LIFE SCIENCE RESEARCH INSTITUTE (LSRI)

Dalhousie University – Green Building Features

Owner:
Dalhousie University

Architect:
WHW Architects Inc.
(with Watson MacEwan Teramura Architects and Chernoff Thompson Architects)

Mechanical & Electrical Consulting Engineers:
F.C. O'Neill, Scriven and Associates Limited

LEED Consultant:
WHW Architects Inc.

Construction Manager:
PCL Constructors Inc.

Project Manager:
MHPM Project Managers Inc.

Landscape Architect:
Gordon Ratcliffe

LSRI

The $63-million state-of-the-art facility, on the corner of Summer Street and College Street, provides almost 160,000 square feet of research and incubator space for the life sciences, one of Atlantic Canada's growing sectors. Its open-concept design presents new opportunities for collaboration across a spectrum that begins with laboratory research and moves on to the commercialization of new products and processes and the incubation of new companies, all of which results in improved healthcare and a stronger economy

Green Building Features

Lighting:

Passive lighting design is used to help light parts of the building such as the Atrium. LED lighting is used in interior and exterior fixtures along with high efficiency T8s. Occupant sensors and daylight-sensing dimming are used for lighting controls.

Cycling Facilities:

Bicycle racks are provided indoors (33 spots) and outdoors (46 spots). Showers are provided on the main floor of the building, to encourage the use of bicycles by staff and visitors.

Materials:

To encourage environmentally responsible forest management, emphasis was placed on using sustainable wood products which meet FSC (Forestry Stewardship Council) certification. 68% of all wood in the LSRI is FSC certified.

Green Cleaning and Waste Management:

Green cleaning products and practices outlined in Dalhousie's green cleaning policy are used in the building. Four-bin waste management systems are used through-out the building (paper, recyclables, organics, and waste).

Construction and Demolition:

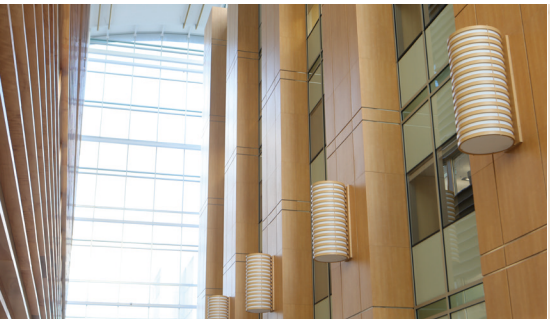
Throughout construction, a high priority was placed on sorting recyclables from construction waste, leading to 93.2% of waste diversion from landfills. Diverted construction and demolition materials include aggregates, wood, metals, cardboard, glass, asphalt shingles, and salvaged building components. These materials were delivered to local recycling facilities, including Halifax C&D near Exhibition Park.

Water:

Landscaping was designed to eliminate the need for permanent irrigation by using drought tolerant native species. Low-flow fixtures (1.9 lpm), low-flow toilets (3 lpf), dual-flush toilets (6/4.5 lpf) and low-flow urinals (1.9 lpf) are installed in the building.

CANADA GREEN BUILDING COUNCIL · CONSEIL DU BÂTIMENT DURABLE DU CANADA · LEED® CANADA SILVER · ARGENT 2013

DALHOUSIE UNIVERSITY
Inspiring Minds





Energy:

- Energy savings through demand control ventilation controlled by an Optinet system sets the outdoor air ventilation rate based on the measured concentration of contaminants within rooms. There is increased ventilation effectiveness with the Aircuity Optinet system, which monitors air quality and adjust ventilation as required, versus traditional systems.
- A run around heat recovery system is installed in the Air Handling Units that allows heat to be recovered from the exhaust air and used to preheat the fresh air to the building during the heating season.
- Motors for mechanical equipment (fans, pumps, etc) are premium efficiency.
- The cooling system incorporates variable speed drives on the pumps and the cooling tower to more closely match the energy consumed with the load.
- The AHU fans are driven by Variable Speed Drives which adjust the fan speed as the system pressure requirements change (as measured downstream of the AHU). For instance, as the filters gradually get dirtier the fan is speeded up to compensate for the increased pressure drop. When the building is unoccupied the fans run at a much lower speed to maintain a low air circulation in the building. A smaller air volume flow rate uses less electrical energy to drive the fan as well as requiring less energy to heat/cool/humidify the air. The filter life is also extended.
- The building envelope is done with R-20 walls and R30 roof, argon filled, low E double glazing with non-metallic thermal break on curtain wall glazing.

Air Quality:

Most building finishes have zero or low emissions. These materials reduce the release of significant pollutants, such as volatile organic compounds (VOCs), into the indoor environment. As well, all manufactured wood products are produced with no added urea formaldehyde (NAF). These measures make for a healthier indoor environment.

Other green features include preferred parking for car-pooling, native species landscaping to provide biodiversity and bird habitat, green building video education, convenient bus access, and building materials selected on basis of maximum recycled content and regionally manufactured.

For more information on Dalhousie Green buildings and Sustainability Projects visit:

http://www.dal.ca/dept/sustainability/programs/Built_Environment.html

For more information on campus development visit:

http://www.dal.ca/dept/facilities/campus-development.html

DALHOUSIE UNIVERSITY
Inspiring Minds

dal.ca