



## PERSONNEL QUALIFICATIONS

### Lucas A. Malm | Senior Associate



#### EDUCATION

- Purdue University
  - Bachelor of Science, Civil Engineering, 2006
- University of Michigan
  - Master of Engineering, Structural Engineering, 2008

#### PRACTICE AREAS

- Structural Evaluation
- Failure Investigation
- Difficult Access Inspections
- Testing and Instrumentation
- Fire Damage Investigation
- Facade Assessment
- Construction Observation Services

#### REGISTRATIONS

- Professional Engineer in MN and WI

#### PROFESSIONAL AFFILIATIONS

- American Institute of Steel Construction
- Minnesota Concrete Council

#### CONTACT

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#### EXPERIENCE

Lucas Malm has performed a variety of investigations involving steel, concrete, wood, and masonry structures. He has worked on a variety of structure types, including commercial, industrial, residential, and transportation facilities. Mr. Malm's experience also includes the structural evaluation of deteriorated and damaged concrete and steel as well as load testing and instrumentation.

From 2006 to 2008, Mr. Malm worked part-time as a structural engineer, performing structural design services on steel buildings while attending graduate school at the University of Michigan. He also self-directed a study into microseismicity and the use of coupled vibration mitigation systems. Prior to his graduate work, Mr. Malm served as a construction engineer, gaining experience with projects that involved the construction of segmental bridges and tunnels. His experience also included the functional and structural design of scaffolding and the programming for a system of programmable logic controllers.

#### REPRESENTATIVE PROJECTS

##### Structural Evaluation

- Major Retail Chain - Various Locations  
Nationwide: Assessment and repair of open web steel joist roof structures
- Multiunit Housing Structures - Various Locations, MN: Investigation of construction-related defects, including masonry arch distress and repair recommendations
- U.S. Corrugated, Inc. - Fridley, MN: Evaluation of structural steel roof distress
- Union Depot - St. Paul, MN: Elevated train deck restoration involving structural evaluation, testing, and instrumentation

##### Failure Investigation

- Avalon Building - White Bear Lake, MN: Investigation of foundation underpinning failure
- Digester Tank - Cold Spring, MN: Investigation, structural analysis, and litigation support relating to a distressed reinforced concrete tank
- Heritage Lutheran Church - Apple Valley, MN: Investigation of roof collapse and development of temporary repairs
- Manufacturing Facility - Waseca, MN: Open web steel joist collapse investigation

##### Difficult Access Inspections

- Mayo Clinic, Charter House - Rochester, MN: Facade assessment and testing
- Shelby Interdisciplinary Biomedical Research Building - Birmingham, AL: Verification of limestone facade panel anchors through controlled descent and instrumentation
- The Carlyle - Minneapolis, MN: Facade assessment of thirty-nine-story building prior to warranty expiration

##### Testing and Instrumentation

- Lowry Avenue Bridge - Minneapolis, MN: Installation and maintenance of multinode bridge monitoring system

##### Fire Damage Investigation

- 2327 Wycliff Street - St. Paul, MN: Investigation, repair design, and construction observation of fire-damaged precast concrete planks
- Central MN Ethanol Co-op - Little Falls, MN: Investigation of fire-damaged concrete silo