PERSONNEL QUALIFICATIONS

Robert C. Kraus | Associate III

EDUCATION

- San Diego State University
  - Bachelor of Science, Civil Engineering, 2012

PRACTICE AREAS

- Design
- Failure/Damage Investigations
- Structural Analysis
- Litigation Consulting
- Fire Damage
- Seismic
- Wood Structures
- Concrete Structures

REGISTRATIONS

- Civil Engineer in CA

PROFESSIONAL AFFILIATIONS

- Structural Engineers Association of Northern California (SEAONC)
- American Society of Civil Engineers (ASCE)

TECHNICAL COMMITTEES

- Structural Engineers Association of Northern California (SEAONC) - Existing Buildings

CONTACT

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EXPERIENCE

Robert Kraus has conducted numerous field investigations, structural analyses, research, and modeling of a wide range of structures. Joining WJE in 2012, Mr. Kraus has focused on structural design, analysis, investigations, and finite-element modeling of a variety of structures ranging from historic buildings to modern, mid-rise construction in varying stages of distress or failure. In addition, his experience and expertise are effectively utilized on many litigation projects that require building code and document research in support of structural investigations.

REPRESENTATIVE PROJECTS

Design

- Aircraft Maintenance Facility - San Francisco, CA: Finite-element modeling and seismic retrofit design for 15,000-square-foot steel structural support for open hazardous materials tanks
- Post-fire Seismic Retrofit - San Pedro, CA: Structural analysis and conceptual design of code-required seismic retrofit and repairs after fire at 32,000-square-foot, two-story, masonry social hall
- Wood-Framed Apartment Building - San Francisco, CA: Seismic analysis and retrofit design for 1960s, four-story, eighteen-unit apartment building under City's mandatory retrofit guidelines (FEMA P807)
- Historic Beach Cottages - Southern CA: Seismic and gravity strengthening of dilapidated 1920s beachfront cottages
- Historic Lodge Facility - Yosemite, CA: Design of new structure and historically sensitive additions to existing structures to account for heavy snow loads
- Water-Damaged Apartments - San Jose, CA: Design of emergency shoring and repairs of deficient, seismic-force-resisting systems
- Distribution Center - Lodi, CA: Finite-element modeling and retrofit design of tilt-up concrete wall panels that had bowed under gravity and thermal loads

Failure/Damage Investigations

- Tunnel-Liner Failure - Fremont, CA: Finite-element modeling of 8.5-foot-diameter, thin-walled steel pipe that failed over a 450-foot-length during tunnel construction
- Aircraft Hangar Door Failure - Napa, CA: Finite-element modeling and analysis of one hundred- by thirty-foot, steel-framed door that collapsed during operation
- Wharf Concrete Piles - Long Beach, CA: Investigation and instrumentation of 117-foot-long, prestressed concrete piles, some of which were failing under driving forces
- Bowstring Roof Trusses - Vernon, CA: Investigation and analysis of distress in wood roof trusses that span seventy-four feet and were built in the 1920s.
- Roof Collapse - Bell, CA: Analysis of failure of twenty-four-inch-deep, glue-laminated roof beam

Structural Analysis

- Reservoir Dam Dormitory - Eldorado National Forest, CA: Condition assessment and analysis of existing seismic- and wind-resisting system for 1960s wood-framed building
- Residential Subdivisions - Northern CA: Analysis conducted as part of class-action litigation to assess adequacy of strength and stiffness of multiple wood-framed homes under increased wind loads

Litigation Consulting

- Code Upgrade Litigation - Los Angeles, CA: Field investigation and research of proposed repairs and seismic retrofit of fire-damaged 1920s six-story, steel-framed building with unreinforced masonry infill
- Damaging Deflections Claim - Los Angeles, CA: Research and analysis of claimed structural damage of three wood-framed apartment complexes built on concrete podium slabs that had allegedly deflected
- Construction Defect Litigation - San Francisco, CA: Field investigation and research for major seismic upgrade and alterations made to 1920s luxury residence

Fire Damage

- Heavy-Timber Wharf - Los Angeles, CA: Investigation and cataloging of fire damage to 500-foot-long wharf constructed in 1927
- Church Roof - San Jose, CA: Finite-element modeling and analysis of curved thirty-six-inch-deep, glue-laminated roof beams damaged by fire
- Restaurant Fire - San Leandro, CA: Investigation of fire damage to wood and glue-laminated roof framing