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## Modular Construction Entering Commercial Arena With Fervor

By Clifford Cort

For builders and developers in Boston's commercial construction business, addressing the heightened interest in and requirements of building to green standards – while doing so in a manner that is organized and not cost-prohibitive – has become one of the great challenges facing the industry.

It's a challenge that requires knowledge first and innovation second. Some of the most innovative solutions are coming from a little-known form of construction: factory-built permanent commercial modular construction. These whole buildings delivered to site are comparable to site-built construction in terms of design and architectural quality, while providing eco-friendly benefits that are inherent to the modular process.

Dramatic improvements in construction methods – coupled with the traditional core benefit of speed to occupancy – are making permanent modular construction a desirable alternative for many commercial endeavors.

Modular construction naturally lends itself to green and sustainable construction methods – the kinds of techniques that commercial real estate clients are often eagerly looking for. In short, less time on site and more time in an indoor controlled manufacturing plant produce material, time and energy savings.

The Modular Building Institute, the leading international trade organization for modular building manufacturers, dealers and installers, recently distributed a report highlighting how modular construction may be applied to fit into criteria set forth by the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system. The report

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notes that modular construction fits purposely and well into the LEED standards. The white paper, available at [www.mbinet.org](http://www.mbinet.org), indicates that industry practices produce less waste, create less site disturbance and expose less material to inclement weather, among other green benefits.

As the industry awakens to its own potential, it is important to note that some leaders within are ahead of the curve, and already innovative and revolutionary when it comes to building green. Last year, Triumph Modular, a Littleton-based provider of temporary and permanent modular buildings and office trailers, was responsible for designing and installing the first moveable modular classroom in the country that was designed to meet LEED standards. The Triumph SmartSpace classroom is in use at the Carroll School in Lincoln. The building incorporates a superior building envelope, enhanced use of natural daylight, the latest in energy-reducing HVAC systems, and renewable materials to provide a healthier learning environment for the students there.

The MBI report also notes that a major factor in the modular industry's ability to promote its sustainability is in the speed with which modular buildings can be constructed and installed. Construction timelines can be cut nearly in half through the use of modular buildings because the building construction off-site is concurrent with on-site development. Equally important is the fact that modular construction is cost-competitive with site-built construction. Contractors and developers are spending no more on modular buildings than they are on conventional site-built construction, and they are able to complete their projects in as little as half the time.

For instance, Triumph designed and installed a 24-foot by 52-foot modular building for F1 Boston, a race-kart driving complex that needed more space for client instruction and equipment storage. Total time from design to completion:

10 weeks. The building met the complex's need for storage and was able to match the track's appearance in its design. Furthermore, the company's construction coordination allowed everyday activities to continue at F1 during installation. In a similar vein, Triumph recently oversaw the relocation of a 26,000-square-foot modular building from a central Massachusetts community to the Francis W. Parker Charter Essential School in Devens.

The modular building provides the Parker School with an additional two stories of classroom and lab space and was completed in six months. This particular project also reinforces the sustainability that modular buildings can provide through reuse. That building likely would have ended up in a landfill but, because modular structures can be more easily transported, it was able to be reused at the Parker School.

Recently, Triumph designed and installed a 4,300-square-foot building that houses a state-of-the-art digital mammography center for Cambridge Hospital/Cambridge Health Alliance. The completed facility includes a reception area, waiting rooms and three labs with the latest digital mammography equipment and technology. The modular building maximized all of the space available to the hospital. It was craned into place with inches to spare on either side of the existing hospital. Completed in four-and-a-half months, it met the need to accommodate more patients in the space available to the facility.

Building green buildings is moving rapidly from an ideal to a necessity. The development and construction industry would be wise to consider new tools, methods and an open mind to learning about off-site construction, which can help them meet the revolutionary changes around sustainability facing commercial development and construction. Permanent modular construction may be one of the most effective solutions available today. ■

