



## PERSONNEL QUALIFICATIONS

### Andrea E. Shear | Senior Associate



#### EDUCATION

- University of Michigan
  - Bachelor of Science in Engineering, Civil and Environmental Engineering, 2002
  - Master of Science in Engineering, Civil Engineering, 2004

#### PRACTICE AREAS

- Parking Structures
- Prestressed and Posttensioning
- Reinforced Concrete Structures
- Steel Structures
- Structural Analysis/Computer Modeling
- Structural Evaluation

#### REGISTRATIONS

- Professional Engineer in MI, NJ, and NY
- AWS Certified Welding Inspector
- ICC Certified Structural Steel and Bolting Special Inspector
- ICC Certified Structural Welding Special Inspector

#### PROFESSIONAL AFFILIATIONS

- Structural Engineers Association of New York (SEAoNY)

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 2003, Andrea Shear has performed field investigations, condition surveys, construction period services, and code reviews. She has completed investigations and analyses involving damaged or deficient wood, masonry, glass, and steel structures as well as structures constructed of conventionally reinforced, precast, prestressed, and post-tensioned concrete. Additionally, Ms. Shear has provided structural services associated with the renovation of building facades and interiors as well as mechanical and electrical upgrade projects.

Ms. Shear completed her undergraduate and graduate studies in Civil Engineering at the University of Michigan in Ann Arbor. As an undergraduate, she completed concentrations in both structural and geotechnical engineering and continued to study both subjects while completing her master's degree.

#### REPRESENTATIVE PROJECTS

##### Parking Structures

- Bon Secours Hospital - Grosse Pointe, MI: Construction documents and construction period services for parking structure concrete repairs
- City of Grosse Pointe Parking Structure - Grosse Pointe, MI: Condition survey and repair cost analysis

##### Prestressed and Post-Tensioning

- 411 West Lafayette - Detroit, MI: Investigation, analysis, and construction observation for button-headed post-tensioned parking structure
- Southfield Town Center - Southfield, MI: Analysis of prestressed members and post-tensioned slab in parking structure; condition survey and repair recommendations
- Little Village High School - Kentwood, MI: Prestressed hollow core plank inspection performed at precast plant
- Comerica Auburn Hills Operations Command - Auburn Hill, MI: Investigation, analysis, and repair design for failed post-tensioned tendons in roof slab

##### Reinforced Concrete Structures

- TXU Permian Basin - Monahans, TX: Construction period services including full-time site supervision for shotcrete repairs to cooling tower foundations

##### Steel Structures

- Roosevelt House - New York, NY: Design of shoring tower and preparation of steel shop drawings for renovation of historic structure

##### Structural Evaluation/Structural Analysis

- North Hall - Ann Arbor, MI: Investigation and analysis of wall cracking in historic stone and brick masonry building
- Pittsburgh Convention Center - Pittsburgh, PA: Computer modeling and analysis of structure, including steel trusses, composite floor slab, concrete columns, and cables
- Big Dig Safety Audit - Boston, MA: Inspection and analysis of tunnel structural elements and finishes following panel collapse to ensure public safety
- 444 Madison Avenue - New York, NY: Structural analysis, design and construction period services for lobby renovation, cooling tower upgrade, new electrical conduit, and tenant fitout projects