

EDUCATION

- 2007 **Bachelor of Science, Civil Engineering**
Pennsylvania State University, University Park, PA
- 2007 **Honors Thesis, Structural Evaluation**
Schreyer Honors College, University Park, PA

EXPERIENCE

- July 2022
to Present **Engineering Design & Testing Corp.**
Remote - Asheville, NC
- Consulting Engineer*
Investigation of cause and extent of structural damage, experience with structural collapse, snow loads, sinkholes, foundation settlement, vehicle impacts, hail/wind damage, fire damage, long-term deterioration, and construction defects. Investigation of cause and extent of building envelope damage, with experience in water infiltration, moisture intrusion, hail/wind damage, and long-term deterioration.
- March 2008
to May 2022 **Barry Isett & Associates**
Allentown, PA
- Senior Forensic Engineer*
Investigation of cause and extent of structural damage, including snow load roof collapse, parking garage collapse, sinkholes, foundation settlement, vehicle impacts, hail/wind damage, fire damage, long-term deterioration, and construction defects. Investigation of cause and extent of architectural damage, including water infiltration, moisture intrusion, hail/wind damage, and long-term deterioration. Repair design of structural systems, including wood, concrete, steel, light-gauge, and masonry elements. Repair design of building envelope systems, including membrane roofing, insulation systems, and various façade and flashing systems. Historic structure assessment and repairs conforming with original building construction methods. Managed drafting staff during design for generating structural and architectural drawings. Managed multi-discipline staff during comprehensive assessment of building systems. Performed property condition assessments for due diligence investigations according to ASTM E2018. Performing demolition special inspections, registered with the City of Philadelphia. Structural analysis and strengthening design for wood, steel, and concrete structures. Aerial lift operation and remote access using rope and belay/rappel systems.
- June 2007
to February 2008 **Taggart Global**
Pittsburgh, PA
- Structural Engineer*
Designed and drafted steel framing for coal processing facility structures. Assessed existing structures for retrofits. Created analysis model templates in design software for replication in new structural projects.

EXPERIENCE

Engineering Investigations (partial list)

Bowling Alley Collapse — Northampton, PA

Causation investigation of a bowstring roof truss collapse, including document review and invasive sampling of building materials.

Bakery Roof Collapse — Easton, PA

Emergency assessment of a partially collapsed freezer roof and design of repairs.

Millwork Building Assessment — Barclay, MD

Assessment of missing or inadequately attached lateral braces in a pre-manufactured building and observation of repairs.

Parking Deck Collapse — Allentown, PA

Assessment of steel-framed, parking deck collapse, immediate recommendations for safety, and report of causation and extent of damage.

Sinkhole Investigation — Bethlehem, PA

Assessment of multi-residential structure for structural damage after water main break and related sinkhole activity, causation report, design and oversight of pressure grouting and pile repairs.

Roofing Investigation — Jamison, PA

Assessment of re-roofing with multiple points of water infiltration, involving core sampling, and assessment of code compliance violations by the contractor, with causation report and recommendations.

Repair Design and Construction Management (partial list)

Beachfront Condominium Rehabilitation — Rehoboth Beach, DE

Prime Professional and Owner's Representative during a 6-year phased project, consisting of structural, façade, and envelope assessments, design of repairs, and project management of a 105-unit steel/concrete building.

Historic Barn Repairs — Landisville, PA

Assessment of historical barn that was moved to a new location. Design of period-correct bracing that was not installed during the original move and observations of repairs.

Parking Garage Collapse — Easton, PA

Assessment steel-framed parking garage collapse, provide temporary shoring and safety recommendations, and provide design construction oversight of repairs.

Steel Recycling Facility Truck Impact — Alburtis, PA

Emergency assessment of long-span steel roof framing impacted by truck, provided shoring and demolition recommendations, and design and oversight of repairs.

Structural/Architectural Consulting (partial list)

Aluminum Products Manufacturing Plant Fire — Lebanon, PA

Fire damage assessment to determine extents of damage and safety.

Airport Hanger Roof Structure Analysis — Allentown, PA

Finite element analysis of a cantilevered steel truss for deflection and strength, for a proposed added load from over-roofing.

Demolition Special Inspections — Philadelphia, PA

Full-time demolition special inspections for a 4-story concrete, steel, and masonry structure with a 90-foot-tall masonry chimney.

Battery Manufacturing Plant Roof Reinforcing — Lyons, PA

Analysis of existing steel roof structure and quantifying existing mechanical loads. Design steel reinforcing to support existing loads.

Community College Property Condition Assessment — Schnecksville, PA

Conducted condition assessment of multiple college campus buildings according to ASTM E2018, including site, envelope, and structural as well as managing MEP assessments.

Legal Consultation (partial list)

Roof Water Infiltration Investigation — Allentown, PA

Thermal imaging and invasive investigation to determine cause and origin of water infiltration and appropriate repairs.

Condominium Association Failing Sidewalks and Driveways — Macungie, PA

Investigation into cracking/heaving sidewalks and driveways in a newly constructed complex of single-family home condominiums.

Concrete Deck Topping Slab Replacement Investigation — Charlotte, NC

Investigation into cracking/debonding of a newly installed concrete topping slab to differentiate between installation and design issues.

Storefront Door Installation Investigation — Banner Elk, NC

Investigation into door installations that required adjustment, to determine causation of movement, and differentiate between sources of water infiltration.

REGISTRATIONS and CERTIFICATIONS

Registered Professional Engineer in Pennsylvania (PE081852)

Registered Professional Engineer in Maryland (0045602)

Registered Professional Engineer in New Jersey (24GE05190200)

Registered Professional Engineer in Delaware (19410)

Registered Professional Engineer in West Virginia (20854)

Registered Professional Engineer in Tennessee (126633)

Registered Professional Engineer in North Carolina (054198)

Registered Professional Engineer in South Carolina (40429)

Registered Professional Engineer in Georgia (PE049071)

Registered Professional Engineer in Virginia (0402054156)

Registered Professional Engineer in Florida (95110)

Registered Professional Engineer in Kentucky (38741)

Registered Professional Engineer in Illinois (062.075264)

Haag Certified Inspector – Residential & Commercial (20140355)

AWCI – Certified EIFS Professional (1243419)

National Council of Examiners for Engineers and Surveying Record (#16-891-25)

PUBLICATIONS

“*Structural Evaluation of a 1937 Truss Bridge in Mifflintown, PA*” Honors Thesis, Schreyer Honors College, Penn State University, May 2007

PRESENTATIONS

“*Sinkholes and Structural Damage: An Insurance Industry Perspective,*” presented at the Pennsylvania Association of Mutual Insurance Companies (PAMIC) Claims Summit, April 2019 in Gettysburg, PA, online in November 2019, and at the Engineering Design & Testing Conference in February 2023

“*Codes, Quality, & Caution: When You Need a Structural Engineer,*” presented online to the Pennsylvania State Association of Township Supervisors, December 2019

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE)

CONTINUING EDUCATION

- 2023 *Exposure Category Determination and Impact on Residential Structures*, Engineering Design and Testing Conference
- Civil/Structural Medley*, Engineering Design and Testing Conference
- Commercial Roof Information, Evaluation, Repairs, and Reporting*, Engineering Design and Testing Conference
- SGH- *Fenestration Water Infiltration: Improving Resistance During Hurricanes*, Online Seminar
- ASCE - *Architectural Concrete: Design and Construction Strategies to Maintain Appearance & Limit Water Intrusion*, Online Seminar
- ASCE - *Hydrologic Trespass and Nuisance Considerations in Stormwater Management Design (Water Law)*, Online Seminar
- ASCE - *Case Study: A Fresh Look at the Citicorp Engineering Ethics Dilemma*, Online Seminar
- ASCE - *Avoiding Ethical Pitfalls in Failure Investigations*, Online Seminar
- ASCE *59-11 Blast Protection of Buildings*, Online Seminar
- ASCE - *Bridge Demolition with Explosives*, Online Seminar
- ASCE - *Geo-Structural Investigation of Existing Structures*, Online Seminar
- 2022 ASCE: *Renovations of Slabs on Grade*, Online Seminar
- Simpson Gumpertz & Heger (SGH)- *Lab Live Masonry, Applied Science in Action to Evaluate Older Buildings*, Online Seminar
- SGH- *Improving Attic Access: Engineering Solutions for Challenging Spaces*, Online Seminar

SGH- Roofing and Waterproofing Provisions in Recent IBC Cycles, Online Seminar

SGH- Wind Loads: Codes, Design, and Implementation for Buildings and Moored Vessels, Online Seminar

SGH- Designing for Carbon Neutrality: Engineering and Architectural Perspectives, Online Seminar

SGH- EVALUATING EXISTING BUILDING STRUCTURES THROUGH LOAD TESTING, Online Seminar

SGH- Developing Investigation Protocols Following Structural Failures, Online Seminar

SGH- Air and Vapor Barrier Design Considerations, Online Seminar

EZ-PDH- Ethics for Professional Engineers-Case Reviews, Online Seminar

SGH- TERRA COTTA: UNDERSTANDING AND REHABILITATING HISTORIC FACADES, Online Seminar

American Society of Civil Engineers- ASCE 7-22 Overview & Changes, Online Seminar