

TODD WHISENHUNT, S.E., P.E.

Vice President



Summary

Todd Whisenhunt joined Thornton Tomasetti, in Chicago, in 2012. He has extensive experience in structural engineering design across multiple market sectors including commercial, residential, hospitality, educational, cultural, and transportation. Todd also assists attorneys, property managers, building owners, and contractors with structural forensic investigation, litigation support, standard of care, and structural peer reviews. He provides specialized technical expertise in the design of high-rise and mid-rise buildings, post-tensioned concrete, reinforced concrete, and structural steel. As co-leader of our structural engineering standards committee, Todd oversees the firm's construction drawing standards and specifications. Prior to joining Thornton Tomasetti, he worked at engineering firms in Atlanta, Georgia and Columbia, South Carolina.

Areas of Technical Expertise

- Structural Engineering
- Forensic Structural Engineering

Education

- M.S., Civil Engineering, Structural Engineering and Mechanics, 2004, North Carolina State University
- B.S., Civil Engineering, Structural Emphasis, 2002, University of South Carolina
- B.S., Agricultural Mechanization and Business, 1997, Clemson University

Registrations

- Licensed Structural Engineer in GA, IL
- Licensed Professional Engineer in AL, FL, SC, TN

Professional Activities

- Member, Post-Tensioning Institute (PTI)

Firm activities

- Co-leader, TT Structural Engineering Standards Committee
- Co-developer, TT firm-wide post-tensioned concrete specifications and details
- Developer, TT firm-wide wind load calculation spreadsheet
- Co-author, TT Best Practices for Chicago Building Code Requirements

Select Project Experience

Structural Engineering

Northwestern University, The Global Hub, Kellogg School of Management, Evanston, IL. Project manager and structural engineer for a 415,000-square-foot, 5-story building. The building consists of reinforced concrete shear walls, reinforced concrete slabs and beams, stage stressed post-tensioned transfer beams, and long-span structural steel framing.

University of Illinois at Chicago, Student Housing and Academic Complex, Chicago, IL. Project manager and structural engineer for a 10-story, 131,000-square-foot residence hall and a 2-story, 52,000-square-foot academic building. The residential tower consists of concrete two-way post-tensioned flat slabs, reinforced concrete columns and shear walls, and stage stressed post-tensioned transfer beams. The academic building features a steel braced-frame lateral system, long-span continuous plate girders and a curved-steel feature staircase.

Lakeshore East, Cirrus and Cascade Towers, Chicago, IL. Structural design of a pair of residential towers, a 38-story, 444,000-square-foot tower and a 46-story, 536,000-square-foot tower, linked by a 5-level 245,000-square-foot parking podium.

University of South Carolina, Darla Moore School of Business, Columbia, SC.* Structural engineer-of-record for a 270,000-square-foot, 5-story building. The building consists of reinforced concrete shear walls and composite steel framing.

Two Alliance Center, Atlanta, GA.* Structural engineer for a 30-story, 500,000-square-foot, Class-A office tower and an attached 10-level, 340,000-square-foot parking structure. The tower combines reinforced concrete shear walls and columns with two-way post-tensioned slabs on the lower 10 stories and reinforced/post-tensioned concrete moment frames on the upper 20 stories.

*Denotes work performed with previous employer.

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Bonnet Creek Resort, Orlando, FL.* Structural engineer for a 12-story, 590,000-square-foot hotel and adjacent 2-story structural steel conference center. The hotel tower is structured of reinforced concrete shear walls and columns with two-way post-tensioned flat slabs on the typical floors.

Gallery, Atlanta, GA.* Structural engineer for a 30-story, 490,000-square-foot luxury condominium tower and an adjacent 7-level, 160,000-square-foot parking structure with amenity level. The tower consists of reinforced concrete shear walls and columns with two-way post-tensioned flat slabs. The parking structure consists of reinforced and post-tensioned concrete moment frames with a one-way slab system.

Forensic Investigation

Corporate Headquarters, Peachtree City, GA. Investigation of cause and origin of excessive movement between a newly constructed office building and an existing office building, resulting in damage to the expansion joint between them. Investigation included a multi-month surveying program to monitor building movements.

Precast Parking Deck Cracking Assessment, Cherokee, NC. Investigation of cause and origin of excessive cracking in a newly constructed, yet to be in service, precast parking deck. Assisted owner with development of appropriate crack repair strategy and multi-month crack repair monitoring program.

Boiler Pump Foundation Remediation, Confidential Manufacturing Facility. Advanced analysis and remediation of existing reinforced concrete foundations supporting four boiler pumps. Foundations are allegedly undersized and not designed to support dynamic rotating equipment. Assisted owner with development of proposed redesigned foundations.

I-15 Rarus/Silver Bow Northbound Bridge, Silver Bow, MT. Advanced analysis and remediation of a newly constructed steel plate girder interstate bridge requiring replacement of cross-bridging/diaphragms while in service. Assisted fabricator/erector in developing replacement procedures to satisfy concerns of Montana Department of Transportation.

Standard of Care

I-26 Port Access Road Interstate Interchange, Charleston, SC. Provided opinion on the standard of care of various aspects of the design of multiple highway bridges and abutments as part of an interchange connecting Interstate 26 to the new Port of Charleston terminal.

Structural Peer Review

Nashville International Airport, Nashville, TN. Structural peer review of a 600,000-square-foot expansion of the existing airport. Consisted of a curved, long-span steel "Airwave" roof over the existing terminal lobby and a new international arrivals facility.

Georgia World Congress Center Hotel, Atlanta, GA. Structural peer review of a new 40-story hotel tower with a podium adjacent to the Mercedes-Benz Stadium and the Georgia World Congress Center. The project includes a 3-story steel ballroom structure supported by an existing 2-story concrete parking structure.

300 Biscayne Blvd Way, Miami, FL. Structural peer review services for a new 69-story, 1.5 million-square-foot residential tower, adjacent to the Miami River. The building features a large lobby, 12 levels of parking, amenity spaces, a pool deck and a helipad. The tower footprint at the base is 100 feet by 350 feet with setbacks above levels 15 and 55.

Litigation

Reserve Decatur Townhomes, Decatur, GA. Litigation support for defense of brick subcontractor in a claim that alleged defective brickwork and waterproofing led to water intrusion of newly constructed townhomes.

Rodgers Metal Craft v. Hogan Constr. Grp., et. al. Smyrna, GA. Litigation support for defense of steel fabricator where structural steel fabrication did not follow industry standards leading to change orders for the construction of a new high school gymnasium.

Harley Dewayne Feltman et al. v. Caddell Constr., et al. Tuscaloosa, AL. Litigation support involving investigation of cause and origin of the partial collapse of a precast concrete expansion at an existing college football stadium during construction that resulted in two people being injured.

Confidential Municipal Wastewater Tunnel Lift Station. Litigation support involving investigation of cause and origin of a breach between an underground wastewater tunnel and an approximate 204-foot-deep lift station that led to catastrophic flooding of lift station dry well with untreated wastewater.

Select Papers, Lectures and Publications

"Wilshire Grand Center: Tallest Building West of the Mississippi," Paul Zia Distinguished Lecture Series, North Carolina State University, September 2017 (co-presenter)

CONTACT

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