The Skyscraper's New Look

A less costly, faster and greener way of building is getting increased attention from developers and investors in these economic times. According to the Modular Building Institute (MBI), the five billion dollar industry is poised to grow as economic pressures spur developers to trim costs. MBI asserts that:

- Quality modular buildings have expected life spans of 20 to 50 years.
- They must meet the same rigorous local building codes as traditionally-built structures.
- Single and multi-story buildings can be configured to include independent offices, conference rooms, lobbies, kitchens, restrooms and large open areas for cubicles or other partition systems.
- Standard floor plans are available for immediate delivery while custom buildings are built to customer specifications in weeks, not months.
- Site work occurs at the same time as the buildings are being built in a quality-controlled factory.
- The five most prevalent uses are for educational facilities, general and medical office, retail and hospitality.
- Walls, floors, ceilings and rafters are all built simultaneously, then brought together in the same factory to form a building.
- Module lengths are up to 70 feet, usually in two-feet increments.
- Module heights vary from approximately 11 feet to 13 feet, not including the height of the unit's transport trailer or frame.
- Type-V wood-frame construction is the most common and economical type of construction – some manufacturers also build with steel and concrete and can meet the requirements for Type-I, II and III construction.
- Multi-story modular buildings can be built up to the maximum stories allowed by code.
- Lease-to-purchase options are available.
- Typical foundation systems used in conjunction with modular units allow for ready return to pre-installation status with little or minor site reconstruction costs. Foundation selection factors include wind, seismic, support, use and access requirements in determination of appropriate systems.

Located in Wolverhampton, UK, this modular student housing project, built in 27 weeks, would have taken 24 months using traditional site-built methods.

Student housing developer, Victoria Hall Ltd., used modular construction to solve overcrowding and urban site constraints at the University of Wolverhampton, England. The ground floor of the mixed-use building is site built, but the other 25 stories are assembled from 383 individual modules.
Charge It Up

It’s no surprise that places like Walnut Creek and San Jose, Calif., are on the forefront of sustainability. With the anticipated arrival of the Chevy Volt in late 2010 and Nissan Leaf in 2012, parking garages there are gearing up for electric cars. Two or three years from now, competition could ensue from parking garages that provide charging stations and those that do not, said John Judge, Associate Vice President, Desman Associates.

Judge noted that while there are upfront costs involved -- the charging stations themselves and the required electricity infrastructure -- real estate owners in California are installing charging stations as part of their sustainable initiative, keeping a share of the electricity revenue generated from the stations.

One additional feature of the electric vehicle initiative is the opportunity for advertisement. When the electric infrastructure is installed, the California owners use the feature in a broadcast effort regarding the overall development and the availability of the car charging technology. One nice feature of the vehicle charging stations is that they can typically be accommodated without an increase in building space compared to a traditional parking layout.

According to Walker Parking Consultants, details of the infrastructure requirements for plug-ins are not quite ready for prime time. The Society of Automotive Engineers has not yet issued its standard for recharging couplers, which would be a coupler that would extend from a fast-recharging station to plug into the vehicle. It must not only carry the power, but communicate data about the vehicle being recharged, and have safety features (i.e., shut itself off if somebody forgets to unplug it and starts to drive off.)

In addition, devices are in development that would allow plugging in the vehicle upon returning home from work, but not begin charging until 10 p.m. or later. Why? Because it will be significantly less expensive (many estimate one half) the cost to recharge at home at night, when there is the most capacity in the grid for recharging.

Given that there will almost certainly have to be incentives to recharge vehicles at night, Mary S. Smith, senior vice president, Walker Parking Consultants, recommends that real estate owners constructing new parking garages assure that there is adequate power capacity to the building to “fast charge” vehicles at three percent of the stalls in commuter and transient parking facilities. An owner wishing to be as green as possible probably should only provide recharging stations for at most one percent of the stalls, adding more recharging units as needed.

Smith recommends installing a commercial charging system such as ChargePoint™ and charging customers for the recharge, in order to encourage night-time recharging which is far more sustainable.

FOR MORE INFORMATION
www.walkerparking.com
www.desman.com