

# SEAN M. MCGRATH, P.E.

## Senior Associate



### Summary

Sean specializes in building envelope consulting, roofing assessments and structural evaluations for commercial and residential structures. From weather-related damage and construction defects to incidents such as fires, vehicle impacts, and flooding, he has extensive expertise in identifying root causes and delivering clear opinions and solutions. Sean brings a unique perspective rooted in both structural design and hands-on construction experience. His early background includes roles in municipal and utility engineering, construction inspection and land surveying, providing a well-rounded foundation for understanding complex systems within the built environment. This experience, combined with his in-depth knowledge of forensic evaluations, enables him to accurately assess a wide range of building conditions, from routine wear and tear to complex failures related to extreme events like hurricanes, tornadoes, derechos and explosions.

### Areas of Technical Expertise

- Forensic Engineering
- Structural Engineering
- Civil Engineering

### Education

- M.S., Structural Engineering, 2016, Ohio University
- B.S., Civil Engineering, 2014, University of Iowa

### Registrations

- Registered Professional Engineer in FL, IA, IL, IN, MI, MN, ND, NE, SD, WI
- FAA Unmanned Aerial Pilot, UAS Part 107

### Professional Activities

- American Society of Civil Engineers (ASCE)
- International Institute of Building Enclosure Consultants (IIBEC)
- Structural Engineers Association of Illinois (SEAIO)

### Select Project Experience

#### Forensic Engineering

##### Building Enclosure Assessments / Chemical Plant

**Explosion, Rockton, IL.\*** Provided numerous residential damage assessments following an explosion and subsequent fire which dropped flaming debris onto homes in the vicinity.

##### Commercial Roof Damage Assessment, Henry, IL.\*

Completed a wind damage analysis due to uplift and subsequent water intrusion reported on a low slope, membrane roof system over elementary school.

##### Commercial Roof Damage Assessment, Sarasota, FL.\*

Estimated the extent of wind damage on 35+ concrete tile roofs which resulted from winds related to Hurricane Ian.

**Explosion Damage Assessment, Louisville, KY.** Assessed the extent of damage to a 90+ year old masonry church which resulted from a nearby explosion.

**Façade Collapse Assessment, New Orleans, LA.** Analysis of the cause of the partial collapse of a stucco façade on a 100-year-old masonry building.

**Hail Damage Assessments, Aurora, IL.\*** Accessed the asphalt shingle roofs of 40 buildings which were impacted and subsequently damaged by a severe hailstorm.

**Hurricane Ian, Damage Assessment, Fort Myers Beach, FL.\*** Identified structural damage to a mid-rise condominium which resulted from a Cat 5 hurricane and subsequent storm surge.

**Hurricane Irma, Damage Assessment, Caribbean, VGB.\*** Assessed damage resulting from a Cat 5 hurricane which impacted an 80-building resort and provided repair recommendations.

**Hurricane Michael, Building Enclosure Assessment, Panama City Beach, FL.\*** Assessed each and every window in a high-rise condominium structure for deflection to determine if the windows were compromised and required replacement.

\*Denotes work performed with previous employer.

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**Library Tower, Building Enclosure Assessment,** Chicago, IL.\* Completed a building enclosure assessment to determine the cause of the water seepage and subsequent deterioration of the brick façade.

**Private Residence Water Damage Assessments,** Bucktown, Chicago, IL.\* Completed water testing to determine the cause of water seepage into a high-end residential home which led to widespread microbial growth.

**The Wit Hotel, Façade Damage Assessment,** Chicago, IL.\* Determined the extent of damage resulting from fires during a riot.

**Wind Damage Iowa Derecho,** Cedar Rapids, IA.\* Assessed structural damage and building enclosure failures on numerous residential and commercial buildings which resulted from an intense derecho.

### Structural Engineering

**Metropolitan Water Reclamation District,** Chicago, IL.\* Provided construction consulting and completed stability analysis for the temporary removal and replacement of the aging roof deck on a pump house.

**Partial Roof Collapse,** Rockford, IL.\* Completed a cause and origin assessment to determine the cause of the failure of the roof system on a commercial warehouse structure.

**Private Residence, Adjacent Construction Damage,** Chicago, IL.\* Assessed the extent of damage to a 100-year-old brownstone home due to an undersized and improperly constructed shoring system at the adjacent property.

**Structural Building Design,** Coralville & Cedar Rapids, IA.\* Completed structural calculations and drawings for the construction of several mid-rise, podium structures consisting of wood, steel, concrete, and masonry.

### Civil Engineering

**Commercial Strip Mall, Cause & Origin Assessment,** Wheaton, IL.\* Analyzed a storm water pipe failure which caused water to backup settlement of the footings due to soil consolidation.

**Fairfield Inn & Suites, Water Damage Assessment,** Glendale, WI.\* Conducted a water intrusion cause and origin assessment following the flooding of a hotel basement during a high intensity rain event.

### Injury & Accident Investigations

**Construction Accident Investigation,** Coralville, IA.\* Investigated an accident where a pipe plug became a high-velocity projectile upon release, resulting in injury and analyzed contributing factors related to pressure buildup, installation and safety protocols.

**Slip, Trip, & Fall Investigations,** Chicago, IL.\* Conducted investigations for personal injury litigation involving slips, trips, and falls, analyzed site conditions and reviewed building codes to assess compliance and factors contributing to the accidents.

### Sworn Testimony

Deposition, Rasmussen v. Heritage Prop. & Cas., regarding damage to a residence following Hurricane Ian. August 6, 2024.

Deposition, Raigaga v. State Farm Fire & Cas. Co., regarding alleged hail damage to roofing components. January 16, 2024.

Deposition, Rakoncay v. State Farm Fire & Cas. Co., regarding alleged hail damage to roofing components. April 13, 2023.

Deposition, Struthers v. State Farm Fire & Cas. Co., regarding alleged hail damage to window components. October 13, 2022.

Deposition, Motor Lodge v. Regent Ins. Co. (QBE), regarding damage to an exterior drop ceiling system resulting from a freeze event. July 29, 2021.

### Litigation

Hortascu v. Norsman Architects. Alleged construction defect regarding the installation of shear walls.

Newman v. Norsman Architects. Alleged construction defects relating to a renovation of 100+ year old home with modern additions.

### Select Papers, Lectures and Publications

"Navigating Steep Slope Roof Repair Assessments," ASCE 10th Congress on Forensic Engineering, November 2024 (co-presenter)

"Repair Recommendations After a Forensic Investigation," ASCE 9th Congress on Forensic Engineering, November 2022 (co-presenter)

"Structural Assessment of Hurricane Damage: The Aftermath of a CAT 5 Hurricane in the British Virgin Islands," Structural Engineers Association of IL (SEAOL) Young Engineers Symposium, January 2019 (presenter)

## CONTACT

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