



## SERVICE PROFILE

# Construction Engineering



- Means and methods
- Sequencing
- Risk mitigation
- Erection/demolition procedures
- Stability analyses
- Design of rigging, shoring, and bracing
- Construction inspection
- Temporary works
- Problem avoidance
- Failure investigations
- Litigation support
- Dispute resolution
- Peer reviews
- Field instrumentation

The construction phase is often the most complex part of a project. Structures are more vulnerable to failure during construction. Equipment and resources must be marshalled effectively to adhere to budget and schedule constraints. Constructability issues must be efficiently mitigated, and worker safety is the top priority. Owners and contractors rely on WJE's specialized construction knowledge to properly detail and sequence construction work to maximize labor and resources, successfully execute the design documents, and avoid costly delays.

WJE engineers have extensive experience performing a wide range of construction engineering services for buildings, bridges, and other structures. These services include the development of erection and demolition procedures, rigging design, sequencing for repair or replacement, bracing, and stability in order to safely maintain the partially completed structure throughout the construction process.

Having worked on more than 125,000 construction-related projects, WJE engineers are familiar with the challenges of a construction site. Whether faced with limited room for placement of cranes or shoring, assembly sequencing for a complicated facade system, or in-field submittal development, we draw upon decades of technical expertise in structural and materials engineering to develop innovative solutions to construction-related problems.





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### REPRESENTATIVE PROJECTS

- The 606: Milwaukee Avenue Bridge - Chicago, IL: Preparation of jacking/erection procedures, cable tensioning sequence, and field measurement of cable tension
- 1250 Eye Street NW - Washington, D.C.: Construction engineering services for plaza construction
- 3000 Olympus Office Building and Parking Garage - Dallas, TX: Preparation of critical construction items related to tilt-up and precast concrete construction
- BNSF Railway, CREATE WA4 Project - Chicago, IL: Design of shoring, erection procedures, and temporary works for lift-span bridge and associated steel structures
- Colorado Contractors Association - Denver, CO: Development and delivery of bridge girder erection training courses
- Decatur Renaissance Condominium - Decatur, GA: Stucco replacement and parking garage repairs
- Maumee River Bridge - Toledo, OH: Inspection, analysis, and modification design of precast post-tensioned erection gantry equipment
- McCormick Tribune Campus Center - Chicago, IL: Construction engineering and design review
- U.S. 71 at UPRR - Texarkana, AR: Construction engineering services and bridge jacking plans
- U.S. 81 Mississippi River Bridge - Natchez, MS: Scaffolding design and on-site engineering services for pin and link replacement

