Gretchen L. Druck, P.E.

Construction Practice Leader

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Background

Ms. Gretchen Druck earned a B.S. degree in Civil Engineering and an M.S. in Structural Engineering. She is a licensed professional engineer in multiple states with experience in building investigations and assessments, as well as structural analysis and design.

Ms. Druck has experience in all phases of design and construction for a wide range of projects including new and existing buildings to include the design of new structures (foundation, superstrure, and facades) and modification of existing structures including residential properties, tenant fit-out, laboratory and health care adaptation, warehouse conversions, landmark-designated properties in New York City, performance spaces, and elevated landscape support systems to name a few. Ms. Druck's design experience specifically includes the structural evaluation and/or design of steel, wood, heavy timber, and masonry buildings.

Ms. Druck has extensive experience in the analysis of existing structures and building elements that rely on detailed, thorough field investigations of existing conditions, analysis of existing capacity and performance, and the design of repairs or alterations as required to support the building's function and use. Ms. Druck also has a wide range of experience investigating and analyzing building failures, deficiencies, or damage to both residential and commercial buildings, including evaluation of building movement and movement-related damage, storm damage, impact damage, and moisture intrusion. In addition to building structure evaluations, Ms. Druck has experience in the investigation and evaluation of building envelope deficiencies and breaches at residential and commercial buildings for a variety of roof and wall systems.

Ms. Druck has construction and field engineering knowledge and an understanding of the application of governing building code provisions. She investigates construction claims, both commercial and residential, including construction defects, the effects of construction on adjacent structures, and construction compliance with applicable building codes, industry standards, and contract documents.

Professional Engagements

- **Structural Design**
  - Yale Sterling Chemistry Laboratory – New Haven, CT (2012-2016), Transformation of existing chemistry lab with the removal and replacement of the interior lab section of the building while preserving the historic exterior classroom wings. Structural work included the design of the new chemistry lab structure and the coordination of its installation within the interior and connection with the existing building.
  - Carnegie Hall, Studio Towers Renovation – New York, NY (2008-2015), Detailed documentation and analysis of the existing steel-framed structure and the design of the reinforced and new framing systems to allow for full-floor removals, an occupied roof terrace, new conveyance, and overall complete renovation and reorganization of the non-performance spaces.
  - Nathaniel Rogers House – Bridgehampton, NY (2007-2012), The historic, wood-framed residential structure was converted into a museum and community space after years of abandonment. Structural assessment and reinforcing design addressed code-required framing upgrades while maintaining original framing material.
  - Watchcase Factory – Sag Harbor, NY (2006-2016), The conversion of the long-abandoned and former Bulova Watchcase Factory into a luxury residential complex. Documentation and condition assessment of the existing heavy timber framing and masonry structure utilizing visual observations and semi-destructive testing techniques allowed for the most retention of original structural material as possible. Existing framing and masonry were analyzed, reinforced, and supplemented where required along with the design of new additions to provide for the architectural program.

Forensic Engagements

- **Construction Defect/Construction Damage**
  - Numerous construction defect investigations including roofing, siding, stucco, EIFS, brick veneer, insulation, weather barriers, waterproofing, foundations, and support of excavation.
  - Numerous investigations of alleged damage due to adjacent construction (including effects of underpinning, excavation, and vibrations).
  - Investigation into installation and/or performance issues of as-built building components, including pools, finish, and facade failures, and pavement installation and finish, to name a few.
  - Numerous residential construction defect investigations and analyses for compliance with contract documents, code requirements, and industry practice.
  - Review and/or production of cost assessments and damages claims.

- **Structural Damage or Deficiencies**
  - Evaluation of roof truss failures including heavy timber-framed trusses, steel trusses, open-wed joists, and a variety of truss configurations.
  - Assessments of storm-related damage to commercial and residential properties including the effects of hurricane and tropical storms and the evaluation of damage related to flood water, groundwater, storm surge, wave action, and wind.
  - Extensive investigations related to identifying the source of alleged water intrusion to the interior of the residential and commercial buildings.
  - Investigated cause and origin of a garage slab failure within a residential, detached garage/carriage house and provided repair recommendations.
  - Bridge investigations related to impacts and corresponding damage evaluation, as well as bridge condition assessments.

- Fire damage assessment for impact on the building (commercial and residential) structure and envelope and corresponding repair recommendations.
- Impact-related damage evaluation to building structure, roof systems, and facades.

Professional Experience

- **Rimkus** **2018 – Present**
  - Construction Practice Leader
    Responsible for investigating and evaluating commercial and residential structures to determine the cause of apparent structural and building envelope concerns. Provide engineering consulting services for legal, insurance, and corporate clients. Investigate structural deficiencies and failures, water penetration and building envelope breaches, building and site improvement maintenance issues, and roof system failures. Evaluate construction compliance with building codes, safety codes, and contract specifications.

- **Silman (formerly Robert Silman Associates)** **2006 – 2017**
  - Senior Project Engineer
    Analyzed and designed new structures, additions, building modifications, and the preservation and conservation of existing structures and facades. Residential, commercial, educational, and institutional projects included a wide range of building materials; steel, concrete, masonry, wood, and heavy timber framing. Total project construction costs ranged from $10,000 to $200 million.

    Performed investigations of existing structures with archival research, invasive and non-invasive testing, field documentation, and observations to document the existing material conditions, as well as the basic structural systems and configuration. Conducted code research, performed structural analysis, and interpreted results as part of design development and report production.

    Produced and oversaw design drawings, details, and specifications in close collaboration with comprehensive design teams, multiple trades, and construction professionals. Provided construction administration support to follow design through construction and completion, working in partnership with contractors and owners to resolve field conditions, meet construction deadlines, review inspections, and deliver quality structures.

- **Historic Preservation Commission of Hoboken** **2015 – 2017**
  - Commissioner
    Reviewed construction applications for building modifications and new structures within the historic districts of Hoboken, New Jersey, to ensure alterations complied with town ordinances and advanced the commission’s charge to preserve and maintain historically significant architecture and structures.

- **Anthony & Associates** **2005**
  - Field/Office Assistant
    Assisted in site investigations of timber-framed structures utilizing non-destructive testing methods such as X-ray imaging, thermal imaging, resistance drilling, and sounding in addition to visual observations.

- **Atkinson-Noland Associates** **2005**
  - Field/Office Assistant
    Assisted in site investigations of masonry and concrete structures utilizing non-destructive testing methods such as ultrasound technology (impact echo, ground-penetrating radar), thermal imaging, flat-jack testing, and sounding in addition to visual observations.

Education and Certifications

- **Civil Engineering, B.S.:** North Carolina State University (2003)
- **Structural Engineering, M.S.:** North Carolina State University (2005)
- **LEED AP:** U.S. Green Building Council
- **Registered Professional Engineer:** New York, New Jersey, Pennsylvania, Connecticut, Florida, Alabama, and Texas