



DANIEL C. SMITH, PE
Consulting Engineers

13237 Melvin Arnold Rd
Raleigh NC 27613
919-844-6050 Fax 846-0643
Email: dan@dansmithpe.com

PROFESSIONAL EXPERIENCE - 2011

1997 to Present - Daniel C. Smith P.E. Consulting Engineers, Raleigh NC.

Performed structural designs of commercial buildings (churches, office buildings, daycares, pre-engineered buildings, apartment complexes) and residential buildings (\$2M residences, townhouses). Design and evaluate industrial facilities. Design buildings for high wind zones along the east coast and high seismic areas (Charleston SC).

Designed complex, long span roof truss systems, using metal plate connected wood trusses, cold formed metal trusses and hot rolled steel trusses. Design the bracing systems for the large complex truss systems. Develop proposals, bids and contracts for truss erection projects. Field engineering solutions to construction difficulties. Perform safety training. Work with framers to solve field problems.

Perform product design and development services. Mechanical system structural supports systems for wind and seismic (dynamic analyses) loads. Work with three local metal fabricators on various steel frame systems (commercial floating dock systems, stairs, walkways, personnel and equipment platforms).

Perform forensic engineering investigations of truss erection collapses, building design failures, construction bracing, construction defects and industry structural failures and mechanical problems.

Design modular buildings with wood or steel/concrete foundation systems. Modular structures are designed for normal loads, high seismic loads, high wind loads and heavy snow loads as required by the building codes. Designs include multiple modular components tied together.

Design AITC glulam wood structures for churches, bridges, and commercial applications.

Perform Property Condition Assessments of existing buildings to the applicable building codes and requirements. Have performed building assessments of apartment complexes for sale, for determining capital expenditures and for determining maintenance or repairs to be performed.

Experience with both performing the design of structures and performing structural evaluations provides an advantage to designing the repairs of structural components and understanding the root cause of the problem.



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2006-2010 – DCSPE Construction Company, Raleigh N.C.

Owner and president of a specialty sub-contracting company. Specialize in roof truss systems (wood and metal) and Modular construction.

Modular construction projects include a commercial modular buildings..

Designed and built the wood framing and roof system for the Duke University's Smarthouse Dormitory (LEED – Platinum) for Bovis Lend Lease

Completed the roof systems for Bovis Lend Lease – Cypress of Raleigh Retirement Community Roofs included three villa buildings, clubhouse and miscellaneous structures. (\$2.2M contract).

1997 to 1998 – Engineering Investigations and Testing, P.C. Raleigh NC (Part Time).

Performed forensic investigations of structures, mechanical systems/components and automobile accident reconstruction. Designed and conducted laboratory tests to simulate product defects or investigate possible product flaws.

1996 to 1997 - Weintraub Engineering, P.C. Raleigh, NC Divisional Manager - Perform structural optimization of building structural framing systems. Designed commercial and residential structures. Inspect and investigate construction job sites. Prepare engineering repairs to field problems.

1994 to 1996 Truswood Inc. Raleigh NC VP of Engineering Responsible for engineering production and design process of metal plate connected wood trusses. Technical expertise in roof framing systems and wind loadings. Developed a design manual to standardize the design process and reduce design errors. Trained engineers on how investigate job site structural problems.



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1992 to 1994 Bechtel Corporation, Athens AL

Engineering Group Supervisor over two engineering groups: electrical commodities and torus structure evaluations.

Group Supervisor for a team of 15 engineers designing support structure for mechanical systems. Lead a team of engineers to develop a finite element analysis structural steel platforms to seismic (earthquake) response spectra and thermal stress evaluations. Designed nuclear power plant equipment to seismic design loading requirements.

1987 to 2007 – Retired from U.S. Naval Reserve as a Commander (O-5).

Engineering Duty Officer for ship repair, ship acceptance and naval research. Selected to command 4 naval reserve units. Experience with navy research projects on advanced concept ship designs, experience with ship hull and piping system design and repair.

1979 to 1991 NAVAL SURFACE WARFARE CENTER, Portsmouth VA

Technical expert in mechanical shock, vibration and impact loads on Naval vessels. Analyzed structural responses utilizing computer finite element codes to model complex structures to impact (explosive) loading (time history and response analyses).

Designed physical engineering experiments to simulate full scale explosive events. Experiments included pre-test computer analyses to predict results and evaluation of post-test results to determine equipment/system performance.

Technical Director for Operations of four new USN ship construction survivability projects totaling \$15 million. Designed instrumentation plans to measure and evaluate the dynamic response of mission critical systems/equipment and the structural response of unique ship structures. Directed the at sea underwater explosion shock testing of full scale ships, equipment military crew and civilian test team.

Utilized dynamic test measurements to develop a technical procedure to estimate ship design strengths that saved over \$17 million in projected structural renovations and to develop new ship design criteria.

Project Manager working in conjunction with the U.S.D.A.'s Forest Products Laboratory to develop ship repair techniques of wood hull and stiffeners for minesweepers.



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PROFESSIONAL QUALIFICATIONS

Bachelor of Science in Civil Engineering University of Houston, Houston, TX, 1979.

Master of Science in Structures and Dynamics. The George Washington University, at NASA Langley, Hampton VA, 1986

Engineering Classes at Old Dominion University, Norfolk VA

Professional Engineer, State of North Carolina, Certificate Number 20090.

Licensed Professional Engineer in 47 states.

CONTINUING EDUCATION CLASSES

Engineering boards require a minimum of 15 CEU hours per year. Completed over 350 credit hours of continuing education over the past 18 years.