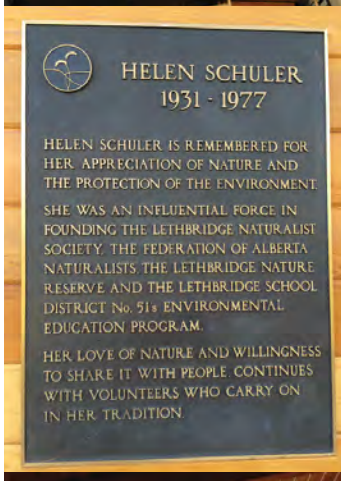
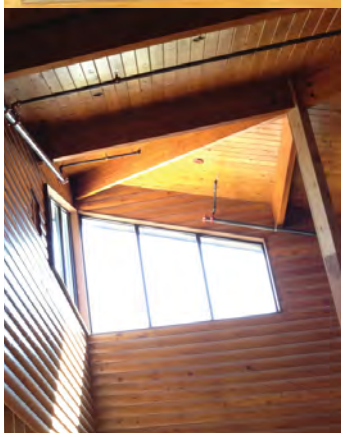
HELEN SCHULER NATURE CENTER

LETHBRIDGE, AB





Constructed in 1982, the Helen Schuler Nature Centre (HSNC) serves as an environmental education centre. Phase two of construction (1985) offered an exhibit room with artefacts and resources, a dedicated programming room and staff offices. By the 2000's the facility was beginning to show wear from hundreds of thousands of visitors, and its high energy usage from the original mechanical and electrical systems needed to be addressed. In 2010, funding for a renovation and expansion was secured. The new facility was to improve the working conditions of staff and volunteers, provide increased capacity for both public programs and community/ private events, and set a new standard of sustainable design and education with a LEED Gold certification.

SUSTAINABLE SITES.

Recognizing the carbon impact of motor vehicle use, the total number of parking stalls for the nature centre is minimized, and an electric vehicle charging station is provided. The stormwater is captured by the green roofs, bioswales and rain gardens, allowing 100% of annual rainfall to be treated as it exits the site. Reflective and vegetated roofing keep the building cool and reduce its heat island effect. The exterior wall and parking lot lighting allow minimal light trespass from the site.

WATER EFFICIENCY.

The irrigation system that keeps the green roofs alive uses 44% less water than an average system, while low maintenance and drought-resistant native grasses were planted throughout the site. Low-flow and high efficiency plumbing fixtures reduce water consumption by over 35%, without significant cost.

ENERGY & ATMOSPHERE.

A tight building envelope with optimized thermal insulation and high performance windows help to reduce heating and cooling requirements. High efficiency heating and cooling units use variable speed drives and recover heat from exhaust air to reduce natural gas and electricity consumption. Photovoltaic panels produce over 2700 MWh/ year, and a large portion of the building's electricity usage is offset with renewable energy credits. These strategies result in an energy use reduction of 42% compared to the baseline model.

MATERIALS & RESOURCES.

Nearly 85% of constuction waste materials were separated and recycled, rather than being landfilled. New building materials containing 25% recycled content were used, helping to provide a market for recycled products and further reducing the amount of waste going to landfills. 38% of the building materials were sourced locally, minimizing energy expended on transportation and supporting the local economy. Wood sourced from FSC-certified forests was used throughout the HSNC. A recycling program has been implemented within the building for paper, cardboard, glass, metal, plastic and drink containers. The organic waste generated by visitors and staff is composted on-site as part of an educational program.

LEED New Construction

Version 2009

Total Points	65
Sustainable Sites	9
Water Efficiency	5
Energy & Atmosphere	21
Materials & Resources	9
IndoorEnvironment	12
Innovation in Design	6
Regional Priority	3

LEED Gold

TEAM

Architect+LEED Consultant:
Group2 Architecture Interior Design
Owner: **City Of Lethbridge**
Mechanical Engineer:
AME Group
Electrical Engineer:
Design Core Engineering
Structural Engineering:
BEI Engineering (2000)
Landscape COnsultant:
O2 Planning + Design

CONTACT US

Helen Schuler Nature Centre
(403) 320-3064
hsnc@lethbridge.ca
lethbridge.ca/HSNC
@DiscoverItHere

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LEED® CANADA
GOLD·OR
2015

65	
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	3

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LEED Gold

INNOVATION IN DESIGN

Indoor Environmental Quality & Innovation in Design:

Building heating and ventilation are designed to provide a comfortable interior environment, while enhanced air filtration (at mechanical units) improves indoor air quality. During construction, the site was kept clean and building materials and ductwork were protected from moisture and dust contamination. Building materials including construction adhesives, sealants and paints contain low levels of harmful volatile organic compounds, while all composite wood products contain no added urea-formaldehyde. Recessed floor grilles at the main entrances reduce the amount of dirt and particulate pollutants entering the building, while physically separated housekeeping and printing areas minimize the impact of any hazardous gases and chemicals used in the building. Interior lighting levels are optimized for interpretive activities without using excessive electricity. Many rooms are equipped with occupancy sensors which shut off lights when rooms are unused. Over 90% of regularly occupied spaces receive natural daylight and views to the outside.

The interior lighting uses low-wattage, long life and low-mercury content fluorescent and LED luminaires. The contracted cleaning service offers a green cleaning program that uses low-impact cleaning products and equipment. As part of the interpretive programming at the HSNC, the staff guide tours of the building, likening its sustainable features to those found in nature.

GREEN Features:

Electrical Vehicle Charging Station

Photovoltaic panels provide free, renewable energy

Low-flow water fixtures conserve water

Efficient mechanical systems reduce energy use

Extensive and intensive green roofs help keep the building cool

65

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LEED Gold

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