



## PERSONNEL QUALIFICATIONS

### John S. Lawler | Associate Principal



#### EDUCATION

- Hope College
  - Bachelor of Science, Engineering Physics, 1996
- Northwestern University
  - Master of Science, Civil Engineering, 1999
  - Doctor of Philosophy, Civil Engineering, 2001

#### PRACTICE AREAS

- Structural Evaluation
- Corrosion
- Nondestructive Evaluation
- Repair and Rehabilitation Design
- Construction Assistance and Troubleshooting
- Materials Evaluation and Research

#### REGISTRATIONS

- Professional Engineer in IL, MI, and MS
- NACE Certified Cathodic Protection Technician

#### PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- American Society of Civil Engineers
- NACE International
- Precast/Prestressed Concrete Institute

#### CONTACT

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#### EXPERIENCE

Since joining WJE in 2001, John Lawler has performed field, laboratory, and analytical investigations related to the construction and durability of a wide range of structures. His areas of specialization include concrete structure assessment, nondestructive testing techniques, corrosion testing, and corrosion service life modeling for new and existing structures in severe environments.

Dr. Lawler has evaluated the condition of existing transportation, infrastructure, power, industrial, and governmental structures addressing corrosion and other concrete material problems, including strength deficiencies and environmental and chemical deterioration. He has developed repair/rehabilitation programs associated with many of these projects.

Dr. Lawler has also consulted on materials selection and design for new structures, with a focus on durability. He has led research programs investigating materials performance in the field and the laboratory. This has included studies of corrosion-resistant reinforcing steels, prestressing strand, and high-performance concrete optimized for durability.

#### REPRESENTATIVE PROJECTS

##### Structural Evaluation

- Vehicle Assembly Building - Kennedy Space Center, FL: Corrosion evaluation of elevated concrete slabs, service life modeling, and repair development
- Water Reclamation Facility of Palo Verde Nuclear Generating Station - Tonopah, AZ: Evaluation, corrosion service life modeling, and repair development for thirty-year life extension of trickling filters, clarifiers, thickeners, and pumping station structures
- Indiana Toll Road Bridges - IN: Evaluation of concrete bridge elements, corrosion service life modeling, and rehabilitation/repair design
- Union Depot - St. Paul, MN: Evaluation and repair development for 250,000-square-foot elevated concrete train deck exhibiting carbonation-induced corrosion

- Queen Isabella Memorial Causeway Bridge - South Padre Island, TX: Assessment and corrosion service life modeling of 2.4-mile marine bridge substructure
- Pacific Financial Plaza - Newport Beach, CA: Condition evaluation and cathodic protection repair specification
- Montana Power - Colstrip, MT: Evaluation of alkali silica and delayed ettringite deterioration in concrete cooling tower

##### Construction Assistance and Troubleshooting

- I-4 Braided Ramp - Orlando, FL: Early age bridge deck cracking investigation
- Potash Mines - Canada: Concrete performance and durability consulting during construction of three shafts
- Wacker Drive Viaduct Reconstruction - Chicago, IL: Quality assurance and construction consulting
- Corpus Christi Seawall Reconstruction - Corpus Christi, TX: Thermal monitoring and cracking prevention
- Locks and Dam Structure - PA: Investigation of construction anomalies in tremie concrete drilled shafts

##### Materials Evaluation and Research

- Bridges in NC, GA, IL, IA and WV: Evaluation of field performance of epoxy-coated and galvanized reinforcing bars in marine substructures and bridge decks
- Bridge Substructures in IA: Evaluation of field performance of cathodic protection systems
- Testing of epoxy coatings and patch materials for reinforcing steel in concrete
- Montana Department of Transportation: Development of high-performance concrete and alkali silica reaction mitigation strategy
- NCHRP Project No. 18-08A: Supplementary Cementitious Materials to Enhance Durability of Concrete Bridge Decks
- NCHRP Project No. 10-62: Acceptance Tests for Surface Characteristics of Steel Strands in Pre-stressed Concrete

##### TECHNICAL COMMITTEES

- ACI 365 - Service Life Prediction
- PCI - Concrete Materials Technology Committee, chair
- CRSI - Durability Committee, chair