

# Seismic Construction Showing Signs of Improvement

## Public Projects Still Strong; Private Projects Growing

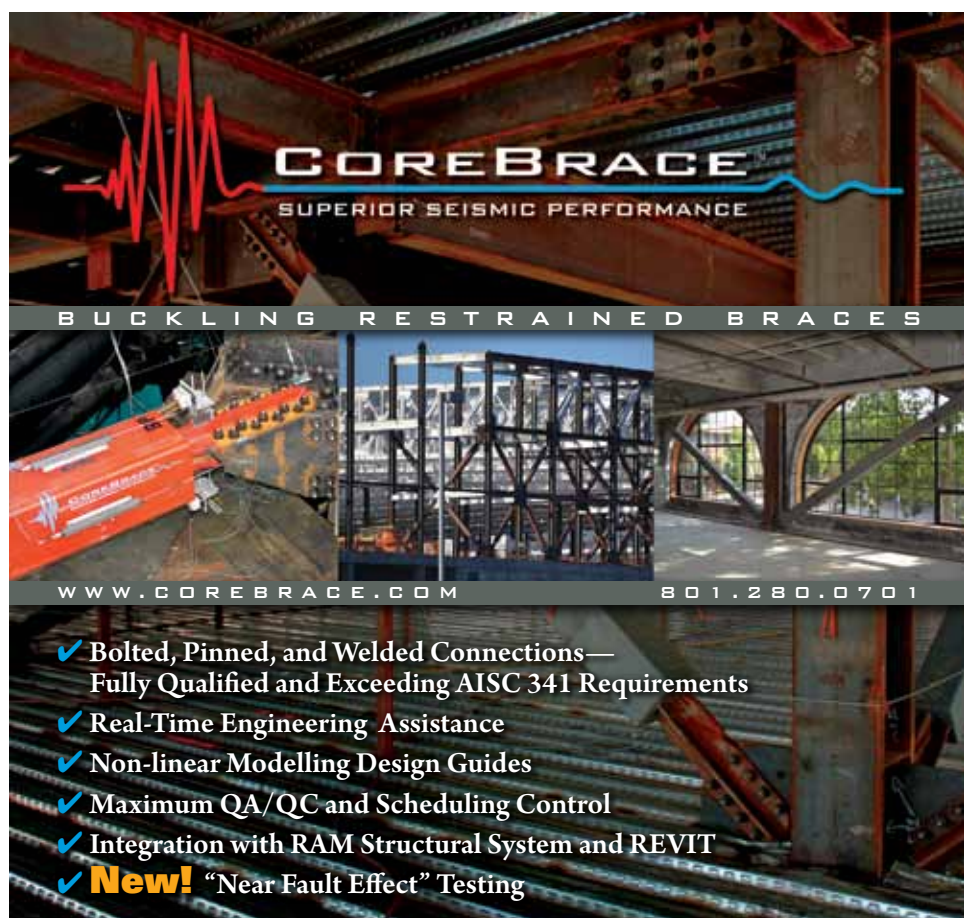
By Larry Kahaner

For the first time since the economic downturn began, those involved with seismic construction are seeing a marked optimism from their customers. Companies are not only sanguine about the future, but the numbers are bearing this out. “We are seeing a significant increase in the use of BRBs in the marketplace,” says Brandt Saxey, Chief Engineer at West Jordan, Utah-based CoreBrace, LLC ([www.corebrace.com](http://www.corebrace.com)). “We are also seeing a general upward trend in the construction industry as a whole, though perhaps not as significant as the BRB-specific increase. While the availability of project funding remains a constant concern, it seems that it may be loosening up somewhat.”

Lyle Simonton, Director of Business Development at Subsurface Constructors ([www.subsurfaceconstructors.com](http://www.subsurfaceconstructors.com)) in St. Louis, Missouri concurs. “Most people I speak with feel much better about the construction climate this year than in the past year or two. The quantity of projects that we’re bidding and the type of projects that we’re doing is also an indicator that more private projects are being developed compared to the past couple of years.”

While companies are seeing a bump in private construction, public work remains strong. “Fyfe Company has seen an uptick in the number of inquiries over the last 12 months, which signals an increase in the number of construction projects. This indicates growth in the existing structure renovation market and an increase in construction spending. We also see great potential in government sector work in the next 12 to 24 months,” says Aura Joyce, Marketing Communications Manager of Aegion Corporation ([www.aegion.com](http://www.aegion.com)), Fyfe’s parent company.

Individual firms are continually updating and improving products and services to remain competitive. According to Corebrace’s Saxey, the company began testing BRBs in 2001 with the goal of providing the best performing brace on the market. “We thrive on difficult projects where additional lead time is not an option. We offer BRBs with every connection option available on the market, including pinned, welded, and bolted connections.” He says they recently tested braces specifically designed for bridge applications which included some braces fabricated out of standard



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steel, galvanized steel, and stainless steel. "Each of these different material types produced a unique set of brace performance data, but each can be fit for any project type." They also tested braces designed specifically for retrofit use which are installed in two separate pieces, with a splice in the middle, allowing them to be fit-up in tight spaces where the use of a traditional brace would be impossible. "These recently tested braces underwent some of the most rigorous testing we have ever performed – far exceeding

the AISC-341 code requirements. Our ongoing R&D program allows us to continually provide the most state-of-the-art performance levels and keep our fabrication processes as economical as possible," Saxey adds.

Subsurface Constructors stays competitive by offering full service geotechnical contracting along with services not available from others, says Simonton. "We are one of the very few companies to offer both the full range of deep foundations and earth retention,

and in addition serve as a design-build contractor for vibro-ground improvement solutions nationwide." He adds: "Our ground improvement division, although no longer new, continues to grow in our abilities to be competitive in all industries and geographic locations. We have designed and constructed vibro- ground improvement for hundreds of structures of all sizes. Regarding seismic construction, we have seen an increase in using this type of ground improvement to prevent liquefaction in granular soils and/or provide reinforcement to weak soils that could be susceptible to liquefaction induced settlement."

The Fyfe Company, along with their construction arm, Fibrwrap Construction, were purchased last year and are now part of Aegion Corporation. Recent developments include a specialized FRP system for gypsum walls, a double-thick FRP product and a new low-profile UL-approved fire resistant finish system for projects which require a fireproofing product. Says Joyce, "The Tyfo CFP system is the new fire-resistant finish system which can provide a 1, 2, 3 and 4 hour UL-rated thickness, which is used in conjunction with the Tyfo Fibrwrap system. By far, Tyfo CFP is one of the lowest profile fireproofing systems available for FRP with a total thickness of 7/8 of an inch at 4 hours."

At Hayward Baker, Inc. ([www.haywardbaker.com](http://www.haywardbaker.com)), headquartered in Odenton, Maryland, Director James Hussin says that the company's newest technique is the TRD Wall method which constructs high quality soil mix walls in situ without the need for excavation required by other methods. "It also constructs a continuous wall that eliminates the risk of discontinuities or leaks that can occur

*continued on page 42*

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when overlapping columns or panel construction methods are used.”

His company is seeing a steady increase in work, but the recent downturn has caused unique problems for some contractors. “General contractors have experienced the pain of hiring inexperienced subs offering unrealistically low prices only to be hit with performance problems and claims. They now have come to understand the value of an experienced sub who can identify the risks associated with our business and avoid surprises during the work,” says Hussin.

Recent earthquake activity has caused an increase in inquiries, especially from areas that are usually not considered seismic zones, according to Joe LaBrie, managing partner of Dynamic Certification Laboratory ([www.shaketest.com](http://www.shaketest.com)) in Arcadia, California. LaBrie will be president of the Structural Engineers Association of Southern California starting July 1<sup>st</sup>. DCL performs seismic simulations for the purpose of certification of equipment for use in Category IV and other critical buildings. “Hospital buildings in California make up the lion’s share of where that demand is coming from right now,” LaBrie notes, but DCL is experiencing interest from the East Coast following the recent earthquake activity in Virginia. “The Eastern United States has the New Madrid Fault and you’ve got other areas of the country that also have active seismic areas. Consequently, the design community, the building owners and the construction community are taking

it very seriously and encouraging the science, the engineering and the measures necessary to improve the reliability and the safety of structures and their contents.”

Says LaBrie: “DCL provides full service from shake table testing and the preparation work associated with that to the structural engineering involved along with the processing through the regulatory entities... We’re the only laboratory that I’m aware of that is owned and operated by a licensed structural engineer who also has IAS accreditation and a 30-year background in the design of hospitals.” He encourages people to attend the annual *Buildings at Risk Summit* ([www.seaosc.org](http://www.seaosc.org)) that will take place on October 11 in Southern California (venue not yet decided). (See ad on page 44.)

Henry Gallart, President of SidePlate ([www.sideplate.com](http://www.sideplate.com)) in Laguna Hills, California says his company just executed some tests of its products at UC-San Diego. “We tested some short-span W36 x 150 beams, which have a high compactness ratio that, with the new SidePlate frame configuration and the U-shaped slotted cover plates, allowed this system to go to levels never before recorded on such a beam,” he says. “We were able to obtain two complete cycles at six percent rotation, where the requirements for testing a special moment frame are one cycle at four percent. It was very exciting.” Gallart says that the data collected in these tests helps feed the market that is seeking performance-based design. “With

*continued on page 44*

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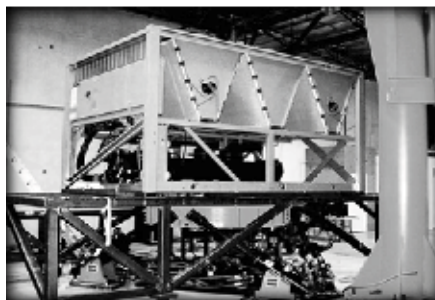


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performance-based design, you can take advantage, or take more advantage, of the added ductility that one system may provide over another.” As for business, Gallart notes: “The bigger government projects are definitely reducing in number, compared to, say, three to five years ago. And the commercial markets seem to be growing a little bit, which is surprising to many, including us.” He describes his company’s business as continuing to grow at an “incredible pace,” adding, “things are going really well.”

Robert Pyle, Director of Technical Marketing at Star Seismic ([www.starseismic.net](http://www.starseismic.net)) of Park City, Utah tells a similar story. “Business has been really good for us. We’ve got a lot of work. Last year was our most successful year and I think we’re going to do better this year. As far as people I talk to, engineers and general contractors, I am hearing that things are picking up. People are getting busy again. We’re finally starting to see work come out of the private sector which has been dead for four years or so.”

The company manufactures buckling-restrained braces and provides full engineering services. “We actually design all of the braces and gusset plates for clients. We do not charge any fees for these services, and we watch the project from conception until the braces are actually erected and filled,” says Pyle. “If any issues come up, whether it’s engineering concerns, questions about fabrication or erection, we stick with the job and with the client... If there is

*Individual firms are continually updating and improving products and services to remain competitive.*

any problem, whatever it might be, we will fly to the job site and help resolve any issues.”

Pyle adds: “What has carried us the last couple of years has been primarily schools, hospitals, and government-type facilities, but we’re starting to see it expand out. One of our most recent jobs was to provide the braces for a casino on an Indian reservation in California. We’ve got a big private project going in Arizona and another one coming up in Oregon, so companies are starting to move forward. We are seeing much more private work.” (See ad on page 46.)

At JMC Steel Group ([www.jmcsteelgroup.com](http://www.jmcsteelgroup.com)) in Chicago, (its two divisions are Atlas Tube and Wheatland Tube), Sales Engineer Brad Fletcher says that the advantages of hollow structural section over a built up section is its cost effectiveness. “As an industry, we are moving forward or trying to respond to all research, including

*continued on page 46*

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seismic, in trying to create better products.” He has some advice for SEs planning to use hollow structural sections. “They continue to be readily available and the size range that’s out there is quite large and quite flexible, especially coming from our company. One word of caution is that it’s important for engineers to check the availability of sections before they specify them. There are some sizes that are actually listed in the steel manual that aren’t necessarily produced anymore, or not produced on a regular basis. It’s a wise investment of engineer’s time to make sure that sections they’re considering are readily available, whether it be through distributors or from the mills.”

Also looking out for engineers is Software maker Chicago-based CSC, Inc. ([www.cscworld.com](http://www.cscworld.com)), which develops structural software and provides technical support to SEs in the United States. “We’re a global company with over 35 years’ experience of developing our structural calculation software, Tedds, and our steel building design software, Fastrak & CSC’s Integrator,” says Vice President Stuart Broome. CSC’s Integrator is a free tool for synchronizing Fastrak and Revit structure models back and forth.

The company offers a free trial of Tedds on its website. Next month, the company will release its new integrator with improved functionality for integrating design models with Revit Structure, Broome says. “We continually add new features to help our clients work efficiently. BIM is increasingly becoming common practice, and it’s vital we offer our clients a cutting edge BIM solution so that they can increase their productivity, win more work and be more profitable.” (See ad on page 3.) ■



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