

## John Abruzzo, P.E., S.E., LEED AP

### Managing Principal



#### Summary

Mr. Abruzzo has extensive experience working with a wide variety of materials and design types including high-rise and long-span steel structures. He possesses specialized knowledge in assessing and predicting the behavior of steel and reinforced concrete connections, structural stability, blast analysis, nonlinear analysis, materials testing, data acquisition and testing of structural elements.

#### Areas of Technical Expertise

- Forensic Structural Engineering
- Emergency Response
- Standard of Care

#### Education

- M.C.E., 1989, Stevens Institute of Technology
- B.C.E., 1984, Villanova University

#### Registrations

- Licensed Structural Engineer (California)
- Licensed Civil Engineer (California)
- Licensed Professional Engineer (Alabama, Arizona, Georgia, Idaho, Minnesota, Nevada, Oregon, Pennsylvania, Texas, Utah)
- LEED Accredited Professional
- "Modern Force Protection," 2001, Penn State University

#### Professional Activities

- American Society of Civil Engineers (ASCE)
- American Welding Society
- American Concrete Institute (ACI)
- ASCE and AISC Committees for the design of blast and impact-resistant structures
- AISC Connection Prequalification Review Panel

#### Honors and Awards

- Assistant Professor, Villanova University, 1996-1999

#### Select Project Experience

##### Forensic Structural Engineering

**I-35 West Bridge Collapse**, Minneapolis, MN. Forensic investigation of vehicular bridge collapse, including FIM, collapse analysis and nonlinear finite element model to simulate the collapse initiation.

**Woodlands Warehouse**, Woodland, CA. Investigated construction defects of a panelized roof system.

**Colusa Casino**, Colusa, CA. Investigated construction defects associated with wood and metal stud framing, and wood trusses using trussplate connectors.

##### Emergency Response

**Tropicana Parking Garage Collapse**, Atlantic City, NJ. Investigation to determine the cause of the cast in-place structure's collapse during construction.

**Miller Park, Crane Collapse**, Milwaukee, WI. Emergency response, failure investigation and collapse analysis of a 500-foot-tall mobile crane.

**David L. Lawrence Convention Center**, Pittsburgh, PA. Emergency response, forensic engineering, structural design and continuous on-site presence following a collapse of an elevated loading dock.

##### Standard of Care

**Baruch College Construction Claim**, New York, NY. Construction claim regarding building structure, foundations and exterior wall.

**New York Post Printing Facility**, Bronx, NY. Investigation of concrete cracks within the pile supported slab and elevated steel framed slabs.

**America West Arena**, Phoenix, AZ. Investigated the steel roof structure to determine code compliance and strength for future upgrades.

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**Sworn Testimony**

**Deposition**, Superior Court of Fulton County, State of Georgia, 3344 Peachtree, LLC and 3344 Sovereign vs. Hardin Company LLC, et al., Civil Action N. 2014CV249149, regarding a construction defects claim. September 2016.

**Deposition**, Superior Court of the State of California, in and for the County of Sacramento, Colusa Indian Community vs. Hunt Construction, et. al., regarding a construction claim. August 2014.

**Deposition**, Circuit Court of Jefferson County, Alabama, Bresette vs. Brasfield & Gorrie regarding a failure analysis. May 2014.

**Deposition**, Superior Court of State of California in and for the County of Napa, Town of Yountville vs. Swank Construction, regarding a construction claim and a structural engineer's standard of care. November 2013.

**Deposition and Trial**, Court of Common Pleas of Allegheny County, Commonwealth of Pennsylvania, Commonwealth of Pennsylvania, DGS; University of Pittsburgh vs. Havens Steel Company, USF&G, etc., regarding a construction claim and a structural engineer's standard of care. December 2010.

**Deposition and Trial**, GSA Project #NNY91413, New U.S. Courthouse & Federal Building, Islip, NY, regarding a construction claim and a structural engineer's standard of care. November 2005.

**Deposition**, Armed Service Board of Contract Appeals, involving a subrogation claim against the US Air Force, regarding damage to a hangar at McGuire Air Force Base. 2002.

**Litigation**

**I-35 West Bridge Collapse**, Minneapolis, MN. Litigation support for a claim related to a vehicular bridge collapse.

**University of Pittsburgh, Pittsburgh Convocation Center**, Pittsburgh, PA. Litigation support for a claim related to a required retrofit for over 30 connections that required bearings to be installed.

**Baruch College Construction Claim**, New York, NY. Litigation support for a construction claim regarding building structure, foundations and exterior wall.

**Tropicana Parking Garage**, Atlantic City, NJ. Litigation support for a claim related to the partial collapse of the concrete garage structure.

**Independence Harbor**, Edgewater, NJ. Litigation support for a construction claim related to adequacy of steel and reinforced concrete framed structures.

**Lewis Residence**, Oakland, CA. Litigation support for a claim of negligence against the forensic construction specialist.

**Outokumpu Stainless Steel Mill**, Calvert, AL. Evaluated the structural design of the existing facilities, particularly the overhead crane runway girders and trusses. Determined the

service life limited by fatigue of the runway system and bracing requirements.

**Alternative Dispute Resolution**

**Creve Coeur Bridge Claim**, St. Louis, MO. Provided expert advice on concrete for a claim pertaining to the construction of a cast-in-place segmental bridge.

**New York Post Printing Facility**, Bronx, NY. Litigation support for a construction claim related to concrete cracks within the pile supported slab and elevated steel framed slabs.

**America West Arena**, Phoenix, AZ. Litigation support for a claim related to the code compliance and strength of a steel roof structure.

**Outokumpu Stainless Steel Mill**, Calvert, AL. Provided expert advice during mediation with regard to the performance of overhead cranes on runway girders, expected life estimates, fatigue, and overall structural standard of care.

**Papers, Publications and Presentations**

"Jacking Columns of Existing Structures under Existing Loads;" Seventh Congress on Forensic Engineering; Miami, FL; November 15-18, 2015; Co-author

"Disproportionate Collapse-How to Check the Computer Analysis;" Forensic Engineering; 2015; pp. 513-527; Author

"Performance Based Seismic Design of Soyak Crystal Tower- Getting a Safer and More Economical Structure;" Second European Conference on Earthquake Engineering and Seismology; Istanbul, TUR; August 25-29, 2014, Co author

"Introduction to the Guideline for the Structural Design, Evaluation, and Testing of Permanent Building-Supported Facade Access Equipment, and Commentary;" ASCE Structures Congress 2014; Boston, MA; April 3-5, 2014; Co-author

"Forensic Information Modeling in Bridge Renovation: Sherman Minton Bridge;" IABMAS 7th International Conference on Bridge Maintenance, Safety and Management; July 7-11, 2014; Shanghai, China (Co author)

"Forensic Information Modeling: A New Forensic Tool;" Civil Engineering, January 2013 (Co author)

"How Computers Lie: The Fact and Fiction of Computer Simulations in Court Cases;" Construction SuperConference, San Francisco, CA, December 14, 2012 (Co-presenter)

"Structural Investigation of the Sherman Minton Bridge Closure;" 6th Congress on Forensic Engineering, October 31, 2012- November 3, 2012 (Co-presenter)

"Forensic Investigation Modeling (FIM) Approach: I-35 West Bridge Collapse Case Study;" 6th Congress on Forensic Engineering, October 31, 2012- November 3, 2012 (Co-presenter)

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**Papers, Publications and Presentations (cont.)**

"Discussion of Nonlinear Finite-Element Analysis of Critical Gusset Plates in the 1-35 West Bridge in Minnesota," ASCE Journal of Structural Engineering, June 2012 (Co-author)

"New Frontier for BIM," Construction SuperConference, December 14-16, 2011 (Presenter)

"Chapter 4: Materials Performance," Handbook for Blast-Resistant Design of Buildings, Donald O. Dusenberry, John Wiley & Sons, Inc., January 14, 2010 (Co-author)

"Protective Design of Building Structure," ASHRAE, 2005 (Presenter)

"A Study of Mitigation Strategies for Progressive Collapse of a Reinforced Concrete Commercial Building," Journal of Performance of Constructed Facilities, November 2006 (Co-author)

"Protective Design of Existing Building Structures After World Trade Center," ASCE, 2005 (Presenter)

"Applying the Lesson Learned from 9/11 to the Remedial Protective Design of Existing Buildings," ASCE Structures Congress 2005: Metropolis and Beyond; New York, NY; April 20-24, 2005; Co author

"Protective Design of Building Structure," Engineering, Architectural and Security Approaches in Protecting People and Buildings Post 9/11 Conference, April 26, 2005 (Presenter)

"The Role of the Structural Engineer in Risk Assessment for Privately Owned Buildings with Public Function in the USA," International Conference on Structural Safety and Reliability, Rome, Italy, June 19-23, 2005 (Presenter)

"Chapter 22: Protective Design of Structures," Building Security: Handbook for Architectural Planning & Design, Barbara A. Nadel, FAIA, ed., The McGraw-Hill Companies, Inc., 2004 (Co-author)

"Pivot Points," Modern Steel Construction, May 2004 (Co-author)

"Miller Park Pivot Bearing Replacement," ASCE's Proceedings of the Third Forensics Congress, 2003 (Co-author)

"Reduce Damage, Increase Safety," The Military Engineer, September | October 2003 (Co-author)

"Owners Eye Vulnerability Analysis and Security Design," Real Estate Weekly, February 2002 (Co author)

"Blast Design and Collapse Analysis," Rutgers University Department of Civil Engineering, 2002 (Presenter)

"Responding to the World Trade Center Emergency," Delaware Valley Chapter of ACI, 2002 (Presenter)

"Overview of Regional Seismicity and Structural Evaluation and Criteria of Structural Upgrade," ASCE Structures Congress; Washington, D.C.; May 21-23, 2001; Co-author

"Applications of Truss Models for Precast Concrete Connections," Rutgers University Department of C1v11 Engineering, 1999 (Presenter)

"The Izmit Earthquake & The Ataturk Airport Terminal Seismic Upgrade," ASCE Metropolitan Section, 2001 (Presenter)

"Discussion of Comparison of Installation Techniques for 1-1/4 Diameter A490 Bolts," AISC Engineering Journal, 1996 (Co-author)

"Comparison of Installation Techniques for 1-1/4 Diameter A490 Bolts," AISC Engineering Journal, 1994 (Co-author)

"Airport Features a Seismic Upgrade During Construction," Modern Steel Construction, August, 2000 (Co-author)

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