

LAKESIDE RESORT

LOCATION
Penticton, British Columbia

SIZE
4,665 m²

COMPLETION
June 2017

ARCHITECTS
HDR | CEI Architecture

STRUCTURAL ENGINEER
RJC Consulting Engineers

GENERAL CONTRACTOR
Greyback Construction

**ENGINEERED WOOD
SUPPLIER/FABRICATOR**
Structurlam

PROJECT OWNER
RPB Hotels & Resorts

PROJECT OVERVIEW

Speed of construction, reduced building weight and desire for a more attractive facility convinced the Lakeside Resort owner to use wood instead of concrete when they expanded their resort. The new 70-unit hotel is constructed of mass timber, and at its completion, is believed to feature the most extensive use of cross-laminated timber (CLT) of any building in the Okanagan Valley.

Lakeside Resort's owner wanted to open the doors to the new hotel in time for the busy summer season. The six-story structure was completed in just under one year, and all project members agree that meeting the target completion date would not have been possible without using CLT.

The property is located on a flood plain in Penticton, and most new buildings in the area need to be built on pilings, so the light weight nature of wood was a definite advantage. By using CLT, the overall building weight was reduced, allowing them to use a more traditional concrete foundation instead of pile foundations, saving money and time.

The owners also wanted a hotel that would be a unique and modern addition to Penticton's waterfront. Use of exposed glulam beams and CLT in both rooms and public spaces gives the hotel a contemporary look, while also saving money by eliminating the need to add interior finishes.



Photo courtesy of Structurlam

“There’s a lot of money left on the table if you miss a summer at a resort like this. When you compress a construction schedule by using prefabricated wood panel products, it results in real, intended financial benefits.”

David Prystay, General Manager, RPB Hotels & Resorts

WOOD USE

The structure was framed by Douglas fir glulam beams and columns, left exposed to the interior. Glulam was also used to build a dramatic 30-foot high wall using a double lattice of beams to frame the windows. The lattice, which hangs down three stories, is suspended from the sixth floor.

Locally-produced CLT panels were used for all major shear elements of the building, including floor and roof structures, balcony separation walls, and the vertical walls which separate the exterior decks. CLT was also used to frame the

stairwells and stairs, giving the owner a cost-effective way of achieving a unique architectural finish across a broad area.

The CrossLam CLT panels were delivered in a coordinated manner to allow for hot loading - a process where panels are hoisted from the transport truck bed directly into position on the building. This reduced double handling of the panels. Each floor contained about 70 CLT panels. The first floor took 14 days to install, the second took nine days and then each subsequent floor took just one week.

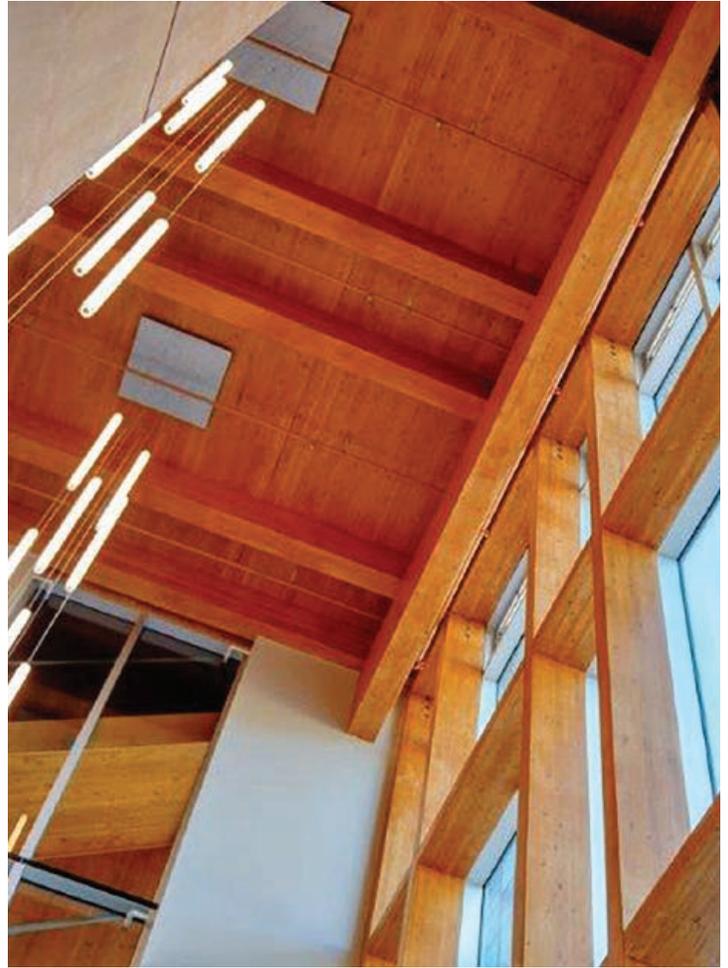


Photo courtesy of Structurlam

ESTIMATED ENVIRONMENTAL IMPACT OF WOOD USE

<p>V Volume of wood products used: 1,502 cubic meters</p>	<p>GHG EMISSIONS ARE EQUIVALENT TO:</p>
<p>T U.S. and Canadian forests grow this much wood in: 4 minute</p>	<p>345 cars off the road for a year</p>
<p>C Carbon stored in the wood: 1,175 metric tons of CO₂</p>	<p>Energy to operate 172 homes for a year</p>
<p>CO Avoided greenhouse gas emissions: 455 metric tons of CO₂</p>	<p><small>*Estimated by the Wood Carbon Calculator for Buildings, cwc.ca/carboncalculator.</small></p>
<p>✓ Total potential carbon benefit: 1,630 metric tons of CO₂</p>	<p><small>*CO₂ refers to CO₂ equivalent.</small></p>

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