Loring A. Wyllie, Jr., SE

Senior Principal

Education

M.S., Civil Engineering,
University of California Berkeley, 1962

B.S., Civil Engineering,
University of California Berkeley, with Highest Honors, 1960

Professional Registration

CA Structural Engineer, License No. 1648

CA Civil Engineer, License No. 17179

TX Professional Engineer, License No. 44520

UT Professional Engineer, License No. 7241

TN Professional Engineer, License No. 114688

Qualifications

Loring A. Wyllie, Jr. has more than fifty years of professional experience. His work has included seismic evaluations, analysis, and design of strengthening measures for improved seismic performance. A number of these buildings are of historical significance. He is a past Chairman of the State Historical Building Safety Board, whose mandate is to evaluate and analyze methods for strengthening buildings that preserve their historic character. Loring is past-President of the Earthquake Engineering Research Institute (EERI). His contributions to the profession of structural engineering were recognized by his election to the National Academy of Engineering in 1990. In 2007, Loring was honored with the prestigious Outstanding Projects and Leaders (OPAL) Lifetime Achievement Award for design by ASCE. He was made an Honorary Member of the Structural Engineers Association of Northern California and Earthquake Engineering Research Institute. In recognition of his expertise in concrete design and performance, the American Concrete Institute named him an Honorary Member in 2000. Loring was elected an Honorary Member of the American Society of Civil Engineers in 2001.

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Professional Affiliations

International Association for Bridge and Structural Engineering: Vice President, 1997 – 2001; Chairman, USA Group, 1987 to present; Chairman, Organizing Committee, Annual Meeting, 1995; Member, Working Commission III, Reinforced Concrete, 1985 - 1993; Honorary Member, 2007.

Earthquake Engineering Research Institute: President, 1995 - 1997; Director, 1986 - 1989, 1994 - 1998; Member, Steering Committee, Eighth World Conference on Earthquake Engineering, 1984; Honorary Member 2005.

State Historic Building Safety Board: State of California, 1976 to present; Chairman, 1993 - 1998; Vice- Chairman, 1990 - 1993.

American Society of Civil Engineers: President, San Francisco Section, 1980 - 1981; Chairman, Committee on Concrete and Masonry Structures, 1981 - 1984; Chairman, Joint ASCE-ACI Committee on Reinforced Concrete Columns; Member, Joint ASCE-ACI Committee on Joints and Connections in Monolithic Concrete Structures; Program Chairman, 1977 ACI Annual Convention; Member, Committee on Convention Policy; Honorary Member, 2001; OPAL Lifetime Achievement Award for Design, 2007.

American Concrete Institute: Director, 1985 - 1988; Member, Technical Activities Committee, 1982 - 1988; Member, Committee 318, Standard Building Code, 1972 to present; Honorary Member, 2000.

Structural Engineers Association of California: President, 1987-1988; Director, 1978 - 1980, 1986 - 1989; Fellow Member, 2000.

Structural Engineers Association of Northern California: President, 1985 - 1986; Director, 1976 - 1978, 1984 - 1987; Chairman, Associates Activities Committee, 1967; Chairman, Building Codes Committee, 1971 - 1972; Chairman, Seismology Committee, 1975 – 1976, Honorary Member, 1998.

Building Seismic Safety Council: Chairman, Provisions Update Committee, 1988 - 1994; Member, 1994 to 2000.

U.S. National Academy of Engineering: Elected to membership, 1990; Chair of Civil Engineering Section, 1999 – 2001; Member, Civil Engineering Peer Committee, 1997 – 2000.

International Association for Earthquake Engineering: Vice President 2000-2008.

Awards

Phi Beta Kappa

Tau Beta Pi

Chi Epsilon

2007 American Society of Civil Engineers (ASCE) Outstanding Projects and Leaders (OPAL) Lifetime Achievement Award

Henry L. Kennedy Award, American Concrete institute,1985

H.J. Brunnier Award, San Francisco Section, American Society of Civil Engineers, 1985

Alfred E. Lindau Award, American Concrete Institute,1999

Distinguished Engineering Alumnus, Engineering Alumni

Society, University of California, Berkeley, 2001

Academy of Distinguished Alumni, Civil and Environmental Engineering, University of California Berkeley, 2012

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Higher Education

Sonoma State University, Environmental Technology Center
Rohnert Park, California
Provided the structural design of the Center using environmentally sensitive materials.

University of California Buildings, Seismic Evaluation
Various Locations in California
In the late 1970s, led a team that visited all nine campuses of the University of California and assigned tentative seismic performance ratings based on a rapid seismic evaluation of all significant buildings. The information was utilized by the system-wide administration in establishing policies and by campuses for planning detailed seismic evaluation programs. Over 44 million square feet of buildings were evaluated to facilitate further studies of seismic vulnerability throughout the University's campuses.

University of California (UC) Santa Barbara, Francisco Torres Towers, Seismic Upgrade
Santa Barbara, California
Designed seismic upgrade measures to improve the University of California Seismic Rating of these two, ten-story reinforced concrete, residential towers to "Good". The seismic corrections and renovations project is a fast - tracked project that is projected to complete construction by Fall 2004.

UC Berkeley, University House, Seismic Upgrade
Berkeley, California
Seismically upgraded this unreinforced masonry historic building on the university campus. Built around the turn of the century in the Beaux Arts style, this three-story structure serves as the Chancellor's residence.

UC Berkeley, Dwinelle Hall, Feasibility Study
Berkeley, California
Conducted a feasibility study to expand Dwinelle Hall. Evaluated the existing structure and determined the capacity of the existing attic slab and typical structure below.

UC Berkeley, University Hall, Renovation
Berkeley, California
Developed an innovative strengthening system for this seven-story, rectangular concrete building. Formerly rated "Very Poor" under the University of California's seismic criteria, this building was strengthened with an exterior steel system of braces, which allowed the building to remain occupied during construction. Its seismic rating has been upgraded to "Good," and won awards from the Consulting Engineers Association of California (CEAC) and the Lincoln Arc Welding Foundation.

UC Berkeley, Bancroft Library, Renovation
Berkeley, California
Developed a retrofit scheme for the Bancroft Library to both increase usable space and provide a seismic resistant system. Bancroft Library is a historical archive of irreplaceable books, manuscripts, papers and other documents. The seismic strengthening approach seeks to protect the contents of the space, as well as its occupants. An increase in usable space is being provided by a complete interior renovation of the structure with thoughtful placement of a lateral force resisting system.

UC Berkeley, Law School Expansion & Renovation
Berkeley, California
Provided structural peer review services for a design/build addition and an independent evaluation of library stacks.

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UC Berkeley, Memorial Stadium, Seismic Evaluation
Berkeley, California
Evaluated Memorial Stadium for seismic deficiencies and effect of the Hayward Fault which passes through the structure. Recommended mitigation approaches to accomplish a fault offset and provide safety to occupants. Then served as peer reviewer for adjacent Student Athlete Training Center and the full renovation of Memorial Stadium.

UC Berkeley, Doe Library, Renovation
Berkeley, California
Reconstructed and strengthened the core of this historic library after the demolition of the central stack area. Conducted a study of the historic North Reading Room and of the Doe Annex to determine seismic strengthening schemes. Seismically strengthened the Reading Room. This library is a steel load-bearing frame with concrete infill designed in the early 1900s by John Galen Howard.

UC Los Angeles, South Parking Structure, Structural Repair
Los Angeles, California
Designed repairs to this post-tensioned concrete parking structure that suffered severe cracking and waterproofing problems. The cracks in the parking slabs were sealed and drains were added.

UC Los Angeles, Chiller/Cogeneration Facility, Peer Review
Los Angeles, California
Peer reviewed for a sizable chiller cogeneration facility and related work on the UCLA campus.

UC Los Angeles, Molecular Life Science Building, Peer Review
Los Angeles, California
Peer reviewed the structural design of this $26 million steel framed building.

UC Los Angeles, Southern Regional Library, Seismic Evaluation
Los Angeles, California
Conducted a thorough review and evaluation of structural calculations, drawings and specifications for a new $15 million structure that included compact shelving facility.

UC Los Angeles Buildings, Seismic Evaluation
Los Angeles, California
Conducted evaluations of potential seismic performance for the following buildings: Moore Hall, Powell Library, Jules Stein Eye Institute, Kerckhoff Hall, Dykstra Hall, Hedrick Hall, Rieber Hall, Sproul Hall, LeConte-Tiverton Garage. The project included providing preliminary reinforcement schemes and cost estimates.

UC Los Angeles, Science & Technology Research Building, Peer Review
Los Angeles, California
Provided structural peer review of the design for this new building located on the southwest campus. Reviewed the structural design and features in accordance with applicable codes, project requirements, and university policy.

UC Irvine, Seismic Evaluation
Irvine, California
Seismically evaluated eight steel frame buildings on the campus using FEMA 178. The evaluations provided a second opinion on the facilities' compliance with University Seismic Criteria. Also performed structural evaluations of Physical Sciences Building Unit 1 (Rowland Hall), Graduate School of Management, and

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Irvine Hall, and developed several seismic strengthening schemes for all of these buildings.

UC Irvine, Library Building, Seismic Strengthening
Irvine, California
Designed the seismic strengthening of this shear wall building. Also, provided construction support to allow all strengthening to be completed during the summer k.-

UC Irvine, Medical Center, Seismic Evaluation
Irvine, California
Seismically evaluated eight steel frame buildings at the medical center using FEMA 178. The evaluations provided a second opinion on the facility's compliance with University Seismic Criteria. Also provided SB 1953 evaluations of an existing hospital constructed in 1960.

UC Irvine, Peer Review & Seismic Review
Irvine, California
Selected structural peer and seismic review consultant for several prominent UC Irvine projects including: Administration Building, Beckman Center, Buildings 31 and 32, Cancer Center, Humanities Building and Fine Arts Facility, Middle Earth Housing, Mesa Court Housing, Student Health Center, and Undergraduate Housing.

UC Irvine, Rowland Hall Seismic Improvement
Irvine, California
Evaluated the building previously and proposed a schematic level exterior buttress retrofit scheme. Also, peer reviewed the retrofit design of the building by another firm which followed Degenkolb's proposed scheme. The construction of the concrete moment frame buttresses is now complete.

UC Santa Cruz, Natural Sciences Two, Peer Review
Santa Cruz, California
Peer reviewed services for the seismic upgrade of a building damaged in the Loma Prieta earthquake.

UC Santa Barbara, Davidson Library 1965 Addition, Structural Peer Review
Santa Barbara, California
Peer reviewed the seismic strengthening design for the eight-story portion of Davidson Library.

UC Santa Barbara, Fault Impact, Santa Catalina
Goleta, California
Reviewed Degenkolb's seismic strengthening work in comparison with current standards and advised the campus of impacts of the fault if it were to offset. Also provided guidance on the proposed new construction on a near fault location.

UC Santa Barbara, Three Residential Properties, Seismic Evaluations
Santa Barbara, California
Peer reviewed the seismic evaluation of two and three story wood framed buildings built in the 1960's. Designed alternative seismic strengthening concepts to meet the UC's GOOD standard.

UC Santa Barbara, Solar PV Project, Structural Peer Review
Santa Barbara, California
Peer reviewed a parking shade canopy on Surface Parking, ballasted roof mounting on Robertson Gym and the Events Center and long span roof top shade canopy on Mesa Parking Structure, Elings Hall Parking Structure and the San Clemente Parking Structure.

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Stanford University, Encina Hall South, Renovation
Stanford, California
Designed renovation and seismic strengthening scheme for a wing of this historic building used originally as the Dining Hall of the men's dormitory.

Stanford University, Encina Hall East, Structural Assessment
Stanford, California
Prepared a structural assessment and seismic strengthening as part of a programming study for housing the Institute for International Studies in this historic building. One of the first buildings on campus when opened in 1891, this unreinforced sandstone masonry building required upgrading to conform with local ordinances and the University's performance criteria.

Stanford University, Lagunita Court, Seismic Strengthening
Stanford, California
Provided the schematic design of seismic strengthening for this historic complex. Built in 1935, the Lagunita Court Buildings consist of several one and two-story buildings linked together to form a housing and dining complex. Developed construction documents to implement the strengthening scheme, which is designed to meet Stanford's seismic strengthening guidelines while having only a minimal impact on the current use of the building.

Stanford University, Linear Accelerator Buildings 005 & 272, General Evaluation
Stanford, California
Designed detailed evaluations and developed strengthening concepts for two buildings at the Stanford Linear Accelerator.

Stanford University, Education Building, Seismic Study
Stanford, California
Performed a seismic study and conceptual retrofit design of an historic 1938 reinforced concrete building at Stanford.

City College of San Francisco, John Adams Campus Modernization, Peer Review
San Francisco, California
Peer reviewed a building that was the old Lowell High School built about 1911 with reconstruction and restoration work done in 1934 and 1935, undoubtedly after the State of California passed the Field Act in 1933.

Peer Review

Pellas Group Corporate Headquarters, Peer Review
Managua, Nicaragua
Selected as consultant and structural peer reviewer for this high rise building. Directed the design towards a building that performed well with minimal damage in future earthquakes. Developed seismic resisting system from conceptual architectural drawings and then peer reviewed the structural design throughout the design and construction progress.

South Fork Tolt River Dam, Peer Review
Washington
Peer reviewed the seismic evaluation and retrofit of the Tolt Spillway and Intake Towers. The project also involved serving on a peer review panel for the Federal Energy Regulatory Commission.

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Dal Grauer & Murrin Substations, BC Hydro, Peer Review
Vancouver, British Columbia
Peer reviewed and seismically evaluated reports with upgrade recommendations for two reinforced concrete substations.

Airport Renovation & Seismic Strengthening
Guam
Peer reviewed seismic strengthening and renovations to add a sterile concourse for international arrival.

University of California (UC) Los Angeles, Southern Regional Library, Peer Review
Los Angeles, California
Conducted a thorough review and evaluation of structural calculations, drawings and specifications for a new $15 million structure which included a compact shelving facility.

UC Los Angeles, Molecular Life Science Building, Peer Review
Los Angeles, California
Peer reviewed the structural design of this $26 million steel framed building.

UC Los Angeles, Science & Technology Research Building, Peer Review
Los Angeles, California
Peer reviewed the design for this new building located on the southwest campus. Reviewed the structural design and features in accordance with applicable codes, project requirements, and university policy.

San Jose Civic Center, Peer Review
San Jose, California
Peer reviewed the San Jose Civic Center, which is the structural design review of a facility containing an 18 story, 400,000 square foot office building, a 13,000 square foot Rotunda dome, 93,000 square foot of council space and 160,000 square foot of parking. The structural systems include concrete and steel framing with steel moment resisting frames, steel eccentrically braced frames and concrete shear walls to resist seismic loads.

San Jose International Airport, Terminal A, Peer Review
San Jose, California
Provided peer review of a three-story 10-gate building (American Airlines and USAir), a pedestrian bridge, baggage claim building, and six-story parking garage. These projects were part of a $125 million improvement project. The scope of services included the critique of the design criteria; a review through all phases of design, including the design calculations; and construction documents.

Transbay Transit Center, Peer Review
San Francisco, California
Served as Chair of the Structural and Seismic Review Panel for the new Transbay Transit Center. Project is over a three block radius and has a deep basement for trains and an elevated bus loading facility, along with a bus ramp bridge connection to the San Francisco - Oakland Bay Bridge.

300 Spear Street, Peer Review
San Francisco, California
Led the peer review of two, 350- to 400-foot-tall reinforced concrete towers located in downtown San Francisco, California. At this height, the building design exceeds the 240 foot height limit mandated by the San Francisco Building Code. Appointed by the City of San Francisco and led by Loring Wyllie, a peer review panel is reviewing the structural design concepts, recommending any additional criteria that should be met and reviewing the design at key stages for compliance with the criteria. The team relied heavily on the FEMA 356 methodology for the verification of the

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adequacy of the design.

45 Lansing Street Condominium, Peer Review
San Francisco, California
Peer Reviewed a 39-story tower for residential units.

Continental Airlines Hangar, Peer Review
Denver, Colorado
Peer reviewed the structural design of a hangar at Denver International Airport.

Boeing Facilities Expansion, Peer Review
Everett and Renton, Washington
Peer reviewed the structural design of various additions and new buildings. These structures are used for the manufacture of airplanes and include clear spans of 300 to 350 feet wide, 90 feet high, and up to 1000 feet long.

Sacramento Wastewater Treatment Plant Expansion, Peer Review
Sacramento, California
Peer review of two expansion projects that included subsurface conduits, tanks and basins, and alterations to structures. Also participated in a Value Engineering Workshop.

Parking Structures

Plaza Parking Structure, Seismic Evaluation
San Jose, California
Reviewed and evaluated remedial strengthening work for a parking structure found to be deficient in earthquake-resisting capacity.

Santa Clara Convention Center Parking Garage, Investigation
Santa Clara, California
Investigated areas of structural distress in this pre-cast concrete parking structure and designed remedial measures.

Custom House Parking Structures, Structural Review
Monterey, California
Provided a structural review of two post-tensioned parking structures with serious cracking in slabs, walls, and staircases. Also prepared plans and specifications for repairs.

University of California (UC) Los Angeles, LeConte-Tiverton Parking Structure, Seismic Strengthening
Los Angeles, California
Designed seismic strengthening measures for an existing three-story parking structure and provided construction support.

UC Los Angeles, Lot 32 Parking Garage, Structural Evaluation
Los Angeles, California
Performed a complete structural evaluation and plan check of a new parking structure prepared for the University by a design-build team.

Mountain View Civic Center Parking Garage, Structural Review
Mountain View, California
Provided a general structural review of drawings, specifications, and calculations for compliance with the Uniform Building Code of a 210-car underground parking garage, a five-story municipal building, and 600-seat theater and rehearsal hall.

Tunneling & Shoring

In his long career, Mr. Wyllie has been involved in over 30 projects involving shoring, underpinning, or tunneling work.

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Following is a selection of the most recent projects.

101 Second Street, Shoring
San Francisco, California
Designed shoring for the excavation of this high rise building.
St. Jerome's Retaining Wall, Investigation
San Francisco, California
Investigated the collapse of this retaining wall in the El Niño winter and designed a replacement wall utilizing an earth beam to minimize costs.

San Francisco Firemen Credit Union, Shoring
San Francisco, California
Designed shoring for a small office building.

Silicon Valley Financial Center, Shoring
San Jose, California
Designed a shoring system for a 40-foot deep excavation adjacent to the Santa Clara County Transit Light Rail System and a historic 100-year old museum building.

Stanford University, Encina Hall East, Shoring
Stanford, California
Designed shoring to enable the contractor to brace walls during demolition and construction on this unreinforced masonry building.

San Francisco Centre Retail Complex, Tunneling
San Francisco, California
Prepared the design of a soldier beam and lagging bulkhead for a 38-foot deep excavation next to the BART Powell Street subway station. The north bulkhead, adjacent to BART, was supported by internal bracing while the remaining bulkheads were supported by tieback anchors. The earth retention system also served as underpinning for three mid-rise buildings located on two sides of the site, including the historic Emporium building.

One Market Plaza, Shoring
San Francisco, California
Designed shoring in deep soft clays, adjacent to the historic Southern Pacific Railroad Building. The design included monitoring systems that permitted evaluation of the bulkhead performance and resulted in cost savings to the owner through modification of the bulkhead design during construction. The design received Honorable Mention in the National Awards for Engineering Excellence competition of the American Consulting Engineers Council.

333 Bush Street, Underpinning
San Francisco, California
Designed the retention system for a 40-foot deep excavation and underpinning for three mid-rise buildings.

Embarcadero Center West Office Tower & Park Hyatt Hotel, Excavation
San Francisco, California
Prepared the design of steel sheet pile bulkheads with internal bracing for twin 50-foot deep excavations in soft clay soils. Each site was situated adjacent to pile supported high-rise buildings.

Metro Rail, Tunnel Work
Los Angeles, California
In connection with consulting engineering services for evaluating the effects of tunneling operations on structures along the proposed tunneling routes, evaluated the effects of this work on Northridge earthquake-damaged buildings along Hollywood Boulevard.

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Metro Rail Blue Line, Underpinning
Pasadena, California
Served as Project Mentor for the design of underpinning of ten historic buildings in downtown Pasadena to allow construction of a 35-foot deep grade separation tunnel.

345 California Street, Excavation
San Francisco, California
Designed a steel sheet pile bulkhead for a 30-foot deep excavation in soft clay soils. Used innovative long-span waler systems on two sides to permit use of only two bracing struts. The site was located in the heart of San Francisco's Financial District, adjacent to four pile-supported high-rise buildings.

Metro Rail Red Line, Tunneling Work
Los Angeles, California
Served as consultant for evaluating the effects on structures of the proposed tunneling operations in the Los Angeles area. The project involved preparation of contract drawings and specifications for protection of buildings immediately above and next to the proposed tunnel driving. Designed permanent underpinning for a two-level parking garage that involved re-supporting building columns on massive grade beams and mini-piles spanning over tunnels.

University of California, San Francisco Medical Center, Mt. Zion Campus Outpatient Cancer Center, Shoring
San Francisco, California
Design a shoring system to support a new space two stories below grade and adjacent to two existing buildings. The shoring scheme consisted of soldier beams, wood lagging, tiebacks and underpinning piers. The shoring system supported an operating hospital and the design was reviewed and approved by OSHPD.

Historic

Walt Disney Family Museum, Seismic Strengthening
San Francisco, California
Degenkolb Engineers, along with prime consultant, Page & Turnbull, had the challenging task of maintaining the historic integrity of the exterior of a 110-year-old unreinforced masonry building while completely transforming the interior. Provided the concrete and steel seismic retrofit, strengthened the floors, and designed bracing and anchorage of all of the exhibits within the museum. To increase space in the museum, the project team altered the building from C-shaped to square-shaped and excavated some 30 feet to add a full sub-basement and auditorium underneath 60 percent of the building.

South San Francisco Carnegie Library, Seismic Evaluation
South San Francisco, California
As prime consultant, seismically evaluated and rehabilitated of this city-owned landmark building. It is an historic unreinforced masonry structure with one-story plus a basement.

City of Napa, Goodman Library & Borreo Building, Seismic Evaluation
Napa, California
Seismic evaluated and prepared construction documents for two City owned buildings to bring them into compliance with the Uniform Code of Building Conservation (UCBC) and the State Historic Building Code (SHBC). The Goodman Library is a two-story unreinforced stone masonry building originally constructed in 1901. Also a two-story unreinforced masonry building, the Borreo Building was originally constructed in 1887. The city of Napa has obtained a FEMA mitigation grant for the Goodman Library and after detailed historic review by FEMA and SHPO construction began in 2004.

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Charles Krug Winery, City of St. Helena, Seismic Evaluation
St. Helena, California
Seismically evaluated and strengthened services for two stone buildings registered as state historic landmarks to comply with the City of St. Helena URM ordinance. Also prepared construction documents.

San Jose Museum of Art, Seismic Strengthening
San Jose, California
As prime consultant, seismically strengthen this historic unreinforced masonry building. This work included coordinating the work of historic architecture consultants who assisted in evaluating the exterior sandstone.

Ferry Building, Seismic Strengthening
San Francisco, California
Implemented a seismic strengthening scheme for this national landmark and symbol of the city. Also provided post-earthquake inspection, designed emergency repairs, and performed a seismic analysis of the structure which has survived both the 1906 and the Loma Prieta earthquakes. The project involved developing alternate seismic strengthening solutions. Recommendations were commended in a letter from the State of California Office of Historic Preservation to FEMA.

Bank of California Building, Post-Earthquake Evaluation
San Francisco, California
Designed repairs for the Loma Prieta earthquake damage of this historic banking hall built in 1908. Load bearing granite columns suffered cracks that were repaired by reinforcing the walls from behind using needle beams to support the cornice, and replacing the damaged granite with exactly matching stone from the original quarry.

Pacific Bell Building, 140 New Montgomery, Seismic Evaluation
San Francisco, California
Seismically evaluated of this 27-story landmark building. Designed methods to rehabilitate exterior surfaces, strengthen the parapet, construct new terra cotta ornamental anchorage details, and new steel framing for replacement of ornamental eagles on top of the building. Also, designed structural support framing for overhanging construction scaffolding and provided construction support and inspection.

Building 1801 Presidio, Seismic Evaluation
San Francisco, California
Seismic and structurally evaluated this building including any Loma Prieta earthquake damage. This large six-story building, originally built in 1929 of steel and brick with a concrete addition constructed in the 1950s, was formerly a military hospital. Also provided structural support for the asbestos abatement design.

Fort Mason Officer's Club, Structural Assessment
San Francisco, California
Structurally and seismically assessed this historic stone masonry and wooden structure.

Camel Barn Warehouse, Distressed Structure
Benicia, California
Designed and detailed the repair of rot damaged wood flooring in this historic building. In addition, underfloor ventilation schemes were developed to allow air circulation of the crawl space to prevent future moisture buildup and rot damage. All aspects of the design were sensitive to the historic nature of the building. The building is now utilized as concert hall, reception venue, and meeting space as well as housing the Museum on

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the upper level.

Greystone Cellars, The Gatehouse Building, Renovation
St. Helena, California
The Gatehouse building at Greystone Cellars was converted for use as a teaching location for the Culinary Institute of America. The existing rough stone perimeter walls are strengthened with a thin layer of shotcrete, with the interior structure completely gutted and replaced. A new light-framed kitchen addition was also incorporated into the design.

City Buildings, Surveying
St. Helena, California
As project manager, surveyed the unreinforced masonry buildings in St. Helena and assisted the city in developing an ordinance.

Lewelling Warehouse Building, Seismic Upgrade
St. Helena, California
Designed the seismic upgrade of an unreinforced stone masonry structure built in 1880.

Le Mesnager Barn, Seismic Strengthening
Glendale, California
Evaluated and designed seismic strengthening of this historic stone masonry barn now located in a city park.

Stags Leap Winery, Seismic Strengthening
Napa Valley, California
Provided seismic strengthening details for a stone masonry house used currently for hospitality, a stone masonry winery building and a stone masonry warehouse building which was somewhat damaged by the 2000 Napa earthquake.

Yosemite National Park, The Ahwahnee, Seismic Evaluation
Yosemite Village, California
Designed a detailed seismic evaluation of the historic Ahwahnee Hotel in Yosemite Vally. Recommended seismic improvements to enhance performance on future earthquakes. Also designed new exitway from the fifth and sixth floors to meet fire resistant standards.

Mariposa County Courthouse, Seismic Evaluation
Mariposa, California
Seismically and structurally evaluated the two-story timber courthouse built in 1854, the oldest continually operating courthouse in the U.S west of the Mississippi River. Also designed structural improvements for the building consistent with historic preservations.

Religious Buildings

St. Patrick's Seminary, Seismic Strengthening
Menlo Park, California
A large, historic unreinforced masonry complex constructed around 1900, St. Patrick's Seminary was re-built after sustaining significant damage in the 1906 earthquake. The complex consists of three large wings, used mainly as dormitories, a chapel, and other auxiliary buildings. Using the Uniform Code for Building Conservation, an alternative strengthening scheme that was cost-effective and less disruptive to the historic fabric was developed. The strengthening for two of the wings included the addition of new shotcrete walls, new wall anchorage connections, and some re-pointing of the masonry. The complex strengthening of the chapel and last wing is planned to start in the summer of 2001, and includes adding new shotcrete walls, new steel bracing, new concrete slabs, and new wall anchorage connections.

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St. Thomas Aquinas Cathedral, Seismic Strengthening
Reno, Nevada
Designed the seismic strengthening and additional renovations for a 1907 cathedral of unreinforced stone and brick masonry.

Lafayette-Orinda Presbyterian Church, Sanctuary Building, Seismic Evaluation & Strengthening
Lafayette, California
Defined suitable mitigation strategies and developed construction documents.

St. Patrick's Catholic Church, Seismic Evaluation
San Francisco, California
Provided a seismic evaluation and strengthening scheme for this historic church to bring the building into compliance with the City's URM Ordinance. The project won a California Preservation Foundation Annual Design Award.

St. Peter's Church, Investigation
San Francisco, California
St. Peter's Church was originally constructed in 1867 and was damaged by fire in early 1997. Investigated the fire damage and prepared structural design of repairs. The project is an example of thoughtful restoration and was featured in the January/ February 2001 issue of Traditional Building.

St. Paul's Church, Seismic Retrofit
San Francisco, California
Designed a seismic retrofit to bring the building into conformance with the URM. Previous work included a study and recommendations for strengthening of both the church and convent.

Our Lady of Guadelupe, Seismic Evaluation
San Francisco, California
Project Manager for the evaluation and design of strengthening measures for the San Francisco Archdiocese in connection with the conversion of this church to temporary school occupancy.

St. Vincent de Paul Church, Seismic Evaluation
San Francisco, California
Served as Project Manager for the evaluation of the existing wood trusses to determine their capacity to support new slate roofing. Also, seismically evaluated and strengthened the building to bring it into compliance with the City's URM Building Ordinance.

St. Boniface Church, Structural Evaluation
San Francisco, California
Structurally evaluated the historic unreinforced masonry rectory, church, and school. Also, designed the seismic strengthening with a view to preserving unique architectural features.

Calvary Presbyterian Church, Seismic Evaluation
San Francisco, California
Seismically evaluated and implemented strengthening for this 1901, unreinforced masonry (URM), Sanctuary Building at this historic, San Francisco church. The building consists of two stories plus a basement, and the sanctuary is one tall story with a basement, totaling 31,700 square feet. The strengthening was designed to meet the State Historic Building Code and the Uniform Code for Building Conservation, in order to comply with the San Francisco URM Ordinance. The strengthening scheme creatively fit within the building's historic fabric, virtually invisible following construction. The project also included an elaborate architectural remodel, creating structural

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challenges; the removal of an old staircase and addition of a new one, the extension of the elevator to serve the basement level, and the creation of an exposed brick lobby. The church remained fully operational during construction, and the City's second largest pipe organ remained untouched. The project came in $700,000 under budget.

St. Luke's Episcopal Church, Seismic Evaluation
San Francisco, California
Evaluated and strengthened details for this steel frame church with brick infill and one bearing wall for purposes of compliance with the URM Ordinance. Also, strengthened the parapets.

Third Church of Christ Scientist, Seismic Evaluation
San Francisco, California
Provided a seismic evaluation and strengthening recommendations for this unreinforced masonry building to bring it into conformance with the URM.

Trinity Episcopal Church, Investigation
San Francisco, California
Investigated this 1890 stone and brick mason church and recommended seismic strengthening measurements. Also, prepared construction to strengthen the facility.

St. Francis of Assisi, Seismic Strengthening
San Francisco, California
Provided seismic engineering consultation including strengthening recommendations to bring this Archdiocese of San Francisco church into compliance with the City's URM Ordinance.

Sacred Heart Church, Feasibility Study
San Francisco, California
Performed a study of this unreinforced masonry structure for its conversion into a smaller church and a neighborhood recreation facility.

St. Jarlath's Parish, Seismic Evaluation
Oakland, California
Performed Phase I and II seismic evaluations of the church and the school, convent, and gymnasium complex at this parish. The church is a two-story, reinforced concrete and reinforced masonry structure, and the others are unreinforced masonry buildings. Also, provided the seismic strengthening design and prepared construction documents for the school structure.

Diocese of Oakland, Post-earthquake Evaluation
Oakland, California
Performed post-earthquake evaluations of several churches and buildings. Developed and recommended seismic repair and strengthening measures for each building. Also performed seismic evaluations of numerous buildings to develop strengthening recommendations for repairs.

First Unitarian Church, Post-earthquake Evaluation
Oakland, California
Provided a post-earthquake evaluation and designed repairs of this local, state, and national landmark which was originally built in 1891. Also, developed interim seismic strengthening measures.

San Francisco Theological Seminary, Seismic Evaluation
San Anselmo, California
Serving as project mentor, seismically evaluated and developed a strengthening scheme for Montgomery Hall and Scott Hall, originally constructed in the 1890s with unreinforced stone masonry walls and wood-framed floors. Prepared construction documents for the cost-effective strengthening scheme,

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bringing the buildings into compliance with the State Historic Building Code and the Uniform Code of Building Conservation. The scheme included adding new concrete walls, new seismic wall cores, new plywood sheathing, a new horizontal steel braced diaphragm, new wall anchorage connections, and epoxy injection. In recognition of the scheme's preservation of the historic fabric of the buildings, the project won a 2001 design award in the Rehabilitation/Adaptive Re-use category from the California Preservation Foundation, and a Certificate of Recognition Award from the California Heritage Council.

St. Leo's School, Seismic Upgrade
Oakland, California
Seismically upgraded this cast-in-place reinforced concrete school building.

St. Mary's Cemetery, Seismic Strengthening
Oakland, California
Provided the schematic design for the strengthening of an unreinforced masonry office building and portal. This facility is owned by the Diocese of Oakland.

Diocese of San Jose, Seismic Risk Assessment
San Jose, California
Conducted a seismic risk assessment of about 255 buildings. Also, designed strengthening for the Cathedral House, Sacred Heart Church, and St. Patrick's School. Provided detailed studies of additional buildings and construction documents for selected buildings to correct seismic deficiencies.

St. Frances de Sales Rectory, Structural Evaluation
Oakland, California
Designed the structural evaluation of this wood frame building with brick veneer and made recommendations to mitigate any potential seismic hazards.

St. Augustine's School, Seismic Strengthening
Oakland, California
Designed seismic strengthening for this school owned by the Diocese of Oakland.

St. Mary's Church, Voluntary Seismic Strengthening
Oakland, California
Provided construction documents for the voluntary seismic strengthening to Life Safety standards of a wood church built about 1872.

Sacred Heart Convent & Rectory, Seismic Evaluation
Oakland, California
Prepared an evaluation of these wood frame buildings with brick veneer and made recommendations for strengthening.

St. Cornelius's Parish, Seismic Strengthening
Richmond, California
Designed seismic strengthening for this masonry church and concrete school.

St. Joseph's Cathedral Renovation
San Jose, California
Consultant to the contractor during the complex construction of the seismic strengthening of this massive, brick, bearing wall cathedral built prior to the 1906 San Francisco earthquake.

St. Anne's Church, Seismic Code Upgrade
Walnut Creek, California
Designed the seismic code upgrades and strengthening of the reinforced concrete moment frame church. Also, designed an addition to the parish hall.

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Holliston United Methodist Church, Seismic Strenghtening
Pasadena, California
Evaluated this historic church for seismic resistance and designed a schematic seismic strengthening solution.

Our Savior Lutheran Church, Seismic Evaluation
Livermore, California
Evaluated the Wente Brothers warehouse and recommended strengthening. Also provided schematic design for the conversion of the warehouse into a meeting hall and office space for the Church, as well as the design of a new sanctuary adjacent to the warehouse. The warehouse is of brick masonry construction with some reinforcement and a wood roof with steel trusses.

Corpus Christi Church, Seismic Strengthening
Piedmont, California
Served as consultant for the seismic strengthening of this church constructed of reinforced concrete walls and wood floors and roofs. The strengthening scheme was designed to have a minimal impact on existing aesthetic elements.

Healthcare

St. Luke's Hospital, Seismic Evaluation
San Francisco, California
Performed SB 1953 seismic evaluations for the acute care facilities of this hospital. Developed preliminary strengthening schemes for the Main Hospital Building for both Life Safety and full hospital code compliance including cost estimates to assist the administration in making decisions. Developed and submitted the SB 1953 Seismic Evaluation Report to OSHPD by the deadline. Prepared construction documents for NPC 2 upgrades and worked with the facility to ensure that construction was completed prior to the deadline. Degenkolb was selected and was in the schematic phase of the design of a replacement hospital building, a new medical office building, and strengthening the Main Hospital Building to full hospital code compliance (SPC 5).

St. Luke's Hospital, Replacement Project
San Francisco, California
Provided strengthening for the existing 12-story tower with an exterior strengthening scheme requiring an increase in width of the perimeter footings plus a reevaluation of the hospital's bearing values. A small new elevation core was attached to the tower at the west end requiring new footings. Two new buildings with connecting levels below grade were built to the west of the tower and needed geotechnical recommendations.

UC Irvine, Medical Center, Seismic Evaluation
Irvine, California
Performed seismic evaluations of eight steel frame buildings at this medical center using FEMA 178. The evaluations provided a second opinion on the facility's compliance with university seismic criteria. Also, provided SB 1953 evaluations of an existing hospital constructed in 1960.

University of San Francisco, Phelan & McLaren Halls, Seismic Strengthening
San Francisco, California
Designed the seismic retrofit and major renovation of residential building, Phelan Hall. Built in the 1950's, the main structure is a seven-story reinforced-concrete tower with a "T"-shaped plan. The primary retrofit included the addition of concrete shear walls and a two-story concentric braced frame. The detailed seismic strengthening uses carbon fiber-reinforced-polymers

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(FRP).

Specialized

Los Angeles County & University of Southern California, Marengo Parking Structure, Peer Review
Los Angeles, California
Peer reviewed the design of this parking structure with special regard to the lessons learned from the January 1994 Northridge earthquake.

Markoulis Memorial
San Francisco, California
Provided the structural design of this private mausoleum constructed of concrete and ancient Greek, marble columns. Stainless steel reinforcing and other features, to create resistance to corrosion, were selected for a long life and low maintenance.

690 Market St, Structural Peer Review
San Francisco, California
Peer reviewed. Peer reviewed the current design options prepared a building that consists of the Old Chronicle Building and Annex which survived the 1906 earthquake. Explored and propose alternative structural solutions where they may reduce the construction costs.

Harry Tracy Water Treatment Plant, Fault Displacement Study
Millbrae, California
Evaluated the effects of secondary fault displacement on concrete filter galleys, settling basins, and associated structures. Peer reviewed the design of a new 11MG water storage reinforced concrete tank reservoir with exterior post-tensioned walls.

690 Market St, Shoring, Construction, Means & Engineering
San Francisco, California
Provided construction means and methods engineering services related to partial demolition and adaptive reuse of this historic San Francisco structure. Prepared construction documents for temporary shoring and sequencing to remove all but the facade of this 12 and 16 story structure, excavate a new basement level and mat foundation, and build a modern steel frame building behind the existing facade. This challenging project required close coordination with the design team for the new structure as well as the construction team, and required safe support of both gravity and lateral loads at all stages of demolition and new construction. The project is a 2006 SEAOC award winner.

Altenheim Senior Housing, Structural Design Services
Oakland, California
Designed the seismic retrofit of five historic unreinforced masonry buildings for use as a senior living center. Buildings were one to three stories, built in the early 1900s. The retrofit designs were based on previous evaluations performed by Degenkolb Engineers and other firms.

Pantex, Building 12 - 64, Peer Review
Amarillo, Texas
Independently peer reviewed information and reports prepared for BWXT Building 12 to 64 at the Pantex Facility.

California Theater, Renovation
Pittsburgh, California
Designed the seismic strengthening and renovation of the ground floor and second floor retail spaces.

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Transbay Transit Center, Structural & Seismic Review Committee
San Francisco, California
Lead and coordinated the complex peer review for the New Transbay Transit Center. Involved in helping establish the basis of design and acceptance criteria to ensure that the execution conforms to the basis of design.

U.S. Department of Energy, Support-Office of River Protection, Peer Review
Hanford, Washington
Peer reviewed the Hanford Waste Treatment Plant, which is a $14 billion facility. The duration of this project was 9 years.

Ninth Avenue Terminal Building, Structural Review
Oakland, California
Perform a seismic review of a 1930 terminal building for potential reuse.

Greek Consulate, Structural & Architectural Evaluation
San Francisco, California
Seismically evaluated a three-story wood framed structure. Original portions of the building date to the early 20th century with additions from the mid-century.

Confidential, (Jackson Rancheria) Casino, Renovations
Jackson, California
Designed seismic strengthening, braced frames in the casinos new entrances and installed a fire separation wall in the Hotel.

The Ahwahnee, Comprehensive Rehabilitation Plan
Yosemite National Park, California
Performed a detailed seismic evaluation and develop seismic strengthening concepts for the seismic upgrade of a National Historic Landmark hotel. The hotel was built primarily with structural steel and concrete and has endured over 80 years. The evaluation expands upon the studies commissioned over the past 20 years by utilizing the most recent displacement-based advanced analysis techniques to best understand the inherent strengths and weaknesses in the Ahwahnee. Advanced analysis techniques, including site-specific earthquake ground motion scaling, were instrumental in reducing significantly the required seismic strengthening relative to that recommended in previous studies. A total of four conceptual strengthening alternatives were developed, ranging from code-required upgrades for life safety to mitigation options that protect historic finishes and features from seismic damage.

The Ahwahnee, Fifth & Sixth Floor Egress Project
Yosemite National Park, California
Cut and reinforced a new sixth floor opening, providing stair design to the fourth and fifth floor, walkway in the fifth floor attic, a new exterior stair mezzanine to ground level, and reconstructed a fire escape from the second floor to the mezzanine.

Building K25, Structural Analysis & Preservation Study
Oak Ridge, Tennessee
Evaluated the structural ability and feasibility of preserving a minimal section of the K-25 North Tower Gaseous Diffusion Building at the East Tennessee Technology Park.

Tropicana Properties, Seismic Strengthening
Seismic strengthening of the first floor of the three-story wood framed complex with a partial reinforced concrete basement for parking.

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Moonlight Residence, Structural/Seismic Peer Review
Guacalito, Tola
Structural and seismic peer review to improve the earthquake resistant system.

Travelers Starbuck Center, Post-earthquake Response
Seattle, Washington
Working as the structural engineer representing the major insurance carrier for the Starbucks Center, documented the earthquake damage to the building and provided repair recommendations for the historic building following the magnitude 6.8, February 28, 2001, Nisqually Earthquake. The Center consists of three different structures built between 1914 and the mid-1970s. The oldest structure is the Sears building which is a six-story exterior concrete frame building with interior wood floors. The Starbucks Tower was built in several phases and is a nine-story concrete flat slab structure with exterior masonry infill walls. The parking garage has exterior concrete and masonry walls with interior concrete flat slab floors. The Tower was seismically upgraded in the mid-1990s with a steel eccentrically braced frame system. The Center has over 1.8 million square feet of office, retail, manufacturing, warehouse, and parking space.

Federal Reserve Bank of San Francisco, Seismic Hazard Reduction Program
San Francisco, California
Advised the bank on various issues of earthquake preparedness, including the feasibility of instrumenting the building.

Wells Fargo Bank, General Evaluation
Berkeley, California
Evaluated the brick infill facade of this steel framed office building to meet the requirements of the City of Berkeley Ordinance.

Atlantic LNG Project, Consultation
Trinidad, California
Reviewed specific details and issues regarding the structural design of the Atlantic LNG Project. The project involved design and construction of a large LNG tank and other facilities.

CRSI Proposed Technical Paper
Brea, California
Provided guidance to engineers regarding reinforcing steel design, how to assess congested areas and design so a sound structure can be built.

350 California Street, Renovation
San Francisco, California
Designed the conversion of this former banking hall to commercial retail space, including expansion of mezzanine area.

Seismic Priority Assessment, Seismic Safety Commission
State of California
Various Locations Around California
Established seismic rehabilitation priorities for state-owned buildings (including university buildings), considering construction types, occupancy, size, and cost-benefit ratio.

Guam International Airport Terminal, Retrofit
Guam
Analyzed the airport to determine schemes to seismically retrofit the existing pre-cast concrete exterior cladding. Peer reviewed the selected retrofit scheme. The original airport was built in the 1970's and its exterior pre-cast concrete cladding anchorage had limited deformation capacity and was determined to be a falling hazard. The buildings were originally designed for Zone 3 seismic demands. In the 1997 UBC, Guam

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was upgraded to Zone 4. This project was used to strengthen the airport for the higher seismic forces from the 1997 UBC.

Flor de Cana Plant, Seismic Upgrade
Chichigalpa, Nicaragua
Provided structural services for the seismic upgrade of this 26 building manufacturing complex including two, eight-story distillery towers, a one-story assembly plant, and a two-story process building. Developed a seismic resisting system from conceptual structural design through construction process.

Exxon, Building Evaluations
Yuzhno-Sakhalinsk, Russia
Seismically evaluated numerous reinforced concrete Russian-built buildings being considered for occupancy by Exxon.

Science & Technology

Pacific Gas & Electric Company (PG&E), Post-earthquake Response
San Francisco, California
Degenkolb is the lead engineering firm to provide post-earthquake inspection services and other earthquake preparedness services so that key buildings will remain functional after a major earthquake.

PG&E, Materials Distribution Center, Seismic Strengthening
Fremont, California
Provided evaluation, seismic strengthening design, and construction administration for the seismic strengthening of this distribution center. California Council for Science & Technology Mr. Wyllie was elected to the Council which was formed by the California legislature and sponsored largely by California universities to encourage use of science and technology to provide more jobs in the state. A high level, influential group, the Council meets four times a year.

PG&E, 77 Beale Street, Structural Analysis
San Francisco, California
Served as Project Manager for the seismic structural analysis and identification of expected building behavior following a major earthquake. The project included development of post earthquake response procedures for the building.

PG&E, Headquarters Complex, Structural Review
San Francisco, California
Performed a structural review of four selected buildings of the company's headquarters complex to provide an additional independent evaluation of each building's potential seismic performance. Developed schematic seismic strengthening solutions.

Nuclear Consulting Experience

Salt Waste Processing Facility, Peer Review
Savannah River Site
Provided structural peer review services for this processing facility for nuclear waste.

Los Alamos National Laboratory (LANL), Peer Review
Los Alamos, New Mexico
Peer reviewed various projects, including an incinerator facility seismic upgrade, and evaluated the seismic capacity of the general laboratory and administration building.

LANL, Chemical & Metallurgy Research Building, Peer Review
Los Alamos, New Mexico
Served on the peer review panel to review the structural aspects of the conceptual design report and title design for this

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building.

LANL, 7" Impact Tester Building, Peer Review
Los Alamos, New Mexico
This small building, an addition to the Plutonium facility, was designed by Merrick & Co. Several years after construction, Mr. Wyllie was asked to peer review the design to resolve review comments. Performed dynamic analysis using soil springs and restraint springs for filler between adjacent buildings to determine compliance with DOE standards.

LANL, Plutonium Facility PF- 4, Peer Review
Los Alamos, New Mexico
Served as a peer reviewer of analysis to validate the safety of this 1970's facility for increased seismic hazards. Reviewed several modifications and served on an expert panel to evaluate the difference between two separate studies.

LANL, Building PF-41, TA-55, Evaluation
Los Alamos, New Mexico
Provided a preliminary assessment of the building to verify that the DOE structural standards can be met or what modifications will be necessary for structural compliance so proper cost evaluations can be made by others.

Highly Enriched Uranium Materials Facility, Independent Review
Oak Ridge, Tennessee
Peer reviewed reinforced steel for a uranium materials facility.

Lawrence Livermore National Laboratory, Plutonium Building 332, General Evaluation
Livermore, California
Performed a dynamic analysis of the facility in accordance with Department of Energy seismic criteria and evaluated the capability of the existing structure to comply with it. Discussed members and connections that were over stressed and recommended structural retrofit solutions. Walked down several selected piping and duct systems, determined worst case conditions by judgment, and analyzed these conditions for DOE standards. Developed retrofit solutions that carefully considered all interferences and adjacent systems.

Senior Seismic Review and Advisory Panel (SSRAP)
Consulted and reviewed as part of this panel. Assembled by the Nuclear Regulatory Commission (NRC) and the Seismic Qualification Utility Group to advise them on the seismic evaluation issues associated with equipment in older Nuclear Power Plants, this advisory group included engineers from various disciplines experienced in seismic design. The panel members reviewed data from various sources and developed generic criteria.

Uranium Processing Facility, Seismic Analysis
Oak Ridge, Tennessee
Seismically analyzed and structurally designed a new uranium production facility at the Y-12 nuclear weapons plant. Degenkolb developed complex computer models to analyze the building for gravity and seismic loads, and used the results of the model to design the structural elements of the building. Estimated project cost was range at $4.2 billion to $6.5 billion.

Highly Enriched Uranium Materials Facility, Peer Review
Oak Ridge, Tennessee
Member of peer review team for the conceptual design of the Highly Enriched Uranium Materials Facility at the Oak Ridge National Lab for the Department of Energy. During construction, originally serves as a consultant to the contractor, and later for

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laboratory management on construction issues and further peer review services.

Waste Treatment Plant, Seismic Review Panel
Hanford, Washington
Served on the Seismic Review Panel to peer review the design and construction of their $14 billion plan facility to treat radioactive waste by melting it with silicone to form glass for long term storage.

Peer Review Group, Seismic Margins Evaluation of Maine Yankee Nuclear Power Plant, for Lawrence Livermore National Laboratory (LLNL) for NRC, 1986 to 1987.

Panel Member to Review the EPRI Seismic Margins Methodology, for LLNL for the NRC, 1987.

Panel Member to Review EPRI 5930 on OBE Exceedance Criterion, 1989.
Peer Review Panel, Seismic Margins Evaluation of Hatch Nuclear Power Plant, for Sandia National Laboratory for NRC, 1988-1989.

Review of Selected Systems for Seismic Ruggedness, Savannah River Plant, for Du Pont, 1988.

Panel Member for the Seismic Isolation Study for a New Production Reactor, for Argonne National Laboratory and Department of Energy.
Senior External Events Review Group, for New Production Reactor, for Lawrence Livermore National Laboratory for the Department of Energy, 1991-1993.

Structural Advisory Committee for Westinghouse Savannah River Company at the Savannah River site, 1992-1994.

Senior External Events Review Group, for New Production Reactor, for Lawrence Livermore National Laboratory for the Department of Energy, 1991-1993.

Structural Advisory Committee for Westinghouse Savannah River Company at the Savannah River site, 1992-1994.

Post-Earthquake Reconnaissance

Degenkolb staff have been pioneers in visiting the sites of major earthquakes (since the early 1950s) to see firsthand what works and what does not. Mr. Wyllie's reconnaissance experience overseas includes: Managua, Nicaragua; Lima, Peru;Guatemala; Italy; the Philippines; Chile; Mexico; Armenia, and Kobe, Japan*, and in California: Loma Prieta, Northridge, San Fernando, Livermore, Morgan Hill, Whittier, Coalinga, Santa Rosa, and Oroville.

* Mr. Wyllie was in nearby Osaka at the time of the earthquake and was able to carry out damage inspections by helicopter and car almost immediately.

Litigation Support/Expert Witness

Mr, Wyllie's litigation support work is extensive. He has investigated numerous construction defect cases and provided expert testimony as required. His cases are roughly 50 percent for plaintiff and 50 percent for defendants. He has likely been deposed over 50 times and provided court testimony a number of times. Selected recent cases include:

Attorneys/Clients
Case

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Merrill, Nomura & Molineux, LLP
Jackson Rancheria Casino
Provided full service litigation support related to design and construction defects throughout the campus, including casinos, hotels, and parking garages. What began with the discovery of mold in several exterior walls led to the closure of one-third of the casino due to long span laterally unbraced ceiling support beams. Also, provided a second opinion that the ceiling beams were potentially hazardous and their design was deficient. Degenkolb was subsequently hired to lead the continuing structural investigation discovering numerous construction and design deficiencies. Also, designed services to correct these structural deficiencies along with litigation support services. Some programmatic upgrades were also incorporated to improve casino operations.

Morrison & Foerster Attorneys
Guam International Airport

Long & Levit
Plum Island

Mark Wleklinksi
Woodland Heights, Phase 4

Akama, Chang & Yee
Hacienda Commons

Tarlow Jordan & Schrader
Mentor Graphics

Rutan and Tucker
Los Angeles Furniture Mart

Lossing and Elston
989 Market Street, San Francisco

Industrial Indemnity, Orange County and Zakar and Goeltz
Santiago Hills Reservoir Construction Failure, San Diego

Larson and Burnham
Marriott Hotel

Kindel and Anderson
Hyatt at Fisherman's Wharf

Larson and Burnham
The Gardens, Sunnyvale
Miller Starr Regalia Attorneys
451 Jackson Street, San Francisco

Flynn and Stewart
AC Transit Building
Thelen Marrin Johnson & Bridges
Rowland Plaza Cinema
Hartsell and Caselli
Barnard v. Farmers Union Corporation, et al.

McInerney and Dillon
MJB Pipeline v. City of Pleasanton

Morton, Lulofs and Allen
CCCTA Administration and Maintenance Facility

Nelson & Leighton
Bel Marin Keys, Novato
Thelen Marrin Johnson & Bridges
Rincon Center

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Passalacqua, Mazzoni & Gladden
Rutherford Bench Vineyard v. Shamrock Materials

Long & Levit
Edwards, et. al. v. Centex, et. al.

Nossaman Guthner Knox & Elliot
MTA v. L&R Investments

Bledsoe Cathcart Diestel Livingston & Pedersen
2195 Green Street

Gordon & Rees Carpeteria Office & Warehouse

Project Mentor Role

Every project at Degenkolb is managed by a Principal or Associate of the firm who stays in constant contact with the client and the design activities. Each project is also assigned a Project Mentor whose chief function is to serve as a resource for the design team, an alternate contact for the client, and to provide in-house peer review as part of the firm's quality assurance program. Mr. Wyllie's participation in this capacity takes advantage of his considerable experience on projects of all types.

University of California (UC) Berkeley, LeConte Hall, Structural Analysis
Berkeley, California
As Project Mentor, performed an advanced nonlinear pushover analysis of a four-story plus basement, cast-in-place concrete building built in the early 1920s.

UC Berkeley, Barker Hall, Peer Review
Berkeley, California
As Project Mentor, peer reviewed the six story, reinforced concrete building, with emphasis on the pierced shear walls on the perimeter of the building that serve as the primary lateral force resisting elements.

UC Berkeley, Earth Sciences Building, Seismic Strengthening
Berkeley, California
Serving as Project Mentor for the architectural remodeling of the ground floor, and schematic design of seismic strengthening of existing Earth Sciences Building.

UC Berkeley, Cesar E. Chavez Student Center, Seismic Strengthening
Berkeley, California
Serving as Project Mentor, designed the seismic strengthening of this building on the Berkeley campus. The project involves the replacement of existing concrete walls with new concrete shear walls, designing other modifications, and providing construction administration services.

University of California System Seismic Policy Review Committee
Berkeley, California
In the capacity of Project Mentor, served as a consultant for the Committee. The work involved evaluating the seismic risks in proposed new buildings and strengthening of existing buildings.

Hastings Hotel & Network Autobody Building, Post-earthquake Evaluation
Los Angeles, California
Provided Project Mentor support for consultation regarding

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Northridge earthquake-damaged buildings along the route of proposed tunneling operations. The work involved the design of bracing for walls to remain after partial demolition of the Network Autobody Building.

Metro Rail Eastside
Los Angeles, California
As Project Mentor, performed an independent design review for the Los Angeles River bus-way underpinning.

St. Lawrence Academy, Seismic Retrofit
Santa Clara, California
Prepared revised drawings for the seismic retrofit and repair of settlement damage to the building. Served as Project Mentor.

American Baptist Seminary of the West, Karpe Hall & Johnston Hall, Seismic Strengthening
Berkeley, California
Acting as Project Mentor, seismically strengthened scheme of two reinforced brick, two-story buildings.

Hinson Memorial Baptist Church, Seismic Strengthening
Portland, Oregon
Serving as Project Mentor, prepared a report to determine the seismic strengthening scheme and probable cost of construction of this unreinforced masonry church built in 1908.

Woodland Heights, Renovation
Santa Cruz, California
As Project Mentor, renovated and seismically strengthened scheme for the apartment building with condominiums. The work corrected original design and construction deficiencies discovered as a result of recent litigation.

Pacific Gas & Electric Company (PG&E), 1919 Webster Street, Seismic Evaluation
Oakland, California
Project Mentor for providing a life-safety and functionality evaluation and designing strengthening schemes.

PG&E, Office Buildings, Seismic Evaluation
Marysville & Auburn, California
Preparing a life-safety evaluation and strengthening proposals for these two unreinforced masonry office buildings. Acting as Project Mentor.

Multnomah County Libraries, Seismic Evaluation
Portland, Oregon
As Project Mentor, seismically evaluated 12 libraries within Multnomah County. The scope of services included performing FEMA- 178 evaluations for each facility and providing preliminary cost estimates for strengthening measures. The team is evaluating both structural and nonstructural components of each facility as well as geotechnical issues, mechanical/electrical systems, and architectural features. A final report was submitted to Multnomah County for use in determining which facilities need immediate attention.

Anaheim Stadium, Post-earthquake Evaluation
Anaheim, California
Project Mentor for the evaluation of the failure of framing members supporting the scoreboard and associated signs at the stadium following the 1994 Northridge earthquake.

Kaiser Permanente, Medical Office Building, Metro Rail, Shoring
Los Angeles, California
Serving as Project Mentor, designed a temporary column jacking scheme for a steel frame MOB during excavation for the

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station entrance construction.

Publication & Presentations

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Wyllie, Loring. December 1994. "High Strength Concrete in Seismic Regions." Second United States-Japan-New Zealand-Canada Meeting. Honolulu, Hawaii.

Wyllie, Loring. October 1994. "Earthquake Engineering - Will We Always Be Learning?" Whitman Symposium, MIT. Cambridge, Massachusetts.

Wyllie, Loring and Rafael Alaluf. July 1994. "The Challenge of Repairing and Strengthening San Francisco's Historic Ferry Building". In Fifth National Conference On Earthquake Engineering. Chicago: Illinois.

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1994.

Wyllie, Loring. April 1994. "Changes in the NEHRP Recommended Practices and Maps." Earthquake Engineering Research Institute (EERI) Annual Meeting, Pasadena, California.

Wyllie, Loring and Janiele Maffei. March 1994. "Evaluation of Old Reinforced Concrete Structures for Seismic Resistance." American Concrete Institute, San Francisco. Print.

Wyllie, Loring. September 1993. "Dreams, Expectations and Realities of Seismic Resistant Design." Tom Paulay Symposium. California. Print.

Wyllie, Loring. October 1993. "Realistic Evaluation Procedures For Existing Department Of Energy General Facility Buildings". In the Fourth Department of Energy Conference. Memphis, Tennessee, October 1993.

Wyllie, Loring A., James Malley, Maryann T. Phipps, and Dominic J. Kelly. 1993. "Test Results and Design Implications of Seismic Strengthening Schemes. H.J. Degenkolb Associates. San Francisco, California.

Wyllie, Loring A., John F. Silva, John A. Dal Pino, and Dominic J. Kelly. 1993. "Connections to Existing Concrete for Seismic Rehabilitation." H.J. Degenkolb Associates. San Francisco, California.

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