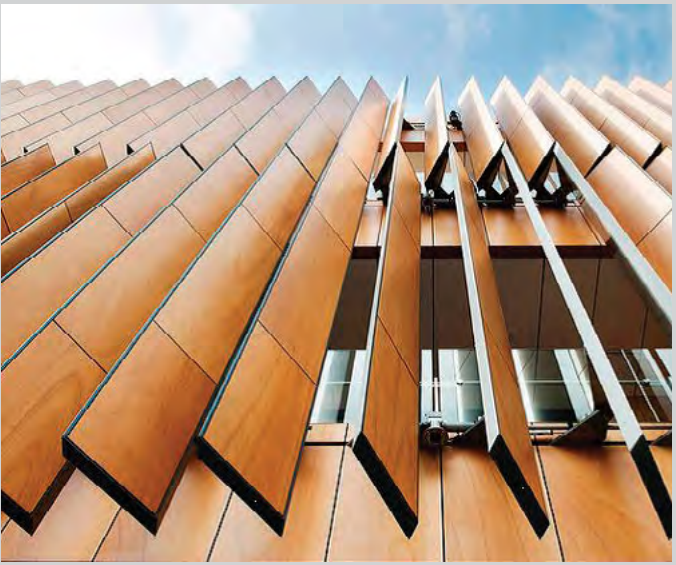
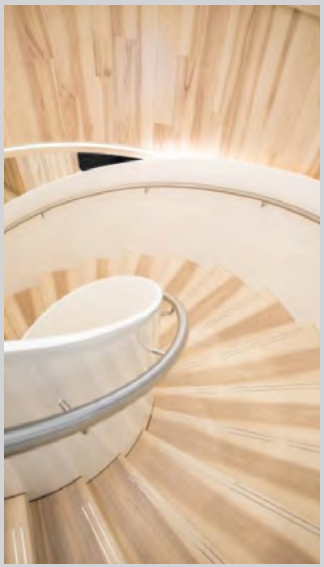
rjc

Engineers

Designing with Wood





Creative Thinking **Practical Results**

Designing with Wood

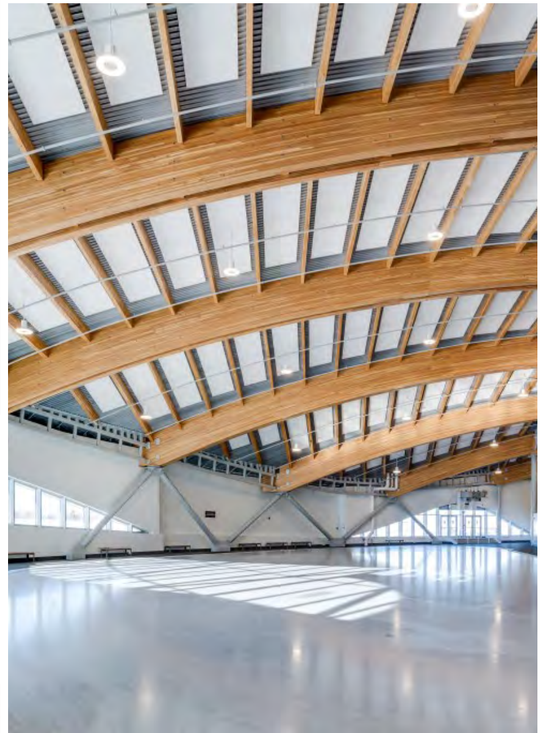
Wood is a sustainable building material – renewable and with low embodied energy. When incorporated thoughtfully and creatively into design, this natural material has been key to creating many of the most inspiring spaces in the built environment.

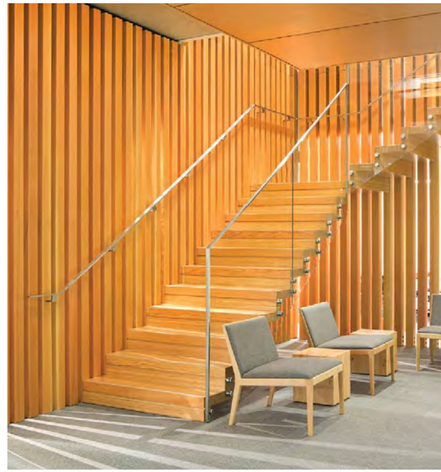
The RJC Approach

RJC Engineers (RJC) is proud of our long history of pursuing innovative uses of building materials. For over seven decades we have contributed fresh perspectives in design by hiring bright creative people and nurturing them into seasoned specialists. Since our inception, we have continually challenged ourselves to be the best at what we do, and to push the limits of what is possible.

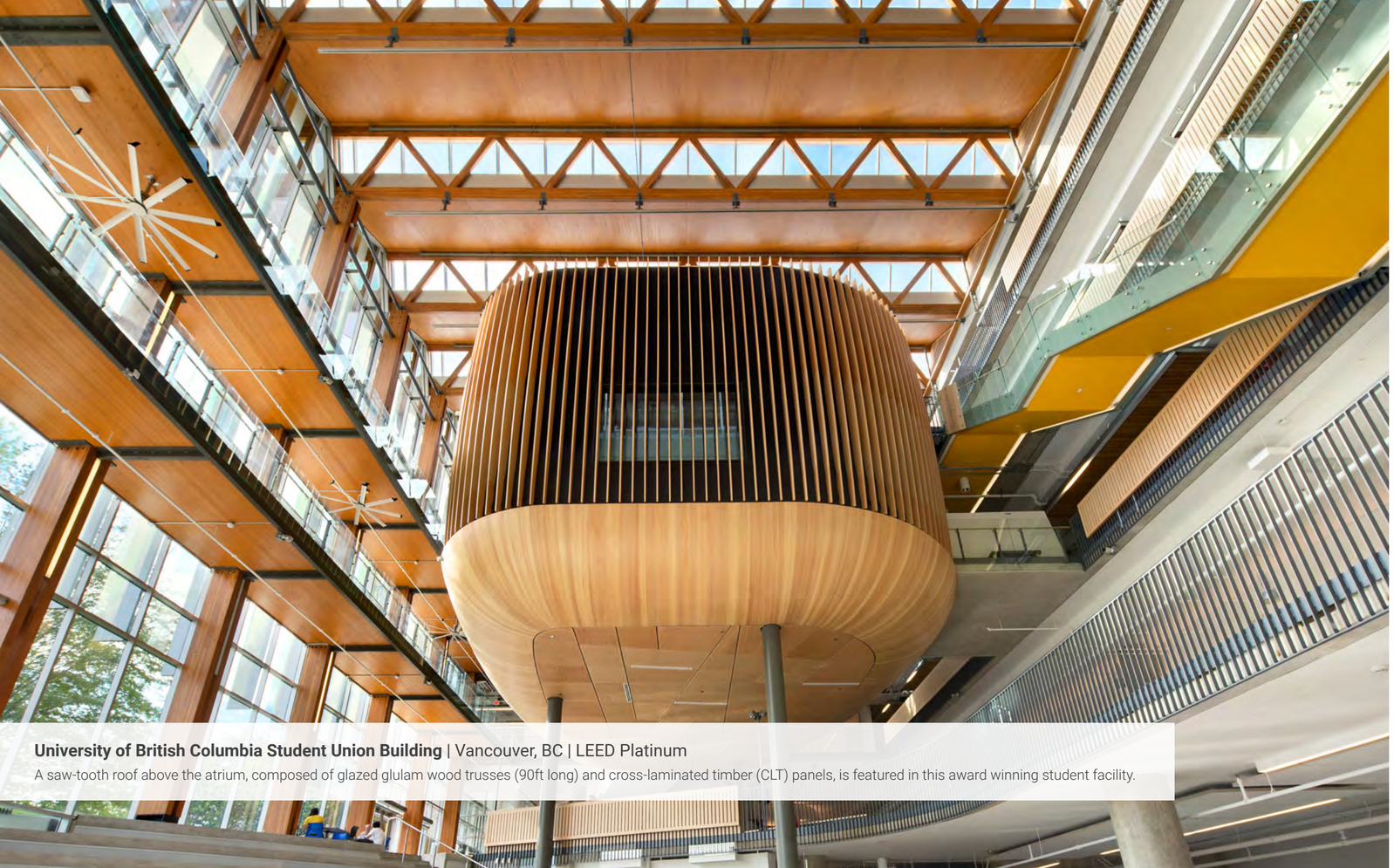
Today, RJC has dedicated wood specialists in offices across Canada. With a national staff of over 560, we have the depth of resources to meet any design challenge. This enables us to provide local expertise backed by industry leaders with specialized knowledge in all aspects of wood design.

We are passionate about bringing our client's vision to reality through creative structural solutions, while treading softly on the environment.



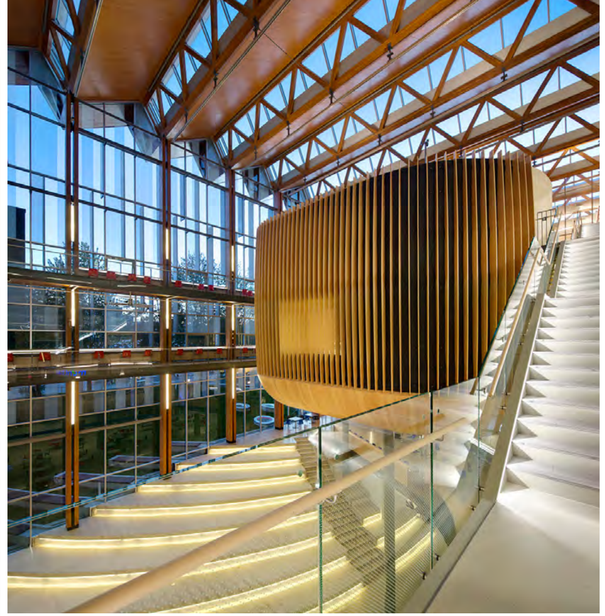


> "RJC's culture encourages our specialists to engage in research, code development and outreach with the design and construction industry.
>
> Grant Newfield, RJC Vancouver



University of British Columbia Student Union Building | Vancouver, BC | LEED Platinum

A saw-tooth roof above the atrium, composed of glazed glulam wood trusses (90ft long) and cross-laminated timber (CLT) panels, is featured in this award winning student facility.



Tsawwassen Mills | Vancouver, BC

Nanaimo General Hospital | Nanaimo, BC | LEED Gold

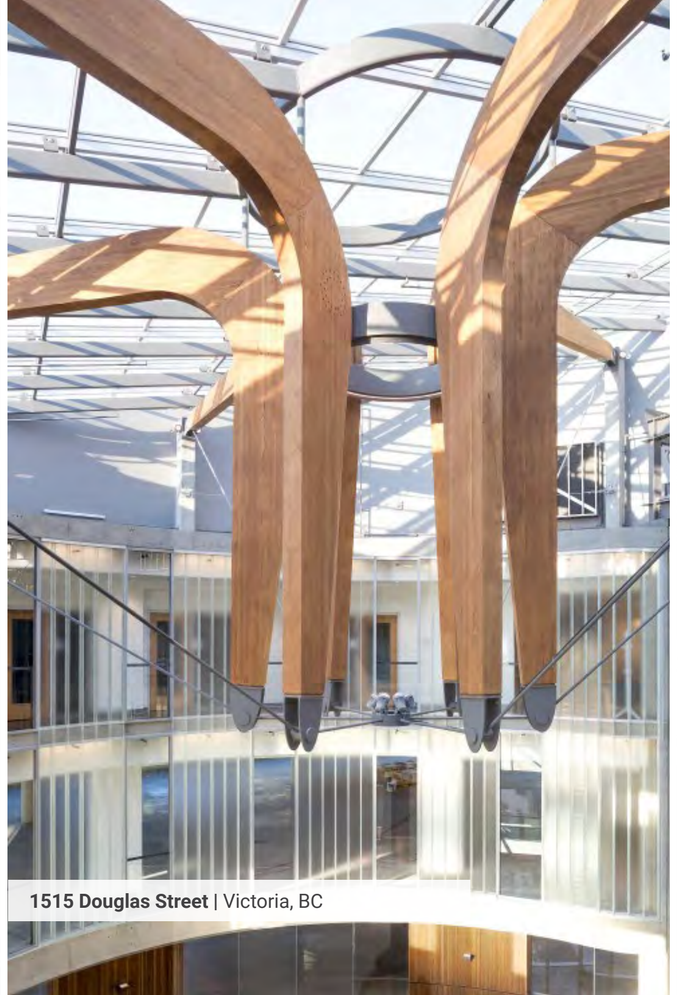
Quarry Park Recreation Centre | Calgary, AB

BC Cancer Agency of the North | Prince George, BC | LEED Gold

Medicine Hat Airport Expansion | Medicine Hat, AB

Design Excellence

We recognize that one of the most innovative and creative structural contributions in wood design is the connection detail that accentuates wood's natural beauty, or is not even visible.



1515 Douglas Street | Victoria, BC

> We have the creativity and technical excellence to produce attractive connection designs and achieve challenging architectural visions.
>
> Bruce Johnson, RJC Victoria

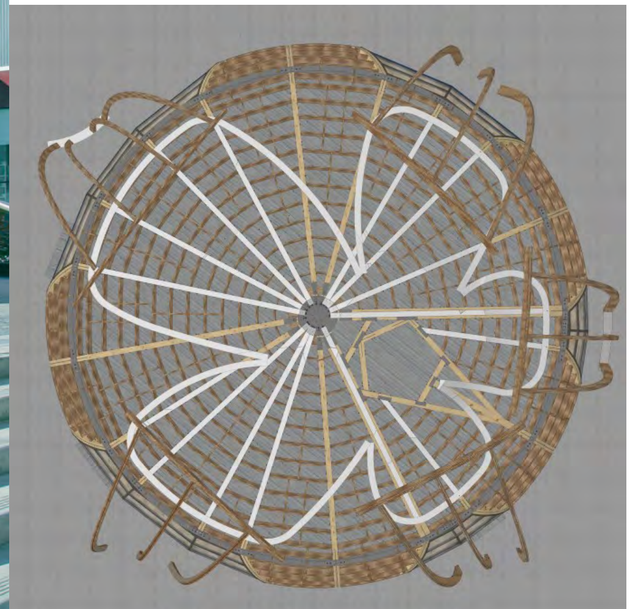
Brentwood College Visual Arts and Global Studies Centre | Mill Bay, BC | LEED Gold

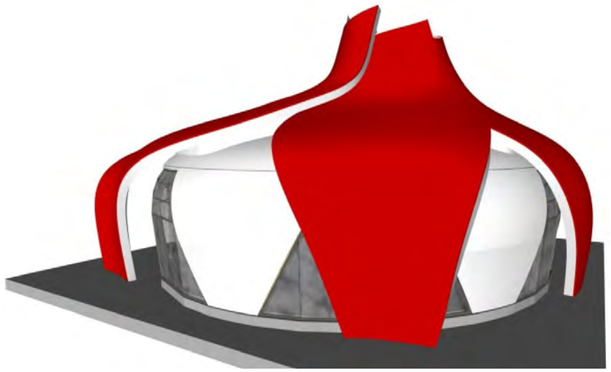
An award-winning project, featuring undulating timber roof forms and unique composite atrium roof truss design. The atrium trusses esthetically highlight wood through cleverly hidden connections joining curved double glulam top cords, steel cable bottom chord and laminated structural glass king posts.

At RJC we take communication with our clients to a new level of integration through interactive visualization modelling.

GNW Pavilion | Vancouver, BC

An artistic sculpture designed by Perkins+Will, this Japanese inspired hybrid timber-steel structure was designed to resemble a lotus shaped flower and is located on the campus of the new state-of-the-art Emily Carr University on Great Northern Way.

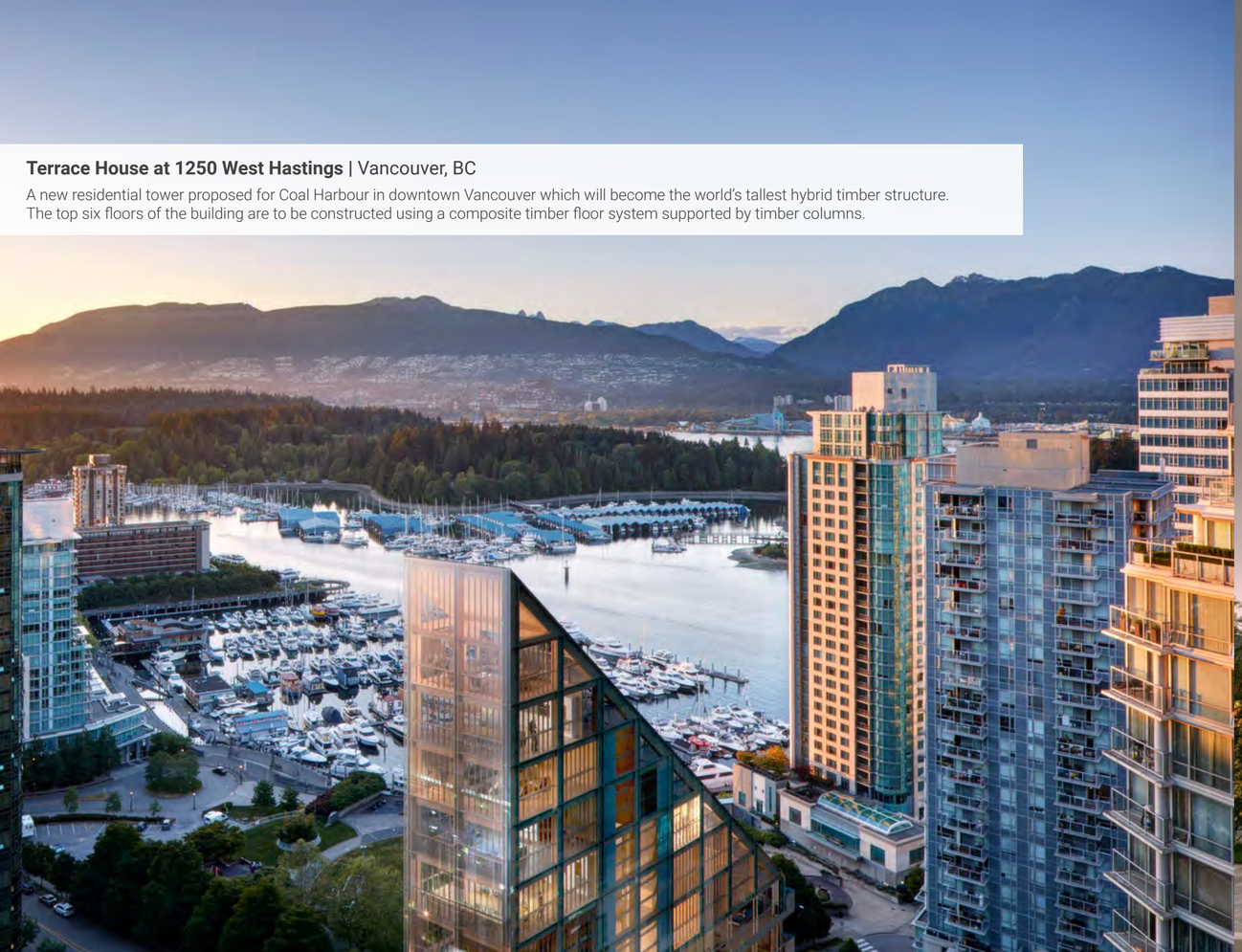




The structure consists of five curved wood shear walls and seven glazing columns that support a hybrid timber-steel dome, while the five outer petals were fabricated from over 2,500 individual wood pieces that were cut to suit the complex double curvature geometry.

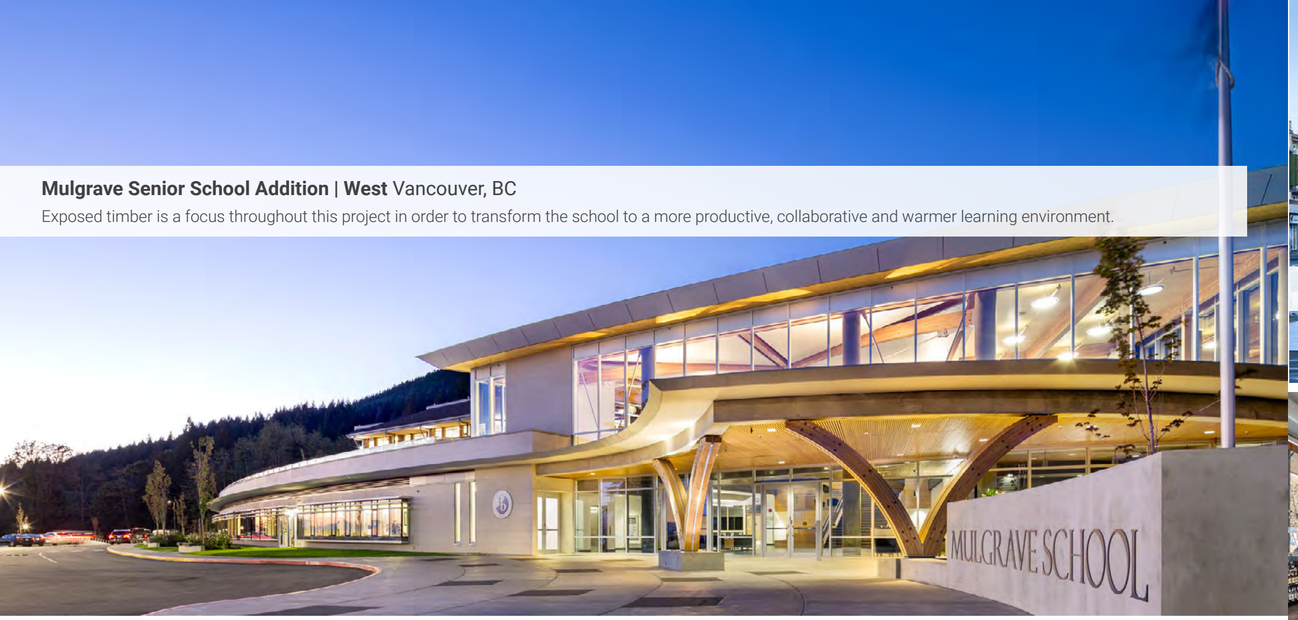
Terrace House at 1250 West Hastings | Vancouver, BC

A new residential tower proposed for Coal Harbour in downtown Vancouver which will become the world's tallest hybrid timber structure. The top six floors of the building are to be constructed using a composite timber floor system supported by timber columns.



UBC Marine Residences Amenity Building | Vancouver, BC

Detailed glulam beams, some in the form of trusses together with glulam and timber log posts, provide an inviting presence amidst multiple concrete and brick residence buildings.



Mulgrave Senior School Addition | West Vancouver, BC

Exposed timber is a focus throughout this project in order to transform the school to a more productive, collaborative and warmer learning environment.

Tudor House Liqiuor Store | Esquimalt, BC

St. Patrick Island Redevelopment | Calgary, AB

UBC Okanagan Campus - Academy Way | Kelowna, BC

This development is a progressive wood-frame residence building built over a concrete podium. The buildings vary from four to six-storeys and embrace the nature of the site. The buildings were designed around significant land elevations and are able to showcase the surrounding beauty of the Okanagan.

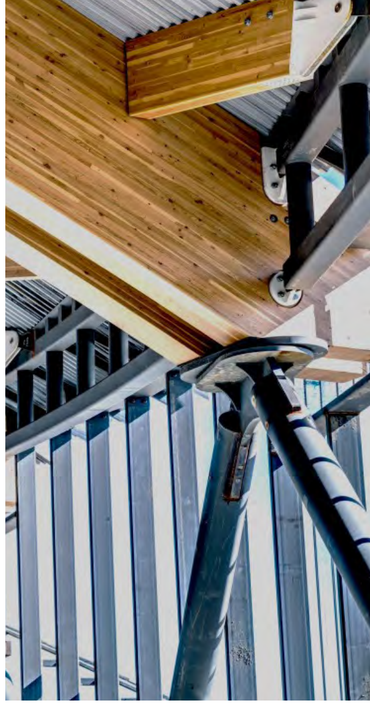
Fraser Valley University Student Centre | Abbotsford, BC

Leading Edge Expertise

Our expertise in wood has placed us at the forefront in advancing wood design practices and code development across Canada.

Shane Homes YMCA at Rocky Ridge | Calgary, AB

This award winning facility is ranked as the world's largest YMCA and also boasts North America's largest single wood roof. The curving glulam beams span up to 36m and the innovative connections seamlessly integrate the glulam roof onto the supporting steel structure, allowing for repetition in design, fabrication and erection. These elements create the geometry of an irregular and complex form; a form that serves a vital structural function, but also provides an impressive aesthetic interior finish and dramatic exterior expression.



RJC is active with the following organizations shaping the future of wood in Canada.

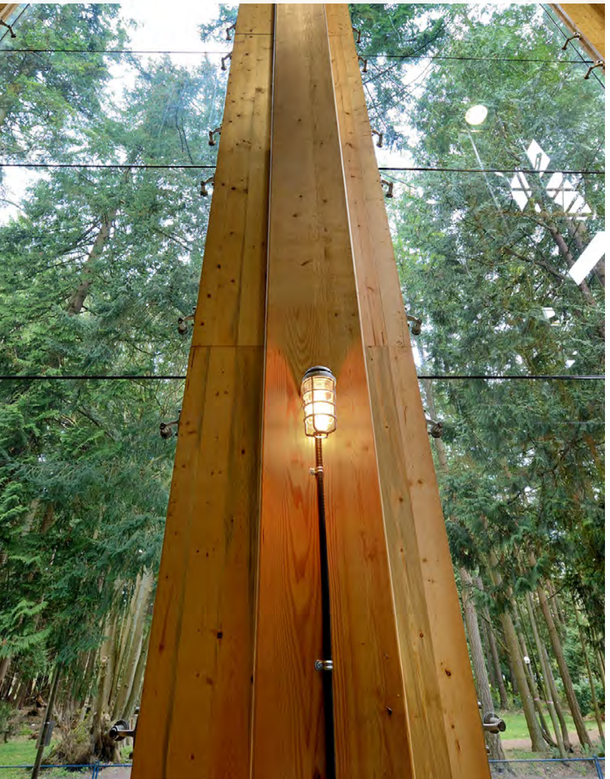
- Canada's Wood Code
- NEWBuildS
- FPInnovations
- Canadian Wood Council
- National Building Code of Canada
- BC Advisory Group on Wood-Based Advanced Building Solutions

"The innovative design integration and engineering used to create a roof shape that complements the natural elements and rocky mountain vista was very impressive.

Jury for ACEC Awards

UBC Bioenergy Research and Demonstration Facility | Vancouver, BC | LEED Gold

This facility incorporated the first commercial application of Cross Laminated Timber (CLT) in North America. RJC provided Specialty Engineering services for the panels and connections based on tests performed by UBC.



Hamilton Community Recreation Centre | Richmond, BC

Fire Hall No. 14 | Surrey, BC

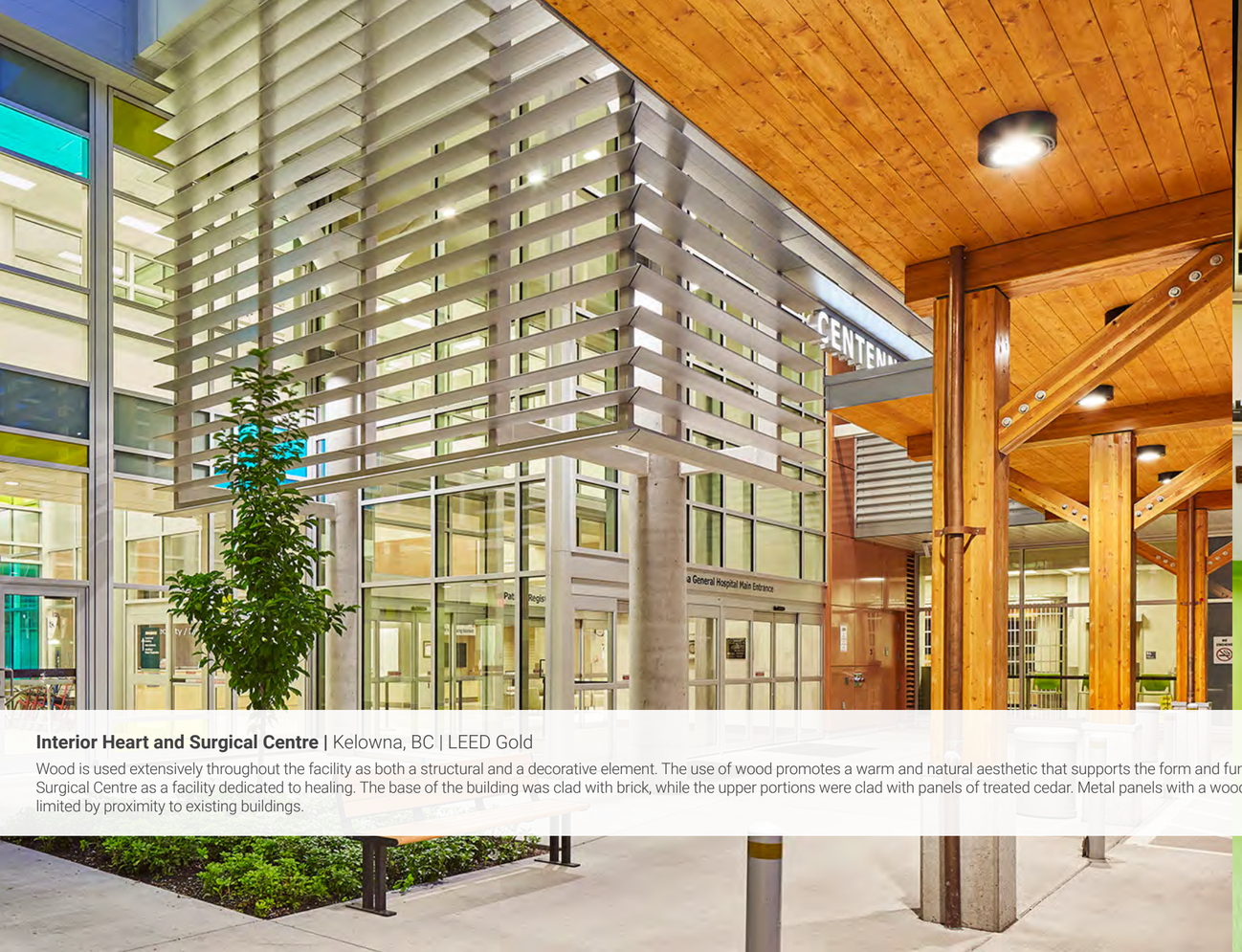
Revelstoke Elementary & Secondary School | Revelstoke, BC

Linear House | Salt Spring Island, BC

Helping push wood construction technology to a new level, RJC's engineers designed spliced wood panel web beams for site assembly to span a 78-foot glazed opening and a 32-foot end cantilever.

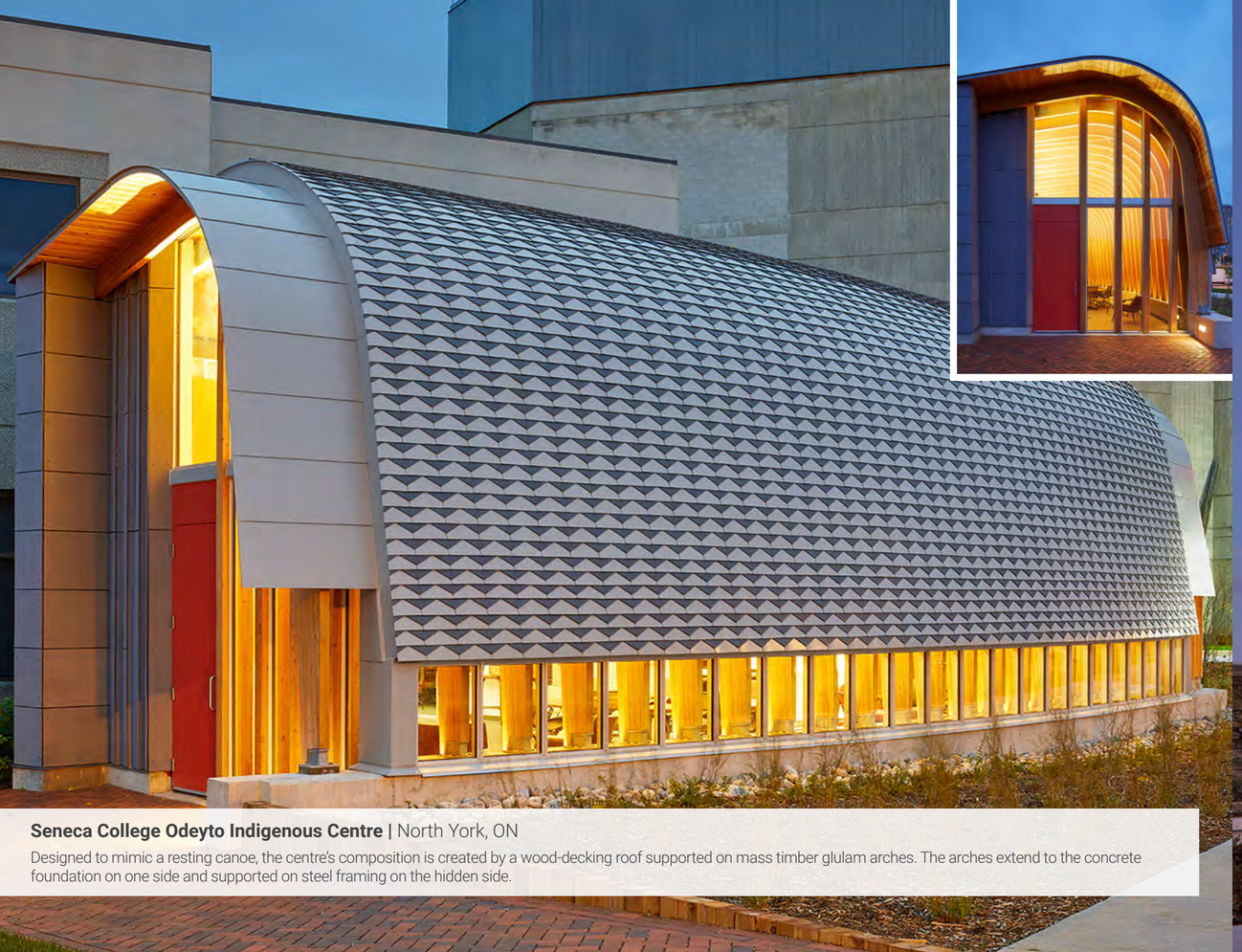
"The architects' vision inspired us and through it we pushed wood construction technology to a new level.

CC Yao, RJC Vancouver



Interior Heart and Surgical Centre | Kelowna, BC | LEED Gold

Wood is used extensively throughout the facility as both a structural and a decorative element. The use of wood promotes a warm and natural aesthetic that supports the form and function of the Interior Heart and Surgical Centre as a facility dedicated to healing. The base of the building was clad with brick, while the upper portions were clad with panels of treated cedar. Metal panels with a wood grain finish were used where limited by proximity to existing buildings.



Seneca College Odeyto Indigenous Centre | North York, ON

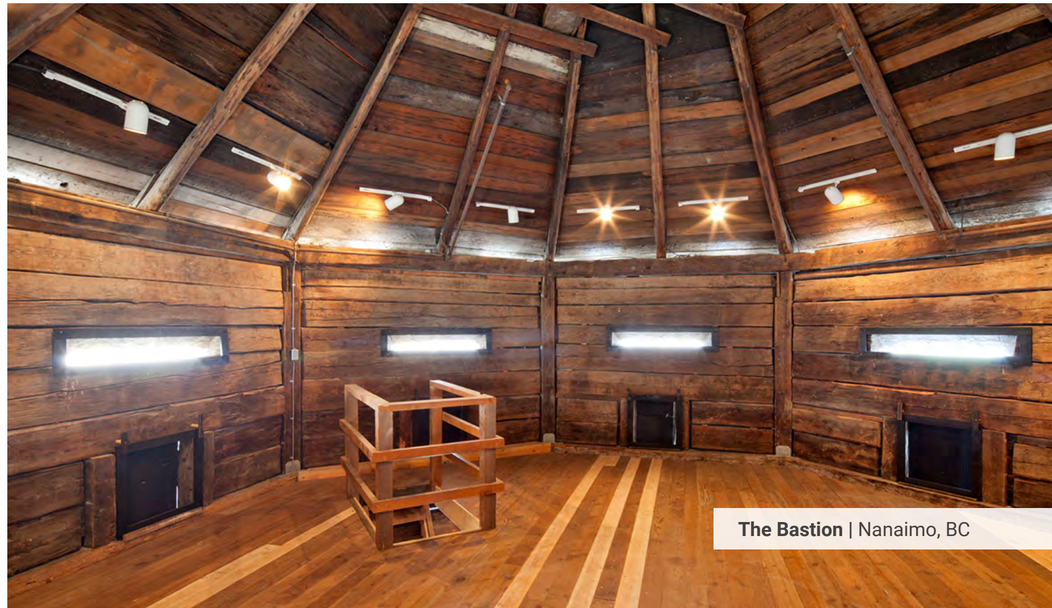
Designed to mimic a resting canoe, the centre's composition is created by a wood-decking roof supported on mass timber glulam arches. The arches extend to the concrete foundation on one side and supported on steel framing on the hidden side.

Departure Bay Ferry Terminal | Nanaimo, BC

Columbia Valley Centre | Invermere, BC

The new 19,000 sq. ft. building hosts a public library, a large main hall, multi-purpose and supportive space and a large roof top terrace which features panoramic views of the surrounding Columbia Valley. Designed to emulate a nearby rusty-steel rail bridge, the community centre was designed with a modern look that compliments the surrounding Rocky and Purcell Mountains.

> “The architects’ vision inspired us and through it we pushed wood construction technology to a new level.
>
> CC Yao, RJC Vancouver



The Bastion | Nanaimo, BC

WinSport Canada Athletic and Ice Complex | Calgary, AB

Structural framing for this world class facility includes gracefully curved glulam beams spanning 48m over the main rink seating bowl and connected running track. The facility is home to our national men's and women's hockey team as well as Hockey/Skate Canada.

"RJC provided a team with extensive glulam experience for this fast-tracked project. We succeeded in achieving a world-class facility that inspires our national athletes.

Mark Ritchie, RJC Calgary

Nanaimo North Library and Central Services | Nanaimo, BC

Seaspan Corporate Office | Vancouver, BC

South Surrey South Operations Centre | Surrey, BC

Steeves Manor | Vancouver, BC

Reliable Controls Headquarters | Victoria, BC | LEED Platinum

Penticton Lakeside Resort | Penticton, BC

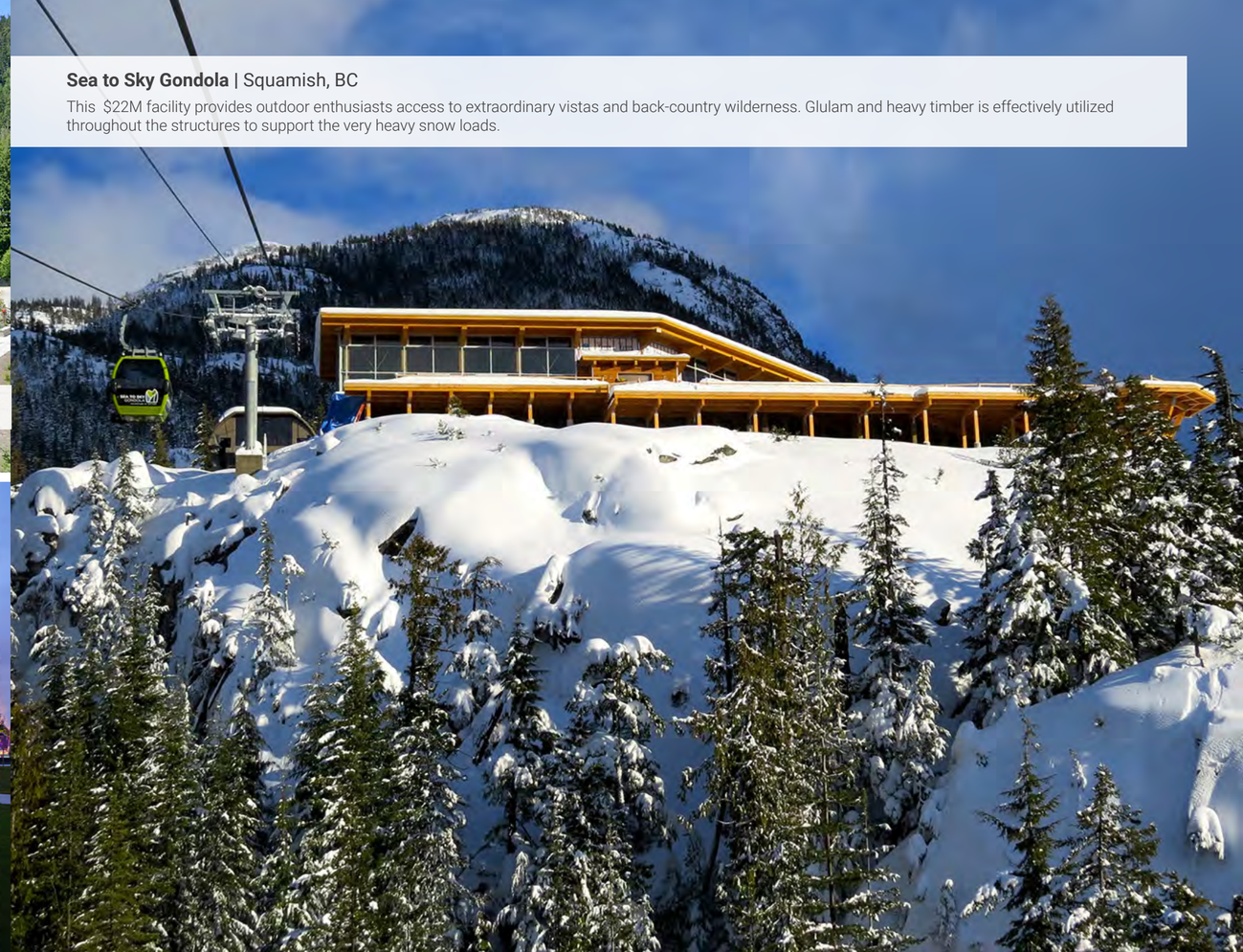
Camas Gardens | Vancouver, BC | LEED Gold

Rainbow Plaza | Whistler, BC

Surrey Museum | Surrey, BC

Sea to Sky Gondola | Squamish, BC

This $22M facility provides outdoor enthusiasts access to extraordinary vistas and back-country wilderness. Glulam and heavy timber is effectively utilized throughout the structures to support the very heavy snow loads.



Simmons Mattress Building Restoration | Calgary, AB

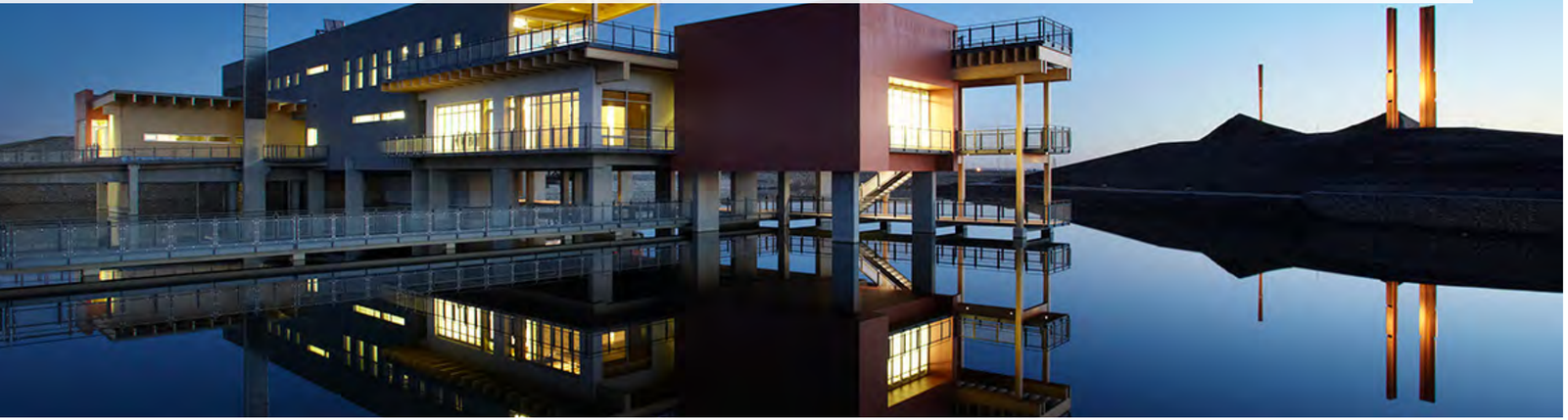
Hillcrest Aquatic Centre | Vancouver, BC | LEED Gold

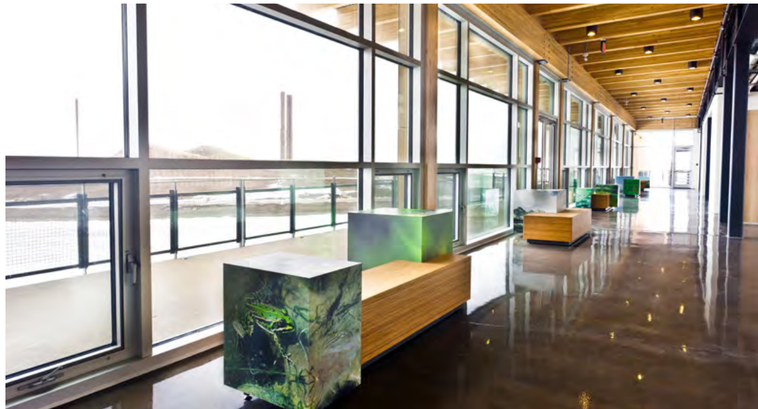
McKnight-Westwinds LRT Station | Calgary, AB

Camosun College - Centre for Trades Education & Innovation | Victoria, BC | LEED Gold

Ralph Klein Park Environmental Education Centre | Calgary, AB | LEED Platinum

Most of the structure consists of exposed concrete, glulam beams and joists, integrating structure with architecture. Long span glulam beams support heavy patio and green roof loads.





Float Plane Terminal | Victoria, BC

Lake District Hospital | Burns Lake, BC

JJ Bean | Vancouver, BC

CASA Mental Health Centre | Edmonton, AB

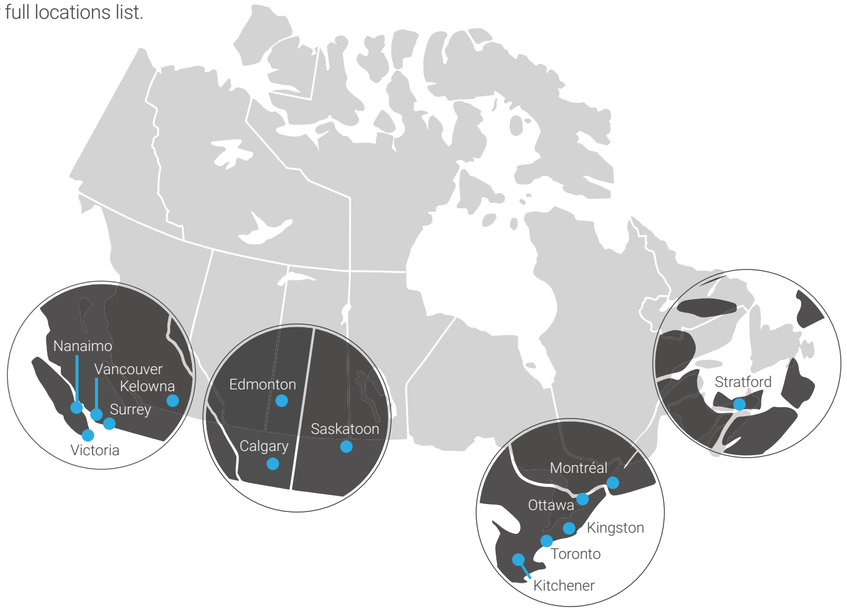
West Vancouver Police Services | Vancouver, BC

Dockside Green | Victoria, BC | LEED Platinum

Translink Evergreen Line - Lincoln Station | Vancouver, BC

Contact **Us**

Click here for our full locations list.



RJC Engineers
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Creative Thinking **Practical Results**

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