

FOUNDATIONS

Slow and Steady Upswing for Foundation Business

By Larry Kahaner

Despite being whipsawed by the ‘fiscal cliff’ negotiations, companies involved in the foundation sector report that business generally is up and growing, albeit at a measured pace. “Our customers tell us that there seems to be a slow but steady increase in work,” says Jim Hussin, Director, Hayward Baker, Inc. (www.haywardbaker.com), headquartered in Odenton, Maryland. “In our own company, we have seen a steady increase in business over the past two years and will perform a record volume of work in 2012.”

Hayward Baker is a contractor specializing in foundations and geotechnical construction. Their services include grouting, ground improvement, structural support and earth retention, all of which are offered as design-build services. One of their newer services is soil mixing which has gained popularity in the last few years, according to Hussin. He explains the process. “Soil mixing is a ground technique that improves the characteristics of weak soils by mechanically mixing them with a cementitious binder. The binder can be added as a slurry for dryer soft soils, or as a dry powder to very wet soft soils. To construct columns, a powerful drill advances drill steel with radial mixing paddles located near the bottom of the drill string. The binder slurry is pumped through the drill steel to the tool as it advances and additional soil mixing is achieved as the tool is withdrawn. To perform mass soil mixing, or mass stabilization, a horizontal axis rotary mixing tool is located at the end of a track hoe arm. This technique has been used to strengthen soft soils at sites of planned buildings, storage tanks and embankments.”

Hussin adds that this soil mixing technique allows improvement of soft soils that were previously difficult to treat.

At Polyguard Products (www.polyguardproducts.com) of Ennis, Texas, CEO John Muncaster boasts of his company’s 20th straight year of sales growth. Polyguard does waterproofing and corrosion protection, and they’re eager for SEs to learn about their Underseal Underslab waterproofing membrane. “When you’re on a construction site and you’re about to pour a concrete slab, and you want to protect it from moisture or vapor or water, you want something that also will stand up to the

abuse of construction. Traditionally, the industry has been using poly films that become riddled with holes by the time the construction process is over. Our product not only waterproofs, which is vapor proofing plus waterproofing, but it has the ability to withstand the construction process better than anything out there,” says Muncaster.

“People talk about protecting the whole envelope from primarily moisture, but what they’ve been using underneath the slab is like Swiss cheese by the time all the equipment has rolled on it, all the welding has taken place, and people have stomped around. And, literally, contractors using poly film sometimes will punch holes in it to make the concrete slab dry faster... what I would like to emphasize is that our product is not just a vapor barrier but waterproof and damage resistant, too.” (See ad on page 32.)

Brendan FitzPatrick, Director-North America at Geopier Foundation Company, Inc. (www.geopier.com) based in Mooresville, North Carolina, says that their latest technology innovation, Geopier Densipact, provides further cost savings by densifying loose sand with on-site or local sand aggregate to develop allowable bearing pressures upwards of 12 to 14 ksf. “The rapid densification of on-site soils combined with high bearing pressures affords considerable cost and time savings to project teams,” he adds.

Geopier prides itself on providing innovative technologies with a focus on reliable, cost-effective foundation support solutions that deliver value to the project team, says FitzPatrick. “Many engineers have experience with a traditional Geopier ‘drill and fill’ technology that has been used for decades. Many customers have also experienced the benefits of cost and time savings for their building foundations by using the displacement Rammed Aggregate Pier systems – Impact and Rampact—to reinforce loose saturated sands, or soft silt and clay, or contaminated soil where elimination of spoils generates additional cost savings to the owner.” He notes that these products, along with their new Densipact product, “provide an additional option to project teams for foundation and floor slab support, and expand our ability to serve our customers. For the right application, these additional tools provide further cost-effectiveness than other Geopier options that the design team may have previously considered.” (See ad on page 33.)

continued on page 34

Another company bringing ground improvement to customers is Subsurface Constructors, Inc. (www.subsurfaceconstructors.com), St. Louis, Missouri. “We are a full-service geotechnical contractor. We are one of the very few companies to offer both the full range of deep foundations and earth retention, in addition to serving as a design-build contractor for vibro ground improvement solutions nationwide,” says Lyle Simonton, Director of Business Development. “Our ground improvement division, although no longer new, continues to grow its ability to be competitive in all industries and geographic locations. We have designed and constructed vibro ground improvement for hundreds of structures of all sizes. We bring a significant amount of value to owners and developers who are seeking a lower-cost ground improvement alternative than the companies they’ve used previously. In the past year, we have completed several ground improvement projects in the east and northeast for developers of multi-family residential and commercial facilities. Engineers and contractors are starting to realize that ground improvement for their projects do not have to be high-cost solutions.”

Simonton adds: “With some of the new equipment we’ve developed, we are becoming more mobile and even more competitive on projects that are a long way from our home office in St. Louis.”

Gina Beim, Senior Consulting Engineer, Marketing at Pile Dynamics (www.pile.com) in Cleveland, Ohio, says that the electrical utility sector has been a growth area for their products, which includes testing and monitoring systems for all types of deep foundations.

“Two things have happened,” says Beim. “First, the sector is growing so there’s more construction. And second, the nature of the construction of these transmission lines is such that every so often a pole is supported by only one big foundation element: a monopile. It’s very important to test the quality and bearing capacity of this particular foundation element. In other cases, particularly in environmentally sensitive areas, this industry employs helical piles that up until recently had been a challenge to test (for capacity) by dynamic testing. Pile Dynamics has done some research and is now able to recommend

“Our customers tell us that there seems to be a slow but steady increase in work.”

how to undertake dynamic testing for this type of pile, and that is stirring up interest on the part of this industry.”

She adds: “We have traditionally served the driven pile industry, the drilled shafts industry and the auger cast pile industry with instruments to assure quality of these types of piles. More recently, we have made certain recommendations in testing the capacity of helical piles so that they can be tested with the Pile Driving Analyzer. That’s a relatively new development that we are quite excited about, because consultants that provide these services are embracing this new way of testing.”

Beim explains that in the past, the most often used method to evaluate the integrity of a drilled shaft was crosshole sonic logging, which is still by far the most widely-used method but it has some disadvantages. “Thermal integrity profiling is also a method of examining the quality of these drilled shafts; this process is better because it looks at the entire cross-section of the shaft. Crosshole sonic logging does not. Thermal integrity profiling evaluates the alignment of the reinforcement cage and the shape of the shaft, which crosshole sonic logging cannot do, and it’s a test that can be performed much sooner than cross-hole sonic logging. With these advantages, people are excited about it. We are seeing more and more interest in our Thermal Integrity Profiler, which performs this new type of integrity test.” ■



ADVERTISING OPPORTUNITIES

STRUCTURE[®] magazine is planning several additional SPECIAL ADVERTORIALS in 2013.

To discuss advertising opportunities, please contact our ad sales representatives:

CHUCK MINOR
Phone: 847-854-1666

DICK RAILTON
Phone: 951-587-2982

Sales@STRUCTUREmag.org

NEW! Thermal Integrity Profiler (TIP) For bored and augered piles, slurry walls, jet grouting columns

The Heat Is On...

Evaluates the shape and the concrete quality inside and outside the reinforcement cage.

Tests early, so construction can move on.



Probe System



Thermal Wire[®] System



www.pile.com/tip
sales@pile.com

www-foundations.cc
engineering@foundations.cc