

Melinda Eason, PE

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Education

VILLANOVA UNIVERSITY

Doctor of Philosophy in Engineering

January 2023 - Present

UNIVERSITY OF KENTUCKY

Master of Science in Civil Engineering

May 2014

UNIVERSITY OF KENTUCKY

Bachelor of Science in Civil Engineering

December 2012

Professional Experience

U.S. ARMY CORPS OF ENGINEERS (USACE) – Philadelphia, PA

Geotechnical Engineer

07 January 2019 to Present

- ◆ Perform dam and levee annual inspections with team in various dams and levees. Inspection includes assisting in data collection and contribute to inspection report.
- ◆ Conduct canal and creek annual inspections to verify local sponsor project maintenance and provide recommendations to remain eligible for the PL 84-99 Rehabilitation and Inspection Programs. Inspections include field data collection and prepare inspection report.
- ◆ Perform field annual inspection to collect periodic inclinometer readings for landslides along the canal. Assist in inspection report and data collection.
- ◆ Conduct District Quality Conduct (DQC) review on dams Semi-Qualitative Risk Assessment SQRA reports.
- ◆ In charge of reviewing technical geotechnical transmittals for beach fill nourishment projects.
- ◆ Project Delivery Team (PDT) member as a Geotechnical Engineer in various feasibility studies by performing analyses and contributing to portions of the reports.
- ◆ Project Delivery Team (PDT) member as a Geotechnical Engineer in all Delaware and some of New Jersey's beach nourishment projects by performing sand analyses and contributing to portions of the reports.
- ◆ Perform geotechnical analyses and using geotechnical software such as LPILE, GRLWEAP, CWALSHT, and ArcMap to evaluate design and recommendations.

HDR – Plymouth Meeting, PA

Geotechnical EIT

14 November 2016 to 21 December 2018

- ◆ Project manager on PennDOT Projects as the geotechnical engineer which include primary point of contact of stakeholder, and manage the exploration and laboratory testing programs, coordinated field work, input field logs into gINT, and assigned laboratory testing on selected soil samples.
- ◆ Assisted in developing the drilling program by following the bidding process to select PennDOT approved contractor to drill borings.
- ◆ Assisted in structure foundation design of various bridge and sign structures.
- ◆ Performed the geotechnical analyses for various deep and shallow foundation structures.
- ◆ Completed various Foundation Submissions for various bridge and sign structures.

- ◆ Inspected drilling operations as well as supervised sampling and drilling procedures for multiple Geotechnical Investigation projects.

S&ME – Columbus, OH

Staff Professional

05 January 2015 to 04 November 2016

- ◆ Performed subsurface investigations for commercial and industrial buildings and structures including retaining walls, and earth reinforced slopes.
- ◆ Project manager on ODOT road projects by planning and conducting subsurface investigations, stability analyses, and foundation design for state, county, and municipal bridges, culverts, and roadways.
- ◆ Analyzed subsurface information and prepared recommendations for both shallow and deep foundations.
- ◆ Conducted subgrade evaluations and developed pavement designs for highways, streets and parking lots.
- ◆ Prepared proposals and technical reports for geotechnical projects under the supervision of a Professional Engineer.
- ◆ Inspected drilling operations as well as supervised sampling and drilling procedures for multiple Geotechnical Investigation projects.

STANTEC – Lexington, KY

Geotechnical Engineering Intern

March 2011 to April 2014

- ◆ Performed slope stability analyses using Geostudio for various TVA dams to ensure adequate factor of safety.
- ◆ Supervised a 9-day drilling and coring crew using sonic drilling which included recording soil and rock samples and completing field boring logs.
- ◆ Assisted experienced Professional Engineer in performing subsurface soil investigation.
- ◆ Assisted with documenting right of way information, quantified earthwork, asphalt, concrete, and other bid items. Prepared data summaries, calculated on the spreadsheet and analyzed results.
- ◆ Performed QA/QC under QC manager for TVA Dams to ensure all plans and specifications were met.
- ◆ Performed cost estimator on several projects and conducted traffic counts for traffic study.

UNIVERSITY OF KENTUCKY– Lexington, KY

Research Assistant

January 2009 to April 2014

- ◆ Graduate Research – Performed a geophysical testing method (SASW) at selected sites in Leogane, Haiti to measure shear wave velocity. This included analyzing the data, performed seismic site response analysis, and determined the soil classification of each location. The results were provided to the structural engineers in Haiti.
- ◆ Undergraduate Research – Used the electrical and electromagnetic instruments such as the Trident Moisture Meter (TMM) and HydroProbe to develop linear models for various soil samples to relate the measurement taken by the instruments to the actual oven moisture content of the soils. The research findings were published in a geotechnical journal.

Publications and Presentations

Jean-Louis Eason, M. et. Al. (2024). “Understanding Urbanization's Impact: Flood Hydrograph Analysis in Darby-Cobbs Creek Watershed, Eastwick Philadelphia,” Poster Presentation, VUSP Stormwater Symposium 2024, Villanova, PA, 16-17 October 2024.

Kalinski, M. E., Jean-Louis, M. and Lissade, H., (2014). “Transferring Technology for Surface Wave Testing and Seismic Site Response Analysis in Haiti,” *The Leading Edge*, Vol. 33, No. 12, pp. 1378-1384.

Bryson, L.S., Jean-Louis, M. and Gabriel, C. (2012). “Determination of In-situ Moisture Content in soil from a Measure of Dielectric Constant,” *International Journal of Geotechnical Engineering*, Vol. 6, No. 2, 251-259.

Jean-Louis, M., Bryson, L.S., and Gabriel, C. (2011). “Determination of In-situ moisture content from a measure of the complex dielectric constant in soils”, *International Conference on Advances in Geotechnical Engineering*, Perth, Australia, 7-9 November 2011.

Jean-Louis, M. and Bryson, L.S. (2010). “Trident Moisture Meter: Linear Soil Model Generation and the Effect of Soil Compaction on the Models,” Poster and Oral Presentation, *24th National Conference on Undergraduate Research (NCUR)*, Missoula, MT, 15-17 April 2010.

Professional Registration

- ◆ Licensed Professional Engineer in Delaware.
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Professional Memberships

- ◆ Women’s Transportation Seminar (WTS) – Student Outreach Mentor
 - ◆ Villanova University – Graduate student peer mentor
 - ◆ ASCE G-I – Continuing Education Committee member
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Technical Skills

- ◆ SLIDE, GeoStudio, LPILE, gINT, AutoCAD, MicroStation, GRLWEAP, ArcMap, Openground, and RStudio.
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Professional Accomplishments

- ◆ Walter G. Neal, Jr. Memorial Scholarship – Engineer’s Club of Philadelphia - 2025
 - ◆ Bill Maher Memorial Scholarship ADSC 2024 - 2025
 - ◆ Carmen E. Turner award - WTS Philadelphia Graduate Scholar 2023
 - ◆ DoD SMART Scholar – U.S. Department of Defense (2023–Present)
 - ◆ Leadership Development Program (LDP) 2022-2025
 - ◆ International Conference on Advances in Geotechnical Engineering (ICAGE 2011)
 - ◆ 2010 Kentucky NSF EPSCoR Research Scholars Program (RSP)
 - ◆ 24th National Conference on Undergraduate Research (NCUR2010)
 - ◆ Fulbright Scholar – Destination Germany Summer 2009
 - ◆ Horatio Alger Association –KY state scholar 2008
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Certifications

- ◆ Project Management (USACE)
- ◆ HAZWOPER 40 Hour
- ◆ Visiting Scholar Program (VSP) Seminar on Drilling & Subsurface Exploration (USACE)
- ◆ Application of Engineering Geology Training Course (USACE)
- ◆ Seismic Stability of Earthen Dams (USACE)

- ◆ Instrumentation of Dams and levees (USACE)