

### Michael P. Broglie | Senior Associate



#### EDUCATION

- The Pennsylvania State University
  - Bachelor of Science, Chemical Engineering, 2010

#### PRACTICE AREAS

- Bridges
- Mechanical Engineering
- Design
- Computer-Aided Drafting
- Inspections
- Balance Testing and Analysis
- Construction Observation and Troubleshooting
- Wire Rope Inspections
- Gear Assessment/Design
- Heavy Movable Structures

#### REGISTRATIONS

- Professional Engineer in FL, IL, and PA
- OSHA 24-Hour/USACE EM385 Fall Protection Competent Person
- OSHA 30-Hour Construction

#### CONTACT

mbroglie@wje.com  
215.340.5830  
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#### EXPERIENCE

Michael Broglie has more than eight years of experience as a mechanical engineer on heavy movable structures. Since joining the firm, Mr. Broglie has gained experience in various aspects of movable bridge machinery, including design for new bridges and rehabilitation, construction engineering and inspection (CEI), calculations, field and source inspection of machinery, strain gage testing, and CAD management.

#### REPRESENTATIVE PROJECTS

- Cow Bayou Swing Bridge Rehabilitation - Orange County, TX: Design of the replacement of center bearing, span drive machinery, end wedge machinery, and balance wheel rollers; shop and on-site inspection of fabrication, installation, and alignment of machinery
- New York State Canals, Vertical Lift Rehabilitations - Fairport and Spencerport: Rehabilitation of all mechanical machinery on pair of vertical lift bridges over the Erie Canal, including preparation of separate plans, specifications, and estimates for each lift bridge
- Barter's Island Swing Span - Boothbay, ME: Design and preparation of contract documents for replacement of all mechanical operating machinery on bobtail center-bearing swing bridge carrying vehicular traffic
- St. Peters Canal Replacement - St. Peters, NS, Canada: Preparation of design calculations, drawings, and specifications of the machinery for a new bobtail swing bridge
- Vertical Lift Bridge CD 509.6 - Chicago, IL: Representing engineer for railway during counterweight rope replacement; overseeing of construction activities; rope tension measurements
- Saugatuck Bridge Storm Sandy Emergency Repairs - Westport, CT: Shop inspection and on-site oversight of installation and alignment of rehabilitated span drive and center/end lift machinery
- Derek S. Hines Memorial Bridge, Amesbury, MA: Support role to the prime contractor for new center bearing swing bridge
- Memorial Lift Bridge - Portsmouth, NH: Field engineering assistance for new span drive vertical lift bridge
- Vertical Lift Bridge CD 182.30 over Cuyahoga River - Cleveland, OH: Coordination of mechanical and structural work; installation of replacement operating drum and gear frame assembly at the northwest corner of span-drive vertical lift span
- Cape Fear Lift Bridge - Wilmington, NC: Main and auxiliary counterweight rope replacement and tensioning
- Alford Street Bridge - Boston, MA: Construction services, including shop and field inspections; review of shop drawings; strain gage testing on new twin double-leaf bascule bridge
- Norfolk Southern System-wide Inspection of Ten Movable Bridges: Field investigation of existing conditions; coordination with field personnel regarding maintenance practices; specialized testing, including strain gage and/or hydraulic transducer operating load testing and electrical load testing; and repair recommendations
- Asset Management of Movable and Fixed Bridges - Florida Department of Transportation (DOT) Districts 4 and 5: Mechanical engineer and lead mechanical inspector responsible for mechanical inspection and evaluation of forty-two bascule bridges with fixed approach spans
- Buzzards Bay Vertical Lift Railroad Bridge - Buzzards Bay, MA: Inspection of complete mechanical installation, including span drive machinery, span support machinery, span lock machinery span, counterweight guides, and air buffers
- New Jersey DOT Inspections: Type I, Type II, and Type III inspections of various movable bridges, including bascule bridges, swing bridges, and vertical lift bridges
- Columbus Road Vertical Lift Bridge - Cuyahoga County, OH: Rehabilitation of all mechanical machinery for span drive vertical lift bridge
- Bridge Balance Testing for Movable Bridges: Field team leader for the balance testing of more than forty movable bridges of all types, including twenty bascule bridges