

Dan Brown and Associates, LLC
Consulting Geotechnical Engineers

300 Woodland Rd.
Sequatchie, TN 37374

(423)942-8681
fax:(423)942-8687

Company Description

Dan Brown and Associates, LLC is a consulting engineering firm specializing in geotechnical and foundation engineering, with emphasis on problem solving relating to foundation engineering and slope stability problems.

Key Personnel

The firm includes associates with special expertise in construction, design, testing, and research. A brief summary of key members is provided below.



Dr. Dan Brown has a distinguished career of practice, research, and instruction in the field of deep foundations. Dr. Brown is a graduate of Georgia Tech (1977) and the University of Texas (PhD, 1985). He is particularly known for his expertise in design of deep foundations for lateral loading, load testing of deep foundations, and construction of drilled shafts. He is an instructor and co-developer of the National Highway Institute courses in drilled shaft design and construction and driven pile inspection. He is currently developing FHWA guidelines on the design and construction of continuous flight auger piles and is serving on a National Academy of Science panel on development of a synthesis report on rock socket drilled shafts. He is a member and past chairman of the ASCE Deep Foundations Committee, a trustee of the Deep Foundations Institute, an honorary member of ADSC: The International Association of Foundation Drilling and of the Pile Driving Contractors Association. Dr. Brown has received numerous awards, including the ASCE Huber Prize for Research for his work with pile groups and bridge foundations, the ADSC Outstanding Service Award, and the Auburn University Gottlieb Professorship. He is an active consultant on many large projects involving deep foundations, and known for his work in pile group behavior and in construction and testing of deep foundations. Dr. Brown retired from the Civil Engineering faculty at Auburn University in 2009 after 22 years of teaching and research. He is a licensed professional engineer in numerous states.



Dr. Steve Dapp has extensive experience in the design, construction, and testing of deep foundations. His engineering education includes degrees from Utah State and the Univ. of South Florida (PhD, 2001), where his dissertation research work was focused on the construction and behavior of post-grouted drilled shafts. He has experience in construction, having worked for Coastal Caisson Corp. (Bauer of America). His expertise in testing of deep foundations has been developed through his work experience with Loadtest, Inc., and with Applied Foundation Testing. Projects with Dan Brown and Associates include evaluation of the drilled shaft capacities associated with the Le Roy Selmon Cross-Town Expressway in Tampa, design of deep foundations for several bridge and industrial projects including a pile-raft foundation, stability evaluations of MSE walls for a freeway interchange, and several ongoing projects utilizing field load testing for lateral load evaluation of deep foundations. Work also includes research into lateral loading of drilled foundations and development of p-y curves for cemented soils (ongoing). Dr. Dapp is a licensed professional engineer in Florida and Louisiana.



Mr. Robert Thompson is a principal geotechnical engineer with a broad base of practical experience in geotechnical and foundation engineering. His engineering education includes degrees from Auburn University (BS 1988; MS, 1994). His experience includes over 14 years in consulting practice with Law Engineering, TTL, Inc., and Dan Brown and Associates, with responsible charge of geotechnical investigations for projects such as the Hyundai manufacturing facility in Alabama, dam renovations, industrial facilities, slope failures, and the award-winning Riverwalk Stadium in Montgomery, Alabama. His recent work with Dan Brown and Associates includes foundation analysis and load testing for the US 98 Bridge over Biloxi Bay (driven piles) and the Christopher S. Bond Bridge over the Missouri River in Kansas City (drilled shafts). Recent

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work also includes research reports for drilled shaft axial capacity in calcareous materials and response of laterally loaded drilled shafts adjacent to MSE walls (ongoing). He has also taught soil mechanics as an adjunct instructor at the University of Alabama at Birmingham. He served with distinction as a combat engineer platoon leader in the U.S. Army during the 1991 Persian Gulf War (Operation Desert Storm). He is a member of the American Society of Civil Engineers, the Geo-Institute of ASCE, ADSC: the International Association of Foundation Drilling, and the Deep Foundations Institute. Mr. Thompson is a licensed professional engineer in Alabama, Florida, Georgia, Louisiana and Mississippi.



Mr. Paul Axtell is a senior project geotechnical engineer accomplished in geotechnical engineering and design. His engineering education includes degrees from the University of Missouri (BS, 1999) and the University of Texas (MS, 2001). His experience includes a year of consulting practice with Fugro Consultants in Houston, Texas and 6 years as a geotechnical engineer for the U.S. Army Corps of Engineers. He is experienced in site investigation techniques using Standard Penetration Test, Cone Penetration Test, and Shelby tube sampling. His design and analysis experience includes earth dams, seismic loading, deep foundations, shallow foundations, earth retaining structures, and earth slopes. His experience also includes ground improvement techniques such as jet grouting and deep mix methods, geosynthetics for soft soil construction, settlement analysis for large structures, and slope failure investigations. Mr. Axtell is a licensed professional engineer in Kansas and Missouri.



Mr. Jon Gould is a senior project engineer with extensive experience in geotechnical engineering and construction for a wide range of projects throughout the U.S. During his career he has worked with many of the major geotechnical engineering firms, geotechnical specialty contractors, and deep foundation contractors in the U.S. He was employed over 18 years with a national engineering and construction company as senior geotechnical engineer responsible for the geotechnical design criteria used to design earthworks and foundations. Prior to that, he worked for Law Engineering for 13 years as project engineer, senior geotechnical engineer, and chief engineer. He has worked on several hundred geotechnical explorations, including the evaluation and analysis of shallow and deep foundations, as well as field observation and evaluation during construction of these foundations. He has also been responsible for reviewing geotechnical and field inspection projects, including major industrial plants and earth and concrete dams. Prior experience includes earthwork and highway construction as an officer with the U.S. Army Corps of Engineers and as a construction engineer at Cape Canaveral and the Kennedy Space Center. He has authored several technical papers and presented talks on geotechnical subjects at professional and technical conferences, seminars, and meetings. He has also provided expert witness services on major structure failures. Mr Gould served with distinction as an earthmoving platoon leader in U.S. Army during the Vietnam War. He is a Fellow and Life Member of the American Society of Civil Engineers, and a member of the Geo-Institute of ASCE and the Deep Foundations Institute. Mr. Gould is a licensed professional engineer in Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, and South Carolina.



Dr. Erik Loehr (Affiliate) specializes in evaluating the stability and performance of earth slopes and earth retention systems, large-scale laboratory modeling and full-scale field evaluation of geotechnical engineering problems, performance of geotechnical composite systems, and computer applications in geotechnical engineering. Dr. Loehr received his doctorate at the University of Texas (1998). His work includes research for agencies such as the National Science Foundation, the Missouri Department of Transportation, and the Federal Highway

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Administration as well as for a number of private contractors and companies. Recent projects include evaluation of reticulated micropile systems for slope stabilization, development of techniques for using recycled plastic reinforcement for stabilization of surficial slope failures, behavior of fiber-reinforced soils, application of asset management principles to geotechnical engineering systems, reliability-based design of earth slopes and retaining structures, and application of Load and Resistance Factor Design (LRFD) to earth slopes. He is an active member of ASCE/Geo-Institute, ADSC: the International Association of Foundation Drilling, the Deep Foundations Institute, the International Society for Micropiles, and the Transportation Research Board. He is a recipient of an NSF CAREER Award and is a Distinguished Faculty Fellow in the MU College of Engineering

Company Services

Our services for deep foundations include design and construction issues for:

- Drilled Shafts (Conventional and Post-grouted)
- Auger Cast-in-Situ Piles (Conventional CFA and Drilled Displacement Piles)
- Micropiles
- Driven Piles

While specializing in deep foundation systems and slope stability problems, we also provide our services for a wide range of geotechnical applications and problems. Our list of services includes:

- Foundation analysis and design
- Dynamic foundation analysis and design
- Slope stability analysis and design
- Earth retaining structure analysis and design
- Consulting for general geotechnical practitioners
- Peer review for general geotechnical practitioners
- Owner review of geotechnical services
- Value engineering of foundation systems
- Design-Build project team support
- Load testing program design, execution, interpretation, and application
- Integrity testing evaluation
- Construction problem resolution
- Foundation failure investigations and remediation design
- Expert witness
- Short Courses, Seminars, Technical Presentations

Recent Projects

Ben Lomand Transmission Line, Utah and Idaho

I-15 Beck Street Bridge, Salt Lake City, Utah

Bollinger Shipyard, Lake Charles, Louisiana

Huey P. Long Bridge, New Orleans, Louisiana

Christopher S. Bond Bridge, Kansas City, Missouri

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I-35 Bridge Replacement, Minneapolis, Minnesota
Cumberland River Pedestrian Bridge, Nashville, Tennessee
Slope Stabilization on the Missouri River for UPRR, Gasconade, Missouri
Kansas DOT research: Lateral Loading of Drilled Shafts Near MSE Walls, Kansas
Sugarcane Bay Casino Resort, Lake Charles, Louisiana
John James Audubon Bridge, New Roads, Louisiana
Biloxi Bay Bridge Replacement, Biloxi, Mississippi
AEC Charles R. Lowman Power Plant, Leroy, Alabama
Escambia Bay Bridge Replacement, Pensacola, Florida
Cervantes Street Bridge, Pensacola, Florida
New River Bridge, Ft. Lauderdale, Florida
Lee Roy Selman Cross-Town Elevated Freeway, Tampa, Florida
St. Croix River Bridge, Minnesota
Lumber River Bridge, South Carolina
Drilled Shaft Secant Retaining Wall, Corridor X, Alabama
SR 73 Slope Failure Investigation, Alabama
Debarking Drum Foundation Analysis and Remediation, International Paper, Courtland, Alabama
Sulphur Waste Water Treatment Facility, Sulphur, Louisiana
Kansas DOT research: Lateral Loading in Loess Soils, Kansas
I-10 Ryan Street Exchange, Lake Charles, Louisiana
Traveling Lift Crane Wharf, Calcasieu, Louisiana

Recent Publications of DBA Members

Axtell, P.J., Stark, T.D., and Dillon, J.C., 2009. "Strength Difference Between Clam-Shell and Long-Reach Excavator Constructed Cement-Bentonite Self-Hardening Slurry Walls", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support, Geotechnical Special Publication No. 187, ASCE, pp. 297-304.

Brown, D.A., 2009. "Load Testing of Drilled Shaft Foundations in Limestone, Nashville, Tennessee", Report for ADSC Southeast Chapter, Feb. 2009.

Brown, D.A., 2009. "Management of Risk in Deep Foundations with Design-Build", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Deep Foundations, Geotechnical Special Publication No. 185, ASCE, pp. 1-11.

Brown, D.A. and Thompson, W.R., 2009. "Drilled Shaft Performance in Cemented Calcareous Formations in the Southeast United States", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Deep Foundations, Geotechnical Special Publication No. 185, ASCE, pp. 119-126.

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Loehr, J.E and Huaco, D.R., 2009. "Probabilistic Calibration of Resistance Factors for Slope Stability", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in In-Situ Testing, Analysis, and Reliability of Foundations, Geotechnical Special Publication No. 186, ASCE, pp. 297-304.

Parsons, R.L., Pierson, M., Han, J., Brennan, J.J., and Brown, D.A., 2009. "Lateral Load Capacity of Cast-in-Place Shafts Behind an MSE Wall", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in In-Situ Testing, Analysis, and Reliability of Foundations, Geotechnical Special Publication No. 186, ASCE, pp. 560-567.

Rollins, K.M., Adsero, M.E., and Brown, D.A., 2009. "Jet Grouting to Increase Lateral Resistance of Pile Group in Soft Clay", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support, Geotechnical Special Publication No. 187, ASCE, pp. 265-272.

Stark, T.D., Axtell, P.J., Lewis, J.R., Dillon, J.C., Empson, W.B., Topi, J.E., and Walberg, F.C., 2009. "Soil Inclusions in Jet Grout Columns", DFI Journal Volume 3, No. 1, May 2009, Deep Foundations Institute, pp44-55.

Thompson, W.R., Hill, J.R., and Loehr, J. E., 2009. "Case History: Value Engineering of Driven H-Piles for Slope Stability on the Missouri River", 2009 International Foundation Congress and Equipment Expo, Contemporary Topics in Deep Foundations, Geotechnical Special Publication No. 185, ASCE, pp207-214.

Empson, W.B., Axtell, P.J., Walberg, F.C. and Stark, T.D. "Jet Grouting for a Dam with Alluvial Foundation Seepage" Geotechnical Earthquake Engineering and Soil Dynamics IV, Sacramento, California, May 18-22, 2008.

Axtell, P.J. and Stark, T.D. "Increase in Soil Modulus Using Jet Grout and Deep Mix Method Ground Improvement Techniques" Canadian Geotechnical Journal (accepted for publication)

Loehr, E.J. and Brown, D.A., 2008. "A Method for Predicting Mobilization Resistance for Micropiles Used in Slope Stabilization Applications", A Report Prepared for the Joint ADSC/DFI Micropile Committee.

Empson, W.B., Axtell, P.J., and Dillon, J.C. "The Inside Cut on Tuttle Creek Ground Modification" Association of State Dam Safety Officials, Dam Safety 2007, September 9-13, 2007.

Parsons, R.L., Brown, D.A., Brennan, J.J., Johnson, R.M., and Schuler, L., 2007. "Designing Drilled Shafts in Loess", Foundation Drilling Magazine, August 2007, pp27-30

Axtell, P.J., Walberg, F.C., Byrne, P.M. and Stark, T.D. "Seismic Deformation Analysis of Dams" 2007 Infrastructure Systems Conference, Detroit, Michigan, June 25-29, 2007.

Brown, D.A. and Schindler, A., 2007. "High Performance Concrete and Drilled Shaft Construction", Geotechnical Special Publication No. 158, Geo-institute GeoDenver 2007 Conference.

FHWA Geotechnical Engineering Circular No. 8 – Augered Cast-in-Place and Continuous Flight Auger Piles, 2007.

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Axtell, P.J., Loehr, J.E., and Jones, D.J. "Case History: Multiple Axial Statnamic Tests on a Drilled Shaft Embedded in Shale" Deep Foundations Institute 31st Annual Conference, October 4-6, 2006, Washington, D.C.

Dapp, S., Muchard, M., and Brown, D., 2006. "Experiences with Base Grouted Drilled Shafts in the Southeastern United States," Proc. of 10th International Conference on Deep Foundations, Amsterdam, Netherlands.

Mullins, G., Winters, D. and Dapp, S., 2006. "Predicting End Bearing Capacity of Post Grouted Drilled Shafts in Cohesionless Soils", Journal of Geotechnical and Geoenvironmental Engineering, ASCE, April.

Brown, D.A., 2005. "Practical Considerations in the Selection and Use of Continuous Flight Auger and Drilled Displacement Piles", Geotechnical Special Publication No. 132, ASCE, pp. 1-11.

Brown, D.A. and Schindler, A., 2005. "The Use of Self-Consolidating Concrete for Drilled Shaft Construction: Preliminary Observations from the Lumber River Bridge Field Trials", Proceedings of the ADSC GEO3 QA/QC Conference, Dallas, TX.

Kitchens, L., Thompson, W.R., and Housley, S.A., 2005. "Case History: Utilizing Load Test Data to Value Engineer Drilled Shaft Foundations," Proc. of ADSC GEO3 QA/QC Conference, Dallas, Texas.