

# Troy Bishop, P.E., G.C.

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## QUALIFICATIONS

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### PROFESSIONAL ENGINEER – STRUCTURAL

Multi-state licensed Structural Engineer and Florida General Contractor with extensive experience in the evaluation and design of wood, aluminum, steel, masonry, concrete, and light gage steel structures. Career focus on structural consulting for code compliance during hurricane events. Skilled in evaluation and rehabilitation of existing buildings, and the evaluation of damage to structures from natural disasters and from man-made causes. Thirteen years of experience with high-volume specialty structural engineering for architects, contractors, product manufacturers and their distributors, and the public; demonstrating consistent record of increasing gross revenue, professional abilities, and departmental productivity throughout tenure. Strengths include extensive field experience, product evaluations, structural design with focus on components, code requirements of glazing, canopy, and life-safety structures, value and reverse engineering, design of anchorage systems, conflict detection, personnel management and project budgeting. Certified as a Professional Engineer and General Contractor.

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## EDUCATION, PROFESSIONAL REGISTRATION

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**Certified Florida Professional Engineer  
(PE 76131)**

**Certified Texas Professional Engineer  
(PE 134623)**

**Certified North Carolina Professional  
Engineer (PE 048632)**

**Certified West Virginia Professional Engineer  
(PE 23676)**

**Licensed Florida General Contractor (CGC  
1514456/Inactive)**

**B.S., Civil Engineering (Florida Atlantic  
University 2008)**

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## PROFESSIONAL EXPERIENCE

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### **President and Founder**

2015 - Present

*Axiom Structures, Pompano Beach, FL*

- Founder of company focused on providing specialty structural engineering designs, wind load calculations, component engineering and inspections.
  - Adept in design and value-engineering of complete structural systems (particularly steel, aluminum, and glass assemblies such as curtainwalls or freestanding structures) and complex anchorage connections to aluminum, steel, concrete, or wood. Extensive field experience with inspections and construction work, evaluation of damaged or failed structures, evaluation of structures built without a permit, structural designs with focus on renovations, building code compliance, value and reverse engineering, third party quality assurance, failure analysis & building envelope consulting.
- Structural engineering designs:
  - Inter-Miami CF Stadium – Numerous engineering designs throughout the project for hurricane resistance. Container tiedowns for concessions and kiosks, evaluation of railings, wind screens, and entry barriers.
  - Dewalt, Stanley Black & Decker, Trane, Rheem, Kohler, LG, Amazon, United Glass, Assa-Abloy, Samsung product certifications – Wind load certification and validation of anchorage products, exterior equipment integrity, hurricane tiedowns, testing protocols, and analysis. Certification of numerous models for multiple mounting configurations and wind load designations.

### **Vice President; Consultant**

*Engineering Express, Deerfield Beach, FL*

2008-2015; 2018-2020

- Manage engineering and operational functions for a multi-State licensed specialty structural engineering firm generating annual sales in excess of \$3 million with over 2,000 projects per year. Accountability extends to hiring and supervising of departmental staff, execution and management of client interactions, employee training, marketing, setting the vision of the firm, digitizing company systems, inventing and streamlining a world-class project tracking system in

the cloud, and creation of company manuals with accompanying protocols. As senior management team member participated in strategic planning including expense forecasting, marketing initiatives, and resource utilization strategies.

- Structural engineering design:
  - Broad range of experience ranging from product evaluations for notable international manufacturers such as Ingersoll-Rand or Stanley Black and Decker, to the full spectrum of entire building envelope protection or cladding systems across South Florida, New York City, Texas, and 20 other states.
  - High level of detail when working with storm damage inspections, cascading damage profiles, and assessment reports, including recommended remedial repairs. Inspected and reported damage and causation for over 50 structures after Sandy in the Northeast.
  - Designed, reviewed, and streamlined the firm's database of code-compliant design tools for aluminum, glass, steel, and anchorage which are used throughout Florida and the Nation and have passed appropriate peer review. Established company calculation protocols.
  - Frequently requested by clients to personally inspect and design their needed field modifications for all types of buildings and anchorage connections.
  - Have personally certified over 100 projects within Florida under own P.E. seal, and have designed almost 2,000 projects across the Nation under the firm's principal.
  - Able to maintain client satisfaction with high-profile clients such as Disney, Lamborghini, Hermes, Max Planck, Florida Atlantic University, and more.
- Product evaluations:
  - Experience working with international manufacturers from product inception, through testing, to evaluation and submittal.
  - Experience with Miami-Dade Product Control (Notice of Acceptance - NOA), the Florida Building Commission (Florida Statewide Approval), Texas Department of Insurance (TDI), and ICC-ES evaluations.
  - Proficient in submittal and code requirements for windows, doors, shutters, skylights, canopies, anchors, rooftop equipment stands, structural roof and wall panels, roofing materials, and door locking hardware.
- Selected Contributions:
  - Co-author of the American Heating and Refrigeration Institute's 1310P Wind Load Design of HVAC Equipment industry standard.
  - Invented an inspection tracking and report-writing system which was used to deploy teams of engineers to neighborhoods ravaged by Hurricane Sandy. Total of 345 field inspections were performed within 90 days using this system due to its rapid ability to automatically write reports even while the inspector was still in the field.
  - Increased monthly client quotation estimates for work by 140%, while substantially reducing the amount of administration time needed to create authorized contracts, by implementing Salesforce and a customized cloud-based quotation engine.
  - Created 16% additional company revenue in 2015 by designing employee incentive plan and bonus system with 60/40 split.

**Vice President**

2006-2008

*Nicon Contracting & Engineering, Coconut Creek, FL*

- Estimating and proposal writing, engineering coordination, material ordering, labor management, project sales and costing, shop foreman, billing, client correspondence. Increased 2007 revenue by 12%.
- Construction and engineering experience:
  - Worked in the field as project foreman and superintendent, managing three in-house subcontracting teams while simultaneously enrolled full-time in Civil Engineering program at Florida Atlantic University. Promoted to Vice President within 1 year of hire date.
  - Engineering design internship for radius steel specialty structures such as the "Muvico Palace" domes on Glades Road in Boca Raton and The Meridian at One North Ocean.
  - Copper roofing logistics, supervision, and installation at The Colony Hotel in Palm Beach, famous for housing former President George Bush and the Queen of England in 2006, with similar dignitaries visiting during construction.

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## OUTREACH

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- National Council of Structural Engineers, Wind Engineering Committee Corresponding Member
- Urban Search and Rescue, Florida Task Force 1, Structural Collapse Specialist in Training
- Florida Structural Engineers Association of the Palm Beaches, 2015-2017 Treasurer
- Broward County Building Officials Association – 2018 Engineer of the Year Award
- International Association of Certified Home Inspectors, Structural Instructor
- Olympic Heights High School, Advisory Board Member

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## PRESENTATIONS AND AUTHORINGS

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- *Hurricanes Destroy, But Only If We Let Them* – Florida Association of Building Inspectors, January 2020, Daytona Beach, FL
- *Hurricane Michael & Mexico City Beach Lessons Learned* – Florida Structural Engineers Association, September 2018, Lake Worth, FL
- *Florida Keys Hurricane Irma Damage Assessment – SEER Response in the Keys* – Florida Structural Engineers Association, November 2017, Lake Worth, FL
- *Wall of Wind - Wind Load Design and Evaluation of Rooftop Equipment* – Florida Refrigeration & Air Conditioning Contractors, March 2016, Orlando, FL
- Co-author of the American Heating & Refrigeration Institute's "Wind Load Design for HVAC Rooftop Equipment" Design Standard AHRI 1310P (under peer review)
- *The Florida Building Code - Wind Load Design and Evaluation of Rooftop Products* - Miami-Dade Product Control Department, September 2015, Miami, FL
- *Changes to the Code - Mitigation Practices for Wind Load Design of HVAC Rooftop Equipment* - National Hurricane Conference, April 2014, Orlando, FL
- *Discussion of the Effects of Hurricane Sandy* - International Hurricane Protection Association StormExpo Conference, May 2013, Fort Lauderdale, FL
- *Superstorm Sandy - Lessons from a Florida Engineering Firm* - Broward County Building Officials Association, February 2013, Cooper City, FL
- *ASCE 7-10 Wind Load Changes for Components & Cladding and Rooftop Structures* - Building Officials & Inspectors Educational Association, January 2012, Sunrise, FL