

FOUNDATIONS

Foundation Sector Grounded in Optimism for New Year

By Larry Kahaner

2014 is shaping up to be a strong year, according to those working in the foundations sector. “We probably have more backlog going into a winter of a new year than I can remember,” says Lyle Simonton, Director of Business Development at Subsurface Constructors, Inc. (www.subsurfaceconstructors.com), St. Louis, Missouri. “We’re not seeing that winter slowdown that we’ve sometimes seen in the past. Rather than have a seasonal lull, we have a lot of work carrying on into the first months of the year.”

Jim Hussin, Director at Hayward Baker, Inc. (www.haywardbaker.com) in Tampa, Florida agrees. “There has been a steady increase in work in the past few years to where, when combined with our acquisitions, we are now back to record sales volumes.”

What appears to be driving the industry are a growing economy, new offerings that are attracting business, and a general optimism among those companies who have survived the lean years of the building slowdown. One sign of improvement is companies that recently

relied heavily on government work are now seeing increases in private work. Says Kord Wissmann, President of Davidsonville, North Carolina-based Geopier Foundation Company (www.geopier.com), “Like the rest of the construction industry, we have seen a rebound in residential (multi-family) developments along with the light commercial and retail projects that follow.” He also credits increasing worldwide awareness of seismic risks for interest in companies like Geopier that engage in soil mitigation. The company specializes in providing a wide variety of cost-effective ground improvement solutions to support load ranges on any project, Wissmann says. “Recent innovations including the Geopier Armorpact system, provide structural engineers with the tools to support higher loads with increased allowable bearing pressures in very soft cohesive soils. The Geopier Densipact system affords allowable bearing pressures of up to 14,000 psf in granular soils. All of these systems are geared to save time and money for foundation construction.”

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Wissmann adds: “Historically, the industry has focused on liquefaction mitigation using soil densification techniques. This remains the case on many projects. There is also a growing trend towards the use of more cost-effective approaches by reducing liquefaction triggering while simultaneously addressing dynamic settlement – particularly differential settlement. Geopier uses many of its systems, for example, its Impact pier technology, to reduce liquefaction-induced settlements while providing cost-effective foundation support.” (See ad on page 48.)

Hayward Baker’s Hussin notes that soil mixing is a relatively new product offering. The process improves weak soils by mechanically mixing them with a cementitious binder, and it continues to gain popularity. “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 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. The technique has been used to strengthen soft soils at sites of planned buildings, storage tanks and embankments,” he says. One impetus for soil mitigation, according to Hussin, is an increase of soft soil sites, particularly port facilities. Recently, the company acquired Geo-Foundations, a full-service geotechnical construction firm operating out of Toronto, Ontario. “This demonstrates Hayward Baker’s commitment to the Canadian market, especially when combined with our parent company Keller’s recent acquisition of the assets of North American Energy Partners’ piling division, known as North American Caisson (NAC). The company

has been renamed Keller Foundations Ltd.,” says Hussin, “and it operates throughout Canada.”

Simonton says that Subsurface continues to build on its capacity to perform ground improvement work all over the country. “We have created some new equipment to support that endeavor, and it’s led to work even further away from our traditional Midwestern base,” he says. “We’re doing a lot of work in the Northeast, the New England area... we’ve just seen a lot of development, commercial and otherwise, all over the U.S. but in the Northeast in particular. I think a lot of people assume that we’re a smaller, Midwestern company, that there’s no way we could cost-effectively travel to the Northeast and be competitive. And yet, we’ve done about four or five Boston and New England-area projects in the last year or two.”

At CTS Cement Mfg. Corp. (www.ctscement.com) in Cypress, California, Marketing Director Janet Ong Zimmerman also says that business is improving. “Things are better than last year and slowly going in the right direction... We are seeing a gradual, yet steady, recovery in the commercial, industrial and non-residential markets.”

The company manufactures Rapid Set fast-setting hydraulic cement and Type K shrinkage compensating cement. “Rapid Set exceeds 3000 psi in one hour, which means you can make structural repairs and rehabilitation, and return the concrete to full use in just one hour,” Zimmerman says. She would like SEs to know about Rapid Set Flooring Products that “offer a complete way to repair, resurface and renew interior and exterior floors.” She adds: “Products include TRU Self Leveling for polished overlays and toppings, LevelFlor for self-leveling underlayment, acrylic and epoxy primers, Skim Coat for patching and skim coating, and repair mortars.” In addition, the company is touting Rapid Set Corrosion Inhibitor which

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John Somers, Vice President of Sales/General Manager at Polyguard Products (www.polyguardproducts.com), Architectural Division in Ennis, Texas announced that his company is celebrating its 60th anniversary. "Our Architectural Division provides high quality waterproofing membranes for both pre and post pour concrete applications as well as drainage boards, thru wall flashings and the best sealants and transition products in the industry. In addition we manufacture a complete line of fluid applied air barrier and waterproofings."

He says that for some SEs, Polyguard may be a new name but their products, such as Underseal and 650, are likely to be familiar. "In 2013, we launched a new balcony product called Balconyguard. This is a membrane product and system specifically designed for balcony applications. We also introduced a series of pre-fabricated boot products for waterproofing around columns and penetrations. They save time and are easy to install," Somers says.

"The boots were a result of customer requests. Job-site fabricated boots are time consuming and cumbersome, particularly in harsh job site and poor weather conditions. Having the boots prefabricated in advance saves time, and results in a high quality job in the end," says Somers. (See ad on page 50.)

Another company celebrating longevity is The QUIKRETE Companies (www.quikrete.com) of Alpharetta, Georgia, says Frank Owens, Vice President Marketing. "We were founded nearly 75 years ago, and we manufacture more than 200 professional-grade products including mortar mixes, cements, concrete repair products, stucco, waterproofing, tile setting, blacktop products, floor underlayments, sand and aggregates from more than 100 facilities in the U.S., Canada, Puerto Rico and South America."

Owens says that the company has a state-of-the-art technical center where research and development is constantly driving product enhancements. "Our FastSet line, which features five products designed for rapid strength gain while providing contractors with adequate time for mixing, pouring and finishing projects, is a great example of QUIKRETE product innovation."

He also wants SEs to know about three FastSet products that are designed specifically with engineering job requirements in mind.

- QUIKRETE FastSet Repair Mortar uses a special low-sag formula to make vertical and overhead structural repairs to any concrete, masonry or stucco surface. It delivers 20-30 minutes of working time and allows sculpting of the material during placement.
- QUIKRETE FastSet Non-Shrink Grout is designed for structural concrete repairs from 1/4 to 24 inches deep, and can be mixed to a plastic, flowable or fluid consistency. It delivers 30 minutes of working time.
- QUIKRETE FastSet Concrete Mix is a blend of cement with specifically graded fine and coarse

aggregates that is used at any thickness from 1 1/2 to 24 inches. It delivers 20-30 minutes of working time.

Owens notes that he's seeing an interest in turning plain, grey concrete into attractive surfaces. "With this growing interest in designer concrete, we've introduced a new suite of advanced formula concrete décor products including stains, sealers, coatings and cleaners."

On the testing side of the foundations sector, Senior Consulting Engineer, Marketing Director Gina Beim of Pile Dynamics, Inc. (www.pile.com) of Cleveland, Ohio, says that her company has witnessed an 'explosion' of popularity of the Thermal Integrity Profile (TIP). "The interest in evaluating the shape of drilled foundations using TIP with either data collection method – thermal probes or thermal wire cables – is increasing, and the industry recognizes that. The TIP received two innovation awards in 2013 – one from the Deep Foundations institute and the prestigious NOVA Award for Innovation from CURT/CIF (Construction Innovation Forum). In 2013 some testers branched out to try the thermal profiling on jet grouting columns, soil nails and micropiles. It's exciting to see these new applications tried out, and PDI thinks most of them will open new markets for the TIP."


The company also increased the number of options available for its Pile Integrity Tester. "That's PDI's instrument for pulse echo testing of concrete foundations. The PIT, as it's known, now comes in two sizes (some people favor a compact size, others prefer a larger screen to visualize results), with either wireless or traditional (cabled) sensors, and with either one or two channels of data acquisition."

PDI hasn't stopped there, Beim says. "We have developed another device, an instrument for independent inspectors of ACIP / CFA piling jobs. It streamlines and standardizes the entire process of recording the installation, something that inspectors still tend to do with pencil and paper. PDI will start marketing it to inspectors soon," she says. Speaking about 2014, Beim predicts that the U.S. market will remain steady. "Outside the U.S., some countries are seeing increased interest in foundation quality control, either just as a natural evolution of construction practices or because new codes have been enacted that require or incentivize deep foundation testing. One example is Sweden, which now requires pile driving monitoring in virtually all construction sites. Brazil requires a significant amount of pile load testing, too. PDI's representatives are, therefore, cautiously optimistic," says Beim. ■



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