



Statement of Qualifications

GEOTECHNICAL **ENGINEERING**
ENVIRONMENTAL **CONSULTING**
CONSTRUCTION MATERIALS **TESTING**

Reed Engineering Group, Ltd.

Reed Engineering Group is a multi-disciplinary firm of environmental scientists, geologists, hydrogeologists, geotechnical engineers, engineering geologists, registered well drillers, laboratory personnel, drafters and construction materials testing technicians. This collaboration of geotechnical engineering, environmental consulting and construction materials testing enables the firm to provide consistent, quality service from the crucial beginning through the construction phase of property development for companies throughout the Dallas / Fort Worth / Denton area as well as north, central, east and west Texas.

Company History and Philosophy

Founded in 1988 on principles of honesty, integrity and service, the growth and success of Reed Engineering is a direct result of this commitment to excellence. The main goals, however, remain simple: maintain a quality work environment for employees and provide uniquely designed recommendations for each project. This philosophy has been positively reflected in both client and employee loyalty and a steady growth in a diversity of projects.

REED ENGINEERING GROUP

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INTRODUCTION

One important key to the performance of structures is the foundation. Successful design and construction of foundations for all structures involves detailed understanding of geologic and geotechnical principles. Reed Engineering Group combines the expertise from the disciplines of engineering, geology and hydrogeology to form a cohesive team of experts to uniquely address each site and project.

Mr. Reed has been in the business of providing geologic and geotechnical engineering services to the construction industry for over 35 years. His experience includes over 10,000 projects of all magnitudes, including:

- Large industrial facilities
- Residential subdivisions
- Earthen dams and creek bank stabilization
- Public facilities (schools, libraries, bridges, infrastructures, etc.)
- Private power generation, and
- High-rise (20+ stories) office, apartment and condominium buildings.

Various structures include the American Airlines maintenance hangars at DFW International Airport, the Blockbuster Video Distribution Facility (800,000+ square feet) in McKinney, Texas and 3225 Turtle Creek, a 22-story condominium building on Turtle Creek Boulevard in Dallas, Texas.

Applications of the principles of geology and sound geotechnical engineering have allowed Reed Engineering Group to consult on a wide variety of projects in diverse geographic areas. Consulting services and engineering expertise, including on-site drilling and testing, were provided in diverse environments such as Colorado, Florida, Pennsylvania, Mexico, Venezuela, and Sombrero Island, located in the West Indies. The Sombrero Island project, in particular, involved geologic exploration and development of geotechnical foundation recommendations for a proposed commercial satellite launching facility for Beal Aerospace.

DESCRIPTION OF SERVICES

From simple convenience store foundations to complex interactive foundations for dams or high-rise structures, sound geologic and geotechnical principles must be applied. Reed Engineering Group takes the responsibility of developing site and project recommendations seriously. For each project, no matter how simple or complex, we adhere to the following procedures:

- Definition of geologic setting, including review of historical data.
- Site-specific definition of geology and geotechnical parameters, which may impact the proposed structure or improvement.
- Analysis of the requirements of the proposed facility, and development of site and project-specific recommendations.
- Presentation of a clear and concise report of findings and recommendations.

Company assets and expertise were developed with the above purposes in mind. Reed Engineering Group possesses several resources that allow us to provide a high level of service in a timely and cost-effective manner.

Resources for Evaluation of Geologic Settings – Every site and project is unique, but general trends and past experience are important for evaluating geologic settings. In addition to an extensive in-house geologic and geotechnical library and access to the Internet, Reed Engineering Group has logged over 15,000 reports on projects within North Texas and the Southwest into its database. These reports have also been

scanned into a high-speed data retrieval system, allowing us to rapidly access these reports and review the geologic conditions in the vicinity of a proposed project. This data system not only provides an indication of geologic stratigraphy, but it also provides data on seasonal and yearly changes in soil moisture and ground water conditions. Both of these information sources are especially important when analyzing unsaturated soils, as is common in drier environments.

Resources for Specific Definition of Geologic Stratigraphy – Upon review of geologic history, a field investigation unique to the project and site is conducted. The investigation is designed to evaluate geologic stratigraphy, ground water conditions and soil properties, and to obtain samples for additional testing and analysis. The investigation may involve a variety of reconnaissance and/or exploration methods. Some of the methods commonly employed include:

- Drilling and sampling using conventional truck- and all-terrain-mounted and/or portable drill rigs.

- Electrical resistivity and/or seismic refraction.

- Visual geologic reconnaissance, both site-specific and through aerial photogrammetry. This method is used extensively on creek bank erosion remediation projects where geologic stratigraphy is exposed. This procedure was also employed to evaluate Sombrero Island for Beal Aerospace.

- Down hole resistivity and logging.

- Installation and monitoring of inclinometers and piezometers.

- Visual inspection of test pits and test bores.

Simple projects may employ only one or two of these procedures. More complex projects, where faults or joints may impact foundation construction or behavior, such as dams, tunnels, deep excavations and erosion control projects, will involve more complex methods to evaluate geologic conditions. Reed Engineering Group owns and operates state-of-the-art geotechnical exploration equipment, including seven drill rigs, three truck-mounted, three mounted on an all-terrain vehicles and one trailer-mounted. This diversity allows us to employ the exact type of equipment and manpower each project requires.

Resources for Definition of Geotechnical Parameters – Reed Engineering Group has a modern geotechnical testing laboratory that is completely staffed. The laboratory is equipped for standard classification tests and tests to evaluate shear strength, permeability and negative pore pressure (suction). Some of the types of equipment are identified below.

- Direct shear/unconfined compression and vane shear for strength determinations.

- Consolidation/absorption swell frames and consolidometers.

- Remolded FHA/UBC classification swell device.

- Pressure plates and calibrated filter paper for determinations of total and matric soil suction.

- CBR/standard and modified proctor and Harvard miniature compaction.

- Fixed and flexible wall perimeters.

A degreed soil scientist manages the geotechnical laboratory. The technical staff routinely attends both university short courses and in-house seminars.

Resources for Engineering and Analysis and Reporting – Presenting data and recommendations in a professional manner is key to Reed Engineering Group’s consulting services. In order to provide the highest quality data analysis and most reliable reports and recommendations, we maintain state-of-the-art equipment and retain a staff of seasoned professionals.

Regular use of computer technology allows for rapid analysis of data that is specific to the project. Analytical computer programs include:

- Two- and three-dimensional slope stability analysis.

- Finite element analysis for evaluation of unsaturated and saturated flow. This program is especially helpful in defining flow nets through complex stratigraphy.

- Finite element program for stress and deformation analysis of earth structures.

- Finite difference program for modeling ground water flow.

- Database program developed by the Environmental Protection Agency (EPA) for statistical analysis and ground water characterization by discrete sampling.

Reed Engineering Group’s geologic and engineering professional staff routinely attends seminars and participates in internal training programs. Through this process, our engineers and geologists continue to advance in their professions.

By design, our professional staff is comprised of a diverse mix of disciplines. This mix enables us to characterize any geologic setting and structural feature which may impact construction, site geology, soil and foundation conditions and ground water.

SELECTED LISTING OF PROJECTS

Reed Engineering Group has performed geotechnical investigations on over 5,000 projects throughout North Texas and Oklahoma. The following is a partial list of projects that illustrates the diversity of our experience.

PROJECT	CLIENT
3225 Turtle Creek Hall Street and Turtle Creek Boulevard, Dallas, Texas <i>One 20-story and two 17-story apartment buildings and one 6-story parking structure</i>	Genesis Real Estate Group
Blockbuster Video Distribution Center Redbud Boulevard and Wilmeth Lane McKinney, Texas <i>800,000 sf distribution center,</i>	CMC Commercial Realty Group
Lake Pointe Office and Tech Center Lakeway Drive and Bennett Drive Lewisville, Texas <i>75,000 sf, 2-story office building and 81,000 sf tech center</i>	CMC Commercial Realty Group
Frankford Distribution Center, Frankford Road and Commodore Drive Carrollton, Texas <i>Buildings I through III Ranging from 80,000 to 750,000 sf</i>	Argent Property Company
Dallas Spring Lakeway Drive and Corporate Drive Lewisville, Texas <i>88,000 sf office/warehouse building</i>	Dallas Spring c/o Raymond Construction Company
Stacy Road from SH 121 to Highway 75 with bridge at Cottonwood Creek Allen, Texas <i>Construction of roadway and bridge reconstruction</i>	Winkelmann & Associates
Mobile Telephone Towers Throughout North Texas area <i>Approximately 150 towers 75 to 500+ feet</i>	Southwestern Bell, SprintPCS and Huffman Communications

PROJECT	CLIENT
<p>Brookshire's Grocery Stores Throughout North Texas <i>84,000 sf building with associated parking</i></p>	<p>Brookshire Grocery Company</p>
<p>Sage Villa Apartment Complex Sage Road and Richmond Avenue Houston, Texas <i>One 30-story and one 6-story apartment building and one 5 1/2 level parking garage</i></p>	<p>Genesis Real Estate Group</p>
<p>Metro Center East Ben White Boulevard Austin, Texas <i>Buildings 5 through 9 office/warehouse buildings ranging from 50,000 to 150,000 sf</i></p>	<p>Zydeco Development c/o Raymond Construction Company</p>
<p>LakePointe Residences Waters Ridge and LakePointe Drive Lewisville, Texas <i>Eleven 2- and 3-story apartment buildings</i></p>	<p>Devon Companies</p>
<p>565 MacArthur Irving, Texas <i>10-story office and 2-story parking garage</i></p>	<p>Insignia Commercial Group</p>
<p>American Airlines Hangars 3 and 4 DFW International Airport Dallas/Fort Worth, Texas <i>200,000 sf maintenance hangars with support facilities</i></p>	<p>American Airlines c/o Frankfurt, Short, Bruza & Associates</p>
<p>East Texas Lignite Study Hallsville, Texas <i>Exploration</i></p>	<p>Halff Associates, Inc.</p>
<p>Birdville High School and Arts and Athletic Complex Mid Cities Boulevard and Precinct Line Rd. North Richland Hills, Texas <i>Approximately 220,000 sf school with stadium</i></p>	<p>Birdville Independent School District</p>

PROJECT	CLIENT
Proposed satellite launch facility Sombrero Island, West Indies <i>Foundation and geologic investigation for commercial launch pad and vehicle assembly building</i>	Beal Aerospace
Evaluation of floor movement Huntington, Pennsylvania <i>Engineering evaluation of 12 inches of movement associated with frost</i>	Flemming Companies c/o Notch + Associates
Woodlands on the Creek Apartments Jackson Branch of White Rock Lake Dallas, Texas <i>Stability analysis and erosion control structure</i>	Craig Olden, Inc.
Twin Creek Shopping Center McDermott Road and Highway 75 Allen, Texas <i>Approximately 220,000 sf shopping center</i>	Cencor Realty Services
Retail Development, Target and Home Depot Carrier Parkway and IH-30 Grand Prairie, Texas <i>Approximately 350,000 sf of retail space</i>	Mark 5 Development Corporation

GEOTECHNICAL ENGINEERING CLIENT REFERENCES

Reed Engineering Group has enjoyed strong client loyalty due directly to our focus on high quality service and individual client attention. Below is a list of client references

CLIENT	SERVICES PROVIDED
Argent Property Company	Geotechnical Engineering Environmental Consulting Construction Materials Testing
Brookshire Grocery Company	Geotechnical Engineering Construction Materials Testing
CMC Commercial Realty Group	Geotechnical Engineering Environmental Consulting
Cencor Realty Services	Geotechnical Engineering Environmental Consulting
Catellus Development Corporation	Geotechnical Engineering Environmental Consulting Construction Materials Testing
Myers & Crow Company, Ltd.	Geotechnical Engineering Environmental Consulting Construction Materials Testing
Raymond Construction Company, Inc.	Geotechnical Engineering Construction Materials Testing
Weber & Company	Geotechnical Engineering Environmental Consulting

RONALD F. REED, P.E.

EXPERIENCE

1988 - Present

Reed Engineering Group, Inc.

Dallas, Texas

President, Principal Engineer

Serves as project and principal engineer for numerous geotechnical and geological projects, including a 450,000 sf facility for Sherwin Williams; aircraft maintenance hangars at Dallas/Fort Worth International airport for American Airlines; an 850,000 sf facility for Blockbuster Video; 22 to 30 story high-rise structures in Dallas and Houston; and levee projects for the Cities of Garland and Arlington. Specialized studies include: slope stability analysis on the cribblock walls at Fair Park; rock slope analysis along White Rock Creek; slope analysis on a distress marine dock for the Port of Orange, Orange, Texas; and ground water movement in both saturated and unsaturated conditions.

1978 - 1988

Rone Engineers, Inc.

Dallas, Texas

Advanced from Staff Engineer to Senior Vice President

As Senior Vice President managed 16 personnel and was responsible for hiring, training, engineering. Managed profit and loss for the Dallas geotechnical engineering division, with annual sales in excess of 1.2 million dollars. Wrote over 1,500 investigative reports and supervised over 4,000 projects of all types including department stores; shopping centers; highways; bridges; airport pavements; high-rise buildings; landfills; and dams. Specialties include: distress analysis; use of soil/structure interactive programs; definition/mapping of unconfined groundwater; and in-situ testing methods.

Developed the trench safety program for the Trinity River Authority of Texas, and served on the panel which developed the City of Dallas' trench safety program.

1976 - 1978

Pittsburgh Testing Laboratory

Dallas, Texas

Engineer In Training

Conducted basic soil investigations and foundation analysis on small to medium sized projects in the Dallas Fort Worth area. Supervised construction inspection for South Texas nuclear power plant in Bay City, Texas.

AWARDS

John B. Hawley Award for Technical Paper of Outstanding Merit. Presented by the American Society of Civil Engineers, Texas Section. 1994.

Outstanding Young Engineer of the Year. Presented by the Texas Society of Professional Engineers. 1983.

PUBLICATIONS

“Alternative Subgrade Design for Pavements in Expansive Soils” Reed, R.F., *Presented to Texas Section, ASCE, April, 2011.*

“Lessons Learned from Distress of Foundations on Expansive Clays in the Active Zone” Reed, R.F., Tand, K.E., Vipulanandan, C., *Presented to ASCE, “Geo-Frontiers 2011”, Dallas, Texas, March, 2011.*

“Expert or Litigation ‘Hit-Person?’” Reed, R.F., Fall, 2010, *Proceedings of ASCE Texas Section Meeting, El Paso, Texas.*

“PTI Design Procedure, Why Should We Care?” Reed, R.F., Spring, 2010, *Proceedings of ASCE Texas Section Meeting, Austin, Texas.*

“Predicting Soil Suction Profiles Using Prevailing Weather.” Reed, R.F., Fall, 2009, *Proceedings of ASCE Texas Section Meeting, Houston, Texas.*

“Observed Soil Suction Profiles Within North Texas.” Reed, R.F., Spring, 2009, *Proceedings of ASCE Texas Section Meeting, South Padre Island, Texas.*

“Observations on the PTI 3rd Edition Design Procedure.” Reed, R.F., Fall, 2008, *Proceedings of ASCE Texas Section Meeting, Dallas, Texas.*

“Observations on the Measurement and Use of Soil Suction.” Reed, R.F., Spring, 2007. *Proceedings of ASCE Texas Section Meeting, Tyler, Texas.*

“Alternative Earthwork Procedure for Expansive Soils.” Reed, R.F., 2006. *ASCE Specialty Conference, Phoenix, Arizona.*

“Effect of Environmental Changes on Depth of the Active Zone.” Reed, R.F., 2005. *Proceedings of ASCE Texas Section Meeting, El Paso, Texas.*

“The Role of Soil Suction in the Performance of Clay Fill.” Reed, R.F. and Pandey, K.K., 2003. *Proceedings of ASCE Texas Section Meeting, Dallas, Texas.*

“Alternative Earthwork Procedure for Expansive Clay.” Reed, R.F., 2002. *Proceedings of ASCE Texas Section Meeting, Waco, Texas.*

“Time Related Heave Observations and Implications on Current Heave Prediction Models.” Woodworth, M.G. and Reed, R.F., 2000. *Proceedings of ASCE Texas Section Meeting, El Paso, Texas.*

“Analysis of Clay Fill Using X-Ray Technique.” Phipps, J.F. and Reed, R.F., 2000. *Proceedings of ASCE Texas Section Meeting, El Paso, Texas.*

“Prediction of Heave Using ‘Effective’ Stress.” Reed, R.F., 2000. *Advances in Unsaturated Geotechnics, Proceedings of Sessions of Geo-Denver, ASCE, Geotechnical Special Publication No. 99.*

“Impact of Climatic Variation on Design Parameters for Slab on Ground Foundations in Expansive Soils.” Reed, R.F. and Kelley, M., 2000. *Advances in Unsaturated Geotechnics, Proceedings of Sessions of Geo-Denver, ASCE, Geotechnical Special Publication No. 99.*

“Evaluation of Pile Load Test in the Beaumont Formation.” Reed, R.F. and Pandey, K.K., 1999. *Proceedings of ASCE Texas Section Meeting, Midland, Texas.*

“Prediction of Heave Using ‘Effective’ Stress.” Reed, R.F., 1997. *Proceedings of ASCE Texas Section Meeting, Arlington, Texas.*

Ronald F. Reed (*Cont.*)

“Post-Construction Effects of Pre-Existing Trees.” Reed, R.F and Phipps, J., 1996. *Proceedings of ASCE Texas Section Meeting, San Antonio, Texas.*

“Application of Soil Suction in Dallas/Fort Worth.” Reed, R.F and Kelley, M., 1995. *Proceedings of ASCE Specialty Conference. “Soil Suction Application in Geotechnical Engineering Practice.”* San Diego, California.

“Application of Soil Suction in Dallas/Fort Worth.” Reed, R.F. and Kelley, M., 1995. *Proceedings of ASCE Texas Section Meeting. Waco, Texas.*

“Comments on PTI Design Criteria.” Reed, R.F. and Kelley, M., 1994. *Proceedings of ASCE Texas Section Meeting. Lubbock, Texas.*

“Is it Time to Get the Cities Involved?” Reed, R.F., 1994. *Proceedings of ASCE Texas Section Meeting. Corpus Christi, Texas.*

“Long Term Building Performance Over an Injected Subgrade.” Reed, R.F., 1988. *Proceedings of Second International Conference on Case Histories in Geotechnical Engineering.* University of Missouri at Rolla. Rolla, Missouri.

“Roadway Performance in an Expansive Clay.” Reed, R.F., 1987. *Transportation Research Record 1137, Soil Mechanics Considerations in Arid and Semi-Arid Areas.* Transportation Research Board.

“Evaluation of a Slide in Unweathered Shale.” Reed, R.F., 1986. *Proceedings of ASCE Texas Section Meeting, San Antonio, Texas.*

“Foundation Performance in an Expansive Clay Shale.” Reed, R.F., 1985. *Theory and Practice in Foundation Engineering. Proceedings of 38th Canadian Geotechnical Conference, Edmonton, Alberta, Canada.*

“Foundation Failures in Expansive Soils.” Reed, R.F., 1983. *Proceedings of ASCE Texas Section Meeting, Corpus Christi, Texas.*

“Swell Behavior of a Clay Shale.” Reed, R.F., 1982. *Proceedings of ASCE Texas Section Meeting, Fort Worth, Texas.*

“Wall Failure Analysis Using a Soil-Structure Interaction Approach: A Case History.” Reed, R.F., 1981. *Proceedings of ASCE Texas Section Meeting, Tyler, Texas.*

REGISTRATION

Registered Professional Engineer, State of Colorado, #34964.

Registered Professional Engineer, State of Arkansas, #9933.

Registered Professional Engineer, State of Kansas, #15721.

Registered Professional Engineer, State of Louisiana, #28619.

Registered Professional Engineer, State of Oklahoma, #18538.

Registered Professional Engineer, State of Texas, #48174.

Ronald F. Reed (*Cont.*)

PROFESSIONAL SOCIETIES AND ACTIVITIES

Member, Texas Society of Professional Engineers

Board Member - 1980 - 1989

President - 1988 - 1989

Member, National Society of Civil Engineers

Member, American Society of Civil Engineers

EDUCATION

University of Texas at Arlington, Arlington, Texas

Master of Science in Geotechnical Engineering, 1980

Syracuse University, Syracuse, New York

Bachelor of Science, Magna Cum Laude, in Civil Engineering, 1975

State University of New York at Syracuse University, Syracuse, New York

Bachelor of Science, Magna Cum Laude, in Forest Engineering, 1971

SHORT COURSES AND WORKSHOPS

Short Course, Dallas, Texas

“Grits/Stat - A Groundwater Information Tracking System.”

Environmental Protection Agency. 1992.

Short Course, Dallas, Texas

“Corrective Action for Containing and Controlling Groundwater Contamination.”

National Water Well Association. 1987.

Short Course, Rolla, Missouri

“Design of Earth and Rock Fill Dams.” University of Missouri at Rolla. 1984.

Short Course, Boulder, Colorado “Rock Mechanics.” University of Colorado at Boulder. 1980.

MILITARY SERVICE

United States Army, Lieutenant, Infantry, 1971 - 1974

F. WHITNEY SMITH, P.E., P.G.

EXPERIENCE

1989 - Present

Reed Engineering Group

Dallas, Texas

Vice President, Senior Engineering Geologist/Geotechnical Engineer

Manage Reed Engineering Group's staff of geotechnical engineers and engineering geologists, as well as Reed's drilling department and laboratory. Manage engineering geologic and geotechnical investigations, specializing in the areas of retaining wall and landslide stabilization and erosion control/slope stabilization along urban streams. Served as project manager for geotechnical investigations in Texas, Arkansas, Colorado, Pennsylvania, Venezuela, Mexico, and British West Indies. Projects include: geotechnical investigation for a commercial satellite launch facility, Sombrero Island, Anguilla; evaluation of frozen-soil-related heave, Fleming Freezer Building, Huntingdon, Pennsylvania; design and safety evaluation of earthen dams; rock and soil slope stability studies, landslide investigations, and geologic studies for development along the "White Rock Escarpment" in Dallas; ground-water characterization studies for Hunter-Ferrell and Garland landfills; down-hole geophysical studies for design of geothermal heat pump systems; delineation of unidentified landfill cells using surface geophysical techniques; forensic investigation of a failed soft-ground tunnel; ground-water characterization of landfills; geotechnical investigations for bridges, airport hangars, pipelines, cell towers, high-rise buildings, schools, single- and multi-family residential developments, office/warehouses, retail buildings, churches, and other multi-purpose structures.

Co-inventor of a composite gabion retaining structure for stabilization of high stream banks in limited access environments.

1988 - 1989

Rone Engineers

Dallas, Texas

Project Engineering Geologist

Performed field and office studies including resistivity and groundwater monitoring of landfills; forensic investigations of distressed structures on expansive soils; trench safety studies; geotechnical investigations for multi-purpose structures; and construction materials resource evaluations.

1985 - 1988

Mason - Johnston & Associates, Inc.

Dallas, Texas

Staff Engineering Geologist

Mapped and monitored deep excavations. Performed projects involving slope inclinometers, tieback load cells, extensimeters and vibration monitoring. Major Projects: engineering geologic evaluation of high-rise and multi-purpose structures; investigation and in-situ testing for the subway portion of DART system; managed investigation and prepared geologic report for DART City Place Station, which involved evaluation of the impact of a weak bentonite seam above the station invert and a thickened, weathered zone associated with faulting; participated in the development of the geologic portion for the Texas Super Conducting Supercollider site.

F. Whitney Smith, P.E., P.G. (Cont.)

AWARDS

Outstanding Engineering Geologist of the Year. Presented by the Texas Section of the Association of Engineering Geologists. 1995.

PUBLICATIONS

“State of the Art in Slope Analysis.” Smith, F.W. 1993. Field Trip Guide Book, Anatomy of a Growth Corridor: Geology, Environment and Engineering Along I-35 Between Dallas and San Antonio. *Proceedings of AEG Annual Meeting. San Antonio, Texas.*

“Structurally-Controlled Block Slide in a Cretaceous Clay Shale.” Smith, F.W. 1990. *Proceedings of AEG Annual Meeting. Pittsburgh, Pennsylvania (Abstract Only).*

“Stratigraphic Variability of the Manning Formation Exposed in the Lake Somerville Emergency Spillway Channel.” Smith, F.W. 1987 *Field Trip Reference Book: Selected References Pertaining to the Geology and Hazards of Part of Central Texas. Texas A&M University. College Station, Texas.*

“Large-Scale Block Sliding in Unweathered Eagle Ford Shale – A Case for Progressive Failure.” 2011. *Proceedings of AEG Annual Meeting. Anchorage, Alaska (Abstract Only).*

REGISTRATION

Registered Professional Engineer, State of Texas, #85658.

Registered Professional Geoscientist, State of Texas, #46

Registered Professional Geologist, State of Wyoming, #3037.

Registered Professional Geologist, State of Arkansas, #1614.

PROFESSIONAL SOCIETIES AND ACTIVITIES

Member, Association of Engineering Geologists (AEG)

Chairman, AEG, Texas Section - 1994 - 1996

Secretary, AEG, Texas Section - 1992 – 1994

Annual Meeting Committee (36th Annual Meeting) - 1992 - 1993

Editor, AEG, Texas Section Newsletter - 1990 - 1992

Member, Geological Society of America

Member, Geoinstitute of ASCE

Member, Texas Society of Professional Engineers (TSPE)

Member, National Society of Professional Engineers (NSPE)

F. Whitney Smith, P.E., P.G. *(Cont.)*

EDUCATION

Texas A&M University, College Station, Texas

Bachelor of Science in Engineering Geology, 1985.

SHORT COURSES AND WORKSHOPS

Short Course, Golden, Colorado

“Rock Slope Design for Mining and Civil Engineering Applications.”
Colorado School of Mines. 1990.

Short Course, Dallas, Texas

“Site Selection for Critical Facilities, the Earth Science Perspective.”
Geological Society of America. 1990.

Short Course, College Station, Texas

“Modeling of Groundwater Flow and Pollution.” Texas A&M University. 1991.

Short Course, San Antonio, Texas

“Safety Evaluation of Existing Dams.” AEG 36th Annual Meeting. 1993.

Short Course, Williamsburg, Virginia

“Rock Slope Stability.” AEG 37th Annual Meeting. 1994.

KUNDAN KUMAR PANDEY, PH.D., P.E.

EXPERIENCE

2002 - Present

Reed Engineering Group

Dallas, Texas

Senior Geotechnical Engineer

Managing geotechnical engineering projects for clients. Providing geotechnical engineering services at various phases of civil engineering projects.

2001-2002

PSI, Inc.

Tulsa, Oklahoma

Branch Manager

Managing geotechnical and construction material testing services for various private and public sector clients. Managing the overall operation of the branch office.

1997 - 2001

Reed Engineering Group

Dallas, Texas

Senior Geotechnical Engineer

Managing geotechnical engineering projects for various public and private sector clients. Prepare reports on various projects ranging from office/ warehouse, retail, commercial, highways, bridges, and schools to private residential buildings. Conduct engineering analysis that lead to economical design of foundation and support systems for the structures. Provide relevant geotechnical engineering consulting in civil, construction and environmental projects.

1989 - 1996

University of Oklahoma

Norman, Oklahoma

Graduate Assistant

Conducted research on geotechnical engineering research projects and assisted in classroom instruction of undergraduate and graduate level geotechnical engineering courses.

1991 - 1993

Standard Testing & Engineering

Oklahoma City, Oklahoma

Staff Engineer

Conducted geotechnical field and laboratory analysis of soils and prepared geotechnical reports.

Kundan Kumar Pandey, Ph.D., P.E. (Cont.)

1984 - 1989

Nepal Electricity Authority

Kathmaddu, Nepal

Civil Engineer

Conducted feasibility studies; detailed topographical surveys; geotechnical investigations, plans and designs; and supervised construction for Mini-Micro Hydroelectric Projects. Prepared technical reports on the projects.

PUBLICATIONS

“The Role of Suction in the Performance of Clay Fill,” Reed, Ronald F. and Pandey, K.K. 2003. *Proceedings of the 2003 Fall Meeting of the Texas Section of the American Society of Civil Engineers (ASCE)*, September 24 –27, 2003, Dallas, Texas.

“Resilient Characteristics of a Fly Ash Stabilized Marginal Aggregate Base,” Pandey, K.K., Zaman, M., and Laguros, J.G. 2003. *Proceedings of the 2003 Fall Meeting of the Texas Section of the American Society of Civil Engineers (ASCE)*, September 24 –27, 2003, Dallas, Texas.

“Evaluation of Pile Load Test in the Beaumont Formation,” Reed, Ronald F. and Pandey, K.K. 1999. *Proceedings of the 1999 Fall Meeting of the Texas Section of the American Society of Civil Engineers (ASCE)*, September 29- October 2, 1999, Midland Texas.

“Resilient Modulus and Layer Coefficients of Stabilized Aggregate Bases Resting on Subgrades.” Pandey, K.K., with Zaman, M. and Laguros, J.G. 1998. *Proceedings of the Fourth International Conference on Computational Structures Technology*. Edinburgh, Scotland.

“A Preliminary Assessment of Utilizing Fluidized Bed Ash in Landfill Liner Applications.” Pandey, K.K., with Canty, G.A., Atalay, A., Laguros, J.G., and Robertson, J.M. 1995. *Journal of Environmental Science and Health, A30(2)*.

“Fluidized Bed Ash as a Soil Stabilizer in Highway Construction.” Pandey, K.K., with Laguros, J.G., and Robertson, J.M. 1995. *Proceedings of a Specialty Conference Sponsored by the Geotechnical and Environmental Engineering Divisions of the American Society of Civil Engineers*.

“Use of Hydrated Fly Ash as a Soil Stabilizing Agent.” Pandey, K.K., with Laguros, J.G., and Chissoe, W. 1994. *Proceedings of the Annual Meeting of the American Power Conference*.

REGISTRATION

Licensed Professional Engineer, State of Texas, #82862.

Kundan Kumar Pandey, Ph.D., P.E. (*Cont.*)

PROFESSIONAL SOCIETIES AND ACTIVITIES

Member, National Society of Professional Engineers

Member, American Society of Civil Engineers

Member, Chi Epsilon, National Civil Engineering Honor Society

EDUCATION

University of Oklahoma, Norman, Oklahoma

Doctor of Philosophy in Civil Engineering, 1996

University of Oklahoma, Norman, Oklahoma

Master of Science in Civil Engineering, 1992

University of Roorkee, Roorkee, India

Bachelor of Engineering in Civil Engineering, 1984

SHORT COURSES AND WORKSHOPS

Third Annual Geotechnical Modeling Workshop. May 5-7, 2003, Calgary, Canada.

Design and Installation of Buried Pipes, May 10-11, 2001, San Diego, California.

Finite Elements in Geotechnical Engineering, March 12-14, 2000, Colorado School of Mines, Golden Colorado.

Lime Stabilization Workshop, March 18, 1999, Arlington, Texas.

Slop Stability and Stabilization Methods, February 17-19, 1999, Sacramento, California.

NAPAT INTHARASOMBAT, PH.D., P.E.

EXPERIENCE

2007 - Present

Reed Engineering Group

Dallas, Texas

Project Engineer

Manage geotechnical engineering projects for various public and private sector clients. Prepare reports on various projects from residential, commercial, retail and municipal projects.

2006-2007

Kleinfelder

Dallas, Texas

Graduate Engineer

Conducted geotechnical field and laboratory analysis of soils and prepared geotechnical reports. Performed slope stability and L-PILE analysis. Involved in pavement and retaining wall forensic studies.

2001 - 2005

University of Texas at Arlington

Arlington, Texas

Graduate Assistant

Conducted research on geotechnical engineering research projects and assisted in classroom instruction of undergraduate and graduate level geotechnical engineering courses.

Summer 1999

Ch. Karnchang Public Co., Ltd

Bangkok, Thailand

Engineer Intern

Performed quantity and cost estimates and geotechnical analysis and design of shallow foundations.

PUBLICATIONS

Puppala, A.J. and Intharasombat, N. "Pavement Instrumentation Studies to Address Expansive Soils Treatments." Invited Chapter, Special Edition, The 12th International Conference on Civil and Structural Engineering Computing, Aug. 30-Sept. 2, Rome, Italy, 2005.

Puppala, A.J., Intharasombat, N., Vempati, R. "Experimental Studies on Ettringite Induced Heaving in Soils." ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 31, No. 3, March, 2005, pp. 325-337.

Napat Intharasombat, Ph.D., P.E. (*Cont.*)

Puppala, A.J., Naik, B., Qasim, S., Williammee, R., Intharasombat, N. "Laboratory Investigations to Address the Use of Compost Amendments to Enhance Expansive Subsoils." ASCE Geotechnical and Special Publication, No. 127, ASCE 2004 National Conference, Baltimore, Maryland, October, 2004.

Puppala, A.J., Enayatpour, S., Vanapalli, S., Intharasombat. "Review of Current Methods for Swell Characterization of Subsoils for Transportation Infrastructure Design." Geo-Trans 2004, ASCE Geotechnical Special Publication, No. 126, Los Angeles, 2004, pp. 1105-1114.

Puppala, A.J., Wattanasanticharoen, E., Intharasombat, N., Hoyos, L.R., "Studies to Understand Soil Compositional and Environmental Variable, on Sulfate Heave Problems." Proceedings, Soil Rock America, 12th Pan American Conference on Soil Mechanics and Geotechnical Engineering, Boston, Massachusetts, June 22 - 25, 2003.

Intharasombat, N., Puppala, A.J., Naik, B., Williammee, R., "Innovative Compost Soil Treatment of Mitigating Highway Shoulder Cracking." Proceeding, Transportation Research Board Annual Meeting, CD ROM, National Research Council, National Academy of Science, Washington, D.C., January 2006.

REGISTRATION

Registered Professional Engineer, State of Texas, # 102136

Member, American Society of Civil Engineers

Member, Geo-Institute, ASCE

Member, Chi Epsilon, National Civil Engineering Honor Society

EDUCATION

The University of Texas at Arlington

 Doctoral Degree in Geotechnical Engineering, 2005

The University of Texas at Arlington

 Masters Degree in Civil Engineering, 2003

Chulalongkorn University, Bangkok, Thailand

 Bachelor Degree in Civil Engineering, 2000



INTRODUCTION

Reed Engineering Group has been providing environmental consulting services for over 18 years. Our staff consists of highly-trained and experienced professionals with diverse backgrounds, who are committed to attentive customer service and development of accurate and reliable investigations and reports. Reed's strength is in understanding our clients' project types and needs, and staying connected in mitigating minor issues before they become big problems. Additionally, Reed's staff has a fundamental understanding of what it takes to take a project from start to finish in the most time and cost effective manner. We have extensive experience with and knowledge of the geology, hydrology, and soils of the Dallas/Fort Worth Metroplex, as well as the remainder of Texas, Oklahoma and Louisiana.

Reed Engineering Group's environmental consulting experience covers a wide range of projects, spanning many environmental services. The following sections contain a brief description of each of the environmental services Reed Engineering Group provides.

DESCRIPTION OF SERVICES

Phase I Environmental Site Assessments (Phase I ESAs) – Reed Engineering Group's dedicated staff of environmental professionals has extensive experience in conducting all phases of environmental site assessments. Phase I ESAs evaluate the history of a property to determine if there are any Recognized Environmental Conditions (RECs) associated with the site, and to demonstrate proper due diligence in accordance with the American Society for Testing and Materials (ASTM) standards.

A Phase I ESA is a qualitative investigation conducted to identify RECs in connection with the potential on- or off- site sources at the subject property. A Phase I ESA report prepared by Reed contains a comprehensive presentation of all research results that include aerial and site photographs, topographic and geologic maps, site and area diagrams, Sanborn Fire Insurance Maps, and any other pertinent documentation necessary to convey an accurate depiction of the site setting and history. We conduct Phase I ESAs for a variety of property types, including residential, retail, commercial and industrial.

Phase II Subsurface Investigations (Phase IIs) – A Phase II ESA is a quantitative investigation designed to confirm the absence or presence of contamination on a property. Reed has conducted Phase II investigations at spill sites, retail fuel stations, dry cleaners, commercial and industrial facilities, retail centers and landfill areas. Activities associated with a Phase II ESA may include, but are not limited to, environmental drilling, monitor well installation, soil and groundwater sampling, and soil gas surveying and reporting.

Risk Assessments – Risk Assessment is the evaluation of a site to determine the potential for human health risks from impact by on- and off-site contaminants. Reed environmental personnel have completed risk assessments for commercial, retail, industrial and military clients and investigated LPST sites and VCP sites, as well as other hazardous waste sites. Reed risk assessments are conducted in accordance with applicable state and federal regulations.

Remediation Services – Reed Engineering Group's experience with remediation services includes evaluation, budgeting, design selection, and implementation of the most appropriate remediation technology for mitigating environmental hazards. Our environmental professionals have successfully assisted numerous clients in the design and implementation of remediation technologies, including soil vapor extraction, bioremediation, groundwater pump and treatment systems, and air sparging.

Site Closure Services – The goal for many properties that have undergone ESAs, risk assessment, and possible remediation is the designation of the site as “closed, no further action required” by the governing regulatory agency. Our environmental professionals have achieved site closure for clients who are selling properties, purchasing properties, and for clients who are responsible for post-sale remediation and monitoring. Reed has obtained multiple closures for facilities working with the Texas Risk Reduction Program (TRRP) and the Texas Commission on Environmental Quality (TCEQ) Voluntary Cleanup Program (VCP), Innocent Owner/Operator Program (IOP), Corrective Action Program, and Leaking Petroleum Storage Tank Program (LPST), amongst others. In addition, Reed has been at the forefront of the TCEQ Municipal Setting Designation (MSD) Program and has been the first Consulting Firm to obtain MSDs for the cities of Arlington, McKinney, North Richland Hills, Duncanville, and Denton as well as having obtained or worked with other surrounding cities including Dallas, Fort Worth, Euless, Grapevine, Colleyville, Irving, Grand Prairie, Carrollton, etc.

Underground Storage Tank (UST) Services – Reed Engineering Group Inc.’s environmental staff has extensive experience in baseline evaluations of UST facilities, UST removals, subsurface investigations of LPST sites, design and implementation of corrective action programs, risk-based corrective assessments, and site closures. All UST evaluations are conducted in accordance with the requirements of 40 CFR Part 280 and 30 TAC 334 and 350. Services include:

UST Site Investigations (On and Off Property) - Environmental drilling; monitor well installation; soil, air and groundwater sampling; soil gas surveys; aquifer testing; all phases of environmental reporting and regulatory notification.

Risk Based Assessment - Evaluation of a facility to determine the potential effects of LPST releases on human health and the environment.

Remediation Services - For each of the following services, Reed provides assistance with necessary permitting, regulatory interaction and reporting requirements: UST removal and excavation activities; cost analysis for remediation and closure; waste evaluation and disposal assistance or treatment options; and remediation system design.

Post-Remediation Management - Field sampling services; laboratory analysis; regulatory agency reporting; long-term remediation operation and maintenance; and waste evaluation and characterization prior to treatment and/or disposal.

Site Closure Services - In-place UST closure, plugging and abandonment of monitor wells, regulatory reporting.

Asbestos Services – Asbestos surveys are conducted for any renovation or demolition permitting, and may be conducted during property transactions. Additionally, limited asbestos sampling can be included on an “as needed” basis during our Phase I ESAs. During comprehensive asbestos surveys, potential Asbestos-Containing Materials (ACM) are visually and physically assessed for their condition, friability, and likelihood of disturbance. Each asbestos survey report provides detailed information on this assessment and on the potential for asbestos hazards at the facility. Reed Engineering Group houses licensed and experienced asbestos inspectors and asbestos management planners who produce accurate and timely reports.

Landfill Consulting Services – Reed Engineering Group has provided landfill consulting services in the Dallas/Fort Worth Metroplex for over 22 years. With our unique mix of geotechnical engineers, engineering geologists, geologists, and in-house drilling and laboratory services, we are able to offer design, testing, permitting, monitoring and remediation services for landfills. Our landfill services include:

Permitting for construction over closed/abandoned solid waste landfills

- Geologic and hydrogeologic evaluations
- Groundwater monitor system design
- Groundwater monitoring and well installation
- Background and assessment monitoring
- Landfill gas migration assessment studies
- Permanent landfill gas probe installation
- Soil liner design and testing
- Subtitle-D Permit package development, per 30 TAC 330
- Expert witness testimony

Wetland Delineation and Mitigation Services – The U.S. Army Corps of Engineers in the State of Texas maintains federal guidelines for a “no net loss” of our nation’s wetlands under Section 404 of the Clean Water Act. Therefore, any identified potential wetland must be investigated.

Routine Wetland Delineations are generally performed subsequent to a Phase I ESA, if potential wetland areas are identified during the Phase I ESA. During the Phase I ESA, potential wetland areas are identified through National Wetland Inventory maps, topographic maps, soil surveys, or are encountered during the site walkover.

Reed Engineering Group has experience with identifying, delineating, and permitting wetlands. With a strong working relationship with the U.S. Army Corps of Engineers Fort Worth District Office, Reed Engineering Group has served as the project manager for wetland projects, which include the actual delineation of the wetland, mitigation negotiations with the U.S. Army Corps of Engineers, and Section 404 permit acquisition.

Expert Witness Testimony – Reed Engineering Group has provided expert witness testimony regarding environmental impact to properties including evaluating the financial and health issues associated with the level of contaminant impact.

DESCRIPTION OF EQUIPMENT

To complement our environmental services, Reed Engineering Group maintains the most technologically advanced equipment necessary for field investigations. All Reed Engineering Group’s environmental scientists and technicians are OSHA trained and certified.

Reed’s fleet of field investigative equipment includes:

- Three all-terrain “swamp buggies,” suitable for environmental, geotechnical, hazardous materials investigations and wet conditions operations.

- Two truck mounted Mobile brand drill rigs.

- A Failing 1500 drilling rig equipped for depths of up to 250 feet.

- Concord “Little White Wagon” equipped with direct push technology.

- Vertical and slant coring capabilities.

- Standard 3-inch diameter Shelby tube, split spoon and NX-size, double-tube core sampling.

Four and 8-inch inside diameter hollow-stem augers for installation of monitoring wells in caving soil conditions.

Portable soil gas sampling probes and detectors for field evaluation of methane and volatile organic compound concentrations in soil, gas and air.

Portable photo-ionization detection meter (PID) for field evaluation of organic vapors.

Portable power washer for decontamination of equipment during environmental investigations.

SELECTED LISTING OF PROJECTS

PROJECT	CLIENT
Multiple locations throughout DFW Metroplex <i>Phase I and II Environmental Site Assessments (ESAs), Asbestos Surveys, UST Removals, VCP, MSD, IOP and other regulatory interaction; wetland delineations and permitting</i>	QuikTrip Corporation
Multiple locations throughout Texas <i>Phase I and II Environmental Site Assessments (ESAs), Asbestos Surveys, VCP, MSD, IOP and other regulatory interaction</i>	First Industrial Realty Trust
Proposed Target Stores throughout DFW Metroplex <i>Phase I and II ESAs, Asbestos surveys and wetland delineations and mitigations</i>	Weber and Company
Billingsley Arts Center Dallas, Texas <i>Phase I ESA, MSD, and VCP Closure</i>	Billingsley Company
Railport Business Park S.H. 67 and Railport Parkway Midlothian, Texas <i>Wetlands Delineations and Permitting</i>	Midlothian Development Board
Grand Plaza Shopping Center 3101 – 3129 Grand Avenue Dallas, Texas <i>Phase I and Asbestos Investigation</i>	City of Dallas – Economic Development
Various DFW Metroplex Sites <i>Phase I ESA's, Subsurface Investigations, and IOP, VCP, and other various Regulatory interaction</i>	Hunt Properties
6,000-Acre Tract Between Hwy. 80 & Interstate 20 Terrell, Texas <i>Phase I ESA and Wetlands Delineation</i>	Aperion Communities, LLP
Frankford Trade Center Farmers Branch, Texas <i>Environmental drilling on over 400 boreholes, methane monitoring, Methane Gas Membrane and Venting Design</i>	Argent Property Company

PROJECT	CLIENT
Multiple locations throughout Texas, Oklahoma, Louisiana and Arkansas <i>Phase I and II Environmental Site Assessments (ESAs) for loans on various properties</i>	Multiple Bank and Lending Institutions
Multiple locations throughout Texas, Oklahoma, Louisiana, Arkansas, and Kansas <i>Phase I Environmental Site Assessments (ESAs) for loans on various properties</i>	Healthcare REIT Institutions Shumaker, Loop & Kendrick, LLP
DFW Metroplex <i>Comprehensive asbestos surveys for multiple office/warehouse sites Phase I and II ESAs</i>	CMC Commercial Realty Group
Camelot Landfill Farmers Branch, Texas <i>Landfill design and permitting services, methane and landfill gas surveys, semi-annual ground water sampling and sanitary sewer negotiations</i>	The City of Farmers Branch
The Hills II Golf Course Lakeway, Texas <i>Wetland delineation</i>	Club Corp
Proposed Tom Thumb and Target Retail Stores Lewisville and Flower Mound, Texas <i>Phase I and II ESAs</i>	Direct Development
CVS Pharmacies DFW Metroplex	Gershmann, Brown & Associates, Inc.
Warehouse development Pinnacle Park Dallas, Texas	Hillwood Investment Properties Morning Park, Inc.
High-rise apartment and office/commercial sites Phase I and II ESAs, Dallas, Texas <i>Phase I and II ESAs, risk assessments, asbestos surveys and expert witness testimony</i>	Interinvest Companies, Inc
Various commercial properties Dallas, Fort Worth and Plano, Texas <i>Phase I ESAs and asbestos surveys, MSD and VCP</i>	Matthews Investments Southwest, Inc

PROJECT**CLIENT**

Dallas/Fort Worth Distribution Center and various property development sites
Grapevine, Arlington, Irving, Plano, Allen, Farmers Branch
and Richardson, Texas
Phase I and II ESAs
Lennar Homes
DFW Metroplex
Phase I and II ESAs

Myers & Crow Company, Ltd.

Papagos Development Company

Commercial and office/warehouse properties
Dallas, Garland, Arlington, Grand Prairie, Carrollton and Irving, Texas
Phase I, II and III ESAs, asbestos surveys, UST services and remediation services, dry cleaner facilities

Parker Equities, Inc.

Proposed office/warehouse buildings and proposed Dallas North Tollway booth
Addison, Irving, Plano, Richardson, Carrollton and Dallas, Texas
Phase I and II ESA's

Wilcox Properties, Inc.

Home Depot
North Richland Hills, Texas
Wetland Delineation and Mitigation

Winkelmann & Associates, Inc.

LISTING OF ENVIRONMENTAL CLIENT REFERENCES

CLIENT	SERVICES PROVIDED
QuikTrip Corporation	Environmental Consulting
Hunt Properties	Geotechnical Engineering Environmental Consulting
First Industrial Realty Trust	Environmental Consulting
Weber & Company	Geotechnical Engineering Environmental Consulting
Dover Cliff	Geotechnical Engineering Environmental Consulting
City of Farmers Branch	Environmental Consulting
Hillwood Investment Properties	Geotechnical Engineering Environmental Consulting
Hunter Equities	Geotechnical Engineering Environmental Consulting
The Retail Connection	Geotechnical Engineering Environmental Consulting
Quorum Equities	Geotechnical Engineering Environmental Consulting
Billingsley Company	Geotechnical Engineering Environmental Consulting
SEDALCO Construction Services	Geotechnical Engineering Environmental Consulting
IDI	Geotechnical Engineering Environmental Consulting
Interest Companies, Inc.	Environmental Consulting

CLIENT	SERVICES PROVIDED
Granberry Properties	Environmental Consulting
Matthews Investments Southwest	Environmental Consulting
Argent Property Company	Geotechnical Engineering Environmental Consulting Construction Materials Testing
Myers & Crow Company, Ltd.	Geotechnical Engineering Environmental Consulting Construction Materials Testing
Parker Equities, Inc.	Environmental Consulting
CMC Commercial Realty Group	Geotechnical Engineering Environmental Consulting

MARK D. SCHNEIDER

EXPERIENCE

1989 - Present

Reed Engineering Group

Dallas, Texas

Senior Environmental Specialist

Plan and manage all stages of Phase I and Phase II environmental site assessments (ESA's) and asbestos surveys. Responsibilities include site inspection; soil sampling; groundwater sampling; data analysis; file review; cost estimates and report preparation; and developing and maintaining relationships with new and existing clients.

Has completed more than 3,000 Phase I ESA's and asbestos surveys, including undeveloped land, urban developments, industrial facilities, commercial and retail facilities, automotive dealerships, and current and future residential properties throughout Texas

1978 - 1989

John H. Haynes & Associates, Inc.

Dallas, Texas

Engineering Technician

Conducted testing in both the field and laboratory. Tested soils, concrete, asphalt, and inspected drilled pier installations. Inspected reinforcing steel and water injection. Worked on projects involving full-time inspection, testing and control of large-scale earthwork projects

1975 - 1978

Soils and Engineering Services, Inc.

Madison, Wisconsin

Engineering Technician

Performed a variety of laboratory tests in conjunction with geotechnical and construction projects. Involved in field sampling and concrete testing. Served as primary geotechnical draftsman.

EDUCATION

Madison Area Technical College, Madison, Wisconsin

Associate Degree in Civil-Highway Technology, 1978

University of Wisconsin at Whitewater, Whitewater, Wisconsin

Bachelor of Science in Geography, 1973

Bachelor of Arts in English, 1973

Mark D. Schneider *(Cont.)*

SHORT COURSES AND WORKSHOPS

Short Course, Arlington, Texas

“Environmental Audits.” The University of Texas at Arlington. 1995.

Short Course, Arlington, Texas

“Environmental Site Assessments Workshop”. The University of Texas at Arlington. 1993.

Short Course, Arlington, Texas

“Asbestos Inspection and Management Planner.” The University of Texas at Arlington. 1993.

CERTIFICATION

Texas Licensed Asbestos Inspector and Management Planner, #20-5191.

Troxler Safety Course.

CHRISTOPHER S. McCASLIN, P.G., CAPM

EXPERIENCE

2010 - Present

Reed Engineering Group, Inc.

Dallas, Texas

Senior Geologist

Primary focus includes providing environmental services related to real estate due diligence and closure of contaminated properties through the Texas Commission on Environmental Quality (TCEQ). Duties include oversight, planning, budget preparation, client and regulatory interaction, and management of all aspects of environmental projects. Services include Phase I Environmental Site Assessments and Phase II Subsurface Investigations, Voluntary Cleanup Program (VCP), Innocent owner/Operator Program (IOP), Leaking Petroleum Storage Tank Program (LPST), and Municipal Setting Designations (MSDs). Extensive knowledge and experience with projects throughout the Dallas-Fort Worth Metroplex and Statewide with successful application of Texas Risk Reduction Program (TRRP) Rules; Petroleum Storage Tank (PST) Program Rules; and other federal, state, or local programs and/or requirements.

2003 - 2010

QORE, Inc

Dallas, Texas

Project Geologist

Performed all aspects of Phase I Environmental Site Assessments, Phase II Subsurface Investigations, environmental risk assessments, remediation project planning and implementation, closure of contaminated properties through local and state regulatory programs, MSDs, industrial stormwater compliance, and various local, state, and federal permitting. Responsibilities included project management and/or execution of field activities. Aspects of project management consisted of project proposal/design and work plans; planning, coordination, and oversight of technical activities; and report preparation. Projects were conducted throughout the U.S. including: Arizona, California, North and South Carolina, Colorado, Connecticut, Florida, Georgia, Illinois, Louisiana, Maryland, Nevada, Ohio, Oklahoma, New Hampshire, Texas, and Washington.

REGISTRATION

Registered Professional Geologist, State of Texas, #10490.

Texas Commission on Environmental Quality LPST Corrective Action Project Manager (CAPM No. 392).

EDUCATION

University of Texas at Dallas, Richardson, Texas

Bachelor of Science in Geosciences, 2003

Christopher S. McCASLIN, P.G., CAPM *(Cont.)*

SHORT COURSES AND WORKSHOPS

“Vapor Intrusion Pathway: A Practical Guideline.” 2008, Portland, Oregon.

CERTIFICATION

40 Hour HAZWOPER

8 Hour HAZWOPER Refresher

KAREN HARVEY

EXPERIENCE

2011 - Present

Reed Engineering Group

Dallas, Texas

Geologist

Primary focus includes providing environmental services related to real estate due diligence and closure of contaminated properties through the Texas Commission on Environmental Quality (TCEQ). Duties include oversight, planning, budget preparation, client and regulatory interaction, and management of all aspects of environmental projects. Services include Phase I Environmental Site Assessments and Phase II Subsurface Investigations, Voluntary Cleanup Program (VCP), Innocent owner/Operator Program (IOP), Leaking Petroleum Storage Tank Program (LPST), and Municipal Setting Designations (MSDs). Knowledge and experience with projects throughout the Dallas-Fort Worth Metroplex and Statewide with successful application of Texas Risk Reduction Program (TRRP) Rules; Petroleum Storage Tank (PST) Program Rules; and other federal, state, or local programs and/or requirements.

2010 - 2011

Targus Associates, LLC

Dallas, Texas

Project Environmental Professional

Performed all aspects of Phase I Environmental Site Assessments, Phase II Subsurface Investigations, environmental risk assessments, remediation project planning and implementation, and closure of contaminated properties through local and state regulatory programs. Responsibilities included project management and/or execution of field activities. Aspects of project management consisted of project proposal/design and work plans; planning, coordination, and oversight of technical activities; and report preparation. Projects were conducted throughout the U.S.

2005 - 2010

QORE, Inc

Dallas, Texas

Project Professional

Performed all aspects of Phase I Environmental Site Assessments, Phase II Subsurface Investigations, environmental risk assessments, remediation project planning and implementation, closure of contaminated properties through local and state regulatory programs, MSDs, and litigation support. Responsibilities included project management and/or execution of field activities. Aspects of project management consisted of project proposal/design and work plans; planning, coordination, and oversight of technical activities; and report preparation. Projects were conducted throughout the U.S. .

Karen Harvey *(Cont.)*

EDUCATION

Texas A&M University-Commerce, Commerce, Texas

Master of Science in Earth Science, 2005

Texas A&M University-Commerce, Commerce, Texas

Bachelor of Science in Earth Science, 2002

CERTIFICATION

40 Hour HAZWOPER

8 Hour HAZWOPER Refresher.



INTRODUCTION

Reed Engineering Group's approach to construction materials testing services follows our overall philosophy for business: provide high quality, trained personnel that respond efficiently to the client's needs.

Reed Engineering Group has performed observation and construction materials testing services on over 8,000 projects in North Texas. Projects have varied in complexity and size, and include large warehouse/industrial-use facilities; low-rise office buildings and hospitals; high-rise (15+ stories) office and apartment buildings; and public facilities such as schools, roadways, small dams and treatment plants.

Our construction materials testing department is staffed with full-time, dedicated employees. We do not hire on a project-by-project basis. In order to maintain continuity and provide quality control, individual inspectors are assigned and maintained throughout the life of a project.

DESCRIPTION OF SERVICES

Our technicians are cross-trained in soils, concrete and asphalt, and have varying levels of NICET certification. In our experience, this reduces overhead costs and provides a more challenging work environment for our employees, while providing a higher quality, more diverse inspector for our client. Some technicians are also cross-trained to perform roofing and steel inspections, enhancing our inspection capabilities. A general listing of construction materials testing services is provided below:

- Concrete and mortar inspection and testing
- Asphalt testing and inspection
- Earthwork observation and testing
- Foundation observation and construction documentation
- Roof inspection
- Steel inspection and placement documentation (reinforced and post-tensioned)
- Floor flatness surveys
- Pile and Structural Floor load tests
- Floor moisture testing

Field technicians are dispatched in fully equipped, company owned and insured vehicles. Reed Engineering Group supplies each field technician with a vehicle to avoid liability questions, which can occur when personal vehicles are used on or to and from job sites.

Reed Engineering Group owns and maintains an all-terrain drilling rig. This rig is used to obtain post-injection soil samples, thus avoiding the necessity of requiring the surface to dry or use of dozers. This service allows for rapid evaluation of pre-swelling operations (we are frequently able to provide a same-day turn around).

SELECTED LISTING OF PROJECTS

Our construction materials testing department has performed observation and testing services for a wide variety of projects. A representative listing of projects that construction materials testing services have been performed on is provided below.

PROJECT	CLIENT
3225 Turtle Creek Hall Street and Turtle Creek Boulevard Dallas, Texas One 20-story and two 17-story apartment buildings and one 6-story parking structure	Genesis Real Estate Group
Blockbuster Video Distribution Center Redbud Boulevard and Wilmoth Lane McKinney, Texas 800,000 sf distribution center	CMC Commercial Realty Group
Lake Point Office and Technology Center Lakeway Drive and Bennett Drive Lewisville, Texas 75,000 sf, 2-story office and 81,000 sf technology center	CMC Commercial Realty Group
Frankford Distribution Center Frankford Road and Commodore Carrollton, Texas Building I though Building VII, ranging from 80,000 sf to 750,000 sf	Argent Property Company
Dallas Spring Lakeway Drive and Corporate Drive Lewisville, Texas 88,000 sf office/warehouse building	Dallas Spring c/o Raymond Construction Company
Brookshire's Grocery Store SH 80 and Pinson Road Forney, Texas 84,000 sf building with associated parking	Brookshire Grocery Stores

PROJECT	CLIENT
<p>Metro Center Buildings 5 through 9 East Ben White Boulevard Austin, Texas Office/warehouse buildings ranging from 50,000 to 150,000 sf</p>	<p>Zydeco Development c/o Raymond Construction Company</p>
<p>Lake Point Residences Waters Ridge and Lake Point Drive Lewisville, Texas Eleven 2 and 3-story apartment buildings</p>	<p>Devon Companies</p>
<p>6565 MacArthur Boulevard Irving, Texas One 10-story office and one 2-story parking garage</p>	<p>Insignia Commercial Group</p>
<p>Birdville High School and Arts and Athletic Complex Mid Cities Boulevard and Precinct Line Road North Richland Hills, Texas Approximately 220,000 sf school plus stadium</p>	<p>Birdville Independent School District</p>
<p>Twin Creek Shopping Center McDermott Road and U.S. Highway 75 Allen, Texas Approximately 220,000 sf shopping center</p>	<p>Cencor Realty Services</p>
<p>Carrier Creek Retail Development, Target and Home Depot Carrier Parkway and IH-30 Grand Prairie, Texas Approximately 350,000 sf of retail space</p>	<p>Mark 5 Development</p>
<p>Villas at Turtle Creek Ivan Street and Brookhout Street Dallas, Texas 14-story apartment building and 7 1/2-story parking garage</p>	<p>Genesis Real Estate Group</p>
<p>Providence Tollway Office Center I and II Dallas North Tollway Plano, Texas Two 120,000 sf buildings</p>	<p>Myers & Crow Company, Ltd</p>

PROJECT	CLIENT
<p>Heard Museum and Science Building McKinney, Texas Approximately 4,000 sf building and nature center</p>	<p>Heard Museum</p>
<p>Ridge Point I through IV Ridgepointe Drive and Lake Shore Drive The Colony, Texas 128-acre subdivision</p>	<p>121 Ridgepointe Limited</p>
<p>ABB Power Plant V.V. Jones Road Ellis County, Texas East of Venus Four power generating stations with auxiliary support</p>	<p>ABB Power Generation, Inc.</p>
<p>One Telecom Office Building U.S. Highway 75 and Glenville Road Richardson, Texas 9-story office building</p>	<p>Insignia Commercial Group</p>
<p>Villages of White Rock Creek Coit Road and McDermott Plano, Texas 85+ acre residential subdivision</p>	<p>Papagolos Development Company</p>
<p>Eckerd's Drug Stores Various locations across North Texas Approximately 11,000 sf of retail space/stores</p>	<p>Commercial Net Lease Realty and The Sheldon Development Company</p>
<p>Mercantile Center Mercantile Drive Fort Worth, Texas Two 106,500 sf tilt-wall buildings</p>	<p>Mercantile Partners, L.P.</p>

LISTING OF CONSTRUCTION MATERIALS TESTING REFERENCES

Our construction materials testing department enjoys the same client loyalty our other two departments do, due to our focus on high quality service and accurate and reliable investigations and reports. Below is a listing of construction materials testing clients whom Reed Engineering Group has been serving for many years.

CLIENT INFORMATION

SERVICES PROVIDED

Argent Property Company	Geotechnical Engineering Environmental Consulting Construction Materials Testing
B B & L, Inc.	Construction Materials Testing
Brookshire Grocery Company	Geotechnical Engineering Construction Materials Testing
Myers & Crow Company, Ltd.	Environmental Consulting Construction Materials Testing
Bob Moore Construction, Inc.	Construction Materials Testing
Raymond Construction Company, Inc.	Geotechnical Engineering Construction Materials Testing
Bob Reich Construction	Geotechnical Engineering Construction Materials Testing
Transwestern Properties	Geotechnical Engineering Construction Materials Testing

BILL WOOLWINE

EXPERIENCE

1994 - Present

Reed Engineering Group

Dallas, Texas

Senior Manager/Construction Materials Testing

Assist managing a staff of forty field technicians. Review reports, invoices and proposals. Implemented a Safety Program for the Construction Materials Testing Department. Perform various testing in the field and laboratory.

1992 – 1994

Henley-Johnston & Associates, Inc.

1979 – 1992

Mason & Johnston Geotechnical Consultants, Inc.

Dallas, Texas

Senior Engineering Technician

In charge of laboratory testing, soil classification and construction quality control. Responsibilities include the earthwork, concrete and foundation installation phases of major engineered structures including highways, bridges, railroads, airports, earthen embankments, multi-story buildings, pumping plants, pipelines, slurry cut-off walls and other similar projects. Experience embraces all facets of geotechnical field and laboratory testing, as well as, monitoring drill shaft installation, micro-pile installation, subsurface and perimeter drain placement, and post tension monitoring.

A partial list of major engineered projects for which technical and/or quality control services were provided include CityPlace East, Dallas Area Rapid Transit, Superconducting Super Collider, Dallas Museum of Fine Arts, Allied Bank Tower, Lincoln Centre, Frito-Lay National Headquarters, Children's Medical Center Tower, Park West Commerce Center, Plaza of the Americas Renovations, Dallas Convention Center Expansion and Heliport, Dallas Galleria, IBM/Austin, IBM Solana Development/West Lake, Lake Allen Henry Dam/Lubbock, and various phases of development on Metro Center/Austin, and Pinnacle Park I/II.

EDUCATION

Morris Harvey College (formerly University of Charleston), Charleston, West Virginia

B.A. Behavioral Sciences, 1978

South Charleston High School South Charleston, West Virginia, 1973

Bill Woolwine *(Cont.)*

CERTIFICATIONS

Troxler Safety Course, 1982

American Concrete Institute-Level I, 1983

Essentials of OSHA Compliance, 2002

World of Concrete Seminar:

Basics of Concrete Floors on Ground, 2003

Concrete Tolerances: The Good, The Bad and The Ugly, 2003

Concrete Repair Materials-Part I and II, 2003

City of Dallas Construction Permit Requirements for Texas Pollutant Discharge Elimination System, 2004

REED ENGINEERING GROUP

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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