

Michael Murphy | Associate III



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
- Concrete Structures

REGISTRATIONS

- Professional Engineer in MN and MD

PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)

CONTACT

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EXPERIENCE

Michael Murphy has experience in a variety of 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 cause of leaks, damage, or distress; analysis of structural demand and capacity; assessment of required 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 (CFRP) for use as externally bonded shear strengthening of concrete bridge girders.

REPRESENTATIVE PROJECTS

Failure/Damage Investigations

- Walnut Towers - Mankato, MN: Investigation and analysis of precast concrete plank distress and deflections
- Restaurant Chain - St. Cloud, MN: Investigation of cladding failure
- Large Apartment Complex - Minneapolis, MN: Investigation of cladding distress
- Private Residence - Minocqua, WI: Investigation of damage to timber dock structure
- Freight Company Facility - Olathe, KS: Investigation and analysis of precast wall panel failure
- Miami-Dade College - Miami, FL: Investigation into cause of precast concrete parking garage collapse*

Structural Analysis

- Large Apartment Complex - Grand Forks, ND: Structural evaluation of precast concrete framing
- Thumper Pond Waterpark - Ottertail, MN: Investigation and structural analysis of roof collapse
- Government Agency - Arlington, VA: Structural analysis of a reinforced concrete green roof structure for capability to support landing of various military helicopters*

Concrete Structures

- Stinson-Kennedy Parking Garage - Minneapolis, MN: Inspection and evaluation of the post-tensioned concrete parking garage for city ordinance certification compliance
- Third Avenue Bridge - Minneapolis, MN: Structural condition assessment of historical reinforced concrete bridge
- Intermountain Power Plant - Delta, UT: Inspection and evaluation of corrosion damage to reinforced concrete cooling towers and development of repairs*
- Noman M. Cole Jr. Wastewater Treatment Plant - Lorton, VA: Assessment and repair of corrosion damage to reinforced concrete clarifier tanks*
- Medical Research Center - Bethesda, MD: Evaluation of reinforced concrete parking garage, development of proposed repairs, prediction of service life, and cost estimating for recommended repairs and maintenance*
- Harmon Tower - Las Vegas, NV: Documentation of reinforcement placement in reinforced concrete structure*

* Indicates with previous firm