

PROFILE

As the Assistant Technical Director of the Civil/Structural group, Mr. Wetzler has directed and executed a range of forensic investigations, structural analyses, condition assessments, and litigation support cases. His practice is concentrated in building dominated losses involving tall towers, office and retail, education and detention facilities, warehouses, leisure facilities, historic buildings, and others throughout the globe.

In addition, Mr. Wetzler has performed root cause analyses and scope of damage determinations for structures and facilities in the materials, mining, and manufacturing industries. His experience includes the evaluation and assessment of natural and manufactured (man-made) losses and disasters, including fire, earthquakes, hurricanes, structural and vessel collapses, building envelope failures, and a variety of common and complex property loss scenarios. Utilizing technical research, root cause analysis, forensic data and on-site investigations, he delivers findings and conclusions to insurance companies, owners and attorneys. Key strengths include the following:

- ▶ Additions/Modifications/Retrofits
- ▶ Cause and Origin
- ▶ Concrete Core Elements
- ▶ Construction Administration
- ▶ Damage Assessments
- ▶ Earthquakes
- ▶ Forensic Investigations
- ▶ Hurricanes
- ▶ Man-Made Losses
- ▶ Material Testing
- ▶ Natural Disasters
- ▶ Post-Tensioned Concrete
- ▶ Seismic Design
- ▶ Structural and Vessel Collapses
- ▶ Building Code Consulting
- ▶ Commercial and Residential Structures
- ▶ Complex Concrete Chemical Analysis
- ▶ Concrete, Steel and Wood Structures
- ▶ Design Standards
- ▶ Fire
- ▶ Historic Structures
- ▶ Laser Scanning
- ▶ Masonry
- ▶ MEP Distribution
- ▶ Post-Hurricane Damage Evaluation
- ▶ Root Cause Analysis
- ▶ Structural and Architectural Evaluation
- ▶ Structural Engineering Design

EDUCATION

Master of Engineering, Structural Engineering, 2007

University of Michigan – Ann Arbor, Michigan

Bachelor of Science, Civil and Environmental Engineering, 2004

University of Michigan – Ann Arbor, Michigan

Bachelor of Science, Natural Resources and Environment, 2000

University of Michigan – Ann Arbor, Michigan

LICENSES

Professional Engineer (PE):

- ▶ Florida
- ▶ Illinois
- ▶ Iowa
- ▶ Louisiana
- ▶ Ohio
- ▶ Texas

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- ▶ Indiana
- ▶ Missouri
- ▶ Michigan
- ▶ Wisconsin

Structural Engineer (SE):

- ▶ Illinois

PROFESSIONAL BACKGROUND

March 2022 – Present: Envista Forensics – Deerfield, Illinois

Principal Consultant – Major Loss

April 2021 – March 2022: Envista Forensics – Deerfield, Illinois

Principal Consultant – Major Loss

June 2017 – April 2021: Envista Forensics – Deerfield, Illinois

Senior Structural Engineer

July 2007 – June 2017: Thornton Tomasetti – Chicago, Illinois

Structural Engineer

May 2004 – August 2006: Childress Engineering Services – Highland, Michigan

Engineer

REPRESENTATIVE PROJECT EXPERIENCE

Scope of Damage Investigations

Retail Stores

Santiago, Chile

- ▶ Directed a team of more than 10 engineers to determine the detailed structural, architectural, mechanical and electrical scope of damage from fire and theft for more than 60 retail stores damaged during a period of social unrest. Retail stores ranged in size from approximately 4,500 square feet up to 100,000 square feet. Store construction varied from pre-fabricated steel, conventional steel, precast concrete, and cast-in-place concrete.

Hurricane Michael

Panama City, Florida

- ▶ Directed a team of more than 10 engineers to document detailed structural, architectural, mechanical, and electrical scope of damage to more than 40 structures throughout Tyndall Air Force Base. Structures included dormitories, mess facilities, office buildings, and several buildings on the flight line containing classified equipment and information.

Retail Complexes

Puerto Rico

- ▶ Directed a team of more than 20 engineers and building consultants to document, quantify, and cost direct physical hurricane damage to more than 5,000,000 square feet of retail space among 12 sites throughout the island of Puerto Rico. The project scope also included evaluation, testing, and remediation of suspected microbial growth and “clerk of the works” services to review and report on remediation activities.

Hurricane Irma and Harvey Catastrophes

Miami, Florida and Houston, Texas Metro Areas

- ▶ Inspected more than 70 structures for straight-line wind, wind-borne debris, wind-driven rain, storm surge, and flooding damage. Structures included residential, commercial, and light-industrial. Typical materials investigated included modified bitumen, thermoplastic, and thermoset (EPDM) roofing membranes, concrete and clay roof tile, asphalt shingles, standing seam metal roofing, exterior insulation and finishing system (EIFS), and stucco.

The Address Hotel

Dubai, United Arab Emirates

- ▶ Detailed structural, architectural, façade, and MEP documentation and evaluation of fire damage to 63-story, 5-star, luxury hotel and residence. The project scope included thorough investigation of structural damage to post-tensioned concrete slab and concrete core elements. In addition, we investigated and documented, through development of detailed scope drawings, the fire damage throughout the entire façade, and major MEP systems.

Standard Chartered Bank

Tianjin, China

- ▶ Investigation of damage to a seven-story building damaged by an explosion at the nearby port. Services included investigation of blast induced damage, collaboration with owner's engineering team, and peer review of reconstruction plans.

Steel Production and Manufacturing Facility, Fire Response and Repair

Winnipeg, Manitoba, Canada

- ▶ Detailed structural and architectural evaluation and documentation of fire damage to a 130,000-square-foot steel production and manufacturing plant. Scope of work included production of detailed architectural, structural, and MEP design drawings for extensive repairs throughout the entire facility.

Steel Production Facility, Stacker / Reclaimer Collapse

Burns Harbor, Indiana

- ▶ Scope of damage assessment of a collapsed iron ore bucket-wheel stacker / reclaimer. The project scope included the evaluation of a large-scale (200-foot boom) industrial machinery and review and coordination of associated shoring and safety protocols for site access.

Food Cold Storage Warehouse, Collapsed Roof Evaluation

Kendallville, Indiana

- ▶ Scope of damage assessment related to the partial collapse of the open-web steel joist roof. The project scope involved detailed structural analysis and 3D computer modeling of the original roof framing and the development, coordination and oversight of a demolition protocol to maintain, preserve and document potential evidentiary materials.

Joplin, Missouri Tornado Damage

Joplin, Missouri

- ▶ Scope of damage evaluation of multiple mid and low-rise wood framed, commercial and residential structures following a tornado outbreak in 2011.

2011 Christchurch Earthquakes Response

Christchurch, New Zealand

- ▶ Structural condition assessment of multiple building following a 6.3 magnitude earthquake in February 2011. Initial assessments focused on identifying structural and non-structural damage to assist insurers in claim evaluation. Work included review of proposed building repairs for appropriateness, feasibility, and compliance with relevant and revised buildings codes and design standards.

Lambert-St. Louis International Airport, Tornado Recovery

St. Louis, Missouri

- ▶ Damage assessment of the main terminal, three passenger concourses and the surrounding support facilities following an EF2 tornado. Scope included evaluation of architectural, structural, electrical supply and distribution, lighting, fire alarm, paging, fire protection, mechanical and plumbing systems.

Meat Processing Plant, Fire Response and Claim Evaluation

Cudahy, Wisconsin

- ▶ Detailed structural and architectural evaluation and documentation of fire damage to a 120-year-old, 1.2-million-square-foot meat-processing plant, including material testing and investigation of process equipment and MEP components throughout the facility. The project scope also included development of schematic design drawings, specifications and a bid package to assist the client in developing an accurate budget for repairs.

Hyatt Regency, Hurricane Ike Damage Evaluation

Houston, Texas

- ▶ Post-hurricane damage evaluation of a fabric canopy, roof, masonry façade and revolving restaurant.

Brookfield Houston Properties

Houston, Texas

- ▶ Post-hurricane damage assessment and repair oversight for modern 35-story office tower in downtown Houston, TX. Scope or work included development, coordination, and oversight of repairs throughout building structure and façade.

REPRESENTATIVE PROJECT EXPERIENCE

Cause and Origin Investigations

Foundation Movement Adjacent to Construction Site

Chicago, Illinois

- ▶ Single-story, fast-food restaurant with cast-in-place concrete basement. Investigation into the cause of cracking of the interior finishes and vertical and horizontal displacements of the basement walls and slab after the commencement of adjacent excavation activities for a large multi-story, multi-use development that included several floors of underground parking. The project scope included vibration analysis for the proximity of the excavation to the subject building foundation walls.

Construction Collapse of Pre-Cast Concrete Wall Panels

Cleveland, Ohio

- ▶ Pre-cast concrete panels were being erected for the construction of a large warehouse/distribution center when the temporary shoring of approximately 20 panels failed during moderate winds experienced at the site in the overnight hours. The desktop review project scope included a weather review to determination the actual wind loads experienced, analysis of the installed temporary shoring for suitability, and review of the shoring system documentation for the suitability of the installed shoring components.

Construction Collapse of Wood-Truss Flooring

Chicago, Illinois

- ▶ During the construction of a multi-story residential townhouse structure, several bays of the first suspended floor collapsed following CMU material staging on that floor. The investigation scope included determination of the actual loading at the time of failure, structural analysis of the as-built floor system and a plan review to determine if the structure was built in accordance with the design intent and if design deficiencies existed.

Warehouse Roof Collapse

Kansas City, MO

- ▶ Investigation, analysis, and determination as to the cause of collapse of open-web steel joist roofing system following re-roofing works and heavy rains. Investigation included code and rainfall analyses of the original roof drain system and the as-modified drainage system and piping following the re-roofing works.

Retaining Wall Collapse

Morris, Illinois

- ▶ Investigation, structural and materials analysis to determine cause and origin of the partial collapse of an approximately 1,000-foot-long retaining wall forming a barge slip along the Illinois River. Review of proposed repairs for appropriateness and feasibility.

Retaining Wall Collapse

St. Louis, Missouri

- ▶ Investigation and structural analysis to determine the cause and origin of a collapse of a 120-foot portion of an approximately 1,000-foot retaining wall.

Coal Processing Plant, Storage Bine Collapse

Waverly, Kentucky

- ▶ Investigation to determine the cause and origin of the collapse of a 150 ton storage vessel. The project scope included analysis of the failed steel support framing, review of previous investigation reports and repair work, development and coordination of a demolition protocol to maintain preserve and document potential evidentiary materials and facilitation of a materials testing program.

Mass Transit Underground Station, Concrete Roof Plank Failure

St. Louis, Missouri

- ▶ Investigation to determine the cause and origin of a concrete roof plank failure in an underground mass transit station. Project scope included development and coordination of comprehensive materials testing program, detailed structural analysis of the concrete plank using 3D linear-elastic finite element computer modeling techniques, and interpretation of complex concrete chemical analysis results.

Indiana State Fair Commission Collapse Incident Investigation and Report

Indianapolis, Indiana

- ▶ Structural engineering for developing an independent cause and origin opinion regarding the collapse of a ground-supported temporary entertainment rigging structure.

James R. Thompson Center, Failure Analysis

Chicago, Illinois

- ▶ Investigation of cladding where a granite panel fell to a pedestrian walkway.