

NORTHWEST BUSINESS MONTHLY MAGAZINE

Volume 35 • 2 • February 2010

Visions of silver and gold

Local businesses strive for higher LEED certifications in commercial/institutional applications

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Puget Sound Energy's Skagit Service Center is one of a handful of commercial and institutional buildings in Northwest Washington with LEED certification.

The movement for more healthy and energy-efficient or “green” buildings has local businesses striving for more than just minimum Leadership in Energy and Environmental Design (LEED) certifications from the U.S. Green Building Council (USGBC) – they are going the extra mile to attain silver and gold certifications.

This month, Northwest Business Monthly discovers the ins and outs of LEED requirements, costs and return on investments for commercial/institutional applications via WECU's Ferndale branch, Western Washington University's (WWU) Academic Instructional Center, Whatcom Museum's Lightcatcher building, Skagit Valley College's (SVC) Science and Allied Health building and Puget Sound Energy's (PSE) Skagit Service Center.

WECU GRABS GOLD

At the end of 2009, the USGBC surprised WECU, Zervas Group Architects of Bellingham and Pearson Construction Co. of Michigan with LEED Gold

for the design of WECU's Ferndale Branch, which opened in February 2008. LEED Silver had been the original goal. For WECU, building green reflects commitment to community, according to Kessa Volland, marketing manager for WECU. "We feel that by building green we're encouraging growth in that sector of our local economy and also setting a precedent for other businesses to build green," she said.

LEED certification involves independent, third-party verification that a building project is environmentally responsible, profitable and a healthy place to either work or live. WECU received LEED Gold for its Business and Home Loan Center on Holly Street and is hoping for LEED Silver certification for its Sunset branch, both in Bellingham. The same team worked on all three projects.

Zervas partner Mike Smith says the first step in considering a LEED application is either hiring a LEED-accredited professional or a LEED-certified architect and tracking down a contractor with LEED project experience.

"The contractor has a significant role in becoming LEED certified," Smith says. "The materials have to be properly documented, photographs taken at the proper time, waste has to be documented, and so forth. A good design is the first step – building the design in accordance with LEED principles is the journey."

Next, the project team needs to look at seven LEED application categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation and Design Process and Regional Priority Credits. The USGBC will then rate the project using a point system, with 40-49 points for LEED certified, 50-59 for LEED Silver, 60-79 for LEED Gold and 80 points or higher for LEED Platinum. Smith says there are now nine rating systems, compared to one when he became LEED accredited.

"The evolution of LEED has more to do with expanding applications than it does changes to the ratings," he says. "One of the newest is LEED for Existing Buildings, which will help owners attract tenants that value a healthy environment."

The extra cost involved in basic LEED certification, according to Smith, is really just the cost of documentation. LEED Silver adds about a 2 to 3 percent premium, and just another 2 to 3 percent premium can net LEED Gold. Achieving LEED Platinum means going for the green gusto.

"To achieve LEED Platinum you have to generate power on site (wind, solar) or recycle stormwater or greywater or other technologies that will someday be run-of-the-mill," Smith says.

Some of the Ferndale branch building's features include daylight harvesting strategies to reduce the need for artificial lighting, water-saving plumbing fixtures, rain gardens for stormwater control, recycled metal roofing and brick siding produced in the Northwest.

STANDARDS FOR EDUCATIONAL INSTITUTIONS

Institutions of high learning that receive state capital funds have to either attain LEED Silver certification or comply with the High-Performance Public Buildings Act to improve student achievement and occupant comfort, reduce long-term costs, and preserve environmental resources.

Although Western's Academic Instructional Center (AIC) project began before the passage of the state law, it earned LEED certification last year for its environmental design.

"This was a tough goal to accomplish given the late decision to go for LEED certification for the project," said Tim Wynn, director of WWU's facilities management in a press release. "With everyone working together – including the students, the design team, the facilities management project managers and the construction contractor – we were able to get this done."

Seattle's NAC Architecture, in association with Opsi Architecture of Portland, Ore., designed the \$50 million building, funded by the Washington state legislature. Dawson Construction of Bellingham served as general contractor. The approximate 120,000-square-foot building, which opened last month, has department and academic wings connected by a skybridge. Its green features include a natural ventilation system; perimeter openings in acoustic tile ceilings; passive solar shading; a monitoring system for heating water through radiant panels; water-saving, dual-flush toilets; energy-saving occupancy sensors for lighting systems; and the use of improved construction adhesives and materials to lower the off-gassing of harmful chemicals.

"It takes a focused intent to achieve LEED from the start of design and then follow the sustainable criteria through construction," says WWU's Ed Simpson, assistant director of facilities, design and construction administration.



Open work areas with lots of natural light characterize the PSE Skagit Service Center in Burlington.

Down in Mount Vernon, Skagit Valley College opened its Science and Allied Health Building (SAHB) in September and is waiting for an official rating from the USGBC. Although the \$28.1 million project has accumulated enough points for LEED Gold it could earn LEED Platinum, says Keith Schreiber, AIA, principle of Schreiber Starling & Lane Architects (SSLA) of Seattle. The architecture firm worked with general contractor Tiger Construction of Everson, which has so far focused on LEED educational institution projects, according to Scott Isenhardt, assistant project manager at Tiger Construction. Bob Milam, LEED process manager for Tiger Construction, points out that smart green techniques begin in the construction phase, especially in regards to air quality, construction waste and resource materials.

"On this particular building, we flushed the building with one billion cubic feet of fresh air," he says. "We diverted 99 percent of our construction waste from the landfill. We also used more than 20 percent of materials from within 500 miles of the college."

The building features a rain garden, used in conjunction with teaching and to sustain water-efficient landscaping; low-emission finishes; individual-use thermal controls, recycled materials and materials that can be recycled; and photovoltaic (PV) solar panels on the roof. The building also is designed to last 50 years, says Audrey Gomez, project architect for SSLA.



Western Washington University's new Academic Instructional Center gained LEED certification for environmental design features such as a natural ventilation system.

GOLD LINING FOR PSE

Like WECU, the project team for PSE's Skagit Service Center in the Burlington Hill Business Park planned for LEED Silver and ended up with LEED Gold. The team included general contractor Fisher & Sons of Burlington, civil engineer Leonard, Boudinot & Skodje of Mount Vernon and Lawhead Architects of Bellevue.

Ginny Bode, director of marketing and business development for Fisher & Sons, points out the importance of materials, material waste disposal and recycling and energy consumption in considering green building in commercial/institutional applications. Oh yeah, and the cost.

"The paperwork required for LEED certification can add \$20,000-\$30,000 to the cost of a project," she said.

Bode also says many of Fisher's buildings incorporate either LEED or "green" features that are not LEED certified. This includes the pervious concrete used at Wilson Toyota in Bellingham. The company is currently working on a LEED Gold-certified food-processing plant in Delhi, La., designed by FSI Architects (a Fisher design division) and owned by Lamb Weston.

The \$13 million Skagit facility, which opened in January of 2008, totals more than 51,000 square feet for a welding shop, four-ton bridge crane, fleet service bay and 30,000 square feet of office space. It exceeds the Washington State Energy Code for building "envelope" design, and is 50 percent more energy-efficient than the national standard for similar buildings, according to a PSE press release. The building uses solar-collection tubes to supplement space and water heating, and the design allows for future installation of rooftop PV panels. Another nifty feature is the building's rainwater collection system that uses run-off water stored in a 10,000-gallon underground tank to flush toilets and irrigate the landscape.

"The center is the first building in the Northwest to feature an indirect, evaporative cooling system that cools the air with water instead of compressors or refrigerants, which use more energy," according to the press release. "The air-conditioning system is designed to provide 100 percent fresh air in the summertime, unlike conventional systems that recycle most of the air."

GREEN PLAY AT THE LIGHTCATCHER

The Whatcom Museum hired Olson Sundberg Kundig Allen Architects of Seattle, general contractor Ebenal Construction Inc. of Bellingham and civil

engineer Wilson Engineering of Bellingham to design and build its Lightcatcher building to LEED Silver standards. If officially approved by the USGBC, the Lightcatcher will be the first ground-up LEED Silver museum in Washington. The \$18.3 million building, which opened last November, not only incorporates sustainable strategies, it teaches green concepts through fun, hands-on activities.

The nearly 7,000-square-foot building features a double-height Light Gallery and functioning environmental and sustainable concepts throughout the building and the museum's programming, including the the Rain Hut exhibit built by Smith & Vallee Woodworks Inc. of Deming, displays explaining how the roof's rainwater harvesting system is used to flush the toilets (both in the Family Interactive Gallery), and a horticultural learning exhibit on the "green" roof. The building design itself provides daylight to circulation spaces, natural ventilation, and a double-glazed skin on the Lightcatcher surface to allow cooler temperatures in the gallery space while radiant energy is captured in the wall to insulate the building.

Workers from the Washington Conservation Corps. created the \$471,833 vegetated roof, which has multiple functions: it reduces the heat island effect, insulates the lobby roof, diverts stormwater runoff and provides a microhabitat for wildlife.

A Stormwater Management Implementation grant from the Washington State Department of Ecology paid for the green roof, the installation of 1,400 square feet of pervious pavement in front of the museum, 1,300 square feet of vegetated, bio-retention cells in the courtyard and the creation of two permanent museum installations to help visitors understand the importance of stormwater management and strategies.



Western's AIC officially opened for classes in January.

RETURN ON INVESTMENT

The question of return on investment for LEED projects depends on various factors – and values – and can be difficult to nail down, especially in dollars. Employee productivity is an immediate return on investment for both commercial and institutional projects.

"It has been proven that occupants of green buildings are more productive and use less sick time," Smith says. "Students in green schools consistently earn higher grades."

WECU's Volland agrees, saying "We are primarily concerned with how the improved workspaces benefit employees and members, how the green-housekeeping process and systems in place within the building and the building itself convey our dedication to environmental protection and preservation."

Smith also added inexpensive materials, such as additional insulation, can provide payback in a matter of months.

Schreiber points out other immediate paybacks include avoiding landfill costs by recycling production wastes, sourcing regional materials to lower transportation costs and support the regional economy, and increasing air quality. Milam agrees, especially in regard to air quality.

"With a LEED-certified building, the overall air quality starts to pay dividends in the form of less sick days for employees," Milam says. "There have been studies that prove building a LEED-certified building generally will be 5 to 7 percent higher in the initial cost. This can be recovered in as little as five (years) and as many as 20 years, depending on the size of the building."

Educational institutions are also seeing an immediate return on their investments by using green features as teaching tools. For example, Schreiber says the students at SVC are learning about solar-energy production in their physics classes in the SAHB via the PV solar-generating panels on the roof. Otherwise, he says, the monetary investment is more in the 30-year range.

"On an institutional project, return on investment is not as important as a commercial project because on an institutional project, they are not going to try to recoup their costs in 20 to 30 years," Schreiber says.

Bode says LEED commercial projects usually see a return based on a 20-year spread of costs but there are additional short-term benefits.

"Some buildings would see return on investment within three years, based on energy rebates."