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New Classroom Building at The Evergreen State College Seeks Gold LEED Rating

by Sheila Bacon

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For an institution with the word "green" in its name, it is only fitting that The Evergreen State College is going for gold with its new classroom building.

The Olympia, Wash., college is seeking Gold-level Leadership in Energy and Environmental Design (LEED) certification for the new 160,000-sq.-ft., \$31.5 million Seminar II building. Designed by Mahlum Architects (Seattle) and built by DPR Construction (Redwood City, Calif.), the project is one of just a handful of such projects in the country pursuing the ambitious rating goal from the U.S. Green Building Council.

The college, known for its eco-friendly student body and progressive liberal arts focus, will see the completion of the classroom structure in early spring. Seminar II features eight buildings, all connected with skybridges. Five of the buildings are identical, said Ken Schmidt, DPR project engineer, and include classrooms, lecture halls and workshop areas that support The Evergreen College's style of learning - an interdisciplinary approach that uses team teaching. The other three buildings offer cafes, public spaces and mechanical areas.

The smooth-faced architectural concrete structure resembles the other existing buildings on campus with concrete exteriors. Inside, however, the new complex incorporates the latest in "green," including recycled and locally produced materials, minimal finishes such as paint, carpet or sheetrock, and building products low in volatile organic compounds (VOCs). Each cluster will have a natural ventilation "chimney" and daylighting "tube" to maximize access to air and light. Although the lower floors in each cluster will be cooled mechanically, chimneys will connect the second and third floors with a damper and louvers on the fourth floor.

All windows exposed to sunshine will be equipped with shading devices, and all naturally ventilated spaces will include "trickle vents" to allow for winter ventilation. The result: a building nearly 80

percent naturally ventilated, saving 40 percent in annual energy costs over a conventional building designed to the state energy code.

Nearly 40 percent of the roof surfaces have garden roofs that allow plant material to reduce storm water by evapotranspiration (the transfer of moisture by evaporation of water and transpiration of plants).

Carpeting is of recycled materials and affixed with special factory-applied adhesive rather than toxic glues. The building also uses flooring made of recycled wood and plywood veneers.

Designing and building a structure that employs the use of so many "green" materials - many of which are new to the market - would be challenging to any team not educated in the sustainable building arena.

While the Seminar II building was Mahlum Architects' first project seeking a LEED rating, the firm makes sustainable design a habit. The challenge of following a defined set of criteria from the USGBC was increased by the green requirements set forth by the college itself - many of which went above and beyond those required by the LEED program.

"We had to do a ton of research on materials," said Benjamin Doty, project architect. "It ended up helping the firm as a whole, because we created a substantial library of products we can go to again and again."

The design team was challenged to use locally produced materials on the job - a requirement set forth by LEED and the college. Shortly after suppliers were retained, the events of Sept. 11, 2001, threw the industry and the economy into turmoil, and the governor halted all state spending for several months. By the time things got back on track, many of the companies that had been secured to supply green products had gone out of business. Specialty contractors rallied to the cause, said Doty, helping designers locate suppliers of particular products to complete the work.

On the building side, DPR is highly educated in the green arena, with 43 LEED professionals on staff nationwide, said Schmidt. The challenge came in the education of the subcontractors working on the job. When the job started two years ago, Schmidt said many of the subcontractors were unaware of

green building methods or products. As the project has progressed, the fast-growing green building industry and its popularity in both the public and private arena has made education easier.

"We tell our subs, 'You better figure this stuff out, because everything's going green,'" said Schmidt.

Challenges surface when craftspeople are unfamiliar with eco-friendly products that behave differently than traditional products in application, said Schmidt. For example, low VOC products, such as calks and glues, don't stick as well as more commonly used products higher in VOCs, and they often require warmer temperatures in order to work effectively. This may slow down the construction process if the workers don't know how the new products are going to behave. Another example is concrete that uses a higher-than-usual amount of flyash - a recycled product common in concrete projects seeking LEED ratings. Flyash slows the curing process, said Schmidt, and if the general or concrete subcontractor is unaware of this, the schedule may be impacted.

Schmidt said the job has been largely unaffected by the recent closures of DPR's branch offices in Seattle and Portland, Ore. The Seminar II jobsite is essentially self-contained, said Schmidt, and didn't rely much on those offices. With the help of technology, it's not difficult to manage the job from DPR's Redwood City offices.

Project Team:

Owner: The Evergreen State College

General Contractor: DPR Construction, Inc.

Architect: Mahlum Architects