

2013 Wood Design Awards - Project Fact Sheet

Earth Sciences Building

Location: University of British Columbia, Vancouver BC

Height	Size		Completion	Construction Budget
5	170,007	15,794	2012-08	\$58,700,000
<i>Storeys</i>	<i>sq ft</i>	<i>sq M</i>	<i>Date</i>	<i>\$ Cdn</i>

Project Description:

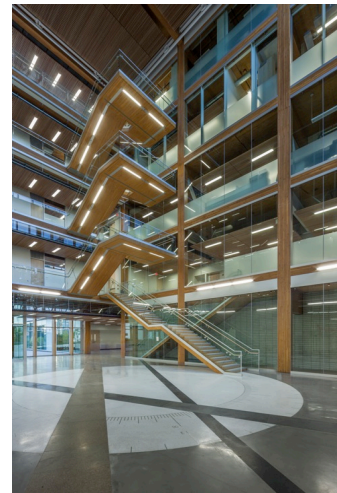
The Earth Sciences Building (ESB) is located on the Vancouver campus of the University of British Columbia. Shared between Earth, Ocean and Atmospheric Studies, the Department of Statistics, the Pacific Institute for the Mathematical Sciences and the Dean of Science, ESB is designed to enhance the growing links between each department, providing valuable opportunities for shared learning and collaboration.

The building is located along Main Mall, the primary north-south pedestrian route on campus, providing opportunity to add visual interest to the pedestrian experience by displaying the research taking place inside the building. To achieve this, the ground floor is considered the primary public space, and is glazed on all sides to maximize visibility into the building. Located directly across the street is the Beaty Biodiversity Museum, which together with the ESB creates a 'museum precinct' in this area of campus, a first for the University.

Promoting the project goal of 'science on display', a double-height research lab space serves as the backdrop for the museum-display component of the project. The building contains faculty and staff offices for each department, research laboratories, teaching spaces that include three lecture theatres, a museum component and a cafe. A five-storey atrium divides the north and south wings of the building, providing an organization structure for the different departments while at the same time providing an east-west pedestrian route directly through the building. Unlike the concrete south wing that contains labs and offices, the north wing houses offices and lecture theatres, with wood as the primary structural material. The wood structure provides a welcoming environment for the inhabitants of the building. As an added environmental benefit, the 1,317 cubic meters of wood in the structure has been calculated to store 1,094 tonnes of Carbon Dioxide equivalent (CO2 eq). The analysis allows us to compare the embodied carbon footprints (including carbon storage in the wood) of the heavy timber (0.23 tonnes of CO2 eq per meter squared) and the concrete structure (0.44 tonnes of CO2 eq per meter squared) portions of the building. The embodied carbon footprint of the heavy timber structure is almost 50% less than the concrete structure and is less than the average UBC laboratory building.

To provide rain cover for pedestrians in line with the university's design guidelines, a solid wood CLT canopy wraps three sides of the project. It extends from inside the building, where it forms the interior ceiling finish of the museum and cafe, blurring the boundaries between interior and exterior space. Located in the atrium is a free-standing cantilevered solid timber staircase. The

Project Images



Where the Wood Was Used:

	Primary Structural System	
Primary Structural System	Columns, Beams & Braces	y
	Floor Structure	y
	Exterior Walls	y
	Foundation	
	Shear Walls	y
	Bearing Walls	
	Fire Walls	
	Roof Structure (inc. columns and braces)	y
Secondary Structure	Stairway & Elevator Shafts	
	Convenience Stairs	y
	Entrances & Canopies	y
	Fire Separations	
	Enclosures for Mechanical Equipment	

	Architectural	
Architectural	Partitions (interior)	y
	Exterior Curtain Walls	
	Ceilings	y
	Exterior Cladding	
	Parapets	
	Ceiling Bulkheads	y
	Flooring	
	Doors	
	Windows	
	Skylights	
	Trim, Paneling & Features	
	Millwork	y
	Wall and Corner Guards	
	Other Architectural Woodwork	
	Hard Landscaping & Structures	
Perimeter Fencing		

Building Project Team Members:

Perkins+Will		
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