

# JEAN VOLLUM NATURAL CAPITAL CENTER

CASCADIA REGION GREEN BUILDING COUNCIL



FLOOR SPACE: 70,000 ft<sup>2</sup>

BUDGET: \$12.4 million (\$177/ft<sup>2</sup>—including the \$2.5 million purchase price for land and existing structure)

BUILDING POPULATION: 130

CONSTRUCTION DATES: 1999-2001

OWNER/DEVELOPER: Ecotrust

ARCHITECT: Holst Architecture

PROJECT MANAGER: Bettina von Hagen

GENERAL CONTRACTOR: Walsh Construction Co

LANDSCAPE: Nevue Ngan Associates

STRUCTURAL ENGINEER: KPFF Consulting Engineers

MECHANICAL, PLUMBING AND ELECTRICAL ENGINEER: Interface Engineering, Inc.

## PROJECT NOTES

### SITE AND WATER

- **Site:** Warehouse built in 1895 renovated instead of building anew.
- **Water drainage:** Storm water treated in a bioswale and kept out of municipal drainage system and the overburdened Willamette River. Also, uses a vegetated roof installed to treat some roof water runoff.
- **Water consumption:** Low-flow plumbing fixtures use 16% less water than in typical buildings of the same size.
- **Site vegetation:** Native plants used for landscaping, and installed without an irrigation system, other than a temporary drip system used to establish the plants.
- **Transportation:** Limited car parking and close proximity to several bus lines, trolley line and Greyhound and Amtrak stations encourage eco-friendly transit. In addition, ample bike parking, two FlexCars on site, and showers and lockers are provided to building residents.

### INDOOR ENVIRONMENTAL QUALITY

- **Interior materials:** Recycled paint, FSC-certified particle board cabinets and flooring made from recycled tires, among other features, bring the building's commitment to sustainability apparent inside to guests and occupants.

### ENERGY AND ATMOSPHERE

- **Energy:** Consumes 22% less energy than Oregon code due to energy-efficient windows, lighting fixtures, building controls and ventilation system.
- **Lighting:** Ambient lighting level is 60% of what is found in typical office buildings (30 fc vs. 50 fc). Also, central atrium lit by skylight during day and by photo-sensor-switched lights after dark.

### MATERIALS AND RESOURCES

- **Recycling:** 98% of all construction debris was reclaimed and recycled for other projects, setting a city record.
- **Structure:** The entire original structure is retained and exposed, and much of the added third floor's materials salvaged from pre-existing structure.
- **Wood:** FSC-certified lumber is used throughout the building, including construction plywood, window frames and furniture.

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The Pearl District in downtown Portland has long been a reminder of the City's tired industrial past. However, several redevelopment efforts in the area are transforming this part of town into a vibrant urban village. At the forefront of this transition is the Jean Vollum Natural Capital Center, a mixed office-and-retail complex. Opened in September 2001, the building houses only tenants deemed by Ecotrust, the nonprofit building owner, to be committed to environmental and economic sustainability.

The tenants include the following: Ecotrust, Progressive Investment Management, ShoreBank Pacific, the Certified Forest Products Council, the Portland Office of Sustainable Development, Wild Salmon Center, Hot Lips Pizza, World Cup Coffee, the Pearl Clinic and Pharmacy, and the building's most recognizable and primary retail tenant, Patagonia. In addition, the building has an impressive sky-lit atrium and a conference center that has become one of Portland's hippest meeting spaces.

"I congratulate Ecotrust on achieving the U.S. Green Building Council's Gold LEED™ green building certification for the Jean Vollum Natural Capital Center. In achieving this key third-party certification, Ecotrust has demonstrated critical leadership and a common-sense approach to utilizing low-impact design while providing a key early example of what now defines successful development in Portland and in the entire Pacific Northwest."

—Portland City Commissioner Dan Saltzman

## WORKING WITH NATURAL CAPITAL

Ecotrust named its building after Jean Vollum, the organization's founding board member, whose donation was used to purchase the site. The rest of the name, "Natural Capital Center" is a direct reflection of the philosophy that drove the organization throughout the project. The facility was built to inspire its guests and tenants by displaying how real sustainable solutions can be found for building, even in the most tightly developed urban areas. The building's tenants are all using their own natural capital—their knowledge, creativity and ingenuity—to build a future that is not marked by reckless resource consumption, but by responsible, inventive use of natural materials. Put simply: true prosperity occurs when people restore, rather than deplete, nature's capital.

The new building has been incredibly well received by regional government and industry leaders. It's being hailed as a vital improvement to the City's landscape, both for its restoration of beautiful historic architecture and its example of environmental innovation.



“Ecotrust and its partners are showing us how to blend environmental values into how we do business.”

—Portland Mayor Vera Katz

## REBUILDING GREEN

The Natural Capital Center’s environmental innovation took on a variety of forms throughout the redevelopment of the pre-existing warehouse. When searching for building resources, recycled, salvaged or certified materials were used in every possible place. And through the process of building, all by-products went through a very aggressive recycling program, which in the end diverted 98% of the project’s “waste” from the landfill.

One creative recycling example is the conference center’s dividing curtain. The large metal partition was originally the cargo bay door to the warehouse, but now serves a new purpose as a sliding wall in the conference room to divide the room in two. The project team also used recycled tires to provide rubber flooring inside the building.

Most of the new lumber required for the project was certified by the Forest Stewardship Council. FSC-certified lumber is guaranteed to come from a well-managed forest that takes long-term social and environmental costs into account while harvesting.

The selection of the site itself was actually a major part of the sustainable strategy. The warehouse was chosen in part for its proximity to a wide variety of transportation options, all more eco-friendly and cost-efficient than paving a parking lot or putting up a new garage. Portland’s new trolley line runs directly in front of the building; a light rail stop is seven blocks away; Greyhound and Amtrak stations are only three blocks away; finally, the building was renovated to hold bicycle parking and showers and lockers for pedal-commuters.

## TURNING WATER AROUND

In addition to having almost no impact on the City’s traffic, the Natural Capital Center poses no burden on the Portland’s stormwater drainage system. Instead, stormwater from the site is sent to a “bioswale”—a heavily vegetated marsh—for natural filtration into the ground. Also, the building has a vegetated roof on the third floor to capture rainwater; any water that does not evapotranspire is then channeled to the bioswales. This system is monitored for efficiency, providing a body of data that will inform similar projects in the future.

The building is further vegetated by a beautiful landscape of native plants (some edible) and trees. All plants are first established using a drip watering system, but will eventually be self-sufficient without the need for any permanent irrigation system. The plants are maintained without using any toxic materials. A series of alder trees on the site are nurtured by the nitrogen-rich mulch produced with the help of their own dropped leaves.

“Ecotrust has created a landmark of national significance. The Natural Capital Center proves that we can create a healthier brand of architecture that also is an outstanding example of beauty and historical integrity. It is a place that inspires people to think creatively and optimistically.”

—U.S. Green Building Council  
President and CEO Christine Ervin





The project team’s efforts were rewarded with gold-level certification through the Leadership in Energy and Environmental Design (LEED™) standard. The Natural Capital Center is the highest-ranked such building in Oregon, and the first to achieve LEED™ certification by renovating an existing structure rather than building anew.



## AWARDS AND HONORS

2001 GOLD RATING, LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN  
2001 EARTH ADVANTAGE GREEN CERTIFICATION, PORTLAND GENERAL ELECTRIC  
BEST AWARD, OFFICE OF SUSTAINABLE DEVELOPMENT, CITY OF PORTLAND  
RENEWABLE POWER AWARD, PORTLAND GENERAL ELECTRIC

### CASE STUDY SPONSORED BY:

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