Donna Barden, PE | Forensic Engineer

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Professional Summary:

Ms. Donna Barden is a licensed Professional Engineer in multiple jurisdictions throughout the United States. Ms. Barden is well-versed in forensic analysis of building systems, material deterioration, and code analysis. Ms. Barden is proficient in researching, analyzing, and interpreting codes and standards for building systems. Her education and experience have provided her with notable understanding of structural dynamics and the ability to apply these principles to her assigned projects.

In addition to failure of structural members analysis, Ms. Barden is proficient in the analysis of exterior grading, sealing of building penetrations, and ventilation requirements pertaining to reported water losses at subgrade and attic plenums.

Further, Ms. Barden's numerous years of experience in building construction and certification in welding, bolting, masonry, concrete placement provides experience as to how materials fail due to improper installation and/or end of service life.

Ms. Donna Barden's expertise includes:

- Wind and hail forensic investigation
- Water loss assessments of roof, building façade, and foundation systems
- Structural analysis of residential properties and retaining walls
- Crack analysis in wood, finish, concrete, and masonry materials

Licenses and Certifications:

Professional Engineer (Additional states available upon application):

Connecticut, 0036171
Massachusetts, 59698
New York, 101314
New Jersey, 24GE05632600
Rhode Island, 14520
Vermont, 18.035367

National Engineering Registration, NCEES, 13-468-62

Project Experience:

The sample projects here outline a small sampling of the types of projects and losses Ms. Donna Barden regularly investigates. For further information or additional examples, please contact EFI Global.

The Evergreens Cemetery, Brooklyn, New York
Structural Assessment of Retaining Wall Partial Collapse
Investigated the origin and cause of a partial retaining wall collapse. Represented the insurance carrier for the cemetery to investigate the cause and origin of the retaining wall partial collapse. The way in which the retaining wall, lack of a stormwater collection system, and the grading was reviewed.

Residential Roof Analysis, Sag Harbor, New York
Wind Analysis & Water Loss Investigation
Investigated the origin and cause of a water entry at the laminate shingled roof of a residence, including the analysis of the shingle condition, the ventilation provided, and the wood decay within the attic. The lack of creased or missing shingles in conjunction with the deteriorated wood within the attic which had insufficient cross ventilation provided indicated that the source of moisture was due to condensation and not excessive wind speeds.

Residential Structural Analysis, Plainfield, New Jersey
Tree Impact to Detached Garage
Performed an analysis of the structural members of a wood-framed garage after an uprooted tree had been removed from the eave. Any fractured, split, or deformed structural members were identified, and the system was analyzed to determine the structural stability and provide guidelines for repair.

Water Loss Assessment of Rental Property in Brooklyn, New York
Water Loss Analysis at Building Envelope
Investigated the flashing details, historic aerial imagery, weather data on and around the Date of Loss to determine that the cause of the water entry. The results of the investigation and research provided the data to conclude the flashing was deteriorated prior to the reported date of loss.

Roof Assessment of Residential Property, Union, New Jersey
Wind and Hail Investigation
Hired by insurance carrier to investigate the cause of shingle deterioration for the 30-year-old roof. The shingles were assessed to determine if there was evidence of impacts consistent with hail or the effects of high wind speeds. The lack of physical evidence of hail or wind damage present at the subject property, in conjunction with the weather research completed permitted EFI to conclude that the cause of the shingle deterioration was not wind or hail damage, instead that the shingles were at the end of their service life.

Residential Assessment, Middletown, Connecticut
Fire Damage Assessment and Structural Analysis
Provided an analysis of a concrete cast-in-place foundation after a fire to provide an opinion as to whether there was evidence of structural damage to the cementitious material due to the fire, and whether it could be reused for construction. Visual analysis of the concrete was completed, and it was determined that there was no evidence that the foundation had experienced damaging high temperatures and therefore could be reused.

Professional Experience:

EFI Global, Forensic Engineer (current title), 2021-present

AK Engineering, Director of Structural Inspections, 2019-2021

AK Engineering, Licensed Field Engineer/Inspector, 2013-2019

Langan Engineering, Civil Engineer, 2012-2013

Formal Education:

Bachelor of Engineering, Civil Engineering, Stevens Institute of Technology, Hoboken, New Jersey, 2012

Specialized Education/Training:

HAAG Certified Inspector of Residential Roofs, 2025

Tilted Buildings – Causes and Solutions, 2025

Finding the Root Cause, 2025

Designing Foundation Repairs, 2024

Designing with Structural Composite Lumber, 2024

Starting from the Bottom: Subflooring Design and Moisture Intrusion, 2024

Being the Expert Witness, 2024

Ensuring That Structures Built on Fill are Reasonably Safe from Flooding, 2024

Retaining Walls for Non-Geotechnical Engineers 2024

Evaluation of Existing Structures, 2024

Insulation Basics, 2024

Biodeterioration of Wood, 2024

Structure and Function of Wood, 2024

Engineering Ethics the MN I-35W Bridge Collapse, 2022

Concrete Distress and Deterioration – Symptoms and Causes, 2022

Partial Depth of Concrete Repair, 2022

Professional Ethics for New York Engineers, 2022

Mechanical Properties of Wood, 2022