



## PERSONNEL QUALIFICATIONS

### Stephen M. Garrett | Senior Associate



#### EDUCATION

- University of Illinois at Urbana-Champaign
  - Bachelor of Science, Civil Engineering, 2012
  - Master of Science, Civil Engineering, 2014

#### PRACTICE AREAS

- Bridges and Civil Infrastructure
- Coatings and Corrosion
- Service Life Modeling
- Nondestructive Evaluation
- Laboratory Evaluations

#### REGISTRATIONS

- NACE CP-4 - Cathodic Protection Specialist
- Professional Engineer in AR, IL, IA, MI, MN, MO, and MT

#### PROFESSIONAL AFFILIATIONS

- Association for Materials Protection and Performance
- International Concrete Repair Institute

#### TECHNICAL COMMITTEES

- AMPP - SC 12 - Concrete Infrastructure
- ICRI - 160 - Life Cycle and Sustainability, chair
- ICRI - 210 - Evaluation
- ICRI - 510 - Corrosion, secretary

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 2014, Stephen Garrett has been involved in field inspection, material testing, and repair design projects, specifically focusing on reinforced concrete structures. Mr. Garrett has experience in corrosion assessment, corrosion mitigation, and nondestructive evaluation techniques. Additionally, he has experience with coatings for steel and concrete structures.

Mr. Garrett has led several large-scale assessment and rehabilitation projects for civil infrastructure systems, leveraging service life models to develop asset management plans. He is also an active member of AMPP and ICRI, serving on various committees related to evaluation, corrosion, and service life modeling.

#### REPRESENTATIVE PROJECTS

##### Bridges and Civil Infrastructure

- Jefferson Barracks Bridge - Mehlville, MO: Condition assessment, rehabilitation design, and construction period services for concrete bridge deck, weathering steel superstructure, and coated steel elements
- Liquid Natural Gas Power Plants - IL and UT: Nondestructive evaluation of concrete foundation systems exhibiting premature concrete failures during construction
- Utility Tunnels - Chicago, IL: Nondestructive assessment of concrete tunnel liners housing below-grade, natural gas pipelines
- Poplar Street Bridge Complex and Adjacent Bridges - East St. Louis, IL: Field investigation, nondestructive testing, laboratory analysis, service life modeling, and repair design for concrete bridge decks and support structures
- Interstate 90 - IL and IN: Field assessment, repair design, and construction period services for bridge substructure and superstructure elements including concrete footings, steel and concrete bents, and reinforced concrete bridge decks
- Third Avenue Bridge - Minneapolis, MN: Elemental and in-depth inspection of historic concrete arch bridge for Minnesota DOT

#### Coatings and Corrosion

- Hotel - Seattle, WA: Review of construction documents and field testing to evaluate corrosion risk of new reinforced concrete structure with admixed chlorides
- Mid-Rise Residential Building - Honolulu, HI: Peer review and durability consulting of architectural and structural details and specifications for a new residential development
- Parking Facility - San Francisco Bay Area, CA: Investigation, repair design, and construction period services for exterior facade connection elements at heightened risk of corrosion

#### Service Life Modeling

- Port of Houston - TX: Service life modeling and data analysis for wharves of different vintage and construction
- Peace Bridge - Buffalo, NY: Evaluation of mix designs to verify conformance to project specified service life requirements
- Prestressed Bridge Girders (Oklahoma DOT): Service life modeling of prestressed concrete girders for a variety of exposure and deterioration conditions; development of repair recommendations

#### Nondestructive Evaluation

- ASTM C876 Half-Cell Potential Testing: Corrosion evaluation of parking structures, bridge decks, and steel structures
- Concrete Pile Foundations: Impulse response testing of pile foundations of varying construction and quality
- ASTM C1583 Pull-Off Testing: Bond/tensile strength testing of bridge deck overlays, concrete substrates, and flooring systems

#### Laboratory Evaluations

- ASTM A775 Material Testing: Epoxy-coated reinforcing materials compliance testing
- AASHTO T253/PennDOT RC-20M Material Testing: Coated dowel bar testing
- Silane Sealers: Evaluation of penetration depth of commercially available silane treatments for bridges to reduce alkali silica reaction