CELEBRATING EXCELLENCE IN WOOD ARCHITECTURE

2017-18 WOOD DESIGN AWARD WINNERS

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2017-18 WOOD DESIGN AWARD WINNERS

Canadian Wood Council Conseil canadien du bois

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Celebrating Excellence in Wood Architecture
2017-18 Wood Design Award Winners

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Inspiring wood architecture revolutionizes the way we think about

WOOD IN CONSTRUCTION

The design and construction community is revolutionizing the way we think about wood in construction. Growing pressure to reduce greenhouse gas emissions, coupled with a desire for aesthetically appealing designs, have resulted in a wood momentum that is being celebrated by architects, engineers and builders around the world.

The Wood Design & Building Awards program is an opportunity to recognize the inroads that design and construction teams have achieved for wood applications and systems in their projects. The inspiring submissions for this year's awards program are a reflection of the desire to push the boundaries of innovation for wood construction. Advancements in wood research and technology are contributing to a wider range of diverse uses for wood in construction. As architects and engineers look to duplicate examples in other parts of the world, we're seeing a push for taller, larger and more robust wood buildings.

The Wood Design & Building Awards program recognizes design teams that are passionate about promoting and inspiring a wood culture in construction. As you will see from the submissions in this year's awards book, wood is celebrated as a sound, strong and sophisticated building material.

We are honored to share with you the featured winners from our program in our award-winning Celebrating Excellence in Wood Architecture awards book. It is our hope that these projects will encourage you to consider wood for your next projects. A special thank you to this year's sponsors for their ongoing support – Sustainable Forestry Initiative, Real Cedar, Sansin, as well as our media sponsor, e-architect.

Etienne Lalonde
Publisher
Wood Design & Building Magazine

Ioana Lazea & Natalie Tarini
Coordinators
Wood Design & Building Awards

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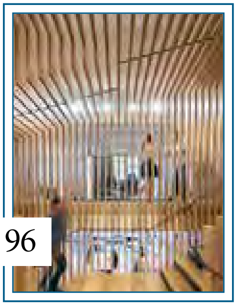

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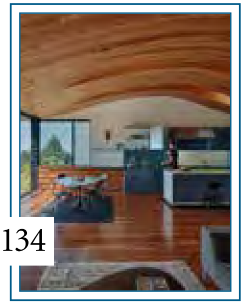

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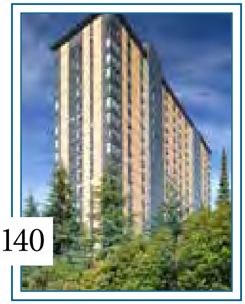

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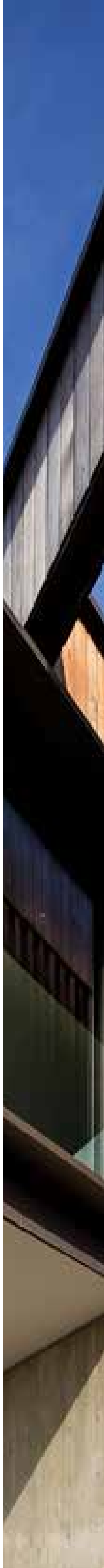

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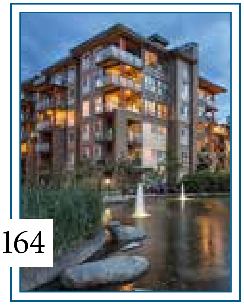
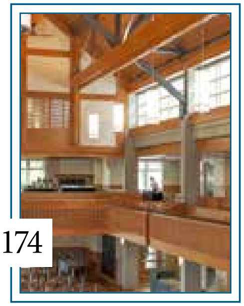
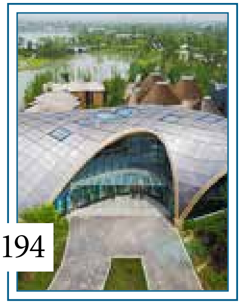
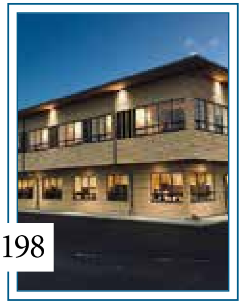


2018 BRITISH COLUMBIA



2018 BRITISH COLUMBIA





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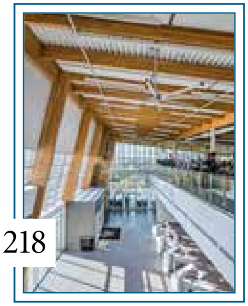

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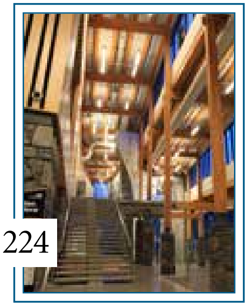

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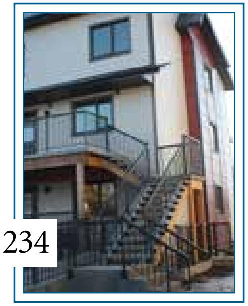

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CANADIAN WOOD *WORKS!* AWARDS

2017 ONTARIO

2017 ONTARIO

2017 ONTARIO

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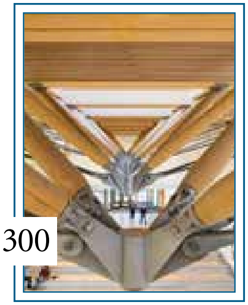
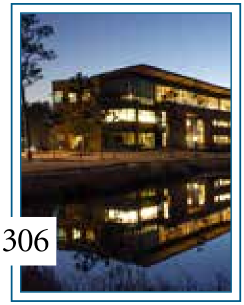
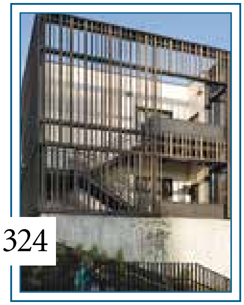
2018 UNITED STATES

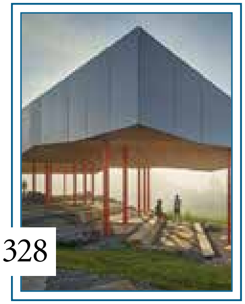


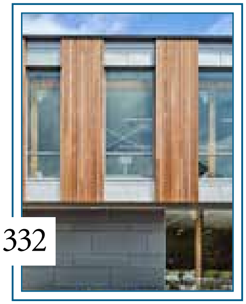


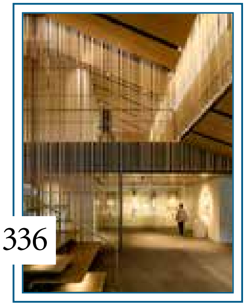
2018 UNITED STATES



2018 UNITED STATES







U.S. WOODWORKS WOOD DESIGN AWARDS

2018 UNITED STATES

2018 UNITED STATES

2018 UNITED STATES

2017-18 OTHER

Wood Design & Building Awards

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SANSIN
PrecisionCoat FACTORY FINISH

Ways of Wood

Reflecting on seven years of *Wood Design Award Winners* books, I'm struck by how much things have changed during that time.

The first awards book I edited was in 2011-12, when many of the projects were residences, places of worship, schools, or community centers.

Times have changed and ushered in new materials, updated codes and new ways of looking at things. This year, the winning projects in this section might be our most varied and progressive to date. Our judges were eager to reward those who push the envelope and I think it's important to note this doesn't necessarily mean going higher with mass timber, though they did give a special technical award to Brock Commons for its achievements in that regard. Pushing the envelope simply means going beyond the normal limits to do something new.

In this section, all the award-winning projects are multifaceted. Certainly, the projects are beautiful, inside and out, but they're also sustainable and use wood in innovative or unusual ways.

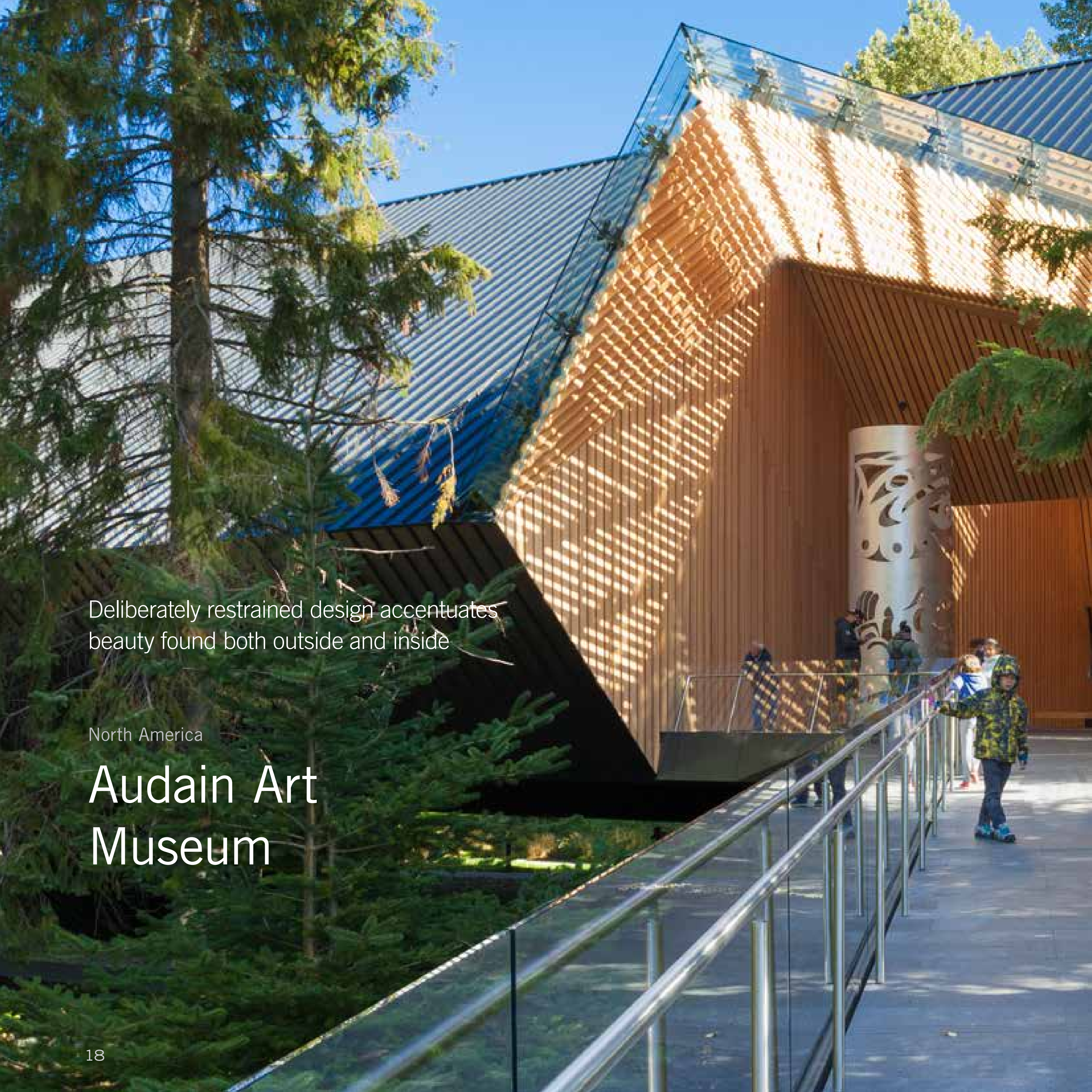
The judges listed Pause, Story Pod and Ways of Wood, three lovely little projects, among their favorites. About both function and program, the judges felt these projects really punched way above their weight. All are projects the public can interact with, an outcome many projects strive to achieve.

Two projects more industrial in nature, also surprised the judges. Wooden Ventilation Towers struck a chord because the architects took something that could be ugly, ordinary, or forgotten in the landscape and made something sculptural and beautiful. And the Trois-Soeurs Pedestrian Bridge took the most iconic part of the bridge, the mast, and constructed it out of wood.

The fact that wood can produce such a range of architecture is probably one of the most important things we saw.

Theresa Rogers
Editor
Wood Design & Building Magazine

HONOR AWARDS



Deliberately restrained design accentuates beauty found both outside and inside

North America

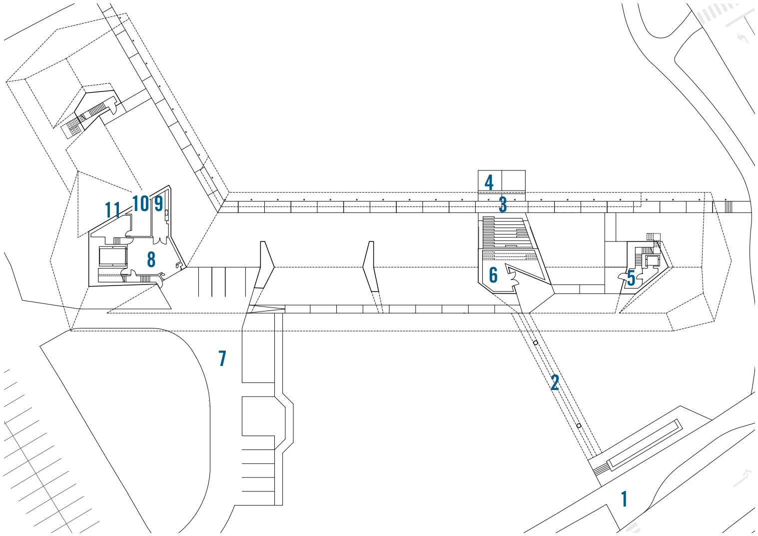
Audain Art Museum

"There's something really compelling about this very austere exterior and then this gaping opening that is welcoming and surprising at the same time. This project delivers throughout. Beautifully detailed. Very rigorous."

– Jury

A 56,000-sq.ft. museum in Whistler, BC, the Audain Art Museum houses the personal collection of home developer and art collector Michael Audain, tracing a visual record of British Columbia from the late 18th century to the present day. It includes one of the world's finest collections of old First Nations masks, a superb collection of Emily Carr paintings, and works by some of Canada's most significant post-war artists including Jack Shadbolt, E.J. Hughes and Gordon Smith, as well as works by such internationally regarded contemporary artists as Jeff Wall, Rodney Graham and Stan Douglas.

The design of the museum is shaped by three powerful determinants. The first is the need to house both the permanent exhibition of Michael Audain's collection and temporary exhibits of all kinds from across Canada and around the world. The second is the beautiful but challenging site in Whistler which, although blessed by magnificent evergreen forests, is located within the floodplain of Fitzsimmons Creek. The third is the enormous snowfall typical of Whistler, which averages an annual accumulated depth of nearly 15 ft.



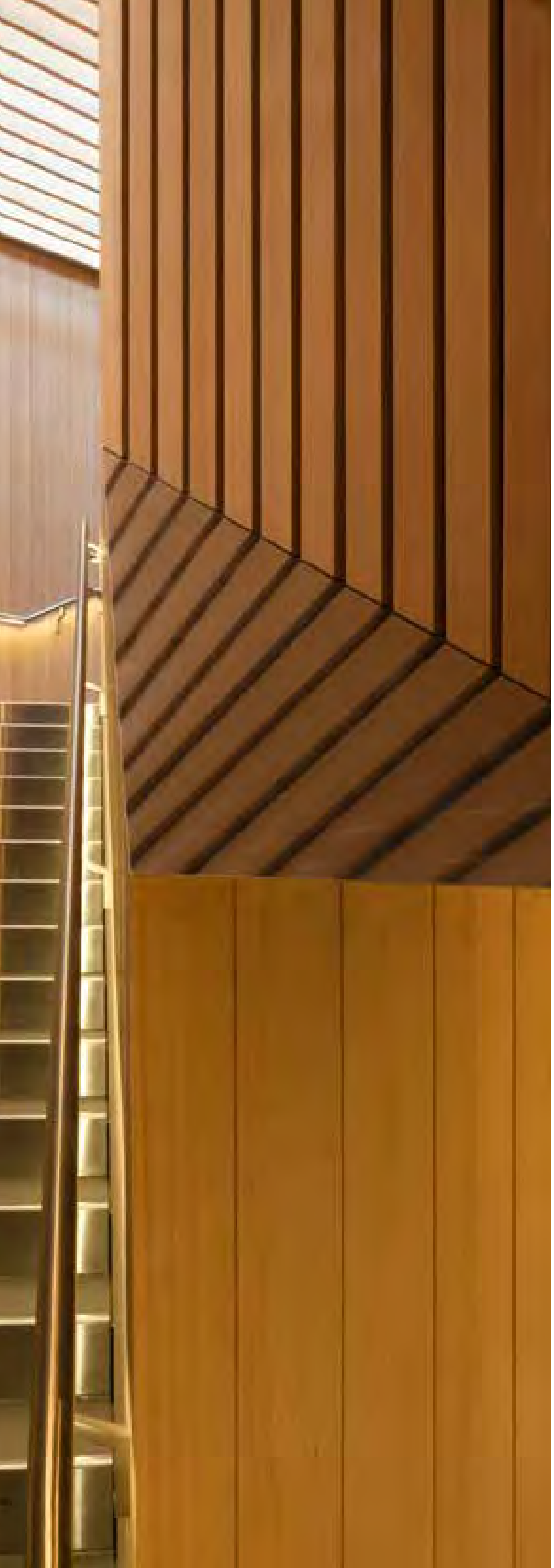
1. drop off
2. bridge above
3. terraced seating/stair
4. pedestrian path
5. lobby
6. storage
7. service entry
8. loading bay
9. workroom
10. generator
11. mechanical

FLOOR PLAN

The design responds to these determinants by projecting a volume of sequential public spaces and galleries into an existing linear void within the surrounding forest. It is elevated a full story above the ground and crowned with a steeply sloped roof.

The building design and siting work synergistically within the context of the site to create a public pedestrian link, beginning from the "village stroll" or pedestrian spine of Whistler Village, across Blackcomb Way, leading to and through the museum and then across the site to Fitzsimmons Creek park. A bridge from Blackcomb Way rises through the forest to arrive at a sky-lit museum entry porch. From there, visitors can either descend to the forest floor and central meadow to continue passage through the site, or enter the museum lobby and event space. Once inside, visitors proceed along a glazed walkway overlooking the meadow below, to gain access first to the galleries containing the permanent collection and then to the galleries featuring temporary exhibits.

The form and character of the building and interiors are deliberately restrained to provide a quiet, minimal backdrop to the art within



and the surrounding natural landscape. The simple form of the exterior is clad in an envelope of dark metal, which recedes into the shadows of the surrounding forest. Where this envelope is opened to provide access in the entry porch or view from the glazed walkway to the galleries, the dark metal is overlaid by a luminous wood casing. Public spaces in the interior, which are visible from the exterior, continue this warm and luminous materiality. Gallery interiors in both the permanent and temporary exhibition areas are closed white volumes with minimal detail.

CLIENT
Audain Art Museum
Whistler, BC

ARCHITECT
Patkau Architects
Vancouver, BC

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.
Vancouver, BC

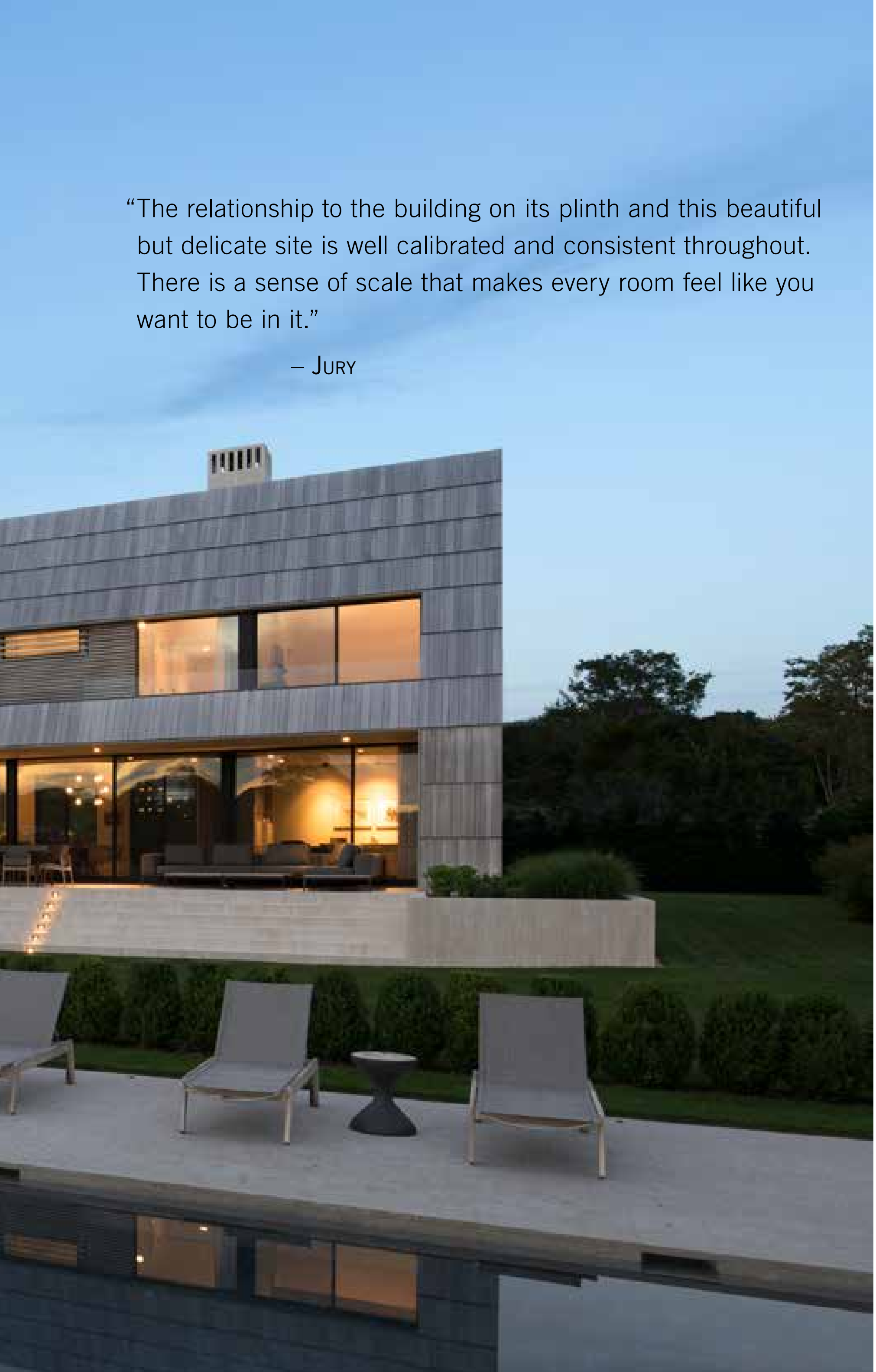
GENERAL CONTRACTOR
Axiom Builders
Vancouver, BC

PHOTOGRAPHY
James Dow
Edmonton, AB

Limited materials palette unifies spaces and responds to local climate

North America

Georgica Cove



"The relationship to the building on its plinth and this beautiful but delicate site is well calibrated and consistent throughout. There is a sense of scale that makes every room feel like you want to be in it."

– Jury

A couple with property on a cove overlooking the Atlantic Ocean asked for a house that would be just as comfortable for two as it would on busy weekends when the couple was entertaining their children, grandchildren and guests.

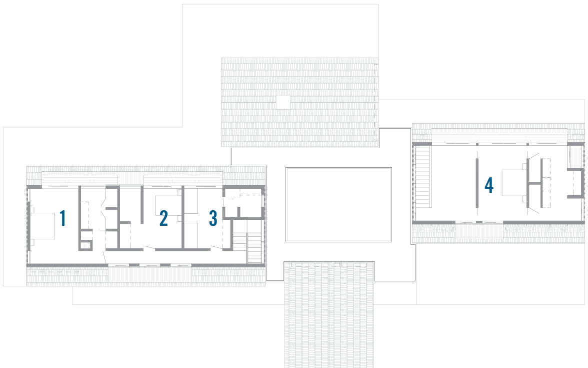
To also instill the desired sense of comfort and peace, the design needed to blend with the pastoral setting and vernacular building traditions; i.e., predominantly shingle-style homes and barns that are often added to over time. Precedent studies suggested that referencing New England-connected farms in an innovative way could achieve both goals.

The architectural style of the house was applied to subsequent buildings to unify the assembly, but partitions within provided the necessary separation between uses: house to kitchen, kitchen to shop, shop to barn. One volume was often offset or rotated from the next to provide greater access to light, air and privacy from the other functions. Following that example, the program of this house is divided into the owners' bedroom and office, eat-in kitchen and family room, formal living and dining rooms, and guest rooms.



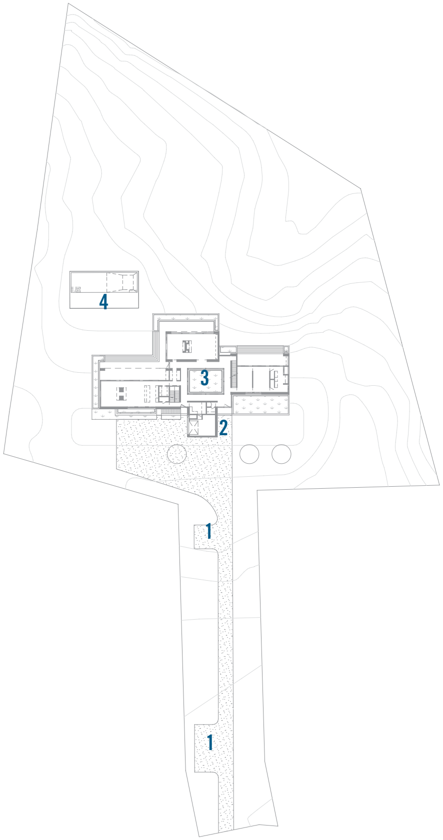

1. family room
2. eat-in
3. kitchen
4. pantry
5. bar
6. dining room
7. living room
8. courtyard
9. master suite 1
10. master bath 1
11. entry
12. mudroom
13. garage
14. deck

GROUND FLOOR PLAN



1. master suite 3
2. bedroom 1
3. bedroom 2
4. master suite 2

SECOND FLOOR PLAN



1. parking
2. entry
3. building
4. pool

SITE PLAN

The spaces are arranged around a courtyard to create visual and physical connections between them, but those connections can be broken by large sliding doors. Each structure has an independent mechanical system allowing it to be shut down when unoccupied. This allows the house to expand and contract to meet changing needs. Whether the owners are alone, hosting dinner guests, or have a full house of overnight guests, the house perfectly meets their requirements.

As with connected farms, a limited palette of materials and details unifies the various spaces and responds to the local climate. The cedar shingles common to local buildings are scaled up to the size of boards to cover the roof and sidewalls. Cedar screens provide privacy and filter light. A marble plinth filled with sand elevates the house above the floodplain while also creating drywells to accept stormwater runoff. Oak floors and millwork unify the interior spaces.

The design repurposes the historic typology of the connected farm to suit the timely needs of the site and the family. By acknowledging the area's history and tradition of building, the home is an evolution of this vernacular.

ARCHITECT
Bates Masi + Architects
East Hampton, NY

STRUCTURAL ENGINEER
Steven Maresca
Hampton Bays, NY

GENERAL CONTRACTOR
John Hummel and
Associates Custom Builders
East Hampton, NY

PHOTOGRAPHY
Bates Masi + Architects
East Hampton, NY

Warm materials and non-boxlike forms redefine family-owned fruit operation

North America

Washington Fruit & Produce Co. Headquarters

"In this project, the timber reaches out into the landscape. The arms are the circulation and the other pavilion pieces that form part of the complex carry the detailing through and set the tone for the building."
– Jury

Surrounded by the world's most high-tech fruit packing warehouses, the 16,500-sq.ft. Washington Fruit & Produce Co. headquarters is conceived as an oasis amidst a sea of concrete and low-lying brush landscape. Tucked behind landforms and site walls, this courtyard-focused office complex provides a refuge from the noise and activity of the industrial processing yards nearby.

Taking its design cue from an aging barn that the client had identified as a favorite, the concept seeks to capture the essence of an utilitarian agricultural aesthetic. A simple exposed structure that employs a limited material palette and natural patina, the design merges rural vernacular with an equally spare contemporary aesthetic.

The L-shaped building is nestled into the landscape through the use of board-formed concrete site walls and earthen berms that wrap the perimeter to form a central, landscaped courtyard. Soil excavated for foundation work was repurposed for the perimeter berms, eliminating the need to remove it or add more.

A notch through the berm provides access from the parking area to the formal courtyard and building entrance. Crossing the courtyard via a boardwalk, the visitor is embraced by a fully glazed facade, punctuated by a series of wood columns that march across the building in regular intervals. The boardwalk aligns with an off-set building entry, which is formed as a wood-wrapped passageway inserted into the glazed facade.

The building recalls its agricultural roots by pulling the 18-foot-tall scissored glulam structural columns to the outside, revealing the physics of its construction and enabling the 175-foot interior volume to be column-free. Topped with 68-foot exposed truss girders, the interior reaches 20 feet at its peak. The repetitive nature of the structure ensured easy fabrication and assembly, saving costs and resources. The north-facing courtyard facade is glazed along its length, visually extending the interior space into the courtyard. Interior light is balanced via a long clerestory dormer on the south, while the extensive use of large, south-facing overhangs and high efficiency glazing limits summer heat gain. Reclaimed barn wood siding and a weathering steel roof round out the exterior materials.

Spartan, daylight-filled interiors are complemented by a warm, simple palette of natural materials. Private offices line the south wall, while conference spaces and back-of-house functions are set in wood-clad boxes. Interior furnishings terminate well below the ceiling. The open feeling of the structure is reinforced by keeping furnishings low and allowing them to float within the space. Lighting consists of custom-designed uplights, which keep the ceiling plane tidy. A raised flooring system further ensures that the clean aesthetic is preserved and free of cabling. The deep agricultural roots of both the company and location underlie the simple design concept and attention to detail throughout the project.

The sales office is located in the short arm of the L to isolate noise and enhance privacy. Adjacent to the sales office is a separately enclosed structure featuring a 30-foot table where farmers with whom the company works gather for communal meals. The exposed structural system connecting the lunch room to the main building creates a small, partially covered courtyard, nodding to a remnant of an aging barn.

Views throughout the 30-acre complex are controlled, whether to the courtyard, the distant hills, or to the shallow private office views created between the building and the berms. Everything is curated to create a peaceful environment in which to work.

ARCHITECT
Graham Baba Architects
Seattle, WA

STRUCTURAL ENGINEER
MA Wright, LLC
Seattle, WA

GENERAL CONTRACTOR
Artisan Construction
Yakima, WA

GLULAM SUPPLIER
Selkirk Timberwrights
Priest River, ID

PHOTOGRAPHY
Kevin Scott
Seattle, WA

Variation on the “Swiss box” brings tradition and modernity together

“This project becomes more complex the more you look at it. The details are extraordinary.”
– Jury

International

Casa Curved

Located near Basel, Switzerland, among an area of detached family homes, this project was designed to be inserted inside a plot already occupied by another house belonging to the parents of the client. The reduced dimensions, with north-south orientation on the long side, and the desire to share part of the garden, made it necessary to understand how the project would work in relation to the main house, a large, semi-circular home built in the 1980s.

The architects settled on a curved form residing within the best-known economical option, the “Swiss box.” Minimal deformations of the outside walls accentuate the corners, giving an unexpected expressiveness that characterizes and identifies the object.

The 3,000-sq.ft. house, which was built in wood onto a concrete basement, forms a link with the traditional Swiss construction, emphasizing this duality between formal modernity and constructive tradition.

ARCHITECT
Daluz Gonzalez Architekten
Zurich, Switzerland

STRUCTURAL ENGINEER
Christoph Aschwanden
Niederrohrdorf, Switzerland

GENERAL CONTRACTOR
Obrist Bauunternehmung AG
Wallbach, Switzerland

PHOTOGRAPHY
Alexandra Kreja
Daluz Gonzalez Architekten
Zurich, Switzerland

Rural school in France provides students with a breathtaking study in contrasts

International

Collège Jean Monnet

The Collège Jean Monnet is a secondary school for approximately 600 students located in Broons, a small town in the Brittany region of northwestern France. Situated in a semi-rural area, the school is sensitively integrated into the landscape, with the main teaching building – two floors of mixed concrete and wood above a concrete base – designed to be compact and functional.

Light wood, robust exposed concrete, a fresh red color and lots of glass characterize the warm, open atmosphere of the interior. The natural and untreated materials also pay tribute to local building traditions. The clear and structured spatial organization facilitates an ideal workflow. The linear, horizontal emphasis of the block-shaped, wood-covered building structure contrasts with the verticality of the interiors, which plays with different heights, lighting designs, intersecting passages and multi-layered sightlines.

The cafeteria section connects to the three-story school building at a right angle and has a green flat roof that softly transitions towards the lawn. All levels are connected visually and functionally. The ground floor of the school section houses such functional spaces as event rooms, library and administration offices, while the 16 classrooms and nine specialized classes take up the two top floors. The three-story auditorium, naturally illuminated through its set of skylights, is at the center of the building. Intersected by numerous bridges and stairs, it offers panoramic and linear views across the various floors, providing clarity and orientation.

The same bright and open atmosphere prevails in the classrooms. Large, horizontally divided windows with automatically controlled exterior shades open up the spaces. Clear strips of windows at the children's eye level enable a wide view of the surrounding fields and meadows.

The materials used have been chosen for their long life to reduce maintenance costs. One of the facades of the concrete base is clad with a facing that integrates local granite, while the facades of the different floors are covered with non-treated Douglas fir. Natural light is everywhere, thanks to a full-height atrium and to light wells at different levels. Windows between classrooms and circulation spaces allow transparency and natural indirect light, complementing the large bay windows that open onto the landscape.

The exterior walls are covered with spruce and Douglas fir. The construction consists of cross-laminated timber, as well as the floors, ceilings and walls. The bridges and staircases that connect the building's two wings also consist of cross-laminated timber. All wall elements were prefabricated and then assembled on-site in two weeks.

"The outside completely flows into the inside. This is a project that has an idea that is carried forward and adhered to in every detail."
– Jury

CLIENT
Département des Côtes d'Armor
Saint-Brieuc, France

ARCHITECTS
Dietrich | Untertrifaller SARL
Paris, France

Colas Durand Architectes
Lamballe, France

STRUCTURAL ENGINEER
Espace Ingénierie
Saint-Brieuc, France

PHOTOGRAPHY
Frédéric Baron
Brittany, France

"The simplicity of the forms is wonderful and the scale of the interior is beautiful."
– Jury

Radical approach to building design
aims to set a new standard for Austrian schools

International

Unterdorf Elementary School, Höchst

A fixture in Scandinavian countries, cluster schools are gaining ground in Austria. The pedagogical approach behind these types of schools involves teaching in small groups, flexible spaces and diversified, preferably outdoor, open areas. There are no classrooms along the access corridors; instead, open layouts allow for different forms of teaching and learning. In recent years, schools in the region have been architecturally implementing these requirements in different manners. The architects have delivered a radical example of this approach in the recently completed Unterdorf Elementary School.

In a plain, elongated, ground-level wooden building, four identical clusters are placed on the east side; the special education classes and the administrative area are located on the west side. A spacious hall connects the special education area with the gymnasium. The clusters comprise two central classrooms, an open group area and a quiet room, as well as washrooms and wardrobes around a central lounge. Each lounge is topped by an elevated, truncated pyramid through which daylight flows.

A direct exit into a private garden and the outdoor classroom area provides outdoor space and enables short access routes. Large-area glazing provides the necessary transparency so that the teachers can always see their students when they are learning or playing in small groups in different rooms. These visual axes also act as a constant invitation to use the space in the middle, strengthening the sense of community within the cluster. The breaktime area in front of the hall is connected by several paths to Unterdorf's wider network of roads. Parts of the outdoor areas are available to locals as a freely accessible play and leisure area.

The entire school is of pure timber construction. The multi-layer, glued-together solid wood panel surfaces are unclad and the timber framework is visible in every room. Students benefit from the better learning environment and a pleasant, warm atmosphere within the building, which also saves on heating costs. The materials used are based on the fundamental principles of sustainability and ecological efficiency. The renewable, regional building material used dramatically reduced the gray energy factor.

A working group of teachers, community representatives and consultants was involved from the outset in the competition's bidding stage as well as the planning, and also regularly participated in the building meetings. This close cooperation was a key factor in the successful implementation of this forward-looking pilot project, which sets a new standard for schools in Austria and, hopefully, will stimulate further timber construction in Austria.

CLIENT
Municipality of Höchst
Höchst, Austria

ARCHITECT
Dietrich | Untertrifaller
Munich, Germany

STRUCTURAL ENGINEERS
Merz Kley Partner (timber)
Dornbirn, Austria

Gehrer (concrete)
Höchst, Austria

PHOTOGRAPHY
Bruno Klomfar
Vienna, Austria

Airy timber construction frames breathtaking views

International

Haus B

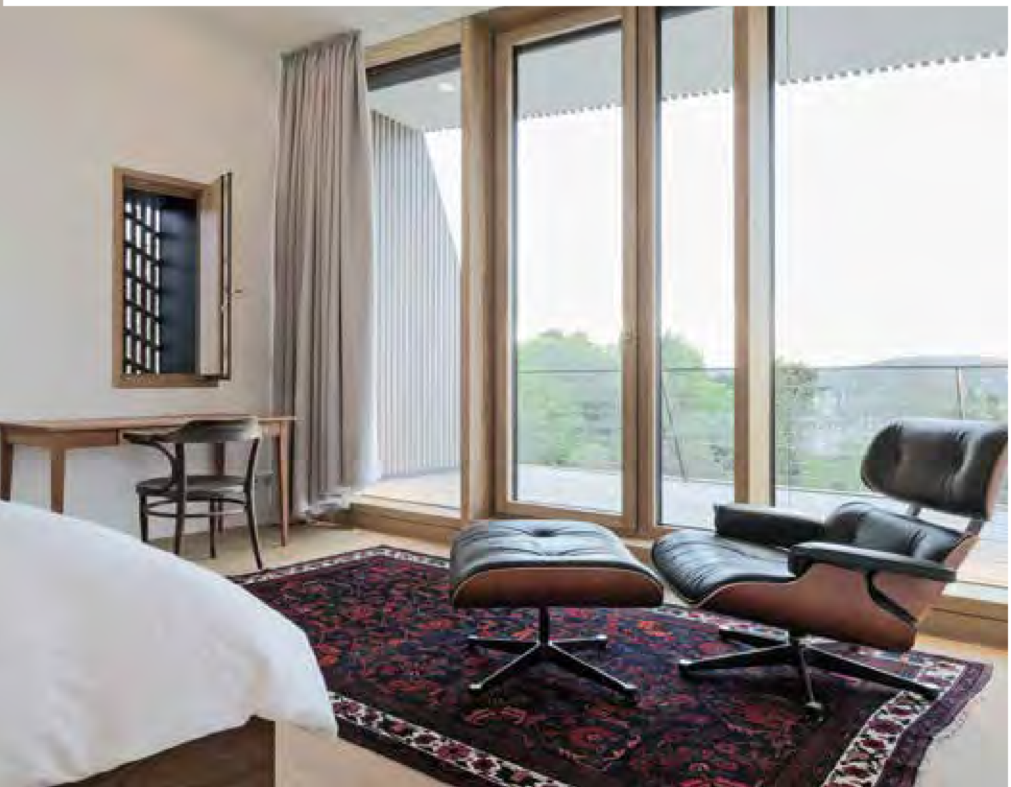
Commissioned by a well-known family of architects based in Stuttgart, Haus B is located on a site with magnificent views of Stuttgart's basin-shaped valley. The architect's task was to take an existing and frequently refurbished 1950s building and give it a radical reconstruction with aesthetics and environmental impact top of mind.

In an effort to work sustainably, the new construction makes use of the existing house as much as possible. At the same time, the reconstruction organizes space, better frames the site's breathtaking views, and ensures the four-level building is easily accessible despite its location on a site with an extreme slope.

“This house emerges out of the landscape in a really beautiful way. There’s a modesty to this home and adventure at the same time.”
– Jury

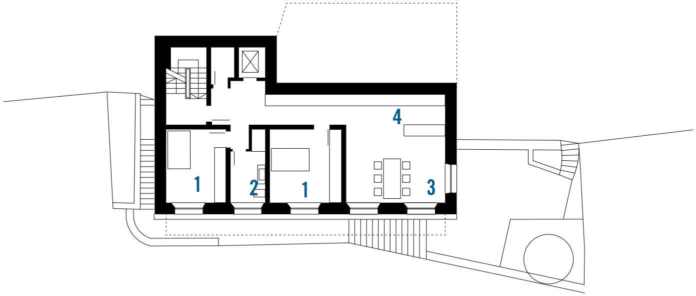
Timber as a main constructing material facilitates a natural atmosphere, enhances the use of renewable resources and reduces the building's carbon footprint. The building's roof and ground floor were partly removed and rebuilt in wood. This ensures a lightweight and prefabricated attachment on top of the old masonry and concrete structure. The new construction has an airy, spacious quality and provides an elevator and a generous roof terrace.

The rooftop and interior ceilings are solid wood construction out of cross-laminated timber combined with thermal activation. Lightweight walls consist of a wooden framework with a sustainable wood fiber insulation, minimizing the thermal bridging properties. The facade is clad with larch battens fixed to a diagonal substructure. This creates a fascinating moiré effect that merges with the building's surroundings.

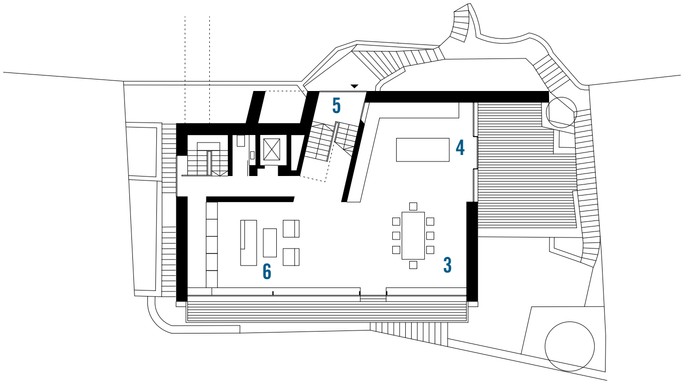


The building's open interior has a continuous flow accented by unique architectural spaces, built-in furniture made from oiled walnut and oak, and carefully positioned windows. The ground floor and upper floor are connected to each other by a distributing wooden core, an open staircase flanked by wooden built-ins.

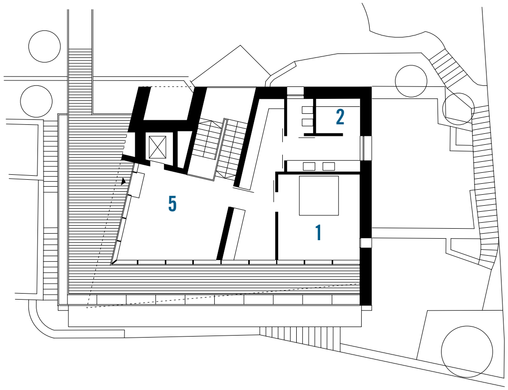
The new construction is topped by a panoramic roof terrace at the upper floor. Panoramic windows at the newly designed levels afford unimpeded views over Stuttgart. Though load-bearing, the slender profiles made from laminated oak do not interrupt the outstanding lookout. Living in "green space" above the rooftops of the city is thus experienced spatially through one's ever-changing point of view.



GROUND FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

1. bedroom
2. bathroom
3. dining room
4. kitchen
5. entrance
6. living room

The construction strives to be Energy-Plus and could, in the future, deliver excess energy to the greater power grid. Drilled geothermal wells provide groundwater used to heat and cool ceilings and floors. Photovoltaic shingles cover the roof, harvesting energy while serving as a water-resistant roof covering, and a highly insulated facade ensures optimal protection from heat in summer and cold in winter. Electric filling stations facilitate the use of e-mobility.

ARCHITECT
Yonder – Architektur und Design
Stuttgart, Germany

STRUCTURAL ENGINEER
Wagnerplanung GmbH
Stuttgart, Germany

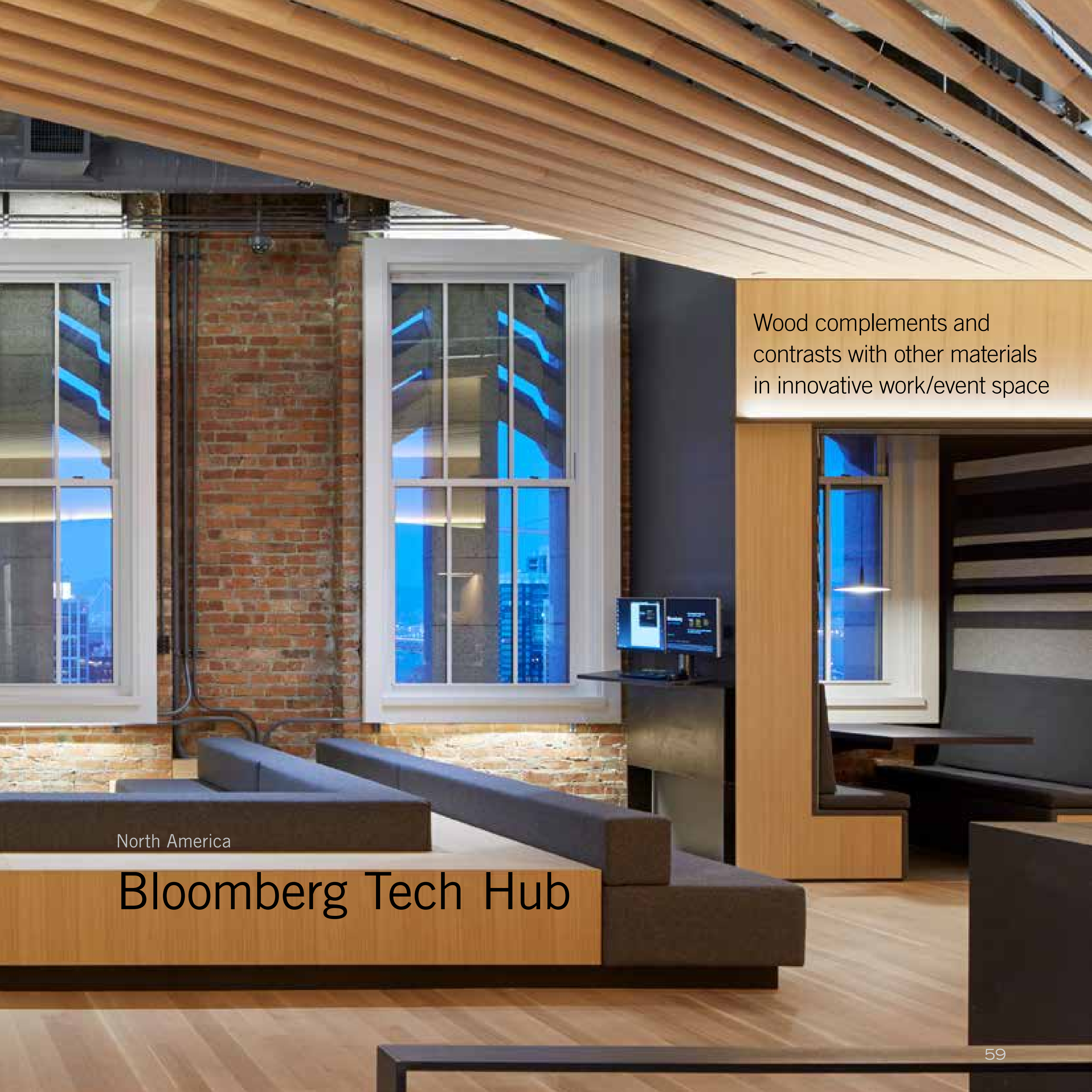
GENERAL CONTRACTOR
Zimmerei Barner GbR
Günzburg, Germany

PHOTOGRAPHY
Brigida González
Stuttgart, Germany

National Arts Centre Rejuvenation
Ottawa, ON
Please see page 288

MERIT AWARDS

"The detailing in the wood fin ceiling is extended throughout every single piece of the project. We're incredibly impressed with the complexity of the ceiling structure."
– Jury



North America

Bloomberg Tech Hub

Wood complements and contrasts with other materials in innovative work/event space

Bloomberg's flagship West Coast Tech Hub is both a workplace for Bloomberg's software engineers and an event space to help foster connections between Bloomberg and Silicon Valley.

The design juxtaposes new elements against the exposed raw materials of the building shell and translates the form and geometry of the exterior ornamentation. This approach contrasts the existing rough material palette of the exposed concrete and brick interior with a more refined combination of oak

flooring and millwork, glass, steel and felt cladding.

Upon entry, visitors encounter one of the main design elements: a porous wood liner that accommodates Bloomberg's primary programs of pantry and informal, collaborative work areas. The liner wraps the pantry space and splays in plan across the ceiling, wrapping down as paneling along one side and as the face of a series of window seat banquets on the other. The liner splits into a series of individually sculpted boards at the ceiling that recall the facade's chevron shapes and allows glimpses through to the raw concrete structure above. Though relatively thin, the liner provides a three dimensionality to the space and ceiling.

The wood liner's horizontal form also sets up a dialogue with the vertical axis formed between the diamond-shaped stingray tank (dramatic fish tanks being signature elements of Bloomberg's offices worldwide) and the sculptural media piece, "Light Volume," which affords visual connection between levels. The ray tank and Light Volume are both formed as faceted steel-plate objects, whereas the wood liner is a space-enveloping surface.

Other wood elements include flooring in selective areas, booths, whiteboard nooks, custom conference tables, and built-in millwork in the form of lounge seating and paneled cabinetry. A band of wood flooring accents the liner.

The Quiet Room on the upper level is designed to contrast to the rest of the space. It is conceived as spatial curio cabinet and library, designed with a large wood communal table and wood flooring as visual background to the carefully chosen collection of artifacts and curiosities that bridge art and technology.

Through a wide range of spaces and applications, the design of wood in the project aims to both contrast and complement its warmth and texture against the other harder and rougher finish materials that make up the space.

ARCHITECT
IwamotoScott Architecture
San Francisco, CA

STRUCTURAL ENGINEER
Holmes Culley
San Francisco, CA

GENERAL CONTRACTOR
Novo Construction
San Francisco, CA

PHOTOGRAPHY
Bruce Damonte
San Francisco, CA
Brandon Sampson
San Francisco, CA

Wood fulfills aesthetic and technical functions in gateway to national park

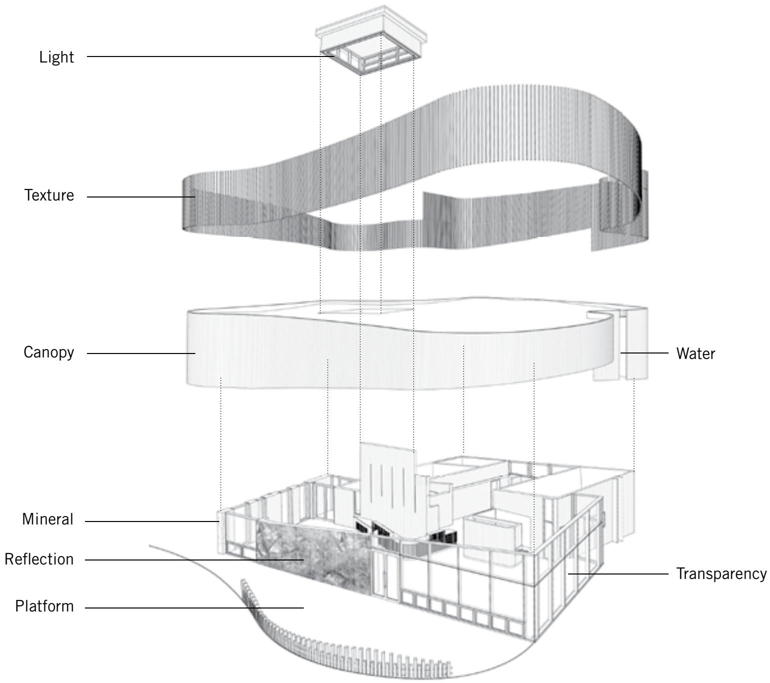
North America

Discovery and Services Centre, Îles-de-Boucherville National Park

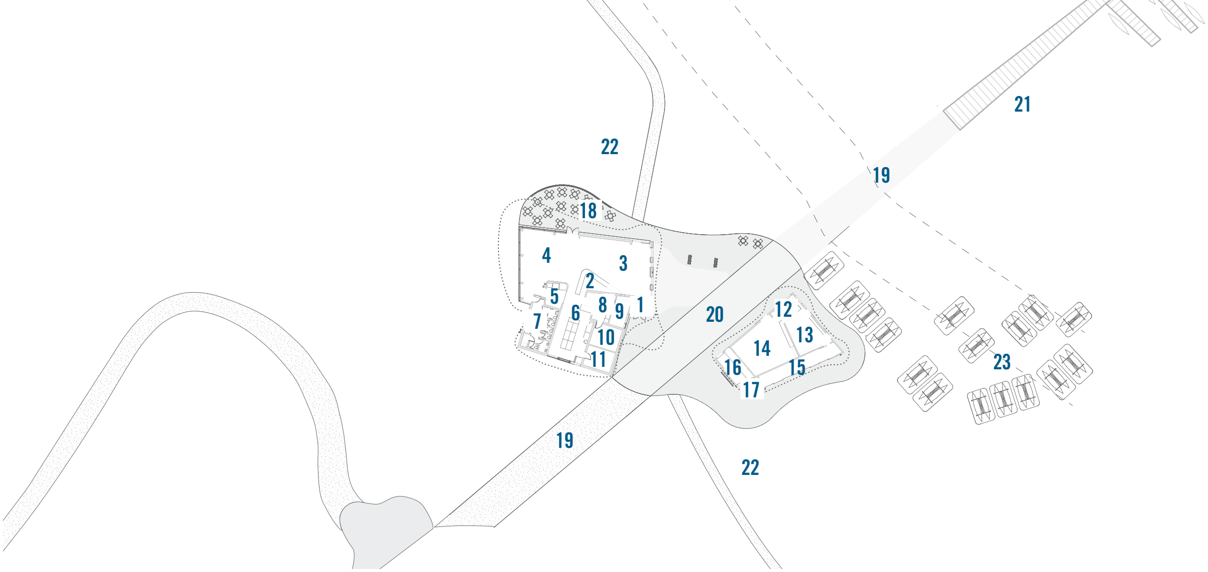
“There’s a playfulness where these curved forms on this solid base play against each other. When you see that curving screen on the outside, it makes you want to see what’s going on inside.”
– Jury

Located minutes away from downtown Montreal, QC, Îles-de-Boucherville National Park is an inviting place for outdoor discovery. The park’s Discovery and Services Centre is the main welcome point for visitors and a showcase for Quebec’s national parks network, while also bringing architectural beauty into this natural haven.

Initially planned as a single volume, the program was deliberately split into two distinct buildings, placed on each side of a central axis. This creates an interaction hub in the middle, where people can meet, relax or get ready for their outdoor activities.



AXONOMETRIC DRAWING



1. main entrance
2. information desk
3. discovery area
4. dining room
5. snack area
6. shop
7. unisex restroom
8. staff area
9. office
10. mechanical/electric room
11. storage
12. information/equipment rental
13. nautical equipment storage
14. bicycle storage
15. camping carts storage
16. camping carts storage 24/7
17. storage
18. terrace
19. main access pathway
20. hub
21. dock
22. paths
23. kayaks/canoes storage area

SITE PLAN

The architecture reflects and respects the surrounding environment. The building's undulated edges were designed to minimize tree cutting, and to encourage visitors to discover the space. The fluid motion is accentuated by a succession of wooden slats overlapping the siding around the building. This cladding also acts as a light filter, producing shadows dancing across the ground reminiscent of the willows' foliage. Inside, a curvy channel-like recess on the ceiling and a skylight bring in natural light and enhances natural ventilation. The architectural composition is all tied together by a glass curtain wall that offers direct views of the park on the inside while reflecting nature on the outside.

In line with SÉPAQ's vision for the project, wood was used as the main construction material. The FSC-certified structure uses three different construction techniques, each bringing in specific advantages that enable the architectural intention to become reality. The combined posts and beams structure allows for large openings and made the glass curtain wall possible, offering outstanding views of the park. The overhangs over the entrance and the terrace are enabled by the strategic positioning of large cantilever beams. Finally, a wood frame structure supports the wood trusses, which in turn support the roof. These trusses were individually sized to create the desired undulating effect of the roof. All wood finishes are locally sourced eastern cedar, except for the custom-designed service counter which uses a variety of woods present in the park.

The choice of wood, combined with bioclimatic design principles that guided the conception process, creates a building which achieves high standards of sustainability. The building's performance was one of the guiding elements of the design process and every element fills both an aesthetic and technical function. The building's efficiency is also achieved through the exemplary performance of the envelope. The windows and the curtain wall are made of triple-glazed glass, and the walls and roof have high insulation values. Finally, a strong emphasis was placed on preserving the site by carefully placing the footprint, protecting the shoreline, redirecting rain water towards planted spaces and minimizing light pollution.

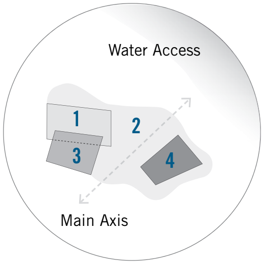
CLIENT
SÉPAQ (Société des Établissement de Plein Air du Québec)
Quebec City, QC

ARCHITECT
Smith Vigeant Architectes
Montreal, QC

STRUCTURAL ENGINEER
WSP Group
Montreal, QC

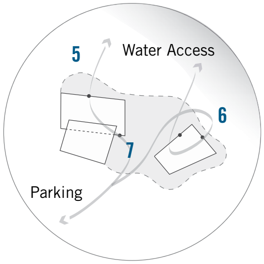
GENERAL CONTRACTOR
Construction R. Bélanger
Lac-Mégantic, QC

PHOTOGRAPHY
Adrien Williams
Montreal, QC



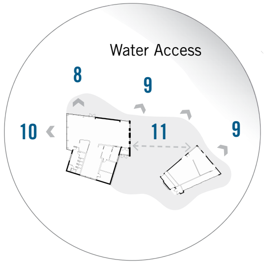
PROGRAM DISTRIBUTION

1. discovery zone
2. exterior hub
3. service zone
4. accessory pavilion



FLUIDITY OF CIRCULATION

5. terrace access
6. rental access
7. main access
8. panoramic view willow trees



VISUAL CONNECTION WITH SURROUNDING LANDSCAPE

9. water view
10. panoramic forest view
11. visual connexion

"This building catches you by surprise and grows on you. It's got straightforward detailing and turns into something pretty magical."
– Jury

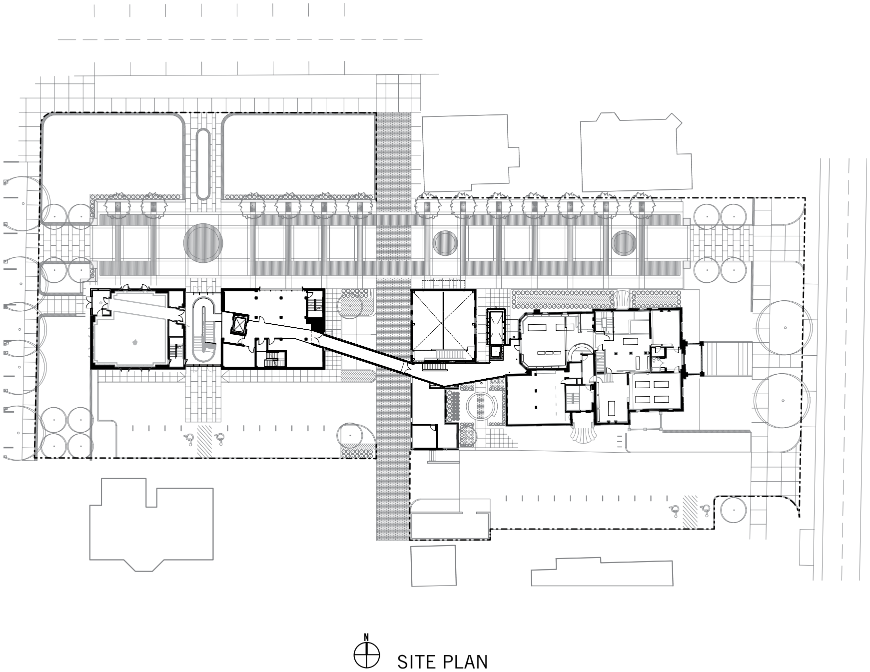
New building recalls traditional period details through wood

North America

The Owsley Brown II History Center

Based in Louisville, KY, the Filson Historical Society collects, curates and archives the rich narrative of the Ohio River Valley region, offering a range of educational programs and cultural resources that support this focus. After 130 years of operations, the organization outgrew its existing home in the Ferguson Mansion, a historic example of Beaux Arts architecture in the city's Old Louisville preservation district, and sought to expand and modernize its assets. In doing so, it also identified an opportunity to better reflect its role as an inviting public resource, engaging a diverse and broad community.

As one component of a comprehensive expansion, the Owsley Brown II History Center links together existing historic structures and a public plaza. The 30,000-sq.ft. facility provides multi-use event spaces, archival storage and a digitization lab. To reinforce a renewed sense of openness, the center is configured to visually reveal its internal functions to the community, capitalizing on the advantages of modern construction methods that allow for non-load bearing walls and large expanses of glazing. Embedded throughout the building are a series of transparent passageways and exhibit spaces that encourage exploration and discovery, while an elevated pedway weaves between the History Center, a Carriage House, and the Mansion. For the first time, the "New Filson" campus actively knits together adjacent neighborhood blocks through visually and physically porous boundaries.



SITE PLAN

Guided by extensive contextual research of the Old Louisville preservation district and inspired by the architectural components of the Ferguson Mansion, the new building recalls traditional period details through wood. Ornate ceilings, grand staircases, and other elements are reinterpreted with contemporary fabrication techniques that investigate proportionality, depth and layering of materials. In referencing the society's focus on the Ohio River Valley, the wood-lined interiors also draw upon broader conceptual precedents such as water droplets, ripples, and refracted surfaces. The exclusive use of stained poplar – also known as the tulip tree, the state tree of Kentucky – reinforces this sense of regionalism.

Strategies of repetition, pre-assembly, and panelization of components helped to simplify installation. For example, profiled wood slats are designed to minimize waste by using both the positive and negative results of each CNC-milled component. To achieve an authentic design sensibility that evokes the elaborate, handcrafted nature of the Ferguson Mansion's architectural details, the design of the History Center's wooden elements is driven by a spirit of rigor, resourcefulness and ease of fabrication.

The project implements numerous sustainable design strategies that primarily focus on passive and economical approaches, including site orientation, natural light, and regionally-sourced materials. To divert materials from the waste stream, the project emphasized pre-fabricated and shop-assembled elements based on standard dimensions and modules. Construction and finish materials are selected with a consideration of their individual life cycles: wood, steel, back-painted glass, and clay brick are easily reclaimed for future reuse or recycling. Low-E and UV-protected glazing allow for natural lighting while minimizing heat-gain. Although the client did not request to pursue LEED certification, the project is designed to meet LEED Silver criteria as a minimum threshold.

CLIENT
Filson Historical Society
Louisville, KY

ARCHITECT
De Leon & Primmer
Architecture Workshop
Louisville, KY

STRUCTURAL ENGINEER
Tetra Tech
Louisville, KY

GENERAL CONTRACTOR
Realm Construction Company
Louisville, KY

TIMBER SUPPLIER
Louisville Lumber & Millwork
Louisville, KY

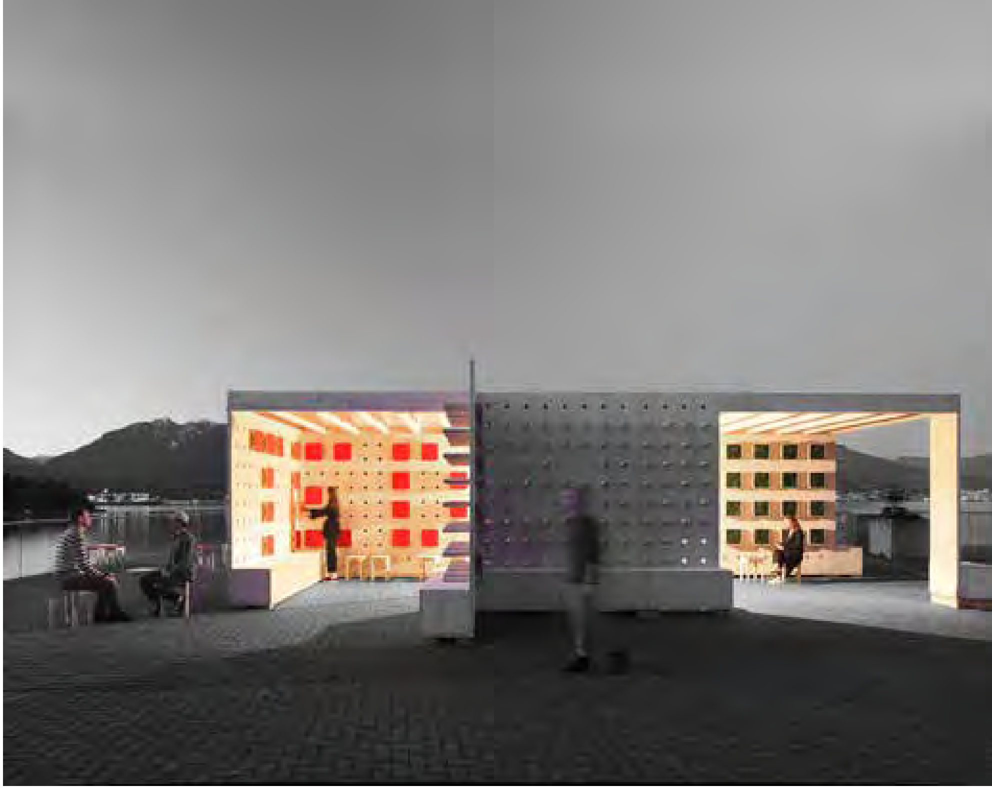
PHOTOGRAPHY
De Leon & Primmer
Architecture Workshop
Louisville, KY

Temporary TED installation gives conferees reason to pause and reflect

North America

PAUSE

“This is one of our favorites. It’s not only about function and program, but light and shadow. There’s so much thought that goes into the effect of each detail on this really reduced project.”
– Jury



PAUSE was a temporary installation created for the TED2017 conference. The design was based on the winning submission of an international competition organized by Michael Green's Vancouver-based non-profit school, DBR | DESIGN BUILD RESEARCH. The outdoor pavilion was located on the west plaza of the Vancouver Convention Centre during the conference.

The competition asked that designers from around the world create a wood pavilion for the TED2017 conference. The theme of the conference was, "The Future You." In the spirit of this theme, competitors were asked to address the concepts of personal space and interaction in their submissions.

Sixty submissions from 21 nations were received. Alsu Sadrivea from Kazan State University of Architecture and Engineering in Russia was selected as the winner for PAUSE. Sadrivea's PAUSE design offered a unique, interactive space for conference attendees to temporarily step away from the sessions to connect with themselves, their thoughts and each other. Her concept paired simple Miesian wall planning with an interactive stool solution that was lauded by the jury for its elegance and clarity.

PAUSE was created using thin timber walls with drilled holes where the legs of 150 stools could be inserted. When the stools were in place, this gave the appearance of a pin cushion. The stools were topped with red felt or green moss allowing users to place stools on the wall like pixels to write giant words. This interactive quality meant that the structure constantly changed in character throughout the week of the conference.

PAUSE was pre-fabricated using donated CLT panels. This included some of the first uses of a thinner generation three-layer CLT in Canada. The roof panels were assembled from donated dimensional lumber weatherproofed with inexpensive construction wrap. The 150 stools that hung from the walls of the structure were cut from birch plywood on DBR's CNC and cushioned with either preserved moss or donated wool felt.

ARCHITECTS

DBR | Design Build Research
Vancouver, BC

MGA | Michael Green Architecture
Vancouver, BC

STRUCTURAL ENGINEER

Equilibrium Consulting Inc.
Vancouver, BC

GENERAL CONTRACTOR

DBR | Design Build Research
Vancouver, BC

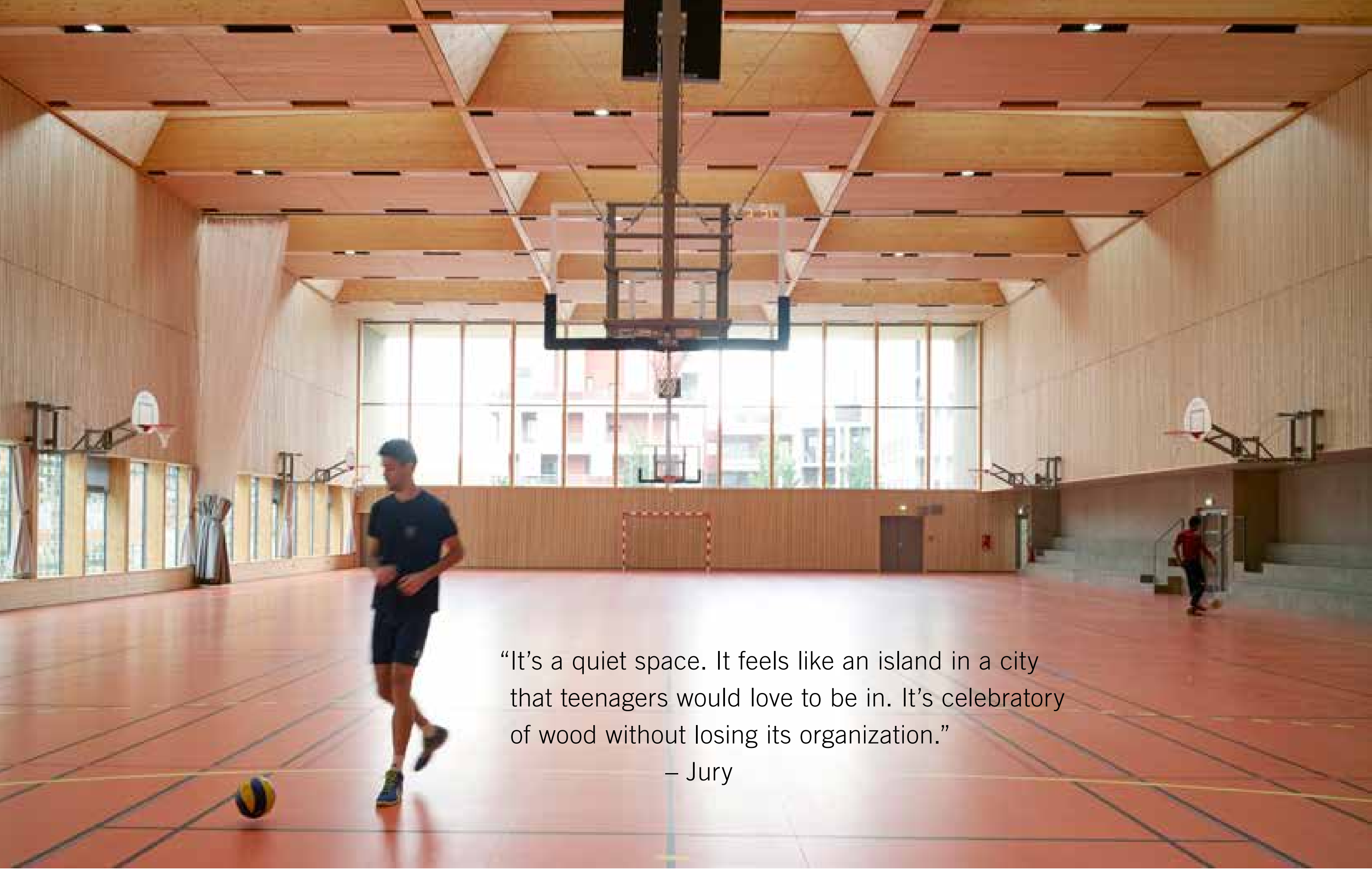
PHOTOGRAPHY

Ema Peter Photography
Vancouver, BC

Sports center in the heart of Lyon shows how innovation and renewable resources can deliver a gold medal performance

International

Sports Hall Alice Milliat



"It's a quiet space. It feels like an island in a city that teenagers would love to be in. It's celebratory of wood without losing its organization."
– Jury

This multi-functional sports center forms a neighborhood hub in the heart of Bon Lait, an urban development area in Lyon, France. The allocation plan consists of a triple gym for various ball sports and a training hall for martial arts, dance and gymnastics.

The surrounding area features a dense development of predominantly four- to five-story residential buildings with recessed attic levels. The architects decided to work within this context to create a simple building shape that opens to the square with an urban balcony. This form creates a connection between the public area and the interior of the hall, thus stimulating the interaction between indoors and outdoors. Through its simplicity, it also emphasizes its function as a low-threshold, available-to-all communal infrastructure.

Inside the 30-foot-high hall with its 147 x 79 ft. playing field, the ceiling is characterized by wide-spanning laminated timber elements, upon which truncated wooden pyramids evenly distribute the daylight that penetrates through the north-facing sheds throughout the room. The wall cladding made of wooden slats ensures good acoustics. The spectator stands (built as three-tiered concrete seating rows), interior access routes and adjoining rooms are arranged at the rear as the backbone of the building.

The training hall is located on the upper floor, where it is well-supplied with daylight via a window strip and an air space with a skylight.

A special feature of the design is the roof structure above the sports hall. It was necessary to find a suitable construction for the sheds arranged like a chessboard. The main structure consists of 79-ft. glulam beams resting on glulam supports. The trusses are 18 ft. high and line up one after the other at a distance of 12 ft., corresponding to the construction grid of the building in the transverse direction. Its ends rest on the half bearing surface of the prop heads.

With construction grids of 13 ft. lengthwise and 12 ft. crosswise, the roof area is divided into six sections in width and 13 in length. To obtain a suitable grid for the checkerboard arrangement of the trapezoidal sheds, the planners combined two field widths so that three strips of 26 ft. width and 12 ft. depth were created. These could then be filled with 18 sheds in total, six pieces per strip. The stiffening of the roof construction is carried out by means of outcrossings of all shed-free roof sections in the level of the upper edges of the trusses. For this purpose, glulam timber struts with cross-sections of 8 in. x 8 in. or 8 in. x 16 in. in highly stressed fields were used.

For the outer walls of the sports center, which are up to 36 ft. high, an adequate wall thickness was necessary to achieve the required thermal insulation and to be able to absorb the wind loads. The architects found a special solution: 16-in.-deep wooden hollow boxes filled with straw. Static as well as energetic, they offer an ideal solution and the straw bales have the optimum format for filling and insulating.

The sports hall demonstrates how well timber architecture works in an urban context. The building is truly sustainable in large part through its use of renewable resources like wood and straw. Above all, it has achieved an interplay between material, economic construction and building comfort, resulting in good daylight utilization, natural ventilation and aesthetically appealing surfaces.

CLIENT
City of Lyon
Lyon, France

ARCHITECTS
Dietrich | Untertrifaller Architekten
Paris, France
Tekhnê Architectes
Lyon, France

STRUCTURAL ENGINEER
Arborescence
Bourg St. Maurice, France

PHOTOGRAPHY
Julien Lanoo
Comines-Warneton, Belgium

"It's really nice to see a project that creates a site in section as opposed to only in plan. The beautiful roof shape extends down sectionally and sits in the landscape in a delightful way."
– Jury

A contemporary, eco-friendly home embraces past and present in Lithuania's capital

International

Valley Villa

Located on a sunny slope within a park, Valley Villa is a 2,691-sq.ft. home that fits into the natural rhythms of the hillside, the angular design and irregular shape of the house an almost natural extension of the landscape. Designed by Vilnius-based Arches, the contemporary, eco-friendly home located just outside Lithuania's capital interweaves natural materials with a bold sculptural form to produce a structure that strikes the perfect balance with an architectural style that is simultaneously modern and traditional.

The clean, angular design creates an exterior that is minimalist in style, with Kebony wood as the primary material highlighted against the black slate at the building's base. The high quality of the wood, as well as the skills of an exceptional carpenter, meant the timber cladding could be sculpted and worked with easily for the villa. Kebony requires no additional treatment, even when used as an external cladding; the material simply develops a silver-grey patina that allows the house to adapt naturally to its surroundings over time without compromising on structural qualities.

The architects wanted the villa to take influence from traditional Lithuanian homesteads and sought to reinterpret this style in a contemporary manner. Through their stylized design of the Valley Villa, Arches re-interpreted the traditional double-pitch, gable-roofed buildings, drawing inspiration from the former farmhouse that occupied the site. Using natural timber cladding ensured the villa was characteristic of its surroundings and in harmony with the hillsides and pine trees.

The overhanging aspect of the first floor makes use of cantilevers adjacent to the main structure to create a dramatic hovering effect. Large windows partially covered by vertical wooden slats stretch across the upper level of the house, working to bring the outside in and project a warm glow over the hillside at night. The large floor space of the villa is divided into micro-spaces, with all main interior spaces accessing exterior courtyards arranged on separate levels; this allows the building to be accessible while maintaining an element of privacy. As an added benefit, having multiple courtyards on different sides of the house allows for outside spaces that catch both the morning and evening sun.

Kebony's environmental credentials as well as its aesthetic, hard-wearing and sustainable qualities made this an obvious choice for the exterior of this property. Developed in Norway, the patented Kebony technology uses an environmentally friendly process, which modifies sustainably sourced softwoods by heating the wood with furfuryl alcohol. By polymerizing the wood's cell wall, the softwood permanently takes on the attributes of tropical hardwood – high durability, hardness and dimensional stability – without the need for tropical deforestation, resulting in a high-performing and beautiful wood product.

ARCHITECT
Arches
Vilnius, Lithuania

STRUCTURAL ENGINEER
Dainius Dubaka
Vilnius, Lithuania

GENERAL CONTRACTOR
JSC Sivysta
Lithuania

PHOTOGRAPHY
Norbert Tukaj
Labanoras Regional Park, Lithuania

Wood ventilation towers challenge traditional views of design

International

Norra länken Ventilation Towers

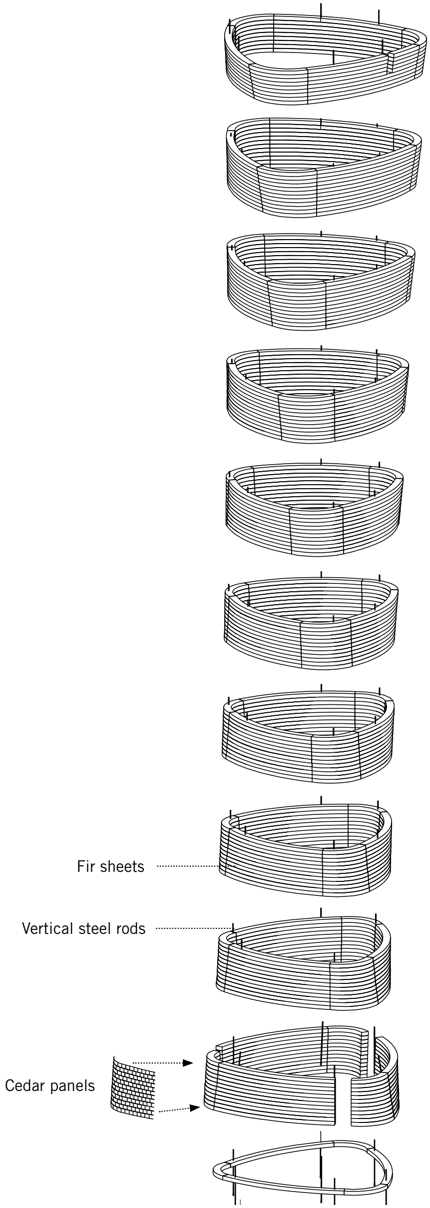
“This project struck us all equally because it was a way to take something that could be ugly, ordinary, or forgotten in the landscape and make something really sculptural and beautiful.”
– Jury

As part of the ongoing development of the Norra länken (Northern Link) – a three-mile roadway across northern Stockholm, most of which runs through tunnels – Rundquist Architects designed two ventilation towers to ventilate the air from the tunnels and reduce emission levels at the entrances. The placement of the towers within the country’s Royal National City Park makes their design in relation to their environment very important.

Both towers are made of wood, integrating with the park while challenging preconceptions about how technological functions are usually designed. The idea of using a natural and site-adapted material like wood throughout – and not just as a cladding material – has great symbolic value for the Northern Link project.

The towers have been optimized to function in interplay with the architectural form. Wood as a natural material represents both low tech and high tech, embedding cutting-edge timber engineering from design to fabrication and construction. The construction is 65 feet high and shaped as a super triangle that pivots upwards along its axis. The internal geometry and structure helps optimizing the exhaust air flow; the larger space at the bend and at the top, where the triangle sections are wider, reduces the air resistance at the exit.

The towers were parametrically modelled in 3D to allow optimization and adjustments throughout the design process. The different constructive components have been picked out from the model, labeled and sorted out as workpieces in an automated process before the files were exported



AXONOMETRIC PLAN

to the CNC machine that milled the parts out of cross-laminated spruce panels. Every "ring" was divided into six parts in the horizontal section, with each part having a thickness of almost seven inches. The elements were then delivered on-site and combined into super triangles stacked on top of each other and tensioned together by vertical tie rods of steel that were fitted with springs to avoid tear of the structure when the wood moves.

The towers' twist gives them a sleek expression, suggesting the shape of the air movement. They are clad with cedar panels that follow the swiveling shape, accentuate the sculptural impression and create a varied image that change over time and with the viewing angle.

CLIENT
Trafikverket
(Swedish Transport Administration)
Borlänge, Sweden

ARCHITECT
Rundquist Arkitekter AB
Stockholm, Sweden

STRUCTURAL ENGINEER
Ramböll Sverige
Stockholm, Sweden

GENERAL CONTRACTOR
Martinsons
Bygdsiljum, Sweden

PHOTOGRAPHY
Kasper Dudzik
Lund, Sweden

Robert Andersson
Vendelsö, Sweden

Story Pod
Newmarket, ON
Please see page 240

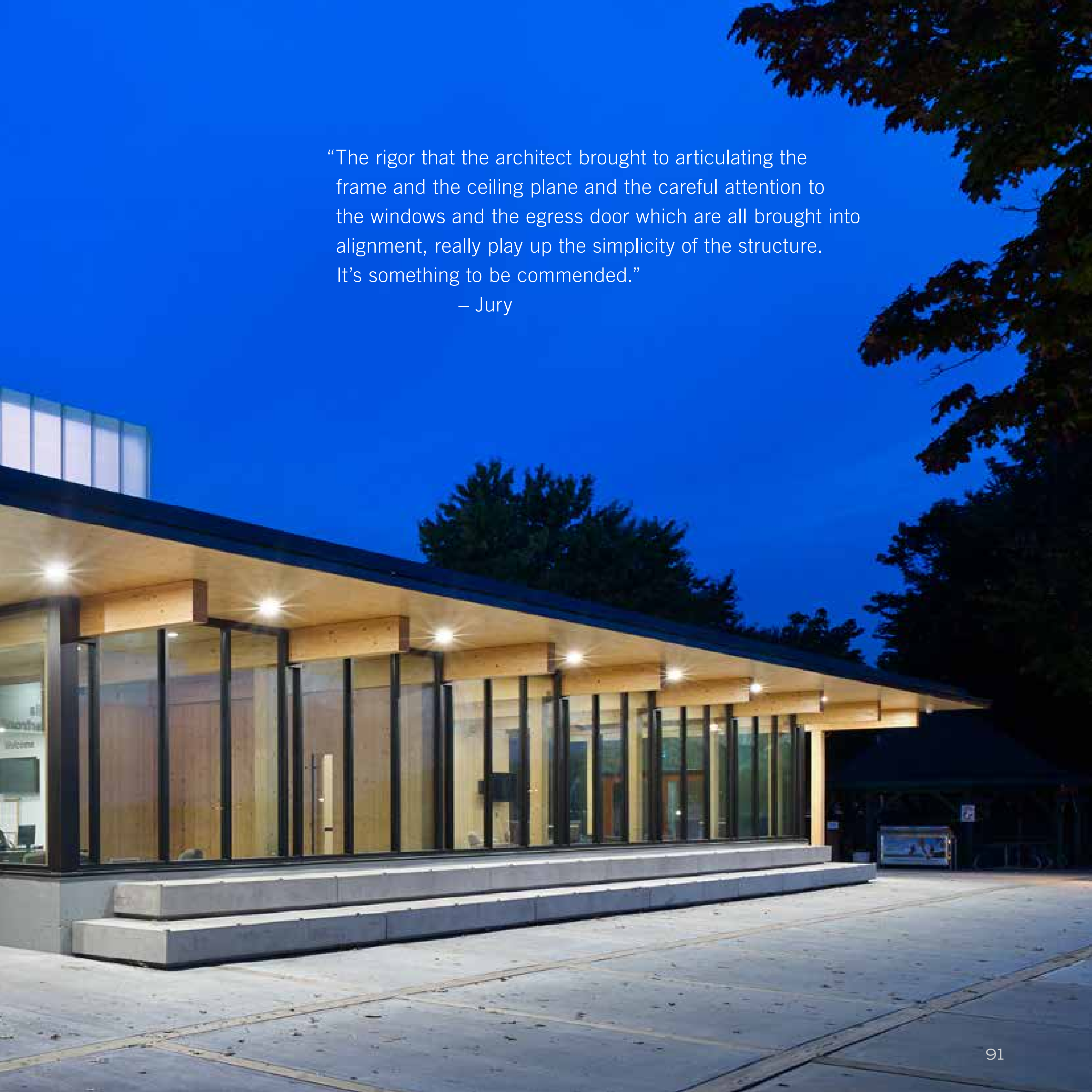
Lazaridis Hall
Waterloo, ON
Please see page 248

CITATION AWARDS

Efficient glulam and CLT construction process accelerates project timeline

North America

Orillia Waterfront Centre



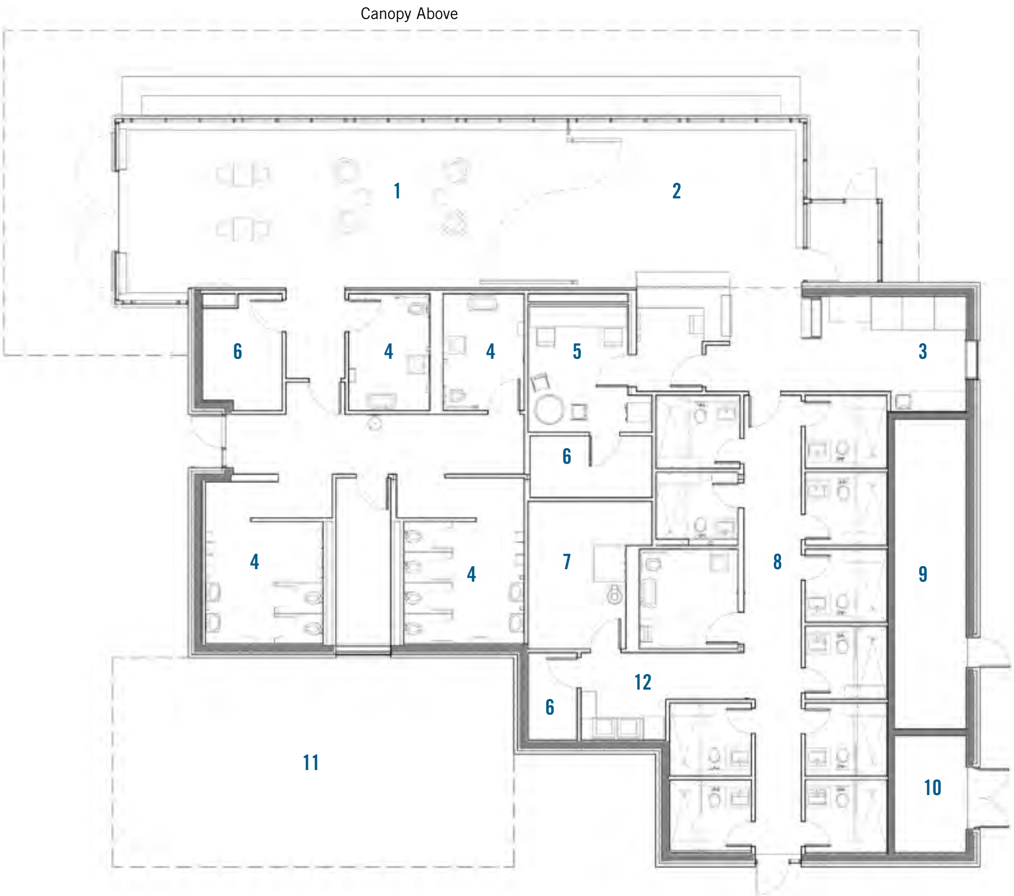
"The rigor that the architect brought to articulating the frame and the ceiling plane and the careful attention to the windows and the egress door which are all brought into alignment, really play up the simplicity of the structure. It's something to be commended."

– Jury

The Orillia Waterfront Centre is a significant community space on the shores of the picturesque Lake Couchiching in central Ontario. A popular amenity for the residents of Orillia, and a thoroughfare for visiting boaters, the building boasts a CLT, glulam, and glass lounge that provides expansive, scenic views along the water's edge.

The program of the $1.9-million, single-story features administration offices, washrooms and showers, and a large community space. The 5,106-sq. ft. building provides private services to boaters while also serving the general community as a venue for weddings, meetings and events. The principal room overlooking the marina can be divided into two, more intimately sized spaces, using large CLT pivot doors cut and assembled to reflect naval flag patterning.

The design-build project was a joint partnership between the architects, builders, engineers, and CLT fabricators. In a demonstration of the efficiency of building technologies, the glulam and CLT were erected in a single day, saving considerable time over traditional construction methods. CLT led to further efficiencies in construction as it is used in this case both as structure and as interior finish.



1. community lounge
2. reception
3. vending/catering
4. restroom
5. office
6. storage
7. service room
8. shower suites
9. utility
10. algae and gargage room
11. future skate change
12. laundry

N FLOOR PLAN

The center establishes a sense of place on the waterfront. A key part of its success derives from its extensive use of wood in its public-facing areas, a familiar material whose warm tones invite use. It is a timeless material whose innate familiarity will help the pavilion age gracefully in the years ahead.

The Orillia Waterfront Centre serves as a beacon for the community and features a lightbox sitting atop the community lounge, drawing the public toward its warm wood interior. In the few summer months since its opening, the building has quickly become a well-loved destination point for the visitors and residents of Orillia.

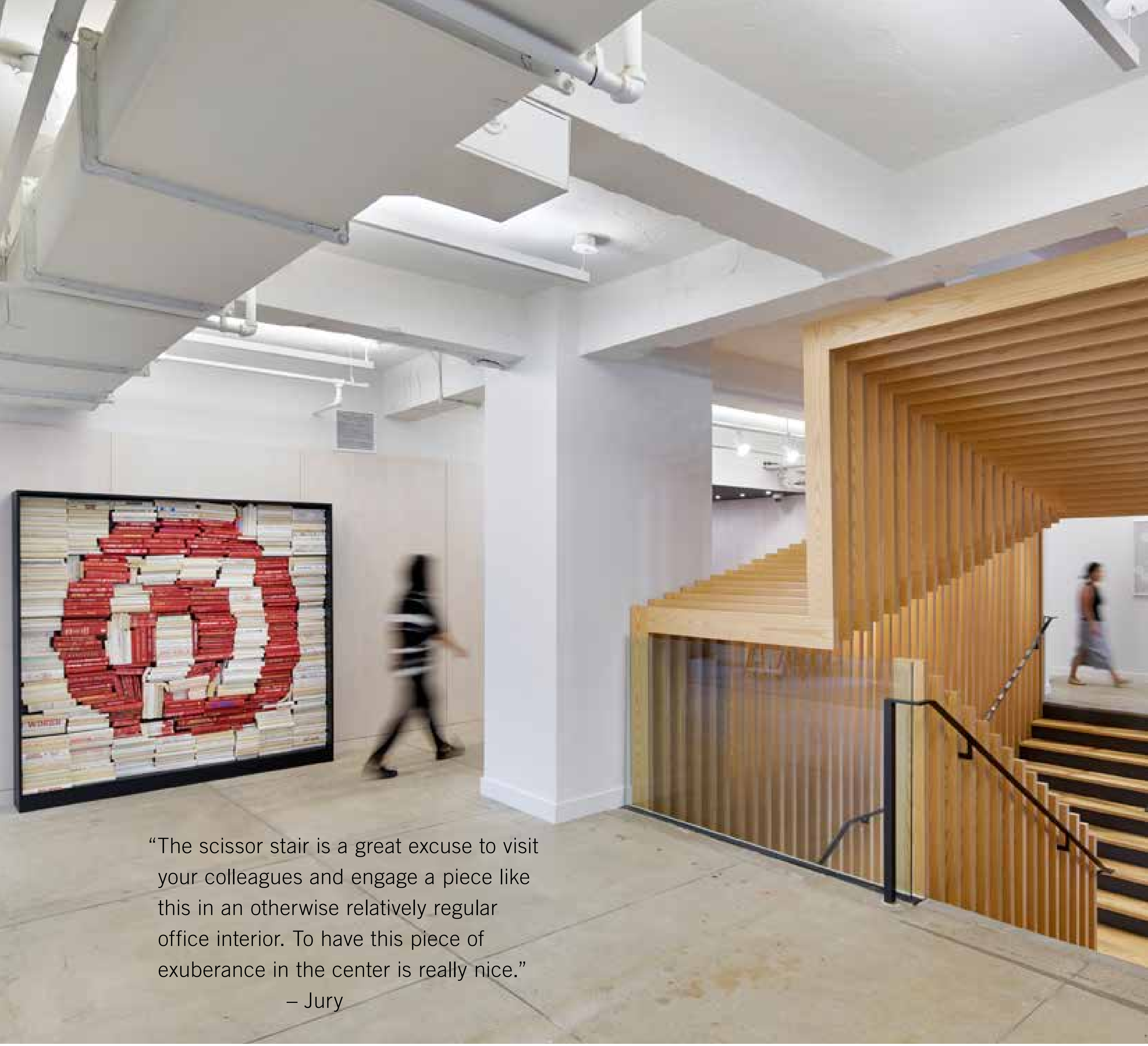
ARCHITECT
Brook McIlroy Inc.
Toronto, ON

STRUCTURAL ENGINEER
Steenhof Building Services
Orillia, ON

GENERAL CONTRACTOR
Bradanick Construction Services
Orillia, ON

TIMBER SUPPLIER
Element5 Co.
Toronto, ON

PHOTOGRAPHY
Tom Arban
Toronto, ON



"The scissor stair is a great excuse to visit your colleagues and engage a piece like this in an otherwise relatively regular office interior. To have this piece of exuberance in the center is really nice."
– Jury

Wood scissor stair defines office

North America

Pinterest New York

Pinterest's NYC offices (PiNYC) are located on two floors of a building across the street from the New York Public Library on 5th Ave. – a fortuitous adjacency, as the NYPL's Picture Library (a catalogued repository of photos) was an initial inspiration for Pinterest for one of the founders.

The workspace design takes cues from the recently revised Pinterest website – clean, clear and simple. The office includes: open workspace, meeting rooms, a dining/commons room, pantry, library, work lounges and a roof terrace. One of the key programmatic elements of the design brief for the space involved the creation of a central communication stair linking the two workspace levels of PiNYC.

The Public Library across the street contains an interior "scissor stair", which intrigued the architects – particularly in its dynamic merging together of paths from two directions, and in its ability to choose one of two directions at the connective landing. This reinterpretation of the scissor stair was positioned at the central bay of the PiNYC workspace. Called the Knitting Stair in recognition of the concept of social and spatial "knitting" being a key concept in the company's inception and ethos, it is placed at the heart of the floorplate, on axis with the elevator lobby and entry reception space. The Knitting Stair forms a visual focal piece and acts as a porous, habitable screen as you enter the reception area from the

elevator lobby at both levels. The stair's sculptural form on the outside shifts in its level of transparency as one moves around it, due to the depth and spacing of the vertical wood slats that make up its enclosing envelope.

Upon entering the stair, its outward appearance as a shifting figural object lodged with one structural bay gives way to the complex spatial interplay offered to the moving viewer. Here, the slats perform the inverse role of shifting in transparency out toward the dining and workspace that surround it. A spatial overlap is created where the scissoring stair flights intersect, with a generous central landing that encourages the passersby to engage and communicate as they ascend or descend. Structurally, the stair is conceived of and detailed as a material hybrid: vertical steel support plates suspend each step and are embedded within the vertical oak slats.

ARCHITECTS
IwamotoScott Architecture
San Francisco, CA

Spector Group
New York, NY

STRUCTURAL ENGINEER
Holmes Culley
San Francisco, CA

GENERAL CONTRACTOR
Structuretone
New York, NY

PHOTOGRAPHY
Bruce Damonte
San Francisco, CA

"The iconic element, the mast, is made out of wood, which is an innovation of itself. The deck structure, too, is laminated timber but this canted mast is what really stands out in the landscape, across the surface of the river."
– Jury

Wood contributes to durability and longevity of pedestrian bridge

North America

Trois-Sœurs Pedestrian Bridge


Requested by area residents for some time, this pedestrian bridge is part of a larger project to re-naturalize the banks of the Saint-Charles River.

The willingness of the Quebec municipal government to use wood for this project demonstrates the feasibility of such a structure and its ability to integrate into the urban environment. In addition to the aesthetic appeal of its asymmetrical configuration – consisting of a mast on only one of the banks, giving it a distinctive architecture – it also represents a great achievement from a technical standpoint. With a free span of 175 ft., its cable-stayed wood structure represents a rare use in Canada.

This project maximizes the use of wood in a judicious and innovative manner while respecting the qualities and strengths of each material used. Using guy wires, the double glulam A-shaped mast, inclined toward the river, retains two imposing 6-ft.-high glulam wood beams that act as a support for the cross-laminated panels of the bridge deck.

The jury especially commends the special attention given to the management of rainwater, an aspect of the design that ensures the protection of the structure and the longevity of the bridge. Among the elements included for this purpose is the slope of the support sealing membrane, ensuring proper drainage under the deck. Furthermore, the prefabrication of the decking in panels allowed for these to be affixed with screws from beneath. This limited the number of holes in the boards through which water can penetrate and prevents snow removal machinery from catching on the heads of the screws.

CLIENT
City of Quebec
Quebec City, QC

ARCHITECT
ABCP Architecture
Quebec City, QC

STRUCTURAL ENGINEER
EMS Ingénierie
Quebec City, QC

GENERAL CONTRACTOR
Constructions BSL
Saint-Augustin-de-Desmaures, QC

TIMBER SUPPLIER
Nordic Structures
Montreal, QC

PHOTOGRAPHY
ABCP Architecture
Quebec City, QC

"There's not overly precious wood detailing – it's a matter of fact approach – but the composition of the rooves and the way the building unfolds across the site make it very special."
– Jury

Canadian pine lends warmth to a working farm on the other side of the world

International

Tangshan Organic Farm

This project is located in farmlands on the outer edge of Guye district in Tangshan, about 124 miles east of Beijing. The basic function of the 18,300-sq.ft. building is to act as a processing plant for organic food; raw produce comes in from across the country to be processed and packaged here. Inspired by traditional Chinese courtyard buildings, the initial idea was to build a flexible workplace that is both self-contained and forms a continuous relationship with the surrounding fields.

The entire project is made up of four enclosed and relatively independent structures: Material Storage, Mill, Oil Pressing Workshop and Packing Area, with an inner courtyard functioning as the Grain-Sunning Ground. An external corridor connects the four areas and functions as the route to visit the food processing workshop. The central courtyard spans out around the building randomly, topologically forming a courtyard space of multiple layers, meeting the demand for natural ventilation and lighting while maintaining interior and exterior space quality. The organic connection of courtyard and house creates functional areas of different sizes under one large roof; small-sized corridors, medium-sized rooms and large workshop flexibly meet the requirements of compound use.

The design uses a glulam timber structure due to its light weight and natural properties. To control the construction costs, the building also adopts a light wood structure frame wall; the upper part is glued timber truss beam, and the top is wooden and felt roofing. The facade is covered with translucent polycarbonate board which is light and easy to install. The building "floats" above the ground, sitting on a cement base that allows the wood structure to be moisture-proof and hides the pipes and some fixed equipment.

The space, structure, materials and layout of exterior courtyards combine to create a warm, natural and continuous working atmosphere for this farm. Light structures are usually covered by interior decorations but for this project the designers removed decoration as much as possible to express the warm texture and structural aesthetics of wood. All structural material was pine imported from Canada. The metal joints of the wood beams match the whole structure visually after a rust preservation treatment.

ARCHITECT
ARCHSTUDIO
Beijing, China

STRUCTURAL ENGINEER
Beijing Nansen Wooden Structure Engineering Co., Ltd.
Beijing, China

GENERAL CONTRACTOR
Beijing Nansen Wooden Structure Engineering Co., Ltd.
Beijing, China

PHOTOGRAPHY
Jin Wei-Qi
Beijing, China

"There are a lot of surprising details on the interior like the way the stair hall creates a visor into the stair itself. This is the total package."
– Jury

Exposed timber structure defines architecture school's new home

International

School of Architecture, Universidad Católica de Chile

The new Architecture School building at Santiago's Pontificia Universidad Católica de Chile (Pontifical Catholic University of Chile) consists of a double-height volume of laminated wood, which lies lightly over a concrete plinth. The wood structure of columns and beams is arranged in a modular system, which facilitates the pre-assembling, installation and transportation of all those parts.

Construction relied heavily on wood, a renewable resource and a material with a very low carbon footprint, which helped the designers achieve the goal of sustainability from the very beginning of the project. It was mounted as a dry work technique, which decreased construction time and minimized the project's impact on the surrounding neighborhood. Passive resources used in this 16,000-sq.ft. building, such as natural cross-ventilation, contributed to its sustainability goals, reducing the cost associated with air conditioning and making the structure more energy-efficient.

As much as possible, during the construction phase, the design team avoided making cuts in the wood, taking advantage of the wood's established dimensions. The timber skeleton remains exposed to show how the structure works, with emphasis on the distribution of loads along the vertical and horizontal development of the building.

Although mainly for private use, it is a building with a strong public face, starting with a ground-level covered patio that draws the public inside. It opens its front to the city and turns its internal academic activity toward the street, generating a new sense of connectivity between the campus and its immediate neighborhood.

CLIENT
Pontificia Universidad Católica de Chile
(Pontifical Catholic University of Chile)
Santiago, Chile

ARCHITECT
Gonzalo Claro
Santiago, Chile

STRUCTURAL ENGINEER
Enlaces Ingenieros Consultores Ltda.
Santiago, Chile

PHOTOGRAPHY
Felipe Fontecilla
Santiago, Chile

SPECIAL AWARDS

Compact footprint minimizes site disturbance and emphasizes design over size

Canadian Wood Council Award

Courtyard House on a River

This two-bedroom residence is located in a wooded area, just outside Seattle, in the shadow of Mt. Rainier. Clad in a custom-run Western red cedar rainscreen siding system, the 1,900-sq.ft. home on the banks of the White River quietly blends into the surrounding forest. An entry courtyard creates a smooth transition from the outdoors while forming a gentle periphery to keep the ubiquitous elk herds at bay.

Designed to provide a zen-like retreat from the bustle of the city, the open living area uses large glass walls to create a sense of space and light even on the Northwest's darkest, rainy days. The exposed architectural-grade glulam beams unify the various rooms under a single roof system, while drawing the eye up through the roof monitor to the trees beyond. Black-stained Douglas fir No. 1 columns help support of the roof system and define a circulation zone between the entry courtyard and living/dining spaces. The wood wall studs are of hemlock fir and the exposed wood columns are 6 x 6 Douglas fir. Black-stained cedar siding is installed on the exterior.

A steel-clad fireplace is the central architectural feature, complementing the natural wood interiors while separating the living room from the covered outdoor patio.

By working diligently with the client, who was also the home's general contractor, the building footprint was kept as compact as possible, minimizing site disturbance out of respect for the lush evergreen landscape. The residence places emphasis on design over size while offering an open feel in every room.

ARCHITECT
Robert Hutchison Architecture
Seattle, WA

STRUCTURAL ENGINEER
Swenson Say Faget
Seattle, WA

GENERAL CONTRACTOR
Withheld – Same as Client
Greenwater, WA

PHOTOGRAPHY
Mark Woods
Seattle, WA

Retail chain furnishes its largest store with the beauty of wood

Canadian Wood Council Award

Tanguay, Trois-Rivières

At more than 75,000 sq ft., Tanguay's store in Trois-Rivières, QC, is the largest, opened by the furniture chain, in its 55-year history. The building serves up a combination of natural light, clean lines and user comfort thanks to its use of wood, aiming for an interior space imbued with warmth, modernity, and simplicity for a new kind of customer experience. The fully exposed glulam structural frame of the store gives it a distinctive personality. Yet for all the acknowledged versatility and beauty of wood, choosing wood as the main building material was no small thing.

The use of wood for this project was a nod to Mauricie, the region in which Trois-Rivières is located and one with a history bound to that of the pulp and paper industry. The wood is an FSC architectural-grade 24F-ES/NPG glulam timber made from black spruce. It's produced and milled in the region.

Tanguay's store is built around a central circulation spine set off by an all-wood linear skylight that runs alongside it all the way across the building. The skylight integrates the work of the architects and structural engineering team into one design, its artfully crafted triangular arches framing openings through which the eye breaks upward toward the sky. The diffuse natural light from the north creates a soothing atmosphere. The various sales sections are arranged on either side of the central spine, while the main entrance on the west side is signalled by a double-height glazed volume that glows like a lantern after sunset.

Customers are attracted to the wooden structure and ceilings on display through the large, carefully positioned glazed openings that highlight the building and catch the eye of people driving past on the adjoining highway. The roof does this, too, beckoning as it rises and extends outside to draw the gaze back in by the way it's lit.

The structure's refinement is reflected even in how columns and braces are managed. One solution developed with the project's engineers made it possible to eliminate uprights entirely along the two most visible sides. Slanted pillars dealt with wind bracing while unifying the structure and adding lightness. Interior pillars were also grooved on either side to reduce apparent bulk and create the impression of two slimmer pillars side by side. The effect on the interior environment and its impact on the customer experience are undoubtedly the best things that come from using wood and showing it off with abundant natural light.

CLIENT
Ameublements Tanguay Inc.
Quebec City, QC

ARCHITECT
Coarchitecture
Quebec City, QC

STRUCTURAL ENGINEER
Les Consultants S.M. Inc.
Trois-Rivières, QC

GENERAL CONTRACTOR
Therrien-Pomerleau S.E.N.C.
Quebec City, QC

TIMBER SUPPLIER
Nordic Structures
Montreal, QC

PHOTOGRAPHY
Stéphane Groleau
Quebec City, QC

Downtown park plays well with artsy neighbors

Sponsor Award – Sansin

Grange Park Playground

Situated in downtown Toronto, Grange Park is framed to the north by the Art Gallery of Ontario and to the east by the iconic table-top building of the Ontario College of Art and Design (OCAD). In 2008, an advisory committee of residents, the Art Gallery of Ontario, the City of Toronto and local organizations, formed with the goal of renovating the park, including the expansion of the playground. PFS Studio was the prime consultant responsible for the redesign of the park.

The playground was conceptualized as an artist's studio where a frenzy of work resulted in a spilled paint can, a squished paint tube, a painter's palette, charcoal pencils and tossed crumpled paper. Earthscape was brought on board to engineer the designs and build the playable wooden sculptures and towers. The larger-than-life art tools are the focal point of the play space that opened in 2017.

Wood was the preferred construction material for these playable sculptures because it allowed complete customization and immeasurable creativity and intentionality in design. The texture of handcrafted wood invites human touch and its heat coefficient makes it neither too warm nor too cold, regardless of the outdoor temperature. In addition, playgrounds in urban environments historically have intended to replicate the experience of play in the natural world; a playground built of wood was thus an intuitive choice.

The pencil tower consists of two platforms suspended by square posts intended to represent blue, green and yellow charcoal pencils. The entire tower leans at a dynamic angle and attaches to an adjacent platform by a net bridge. The tower posts are rough-sawn Douglas fir, selected because of its strength, availability in large dimensions, and moderate rot resistance. The posts are stained to imitate colored pencil crayons. The tower cladding is Accoya – acetylated wood valued for its stable properties, longevity, rot resistance and long-term ability to hold stain.

The wood cladding of the paint tube was intentionally and abstractly aligned to represent the facets of a squished tube of paint. The one-inch gap between boards allows for visibility, air circulation and moisture evaporation. The colored metal perforated panels add visual interest and a distinctive texture while maintaining visibility inside the structure for parents and caregivers. The structure was constructed of tamarack, chosen because of its rot resistance, strength, and local availability.

In another area of the playground, the connection of three irregularly sized polyhedrons create cubbies for climbing, hiding, balancing and sliding. These represent balls of crumpled paper, the unwanted sketches that missed the wastebasket. The irregular edges and angles of the tamarack frame are held in place with custom tri-brackets; this creates unique interior spaces

filled with rope chaos that creates playful challenges inside the sculpture. Some of the dodecahedron sides are open; others are clad with perforated metal or Accoya wood slats.

Constructed with a marine-grade plywood frame, the tipped paint can is segmented to allow for multiple climbing, swinging and hanging play opportunities. Handholds were cut into part of the exterior tamarack cladding while the metal connecting bars allow kids to climb or hang suspended inside.

This larger-than-life playground fits perfectly among its artistic neighbors while igniting the imaginations of children and adults alike. The use of wood was well-suited to the need for flexibility in design and complements the site context and surroundings of the playground.

CLIENT
Art Gallery of Ontario
Toronto, ON

ARCHITECTS
PFS Studio
Vancouver, BC
thinc design
Toronto, ON

STRUCTURAL ENGINEER
Earthscape
Wallenstein, ON

GENERAL CONTRACTOR
Aldershot Landscape Contractors
Burlington, ON

PHOTOGRAPHY
Lloyd Hipel, Ninth Street Photography
Waterloo, ON

Sponsor Award –
Sustainable Forestry Initiative

Locally sourced wood helps condo residents enjoy the sunny side of life

Solana

Facing both the Blackcomb Mountains and Green Lake, Solana embodies all that residents of Whistler live for in this resort community. Designed to take advantage of the fabulous views through orientation and floor-to-ceiling windows, this 26,000-sq.ft. condominium was finished in January 2016.

Residents of this "senior-ready," three-story building enjoy well-insulated and ventilated homes with a rooftop deck with garden plots, conversation area, and barbeque and dining facilities. Each unit also has a large deck to enjoy the outdoors in privacy. Features like reinforced washroom walls for grab bars, walk-in showers, and wider halls and doorways for mobility assistance items assure residents barrier-free living.

Wood was the choice for both structure and finish for this building, allowing a reduction in materials and embodied energy. Sustainability was an important goal for the developer, who aimed to exceed British Columbia's Built Green Platinum standards using locally sourced products wherever possible. Using wood provided a lower carbon footprint, reduced the size and costs of the foundation, and reflects the essence and the beauty of the project location.

Another important goal with this project was creating a healthy home. Although units were built to be as airtight as possible, heat recovery ventilators were installed to supply fresh air in each unit. The windows chosen were triple-paned for maximum R-value, as residents want to be as close to the view as possible without feeling chilled in winter. The larger floor-to-ceiling windows allow maximum sunshine penetration into the unit.

LVL panels, posts and beams were used in both the structure and the finish of the building. The elevator shaft was constructed of 60 ft. x 8 in. LVL panels screwed together. The decks and walkways consist of 5.5-in. LVL panels on LVL posts and beams. They were fastened with screws, eliminating the use of steel plates. This process expedited construction while providing a unique wood finish for the building.

Chosen for its quality and aesthetics, clear cedar siding was used for some of the soffits as well as accent siding for the project. Eight-inch SIP panels were used for the outsulation over the entire wall system. The wall structure consists of 2 x 6 framing with R20 batt insulation providing the overall R-value of 52, thus creating a well insulated, airtight wall system. Wood was a good choice to reduce thermal bridging in the structure.

The parkade was constructed using insulated concrete forms (ICF). The ICF system keeps the parkade warm enough to operate without heat. The ceiling of the parkade was built using wood subfloor panels over 14-in.-deep TJI joists with blown-in sound insulation instead of a typically carbon-intensive concrete deck.

Solana reflects the community in which it was built by providing a comfortable and healthy home for Whistler residents. It also reflects the Whistler environment by showcasing BC wood products while orienting itself to take advantage of the best Whistler has to offer.

ARCHITECT
Murdoch and Company Architecture + Planning Ltd.
Whistler, BC

STRUCTURAL ENGINEER
United Building Systems Ltd.
Vancouver, BC

GENERAL CONTRACTOR
Innovation Building Group Inc.
Whistler, BC

PHOTOGRAPHY
Ryan Nadeau
Whistler, BC

Open plan home embraces the views

Sponsor Award – Western Red Cedar

Skyline House

Situated high on top of a mountain range overlooking the city of Oakland, CA, the site for this rebuild of an existing house has unobstructed views toward the southwest bay and Golden Gate. Skyline House was designed for a young family that wanted an open plan home embracing the views of the bay and creating a connection to the existing garden.

Because of its location, the site is confronted with extreme weather and wide temperature swings. The San Francisco Bay has a unique micro-climate with the bay reaching far inland and bringing a very temperate climate. The omnipresent fog and afternoon breezes are big influences on the weather and ambient temperature. On the days where it gets hot, the fog and breezes can start to roll inland to cool the interior in the evening. The fluid, rolling form of the ceiling was derived from the function of the air flow and ventilation. Once the cooler air is captured and funneled inward, the rise of the ceiling increases the volume, thereby slowing the laminar air flow, and keeping the interior from feeling too drafty.

Use of deep overhangs and wood trellising at the rear protect the space against excessive sun and heat gain. The insulation in the roof is maximized, thereby decreasing the need for heating, and improving the occupant comfort in the summer (without A/C). The main living space becomes the connector of the two contrasting outdoor spaces.

Working with the existing floor plan, the 2,700-sq.ft. design transformed the kitchen area to open out and connect to the front yard garden, forming an outdoor dining area. A concrete planter/bench was placed to further define the outdoor garden space. Opposite of the remodeled kitchen, the interior dining space seamlessly opens out to the viewing deck, creating one large open space and extending the roof structure as a trellis to shelter the space from the direct sun. A new stair connects the main floor with the lower ground floor continuing the wood tube down through a crevasse to a media/projection room, bedroom and office area.

ARCHITECT
Terry & Terry Architecture
Berkeley, CA

STRUCTURAL ENGINEER
Santos & Urrutia Structural Engineers Inc.
San Francisco, CA

GENERAL CONTRACTOR
Lynden Construction
Piedmont, CA

PHOTOGRAPHY
Bruce Damonte Photography
San Francisco, CA

"This is how we should be pushing the elements of what we understand wood can do. We hope it's just the first of many tall buildings that this jury gets to look at in the coming years."

– Jury

Student residence represents a new era in tall timber construction

Special Jury Award – Technical Innovation

Brock Commons Tallwood House

Located just west of Vancouver, BC, is a stunning coastal forest gateway that inspires the University of British Columbia's long-standing relationship with wood. The result is an enviable inventory of wood buildings interspersed throughout the campus which showcase ground-breaking technologies and sustainable design.

UBC's commitment to promoting locally sourced, environmentally responsible and leading-edge engineered wood products and building technologies is evident in the Brock Commons Tallwood House, the most recent addition to the UBC Vancouver Campus. The newest of the school's student residence buildings, it currently stands as the tallest contemporary hybrid mass timber building in the world.

An impressive 174 feet in height, Brock Commons houses 404 students in studio and four-bed units. Student housing is located on levels two through 18 of the building, with two quad units per floor on levels two through 17, one located at either end of the building and 16 studio suites. Each quad unit contains a common space, a kitchen, two bathrooms and four separate bedrooms. The studio units each contain a pass-through kitchen, a bathroom and a bedroom.

There are public amenity spaces, assembly and study rooms on the ground floor, along with building service spaces for mechanical, electrical, waste and recycling services; a student study-social lounge is located at the 18th floor, where glulam columns are left exposed for demonstration and educational purposes.

The building is the world's first mass timber, structural steel and reinforced concrete hybrid building to reach 18 stories. It is supported on a foundation comprised of reinforced concrete footings, below grade shear walls and columns and a raft slab. Reinforced concrete columns support the second level transfer slab and two 18-story reinforced concrete shafts provide structure for building stairs, elevators and services.

Sixteen levels of super-structure above the second level reinforced concrete transfer slab are comprised of CLT floor panel assemblies that are supported on glulam or parallel strand lumber (PSL) columns, using steel connections – no beams are required with the two-way spanning capabilities of the CLT floor panels. Glulam columns on Level 18 support a structural steel roof assembly.

As their previous experience with mass timber projects had demonstrated, UBC organizations were familiar with the fundamental risk presented by moisture ingress into such a structure during construction: too much moisture could delay enclosure, thus impacting both schedule and budget. They knew it would be beneficial to assemble and enclose the structure during the dry summer months. This provided an approximately 16-week window to assemble the mass timber super-structure.

A multi-disciplinary approach up-front made it possible for the design team to hone in on a simple, cost-effective structural design that could be assembled within the tight schedule. The efficiencies and details identified by the expanded design and construction team led to a nine-and-a-half-week construction time for the mass timber super-structure, shaving 40 per cent off of an already-tight schedule. The practical benefits of this shorter-than-predicted construction time:

cost-effectiveness, improved site safety and less neighborhood disruption.

As a living laboratory, Brock Commons will continue to be a source of learning through interdisciplinary research and educational projects. UBC researchers, staff and students will work with industry and government partners to continue monitoring the building throughout its lifetime. It is hoped the lessons learned from the unique experiences and innovative aspects of the project will provide long-term benefits to the North American design and construction industries.

The project is being viewed as pivotal in the ongoing development of mass timber technologies and related structural wood systems, construction methodologies and the advancement of tall replicable and viable wood buildings in Canada and around the world.

CLIENT
University of British Columbia
Vancouver, BC

ARCHITECT
Acton Ostry Architects
Vancouver, BC

STRUCTURAL ENGINEER
Fast+Epp
Vancouver, BC

GENERAL CONTRACTOR
Urban One Builders
Vancouver, BC

PHOTOGRAPHY
Michael Elkan Photography
Vancouver, BC

"In our architectural world, we think a lot about where materials come from. This is a great reminder for the public who maybe doesn't think about this all the time that we're affecting something remotely as well as the site where we're building. We like that narrative."

– Jury

Art installation draws the connection between wood's origins and its ultimate urban destinations

Special Jury Award – Public Art Education

Ways of Wood

Ways of Wood: Expressing Material Flows, was one of four installations exhibited at the Boston Design Biennial 2017, a program established in 2008 to recognize emerging architects, landscape architects, and designers who have created inspiring and innovative practices in New England.

Resembling images of logs floated from forests to sawmills, the project aims to create a link with North American landscapes of industrial extraction. The nine logs gradually transform across their length into contemporary interpretations of these raw natural materials, their shapes altered by CNC milling.

Wood is one of many material flows necessary to sustain urban life. Typically black-boxed and commodified, the material is often detached from any connection to the landscapes, processes, and people fundamental to its genesis. While the project creates a public space for sitting or socializing, it also tries to create a connection between the origin of the material – including the landscapes, processes, and people fundamental to its sourcing – and its ultimate use in urban environments.

Inspired by the social sculpture of Joseph Beuys and the site-specific land art pieces of Andy Goldsworthy, the project explicitly visualizes the connection between contemporary design concerns and the processes of material sourcing through its formal and material configuration. Avoiding the idea that wood is a generic and uniform material, the installation also brings together diverse regional wood species – including Eastern white pine, ash, red oak, and black birch – supporting the specificities and ecological diversity that each one of them entails.

ARCHITECT
Daniel Ibañez –
Principal Architect – Margen Lab

STRUCTURAL ENGINEER
Daniel Ibañez and Michael Piscitello

GENERAL CONTRACTOR
Daniel Ibañez, Michael Piscitello,
James Negri, and Brian Sandford

PHOTOGRAPHY
Daniel Ibañez and Brian Sandford

Canadian Wood *WORKS!* Awards

2018 marks the 20th anniversary of Wood *WORKS!* in Canada

The Wood *WORKS!* program, which began as a small, regional pilot project in Prince George, BC, has grown to become a comprehensive, nation-wide program advancing wood use in hundreds of projects each year. The program inspires, supports, and recognizes professionals in the design and construction industry by providing technical support, educational events, and resource materials, and by hosting regional wood design award programs across the country.

It is the winners of the BC, Prairie, and Ontario award programs that we are proud to celebrate in the following section. As in previous years, the projects featured here demonstrate excellence in contemporary wood design in both structural and architectural applications.

There are many reasons to embrace wood, including its strength, beauty, cost-effectiveness, versatility, and its potential to increase construction efficiency and lower carbon impacts. The growing prevalence of wood construction is leading us to more sustainable and affordable communities and playing a role in climate change mitigation, all while creating a built environment that celebrates the heritage of our forest industry and builds prosperity in Canada.

Thank you to this year's jurors for their skilled work, our sponsors for their support, project owners and wood product manufacturers for their commitment to excellence and innovation. Finally, congratulations to the wood design community for enthralling us again and again with such inspired work.

Lynn Embury-Williams
Executive Director
Wood *WORKS!*
British Columbia

Paul Whittaker
Provincial Director
Wood *WORKS!* Alberta

Marianne Berube
Executive Director
Wood *WORKS!*
Ontario

Jurors

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PATH ARCHITECTURE
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BRIAN MCCLURE, P.ENG., STRUCT.ENG.
Senior Structural Engineer/Partner
SORENSEN TRILOGY
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SUSAN GAGNON
Vice President, Communications & Research
COAST FOREST PRODUCTS ASSOCIATION
www.coastforest.org

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CONIFEX

West Fraser

ILMA Interior Lumber Manufacturers' Association

WFP Western Forest Products Inc.

FPInnovations

western archrib structural wood systems

STRUCTURLAM Intelligence In Wood

Canadian Wood Council / Conseil canadien du bois

BC WOOD

MiTek

WESTERN WOOD TRUSS ASSOCIATION OF BRITISH COLUMBIA

Boise Cascade Engineered Wood Products

INTERFOR Building Value

AcoustiTECH PERFORMANCE CREDIBILITY EXPERTISE

SOPREMA

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Wood Innovation Award

Brock Commons Tallwood House
Vancouver, BC
Please see page 140

BRITISH COLUMBIA

Environmental Performance Award

Vancouver building adopts Passive House Standard, taking an active role in fighting climate change

The Heights

The Heights is a six-story, mixed-use building located in a rapidly developing area in Vancouver's northeast. The ground-level commercial space and single level of underground parking are constructed in concrete, with 85 apartments occupying the rear of the ground floor and five stories of wood frame construction above.

At the time of construction, The Heights was Canada's largest building designed to the Passive House (PH) Standard, an internationally recognized standard for achieving very low energy use in buildings (80 to 90 per cent less energy for heating and cooling than conventional buildings).

The decision to build to PH Standard was made during the rezoning process. The site was rezoned under the City of Vancouver's Rental 100 program, which offers developers density incentives to construct purpose-built and covenanted rental housing. According to city policy, rezoned projects are required to meet high environmental standards.

The principal strategies for achieving PH Standard are based on a high-performance building envelope and continuous managed ventilation. The necessary components of the building envelope include high insulation values with minimal thermal bridging, air tightness, and managing solar gain (admitting during the heating season and reducing during the cooling season). The benefits include minimized energy use, improved user comfort and high indoor air quality, all in a relatively simple building with low operating costs.

Wood frame construction is ideal for achieving PH Standard buildings. Wood itself has a reasonable insulation value and facilitates detailing to minimize thermal bridging. During design development, different wall assemblies were considered, with attention to the position of the insulation and air barrier layers. An assembly was selected based on constructing the load-bearing structure conventionally and a second service wall installed internally, with a rigid insulation panel between providing continuous insulation and a protected air barrier. Installing a membrane to transition the air barrier around the outside of the rim joists at the floor lines was the only specialized PH intervention during rough framing. Among the key reasons for adopting this approach was the complexity presented by the zero-lot line condition on the east face and the advantages for ease of attaching appendages such as sunshades and guards. The decision was also made to insulate above the parkade slab to reduce thermal bridging, rather than the more conventional approach of applying spray insulation to the underside.

Construction was completed at the end of 2017. At the commissioning stage, the airtightness test showed only 0.3 air changes per hour, half the air infiltration rate permitted by the PH standard. The building will be monitored over its first two years of operation.

CLIENT
Hastings Northview Apartments Ltd.
Vancouver, BC

ARCHITECT
Cornerstone Architecture
Vancouver, BC

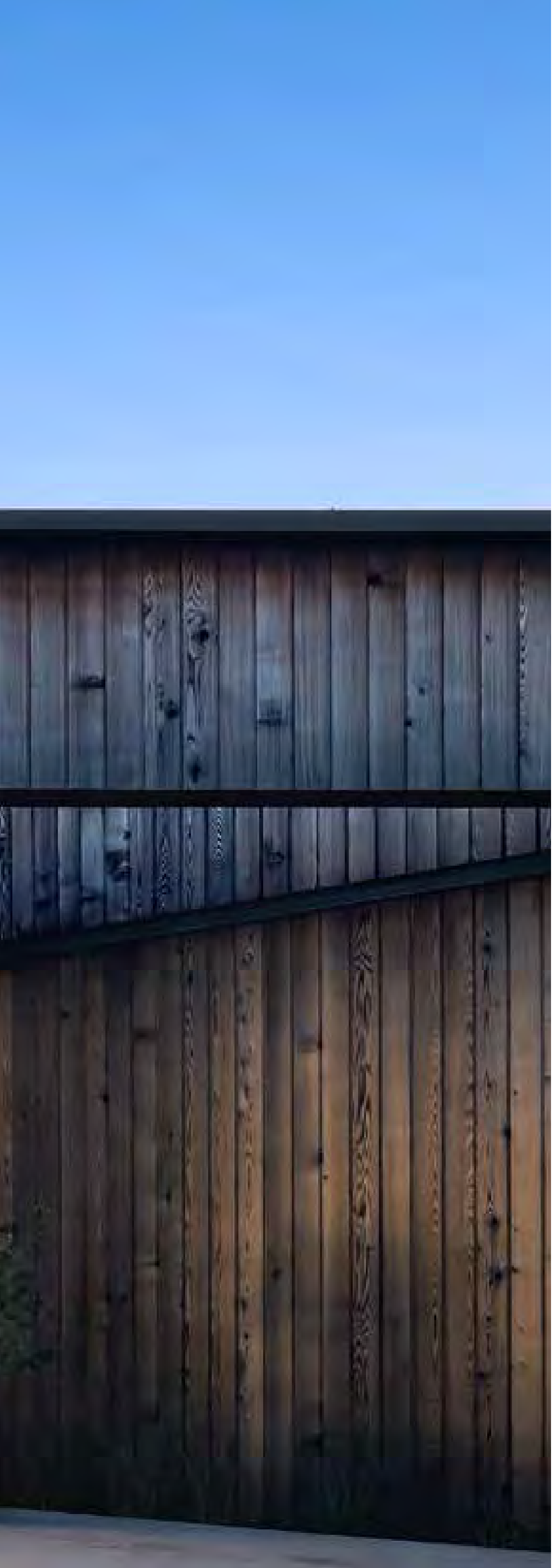
STRUCTURAL ENGINEER
Weiler Smith Bowers Consulting
Burnaby, BC

GENERAL CONTRACTOR
Peak Construction Group
Surrey, BC

PHOTOGRAPHY
Andres Vargas
Gordan Dumka

Modest seaside home makes maximum use of its compact footprint

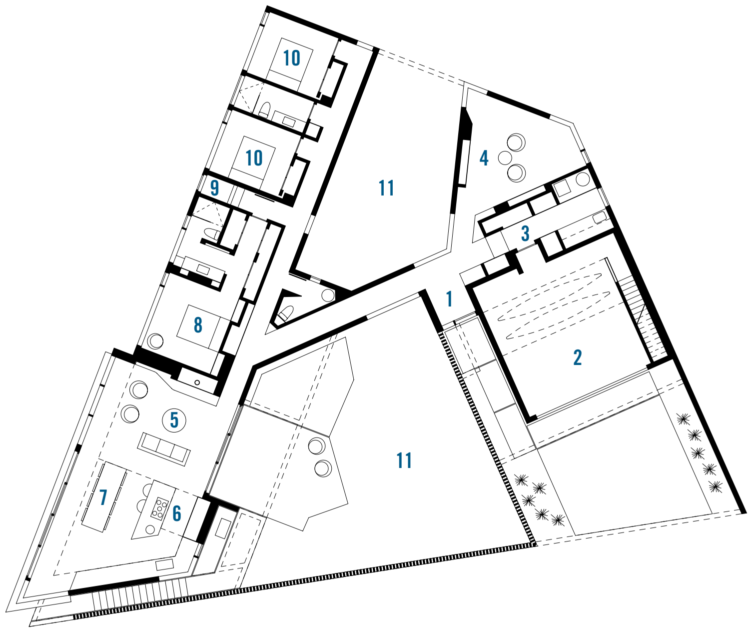
Okada Marshall House



Low-slung and modest, this H-shaped, 2,500-sq.ft. house on the southern shores of Vancouver Island wraps around itself to contain two inner courtyards. All the windows and doors point toward ancient moss-covered rocks or the Pacific Ocean, creating lively contrasts as you move through the house.

From every angle, the structure is a tribute to wood, from its efficient and ambitious engineered wood structure to its delicate yet robust courtyard screening. The hard-wearing traditional board and batten cladding will last hundreds of years. The absolute minimum number of 2 x 6 light-wood frame shear walls were sculpted and carved to allow for large windows and doors in all spaces. Soaring engineered LVL beams were pushed to their limit, spanning more than 30 feet without posts to hold up an outdoor dining roof, to define natural outdoor courtyard areas, and to make a typically generic parking area into a well-composed and inviting outdoor "room."

The house is a test case for the owner's Shou Sugi Ban wood supply company. The owners charred the wood themselves to learn this ancient Japanese craft. This type of siding is well-suited to this region of southern British Columbia, which has a similar climate to Japan.



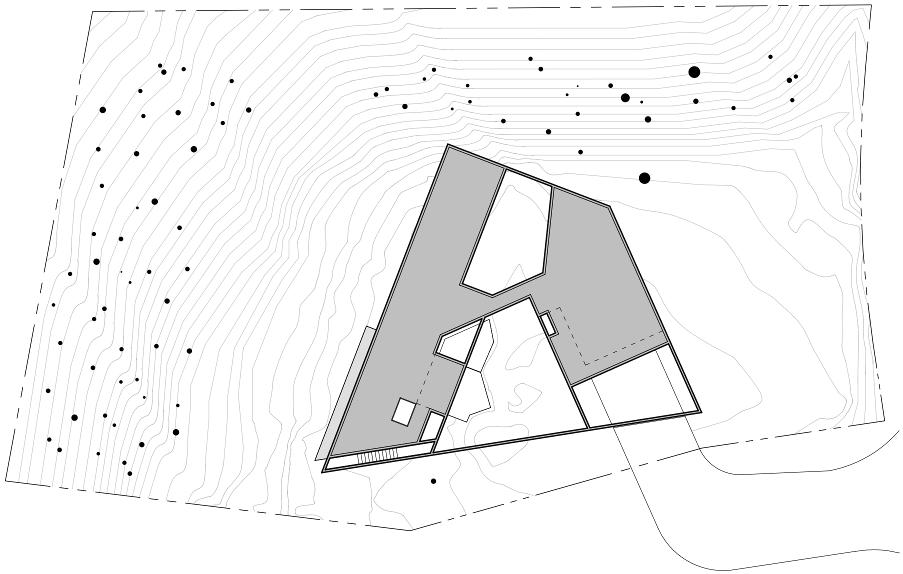
1. entry
2. garage/kayak storage
3. laundry/mudroom
4. den/office
5. living
6. kitchen
7. dining
8. master bedroom
9. Japanese bath
10. guest room
11. courtyard

FLOOR PLAN

The internal privacy that the client valued in their previous multi-story house inspired this house's plan. By pulling the house's daytime spaces apart with stretched hallways, acoustic separation for a quiet home office is created. Elongated hallways emphasize the house's sense of expansiveness within a compact footprint. As a critique of over-scaled, completely open plans, this house explores the value and delight in movement with focal points and compressed proportions.

The seemingly random angles of the plan result from fitting all the house's internal spaces to the topography of the site. The shape of the house passively creates an inner micro-climate that tempers the constant Pacific Ocean winds. The expansive view is still clearly seen through the back-to-back glass, mimicking how cupped hands shield one's eyes from glare and focus the eyes on the distance. In the central living area, an al fresco dining table is wrapped with a dark anti-glare door liner.

The house is on the edge of a new development that is invisible from anywhere inside the house or its courtyards. Assuming a potential loss of privacy over time, the central courtyard is screened to block out the surrounding area, while letting in linear sunlight



SITE PLAN

that animates the house and courtyard with its textured patterns.

The white interior acts as a light-bouncing foil to the house's brown-black exterior. Sculpted openings, ledges and niches abstract the site's fractured volcanic rock. During the summer, weather inversions create fog until midday, so the strongly defined courtyard and arms of the house were toned and proportioned with mock-ups on site to ensure visibility in the densest fog. The sensations of dislocation and loneliness that can happen on the West Coast are thus transformed into feelings of comfort and security.

ARCHITECT
D'Arcy Jones Architecture Inc.
Vancouver, BC

STRUCTURAL ENGINEER
Wicke Herfst Maver Structural Engineers
Burnaby, BC

GENERAL CONTRACTOR
Fitchett Construction Ltd.
Sooke, BC

TIMBER SUPPLIER
Warburton Woodworks
Sooke, BC

PHOTOGRAPHY
Sama Jim Canzian
Vancouver, BC

Multi-Unit Residential Wood Design

Wood-frame condominium development exemplifies West Coast Modern style

Prodigy

Prodigy is the second six-story pure wood-frame residential mid-rise building at the University of British Columbia, following the award-winning Sail. Overlooking UBC's Mundell Park, Prodigy offers a selection of three-, two- and one-bedroom homes. The floor plans were designed with an open and inviting layout that emphasizes the kitchen as the heart of the home. The penthouse units include large private rooftop lanais that are entered through a sky study with panoramic views of surrounding neighborhoods.

Located only steps from an old growth forest, the building's exterior design complements its natural surroundings. In true West Coast Modern style, it features exposed wood beams, cedar soffits and inviting warm brick cladding interplayed with glass. The project uses a variety of unique wood materials, with architectural wood features such as cedar soffits and exposed wood beams to enhance the building's aesthetic.

The project was designed with sustainability in mind, with more than 50 per cent of the materials used manufactured locally, all lumber harvested from sustainable forests, and 70 per cent of construction waste diverted from the landfill. Other sustainable features incorporated into the design include EnergyStar appliances, water-conserving plumbing, energy-efficient lighting and recycled building materials. These efforts were rewarded with a

REAP Gold Certification (Residential Environmental Assessment Program), the University of British Columbia's proprietary sustainability certification program.

The most expansive water feature built in the community is located at the heart of Prodigy, in the courtyard. It encompasses a grid of wide, flat ponds that extend to the edges of the building's outdoor patios, giving the effect of waterfront accessibility and bringing true meaning to blending indoor and outdoor life, inherent to the West Coast.

A dramatic two-story lobby bridge and breezeway with floor-to-ceiling glazing offering stunning character, with the glazing providing the elevator landing on every floor a view of the water features in the courtyard. The thoughtful landscape of the building encourages a more enlightened way of living, providing space for quiet reflection and powerful inspiration.

ARCHITECT
Rositch Hemphill Architects
Vancouver, BC

DEVELOPER
Adera Development Corporation
Vancouver, BC

GENERAL CONTRACTOR
Adera Development Corporation
Vancouver, BC

PHOTOGRAPHY
Raef Grohne
Vancouver, BC

Lakeside resort's design principles stipulate exposed wood when possible

Penticton Lakeside Resort – West Wing

The new West Wing at the Penticton Lakeside Resort and Convention Centre overlooks the south shore of Okanagan Lake. The six-story, 70-suite hotel building is constructed primarily of mass timber. It's believed to feature the most extensive use of cross-laminated timber (CLT) panels in any building in the Okanagan, a unique feature considering CLT is not a typical material for this building typology.

The CLT panels used in the addition are large – up to nine feet wide and 41 feet long – and span great distances. They were produced locally and used in major shear elements of the building: in the floor and roof, and in the vertical walls that separate decks on the exterior. The building also features exposed wood ceilings, large glulam columns and beams, wood stairs and stair shafts, and more throughout the building's interior design.

The CLT panels didn't have to travel far to reach the site. They were assembled in the Okanagan, brought to the site and easily set in place by crane. Light wood frame components were also prefabricated. The ease of this process translated to major time and costs savings, knocking an estimated six weeks off the construction schedule.

The wood building weighs roughly half what a concrete structure would weigh: 450 lbs./sq.ft. versus 1,000 lbs./sq.ft. The result is the construction team was able to incorporate traditional foundation systems and did not have to drive piles into the lakeside property to stabilize the structure, resulting in significant cost and time savings.

Cost savings also came from the warm finish wood provides in its natural state. One of the core design initiatives of the project was to expose the wood wherever possible, with no additional finishes required. CLT and glulam is exposed in and outside of the suites; corridor ceilings are exposed CLT with no interruptions, and the atrium wall and ceiling structure is exposed mass timber.

The architects worked closely with a team of engineers to ensure the building exceeded all standards of the building code, with careful attention paid to the acoustic properties and fire separations.

A wood structure like this offers many advantages, particularly regarding its environmental efficiency. In a world where it's believed the construction industry is responsible for 40 to 50 per cent of carbon dioxide emissions, renewable materials – including wood – can mitigate the rate of global warming.

CLIENT
RPB Hotels and Resorts
Penticton, BC

ARCHITECT
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Penticton, BC

STRUCTURAL ENGINEER
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Vancouver, BC

GENERAL CONTRACTOR
Greyback Construction
Penticton, BC

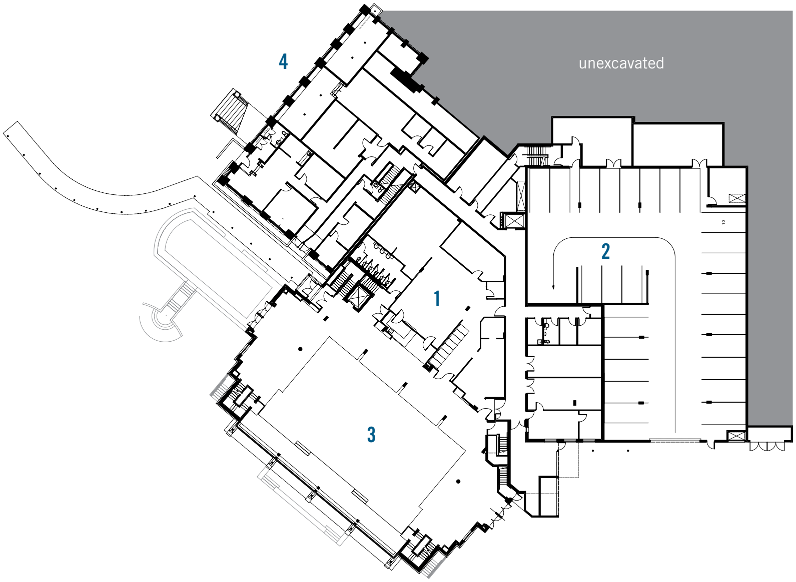
TIMBER SUPPLIER
Structurlam Products Ltd.
Penticton, BC

PHOTOGRAPHY
John Bilodeau Photography
Calgary, AB
Jon Adrian Photography
Penticton, BC

Interior Beauty Design

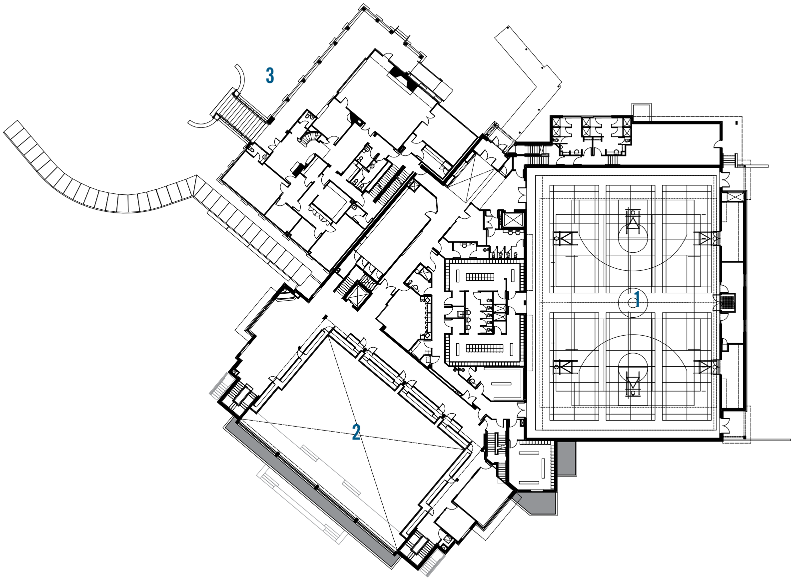
Wood allows a century-old school to begin a new chapter in its academic career

Crofton House School Dining Hall



1. kitchen 2. parking 3. Manrell Hall 4. old residence

LOWER FLOOR PLAN



1. athletics center 2. Manrell Hall 3. old residence

MAIN FLOOR PLAN

Established in 1898, Crofton House School is an independent university-preparatory girls' school in Vancouver, BC. It relocated to its current 9.5-acre site in 1944, the site having been one of the original southwest Vancouver estate residences dating from 1909. The school added a number of new buildings as it evolved over the decades, but by 2000 it found these were of inadequate size and quality to serve the school's ambitions.

The architect was consulted to generate a master plan for redevelopment of the campus. The resulting phased redevelopment has extended over a 10-year period, completing in 2017. The scope of development included the capstone component in the form of the school's new assembly and dining hall, now known as Manrell Hall. The 1,000+-capacity hall brings the entire school community together for meals, assemblies, major celebration and recognition events.

Manrell Hall is configured within a development that also contains the senior athletics center, both over an underground parking structure. The lower structure accommodates the geothermal plants, one of two serving the campus system. The new construction is attached to the Old Residence, a restored heritage building that was the original estate residence. The geometry of the development conforms to the existing structures, the sloping topography and the network of campus open spaces and pedestrian walks. The hall itself is a high vaulted space with access from both the main and mezzanine (upper) levels. The space exploits the views over the lower campus and into the crown of the adjacent woods.

Achieving a rich and coherent character of interior environment throughout has been a strong theme for the campus redevelopment. A major strategy to achieve this has been the generous use of wood finishing – through the design of a palette of applications and details. Custom-colored maple, both in veneer paneling and solid elements, has been the principal material. Perforated wood panels were selected for acoustical purposes, and crown moldings and handrails have been incorporated to bring the wood into intimate contact with users. Solid and engineered hardwood has been used extensively for flooring in the signature spaces, and wood doors and feature windows have been specified.

CLIENT
Crofton House School
Vancouver, BC

ARCHITECT
Cornerstone Architecture
Vancouver, BC

STRUCTURAL ENGINEER
Bogdonov Pao Associates Ltd.
Vancouver, BC

GENERAL CONTRACTOR
The Haebler Group
Vancouver, BC

PHOTOGRAPHY
Michael Elkan
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Bob Matheson
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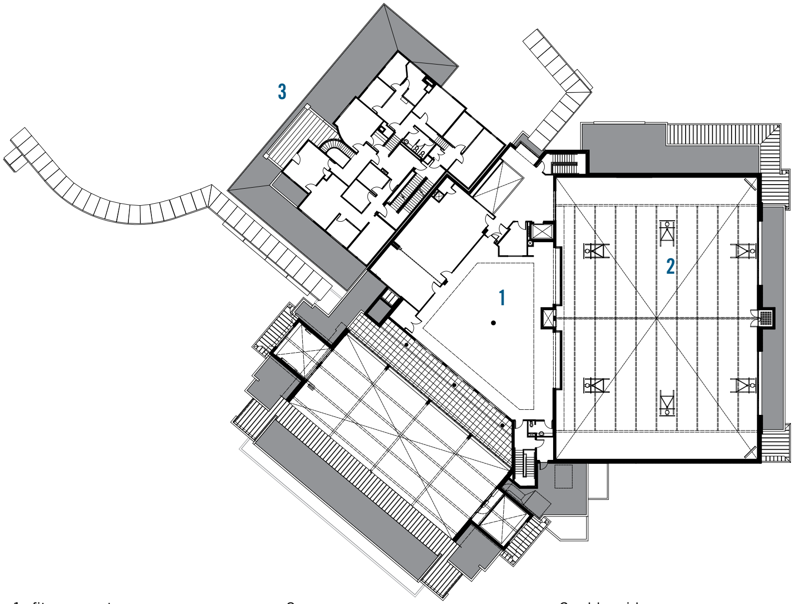
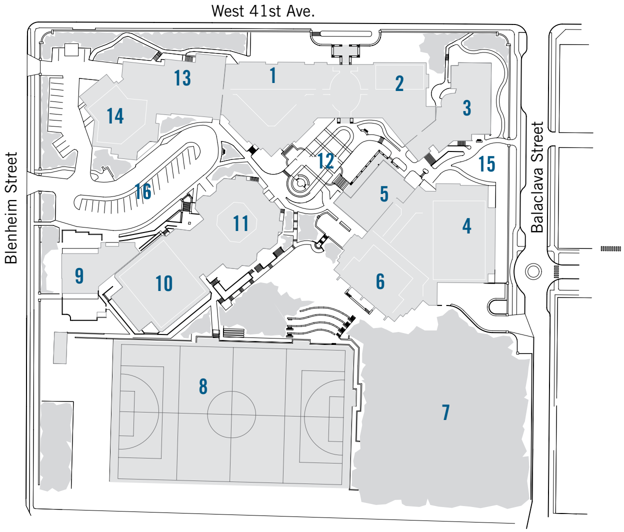


1. fitness center 2. upper gym 3. old residence

UPPER FLOOR PLAN



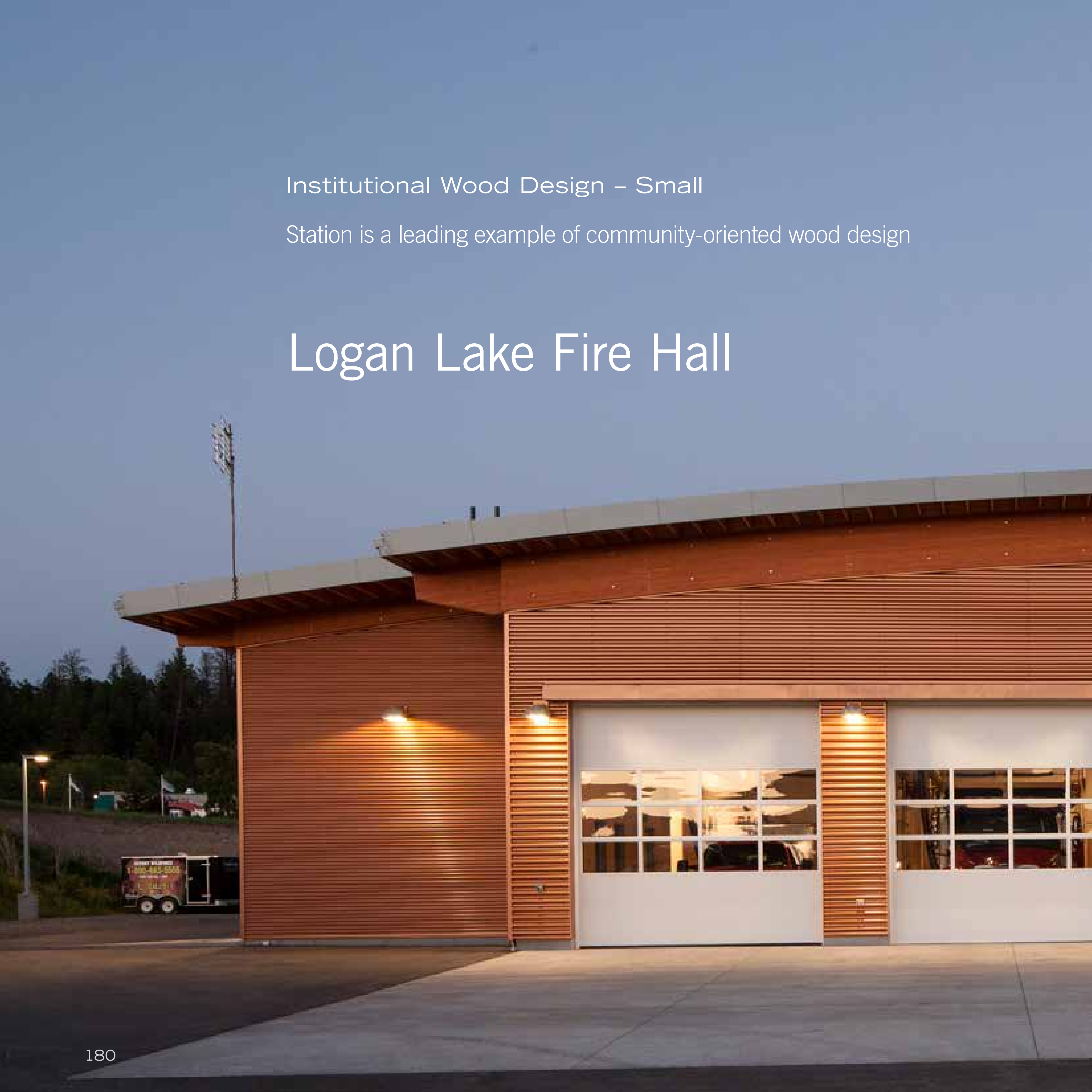
1. academic center
2. library
3. science center
4. athletics center
5. old residence
6. Manrell Hall
7. the woods
8. sports field
9. ECE center
10. junior school gymnasium
11. junior school courtyard
12. fine arts center
13. theater
14. international green
15. roundabout

SITE PLAN

Institutional Wood Design – Small

Station is a leading example of community-oriented wood design

Logan Lake Fire Hall




LOGAN LAKE FIRE HALL

Logan Lake Fire Hall is a 10,600-sq.ft. fire station and emergency operations center located in the heart of Logan Lake, BC. Completed in 2017, this building is one of among the most recent infrastructures to be built within the district, and as such serves as both the headquarters to the Logan Lake Fire Rescue Services as well as a multi-purpose community center for special events and conferences. Designed to the post-disaster requirements of the British Columbia Building Code, Logan Lake Fire Hall uses 95 per cent structural wood above grade – a design choice not commonly utilized within emergency operations centers due to the rigidity requirements around the large truck apparatus bays. By employing innovative design practices, Logan Lake Fire Hall showcases the unique application of wood design within a protective services building while remaining affordable, adaptable and structurally integral for years to come.

The vision of Logan Lake Fire Hall was developed through the various programmatic and design requirements established between the District of Logan Lake, the Logan Lake Fire Rescue Department and the architect. By conducting various team exercises and visioning sessions with the client, designs determined the future fire hall be economical, employ British Columbia's Wood First program and provide state-of-the-art infrastructure for a first response, post-disaster building. The station was created utilizing primarily spruce-pine engineered glulams with plywood decking for the building envelope, millwork, finishes, doors, and ceilings.

As fire station design requires the ability to withstand stresses of seismic events, glulams are utilized throughout the entirety of the building's structural support as engineered timber is both pound-for-pound stronger than steel and significantly more affordable. The glulams featured within this fire hall were commissioned to unique design requirements, specifically within the ceiling's dual curved structure. As the dimensions of a singular ceiling jig were set, the following glulams were then manufactured to the identical sizing and curvature then systemically set – thus expediting the building process and adding to the design's overall affordability. The roof design is not only an aesthetic choice, but also helps to mitigate snowpack and efficiently distribute weight.

Outside the structural application of wood, Logan Lake Fire Hall also showcases exposed spruce-pine throughout the building's exterior and interior spaces. Understanding the psychological health benefits of occupants within a structure showcasing exposed wood, the fire hall's livability requirements encompassed the use of exposed wood within each space including the kitchen, dormitories, day room, and training room. Plywood paneling with exposed screws were also utilized within the three tandem apparatus bays so that selections of plywood wall can be easily dismounted and replaced when damaged. All interior paneling, millwork and finishes throughout the hall's interior were fire-rated and coated with a clear-finish application.

Alongside the various structural, affordability and aesthetic benefits of wood design within Logan Lake Fire Hall, various sustainability requirements were integrated throughout the design. Sourcing wood products from environmentally responsible forest management practices in accordance with the Forest Stewardship Council were encouraged. Other sustainability practices employed within the structure include a comprehensive stormwater management system, reflective roofing materials to reduce the building's "heat island effect" and an increase of water efficiency through landscape irrigation. The various sustainability measures within this project budget allowed the architect and client to employ innovative design visioning so that Logan Lake Fire Hall would maintain sustainability requirements into the future while serving as a model for green building within the area.

The fire hall is located along Highway BC-97, a base that is both centrally situated within town and along an arterial access route for expedited community response times. Visitors driving eastbound along the highway can see the fire station from a distance due to its central location and heightened site elevation. Increased visual contact with the new fire hall allows for ease of access and landmark wayfinding within the area, and an elevated site provides firefighters with panoramic views of the community they serve and protect.

Due to the application of 95 per cent structural wood above grade, Logan Lake Fire Hall serves as a reflection of the progressive movement of forest-based products within emergency response architecture. The station serves as an example of seismic structural integrity and community-oriented wood design while accommodating livability, sustainability and affordability for years to come.

ARCHITECT
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STRUCTURAL ENGINEER
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Nanaimo, BC

GENERAL CONTRACTOR
Maloney Contractors Ltd.
West Kelowna, BC

TIMBER SUPPLIER
Western Archrib
Edmonton, AB

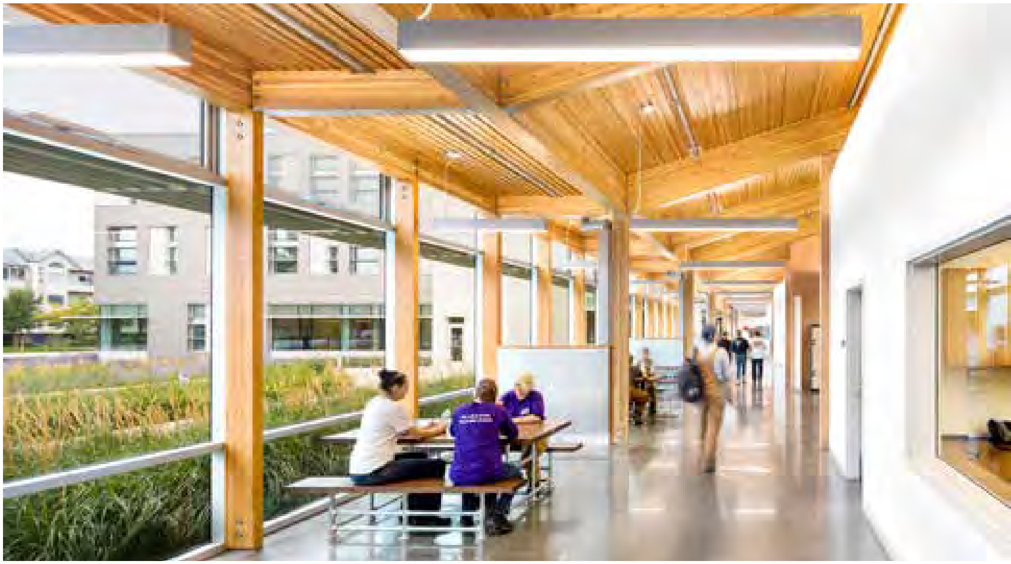
PHOTOGRAPHY
Kimberly Johnston/Johnston Davidson
Architecture + Planning Inc.
Vancouver, BC

CLT adds warmth and beauty to a technologically advanced learning environment

Trades Renewal and Expansion Project, Okanagan College

On September 22, 2016, the new Trades Complex at Okanagan College's Kelowna Campus officially opened. The building accommodates more than 2,700 students per year in a wide array of trades foundation and apprenticeship programs.

The primary objective of the project was to upgrade and expand the existing Trades Complex, some parts of which dated back to 1963, and consolidate all trades training programs on the Okanagan College Kelowna campus. The project comprised two distinct but integrated components: renovation of the existing Automotive Trades Workshop building and construction of a new addition.



Sustainable design targets were a key component of the project. They include achieving LEED for Existing Buildings: Operations & Maintenance (EB:O&M) certification for the renovation, and LEED Platinum certification, Living Building Challenge certification and Net Zero energy for the new addition. Critical to the success of these initiatives was maximizing the passive energy potential of the new addition by using principles of sustainable design to inform the orientation, footprint and massing. The design of the new addition integrates components for daylighting, natural ventilation and managing heat gain.

The project is focused on extreme energy conservation and the end goal of Net Zero was a priority in every decision. The building makes use of local materials when possible, including extensive use of CLT as well as flooring that integrates recycled tires. The use of wood product throughout the building adds a natural warmth and beauty to the highly functional, technologically advanced and ergonomic trades learning environment.

The three-year $35-million project is one of the most ambitious ever in the college's more than 50-year history. Funding included a $28-million investment by the provincial government and $7 million raised through a fundraising campaign.

ARCHITECTS
David Nairne + Associates
Vancouver, BC
Diamond Schmitt Architects
Vancouver, BC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

TIMBER SUPPLIER
Structurlam
Penticton, BC

GENERAL CONTRACTOR
PCL West Coast Constructors Inc.
Richmond, BC

PHOTOGRAPHY
Ed White Photographics
Vancouver, BC

Western Red Cedar

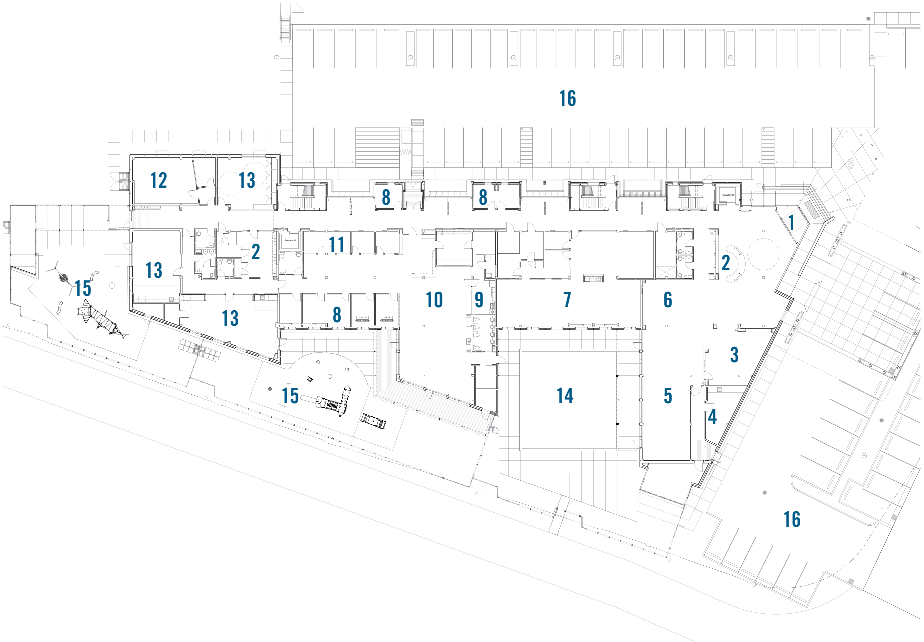
Wood creates a nurturing place for
people living with Autism Spectrum Disorder

GoodLife Fitness Family Autism Hub

Located in Richmond, BC, the GoodLife Fitness Family Autism Hub is designed to address the challenges faced by those living with Autism Spectrum Disorder (ASD). It is a provincial knowledge center that incorporates state-of- the-art resources for research, education, treatment and support for ASD individuals and their families.

There are few precedents and very little research on the effects of the built environment on people living with ASD. Early design research and consultation with autism experts stressed that the building should be warm, approachable and inviting. The primary goal was to develop a nurturing and supportive environment; the need to minimize stimuli was a constant theme in the literature and research.

In addition to social sustainability, the Hub is committed to reducing the building's impact on the physical environment. The design team embraced the province's Wood First Act, a decision that informed every aspect of the design, from principal structure to cladding and interior finishes. To meet the building's program requirements, a three-story post-and-beam glulam structure was developed. This structure is expressed throughout the building wherever possible and contributes to a warm, inviting environment. An economical and versatile hybrid system of TJI joists and engineered wood products helps minimize cost.

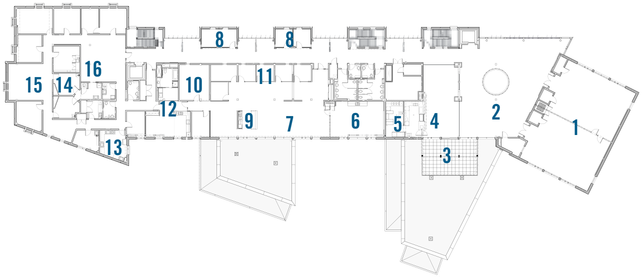


1. entry
2. reception
3. gift shop
4. workroom
5. resource center
6. library
7. PAFN information center
8. meeting rooms
9. kitchen
10. pre-school space
11. consultant meeting rooms
12. music room
13. therapy rooms
14. family courtyard
15. outdoor play area
16. parking

FIRST FLOOR PLAN

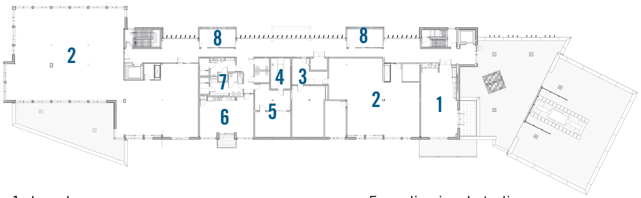
The main three-story mass of the building is oriented in a north-south direction, with subsidiary massing oriented east-west to create courtyards facing the adjacent Fraser River. This linear concept allowed the program components on all three floors to be accessible from fully glazed corridors that run along the west side of the building. The corridors provide both daylight and views, as well as an acoustic buffer from the traffic noise along a nearby busy roadway. Spaces along the corridors offer a variety of seating areas, play spaces and calming spaces. Playful elements of color and texture animate the space. The exposed NLT floor structure along the corridor helps define this main circulation spine.

All materials were selected for their durability, functionality, aesthetics and low environmental footprint. With a high priority placed on locally sourced materials containing recycled content, wood was an obvious choice.



1. multi-purpose auditorium
2. auditorium lobby
3. covered patio
4. cafe
5. servery
6. life span classroom
7. life span social center
8. meeting rooms
9. kitchenette
10. digital room
11. consultant meeting rooms
12. life skills suite
13. laboratory
14. dental room
15. research/clinical assessment area
16. reception/nurse

SECOND FLOOR PLAN



1. boardroom
2. general office
3. copier/work room
4. server room
5. audio visual studio
6. staff room
7. staff lockers
8. meeting rooms

THIRD FLOOR PLAN

The exterior materials are primarily stained cedar siding and metal panels. These materials are used, alone and in combination, to express program components and reduce the apparent scale of the massing. The western red cedar is finished with a clear sealer to maintain the natural warmth of the wood and provide visual richness. The security fences and bicycle enclosures are also constructed of western red cedar.

Beyond the expressed wood structure, interior finishes include linear wood ceilings, wood acoustic wall panels, and extensive millwork. These are all designed and detailed to create a modern, expressive architecture and a nurturing place for people living with ASD.

CLIENT
Pacific Autism Family Centre Foundation
Vancouver, BC

ARCHITECT
NSDA Architects
Vancouver, BC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

GENERAL CONTRACTOR
Ventana Construction Corp.
Burnaby, BC

PHOTOGRAPHY
Derek Lepper Photography
Vancouver, BC

International Wood Design

An innovative roof design highlights the environmental message of this expo pavilion

Timber Structure Enterprise Pavilion, Jiangsu Horticultural Expo

A star attraction at the ninth Jiangsu Horticultural Expo in China's Suzhou City, the 46,000-sq.ft. Timber Structure Enterprise Pavilion draws inspiration from the cultural characteristics of that region of China – particularly its many fishing nets and awning boats – as well as the natural surroundings.

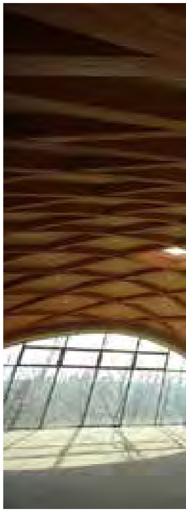
Consisting of a main exhibition hall and other halls devoted to such themes as technology, culture and the environment, the pavilion also draws inspiration from these themes while also expressing architectural variety underneath the project's parametric design.

The most striking feature of the project is arguably the roof, a multi-curved shell structure consisting of glued timber beams constructed and positioned according to the roof curve. The conversion of the arch-shell structure to a beam-column structure forms a funnel-shaped roof, allowing for rainwater collection and reuse via water-collecting pipes in the funnel. Passive features such as natural ventilation, natural daylighting and external shading were also used to reduce costs and energy consumption during the time of the building's operation.

ARCHITECT
Archi-Union Architects
Shanghai, China

STRUCTURAL ENGINEER
Jiangsu Top Architectural Design
Nanjing, China

GENERAL CONTRACTOR
Suzhou Crownhomes
Suzhou, China






Prefabricated Structural Wood Award

DLT manufacturer showcases wood's industrial style

Abbotsford Industrial Shop and Office

To house the manufacturing operations of its new Dowel Laminated Timber (DLT) product, and to efficiently facilitate the realization of the creative timber designs they are known for, StructureCraft sought to design a new cost-effective, aesthetically attractive facility which would fairly reflect the philosophy of the company in both the choice of materials and the construction techniques. The building is a showcase for a new way to construct industrial buildings, using wood as the primary material.

The just-completed 51,500-sq.ft facility is located one hour east of Vancouver, on a perch of land with views to the lush Fraser Valley and mountains beyond, a location reminiscent of the central European "holzbau" industries it draws inspiration from. The building is all wood, including supports for the four large cranes facilitating production.

The main workshop is a 45,000-sq.ft. manufacturing and fabrication building – 324 feet long, split into two 60-ft. bays. The north bay services fabrication of the ongoing project-based work consisting of a great variety of beams, trusses, and panels; the south bay is dedicated to the new DLT line which houses the latest in European equipment, including the world's largest and fastest dowel-pressing machine.

Wrapped around the southeastern corner of the shop is a two-story expandable office structure, also in exposed timber, in which engineering, 3D BIM, and project management is carried out for projects spanning North America and Asia.

For the shop component, the key design goal was efficiency, both in use of materials and speed of construction on-site. Thirty-foot-tall tilt-up timber structural wall panels resting on 2'-6" high concrete curb walls form the exterior of the building, with no need for additional crane columns. Insulation batts inside the plywood skinned LSL stud wall panels create an R60 insulated wall. Point loads from both roof and eccentric crane beam brackets are sustained using built-up studs within the wall cavity.

Also novel were the 63-ft. roof panels, made of slender Douglas fir glulam beams along both panel edges. The beams were ordered from the supplier with strategically placed steps in the top surface, creating inverted "belly-beams", deeper (for structural efficiency) in the center of the span, while also naturally creating slopes to drain. Douglas fir roof joists (2 x 12) were custom-notched to rest on the stepped beams so that the plywood-sheathed curve was completely smooth. With utilization of these panels in both north and south bays, the result is a slight "gull-wing" shaping of the roof, and a very economical design.

The 74 wall panels and 54 roof panels that make up the shop were prefabricated during the winter for a spring erection. The entire shop was erected in five days.

This industrial hall is a very large building. To free up space, the structure is without cross-bracing for its entire length. Its location in a high seismic zone demanded special attention to achieve this open design, namely careful detailing of the plywood shear walls and diaphragm, including heavy chord straps along the north and south edges of the roof.

The office component was also prefabricated. This area has exposed spruce glulam and NLT (nail-laminated timber) panels and unexposed stud and plywood wall panels that were brought together and analyzed first in 3D. This office was designed to showcase the DLT product that would be manufactured inside the new plant, but the floor and roof panels, as well as the feature wall panels, were nailed together because the DLT machine was not yet in place! These panels still demonstrate clearly some of the advantages of the DLT product, in that profiles were machined into the surface of the boards, giving it a quality that cannot be achieved using regular NLT. Further, the second floor and roof are formed of panels with machined recesses filled with fibrous material, hidden and very effective for noise absorption. NRC coefficients of up to 0.8 can be achieved using this technique. Already early in its use, the benefits are being clearly noticed; it is a very quiet office.

Unique in North America, but common for centuries in Europe, this building displays a very simple but effective cladding and rain screen system. Spaced horizontal Douglas fir 2 x 6 boards shaped to repel water are stood off from the membrane-clad plywood with vertical cleats, so that almost all the water is shed, and the wood members can breathe. In this way, the bare wood screen can be durable for many years. To speed up the cladding installation, prefabricated panels were created ahead of time, with "planned random" staggering of the joints. This allows the cladding system to be easily replaced as required in the future.

The new plant was designed to explore what could be possible using wood for a simple industrial building with a tight budget. That exploration, while not simple during the design phase, has created a prototype which proves that modern industrial buildings may be created cost-effectively, and attractively, using wood.

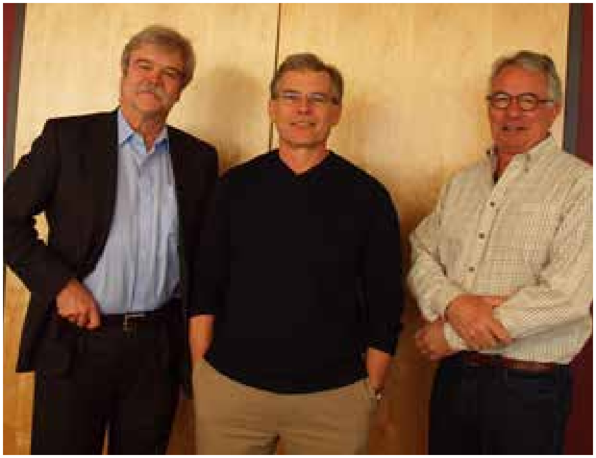
ARCHITECT
Keystone Architecture
Abbotsford, BC

STRUCTURAL ENGINEER
StructureCraft Builders
Delta, BC

GENERAL CONTRACTOR
StructureCraft Builders
Delta, BC

PHOTOGRAPHY
Moses Mehraban
Toronto, ON

Jurors



From left to right:

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Technical Partner
SOM
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DUANE PALIBRODA, P.ENG., STRUCT. ENG., F.I.STRUCT.E., LEED AP
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PETER BUSBY, C.M., INTERNATIONAL ASSOC. AIA, FRAIC, ARCHITECT AIBC, ARCHITECT AAA, MOAA, BCID, LEED FELLOW, DSC (HON.)
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PERKINS+WILL
www.ca.perkinswill.com

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ISL Engineering and Land Services

AWARD SPONSORS

AFPA

Canadian Wood Council
Conseil canadien du bois

FPInnovations

STRUCTURLAM
Intelligence In Wood

West Fraser

western archrib
structural wood systems

RECOGNITION SPONSORS

MILLAR WESTERN

CANFOR

SANSIN

PrecisionCoat
FACTORY FINISH

CONTRIBUTOR SPONSOR

Vanderwell

PRAIRIE

Technology and trades students benefit from new wood facility

Technology and Trades Renewal and Innovation Project

1. entrance vestibule
2. spine
3. terrace seating
4. atrium
5. classroom
6. CBAT
7. electrical lab
8. support shop
9. wind turbine shop
10. engine shop
11. automotive shop
12. heavy equipment shop

GROUND FLOOR PLAN

Designed as an instructional tool for both teachers and students, Lethbridge College's Technology and Trades Renewal and Innovation Project (TTRIP) showcases different building systems, using the wood structural systems within the main public spaces to demonstrate how each wood structure can support itself and be aesthetically pleasing, while at the same time integrate easily with adjacent steel and concrete systems.

Wood veneer acoustic panels are used to accentuate the warmth and beauty of the wood structures. At different spots throughout the building, steel structural elements adjacent to the wood structure are left exposed to demonstrate the fire-proofing requirements of the steel that are not required for wood. The design team chose CLT decking to demonstrate the spans achievable between major structural beams without intermediate structural elements. The cigar-shaped glulam columns where chosen to demonstrate how easily wood structural elements can be shaped to an aesthetically pleasing form while being structurally efficient. Douglas fir is used for the wood veneer, for the millwork and acoustic wall panels to provide a similar appearance to the Douglas fir comprising the CLT deck and glulam beams and columns.

The new building program includes classroom workshops for instructing trades in Interior Design, Drafting, Fluid Dynamics and Electrical Technology. The building also houses shop facilities that provide for heavy equipment, automotive, wind turbine, and welding technologies and high-head workshops devoted to research and a virtual welding facility. In addition to the increase in shop space, the state-of-the-art academic facility also provides technologically equipped classrooms of various sizes, administration areas, student study spaces and 60 new faculty offices. A double-height atrium provides large views to the exterior and brings natural light to study spaces.

With the footprint of two football fields, TTRIP is one of the largest buildings in Lethbridge, AB. Lethbridge College set out a Net Zero objective for the new facility, with the goal of maintaining energy costs at no more than the previous, much smaller facility it replaced. The building's shape references both local landforms while also optimizing daylight principles, building envelope performance and mechanical-electrical system integration.

As a whole, the facility fosters interdisciplinary innovation among students, instructors and industry partners, a key theme of the college's academic vision.

1. foyer
2. reception
3. learning commons
4. offices
5. meeting room
6. classroom
7. interior design studio
8. manual drafting
9. welding mezzanine
10. mechanical

SECOND FLOOR PLAN

CLIENT
Lethbridge College
Lethbridge, AB

ARCHITECTS
Diamond Schmitt Architects
Toronto, ON

Sahuri + Partners Architecture Inc.
Calgary, AB

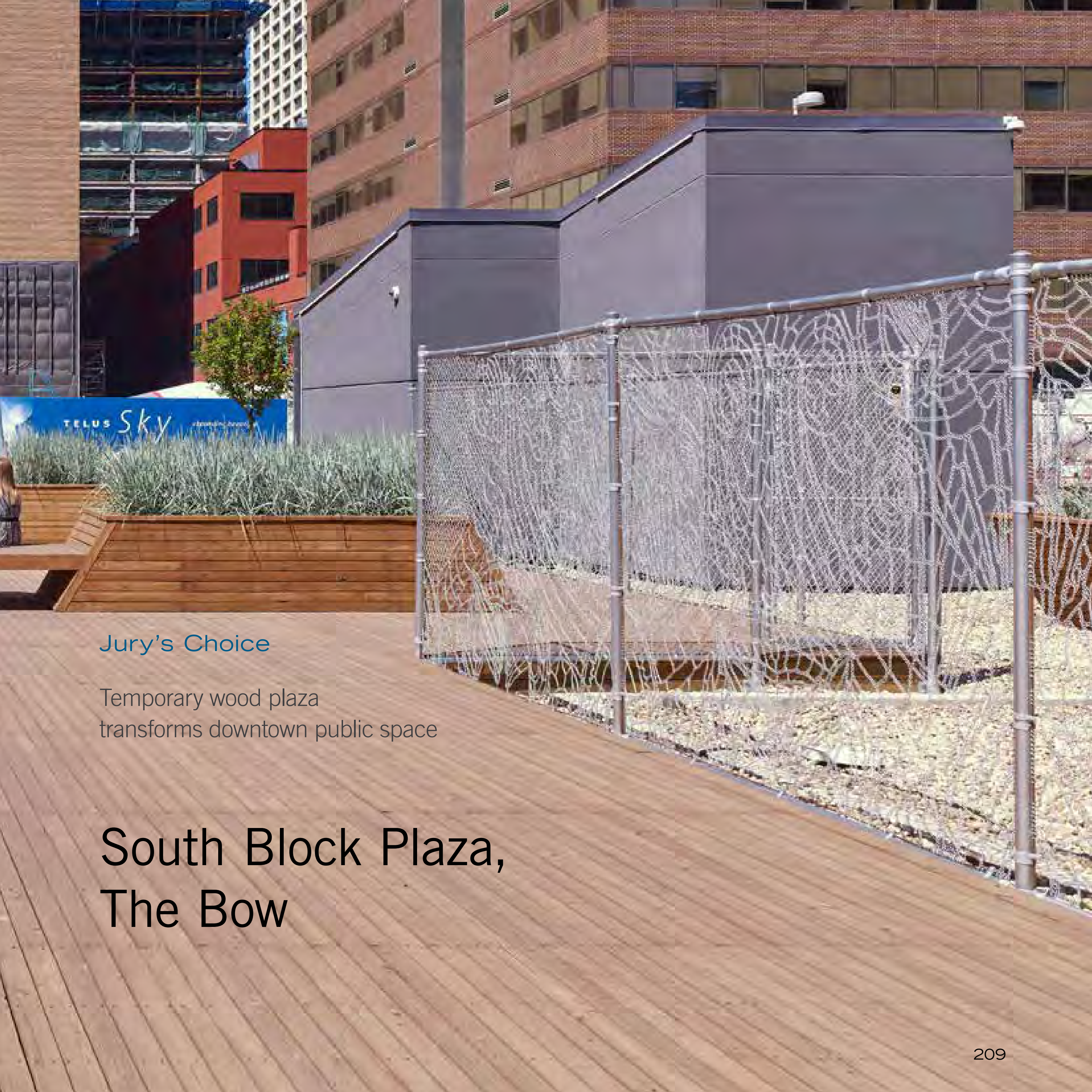
STRUCTURAL ENGINEER
Entuitive
Toronto, ON

GENERAL CONTRACTOR
Stuart Olson
Calgary, AB

TIMBER SUPPLIER
Structurlam Mass Timber Corporation
Penticton, BC

PHOTOGRAPHY
Tom Arban Photography
Toronto, ON


PROFESSIONAL 40
EXCAVATORS
TELUS
westbank



Jury's Choice

Temporary wood plaza
transforms downtown public space

South Block Plaza, The Bow

South Block Plaza is a temporary public space located south of Calgary's Bow Tower. The design concept is entirely open to the exterior environment and consists of various elements that relate to the functional requirements of the parkade below. The intention is to use elements that are clearly temporary or recyclable, as opposed to building a permanent installation, for a space meant to provide a place of rest, public gathering, education, and shelter from the physical environment.

Assembled primarily of wood, the plaza is made up of a large raised deck with numerous locally manufactured benches, along with an equal number of planters for trees and grasses. Heritage interpretation panels detail the history of the site and the historic York Hotel, which will be re-installed onsite as part of the future development.


DELTA
THE

At the southeast corner, a large canopy shelters the primary entrance to elevators that access the underground parkade. The use of cross-laminated timber (CLT) for the canopy will set a new precedent in Calgary for material use, construction and sustainability in the public realm.

Decorative patterning developed from the frieze of the historic York Hotel is recaptured as the motif for fencing, referencing the past location of the building as well as hinting at its future as part of the new development.

Instead of a continuous repetitive pattern, the frieze is abstracted by enlarging the details to show the complexity of the pattern, drawing visitors around the fence as the pattern dissolves and resolves.

The lighting strategy enhances the design, with under-lighting allowing the benches to appear as though they are floating, while the heritage panels beckon visitors from numerous blocks away. Through these efforts, the plaza becomes a destination in all seasons, day and night.

CLIENT
Matthews Development (Alberta) Ltd.
Calgary, AB

ARCHITECT
Sturgess Architecture
Calgary, AB

STRUCTURAL ENGINEER
Entuitive
Calgary, AB

GENERAL CONTRACTOR
Matthews Development (Alberta) Ltd.
Calgary, AB

TIMBER SUPPLIER
Structurlam Mass Timber Corporation
Penticton, BC

PHOTOGRAPHY
Lemermeyer Photography Inc.
Calgary, AB

Interior Wood Design Showcase

Wood reflects health-conscious ideology of chiropractic clinic

Maples Chiropractic

Maples Chiropractic is a busy clinic that decided to relocate to an existing one-story strip mall in Winnipeg's suburban Maples neighborhood. The design-conscious client wanted to refine the aesthetic experience of the medical clinic – a place often seen as cold and sterile – so that the space reflected the holistic, health-conscious ideology of the practice.

The project's limited square footage (2,900 sq.ft.) is maximized through the introduction of a central spine rendered in standard, dimensional lumber that was doweled and glued together on site. The ends of the lumber are left exposed to best present the natural beauty of the material. This use of raw spruce reinforces the main ideology of the clinic, establishing an organic, soothing tone throughout the space.





YOUR HEALTH IS OUR CRAFT

The spruce spine spans the length of the clinic and facilitates the circulation of clients as they progress through different stages of treatment, beginning with the entry vestibule and intake area, and concluding with the follow-up booking area. The treatment rooms are organized along one side of the spine, with reception and adjustments along the other. A staff room and utility functions are housed at the back of the space.

Throughout the clinic, the modern material palette creates a simple and calming effect. While white walls and glass make the best use of limited incoming daylight, the presence of wood lends warmth and comfort, showcasing the beauty of wood in its most rudimentary form.

CLIENT
Maples Chiropractic
Winnipeg, MB

ARCHITECT
5468796 Architecture
Winnipeg, MB

STRUCTURAL ENGINEER
Hanuschak Consultants Inc.
Winnipeg, MB

GENERAL CONTRACTOR
Davis Loeppky Projects
Winnipeg, MB

TIMBER SUPPLIER
WM Dyck and Sons
Niverville, MB

PHOTOGRAPHY
5468796 Architecture
Winnipeg, MB

Recreational Wood Design

Bustling community hub
emphasizes inclusion and connection

Remington YMCA

The Remington YMCA is among the newest wellness facilities in western Canada, serving Calgary and the surrounding area as a center for health, wellness and community spirit. A bustling hub in a new urban community, the facility features leisure and competition pools, a gymnasium, running track, fitness area, daycare, and public library.

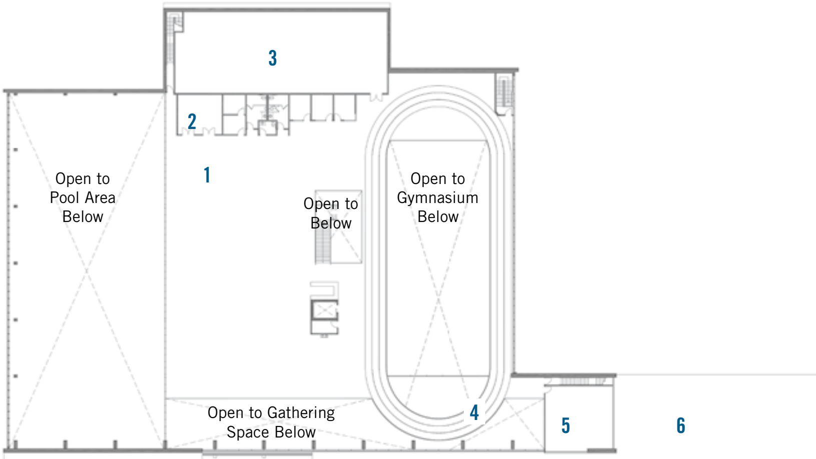
While the building's expansive glazing and open spaces invoke a sense of connection, the structure itself creates an iconic entrance to Quarry Park, a re-imagined inner-city neighborhood based on New Urbanist principles. This makes it the primary civic space in the neighborhood, providing formal indoor and outdoor gathering areas and civic amenities.

The use of wood is integral to the architectural concept for the building. The design of the Remington YMCA comes from a desire to integrate the diverse uses of the building under a single wood roof. By allowing visual and physical connections between spaces, users feel they are part of a larger group, creating a sense of community. Wood helps create a warm

and welcoming environment for a community building, inviting people to drop in and spend time there. Sports facilities tend to be hard, purposeful designs due to the prescriptive requirements of sports; using wood for the structure introduces a natural, warm material into the building that is integral to the design.

1. 25m lap pool
2. hot tub
3. leisure pool
4. entry
5. library
6. preschool room
7. toddler room
8. baby room
9. multi-purpose room
10. community gathering space
11. gymnasium
12. studio
13. women's plus changeroom
14. men's plus changeroom
15. universal changeroom

GROUND FLOOR PLAN



1. fitness area
2. equipment room
3. mechanical room
4. running track
5. east mechanical room
6. rooftop

SECOND FLOOR PLAN

Beyond its aesthetic qualities, wood structures have two quantifiable advantages: they can be an economical solution for long span structures over the gymnasium and swimming pool, and wood's natural preservative properties make it useful in humid pool environments. The Remington YMCA uses king post trusses over the pool and gymnasium. The connections are designed to express the forces through the trusses, such as using oversized pins at the ends of the tension rods.

The west wall of the pool was particularly important to the architectural expression. Making this wall as transparent as possible so that the pool is visible to the community reinforces the civic role of the building and its architectural role in terminating the linear park through Quarry Park. The height of the wall meant the curtain wall would require external support. This support is provided by narrow but deep glulam girts spanning from the floor to the roof. The aluminum glazing system is fastened directly to the glulam, with minimal back bodies and no horizontal mullions. This makes it appear as if the glass spans cleanly between wood members without the visual clutter that typically makes up glazing assemblies.

The design of Remington YMCA creates a welcoming community hub where all activities can be experienced under one wood roof – resulting in an intelligent, inclusive response to an evolving environment shaped by the people it serves.

CLIENT

YMCA Calgary
Calgary, AB

ARCHITECT

GEC Architecture
Calgary, AB

STRUCTURAL ENGINEERS

Read Jones Christoffersen Ltd.
Toronto, ON

Arup
Toronto, ON

GENERAL CONTRACTOR

Bird Construction
Mississauga, ON

TIMBER SUPPLIER

Western Archrib
Edmonton, AB

PHOTOGRAPHY

dsTroyer Photography
Calgary, AB


ONE
WAY

Multi-use facility reflects the geography that defines Alberta mountain town

Elevation Place

Elevation Place, a multi-use facility in Canmore, AB, is designed to reflect the unique character and quality of this idyllic mountain town. Through the organization of spaces, the form of the building and the layering of materiality, Elevation Place speaks to the geographic context, urban fabric and psyche of Canmore.

The building sits on a knife blade-shaped site that forms the eastern gateway entrance to the town center. At the prow of this point is the dramatic end of the pool, with large rundle stone walls and exposed wood structure announcing the town's personality. Along Railway Avenue, the serrated facade breaks down the mass of this large recreation facility. Facing south, the entrance plaza forms a welcoming social space for sporting events. Set back from the street, the forecourt events plaza radiates to receive Canmore's Main Street and is cradled by the building mass, much like Canmore's surrounding mountain ranges frame the town.

The organization of spaces within the building reflects the experience of living in the Rocky Mountains. At the entrance is a large gathering space with dramatic three-story climbing walls. The interior is organized by a series of local rundle stone walls that appear to emerge from the bedrock and peel away in lapping layers, progressively revealing more intimate program spaces while focusing views on the Three Sisters mountain range to the south. Housing a library, community art gallery, climbing center, aquatic center and multi-purpose rooms, the building balances the desire to see and be seen.

The structure and materiality of the facility are inspired by the rugged geography. Glulam timbers resting on rundle stone piers help reinforce the imagery of the rugged landscape and treeline that emerges from the mountain rock. The glulam structure is detailed differently depending on its location within the facility. In the atrium and climbing center, column and beams are simple connections that use a wood spline to connect the lower roof to the column; in the pool space, the glulams span the width and accommodate the duct penetrations to maximize the clear height in the pool; in the library, the columns sit lower in a split "V" form supporting two separate beams.

The building massing is a series of sweeping forms that give the building a dynamic and kinetic quality. Together, the form, structure and planning of the facility attempt to create a way of life in Canmore that is unique and tied intrinsically to its unique mountain place.

ARCHITECT
Gibbs Gage Architects
Calgary, AB

STRUCTURAL ENGINEER
ISL Engineering and Land Services Ltd.
Canmore, AB

GENERAL CONTRACTOR
Graham Construction
Calgary, AB

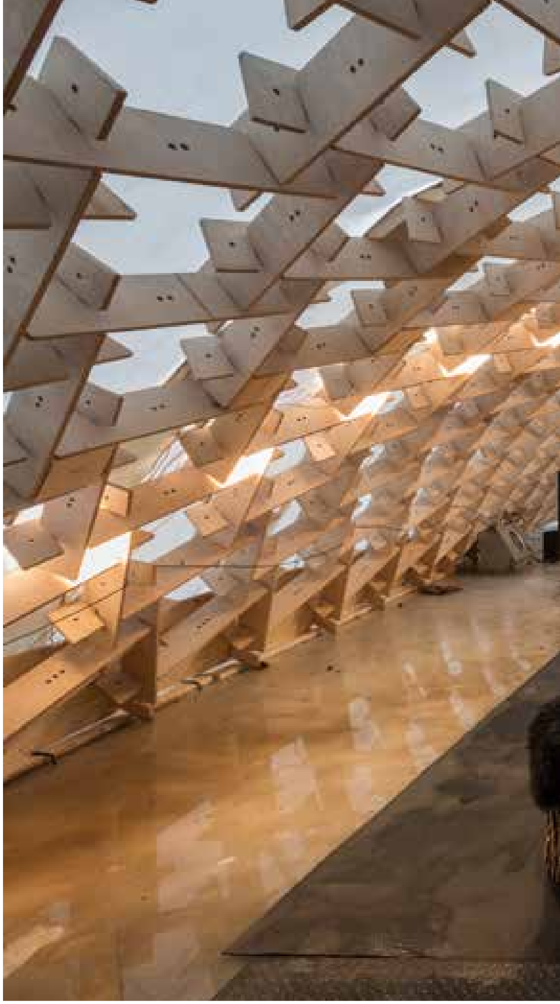
TIMBER SUPPLIER
Structurlam Mass Timber Corporation
Penticton, BC

PHOTOGRAPHY
Gibbs Gage Architects
Calgary, AB


elevation
place

A unique dining experience on the frozen shores of Manitoba's waterways uses the natural warmth of wood to offset its icy interior

Raw Pop-up Restaurants



Raw: Almond – Winnipeg, MB

Raw: Almond is a temporary fine dining experience unlike any other. Situated on frozen river ice at the junction of the historic Red and Assiniboine rivers, the temporary structure houses world-renowned chefs and their patrons for 21 days of dining during the coldest month in Winnipeg. As an ongoing experiment that attempts to show temporary architecture need not be wasteful or extravagant, Raw: Almond is also about embracing the specific geography of the city and the unique challenges posed by its climate.

A restaurant constructed directly on river ice has always been an exploration of what can be done with food and design, with recent years exploring the capabilities of small-scale, modular wood components. A single CNC-cut Baltic birch plywood profile duplicated and woven en masse, friction fit and arranged into a reciprocal frame vault structure met the three main design objectives set out by the design team: make something unique and inviting, make something environmentally responsible, and for goodness sake make sure it's easy to build in p-40 C weather.

Erected in 10 days, the plywood reciprocal frame vault constructed relatively free of additional fasteners enables all these design criteria. All lighting and finishes are minimal and

designed to emphasize the structural system. As it lasts only six weeks, a great deal of planning is placed on assembly/disassembly and quality of space.

Only viewable from the interior, the natural warmth of the wood and its quilt-like grid layout patterning instantly welcomes guests, acting in contrast to the unimposing snowdrift exterior. The strength-to-weight ratio of the Baltic birch plywood, along with constant replication of the same modular component, limited manufacturing waste and maximized plywood panel usage. The inherent assembly sequence of the modular components lifts itself into form in an afternoon (as if being inflated or emerging from the ice itself), with all work done by hand without power tools or machinery.

Research for building a commercial restaurant on ice included reviewing ice road construction documentation as well as Cold War research on airplane runway construction. Finite element model analysis of various reciprocal frames was also completed, with individual plywood modules optimized through the design process. Real-world testing of the modules during the operation of the restaurant is inherently valuable; however, third-party testing of the modules is planned for further development of the concept.

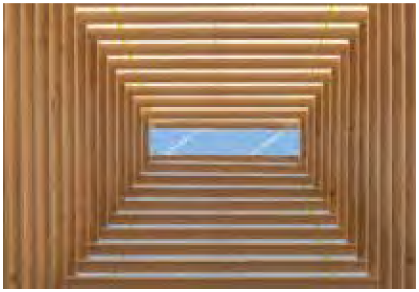
Raw: Almond – along with offshoot projects in Churchill and Gimli – tries its best to capture some small sliver of the indomitable pioneering spirit of the First Nations people and immigrants who survived so many difficult prairie winters. Wood is the only reasonable material that suits this spirit, with the Raw: Almond structure allowing guests to experience wood's inherent qualities of natural beauty, strength, and social responsibility in a whole new setting. Ever evolving, Raw: Almond has been embraced as an iconic symbol of this dynamic city and its winter culture.

Raw: Gimli – Gimli, MB

Operating during the Winter 2018 season, Raw: Gimli is an intimate temporary restaurant space designed for the frozen surface of Lake Winnipeg off Gimli, MB. The project is a collaborative effort that builds on Raw: Almond's successful lineage of annual temporary restaurants at the Forks site in Winnipeg and Manitoba's northern Churchill community.

Raw: Gimli is constructed from stacked dimensional SPF lumber from a local supplier and compressed in place using ratchet strapping to form a rigid structure moored to the ice. Free of traditional mechanical fasteners, its material components were disassembled in returned to the supplier at the end of the restaurant's program.

Using readily available and affordable materials, the project uses the reliable conventions of the dimensional lumber that makes up so much of our local architectural vernacular in a surprising and somewhat unconventional way. By returning 90 per cent of its material mass to circulation in the local building trade, Raw: Gimli minimizes its environmental impact and points towards alternative methods for using our local resources sustainably and creatively.



DESIGN TEAM
Joe Kalturnyk, Chad Connery, Jon Reid
Winnipeg, MB

STRUCTURAL ENGINEER
Wolfrom Engineering
Winnipeg, MB

GENERAL CONTRACTOR
0812 Building Solutions Inc.
Winnipeg, MB

PHOTOGRAPHY
Lindsay Reid
Winnipeg, MB

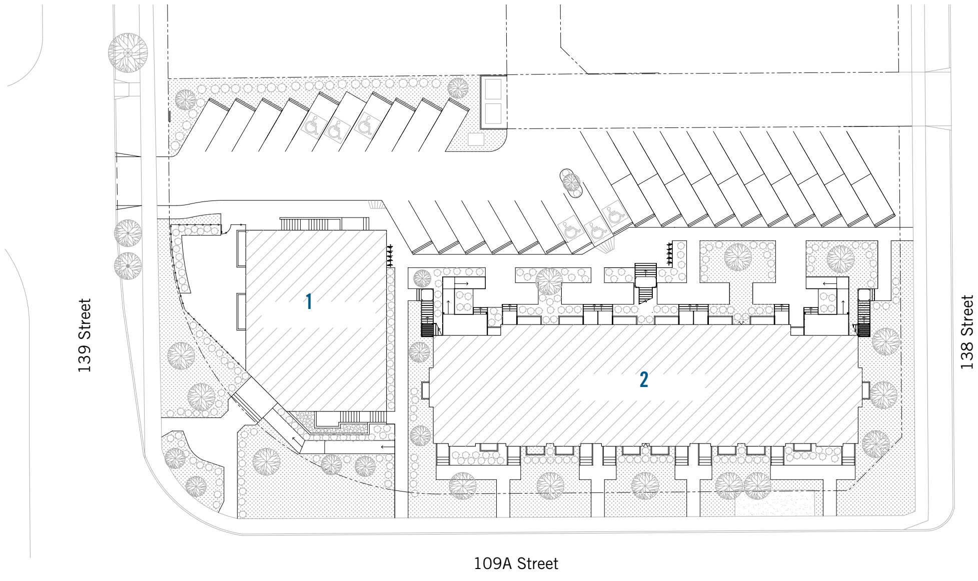
Special Industry Residential

When a housing project pairs energy efficiency with social responsibility, the results can be heavenly

Right at Home Housing and Westmount Presbyterian Church

Located in a mature residential neighborhood in Alberta's capital, the building housing the Westmount Presbyterian Church presented a problem to its congregation. After more than a half-century of service, the aging structure required significant upgrades – more than the current congregation could afford – and so it looked for partnership opportunities that would benefit both the church and the surrounding community. Enter the Right at Home Housing Society, which came in to replace the church building and residence with a much smaller church and daycare center next to 16 three- and five-bedroom townhouse units for low-income families.

As a nod to the church's history, the project re-used the existing 50-year-old glulam arches and wood deck from the church interior for the new church's interior, front doors and various wood details. But just as important as looking to the past was designing for the future; specifically, a net-zero energy model was chosen to ensure sustainability and assure future affordability for low-income residents. Wood was the obvious choice to support this goal, with a 12-in. thick heavily insulated exterior wood wall with minimal thermal bridging helping to achieve the net-zero model.



1. church and daycare center

2. 16 unit townhouse complex

SITE PLAN

The project also has heavy timber construction to support the exterior concrete slab balconies and exterior stair structures. This was chosen for a beautiful natural design look and for structural support, as well as achieving the required fire ratings. The project has a geothermal system installed with heat pumps and a heat recovery system, a photovoltaic solar panel system was installed on both the church/daycare and townhouse complex, and there are no gas appliances or gas heating systems installed in either of the buildings.

With the extreme heat and cold temperatures that are typical of Edmonton's climate, wood construction with double the industry standard of insulation of most buildings was chosen to future ensure net-zero energy efficiency, supporting lower energy costs for a low-income housing model. Even the smallest details, like large windows and window wells for the church basement to allow natural light into the daycare space, were carefully designed for energy efficiency.

Perhaps just as important (or even more so) as the project's impact on the environment is its impact on the surrounding neighborhood. Having seen many changes over the years resulting in a population of many age ranges and family types, the area's existing school was in danger of closing due to decreased enrolment. With projects like this bringing in more young families, the community was excited for the chance to increase neighborhood density and ensure the viability of its school and community center.

PARTNERS
Westmount Presbyterian Church
Right at Home Housing Society
Edmonton, AB

ARCHITECT
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Edmonton, AB

STRUCTURAL ENGINEER
Andy Smith Engineering
Red Deer, AB

GENERAL CONTRACTOR
Habitat Studio Ltd.
Edmonton, AB

TIMBER SUPPLIERS
Mission Building Supplies Ltd.
Edmonton, AB

Westek Truss Systems Ltd.
Edmonton, AB

PHOTOGRAPHY
Temofychuck Gerbitz Architects Ltd.
Edmonton, AB

Habitat Studio Ltd.
Edmonton, AB

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TYE FARROW, FRAIC, B.ARCH., M. ARCH. (UD), LEED AP, OAA, MAIBC, AIA ASSOC.
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RICHARD LYALL, M.A., CAE
President
RESIDENTIAL CONSTRUCTION COUNCIL OF ONTARIO (RESCON)
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Ontario Structural Wood Association

Ontario

resolute

tembec

Timber Systems

PROGRAM AND CONTRIBUTOR SPONSORS

ELEMENT5

FORESTS ONTARIO

MORRISON HERSHFIELD

twg* COMMUNICATIONS

ONTARIO

Ontario Wood Design Award

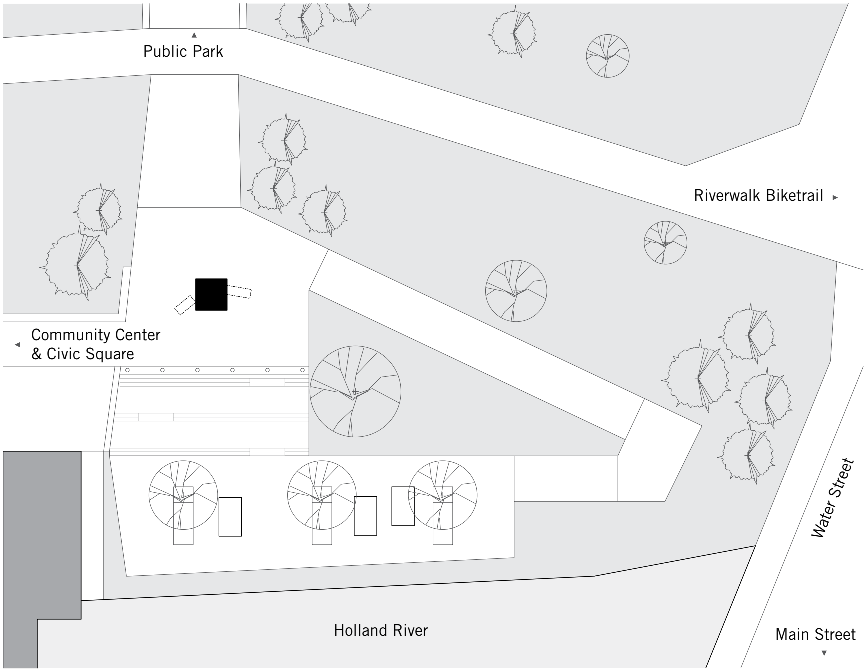
Wooden library pod becomes engaging public hub

The Story Pod

The Story Pod is a community-supported, net-zero lending library situated in Newmarket, Ontario's historic downtown core. Placed on the edge of a recently completed civic square, the wooden pod continues the municipality's plan to use contemporary eco-friendly design as a means of creating a lively, innovative public hub.

The Story Pod started with a public-private partnership between the Town of Newmarket and HollisWealth. The team had a desire to build within the public sphere with the intent to foster values of sharing and inclusion, and the idea of a mobile book exchange emerged. Both Scholastic and the Newmarket Public Library were engaged to provide an initial supply of books. HollisWealth provided a donation to construct the pavilion, which was built by a crew of City Operation Services employees within the controlled environment of their Public Works Facility.

The architect was approached by the town with the opportunity to develop the project on a pro bono basis. Based on the essential project guidelines (compactness, transportability, energy efficiency, ease of construction), the Story Pod uses a simple form for maximum capacity and impact. When closed, the abstract, black volume (8 ft. wide x 8 ft. deep x 10 ft. high) acts as an urban marker, drawing curious residents from nearby Main Street and an adjacent walking trail. As users move around the box, the rhythm of its vertical black stained pine slats changes. The tightest spacing articulates opaque walls; the larger gaps, backed by transparent polycarbonate, allow light and views to filter through; and the widest openings showcase the book stacks, drawing curiosity further inward.



SITE PLAN

During the day, two entirely wood clad walls pivot open, encouraging people to come inside or to gather around the front. In this transformative process, the dark wood exterior gives way to a carefully detailed interior clad in warm, marine-grade veneer plywood, containing a full wall of books and various levels of built-in seating. With both walls fully open, the pod extends itself outward beyond its compact footprint, engaging individual visitors to take or leave a book, while also supporting larger gatherings and collective reading sessions. At night, energy-efficient LED lights powered by concealed rooftop solar panels glow through the exterior wooden battens, providing ambience for night markets and community events. The pod is stored off-site during winter months; steel channels recessed into the base accommodate a standard forklift for efficient transportation.

The Story Pod is an unprecedented success for the community in its effect on the citizens, as expressed in stories of gratitude and inspiration conveyed to the mayor and city staff, as well as in local and international press. The project is a strong example of the value of public-private partnerships and the tremendous impact that a small wooden structure can have on an urban scale, strengthening both community and civic relations.

CLIENT
Town of Newmarket
Newmarket, ON

ARCHITECT
Atelier Kastelic Buffey Inc.
Toronto, ON

GENERAL CONTRACTOR
Town of Newmarket Operation Services Employees
Newmarket, ON

PHOTOGRAPHY
Studio Shai Gil
Toronto, ON

Bob Gundu
Toronto, ON

Environmental Building Wood Design

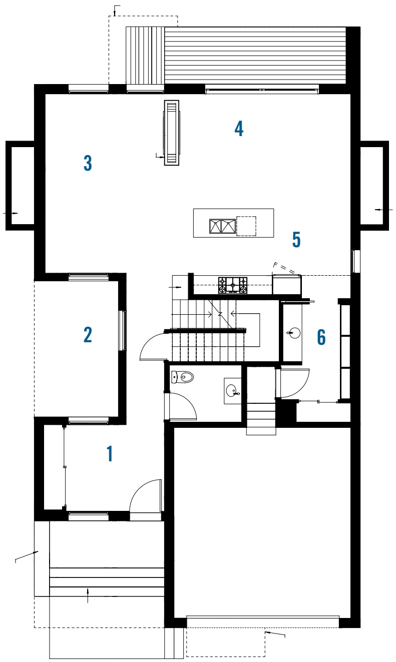
Sustainable, engineered wood products form backbone of modern home

Active House – Centennial Park

Located in the Centennial Park neighborhood of Toronto's west end, Great Gulf's Active House was designed with the three key European Active House principles in mind: comfort, energy and environmental performance. Its clean, modernist aesthetic comes with energy-saving and environmentally conscious features that include interior and exterior LED light systems, low-flow water fixtures, and finishes that are easy to maintain.

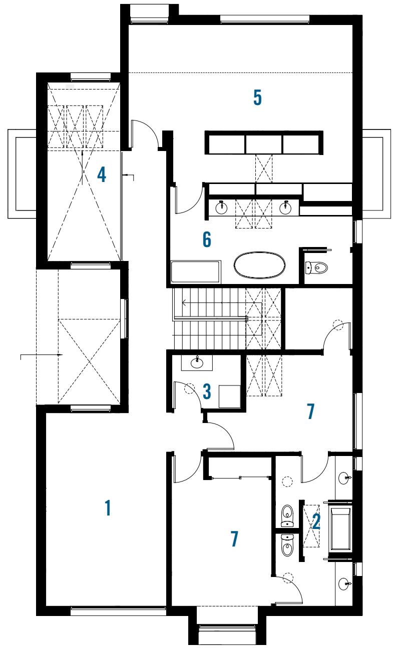
Upon entering Active House Centennial Park, it is immediately apparent that the space was designed to maximize natural daylighting. The C-shaped courtyard with double-height enclosure space brings daylight flooding into the central stair and core area of the house. Skylights and sun tunnels with triple-pane windows also bring light to the home, providing a strong connection to the outdoors and sense of spaciousness as well as exceptional thermal comfort. The double-height space maximizes cross-ventilation and the stack effect to minimize demands on air conditioning.

Great Gulf partnered with Huber Engineered Woods to develop an innovative structural system for the roof and walls. It has an integrated air barrier that streamlines the weatherization process and simplifies the assembly of exterior walls. The Huber Zip Wall System is an integrated, three-ply exterior sheathing material designed to reduce material handling and installation time. Huber AdvenTech floor sheathing was also used for greater strength and durability.



1. entry
2. atrium
3. living room
4. dining room
5. kitchen/dining room
6. mudroom/pantry

GROUND FLOOR PLAN



1. family room
2. shared ensuite
3. laundry
4. open to below
5. master retreat
6. master ensuite
7. bedroom

SECOND FLOOR PLAN

The decision to use engineered wood on this project was an obvious one. Wood's unlimited design potential and ability to capture carbon makes it versatile and more environmentally friendly than other building products. As well, engineered wood products have enhanced load bearing capacities, capable of achieving the taller walls and longer spans needed for open plan, modern designs. Behind the scenes, wood also provides superior thermal comfort over other materials.

Almost 90 per cent of the materials used in Active House Centennial Park have a recycling potential. Based on documentation from Great Gulf regarding sustainable wood products, it has been identified that approximately 80 per cent of the wood products used (by weight) are SFI (Sustainable Forestry Initiative) certified. At a time when homeowners are increasingly aware of their impact on the environment and the need to live more sustainably, Great Gulf's Active House Centennial Park is a home that inspires conversation and exemplifies sustainable living ideals.

ARCHITECT
superkül
Toronto, ON

STRUCTURAL ENGINEER
Quaile Engineering
Newmarket, ON

DEVELOPER
Great Gulf
Toronto, ON

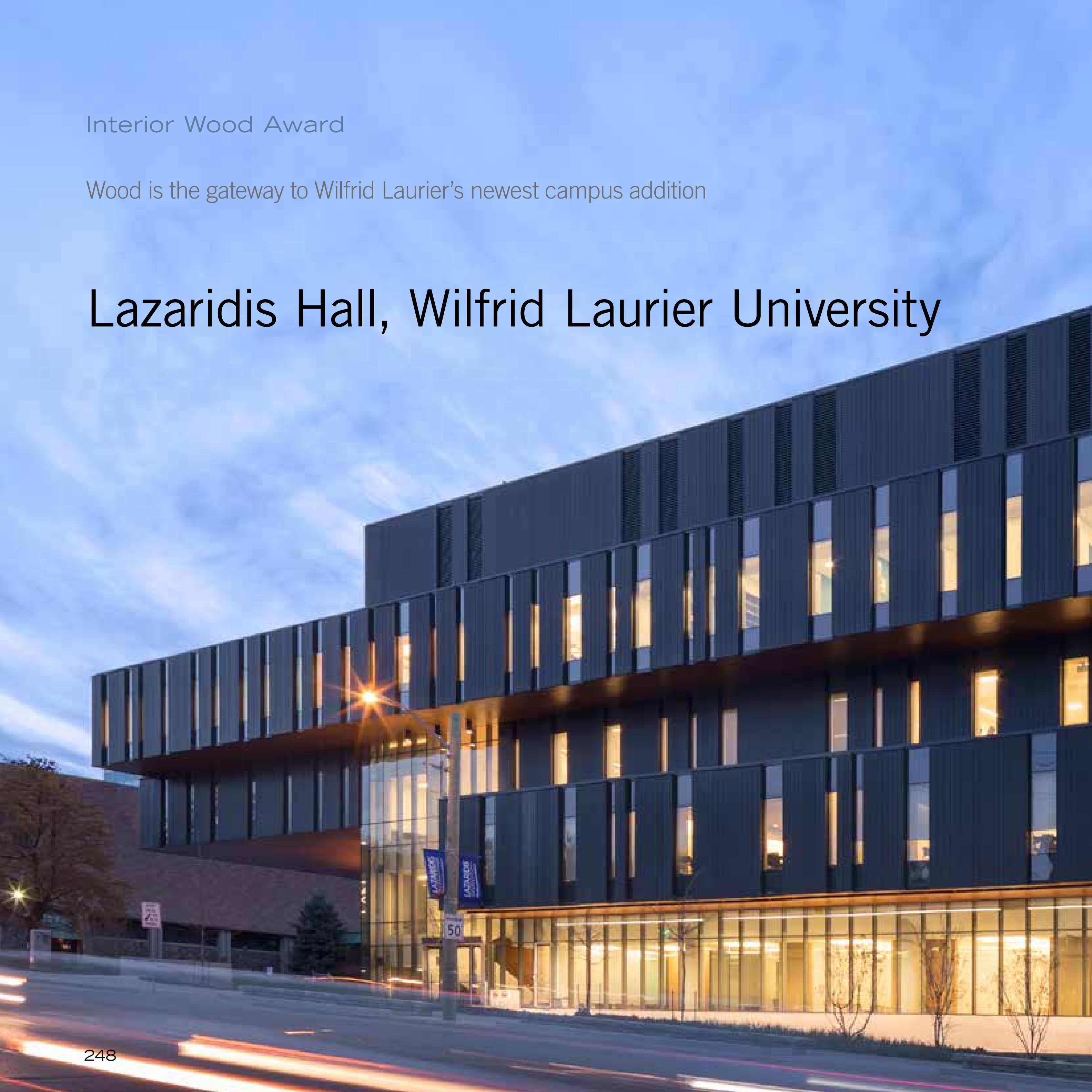
MANUFACTURER
H+ME Technology
Etobicoke, ON

PHOTOGRAPHY
Igor Yu
Toronto, ON

Interior Wood Award

Wood is the gateway to Wilfrid Laurier's newest campus addition

Lazaridis Hall, Wilfrid Laurier University




LAZARIDIS SCHOOL OF BUSINESS & ECONOMICS

ATRIUM SECTION

For the first building to "cross the street" from its main campus, Wilfrid Laurier University wanted to create a landmark and gateway building to house its School of Business and Economics, Department of Mathematics and related programs. Unlike the inward-facing buildings that conceal campus life from view along busy University Avenue, the vision for Lazaridis Hall was to engage the public realm and create a strong sense of connection with the community. The use of wood played a major role in expressing these intended themes.

The building form expresses significant program components, including dramatic cantilevered space above a 1,000-seat elliptical auditorium and a hovering 300-seat lecture hall in a double-stacked drum that appears to float above a glass-encased cafe. Wood veneer phenolic resin panels line all the soffits of the stratified facades and clad the exterior curved walls, with closely matched wood veneer panels providing continuity of wood-lined welcome on the interior curved walls.

The central atrium was designed to accommodate much-needed structured and unstructured student space for the campus community. This wood-lined central gathering space presents a warm, inviting and acoustically attenuated environment where the wood-slatted walls are multi-functional. They conceal extensive acoustic treatment, which allows for both group and individual study. Wood slats also provide degrees of privacy to office windows surrounding the atrium. This bright, interconnected space contributes daylight and visibility within a large floor plate so that virtually all occupied spaces (including the 240 faculty offices) have windows to the exterior, atrium or courtyard.

The elliptical 1,000-seat auditorium is largely wood-lined. Its fan-shaped configuration breaks with tradition, allowing the space to feel intimate despite its size, and has been acoustically engineered to optimize both speech and music. Full-height vertical acoustic wood reflectors line the sidewalls of the auditorium and are shaped to optimize acoustics. The dual-curved wood balcony front is also shaped for optimal sound while simultaneously providing ambient lighting. A perforation pattern in the ply substrate has a thin outer layer of red oak veneer that glows red when backlit and is invisible when the concealed balcony lights are off. The stage is a sprung solid oak floor, above which a suspended wood veneer canopy accommodates stage lights, conceals catwalks and is shaped to provide acoustic reflections. The stage backdrop is comprised of three full-length horizontal wood panel walls. The middle panel can be automatically raised to reveal a full-length projection screen. Hovering high above the orchestra and balcony is an array of suspended ceiling wood dowel lattice panels to disguise catwalks and ductwork.

The elliptical 300-seat lecture hall also has a wood-lined interior. Again, a customized wood slat wall with concealed acoustic insulation envelops the front and sides of the room, providing warmth and intimacy along with appropriate acoustic attenuation.

Custom wood panels are featured in the tiered, horseshoe-shaped 150- and 75-seat classrooms configured to support a variety of teaching modalities, including class work in small groups, by having two rows of seats share each tier. Patterned and perforated acoustic wood panels line the rear walls. These CNC custom-form acoustic partitions were designed with 250,000 circular openings ranging from 4mm diameter to 12mm diameter. In the classrooms, the pattern of this acoustic treatment takes the shape of trees. To fabricate the perforated acoustic panels, the BIM-modelled digital graphic files were submitted to a local millworker for rapid turnaround.

All of the tiered lecture halls are fitted with manufactured fixed beam chairs that swivel 360 degrees. This system was paired with a customized curved millwork top and side panels to provide a robust and versatile product. Millwork packages for all built-in furniture incorporate extensive wood with elements ranging from continuous counters surrounding the atrium to kitchenette millwork and a boardroom table surrounded by wood-lined walls. Wood benches are provided in many locations, including a sculptural wall-mounted bench in the front lobby made of sapelli timber.

All wood incorporated into millwork and doors have Ontario Forestry Stewardship Council (FSC) designation. Adhesives, sealants and sealant primers are low VOC to comply with LEED and are urea formaldehyde resin-free. Lazaridis Hall is positioned to achieve LEED Gold, the 2030 Challenge for fossil fuel reduction and meets AODA Standards for accessibility.

CLIENT
Wilfrid Laurier University
Waterloo, ON

ARCHITECTS
Diamond Schmitt Architects
Toronto, ON

David Thompson Architect Ltd.
Kitchener, ON

STRUCTURAL ENGINEER
VanBoxmeer & Stranges Engineering Ltd.
London, ON

GENERAL CONTRACTOR
Bondfield Construction Company Limited
Concord, ON

PHOTOGRAPHY
Doublespace Photography
Toronto, ON

Tom Arban Photography
Toronto, ON

Residential Wood

Intergenerational home reimagines family living while expressing fine details

House on Ancaster Creek

A wide lot backing onto Ancaster Creek is the site of a beautiful home for a family and their elderly parents. The linear progression of the home presents a series of rooms that fluctuate volumetrically, providing 3,500-sq.ft. of varied living spaces with views of the creek and conservation area beyond.

The house was conceived as two distinct residences, each formed into a linear bar containing the full program of a home. The bars are perpendicular to each other and stack at one corner, creating a landscaped courtyard set-back from the street.

The parents' suite occupies the ground floor. The accessible suite is laid out on a single-level and incorporates special features designed to accommodate the specific challenges facing the aging parents, including strategically located drains and a master power switch to mitigate issues that come with memory loss (i.e., a sink left running, an oven left on).

The main residence runs parallel to the creek. A dramatic double-height kitchen anchors the south end of the house. Its 20-ft. high pyramidal ceiling creates an expansive space that opens to the creek, the courtyard, and the sky. Backpainted glass and polished Calacatta slabs are meticulously detailed to reflect the surrounding landscape and compliment the dramatic, flat-sawn solid oak island with a faceted base.


The dining room occupies a glazed link between the kitchen and living room. The fully transparent volume permits views of the creek landscape from the courtyard. The living room extends out under a cantilever and doubles in size in the summer months and the extended family shares these three social spaces.

The cedar cladding, locally quarried limestone, and white oak floors, cabinetry and figural stair connect this modern house to an ancient southern Ontario landscape. Wood's inherent warmth, strength, lightness and malleability provide everything from the structural framework for the house to a variety of stunning finishes. The milled cedar siding is a crisp, deeply grooved, shadow-casting cladding. The curved, rift-cut white oak stair is light and sinuous, gathering strength from its curvature. The wide-plank brushed oak floor is warm underfoot.

The project constructs a scenario for senior living that allows for autonomy while maintaining the mutual benefit of close proximity. It affirms that sustainable systems and age-in-place designs can be accomplished with a modern expression and exquisite details. As the family changes, so can the family home.

ARCHITECT
Williamson Williamson Inc.
Toronto, ON

STRUCTURAL ENGINEERS
Blackwell
Toronto, ON

Faet Lab
Toronto, ON

GENERAL CONTRACTOR
DB Custom Homes Inc.
Ancaster, ON

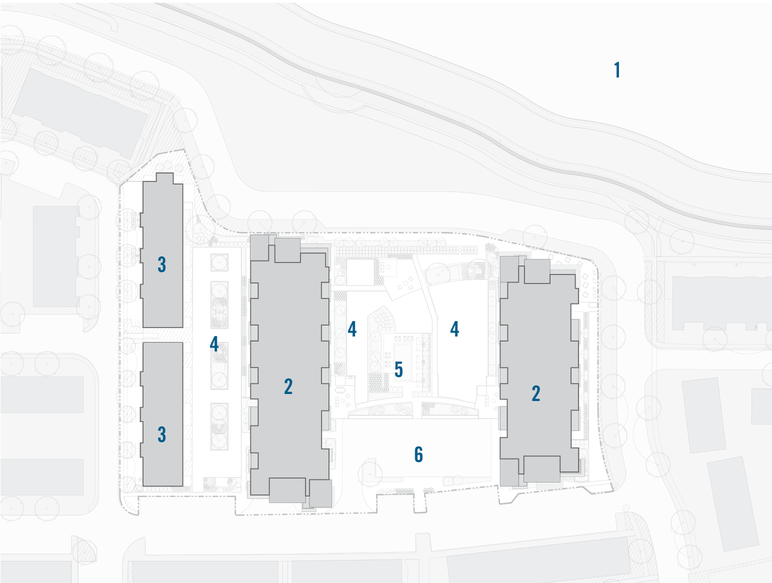
PHOTOGRAPHY
Ben Rahn/A-Frame Inc.
Toronto, ON


LAKEHOUSE
Nº1

Mid-Rise Wood

Changes to building code allow condo developer to aim higher

Lake House Waterfront Townhome and Condominium Community



1. Lake Ontario
2. six-story residential building
3. three-story townhouses
4. landscaped areas
5. pool
6. surface parking lot

GROUND FLOOR PLAN

Nestled between the shores of Lake Ontario and the beautiful Niagara Escarpment, Branthaven's Lake House Waterfront Townhome and Condominium Community is a modern lifestyle development designed to provide affordable luxury living.

Amendments to the 2012 Ontario Building Code in 2015 created a more level playing field between steel, concrete and wood by permitting wood frame construction in residential and commercial buildings (Group C, Group D) up to six stories in height. The amendments provide new opportunities for keeping with provincial policies related to the Places to Grow Act (calling for increased densities in urban and suburban environments). While light-frame wood construction is typically associated with single-family homes and townhouse construction, it can now be used for multi-unit mid-rise structures as well, enabling the development of more complete and diverse communities.

The design team took full advantage of the code changes by reimagining a feasibility concept of three four-story buildings into two six-story buildings. The re-design enabled the team to realize the same number of units while eliminating the cost of a third set of stairs and elevators. The two buildings were able to be positioned more comfortably on the site and grade-related amenities became more generous, with stunning views from each dwelling.

The client preferred wood as the primary material for this condominium project because the other buildings in the community were built with the same materials and techniques. The logistics of schedule, supply chain and trades made sense. Wood construction created opportunities to accelerate the construction schedule by building sub-components, such as roof assemblies, at ground level and lifting them into place. This method of construction also reduced safety risks throughout the project. Using wood as the main structural component also provided an opportunity to support local skilled trades, wood panel manufacturers, and lumber suppliers.

Lake House features the exclusive use of wood for all the above-grade structural systems except the elevator core and exit stairs. Prefabricating lumber assemblies ensured a level of quality, performance and precision that would have been unattainable in conventional onsite construction.

Panelization enabled an integration of processes, from design to review to construction, that led to significant economies of time and budget. The balconies were constructed of pressure-treated solid sawn lumber and engineered timber beams that are independent from the internal structure so that they might be serviced or replaced without disturbing the integrity of the building envelope.

The design team integrated many features into the project to showcase the natural beauty of wood, including wood pergolas on the upper floor, solid sawn timber trellis features, wooden soffits at the balconies, wood panel ceilings, and other wood accents throughout the interior of the buildings. The design team realizes not every mid-rise building will be constructed of wood, nor will every light-frame wooden building be six stories, but the ability to build higher with wood has the potential to make positive changes in our urban and suburban environments.

DEVELOPER
Branthaven Lakeview Inc.
Burlington, ON

ARCHITECT
Kirkor Architects + Planners
Toronto, ON

STRUCTURAL ENGINEER
Tacoma Engineers Inc
Barrie, ON

PROJECT MANAGER
VanMar Constructors Inc.
Cambridge Ontario.

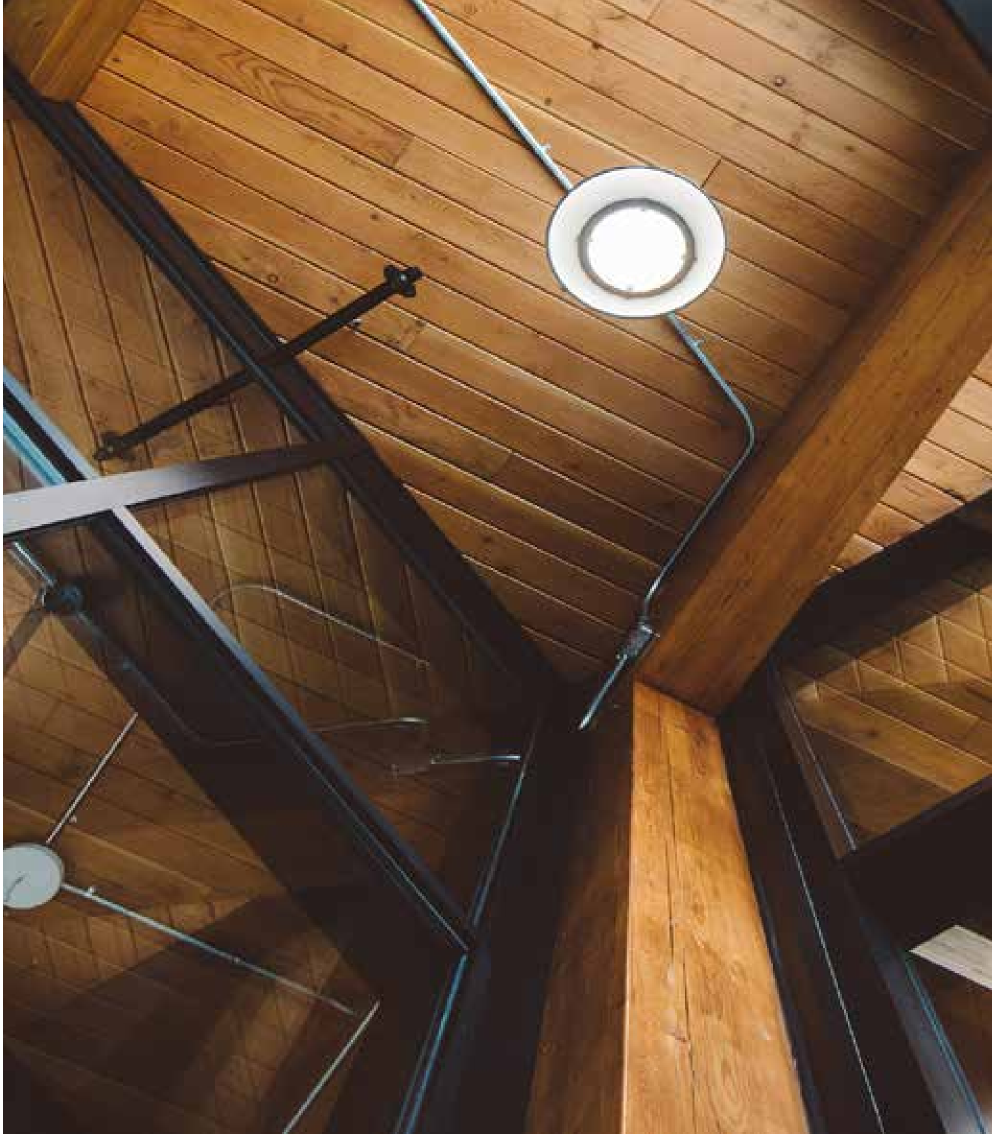
PHOTOGRAPHY
Branthaven Homes
Burlington, ON

Institutional Commercial Wood Design <$10M

Dense forests of the Canadian Shield inspire school's connection with the landscape

St. David Catholic Elementary School

The new St. David Catholic Elementary School in Sudbury, ON, capitalizes on its serene setting within the Canadian Shield, drawing inspiration from the natural landscape of creeks, rocks and dense forest regions. The design philosophy sought to instil a reverence for these natural surroundings by emphasizing the positive effects that exposed wood has on an overall learning environment, both inside and outside the classroom. In drawing the connection between the immediate wooded areas of the school and the environmentally sensitive material selected in the construction method, it was felt the students learning in these environments would be instilled with a sense of their importance.



The building's organization, form, and massing were informed by the topography's defining physical qualities. The design team, in collaboration with community partner VETAC – Regreening Advisory Panel, worked hard to minimize the impact of construction on the site and selected the site to limit damage to existing trees. The small number of trees that were disturbed during the school's construction were replaced after project completion to re-establish the regreening that had taken place on site some 50 years before. These efforts were important to the design team, who understood the surrounding forest as an outdoor extension of the science classroom.

In nestling the building into the hill, allowing the existing creek and trees on site to play a guiding role in siting, the design team sought to emphasize the connection with the natural landscape through full immersion. The influence and presence of these still and tranquil landscape features are reiterated in the approach and entrances to the building. There are two distinct entrances: the main entry point for students and staff that is accessible from the parking lot and a second entrance that accommodates the students who walk to school. The lower entrance has a large stair and ramp, extending from the sidewalk below. Approaching the main entrance from the north side of the building, people traverse a bridge extending over a small creek before being ushered into the main foyer.

For the entrances, the design team wanted to take advantage of the natural warmth of wood. The presence of exposed wood enhances these informal learning spaces by softening them and providing an inviting, enriching environment.

The economic value inherent in wood's thermally-efficient composition kept pace with the team's belief in the positive physiological and psychological benefits of wood construction. In this project, the use of wood will result in operational cost savings over its service life because of the material's superior thermal performance, a factor that reinforces wood's key role in energy conservation. Inviting and warm interiors, preserved natural exteriors, sustainable construction, and long-term energy savings – wood provided many resounding advantages that have become characteristic of the learning environment at St. David Catholic Elementary School.

CLIENT
Sudbury Catholic Schools
Sudbury, ON

ARCHITECT
Yallowega Bélanger Salach Architecture
Sudbury, ON

STRUCTURAL ENGINEER
A2S Associates Limited
Sudbury, ON

PHOTOGRAPHY
Blaine Nicholls
Sudbury, ON

Institutional Commercial
Wood Design >$10M

Innovative use of CLT builds on themes of connection and resilience

McEwen School of Architecture, Laurentian University

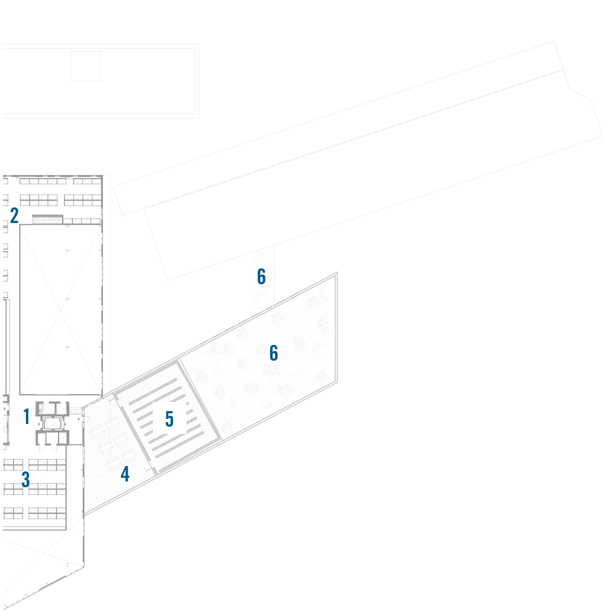
Canada's first new architecture school in 40 years serves as a teaching laboratory for the advancement of sustainable and resilient design in northern climates. Located in the heart of the Canadian Shield, about 240 miles north of Toronto, the school draws inspiration from the architectural traditions of northern Ontario's anglophone, francophone and indigenous communities, encouraging students from these backgrounds to learn not only from faculty, but also from each other.

By repurposing two century-old heritage buildings (totaling 19,700 sq.ft.) and combining them with 52,150-sq.ft. of new construction, the school itself showcases wood, steel and masonry construction in a way that highlights the structural potential and aesthetic qualities of each material and illustrates the value and importance of adaptive reuse. The refurbished heritage buildings – one masonry, the other post-and-beam – house classroom space, administration and faculty offices, and fabrication studios; the new steel-and-concrete Studio (north) Wing features a steel joist and deck assembly.

From a structural standpoint, however, the McEwen School of Architecture's most innovative component is the mass timber Library (west) Wing. A century ago, massive dimensional timber was widely used as a construction material in the region. Now in short supply, large solid sawn timbers have been replaced by modern glulam beams and cross-laminated timber (CLT) panels that make efficient use of the narrow-diameter trees of northern Ontario's forests. The Library Wing is constructed of BIM-modeled, prefabricated CLT panels and unitized glazing panels. Use of this system minimized thermal bridging and mitigated the regional construction challenges of a short building season, a small local pool of skilled tradespeople, and high transportation costs.

1. north wing
2. west wing
3. market building
4. telegraph building
5. fire pit
6. courtyard

SITE PLAN



1. mezzanine lobby
2. graduate studio 1
3. graduate studio 2
4. exterior patio
5. green roof laboratory
6. green roof

MEZZANINE FLOOR PLAN

1. second floor lobby
2. undergraduate studio 2
3. undergraduate studio 3
4. undergraduate studio 4
5. break-out/crit space
6. admin/faculty office
7. IT classroom
8. workroom
9. library
10. special collection
11. study carrels
12. meeting room

SECOND FLOOR PLAN

Delivered to the site in sequence – pre-cut, numbered, and ready to install – the panels required no additional onsite work. The structure and envelope were completed in only two weeks. The CLT panels were pre-engineered by the consultants using an integrated BIM modeling process, and the BIM model was shared with the fabricator. The panels were designed and fabricated to fit together like a kit of parts. Although the floor spans required for the stacked library and lecture theatre exceeded conventional limits for CLT construction, the team successfully achieved these longer spans with a hybrid design that combined CLT shear walls, floors, ceilings and roof with glulam beams.

Analyzing and applying relevant traditional “passive” design strategies to determine the optimum orientation and massing for the two new wings was the starting point for maximizing efficiency and occupant comfort. The new library and studio wings connect with the existing Market and Telegraph buildings to form a mini-campus clustered around an outdoor courtyard/workshop and ceremonial fire pit. South-facing and sheltered from prevailing winds, this microclimate garden courtyard can be used year-round. The design of the entire school complex embodies the concept of survivability: the combination of robust structure and super-insulated envelope ensures that the school can remain occupied in the event of power failures, which are expected to become more frequent, particularly at northern latitudes, as a result of climate change.

The use of CLT and other wood products has significantly enhanced both the functionality and the ambience of Laurentian University’s new architecture school. It projects a sense of warmth and a connectedness to nature that are very much in keeping with the school’s mandate and northern Ontario’s building traditions and climate.

CLIENT
Laurentian University
Sudbury, ON

ARCHITECT
LGA Architectural Partners
Toronto, ON

STRUCTURAL ENGINEER
AECOM
Whitby, ON

GENERAL CONTRACTORS
Cy Rheault Construction (Phase 1)
Timmins, ON

Bondfield Construction (Phase 2)
Pickering, ON

PHOTOGRAPHY
Bob Gundu
Toronto, ON

Commercial Wood

Exhibit materials in their unfinished forms showcase the natural beauty of Ontario wood

Ontario Wood Pavilion, Interior Design Show 2017

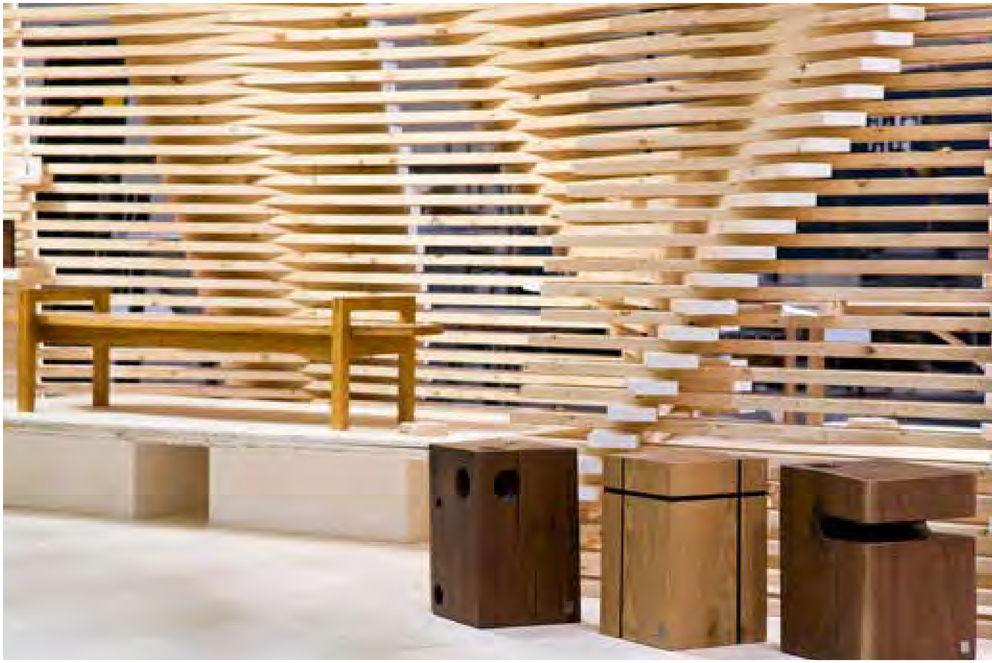
Each year, the Interior Design Show in Toronto brings together the newest and most innovative examples of international and Canadian design. For IDS 2017, Ontario Wood worked with blackLAB architects inc. to create an exhibition space that featured Ontario-sourced wood products and promoted local makers and craftspeople.

The purpose of the exhibit was to showcase the designs of 15 to 20 craftspeople that produce unique work under the program. After exploring the possibilities for creating sculptural spaces using stacked lumber, the team designed the overall space as a repetition of modular shells. Each shell is created by rotating and stacking pieces of 2 x 6 spruce to form self-supporting walls with alcoves. This created a variety of places within the overall exhibit to curate and display a collection of small pieces, lighting, floor-standing furniture and hanging wall art.

Dimensional lumber and sustainable aspen plywood were used to create the backdrop for the various furniture and lighting pieces brought to the show by Ontario craftspeople. These materials were left unfinished to highlight the natural beauty of Ontario wood products. The use of wood combined with extensive prefabrication meant the project stayed on budget and was easy to construct under tight deadlines.

Each logistical aspect of the construction was determined beforehand in consultation with the builder in order to streamline the process of creating the exhibit. Through careful structural detailing, the sculptural walls were quickly assembled without compromising the future life of the material. The wood used in the temporary display was dismantled and reclaimed after the show, ready to be used by Habitat for Humanity in future construction projects.

The use Ontario-sourced wood products in the design and creation of this space fulfilled a natural and important mandate for the Ontario Wood program. By constructing the pavilion with locally sourced materials and by featuring a wide range of wood creations made from Ontario Wood products, both the exhibit and its contents demonstrated that Ontario wood products are viable and readily available. The warmth of the raw wood created a protected oasis within the overall IDS show floor. Attendees at the show were given the chance to see and understand the unique possibilities inherent in working with wood.



CLIENT
Ministry of Natural Resources and Forestry
Peterborough, ON

ARCHITECT
blackLAB architects inc.
Toronto, ON

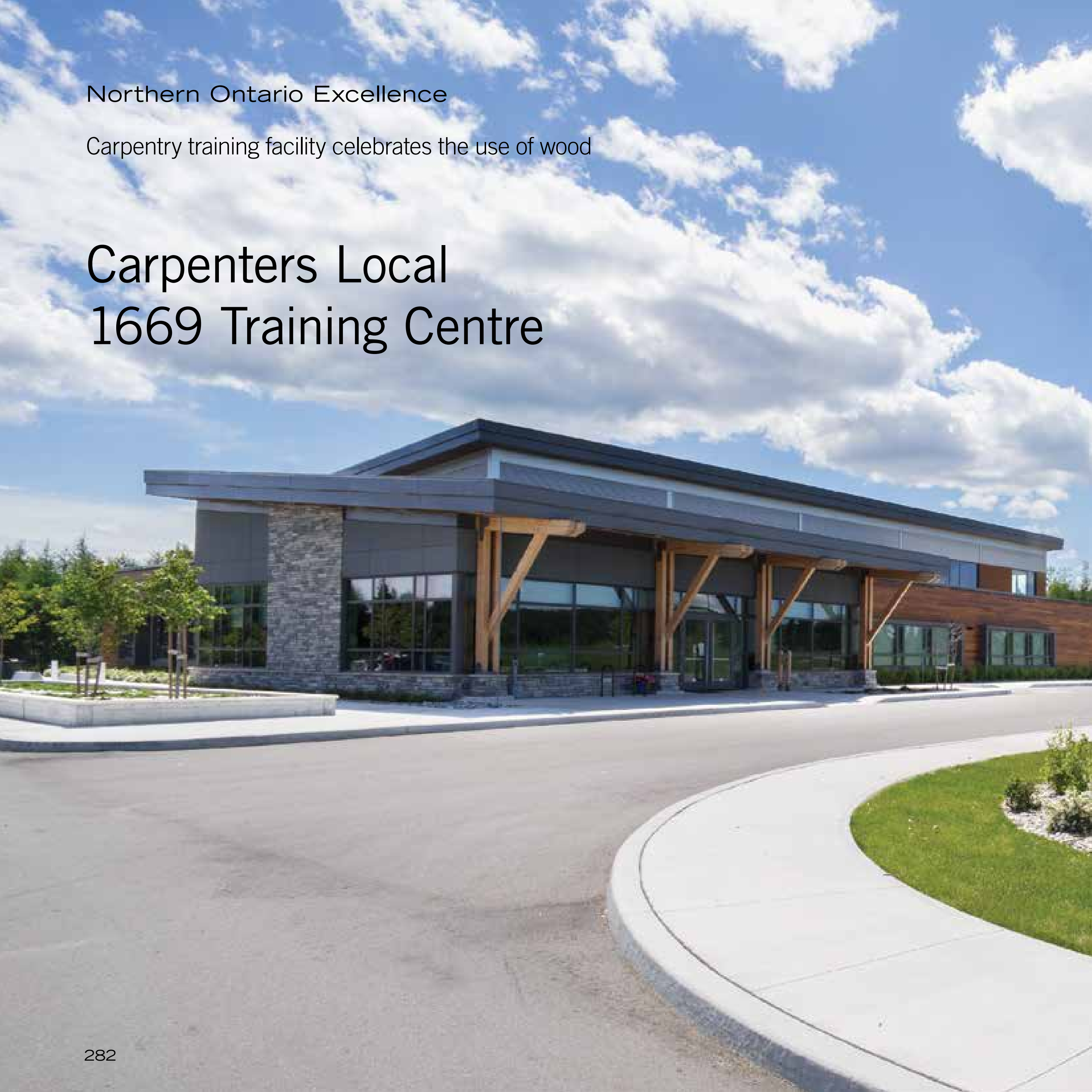
STRUCTURAL ENGINEER
Moses Structural Engineers Inc.
Toronto, ON

GENERAL CONTRACTOR
Lewitt Construction
Toronto, ON

PHOTOGRAPHY
blackLAB architects inc.
Toronto, ON

Carpentry training facility celebrates the use of wood

Carpenters Local 1669 Training Centre




CARPENTERS LOCAL 1669
TRAINING CENTRE
THUNDER BAY

The leadership and members of the Carpenters' Union Local 1669 expressed a strong desire for a training center that would celebrate the varied use of wood in contemporary commercial and institutional construction and showcase the talented carpentry workforce in northwestern Ontario. The design brief called for an architectural solution that was evocative of the beautiful landscapes of the region and its wood economy.

The result is a beautiful 15,000-sq. ft. facility that supports leading-edge carpentry training and apprenticeship programs. Wood was selected for its natural appeal, connection to the community, and importance to the carpentry industry. The wood throughout the building lends the facility a natural and inviting quality that softens its industrial character with warm, contemporary design elements.

The building's program includes two 25-seat classrooms and a 3,400-sq. ft. training area that holds a one-of-a-kind training structure for "working at heights" scaffolding and lift training. The center also has office space, a large boardroom, and a multi-function lobby/lounge/kitchen area that encourages members to gather.

1. entry
2. lobby
3. reception
4. boardroom
5. classrooms
6. restrooms
7. workshop
8. training structure
9. wood shop
10. offices
11. break room

FLOOR PLAN

The building design used several products and construction methods to showcase the various uses of wood in traditional construction. The training facility uses traditional light wood frame construction, glulam and heavy timber construction, and a combination of wood products for interior and exterior finishes that highlight the materials carpenters work with. One particularly unique application is the solid wood and birch veneer wood screens in the entryway which symbolize stick frame construction, a fundamental part of the carpentry trade. The exterior Western red cedar siding creates warmth and contrast with a durable, long-lasting material.

Perhaps the most dramatic use of wood is the large heavy timber beams and columns throughout the building. The use of these large timbers in the exterior entry canopy makes a particularly powerful architectural statement, adding a sense of connection to nature, establishing a physical link to northern Ontario, and striking a delicate balance between rustic and modern design. This exposed heavy timber structure carries through into the main lobby and around the corner to the angular corridor leading to the various program spaces.

CLIENT
Carpenters Union Local 1669
Thunder Bay, ON

ARCHITECT
FORM Architecture Engineering
Thunder Bay, ON

STRUCTURAL ENGINEER
FORM Architecture Engineering
Thunder Bay, ON

GENERAL CONTRACTOR
Finn Way General Contractor Inc.
Thunder Bay, ON

PHOTOGRAPHY
Nicholas Bava/FORM
Architecture Engineering
Thunder Bay, ON

Jury's Choice

A new attitude allows the capital's "living room" to celebrate Canada's sesquicentennial in style

National Arts Centre Rejuvenation

The National Arts Centre (NAC) in Ottawa occupies a prominent position on Confederation Square National Historic Site. Since opening in 1969, this complex of four stages has been the premier showcase for the very best performing arts in the country. But the centre was virtually impenetrable, a concrete bunker in the Brutalist style. A rejuvenation to coincide with Canada's 150th anniversary re-oriented access to showcase the activity within. The warm and welcoming invitation to the city relies on the use of wood as an essential part of the building's transformation.

Three new wings and a marquee tower now wrap around the west, north and east sides of the complex in the rigorous hexagonal language of the existing building. But the materiality invites engagement and connection, not the isolation and elitism of the original design. The new wings are constructed of an exposed wood structure comprised of triangular coffers made of Douglas fir and a glass curtainwall system. On view are the fine details crafted in wood that define the NAC's new accessibility and attitude.

These spaces host casual concerts, pre-show talks, community events, corporate meetings and provide event space and workshop space for the NAC's creative departments. A comfortable white oak amphitheater provides views of the adjacent park, the Rideau Canal, Confederation Square and the Parliamentary Precinct.

Prefabricating the wood structure proved to be an invaluable strategy, enabling the team to meet a demanding construction schedule that required the project to be complete by the hard deadline of Canada's sesquicentennial celebration on July 1, 2017.

The laminated triangular wood coffers that form the structure also serve as the finished decorative ceiling, thereby reducing the amount of finishing work once the building was enclosed. Their fabrication in nearby Chesterville began concurrently with demolition activities on site. Most of the mechanical, electrical, theatrical and audio/visual infrastructure was installed into the coffer panels in the prefabrication process. The coffers were ganged in linear pieces using thin steel plates and then delivered to the site and lifted into place. The entire roof structure was installed in just three weeks. Inside each coffer is a micro-perforated wood panel, lined with acoustic insulation to attenuate sound in the busy lobby spaces.

The use of wood in the 2,100-seat Southam Hall was introduced to improve the room acoustics. Hardwood flooring and wood seat backs replace the heavily upholstered surfaces, which had the effect of dampening sound. The flooring is an engineered white oak, stained to match the dark brown of the original building palette. The reflective wood surfaces have brightened the sound and greatly enhanced the acoustic performance of the hall.

The many applications of wood at the NAC showcase Canadian design innovation. The atria together with the Kipnis Lantern, the luminous marquee beacon that marks the new entry, signal a new landmark for the city, a wood-lined living room activating public engagement in a space that now embraces the city.

CLIENT
Government of Canada
Ottawa, ON

ARCHITECT
Diamond Schmitt Architects
Toronto, ON

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

GENERAL CONTRACTOR
PCL Constructors Canada Inc.
Nepean, ON

SPECIALTY TIMBER ENGINEERING + CONSTRUCTION
StructureCraft Builders
Abbotsford, BC

PHOTOGRAPHY
Doublespace Photography
Toronto, ON

U.S. WoodWorks Wood Design Awards

U.S. WoodWorks Wood Design Awards

On the nomination form for the U.S. Wood Design Awards, we say that, in addition to criteria specific to each category, projects should demonstrate attributes of wood such as beauty, strength, versatility, sustainability and cost effectiveness. It's a hallmark of wood design that a single building is able to meet such diverse objectives and reflect such a broad range of values. However, it's also interesting to consider the winning projects collectively to see what conclusions, if any, can be drawn.

This year, for example, almost every design team made use of exposed wood structure, adding beauty to the projects, but also speaking to wood's innate biophilic impact on human well-being. Many used mass or heavy timber structures, while several teams incorporated light wood framing with exposed timber elements to create a compelling aesthetic that was also cost effective. In many cases, wood's sustainability was a motivating factor for its use.

Another observation is the range of building types. Winners include two multi-family residential buildings, four offices, four schools, and seven commercial projects.

Since WoodWorks' role is to support architects, engineers, developers and others involved in the design and construction of wood buildings, I know this is reflective of the U.S. market – with one exception. Although multi-family buildings comprise a much greater percentage of the projects we support (and the projects built in wood generally), we're seeing more designers choose wood for offices, schools and commercial buildings.

We're also seeing a steady growth in mass timber and the use of exposed wood structure. In 2015, WoodWorks provided technical assistance on a handful of projects where the designer or developer had an interest in using mass or heavy timber. In 2017, our support had grown to 158 projects, and we've already supported 127 projects this year (as of June 2018).

As always, I extend my sincere thanks to the individuals who designed all of these projects, whose commitment to excellence continues to expand the possibilities for wood.

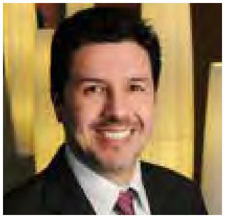
Jennifer Cover

Jennifer Cover, PE
President and CEO
U.S. WoodWorks

Jurors

TENNA FLORIAN, AIA, LEED AP BD+C
Associate Partner
LAKE | FLATO ARCHITECTS
www.lakeflato.com

KATHRYN BEDETTE
Associate Professor of Architecture
KENNESAW STATE UNIVERSITY
www.cacm.kenneshaw.edu/architecture



AMADO GUEVARA, AIA NCARB
Architect and Associate
DLR GROUP
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WESTERN RED CEDAR LUMBER ASSOCIATION REALCEDAR WRCLA www.wrcla.org

Commercial Wood Design – Low-Rise

Washington Fruit & Produce Company

Yakima, WA

Please see page 30

UNITED STATES

Jury's Choice for Wood Innovation

Exposed mass timber structure is a teaching tool

John W. Olver Design Building at UMass Amherst

The goal for the John W. Olver Design Building at the University of Massachusetts Amherst was to create an innovative and inspired building that visibly demonstrates environmentally sensitive design. The result is one of the most advanced mass timber buildings in the United States; a four-story, 87,500-sq.ft. structure that exemplifies the university's commitment to sustainability and, through generations of students who will learn within its walls, the future of the built environment.

The Design Building sets a high bar for mass timber buildings in the U.S. with a glulam timber column-and-beam frame, glulam brace frame, CLT shear walls, timber-concrete composite floor system, and unconventional cantilevered forms. It is wrapped in an envelope of copper-colored anodized aluminum which, combined with vertical windows, echoes the wood structure by evoking the color and pattern of regional forests.

Just as it unites three university departments, the Design Building serves as a bridge between the architectural styles of different campus buildings. It is carefully sited on a steep slope at the main campus artery, rising from three stories on the east side of the building to four on the west. In this way, its massing connects the smaller structures of historic Stockbridge Way with the brick Fine Arts Center and modern concrete structures on campus.

The steel design was more than half complete when the university decided on a wood structural system. However, knowing that a switch was possible, some smart design decisions were made early on, to select a structural grid that could accommodate either steel or mass timber, and paying close attention to floor-to-floor heights and overall building geometry. The team even created parallel schematic drawings of a mass timber building design.

Intended to house 500 students and 50 faculty, the Design Building is organized around a two-story central atrium; a flexible gathering and event space with integrated tiered seating, movable partition boards, lounge seating and cafe. Dominated by the composite zipper truss roof structure, the atrium also features a three-story, folded CLT stair, hung from a single long-span truss with thin rods that give the impression it's floating.

Facilities used by all three academic departments surround the atrium in the building's main volume. The first floor features exhibition and lecture space, laboratories, fabrication and materials testing shops, dining and classroom space, while the second and third include studios, classrooms and offices, and the smaller fourth floor contains studios. Above the atrium is a green roof that functions as a public courtyard and outdoor learning space for students studying urban landscapes.

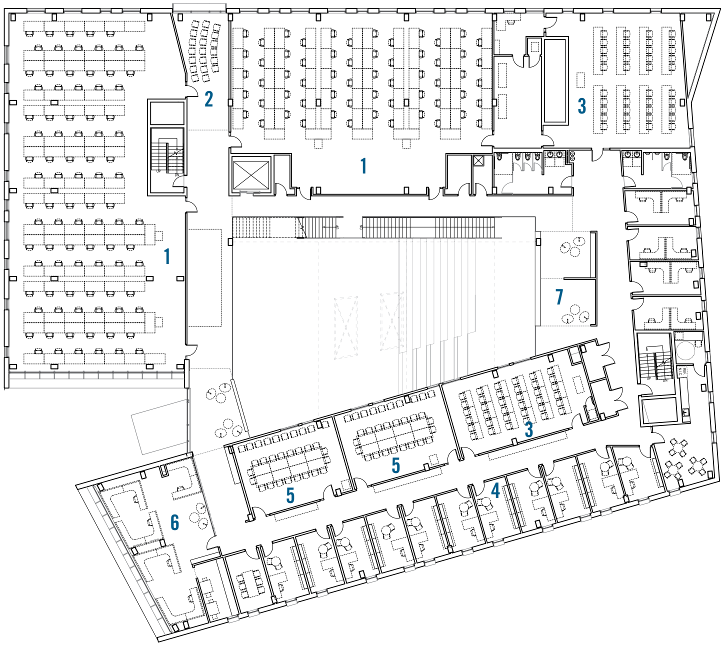
A curtain wall system exposes much of the building's first floor, including the timber structural system and atrium space, inviting interaction with passersby. The second story cantilevers several feet beyond the first, and the second, third and fourth stories are clad with a panelized rainscreen system.

The Design Building is Type IV Construction with a limited number of unprotected steel transfer beams in the two cantilevers and elements of the courtyard truss. Type IV Construction allows the use of exposed, solid or laminated wood members such as CLT, glulam and wood decking if certain provisions are met. For example, per IBC 2009 Section 602.4, minimum timber sizes must be used, concealed spaces are not permitted, and exterior walls must be of non-combustible materials or fire retardant-treated wood.

The structural gravity framing system includes glulam beams and columns supporting the timber-concrete composite floor system and CLT roof decking. Other than CLT shaft walls, walls are non-load bearing, cold-formed steel walls with standard gypsum finishes.

Common glulam floor beam sizes are 14-1/4 inches wide x 15 inches or 16-1/2 inches deep. Columns are 14-1/4 inches wide by 22-1/2 inches to 25-1/2 inches deep. Glulam members were sealed with standard factory clear-coat finishes, and members in areas of higher traffic were given an extra coating in the field. Most of the glulam members are black spruce.

The roof assembly is made from seven-ply CLT panels, with rigid insulation and sheet membrane on the



1. studios
2. pin-up lounge
3. computer lab
4. offices
5. seminar rooms
6. administration
7. lounge

SECOND FLOOR PLAN

CLIENT
University of Massachusetts Building Authority
Amherst, MA

ARCHITECT
Leers Weinzapfel Associates
Boston, MA

STRUCTURAL ENGINEERS
Equilibrium Consulting
Vancouver, BC

Simpson Gumpertz & Heger (EOR)
Boston, MA

CONSTRUCTION MANAGER
Suffolk
Boston, MA

TIMBER SUPPLIER
Nordic Structures
Montreal, QC

PHOTOGRAPHY
Alexander Schreyer – University of Massachusetts
Amherst, MA

exterior. Panel-to-panel connections are surface splines with plywood and self-tapping wood screws.

Typical panel-to-beam and beam-to-column connections included a variety of self-tapping wood screws, which are common on modern mass timber projects, and concealed beam hangers. In their final condition, the steel hangers are protected from fire exposure by a minimum thickness of wood.

Completed in January 2017, the building is now home to a bustling education community. Its innovative mass timber systems are an inspiration for students, practicing design professionals, and every passerby drawn by the extraordinary sight of the zipper truss within. It is also, in many ways, the embodiment of an optimistic future.

By inspiring designers and their projects, for example, there is a good chance that the Design Building will lead to increased manufacturing of mass timber products in the eastern U.S. Attuned to this potential, the BCT program is already researching the use of local hemlock for CLT.

Commercial Wood Design – Mid-rise

Cypress and oak attune bank to its natural environment

The Grove at Live Oak Bank

The client, Live Oak Bank, challenged the design team to preserve the longleaf pines, live oaks and other features of North Carolina's coastal landscape and create an office building as connected to its environment as possible. To that end, great lengths were taken to preserve the trees and natural features of the site, while providing views from every office and workspace within the building.

The building is anchored by a central lounge that includes a large kitchen, coffee bar, upholstered casual seating, and two-story window wall overlooking the central courtyard and deck. Two-story office wings radiate to the east with interior glass walls that allow for transparency and views.

The building's boomerang form follows the lakefront and takes advantage of diffuse northern light. Inside, the layout features an open office environment and a double-height lobby that visually connects the upper and lower floors. A 50-seat tiered digital conference room provides a venue for teleconferencing

with satellite offices as well as seminars and meetings. The priority placed on employee well-being is reflected in amenities that include a fitness center and on-site dog park, walkways and decks surrounding the building, and a third-floor balcony lounge.

A sheltered timber walkway connecting The Grove at Live Oak with another campus building balances a heavy timber structure with a light, transparent aesthetic that minimizes barriers with the natural environment. Dark gray window frames seem to disappear from the interior for uninterrupted views. Other interior materials include oak flooring, wool carpet, tile, custom metal and cable railing, and quartz and plastic laminate countertops. Custom furnishings showcase live-edge wood tabletops and weathered wood end tables.

As a nod to its southern environment and client, the design features cypress as the predominant wood for exterior siding, interior ceilings and custom millwork. Oak flooring, stained

1. entry
2. courtyard
3. building I
4. building II
5. lake
6. cafe
7. entry

SITE PLAN

a medium color to contrast with the light cypress, is installed throughout the interior. The building structure is predominantly southern yellow pine glulam beams, columns and king-post trusses, with the glulam exposed to showcase both the structural elements and natural beauty of the pine. The interior corridor walls were field-built from oak and custom stained to match the oak floors.

The site materials also blend with the landscape, including pervious concrete colored to harmonize with the forest floor and flush transitions from parking surfaces to natural area. River rock catches and filters rainwater to minimize erosion, and pedestrian paths of brick, ipe and mulch add to the natural colors and textures.

CLIENT
Live Oak Banking Company
Wilmington, NC

ARCHITECT
LS3P Associates
Wilmington, NC

STRUCTURAL ENGINEER
Woods Engineering
Wilmington, NC

GENERAL CONTRACTOR
Clancy & Theys
Raleigh, NC

TIMBER SUPPLIER
Structural Wood Systems
Greenville, AL

PHOTOGRAPHY
Andrew Sherman Photography
San Francisco, CA

Melva Carter
Wilmington, NC

Multi-family Wood Design

Lofts aim to inspire future projects to embrace riverfront living

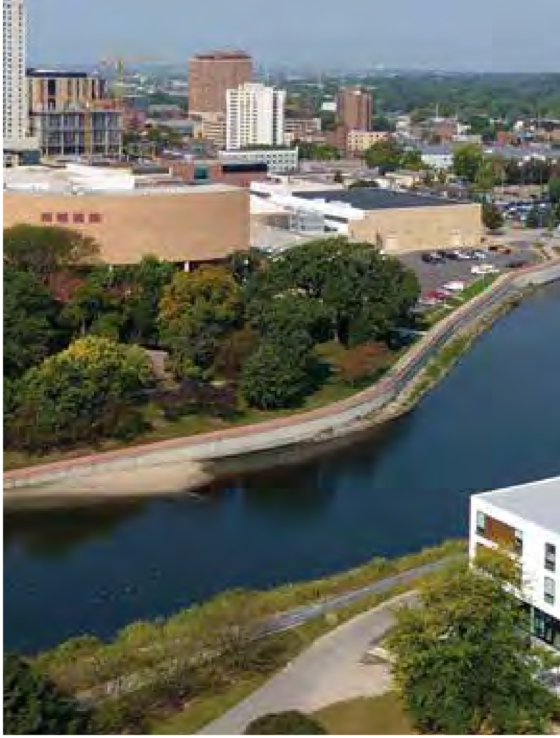
The Lofts at Mayo Park

The Lofts at Mayo Park, a 29-unit, four-story residential project located in Rochester, MN, encountered design challenges common to urban housing, especially scale and integration. The site lies on the Zumbro River, at the intersection of Rochester's downtown and a residential neighborhood. The project needed to resolve the varied scales of its context and balance these responses with the human scale.

Regionally familiar residential materials were selected to integrate the project into the surrounding neighborhood of single-family homes. The upper levels are clad in a smooth-finished white stucco, while stained Western red cedar shiplap siding is strategically placed where tenants interact with the building exterior (i.e., entries, balconies, windows). The lower level plinth is clad in a light burnished block.

Each elevation takes a slightly different approach to the contextual response. The neighborhood facade has cedar-lined, recessed balconies and private patios at grade that open directly to the sidewalk, breaking down the scale of the apartment building and relating to the single-family residences. Along the river, cedar-clad projecting balconies provide panoramic views while animating the riverfront facade. Along the park edge, the precast podium acts as a plinth, extending beyond the wood-framed levels above to create an outdoor "front porch" with views of the park, river and downtown. A large setback to the north creates a community stairway and garden, providing the neighborhood direct access to the riverfront.

The design team also sought to challenge architectural details frequently observed in podium construction. One such area is the relationship between the wood-framed levels and the concrete podium. The wood-framed levels are often set back by several inches from the podium below, resulting in a "near miss" condition in which the upper facade is neither aligned with nor appreciably set back from the lower facade. The team sought to achieve flush a condition between the stucco and burnished block, but due to differing face of structure-to-finish dimensions between the two wall systems, the wood framing had to push out beyond the structural block. This created an atypical bearing condition, in which the wood framing bears on a steel angle.



The balconies represent another unique solution. Balconies are commonly prefabricated aluminum assemblies with limited manufacturer-provided options, and typically installed late in the construction process. To achieve a coherent and integrated expression, the team clad prefabricated balconies and adjacent surfaces in 3-in. shiplap cedar siding, transforming them from a series of discrete elements into a larger tectonic expression.

CLIENT
GF Pougiales Trust
Rochester, MN

ARCHITECT
Snow Kreilich Architects
Minneapolis, MN

STRUCTURAL ENGINEER
Meyer Borgman Johnson
Minneapolis, MN

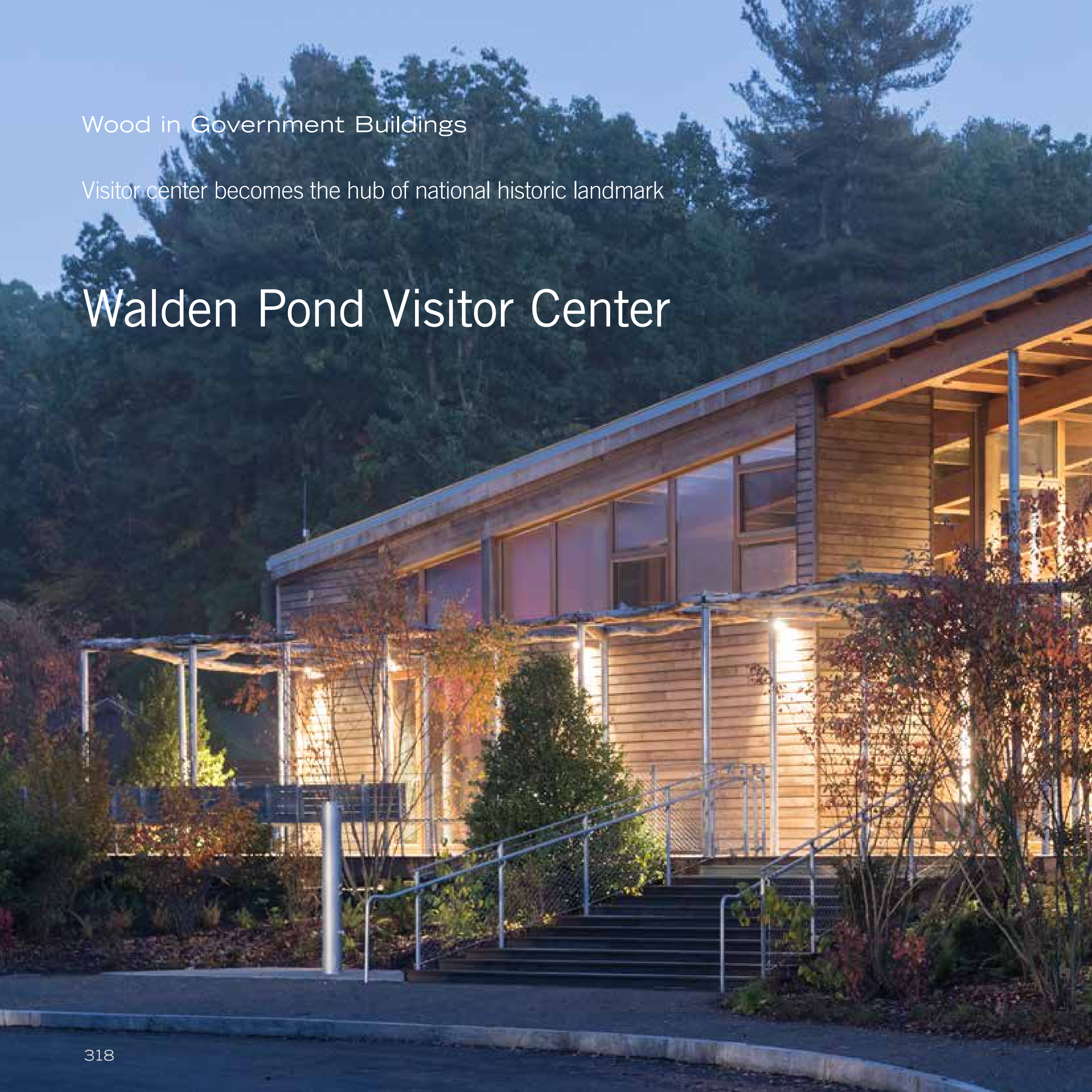
GENERAL CONTRACTOR
Welsh Construction
Minnetonka, MN

TIMBER SUPPLIER
Component Manufacturing Company
Sioux Falls, SD

PHOTOGRAPHY
Corey Gaffer
Minneapolis, MN
Snow Kreilich Architects
Minneapolis, MN
Joshua Becker
Rochester, MN

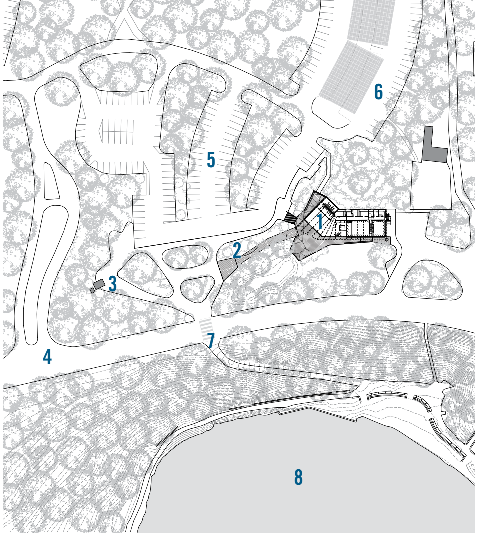
Visitor center becomes the hub of national historic landmark

Walden Pond Visitor Center



Walden Pond State Reservation is an internationally acclaimed National Historic Landmark and protected open space that sees more than 500,000 visitors a year due to its great beauty and status as the famed retreat of author and naturalist Henry David Thoreau. The new Walden Pond Visitor Center is the result of a decades-long planning and implementation process, and the fruition of much collaboration between Massachusetts' Department of Conservation and Recreation (DCR), the design team and stakeholders, including the Walden Woods Project and The Thoreau Society.

The new, 6,000-sq.ft. center interweaves with the landscape to emphasize Walden Pond and the site. The design team held the building off the central axis from the pond to the parking lot so the center takes a secondary position to the view of the pond. A meandering and accessible ramp draws the public up and onto the trellised deck, which leads to the exhibition space and public facilities. Nestled within existing trees and new plantings, the project gives a sense of unfolding sequence and exploration. Together with a community meeting room and staff offices, exhibition spaces dedicated to Walden's impact on the world create a new hub.



1. visitor's center
2. handicap accessible ramp
3. replica of Thoreau's cabin
4. existing entry to parking lot
5. existing parking lot
6. solar panel array
7. main axis of entry to pond
8. Walden Pond

SITE PLAN

Local context and site conditions informed the design strategy and implementation at all levels. The deck with black locust trellis members is clad with locally sourced, heat-treated ash. Heat-treated wood is excellent for outdoor applications and an alternative to the use of rainforest woods. The project also used a portion of the former visitor center's foundation, in line with the site's conservationist ethos. The office millwork was done in Massachusetts red oak and harvested by DCR's forestry team specifically for the center.

The building is net-zero energy, with no reliance on fossil fuels for its operation. A photovoltaic solar array doubles as a shade structure over the parking lot and supplies all of the center's energy needs. In winter, triple-pane windows and super insulation keep the spaces at a comfortable temperature with little reliance on the energy-efficient electric heat pump system. In warmer months, the ample operable windows and ceiling fans create natural ventilation. Projecting timber overhangs work to reduce solar heat gain. As the structure and building components are visible and legible, visitors to the center also have an interactive sense of the ecological building principles, which are contemporary expressions of the legacy of Henry David Thoreau and the American conservation movement.

CLIENT
Massachusetts Department of Conservation and Recreation
Boston, MA

ARCHITECT
Maryann Thompson Architects
Watertown, MA

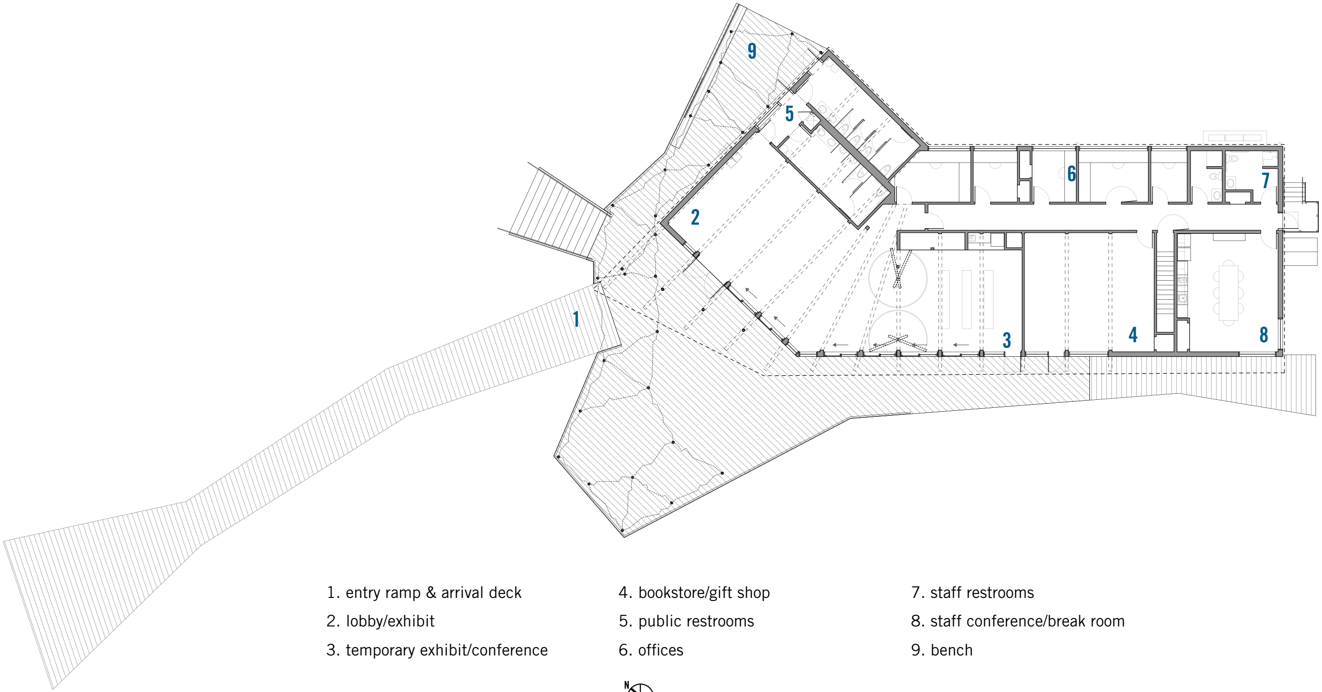
STRUCTURAL ENGINEER
RSE Associates Inc.
Watertown, MA

GENERAL CONTRACTOR
Stutman Contracting Inc.
Oxford, MA

TIMBER SUPPLIER
Ponders Hollow
Westfield, MA

PHOTOGRAPHY
Iwan Baan
Amsterdam, The Netherlands

Chuck Choi
Boston, MA



1. entry ramp & arrival deck
2. lobby/exhibit
3. temporary exhibit/conference
4. bookstore/gift shop
5. public restrooms
6. offices
7. staff restrooms
8. staff conference/break room
9. bench

FLOOR PLAN

Wood in Schools

Wood creates a healthy and resilient
learning space that inspires children to engage

Oregon Episcopal School – Lower School

The new Lower School at Portland's Oregon Episcopal School (OES) marks an exciting new project on campus, where most of the existing buildings have gone untouched for half a century. Its design incorporates the school's desire to create an active learning space that is healthy, resilient and engaging for students in pre-kindergarten through fifth grade. The innovative use of heavy and light-frame systems contributed both to cost-effectiveness and an age-appropriate scale.

In its simplest form, the building was conceptualized as two classroom areas that are split by social space, capturing natural light and views. The massing then steps up the sloped site, creating unique opportunities for each common space.

The school's inquiry-based pedagogy pervades the campus. Much of the surrounding woods and wetlands are used as outdoor classrooms, and every inch of the building is used for teaching.

Wood is visible as a primary component of the design, embracing the natural elements of the surrounding context as well as the school's tactile learning methods. Wood cladding is bark-like, recalling the texture of coniferous trees. The cedar board-and-batten system creates a variegated texture that is organic yet structured and stimulating. A semi-solid stain makes the wood's grain a design element and helps nestle the building into its site.

The interior design creates a clean and legible palette. Clear-coated Douglas fir – chosen for its strength and local availability – marks entries and elements where users connect with the building. The exposed wood trusses are repetitive elements that support the building and provide pathways for mechanical systems. Also constructed

of Douglas fir, the trusses were milled and manufactured just hours from the project site. In exposing the structure, the team made a deliberate choice to reveal major building components that offer teaching opportunities. The exposed structure also serves another pragmatic purpose, presenting places to hang artwork and other school projects.

Wood also allowed for flexibility and modularity in the construction process. Construction took place during one of the wettest winters on record, so moisture management – achieved by covering the wood when possible, prefabricating wood-frame walls, and regular monitoring of the wood's moisture content – was critical.

For this new lower school, wood adds warmth to interior spaces while creating a unique identity for the building's exterior. Its availability in the region also made it a sustainable and cost-effective material choice.

CLIENT
Oregon Episcopal School
Portland, OR

ARCHITECT
Hacker
Portland, OR

STRUCTURAL ENGINEER
ABHT Engineering
Portland, OR

GENERAL CONTRACTOR
Skanska
New York, NY

PHOTOGRAPHY
Lara Swimmer
Seattle, WA

Basecamp's wood construction aligns with Boys Scouts' ethos

Basecamp Delta, Summit Bechtel National Scout Reserve

Basecamp Delta was the first of six sub-camps built at the Summit Bechtel National Scout Reserve in West Virginia's Appalachian Mountains. After acquiring the site in 2009, the Boy Scouts of America began restoration efforts to create what is now their National Camp Grounds facility and home to the National Jamboree. Once the site of extensive coal mining, the property was remediated to create wide, flat areas that tier the terrain for campsites.

Consisting of a ceremonial flag plaza, utilitarian headquarters and open-air pavilion, Basecamp Delta was conceived as a rugged kit of parts that established the vernacular for the remaining five basecamps. To respond to the natural surroundings, it features simple forms, natural materials and exposed mechanical systems. The vibrant color of each basecamp is the wayfinding strategy for the 14,000-acre site, which accommodates 50,000 campers at full capacity.

The basecamp's 7,000-sq.ft. headquarters provides a centralized location for staff and administrative functions during summer camp and the jamboree, serving as a staff meeting and training space. Light wood framing techniques were used to create a layered and daylit structure that also forms a breezeway under one roof. The covered breezeway's exterior space and adjacent sculptural pavilion can be flexibly programmed for a variety of uses, including dining, classes, equipment issue, and group assembly. This area is also used casually as a space for relaxing, meeting or reading.

The headquarters is positioned at the intersection of wood's economic, functional, and aesthetic values. Wood platform framing aligns with the predominant construction trades in West Virginia. This allowed for close collaboration with skilled tradespeople and woodworkers during construction to develop a complex architectural expression within a tight budget. The building's exterior is a wood rainscreen featuring ¾-in. locally sourced rough-sawn hemlock with an enzymatic finish.

Openings and entryways are emphasized with rough-sawn and brightly painted southern yellow pine plywood. The roof is made from pre-manufactured inverted trusses, plywood decking and composite insulation/oriented strand board (OSB) sandwich panels that allowed for quick construction. For long spans, glulam timber and parallel strand lumber (PSL) beams were utilized for their structural capacity and aesthetics. Exposed roof trusses are complemented by raw southern yellow plywood wall panels. The plywood-clad interior walls create a durable and forgiving finish that in combination with the exposed building systems evoke memories of traditional open-air camp buildings. Taken as a whole, the wood structural and interior finish systems create a dynamic interior that elevates the typically hidden craftsmanship of light wood-frame construction and is true to the rough-and-tumble nature of the Scouts.

The pavilion draws connections across the campus through visibility and views and connects to the regional

1. Flag Plaza
2. pavilion
3. breezeway
4. reception
5. work room
6. classroom
7. office
8. conference room
9. private office
10. break room
11. storage
12. restrooms
13. electrical
14. exterior storage
15. exterior SVC
16. rain garden

SITE PLAN

landscape through a faceted hemlock ceiling that undulates with the surrounding mountains. Its column grid also establishes the east-west direction whereas the ceiling orients towards due north, a nod to scouting and orienteering.

CLIENT
Boy Scouts of America
Irving, TX

ARCHITECT
DIGSAU
Philadelphia, PA

STRUCTURAL ENGINEER
CVM Engineers
King of Prussia, PA

GENERAL CONTRACTOR
Swope Construction
Glen Jean, WV

TIMBER SUPPLIERS
84 Lumber
Bluefield, WV

SJ Neathawk Lumber
Covington, VA

PHOTOGRAPHY
Halkin Mason Photography
Philadelphia, PA

Green Building with Wood

Modern mass timber office offers employees both space and connection

Patrons Oxford Insurance Company

In an effort to prepare for future growth and attract a younger workforce, the Patrons Oxford Insurance Company decided to relocate its offices to Portland, ME, and build a modern, flexible and sustainable work environment. The company's mission, encouraging a deep commitment to service and community, was fundamental to the development of the building's design.

The new, two-story building engages with the natural setting, with primary office workspaces located on the second floor offering views outside in all directions. The open workspaces include small offices and a variety of meeting rooms for privacy and group work sessions. The first floor houses employee amenities and public meeting areas, including a cafe with access to exterior terraces, gardens and the site's existing trail system.

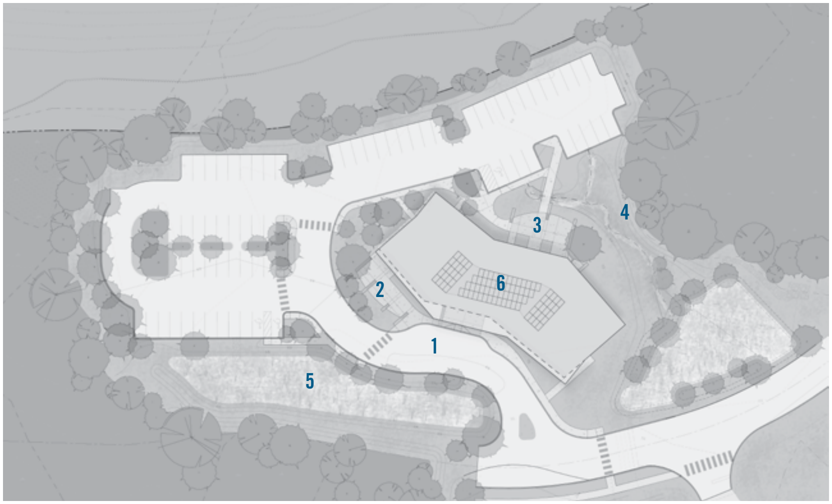
The design team was able to create a feeling of spaciousness and connectivity – while maximizing access to natural light – by using an open 20 x 20, three-bay mass timber frame with a regular rhythm of windows and central atrium stair. The pattern of the windows and heat-treated poplar panels creates a visually stimulating facade while generously daylighting the interior work environment. The lower floor has a broader rhythm of windows and more solid, stone-like panels differentiating the less occupied support spaces from the more transparent common areas.

The yellow pine glulam structure defines the interior spaces, expressively integrating steel braces and reinforcing to maximize cantilevers and openness at the perimeter. Traditional light wood framing and wood decking are used to frame floor and roof plates, shear walls and interior partitions, but the primary structural frame is left exposed throughout the building, highlighting the natural beauty of the material and offering a constant reminder of the value of wood as a renewable, carbon-sequestering resource.

1. entry
2. multipurpose
3. kitchen
4. “collab” cafe
5. meeting/boardroom
6. north entry/coats
7. movement area
8. restroom
9. wellness
10. showers
11. lockers
12. storage
13. server, CPU work area
14. reception/waiting area
15. office
16. printer & supplies
17. huddle room
18. solo space
19. lounge
20. small meeting room
21. human resource
22. accounting
23. open work stations

GROUND FLOOR PLAN

SECOND FLOOR PLAN



1. main entry
2. cafe terrace
3. north entry
4. tributary drainage feature
5. structured wetlands
6. 29 KW PV array

SITE PLAN

The building further demonstrates the client’s commitment to sustainability and high-performance building standards with a tightly detailed envelope, integral south shading, millwork furnished from locally salvaged barn boards, and energy-efficient heat pumps. These efforts, coupled with the provision of a 29kW photovoltaic array, greatly reduce the building’s ecological footprint and provide for the ongoing stability and sustainability of this deeply rooted local company.

CLIENT
Patrons Oxford Insurance Company
Portland, ME

ARCHITECT
Scott Simons Architects
Portland, ME

STRUCTURAL ENGINEER
Becker Structural Engineers
Portland, ME

GENERAL CONTRACTOR
Zachau Construction
Freeport, ME

TIMBER SUPPLIER
Unalam
Unadilla, NY

PHOTOGRAPHY
Robert Benson Photography
Hartford, CT

Beauty of Wood

A palette of local wood species helps project achieve a serene aesthetic

Cultural Crossing at Portland Japanese Garden

A haven of serenity and tranquility nestled in Portland's West Hills, the Portland Japanese Garden is considered one of the most authentic Japanese gardens outside of Japan.

In 2015, with more than 350,000 visitors annually, an expansion plan was developed to add new buildings to the verdant site while preserving the existing gardens. This ambitious project added four structures (totaling 15,500 sq.ft.) and a courtyard, including a small welcome center and ticketing pavilion, learning center with a classroom, library, gift shop and offices, maintenance building, and cafe.

To define the serene aesthetic, designers chose a palette of local wood species focused on durability, texture, grain and fragrance. Building exteriors feature vertically lapped, fixed-plank Alaskan yellow cedar cladding, while sliding cedar screens allow flexible building configurations. Inside, screens are paired with thin bamboo-veneered acoustic ceiling panels, maple flooring and casework, and muted white oak floors. Port Orford cedar planks form the floating ceiling of the café; the same cedar is used at the ticketing pavilion for aesthetics and durability.

The buildings are designed on four-foot modules to provide visual continuity; exposed rafters, wood roof and ceiling panel joints, and window mullions are all precisely aligned. The architect also used wood to reduce visual weight; the thin edges and precise joints demonstrate how wood can be machined and installed to tight tolerances. Many interior wood components utilized authentic Japanese carpentry techniques, including hand-planing, doweling and attachment methods that nearly eliminated the need for exposed fasteners.

The design strives for specificity in all aspects, including its relationship to the terrain and regional climate patterns, and calibration of the entrance sequence of its visitors. Without exception, wood is an integral part of this site specificity. The local species selection and precision woodworking techniques (from Japan and the U.S.) came to define the character of the project's architecture.

CLIENT
Portland Japanese Garden
Portland, OR

ARCHITECTS
Hacker
Portland, OR

Kengo Kuma and Associates
Tokyo, Japan

STRUCTURAL ENGINEER
KPFF Consulting Engineers
Portland, OR

GENERAL CONTRACTOR
Hoffman Construction Co.
Portland, OR

PHOTOGRAPHY
Jeremy Bittermann
Portland, OR

Durable and Adaptable Wood Structures

The restoration of an historic landmark
helps Pennsylvania's past come alive

Painter Barn,
John J. Tyler Arboretum

The land and buildings of the John J. Tyler Arboretum in Media, PA, hold a significant place in the state's agricultural and cultural history. In 1681, King Charles II granted William Penn his colony, and a Quaker named Thomas Minshall then purchased 625 acres from Penn. Over the next century-and-a-half, the Minshall family cultivated a prosperous farm and beautiful landscape. In the 1830s, descendants Jacob and Minshall Painter systematically began planting trees, shrubs and herbaceous plants on select portions of the farmland and formed the nucleus of the cultivated landscape that comprises today's Tyler Arboretum.

Serving as a critical part of the historic fabric of the site as well as the region, the current iteration of the historic Painter Barn, located at the center of the Arboretum, is the result of an 1833 expansion of the original family barn built between 1738 and 1783. The "new" triple-level barn is attached to the smaller structure and built into the same south-facing hillside. Originally, the first level of the barn sheltered animals, the second level stored the hay and grain to feed them, and the third level thrashing floor, opened to the floor below, prepared the grain.

The barn is 40 by 65 feet, with the wide facades facing north and south. The rubble stone walls of the first level retain the hillside while massive stone posts support two stories of timber-frame structure above. Uncoursed field stone rises three stories to form the end walls, with board and batten siding closing the space from top of stone wall to roof peak. The uppermost level is entered from the north via a manmade earthen berm and wood bridge. The middle level is accessed through a stone arched doorway protected by the bridge above. The lowest level is entered from the south through stone arched doorways. Virtually unchanged since its 1833 construction, the barn is one of the largest of the few remaining three-level bank barns in the Delaware Valley.

An iconic landmark on the Arboretum grounds, the historic Painter Barn has served as an education center for many years. To better integrate the building into the educational, cultural and social activities at the Arboretum and to increase the barn's usability as a public venue, open portions of the thrashing floor were infilled, the structure sensitively restored, and electrical, environmental and life safety systems upgraded.

Demonstrating the resiliency of wood, the 185-year-old heavy timber frame stood strong despite members being removed or altered over time,

with bowing of the walls, dips in the roof line and separation of connections evident. Restoration began with its stabilization, and the adaptability of wood allowed necessary changes to be seamlessly integrated using reclaimed timbers and boards from the barn and other new wood sources.

Other interventions required by code included the addition of an exit stair, ADA-compliant restrooms and a sprinkler system. Additional renovation work included new entry doors (the original barn doors were retained on the facade in an open position), and a new mezzanine above the west end of the upper level.

Today, the Painter Barn is a fully stabilized, accessible, safe and productive public venue. It remains a productive treasure from the past, illustrating the benefits of committed stewardship and demonstrating the longevity, adaptability, durability and sustainability of wood.

CLIENT
John J. Tyler Arboretum
Media, PA

ARCHITECT
Archer & Buchanan Architecture
West Chester, PA

STRUCTURAL ENGINEER
CVM
King of Prussia, PA

GENERAL CONTRACTOR
CVMNext
King of Prussia, PA

Regional Excellence

Dramatic yet artfully designed tasting room reflects winemaking family's approach to their craft

L'Angolo Estate

This new, family-owned winery is located on 23 acres outside of Newberg, OR, about an hour's drive south of Portland. The goal was to create a tasting room experience that reflects the family's approach to winemaking – a direct expression of the Oregon soils and climate without embellishment. The team's intent was to reflect this winemaking philosophy with a design that connects to the vineyard experience while also responding to the views, climate and Oregon's emerging identity as a producer of great wine.

Inspired by the broad-canopied native Oregon oak trees that populate the valley, two cantilevered roof structures interlock at the point of arrival to the tasting room. The public space opens to the vineyard and valley to the north, south and east with a structural wood glazing system. Two large sliding doors centered on the tasting room bar bring the vineyard into the space but also serve as a passive cooling system in the summer when used with the upper clerestory windows. The material palette is limited to Douglas fir, exterior cedar siding and dark anodized aluminum.

CLIENT
L'Angolo Estate
Newberg, OR

ARCHITECT
LEVER Architecture
Portland, OR

STRUCTURAL ENGINEER
Schutte Consulting Engineers
Portland, OR

GENERAL CONTRACTOR
Schommer & Sons
Portland, OR

TIMBER SUPPLIER
American Laminators
Drain, OR

PHOTOGRAPHY
Jeremy Bittermann
Portland, OR

Colorado's first commercial CLT project elevates a warehouse into an office

The Loading Dock

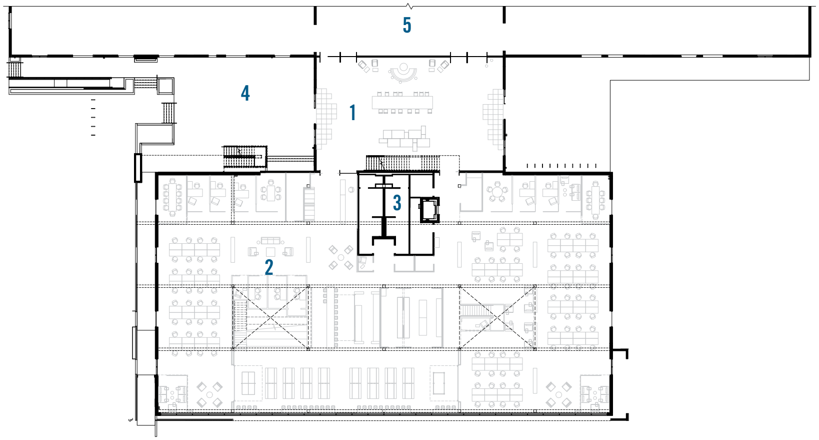
Dubbed "The Loading Dock" because of its creative re-use of an existing warehouse, this project is Boulder's first CLT building and the first commercial project in Colorado to use CLT. It's one of just a few buildings in the nation (so far) to fully integrate CLT into its walls, floors, roof and structure.

CLT for the project was precisely engineered and manufactured to exceptional levels of accuracy, using computer numerical control (CNC) machines. This level of precision helped improve delivery speed, construction time and waste. Those benefits aside, it's not often that the structure of new construction is so completely exposed – or that the structure is such a warm, authentic material. Exposed wood is fully integrated into The Loading Dock, including glulam beams and columns, CLT interior walls, CLT ceilings, and a structural wood storefront.

The design concept is based on connection and authenticity; as the design team put it, they wanted to connect to the existing warehouse and outdoor environment architecturally, but, more importantly, they wanted to take advantage of the opportunity to connect to the local fabric in a transformative way. To help reinforce this connection, a large CLT roof element cantilevers over the main entry.

The new building and renovated warehouse are linked by a former loading area re-interpreted as a wood-planked, elevated boardwalk that connects to the indoor office environment via floor-to-roof glazed openings. This informal gathering space is highlighted by string lighting above. Other notable features include photovoltaic


5541
south
5541
CENTRAL AVENUE
FLAT
IRON
PARK



1. entry lobby
2. open office
3. restrooms
4. courtyard
5. existing warehouse

GROUND FLOOR PLAN

roof panels and a green screen integrated into the balcony railing, which helps shade the outdoor deck space during the summer months. Early collaboration between the construction and design teams also allowed for alternative mechanical, electrical and plumbing coordination; features include pre-cut lighting block-outs in the glulam beams and concealed electrical conduit within the floor, both of which help to highlight the warm and natural wood ceiling.

CLIENT
Crescent Real Estate
Boulder, CO

ARCHITECT
OZ Architecture
Boulder, CO

STRUCTURAL ENGINEER
KL&A
Golden, CO

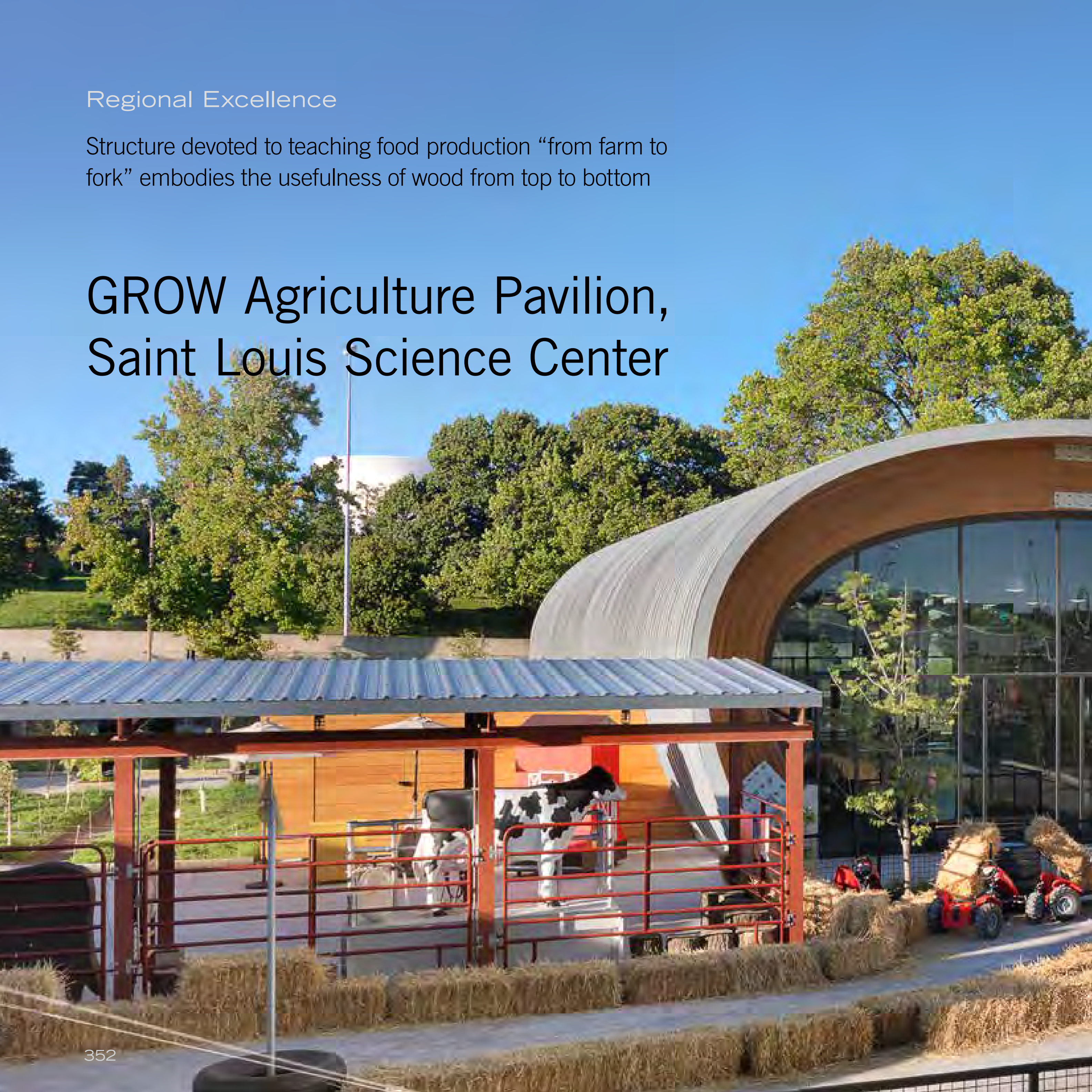
GENERAL CONTRACTOR
Quinlan Construction Inc.
Boulder, CO

TIMBER SUPPLIER
Stora Enso
Austria

PHOTOGRAPHY
JC Buck
Denver, CO

Structure devoted to teaching food production “from farm to fork” embodies the usefulness of wood from top to bottom

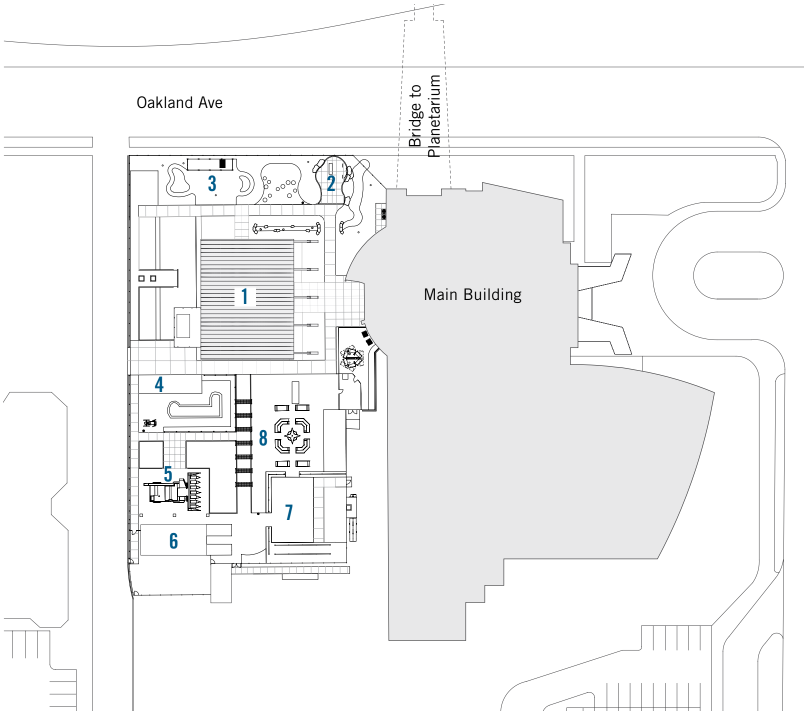
GROW Agriculture Pavilion, Saint Louis Science Center



The Saint Louis Science Center's GROW Agriculture Pavilion is a 4,800-sq.ft. structure in a new expansion that encompasses an acre of indoor/outdoor learning space and interactive activities. Located to the west of the existing Science Center, the pavilion is part of the first major expansion of the museum in more than 25 years, transforming it from an indoor facility to an indoor/outdoor learning experience. Inspired by the simple elegance of typical farm structures and evoking the profile of a plow or scythe, it is envisioned as a graceful, curvilinear structure opening to and connecting with the surrounding outdoor exhibitions where visitors can learn about food production, farm to fork.

The structure is composed of five southern yellow pine arched glulam beams that provide unencumbered space for flexible exhibitions and gatherings. The north and south elevations are fully glazed, bathing the interior in natural light during the day and providing visual transparency in the evening. With its primary axis running north/south, the exhibit hall is designed to be flexibly entered from the north, south and east. Classrooms and building services are housed in cubic volumes that slide under the pavilion's graceful arched structure and are clad in red oak that was locally sourced and milled.

The project's sustainably sourced glulam beams were factory-built in two pieces to accommodate highway transportation, then joined on site and hoisted into position – allowing the primary structure to be erected in two days. These arched beams give



1. grow pavilion
2. water works
3. botany basics
4. animal corral
5. farm tech field
6. greenhouse
7. fermentation station
8. homegrown

SITE PLAN

the building its distinctive character and inviting warmth. The pavilion's curved form and structure is expressed on the interior and is finished in locally sourced and milled hickory, imbuing the space with an inviting warmth and beauty that could not be achieved with another material.

For the Saint Louis Science Center, wood combines elegance, durability, sustainability and natural warmth, reflecting the museum's mission and values while making the GROW exhibition a welcome and successful addition.

CLIENT
Saint Louis Science Center
St. Louis, MO

ARCHITECTS
Arcturis
St. Louis, MO

Gyo Obata
San Francisco, CA

STRUCTURAL ENGINEER
EDM Incorporated
St. Louis, MO

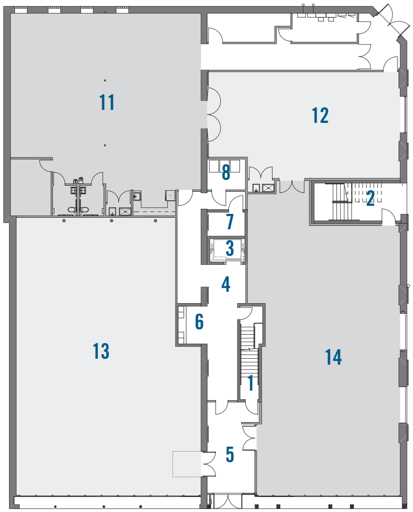
GENERAL CONTRACTOR
Interface Construction Corporation
St. Louis, MO

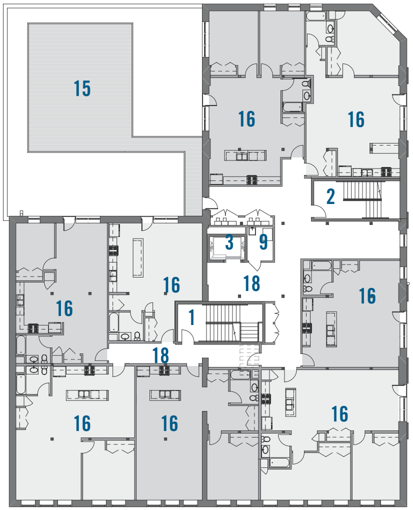
PHOTOGRAPHY
Alise O'Brien Photography
St. Louis, MO

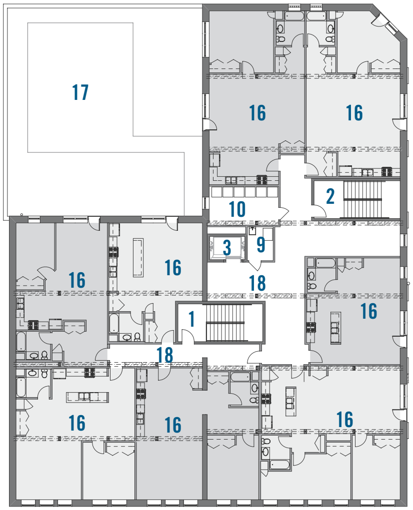
Regional Excellence

A century-old building that was almost lost to neglect reveals its hidden treasures

Bronzeville Artist Lofts







1. stair 1
2. stair 2
3. elevator
4. residential lobby
5. common lobby
6. mail
7. machine room
8. janitor/trash
9. utility
10. laundry room
11. arts incubator
12. flex space
13. commercial tenant
14. art gallery
15. roof deck
16. units for rent
17. roof below
18. corridor

GROUND FLOOR PLAN

SECOND FLOOR PLAN

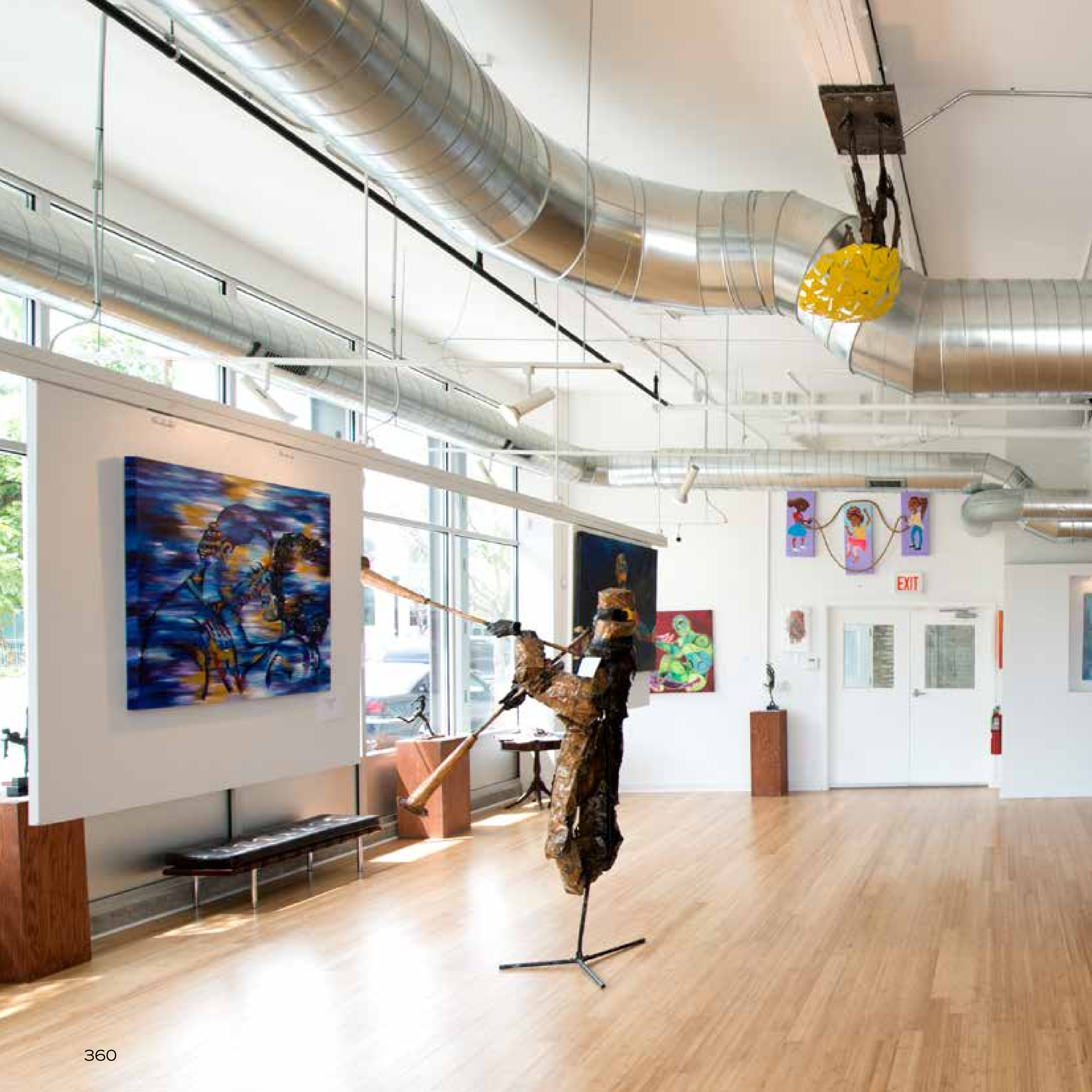
THIRD FLOOR PLAN

Located in Chicago's Bronzeville neighborhood, on a street characterized by vacant lots and boarded buildings, a collapsed roof and years of water infiltration put this building at risk of demolition. However, taking a cue from the neighborhood's vibrant past, a local alderwoman initiated its rehabilitation to complement other community efforts to reclaim the area as one of the city's great arts and culture hubs.

Bronzeville Artist Lofts is the adaptive re-use of this vacant century-old building, originally built as a Borden's Dairy. The building was restored and now includes 16 affordable artist live/work spaces on the second and third floors. The first floor houses a shared artist workshop for residents and a commercial art gallery, as well as additional tenant space. Each floor includes gallery space for resident use, with reclaimed timber seating in the elevator lobbies. The building's unique timber truss structural system is exposed, creating dramatic spaces and open floor plans, with an emphasis on durable finishes, soundproofing and energy efficiency.

The building's structural system consists of full-story timber trusses that support both the roof and third-floor framing. Concealed under layers of renovations, it became clear that the second floor is suspended with cast-iron rods and timber beams from the trusses above. The suspension of the upper floors resembles bridge construction and creates a clear span condition on the first floor, which was remarkable for the time it was built. The fact that this building could be revitalized after decades of neglect and deterioration is a testament to the resilience of its unique wood structure.

With the goal of creating a supportive environment where artists can live and work affordably, this repurposed structure embodies the ideal artist loft space. The third floor occupies the full-story timber truss area, creating drama with floor-to-ceiling truss chords exposed as sculptural elements. Existing common brick walls are exposed at interior locations and new large window openings in the exterior walls


EXIT

flood the space with natural light. Large corridors allow artists to exhibit their work within the building's common areas, the lower roof contains a shared outdoor deck, and shared utility sinks are located on all floors for artists' use. A new freight-friendly residential elevator also reflects the live/work nature of the facility.

On the exterior, the renovated facade reconnects the building to the community. The previously shuttered building has been visually opened to allow views from the outside and is designed to invite the community to interact with the building's artists and arts programming. Beyond the clear need for artist workspace (178 artists submitted applications for 16 units), this kind of reinvestment in our communities sends a powerful message to young people that they, and the places they live and work, matter.

CLIENT
Revere Properties
Chicago, IL

ARCHITECT
Wrap Architecture
Chicago, IL

STRUCTURAL ENGINEER
Joseph Farruggia
River Forest, IL

GENERAL CONTRACTOR
Madison Construction
Orland Park, IL

PHOTOGRAPHY
Brad Pogatetz
Batavia, IL

Regional Excellence

Wood makes residence truly feel
like a home away from home

New College House, University of Pennsylvania

This 350-bed residential facility at the University of Pennsylvania is centered around a core of dining and social areas that create a true community on campus. The strategic use of wood throughout the 198,000-sq.ft. building marks shared social spaces and integrates the exterior and interior.

The building is located at the confluence of major campus pathways, with the experience of arrival choreographed through a tall, transparent entry pavilion. The use of structural glulam beams and roof deck contrast with the building's stone and brick facade to reveal its entrance. Beyond the pavilion is a private courtyard, the social heart of New College House. Surrounding this space are areas designed for collaboration: seminar rooms, and lounges for studying, watching movies, making music and dining. Wood wall and ceiling panels used throughout these active spaces promote a sense of warmth and comfort within.

Adjacent to the entry and exterior courtyard, the dining pavilion is used for special events as well as everyday food service. Its slatted wood wall panels provide acoustical control while a double-height wood ceiling allows for tall

windows that look out onto the campus. Both the entry pavilion and dining pavilion are bathed in sunlight during the day, while at night becoming lanterns that act as a welcoming gesture for students returning to their home away from home.

Between the pavilions, a combined interior stair and exterior public passageway punctuate the building. Here, the use of a wood ceiling connects the interior and exterior spaces. On the interior, the wood slat "wedge" transforms the bottom of the stair into a sculptural element that marks the intersection of pedestrian paths in the main lobby.

Other social areas – including a living room, reading room, community kitchens, and gathering spaces throughout the residential floors – make use of wood panels, furniture and end-grain block flooring to provide spaces for quiet respite or congregating with friends. Student suites are collected around daylit, double-height common room towers of wood and glass, offering community gathering spaces on the inside while animating the exterior facade. Wood soffits serve to connect the exterior and interior of the public spaces.

The wood tables in the dining room and reading rooms, like much of the furniture used throughout the building, were made locally in Pennsylvania. Coffee tables in the student suites were designed and fabricated in Philadelphia, and the solid wood, custom built-in furniture was fabricated in New Hampshire using responsibly harvested red oak from the Russell Abbott State Forest.

New College House integrates wood in strategic ways to affect both the aesthetic and structural design of the building and create a place where students can live, learn and thrive in a collegiate environment.

CLIENT
University of Pennsylvania
Philadelphia, PA

ARCHITECT
Bohlin Cywinski Jackson
Philadelphia, PA

STRUCTURAL ENGINEER
CVM
King of Prussia, PA

GENERAL CONTRACTOR
Intech Construction
Philadelphia, PA

TIMBER SUPPLIER
Alamco Wood Products
Albert Lea, MN

PHOTOGRAPHY
Nic Lehoux
Vancouver, BC

Jeffrey Totaro
Gladwyne, PA

Gregory Benson
Philadelphia, PA

Regional Excellence

Flexible and sustainable, prototype airport design redefines air travel in Massachusetts

State of Massachusetts Public-Use Airport Buildings


EXIT

As gateways for tourism and economic drivers in their communities, the new airport buildings designed as part of the Massachusetts Statewide Airport Building Program go beyond improving the quality of the state's general aviation system: they're also contributing to the renewal of towns.

After completing a year-long master planning project to help the Massachusetts Department of Transportation Aeronautics Division develop a program aimed at revitalizing community airports, a prototypical building design was created to express the identity of the state's general aviation system through iconic architecture.

Over the course of the project, designers from Fennick McCredie Architecture visited each airport within the program, studied its business model, and learned about its plans for the future. With a focus on sustainability and flexibility, they developed a system of 4,000 to 5,000-sq.ft. prototypes that address common issues while allowing each airport to adapt the layout to suit its own functional needs. The prototypes anticipate each building's exterior expressions, reflecting the character of the town and facilitating integration with the existing network of municipal resources. Designed to engage local communities in airport activities, the new buildings offer an aviation experience that is local, personal and inviting.

The project promotes sustainable architecture through the use of timber structure. The buildings are intended as community spaces as well as aviation hubs, and the robustness of exposed CLT and glulam allows for low maintenance while ensuring that the buildings age well through heavy use. This combination of CLT panels and glulam beams is a distinct feature of the prototype, and the airports are among the first buildings in Massachusetts to use these materials structurally. Wood also provides a unifying program element, marrying sustainability with structural and visual considerations.

Inside, exposed spruce beams take advantage of the wood's aesthetic qualities while providing a necessary structural element in the tall, open spaces without evoking an industrial feel. The natural characteristics of spruce, including its warmth and strength, achieve the goal of creating comfortable yet durable spaces for the public and pilots to enjoy.

Logistically, the combination of CLT and glulam allows fewer components throughout construction, expedites manufacturing, reduces coordination, and allows full deck-and-beam installation to be completed within days. Because of the beauty of the wood deck and its structural spanning capability, the designers eliminated ceilings and organized direct and indirect lighting to visually and physically open the space.

The striking split roof with overlapping high and low planes creates a dynamic and light-filled lobby that rises 18 feet high, lit by the sunrise and sunset each day yet shielded from most solar heat gain. The exterior roof overhang provides protection from the elements, while large windows encourage visitors to enjoy expansive runway views. Functionally, the elevation changes between the roofs to conceal conduit and piping, which cross the open lobby out of view. By carefully combining wood's high insulation value with the CLT deck thickness, the prototype design benefits each airport location through reduced roof insulation, greater temperature regulation, and lower heating costs during winter months.

The first three of 13 administration buildings to be designed and built under MassDOT's Strategic Master Plan for Municipal Airports

have been constructed at Beverly, Fitchburg and Mansfield airports. The realization of the prototype for these locations creates enduring community spaces that help reinvigorate local economies through tourism and vibrant cultural events.

CLIENT
Massachusetts Department of Transportation (MassDOT)
Boston, MA

ARCHITECT
Fennick McCredie Architecture
Boston, MA

STRUCTURAL ENGINEER
Arup
Boston, MA

GENERAL CONTRACTOR
CMGC Building Corp.
Manchester, NH

TIMBER SUPPLIER
Nordic Structures
Montreal, QC

Regional Excellence

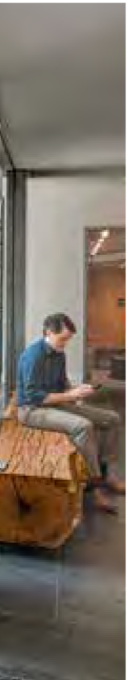
Linking student life and health, Duke's Wellness Center takes interconnectedness to heart

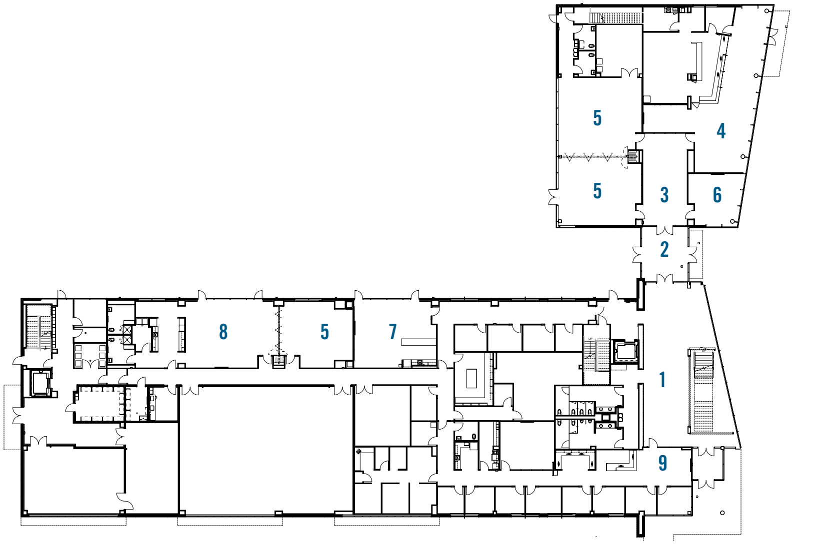
Duke University Student Wellness Center Atrium

Duke's new Student Wellness Center represents the merger of student health and wellness into everyday student life on campus. The project effectively transforms the standard infirmary program into an integrated approach to care by bringing together Duke's providers of student health services – Student Health, Nutrition, Counseling and Psychological Services, Wellness, and Case Management – under one roof.

The project is essentially three buildings in one, with wood as a dominant material. The architecture draws students in, much like the function of a student union, to create a facility that answers both the traditional function of clinical care and the role of wellness in ensuring happy and healthy students.

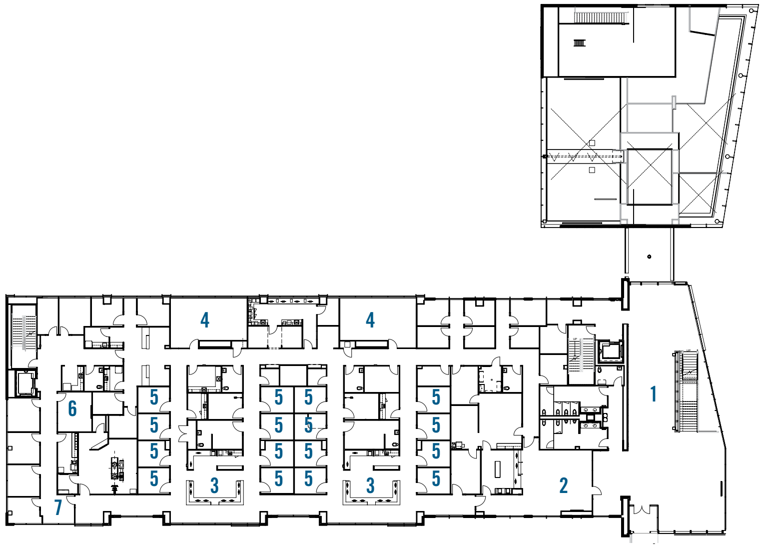
The center is strategically situated between Duke's athletics and student life complexes, and directly adjacent to campus residences, directly linking student life and student health. It is also sited beside Duke's historic forest, and the openness of the building's three-story atrium allows extensive views of nature and gardens.





1. lobby
2. connector
3. pre-function/gallery
4. pharmacy
5. multi-purpose
6. conference
7. oasis
8. staff lounge
9. DukeReach case management

N GROUND FLOOR PLAN

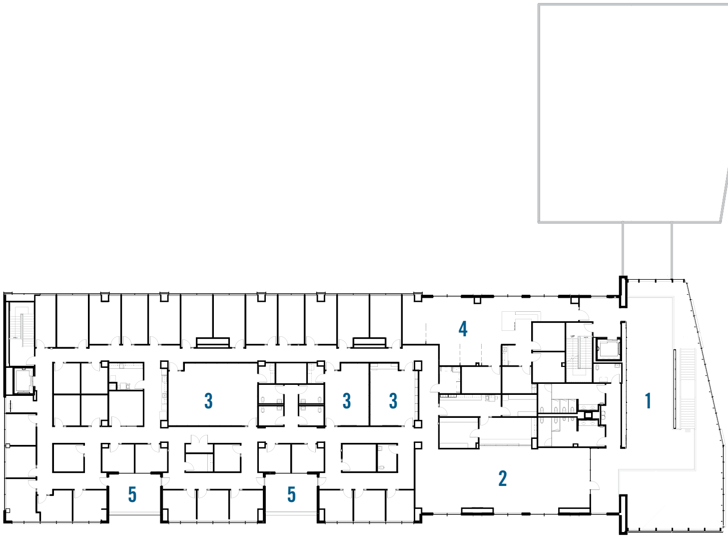


1. lobby
2. student health
3. nurse station
4. provider suite
5. exam room
6. conference
7. admin suite

N SECOND FLOOR PLAN

A monumental entry stair within the atrium signifies the interconnectedness of building functions. A translucent wall etched with abstracted leaves follows the stair through the building's multiple levels, encouraging vertical circulation among building programs. An interactive message wall educates visitors on personal and environmental wellness. Public and private functions are layered. The open entry promotes social interaction but also presents circulation options. Privacy for clinical care is enhanced by positioning these spaces on the third level, with clinical spaces oriented to ensure views of the outdoors. The atrium also directs users to flexible and semi-private spaces for education programs and community outreach.

The site's forest is echoed in the atrium's wooden super-structure. Thoughtfully framed views, extensive glazing, clerestory lighting, a garden of loose river rock, and careful attention to the selection of flooring and paving materials all enhance the merger of indoor and outdoor spaces. The building footprint was reduced to minimize the project's environmental impact, and oak harvested from the site was locally milled and used extensively for interior veneered surfaces. Massive timbers, removed from the site for construction, were minimally milled and provide extended benches for seating beneath the entry stair. A contemplative garden reinforces connections to nature and reaches out to campus circulation paths.



1. lobby
2. counseling and psychological services
3. group therapy
4. physical therapy
5. terraces

THIRD FLOOR PLAN

The structure of the building's two wings is comprised of steel frame and concrete floors. Slate flooring, wood veneer and rough textured bark on the wood benches echo natural themes throughout. Vertical wood louvers and fritted glass for solar shading direct and redirect light while preserving views. The exterior facade of the building is articulated in three tower elements made of curtainwall glass and a terra cotta rainscreen system in two gray colors that contextually relate to the palette of historical stone on campus.

CLIENT
Duke University
Durham, NC

ARCHITECT
DudalPaine Architects
Durham, NC

STRUCTURAL ENGINEER
Stewart, Inc.
Durham, NC

GENERAL CONTRACTORS
D.A. Everett Construction Group
Cary, NC
Gilbane Building Company
Providence, RI

TIMBER SUPPLIER
QuarterSawnOak
New Hill, NC

PHOTOGRAPHY
Robert Benson Photography
Hartford, CT

OTHER AWARDS

British Columbia

TECHNOLOGIST AWARD
Karla Fraser
Urban One Builders
Vancouver, BC

JURY'S CHOICE
Bill Downing
Structurlam Products Ltd.
Penticton, BC

ARCHITECT AWARD
Acton Ostry Architects
Brock Commons Tallwood House
Vancouver, BC

ENGINEER AWARD
Fast + Epp and GHL Consultants Ltd.
Brock Commons Tallwood House
Vancouver, BC

WOOD CHAMPION
Kevin Mahon
Adera Development Corporation
Vancouver, BC

Prairie

WOOD ADVOCATE
Joe Kalturnyk,
Chad Connery, Jon Reid,
Design team for projects
Raw: Almond, Raw: Gimli
Winnipeg, MB

Ontario

DESIGER/BUILDER AWARD
Pratt Homes
Barrie, ON

WOOD CHAMPION
Tad Putyra,
President and COO
Great Gulf Low-Rise;
President,
H+ME Technology
Toronto, ON

RAW POP-UP RESTAURANTS, RAW: ALMOND – WINNIPEG
PHOTO CREDIT: Lindsay Reid, Winnipeg, MB
DESIGN TEAM: Joe Kalturnyk, Chad Connery, Jon Reid, Winnipeg, MB

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