

THOMPSON RIVERS UNIVERSITY LAW SCHOOL

LOCATION

Kamloops, British Columbia

SIZE

4,200 m²

COMPLETION

2013

ARCHITECTS

Diamond Schmitt Architects Inc./
Stantec

STRUCTURAL ENGINEER

Fast + Epp

ROOF PANEL DESIGN BUILDER

StructureCraft Builders Inc.

PROJECT OWNER

Thompson Rivers University

B.C. GOVERNMENT MINISTRY

Ministry of Advanced Education

PROJECT OVERVIEW

Thompson Rivers University (TRU) sits amid rolling grasslands overlooking the confluence of the North and South Thompson Rivers in Kamloops, British Columbia.

The TRU law school building takes the form of a 4,200 square metre, two-storey addition built on top of the university's 'Old Main' building, which is a two-storey concrete structure dating from the 1970s. The inspiration for the architectural form came from the natural landscape and from the craft traditions of the local First Nations, whose people make up 11% of the student enrollment at TRU.

The undulating profile of the roof echoes the soft curves of the local hills which are visible from the site. Below the glazed curtain wall of the addition, the lower floors of Old Main have been re-clad in horizontal cement planks whose flowing lines recall the pattern of traditional Aboriginal basketwork.

Creating such a space on top of an existing building required careful calculation of the structural implications. Not only do the additional storeys increase the vertical dead and live loads, but the additional height also increases the lateral wind and seismic forces to which the building is subjected. To minimize these forces, a light structural solution was required.



Photo: Mathias Fast / StructureCraft Builders

“This re-invention of Old Main is an important expression of TRU’s vision for the future. TRU’s first graduating class of law students and each subsequent graduate will carry a tremendous sense of this place with them as they move forward with their careers.”

Alan Shaver, President, Thompson Rivers University

WOOD USE

Initially a composite system was proposed, with a primary structure of steel posts and beams supporting solid wood roof panels set within steel channel frames. This option was carried through design development, at which point the contractor identified a cost saving for an all-wood solution.

For a building of this height and classification, combustible construction was not permitted by the BC Building Code so it was necessary to develop an alternative solution based on the use of heavy-timber and fire retardant-treated wood elements.

The other major design constraint was the need to avoid disrupting classes, so the enclosure had to be completed during the four-month break between academic years. Off-site prefabrication of the roof panels enabled work to begin in advance and greatly reduced the time required on site.

The revised roof panel design, consisting of a glulam exterior frame, internal joists and plywood sheathing, was

standardized to the greatest possible degree, with only the tight curves at the ridges and valleys of the roof requiring customization.

The panels were assembled to fit on a standard truck bed (approx. 3.5 metres wide) to maximize shipping volumes. This also worked well given the existing building’s 3.6 metre column grid. A temporary crane was used to lift two large end panels and a centre curved panel into place on site. A layer of stitching plywood was installed along the seams, once the glulam perimeter beams were bolted together.

The entire roof, an area equivalent to a football field, was completed in seven weeks. Once the building was enclosed, the interior work could be undertaken. The interior features many wood finishes, including millwork, panelling and acoustic treatments. The exterior soffits are finished in cedar, making the roof appear like a floating ribbon of wood above the glass curtain wall.



Photos: Tom Arban

FOR MORE INFORMATION

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