

## FOUNDATION COMPANIES

### Working Their Way Through the Downturn

By Larry Kahaner

*Navigating through the current economic downturn is tough for foundation, and foundation-related businesses (new installations, repairing old foundations, testing and manufacturing); but many of the most successful firms are weathering the storm by keeping their debt low, expanding markets, increasing offerings, responding to trends and helping their customers to save money.*

For example, GRL Engineers ([www.pile.com](http://www.pile.com)) in Cleveland, Ohio took note of the trend in increased testing which allows engineers to design for the actual pile capacity. "If you do more testing, you can design more aggressively," says Gina Beim, P.E., Senior Consulting Engineer-Marketing. "Because of that, we're seeing more testing and also a tightening of budgets for bridges and roads... We're trying to find ways to save our customers money, and our response has been to introduce remote testing." She notes that remote testing is more common overseas, e.g., in Sweden and Australia. "We're only sending an instrument instead of an engineer to the project site. We save on travel and other expenses." Beim says that they use the internet to send

data to the office, where an engineer can give simple instructions to the job crew on how to set up the instruments and sensors. She adds: "We're just starting to do this and offering it to our clients."

Jack Hayes, President of Gainesville, Florida-based Loadtest ([www.loadtest.com](http://www.loadtest.com)), says that his company is committed to helping engineers lower their design factors through deep foundation testing, using their *O-Cell* technology. He notes: "We developed a way to apply loads to deep foundations at depth and not at the surface because, once you get over 1,000 tons of load, providing a reaction system at the surface becomes difficult and very expensive." The O-Cell is a hydraulically-driven, high-capacity, sacrificial loading device installed

within the foundation unit. As the load is applied to the O-cell, it begins working in opposite directions: upward against upper side shear and downward against base resistance and lower side shear (if applicable). "The advantage," says Hayes, "is that you get double the resistance for half of the effort."

He adds: "Conventional design usually is a factor of three times because you're not sure if your assumptions are going to pan out. Our goal is to look at what costs are being squandered, by designing to factors higher than 1 to 1.2. No engineer would design that close to the line, but that's what they should be thinking about. If the savings are significant, then spending just half of that would allow more testing during construction, which would still ensure more capacity than required. You might save 20 to 30 percent and have a much more stable foundation and higher quality." (See ad on page 36.)

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One company that prides itself on responding quickly to changing trends is Foresight Products, LLC ([www.earthanchor.com](http://www.earthanchor.com)) headquartered in Commerce City, Colorado. President David Chandler says that growing interest in erosion control is increasing demand for their steel anchors. The company, founded over 20 years ago, developed an earth anchor system for military use; and they have altered it over the years to keep up with changing demands. "The drive type anchor pulls back and opens like a toggle," he says, which makes it ideal for quick deployments. "We started with the *Duckbill*, then went to a larger system, the *Manta Ray*, with the same concept." It's commonly used for holding utility poles, but it works well for everything from marine anchoring to sea walls to retaining walls. "That's the growth market for us," he adds.

"We're kind of a niche player. Our line of larger anchors, the Mantra Ray at 40,000 pounds and the Stingray at 100,000 pounds, are not for extreme use. We can't hold up the Golden Gate Bridge with these anchors. We fall into the category of rapid deployment anchoring, which is about 80 percent of our market and includes retaining walls up to 10 feet," he says. "We're moving fast into the erosion control market, revegetation on levees, for example." He notes that one of the main advantages of their products is that they can be installed using conventionally-available construction equipment.




Drilled shaft foundations on the Schermerhorn House in Brooklyn, NY.

Another company which makes a practice of responding to trends is Grip-Tite ([www.griptite.com](http://www.griptite.com)) of Winterset, Iowa. Grip-Tite has been manufacturing earth-anchoring products for over 88 years. In the 1920s and 30s, the company's anchors were used to secure highway guard cables, then used extensively for guying oil well derricks and oil pipelines. Following World War II, Grip-Tite developed anchors for the rapidly-growing rural electrification network of overhead lines. Then, it saw a need for an anchor that could, simply and effectively, secure and stabilize cracked and bowing basement walls, without replacement of the walls for the growing residential market. It developed and patented the Grip-Tite Wall Anchor System. Now, things have changed again, says Nick Farkas, Director of Dealer Development.


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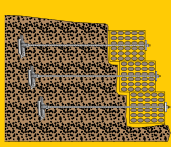


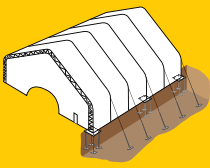
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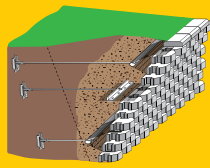
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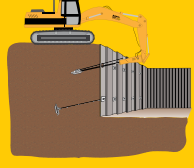



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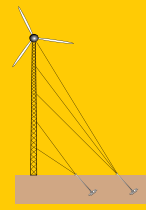
  
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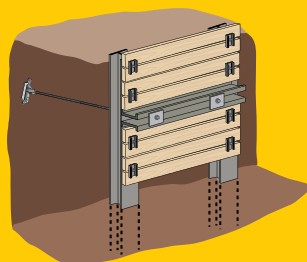
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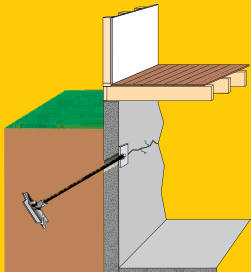
  
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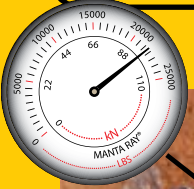
  
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*"We're promoting products as an industry, instead of each company doing their own methodology and testing..."*

"The residential market has slowed quite a bit. We see short and long term opportunities in the commercial side of our business. It's a new emphasis," says Farkas. "We have a dealer in Minneapolis, for instance, who is having great success using one of our newer products, a zero degree bracket." Traditionally, anchors followed a two-degree incline to accommodate the torque motor under a basement wall, for example. "You could not install an anchor perpendicular to the foundation. We designed a bracket to take the eccentricity out, and it's working well for us." This particular project involves a retail space that is converting to a hardware store, so they need fortification of the foundation to handle higher loads of hardware stock. Farkas says there are 140 to 150 piers going around the structure at zero degrees.

One trend that Farkas welcomes is the acceptance of helical and push steel piercing products; and, he credits the foundation industry for working together with engineers to produce AC308. "We're promoting products as an industry, instead of each company doing their own methodology and testing and putting their products in the best light. Now we measure apples to apples." He adds: "This will drive the quality of products and move the reputation of the industry upwards... There used to be a reluctance to use our products in commercial construction. With inclusion in the UBC, we will see more acceptance and use." (See ad on page 40.)

Bill Bonekemper, Vice President of Magnum Piering of West Chester, Ohio ([www.magnumpiering.com](http://www.magnumpiering.com)), agrees. The company introduced

their helical pier in 2000 and has done very well with it. While the stringent criteria that the industry helped set for AC308 may seem tough to meet, Bonekemper expects that this will pay dividends in the future.

"To be honest, the foundation industry has never had helical piles," he says. "It has a very complex set of calculations with all the different soils (clay, sand and bed rock); and the industry did make it difficult on itself with guidance from engineers from ICC. They said: 'We won't give you a passing grade without proper extensive testing.' The group decided it was worthwhile to produce a very stringent testing regimen and approval process. In the end, we will all be better for it; and it will keep out the also-rans with poor products," says Bonekemper.

The future for helical piers is bright, Bonekemper says, because they are extremely versatile. "They work well in many situations, such as slopes along interstates. The utility industry uses them to hold down big towers. The solar panel industry is looking at helical piers for huge arrays, and so is the wind power generator business... The industry has done a good job of educating engineers, and it's starting to pay off." (See ad on page 38.)

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At A.B. Chance ([www.abchance.com](http://www.abchance.com)), a division of Hubbell Power Systems, Business Unit Director John Bliven applauds AC308 and notes: "It is a very difficult standard... We are fortunate that we have a 41,000 sq foot research center. It's accredited, and we have been able to perform most of the tests with 3<sup>rd</sup> party observation." Located in Centralia, Missouri, the company traces its roots to 1912 when A.B. Chance invented an earth anchor device after an ice storm knocked down local telephone poles. Bliven promotes the versatility of current-day helical anchors, and also sees opportunities in the solar industry and government projects. For road building, the company offers products

*"We're always looking to be able to bring the broadest amount of offerings to our clients ...for whatever foundation project comes our way."*

for street lights and signage foundations. "These are instant foundations, and that's one of the biggest benefits of helicals in my opinion." (See ad on page 37.)

Managing the current downturn not only takes strong products and services, but also a culture that enables companies to bend without breaking. One-hundred-year-old Subsurface Contractors ([www.subsurfaceconstructors.com](http://www.subsurfaceconstructors.com)), of St. Louis, Missouri, suggests that its culture of change allows them to stay current with customers' needs. Subsurface President Jim Morgan says, "We're always looking to be able to bring the broadest amount of offerings to our clients, the most economical, right-sized offering for whatever foundation project comes our way."

For example, they are leveraging the fact that two of the three owners are military veterans to help their customers win more contracts. "We are doing a library in Peoria and a Veteran's Hospital in Columbia, Missouri. We are trying to reposition ourselves as a veteran-owned small business, to help our clients who are repositioning themselves to pursue government work. The work that will be out there for the next six months will mainly be public or public-related."

In one project, they are using an auger cast pile, despite the sandy soil. "That's a bit unusual because, normally, in sandy soil you're going to use a sheet pile; and, traditionally, if someone used auger cast in sandy soil, they would all be tangent to each other – which makes it quite expensive." He said the company came up with a hybrid auger cast system where you don't put them in tangentially, but where they are close enough to retain the loose soils, yet separated enough to reduce the number of piles. "That will make it competitive with steel sheet pile," Morgan adds.

And while changing with the times and coming up with innovative solutions has helped the company survive the current recession, Morgan also credits Subsurface Constructors' conservative ethic: "We have never tried to grow too fast; so during this economic downturn, we're not overwhelmed by debt or other liabilities. We're in a position to weather the storm and, in fact, are making investments... We

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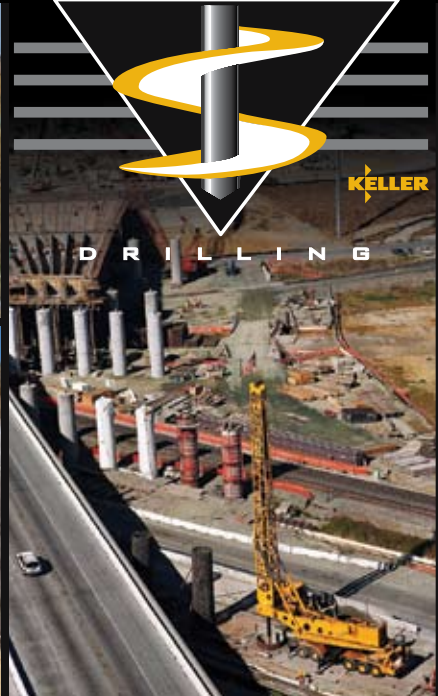
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just bought another ground improvement machine to take advantage of the cheap equipment market.”

For the foreseeable future, until private sector companies ramp up their construction spending, government-related projects will rule for most foundation companies. “We see large projects on the horizon,” says Dennis Poland, Business Development Manager of Anderson Drilling ([www.andersondrilling.com](http://www.andersondrilling.com)), which serves the Western United States from Lakeside, California.

“The public works sector is hot. We’re focusing on large infrastructure projects in the western US.” One such project is the new, elevated Light Rail Transit System, from Qualcomm Stadium to near San Diego State University in the San Diego Mission Valley. The elevated section is supported by sixty-seven 8-foot and 9-foot diameter shafts, drilled 70-105 feet deep. The subsurface is loose, coarse sands and gravels, intermixed with soft, fine-grained material, with occasional boulders to 30 inches in diameter, overlying dense sandstone bedrock. Anderson Drilling’s service included placement of client-supplied reinforcing cages, furnished and poured concrete to the drilled shaft cut-off, and on-site stockpiling of drill spoils.

The spread of government-funded projects, however, is spotty. Some areas are doing well, spending stimulus monies, while others are not spending the money or have not yet received it, for shovel-ready projects.

The Monotube Pile Corporation, part of the Davidson Group of Companies ([www.davidsonpipe.com](http://www.davidsonpipe.com)), is dedicated to manufacturing steel piles for exclusive use in the deep foundations industry. The Canton, Ohio company mainly serves the United States market. Says General Manager Sam Kosa: “Most of our business involves projects that have government funding – bridges, government structures – structures with longevity. Our products, the cast in place pile, are seldom used in commercial applications;

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but the commercial business is null and void right now anyway. We're doing some highway bridges, but most other projects are on hold... State highway departments are not spending at the rate they have in the past... We have not seen the effect of the stimulus. We hope to see it in the 2<sup>nd</sup> and 3<sup>rd</sup> quarter of 2010. We won't see a significant change until then." (See ad on page 41.)

Doug Taylor, CEO of Taylor Devices in North Tonawanda, New York ([www.taylordevices.com](http://www.taylordevices.com)), echoes Kosa's sentiments with respect to the government stimulus funds. "A lot of projects that use our products use a lot of government funding, and we're not seeing a lot of signs of

*"We are seeing a shift toward both direct government work and sectors such as power, ports, hospitals and schools..."*

the stimulus." Taylor Devices makes a host of shock control devices, including Seismic Dampers and Seismic Protection Products. He adds: "The money is there. It's been received by a government organization, but they're not spending it. They're letting it sit." He notes that the Governor of New York is talking about using stimulus funds slated for 2010 to balance the 2009 budget. "They're not going to use it for government projects, but to pay salaries. Can they legally do that? That's what everyone is asking."

Jim Hussin, Director of Marketing at Hayward Baker, Inc. ([www.HaywardBaker.com](http://www.HaywardBaker.com)), headquartered in Odenton, Maryland, does not see a fast recovery in the U.S. commercial market either. "As everyone knows, the commercial market has slowed down. Most of the work that had been commonplace has pretty much dried up. We are seeing a shift toward both direct government work and sectors such as power, ports, hospitals and schools – areas where there is more funding. The return of the commercial market may take a couple of years." ■

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