



nerej

The latest trends in solar design: Powering up parking lots with PV solar electric systems

July 31, 2014 - Owners Developers & Managers

Parking garages are offering more than just shelter for your car. They are a means to produce clean renewable energy. The installation of PV solar electric systems on parking structures, as well as open carports, is the latest trend in solar design.

There are many different PV solar applications, with parking garages being another innovative approach to PV solar with a solid return on investment. Parking garages have open top-levels and unobstructed views to the sun, making them a perfect vessel for a PV solar electric system.

Who knew parking garages would be a place for sustainable energy solutions. With customized tilt angles to maximize energy output, these PV systems (also known as solar parking canopies) are able to withstand winter snow load and are designed to control water runoff. They are highly reliable and have a low operating cost. Additionally, as more and more of these systems go up, they are blending seamlessly into the aesthetics and functionality of the parking structure itself.

Columbia Construction Company recently developed a renewable energy plan for the 404 Wyman St. in Waltham Mass., a property owned and managed by Hobbs Brook Management. Based on our studies to determine the best possible means of installing a PV solar electric system on the site, it was determined that the two existing parking structures on the 404 Wyman Street site were the most efficient and effective locations.

Columbia's renewable energy plan called for the installation of new, long-span, galvanized structural steel structure on the top level of the existing North & South parking garages. The sloped steel and PV solar system elegantly crowns the existing parking garage, and creates a highly visible commitment to sustainability. It also creates a covered and protected parking area at the top level of the garage for Hobbs Brook Management tenants. Electric vehicle charging stations will also be utilized for tenant use. The project is among the many initiatives that support Hobbs Brook Management's commitment to provide its tenants with a fully functional and sustainable business environment.

Once complete, the photovoltaic system will include 2390 solar modules, and is expected to generate 815,000 kilowatt hours of solar-generated electricity per year. It is also expected that maintenance costs will be dramatically reduced by this new covered parking area. The project is scheduled to be completed this fall.

Chris McCarthy is a vice president of Columbia Construction Company and manager of the Columbia Energy division, North Reading, Mass.