PERSONNEL QUALIFICATIONS

Jeffrey M. Rautenberg | Senior Associate

EDUCATION

- Purdue University
  - Bachelor of Science, Civil Engineering, 2008
  - Master of Science, Civil Engineering, 2010
  - Doctor of Philosophy, Civil Engineering, 2011

PRACTICE AREAS

- Condition Assessment
- Earthquake Damage Assessment
- Earthquake Engineering
- Failure Investigation
- Structural Analysis/Computer Modeling
- Structural Evaluation
- Testing and Instrumentation

REGISTRATIONS

- Professional (Civil) Engineer in CA

PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- Earthquake Engineering Research Institute
- Structural Engineers Association of Northern California
- Seismological Society of America

CONTACT

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EXPERIENCE

Jeffrey Rautenberg works with a wide array of projects involving the assessment, evaluation, and repair of existing structures. He performs onsite investigations of buildings, conducts seismic analyses of complex structures, and conducts post-disaster damage assessments of buildings.

Prior to joining WJE, Dr. Rautenberg studied at Purdue University, where his primary research focused on the effects of using high-strength steel reinforcement in concrete columns subjected to earthquake-induced forces. He brings to WJE hands-on experience in instrumentation and testing of large-scale structures.

REPRESENTATIVE PROJECTS

Condition Assessment

- Washington Monument - Washington, D.C.: Calibration of a finite element computer model using observed damage for use in determining scope of repairs and required retrofit of the 555-foot stone obelisk
- Port Silo - Buchanan, Liberia: Assessment of structural capacity of 1960s-era reinforced concrete iron ore silo to sustain earthquake loadings
- Various Wood-Framed Buildings - San Francisco Bay Area, CA: Evaluation of wood-framed homes and condominiums for compliance with applicable codes and regulations for litigation support

Earthquake Damage Assessment

- Seiyu Stores - Japan: Documentation and evaluation of damage to three reinforced-concrete structures caused by March 2011 M9.0 earthquake
- Various Buildings - Christchurch, New Zealand: Evaluation of damage and assessment of engineering reports of buildings damaged by the September 2010 M7.1 and February 2011 M6.3 earthquakes

Earthquake Engineering

- Hibernia Bank - San Francisco, CA: Design of a seismic upgrade for the oldest “temple” bank in San Francisco, an 1892-constructed granite and brick masonry building
- Volcano House Hotel - Hawaii Volcanoes National Park, HI: Design of a seismic retrofit of historic wood-framed structure
- Garfield High School - Los Angeles, CA: Modeling and evaluation of an auditorium building constructed in 1923 with a major seismic upgrade, circa 1954
- Shipyard Warehouse - Richmond, CA: Seismic evaluation of the historic four-story reinforced concrete structure built in the 1950s

Failure Investigation

- Santa Catalina High School - Monterey, CA: Investigation of a failed 51-inch-deep glu-laminated beam spanning an 80-foot stage
- Callaway Golf Warehouse - Carlsbad, CA: Investigation of a failed 48-foot-long glu-laminated beam
- University of California, Hastings Law Library - San Francisco, CA: Evaluation of extents and causes of microbial-induced corrosion in cooling system

Structural Analysis/Computer Modeling

- Courthouse Square - Salem, OR: Three-dimensional modeling of a five-story post-tensioned flat plate slab followed by three full-scale load tests validating the model
- Carpenter’s Tower - Seattle, WA: Creation of a three-dimensional nonlinear computer model for a performance-based analysis of twenty-six-story reinforced concrete building
- Standard Pacific - Los Angeles, CA: Structural modeling of an elevated podium slab supporting four four-story wood-framed structures

TECHNICAL COMMITTEES

- ACI 374 - Performance-Based Seismic Design of Concrete Buildings
- ACI 445 - Shear and Torsion