



MARK R. MADGETT, P.E.
Senior Engineer



Professional Experience

Joined DBA 2016
Total years of experience: 26
Branch Manager, Seaboard Foundations, Inc., Blountville, Tennessee (2006-2016)
Geotechnical Department Manager, S&ME, Blountville, Tennessee (2003-2006)
Project Manager, Commonwealth Towers, Bristol, Tennessee (2002-2003)
Project Manager, SBA Network Services, Johnson City, Tennessee (2001-2002)
Project Geotechnical Engineer, S&ME, Blountville, Tennessee (1996-2001)
Staff Professional, S&ME, Knoxville, Tennessee (1994-1996)
Research Assistant, University of Tennessee, Knoxville, Tennessee (1991-1994)

Education

M.S., Civil Engineering, University of Tennessee, 1994
B.S., Civil Engineering, University of Tennessee, 1992

Professional Licensure and Certifications

Licensed Professional Engineer in Tennessee and New Jersey

Fields of Expertise

Design, construction, and load testing of driven piles, drilled shafts, micropiles, augercast piles and other deep foundations
Slope stability and excavation stability analyses in soil and/or rock
Ground improvement design
Field verification of deep foundations
Non-destructive testing of deep foundations

Major Projects

US 27 Bridges – Harriman, TN (2017) – Geotechnical Engineer performing on-site verification of construction and evaluation of non-destructive testing for two, drilled shaft supported bridges in karst conditions. Work included the evaluation of cross hole sonic logging (CSL) results, determination of structural integrity from test results, development of remediation plans, observation of remedial work, and post-remediation evaluation.

US 321 Bridge over Tellico Canal – Lenoir City, TN (2011-2012) – Lead Design Build Contractor/Geotechnical Engineer for the design and construction of a drilled shaft supported bridge in a highly vibration sensitive environment. Proposed foundation groups were less than 40 feet away from existing bridge foundations supported on shallow foundations in suspected blast disturbed rock. The design build team developed all structural loading, and completed the design of 72 inch diameter, rock-socketed drilled shaft groups to support the structural loads, and maintained the navigational channel requirements. The final design incorporated a drop-in cofferdam system that allowed the construction of the pile caps near the lake bottom, using the drilled shaft group to resist hydrostatic forces. The project was successfully completed in 2012.

US 74 Bridges over Alligator Creek – Wilmington, NC (2014-2015) – Construction manager for the drilled shaft foundation contractor, constructing 100 feet deep drilled shafts over a tidal creek using polymer slurry. Construction of the drilled shafts was particularly difficult due to the very loose condition of the Peedee Formation within the slurry supported excavations. The project required the implementation of specialty slurry mixes, and tooling to counter the effects of the soil conditions. This project included the use of post-construction CSL and coring verification to verify the structural integrity of the drilled shafts and was successfully completed.

Honolulu Rail Transit Project – Honolulu, HI (2017) – Geotechnical Engineer performing the evaluation of non-destructive testing for drilled shafts. This included the evaluation of section strengths based on CSL data, and determination of the structural capacity of drilled shafts. Additionally, geotechnical and structural remediation design was performed incorporating a “sister shaft”/cap system to restore the capacity of drilled shafts that did not attain the required structural capacity.

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Various Field Verification Projects – Eastern US (1995-Present) – As a project geotechnical engineer, observed the construction of over 2,000 drilled shafts in the field from initial excavation to final concrete and rebar placement for most structure types utilizing drilled shaft foundations. The majority of these shafts included OSHA-safe entry to observe bearing conditions in rock, and evaluate the suitability of the as-built conditions as they related to the geotechnical design. While this work emphasized the challenges associated with karst conditions, extensive understanding and experience of the challenges associated all physiographic provinces was attained for drilled shafts, and all deep foundation types.

Professional Memberships

Deep Foundations Institute (DFI)
Association of Deep Foundation Contractors (ADSC)

Selected Publications and Presentations

Siegel, T.C., Madgett, M.R. (2015). "Case History of Drilled Shaft Alternate for Tennessee Bridge," *Proceedings: The International Bridge Conference 34th Annual Conference*, pp. 535-542.