dozen coordinated strategies, from parking policy reform to congestion pricing, to answer the City's question: "What would it take to reduce rush-hour traffic by 25%?"

Patrick's recent parking planning experience includes plans in (partial list):

- Chico
 - Glendale
 - Hercules
 - Napa
 - Oceanside
 - Oxnard
 - Palo Alto
 - Pasadena
 - Petaluma
 - San Marcos
 - Santa Clarita
 - Union City
- **Transportation Plans for Districts, Neighborhoods and Major Development Projects.** Mr. Siegmán has led the transportation planning effort for more than twenty neighborhood plans, Specific Plans and development projects, specializing in downtowns, transit-oriented developments, mixed-use and New Urbanist neighborhoods. These projects include:
 - The **Central Petaluma Smart Code**, which created a form-based code for this revitalizing downtown's new Theatre District.
 - The **Downtown Newhall Specific Plan**, Santa Clarita, establishes a new transit-oriented development district around a Metrolink Station, and converts a four-lane former state highway into a calmed, two-lane Main Street.
 - The **North Montclair Specific Plan**, which is spurring new transit-oriented development around the planned joint Gold Line light rail & Metrolink station.
 - **Traditional neighborhood development plans** such as the **Westside** and **Meriam Park** neighborhoods (Chico, CA), the **Olsen Ranch-Beechwood Specific Plan** (Paso Robles), and the **Greensboro Ballpark & Aycock Neighborhood** (Greensboro, NC).
 - **Community outreach and consensus building** throughout the United States. Using a variety of intensive outreach and consensus-building approaches, ranging from weeklong design charrettes to stakeholder interviews, focus groups and hands-on workshops, Mr. Siegmán has helped communities reach consensus on often controversial topics. He specializes in helping community members understand the real trade-offs involved in transportation and urban design decisions, allowing them to decide for themselves how local values should be reflected in plans.
 - **Campus Transportation Plans & Studies** for campuses such as **Occidental College**, **Pomona College**, **CSU San Marcos**, **Cal Poly San Luis Obispo** and **Fuller Seminary** (Pasadena, CA). Typically, these plans developed a set of parking and demand management strategies to accommodate substantial growth, while improving the campus environment and alleviating community concerns about traffic.

- **Traffic Calming and Streetscape Projects**, including Palo Alto's Residential Arterial Traffic Calming Project; the Lincoln, NE, Downtown Bicycle Plan, Safe Routes to School projects in Los Altos; and the calming of Chico, CA's West Avenues and Vallombrosa Avenue neighborhoods. He has also taught numerous workshops on these topics, such as leading 'Walkable & Bicycle-Friendly Communities' workshop series in the Charlotte, NC, and San Francisco Bay Area regions.

Previous Experience

Stanford University Office of Transportation Programs

Transportation Analyst, 1994-1998

Selected Lectures and Publications

- Instructor, American Institute of Certified Planners' "Parking Management for Livable Communities" short courses, 2005.
- Instructor, Academic Impressions' "Campus Transportation Demand Management Institute" short courses, 2007-2009.
- "Parking and Urban Design," in *New Urbanism: Comprehensive Report & Best Practices Guide* (forthcoming). Co-author.
- "Playing the Numbers Game. When it comes to TODs, trip-generation figures can make all the difference." *Planning*, May 2006. Co-author.
- "Solving Campus Parking Shortages. New Solutions for an Old Problem," *Planning for Higher Education*, Fall 2004. Co-author.
- "How to Make Transit-Oriented Development Work," *Planning*, May 2003. Co-author.
- "Parking Management in Smart Growth Communities" workshop, keynote speaker, Sacramento Area Council of Governments, 2008.
- "Innovative Parking Strategies for the Sacramento Region" workshop, 2007.
- "Reforming Parking Requirements: Less Traffic, Better Places", for the American Planning Association, Congress for the New Urbanism, New Partners for Smart Growth, and other national conferences, 2003-2009.

Selected Awards

- 2007 President's Excellence Award, Southern California Association of Governments: Visionary Planning for Mobility, Livability, Prosperity and Sustainability for The Glendale Downtown Specific Plan and Mobility Study. Client: City of Glendale.
- 2007 Society for College and University Planning / American Institute of Architects Merit Award for Excellence in Planning for an Established Campus, for the Occidental College Master Plan. Prime: Moule & Polyzoides
- 2007 Planning Excellence for Best Practice from the Los Angeles Section, American Planning Association for the Downtown Newhall Specific Plan. Prime: Moule & Polyzoides
- for Mission Meridian Station, South Pasadena (prime: Moule & Polyzoides):
 - 2006 Charter Award, Congress for the New Urbanism
 - 2006 Golden Nugget Grand Award, from Builder Magazine
 - 2006 Tranny Award, from The California Transportation Foundation
 - 2006 American Institute of Architects Pasadena & Foothill Chapter, Honor Award
- 2005 Merit Citation for Planning Excellence, American Planning Association, Missouri Chapter, for New Longview, Lee's Summit, MO (prime: 180° Design)



DONALD WELLS, PG, CEG

SENIOR GEOLOGIST

EDUCATION

M.S., Geology, San Diego State University, 1987
B.A., Geology, Hamilton College, Clinton, NY, 1982

REGISTRATION

Certified Engineering Geologist, CA No. 2120, 1996
Professional Geologist, CA No. 5439, 1992

AFFILIATIONS

American Geophysical Union
Association of Engineering Geologists
Earthquake Engineering Research Institute
Geological Society of America
Northern California Geological Society
Seismological Society of America

Over the past 23 years, Mr. Wells has managed and participated in a variety of studies to evaluate geologic and seismologic hazards around the world. For geologic hazard studies, he evaluated surface fault rupture, liquefaction, differential compaction, landsliding, flooding, and ground shaking. Investigative techniques included interpretation of aerial photographs and satellite imagery, field mapping, geomorphologic analysis, aerial reconnaissance, drilling and trenching to evaluate subsurface conditions, analyzing seismicity data and the effects of historical earthquakes, evaluating geotechnical boring data, and reviewing pertinent literature. For probabilistic and deterministic seismic hazard studies, he identified and characterized seismic sources, including crustal faults, blind faults, and subduction-related earthquake sources. Work included assessment of fault activity and slip rate, recurrence rates for regional source zones and subduction sources, and maximum earthquake magnitudes. As part of this work, Mr. Wells has developed extensive contacts with the U.S. Geological Survey, California Division of Mines and Geology, and university personnel throughout California and the U.S. Relevant project experience includes:

Fault-Rupture Hazard Investigation, Student Athlete High Performance Center, University of California Berkeley, Berkeley, CA. Project manager responsible for a fault-rupture evaluation for the proposed Student Athlete High Performance Center (SAHPC) at Memorial Stadium. Mr. Wells was responsible for developing the program of field work and reporting to satisfy the requirements of the Alquist-Priolo Earthquake Fault Zoning Act for the project site adjacent to the Hayward fault. The project work included logging of trenches and large diameter borings, age dating, and interpretation of depositional models to assess the potential for faulting across the footprint of the SAHPC. The work also included interaction with an internal peer review team as well as external U.S. Geological Survey and California Geological Survey peer reviewers in the trenches and in preparing the report. The work was completed under an expedited schedule to meet the University project schedule and to minimize effects on University Academic and Athletic programs.

Maxwell Field Fault Rupture Hazard Evaluation, University of California, Berkeley, CA. Lead geologist for a fault-rupture evaluation for the proposed new parking structure and athletic field to be constructed on the site of the existing Maxwell (Kleeberger) Athletic Field. Mr. Wells was responsible for developing the program of field work and reporting to satisfy the requirements of the Alquist-Priolo Earthquake Fault Zoning Act for the project site adjacent to the Hayward fault. The project work to date has included core borings and extensive geophysical surveys to assess the potential for faulting across the footprint of the proposed structure. The site lies directly north of Memorial Stadium and is adjacent to the mapped traces of the Hayward fault.



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Fault Rupture Hazard Investigation, Memorial Stadium, University of California, Berkeley, CA. Project manager for an evaluation of the fault rupture hazard at Memorial Stadium. The stadium was constructed in 1922 and is located astride the Hayward fault. Work included geologic mapping, mapping of fault-creep-related deformation to the stadium and nearby cultural features, interpretation of aerial photographs, and fault trenching to identify the location and width of the zone of faulting associated with the Hayward fault beneath the stadium. The study integrated geologic, geotechnical, and structural data to assess the location of fault traces, width of expected primary and secondary zones of faulting, and mechanisms and causes for fractures, cracking, rotation, bending, and other deformation mapped in the stadium structure.

Fault Rupture Hazard Evaluations, Mills College, Oakland, CA. Project manager for two projects to evaluate fault rupture hazard for planned new buildings at Mills College in Oakland. Work included geologic mapping, aerial photograph interpretation, and fault trenching studies to document that active fault traces of the Hayward fault were not present within the footprints of the proposed projects.

Fault Rupture Hazard, Sequoia Hospital, Catholic Healthcare West, Redwood City, CA. Project manager for a fault rupture hazard evaluation for a hospital site. Work included aerial photograph interpretation, site reconnaissance, and logging of a road-cut exposure along the hospital to evaluate the potential for displacement on faults at the hospital site.

Paleoseismic Investigation of the San Andreas Fault, Dogtown, California. As part of the Pacific Gas & Electric Company -U.S. Geological Survey sponsored Bay Area Paleoseismic Experiment, Mr. Wells was the project manager for a paleoseismic investigation of the Northern San Andreas fault at Dogtown, California. Work included logging of four trenches radiocarbon dating, and interpretation of timing of paleoearthquakes.

Ground Motion Hazard Evaluation, U.S. Army Corps of Engineers (USACE), Southern California. Conducted seismic hazard analyses for four dams sites in Southern California (Whittier Narrows Dam, Prado Dam, California Institute for Women dike, and Robles Diversion Dam), under IDIQ for Los Angeles District of USACE. Work included assessment of site conditions, development of site-specific response spectra and time histories of earthquakes for use in seismic/structural evaluation of existing dams and planned new structures.

Fault Rupture Hazard Evaluation, Coyote Dam, Santa Clara Valley Water District, Santa Clara County, CA. Completed a trenching investigation of the Calaveras fault near a dam site to confirm the location, nature, and width of the active fault zone for the Santa Clara Valley Water District.

Ground Motion Hazard Evaluation, Transbay Transit Center and Downtown Caltrain Extension, Transbay Joint Powers Authority, San Francisco, CA. Lead geologist to perform probabilistic and deterministic seismic hazard assessments to develop design response spectra and suites of spectrally matched time histories for analysis of the planned new Transbay Transit Center and 1.3-mile long extension of the Caltrain commuter rail 1.3 miles into the new Transit Center. Specific considerations in developing the seismic hazard model and response spectra included implementation of the real-time probabilities of rupture for faults, implementation of NGA relationships and adjustments for hard rock site conditions, maximum and minimum earthquake demand, and rupture directivity effects.

Probabilistic Ground Motion Hazard Analysis (PSHA), Coyote Valley Dam, Moffatt & Nichol Engineers, Ukiah, CA. Project manager for a probabilistic ground motion hazard analysis of a dam site in Ukiah that was prepared for the U.S. Army Engineer Division, San Francisco. Characterized potential seismic sources using geologic, seismic, and geophysical data as inputs to the PSHA.

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The source model included uncertainties in the input parameters, which were incorporated in the analysis through the use of logic trees.

Dam Safety Seismic Hazard Assessment, Tennessee Valley Authority, TN. Performed a regional probabilistic seismic hazard assessment of the Tennessee Valley Authority region and 49 dam site locations. Developed seismic hazard model for central and eastern U.S., including preparation of a new earthquake catalog for recurrence analysis, and characterization of New Madrid and Charleston earthquake sources. Developed site-specific ground motion hazard maps for the TVA service area and site-specific response spectra for 49 dams.

Reanalysis of Thompson Creek Dam, Los Angeles County, CA. Analyzed fault rupture hazard as part of a seismic stability evaluation for the dam. Performed a review and analysis of historical aerial photographs and existing geologic information to assess potential geometries for active faults.

Seismic Hazard Analysis, Silicon Valley Rapid Transit System, Valley Transit Authority, San Jose, CA. Evaluated seismic sources for probabilistic and deterministic seismic hazard analyses and evaluated fault rupture hazard for the planned Silicon Valley Rapid Transit System expansion of the BART System (BART to San Jose) for the Valley Transit Authority. Work included interpretation of geologic, geophysical (shallow and deep refraction and reflection profiles, gravity and magnetic mapping), geotechnical, and InSAR data to assess potential for fault rupture through the tunnel segment of the system.

Bonneville Power Administration Seismic Risk Assessment, G&E Engineering Systems, Various Locations, OR. Lead geologist and project manager for the AMEC Geomatrix assessment of landslide hazards at the sites of 74 substations and 576 transmission towers along two transmission circuits. Work included development of landslide hazard screening model and maps for power line alignments, and characterizing the nature of the potential hazards and frequency of failures during selected scenario earthquakes in the region. Work also included site-specific investigations for liquefaction hazards at selected facilities.

Seismic Zonation and Geohazards Mapping, Philippines Department of Public Works and Highways, Luzon, Philippines. Project manager for this World Bank-funded Earthquake Reconstruction Project. Managed a multi-national consulting team in preparing regional and detailed urban geologic hazard maps for six urban areas and a regional study area in Central Luzon. Mapping was based on interpretation of aerial and SAR imagery, field reconnaissance, and geotechnical exploration. Geohazards maps included: ground-shaking site effects, surface fault rupture, earthquake-induced ground failure (landslides and liquefaction), and earthquake-induced flooding.

Seismic Improvement Program, San Diego Water Department, San Diego, CA. Participated in a study to evaluate seismic and geologic hazards, including fault rupture, landsliding, liquefaction, and settlement. Identified earthquake scenarios to use in evaluating potential damage to the water system (pipelines, tanks, pump stations, and reservoir intake towers) and participated in development of GIS-based maps showing potential geologic hazards for the water system.

Geologic Hazards Evaluations, California Hospital Facilities, Various Locations, CA. Directed geologic hazards evaluations to meet the requirements of California Senate Bill 1953 for acute care facilities at more than 40 hospital sites in California, including Woodland Medical Hospital. Work completed for these studies included assessing potential geologic and seismic hazards (surface fault rupture, liquefaction-settlement, landsliding, and flooding), identifying site soil conditions and probabilistic peak ground accelerations, and assessing historical ground shaking.



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Geologic Hazards Evaluation, National Missile Defense Facility Site, U.S. Army Corps of Engineers, Shemya, AK. Project manager for a detailed evaluation of potential for earthquake-related geologic hazards (surface fault rupture, soil liquefaction, soil differential compaction, landsliding, and flooding) at the proposed X-Band Radar (National Missile Defense Facility Site), Shemya, Alaska, for the U.S. Army Engineer Division, Huntsville District. The evaluation was based on the available geologic information, photogeologic interpretations, data compiled from Army records, and field studies of marine terraces on Shemya Island.

Geohazards Mapping and Probabilistic Ground Motion Hazard Assessment, URS Greiner, U.S. Army Corps of Engineers, Fort Richardson, AK; Fort Riley, KS; Fort Lewis, WA. Conducted a geologic evaluation for U.S. Army Corps of Engineers to develop estimates of the potential earthquake ground shaking (peak ground acceleration and response spectra) and to evaluate the potential for earthquake-related geologic hazards (surface fault rupture, soil liquefaction, soil differential compaction, landsliding, and flooding) for the cantonment areas at three U.S. Army posts. The evaluation was based on the available geologic information, data compiled from Army records, and a brief site reconnaissance. Responsible for the geologic hazards evaluations and developing the seismic source model for the site-specific ground motion hazard analysis.

Geologic Hazards Evaluation and Mapping, Central Campus, University of California, Berkeley, CA. Project manager for a geologic hazards evaluation performed for the Central Campus of the University of California at Berkeley. Work completed for these studies included assessing potential geologic and seismic hazards (surface fault rupture, liquefaction-settlement, landsliding, and flooding), identifying site soil conditions, and evaluating deterministic and probabilistic ground motions. The geologic hazards evaluation was based on a review of available geologic and geotechnical data, aerial photograph interpretation, and site reconnaissance. The products of this study included maps showing soil conditions and locations of geologic hazards for the Central Campus.

Bowles Hall Fault Rupture Hazard Evaluation, University of California, Berkeley, CA. Project manager for study to evaluate fault rupture hazard for Bowles Hall at the University of California, Berkeley. Work included geologic mapping, aerial photograph interpretation, evaluation of fault creep deformation, and fault trenching to identify the location and width of the zone of faulting associated with the Hayward fault adjacent to the southeast part of the building.

SELECTED PUBLICATIONS

Mr. Wells has authored and co-authored numerous peer-reviewed papers in professional journals and conference proceedings, and more than 30 abstracts for presentations at professional meetings. Recent abstracts of presentations and selected peer-reviewed papers are listed below.

"Ground Deformation Effects of the 12 January, 2010 Earthquake in Haiti", with Rathje, E., Bachhuber, J., Cox, B., French, J., Green, R., Olson, S., Rix, G., Suncar, O., Pena, L., and Mundara, T., *Seismological Research Letters*, v. 81, no. 3, p. 540, 2010.

"Broad Scale Probabilistic Screening for Landslide Hazard in Western Oregon", with T. Apel, H. AbramsonWard, and D. Wells. (Abs.) 2009 Annual Meeting of the Geological Society of America, Portland, Oregon. October 18–21, 2009.

"Nature of Active Traces of the Hayward Fault at the University of California, Berkeley", with F.H. Swan, S.C. Thompson, J.N. Baldwin, P.L. Williams, R.S. Rubin, A. Lavine, and N.T. Hall, *EOS, Transactions of the American Geophysical Union*, v. 88, no 52, Abs. No. S21A-0244, 2007.



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"The Hayward Fault", with Sloan, D., and 15 others, in 1906 San Francisco Earthquake Centennial Field Guides: Field trips associated with the 100th Anniversary Conference, 18-23 April 2006, San Francisco, California: Prentice, C.S., Scotchmoor, J.G., Moores, E.M., and Kiland, J.P., eds., Geological Society of America FLD007, 2006.

"Assessment of fault-creep deformation at Memorial Stadium, University of California, Berkeley, California", with Doolin, D.M., and Williams, P.L., Environmental and Engineering Geoscience, v. 11, no. 2, p. 125-139, 2005.

"Incorporation of real-time recurrence probabilities, site response effects, and rupture directivity effects in site-specific response spectra, Utah State Capitol, Salt Lake City, Utah", with Power, M.S., Youngs, R.R., and Chen, S., 13th World Conference on Earthquake Engineering, Vancouver, British Columbia, 15 p. 2004.

"Design ground motions for Cooper River Bridge, Charleston, South Carolina," with Power, M.S., Youngs, R.R., and Chiou, B., Geotrans 2004, Geotechnical Engineering for Transportation Projects, Los Angeles, California, 12 p., 2004.

"A GIS-Based Approach to Identifying Potential Seismic-Geologic Hazards to Facilities and Major Pipelines within the San Diego Water System," with Crampton, T.A., Traubenik, M.L., Preiss, J., and Keller, D.R., Proceedings of the 7th National Conference on Earthquake Engineering, Boston, Massachusetts, 6 p., 2002.

"Seismic hazard zonation in West-Central Luzon, Philippines", with Swan, F.H., Bowden, A., Tungol, N., and Quiambao, R., Proceedings of the 6th International Conference on Seismic Zonation, Palm Springs, California, November, 2000, 6 p.

"Probabilistic seismic hazard analysis and source characterization for Central and Eastern North America" with Angell, M., Hanson, K., Chiou, S.J., Youngs, R., Crampton, T., and Power, M., Proceedings of the 6th International Conference on Seismic Zonation, Palm Springs, California, November, 2000, 6 p.

"Seismic-Geologic Hazards Assessments at U.S. Army Installations", with eight others, Proceedings of the 6th National Conference on Earthquake Engineering, Seattle, 12 pages, 1998.

"Empirical Observations Regarding Reverse Earthquakes, Blind Thrust Faults, and Quaternary Deformation: Are Blind Thrust Faults Truly Blind?", with W.R. Lettis and J.N. Baldwin, Bulletin of the Seismological Society of America, v. 87, no. 5, p. 1171-1198, 1997.

"Ground Motion Mapping for Highway Design in the State of Oregon", with Youngs, R.R., Coppersmith, K.J., Hanson, K.L., and Di Silvestro, L.A., Proceedings, American Society of Civil Engineers Structures Congress, Portland, Oregon, 5 p., 1997.

"New Empirical Relationships Among Magnitude, Rupture Length, Rupture Width, Rupture Area and Surface Displacement," with Coppersmith, K.J., Bulletin of the Seismological Society of America, v. 84, no. 4, p. 974-1002, 1994.