NEDERVELD
Nederveld, Inc.
Phone: 800.222.1868
tskaggs@nederveld.com

Travis Skaggs, PE

Forensic Engineering Expertise

Structural Analysis/Design
Review appropriate documents, including project plans and specifications as it relates to the building structure for purposes of failure analysis and extent of resulting damages. In addition, being a licensed professional engineer, replacement designs are provided upon request. Examples of past work includes failure analysis of collapsed structures (concrete, steel, wood, masonry), and various building components (windows, doors, glass, piping, roofing, exterior and interior cladding) as well as damage assessment of building structures after a fire.

Building Fenestration/Building Envelope
The building envelope is a building's first line of defense to moisture entry. Identifying the type of system (single versus multiple barrier) and how the various adjoining materials' water, air, vapor, and thermal control layers connect is key to effective moisture management. Examples of past work include storefront window exams, residential window installations, exterior cladding specification and installation and roofing materials and installation.

Inspection and Evaluation of Roofing Systems
This includes steep and low slope roofs as well as various types of roofing materials, including both common and unique roofing applications. Past work involved offering opinions and repairs related to installation deficiencies and storm-related damages, including for hail and wind.

Origin & Cause
Determine the source and responsible party or element related to the failure of a structural or architectural element. Examples of past work include failure of roofing and wall cladding causing moisture entry, humidity and condensation-related losses, and groundwater entry.

Qualifications &Training

Understanding Firewall Basics – American Society of Civil Engineers (ASCE), 2025
Structural Thermal Bridging in the Building Envelope – American Society of Civil Engineers (ASCE), 2025
Learning from Failures of Wood-Framed Structures – American Society of Civil Engineers (ASCE), 2025
Wood Deterioration Investigations and Repairs – American Society of Civil Engineers (ASCE), 2025
Condition Evaluation of Existing Structures – Masonry and Wood, American Society of Civil Engineers (ASCE), 2025
Investigation and Repair of Fire-Damaged Framing, American Society of Civil Engineers (ASCE), 2025
Mitigating Uncertainty – A Perspective for Engineers, American Society of Civil Engineers (ASCE), 2025
Avoiding Problems in Masonry Construction, American Society of Civil Engineers (ASCE), 2025
Condition Evaluation of Existing Structures – Concrete and Steel, American Society of Civil Engineers (ASCE), 2025

Investigation of Winter Roof Failures – Lessons Learned, American Society of Civil Engineers (ASCE), 2025
Infraspection Institute Level-1 Training, 2024
Ohio Board Rules and Professional Ethics, PDHonline, 2023
Wood Structural Panels as an Air Barrier, APA – The Engineered Wood Association, 2023
Frame for Success: Avoid Callbacks, APA – The Engineered Wood Association, 2023
Frame It Right! Back to Basics for Big Buildings, APA – The Engineered Wood Association, 2023
Fundamentals of Residential Building Construction, International Association of Arson Investigators, 2023
Introduction to Engineered Wood Products, APA – The Engineered Wood Association, 2023
Product Design Considerations, Selection and Specification, APA – The Engineered Wood Association, 2023
Floor Framing and Rim Board Construction Details, APA – The Engineered Wood Association, 2023
Glulam Beam and Header Application, APA – The Engineered Wood Association, 2023
Lateral Load Path Basics, APA – The Engineered Wood Association, 2023
Connection Design Solutions for Wood-Frame Structures, APA – The Engineered Wood Association, 2023
Water Entry Prevention and Moisture Control in Buildings, University of Wisconsin-Madison, 2022
Law and Rules for Professional Engineers of Indiana for 2022 Renewal, PDHNow.com, 2021
Introduction to Polymer Injection Ground Improvement, NoonPi, 2021
Design Methodology and Calculations using Fiber-Reinforced Polymer Systems, SE University, 2021
Engineering Ethics: Accepting Gifts and Amenities, NoonPi, 2021
Steel Bridge Essentials Summer 2021Webinar Series, University of Wyoming College of Engineering and Applied Science, 2021
Simpson Strong-Tie T-ACI 318, Appendix D: Anchorage to Concrete with Post-Installed Mechanical, 2021
Structural Fire Protection, SE University, 2021
Top Things to Know About HSS Connections, NoonPi, 2021
Structural Engineering of Light-Frame Wood Over Concrete Podium Structures, SE University, 2021
Blast-Resistant Design of Buildings, SE University, 2021
Engineering Ethics Update: The New Model Code, SE University, 2021
Navigating AISC 360-16 HSS Connection Design, SE University, 2021
Steel Deck Design for Concentrated and Non-Uniform Loading, SE University, 2020
New Methods for Ponding Analysis of Open Web Steel Joist Roofs, SE University, 2020
2020 SteelDay Webinar: The Structural Stability Game Show, American Institute for Steel Construction (AISC), 2020
Seven Deadly Email Sins, SE University, 2020
What Your Fabricator Wishes You Knew About HSS, SE University, 2020
Maintenance Guidelines for Pervious Concrete, NRMCA, 2020
Installing Pervious Concrete, NRMCA, 2020
Steel Framed Floor Design for Vibration-Sensitive Equipment, 2020
Concrete Innovations, SE University, 2020
Specifying Pervious Concrete, NRMCA, 2020

Designing Pervious Concrete, NRMCA, 2020
A New Generation of Tilt-up Buildings, NRMCA, 2020
Indiana Laws and Rules for Professional Engineers, PDHonline, 2020
Threaded Micropile Casing & Hollow Bar Systems, Nucor Skyline, 2020
Practical Strategies for the Modeling and Analysis of Diaphragms, SE University, 2020
Ethics: Professional Ethics for Engineers, NoonPi, 2020
Masonry Checklist: Reviewing Structural Drawings, SE University, 2020
Engineering Ethics Update: Fiduciary Duties, SE University, 2020
Delegated Design: Addressing Potential Risks with Proper Project Management, SE University, 2020
Developing Effective Communication Skills for Structural Engineers, SE University, 2019
Wind Loads on Non-Building Structures, SE University, 2019
Retrofitting of Existing Buildings with Steel Joists, SE University, 2019
Introducing Design Guide 21: Welded Connections (Second Edition), SE University, 2019
HVAC Design: Level II – Applications, American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE), 2018
HVAC Design: Level I – Essentials, American Society of Heating Refrigerating and Air-Conditioning Engineers (ASHRAE), 2018
Indiana Engineers' Laws & Rules, RedVector.com, 2018
Engineering Ethics: Signing and Sealing of Documents, National Society of Professional Engineers (NSPE), 2018
LAW 5003: Law and Engineering Professional, Trine University, 2018
Packing Basics, Verantis, 2017
NFPA dust hazards analysis (DHA) – Practical considerations you should know, Powder and Bulk Engineering, 2017
New Age of Concrete Practices, Indiana Ready Mixed Concrete Association, 2016

Education

Master of Business Administration
Trine University, Angola, IN
December 2020
Master of Science – Engineering Management
Trine University, Angola, IN
July 2018

Bachelor of Science – Civil Engineering
Tri-State University, Angola, IN
December 2010

Educational Presentations

Michigan Industrial Ventilation Conference
Classroom Instructor for Phase 1, Annually
East Lansing, MI

Licenses & Certifications

PE - Professional Engineer
Licensed by the State of Indiana - Number PE11500717
Licensed by the State of Ohio - Number PE.85669

Employment History

Forensic Engineer
Nederveld, Inc.
September 2021 - Present
Duties include forensic engineering analysis relating to building pathology, structural damage due to fire, structural damage from vehicle impacts, storm damage (wind, snow, hail), seismic, and water loss events, calculations, and plan of repair design.

Structural Project Engineer
Sponseller Group, Inc., Holland, OH
July 2019 - August 2021
Duties included performing structural design of steel and concrete members and structural design of steel connections. System evaluations for industrial ventilation systems. Review project drawing sets. Perform field investigations and engineering reports. Interact with team members to resolve project issues.

Facilities Mechanical Engineer
Materion, Elmore, OH
June 2017 to July 2019
Duties included managing a variety of projects for various business units. Communicated, corresponded, and coordinated with contractors, co-workers, and internal customers. Utilized SAP to manage project expenses, order components, and pay invoices. Developed detailed scope of supply and work for numerous projects. Solicited bids for project elements. Reviewed contractors' and internal resources work. Coordinated actions for projects with purchasing, accounting, and management. Developed and revised SOP's for department. Investigated and troubleshot plant ventilation systems. Consulted on various projects with Co-Ops, fellow team members, and other plant personnel. Provided guidance and mentor Co-ops. Led or participated in various meetings.

Design/Project Engineer
Schust Engineering, Auburn, IN
May 2012 to June 2017
Duties included conducting engineering studies and write reports for various processes and companies. Performed structural calculations for support steel foundations, and others. Drafted and detailed fabrication prints, general arrangement drawings, and installation prints. Procured various bids and pricing for equipment, components, labor etc. Provided a detailed budget based on quotes and pricing. Purchased materials, equipment, and components. Managed projects from conception, to design and installation supervision. Communicated, corresponded, and coordinated activities with the customer, contractors, and vendors for timely project completion. Developed standards used for the implementation of Solidworks into the company. Developed structural standards for concrete and steel design and construction.

Field Engineer
Clear Creek and Associates, Goshen, IN
January 2011 to January 2012
Duties included providing support for problems encountered in the field, including surveying, calculations for fixes, or analyzing the cause of a problem. Responsible for structural steel design for both manufacturing and field construction. Performed drafting and detailing.

Expert Witness Experience

Deposition
April 2024
Mustafa M. Wared vs. AAA Insurance
Expert Witness for AAA Insurance on behalf of Ruggirello, Velardo, Burke, Reizen & Fox, P.C
22nd District Court No. 23-0214-GC