

Michael Murphy | Senior Associate



EDUCATION

- University of Missouri–Rolla
 - Bachelor of Science, Civil Engineering, 2006
- Missouri University of Science and Technology
 - Master of Science, Civil Engineering, 2009
 - Doctor of Philosophy, Civil Engineering, 2010

PRACTICE AREAS

- Failure/Damage Investigations
- Structural Analysis/Evaluation
- Condition Assessment
- Repair and Rehabilitation

REGISTRATIONS

- Professional Engineer in IA, MN, and SD

CONTACT

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EXPERIENCE

Michael Murphy has experience in various structural investigations, including failure evaluations, analyses, condition assessments, due diligence (prepurchase) surveys, and structural health monitoring. Dr. Murphy has investigated problems with steel, reinforced concrete (both traditional and prestressed/post-tensioned), and timber structures, including buildings, bridges, wastewater treatment structures, power plant cooling towers, utility poles, and underground pipes. His projects have involved evaluation for the causes of leaks, damage, or distress; analyses of structural demands and capacities; and assessments to determine recommended repairs and maintenance, including estimating repair costs and design of repairs or rehabilitation.

Prior to his career in forensic engineering, Dr. Murphy conducted graduate research and experimental testing to assess the effectiveness of carbon fiber reinforced polymers for use as externally bonded shear strengthening of concrete bridge girders.

REPRESENTATIVE PROJECTS

Failure/Damage Investigations

- Midwest Hardwoods - Park Falls, WI: Investigation into extent of structural fire damage
- Hurricane Harvey Recovery Efforts - Rockport, TX: Assessment of multiple airport hangar structures with hurricane-related damage and evaluation of their concrete foundations for reuse in reconstruction
- Walnut Towers - Mankato, MN: Investigation and analysis of precast concrete plank distress and deflections
- Restaurant Chain - St. Cloud, MN: Investigation of cladding failure
- Freight Company Facility - Olathe, KS: Investigation and analysis of precast wall panel failure
- Thumper Pond Waterpark - Ottertail, MN: Structural analysis to assist in roof collapse evaluation
- Miami-Dade College - FL: Investigation into cause of precast concrete parking garage collapse *

Structural Analysis/Evaluation

- Multistory Parking Structure - Rochester, MN: Structural analyses to evaluate design concerns
- Marathon Oil Tower - Houston, TX: Structural analyses of conventionally reinforced and post-tensioned concrete beams to evaluate shear capacity concerns and potential strengthening
- Large Apartment Complex - Grand Forks, ND: Structural evaluation and analyses of precast concrete framing members in relation to design concerns
- Government Agency - Arlington, VA: Structural analysis of reinforced concrete green roof structure to assess capacity to support landing of military helicopters *

Condition Assessment

- Augustana Apartments Parking Structure - Minneapolis, MN: Condition assessment of post-tensioned parking structure, including repair recommendations and opinion of repair costs
- RiverCentre Ramp - Saint Paul, MN: Condition assessment of post-tensioned parking structure, including repair recommendations and opinion of repair costs
- Stinson-Kennedy Parking Garage - Minneapolis, MN: Routine assessments of post-tensioned concrete garage for city ordinance certification compliance and repair recommendations
- Lyndale Avenue Bridge over Hennepin Avenue - Minneapolis, MN: Condition assessment and conceptual repair recommendations
- Penn Avenue Bridge over Minnehaha Creek - Minneapolis, MN: Condition assessment and conceptual repair recommendations

Repair and Rehabilitation

- Two MarketPointe Parking Structure - Bloomington, MN: Condition assessment, development of repair drawings and specifications, and construction period services
- Bridgewater Lofts - Minneapolis, MN: Condition assessment and development of repair drawings and specifications

* Indicates with previous firm