COMING HOME TO NEST

UBC's new $107 million student association building aims for LEED Platinum

BANA LAZARUS

When University of British Columbia (UBC) students return to classes in the fall of 2015, a brand-new student association building will await, ready to show off its low ecological footprint.

As well, 2.8 million litres of rainwater will be collected and used for toilets and urinals, watering non-edible plants and for outdoor irrigation. This package includes a cistern and is piped through the building and not independently from the municipal water system.

The Nest by the Numbers

Projected sustainability targets of the Nest

2.8M litres
Rainwater collection per year

75%
Construction waste diversion

64%
Reduction in portable water use

57%
Energy savings

50%
Forest Stewardship Council-certified materials

5%
Energy from solar thermal

SOURCES: BLOG

The new $107 million AMS Student Nest, designed by Dialog and B+H Architects, is targeting LEED (Leadership in Energy and Environmental Design) Platinum certification, with considerations for the Living Building Challenge.

Besides activity rooms for students, the 250,000-square-foot building will house an auditorium, a multi-purpose hall, a climbing wall, Alma Mater Society (AMS) offices, retail outlets and eight restaurants and cafes. Its area is an increase over the previous building by 50 per cent.

The key to the building design was the extensive student involvement in the process, including the selection of architects. Using in-person workshops, as well as social media channels such as Facebook and Twitter for communication, students voiced their opinions for use and characteristics of their new building. Out of that conversation, the importance of a green, sustainable building emerged.

"The idea was to create an intense little city within a city," says Dialog architect Jost Bakker, partner in charge of the project. "So we have the metaphor of an Italian hill town, where all the different uses overlap and are focused on the town square.

"We wanted a building that could be really robust and could be changed over time."

To create that building strength, the main components were concrete and steel frame, with wood cladding, bridges and beams added.

What the students were really interested in was a building that was very warm and was very different from typical academic buildings at UBC," says Bakker. A key element of the sustainability strategy includes the near exclusive use of local materials, including glulam and cross-laminated timber, which are the primary building materials.

Ventilation is via a unique HVAC setup, while a 28-panel solar thermal array powers a closed-loop water heating system that is expected to produce 50,000 kilowatt hours annually, about five per cent of the Nest's total energy consumption.

Metered waste collection uses a measured four-stream waste-management system that includes a biodigester and digester. A 3,100-square-foot rooftop garden with a dedicated kitchen will be operated with the faculty of education's Orchard Garden and Living Lab projects.

Built on the site of an old retaining wall, the Nest's annex features a copper-clad stainless steel framed auditorium with a retractable roof.

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Catalogue of the Nest's showplace with opportunities for collaboration and learning. A series of workshops and seminars work together to support sustainability.

SOURCE: BLOG