



**DIANA ESTRADA, P.E.**  
**SENIOR CONSULTANT**

[destrada@engsys.com](mailto:destrada@engsys.com)

Ms. Diana Estrada performs scientific investigations and root cause analyses of failed components and materials due to design, material, maintenance, or construction defects. She investigates structural and construction failures and collapses, identifies the cause and extent of structure and infrastructure damage, and performs structural integrity assessments. Ms. Estrada has failure analysis experience in concrete, pre-stressed concrete, wood, and steel construction and materials in structures ranging from residential to multi-story buildings as well as elevated and bridge structures. She also works on matters involving project specific code compliance, incidents occurring in construction sites and the construction environment.

Ms. Estrada performs research in the failure, residual capacity, and repairs of concrete structures. Her research involves non-destructive in-situ evaluation of damaged members, destructive multi-scale static and dynamic testing, as well as characterization of damage, repair, and materials. She also investigates how materials contribute to the limitations and failures of products and systems through material property analysis and forensic material evaluation.

Prior to joining ESi, Ms. Estrada was responsible for different aspects of the design, preconstruction, construction, and commissioning phases of Design-Build and Design-Bid-Build projects for domestic and international clients. Previous projects include new construction and renovations in a variety of industries such as commercial facilities, railroad infrastructure, civil sitework, oil and gas, and drinking and wastewater treatment facilities. Further, she has performed analysis of underground and aboveground concrete structures, soil and soil-structure interactions, designed repairs for damaged structures and inspected and evaluated existing oil and gas and water/wastewater treatment facilities to determine the extent and scope of facility improvements.

Ms. Estrada has also worked for trade and general contractors, where she led the preconstruction and estimating department. In this role, she was responsible for developing and reviewing construction documents, contract agreements, construction schedules, and cost estimates, performing risk analysis, and determining the cause and effect of project delays or issues. She also has experience providing general oversight and direct management of construction projects, including day to day activities, construction safety, identification and analysis of constructability issues and constraints, and coordination and logistics on multidisciplinary projects.

Ms. Estrada is fluent in Spanish and English.

*October 2023*

## **Areas of Specialization**

Alternative Delivery Projects (DB – DBO)  
Accidents in Construction Environments  
Concrete and Cement Materials  
Construction and Project Management  
Construction Costs and Techniques Analysis  
Construction Defects  
Collapse and Structural Failure Investigations  
Code Compliance  
Civil Infrastructure  
Inspection and Evaluation of Structures  
Material Analysis and Testing  
Multi-disciplinary Failure Analysis and Investigation  
Rehabilitative and Repair Design  
Structural Evaluation of Buildings (Residential and Commercial) and Industrial Structures

## **Education**

Georgia Institute of Technology  
    Doctor of Philosophy, Structural Engineering, Mechanics, and Materials, expected graduation  
    December 2025  
Massachusetts Institute of Technology  
    Master of Engineering, Structural Mechanics, and Design, 2018  
Florida International University  
    Bachelor of Science, Civil and Environmental Engineering, 2015

## **Licensed Professional Engineer (P.E.)**

State of Georgia ..... License No. 046580  
State of Alabama           License No. PE53425

## **Additional Training and Certification Courses**

CXLT Certification Program – Certified XL Tribometrist, 2019  
OSHA 30-hour Construction Safety Training

## **Positions Held**

Engineering Systems Inc. (ESi), Peachtree Corners, Georgia  
Senior Consultant, 2023 – Present  
Senior Staff Consultant, 2021 – 2022  
Staff Consultant, 2019 – 2020

AECOM – Design Build Group, Chelmsford, Massachusetts  
Project Engineer, 2018 – 2019

Gonzalez and Sons Equipment, Inc., Miami, Florida  
Chief Estimator, 2015 – 2017  
Assistant Project Manager, 2013 – 2015

## **Teaching and Research**

Georgia Institute of Technology  
Graduate Research Assistant, 2021 – Present  
Structural Engineering and Mechanics of Materials Laboratory  
Teaching Assistant  
Historic Structures, Summer 2022  
Introduction to Structural Engineering, Summer 2022  
Guest Lecturer  
Construction Materials  
Cable Structures  
Rehabilitation and Repair of Existing Structures

Massachusetts Institute of Technology  
Graduate Researcher, 2017 – 2018  
Topology Optimization Lab, Department of Civil and Environmental Engineering

## **Professional Affiliations**

American Concrete Institute, Member  
American Society of Civil Engineers, Member  
American Railway Engineering and Maintenance of Way Association – Associate Member  
Precast / Prestressed Concrete Institute, Member  
Subcommittee Member – Manual for the Evaluation and Repair of Precast, Prestressed  
Concrete Bridge Products.  
Structural Engineers Association – Georgia Chapter, Member  
Structural Engineering Institute, Member

**Publications**

**Estrada, Diana**, et al. "Multi-Story Wood Construction – What Can Go Wrong" DRI Product Liability Conference, 2019.

**Estrada, Diana**. "Conceptual design of a deployable vehicular bridge structure using shape and geometric optimization for post disaster relief applications" Massachusetts Institute of Technology, Master's Thesis, 2018.