

# LEED-CS

LEED® FOR CORE & SHELL

## Seattle Biomedical Research Institute

Harbor Properties & Vulcan, Inc.  
307 Westlake, Seattle, WA  
Laboratory, Office & Retail  
LEED-CS Pilot Project

### BUSINESS BENEFITS

- Energy performance 35% beyond ASHRAE 90.1-1999, with estimated annual savings of \$43,400.
- Water use reduced by 23%, 186,052 gallons each year, saving \$1,860 annually.
- Dollars saved through the building's efficiencies can be used to move SBRI's research forward at a faster rate.
- One of the first LEED-CS buildings of its kind.

## The SBRI Building significantly advances SBRI's life-saving infectious disease research.

*“At SBRI, our whole mission revolves around advancing global health through scientific discovery. We're pleased to be in a facility that respects our environment and community. It echoes our goal of making the world a better, healthier place to live.”*

- Kenneth Stuart, Ph.D., President and Director

### PROJECT BACKGROUND

The Seattle Biomedical Research Institute (SBRI) partnered with Vulcan, Inc. and Harbor Properties to develop a new state-of-the-art research facility. SBRI will occupy the top two floors of the five-story, 113,000 square foot building that features laboratory and office, and 10,000 square feet of ground floor retail space. With this new facility, SBRI will be positioned to double its research capabilities and recruit world-class scientists. SBRI was able to expand BioQuest, its science education program focusing on global health. BioQuest features a science gallery for the general public and a learning lab for local high school students and teachers. Children's Hospital and Regional Medical Center leased the 2nd and 3rd floors with 48,000 square feet to nearly triple its space dedicated to the research of infectious diseases and immunologic conditions affecting children.

**Owner/Developer:** Seattle Biomedical Research Institute, Harbor Properties & Vulcan, Inc.

**Architect:** CollinsWoerman

**Mechanical Engineer:** McKinstry Company

**Contractor:** Lease Crutcher Lewis

**LEED Consultant:** O'Brien & Company



## THE CASE FOR GREEN BUILDING

The 307 Westlake project is located in Seattle's South Lake Union neighborhood, recognized as one of the nation's leading biotechnology and life sciences centers. Harbor Properties and Vulcan adopted LEED to support a triple-bottom-line philosophy, and meet development goals to generate a market return on capital investments, strengthen the community and enhance urban livability, and protect the environment.

SBRI entered into a partnership in the development and ownership of 307 Westlake to provide a good investment for its future. LEED allowed SBRI to create a high-performance building with lower operating costs. As a non-profit funded through grants and gifts, more of its funding can now be applied directly to research and recruiting and retaining world-class scientists.

## PROJECT GOALS AND RESULTS

In 2002, 307 Westlake was well into design development when LEED was introduced into the project. LEED reflected the partners' values and goals for development, and LEED for Core and Shell offered a suitable tool for the building type. Harbor Properties and Vulcan realized an opportunity not only to be one of the first buildings certified under LEED-CS, but also to support the development of the tool by providing valuable feedback as a Pilot Project. While integrating LEED late in the process added a one percent premium, it was evaluated as a good investment in creating long-term value. Some of the additional costs were offset by incentives, including: \$20,000 through Seattle's LEED Incentive Program, and \$144,000 from Seattle City Light for energy conservation.

The design team focused on strategies that would provide operational savings and create a healthy environment for the tenants. Biomedical research laboratories require a higher ventilation rate with 100% outside air. To reduce energy use an innovative HVAC system was designed that recovers both waste heat and cooling with custom air handlers and sprayed heat pipes. The system allowed the boiler to be downsized by 50% and the chiller by 33%, significantly reducing capital costs when compared to a conventional laboratory system.

The whole building is served by a single Variable Air Volume fan system, designed to be more versatile and efficient than separate fan systems for office and lab spaces. CO<sub>2</sub> sensors eliminate over-ventilation in the offices, and save 100kW during the heating season. Typically, lab spaces would receive 10 air changes per hour. SBRI's building operators contracted with an industrial hygienist to determine the number of air changes required in each lab based on activities. Air changes were adjusted to seven or eight per

hour, and the savings will afford frequent return hygienist visits so the space remains properly ventilated.

High-performance, low-e glazing, higher insulation values and an integrated daylight and electric lighting design improved energy performance as well. Large windows allow ample daylight into the building, and internal and external shading devices help to control glare. The north façade on floors three to five was set back sixteen feet from the lot line to introduce more daylight into lab spaces. Electric lighting in the offices is automated with both daylight and occupancy sensors.

Domestic water use was reduced by 23% by installing waterless urinals. This strategy will save over 186,000 gallons and generate \$1,860 in savings each year. Permanent irrigation for landscaping was eliminated by selecting native and drought tolerant plants that will rely on rainwater after they have been established.

*"The building's success validates the business case for sustainable development; operational savings will translate to added income to advance the business goals of our tenants."* — Ada Healey, Vice President, Vulcan Real Estate

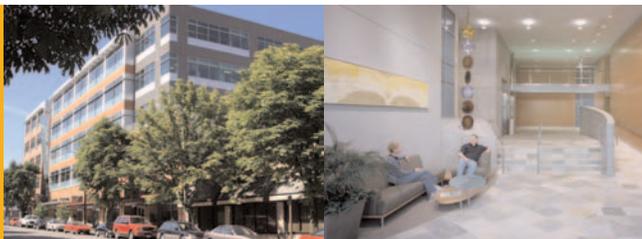
The building's occupants will enjoy a working environment that features ample daylight, high quality electric lighting, superior ventilation, and low-emitting materials. They also benefit from the location and have spectacular views of Lake Union and the city center. For Harbor Properties and Vulcan, 307 Westlake demonstrated that LEED will add value to their long-term real estate investments. For SBRI, green building has become a new strategy in its fight for global health.

## ABOUT SEATTLE BIOMEDICAL RESEARCH INSTITUTE, HARBOR PROPERTIES & VULCAN, INC.

Seattle Biomedical Research Institute advances global health through key research discoveries. SBRI is the largest independent, non-profit research institute in the U.S. focused solely on the world's most devastating diseases, including malaria, HIV/AIDS and tuberculosis — responsible for 14 million deaths each year.

Vulcan, Inc. creates and advances a variety of world-class endeavors and high-impact initiatives that change and improve the way people live, learn, do business and experience the world. Vulcan oversees various business and charitable projects including real estate holdings, investments in more than 50 companies, and six Paul G. Allen Foundations.

Harbor Properties owns, manages and develops a broad spectrum of real estate including office, retail, multifamily residential and resort properties. Harbor Resorts is a subsidiary of Harbor Properties that currently owns and operates two ski areas: Stevens Pass, Washington and Schweitzer Mountain, Idaho.



**LEED-CS** Build green. Everyone profits.



City of Seattle



King County



BETTERBRICKS

**LEED® IS THE NATIONALLY RECOGNIZED VOLUNTARY STANDARD FOR GREEN BUILDING FROM THE U.S. GREEN BUILDING COUNCIL.**

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