

Laurel A. Hall, P.E.

SUMMARY OF CAPABILITIES

Sinkhole Evaluations
Geotechnical Engineering
Environmental Site Assessments
Construction Materials Testing

EDUCATION

B.S. Civil Engineering (Geotechnical)
University of Pittsburgh, 1978

REGISTRATIONS

Professional Engineer, Florida, #38392

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers

CERTIFICATIONS

Neutral Evaluator for the Florida Department of Financial Services
Woman-Owned Business (WMBE) with the State of Florida
WMBE and Small Business with Hillsborough County
Disadvantaged Business Enterprise (DBE) with the Florida Department of Transportation



AREAS OF SPECIALIZATION

GEOTECHNICAL ENGINEERING

- Slope Stability Analyses
- Surcharge Design and Analyses
- Embankment Design
- Geotechnical Explorations
- Dam & Levee Foundation Design
- Cellular Tower Foundation Analyses
- Settlement Analyses
- Roadway Soil Surveys
- Mechanically Stabilized Earth
- Shallow Foundation Analyses
- Bridge Foundation Analyses
- Drilled Pier Foundations
- Pavement Design
- Groundwater Monitoring Systems
- Driven Pile Foundations
- Driven Pile and Drilled Shaft Load Testing
- Channel Design

SINKHOLE EVALUATIONS

- Subsidence Investigation
- Expert Witness – Trial and Deposition
- Neutral Evaluation

ENVIRONMENTAL EVALUATIONS

- Phase I Assessment
- NEPA Assessment
- Phase II Assessment

PROFESSIONAL SUMMARY

Ms. Hall is the President and Principal Engineer of Ground Down Engineering, Inc. (GDE). She is the managing partner of GDE and her duties include management of the firm, technical review, as well as

project management and technical design and analyses for a wide variety of geotechnical and environmental studies for both public and private clients throughout west and central Florida. She has over 39 years of experience involving planning, management, and performance of geotechnical and environmental projects, analyzing and evaluating data and providing recommendations for over 8,000 geotechnical design projects. She has completed over 2,000 subsidence investigations for numerous insurance companies. In addition, she developed the entire sinkhole investigation program for a well-known large engineering company in Florida. Ms. Hall is a Neutral Evaluator for the Florida Department of Financial Services.

Prior to forming GDE, she was the branch manager and program manager of Nodarse and Associates, a Florida-based geotechnical engineering firm. The ten years prior to that were spent as the Geotechnical, Environmental, and Drilling department manager of the Tampa office of Law Engineering, Inc., a large, international geotechnical firm. Prior to moving to Florida in 1987, Ms. Hall worked for the United States Army Corps of Engineers in the Soil Mechanics Section of the Tulsa District. Upon her graduation from the University of Pittsburgh in 1978, she worked for Westinghouse Corporation and spent 5 years as the geotechnical engineer for both North American Coal Corporation and Republic Steel's Coal Mine Division.

- Sinkhole Evaluations for Insurance Companies throughout Florida – Chief Engineer and Principal Geotechnical Engineer for numerous subsidence/sinkhole evaluation projects. Duties include perform initial site inspection, drilling oversight, report production and review for subsidence investigation related projects. Responsible for determination of cause of damage and providing recommendations for remediation.
- Sinkhole Peer Reviews for Insurance Companies throughout Florida – Performs peer review services for numerous insurance companies, providing professional opinions on sinkhole reports prepared by other consultants. Often includes being named as an expert witness.
- Peer Review Services for Attorneys – Performs peer review services for attorneys providing input into the validity of proposed cases.
- Expert Witness Services for Attorneys – Acts as a consultant and expert witness for contested sinkhole projects.
- Tampa Amphitheater, Hillsborough County – Project Manager and Design Geotechnical Engineer for the geotechnical exploration and design. The project involved the design of a 35-foot high earth embankment amphitheater proposed for construction on a site underlain with organic peat.
- University of South Florida Eye Institute, Tampa - Project Manager and Design Geotechnical Engineer for geotechnical exploration and design. Sinkhole issues explored and innovative methods for dealing with potential sinkholes were developed and implemented. Using vibroflotation and the transfer of significant vibratory energy deep into the subsurface profile, pretriggered sinkholes prior to construction of the structure.
- Raymond James Football Stadium, Hillsborough County, Florida - Project Manager and Design Geotechnical Engineer for new \$168 million NFL football facility. Provided all geotechnical design services for the pile supported stadium, including designing and supervising the field exploration and testing program, performing axial (compression and tension piles) and lateral pile analyses, pile load testing, PDA analysis, and shallow foundation analyses. Acted as the geotechnical engineer during the foundation construction phase of the project, providing guidance to the architect, structural engineer, and the Tampa Sports Authority on correct installation of the driven piles, including providing driving criteria and predrilling recommendations.
- Dolphin Hotel, Walt Disney World, Florida - Design Geotechnical Engineer for irregularly-shaped, heavily-loaded structure on loose sands. She was responsible for designing and supervising the field exploration and testing program. Performed extensive settlement analyses and developed a surcharge program for the hotel structure and a deep dynamic compaction program for the ballroom structure to deal with the proposed settlement amounts. Performed surcharge monitoring and analyses and provided guidance for surcharge removal.
- University of South Florida Welcome Center, Tampa - Project Manager and Design Geotechnical Engineer for geotechnical exploration and design. She was responsible for designing and supervising the field exploration and testing program. Sinkhole issues explored and innovative methods for dealing with potential sinkholes were developed and implemented. Using Ground Penetrating Radar (GPR), recommended that the structure be moved 50 feet to the north to avoid a potential sinkhole as evidenced by subsurface anomalies revealed with GPR.
- University of South Florida Bioscience Building, Tampa - Design Geotechnical Engineer for geotechnical analyses for heavily-loaded multi-story structure. Sinkhole issues explored and innovative methods (vibroflotation) for dealing with potential sinkholes were developed and implemented. She was responsible for designing and supervising the field exploration and testing program. Performed geotechnical analyses and provided recommendations for shallow foundations designed to span 8-foot diameter dropouts in the event of sinkhole development.
- Blizzard Beach, Walt Disney World, Florida - Design Geotechnical Engineer for construction of a 100-foot high Tensar-reinforced sand mountain with slopes ranging from 4:1 to vertical. She was responsible for designing and supervising the field exploration and testing program. Performed intensive geotechnical analyses including numerous slope stabilities (global and internal), settlement analyses, auger-cast pile capacity analyses and recommendations and recommendations for design of laterally loaded piles on near vertical slopes.
- Districtwide Geotechnical Support Services Contract, Florida Department of Transportation, District 1 - Project Manager and Design Geotechnical Engineer for districtwide contract. Served as the design geotechnical

engineer for task order contract that included roadway design analyses and permeability testing and data reduction and recommendations. She was responsible for designing and supervising the field exploration and testing program.

- I-275 Widening Gandy to 9th Street, Tampa, Florida - Project Manager and Design Geotechnical Engineer for interstate widening for District 7 of the Florida Department of Transportation. She was responsible for designing and supervising the field exploration and testing program. Performed geotechnical analyses for bridge foundation design and roadway design including performing axial and lateral pile analyses.
- Boynton Beach Bridge Improvements, Boynton Beach, Florida - Project Manager and Design Geotechnical Engineer for the design of a replacement bascule bridge structure over the intracoastal waterway. She was responsible for designing and supervising the field exploration and testing program. Performed settlement analyses for the embankment which is to be constructed over peat. In conjunction with the State Geotechnical Engineer, devised an innovative structural system for supporting the roadway and the approach embankment walls on unsuitable soils. Also performed axial and lateral drilled shaft analyses for support of the bascule bridge structure.
- Tampa Road, Pinellas County - As Project Manager and Design Geotechnical Engineer, she was responsible for designing and supervising the field exploration and testing program. She performed geotechnical studies including a roadway soil survey, global and external stability analyses for mechanically stabilized earth embankments, and performed axial and lateral pile analyses for the bridge foundations.
- Veteran's Expressway, Hillsborough County - As Project Manager and Design Geotechnical Engineer, performed exploration and analyses for five sections of Expressway, including 15 bridges. She was responsible for designing and supervising the field exploration and testing program. Geotechnical challenges included support of roadways over left-in-place landfills using geogrid roadway support and deep dynamic compaction. Performed axial and lateral analyses for pile support of 15 bridge structures.
- I-4, Hillsborough County - Project Manager and Design Geotechnical Engineer for widening of I-4 from 50th Street to I-75, which included 13 bridge foundations, both overpass bridges and bridges over Tampa Canal. She was responsible for designing and supervising the field exploration and testing program. Performed geotechnical analyses for drilled shaft foundations over the Tampa Bypass Canal that included recommendations for installing drilled shafts through chert.
- Ulmerton Road, Pinellas County - Project Manager and Design Geotechnical Engineer for a roadway bridge including negative skin friction analyses and driven pile and settlement analyses. She was responsible for designing and supervising the field exploration and testing program. Provided recommendations for pile support of bridge structure on loose sands and clay subsurface materials.
- Ridge Road Extension, Pasco County - Project Manager and Design Geotechnical Engineer for design of new County roadway from Little Road to US 41. She was responsible for designing and supervising the field exploration and testing program. Performed roadway soil survey and bridge foundation analyses, including lateral and axial pile analyses.
- University of South Florida WUSF Addition, Tampa - Project Manager and Design Geotechnical Engineer for geotechnical exploration and design. Sinkhole issues explored and innovative methods for dealing with potential sinkholes were developed and implemented.
- Museum of Science and Industry IMAX Theater, Tampa - Project Manager and Design Geotechnical Engineer for geotechnical exploration for geodesic dome structure. She was responsible for designing and supervising the field exploration and testing program. Performed analyses of sinkhole potential and recommended innovative methods for dealing with potential sinkholes were developed.
- University of South Florida Alumni Center, Tampa - Project Manager and Design Geotechnical Engineer for geotechnical exploration and design for multi-story building. She was responsible for designing and supervising the field exploration and testing program. Sinkhole issues were explored by GPR and recommendations for siting of the building to avoid anomalies were provided.
- University Community Hospital Ob/Gyn Center, Tampa - Project Manager and Design Geotechnical Engineer for geotechnical exploration and design for multi-story building. She was responsible for designing and supervising the field exploration and testing program. Sinkhole issues explored and innovative methods for dealing with potential sinkholes were developed and implemented.

- Halstead Levee, Halstead, Kansas - Acted as the Design Geotechnical Engineer for the 25-mile long levee foundation design. Designed and performed field exploration program which included a test pit exploration on 100-foot centers along the entire levee alignment. Performed settlement, stability, and seepage analyses for the embankment sections. Designed levee embankment section which included clay core and chimney drain for seepage control.
- Great Bend Levee, Great Bend, Kansas - Acted as the Design Geotechnical Engineer for the 35-mile long levee foundation design. Designed and performed field exploration program that included a test pit exploration on 100-foot centers along the entire levee alignment. Performed settlement, stability, and seepage analyses for the embankment sections. Designed levee embankment section which included clay core and chimney drain for seepage control.