PERSONNEL QUALIFICATIONS

Jeffrey M. Rautenberg | Associate Principal

EDUCATION

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

PRACTICE AREAS

- Earthquake Damage Assessment
- Seismic Repair and Retrofit
- Repair and Rehabilitation
- Corrosion Assessment
- Failure Analysis
- Reinforced Concrete Structures
- Finite Element Analysis
- Nondestructive Evaluation

REGISTRATIONS

- Civil Engineer in CA
- Professional Engineer in MN
- Structural Engineer in CA

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- American Institute of Steel Construction (AISC)
- Earthquake Engineering Research Institute (EERI)
- Seismological Society of America (SSA)
- Structural Engineers Association of Northern California (SEA)

CONTACT

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EXPERIENCE

Since joining WJE in 2011, Jeff Rautenberg has worked on a wide array of projects in the United States and abroad involving the assessment, evaluation, and repair of existing structures. He has investigated damage and designed repairs for buildings with structural systems consisting of wood, unreinforced and reinforced masonry, structural steel, and reinforced concrete. Dr. Rautenberg has investigated structural damage associated with fire, earthquakes, extreme wind events, corrosion and long-term deterioration, and other loading events. He has assessed structural damage to buildings around the world affected by major earthquakes, including in Haiti, Japan, New Zealand, and the United States.

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

Earthquake Damage Assessment

- Seiyu Stores - Japan: Damage assessment of reinforced concrete and steel braced-frame structures after 2011 M9.0 earthquake
- University of Canterbury - Christchurch, New Zealand: Structural and nonstructural damage assessment of reinforced concrete structures after 2010 M7.1 and 2011 M6.3 earthquakes
- Napa County Superior Court - Napa, CA: Investigation and damage assessment of historic unreinforced brick masonry courthouse after 2014 M6.0 earthquake
- Washington Monument - Washington, D.C.: Finite element modeling for structural assessment of 555-foot-tall stone obelisk following 2011 M5.8 earthquake

Repair and Rehabilitation

- Hibernia Bank - San Francisco, CA: Design of a seismic upgrade for an 1892-constructed granite and brick masonry building, the oldest "temple" bank in San Francisco
- Sherith Israel - San Francisco, CA: Design of a seismic upgrade and construction services for a 1904-constructed unreinforced stone and brick masonry structure
- 442 Ocean - Long Beach, CA: Damage investigation, repair recommendations, and construction services related to reinforced concrete structure "floating" in extreme flooding event
- Geneva Car Barn - San Francisco, CA: Field investigation and design of seismic retrofit to early 1900s historic unreinforced brick masonry structure

Corrosion Assessment

- First International Financial Centre - Mumbai, India: Investigation and design of repairs for advanced corrosion of mild and prestressing steel in high-end, mid-rise concrete structure
- Sacramento Regional Wastewater Treatment Plant - Elk Grove, CA: Corrosion assessment at four-acre primary sedimentation structure, including destructive and nondestructive testing of structural concrete and steel components

Failure Analysis

- Santa Catalina High School - Monterey, CA: Investigation of a failed fifty-one-inch-deep glu-laminated beam spanning an eighty-foot stage
- University of California, Hastings Law Library - San Francisco: Evaluation of extents and causes of microbial-induced corrosion in cooling system

Finite Element Analysis

- 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: Three-dimensional nonlinear computer modeling and performance-based analysis of a high-rise reinforced concrete building

TECHNICAL COMMITTEES

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