



DIANA ESTRADA, P.E.
SENIOR MANAGING CONSULTANT
DIRECTOR, CIVIL/STRUCTURAL

destrada@engsys.com

Ms. Estrada is a Senior Managing Consultant and Director with Engineering Systems Inc. (ESi). Ms. 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 bridges and civil infrastructure. She also works on matters involving code compliance and incidents in construction sites and the construction environment.

Ms. Estrada performed research in the failure, residual capacity, and repairs of concrete structures. Her research involved non-destructive in-situ evaluation of damaged members, design and destructive multi-scale static testing of damaged concrete members, 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.

January 2025



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
Multi-disciplinary Failure Analysis and Investigation
Rehabilitative and Repair Design
Structural Evaluation of Buildings (Residential and Commercial) and Industrial Structures

Education

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. PE046580
State of Alabama License No. PE53425

Positions Held

Engineering Systems Inc. (ESi), Peachtree Corners, Georgia
 Director, 2024 - Present
 Senior Managing Consultant, 2025 – Present
 Senior Consultant, 2023 – 2024
 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, January 2021 – May 2024

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.

Additional Training and Certification Courses

CXLT Certification Program – Certified XL Tribometrist, 2019

OSHA 30-hour Construction Safety Training