



EDUCATION

- Michigan Technological University
 - Bachelor of Science, Civil Engineering, 2010
 - Master of Science, Civil Engineering, 2012

PRACTICE AREAS

- Failure/Damage Investigation
- Repair and Rehabilitation
- Structural Analysis
- Fire Damage
- Facade Assessment
- Nondestructive Evaluation
- Water/Air Leakage Assessment
- Roofing and Waterproofing

REGISTRATIONS

- Professional Engineer in MI

PROFESSIONAL AFFILIATIONS

- American Concrete Institute - Greater Michigan Chapter

CONTACT

srush@wje.com
248.593.0900
www.wje.com

EXPERIENCE

Sarah Rush has been involved in numerous projects of various structure types and objectives related to both structural engineering and architecture. Her responsibilities have included field investigation and analysis of existing and damaged structures, development of technical repair and rehabilitation documents, and construction observations. She has performed structural analysis on steel, concrete, masonry, and wood structures. Ms. Rush has assisted with several nondestructive investigations and completed multiple condition assessments. Additionally, she has experience in litigation assistance, code review, and water infiltration investigations.

As a graduate student at Michigan Technological University, Ms. Rush performed finite element modeling and shrinkage testing of polymer and steel fiber reinforced ultra-high performance concrete as a bonded overlay on concrete bridge decks. The result of this work was a comparative method to standard overlay technologies based on economic, performance, constructability, and service life characteristics.

REPRESENTATIVE PROJECTS

Structural Analysis

- Mt. Zion - Clarkston, MI: Structural steel evaluation of a curved, three-dimensional, partial roof collapse
- Aunt Millie's Bakery - Plymouth, MI: Condition assessment of a distressed, elevated concrete slab, including analysis and repair recommendations
- Indoor Athletic Facility - College Station, TX: Assessment and testing of the steel cable bracing systems of two fabric-hoop structures after a partial roof collapse
- Major Retail Store Chain - Various Locations Nationwide: Field inspection, structural analysis, repair recommendations, and design for large metal frame buildings

Fire Damage

- Pontiac Central High School - Pontiac, MI: Structural assessment of fire damage to elevated concrete slab and concrete masonry

- Rue Versailles Apartments - Oak Park, MI: Structural assessment of fire damage to a wood-framed apartment building and preparation of technical repair documents

Facade Assessment

- Grand Park Centre - Detroit, MI: Condition assessment, including terra cotta, limestone, and clay brick masonry elements submitted to owner and City of Detroit to satisfy facade ordinance requirements
- Metropolitan United Methodist Church - Detroit, MI: Condition assessment, technical repair document development, and construction observation services, including sandstone, granite, and brick masonry elements
- C. C. Little Building, University of Michigan - Ann Arbor, MI: Condition assessment, water infiltration testing, technical repair document development, and construction observation services, including clay brick masonry and limestone elements
- Beaumont Hospital - Grosse Pointe, MI: Condition assessment, technical repair document development, and construction observation services, including clay brick masonry walls

Nondestructive Evaluation

- Automotive Manufacturing Facility - Saginaw, MI: Use of impact echo to locate distressed concrete in elevated concrete slab
- Carlyle Place Apartments - Clinton Township, MI: Use of ground penetrating radar to locate voids in concrete slab on ground

Water/Air Leakage Assessment

- Auto-Owners Insurance Headquarters - Lansing, MI: Water infiltration quality insurance testing of unitized curtain wall panel and insulated wall panel joints and tie-ins during recladding construction

Roofing and Waterproofing

- 35th Macomb Centre - Clinton Township, MI: Condition assessment, design, and construction observation services of tearoff and installation of EPDM membrane system