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## **Going up and going greener: Vertical parking structures offer a more eco-friendly solution for developers**

May 19, 2011 - Construction Design & Engineering

When AT&T found the perfect site to build a new facility in Mt. Laurel, N.J., there was one thing standing in their way - wetlands. In order to provide the amount of parking their new facility would need, surface parking lots would have to encroach onto the wetlands. However, the solution was quite simple: go up instead of out. Building a vertical parking structure, which requires 15% less land than surface lots, made the land viable for development.

This is becoming a common situation as easily developed and useable sites are becoming scarcer due to environmental regulations, zoning, inflation, and aggressive development. Companies are re-evaluating building usage and how they develop a site to get the most efficient use of the land.

Many large institutional companies are increasing the density of people in their buildings. Planners used to allow 400 s/f of gross space per person. Now they are allowing 200 s/f per person, doubling building capacities: more people in less space results in even more cars for existing parking areas to accommodate.

"It's building versus land - finding a balance that suits both requirements," said Alan Simon of Simon Design Engineering in Wellesley, Mass. "More developers are turning to structured parking facilities to make previously unacceptable sites feasible for use. Structured parking provides consolidated and convenient parking which allows for the creation of more green space as well as the ability to reduce water contamination, preclude the overloading of drainage systems, and recharge the aquifer."

Finding adequate parking solutions isn't limited to new construction. A closed 400,000 s/f Western Electric phone repair facility in Watertown, Mass. sat empty for years because of inadequate parking. The addition of a 1,400 space parking structure made the site viable for repurposing. The site is now home to Tufts Health Plan.

"Parking is a huge concern when repurposing older manufacturing facilities. In many cases, original parking areas weren't planned for high density occupation or the facility is situated in a land-scarce industrial park," said Simon. "Structured parking can provide a cost-, land- and environmentally-effective solution for repurposing."

While structured parking provides a solution to limited land concerns, developers are finding ways of making them friendlier to the environment and more acceptable to people, all the while extending the use of the land they occupy. Some garages now have roof decks, recreation centers, solar power centers and wind farms.

"These amenities are becoming a requirement as society is considering land use and its impact on the environment. Developers are looking for ways to get the most out of the land they occupy. Many are looking at their parking situations and how to increase their effectiveness," said Simon. "There is now a desire for the consolidation of vehicles into multi-modal centers in an effort to reduce man's

carbon footprint. Multi-purposing parking facilities with the integration of technology, and looking at roofscapes as additional area for various applications is essentially added value 'found' space."

#### Burlington International Airport - Green Roof Concept

Planted roof gardens provide desirable public green space, views of the green mountains, storm water offsets, and significant reduction of environmental solar heat gain. Solar roof panels provide clean power to the public grid and largely funded through federal grants. Green Roof Concept by Freeman French Freeman, Inc., an architecture firm in Burlington, VT.

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