

Brandon L. Buzzell, PE, SE

Lead Structural Engineer/NBIS Program Manager



EDUCATION

B.S., Civil Engineering,
University of Illinois at Urbana-
Champaign, 1998

Joined Firm in 2009

Years of Experience: 26

REGISTRATIONS

Licensed Professional
Engineer: Illinois, Wisconsin,
Florida, and Texas

Licensed Structural Engineer:
Illinois

CERTIFICATIONS

NBIS Certified Program
Manager – Element, Illinois
Department of Transportation
and Wisconsin Department of
Transportation

TRAINING

4-Day Training Course for
Fracture Critical Inspection
Techniques for Steel Bridges –
FHWA/NHI, 2011

10-Day Training Course for
Inspection of In-Service Bridges
– FHWA/NHI, 2008

Brandon has a wealth of experience in the transportation and structural engineering fields and has performed bridge design work for IDOT, counties, municipalities, and agencies. He has served as Project Engineer and Project Manager on projects, and through his detailed and accurate plans, has developed a reputation as a producer of high-quality bridge plans. Brandon is a member of the ACEC-IL IDOT Bridge Committee.

NATIONAL BRIDGE INSPECTION STANDARDS

Brandon is both a National Bridge Inspection Standards (NBIS) Certified Program Manager and Team Leader. He currently serves as Program Manager for the City of Lockport, and the Villages of Fox Lake, Winnetka, and Virgil. As NBIS Program Manager, Brandon is responsible for the local agency inspection program including the following duties:

- Provide overall leadership, and determine inspection frequency and procedures per National Bridge Inspection Standards
- Maintain a bridge file consisting of available information
- Identify structural issues that may require assistance from IDOT's Bureau of Bridges and Structures, such as load rating analyses or special repair recommendations

As NBIS Team Leader, Brandon is responsible for performing both routine and special feature inspections. During routine inspections, he observes and takes measurements as needed to determine the physical and functional condition of the bridge to identify any changes from initial or previously recorded conditions, and to confirm that the structure continues to satisfy present service requirements. His inspections include observations and measurements necessary to determine the physical condition of a bridge to accomplish the following functions:

- Update and verify the numerical condition ratings assigned to the bridge elements, used to track the physical condition and the functionality of the bridge
- Correct any inaccuracies in the data recorded in the bridge inventory database
- Update Bridge Report Card (IDOT BLR Form 06310)
- Report changes to Inspection/Appraisal Report (S104)
- Report changes to Inventory Turnaround Report (S105)
- Report changes to Key Route Turnaround Report (S111)
- Complete Bridge Inspection Report (BBS-BIR-1)

REPRESENTATIVE PROJECTS

Fox Valley Park District

Systemwide Bridge Inspection & Program Management

Structural Engineer performing routine inspections, reports, load ratings, and various repair work for approximately 50 pedestrian bridges, overlook platforms, water park structures, and scenic boardwalks. Baxter & Woodman completed initial inspections for structures within the District's trail and park system, created customized inspection forms, recommended repair strategies and developed a list of recommended inspection frequencies.

LRFD Design of Concrete
Superstructures (Three Days) –
FHWA, NHI, 2007

LRFD Highway Bridge Design
(Four Days) – University of
Wisconsin, 2006

Elk Grove Village, IL

Clearmont Drive Pedestrian Bridge Replacement

Lead Structural Engineer for Phase II Engineering for the replacement of a pedestrian bridge over Salt Creek. The project included a reevaluation of the Phase I design, redesign of the structure type, environmental permitting, decorative lighting design, preparation of bid documents and agency coordination. The project used ITEP funding and was coordinated with IDOT's Bureau of Local Roads and Streets.

Lockport, IL

Second Street over the I&M Canal Bridge Replacement

Lead Structural Engineer for Phase I and II engineering services for the replacement of the Second Street Bridge over the Illinois & Michigan (I&M) Canal, a public waterway. The City's Second Street Bridge provides access to the I&M Canal Trail, Heritage Village Park, and the Star Business Park. Due to the bridge's old age and deteriorated condition, it needed full replacement. Rehabilitation of the Second Street bridge accommodates the increase in traffic volume; helps maintain efficient traffic flow; and improves safety for motorists, bicyclists, and pedestrians. Working with the City, Baxter & Woodman developed a structure that enhanced safety and mobility, while also fitting into its surroundings, preserving scenic, aesthetic, historic, and environmental resources. In addition to providing preliminary design, the project also included a Project Development Report, floodplain modeling, hydraulic analysis, TS&L drawings, and coordination with IDOT and IDNR.

Lockport, IL

IL 7 Frontage Road Bridge over Des Plaines River (SN 099-0135)

Lead Structural Engineer for Phase I and Phase II Engineering and Environmental Studies for the rehabilitation of the structure. The IL 7 Frontage Road structure was an eight-span steel beam girder bridge. A 2014 special feature inspection resulted in a sufficiency rating of 35 and lowering the weight limit to eight tons. The bridge was in critical condition due to severe deterioration of the beams at Piers 2 and 6. Baxter & Woodman studied the structural deficiencies and provided a recommended strategy for removing the load posting and extending the service life of the structure, including a bridge deck overlay, steel painting, structural steel repairs, and expansion joint replacement.

Orland Park, IL

Doctor Marsh Parking Lot, Nature Trail, and Pedestrian Bridge (Design/Build)

Lead Structural Engineer for Phase I and Phase II Engineering for the construction of a parking lot, elevated nature trail, and pedestrian bridge. Structural design work included bridge sizing, abutment and foundation design, and coordination with Contech Engineered Solutions for a pre-fabricated steel pedestrian truss structure. The bridge foundations consist of drilled helical piers, selected for their reduced cost, and improved equipment access to the bridge location. The project is a design/build effort led by Baxter & Woodman Natural Resources.

Park Forest, IL

Thorn Creek Drive Over Thorn Creek (SN 099-6750), Phase I and Phase II

Lead Structural Engineer for Phase I and Phase II Engineering for the replacement of a single-span precast deck beam bridge with a three-cell concrete box culvert, using HBP funding. Included staged construction and the attachment of an existing gravity sewer.