

SAMUEL BRIGHOUSE ELEMENTARY

LOCATION

Richmond, British Columbia

SIZE

4,777 m²; two storeys

COMPLETION

2011

ARCHITECT

Perkins+Will Canada

STRUCTURAL ENGINEER

Fast+Epp Structural Engineers

**ROOF FABRICATION AND
INSTALLATION**

StructureCraft Builders Inc.

PROJECT OWNER

School District No. 38 Richmond

B.C. GOVERNMENT MINISTRY

Ministry of Education

PROJECT OVERVIEW

Samuel Brighthouse Elementary School in Richmond is a great showcase for the use of British Columbia wood in public buildings. The award-winning school opened three months earlier than scheduled, and has a stunning design, welcomed by students and staff alike.

An undulating wood roof is the school's signature architectural feature. Not only does it look fantastic, but it was prefabricated off site so shop and field construction could proceed concurrently. It also took half the time to cover the building than a roof built on site.

Locally harvested wood was the primary building material for Samuel Brighthouse Elementary School. It was used for the post-and-beam structure, wall framing, roof decking, millwork as interior doors, and protective wall panels. One building was

made entirely with wood, and the other has a timber-frame second storey above a concrete main floor structure.

The school's designer, Perkins+Will Canada, received an Architectural Institute of British Columbia 2012 Merit award for the project; and its structural engineers Fast+Epp received the 2012 WoodWORKS! BC Wood Design Award for Engineering.

The structure replaced an existing school on the same site that lacked seismic safeguards except for the gymnasium, which was incorporated into the new building. The new school includes a wide range of environmental design strategies, including geothermal heating and solar hot water heating; daylight harvesting combined with solar shading; a well-insulated building envelope; and VOC-free interior finishes. Believed to be one of the most energy-efficient schools in Canada, it was a finalist in BC Hydro's 2012 Power Smart Excellence Awards.



Photo courtesy of naturallywood.com

“We chose wood as the primary expressive material for this project, transforming it into an evocative architectural gesture that demonstrates the beauty and capacity of dimensional wood.”

Robert Drew, Project Architect, Perkins+Will

WOOD USE

CREATING A TEACHING TOOL

The school district called for both passive and active strategies to advance sustainability so the school could become a teaching tool. Much of the wood in the roof has a blue appearance and is easily identified as coming from forests affected by the mountain pine beetle, presenting another learning opportunity.

RELAXED LEARNING ENVIRONMENT

Using wood supports the school district’s goal of transparency, collaborative learning, and connecting to nature and the community. Studies have found that wood interiors reduce stress, and that it provides productive and high-quality learning spaces for students and teachers.

PANELIZED ROOF: EFFICIENT AND BEAUTIFUL

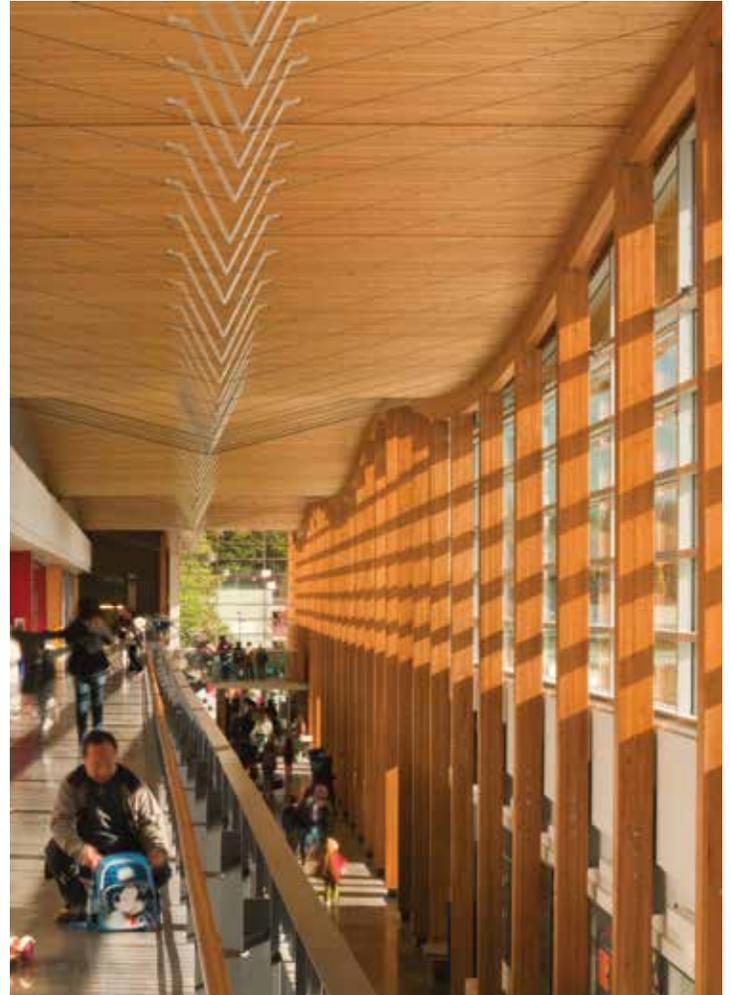
– The undulating wood roof made with 2x4s and steel v-shaped king-posts demonstrates the beauty and structural capacity of dimensional lumber. It used prefabricated panels built off site, which sped up construction and took half the time to cover the building as a roof built on site.

ADVANCING ENVIRONMENTAL EDUCATION

– About 90 trees and native plants placed on the school grounds provide shade and habitat and reduce the need for irrigation. This helps the students learn from their natural surroundings. A green roof directs runoff to a constructed wetland.

BEST CHOICE FOR COMMUNITY SPACE

– Wood is hypo-allergenic and, unlike carpeting, prevents the build-up of dust. It is easier to clean, making it a great choice for a building like Samuel Brighthouse Elementary School, which is open to community activities as a Neighbourhood Learning Centre.



Top photo courtesy of Nic Lehoux
Bottom photo courtesy of naturallywood.com

FOR MORE INFORMATION

This profile is published by Forestry Innovation Investment, the Government of British Columbia’s market development agency for forest products.

For more examples of innovative wood building projects throughout British Columbia, visit:

naturallywood.com