CONSULTING ENGINEER

GLENN STEWART, M.E., P.E.

Engineering Design & Testing Corp. Post Office Box 8027 Columbia, South Carolina 29202

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EDUCATION:

1994 M.E., Civil Engineering, Clemson University, Clemson, South Carolina

1985 B.S., Civil Engineering, North Carolina State University, Raleigh, North Carolina

EXPERIENCE:

July 1993 to present

Engineering Design & Testing Corp., Columbia, South Carolina,

Columbia District Engineering Manager (1996 through 2003)

Consulting Engineer

Investigation of cause of structural damage, including collapsed and sagging roofs, cracked walls, twisted members, cracked pavements and damaged foundations. Analysis to the affects of construction vibration, high winds, consolidating soils, moisture exposure, inadequate designs, heavy snows and Investigation of accidents involving cranes and construction deficiencies. Development of cost estimates for structural repairs; including rigging. buildings, retaining walls, bridges, and storage tanks. Development of repair estimates for structural repairs; including buildings, retaining walls, bridges and storage tanks. Evaluation of structures for building code conformance; including methods of construction, construction materials, compliance to safety requirements and structural design. Evaluation of building sites. Load testing and analysis of structural components. Evaluation of the integrity of damaged structures and development of scope of damage assessments. Evaluation and testing of fluid system components including pumps and tanks. Investigation of the origin and causes of structural fires.

August 1985 to July 1993 Charleston Naval Shipyard, Charleston, South Carolina,

Nuclear (Civil) Engineer

Design and issue plans and specifications for the fabrication, modification and maintenance of industrial facilities. Engineering of structural and fluid system projects. Structural projects requiring knowledge of analysis, design, metal construction techniques and construction codes. Fluid system projects include the design of supply and waste water systems and require knowledge of pump sizing, head loss determination, motor starter sizing, as well as stainless steel fabrication and machining techniques. Responsible for the engineering and design of hundreds of lifts made by various types of cranes utilizing various

types of rigging arrangements. Supervise shipyard's effort on assigned projects to accomplish facility improvements and maintenance involving breathing air, supply and waste water systems, clean area requirements, radiological controls, HEPA filtered ventilation, hazardous material work controls, architectural, load lifting equipment and rigging, OSHA worker safety requirements and construction management. Development of schedules, costs estimates and preliminary design presentations. Development of long range budgets for performance of complex engineering projects. Verification of satisfactory in-progress and completion status of projects. Analyze structural systems utilizing finite element based software.

May 1982 Charleston Naval Shipyard, Charleston, South Carolina,

to August 1985 Civil Engineering Cooperative Education

Drafting of mechanical and structural drawings, design basic industrial type equipment, and conferring with production shops during fabrication.

PROFESSIONAL ORGANIZATIONS:

- American Society of Civil Engineers
- International Code Council

REGISTRATIONS:

Registered Professional Engineer in South Carolina (#13962)

Registered Professional Engineer in North Carolina (#021799)

Registered Professional Engineer in Georgia (#PE23265)

Registered Professional Engineer in Florida (#55633)

Registered Professional Engineer in Virginia (#0402 037802)

Registered Professional Engineer in Alabama (#26203-E)

Registered Professional Engineer in Ohio (#69430)

Registered Professional Engineer in Louisiana (#32033)

Registered Professional Engineer in Mississippi (#17322)

Registered Professional Engineer in Tennessee (#112671)

Registered Professional Engineer in Illinois (#062.061490)

Registered Professional Engineer in Michigan (#6201060909)

National Council for Engineering and Surveying, (#18-622-62)

CONTINUING EDUCATION:

- "Ethics for Professional Engineers", SC Engineering Conference, June 2015
- "Drilled Displacement Pile Performance", SC Engineering Conference, June 2015
- "NCMA SRW Design & Construction Best Practices Guide", SC Engineering Conference, June 2015
- "Soil Stabilization Through Structural Resin Injection", SC Engineering Conference, June 2015
- "PCI-Special Inspection of Precast Concrete Structures", SC Engineering Conference, June 2015
- "Asphalt Pavement Design Guide", SC Asphalt Pavement Association, October 2014
- "Construction of Residential Buildings in Coastal Areas", Decatur Professional Development, December 2011
- "Maintenance of Concrete", Decatur Professional Development, December 2011
- "Rotating Equipment and Predictive Maintenance", ED&T Seminar, September 2011
- "Earthquakes-Key Components to Aid in Damage Evaluation", ED&T Seminar, February 2011
- "Warnings vs. Instructions", ED&T Seminar, February 2011
- "Engineering Ethics Seminar", ED&T Seminar, February 2011
- "Assessment and Repair of 155 Year-Old Heavy Timber Trusses In Historic Building", SEA of SC-Columbia, Chapter, October 2010
- "Structural Steel and Fire Damage Assessment (Presenter)", SEA of SC-Columbia Chapter, October 2010
- "ADA Guidelines: Accessible Routes", RedVector, Inc., February 2010
- "ADA Guidelines: General Site and Building Elements", RedVector, Inc., February 2010
- "Basement Foundation Walls", ED&T Seminar, February 2010
- "HVAC Design and Components", ED&T Seminar, February 2010
- "The Engineer's Role in Loss Valuation", ED&T Seminar, February 2010
- "Asphalt Pavement Design Basics", RedVector, Inc., December 2009
- "Concrete 3: Methods, Materials, and Maintenance", RedVector, Inc., December 2009

- "Interior Codes 4: Means of Egress", RedVector, Inc., November 2009
- "Alternate Means and Methods as Provided by the ICC", ED&T Seminar, February 2009
- "You Can Judge a Roof by Its Cover", ED&T Seminar, February 2009
- "The Intention of LEED", ED&T Seminar, February 2009
- "Confined Space Training", South Carolina National Safety Council, October 2008
- "Hot-Dip Galvanizing: Corrosion Protection", RedVector, Inc., May 2008
- "Pyrolyzed by Spontaneous Combustion", ED&T Seminar, February 2008
- "The New Orleans Levees: The Worst Engineering Catastrophe in US History-What Went Wrong and Why", ASCE, October 2007
- "Design and Application of Sheet Pile Walls", ASCE, September 2007
- "Simplified Design of Two-Way Slabs", ASCE, September 2007
- "Soil Reinforcement Solutions", ASCE, September 2007
- "Subgrade Improvement & Base Reinforcement Utilizing Geogrid", ASCE, September 2007
- "Slab-on-Grade Reinforcing Design", PDH Center, February 2007
- "Understanding Firewall Basics", PDH Center, February 2007
- "The Analysis of Open Web Steel Joists in Existing Buildings", PDH Center, February 2007
- "SC General Contractor Unlimited", American Contractors Exam Services, May 2006
- "South Carolina Business & Law", American Contractors Exam Services, May 2006
- "Hurricane Damage Evaluation Procedures", ED&T Seminar, May 2006
- "Earthquake Damage Assessment & Repair", PLRB/LIRB Claims Conference, April 2006
- "Contractors' Pricing Methods", PLRB/LIRB Claims Conference, April 2006
- "Hail Testing of Residential Roofing Materials", ED&T Seminar, February 2006
- "Legal Aspects of Product Liability Claims", ED&T Seminar, February 2006

- "Making Weather Work for You", ED&T Seminar, February 2006
- "Concrete Distress and Deterioration Symptoms and Causes", Decatur Professional Development, LLC, December 2004
- "Reinforced Modular Block Walls", ED&T Seminar, February 2004
- "Metal Roofing Systems-Damage Assessment", ED&T Seminar, February 2004
- "Confined Space Compliance", Safety and Health Council of North Carolina, February 2004
- "Exterior Insulation and Finish System Panel Discussion", ED&T Seminar, February 2003
- "Structural Condition Assessment", ASCE, September 2002
- "Examination and Evaluation of Wood Roofs", ED&T Seminar, February 2002
- "Analysis of Fatigue Fractures", ED&T Seminar, February 1999
- "Structural Fires Evaluating Damage as a Result of Fire", ED&T Seminar, February 1999
- "How to Predict and Control Floods", ASCE, September 1998
- "Residential Construction Materials", ED&T Seminar, January 1998
- "Hurricane Resistant Residential Construction Course", ASCE, November 1997
- "Exterior Insulation Finish System (EIFS)" Presentation, ED&T Seminar, February 1997
- "The New American Concrete Institute 318 Building Code", ACI Seminar, April 1996
- "Residential Electrical Inspection Course", SBCCI, November 1995
- "Basic Cause and Origin", International Training Association, July 1995
- Radiological Controls for Engineers, Non-destructive Testing for Engineers, Quality Control, Nuclear Reactor Principals, and Total Quality Management. Provided by Charleston Naval Shipyard, Charleston, South Carolina, 1982 to 1993

PUBLICATIONS:

- "Structural Steel and Fire Damage Assessment", ASM, Materials Science & Technology 2010 Proceedings; Failure Analysis and Prevention (co-authored R. Dean Harris), October 2010
- "Cracking Open Construction Vibrations", Journal of Failure Analysis and Prevention, June 2007
- "Fracture Analysis of a Tumbler Mechanism", Proceeding from International Mechanical Engineering Conference & Exposition, November 1995 (co-authored R. Dean Harris, Joseph C. Jur)
- "Snow Load Building Code Requirements", Proceeding from a Design Project Presented to the College of Engineering of Clemson University, August 1994