

### Heather Brouwer | Associate II



#### EDUCATION

- University of Michigan
  - Bachelor of Science, Civil Engineering, 2022
- Virginia Tech
  - Master of Science, Civil Engineering, 2023

#### PRACTICE AREAS

- Concrete Structures
- Structural Evaluation
- Nondestructive Evaluation
- Repair and Rehabilitation
- Construction Observation Services
- Facade Assessment

#### CONTACT

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#### EXPERIENCE

Heather Brouwer is engaged in evaluations of distressed buildings and building components, and the investigation of construction, material, and design defects. Her projects include inspecting existing buildings, developing investigative reports, repair design and construction document preparation, and performing construction observation and administration services.

As a graduate student at Virginia Tech, Ms. Brouwer researched anchorage zone cracking of pretensioned bulb tee bridge girders. Select departments of transportation and precast manufacturers used a report based on research results, which showed qualitative effectiveness at mitigating anchorage zone cracking after strand detensioning.

#### REPRESENTATIVE PROJECTS

##### Concrete Structures

- 2911 West Grand Boulevard - Detroit, MI: Assessment of structural damage and analysis of post-tensioned concrete structure
- Chester Street Parking Structure - Birmingham, MI: Post-tensioned concrete parking structure repair

##### Structural Evaluation

- 700 Ring Road Underground Vault - Pontiac, MI: Condition assessment and analysis of existing steel-framed vault roof
- Henry Ford Hospital Parking Structure - Detroit, MI: Analysis of existing post-tensioned framing for construction loading
- General Motors Battery Plant - Orion, MI: Instrumentation of structural steel framing for vibration analysis
- Orchards Apartments - Grand Rapids, MI: Condition assessment of existing wood-framed stairs and balconies

##### Nondestructive Evaluation

- Century City Center - Los Angeles, CA: Investigation of concrete column consolidation issues during construction
- National Park - SD: Investigation of voids in grouted post-tensioned ducts of a parking deck
- Fisher Building - Detroit, MI: Investigation of existing conditions in historic concrete girder

##### Repair and Rehabilitation

- University of Michigan-Flint, Hubbard Building: Repair design and construction document development for wood roof framing repair
- Sullivan Valley Field - Grand Rapids, MI: Repair design for wood framed grandstand
- Autumn Ridge Apartments - Grand Rapids, MI: Repair design for steel and wood-framed egress balcony

##### Construction Observation Services

- Roosevelt Parking Ramp - Lansing, MI: Construction document development and construction period services during concrete and waterproofing repairs
- Levin Courthouse - Detroit, MI: Construction period services for interior and exterior renovations of registered historic building

##### Facade Assessment

- Grand Hotel - Mackinac Island, MI: Assessment of wood elements to inform long-term repair requirements of registered historic building
- University of Michigan, Hatcher Graduate Library - Ann Arbor: Assessment and water infiltration testing of stone and masonry elements
- Detroit Police Station - MI: Assessment of concrete and steel insulated panel elements for City of Detroit facade ordinance requirements