

David R. Ojala, P.E., S.E., LEED AP, CWI

Vice President



Summary

David Ojala joined Thornton Tomasetti in 2016 and has over 10 years of experience in building forensics and performance. He is a building failure first-responder, with broad expertise in structural and geotechnical design, construction, and performance. In addition, David's knowledge of structural vulnerabilities and failure investigation, coupled with his background in structural design and code development, provide him with the experience needed to provide new design, retrofit, peer review, and risk consulting for complex structures. David specializes in design and analysis of long-span and tall buildings and assessment of structures damaged by earthquake, wind, fire, and water. He is also a certified welding inspector (CWI) and provides both proactive and failure analysis consulting for structural and pipeline weldments. David is a frequent speaker on matters related to disaster resilience, structural safety assessment, structural plan review, and code changes.

Areas of Technical Expertise

- Litigation Support
- Property Loss Consulting

Education

- M.S.E., Civil Engineering, 2007, Case Western Reserve University
- B.S.E., Civil Engineering, 2006, Case Western Reserve University

Registrations

- Licensed Civil Engineer (Alaska, California)
- Licensed Structural Engineer (Alaska, California)
- Leadership in Energy and Environmental Design Accredited Professional (LEED AP)
- Certified Welding Inspector (CWI), American Welding Society
- California Emergency Management Agency (CalEMA) Safety Assessment Program Trainer/Coordinator/Evaluator
- FEMA Urban Search and Rescue, California Task Force 4, Oakland – Structures Specialist
- Hazardous Waste Operations and Emergency Response (HAZWOPER) training in accordance with OSHA 29 CFR 1920.120

Professional Activities

- Past Director and Secretary, Structural Engineers Association of Northern California (SEAONC); Past Chair, Existing Buildings Committee; Past-Chair, Disaster Emergency Services Committee; Member, Building Ratings Committee; Member, Professional Practices Committee
- Past Chair and Current Member, Existing Buildings Committee, Structural Engineers Association of California (SEAOC); Member, Legislative Committee; Evaluator, Earthquake Performance Evaluation Program
- Project Review Panelist, Applied Technology Council (ATC)

Select Project Experience

Litigation Support

Confidential High-Rise, San Francisco, CA.* Peer review of performance-based design of residential 40-story concrete shear wall high-rise, as well as services during construction, including structural and geotechnical monitoring of adjacent concrete high-rise structures, surveying, review of waterproofing systems, and review of excavation support and shoring design.

Confidential Marine Structure, Central America.* Investigation of cause and origin of significant cracking and leakage of a unique mass-concrete structure.

Princeton Plaza Retaining Wall, San Pablo, CA. Investigation of reported damage to loading dock retaining wall in preparation for future design of stabilization measures.

Camlica Tower, Peer Review, Istanbul, TUR. Structural peer review for a 340-meter-tall, concrete-framed radio and TV tower with basement to be constructed in a high seismic area.

Confidential Crane Girder Fatigue Investigation, Calvert, AL. Forensic investigation of a series of fatigue-related claims on crane girders within a steel mill production facility.

Confidential High-Rise Investigation, San Diego, CA.* Investigation into cause and origin of two separate issues of reported excessive structural floor framing deflections and widespread weld cracking.

Confidential High-Rise, Oakland, CA.* Investigation of alleged widespread structural design and construction defects at a prominent concrete high-rise condominium.

Confidential High-Rise Investigation, Las Vegas, NV.* Investigation of failure of post-tensioning strands due to interior waterproofing issues and construction defects using destructive and nondestructive methods.

Confidential High-Rise Investigation, Las Vegas, NV.* Investigation of cause and impact of design and construction defects on structural performance of a prominent concrete high-rise building.

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Confidential Hotel, Milpitas, CA.* Peer review of a seismic risk assessment report and Probable Maximum Loss (PML) study for a major real estate investor performing due diligence for their purchase of a large, concrete-framed hotel building.

Confidential Housing Development Investigation, Los Angeles, CA.* Investigation of widespread design and construction defects, including welding and steel fabrication issues, in a mid-rise, wood-, concrete-, and steel-framed housing complex.

Confidential Manufacturing Facility, OH.* Investigation of widespread weld defects, roofing distress and thermal movement issues discovered during construction of massive industrial building.

Confidential Office Building, Lawrenceville, IL.* Structural engineering consulting focusing on evaluating seismic code compliance of a new masonry office building in support of a design and construction defect litigation.

Confidential Office Building, Springfield, OR.* Investigation of scale and impact of widespread design and construction defects on a large, two-story, concrete tilt-up office complex with panelized wood-framed floors and roof.

Confidential Power Generation Facility, Springerville, AZ.* Investigation of cause and origin of collapse of coal stacker-reclaimer at a large power generation facility.

Confidential Power Generation Facility, Tracy, CA.* Investigation of separate incidents of fire damage to large steel air intake structure for turbine generators and defective process piping weldments along with development of repair recommendations for each.

Confidential Power Generation Facility, Russellville, AR.* Investigation of cause of crane collapse during heavy equipment replacement operation.

Confidential School, Los Angeles, CA.* Standard-of-care and code consulting in support of construction defect litigation at a new school construction project, focusing on material identification, fabrication and inspection procedures.

Confidential Silos, Fort Collins, CO.* Code consulting, meteorological research, structural risk assessment, and repair recommendations for historic concrete and concrete masonry silos subjected to wind and seismic loading of varying return periods on behalf of jurisdiction to inform a decision-making process.

Confidential Swimming Pool, Cupertino, CA.* Standard-of-care and code consulting in support of litigation alleging that an installed waterslide did not meet federal code requirements, resulting in personal injury.

Confidential Theme Park, Gilbert, AZ.* Review of code compliance for accessibility, lighting, and means of egress for ramps, stairs and handrails in support of personal injury litigation at a large theme park.

Confidential Theme Park, Anaheim, CA.* Review of code compliance for accessibility, lighting, and means of egress for ramps, stairs and handrails in support of personal injury litigation at a large theme park.

Confidential Warehouse, Kahuku, HI.* Investigation of fire cause and origin and scope of fire damage to battery storage facility, including safety assessment of partially collapsed structure to facilitate retrieval of critical evidence and direction of controlled demolition of facility.

Silver Creek Plaza Safeway, San Jose, CA. Investigated cause, origin and scope of damage following the collapse of a wood-framed roof of a large concrete tilt-up building after a rain storm.

Select Property Loss Consulting

Chubb Hingorani, Investigated cause and origin of reported water intrusion through and cracking of concrete basement wall in multi-family wood-frame residential structure.

APEI 4600 Sawmill Creek Road, Sitka, AK. Investigated cause and origin of damage to concrete basement retaining walls of a large wood-framed commercial structure in the wake of flooding and landslide event, and developed appropriate repair recommendations. (U16308|VeriClaim|2016)

Confidential Office Building, CA* Investigation of cause and origin of numerous claimed damages at a concrete, steel and wood-framed property related to a flooding event. Damages of note included corrosion of welded hold-down dowels that formed part of the seismic retrofit, distortion of interior wall finishes, and widespread cracking, deflection, and distortion of elevated slabs and slabs on grade. (Betsy Ross Drive, Santa Clara, CA)

142 Wakefield Street, Wellington, NZL. Performed earthquake damage assessment of concrete shear wall and precast high-rise building, including detailed review of wall damage patterns and precast flooring unit condition.

2016 Kaikoura Earthquake Response, Wellington, NZL. Performed reconnaissance and seismic damage assessments of numerous commercial, residential, institutional, and government buildings throughout the Wellington region as well as bridge and port infrastructure assessments.

CentrePort Limited, Wellington, NZL. Performed earthquake damage and general condition assessments of numerous structures at this major commercial port facility, including docks, wharves, seawalls and buildings.

* Denotes work performed with previous employer.

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Confidential Dock, AK. Large loss investigation into cause and origin of failure of novel steel sheet pile bulkhead system due to fracture of pre-fabricated junction piles.

Bypass Viaduct Collapse, Willits, CA. * Investigation of cause and origin of collapse of timber and steel falsework during construction of a major federal highway viaduct.

Sworn Testimony

Deposition, Copper River Seafoods, Inc. vs. Chubb Custom Insurance Company, regarding the root cause of the partial collapse of a historic, timber- and steel-framed pier supporting a two story industrial building. December 14, 2017

Papers, Publications and Presentations

"Disaster Recovery: Untold Stories Every SE Needs to Know," SEAONC January Monthly Meeting, AIA SF, San Francisco, CA, January 8, 2019 (Panelist)

"Initial Lessons on Design, Response, and Recovery from the 2016 Kaikoura Earthquake," Proceedings of the 11th National Conference in Earthquake Engineering, EERI, Los Angeles, CA, 2018 (Author)

"Building Evaluation Case Study: SCU Library and ARS Building," SEAONC SAP/ATC-20 Training, Santa Clara, CA, November 11, 2017 (Presenter)

"Overview of Changes to the 2016 CBC and CEBC," 2017 SEAONC Spring Seminar: New Provisions and Changes in the 2016 CBC, San Francisco, CA, March 15, 2017 (Presenter)

"Design Guide Volume 1: City of Los Angeles Mandatory Earthquake Hazard Reduction in Existing Non-Ductile Concrete Buildings," International Code Council, 2017 (Contributor)

"Steel Moment Frame Bracing Criteria for Existing Wood Diaphragms, Part 1 of 2," 2016 Convention of the Structural Engineers Association of California, Maui, HI, October 15, 2016 (Presenter)

"Steel Moment Frame Bracing Criteria for Existing Wood Diaphragms, Part 1 of 2," Proceedings of the 2016 Convention of the Structural Engineers Association of California, Maui, HI, October 15, 2016 (Co-author)

"BUILD SF: Making San Francisco Resilient," Panel Discussion, AIA SF, San Francisco, CA, September 22, 2016 (Panelist)

Panel discussion on seismic resilience following viewing of the film "Aftermath: Triumph of a City, 2016 Arch+City Festival," San Francisco Public Library, San Francisco, CA, September 7, 2016 (Panelist)

"Engineering issues for earthquake damage assessment and case studies," California Association of Independent Insurance Adjusters (CAIIA) Seminar for the Evaluation of Earthquake Damage (SEED) Sacramento, CA, July 12, 2016 (Presenter)

"Career musings from a forensic engineer," Structural Engineers Association of Northern California (SEAONC) Business Forum, San Francisco, CA, June 21, 2016 (Presenter)

"Building evaluation case study: Mills College, Fine Arts Annex," SEAONC SAP/ATC-20 Training, Oakland, CA, November 5, 2011, May 21, 2016 (Presenter)

"ATC-20-1: A rough guide to using your trusty field manual for safety assessment and reconnaissance," Earthquake Engineering Research Institute (EERI) Earthquake Reconnaissance Workshop, EERI Annual Meeting, San Francisco, CA, April 5, 2016 (Presenter)

"Performance-based engineering and the evaluation of existing buildings—Potential legal ramifications," Second ATC & SEI Conference on Improving the Seismic Performance of Existing Buildings and Other Structures, San Francisco, CA, December 11, 2015 (Presenter)

"Updates to the 2015 IBC: Overview of updates to the 2015 IBC from the perspective of structural engineers," Structural Engineers Association of Colorado Fall Seminar, Lakewood, CO, October 9, 2015 (Presenter)

"Conducting damage assessments in structural engineering: ATC-20 procedure and Case Study," Earthquake Engineering Research Institute (EERI) Earthquake Reconnaissance Workshop, EERI Annual Meeting, Boston, MA, April 3, 2015 (Presenter)

"Structural disaster response," Colorado Chapter of the International Code Council, Denver, CO, March 5, 2015 (Co-presenter)

"Structural plan review," Colorado Chapter of the International Code Council, Denver, CO, March 3, 2015; March 2, 2016; March 8, 2017 (Co-presenter)

"Performance-based engineering and the evaluation of existing buildings—Potential legal ramifications," Proceedings of the Second ATC & SEI Conference on Improving the Seismic Performance of Existing Buildings and Other Structures 2015: pp. 403–415 (Co-author)

"Structural building analysis," Colorado Chapter of the International Code Council, Denver, CO, March 4, 2014 (Co-presenter)

"ATC 20-1: A rough guide to your trusty field manual," EERI Stanford Student Chapter: Post-Earthquake Building Evaluation Workshop for Students, Stanford University, CA, October 20, 2012; October 19, 2013; October 11, 2014; October 22, 2016 (Presenter)

"Case study: Pool and recreation center," SEAONC/AIA Mini-Seminar: Case Studies for Post-Earthquake Building Evaluation Using ATC-20 Procedures, San Francisco, CA, July 12, 2012 (Presenter)

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“ATC-20 procedures for postearthquake safety evaluation of buildings: A brief history and overview,” SEAONC December Mini-Seminar: International Case Studies for Post-Earthquake Building Evaluation Using ATC-20 Procedures, San Francisco, CA, December 8, 2010 (Presenter)

“Finite element modeling of lunar regolith excavation,” Department of Civil Engineering, Case Western Reserve University, December 18, 2006 (Author)

“Dynamic, finite element analysis of an acoustic guitar soundboard,” Department of Civil Engineering, Case Western Reserve University, May 9, 2006 (Author)

Website Sample

Contact

David Ojala
650 California Street, Suite 1400
San Francisco, CA 94108
415.365.6900
DOjala@ThorntonTomasetti.com
www.ThorntonTomasetti.com

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