

### Tyler L. Krahn | Senior Associate



#### EDUCATION

- University of Minnesota
  - Bachelor of Civil Engineering 2006
- Purdue University
  - Master of Science, Civil Engineering 2007

#### PRACTICE AREAS

- Nondestructive Testing
- Bridge Engineering
- Repair and Rehabilitation Design
- Structural Evaluation
- Failure Investigation

#### REGISTRATIONS

- AWS Certified Welding Inspector
- NHI Course 130055 - Safety NDT Level II UT and MT
- Inspection of In-Service Bridges
- NHI Course 130078 - Fracture Critical Inspection Techniques for Steel Bridges
- Professional Engineer in IL, IN, MS, SD, IA, ID, MT
- Society of Professional Rope Access Technicians (SPRAT) - Level I Technician
- Structural Engineer in IL

#### PROFESSIONAL AFFILIATIONS

- American Welding Society (AWS)
- Society of Professional Rope Access Technicians (SPRAT)

#### CONTACT

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#### EXPERIENCE

Tyler Krahn joined WJE in 2008 and has focused on investigation and inspection of steel and reinforced concrete structures with an emphasis on bridges. Most of his bridge projects involve fracture critical inspection of steel components, including use of specialized rope access techniques when appropriate. Mr. Krahn is also experienced in the area of fatigue and fracture retrofit design and installation for bridges. He is trained in the use of visual, ultrasonic, and magnetic particle nondestructive testing techniques and has extensive experience using ultrasonic testing to evaluate bridge pins.

Mr. Krahn has been heavily involved in the investigation and repair installation for multiple bridge member or component failures, including a cable stayed pedestrian bridge cable connection failure and a deck truss primary compression chord buckling failure due to fire damage. His reinforced concrete experience has focused on investigating and repairing structural foundation problems, especially for wind turbine generators.

#### REPRESENTATIVE PROJECTS

##### Nondestructive Testing

- Prefabricated Steel Building - Evansville, WI: Ultrasonic inspection of CJP welds in plate girders
- Pin-Connected Bridges - ID: Visual inspection and ultrasonic testing of bridge pins in twelve bridges throughout Idaho
- Huey P. Long Bridge - Jefferson Parish, LA: Ultrasonic inspection of pins to detect fabrication defects
- Truss Bridges - TN: Ultrasonic inspection of more than three hundred truss pins at various locations
- US-41 Bridge - Princeton, IN: Ultrasonic inspection of pin-and-hanger assemblies
- Pony Truss Bridges - OK: Ultrasonic inspection of pins at twenty-four truss bridges

##### Bridge Engineering

- Fremont Bridge - Portland, OR: Fatigue retrofit installation in 1,200-foot-span steel-tied-arch bridge
- Bridge of the Americas - Panama: Inspection of 5,425-foot steel truss bridge over the Panama Canal using rope access

- Julien Dubuque Bridge - Dubuque, IA: Inspection of 845-foot-span steel arch truss using rope access techniques
- State 291 Bridge - Kansas City, MO: Field measurements and retrofit of steel deck truss primary gusset plates
- IA-415 Over Saylorville Reservoir - Polk City, IA: Retrofit installation at 348 lateral gusset plates
- I-40 and SH100 Bridges - Gore, OK: Inspection of two-girder bridges using rope access techniques
- Guy West Pedestrian Bridge - Sacramento, CA: Rope access inspection of suspension bridge
- Hawaii Concrete Bridge Evaluation - Hilo, HI: Inspection, assessment, sampling, and load rating of four reinforced concrete bridge substructures
- Two Girder Bridge Retrofits - IA: Retrofit work at over two dozen bridges to address constraint induced fracture concerns

##### Repair and Rehabilitation Design

- Holy Name Cathedral - Chicago, IL: Inspection, analysis, repair development, and construction observation for historic wood roof structure damaged by fire
- Clubhouse Ceiling Distress Repair - Hanover Park, IL: Inspection, analysis, and repair development for wood-framed ceiling structure

##### Structural Evaluation

- Light Pole Inspection - Rapid City, SD: Visual inspection of more than 2,500 light pole and signal mast-arm structures

##### Failure Investigation

- 1.5 Megawatt Wind Turbine - Fenner, NY: Investigation of collapse
- Sabo Bridge - Minneapolis, MN: Investigation of cable connection failure and repair installation
- Liberty Bridge - Pittsburgh, PA: Investigation and repair supervision for deck truss compression chord member buckling failure due to fire