

Suffolk University

10 West Street Sustainable Residence Hall



In January of 2008 Suffolk University opened its newest Residence Hall, a historic renovation and rehabilitation of two early 20th century buildings located at the corner of West and Washington Streets in the heart of Downtown Crossing, one of Boston's most vibrant and diverse neighborhoods.

The 10 West Residence Hall project received LEED Gold Certification in the summer of 2008. The U.S. Green Building Council created the Leadership in Energy and Environmental Design (LEED) Green Building Rating System in order to promote and encourage the design, construction and operation of high-performance sustainable buildings.

HIGHLIGHTS OF SUSTAINABLE STRATEGIES

Restoration and reuse are key elements of sustainable building. The 10 West project incorporates these principles by repurposing the structure and preserving the beautifully detailed exteriors of two buildings. In doing so, the project maintains the architectural aesthetics of the neighborhood, while also preventing enormous amounts of demolition waste, and vastly reducing the amount of new building materials required for construction.

Suffolk University plans to own and operate the building for many years, reducing potential future construction and allowing for design decisions to take a longer term view relative to life-cycle costing.

The University has implemented a green housekeeping program that reduces waste, improves indoor air quality, and protects the environment from harmful cleaning chemicals. This holistic approach benefits the health of building residents and staff.

A sustainability consultant, The Green Roundtable, has been an integral part of the project design team.

SITE/BUILDING SELECTION

Site selection: The building is located in a high-density urban area, readily accessible via public transportation and surrounded by downtown amenities, including open space.



Suffolk University's policy of promoting public transportation means that there is no new parking and no additional car-trips created by this project.

The University removed a great deal of contaminated material from the existing buildings during construction. The removal of asbestos, lead and other toxic substances has created a clean and healthy indoor environment.

WATER EFFICIENCY

The low-flow plumbing fixtures installed in the building use only 2/3 as much water as would standard fixtures. In particular, the state-of-the-art dual-flush toilets make a major contribution to water use reduction.

ENERGY EFFICIENCY

The new HVAC design has DDC (direct digital controls) providing centralized monitoring, adjustment and alarms for each piece of equipment. This helps Suffolk University save energy in multiple ways, for example, by controlling thermostat set-point ranges and by controlling equipment during unoccupied time periods.



The ventilation of the office and common areas of the project employs heat recovery, which uses a heat exchanger to recapture the heat of exhausted air and to temper (pre-heat) incoming fresh air in the winter. In the summer, the fresh air is cooled in the same manner.

Building energy systems were commissioned by an independent commissioning agent to ensure proper installation, efficiency and function.

Reduced energy use for lighting: Utilizing daylighting and efficient lighting fixtures, the lighting power density (watts/sq. ft.) is 25% above current ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) standards, which are more stringent than the Massachusetts Building Code.

HVAC equipment: The new HVAC design and equipment efficiency ratings meet the guidelines of the Advanced Buildings: Energy Benchmark for High Performance Buildings.

EnergyStar equipment and appliances were used throughout the project. Of the appliances and electronic equipment that are available with an EnergyStar rating, over 95% (by rated power) are EnergyStar rated.

MATERIALS

Suffolk University has an extensive recycling program and facilitates participation by providing recycling on every floor. By making recycling convenient, the University reduces waste and increases recycling, thereby conserving energy and natural resources. Residents at 10 West recycle paper, glass, metal, plastic, and cardboard.

Over 75% of all waste created during demolition and construction was recycled.

The building materials and furnishings contain a high percentage of recycled content. In some cases, the designers actually worked with the manufacturers to incorporate more recycled material into their standard products, creating products customized to meet a high standard of sustainability. This not only helps this building, but creates more sustainable options for future projects and promotes awareness of green issues within the building industry.

Local and regional building materials and furnishings were prioritized. For instance, all dormitory furnishing material originated from and was assembled within a 500 mile radius.

INDOOR ENVIRONMENTAL QUALITY

An indoor air quality management plan was implemented during construction, and the ductwork was cleaned before occupancy.

To protect indoor air quality, only low-emitting adhesives, sealants, paints, and carpets were used.



Over 80% of the regularly occupied spaces, including kitchens, are daylit. The large windows and high ceilings throughout allow for extensive use of natural light, thereby saving electricity.

Suffolk University is dedicated to reducing its environmental impact and fostering environmental stewardship among its students, faculty, and staff. Green building practices are one of the elements of the University's sustainability efforts. By integrating sustainability principles into the design, construction, and operation of the 10 West Residence Hall, Suffolk University serves as an example for other urban institutions seeking to adopt environmentally responsible practices.