PERSONNEL QUALIFICATIONS

Paul M. Bandlow | Senior Principal and Unit Manager

EDUCATION

- University of Massachusetts Amherst
  - Bachelor of Science, Mechanical Engineering, 1983

PRACTICE AREAS

- Mechanical Engineering
- Heavy Movable Structures
- Inspections
- Design
- Repair and Rehabilitation
- Construction Observation and Troubleshooting
- Peer Review
- Emergency Response
- Failure/Damage Investigations
- Wire Rope Inspections

REGISTRATIONS

- Professional Engineer in CT, FL, MA, MD, MI, NJ, PA, and WA

PROFESSIONAL AFFILIATIONS

- American Society of Mechanical Engineers
- Heavy Movable Structures

TECHNICAL COMMITTEES

- American Railway Engineering and Maintenance-of-Way Association: Committee 10 - Structure Maintenance and Construction

CONTACT

pbandlow@wje.com
215.340.5830
www.wje.com

EXPERIENCE

Paul Bandlow has more than thirty-six years of experience as a mechanical engineer and has provided national and international engineering services for more than two hundred movable structures. His experience includes design for rehabilitation, new design, peer review, value engineering, bridge safety inspections, construction engineering inspection, maintenance, troubleshooting, failure analysis, and strain gauge testing of mechanical and electrical systems for movable bridges and other heavy movable structures. Mr. Bandlow supervises a team of nearly twenty-five mechanical and electrical engineers and is responsible for quality assurance and quality control.

REPRESENTATIVE PROJECTS

- Hood River Lift Bridge - Hood River, OR: Internal inspection of the trunnion bearings, span drive shaft bearings, and span drive enclosed speed reducers to evaluate components
- BNSF Fort Madison Swing Bridge - Fort Madison, IA: Inspection of mechanical and electrical systems on 525-foot-long, double-deck swing bridge
- BNSF Crescent Swing Span Over Mississippi River - Davenport, IA: Engineering services for the complete replacement of end-lift machinery on rim-bearing swing span following failure of the original system
- Washington State Department of Transportation: Senior mechanical engineer and project manager for several on-call movable bridge engineering services contracts; inspection and rehabilitation
- East Haddam Swing Bridge - Haddam, CT: Inspection and redesign of the center bearing, balance wheels, center wedge, end wedge, and centering latch machinery
- Caughdenoy Dam Over Oneida River - Oswego and Onondaga Counties, NY: Detailed visual inspection of all mechanical and electrical systems; mechanical and electrical measurements
- John's Pass Bridge - Tampa, FL: Development of mechanical plans; specifications and cost estimates for new double-leaf trunnion bascule bridge
- 92nd Street Bridge - Chicago, IL: Repair of rack at rack and pinion on double-leaf bascule span that required a unique pinion tooth to compensate for excessive and varying center distances related to past structural damage
- Long Island Railroad, Wreck Lead Bridge - Long Island, NY: Inspection of mechanical machinery and span support systems on single-leaf rolling lift bascule span; technical support to bridge owner for required repairs
- Franklin Street Bridge - Michigan City, IN: Repairs to span drive machinery differentials as part of emergency repairs
- Sir Ambrose Shea Lift Bridge - Placentia, NL: Design and constructability review for span drive machinery; span support and span lock system for new vertical lift bridge
- Memorial Lift Bridge - Portsmouth, NH: Constructability review for the mechanical machinery on new vertical lift bridge; contractor support during float-in; machinery installation and alignment and operational testing
- Columbus Road Vertical Lift Bridge - Cleveland, OH: Rehabilitation of span drive vertical lift bridge, including complete replacement of all span drive machinery, operating ropes, span support machinery, span lock machinery, and air buffers
- Vertical Lift Bridges - Fairport and Spencerport, NY: Design and constructability review for the mechanical rehabilitation for bridges on the New York State canal system
- MASS Highway - MA: Mechanical and electrical inspections of movable bridges inspected as part of statewide bridge inspection contract
- Burlington Canal Lift Bridge - Hamilton, ON: Inspection of mechanical machinery for several inspection cycles' strain gauge balance testing as part of rehabilitation
- Boynton Beach Bridge - Boynton Beach, FL: Complete mechanical design for new double-leaf trunnion bascule bridge; preparation of all necessary calculations, plans, specifications, and cost estimates