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Otto C. Guedelhofer

S.E., F.ASCE
Consultant

About Otto

Chuck Guedelhofer is a Consultant at Raths, Raths & Johnson, Inc. with over 48 years of structural engineering experience, specializing in structural forensics, field and laboratory testing, repair design construction peer view, quality assurance programs, and litigation consulting.

During his 38-year career as a key leader of RRJ, he has directed hundreds of investigations for high-profile structural collapses and failures and complex investigations related to capacity, deterioration, and repair with multiple disputes involving a variety of complaints.

A significant portion of his practice has involved the evaluation and repair of distressed or aged structures. These projects have required designs of specialty forming and shoring systems and innovative repair solutions.

An expert witness, he has assisted owners, contractors, architects, engineers, insurers, governmental agencies, and attorneys, providing legal strategy, litigation support, consultation on the use of experts, and deposition and trial testimony on numerous matters. He regularly speaks at legal and design and construction industry conferences sharing his insights related to handling construction failure cases, remedial solutions to damages, and investigative approaches to construction litigation claims.

Education

Master of Science in Civil Engineering
Oklahoma University

Bachelor of Science in Civil Engineering
Purdue University

Licensure | Certifications

Structural Engineer IL and HI

Professional Engineer AK, AZ, CO, CT, DE, DC, FL, IN, KY, LA, MD, MA, M, MN, MS, NJ, ND, OH, OK, PA, RI, SC, SD, VA, WV, and WI

National Council of Examiners for Engineering and Surveying (NCEES)

Professional Affiliations

American Concrete Institute (ACI)

American Institute of Steel Construction (AISC)

Professional Affiliations cont.

American Society of Civil Engineers (ASCE), Fellow, Forensic Engineering Division, FED Committee on Publications, Associate Editor

Illinois Society of Professional Engineers/National Society of Professional Engineers (ISPE/NSPE)
Structural Engineers Association of Illinois/National Council of Structural Engineers Associations (SEAOI/NCSEA)

Honors & Awards

American Concrete Institute (ACI)
50 Year Member of ACI Recognition, 2016

Purdue University Civil Engineering Alumni
Achievement Award, 2005



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Presentations

- "Using Full Scale Tests to Prove What Really Happened in a Construction Collapse," Structural Engineers Association of Illinois, Forensic Forum, Chicago, IL, O.C. Guedelhoefer and W.J. Macicak, June 14, 2018
- "Securing the Site and Preserving the Evidence / Dealing With OSHA and Other Governmental Agencies" and "Analyzing Causation, Proposing a Fix, Economic Waste, Betterment and Related Issues," American Bar Association Litigation Section, Regional CLE Workshop: Handling a Construction Failures Case, New York City, NY, O.C. Guedelhoefer, Panelist, September 15, 2017
- "Recognizing and Mitigating Risks Associated with Modern Building Façade Construction," Construction SuperConference, Las Vegas, NV, O.C. Guedelhoefer, D.K. Johnson, A. Adams, III, and L. Goodman, Panelists, December 7, 2016
- "Securing the Site and Preserving the Evidence / Dealing with OSHA and Other Government Agencies," American Bar Association Litigation Section, Regional CLE Workshop: Handling a Construction Failures Case, Philadelphia, PA, O.C. Guedelhoefer, Panelist, June 3, 2016
- "Analyzing Causation, Proposing a Fix, Economic Waste, Betterment and Related Damages Issues," American Bar Association Litigation Section, Regional CLE Workshop: Handling a Construction Failures Case, Philadelphia, PA, O.C. Guedelhoefer, Panelist, June 3, 2016
- "When 1 Test Is Worth More Than 10 Expert Opinions," Construction SuperConference, San Diego, CA, O.C. Guedelhoefer, B.T. Lammert, and Louis Cairo, December 7-9, 2015
- "Navigating Construction Failures," 2014 Construction SuperConference, Las Vegas, NV, Panelist, December 2014
- "Construction Failures and Defects - Parking Garages," Mealey's Construction Litigation Conference, Philadelphia, PA, May 20, 2008
- "Engineering Disasters - 9 Rosemont Collapse," History Channel, Modern Marvels, December 10, 2004
- "Current Trends in Failures of Civil Engineering Structures," ASM Materials Week '94, Seminar on Analysis of Civil Structural Failures, October 5, 1994
- "Management & Organization of Structural Failure Investigations," University of Wisconsin-Extension, Madison, WI, November 3 and 4, 1987
- "Typical Recurring Problems with Parking Structures," ASCE Structures Congress, Chicago, IL, September, 1985
- "Observations Made During the Repair of a Tornado-Damaged Cooling Tower," International Symposium on Natural-Draught Cooling Towers, University of Bochum, Bochum, West Germany, September 5-7, 1984
- "Methods for Strength Evaluation of Distressed Structures," ASCE Conference, St. Louis, MO, October 26-27, 1981
- "Project Management," Evaluation of Structural Failures, University of Wisconsin-Extension, Madison, WI, May 12, 1983
- "Repair of Cracks in Structural Concrete," American Concrete Institute Convention, Detroit, MI, O.C. Guedelhoefer and R.J. Rioux, September 23, 1982
- "Stability Investigation Based on In Situ Geometry," ASME/ASCE Conference, Boulder, CO, P.L. Gould and O.C. Guedelhoefer, June 22, 1981



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Presentations cont.

- "Recurring Causes of Construction Failures," ASCE Conference, New York, NY, T.L. Rewerts, R.J. Kudder, and O.C. Guedelhoefer, May 1981
- "Evaluation and Repair of Tornado-Damaged Cooling Tower," American Concrete Institute (ACI) Convention, O.C. Guedelhoefer, P.L. Gould, and A.L. Parme, April, 1981
- "Evaluation of Performance by Full-Scale Testing," ASTM International Symposium on Full Scale Testing of Structures, Philadelphia, PA, O.C. Guedelhoefer and J. R. Janney, April 2, 1979
- "Instrumentation & Techniques of Full-Scale Testing of Structures," American Concrete Institute (ACI) Convention, Washington, D.C., October 1979
- "Correlation of Load Testing With Design," O.C. Guedelhoefer and C. H. Raths, May 17, 1979
- "Consequences & Reasons for Breakdown of Quality Assurance," ASCE Georgia Section Annual Meeting, Atlanta, GA, December 1, 1978
- "Full-Scale Testing of an Elevated Rapid-Transit Structure," ASCE Convention, Pittsburgh, PA, O.C. Guedelhoefer, J.R. Janney, and D. Boggs, April 24-28, 1978
- "Practical Applications of Minicomputers in Full-Scale Structural Testing," ASCE National Convention, San Francisco, CA, O.C. Guedelhoefer and S.G. Pinjarkar, October 17-21, 1977
- "Dynamic Response Method for Structural Evaluation," ASCE Convention, San Francisco, CA, O.C. Guedelhoefer, J.R. Janney, and J.F. Wiss, October 17-21, 1977
- "Computer Applications in Full-Scale Structural Testing," ASCE Specialty Conference in Structural Engineering Practice, Montreal, Canada, O.C. Guedelhoefer, R.J. Kudder, and S.G. Pinjarkar, October 6-7, 1977
- "Static Load Testing of Concrete Structures in Accord with U. S. Building Code," International Symposium on Testing In Situ of Concrete Structures, Budapest, Hungary, O.C. Guedelhoefer, J.R. Janney, and J.M. Hanson, September 12-15, 1977
- "The Use of Experimental Stress Analysis Techniques with Civil Engineering," Society for Experimental Stress Analysis, Indianapolis, IN, October 1974
- "Benefits of Model Studies to the Design Process," ASCE Structural Meeting, Cincinnati, OH, O.C. Guedelhoefer, A. Moreno, and J.R. Janney, April 1974
- "Small-Scale Models of Buildings for the Study of Structural Behavior," Symposia/Engineering Study, April 1969



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Publications

"Common Problems at the Interface between Masonry Drainage Walls and Windows," *Masonry, Esthetics, Engineering, and Economy*, ASTM STP 1246. Donald H. Taubert and Tim Conway, editors. ASTM International, N.V. Krogstad, R.A. Weber, and D.K. Johnson, Philadelphia, PA, 1996

"Field Versus Laboratory Performance Testing," *Progressive Architecture*, D.K. Johnson and A.S. Weber, August 1991 Received Construction Index Excellence Award from ArchiText, June 1992

"Investigative Techniques for Water Penetrations," *Association for Preservation Technology International Bulletin XXIII*, No. 2, D.K. Johnson and A.S. Weber, 1991

"Looking Out: Window Replacement and Quality Assurance," *The Construction Specifier*, S.J. Kelly and D.K. Johnson, March 1989