

# Preserving Auburn's Roots



A progressive surveying firm helps a university town overcome a destructive act of revenge.

By Angus W. Stocking, LS

**T**he Auburn-Alabama intrastate football rivalry is ranked by ESPN as one of the 10 most intense rivalries in all of sports, right up there with Frazier-Ali and Yankees-Red Sox. In fact, competition is so intense that the Iron Bowl had to be held in Birmingham (a neutral site midway between the two schools) for 40 years—and that was after a 40-year period (1908-1948) when the game was cancelled entirely. The 2010 game may have been the finest of the long series, with No. 2 ranked (and unbeaten) Auburn coming back from a 24-0 second quarter deficit to beat No. 9 ranked Alabama by one point. It was the biggest comeback ever achieved for Auburn, and the biggest ever allowed by Alabama.

In the aftermath of that dramatic victory, feelings naturally ran high on both sides. Even so, one event shocked the entire state. An Alabama fan called into a popular sports-talk radio show to announce that he had poured lethal amounts of Spike 80DF, a powerful herbicide, around two historic 130-year old live oaks at an Auburn gathering spot known as Toomer's Corner. The report was confirmed, and both trees are expected to die.

Much has been written about the Toomer's Corner oaks in the months since the poisoning. For example, three different attorneys refused to defend the suspect who was arrested soon after the incident, and many have wondered whether the storied rivalry should once again be can-

celed. But there are positive sides, as well. For one thing, Alabama and Auburn fans have reached out to each other. And there is an angle that surveyors will find interesting. As part of preservation efforts, a surveying firm based in Mobile (led in part



AU Photo, JeffEtheridge, OCM

by a 1965 Auburn graduate) performed a high-resolution 3D laser scan of Toomer's Corner. Should efforts to save the trees fail, accurate 3D models of the trees will help future generations understand their importance to Auburn fans.

**Marshall A. McLeod, PLS, LLC**, is a progressive surveying business. McLeod is actually the licensed manager; his business partner, Lynda B. Burkett, is the majority owner, making Marshall A. McLeod a woman-owned surveying firm. That's unusual, McLeod allows. "In the South," he explains, "there's still a 'man in charge' philosophy." This has created some interesting challenges for Burkett. "I do get weird questions," she admits.



"The first bank loan I obtained, the lending agent, a woman, said, 'Take this back to *him* to get it signed,' and I said, 'Him who? I own the business.'"

But there's not any doubt in the partners' minds or in the minds of their clients as to who owns the company. Marshall A. McLeod, PLS, LLC is certified as a Women's Business Enterprise by the Alabama Department of Economic and Community Affairs (ADECA). During the latest round of certification, Burkett found that bankers, suppliers, major customers, and others were happy to speak on her behalf.

It's a classic "inside/outside" partnership, with McLeod, the "inside man," providing 40 years of land surveying experience, technical management and a zest for cutting-edge land surveying solutions. Burkett—though she's been in the field on occasion—is the "face" of the firm: the administrative and human resources manager, marketer and executive director. In interviews, they're comfortable with each other and defer to each other's specialties. McLeod, for one, seems well aware that it's a good deal. "She makes it easy on me," he says. "I can attend to survey matters while she develops business. It's good teamwork."

**Opposite: The poisoned oak trees frame Toomer's Corner. Above: Scans of the historic trees, captured by Marshall A. McLeod, PLS, LLC, using a Leica ScanStation C-10, will help preserve their memory for future generations.**

The two met in 1999 while Burkett was realizing that a "dream job" in technical sales had become a nightmare. "I proposed a business and even said I'd work for free the first year," she explains. "We've been in business ever since." And if the arrangement seems unusual to some observers, well, it's hard to argue with success. The partnership has always been profitable, and McLeod is one of Alabama's most technically adept consulting firms. "Early on, we decided that our business would be based on a commitment to technology and the expertise of our staff," Burkett says. "Our plan was to attract high-end business with technically sophisticated survey techniques and to hire graduates of the Troy University Geomatics program. They will be certified either as an LSIT or a PLS, if they want to work for me; maybe one of them will take over the business one day."

To accomplish those goals, Burkett first changed the firm's focus from res-

Right: McLeod performs a full dome scan on Toomer's Corner using a Leica ScanStation C-10. Below: McLeod and Burkett (far right) with Auburn University representatives (from left) Paul W. Holley, Aderholt professor and co-director of the Master of Design Build Program in the McWhorter School of Building Science; Rebecca O'Neal Dagg, interim dean of the College of Architecture, Design and Construction; and Richard Burt, professor and school head, McWhorter School of Building Science.

idential surveying to commercial and industrial surveying. And she started talking to architects, engineers, commercial developers and whoever else might need the type of work she wanted McLeod to provide. Early on, she made a connection with the project director for the Battle House Hotel and RSA Tower, Alabama's tallest office building. "I attended a meeting where Mr. Blount said he was looking for minority businesses to work with," she remembers. "When he was finished speaking, I raised my hand and asked, 'What I want to know is how I can get work on *this* project!'"

That meeting led to ongoing work on the tower, including a laser scan of the entire exterior. "There are about 2,000 piles on that site," McLeod says with a laugh, "and I know where every one of them is!" Other major projects include the Choctaw Point Expansion of Mobile's container terminal and multiple projects with University of South Alabama.

Meanwhile, McLeod was assembling the equipment he needed to do the type of survey work he had in mind. "We were the first in Alabama to install a CORS, and the first to use an RTK network," he says. "We have three robotic remote-controlled total stations, and we were also the first in the state to purchase a laser scanner for civil survey work." All the equipment is from Leica Geosystems because, McLeod says, "we wanted to have the latest and greatest, and that meant Leica—they were the best fit for us."

"Surveying is more fun nowadays," he adds. "The technology allows us do so many new and different kinds of work. We've completed accident site reconstruction, forensic surveying and a 312-acre ALTA/ACSM for the University of South



Alabama Foundation, consisting of 107 buildings. Using the scanner, we were able to complete the work in under 90 days."

**With this background,** McLeod was well positioned to help out with an unusual challenge like the Toomer's Corner tree poisoning. "I'm an Auburn graduate," he explains. "It was an honor to be there."

This was pro bono work. McLeod was contacted by Auburn University's Building Sciences Department, requesting the scan of the corner. A detailed scan won't help to save the oaks, necessarily, but it *will* help preserve their legacy. Additionally, should the trees die, a model will help with site planning. There was also an edu-

cational aspect to the project—by working with the Building Sciences Department, McLeod will be exposing future engineers, surveyors, and builders to the advantages of scanning and BIM.

McLeod used Leica's 1200 GNSS RTK system and an Alabama Department of Transportation CORS to establish three geolocated points onsite for project control. "I think every surveyor should be required to work in state plane coordinates," says. "It's so easy now, and it makes things easier for everyone else on the project, as well."

Using a Leica ScanStation C-10 and six setups, McLeod performed a "full dome scan," where, he explains, "we get



The scanning project presented a valuable opportunity to share surveying technology with Auburn University students and the general public.

everything from the zenith to 45 degrees below the horizon—that's a 270-degree by 360-degree dome." The completed survey ran to four gigabytes of data, which was more than enough for modeling. Since there aren't a lot of leaves this time of year, it was relatively easy to capture detailed tree information.

McLeod will deliver the point cloud, minimal modeling, and some 2D plan views to the university. "That's appropriate here," he says. "This is new to the Building Sciences people, and we're giving them enough to get started." Since the scan includes complete information of the buildings and intersection surrounding Toomer's Corner, it should be integral to future design efforts.

In addition to the historic preservation aspects of the project and the desire of an alumnus to help out his alma mater, McLeod says that there were marketing opportunities, as well. In fact, a TV news crew showed up to document the project. "They heard about us on Twitter!" says McLeod, clearly amused.

The scanning project wrapped up with a presentation to students and faculty from the Auburn Building Sciences Department.

McLeod, who has a degree in engineering from the school, was happy to educate those who will someday follow him.

**Not many surveying firms** in Alabama could have performed the Toomer's Corner scan. Marshall A. McLeod, PLS, LLC is still one of very few in the area to offer laser scanning to civil clients. McLeod and Burkett are comfortable being out in front. "I believe in Darwinian natural selection," McLeod says. "Adapt or die. With our three RTK rovers, and our Leica 1203 and 1103 robotic total stations, and the ScanStation C-10, we're able to do a lot more. It's expensive equipment, true, but we can collect field data in a third of the time—that's significant." Burkett says the only real issue they face is that new clients are suspicious of high rates for one-man crews, so both she and McLeod tend to downplay that aspect of their business plan.

Killing beloved trees is somehow tragic, an archetypal act of revenge. But the tragedy is not without its silver lining. For example, a group of Alabama University students organized to help with Auburn's preservation efforts, and

## Paying It Forward

The scanning project at Toomer's Corner gave Auburn University students a firsthand look at the benefits of laser scanning technology. Marshall A. McLeod, PLS, LLC, then decided to take it a step further by donating a Leica ScanStation and associated equipment to the Auburn University McWhorter School of Building Science. "We thought students should be exposed to scanning, especially since they're working with BIM," McLeod says, "It was an easy decision for us."

He's being modest; the ScanStation is working just fine, and if it were to be offered for sale, the asking price would be north of \$30,000. This is a generous and substantial gift that will materially advance the education of Auburn's graduate students.

"We're delighted, obviously," says Professor Paul Holley, a co-director of Auburn's Design Build Masters Program. "We're a public university, and equipment like this would normally be out of our reach. Leica Geosystems has been great too; the educational discounts for the software we need are very generous."

Auburn will use the ScanStation to model existing buildings for retrofits and adaptive reuse, and for interim scans of new construction. McLeod has agreed to train students but admits he has an ulterior motive. "The real reason for visiting Auburn," he says, "is my 6-year-old granddaughter and 2-year-old grandson, who live there."

quickly raised about \$50,000—a generous act that will likely go a long way toward keeping the football rivalry in proper perspective. And, starting several years ago, Auburn University has been taking scions of the Toomer's Corner oaks, so their descendants will thrive around the state and may yet grow again on campus if the old oaks die.

By being ready with progressive surveying technology and a willing spirit, Marshall McLeod and Lynda Burkett are also helping to preserve the spirit of Toomer's Corner and are passing on their expertise to some of the students who have gathered there for decades. 🌱

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