

# U.S. CONSTRUCTION SPENDING UP

Foundations Companies Offering New Products, Services

By Larry Kabaner

Construction spending in the United States rose more than expected in October – in both public and private sectors – logging a 1.1 percent increase, the largest gain since May according to the Department of Commerce. This data suggests some momentum for the fourth quarter of 2014. Overall, U.S. construction reached an annual rate of \$970.99 billion.

Construction looks strong on a global scale too, according to KPMG's 2013 *Global Construction Survey* which shows “an industry in better shape than four years ago with rising backlogs and largely healthy margins. The recovery in the global economy is driving infrastructure, power and energy projects, while cheaper gas prices are leading to manufacturing growth.”

Amid this backdrop of positive data, many foundations companies are seeing increased work.

“Although we are staying busy right now in most major market sectors, we are seeing a big increase in the use of ground improvement methods in the construction of multi-use [residential and commercial] structures, in particular in urban areas where old fill soils are a significant concern,” says Lyle Simonton, Director of Business Development for Subsurface Constructors, Inc. ([www.subsurfaceconstructors.com](http://www.subsurfaceconstructors.com)) in St. Louis, Missouri. “Projects are using stone columns/aggregate piers in fill soils, providing a significant increase in bearing pressure and therefore a higher ‘trust’ factor with building on marginal sites.”

Since the start of its Ground Improvement Division in 2005, the 108-year old company continues to grow its ability to perform work in new areas of the U.S. each year, Simonton says. “By continuing to invest in new technology and with our in-house innovation in improving our equipment and techniques, we have put ourselves in a competitive position for projects across much of the U.S.”

Simonton notes that he's hearing from SEs who want to work with Subsurface Constructors to help develop their projects. “They are trying to bring value to their clients by optimizing the foundation

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type for the existing soil conditions and we're able to help them develop the most economical solution. Subsurface Constructors is one of the only specialty contractors in the U.S. who provides both deep foundations and ground improvement services, so we can provide a true assessment on what foundation type is feasible and economical.”

One recent project is “The Streets of St. Charles” site in St. Charles, Missouri, a multi-use project that consists of an apartment structure, retail, office space, and a movie theater. This site had significant grade changes and very soft soils in most areas. Subsurface Constructors worked closely with the general contractor to develop earth retention solutions to support the large cuts on the site, and used multiple ground improvement types to accommodate new construction of footings in soft soils and some restricted access areas. Subsurface was involved in the project planning process for close to two years prior to construction, and therefore could help the design team make important decisions regarding foundation type, earth retention, and construction sequence, Simonton says.

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Geopier Foundation Company ([www.geopier.com](http://www.geopier.com)) in Davidson, North Carolina is also experiencing a good year. President Kord Wissmann says: "2014 is a record year for Geopier, and we are looking forward to continued success in 2015. While the overall markets remain strong, we believe that it's our wide variety of continuously evolving ground improvement solutions that afford great value to our clients."

The company, a subsidiary of Tensar Corporation, says that it developed the first Rammed Aggregate (RAP) system in 1989. Today, Geopier solutions provides an efficient and cost effective Intermediate Foundations solution for the support of settlement sensitive structures, company officials say. They note that its systems have become effective for massive over-excavation and replacement of deep foundations including driven piles, drilled shafts or augered cast-in-place piles.

Adds Wissman: "Our GeoConcrete Columns are being used for heavy loads on very soft soil sites, and our Geopier X1 system is providing opportunities to efficiently reinforce deep compressible cohesive soil previously reserved for deep foundations."

Pile Dynamics, Inc. ([www.pile.com](http://www.pile.com)) of Cleveland, Ohio redesigned several of its instruments in 2014. "The Pile Integrity Tester model FV and the Thermal Integrity Profiler got larger and more visible screens," says Gina Beim, Senior Consulting Engineer/Marketing Director. "But the Pile Driving Analyzer (PDA) system got a complete top-to-bottom redesign of both hardware and software."

Says Beim: "The new Pile Driving Analyzer system is the PDA-8G model. Like previous PDAs, the PDA-8G uses data obtained by sensors attached to a pile to calculate capacity and more than 230 other quantities once a driving hammer or other drop weight hits the pile."

"The thickness of the PDA-8G is less than half of the model it replaces and it feels light and ergonomic, like a tablet. Engineers who are familiar with the PDA will appreciate that the data acquisition channels of the PDA-8G are now all universal, allowing the use of various combinations of accelerometers and strain transducers. This is attractive for tests of large drilled/cast-in-place piles," Beim says. "Data may be collected at 120 blows per minute – almost fifty percent faster than before – making it easier to test piles driven by hydraulic hammers with high blow rates. The PDA software now responds to gesture controls like swiping and pinch-to-zoom, making for a very intuitive interface. It also includes more extensive data input help and output customization. The PDA-8G is SiteLink-ready [SiteLink technology transmits PDA test data via the Internet to an engineer located

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elsewhere who follows the test in real time], giving the engineer the option of conducting the test remotely. A totally revamped version of the CAPWAP software that analyses the data collected with the PDA-8G was also released.”

Beim concludes: “Pile Dynamics manufactures an instrument that monitors the installation of augered cast-in-place piles, the PIR [Pile Installation Recorder]. Certain U.S. industry guidance documents recommend the use of such instruments – the generic name is Automated Monitoring Equipment – whenever this type of pile is installed. PDI both sells and rents the PIR, and this year the number of rentals increased significantly. PDI sells this mostly to the U.S. market, where augered piles are typically favored by the private sector. They are a relatively inexpensive deep foundation solution.”

At Hayward Baker, Inc., ([www.haywardbaker.com](http://www.haywardbaker.com)) whose North American Headquarters are in Hanover, Maryland, Director Jim Hussin says that soil mixing is continuing to grow. “That’s the process where soils are mechanically mixed with binders, usually cement, to end up with a stronger material. It’s being used more and more, especially in soft sites where you have either soft clays or weak materials that are difficult to treat using other technologies.”

Hussin adds: “In the south Florida market we’re using it more frequently to create what we call ‘bathtubs,’ where the [developer] wants to build high-rise condominiums but they also want to put three or four-story parking garages below them which is difficult because it’s right on the beach. A 30-foot deep excavation adjacent to the Atlantic Ocean is extremely hard to do. Before they do an

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excavation, we'll spin tools down and mix from 30 to 40 feet. This creates a floor down below the planned excavation. We then create walls on the side. We're building a 'bathtub' which they can dig out and have a dry excavation. Then they're able to construct lower floors and go on up with their high-rise. That's something in the last year or so that's really taken off."

As for the market in general, Hussin sees improvement. "We're seeing after a couple years of the [the recession and aftermath] that there's been a steady climb and we're back to where we were pre-recession days. We're seeing a nice, steady growth in the construction industry. It's not extremely fast but nice and steady, so I think it's probably a good, healthy growth," he says.

Hussin would like SEs to know that Hayward Baker has the ability to construct projects designed by others but also performs design-build projects. "The diversity that Hayward Baker offers, along with our engineering ability, allows us to assist engineers with evaluating and resolving sub-surface issues with the right, best fit for whatever the project is.

At CTS Cement Mfg. Corp. ([www.ctscement.com](http://www.ctscement.com)) in Cypress, California, Marketing Director Janet Ong Zimmerman says 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 one hour," Zimmerman says. She wants SEs to know about Rapid Set Flooring Products

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that “offer a complete way to repair, resurface and renew interior and exterior floors.” She adds: “Products include TRU SelfLeveling for polished overlays and toppings, Skim Coat for patching and skim coating, and repair mortars.” In addition, the company is touting Rapid Set Corrosion Inhibitor which provides triple-protection against corrosion. “It increases corrosion resistance when used in areas susceptible to corrosion and chloride. It repels water, thereby preventing an unsightly appearance to concrete. It reduces chloride permeability, thereby increasing the life expectancy of metals, steel and rebar,” Zimmerman says. (See ad on page 41.)

Hollie Furimsky at Ram Jack Systems Distribution in Ada, Oklahoma, ([www.ramjack.com](http://www.ramjack.com)) notes that its helical design software Ram Jack Foundation Solutions allows an engineer to custom design a helical pile per their project specifications, share projects with other registered users, and save a PDF output for submittals. “Ram Jack’s engineering department, staffed with structural and geotechnical engineers, assist engineers with designs, drawings, specifications, and technical questions. If the engineer of record is not familiar with helical or hydraulically driven steel pilings, our engineers can provide the pile

design, calculations, drawings, and specifications for the engineer’s review,” she says. “Ram Jack Manufacturing ensures the quality and assurance of our products through our ISO-9001 certification. We also hold a Fabricator’s License per the City of Los Angeles Building Department. Ram Jack continues to maintain our ESR report (ESR-1854) and have updated it to include compliance to the 2012 IBC and the 2010 Florida Building Code. We have also updated our L.A. Research Report for compliance with the 2014 L.A. Building Code.”

Furimsky adds: “Ram Jack Foundation Solutions software and engineering consulting services are provided free of charge to design engineers. Our product reports and ISO certifications demonstrate Ram Jack’s commitment to quality control and assurance of our products, as well compliance to the building codes.”

She says that they have seen an average of 20 percent growth in product sales across the board. Helical piles have had the largest growth. “We strive to be a leader in our industry. Our commitment to the engineering community has always been to provide the most trusted steel piling system on the market. Our offerings and services are geared to helping engineers specify our products with confidence,” Furimsky concludes. ■



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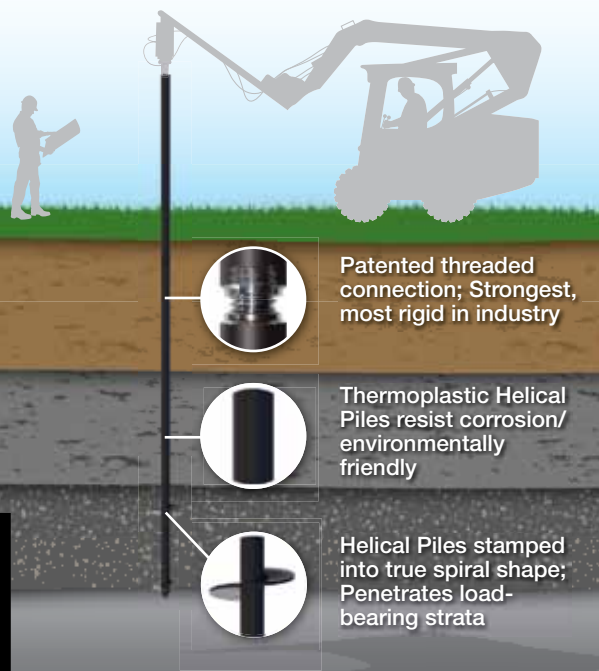
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