

MICHELE J. STEIN, P.E.

Associate Principal



Summary

Michele Stein is the leader of Thornton Tomasetti's Orlando office. She is a licensed professional engineer in seven states with over 20 years of experience in geotechnical analysis and design, municipal engineering and construction services, and higher education. She has taught engineering courses for over 15 years. Her geotechnical expertise is in subsurface exploration programs, deep and shallow foundations, slurry walls, ground improvements, settlement analysis, slope stability, landfills and retaining walls. Her expertise expands into municipal design and construction projects, including utilities, pump stations, inflow/infiltration, stormwater, paving operations, transportation improvements, bridge replacements, and creating documents for bid, contracts and litigations involving utility and roadway easements. Michele was formerly an adjunct professor at the University of Central Florida and is currently an adjunct professor at Middlesex Community College.

Areas of Technical Expertise

- Geotechnical Engineering
- Forensic Engineering

Education

- M.S., Civil Engineering, 2002, University of Massachusetts at Lowell
- B.S., Civil Engineering, 1999, Merrimack College
- OSHA 40-hour, 10-hour, and Confined Space Training

Registrations

- Licensed Professional Engineer in AL, FL, MA, MO, NC, SC, TN and TX

Professional Activities

- Adjunct Professor, University of Central Florida, 2021-2022. Lecturer, "Introduction to Construction Management." Performed "Fundamentals of Engineering" review sessions for "Ethics and Engineering Economics."
- Department Chair of Computer, Engineering and Technology, Middlesex Community College, 2016-2021.
- Chair, Engineering Advisory Board, Middlesex Community College, 2016-2021.
- Adjunct Professor, Middlesex Community College, present.
- Tenured Professor, Middlesex Community College, 2014-2021. Courses taught include "Introduction to Engineering, Statics and Strength of Materials."
- Adjunct Professor, Merrimack College, 2006-2015. Courses taught include "Soil Mechanics, Geotechnical Engineering, Geology, Environmental Engineering, Engineering Economics, Ethics and Senior Capstone."
- Committee Member of Women in Deep Foundations (WIDF)

Select Project Experience

Geotechnical Engineering

Overlook Ridge/Rowe Quarry, Revere/Malden, MA.*

Performed preconstruction/preblast surveys, geotechnical field services and QA/QC for site work of 100-acre parcel with 2,400 apartments and 150,000 square ft. of retail/office space.

East Side Water Treatment Plan, Sunnyvale, TX.*

Responsible for QA/QC of lime/fly-ash (L/FA) pressure injections for slope stabilization of multiple water levees.

Cambridge Research Park, Cambridge, MA.*

QA/QC of soil remediation of the site, construction oversight of slurry wall installation of the 5-level underground garage, monitored and analyzed instrumentation to ensure minimal movement to the walls and the surrounding structures.

Providence Water, West Warwick, RI.*

Monitored installation of cast-in-place mini piles including identifying pile locations, verifying final depth below ground surface, quality control and preparing daily field reports.

One Backlands, East Boston, MA.*

Observed subsurface investigations for proposed commercial development by using geoprobes. Classified subsurface materials, identifying contaminations and sampling for laboratory analysis. Team determined limits of contaminates for off-site removal and treatment.

Bennington Bypass North, Bennington, VT.*

Performed engineering evaluations and prepared design reports for new roadways and bridges. Activities were associated with reinforcement of steep slopes, design of deep foundations, recommendations for design of mechanically stabilized earth (MSE) walls and cut and fill slope recommendations.

Forensic Engineering

Eight Seven Adjacent Coast, Surfside, FL.

Observed multichannel analysis of seismic waves (MASW) analysis and resistivity mapping on Champlain Tower Foundation slab.

*Denotes work performed with previous employer.

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Pool Deck Distress, Bonita Springs, FL. Reviewed documentation to investigate premature distress experienced at pool deck to formulate opinion for client and prepare written report.

Construction Defect for Home Owners Association, Davenport, FL. Performed site visit and reviewed documentation to investigate drainage and stormwater systems for residential community.

City Place II Parking Garage, Creve Coeur, MO. Reviewed documentation to investigate if soil erosion from infiltration of a sewer line caused the structural distress on foundation slab and column at the parking garage. Formulated opinion for client and prepared written report.

Duck River Dam, Cullman County, AL. Reviewed documentation for leaks in the RCC dam to formulate and write an opinion for the client on the cause.

Green Mount Crossing Mine Mitigation, O'Fallon, IL. Investigated available mine grouting documentation including design, specifications, and as-built documentations. Evaluated the scope, design and methods for mine grouting operations performed for mine subsidence claim.

1595 Pipe Jacking Alignment Issue and Settlement, Davie, FL. Provided expert opinion related to the SR-84 Settlement due to microtunneling operations involving 72-inch and 48-inch nominal diameter pipes below a highway during construction.

Wyndham Grand, Clearwater, FL. Reviewed existing plans and design for hotel foundation. Analyzed vibroreplacement stone column ground improvements for design and parameters of shallow foundation portions of building.

Houston Water Works Team v. Barnard, Houston, TX. Reviewed documentation to formulate expert opinion on various construction delay claims such as the denial for factory cutting a 108-inch RW line and using a Butt-strap for a challenging installation, the design of the exit shaft cofferdam and the crossing of the 108-inch water transmission line over the existing 66-inch water pipe.

Terminal Internacional de Fluidos de Tuxpan—TIFT, Tuxpan, Veracruz, MEX. Reviewed documentation and final report for the settlement litigation of the fuel storage tanks located at the Terminal Internacional de Fluidos de Tuxpan.

Municipal Public Works

Asbestos Concrete Water Main Replacement, Tewksbury, MA.* Created, managed and updated the 5-year capital improvement plan for a 21.1 square mile municipal town with over 31,000 residents. Duties included planning for the removal and replacement of AC pipe, reviewing design proposals, approvals for permitting and construction as well as onsite inspection during installation.

River Road Asbestos Concrete Water Pipe Break, Tewksbury, MA.* Responsible for the direction to the water department and public works for the emergency repair and reconstruction of the hillside above Trull Brook and River Road due to an 8-inch AC water main break. The roadway and the slope supporting the roadway and underground utilities had washed out due to an aging AC water main pipe that had broken due to a change in pressure in the distribution system.

\$99 Million Sewer Expansion Project, Tewksbury, MA.* Responsible for development planning phase to completion and execution of sewer utility system. Involved field inspections, project management planning meetings, public meetings and easement litigations.

Colonial Drive Water Tank, Tewksbury, MA.* Owner's project manager for 5 MG water tank. Involved from planning stages to execution. Water tank required ground improvements prior to construction involving vibrocompaction. Mediation for ground improvements was required.

Stormwater Management, Dunstable, MA.* Executed stormwater management program for the town to maintain compliance with EPA's MS4 NPDES permit requirements.

Sworn Testimony

Deposition and Mediation, The Dow Co. v. Town of Tewksbury, MA, regarding cost overrun for vibrocompaction ground improvement prior to installation of 5 MG Water Tank. 2011.

Select Papers, Lectures and Publications

"Evaluation of Risks from Adjacent Construction" Florida Bar CLE presentation. November 15 & 28, 2022 (co-presenter)

"The Importance of Instrumentation and Monitoring Towards Forensics," Annual ASCE Conference. July 2022 (co-presenter)

"Axial Capacity of H-Piles," National Academies NCHRP 24-17, Paikowsky and Jodar. Summer 2002 (author)

"Lime/fly-ash (L/FA) Pressure injections for slope stabilization," lunch and learn for consulting firm East Side Water Treatment Plant, Sunnyvale, TX. 2002 (presenter)

"Slurry wall installation," lunch and learn for consulting firm Cambridge Research Park, Cambridge, MA. 2003 (presenter)

CONTACT

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