Travis Wren, M.S., P.E. | Forensic Structural Engineer

8091 Center Run Drive, Suite 191, Indianapolis, IN 46250 *317.585.6430 (o)*
travis.wren@efiglobal.com

Professional Summary:

Mr. Wren has diverse engineering experience in design and forensic investigations. He obtained his Master of Science degree from the University of Missouri in civil engineering with a structural emphasis. He has knowledge and experience with gravity and lateral resisting systems. Mr. Wren has also designed elevated storage tanks and ground storage tanks. He has conducted several forensic investigations of roof damages, chimney damages, water damages, foundation settlement, mine subsidence, tree impacts, vehicle impacts, fire damage, flood damage, attic ventilation, and various types of exterior building cladding failures. He has knowledge of the International Building Code (IBC), International Residential Code (IRC), and many state and local building codes. Travis has designed new construction including warehouse heavy use platforms in high seismic areas to renovations of historical buildings. As a professional engineer in many states, he must stay current with the local building code laws and regulations. Mr. Wren spent six years in the Navy as a nuclear electrician and qualified shut down reactor operator. Mr. Wren follows several codes and standards such as the American Institute of Steel Construction (AISC) 360, the American Concrete Institute (ACI) 318, the American Society of Civil Engineers (ASCE) 7, the American Welding Society (AWS), IBC, IRC, National Design Specification for Wood Construction (NDS), and The Masonry Society (TMS). He is also familiar with industry standard literature such as from the National Roofing Contractors Association (NRCA), the International Log Builders Association (ILBA), and the Steel Framing Industry Association (SFIA).

Mr. Wren's expertise includes:

- Residential and commercial roof evaluations
- Roof materials such as asphalt shingles, wood shakes, tiles, and membranes
- Structures impacted by trees, vehicles, wind, hail, fire, lightning, etc.
- Foundation evaluation
- Water intrusion of roofs, walls, windows, etc. and cause of mold
- Building and Residential Codes
- Gravity and lateral system design for residential, commercial, and industrial construction
- Structural repair construction drawings
- Structural design of masonry, lumber, reinforced concrete, steel, cold formed steel
- Deep foundation design
- Ground storage tank and elevated water tank evaluation
- Damages caused by chimney fires
- Chimney systems and proper operation
- Retaining wall failures
- Flood evaluations
- Mine subsidence
- Attic ventilation evaluations
- Exterior Insulation Finish System (EIFS) configuration and failure methods
- Substantial Structural Damage (SSD)

Licenses and Certifications:

Professional Engineer (Additional states available upon application):

Colorado, 54117
Indiana, 11600451
Kansas, PE26186
Kentucky, 36419
Massachusetts, 54096
Michigan, 6201309128
Minnesota, 56020
Missouri, 2016001323
North Carolina, 046673
Nebraska, E-17088
New York, 101949
Ohio, PE.83200
Oklahoma, 30250
Pennsylvania, PE088091
South Carolina, 35718
Texas, 141047

National Engineering Registration, NCEES, 12-501-38

Vale Advanced Roofing Certification, 2023

Level I "Authorized Person" Roof Rope Access Certification, 2021

Project Experience:

The sample projects here outline a small sampling of the types of projects and losses Mr. Wren regularly investigates. For further information or additional examples, please contact EFI Global.

Commercial Building, Evansville, IN
Roof Cladding Wind Assessment
Investigated the cause and origin of the reported roof membranes' wind damage. The roof ethylene propylene diene monomer (EPDM) membranes were analyzed for any wind damage and the results were documented.

Dwelling, Indianapolis, IN
Chimney Fire Damage Assessment
The site investigation involved assessing the damages to a chimney caused by a chimney fire. The chimney flue and chimney cover were analyzed for any fire damage.

Dwelling, Indianapolis, IN
Water Intrusion Assessment
The site investigation involved assessing the cause of mold growth in a crawl space and attic as well as the cause of EIFS (Exterior Insulation Finish System) water damage.

McAlister's Deli, Florissant, MO
Restaurant Renovation
McAlister's Deli moved into a former Bob Evans restaurant and renovations were designed. Renovations included new kitchen hood arrangements, a new front vestibule, and an exterior wall height increase. The structural components were designed to accommodate the renovations.

Goodwill Industries, Hamilton, OH
Goodwill Building Design
The complete design of a new Goodwill building was completed (except the precast exterior walls). The components designed included the roof joists, supporting columns, and the foundations.

Church, Greentown, IN
Ceiling Collapse Assessment
Investigated the cause of a 110 year old church's ceiling plaster failure. The ceiling and attic space were analyzed for water intrusion and the National Park Services Preservation Briefs Number 21 was researched. The results were then documented.

Professional Experience:

EFI Global, Forensic Structural Engineer, 2020 to Present

Phoenix Fabricators & Erectors, Design Engineer, 2018 – 2020

McComas/O'Donnell & Naccarato, Design Engineer, 2015 – 2017

USA Tank Sales, Product Design Engineer, 2013 – 2014

Burns & McDonnell, Design Engineer, 2012 – 2013

Formal Education:

Master of Science in Civil Engineering, structural emphasis, University of Missouri, Columbia, MO, 2014

Bachelor of Science in Civil Engineering, structural emphasis, University of Missouri, Columbia, MO, 2010

Specialized Education/Training:

Forensics Engineering Conference, University of Texas, Cockrell School of Engineering, 2023 – present

Indiana Structural Engineers Association (ISEA) Annual Conference 2015 – present

Structural Engineering Summit, National Council of Structural Engineers Association (NCSEA), 2022

Ladder Safety Training, 2020

Asbestos Awareness Training, 2020

Respiratory Protection Training, 2020

Indiana Masonry Day, International Masonry Institute (IMI), 2019

Structural Engineer (SE) Review Course, National Council of Structural Engineers Association (NCSEA), 2018

Hilti Post-installed Rebar 101: Fundamentals of Post-installed Reinforcing Bar Design Using Qualified Adhesive Anchor Systems, 2018

Affiliations:

American Society of Civil Engineers (ASCE)

Structural Engineering Institute (SEI)

Indiana Structural Engineers Association (ISEA)

Honors and Awards:

Chi Epsilon Honor Society, 2008

Horatio Alger Military Scholarship, 2008

National Defense Service Medal, US Navy, 2005