



DEEP FOUNDATIONS

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The Rajiv Gandhi Sea Link in India: A Challenging Foundation



Dan Brown: Brilliant Engineer, Great Mentor, Down to Earth Guy

That combination of characteristics describes Dan Brown, Ph.D., and head of Dan Brown Associates, Sequatchie, Tenn., according to John Wolosick, of Hayward Baker, a long-time motorcycle buddy of Brown's. A lot of other practicing engineers and colleagues concur.

High on the list of Dan Brown's many accomplishments is his authorship (with others) of both the FHWA's *Drilled Shaft Manual* and *Geotechnical Engineering Circular No. 8 on Continuous Flight Auger and Drilled Displacement Piles*, major documents for the foundations profession. Silas Nichols, senior bridge engineer, FHWA, says Brown is the "premier expert in drilled deep foundations," and teaches courses for state DOTs and the National Highway Institute. John Turner, professor of civil engineering at the University of Wyoming, was Brown's co-author for the *Drilled Shaft Manual*. He recalls that "long and complicated effort," and adds that Brown was "unique among academics" for his ability to integrate construction and design into his research, and says this talent has carried over to his consulting practice. Brown is known throughout the industry as "one of the most experienced and knowledgeable engineers in our profession," says Turner.

How did Brown get to his current exalted status in the foundations industry? He recalls that even in grade school in Georgia, he always wanted to be an engineer. His dad was a career army man, and his mother, the first in the family to go to college, was a math teacher. He discounts any maternal pressure, saying he just "loved math and anything quantitative." Clearly, he had a strong affinity that flourished in a math-friendly environment.

When Brown took the standardized test for college, he had to choose three colleges to which the results were to be sent. He hadn't thought of anyplace but Georgia Tech, he says, so he just listed that one, and was accepted. He had a work/study curriculum with four annual quarters that



alternated work and study. His first roommate was studying civil engineering, and Brown followed suit. During his work quarters, he was assigned to the Georgia Department of Transportation in various positions in the bridge design department. The last job was with a drill rig, and he realized that he loved being outdoors and "didn't want to be one of those engineers who worked in an office." He noticed the geotechnical engineers were "always flying off to Africa, or such places," surveying, working in construction, and the like. This observation drew him to geotechnical engineering. He also says, of the discipline: "every job is different — you have to define the problem. Geotechnical engineering is like solving puzzles."

George Sowers, a GT notable, was also a major influence during his graduate work for a Master's degree at Georgia Tech. At the time, Sowers worked half-time at Law Engineering, and taught at Georgia Tech. "He was a tremendous teacher, with great charisma," says Brown, who recalls that Sowers told his students that "your first job

is the next step in your education." Brown's first job was with Gordon Boutwell, Baton Rouge, a "tough guy," he recalls, who got along with "nobody" — except young Dan Brown. When Brown decided he wanted to take time off to get a doctorate, Boutwell not only agreed, but also helped him out by paying health insurance for Brown and his family that included a set of triplets, plus one other child. Brown took only 28 months to get his Ph.D. at the University of Texas at Austin, where Brown worked under another noted engineer, Lymon Reese. He also became friends with Mike O'Neill, another giant in the geotechnical world and also a role model. Brown decided he wanted to become a professor, reasoning that this profession would "allow him the freedom to do what he wanted to do."

Making Difficult Concepts Clear

Dan Brown spent 22 years teaching at Auburn University, and gets high marks from one former student, Robert Thompson, now a partner at Dan Brown Associates — a "minor" partner, he hastens to add. Thompson says Brown "was an excellent teacher, one who could make difficult concepts clear." He also made geotechnical engineering "sound exciting, like the most fun thing in the world." Thompson became a geotechnical engineer because of Dan Brown.

An Auburn colleague, professor of geotechnical engineering David Elton, talks about Brown's fame in the profession. Elton says that when he goes to conferences, and people see Auburn University on his name tag, they inevitably ask "Do you work with Dan Brown?" Next, Elton recounts, they say "Brown helped us out with," as Elton puts it, "fill in the name of the project." The list of notable complex projects on which Brown has worked is very long. Elton reels off just a few of them: the San Francisco Oakland Bay Bridge, the I-35 bridge in Minneapolis and the Cooper River Bridge in Charleston, S.C.

So why did Brown leave Auburn after those 22 “great” years? He says he felt the university needed new blood. He also saw new opportunities elsewhere. At the time, he was three years from retirement and a full pension, but he “didn’t see the point of staying for that.” His decision to leave was possibly instigated — or inspired — by Lymon Reese’s suggestion that Brown was the “heir apparent” in the geotechnical field. Michael O’Neill, another luminary, died in 2003 and Reese himself was slowing down. (He died at age 92 in 2009). Others apparently agree that Brown would and could be the heir to their legacies.

Brown set up Dan Brown and Associates in 2004 and “has been rolling ever since,” he says. He has eight full-time employees at the firm based in Sequatchie, Tenn. Brown says the firm’s focus is on “challenging projects, such as the Huey P. Long Bridge on which he worked with Kiewit. The project was a fast track job with precast driven piles. With Brown’s help, the job was finished one year early and the contractor got a bonus. Brown says the secret was “lots of testing up front,” and the

engineering effort paid off. Another such example was the Selmon Expressway bridge in Tampa, Fla., that failed during construction. The project was halted, and Brown says that through thorough testing, his firm helped develop a more robust way to evaluate drilled shafts in soft limestone, a most difficult material.

Some of his employees comment on their leader. Thompson, Brown’s former student says it is “an honor” to work with him now. Thompson adds that Brown “is not like a boss, he’s right there with you.” Steve Dapps says Dan Brown is a “brilliant engineer” and “a good friend, the best mentor anyone could have,” to everyone at Dan Brown and Associates.

Association Contributions

Brown was chair of the Deep Foundation Committee of ASCE’s Geo-Institute, active in the PDCA and ADSC: the International Association of Foundation Drilling, where he organized the week-long faculty workshop in 2008. Dick Short of DFI introduced Brown to DFI in 2003 when they met on a FHWA tour of European

practices. “Dan’s very distinctive personality was hard to miss,” says Short. “He has a perfect combination of technical expertise, practical common sense, superior speaking ability and a great sense of humor.” Brown noted to Short that DFI did not have a serious journal with peer reviewed papers, adding that DFI’s new journal is now well established — “all to Dan Brown’s credit.”

Brown says he wants to do “things that matter,” and that DFI is “the perfect forum” to do that because the organization brings contractor, engineers and suppliers together. He believes that DFI has “an impact on what gets done in the deep foundations industry.”

Down to Earth

Back to the down to earth aspect of Dan Brown, his “lifelong passion” for motorcycles is legendary. He has motorcycled since childhood, and participates at various levels of off-road motorcycle competitions, some possibly death-defying. Brown is working at continuing this passion with his six grandchildren. The eldest boy was a national champion in the six-year-old category two years ago; Brown quickly notes that there weren’t many contenders. Brown has 600 acres of mountain land where he rides and hosts competitions. The site includes some big concrete pieces of drilled shafts that youngsters like to use as challenging obstacles to ride over, he says. Motorcycling is a dominant theme indoors, too, says John Wolosick, who reports that a cycle has a prominent place in the Brown living room. Brown verifies that, saying that it is an antique Bultaco Sherpa-T. Professor and co-author Turner, calling him a “wonderful speaker,” says that Brown often incorporates humorous analogies to motorcycles in his technical presentations.

Author interjection: If my first impression of Dan Brown was of his prodigious speaking ability and palpable intelligence, the second was his easy going manner and courtesy. But maybe not so easy going after all — Brown says he is “never going to stop working,” citing his former mentor George Sowers as his role model.

Virginia Fairweather

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