

### Kara Kea | Senior Associate



#### EDUCATION

- Howard University
  - Bachelor of Science, Civil Engineering, 2013
- Virginia Polytechnic Institute and State University
  - Master of Science, Civil Engineering, 2015

#### REGISTRATIONS

- Professional (Civil) Engineer in MA

#### PRACTICE AREAS

- Repair and Rehabilitation
- Failure/Damage Investigations
- Instrumentation/Monitoring/Load Testing
- Stone Cladding and Paving
- Corrosion
- Roofing and Waterproofing
- Facade Assessment
- Architectural Testing
- Coatings and Sealants

#### CONTACT

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#### EXPERIENCE

Kara Kea has performed numerous investigations, repair and rehabilitation, failure investigation, and instrumentation and monitoring projects for structures primarily of reinforced concrete, prestressed concrete, steel, and wood. Prior to joining WJE, Ms. Kea was involved in multiple research projects during her collegiate career. At ASCE's Structures Congress 2014, she presented her research of a three-dimensional model of a base isolated cooling tower created in SAP2000, which correlated numerical model data with experimental data. As part of her master's degree thesis, Ms. Kea researched, designed, and modeled a bio-inspired self-centering rocking frame in SAP2000.

#### REPRESENTATIVE PROJECTS

##### Repair and Rehabilitation

- Tufts Health Plan Parking Garage - Watertown, MA: Repairs and construction period services
- Boston Globe Parking Deck - Boston, MA: Parking deck and ramp investigation
- Parris Landing Parking Garage - Charlestown, MA: Evaluation of three-level garage and development of repairs for reinforced concrete, steel-frame, and masonry walls
- Innovation and Design Center - Boston, MA: Concrete facade, window perimeter, canopy repairs, and window replacement
- 705 Mt. Auburn Street - Watertown, MA: Visual assessment and repair design for garage
- Precast Concrete Company - Various Locations, CO: Inspection of grouted joints, oversight of repairs, and quality assurance and quality control of joint repairs
- Engineering Consultant - New York: Steel framing redesign to address perceptible vibrations and deflections

##### Failure/Damage Investigations

- 24 Bunker Hill Warehouse - Charlestown, MA: Fire damage evaluation of one-story warehouse
- Chubb Insurance - Brooklyn, NY: Investigation of concrete slab failure

##### Instrumentation/Monitoring/Load Testing

- Copley Square Hotel - Boston, MA: Settlement monitoring of granite block foundation wall and supported structure using level surveys and 3D laser scans
- Wentworth University, Schumann Library - Boston, MA: Vibration monitoring of wood ceiling panels
- 25 Fid Kennedy - Boston, MA: Nondestructive evaluation of concrete topping slab

##### Stone Cladding and Paving

- Merck K-15 - Kenilworth, NJ: Review of precast wall panel failure
- 200 Berkeley - Boston, MA: Stone paver investigation and development of repairs and replacement
- Pequot Highlands - Salem, MA: Brick veneer wall investigation and backup wall and cladding analysis

##### Corrosion

- Eversource Substation - Boston, MA: Investigation of corrosion and concrete deterioration of elevated concrete slab

##### Roofing and Waterproofing

- Faneuil Hall - Boston, MA: Slate roof binocular inspection
- Christ Church - South Hamilton, MA: Leak investigation of steep-sloped roof

##### Facade Assessment

- Bank of America - Providence, RI: Difficult access of stone facade and annual maintenance inspections
- State University of New York at Albany - NY: Exterior concrete assessment of low-rise dormitory and academic podium buildings, including precast wall panels and canopy structure
- Symphony Towers - Boston, MA: - Facade inspection, repairs of cementitious wall panels, and sealant replacement
- University of North Carolina, Mary Ellen Jones Building - Chapel Hill: Precast panel connection investigation

##### Architectural Testing

- GE Boston Headquarters - Boston, MA: Field investigation of structural timber and testing of masonry and embedded anchors