

Jeffrey A. Travis, P.E., S.E.
Principal Engineer

Professional Profile

Mr. Jeffrey A. Travis is a Principal Engineer in Exponent's Buildings and Structures practice. He has over 20 years experience in structural engineering, with expertise in structural analysis and design, construction technology, large-scale collapse investigations, structural dynamics and blast analysis, construction failure analysis, and crane operations and safety practices. A majority of his work focuses on cause and origin investigations of building damage, building envelope performance, repair and rehabilitation of structures, construction defect analysis, and construction disputes.

Mr. Travis has designed and analyzed a myriad of different structure types, including single family residences, commercial low and medium rise buildings, heavy industrial structures used in the power and manufacturing industries, transmission towers, bridges, and parking structures. He is experienced in the use of wood, reinforced/precast/post-tensioned concrete, structural steel, and masonry in construction.

Mr. Travis has acted as the Project Engineer for a variety of projects including the design and evaluation of post-tensioned, precast and cast-in-place concrete, steel framed, timber, and masonry structures. He has performed structural evaluations, developed plans, specifications, budgets and schedules, and provided construction administration.

Academic Credentials and Professional Honors

M.S., Civil Engineering, Michigan State University, East Lansing, Michigan, 1987
B.S., Civil Engineering, Michigan State University, East Lansing, Michigan, 1986

Chi Epsilon Civil Engineering Honor Society; Tau Beta Pi National Engineering Honor Society
DeVleig Fellowship, Case Center for Computer Aided Design, Michigan State University

Licenses and Certifications

Licensed Professional Engineer, Alabama, #27384-E; Licensed Professional Engineer, Florida, #62237; Licensed Professional Engineer, Illinois, #062-046949; Licensed Structural Engineer, Illinois, #081-005355; Licensed Professional Engineer, Kentucky, #24704; Licensed Professional Engineer, Louisiana #32997; Licensed Professional Engineer, Michigan #6201057899; Licensed Professional Engineer, Mississippi, #17063; Licensed Professional Engineer, Missouri, #EN 030003; Licensed Professional Engineer, Pennsylvania, #PE072210; Licensed Professional Engineer, Texas, #86820

Continuing Education

Crane Risk Management, ENR/McGraw Hill, 2011
Ground Modification, Earth Retention, and Deep Foundations, SEAIOI, 2011
Nondestructive Tools and Techniques for SEs, SEAIOI, 2011
Crane Safety for Engineers and Supervisors, ASCE, 2010
Effective Steel Design: Step-by-Step Design for Commercial and Industrial Buildings, AISC, 2010
Practical Design of Structures for Blast Effects, SEAIOI, 2009
Development and Splicing of Flexural Reinforcement Based on ACI 318-08, PCA, 2009
Practical Design of Bolted and Welded Steel Connections, ASCE, 2009
Torsion Design of Structural Concrete Based on ACI 318-05, PCA, 2009
Design and Renovation of Wood Structures, ASCE, 2008
ATC-20 Post Earthquake Safety Evaluation of Buildings, 2007
Analysis and Design of Post-Tensioned Structures, PTI, 2007
Wind Loading and Wind Engineering, SEAIOI, 2006
Design Steel Your Way with the 2005 AISC Specification, AISC, 2006
PCI 6th Edition Design Handbook Seminar, 2006
Contract Change Order Seminar, Lorman, 2006
ASCE Structural Vibration Analysis, Design and Troubleshooting, 2005
Bridge Design Workshop, SEAIOI, 2005
Structural Steel Inspection Seminar, Steel Structures Technology Center, 2003
Managing Crane and Rigging Operations to Improve Safety and Eliminate Accidents, University of Wisconsin – Madison, 2002
ACI/PCA 318-02 Building Code Seminar, 2002
Fall Protection Competent Person Class, The Chicagoland Construction Safety Council, 2002
Supported Scaffold Hazard Awareness Class, The Chicagoland Construction Safety Council, 2002
Suspended Scaffold Hazard Awareness Class, The Chicagoland Construction Safety Council, 2002
Structural Engineering Winter Institute, NCSEA, 2001
Wind Loads for Buildings and Other Structures, ASCE, 2000
Lateral Framing Systems East of the Rockies, AISC, 2000
Engineered Wood Products in Building Design, The Engineered Wood Association, 1999
Project Management Workshop, Northwestern University, 1998
Designing Masonry Using the 1995 MSJC Code, The Masonry Society and the ACI, 1998
Structural Engineers Refresher Course, SEAIOI, 1994

Presentations

Peraza DB, Travis JA, Crane Safety – an Industry in Flux. Fifth Congress on Forensic Engineering, Washington, DC, November 2009.

Travis JA. Claims with Crane Operations. Houston Claims Association Continuing Education Seminar, Houston, TX, February 2009.

Travis JA. ASME and OSHA Minimum Mobile Crane Safety Requirements. Crane & Hoist Conference & Exhibition, Rosemont, IL, 2003.

Prior Experience

Senior Director, Packer Engineering, Inc., 1999–2008
Project Engineer/Manager, Carl Walker, Inc., 1996–1999
Project Engineer, Raths, Raths & Johnson, Inc., 1994–1996
Project Engineer, Vectra Technologies, Inc., 1988–1994
Project Engineer, Newport News Shipbuilding, 1987–1988

Project Experience

Palau Bridge Collapse—Performed post-collapse cause and origin investigation of a post-tensioned, box girder, concrete bridge structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and observed demolition activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Kaiser Aluminum Explosion—Performed post-explosion event investigations on commercial, industrial, governmental, and residential structures. Investigative findings were used to identify building components requiring demolition, shoring, and/or repair.

Texas A&M Bonfire Collapse—Performed post-collapse cause and origin investigation of a timber bonfire structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Notre Dame Football Stadium—Conducted field investigation of stadium site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the subject structure under a variety of loading conditions to determine the mechanism of the observed structural distress.

Homer City Duct Collapse—Performed post-collapse cause and origin investigation of a steel framed duct support structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Hancock Scaffold Collapse—Performed post-collapse cause and origin investigation of a steel/aluminum framed scaffold and scaffold support structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Hurricane Katrina Damage Investigations—Performed post-hurricane event investigations on commercial, industrial, religious, governmental, and residential structures. Investigative findings were used to identify building components requiring demolition, shoring, and/or repair. Damages were categorized as being the result of wind and/or storm surge.

Concrete Structures Tower Crane Collapse—Performed post-collapse cause and origin investigation of a steel framed tower crane support structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse. Conducted a peer review of the crane foundation design.

Great River Energy Collapse—Performed post-collapse cause and origin investigation of a post-tensioned concrete floor slab and aluminum shoring system. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, and established an artifact retention facility. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Jay Dee/Affholder Vibration Damage Investigations—Performed post-blasting event investigations on residential structures. Compared blasting records of particle velocity with established thresholds for structural damage, and pre-blasting videos and condition assessments with post-blasting conditions. Prepared reports of investigative findings that were used for arbitration hearings.

Appointments

- Structural Engineering Institute Standards Committee – ASCE/SEI 11 – Structural Condition Assessment of Existing Buildings, Vice Chairman
- Structural Engineering Institute Standards Committee – ASCE/SEI 30 – Guideline for Condition Assessment of the Building Envelope, Vice Chairman
- ACI Committee 437 – Strength Evaluation of Existing Concrete Structures
- ACI Committee 228 – Nondestructive Testing of Concrete

Professional Affiliations

- Structural Engineers Association of Illinois
- Post Tensioning Institute—PTI
- American Concrete Institute—ACI
- American Society of Civil Engineers—ASCE
- American Institute of Steel Construction—AISC
- International Concrete Repair Institute—ICRI
- Precast/Prestressed Concrete Institute—PCI