

Pierre Handl, P.E.

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EXPERTISE:

Over thirty years experience providing design and construction management services for both small and large public and private sector projects. Projects included sewerage and water systems, heavy rail commuter and freight transportation, light rail transit and aviation facility improvements, commercial and residential land development projects and high technology facilities. I managed consultant services, contractors and an in-house staff responsible for preparing comprehensive studies, pre and final designs, writing specification, developing quality control programs and procedures, contract administration, value engineering, cost estimating and constructability reviews. In the areas of Forensic Engineering and Expert Witness services, I performed forensic civil/structural investigations for several insurance companies and provided Expert Witness testimony on several defense and prosecutorial construction defect and standard of care claims.

EDUCATION:

Master of Engineering (Civil) 1973
Bachelor of Engineering (Civil) 1970
The City College of the City University of New York

REGISTRATION:

Registered California Civil Engineer # 27472 (active)
Registered New York Professional Engineer #51785 (inactive)
Registered New Jersey Professional Engineer #21914 (inactive)

PROFESSIONAL MEMBERSHIP

American Institute of Steel Construction, Inc. (AISC)
American Society of Civil Engineers (ASCE)
International Code Council (ICC)
American Water Works Association (AWWA)

LAND DEVELOPMENT EXPERIENCE**Land Development
Projects****Residential Development, Beverly Hills, CA**

As Project Engineer, I prepared a due diligence report, requested by the developer's lender, to evaluate the technical feasibility of a proposed multi-family residential hillside property. The evaluation involved complete review of the design drawings, soils report, city requirements and a site visit.

Proposed Resort Development, Jackson Hole, WY

As Project Engineer, prepared a due diligence report, requested by the developer's lender, to evaluate the technical feasibility of a proposed resort. The report evaluated the technical feasibility to develop the property. The evaluation involved complete review of existing documentation that included the design drawings, soils report and local civic requirements.

Standard Oil Property, Simi Valley, CA

I prepared a comprehensive land development study and computed a rough order of magnitude (ROM) cost estimate for what it would take to develop a 1,500-acre

property located in Simi Valley, California. Property owned by the Standard Oil Company. The study provided master plan recommendations of the required civil works necessary for developing the property for commercial, industrial, and residential use. Areas investigated included mass grading, street improvements, storm drains, sanitary sewers, water systems, and power distribution.

Bramalea California, Inc., Residential Subdivision, Chino Hills, CA

Designed and prepared water distribution plans for a Chino Hills residential subdivision project.

Rancho Mission Viejo Master Plan Community, Mission Viejo, CA. Prepared a preliminary freeway interchange design for incorporation into the master plan transportation report required by Orange County, California. The design included the proposed horizontal and vertical alignments and the associated grading and drainage requirements.

Multi-family Condominium Project, City of Covina, CA

As Sr. Project Manager I was responsible for the preparation of preliminary grading, drainage and utility arrangement drawings for Tentative Map processing.

Large multi-family and mixed use development in the City of San Bernardino:

As Sr. Project Manager leading the Civil Engineering effort I was responsible for the preparation of preliminary grading, drainage, and wet utility plan preparation for Tentative Map submittal and processing through the City of San Bernardino.

OTHER CIVIL ENGINEERING EXPERIENCE

Substructure Utility Engineering (SUE) Utility infrastructure design, coordination and mitigation

Metro Rail Mid-City/Exposition Light-Rail Transit Project: As the Lead Utility Engineering Manager, I provided project wide technical support to the engineering and construction management staff on all issues relating to rearrangement of wet and dry utilities within the project corridor. Also, supervised a staff of five, two engineers and three cad technicians in preparation of final designs for relocating sewers and water lines.

Orange County Transportation Authority Centerline Light Rail Project: As Utilities Manager, I supervised a staff of seven engineers to conduct research and base map development of existing utilities along the proposed 9.3-mile LRT alignment. I also managed utility relocation designs for program development and public/private utility coordination.

Alameda Corridor

Supervised a team of engineers to conduct research and base map development of existing utilities along the Los Angeles, Alameda Transportation Corridor and provided utility design support for program development and utility coordination.

Pasadena Gold Line

Led a team of design engineers and cad technicians on the light rail, Los Angeles to Pasadena, Gold Line design-build project to mitigating utility interferences. Prepared hydrology reports and designed new storm drain infrastructure for LABOE approval. Prepared water line mitigation designs for LADWP approval.

Metrolink

I supervised a team of design engineers to provide utility, and drainage design services on the inauguration of Metrolink, commuter rail project, for the Southern California Regional Rail Authority (SCRRA). Designed and implemented a formal utility submittal program

incorporating fees to perform right-of-way and encroachment plan reviews, and subsequent field inspections. I coordinated efforts with MTA Real Estate Department in association with utility matters concerning right-of-way issues. Task Manager for Metrolink Communication design contract.

Hydro Modeling

Water, Sewer, and Storm Drain Computer Models

Used the application program "FAAST" on CDC and MCAUTO Cyber systems to develop hydraulic network models simulating existing and future water system conditions. I also used the application Hydronet to evaluate the requirements for water distribution, domestic and non-domestic, for the Ladera Ranch 600 acre master planned land development project.

Used Haested modeling programs to design small transmission and distribution systems associated with civil design projects.

Master Planning

Various Southern California Cities

Developed master plan studies for various California cities and water agencies. Clients included La Habra Heights Municipal Water District and Cities of Oxnard, Thousand Oaks, Ontario, and Manhattan Beach. Comprehensive computer models were prepared to evaluate the existing and proposed water system infrastructure to determine the most feasible and cost effective options to improve service and reliability for storage, transmission, and distribution facilities. In the case of La Habra Heights Water District, the goal was to reduce the number of existing pressure zones. Prepared and presented to clients, detailed reports and probable cost estimates for each capital improvement recommendation.

Specification Preparation

Los Angeles Metropolitan Water District (MWD)

Prepared Master Specifications for MWD covering both work and material topics associated with their design and construction of large water transmission projects.

Water Storage Facility

City of Thousand Oaks, California

Prepared site evaluation studies for a proposed, City of Thousand Oaks water storage facility using technical, operational, cost and esthetic parameters to arrive at recommendations for the best location to design and construct a 2 million gallon potable water storage tank facility. Some of the issues under study were the level of construction effort required to grade each site, soil conditions, access, drainage, and the level of screening required to make the tank less conspicuous from within the boundaries of the City. Other considerations included costs, constructability, environmental impacts, easements and required property takes.

Municipal Engineering

Laguna Beach, California

As a City Engineer, I supervised the City of Laguna Beach Engineering and Building Department personnel; coordinated and expedited work associated with the design, construction, and inspection of various private and public works projects. My other responsibilities included reviewing and approving plans and specifications of private and public projects. I conferred with the public, architects, engineers, and contractors on the various technical and ICBO requirements for their projects.

Construction Management of Sewerage and Storm Drain Systems

Hunts Point & Bowery Bay Sewage Treatment Plants New York, NY

I served as Assistant Project Manager for the City of New York, on two, large 200-MGD and 150-MGD sewage treatment plants. The scope of work included the construction management of improvements to upgrade the plants to handle double the treatment

capacities during full operation of the treatment plant. New facilities such as utility tunnels, aeration tanks, clarifiers, and digester facilities were constructed. For the existing facilities, the project called for change out of old equipment for new energy efficient motors, higher capacity pumps, blowers, and control equipment.

**New York City Department of Water Resources
Sanitary Sewer and Storm Drain Construction, Manhattan, The Bronx and Queens
Boroughs, New York, NY**

Served as a Section Engineer, managing the construction of all capital projects involving sanitary and storm sewers in the Borough of Queens, New York, located south of Grand Central Parkway. Many of the projects incorporated deep excavations within a dense urban setting, single and two-stage well-point systems for de-watering, installation of pile foundations for large single and double barrel RCP and monolithic reinforced concrete storm sewers and cofferdam construction. Projects Involved sewer maintenance projects to rehabilitate damaged sanitary sewers, resolving field problems, enforcing the terms of the contract, and recommending change orders justifying additional work or recovering credits for deleted work.

Storm Drain Construction, Irvine, CA

As Project Manager for a 4,000-ft, 48-inch storm drain, was responsible for managing the construction contract for the City of Irvine. Duties and responsibilities included review and approval of submittals, project site visits to resolve field and construction related issues, and for formulating solutions of contract compliance discrepancies by the contractor.

Rocketdyne Corporation, Orange County California

Pipeline Facility

Prepared sewer feasibility study for a sewer collection system at a rocket engine test facility owned by Rocketdyne Corp. in the hills of south Orange County, California.

Goodyear All American Pipeline System, Crude Oil Pump Station, Goleta, CA

I supervised a team of engineers and design drafters in the preparation of civil plans involving paved access roads, site grading, drainage infrastructure, and specifications for a crude oil pump station located in Goleta, California. The system is a 1,233-mile pipeline that connects oil fields in California with West Texas.

**Construction Quality
Control**

**The South African Coal, Oil and Gas Corporation Limited (SASOL), Springs, South
Africa and 200 B/D Refinery in Esfahan, Iran**

As a Quality Control Administrator, I was involved in developing comprehensive, project specific construction quality control programs. I prepared numerous QC procedures for field personnel to implement during construction of a coal gasification plant in Springs, South Africa and for a refinery in Esfahan, Iran.

Coal Gasification Demonstration Plant, US Energy Department, Cresap, WVI

I conducted a quality control audit of the civil structural and valve installations for a Coal Gasification Plant, at the request of the owner, The Department of Energy. The audit involved all the civil works activities involving but not limited to grading, drainage, concrete, and other structural components, and, the installation of valves and process piping. Following the audit, reviewed the findings with the Construction Project Manager, and recommended corrective actions.

High Tech. Facilities**Hughes Aircraft Company**

I Provided facility technical support to the Space and Communications Group, Hughes Aircraft Company, El Segundo California and Boeing, Long Beach, California.

Aviation Facilities**FAA Facilities – Federal Aviation Administration****National Airspace System Modernization Program, Manhattan Beach, CA**

Reorganized and improved an engineering service operation to support the engineering and construction management needs of the FAA, Western Pacific Region headquartered in Manhattan Beach, California. As the Engineering Manager, I was responsible to supervise over thirty multi-discipline engineers and construction inspectors to support the FAA, Western Pacific Region in their implementation of the regional NAS modernization plan. FAA facility projects included site improvements, grading, radar tower foundation and equipment-building design, removal of underground storage tanks and design site improvements to install new, double-walled storage tanks, design an access road to reach the top of an Hawaiian mountain to install and facilitate future maintenance of new FAA equipment.

**Forensic Engineering –
Provide Expert Witness
discovery and
testimony for
Construction Defect
claims.**

Served as an Expert Witness to defend or prosecute construction defect claims. Projects included:

- Provided expert opinion for the defending party on a \$10,000,000 claim for corrective work involving a large parking structure incorrectly located within the property with portions of the building encroaching into the public right-of-way.
- Provided expert opinion for defending party on a \$30,000,000 construction defect claim for damages to 40,000 square feet of masonry block walls alleged to have misapplied water proofing materials.
- Providing Expert opinion for the defending party on a \$160,000 construction defects claim because a roof collapsed during re-roofing of a single story commercial office building.
- Provided expert opinion for plaintiffs on two construction claims for defective construction involving two, multimillion dollar, custom designed, single-family dwellings. Issues included poor drainage, defective framing and foundation work.
- Prepared construction cost estimate for property damages to several single family dwellings caused by a large water main break.
- Prepared a preliminary engineering report describing the probable cause for frequent sewer backups from the main sewer line resulting in property damage to two single family dwellings.
- Testified as an Expert Witness for the plaintiff in a failed land development project in the County of Riverside, CA involving engineering errors and omissions relating to mapping, engineering, and delays associated with the processing of plans.

Employment and Consulting History

<u>EFI Global</u> <u>Ontario, California</u>	<u>7/2007 to Present</u>	<u>AECOM Technology Corp. (Parent Company to DMJM and Frederick R. Harris)</u> <u>San Pedro and Los Angeles, California</u>	<u>7/1990 to 9/93</u>
<u>Parsons Transportation Group</u> <u>Los Angeles, California</u>	<u>9/2006 - 6/2007</u>		
<u>DRC Corp.</u> <u>Corona, California</u>	<u>2/2006 – 8/2006</u>	<u>Marmac Corp.</u> <u>Cerritos, Ca.</u>	<u>10/89-6/90</u>
<u>Cordoba Corporation</u> <u>Los Angeles, California</u>	<u>7/02 to 1/2006</u>	<u>Hughes Aircraft Co.</u> <u>El Segundo, California</u>	<u>8/83 to 9/89</u>
<u>URS Corporation</u> <u>Los Angeles, California</u>	<u>7/01 to 6/02 (full time) & 7/02 to 4/04 (part time)</u>	<u>Williamson and Schmid</u> <u>Civil Engineers, Irvine, California</u>	<u>11/81 to 8/82</u>
<u>Parsons Washington JV (Contract)</u> <u>Pasadena, California</u>	<u>1/01 to 6/01</u>	<u>VanDell and Associates</u> <u>Irvine California</u>	<u>8/81-10/81</u>
<u>The JCM Group</u> <u>Los Angeles, California</u>	<u>9/00 to 12/00</u>	<u>ASL Consulting Engineers, Inc.,</u> <u>Alhambra, California</u>	<u>12/78 to 7/81</u>
<u>City of Irvine (Contract)</u> <u>Irvine, California</u>	<u>3/00 to 6/00</u>	<u>The City of Laguna Beach</u> <u>Laguna Beach, California</u>	<u>11/77 to 11/78</u>
<u>Metropolitan Water District of Southern California(Contract)</u> <u>10/1993-5/1996 & 5/1998- 7/1999</u> <u>Los Angeles, California</u>		<u>Fluor Engineers and Constructors, Inc</u> <u>Irvine, California</u>	<u>1/76 to 8/77</u>
<u>Moffat & Nichol</u> <u>6/1996-4/1998</u> <u>Long Beach, California</u>		<u>The City of New York</u> <u>New York, New York</u>	<u>6/70 to 12/75</u>