



EDUCATION

- University of Delaware
 - Bachelor of Civil Engineering, 2012
 - Master of Civil Engineering, Structural Engineering, 2013

PRACTICE AREAS

- Bridges and Civil Infrastructure
- Structural Analysis
- Repair and Rehabilitation

REGISTRATIONS

- NHI Course 130055 - Safety Inspection of In-Service Bridges
- NHI Course 130078 - Fracture Critical Inspection Techniques for Steel Bridges
- Professional Engineer in MD

CONTACT

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EXPERIENCE

Since joining WJE in 2016, Patrick Marra has been involved in the assessment, evaluation, and rehabilitation of multiple timber, steel and concrete structures. This has included special and fracture-critical bridge inspections, bridge instrumentation monitoring, element-level inspections, and structural analysis. Prior to joining WJE, Mr. Marra worked as a structural engineer for a marine structures design firm. His work covered the analysis and design of a wide variety of maritime structures, including multiuse wharf structures, bulkhead sheet pile wall systems, and mooring and berthing systems.

REPRESENTATIVE PROJECTS

Bridges and Civil Infrastructure

- 35th Street Pedestrian Bridge - Chicago, IL: Instrumentation of hanger clamp pretensioned bolts
- Indiana Department of Transportation Special Bridge Inspections - Indianapolis, IN: Inspection of several post-tensioned reinforced concrete box girder bridges
- Sherman Minton Bridge - New Albany, IN: In-depth and fracture critical inspection of complex bridge structure
- Indiana SR-46 - Columbus, IN: In-depth and fracture-critical inspection of cable-stayed bridge
- I-20 Over Valley Street - Pearl, MS: Fracture-critical inspection of welded stiffener details and repair implementation
- Iowa 136 Over the Mississippi River - Clinton, IA: In-depth, element-level, and fracture-critical inspection of steel truss bridge
- Timber and Complex Bridge Inspections - Various Counties, MS: NBIS compliant inspection of more than fifty county bridges throughout the state
- Connection Plate Cracking Study - Decatur, IL: Inspection and trial retrofit study for several highway bridges
- O'Hare International Airport - Chicago, IL: Pedestrian canopy inspection

- Facilities Inspection and Condition Assessment Program - Houston, TX: Element level inspection of multiple wharf assets in the Port of Houston
- Dundalk Marine Terminal Berth 4 - Baltimore, MD: Construction support for the reconstruction of a marginal wharf structure*

Structural Analysis

- Sherman Minton Bridge Stringer Repairs - New Albany, IN: Load rating of steel stringer connections and design of retrofits
- Midway Airport Terminal Improvements - Chicago, IL: Comparative analysis of lateral bracing systems for construction staging
- Grain Wharf Reconstruction - Albany, NY: Modeling and design of a new marginal wharf structure*
- Robinson Terminals North and South - Alexandria, VA - Above-water inspection of pier structures and subsequent load rating*
- Harbor Crossing Vessel Collision Protection - Baltimore, MD: Evaluation of alternate structure concepts for vessel collision protection structures*

Repair and Rehabilitation

- Barbours Cut Terminal 3 - Houston, TX: Condition assessment and repair design for wharf upgrade
- Agency-Wide Substructure Repairs - Baltimore, MD: Design and construction support for numerous substructure repairs throughout the Port of Baltimore*
- Masonville Vessel Berth Fender Panel Damage Assessment - Baltimore, MD: Assessment of fender panel damage for newly installed cone fenders*

**Indicates with previous firms*