

# Natural Success

## *Contractor embraces client's green vision, strikes gold*

By Ann Grim  
Oregon Office of Energy

**T**hose oft-repeated R words — reduce, reclaim, reuse and recycle — are now getting something new from the building industry: Respect.

Carrington Barrs of Walsh Construction made the four R words his mantra while construction site manager for the Jean Vollum Natural Capital Center building project in Northwest Portland.

His company's client, the non-profit Ecotrust, wanted to redevelop an 1895 historical warehouse to be its headquarters and a marketplace for others offering the goods and services of a conservation economy. Using a green building approach was an obvious step for Ecotrust in restoring the Natural Capital Center. In addition to reducing, reclaiming, reusing and recycling materials, Ecotrust's objectives for the building restoration included storing and filtering stormwater on site, reducing energy use, using wood from well-managed forests, specifying low-toxic materials with high recycled content, maximizing access to fresh air and natural light, and building a sense of community. Ecotrust added a clause to the Walsh Construction contract specifying a minimum recycling rate of 75 percent. The client also wanted to achieve a LEED gold certification from the U.S. Green Building Council.

The task was daunting: Take a deteriorating 70,000-square-foot brick-and-timber



*The 70,000-square-foot Jean Vollum Natural Capital Center at 721 N.W. Ninth Ave. in Portland earned a business energy tax credit. Photo by Adam Bacher.*

warehouse inhabited by pigeons and transform it into an award-winning showcase of sustainable building practices.

Barrs, who had just finished his master's degree at University of Washington, had a personal interest in sustainable building practices. But, he knew it was going to take something special to get everyone involved with the project to embrace the vision.

### **Communications**

Barrs began by establishing good communications and partnerships with subcontractors,

suppliers and employees.

"Forming partnerships was key to our success," Barrs said. "We told them what our goal was, and asked them how we could go about working together to meet it."

Barrs made sure that the intent to use sustainable practices was spelled out in all specifications and the message was consistent. He wrote the specifics into contracts. He issued pre-job form letters and constant verbal reminders. And, he provided end-of-the-day incentives for those who followed through.

Most importantly, he managed reducing,

reclaiming, reusing and recycling on site. Even simple ideas such as placing well-marked recycling drop boxes close to the work location and general garbage drop boxes in the far corner of the job site successfully changed the workers' well-established habits.

He formed a partnership with a nearby local hauler to pick up the recycled cardboard on a frequent basis so it became a win-win situation. He found facilities to recycle styrofoam and visquine.

"We had nice signs made for the recycled material rather than using the typical piece of plywood," Barrs said. Having the recycled material well marked, carefully piled and frequently removed kept the job site neat and reinforced the message that recycling was important.

Construction crews even reclaimed and reused structural materials from an old annex near the main warehouse.

The end result surprised even Barrs. They recycled or reclaimed an amazing 98 percent of the material from the job site when the building opened in September 2001. This was the highest documented reclamation for a commercial project in Portland.

## **Sustainable**

Reducing, reclaiming, reusing and recycling, in addition to a number of other green building features, helped Ecotrust achieve its vision for its headquarters. The building has attracted tenants that also work in the conservation economy. And, tenant employees enjoy their work environment.

Eugenie Frerichs, one of Ecotrust's 25 employees and 125 building occupants and the manager of the Natural Capital Center, says there is a synergy throughout the building.

"I interact a lot with the other businesses'



*The U.S. Green Building Council awarded its second highest LEED (Leadership in Energy and Environmental Design) certification to the Natural Capital Center. It was the first building in the Pacific Northwest and the first historic building nationwide to receive a gold LEED rating. Photo by Adam Bacher.*

staffs as part of my job," Frerichs said. "There is a wonderful creative, collaborative and open atmosphere throughout. People really enjoy working here."

In addition to increasing occupant comfort and productivity, redeveloping the historic building as a sustainable building has had some more financial payoffs. Ecotrust raised over \$8 million in foundation and individual grants for their efforts to reconstruct an historic building using sustainable practices. And, the building qualified for the Oregon Office of Energy's sustainable building tax credit.

## **Tax credit incentive**

A sustainable building tax credit is calculated on the square footage of a building and not on the increased cost of a project above

the industry standard or the energy code like a traditional energy tax credit. The incentive helps offset the cost of applying for the LEED rating and the extra design and commissioning costs.

A building owner must apply for the Sustainable Building tax credit before beginning the project. The building must achieve a LEED rating of silver or better with at least two LEED credits earned for energy efficiency and at least one credit for additional commissioning beyond the LEED prerequisite requirements. In addition, the owner must report the amount of solar energy received by the building annually.

Because Ecotrust is a non-profit organization and cannot use a tax credit, it transferred its tax credit to Walsh Construction using the tax credit pass-through option. This option,

approved by the 2001 Legislature, allows non-profits, public entities and private businesses with insufficient tax liability to transfer an energy tax credit to a business or individual with an Oregon tax liability.

In exchange, the tax credit recipient (the "pass-through partner") makes a cash payment to the project owner. Currently, the value of the cash payment is set at 27 percent of the eligible project costs for projects with eligible costs over \$20,000 and 33.5 percent for those with eligible costs of \$20,000 or less. Ecotrust's eligible project costs based on

their square footage and gold LEED rating were \$321,700. Walsh Construction, the pass-through partner and tax credit recipient, paid the Ecotrust \$86,859, the net present value of the credit. The 35 percent tax credit of \$112,595 was issued to Walsh Construction.

"The sustainable business tax credit is a wonderful incentive program. We appreciate Walsh Construction for being our pass-through partner and allowing us to benefit from it," said Bettina von Hagen, who managed the Natural Capital Center redevelopment

for Ecotrust and is vice president of the Natural Capital Fund. "It paid for our LEED certification and building commissioning costs while providing tremendous public benefits to the people of Oregon, in terms of improved water quality, less energy and material use, and significantly less construction waste. The more building owners who take advantage of this incentive program, the better off we all will be."

*Ann Grim is communications specialist with the Oregon Office of Energy.*

## Ecotrust's building strikes LEED gold

Due in part to its phenomenal reclamation efforts, the Ecotrust building at 721 N.W. Ninth Ave. in Portland qualified for the gold-level Leadership in Energy and Environmental Design certification under the strict standards developed by the U.S. Green Building Council. But, there were other sustainable building features to consider, too. These included:

- The building features an "eco-roof" and bioswales in the parking lot that filter and absorb about 95 percent of the site's rainwater. This greatly reduces the amount of runoff into the overburdened storm drain system protecting the Willamette River.
- The energy-efficient windows, fixtures and ventilation system contribute to a 20 percent energy savings.
- Sustainably harvested wood that is Forest Stewardship Council-certified is used throughout the building.
- It offers numerous transportation options including the Portland streetcar, 50 bicycle parking spots, showers and lockers.
- The cupboards in supply rooms and

kitchen areas are made from certified wheat board sealed with a product that produces zero VOC (volatile organic compound) emissions.

- Food scraps from offices in the building are composted in the worm bins on the third floor patio.
- Marmoleum flooring in bathrooms and supply rooms is made from all natural renewable resources.
- Appliances are Energy Star models.
- The Center purchases renewable power through Portland General Electric's Renewable Power Program.
- The HVAC system is a variable air volume model that allows the percentages of fresh and recycled air to vary depending upon existing conditions in the building.
- The floors on the main level of the building are the original Douglas Fir planks that were milled in the warehouse more than 100 years ago.
- The flooring in a portion of the Patagonia store on the first floor is made from the bark of cork trees that can be harvested every 10 to 15 years.

- The janitorial service uses products that are biodegradable, all natural, phosphate-free and without any animal by-products or perfumes.
- The lighting fixtures use compact fluorescent lamps with a dimming ballast. Several of the lamps have occupancy sensors that automatically turn lights off when a space is not in use. Lights in the atrium are tied to a photocell that brighten or dim depending on the amount of natural light available from the skylights.
- The interior paints come from used cans of latex paint that were collected by Metro's recycling program. Unwanted and partially used paints are collected, remixed and re-sold in a variety of colors.
- Several doors from the warehouse were salvaged and reused throughout the building.
- Builders used reclaimed wood for structural members, concrete form work, flooring, trim, furniture and artwork.
- All of the structural steel beams and concrete rebar contain more than 95 percent recycled steel scrap.