CELEBRATING EXCELLENCE IN WOOD ARCHITECTURE

2021-22 WOOD DESIGN AWARDS WINNERS

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Celebrating Excellence in Wood Architecture
2021–22 Wood Design Award Winners

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CELEBRATING EXCELLENCE IN WOOD ARCHITECTURE

2021–22 WOOD DESIGN AWARD WINNERS

Showcasing the DIVERSITY OF WOOD

The Wood Design & Building Awards program celebrates and honors the best of wood design and architecture in commercial, institutional, and residential construction. This year's winning projects showcase not only wood's form and functionality but also its diversity.

Talented architectural teams from across the globe continue to encourage and promote the use of wood in a number of creative ways, and the skill and diversity in their outstanding projects are featured in these pages. This year's winning projects include libraries and schools, community and cultural centers, private residences, and social housing.

A new addition to our program this year is the Against the Grain award. This is awarded not to a structure, but to an individual who has shown excellence in architectural skills. This year's recipient is Dr. Nancy Mackin of Mackin Architects in Vancouver, BC.

With the number of consummate competitors in this year's program, our jury—consigned to the virtual environment for a second year—had an arduous task. But they pushed ahead to determine the winners. We gratefully acknowledge and thank our esteemed jurors for their time and expertise: Donald Chong, design principal at HDR; Tom Chung, principal at Leers Weinzapfel Associates; and Marie-Odile Marceau, principal at McFarland Marceau Architects.

We also offer our deep appreciation to our sponsors—Sansin, the Sustainable Forestry Initiative, and Western Red Cedar—for their support and ongoing commitment to our awards program.

Finally, on behalf of the entire team at *Wood Design & Building* magazine and the Canadian Wood Council, we extend our sincere gratitude to all participants of the 2021/22 awards program. Congratulations to our winners for your excellence and for your promotion of diversity in wood!

Martin Richard
VP, Market Development & Communications
Canadian Wood Council

Ioana Lazea
Senior Manager, Special Projects
Wood Design & Building Awards


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Moxy Oakland Downtown

Mystic Creek Clubhouse

Norwell Public Library

Poplar Hall

University of Denver Burwell Center for Career Achievement

Wood Design & Building Awards

Jurors

DONALD CHONG
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hdrinc.com

TOM CHUNG
Principal
LEERS WEINZAPFEL ASSOCIATES
lwa-architects.com

MARIE-ODILE MARCEAU
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WRCLA
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The Possibilities of Wood

Wood is simultaneously a sustainable building material and a beautiful one. Exposed wood beams and columns and cladding add elegance to any structure. While the projects for the 2021/22 *Wood Design & Building* Awards were all striking, they also showcased the numerous possibilities wood holds, showing that no project is too great, too small, or too complex to feature the wonders of wood.

This year's diverse award winners include a Chinese bridge, which pays tribute to the traditional construction techniques used in the rural areas of Guangdong Province; a Washington, DC, library with a crinkle folded roof; and Indigenous-based student housing for a college in British Columbia. These and the other projects in the following pages must be commended for their unparalleled execution, creativity, and aesthetics.

Our discerning jurors were particularly impressed with the two Honor award winners, which, again, highlight the material's diversity. From Barcelona, Spain, 85 Social Housing at Cornellà stood out as a "brilliant piece of architecture," according to the jury. "It's robust, industrial, and beautiful, and makes the spaces so human," said one juror. Parc de la Chute-Montmorency—Experience Chute in Québec City, QC, "was able to make the wood talk about its historical use and importance," noted another.

From bridges to boardwalks, social housing to ski resorts, projects in wood are as diverse as species of trees themselves. We can only anticipate what architectural teams will design in the months and years ahead.

In the meantime, relish the spectacular award-winning projects highlighted in these pages and soak up the endless possibilities of wood!

Brooke Smith
Editor
Wood Design & Building

HONOR AWARDS

Rooted in the historical richness of the area, this revitalization of a popular tourist attraction in Québec's capital creates a humbling "expérience" for one and all.

"Design-wise, there is not one element of it that's bad. It's all good. It's executed well, but with a degree of difficulty."

– Jury

Parc de la Chute-Montmorency—Experience Chute

Québec City's Parc de la Chute-Montmorency and its 270-ft. waterfall attract more than 800,000 visitors each year, a volume of traffic that overwhelmed its dated infrastructure—particularly the 6.5-ft.-wide footbridge that ran parallel to the railway bridge over the river. Thanks to this elegant footbridge, visitors now arrive at an open-air welcome pavilion built from steel, red cedar, and pine with a cantilevered roof and horizontal structure that emphasize the views toward the falls, while newly elevated footpaths allow low-impact strolls through a landscape replanted with native flora.

Intervening in such a vast and imposing site requires respect and humility so that the visitor's experience is entirely dedicated to contemplation and experience of the falls. The new installations realized as part of Experience Chute showcase the natural beauty of the park by drawing on its existing character.

The Welcome Pavilion defines the western segment of the path around the Montmorency Basin and marks the entry point to Experience Chute. It is located on a gentle slope toward the basin and designed to respect the sensitive environment of the river shoreline.

Built on the site of an abandoned electrical substation, its minimalist steel structure, which is devoid of vertical bracing through the skilful integration of rigid frames, features a canopy cantilevering toward the water, emphasizing the horizontality of the construction

and framing views of the landscape. The roof is a single, continuous plane; the pergola of the cantilever allows for a play of light and shadow on the ground that changes with the hours and seasons.

Adjacent to the pavilion, the wooden boardwalks of the Nature Path hover on stilts, minimizing their impact on the environment. The lamination and tectonics of the boardwalks are inspired both by the iconography of log piles that accumulated at the base of the falls during the log drives and by the stacks that characterized the sawmill landscape of the last century.

The Contemplative Footbridge is a part of Experience Chute that, like the project as a whole, is intended to resonate with the genius loci of the site. The original pedestrian bridge offered a privileged view of the waterfall and was used as an observation point by many visitors, creating a bottleneck to pedestrian traffic crossing the river. Widening the bridge to 18 ft. and creating terracing levels offer both a walkway space above and a belvedere space below, allowing visitors to stop, sit, and contemplate the waterfall while others flow through.

Wood was chosen mainly for aesthetic and structural reasons, and in connection with the history of the site. The main wood species used in the project is yellow pine for its aesthetics and strength. The cantilevered pergola portion is made with structural Western red cedar, both for its strength and durability. The urban furniture is covered with ipe, used for its durability and ease of maintenance.

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STRUCTURAL ENGINEER
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GENERAL CONTRACTOR
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PHOTOGRAPHY
Maxime Brouillet
Montréal, QC

Eliminating internal corridors and creating a communal space that connects these residential units with the surrounding neighborhood help make this housing a lot more social.

85 Social Housing at Cornellà

Built on the site of a former cinema in the municipality of Cornellà de Llobregat, this five-story, 107,000 sq.ft., 85-unit social housing project is Spain's largest timber-framed residential building.

The project features five timber-framed floors positioned on top of a reinforced concrete podium that contains shops and public services. The building's mass is arranged around a courtyard that functions as a plaza for the residents. A portico at the base connects this central communal space with the surrounding neighborhood.

One of the key objectives of the design team was to maximize the floor area, which informed the decision to move the circulation areas to the interior elevations. Rather than incorporating internal corridors that use up valuable space, a series of covered terraces encircling the courtyard provides access to the apartments. Elevators and solid timber stairs are positioned at the four corners of the central plaza and lead to landings on each level.

Doors to the individual residences are set into walls clad with corrugated metal, which adds a subtle relief to the surfaces. Metal mesh balustrades lining the terraces maintain sightlines to the courtyard and the other levels.

Each unit consists of five or six modules, depending on whether the unit has two or three bedrooms. Open-plan kitchen modules replace corridors as the main circulation space within each unit. Other rooms that can be partitioned using sliding doors connect to the central kitchen areas. The size of the rooms, in addition to offering flexibility based on ambiguity of use and functional indeterminacy, allows an optimal structural space for the wooden structure.

The distribution of the residences ensures they all have dual orientation and cross-ventilation. Sliding doors connect the living areas with a second layer of terraces that wrap around the external elevations. Venetian blinds incorporated into the façades help to shade the apartments. The blinds are made from wood, complementing the wooden ceilings and floors while softening the building's overall appearance.

With a strong sense of openness and connection—both inside the individual apartments and reaching out to the neighborhood—the social dwellings in Cornellà achieve a rare balance of bringing dignity to both the residents within and the city beyond.

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STRUCTURAL ENGINEER
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Barcelona, Spain

GENERAL CONTRACTOR
Vias y Construcciones S.A.
Madrid, Spain

PHOTOGRAPHY
José Hevia
Barcelona, Spain

Adidas North American Headquarters Expansion
Portland, OR
Please see page 248

MERIT AWARDS

"It's a humble house above the trees, with an ecological purpose."
– Jury

Some innovative thinking with CLT proves there's "m.o.r.e." than one way to build a home in the woods.

m.o.r.e. Cabin

Located in the forests near Canada's National Capital Region, this cottage is dubbed "m.o.r.e." after the initials of the clients' grandmothers, all of whom did more with less—and gracefully so.

The paradigmatic North American cottage is romanticized as a wilderness log cabin, and yet typical modern cottages are "woodsy" versions of suburban homes with every modern convenience. The m.o.r.e. Cabin inverts this idea through a separation from the landscape that is more sustainably constructed than other cottages through a reduced foundation size, low-waste CLT structure, off-grid power and high-efficiency heating, and the achievement of greater tensile strength through a "folded" structure.

Zoning for this area required a 100-ft. setback from the lake. A cliff face at that 100-ft. mark was incorporated into the design, when it might have entailed blasting. To minimize harm to the immediate hillside and forest, a zoning variance was pursued to allow the front of the cabin to hover over the 100-ft. mark.

The technical solution to this design challenge involved a single concrete footing and a steel "mast" placed within the required setback. Avoiding a conventional large foundation preserved the watershed and prevented erosion.

The challenge then became developing a structural strategy using cantilevered CLT panels as a response to the zoning variance. CLT is fundamentally deployed in vertical/compressive sections, not horizontally in tension, and conventional 5-ply CLT is too heavy to support itself over longer spans. The solution uses thinner 3-ply CLT, with structural capacity ensured through "folding" (similar to how paper gains strength when folded).

The 1.5-m.-deep fold of the cabin's 30-m. "box beam belly" is exactly the depth needed to create the desired span and cantilever with 3-ply CLT. The box beam is further stiffened by internal glulam ribs, like a ship's hull, and the roof's folded CLT panels yield a structural ridge that mirrors the box beam's fold. The cabin is built with suitably sourced CLT panels and glulam beams, with the CLT milled offsite and then hoisted into place; damage to the landscape was avoided by the careful maneuvering of construction machinery.

The elevated solar-powered cottage catches more breezes than a traditional cabin and has excellent cross-ventilation. Heat is provided by a high-efficiency "green carbon" woodstove. Good R-value and thermal comfort are provided by CLT's mass, and precise joinery provides airtightness.

Finally, the project earns its green status by creating a home for endangered brown bats. Bat pods were integrated into the mast to provide safety from climbing predators and a clear flight path to the lake.

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STRUCTURAL ENGINEER
Daniel Bonardi Consulting Engineers
Arlington, MA

GENERAL CONTRACTOR
GPL Construction
Gatineau, QC

PHOTOGRAPHY
Scott Norsworthy
Toronto, ON

"The structures look very elegant. There's a whimsical quality that is brought by these colors."
– Jury

Created by a team working on three continents over 18 months, this stunning showcase for China's agricultural industry is the largest timber structure in Asia.

Tianfu Agricultural Expo Main Hall

The Tianfu Agricultural Expo Main Hall is part of a major development program in the greater metropolitan area of Chengdu, a city that aspires to compete with other major economic hubs in China. The Tianfu Agricultural Expo Main Hall is located on the west border of the Sichuan Basin, and the wide views of waving rice fields and mountain peaks on the horizon inspired the architect with the concept for the curved timber enclosures.

At more than 800,000 sq.ft., the new Tianfu Agriculture Exposition is the largest timber structure in Asia, and one of the largest timber structures in the world. This series of five vaults use unique Vierendeel-inspired trusses that are a hybrid of timber chords and steel webbing, achieving clear spans up to 360 ft. and heights up to 145 ft. Housing museums and displaying agricultural products from the region, the roofs of these halls are clad with ETFE but are open-ended, encouraging a direct connection with the surrounding farmland.

The unique wave of the building ensemble blends gently into the landscape, but also provided challenges for the engineering team to materialize the architectural scheme into a bold project on a tight schedule. The result is a unique series of long-span timber structures, created through the cooperation of team members on three different continents, delivering the owner's desire to showcase the economic power of the Chengdu agrarian region, and provide a world-class attraction through innovative engineering and design.

The largest timber vault spans over 360 ft., highlighted using a 32,000-sq.ft. LED screen above the main entrance to the convention center. Each of the five vaults is semi-enclosed with a light, cable-supported LED screen at the front and a full opening on the back. Some of the structures are filled with inner buildings to support the agricultural expo, and some are open to house flexible spaces and temporary structures.

The architectural vision for the building ensemble translates into 3,500 unique singly curved timber members. By integrating a cutting-edge parametric workflow into the design process, the design team achieved the ambitious architectural vision and freed the design from common fabrication and timeline constraints.

Wood was chosen to meet the aesthetic desires for the project, as well as sustainability. As the Expo's purpose is to attract a large audience to the region's many agricultural and cultural products, timber seemed a natural choice. Not only does it create the warm architectural vision, but it uses renewable resources and clean construction.

The architectural vision called for an efficient, boundary-pushing structure that incorporated exposed timber in the most efficient way possible. Through detailed design, engineering, and construction coordination, the team was able to achieve such a result, demonstrating the versatility of timber for parametric and long-span applications. The project team observed significantly decreased fabrication and erection times, due to the use of extensive and quick prefabrication. Additionally, detailed erection sequences were planned ahead of time, which allowed all five vaults of the structure to be erected in eight months.

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STRUCTURAL ENGINEERS
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Abbotsford, BC

China Architecture
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Beijing, China

GENERAL CONTRACTOR
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Beijing, China

China SKF Construction
Shanghai, China

PHOTOGRAPHY
Kang Kai
Singapore,China

Jian Wu
Shanghai, China

Clayton Community Centre
Surrey, BC
Please see page 130

Waskesui Beach House
Saskatoon, SK
Please see page 148

CITATION AWARDS

"The skylights are well executed, and it's nicely conceptualized."
– Jury

Inspired by the shape of early hand-carved skis, the smoothly curved Y-columns in this clubhouse are just the start of a spectacular skiing experience.

Osler Bluff Ski Club

Located in the heart of Ontario's ski country on the Niagara Escarpment, the new Osler Bluff Ski Club is a renovation and expansion of a 1974 heavy timber and coreslab structure.

The club was facing several pressing issues when it chose to update its facility: overcrowded lunchtime seating, poor flow between the changerooms and social spaces, a deafening après-ski experience, and no childcare space. The original structure also needed to be brought up to current health, safety, and accessibility standards. The design focuses on tying together the old and new structures, with the intent of capturing

the historic spirit of the existing heavy timber spaces while creating a modern and sustainable expression that speaks to the club's future. Carrying through an ethos of craft and timber construction, new Y-columns reinterpret the existing heavy timbers and are CNC-milled to mimic the soft profiles discovered through the history of hand-carved wood skis. The figural character of these new columns marks one of many wood details throughout the clubhouse, establishing a site-specific language of solid and veneer-based construction techniques and presenting the members with tactile moments throughout the club. A new custom-designed Douglas fir acoustic ceiling runs through the entire project, acting as a primary surface in both the renovated and new spaces. The new ceiling aligns with the lower face of the existing timber frames, allowing the updated sprinkler system and lighting to be concealed and giving the clubhouse the feeling of a wooden tent. The dramatically reduced decibel level has made for a space that is warm acoustically, which complements the warmth of the interior finishes. The initial decision to reuse the existing clubhouse instead of demolishing and rebuilding was critical. It meant a reduction in the amount of waste generated by demolition, conservation of the embedded carbon, and fewer new materials to achieve the new building. Given that many of the existing solid Douglas fir timber frames were previously exposed to the exterior on one side, many had checks of up to an inch wide. Each timber frame was assessed and repaired, and the accumulated weathering was left intact, preserving the memory of the old building line. The new slope-side façade—which replaced 40-year-old single-glazed windows with a timber-backed curtain wall—now encapsulates the timber, protecting it from the elements. These measures and more ensure that all existing timber was kept in the building and will continue to perform as originally designed. Working to retain and reinforce the original structure has allowed the spirit of the existing clubhouse to be maintained while delivering what is essentially a new building enveloping it.

ARCHITECT
Williamson Williamson
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STRUCTURAL ENGINEER
Blackwell Engineering
Toronto, ON

GENERAL CONTRACTOR
Upstream Construction
Collingwood, ON

PHOTOGRAPHY
doublespace
Toronto, ON

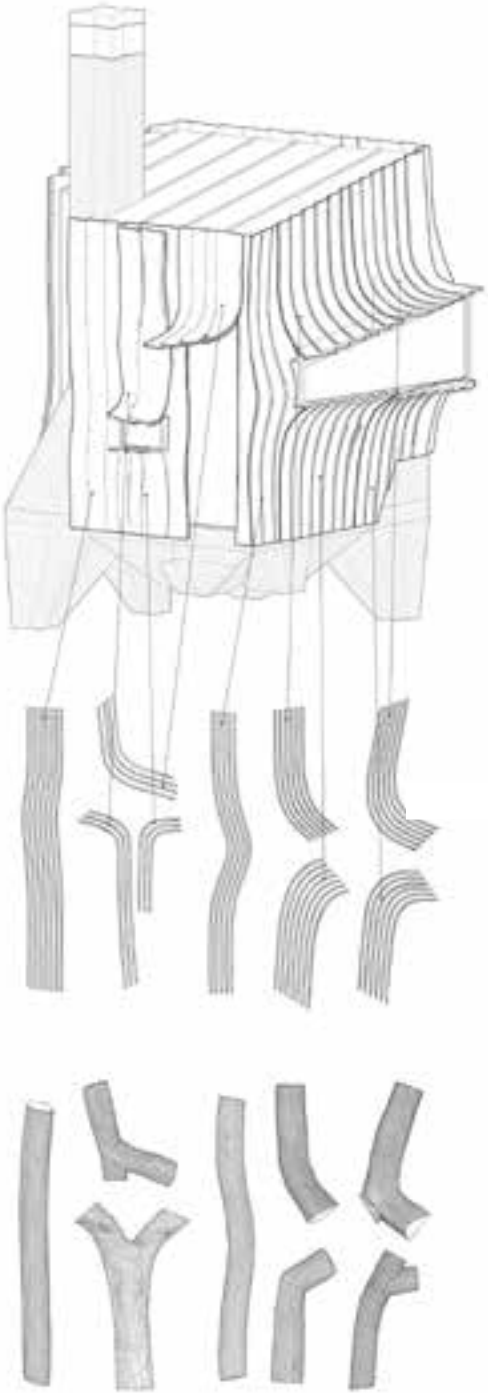
"There's interesting tension in this project, and the use of the cladding strategy is quite inventive. It's whimsical."
– Jury

Inspired by ecological considerations, Ashen Cabin offers a new take on sustainability that's a cut above traditional thinking toward infested timber.

Ashen Cabin

Clothed in a robotically fabricated envelope made of emerald ash borer-infested (EAB-infested) timber, Ashen Cabin charts a new pathway for addressing the environmental problems caused by the invasive beetle in North American forest ecosystems.

Because these ash trees cannot be processed by regular sawmills due to their challenging geometries, a large number of affected ones are either left to decay in forests as carbon dioxide-emitting organic waste or used as low-value firewood. By implementing high-precision 3D scanning and robotic fabrication technology, this project upcycles EAB-infested waste wood into an abundantly available, affordable, and sustainable building material.



Architecturally, Ashen Cabin walks the line between familiar and unfamiliar; between technologically advanced and formally elemental. The supporting concrete structure was fabricated on a self-built large-scale 3D printer using a custom 3D printing process. The undulating wooden surfaces accentuate the building's program, yet remain reminiscent of the natural log geometry they are derived from. The curvature of the wood is strategically deployed to highlight moments of architectural importance, such as windows or the entrance canopy, or to provide additional programmatic opportunities such as integrated shelving, desk space, or storage. While transformed and reconfigured, the natural tree remains legible in the architectural design.

Using an industrial robotic arm with a custom bandsaw attachment, irregular tree logs can be sawn into naturally curved boards of varying thicknesses (up to 2-mm. thin). The boards are arrayed into interlocking SIP façade panels, and solid off-cuts can be structurally integrated in the assembly, which results in a minimum waste fabrication method. The SIPs are insulated using a two-component closed-cell foam for which a fully biodegradable option is also available. The resulting façade assembly is fully ventilated and detailed to manage shrinkage, and does not require an additional rain screen.

On the exterior, stark and bold black window geometries pierce the wooden fabric-like envelope. Over time, the exterior of the cabin will gray naturally, creating a more nuanced distinction between the two predominant material systems (concrete and wood). The sculptural 3D printed concrete legs elevate the building, provide a solid foundation for the timber construction, and ensure the building touches the ground lightly.

Ash wood is very conducive to this type of fabrication process due to its relatively low moisture content. After harvesting, the moisture content of the ash logs was 20%, close to the ideal moisture content of 10% to 15%. The low moisture content reduces warping

ARCHITECT
HANNAH Design Office LLC
Ithaca, NY

PHOTOGRAPHY
Andy Chen
New York, NY

once the boards are cut and ensures the geometric stability necessary to construct the envelope. Although additional time for drying would be preferable, the cut boards were assembled into façade panels two weeks after robotic slicing and remained stable throughout the fabrication process.

The entire project was preassembled in an external warehouse before being installed onsite over a two-week period. Custom window frames, a door, and a kitchen counter were designed and fabricated using plywood and single-pane glazing. The exterior envelope of the cabin was left untreated and will turn gray over time to naturally protect the exterior from environmental conditions.

The Golden Arches soar high over this radical reinvention of the dining experience that has residents of the Windy City saying, "I'm lovin' it."

McDonald's Chicago Flagship

The new McDonald's flagship restaurant in Chicago celebrates pure simplicity and enduring authenticity, welcoming both residents and visitors to a playful and informal gathering place in the heart of the city.

The site is a full city block, just steps off Michigan Avenue, occupied since 1983 by another restaurant as an iconic "rock 'n' roll" restaurant that emphasized drive-through services. The new design rebalances car/pedestrian traffic, creating a city oasis where people can eat, drink, and meet. Green space is expanded, producing a new park-like amenity for a dense area of the city.

A generous solar pergola visually unites the restaurant into a single volume. Beneath this "big roof," indoor dining areas contained in a pure glass box are seamlessly connected to outdoor spaces. The new kitchen reuses the footprint and structure of the previous store.

The dining room features a hanging atrium planted with ferns and white birch trees floating above a digital ordering "street." From this vantage point, guests can experience the landscape beyond and above. Over shared tables with wireless charging and outlets, "tapestries" of living plants improve indoor air quality and provide a backdrop of green gradients. What might surprise many can be found on the adjacent kitchen roof: a row of harvestable apple trees can be seen through a clerestory window, relaying a story about the future of urban farming and the utilization of often underused space.

Capped with CLT and glulam beams, the restaurant became the first commercial use of CLT in Chicago. The integration of this relatively new building material in the domestic market was generated from an interest in the warmth and beauty wood products provide while also helping to share a commitment to sustainability. The design team worked with the city's building department to allow for the use of heavy timber structure in the central business district.

The restaurant showcases the marriage of two structural materials and systems set against the backdrop of a city known for its architectural innovation. The CLT was multipurpose, providing visual interest, acoustic value, and a finished ceiling without increasing roof depth. The expression of an exposed structure presented the design team with opportunities to celebrate all building "guts" in an inventive and organized way. This includes exposing conduit, sprinkler pipes, and electronic support systems in surface mounted channels; all while redirecting heating and cooling systems below the finished floor.

Beyond the use of materials to tell a sustainable story, the solar pergola captures the sun's energy, supplying nearly 60% of the building's electrical energy needs. An improved building envelope is designed to save 50% in annual energy costs.

ARCHITECT
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STRUCTURAL ENGINEER
Goodfriend Magruder Structure LLC
Chicago, IL

GENERAL CONTRACTOR
Walter Daniels Construction
Chicago, IL

PHOTOGRAPHY
Kendall McCaugherty,
Hall+Merrick Photographers
Chicago, IL

"There's quite a reserved elegance about this. It's well balanced, pleasing, modest, and sophisticated. It's exploring the advantages in the wood."

– Jury

Designed to embody the client's commitment to equity and sustainability, this project's use of mass timber—a local specialty—also demonstrates their commitment to supporting local business.

Meyer Memorial Trust Headquarters

Meyer Memorial Trust's mission is to work with and invest in organizations, communities, and efforts that contribute to a flourishing and equitable Oregon. Its new 19,800-sq.ft. campus in Portland's Albina neighborhood is a platform for advancing Meyer's initiatives across the state, supported by a design that expresses the foundation's commitment to equity and sustainability. The building program includes an engagement center for public programs, mission library, cafe-style event space with a roof garden terrace, meeting rooms, and collaborative workspaces for partners.

To strengthen connections between the foundation and the communities it serves, Meyer's ground floor is designed as a welcoming "front porch." Inside, a focal point of the building is the Center for Great Purposes, a 100-seat convening center for public programs and collaborations with partner organizations. Made from a regional wood product called mass plywood—the first time that mass plywood has been used structurally in a commercial building—the Center is an indoor/outdoor event space that opens to an educational garden. The design of Meyer's new headquarters was an opportunity to use

construction choices and intentional wood procurement as vehicles to advance the foundation's mission. Wood was selected as a primary building material with the goal of increasing the project's overall impact towards equity and sustainability and to support rural forestry-based jobs, rural communities, and innovation in Oregon. An emphasis on sourcing locally manufactured wood products and materials was also a priority for reducing the project's overall carbon footprint.

The landscape design acknowledges local ecology, community history, and regional identity, serving as an educational setting for staff and visitors. Native and adaptive plantings are used, including species selected for their historical significance as a primary food, medicinal, or commodity resource for Columbia River tribes. A garden marker in the Kwánsəm Yakwá Garden expresses the concept so steadily articulated by Native people: "We've always been here" in Chinook Wawa.

The building incorporates design thinking that accommodates various levels of physical ability, and is inviting to all regardless of race, color, religion, sex, national origin, disability, or age. Examples include a bottom-up approach to design and decision-making with participation of most foundation staff at every stage; equitable distribution of common amenities and windows throughout; going above and beyond the Americans with Disabilities Act requirements; furniture that accommodates different body types and physical abilities; and a diversity of cultures and languages reflected in messaging, signage, and artwork. The project's custom casework, wood slat ceiling, hardwood flooring, and cedar siding are all FSC-certified, and were fabricated and installed by local minority- and women-owned businesses. Overall, 85% of the wood in the building meets the definition of "sustainable wood," with 49% being FSC-certified. Just as important, the $10.8M project's focus on regional materials and diverse business participation creates equitable economic opportunity in Oregon.

ARCHITECT
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STRUCTURAL ENGINEER
KPFF Consulting Engineers
Portland, OR

GENERAL CONTRACTOR
O'Neill/Walsh Community Builders
Portland, OR

PHOTOGRAPHY
Jeremy Bittermann
Portland, OR

Shawn Records
Portland, OR

"It is an achievement. It's not that easy to add on to existing buildings of a certain age. But the shape and form encamps the existing building."

– Jury

Berlin Metropolitan School

Sustainable Extension of a GDR-era Prefabricated School Building

This conversion and extension of a prefabricated building from Germany's GDR era earns this international school top marks for style, warmth, and efficient use of space.

Founded in 2004, Berlin Metropolitan School (BMS) is the oldest international school in Berlin-Mitte. In order to implement its advanced educational concept and accommodate its recently established senior classes, the school required additional floor space.

BMS is housed in a pair of existing prefabricated structures from the GDR era that were erected in 1987, using the then widely available building types of "Schulbaureihe 80" (School Series 80). Three building wings are clustered to create a generous and protected school-yard. The project comprises rooftop extensions to three of the existing structures, as well as a lateral annex that continues all the way down to ground level. The new spaces provide additional classrooms, music rooms, a library with access to a roof garden, administration offices, and a large auditorium where the main events of the school year are hosted.

The construction work needed to be executed during school hours was realized in stages according to the gradually increasing demand for additional area. Therefore, the extension was designed as a prefabricated timber system that ensured speedy erection with minimal disturbance. On account of its low self-weight, the timber construction required neither additional foundations nor alterations to the supporting structure of the existing fabric.

Variation in room size and quality results in spaces that are designed for community as well as for retreat, for both individual learning and team-based work. The building material timber is clad in copper, but it has been left visible on the inside, creating healthy and pleasant workplaces for students and teachers alike. Seen from the outside, the copper cladding matches the warm tone of the brick slips of the existing prefabricated modules, and, at the same time, distinguishes the new intervention from the existing building.

Within the framework of a feasibility study, the existing space potential at the location and the general conditions for a gradual constructional implementation were determined. Renewable raw materials and recyclable building materials were used for the new roof construction. The prefabrication of the timber components made it possible to erect the roof in sections with short construction times while the school was still in operation. Completion of the project was helped by the fact that the prefabricated construction of the existing building was designed for higher loads at the time.

The wooden roof extension with its low dead weight requires no additional foundations or interventions in the supporting structure of the existing prefabricated buildings. The longitudinal outer walls, made of reinforced concrete, hold the existing building, and the transverse walls, with the same reinforcement, support the new roof structure. The production of the prefabricated components took five months in the factory, the assembly and interior finishing about a year, taking into account the ongoing school operation.

The concept offers attractive new communal spaces. There are areas on the roof, the break yard and the sports field. In this way, the school could be upgraded in quality for the growing number of students.

ARCHITECT
Sauerbruch Hutton
Berlin, Germany

STRUCTURAL ENGINEER
Andreas Kuelich
Berlin, Germany

PHOTOGRAPHY
Jan Bitter
Berlin, Germany

"It's well conceived and detailed, and
well executed. It's a model for school life."
– Jury

The first of a new generation of timber schools in Denmark earns high marks for sustainability and activity-based learning.

Erlev School

Erlev School is a pioneering project with strong ambitions for the Danish city of Haderslev. It is the first "new generation" timber school in Denmark and one of the very first of its kind in Scandinavia.

While the brief for this public competition did not require the use of timber, as the architects dove into the project it became apparent that this material would be ideal for the school. The client had a clear ambition to push the boundaries of traditional school architecture; from the start, the project focused on achieving a high level of social, economic, and environmental sustainability. This gave the design team freedom to create a project that would innovate in terms of design, construction, and materials; one example of this is the use of timber as the primary bearing system for both aesthetic and contractual reasons.

During the competition phase, the architects were inspired by forests the trunks used wooden columns to represent its trunks and clearings. This has resulted in a regular 9x9 structural grid that covers the entire floor area of the building; by using timber, the hard lines and corners of this grid are natu-

rally softened by the natural materiality and warmth of this material.

A forward-thinking approach to wood design has consistently shaped the interiors through simple, open, and inviting geometries that encourage curiosity and creativity. The school strives to be a "learning universe within a timber forest" of atypical learning spaces and activity zones that support activity-based education. Through a mindful architectural approach, the facilities support and enhance innovative ways for pupils to acquire new competencies. Furthermore, the school is characterized by a range of room typologies with different sizes and functionalities, all of which are mindfully accommodated within the timber structural grid.

The load-bearing structure of the school is made of glulam; the qualities of this engineered wood have been skilfully exploited to create a visually attractive building and emphasize environmental values. Timber strengthens the sensory experience of the building; the scent, feeling, and sound of this material create an environment that comes alive through its warmth and visually interesting surfaces.

The exterior is covered in wood lamella that fits between the exposed load-bearing beams; from the moment they arrive, visitors can appreciate how the timber structure of the school reveals itself at every corner.

The interior partitions of the school vary in thickness and are adapted to fulfill the typical acoustic needs of each individual teaching area; most interior wall assemblies consist of steel frames, mineral wool insulation, and plaster. Wherever necessary, sound-absorbing panels are mounted to the surface of these partitions. Acoustic ceiling tiles have been installed in various materials that complement the surfaces of each individual room.

ARCHITECT
Arkitema
Aarhus, Denmark

STRUCTURAL ENGINEER
SlothMøller A/S
Aarhus, Denmark

GENERAL CONTRACTOR
Ommen A/S
Rødekro, Denmark

PHOTOGRAPHY
Niels Nygaard
Copenhagen, Denmark

"It's an amazing feat of wood use. We cannot not be in awe. It's a traditional craft in a new form and aesthetic."

– Jury

Blending traditional building techniques with contemporary thinking, this sculptural bridge offers a glimpse at the future potential for mass timber in China.

Timber Bridge in Gulou Waterfront

Located in Jiangmen, in southern China's Guangdong Province, Gulou is one of the nation's many "water villages," historic towns renowned for their bridges, rivers, and canals. Once home solely to residents who made their living from farming and fishing the waters that surrounded them, in more recent years, the area has been rebranded as an eco-tourism destination.

When the design team was brought in to create a new pedestrian bridge in the heart of Gulou, it chose to predominantly use wood, paying tribute to the traditional construction techniques employed in the rural villages of southern China where the material is in plentiful supply.

To be distinct from nearby urbanized structures, the 82-ft. bridge was fully formed by wooden materials, following the construction techniques of other traditional wooden bridges in the region. It is one of several new bridges planned as part of the Gulou Waterfront development, with the goal of making the area more accessible for pedestrians without causing disruption to fishing boats.

To ensure the smooth passage of fishing boats under the timber bridge—an essential element in the plan—the bridge body is arched, with a 13-ft. clearance between the underside of the bridge and the typical water level.

Despite the shape of the bridge, very few of its components are curved. Apart from the three arched beams that form the underside, the structure is almost

entirely made from small, regular lengths of pine. Aluminum panels are slotted into the wooden framework, which create shelter and provide natural rainwater drainage.

The result with an intricate structure that not only provides a walkway across the water, but offers shelter to those crossing with a roof that ensures structural stability and protects the arched wood below from the blazing sun and rain. Combining contemporary technology and approaches with ancient building techniques, the timber bridge pays tribute to traditional Asian bridge structures while reshaping the spatial context of the water village and its traditional farming lifestyle.

ARCHITECT
LUO Studio
Beijing, China

PHOTOGRAPHY
Jin Weiqi
Beijing, China

CANADIAN WOOD COUNCIL AWARD—COMMERCIAL BUILDING

Idaho Central Credit Union Arena

Moscow, ID

Please see page 78

CANADIAN WOOD COUNCIL – STRUCTURAL INNOVATION

Malahat Skywalk & Visitor Centre

Victoria, BC

Please see page 118

SPECIAL AWARDS

Canadian Wood Council Award—Residential

This home for a large family in rural Ontario honors the emotional connection between Canadians and the land through visual and material harmonization with its surroundings.

Forest Retreat

The clients for this project live abroad and sought a Canadian homestead for their large family. During summer and winter holidays, the parents wanted their children immersed in an Ontario landscape like the one in which they were raised. To this end, they requested a rustic, modern retreat for their 100-acre property of forest, wetland, and meadows that would allow young teenagers and extended family to be comfortable for long stays.

The most powerful aspect of the design is the long, tent-like roof, which follows the site's topography. The roof and its ridge beam became the design's primary focus, shaping the circulation path through the home's interior, ultimately extending a view toward the forest.

Despite its 200-ft. length, the roof needed to seem light. The folds and angles of the steel roof are supported by the meandering ridge beam. And Being cognizant of the clients' desire for a warm interior, the ridge beam was enveloped in white oak.

The roof cantilevers and tapers at all edges. At the entry side of the house, the roof lifts like a bird's wing off the garage volume beneath, sheltering an outdoor terrace. The entire underside of the roof, including the overhang and soffits, is clad in white oak with a clear sealer to provide visual warmth and to balance the gray masonry in the interior. The underside of the second floor catwalk is also clad in white oak, allowing the first floor to enjoy reflected light with a golden quality.

On the exterior, a horizontal line of wood at the first-floor line highlights the angular geometry of the roof. Monolithic slate-clad volumes anchor the home and define the space between the curtains of glass. These opaque volumes echo the property's rock outcrops. To provide a rustic quality, the window system is structured by clear-stained glulam back-sections; normally, these would be aluminum.

Because the main floor uses a radiant heating system, masonry was chosen. To balance this visually, the cabinetry, millwork, stairs, and doors were all made of white oak, and the millwork in the kitchen and living room has a translucent green stain.

The home is heated and cooled via a geothermal unit with summer solar gain reduced by significant roof overhangs. The glass walls are triple-pane, and high-efficiency fixtures and equipment for the well and septic system help reduce the home's environmental impact.

ARCHITECT
Kariouk Architects
Ottawa, ON

STRUCTURAL ENGINEERING
Blackwell
Toronto, ON

GENERAL CONTRACTOR
Michael J. Dunn Construction Ltd.
Tottenham, ON

PHOTOGRAPHY
Scott Norsworthy
Toronto, ON

SPONSOR AWARDS

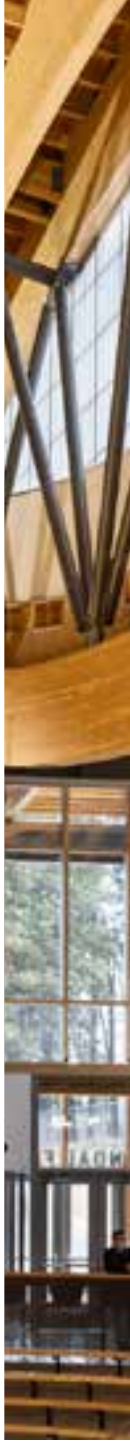
Sustainable Forestry Initiative Award

The project's formal and material expression creates a sense of place rooted in Idaho's history that looks toward the future.

Idaho Central Credit Union Arena

Inspired by the undulating landscape forms of Idaho's Palouse region, the 4,000-seat Idaho Central Credit Union Arena was designed to be a dramatic gateway to the University of Idaho campus. It is a place meant to both celebrate athletic and academic achievement and serve as an educational catalyst in the form of a learning laboratory for students in the university's forestry and engineering departments.

Extending back from the levitated west-facing entry porch, the roof splits apart to create overlapping contoured forms above the north concourse, invoking the sinuous rolling hill contours of the Palouse. To the east, the roof gently wraps down around the practice court and connects with the ground plane. The exterior side walls were designed to be embraced by the expressive glulam structure.



The texture of the charcoal-stained cedar walls draws inspiration from early homestead structures in the region and stands in juxtaposition to smooth, fabricated clear-coat beams. The open fissures between the roof planes are infilled with translucent glazing to diffuse natural light throughout the performance court, and a fully glazed wood curtainwall provides views in and out of the arena where the action is always on display. The exposed and undulating Douglas fir roof structure creates a warm and embracing experience for players and patrons alike. To realize the poetic beauty of the wood structure, it was imperative to integrate the mechanical and electrical systems into the structure itself. The primary structure utilized a splayed portal hybrid timber and steel truss and a repetitive king post truss system. The portal truss and king post trusses were designed with double glulam top cords, creating an interstitial space between the structure that was used as a "utility highway" to conceal mechanical and electrical components. On the west side of the arena utilities were concealed behind integrated soffits at the three-level DLT mass timber structure that defines the lower-level locker facilities, main level athletic offices, and upper-level special event room overlooking the main court. Looking to the west, visitors to the upper level can also experience the terrace under the cover of the cantilevered roof with views out to the rolling hills of the Palouse where the experience of place and community comes full circle.

The roof is a doubly curved plywood diaphragm supported by hybrid timber and steel trusses, carefully proportioned for both aesthetics and structural efficiency. The plywood diaphragm acts as a deep beam for wind and seismic loads, allowing the roof to span 360 ft. between its ends without requiring interior bracing.

ARCHITECTS
Opsis Architecture
Portland, OR

Hastings+Chivetta
St. Louis, MO

STRUCTURAL ENGINEERS
StructureCraft
Abbotsford, BC

KPFF
Boise, ID

GENERAL CONTRACTOR
Hoffman Construction
Portland, OR

PHOTOGRAPHY
John Barnhart, University of Idaho
Moscow, ID

Lara Swimmer Photography
Seattle, WA

Sansin Award

The first public building in the U.S. capital built with DLT is a true community hub, reflecting both the neighborhood vibe and the needs of the residents who call it home.

District of Columbia Public Library—Southwest Library

At the start of this project, working with the community of southwest Washington, DC, involved clarifying a civic vision that the stakeholders wanted to tell with their new library through architecture. The history of the community is rich and diverse, with rapid growth occurring in DC's Southwest neighborhood during the mid-20th century. Today, the community contains both an influx of new residents drawn to the proximity of downtown and the waterfront and a cadre of longtime residents who are knowledgeable about the layers of art and history contained within their neighborhood.

For the new Southwest Library, the community fought to preserve the library as a stand-alone civic building. They did not want it to be consumed by speculator developments, such as a storefront at the base of a condominium. Understanding those parameters through research and discussion, the design team approached District of Columbia Public Library and the Southwest community with a vision for the new library that combined the best of its history with current thinking in sustainable design principles of a 21st-century community media hub.

The design team engaged with all interested parties to understand what programs, amenities, and identity were important that the new design convey, while also recognizing the site was unique to the public library system as a stand-alone pavilion in the middle of a playground park. Essential to the success of the new library was integrating this outdoor space and weaving the natural inspiration into the building.

The idea of wood DLT panels was important in showcasing a historical connection to the nearby Arena Stage, but also essential to the living design story of carbon capture in timber construction as a pilot to showcase less harm on our environment. The design and roof profile were inspired by the historical geometries of mid-20th century modernism, but if you ask a community member they might just say it "looks like an open book to me."

Ultimately, the Southwest Library is a story manifested into design and architecture that reflects a collective of people and their identities that are proud of their community, proud of their past, and bullish on the importance of architecture in their future.

An emphasis on connection to the surrounding community has shaped the design development process. The current design hopes to highlight the new park adjacent to the project, give a sense of arrival, feature a flexible plaza, be a sustainable site, and maximize connection to the outdoors and natural light.

The library's distinctive form is capped with a roofline inspired by the bold mid-century shapes found in the architecture of DC's Southwest neighborhood. The "crinkle" folded plate uses similar geometry to the historical cast-in-place concrete roof outlines of the 1950s, but without the burden of framework and with a nod towards modern connection technology and low-carbon materials. The result is a series of DLT panels that create a unique building massing and a memorable space within.

ARCHITECT
Perkins&Will
Chicago, IL

STRUCTURAL ENGINEER
StructureCraft
Abbotsford, BC

GENERAL CONTRACTOR
Turner Construction
New York, NY

PHOTOGRAPHY
James Steinkamp
Hinsdale, IL

Western Red Cedar Award

The overall restraint of this project's architectural palette creates a built experience that has the feel of a quiet platform set amid the trees.

Riverbend Residence

Situated on a secluded 18-acre site that features dramatic mountain views to the north, this private residence in Jackson Hole, WY, was designed for a family of four (and two dogs) that had outgrown the rustic cabin they owned in the same neighborhood. They requested a contemporary home sized to accommodate their family and large gatherings of extended family and friends.

The house is centered on a double-height, open-plan living/dining/kitchen with full-height windows facing north and south to the sun. Board-formed concrete "bookends" sponsor kitchen millwork and ovens and mechanical systems to the west and a large fireplace to the east, the focal point of the living room. Steps from the kitchen is a generous outdoor space with a dining table, pizza oven/BBQ, and a series of terraced platforms that lead to the river. To the south, an ipe deck ties the main house and guesthouse together while supporting outdoor seating, a bosquet of aspens, and a herb garden, all of which take advantage of the southern exposure. A media room, bar, library, reading nook, and garage with ample gear storage round out the social spaces.

While ground and polished concrete floors are located throughout the lower and main levels, the upper level is engineered beech, an economical and durable option that complements the cedar with its warmer tones but also remains neutral enough to let the cedar and concrete take center stage.

The west end of the primary suite features a long cedar wall with shelves and cabinets that disappear into it. This was accomplished by sequencing the cedar boards of the wall and making veneers from the same boards to clad the cabinet doors. The continuous run of boards extends from the south deck, through the primary suite and back out the west side of the north deck, covering a span of 52 ft. The concrete walls and chimneys were poured using varying width and depth pine boards that were burned and wire-brushed to accentuate the wood grain imprinted on the concrete. Some charred residue from the wood is imprinted on parts of the concrete, lending it a subtle warmth and further connecting it to the cedar walls and ceiling. Riverbend's material palette combines cedar and glazing wrapped in a steel plate shell. The large expanses of cedar siding are interrupted with vertical cedar fins that add texture and shadows, which change throughout the day. Over time, the steel will develop a patina; ultimately, the building will exchange its black shell for a rusty one, further integrating it into the site.

ARCHITECT
CLB Architects
Jackson, WY

STRUCTURAL ENGINEER
KL&A Inc.
Golden, CO

GENERAL CONTRACTOR
Peak Builders
Jackson, WY

PHOTOGRAPHY
Tom Harris
Chicago, IL

Matthew Millman
Berkeley, CA

A culturally welcoming Elders suite is just one of the ways this housing for Indigenous students aims to be a place where all learners are “content and comfortable.”

Western Red Cedar Award

Wii Gyemsiga Siwilaawksat Student Housing

Wii Gyemsiga Siwilaawksat is a new student housing building for Coast Mountain College that empowers Indigenous students to flourish in post-secondary education.

Named by the Kitsumkalum community—and translating to "where learners are content and comfortable"—Wii Gyemsiga Siwilaawksat sits on the traditional territory of the Kitsumkalum people in Terrace, BC, serving seven different First Nations: the Haida, Tsimshian, Haisla, Nisga'a, Gitxsan, Wet'suwet'en, and Tahlta peoples. Guided by an Indigenous-led process of co-creation, the building is informed by Indigenous peoples' stories—and their right to share their histories with future generations. The three-story, 40,500-sq.ft. building includes 108 beds, six shared kitchens, an Elders residence, hoteling units, dining areas, a central celebration and shared space, project rooms, maker space, cultural room, computer lab, E-sports room, and bicycle storage.

The old growth cedar tree is a symbol of the Northwest Coast. Used for shelter, clothing, transportation, ceremony, and spiritual beliefs, it has been integral to local First Nations culture for thousands of years. It felt appropriate for this sacred material to inform the building's expression. For the exterior cladding, Tsimshian weaving patterns seamlessly unite the building's two student housing wings, while mimicking the expression of cedar bark.

Inside, a cedar-clad central lobby space—akin to a hollow cedar tree, or heartwood—acts as a modern longhouse for gathering and celebrations. Each of its three levels is connected by house posts, while a glulam pinwheel structure—inspired by traditional Northwest Coast Indigenous architecture—honors each Nation the college serves, symbolizing connection, strength, and unity. Modular wood frame construction was used for the housing portion, integrating 36 modules built offsite to significantly reduce the project schedule. The central structure was site-built construction combining wood frame and glulam mass timber, allowing for a unique cultural expression and creating a seamless transition between the modular construction. The building has met BC Energy Step Code 4, achieving the high-energy efficiency standard through increased insulation, careful attention to detailing, minimizing heat loss, increased level of airtightness, and triple-pane glazing.

The building integrates more than 35 different commissioned pieces of art designed by Indigenous artists. Themes for each of the six student housing wings were developed representing distinct cultural aspects of the surrounding First Nations territories and expressed through carved cedar panels located at the primary entrance to each wing. A carved cedar door was also integrated into the cultural space, and a 20-ft. totem pole will be installed in the spring.

ARCHITECT
hcma
Vancouver, BC

STRUCTURAL ENGINEER
Scouten Engineering
Prince George, BC

GENERAL CONTRACTOR
IDL Projects
Prince George, BC

PHOTOGRAPHY
Bright Photography
Victoria, BC

Wood Preservation Canada Award

Inspired by the ships of a 16th-century French explorer, this suspension bridge for pedestrians and cyclists in Québec's capital inspires a new kind of exploration.

Passerelle de la Tortue

Located in Québec City's Parc linéaire de la Rivière-Saint-Charles, Passerelle de la Tortue was erected 1 km. downstream from the 3 Sisters Pedestrian Bridge, which was built and designed by the same team. They are similar in their cable structure and use of timber, but Passerelle de la Tortue differs in that it is fully suspended and not guyed.

Access from the southwest side of the river connects to both the pedestrian and bike paths through a set of inclined planes suspended under the bridge. This alternate route gives users an opportunity to walk under the structure and get closer to the river, making this bridge unique.

For the project, the design team chose to use wood in the interest of sustainable development and harmonious integration into the natural environment of the park. The architectural concept of the suspended pedestrian and cycling bridge is notable for its light and delicate bearing, while its masts symbolically reference explorer Jacques Cartier's ships that spent the winter of 1536 on the river, near the site of the bridge.

The asymmetrical, fully suspended structure consists of steel cables and cylindrical stringers that support a CLT deck. The underside of the deck and the steel structure are fully exposed. This type of structure allows the crossing function to be fulfilled, but with a smaller frame.

The V-shaped masts are located at the edge of the high-water mark, at about one-third of the span, and rise more than 20 m. above the river. Made of digitally cut glulam (black spruce) poles, they support the main suspension cables. The hangers are hooked to the cables and take the deck loads. The clear span of the entire structure is 200 ft., while the crossing distance from one bank to another is 290 ft.

The deck consists of preassembled CLT (black spruce) panels. A secondary frame sealed with liquid membranes creates drainage slopes. The deck has a

curved profile to provide both a view of the landscape and a clear path for the lower deck.

The surface is composed of prefabricated panels made of pressutreated spruce, pine, and fir and laid in a herringbone pattern. This aids bicycle traffic while mitigating the corridor impression that could encourage cyclists to speed. The herringbone pattern also provides a dynamic graphic effect that is enhanced by night lighting. A solid timber protective curb fixed to the base of the walls completes the running surface, protecting the guardrails during snow removal operations.

The main bridge supports a secondary footbridge for the exclusive use of pedestrians to continue their walk along the river. Its proximity to the water provides a more intimate contact with the river's flora and fauna, as well as an exceptional view of the main bridge's exposed wooden structure.

The structure's durability was a primary concern in its design and execution. The deck is fully protected and requires no maintenance. Only the exposed wooden masts will need to be treated regularly; their positioning outside the riverbed will facilitate this. Details of the design ensure proper water drainage and ventilation of exposed surfaces.

ARCHITECT
ABCP architecture
Québec City, QC

STRUCTURAL ENGINEER
EMS
Québec City, QC

GENERAL CONTRACTOR
Les Constructions Bé-con inc.
Québec City, QC

PHOTOGRAPHY
Stéphane Groleau
Québec City, QC

AGAINST THE GRAIN AWARD

A new addition to this year's program is the "Against the Grain" award. This award recognizes an individual who has made significant contributions to the wood industry. This year's inaugural recipient is Dr. Nancy Mackin. Her architectural mandate—that each building can contribute to environmental and cultural resilience—is exemplified in the Tsawwassen First Nation Youth Centre. She included the Tsawwassen First Nation community in many architectural decisions and invited Tsawwassen artists to design both interior and exterior elements of the center.

“Working with Indigenous communities has led me to a whole area of wisdom and knowledge that wouldn’t be accessible otherwise.”

Dr. Nancy Mackin says she’s always been an architect. “As a kid, what I wanted to do with my time was build buildings out of whatever materials I could find.”

Although she has worked in many different materials throughout her architectural career, wood has always been one of her favorites—its reduced carbon footprint, its suitability for prefabrication, and its design potential. “It’s just such an interesting opportunity to be able to build a building out of wood and then show all of the wood,” she says.

But of even greater importance to the architect is the interconnection of ecology and culture in design. “Long resident knowledge is the knowledge of the environment, and it’s responded to culturally. Since starting my practice, I’ve always worked quite closely with whatever community is there—whether they’re my client or whether it’s just listening very carefully to the knowledge of people who’ve lived in one place for a long time,” she says.

Mackin points to the work she’s done in Haida Gwaii. “I traveled and talked to each community to find out what kind of architectural responses they foresaw as being meaningful, and also wise,” she says. “That’s when you really learn how very different the ecological conditions are in each area. You get into this deeper understanding of how many times the weather might change during a given day, for example, which probably wouldn’t show in the data, but that’s something that the people who are there would know. Working with Indigenous communities has led me to a whole area of wisdom and knowledge that wouldn’t be accessible otherwise.”

In the case of the Tsawwassen First Nation Youth Centre, completed in March 2021, the Tsawwassen First Nation community was involved in the design from the beginning. It was the youth, specifically, who chose the cladding material. “We gave them a big slab of some very high-performance cladding materials and some cedar shingles. They were very insistent that they really wanted to see the wood,” she says.

In addition, Elders of the community stressed that migrating birds were an important part of the design (see Creation Story). “We made sure we addressed that in window placement and other design areas,” says Mackin.

Of Sami heritage herself, Mackin says it’s also being aware of the integration of art and building. “There’s this kind of spirituality that gets brought into construction, through the painting and drawing and carving of different images on a building.”

IMAGES: Ema Peter

Creation Story

The Tsawwassen First Nation Youth Centre is located on a 4,000-year-old seaside village site in the heart of Coast Salish traditional lands. The location is a stopover point for millions of migrating birds. The 12,000-sq.ft. Youth Centre uses wood to retell a Coast Salish creation story in which the first ancestors came down from the sky as birds. They gradually transformed into humans, trading their nests for mono-sloped longhouses clad in hand-split Western red cedar and supported by a Western red cedar pole-and-beam framework. Respecting these origins, the Youth Centre design began as two shed-roofed longhouses linked by a shared cooking/feast space.

Canadian Wood *WORKS!* Awards

Canadian Wood *WORKS!* Awards

Dear reader,

We are fortunate to present the honorees of this year's Canadian Wood *WORKS!* Awards. Representing the diversity of Canada, these world-class projects showcase the unrivaled natural beauty of wood architecture and highlight some of the recent innovations that are expanding the potential of wood construction. We are constantly inspired by the creativity of design professionals and awed by the craftsmanship of carpenters and builders.

Every year we see the boundaries of wood construction expanding, its capabilities and applications rising to new heights. Society's need for more sustainable, low-carbon infrastructure solutions has generated great enthusiasm for modern wood construction. Wood products and system innovations continue to create new opportunities, enabling us to build larger, taller, and more cost-efficient wood structures.

The annual Wood Design Awards are an opportunity for us to celebrate the creative, innovative, and inspiring projects that are changing the face of construction. The inspirational natural beauty of timber construction is readily apparent in these projects, but equally important and inspirational are the biophilic principles at work in these exposed wood structures and the associated health and wellness benefits they provide to occupants. All the buildings showcased in the following pages will serve their communities for years to come. We hope you find that as remarkable as we do.

We want to thank our jurors for their expertise and our sponsors for their ongoing support. To all the project owners, builders, design professionals, and wood product manufacturers who have shown their ongoing commitment to excellence in wood innovation, we thank you.

Lastly, our most sincere congratulations to every award recipient; we are honored to highlight your hard work in the following pages. You are propelling the use of wood in construction to new heights and showing us how to realize the dream of a more sustainable future and a more natural built environment. Thank you for leading the way.

Please enjoy these innovative and beautiful wood projects as much as we do.

Shawn Keyes
Executive Director
Wood *WORKS!* BC

Rory Koska
Program Director
Alberta Wood *WORKS!*

Steve Street
Executive Director
Ontario Wood *WORKS!*

AWARD AND EVENT SPONSORS

FUNDERS

Natural Resources Canada | Ressources naturelles Canada

Idaho Central Credit Union
Boise, ID
Please see page 78

Wii Gyemsiga Siwilaawksat Student Housing
Terrace, BC
Please see page 88

BRITISH COLUMBIA

Environmental

Successfully demonstrating that mass-timber structures can be used for infill building in an urban landscape, this commercial building serves as a prototype for future developments.

1 Lonsdale

The property at 1 Lonsdale in North Vancouver, BC, has been owned by a local family for three generations. When the existing building was reaching the end of its lifespan, the family chose to use this as an opportunity to develop a new mass timber Passive House (PH) building that would serve as a sustainable benchmark for the city's Lower Lonsdale District.

The intent of the three-story design was to create a contemporary interpretation of the brick-clad, heavy timber warehouse buildings that formed the backbone of the working waterfront.

Along with the sustainable ambitions for the project, the new building presents the area with the familiarity and grounded feeling of a dark, glazed brick building that reads as a skin for the mass timber frame, as opposed to a traditional solid mass building.

The fenestration on the building's upper two floors has been randomly distributed to offer visual interest and relief from the predictable façades typical in commercial buildings. Special attention has been given to signify the corner of Lonsdale Avenue and Carrie Cates Court by eroding the brick façade on the upper floors to express the mass timber structure through a PH curtainwall system, while offering the upper floor occupants stunning views of Vancouver Harbour.

Urbanely, the building supports the development of the streetwall with the Polygon Gallery, while creating a comfortable scale and accessible street

level for pedestrians. The building's ground floor has been designed to open onto Carrie Cates by incorporating floor-to-ceiling windows and sliding doors and include a south-facing exterior deck onto the street. The result will be the further development of the Lower Lonsdale arts and cultural district.

The most remarkable aspect of the project is the innovations in prefabrication and mass timber construction methodologies. The project faced a number of building code challenges, including the use of a CLT and glulam structure in a multi-use building and the need for a zero-lot line non-combustible party wall. Factoring in the complexity of PH airtightness and restricted thermal bridging requirements, a system of prefabricated, insulated 2 x 8 vertical wall panels were used for the three visible sides of the building. A series of CLT panels with the membrane, exterior insulation, and cladding preinstalled were then used to create the north wall while providing the necessary fire rating.

In the simplest terms, the main mass timber structure was erected and then the exterior PH envelope was sleeved over it, all in just 10 days of construction time. This extraordinary achievement was accomplished by the deep integration of the design and engineering teams, the general contractor, the prefabrication and mass timber suppliers, window manufacturers, and local authorities.

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GENERAL CONTRACTOR
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PHOTOGRAPHY
Ema Peter
Vancouver, BC

Commercial—Large

Thanks to the innovative use of buckling-restrained braces within a timber frame, this mixed-use building is ready to shake things up (in a good way).

District 56—Terminus

As part of a larger urban development in the heart of Langford, BC, Terminus at District 56 is a mixed-use retail and state-of-the-art commercial office building that offers exposed mass timber and light-filled space to one of the fast-growing communities of south Vancouver Island.

A five-story mass timber post and beam building, it contains the first-ever steel buckling-restrained braces (BRBs) housed within a timber frame. This is because Terminus is located in one of the highest seismic regions of North America, which presented a substantial code challenge: higher ductility seismic systems that are required to avoid considerable force amplification, which have an impact on the volume of mass timber and the size of foundations. Traditional mass timber lateral systems only provide moderate ductility to a building, and so a need for high ductility pushed the design team to develop the hybrid BRB/mass timber frames used in this project.

Rather than a fully steel lateral system with steel beams and columns at the braced bays, the design team developed a glulam/BRB hybrid lateral system. The BRBs are within a glulam frame, eliminating the need for steel columns and steel beams on this project, while providing the strength and ductility of a high-performing seismic system necessary for the region. The result is an attractive and ductile hybrid lateral system that is the first of its kind, which also complements the clean architectural detailing of the mass timber (much of which is exposed).

Terminus's gravity system is composed of Douglas fir glulam columns and beams, complete with one-way spanning SPF CLT floor and roof panels. In order to meet demanding design and construction timelines, mass timber detailing was coordinated closely between the mass timber and BRB suppliers and the design team, with a collaborative approach allowing timber connection detailing by the design team to take place in parallel with the supplier's model development and shop drawing process. This close collaboration was essential for the successful delivery of the project.

The decision to use mass timber was primarily driven by aesthetics and a desire by the owner to furnish future tenants with a beautiful and robust building. Key structural elements are left exposed to provide a warm and healthy office environment. Added benefits of using mass timber included the speed of construction with prefabricated elements, saving time and money. The building is LEED-registered and targeting LEED Gold certification.

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Dasha Armstrong
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Commercial—Small

Recognized for its innovation and ingenuity in wood design and building, this "living laboratory" for a structural engineering firm is heading in the right direction.

Fast + Epp Office

Located at the corner of Vancouver's Yukon Street and 7th Avenue, the new four-story, 16,000-sq.ft. hybrid mass timber home office building of Fast + Epp embraces design elegance and curiosity—qualities the structural engineering firm aims to embody.

The office serves as a "living laboratory" with new ideas and technologies incorporated both during construction and throughout the life of the building. With an emphasis on promoting employee wellness and productivity, the building combines the latest in sustainable design strategies with taking full advantage of the spectacular mountain views to the north.

The design of the new headquarters is a direct reflection of who the staff are as engineers, and exemplifies the notions of integrated systems, prefabrication, and, of course, hybrid mass timber—all coming together in harmony for a truly holistic design.

CLT is utilized extensively throughout the building for the floor plates, stairwells, and elevator cores, as well as the demising firewall, while steel columns provide floor and façade support. All panels were precut and placed in a preplanned sequence directly from the trailer for speed and ease of construction.

Designing office resiliency is also key to Fast + Epp's new home. The lateral design of the structure utilizes Tectonus devices installed at the base of CLT shear walls and within the steel-braced frames—a first for North America. These devices act as shock absorbers for the building during an earthquake, providing energy dissipation and damping through the earthquake cycles, with the ability to snap back to their original positions once shaking ends, allowing an immediate return to occupancy after a significant earthquake without facing uncertain delays that would be expected with a more conventional system.

The superstructure features an economical floor system that was evaluated for its vibration performance. The floors consist of three-ply 105-mm. CLT panels and 50-mm. concrete topping spanning across glulam beams. A mock-up of the clear-spanning floor system was built for testing to compare with the vibration behavior determined analytically during the design phase.

This study explored the effect of the panel-to-beam connections as well as the level of composite action on the overall vibration performance of the floor. Onsite evaluation of the floors was also conducted to determine the progressive impact of adding concrete topping, partitions, and furniture on mitigating vibration.

Unique to the structural engineering industry, the space on the ground floor features a new integrated laboratory space called the Concept Lab, which allows for the development, testing, and fabrication of new prototypes. The living laboratory sparks creativity, innovation, and the testing of new ideas and technologies that will move structural engineering forward.

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PHOTOGRAPHY
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Innovation

A new tourist attraction in Malahat First Nation is centered on sustainability,accessibility, and land stewardship.

Malahat Skywalk & Visitor Centre

A new tourism destination in Malahat First Nation, just north of Victoria, BC, the Malahat Skywalk consists of three main structures: a single-story visitor center, a spiraling 1,650-ft.-long elevated boardwalk, and a 100-ft.-high mass timber viewing tower, where visitors enjoy stunning views of Finlayson Arm and the distant Coast Mountains.

The intent of the tower structure is to bring visitors of all abilities into nature to connect with the area's natural values and cultural heritage, so the use of wood was imperative to the look and feel of the attraction. Driven by accessibility requirements (it relies on a gentle ramp, rather than stairs, to elevate its visitors), the design looked to other successful structures locally and internationally.

The visitor center features mass timber and light wood frame. From there, the elevated boardwalk leads visitors through the forest canopy, zig-zagging through the arbutus forest while reaching heights of 50 ft. A gentle spiral ramp cantilevered off a ring of glulam columns takes visitors up to the viewing platform while a galvanized steel central spiral staircase provides emergency egress and support for a slide and adventure net.

The viewing tower and boardwalk both employ hybrid timber and steel construction. The tower consists of Douglas fir glulam columns and beams—chosen for their structural performance and durability in exterior exposure—with steel connections and lateral bracing. The boardwalk consists of glulam beams spanning between structural steel tripods and struts that carry the gravity and lateral loads down to the foundations, which are anchored into bedrock. Between the primary glulam beams, there is steel diaphragm bracing for stability. Most of the wood is exposed to the elements except the primary glulam columns of the tower. The decision was made to clad these columns in a thin ¾-in. CLT panel as they are the only element that is not replaceable. The rest of the wood elements are thoughtfully detailed to be weather-resistant to support the longevity of the structure. These elements can also be replaced or refinished as needed.

The ability of wood elements to be maintained and/or refinished throughout the structure's lifecycle is one benefit. Another is that it is lightweight, which allowed the components to be prefabricated into large sections and lifted with mobile cranes through the forest. This minimized the clearing required to construct the boardwalk.

The size and remote location of the site made placing concrete a challenge. The lightweight wood structure allowed for small concrete foundation sizes, which had the added benefit of minimizing the impact on the forest, while also reducing the embodied carbon of the structures.

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GENERAL CONTRACTOR
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PHOTOGRAPHY
Hamish Hamilton
Victoria, BC

A "100 mile" building and the process used to create it both reflect this community's hands-on build culture.

Radium Hot Springs Community Hall, Library & Amenity Building

Located next to British Columbia's Kootenay National Park, the new 8,000-sq.ft. community hall and library in the village of Radium Hot Springs is one of the first DLT buildings constructed in Canada, combining an innovative wood-focused design process with a prefabricated DLT wood structure. The project was undertaken in two phases: the community hall and library were completed in 2018, and the 1,300-sq.ft. amenity building/picnic shelter and rink were completed in 2020.

To foster the local-build strategy, the design team held a wood stakeholders workshop to identify local materials and trades partnerships. A performance-based tender for the structural work was held to accommodate a variety of local solutions, resulting in the selection of glulam posts and beams and a prefabricated DLT roof panel system. This collaborative process resulted in 80% of materials and labor coming from within 100 miles of the site, local production of charred wood siding, and significant financial sponsorship of the building from both residents and the Columbia Valley Trust.

Perched on the edge of the natural kettle hole and lined with pine trees, the site is a microcosm of the Columbia Valley. The low-sloped forms frame the views of the mountains to the east, highlight the silhouette of the pine trees, and reflect the simple agrarian sheds of the valley. The community hall roof form creates an interior

space appropriate to the requirements of the rooms, resulting in a compact building mass. An entry plaza lined with wood benches was inspired by the natural paint pots in the nearby national park.

The exterior of the building is clad in charred wood siding, manufactured 5 miles from the site. An auger system was custom-built to allow for a controlled charring of the timber, referencing the ranching culture of the valley.

Both the community hall and library are sited to maximize passive strategies with a long linear form on the east-west axis, permitting natural daylighting and cross-ventilation. Strategically located roof overhangs control solar exposure, and an existing grove of pine trees to the west and northwest shields the building from western summer sun.

Other innovations incorporated to encourage community and efficiency include the following:

- Parking on the site has been minimized using a strategy of parking around the park on the existing roads.
- A gathering plaza located on the south side of the hall features an elliptical gathering space surrounded by heavy timber amphitheater seating.
- Decks at the north and west side overlook the park below and provide indoor/outdoor spaces for celebration.
- The amenity building and rink are nestled into the park, minimizing excavation and providing universal access in all seasons.
- All landscape species were selected for their minimal water consumption and resistance to the resident bighorn sheep.

Open and accessible to all, the community hall and library support social sustainability and promote connectivity in the community, while the amenity building supports year-round use of the park.

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PHOTOGRAPHY
Best Impressions Photography
Golden, BC

Western Red Cedar

Intended to reflect the unique culture and values of the Coast Salish First Nation, this youth center takes advantage of every teaching opportunity that building with wood can offer.

Tsawwassen First Nation Youth Centre

Located on a 4,000-year-old seaside site in the heart of Coast Salish traditional lands, the Tsawwassen First Nation (TFN) Youth Centre uses wood to retell a Coast Salish creation story. In legend, the first ancestors came down from the sky as birds, which then gradually transformed into people. These ancestors then traded their nests for mono-sloped longhouses clad in hand-split Western red cedar and supported by a Western red cedar pole-and-beam framework.

Respecting these origins, the design of the TFN Youth Centre—which will also serve as a control center/safe place during emergencies—began as two shed-roofed longhouses linked by a shared cooking/feast space. Poles and beams were peeled but left with their natural flare to honor culture while minimizing manufacturing and waste. DLT panels, like the wood planks of ancient dwellings, are exposed on interior walls, ceilings, and exterior soffits. Exterior cladding of split Western red cedar shakes further echoes Coast Salish architectural history while ensuring long life for the structure.

Wood catalyzed community involvement. The young people enjoyed a take-apart structural model of wood components. TFN artists collaborated with the pole builder on wood production. Welcome poles were carved, and exterior half-poles were painted with Coast Salish designs before applied as cladding between sections of 24-in. Western red cedar shingles.

Unlike most interior designs, the center's interiors involve very few added layers of finishes; instead, the wood structure itself becomes the finish. The pole-and-beam framework and DLT are key features in the interior design, serving a structural function and acting as a hard-wearing surfacing. The wood interior is also educational: young people learn about the ecology of wood by studying the Western red cedar flares (typically more flared on one side than the other due to growth on steep slopes and the trees' resistance to prevailing winds). Children can also visualize the services in their building, since exposing DLT also means exposing electrical, HVAC, and plumbing systems.

DLT is a relatively new technology in Canadian construction, with few lab tests verifying acoustic and envelope ratings. To address this knowledge gap, acoustic floor assemblies were tested for AIIC (apparent impact insulation class). The result: exposed DLT was layered with wave-shaped sound-absorptive material, concrete topping, and resilient sports flooring.

Speaking of sports, wood is also used in the center to encourage physical activity. The climbing wall took advantage of plywood shear walls to create an athletics opportunity for the young people who come to the center. Finished DLT surfaces provide resilient walls for sports areas. And in the athletics/activity room, a 14-in. high plywood base is added to protect building services such as sprinkler lines and electrical conduits.

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STRUCTURAL ENGINEER
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GENERAL CONTRACTOR
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PHOTOGRAPHY
Ema Peter
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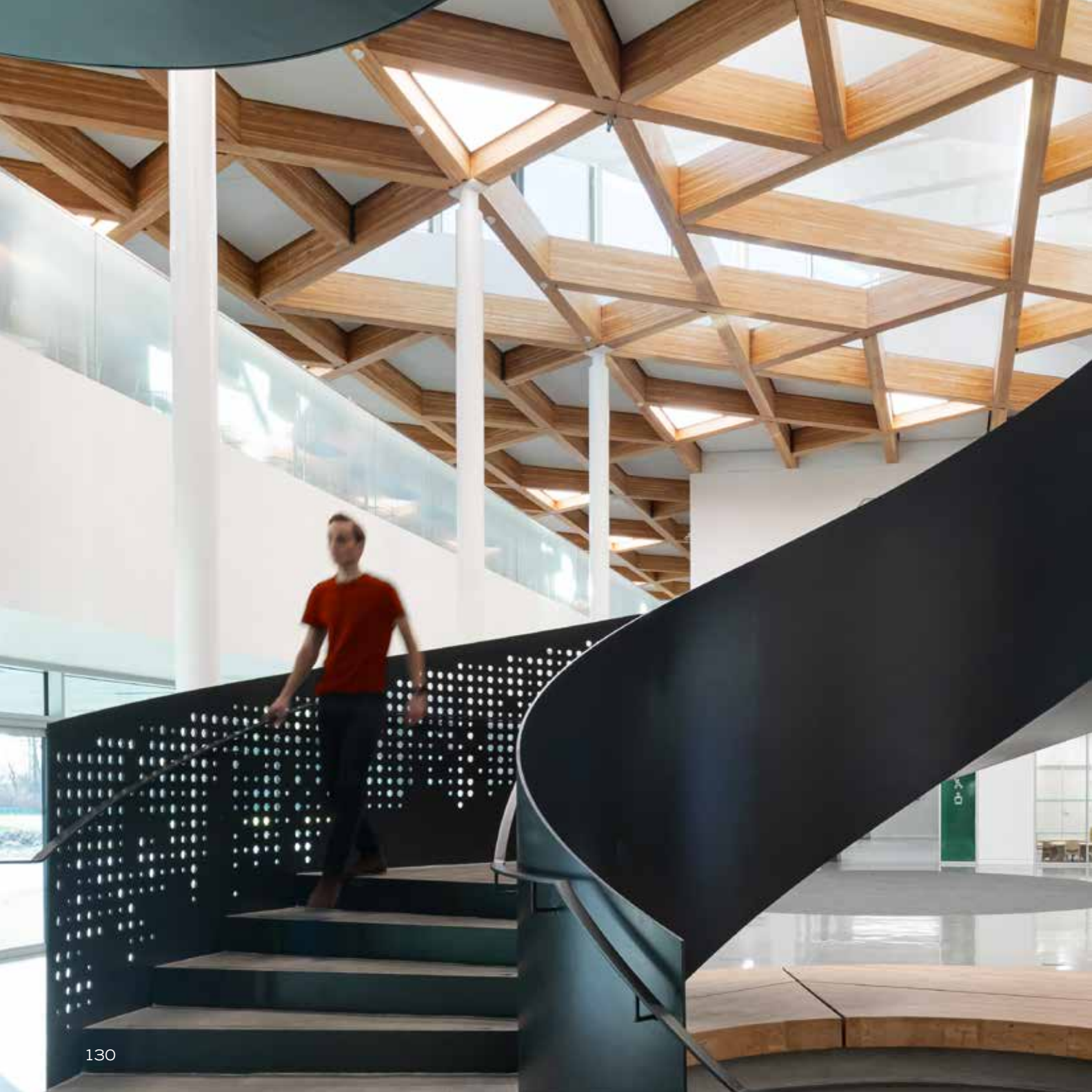

Institutional—Large

This center's exposed wood structure provides warmth and comfort, inspiring community members to gather and enjoy one another's company doing the activities they love.

Clayton Community Centre

Located in Clayton Heights, a growing neighborhood in Surrey, BC, Clayton Community Centre houses a unique mix of spaces—a branch library, gymnasium and fitness center, childcare, community kitchen, and art spaces—under a single roof, combining a variety of city services into an integrated community center.

The 78,000-sq.ft. building features a dazzling double-height social gathering space at the main entry, providing a hub for community engagement. Its location between two secondary schools and the growing neighborhood led to a design intended to meet the needs of local youth while also supporting the area's growing population.

The center is also Canada's largest Passive House-certified facility to date. Sustainability was a high priority for this project and formed a guide to the center's design and layout at the earliest stages. That commitment to sustainability is highlighted through the choice of material, with wood as both structural and architectural elements.

The aesthetic goal of the facility was to establish a lattice-like structure resembling tree canopies native to the area, allowing natural light to filter through to the building's interior spaces, centered around a dramatic spiral staircase, representing the tree's trunk. The roof structure's reciprocating frame is composed of an assembly of pinwheel-shaped modules of glulam beams. The two-way wood system allows the wood structure to span to discrete column locations without the need for dropped beams, while achieving the unique architectural expression desired.

A challenge with the use of wood is the difficulty in creating connections that can transfer bending moments, leading to framing schemes that typically rely on simple span wood members and dropped beam conditions. For Clayton Community Centre, there was a strong desire by the project team to use wood as a primary building material, but the required spans and architectural intent led the team to develop the concept of a two-way wood system.

The innovative approach is a system composed of three-member reciprocating wood modules that are repeated and expanded to create a full roof system. The system is both structurally efficient and architecturally expressive, giving rise to a unique synergy between design intent and building structure. Connecting discrete wood members with shear connections in such a way as to create continuity is not new. This technology was employed in ancient China, using wood members with limited length to build structures with significant span. This general idea was modified and built upon to arrive at the two-way interlocking system. The basic module comprises three wood members placed in three different directions, creating a minimalistic pinwheel element. The triangular form can engage neighboring identical pinwheel elements, interlocking and combining to form a genuinely two-way system. The advantages of this two-way system are in many ways similar

to concrete flat plate construction. Through the development of this innovative structural wood system, which utilizes the reciprocating "pinwheel module" honeycomb-shaped glulam approach, the team was able to realize the project's vision. By creatively using intricate geometric shapes, the concept allowed light, nature, functionality, and economics to come together and guide the tree to life.

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PHOTOGRAPHY
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Michael Sherman
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Multi-Family

Come for this project's eye-catching curves, stay for the fact it's the first residential CLT building in British Columbia's Fraser Valley to use CLT— and one of the first in Canada to use CLT in the firewall.

Legacy Condos on Park Avenue

The Legacy on Park project is a six-story condo building that features a mixture of 69 two-bedroom and three-bedroom plus den units in the heart of downtown Langley, BC. Its curvilinear architectural concept provides the building mass with a sense of motion and reflects a desire for greater outdoor connection through large balconies that provide incredible views at this prominent contextual location.

CLT was chosen as the structural floor system due to its many advantages, such as its cantilever capacity, manufacturing precision, speed of installation, and low environmental impact. Structurlam was selected to manufacture the CLT as it is a local specialist in engineered timber products.

The CLT floor system utilizes both 3-ply and 5-ply panels that provide a shallow structural depth that increases ceiling heights in the units. This floor system did not have typical concrete topping to reduce the overall system weight to accommodate the site's challenging geotechnical soil conditions.

Cantilevered balconies were made possible by taking advantage of CLT's two-way strength. Each exterior 5-ply balcony panel is back-spanned using a 5-ply strip panel connected to a 3-ply typical floor panel to achieve the desired 7-ft. clear cantilevered patio deep.

A CLT elevator shaft replaced the typical block wall or solid 2x shaft, which reduced construction time and scheduling issues, as well as ease of elevator installation. The project was an early adopter of using CLT for the code-required firewall, as it reduced the chance for differential movement within the building superstructure.

CLT offers excellent thermal, seismic, fire protection, and acoustic performance. It is also a natural, renewable material that requires less energy to produce than steel or concrete. In addition, it provided the design team with opportunities to achieve several of the client's program needs that were not possible with traditional wood framing. As the first residential building in the Fraser Valley to use CLT, it also enabled the design team to meet the City of Langley's desire to have an iconic building built in its midst.

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PHOTOGRAPHY
Calvin Owen Jones
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LEGACY

Residential

A fully accessible and zero-barrier layout that allows residents to age in place is just one of the many ways this home brings together the traditional and the modern in harmonious balance.

Curio House

Curio House is an extended-family residential project in a suburban neighborhood in Richmond, BC. From the beginning, the architects sought to use local materials to create an architectural expression that combined modern West Coast and traditional Chinese-Canadian sensibilities.

The design team set out to create a comfortable home with a dualistic nature, integrating classical Chinese residential composition with state-of-the-art construction. The strong north-south axis and progression through space along the cardinal line come from a completely Eastern perspective, but the modern architectural language is of its own time and place. The location is appropriate; with an established East Asian demographic, the residence poetically responds to the cultural intersection of East meeting West.

The use of engineered timber was key in the design to create a large central space for family gatherings. The resulting 1,300 sq.ft. of exposed NLT roof panels, supported on glulam beams, became the defining feature of the interior space. The NLT roof used alternating 2 x 6 and 2 x 4 members, creating a richly textured finish. Services such as electrical and sprinklers are integrated into gaps between the structural panels, and then covered for a seamless effect. This fluted expression is echoed in other aspects of the design, such as on the garage door. The structural grid of the glulam beams, expressed prominently above, is also reflected below in the precise placement of millwork, furniture, lighting, and windows. Both NLT and glulam are treated with clear finishes so that their natural textures and color variations can be appreciated over time.

Wood was used extensively in the interior finish palette, including oak engineered flooring, natural Douglas fir veneer millwork faces, prefinished plywood cabinet interiors, solid white oak curio cabinet and dining table, and solid European beech kitchen countertops.

In the garden, yellow cedar was used for the exterior decking, which was custom-milled to match the width of interior floor planks. The pergolas, screens, and garden benches are made from Western red cedar. The exterior wood rainscreen is tongue and groove cedar with a gray stain and appears again on the motorized car gate in a vertical orientation.

In keeping with West Coast tradition, the architects sought to connect the interior spaces with the outdoors. This can be seen in the continuous French doors opening onto the rear garden. Exterior cladding that differentiates the various volumes transitions seamlessly through insulated glazing systems. This condition is repeated at the clerestory windows where the NLT panels continue through to the exterior, creating a protective canopy. The large French doors, combined with the operable clerestory windows, promote passive cooling through a natural chimney effect.

Perhaps the most surprising use of wood in Curio House is found in the solution to one of suburbia's most ubiquitous design challenges: the garage door. Here, the architects opted for a single 24-ft.-wide top-hung, bifold door that is most commonly used for industrial buildings. Clad in a custom profile of locally milled Douglas fir strips, the door is integrated in an extended feature wall that runs uninterrupted into the foyer. This fluted façade, echoing the NLT, flows from outside to inside, inviting curiosity of the dwelling within.

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PHOTOGRAPHY
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Sponsors

Alberta Government

Canadian Wood Council
Conseil canadien du bois

PRAIRIE

Institutional

This building expansion and renewal project is key to Saskatchewan's First Nations working toward their long-term goals of preserving and celebrating Indigenous culture.

Wanuskewin

Nestled by the Opimihaw Creek Valley and the South Saskatchewan River near Saskatoon, Wanuskewin transcends the line between the natural and built environment, telling the story of the Indigenous peoples of the Northern Plains.

Originally constructed in 1992, the interpretive center was purposely placed alongside the valley to be as unobtrusive to the natural setting as possible, taking advantage of the panoramic view of the surrounding landscape and creating a connection through a network of scenic trails.

The name Wanuskewin is a nēhiyawēwin (Cree) word meaning "living in harmony" or "peaceful gathering place," and the cultural and historic background of that term was carefully considered throughout the building design. The original design integrated a large peaked roof that mimics a bison's body with the head represented by the peaks overlooking the valley. In keeping with the original intent, the new permanent exhibit space was given the form of a baby bison facing into and staying close to her mother.

The new cedar shakes on the roof and vertical cedar exterior wall panels not only offer stunning natural beauty but were also intentionally selected to align with the materiality of the traditional buildings for the Northern Plains Indigenous peoples. The entry plaza was expanded with new sculptural elements depicting prairie grasses mixed with the Lloyd Pinay bison sculptures that represent the techniques used in the bison hunt.

The Story Circle, reminiscent of a pre-contact pit house, and the Elders' Lounge are the most breathtaking spaces within the building. Overlooking a small crest in the valley, the Elders' storytelling circle allows Elders a quiet space for reflection, ceremony, teaching, and storytelling in a more intimate environment. This reflective space is clad in warm, natural materials and has a central hearth to provide a comforting space for users. The paskwāw round is a magnificent circular gathering space with seating for 350 visitors.

The conference and event space took direct design cues from the traditional Ceremonial Arbors that can be found in many First Nations communities across the Central Plains. Entries into this space are aligned with ceremonial entry points, from the south and the east.

Mass timber and glulam beams play a strong role throughout the

thoughtfully designed spaces, creating a natural and welcoming space that celebrates the history of the Indigenous peoples of the Northern Plains. The window glazing has embraced visual markers to create visual noise, which breaks up the transparency of glass and prevents birds from flying through.

Wanuskewin highlights significant rehabilitation and restoration efforts to the existing building. No part of the existing building was demolished as part of the facility modernization; areas were restored and repurposed, integrating modern elements such as bird-friendly glazing. The overarching architecture of the new build closely mimics the original building, with the existing cedar cladding being restored and the lines of the new construction designed purposely to match the structure developed in the 1980s.

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GENERAL CONTRACTOR
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PHOTOGRAPHY
King Rose Visuals
Saskatoon, SK

Recreational

Defined by a simple gable roof, this year-round facility welcomes one and all—even the local elk herds—to enjoy all the seasons the beach has to offer.

Waskesiu Beach House

The Beach House is situated in the town of Waskesiu, which is located on the east side of Prince Albert National Park, approximately 200 km north of Saskatoon, SK. The park is a popular destination with tourists, campers, and seasonal residents for activities such as hiking, swimming, fishing, camping and canoeing. At the heart of the town is a 2,000-ft. sandy beach on the shore of Lake Waskesiu.

The 2,800-sq.ft. Beach House replaces the previous 40-year-old facility, which was not accessible. Positioned in the same location as the original, at the threshold of the beach and the pedestrian and vehicular network to the townsite, the building serves as a welcoming entry point for park patrons from the town to the beach.

Parks Canada's program included requirements for a three-season washroom, shower, and changeroom that would be accessible for beachgoers, as well as a smaller four-season washroom that would serve winter campers and cross-country skiers. Although programmatically similar, the seasonal distinction made the design of each of these elements unique.

From a planning perspective, the three- and four-season components are detached from one another under a single, simple gable roof. The void between the two elements creates a dramatic framed view of the lake beyond, celebrating the design of the original 1975 building, which had two narrow beach entry points along its façade. This "portal" in the building serves as the main entry point for. The framed view beyond is reminiscent of a picture-perfect postcard, with potential glimpses of a lake sunset or a herd of elk wading in the water beyond.

The minimal material palette comprised an exposed, economical wood roof framing system, thermally modified wood cladding, glazed concrete masonry units, and a translucent channel glass system. The black masonry provides a sharp contrast to the sand, water, and natural surroundings while simultaneously grounding the building. The wood cladding, soffit, and deck boards recall the traditional boardwalk found within the park and common to beach waterfronts across Canada. Kebony, a thermally modified softwood, requires minimal maintenance, has the feeling that it belongs in cottage country, and is durable enough to withstand the thousands who use the facility every summer.

The detailing of the exterior clad-

ding is such that the decking aligns with the siding, which then aligns with the soffit. The roof structure is constructed from economical LSL roof joists with good-one-side plywood serving as the roof sheathing. As the three-season roof is not insulated, the plywood sheathing serves as the finished surface for the ceiling. Careful planning was required to ensure the fasteners for the standing seam metal roof aligned with the joists and were not visible in the sheathing.

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PHOTOGRAPHY
Lisa Stinner-Kun
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Residential

The wood design of this private home promotes sustainability through longevity and weather resilience in Calgary's often complex—and consistently inconsistent—climate.

Roxboro Residence

The clients of this two-story, single-family detached dwelling desired timber frame and wood elements that surpassed budget expectations. To mediate, the design team integrated traditional form and massing alongside expressive and modern uses of wood; both structural and aesthetic functions of wood are visible throughout the exterior and interior.

Situated in the established urban community of Roxboro in Calgary, the house is neighbored by single-story early 20th-century homes. Without overpowering its historic

surroundings, the house distinctly draws attention to natural cedar and fir, and to the wood timber framing elements that are juxtaposed with brick masonry, reflective glass, and dark aluminum features. The material contrast emphasizes the warmth of the living and changing wood while radiating the visual comfort of wood as a natural and long-lasting resource.

The front of the house features two thoughtfully crafted wood elements. Structural flanking timber frame walls made of fir support an asphalt roof. The wood beams sit above concrete knife plates connected by geometrically joining dowels. This innovative design feature allows for moisture wicking and quick drying of the wood, thereby preventing deterioration from standing water. Cedar shake shingles encase the northwest corner of the house and the southwest entry. The weather-resistant, horizontally arranged cedar shingles are dipped in a dark translucent stain, thereby increasing their lifespan and conjuring a visual experience reminiscent of *Shou sugi ban* technique.

The rear of the home further emphasizes aesthetic wood elements of the timber frame in the roof over-hang and the ceiling of the outdoor living space. As seen in the front, cedar shake shingles line the rear body of the home meeting the concrete base. The diminishing view of non-wood materials creates geometric patterns between the wood elements and the second-story window, mirroring the setback view of the primary second-story mass. A brick masonry wood-burning fireplace creates a living dynamic of "home" in the outdoors by enabling the historic benefits of heating with wood while also extending Calgary's shoulder seasons, centering outdoor activity below the second-floor massing.

Wood is also essential within the interior of this house. Each vista and vantage point converges with wood, resulting in a serene yet bold and distinct essence of the living space. Picturesque views of the exterior wood timber framing are seen through large side windows. The wood frame is lit up at night creating a dramatic scene. These flanking walls mitigate building codes which otherwise limit the window size by protecting and insulating the home from the elements. As well, the structural wood timber frame features promote privacy and allow for natural light penetration. A fir railing and columnar screen encase the stairwell at the heart of the home, their natural patina blending into the cooler oak floor seen throughout with a pronounced grain.

ARCHITECT
DeJong Design Associates Ltd.
Calgary, AB

STRUCTURAL ENGINEER
GC Engineering Ltd.
Calgary, AB

GENERAL CONTRACTOR
Triangle Enterprises Ltd.
Calgary, AB

PHOTOGRAPHY
Emyeric Widling
Calgary, AB

Jury's Choice

With the goal of creating a place where young people can make new friends and feel like they belong, this camping lodge embraces the warmth and simplicity of wood.

Travis Price Centre, Camp Manitou

True North Youth Foundation's Camp Manitou is a year-round camp and recreation facility located on 28 acres of land along the Assiniboine River in Headingley, MB, just west of Winnipeg. The camp has been providing accessible and meaningful camp experiences to the area's children, youth, and community groups since 1930.

Since taking over the camp in 2014, the foundation has made considerable improvements, including the construction of a state-of-the-art outdoor hockey facility to support its hockey academy. Eleven additional acres are currently being developed to provide recreational experiences, including kayaking, canoeing, mountain biking, and cross-country skiing.

Envisioned as the centerpiece of the camp, the Travis Price Centre is a flexible, multi-use facility that includes a 200-person dining hall, commercial kitchen, dormitories, administrative offices, and meeting rooms. The 9,100-sq.ft. building also supports several outdoor functions with fully accessible washrooms, exterior changerooms and lockers for the outdoor pool area, as well as a covered deck that opens up to the adjacent field and firepit.

The building's form is simple. Two adjacent, gable-roofed volumes are offset in the plan to provide views to the exterior and create outdoor spaces. The main entrance intersects the building with a pronounced pitched roof that is pulled back on the west side to create a modern, welcoming lodge-like entrance.

In addition to its aesthetic qualities, wood provided numerous benefits to the project, including ease of construction, cost-effectiveness, durability, ease of maintenance, and the ability to be prefabricated and finished offsite.

The building's primary structure—including trusses, roof joists, load-bearing columns, and walls—are all constructed from dimensional lumber. These elements, along with the interior wood demising walls, were prefabricated offsite to reduce project costs and expedite the construction

schedule. Shiplap cedar siding was used on soffits and walls at the entrances, extending seamlessly into interior spaces to provide natural warmth. Cedar is also used to highlight the exterior gathering area along the building's south façade and is prominently featured on the vaulted ceiling of the hall. All cedar was pre-finished offsite to ensure quick installation and consistency of finish.

Douglas fir veneer, color-matched to the cedar, was used on all interior doors while solid Douglas fir was used for interior and exterior benches. Birch plywood panels are used in the dorm rooms to provide a simple durable finish. Wood was also used for exterior elements, including the large pressure-treated deck and exterior cedar fencing that was stained to complement the charcoal metal standing seam siding.

Overall, the use of wood reflects the camp's commitment to having visitors experience this unique natural environment, grounding the building in its beautiful setting.

ARCHITECT
1x1 architecture inc.
Winnipeg, MB

STRUCTURAL ENGINEER
Crosier Kilgour & Partners Ltd.
Winnipeg, MB

CONTRACTOR
Concord Projects Ltd.
Winnipeg, MB

PHOTOGRAPHY
Lisa Stinner-Kun
Winnipeg, MB

Interior Showcase

This renovation of a beloved theater pays homage to the original design while updating the space to be more welcoming, luxurious, and—most important—accessible to all who attend.

Genevieve E. Yates Memorial Centre

Without any significant updates since its construction in 1965, this beloved performing arts theater in downtown Lethbridge, AB, was showing its age. Many operating components had reached the end of their lifecycle, the building did not meet current accessibility requirements, and the audience chamber acoustics were notoriously poor. Finishes renewed in the 1980s were unsympathetic to the building's aesthetics.

Ensuring that any changes honor the original design of this Lethbridge landmark was foremost in the renovation plan. Within the walls of the Yates, one of the most pressing technical considerations was the acoustic quality of the auditorium. The original hexagonal shape of the audience chamber resulted in unevenly distributed sound from the stage, creating a dead spot in the center of the auditorium. To redistribute sound more evenly, reflectors were designed using curved black walnut on MDF, a material chosen because its density assists in the acoustic performance of the reflectors. Once installed, the ceiling panels recalled undulating waves of wind across fields of prairie grain.

Along the sidewalls, canted walnut panels help redirect sound into the center of the audience chamber. The resultant design not only provides an enhanced listening experience with consistent sound throughout, but creates a luxurious and beautiful aesthetic through the warmth of the walnut panels. The curved ceiling reflectors are designed to cover 85% of the 4,400-sq.ft. ceiling. The reflectors are positioned specifically to adapt to the unique acoustic characteristics of any portion of the odd-shaped room. The reflectors are made of 4×8 ft. sheets of 5/8" MDF with walnut veneer.

The renewal pays homage to the original building in many ways. Diamond motifs in the original concrete block walls of the audience chamber inspired the introduction of diamonds throughout the design. The diamond motif is showcased with a walnut feature wall in the upper lobby. Blank walls in the main staircases were covered in three-dimensional walnut panels, creating a dynamic vignette with custom lighting fixtures. Walnut panels are repeated on the face of the main floor ticket center. Original

photos of the upper and lower lobbies from the 1960s reveal the use of walnut paneling that had since been removed. The intent was to create warmth and luxury with finishes authentic to the 1960s but applied in a modern and updated fashion. An original painting in the long overlooked upper gallery was the launching point to inspire the contemporary color palette carried through public and performer spaces. The play of rich paint and furniture colours highlights the walnut features and further works to create a dynamic yet elegant space. The painting is now a key feature in the upper gallery.

The functional warmth added by the wood reflectors in the audience chamber and the wood accents in the front of house bring a heightened sense of elegance to the theater and add to the sense of occasion experienced by theatergoers. The renovation has revitalized the Yates and ensured that it resumes its place in the cultural center of Lethbridge and beyond.

ARCHITECT
SONGER architecture inc
Lethbridge, AB

STRUCTURAL ENGINEER
Entuitive
Calgary, AB

GENERAL CONTRACTOR
Stuart Olson
Calgary, AB

PHOTOGRAPHY
Henriette Plas Photography
Lethbridge, AB


9th Avenue SE

Industrial

Why did the design team responsible for more than 80% of Calgary's transit facilities choose to work with wood? Let's just say its beauty and versatility moved them.

Bus Rapid Transit Network, Calgary Transit

The architect has a long history of designing passenger infrastructure for Calgary Transit throughout its rail and bus systems. The team has designed more than 80% of these city facilities, including all the stations and stops for the new Bus Rapid Transit (BRT) network.

Running on dedicated traffic lanes within and adjacent to existing roads called a Transitway, the Calgary Transitway allows passenger buses to move throughout the city, out of the vehicular traffic stream and with the ability to pre-empt traffic signals. This way, commuting by BRT is faster than by private vehicle.

The team's approach to the design of the stations and stops revolved around the idea of elevating the bus passenger experience to match the quality and speed of the transit service. The goal was to provide the traveling public with first-class passenger facilities to fit hand in glove with this first-class service so that the system becomes an easy first-choice mode of transportation for commuters. From the start, it was strongly felt the best way to achieve a ubiquitous feel of warmth and high quality throughout the system was through the use of wood.

The Transitway network criss-

crosses all over the city, with more than 100 stops and stations of varying sizes and scales. This meant the design solution would need to be easily repeatable and adaptable to numerous scales and site conditions. Wood provides a high-quality and warm finish material; in using CLT, the design, the design team found that wood also gave them an opportunity to easily adapt to the varying scales and site conditions. Three scales of roof were created using three, four, and five timber laminations to create over 15 different station configurations.

Due to its lightweight and excellent spanning capabilities, CLT allowed the design team to prefabricate the station roofs and deliver them to each site for a fast and clean installation. This allowed for all the finishing and roofing to take place in a controlled environment, resulting in a higher-quality end product. CLT fast became the team's "Swiss Army knife" building material. As a singular product, it was used as a roof structure, a roofing substrate, and as finished exposed soffit—but, most important, the image of the wood has come to symbolize high-quality transit throughout the city.

The use of wood, and CLT in particular, resulted in an incredibly successful architectural expression that reflects Calgary Transit's commitment to high-quality transit and has become a ubiquitous symbol of first-choice, first-class transportation. This work is now being employed on new BRT lines throughout the city and translates very well to fit any site or context while maintaining the city's vision of a unified transit system.

ARCHITECT
GEC Architecture
Calgary, AB

STRUCTURAL ENGINEER
Stantec
Calgary, AB

GENERAL CONTRACTOR
PCL Construction Management Inc.
Calgary, AB

PHOTOGRAPHY
Latitude Photography
Calgary, AB

Michael Wach
Architectural Photography
Calgary, AB

Industry Award

A focus on simple forms—coupled with a reverence for nature and an honest treatment of materials—helps this community center to soar like a butterfly.

Nikka Yuko Bunka Centre

Established during Canada's 1967 Centennial as a symbol of international friendship, the Nikka Yuko Japanese Garden recognizes contributions made by citizens of Japanese ancestry to the community of Lethbridge, AB. In 2018, to enhance year-round programming for visitors to the garden and adjacent Henderson Lake Park, the City of Lethbridge commissioned construction of a new community center. The Nikka Yuko Bunka Centre opened in November 2021.

This project presented unique design challenges, as the Nikka Yuko Japanese Garden Society requested an iconic building that didn't overwhelm the existing garden. To address this, the team used a butterfly roof to draw visitors to the building. Visitors are beckoned inside the center at the humblest point, the valley of the roof. Once inside, the space broadens into an open commons area with a full glazed view of the garden and existing pavilion beyond.

The finite municipal budget and the Garden Society's ever-growing needs required skilful planning to design a building that is functional yet beautiful. Japanese design focuses on simple forms, reverence for nature, and honest treatment of materials. The interior spaces respect and reflect these concepts. Exposed concrete floors

throughout the common areas offer durability and the honesty of the floor slab. The large community space and exhibit room feature hardwood flooring, which provides texture and visual warmth. In a nod to traditional Japanese oak, white oak is used throughout the interior for hardwood floors, millwork, and interior doors. On the exterior, dense yellow Balau Batu tongue-and-groove flank the recessed visitor entry and embellish a column at the staff entry. These wood highlights create a focal point for visitor entry while providing visual relief of the stucco exterior.

White oak millwork on the reception desk and café counter is capped by a soft white solid surface material with a rice paper appearance that folds angularly across the front faces, evoking the angles of the building footprint. The commons area furnishings are modular to provide flexibility for the many different events hosted within the building. The café chairs mimic an origami fold and provide pops of vibrant green against an otherwise neutral palette.

On the exterior, the textural linen stucco embedded with reflective mica microflakes is juxtaposed by the clean, pronounced outlines of the black aluminum curtain walls. Window openings

are based on the tatami mat ratio of 2:1. The mullions are woven together in a pattern that plays the tatami mat ratio against the ever-increasing height of the façade. Harsh winters precluded the use of actual wood in the soffit, so wood-look aluminum soffits make the transition between light-colored stucco and charcoal fascia. The choice of wood on this project was essential to create a respectful conversation between the 50-year-old garden and its new building.

The facility includes two dedicated exhibit spaces, a café, a gift shop, and three rentable community spaces for use by the community. Situated along the promenade approaching the Nikka Yuko Japanese Garden and within the boundaries of Henderson Lake Park, the project is well positioned to enhance the visitor experience for both the Japanese garden and the park.

ARCHITECT
SONGER architecture inc
Lethbridge, AB

STRUCTURAL ENGINEER
Wolsey Engineering Ltd.
Calgary, AB

GENERAL CONTRACTOR
Dawson Wallace Construction Ltd.
Lethbridge, AB

PHOTOGRAPHY
Henriette Plas Photography
Lethbridge, AB

Commercial

Created as part of a dynamic urban community in Alberta's capital, 300 West Block functions as the front door to a mixed-use development designed for people to live, work, and play.

300 West Block

The West Block is truly a mixed-use development—a place where people can live, work, and play. Located in the mature Edmonton neighborhood of Glenora, 300 West Block is part of the first phase to redevelop a previously abandoned site into a new, transit-oriented urban community.

300 West Block defines a south-facing urban plaza that will open out and connect directly to the future West LRT Line. With a coffee shop and restaurants on the main floor, activities spill out into the plaza, creating an active, vibrant, and sun-filled space. Integrated concrete planters with Balau wood slat benches define seating spaces and draw people into the plaza.

As the front door to West Block and a central element to the first phase of redevelopment, 300 West Block uses mass timber as the primary structure and architectural feature. The three-story mass timber building is built over a two-story parking structure, which extends out to form the plaza surface. Douglas fir glulam columns and beams support a GLT deck, providing a flexible and unique opportunity for tenants.

The project accommodates a wide range of commercial uses on the main floor, while the upper levels are dedicated to office space. The flexible wood design allowed for an interconnecting stair to be added to the project during construction to allow a daycare tenant to occupy the main and second floors. This would not have been possible or would have come at greater expense if other structural systems had been used.

The architecture firm's studio occupies the south half of the third floor and takes full advantage of the wood structure, showcasing the design within a simple open studio space. A linear multifunction service wall anchors the back of the studio, accommodating a variety of functions within a consistent black backdrop. The wall houses the kitchen, sample storage, office storage, and a chalkboard collaboration space. A perforated metal bulkhead lines the perimeter, concealing the mechanical systems and ductwork, allowing the mass timber structure to be expressed and showcased within the space. A bespoke mass timber family table is at the heart of the studio and is used every day for lunch and collaboration sessions, and as a place to gather for special events. Meeting and breakout spaces are allocated to the ends of the studio, providing spaces for people to collaborate without breaking up the open studio environment.

ARCHITECT
GEC Architecture
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STRUCTURAL ENGINEER
ISL Engineering and Land Services Ltd.
Calgary, AB

Protostatix
Edmonton, AB

GENERAL CONTRACTOR
Pagnotta Inc.
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PHOTOGRAPHY
Adrien Williams Photos Inc.
Sun Peaks, BC

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Edmonton, AB

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ONTARIO

Innovation

This prototype for urban living is a viable new model for mid-rise housing—a repeatable product that speeds up design, development, and construction.

R-Town Vertical 6

Located on Toronto's Queen Street East, the R-Town V6 is the first six-story, mixed-use, multi-unit residential building in Ontario that fully employs mass timber as the main structural system. The aim of this project was to create a repeatable building type that could be developed in small-sized and infill lots, and help the city pursue growth at sustainable densities by creating more housing in the "missing middle" (i.e., buildings with multiple units that are compatible in scale and form with detached single-family homes).

This 26,000-sq.ft. development was constructed in two phases. There are four units of commercial space at street level and 18 residential units in the five stories above, all of which have direct elevator access. The entire building is exclusively powered by electricity, with no natural gas hook-up, and the main plumbing chase for the building is in a central "wet core" so that future developments have the flexibility to adjust to a variety of site configurations.

From the outset, wood was the intended construction material. Mass timber offered important advantages in terms of expedited construction schedule and construction method. Offsite manufacturing enabled production to begin while demolition, site work, and foundations were completed. Prefabricated assemblies delivered just in time by the material supplier used the public laneway to the rear of the building, a small area that acted as the main staging area for the mobile crane to lift the CLT panel systems into place.

Inside, the project's exposed wood ceilings and added sound insulation provide noise attenuation and humidity control for occupant comfort. The design features passive access to natural light and enhanced fresh air circulation with outdoor terraces for each suite. The exposed wood, natural light, fresh air, and other biophilic design elements incorporated into the residences will have a positive impact on occupant health and well-being.

To pursue a mid-rise wood building, many key decisions must occur early in the planning phase to ensure an optimized design and successful project delivery. These early decisions are crucial when using prefabricated components


BUTTODO

and industrialized processes, so success relies heavily on engagement and collaboration with the entire team. For instance, when Ontario's Building Code was updated in 2015 to permit combustible construction up to six stories in height, it included a requirement for non-combustible exit stair enclosures. The developer engaged the authorities having jurisdiction early on and drew from the extensive fire performance tests and other scientific evidence available to support the all-wood design.

This modern approach to construction accelerates and improves project delivery, while the versatile and repeatable design contributes to a sustainable and much-needed increase in density along urban arterial roads—creating more attractive, desirable housing in established and walkable neighborhoods.

ARCHITECT
CMV Group Architects
Toronto, ON

STRUCTURAL ENGINEER
Moses Structural Engineers
Toronto, ON

GENERAL CONTRACTOR
Buttcon Ltd.
Concord, ON

PHOTOGRAPHY
R-Hauz
Toronto, ON

Institutional

At this independent school, new spaces foster the strong sense of community within the school while creating an enhanced connection to the natural beauty of the surrounding site.

Havergal College, Upper School and Junior School

The Havergal College master plan envisions an expanded and sustainable campus for a leading independent day and boarding school for girls from JK to Grade 12. The extent of the campus grounds, the unique topography of the ravine and woodland that traverse the site, the historic and contemporary architecture, and the placement of all within a highly urban context are unique to Havergal. The plan builds upon these features, expanding the school to create an enhanced environment for enriched learning, inquiry, and teaching excellence.

The work was implemented through two phased projects: a two-story expansion to the Junior School and a three-story expansion and renovation of the Upper School. Both projects are designed to meet the Toronto Green Standard and achieve LEED Gold certification, setting a new standard for energy efficiency and green building on the campus. In each project, mass timber structure, interior finishes, and exterior wood components were designed as signature elements, each relating to the school's woodland grounds—evoking the natural setting of the campus and strengthening bonds between students and environment.

Alteration and expansion of the Junior School create a series of shared

and age-specific spaces for JK–6 students. The new transparent front entrance is sheltered by a copper and heat-treated wood-clad canopy, providing a welcoming point of arrival. The dining room, a generous double-height gathering space, has expansive views toward the ravine and wooded surroundings. In good weather, activities open to the adjacent green. Exposed glulam timber column/beam/girt structure and NLT wood deck continue the material palette of wood, stone, and glass from the exterior to interior feature spaces, classrooms, and hallways.

The new 22,000-sq.ft. addition to the Upper School has transformed an underutilized service area, creating a new landscaped courtyard alongside three stories of studios, and adaptable teaching and gathering space. The efficient narrow floorplates of the new addition provide extensive daylight and views between new and existing architecture, the "quilted garden" court, and the adjacent ravine setting.

The warm material palette of exposed glulam timber and steel elements, polished concrete floors, NLT ceilings and millwork, and generous glazing connect the classrooms and hallways on each floor. The atrium with exposed glulam timber elements, a Douglas fir feature stair, and a green wall acts as the main gathering space for Upper School students and opens to the garden court. The triple skylight casts sunlight through the atrium and informal study spaces that overlook the student commons. Within the atrium and studios, mass timber curtainwall wind posts frame views to the adjacent landscape.

At the Upper School, an alternative building code solution was developed to address the use of combustible construction based on the inherent fire-resistive performance of heavy timber, complying with Ontario's Building Code timber dimensional requirements, and extending the height limitations for this construction to three stories. The budget for wood construction was identified early and endorsed, given the lessons of sustainability and environmental awareness that were key aspects of the project.

ARCHITECT
Diamond Schmitt
Toronto, ON

STRUCTURAL ENGINEER
Blackwell
Toronto, ON

GENERAL CONTRACTOR
Buttcon Ltd.
Concord, ON

PHOTOGRAPHY
Tom Arban
Toronto, ON

Institutional

Reflecting the library's mission to create a true community hub, this facility recalls the grandeur of the traditional reading room while exuding a sleek and modern image.

Oak Ridges Library

A former cottage community with a rich natural landscape, Oak Ridges is an evolving neighborhood north of Richmond Hill's rapidly growing downtown. Created to replace an aging facility, the Oak Ridges Branch Library is an active community hub that encourages collaborative learning, creative exploration, and social exchange.

Carefully woven into its urban context, the new branch is distinguished through generous glazing that puts the vibrant functions of the library on display and reclaims its prominent location along Yonge Street. Transparency into the branch illuminates the importance of the library's role as much more than a passive warehouse for storing books.

The library is distinguished by its unique materiality. An elegantly detailed SPF glulam timber structure throughout its main collection and reading space is complemented by a series of Douglas fir infill wall and ceiling panels. The wood structure housing the main public area was intended to be a simple yet expressive architectural feature. In order to keep the space clear of visual distraction, a series of intentionally deep beams were designed to clear span the 11-m.-tall public area. This is contrasted with a robust palette of natural stone laid in a horizontally striated pattern that defines the staff zones and study spaces along the north façade of the building.

These materials immediately evoke

a sense of history, recalling the traditional agricultural structures of the region as well as its natural landscape, while at the same time asserting a bold sense of modernity. This is reinforced through the generous use of glass that enables the spaces to be generously infused with natural light, transforming the main wood-lined reading room into a glowing beacon to the surrounding community at night.

The counterpoint to this highly transparent "lantern" space is a slightly more introverted zone that houses the back-of-house spaces and cellular training and study functions. This zone is clad in a locally sourced limestone that expresses the unique geology of the Oak Ridges region within the walls of the building, bringing a sense of permanence to the structure.

Sustainable strategies include mass timber construction, reductions in energy and potable water, and an environmentally conscious material selection process. The building is oriented to maximize daylighting and mitigate solar glare through the more intense heating periods of the year. A series of fixed louvers sized and spaced using parametric analysis are incorporated along its southeastern façade. An extensive green roof above the children's area and bioswale along the street edge help to encourage infiltration and reduce the flow of stormwater into the municipal system, as well as establish an important connection to the natural landscape. The building integrates energy-efficient lighting, a high-performance building envelope, FSC-certified wood, and local stone.

ARCHITECT
Perkins&Will
Toronto, ON

STRUCTURAL ENGINEER
Entuitive
Toronto, ON

GENERAL CONTRACTORS
Bondfield Construction Company Ltd.
Concord, ON

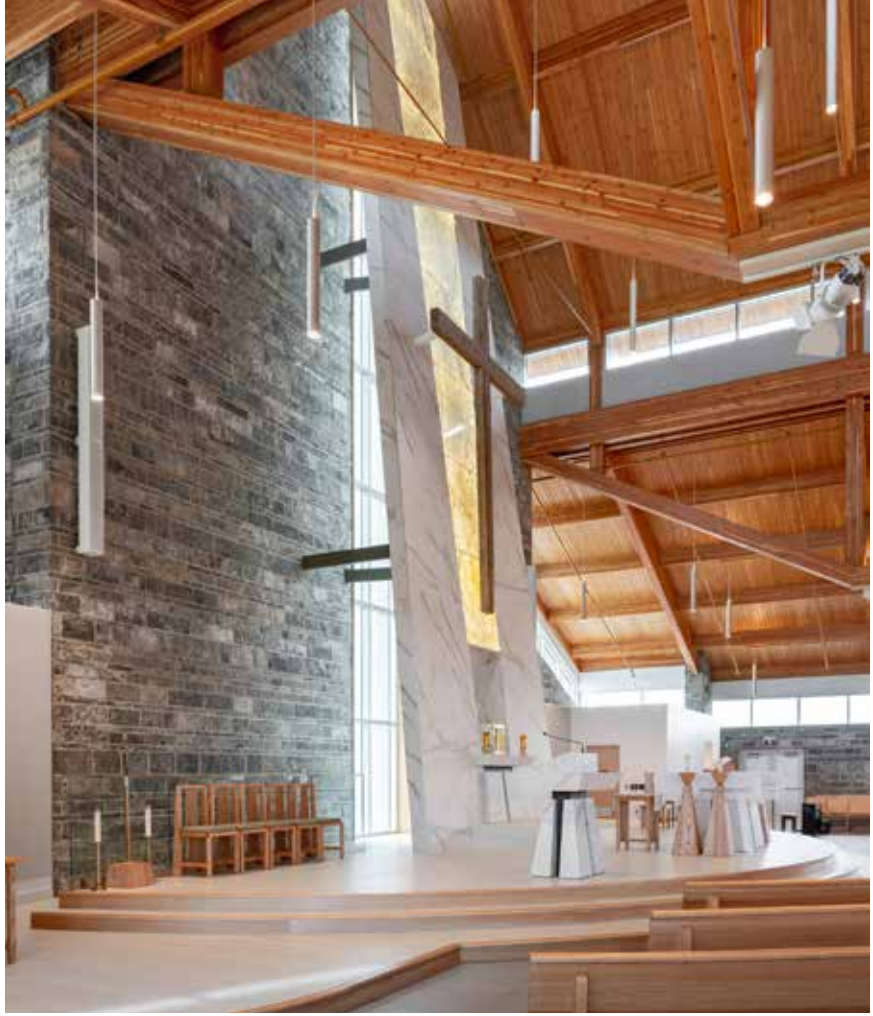
Buttcon Ltd.
Concord, ON

PHOTOGRAPHY
Scott Norsworthy
Toronto, ON

Institutional

Made from local materials and designed to be net-zero energy usage, this church aspires to demonstrate an “integral ecology” approach that connects the sustainable with the divine.

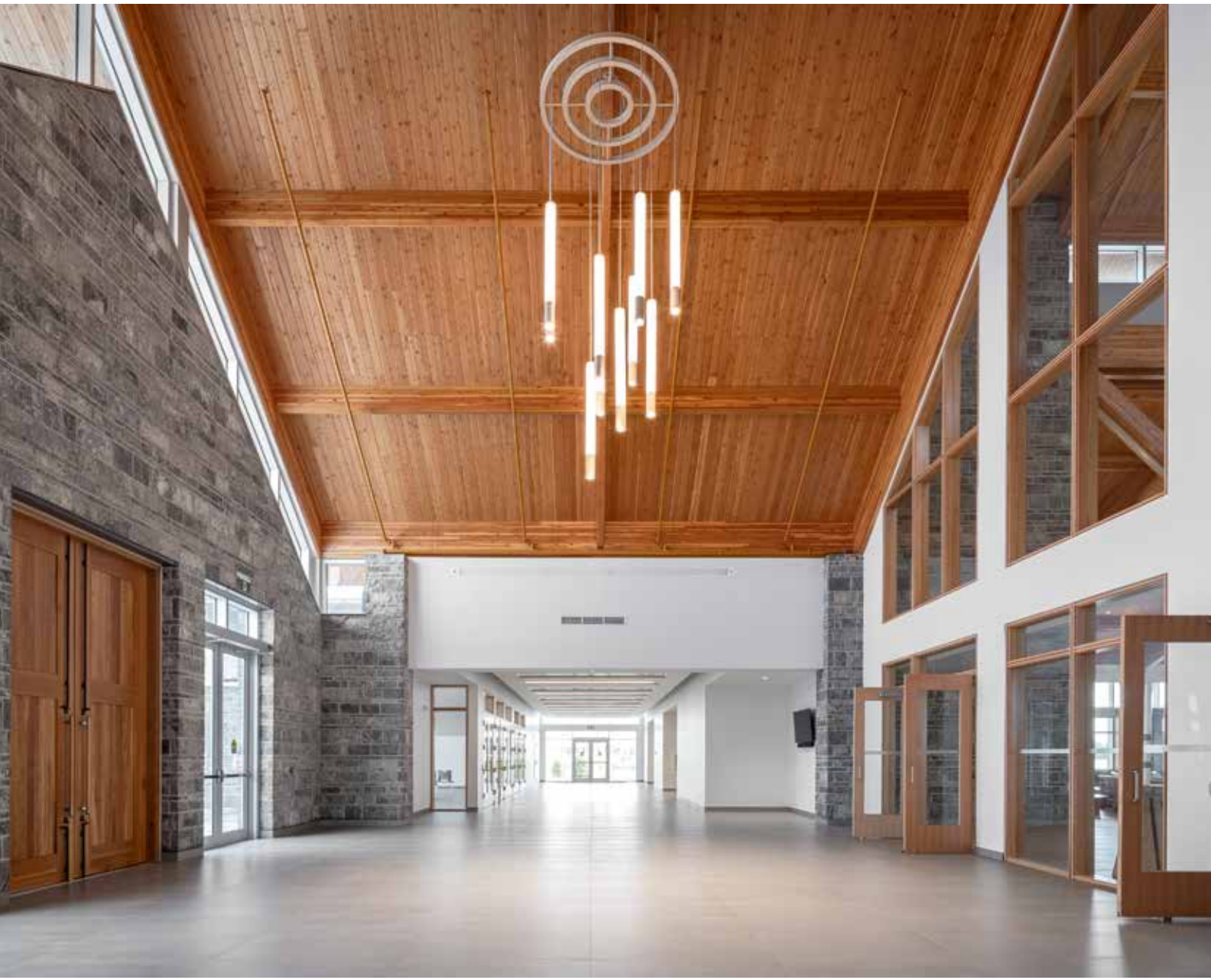
Saint Benedict Parish Church



The goal of this project was to design a contemporary church for a congregation in the rapidly growing community of Milton, ON, that would demonstrate an "integral ecology" by embodying and embracing the interconnectedness between environmental, economic, and social ecologies as a way of re-establishing a right relationship between humans and the natural world. This is achieved through the building's materiality and systems, and its relationship to its natural and cultural contexts.

Using wood as the main structural component for the roof of the lobby, social hall, and main worship space was an obvious choice. Wood contributed significantly to achieving the sustainability goals as a renewable resource and its ability to be reused again in the future. More importantly, wood was chosen because of its awe-inspiring beauty and noble stature as an enduring, natural material that references the majestic Canadian forests and contributes to an awareness that nature represents the primary revelatory experience of the divine.

The exterior design uses local stone to ground the building with its location near the Niagara Escarpment, the defining geological feature of the area. However, it is through the use of wood that extends from the interior to the exterior both physically (in the



projecting roof lines and ceremonial front doors) and metaphorically (through the transparent glazing) that a strong connection is made between the interior of the building and its exterior context. The warm colors and texture of the wood elements reach out and invite visitors to come inside.

The client has described the welcoming and intimate interior of the church as "being immersed in a Group of Seven painting." Exposed Douglas fir was used for the structural framing and roof decking of the major assembly spaces in the church; cedar for the exterior landscape furnishings; pressure-treated lumber for the exterior wood fencing; and oak for the interior glazed screens, window trim, ceremonial front doors, custom millwork, and all interior doors to major spaces. Similarly, oak was used for the pews, confessional screens, custom liturgical furnishings, display case for the sacred oils, and complementary framing for the natural clay "stations of the cross."

All wood was clear coated to allow for its natural color and texture to be expressed fully. Of particular note is the dominant main cross, which was fabricated using century-old wood beams salvaged from a demolished bridge. Other sustainable design features include geothermal heating and cooling, a superinsulated building envelope with triple-glazed windows, and a 95 KW solar photovoltaic array on carports that will generate as much electricity as the building consumes.

The predominant use of wood in many and diverse ways in this project significantly contributes to the experience of transcendent sacred architecture, while drawing attention to the importance of achieving a less exploitive and more mutually enhancing relationship to the Earth.

ARCHITECT
Larkin Architect Ltd.
Toronto, ON

STRUCTURAL ENGINEER
WSP
Toronto, ON

GENERAL CONTRACTOR
Melloul-Blamey Construction Inc.
Waterloo, ON

PHOTOGRAPHY
Scott Norsworthy
Toronto, ON

Low-Rise—Commercial

This lofty clubhouse reflects the vibrant spirit of the upscale lifestyle resort community that surrounds it.

Friday Harbour Lake Club

Located on Lake Simcoe about an hour's drive north of Toronto, Friday Harbour is an upscale lifestyle resort community situated on the shores of Big Bay Point. Intended for those seeking the benefits of a waterside lifestyle with the conveniences of an urban community, its all-seasons offerings include Canada's largest inland marina, an 18-hole golf course, a 200-acre nature preserve, fitness facilities, and several onsite retail and dining experiences.

In July 2021, Friday Harbour officially cut the ribbon of the Lake Club, a central focal point for the Friday Harbour community. Overlooking the marina, the 35,000-sq.ft. club offers Friday Harbour residents exclusive access to amenities including a scenic pool deck, fitness center, private indoor theater, daycare, games room, and both outdoor and indoor dining.

The client chose to use wood not only to highlight its aesthetic beauty, but to tie into the natural forested area that surrounds Friday Harbour. The lofty, airy design brilliantly fits into its location while the structural wood elements add to the interior and exterior design features. The structure uses just over 3,500 cu.ft. of black spruce glulam and 25,000 sq.ft. of SPF NLT finished with a clear stain to keep the natural wood grain exposed inside and out.

ARCHITECT
Graziani & Corazza Architects Inc.
Concord, ON
Timmerman Timberworks Inc.
New Lowell, ON

STRUCTURAL ENGINEER
Stephenson Engineering
Toronto, ON

GENERAL CONTRACTOR
Saddlebrook Management
Vaughan, ON

PHOTOGRAPHY
Tom Arban
Toronto, ON

Residential

A family retreat in the woods blends the traditional and modern, its two halves remaining distinct yet connected by a glazed link.

Woodhouse

Designed for a couple and their two children near Singhampton, ON, this project comprises a 19th-century log cabin and a modern addition sited in a large clearing on a heavily wooded 90-acre property. The two building forms are unified into a cohesive whole through the expression of exterior cladding materials: riffing on the rough-hewn logs of the old cabin, locally supplied cedar siding ensures visual and textural continuity. Deeply charred through the Japanese process of *Shou sugi ban* the cedar was coated in a mixture of ash and black Sansin stain to prevent discoloration from UV exposure. Tilt-and-turn windows with a black aluminum finish create a seamlessly defined exterior envelope.

Entry into the small mudroom addition on the east side of the existing cabin is the first stage in a linear sequence of spaces. Further on, a glazed corridor connects old with new. Within the modern addition, an exterior breezeway divides public and private functions, encouraging the clients to fully engage with the elements year-round. Sixteen-foot-long blackened cedar panels are hung from the cleanly detailed whitewashed birch soffit and can slide across the length of the façade to fully enclose the breezeway, offering protection from even the harshest winter winds. When these doors are closed, a vaulted ceiling featuring a bank of four north-facing skylights opens up the space and refocuses attention from the horizontal plane of landscape beyond to the sky above, retaining an intimate connection to the natural world. Two exterior decks in hard-wearing, durable ipe are awash in sunlight and further encourage the connection to the outdoors.

A considered and varied palette of woods for both structure and finish result in a complementary and pleasing symphony of warmth, texture, and grain. Prefinished engineered white oak flooring in the bedroom wing provides reassuring comfort underfoot. Millwork, interior walls, and sculpturally articulated ceilings are sheathed in whitewashed birch plywood, reflecting the texture and tone of the raw wood interior of the existing log cabin. Custom-fabricated powder-coated steel accents and RAB light fixtures were specified in black, complementing beautifully the warm wood finishes on the interior.

Structurally, wood stick-framed walls utilize both LVL and LSL components along with custom-designed, preengineered wood roof trusses to ensure the precise alignments required for the finishing of the cabin's interiors—such as allowing recessed HVAC and blind pockets to be concealed in the ceiling. Complex framing around the skylights enables the vaulted ceiling to rise between conventional truss-framed areas along the roof.

A stringent sustainability strategy retains the existing 19th-century cabin rather than building completely anew, preserving the culture and heritage of the region while reducing site impact and material usage. Operable skylights and glazed walls admit vast amounts of natural daylight and eliminate the need for air conditioning in favor of passive ventilation, and deep overhangs and sliding wood screens mitigate excess solar gain. A supertight building envelope—along with high-performance glazing, a high-efficiency furnace, and a heat-recovery ventilation system—significantly improves upon minimum requirements imposed by Ontario's Building Code.

ARCHITECT
Superkül
Toronto, ON

STRUCTURAL ENGINEER
Moses Structural Engineers
Toronto, ON

GENERAL CONTRACTOR
Jamie Korthals Construction
Singhampton, ON

PHOTOGRAPHY
Alex Fradkin
Brooklyn, NY

Kayla Rocca
Toronto, ON

Mid-Rise

Created under the belief that neighborhoods are shaped by people's desire to interact with their surroundings, this development is designed to embrace its landscape.

Mountain House at Windfall

Inspired by chalet-style architecture, Mountain House at Windfall is a residential development near the foothills of Blue Mountain, a popular ski destination along Ontario's Niagara Escarpment. Consisting of 12 buildings set on 10 acres, Mountain House is minutes away from Blue Mountain Village, Georgian Bay, the Town of Collingwood, and some of Ontario's most compelling natural attractions.

When conceptualizing the homes at Windfall, the design team's goal was to create a distinctive and timeless architectural style, one that combined the elements of early Georgian Bay cottages, cabins, and chalets, but in a more modern and eco-friendly interpretation. The result is a series of homes that are sophisticated in appearance, yet simple in detail.

Timeless and appropriate to its surroundings, Windfall's architectural style is immediately recognizable for its differentiating aspects. The development's semi-detached, bungalow, bungalow with lofts, and two-story models were purposefully designed so that when these individual homes are viewed as a collection, rooflines will align with one another, setbacks will provide a high degree of privacy, and the visual mass of each home will complement the home to either side.


MOUNTAIN
HOUSE
at WINDFALL

The use of traditional pitched rooflines and James Hardie siding, integrated with porches and verandahs that are illuminated by authentic gas-burning lanterns, creates charming elevations and pedestrian-friendly streetscapes. Recessed garage bays and the artful positioning of garages in the rear yard as a detached option from the house accentuates the home versus the automobile. The detached garage models also enhance privacy to the backyard and create a space for outdoor living rooms that are accessible from the homes. Detached garages also allow for more natural light with windows along all four exterior walls, much wider floor plates, and central staircase placement for more openness on all floors.

Stone accents and heavy timber frames, as well as the use of natural materials throughout, pay homage to the surrounding forests and mountains. The architectural styling of the development is strongly rooted in historical traditions while including the most modern 21st-century amenities.

The enclave of residences at Mountain House is designed around an exclusive amenity area, along with breathtaking views of the Blue Mountains. A chalet-inspired building provides space for workshops, group gatherings, and social events, and residents benefit from onsite activities like a connecting trail system right outside their door, hot and cold pools, a sauna and fitness room, and bicycle repair stations.

ARCHITECT
CMV Architect
Toronto, Ontario

STRUCTURAL ENGINEER
Tacoma Engineers
Barrie, Ontario

GENERAL CONTRACTOR
Georgian Communities
Barrie, Ontario

PHOTOGRAPHY
Panels.ca (Andrew Jackson)
Woodbridge, Ontario

Northern Ontario Excellence Award

A new bridge that pays homage to its iconic wood truss predecessor helps promote the use of timber resource-based manufacturing in Northern Ontario.

Duchesnay Creek Bridge

Originally built in 1937, the Duchesnay Creek Bridge connects Highway 17B across Duchesnay Creek in Commanda Township, ON. Highway 17B remains an arterial road in North Bay, ON, moving traffic from the Trans-Canada Highway 17 to the city and being the main access road within the Nipissing First Nation community.

The original structure (74 m. long and 11 m. wide) was the only one of its kind in Ontario, comprising a timber deck truss main span flanked by several shorter approach spans of timber beams supported by timber pile bents. A preliminary design study completed in 2015 determined the bridge needed to be replaced.

Given the heritage value of the original timber truss bridge, the picturesque site adjacent to Lake Nipissing, and the roots the bridge had within the First Nation community, consideration was given to integrate timber in the new bridge structure. Several studies and assessments later, it was decided that a new timber bridge would replace the original structure, preserving continuity in the historical record and its heritage value.

The proposed design was a three-span glulam girder bridge with a precast concrete deck and arched glulam braces at the piers. The total length of the bridge is 83 m. with the longest span being 39 m. The braces allow for shallower girder depth while adding to the distinctive aesthetics of the new structure, with the bridge railings and new girders enhancing the cultural landscape at the site.

The bridge was constructed using glulam sections of Douglas fir timber from Canada's West Coast. Fabrication was completed in Montréal, where the fabricator had to pay precise attention to detail; the slightest mistake in lamination, cutting, or drilling of holes could have resulted in major issues during erection. The beams and arches were pressure-treated with pentachlorophenol at the only facility in Canada with a large enough vessel to properly treat them.

This project was the first to be built on a provincial highway in Ontario using glulam girders and a precast concrete deck. Glulam was selected for its high strength-to-weight ratio—stronger than steel pound for pound. Thanks to technological innovations, glulam also allows for larger spans and heavier loads in comparison to traditional dimension lumber bridges.

Today, there are an estimated 70,000 bridges across Canada with less than 2% fabricated from timber. Although timber bridges have been limited by their ability to span longer distances and carry heavy truck traffic in the past, technological innovations have allowed for larger spans to be achieved and larger loads to be supported. Given the right conditions and utilizing new advances in timber technology, it is feasible for timber bridges to span more than 75 m.

The iconic Duchesnay Creek Bridge will help promote and encourage the use of timber resource-based manufacturing, utilizing renewable resources that can help reduce the effects of climate change. As the technology and industry evolve throughout Ontario, there may also be a cost decrease for future timber structures.

ARCHITECT
DTAH
Toronto, ON

STRUCTURAL ENGINEER
LEA Consulting Ltd.
Markham, ON

GENERAL CONTRACTOR
Nipissing-Miller GP Inc.
New Liskeard, ON

PHOTOGRAPHY
Mohammed Rashed
Markham, ON

Northern Ontario Excellence Award

Traditional Indigenous design blends with modern materials to create a functional focal point for this First Nations reserve.

Seine River First Nation Cultural Centre

The Seine River First Nation Cultural Centre is a multi-purpose building built on the Seine River First Nation (SRFN) Reserve in northwestern Ontario. It draws inspiration from traditional Indigenous design to create an original, contemporary community center.

The 7,500-sq.ft. center's distinctive form reflects the First Nation's functional requirements: a community hall, offices, crafting rooms, and a ceremonial space. Planned in a fruitful, extended collaboration with the SRFN, the building repurposes materials gleaned from an incomplete structure to echo traditional Indigenous craft and the natural surroundings. To embrace the warmth and texture of nature that surrounds the building, wood is featured extensively throughout.

The incomplete structure was the product of a home-building kit, built by a contractor. It did not allow the mix of spaces and spatial flow required for a lively community center. Extensive functional and cultural programming with the band led to a more complete vision for the building. The challenge was to understand how the existing materials could be reassembled into new configurations to suit a different design. The structure was disassembled and building materials were cataloged. A list of materials included glulam columns and beams, wood studs, and windows, as well as a portion of the existing concrete floor slab. A scale model of the building parts assisted in this process so that materials could be used economically.

Stepping into the building, visitors are greeted by a wall of stacked glulam beams, a glulam reception desk, and exposed glulam framing. Vaulted ceilings clad with tongue-and-groove pine slope up to clerestory windows that fill the space with natural light.

The public entry and exhibition space is distinguished by bright colors and the reclaimed laminated wood. The floor pattern, which continues throughout the building, recalls traditional Indigenous beadwork and quillwork. The flooring creates a flow from the entrance to the main hall past a series of offices, culminating at the ceremonial space.

The round shape and low ceiling of the ceremonial space and the selection

of door colors (white, yellow, red, and black) represent the Medicine Wheel. The floor in the ceremonial space is composed of packed earth and sand, mixed with traditional medicines from sacred sites in the SRFN territory. Indirect lighting and sound-absorbent materials enhance the ritual purposes of the ceremonial space. Spruce pillars selected from the four corners of the territory encircle the room.

Exterior cladding is reclaimed cedar colored to mimic the appearance of birch bark, which is abundant in the territory. Locally sourced red pine logs, arranged in an undulating form, shade an outdoor workspace on the center's south side. Selection and cutting of the red pine were directed by a tribal Elder. These ideas and many others came from having a dialogue with the chief and band council. The use of wood, both reclaimed and locally sourced, develops the significant character and local identity of the building.

ARCHITECT
Daniel Cohlmeyer
Montréal, QC

STRUCTURAL ENGINEER
Bart Flisak
Winnipeg, MB

GENERAL CONTRACTOR
Tom McKnight
Winnipeg, MB

PHOTOGRAPHY
Jerry Grajewski
Winnipeg, MB

Jurors

WADE W. BOWERS, B.Sc., PHD
Former Professor
ENVIRONMENTAL SCIENCE
AT MEMORIAL UNIVERSITY

JOSHUA COLLINS, P. ENG
Manager of Inspection Services
THE PROVINCIAL GOVERNMENT

AMY POFFENROTH, P. ENG. MBA
Level 3 certified building official, President
NEW BRUNSWICK BUILDING
OFFICIALS ASSOCIATION

KENDAL TAYLOR, MRAIC
President
ROOT ARCHITECTURE INC.

Sponsors

ATLANTIC

Hybrid Award

Overlooking one of Nova Scotia's coastal landscapes, this studio encourages staff and clients to engage with, and explore, handcrafted wood construction in a modern architectural environment.

Back Bay Studio

Peter Braithwaite Studio is a design-build firm that takes great pride in creating handcrafted projects. The Back Bay Studio is a direct expression of the firm's core values: expressive construction, hand crafted details, and regionally suitable material choices. Wood construction provided an efficient and economic approach due to the rugged nature of the site and limited accessibility of the property.

Situated along a rocky outcropping that overlooks Back Bay, about a 30-minute drive from Halifax, the studio is sited within the culturally rich community of Terence Bay. This small fishing community, located along Nova Scotia's Eastern Shore, is made up of rocky cliff faces and rolling hillsides that extend down to the ocean's edge.

The architectural form of the building is driven by a desire to frame the rich coastal landscape. The procession through the studio invites the user into a double-height volume that captures a dramatic view of Back Bay. The strategic fenestration captures a panoramic view of the rugged terrain and takes advantage of natural cross-ventilation. The consistent presence of dramatic views reinforces the design team's commitment to create architecture that directly engages with the natural landscape.

The interior features four exposed LVL portal frames. As a result, structure and construction become essential to the interior aesthetic and allow the team to appreciate the handcrafted quality of the building on a daily basis. The portal frames are easily assembled by a small construction crew with minimal heavy equipment and help spatially divide the interior program of the studio. Both porch cantilevers utilize a plywood sheathing box beam construction technique, which provides a dramatic experience through the use of a minimal wood wall assembly. The use of LVL and box beam construction allowed the project to be built nearly entirely out of wood. Steel is used only in the moment frame connections and the featured staircases.

The interior finishes display the firm's love of building custom millwork. Cabinetry units are made of domestic birch, which, in turn, complement domestic maple butcher-block countertops throughout the studio. Wood finishes within the interior permit an opportunity to add a human touch to the building experience.

Inspired by local building practices, and in response to the harsh Atlantic climate, the cladding of the exterior is composed of locally sourced wood slats and aluminium siding. The hemlock exterior cladding responds effectively to diverse temperature changes, can be replaced easily if damaged, and ages naturally over the building's lifetime. The hemlock stilts allow the exterior structure to expand and contract in response to harsh temperature changes without compromising the foundation's integrity.

Back Bay Studio provides a great opportunity to feature the integrated approach of the firm's design and construction teams. It gives prospective clients the ability to experience a built project that expresses the quality of craftsmanship the company strives to maintain in each and every project. This building exemplifies the firm's commitment to maintaining design excellence and the highest level of craftsmanship.

ARCHITECT
Peter Braithwaite Studio Ltd.
Terence Bay, NS

STRUCTURAL ENGINEER
Andrea Doncaster Engineering Ltd.
Dartmouth, NS

PHOTOGRAPHY
Julian Parkinson
Halifax, NS

Non-residential & Jury's Choice

Spanning the Nappan River near Amherst, NS, the Roger Bacon Bridge was designed by Wood Research and Development for Nova Scotia's Transportation and Infrastructure Renewal Department, using treated engineered glulam to replace a steel structure with a similar arch profile.

Roger Bacon Bridge

The local community referred to the previous bridge as the "Rainbow Bridge" for obvious reasons. Timber Restoration Services (TRS) joined with Wood Research and Development to construct the new bridge with a similarity to the Rainbow Bridge to provide the community with the same shaped structure they once knew. The location of the bridge caused Nova Scotia Department of Transportation and Infrastructure Renewal to consider a timber structure, with the region being known as a high corrosion zone. The coastal Douglas fir elements were treated with copper naphthenate, as pentachlorophenol is prohibited in Nova Scotia. The selection of the treated engineered glulam also allowed the client to have the project completed earlier and with a smaller site footprint than could have been achieved with either a concrete or steel replacement structure.

The engineered timber was used for all the primary elements of the substructure, the arch compression chords, tension chords, deck, curbs, and barrier rail system. The large arch is visually appealing and provides significant strength to bridge the 40 m. gap while supporting traffic loads equal to three B-Double transports on the bridge in three lanes.

The project was advertised as design and construct with no specified material option. TRS in collaboration with WRD submitted a proposal for a glulam option to replace the previous bridge with a solution that resembled the former Rainbow Bridge. WRD supplied the engineered timber specifications together with the detailed construction drawings so that the correct products would be supplied to the contractor. There was no requirement from the tender to design a replacement bridge that was of similar design to the previous bridge. The option was well received by NSTIR and preliminary discussions ensued on the material choice for the Roger Bacon Bridge. An independent consultant determined that the structure was best suited as timber due to the lower economic impact, longevity, aesthetics, and lightweight nature of the material. With the steel superstructure removed, the timber pile substructure could be revitalized and used in the new bridge design.

The Roger Bacon Bridge is an exceptional timber structure that utilizes the existing substructure piles in addition to the new superstructure. With some minor retrofit works to the piles, the system contained sufficient capacity to support the loads for the design life of the new bridge. It was also significantly widened in comparison to the original layout, from two lanes to three.

STRUCTURAL ENGINEER
Wood Research and Development
Hillsborough, NB

GENERAL CONTRACTOR/
WOOD SUPPLIER
Timber Restoration Services
Hillsborough, NB

PHOTOGRAPHY
Mark Baladad,
Wood Research and Development
Hillsborough, NB


BREWERY PARK
BOUTIQUE SUITES

Multi-unit Residential Wood Design

A newly unveiled jewel in Halifax's historic North End, this hotel preserves the area's character while making a strong case for NLT.

Brewery Park Boutique Suites

Located just steps away from Halifax's Oland Brewery—makers of local favorites as Schooner Lager and Alexander Keith's India Pale Ale—Brewery Park is the city's first boutique hotel, providing a memorable guest experience in the eclectic North End. Opened for business in 2020, the hotel boasts a collection of 16 uniquely designed suites, each with a different look and feel.

Paying homage to Halifax's rich architectural history, the building is equally at home in 2020 as it would be in 1820. In sharp contrast to construction practices of that earlier era, though, the building is one of the best-performing commercial buildings in Canada for its size. Energy modeling by Efficiency Nova Scotia concludes it uses less than half the energy of other commercial buildings of comparable size—making it one of the most efficient buildings in the country.

Familiar architectural details such as clapboard wood siding, traditional wood windows used in concert with dentils, and corbels are ubiquitous features in Halifax's North End. The project's use of these elements and carefully considered human-scale design preserve the area's character while contributing to the neighborhood's fabric and walkability.

Wrapped in a traditional skin, the building shares little with its historical counterparts, though there are some similarities. For instance, the project made extensive use of NLT, structural wood floor assemblies that were commonly used in factory construction in the 19th century. NLT allows for the removal of concrete and steel, decreasing the project's carbon footprint while adding a unique design feature.

Two thousand lengths of 14-ft. pine—sourced locally from an independent mill on Nova Scotia's South Shore—provide structure, fire separation, additional interior height, and one amazing ceiling. It took four carpenters one month and 250,000 fasteners to connect the NLT decks, and the results speak for themselves: the use of NLT provided the aesthetics and warmth of exposed wood construction, soundproofing between floors, and the one-hour fire rating required by the National Building Code.

ARCHITECT
Eric Stotts
Halifax, NS

STRUCTURAL ENGINEER
Andrea Doncaster Engineering Ltd.
Dartmouth, NS

GENERAL CONTRACTOR
Whitewood Carpentry
Fergusons Cove, NS

Residential

Grounded in family connections, this Nova Scotian masterpiece integrates seamlessly with its surrounding maritime landscape.

Scotch Cove Residence

Framing spectacular views of Graves Island and the Tancooks on Nova Scotia's picturesque Mahone Bay, this dwelling is sited within a meadow at the edge of the ocean in Scotch Cove. Designed for a retired couple and their extended family, the project is centered around family events and the outdoors. Equally comfortable containing one person or a gaggle of grandchildren, it contracts and expands with everyday life.

In conjunction with the outbuildings, the main house creates a sheltered forecourt for parking cars, or enjoying a good game of washer toss or croquet. One of the outbuildings has a second-story dwelling space that peeks above the house's vegetated and metal roofs to ocean views, while the other out-building hosts a solar array that powers the other buildings.

Wood structure and ceiling/soffit contrast warmth with the lightness of steel connections at the floor and connections between members. Cabinets and custom furniture throughout the project use Baltic birch and maple butcher-block counters. The exteriors of the home and outbuildings are wrapped in Eastern cedar shingles with weathering stain, making the project both modern and timeless.

Multiple elements within the house extend the dwelling out into the bucolic ocean landscape. The interior concrete floors reach outside to create an at-grade patio complete with kitchen herb garden. The roof and cedar soffit float above a clerestory with continuous views of the sky around the home, important to the sailors in

the family. The interior and exterior lighting is carefully integrated into the cedar boards. The stone element housing the indoor and outdoor fireplace stitches the inside and outside together, creating indoor and outdoor sitting areas. The north elevation has a service core containing closets, pantry, and service spaces, leaving the south and east elevations free to enjoy the view. The glulam timber structure marches through the building and across the site, shaping the space under it and forming a covered barbecuing area to the south of the home.

Sustainability is an integral part of the project. Using wood prioritizes local materials and tradespeople. Environmentally, the building has overhangs to calibrate solar gain. Thermal mass within the concrete floors absorbs the winter sun for passive heat. The triple glazing and increased insulation enhance the thermal envelope while the narrow cross-section and high and low operators increase ventilation from ocean breezes. Green roofs, visible from the studio, connect this project to its meadow setting.

ARCHITECT
FBM
Halifax, NS

STRUCTURAL ENGINEER
Campbell Comeau Engineering Ltd.
Halifax, NS

GENERAL CONTRACTOR
B.D. Stevens Ltd.
Halifax, NS

PHOTOGRAPHY
Julian Parkinson
Halifax, NS

Merit

Wood was very much an aesthetic choice, giving warmth and comfort to this seaside cottage that bathes in the dramatic seaside views of this Nova Scotian oasis.

The Monocular

A vacation home in "Canada's ocean playground," this Nova Scotian cottage was designed to choreograph one's experience of the dramatic waterfront site. Thus, it was treated as a monocular, framing the view of the basin beyond.

The plan includes a variety of spaces with unique requirements, including an open layout for living and dining, an unconditioned screened-in porch, a private bunkie, and activated outdoor amenity spaces. To fit these elements together in the most functional way possible, one of the earliest design decisions was to split these elements into two buildings: a major building that would contain the primary year-round living quarters for the clients, and a minor building for guests and seasonal spaces, a design strategy that allowed for the creation of the monocular moment between the buildings. Both buildings are modern interpretations of the wood-clad gable homes that are the local vernacular style.

The lower level of the major building contains an open living/dining/kitchen, which flows onto the breezeway and out to the landscape beyond. The upstairs bedrooms were designed to have soaring ceiling heights following the gable form, which allows for dramatic views out to the basin. All private spaces on this level were developed with the primary suite in mind, since this is the space that will be occupied most of the time. The plan is such that the entire upper level can be opened up with pocket doors for a light and airy loft feeling. When the guest bedrooms are in use, the pockets can be closed up again to allow for privacy.

The single-story minor building includes a workshop complete with an open-air outdoor shower sliced out of the building's form, the bunkie, and the screened-in porch at the end overlooking the water. The semitransparent slatted cladding on this porch punctuates the entire project by acting as a glowing lantern in the night sky, seamlessly transitioning from interior to exterior space.

Like many in the area, this Nova Scotian cottage uses bare cedar for the exterior. With the help of the salty Atlantic air, the cedar will achieve an aged silvery-gray color that time brings with the maritime climate. Although the project is quite new, the color of the cedar has already started to turn. Cedar is also historically chosen for this climate for its minimal

upkeep and its tendency to do well with humidity and insects. Otherwise, the use of wood was very much an aesthetic choice, giving warmth and comfort to this seaside home.

The material palette was also carefully selected to assure the cozy and playful atmosphere, using natural wood, light and bright colors, tactile surfaces, and a central hearth in each building. The Monocular uses these playful design choices to enhance the spectacular natural views of the site.

ARCHITECT
RHAD Architects
Dartmouth, NS

STRUCTURAL ENGINEER
Andrea Doncaster Engineering Ltd.
Dartmouth, NS

GENERAL CONTRACTOR
Black Diamond Builders
Halifax, NS

PHOTOGRAPHY
Julian Parkinson
Halifax, NS


EXIT

U.S. WoodWorks Wood Design Awards

U.S. WoodWorks Wood Design Awards

My excitement for introducing the U.S. WoodWorks Wood Design Award winners never fades. It's a privilege to celebrate excellence and innovation in wood building design each year and to chart wood's growing prevalence as a material of choice for designers and developers. This year's winning projects demonstrate this growth while reminding us of the attributes that make wood so appealing. Beyond the technical innovations achieved in the winning buildings, they are simply beautiful to admire—inspiring tenants, passersby, and the design and construction community.

Austin's Hotel Magdalena debuted as the first mass timber hotel in Texas, with exposed timber throughout to express both wood's inherent beauty and how the project team prioritized sustainability. On Granville 1500 in Los Angeles, architects took advantage of the versatility of light-frame wood construction to incorporate non-traditional conditions, creating an irregular geometry that lends to the housing complex's distinctly contemporary edge. A historic metal foundry in Brooklyn was repurposed as a creative space for local theater artists, with CLT panels and glulam beams and columns allowing for the necessary open layout—while much of the existing heavy timber structure was retained. These are just a few ways this year's winning projects showcase wood's flexibility on small and large scales.

I hope you enjoy learning about these projects as much as I did. I want to extend a sincere thank you to the teams who made these projects a reality. Your dedication to quality and the pursuit of more sustainable construction practices continue to expand the possibilities for wood design.

Sincerely,

Jennifer Cover, PE
President & CEO
WoodWorks—Wood Products Council

Jurors

JORDAN KOMP
Associate Principal & Milwaukee Office Director
THORNTON, TOMASETTI
Milwaukee, WI

STEVE DURHAM
Executive Vice President,
Director of Collegiate Project
KIRKSEY ARCHITECTURE
Houston, TX

REMEMBERING THANG DO

Principal of Aedis Architects for three decades, Thang Do was highly respected as a design professional and a much beloved individual. His Aedis family perhaps said it best: “Professionally, he will be remembered as generous of spirit, innovative, informed, and supportive. We believe that his crowning achievement will prove to be the inspiration he provided to generations of young architects, to look beyond their role as designers, and to be active and responsible citizens bringing value to their communities.”

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SANSIN

SMARTLAM NORTH AMERICA

STERLING Structural

StructureCraft

VAAGEN TIMBERS

District of Columbia Public Library
Washington, DC
Please see page 82

UNITED STATES

Jury's Choice

One of the largest mass timber projects in the U.S., the sportswear giant's expansion of its Pacific Northwest campus knocks it out of the park.

Adidas North American Headquarters

Following a national design competition, Adidas selected a team to realize a major expansion of its North American Headquarters. The target LEED Gold project—one of the largest mass timber projects in the U.S.—enhances Adidas's Portland campus with a new arrival sequence and two signature buildings.

The project is inspired by the dynamism of small stadium environments where spectators and players engage in an active dialogue. The placement of the two buildings around a new central sports plaza transforms the existing plaza into a more cohesive campus landscape, strengthens connectivity internally between the existing buildings, and alters the landscape connections to the adjoining residential neighborhood.

The program for the 182,000-sq.ft. office building includes a food hall, coffee bar, creative labs, meeting zone, and four levels of open workspace, while the 31,000-sq.ft. athletic center serves as a campus destination for athletic training and community events. Both buildings cantilever over the soccer field, emphasizing views of formal and pickup matches. On the ground level, the buildings open directly onto the field, integrating diverse public spaces from café seating to places for outdoor training.

The overall material palette for both buildings is raw and authentic; exposed concrete, wood, and metal panels are woven across the façade. Creating a changing play of light and shadow depending on the time of day, the custom metal panels on the office building's façade mimic how Adidas uses materials in specific ways to create a dynamic appearance with its product designs.

Leveraging the design team's expertise with timber innovation, the office building deploys a first-of-its-kind hybrid structural system comprised of precast concrete girders topped with prefabricated mass timber cassettes. Each cassette consists of two 30-ft-long glulam beams, each fastened to and running parallel with a 3-ply CLT panel. The girders have inset pockets that hold the beams of each cassette, so the cassettes were simply dropped into place upon delivery.

Meanwhile, the decision to build an all-mass timber structure for the athletic center takes advantage of wood's lightweight nature to create a larger building. Mass timber's warm character, technical innovation, and connection to the regional forestry culture also make it an ideal material for a cutting-edge brand with roots in the Pacific Northwest.

Campus planning upgrades are a critical part of the expansion. The master plan establishes a new intersection and entry point that terminates at an arrival court and drop-off. Surrounded by existing and new architecture, the courtyard serves as a powerful space of arrival for visitors. The project scope also includes a new 240,000-sq.ft. below-grade parking garage, loading facility, and landscape improvements that enhance connectivity and create new outdoor spaces for interaction.

ARCHITECT
LEVER Architecture
Portland, OR
Studio O+A (interiors)
San Francisco, CA

STRUCTURAL ENGINEER
KPFF Consulting Engineers
Portland, OR

GENERAL CONTRACTOR
Turner Construction
New York, NY

PHOTOGRAPHY
Jeremy Bittermann
Portland, OR
Garrett Rowland
Brooklyn, NY

Multi-Family Wood Design

This distinctive structure, built along a busy stretch of Los Angeles roadway, challenges expectations of what can be achieved with light-frame wood construction.

Granville1500

Santa Monica Boulevard, which for some California commuters is just another exit from I-405, is the last piece of Route 66, "America's Main Street" that once spanned from Chicago to the Pacific Ocean. In Los Angeles, the wide stretch of roadway linked downtown, Hollywood, Beverly Hills, and Santa Monica in a commercial corridor of mom-and-pop stores, restaurants, and automobile showrooms—an archetype of car-centric urban planning. In that stretch, which, contrary to reality, seems to have more traffic than residents, stands Granville1500.

Granville1500 is meant to intensify the urban experience, mirroring the architect's earlier Westgate1515 directly across the street. The new 153-unit, 312,000-sq.ft. project reinforces a sense of place in this fast-paced neighborhood. The design breaks down the bulk typical of most housing projects by showcasing residential and pedestrian experiences right at street level. The block-long parcel was once a car dealership but now serves as a model for denser, mixed-use developments where cars and glassed-off buildings yield to residents out for a stroll or lingering in a friendly piazza.

Instead of designing one large structure with a single façade, architects took advantage of the versatility of light-frame wood construction to incorporate non-stacking, non-traditional conditions into the project. The irregular geometry was framed primarily in wood, with bridges connecting three separate wedge-shaped portions of the complex. Structural wood walls are sloped and curved, utilizing curved sill and top plates; some are even kinked or bent at mid-height.

With that aim of favoring pedestrian encounters, a number of strategies are used at ground level to anchor the building to the street. The three wedge-shaped volumes appear along Santa Monica Boulevard, each deftly touching down on the pavement. This lifting effect is achieved through a sequence of large pyramidal carve-outs shaped like inverted prisms and placed at the corners of the complex. Besides providing breathing room beneath the structure, the gaps push the building back from the property line, with the added benefit of widening the sidewalk.

The twin corner cutaways, along with a pair of smaller folds that bookend a long, rectangular setback, define a trio of open-air parterres, little theaters of outdoor dining, benches, and plantings. Just above, a spacious podium connects two of the three volumes. This void and another narrower one bring spaciousness, not just at street level but above it. The roofline of the podium folds down at the center of the building in the form of a landscaped triangle, breaking the tension between solid and void by literally touching the ground near the commercial plaza and a grand stair on Granville Avenue.

Granville1500 strengthens the architect's commitment to creating spaces for civic engagement in urban developments. The resulting "urban village" strives to engage the public on a stretch of roadway better known for speeding cars and heavy traffic than a lively pedestrian streetscape. This project aims to change the conversation of what this neighborhood can be.

ARCHITECT
Lorcan O'Herlihy Architects
Los Angeles, CA

STRUCTURAL ENGINEER
Labib Funk + Associates
El Segundo, CA

GENERAL CONTRACTOR
Suffolk Construction
Los Angeles, CA

PHOTOGRAPHY
Here and Now Agency
Los Angeles, CA

Commercial Wood Design—Mid-Rise

The first multi-story, fully mass timber building in California, this project—through its choice of materials—allows character and sustainability to combine holistically and create a built environment that looks and feels good.

1 De Haro

Located on the triangular site of a former gravel yard, 1 De Haro is San Francisco's first CLT building and California's first multi-story, fully mass timber building. The four-story, 134,000-sq.ft. structure blends into its urban surroundings while still making a statement. Designed to evoke a jewel box, its wooden core is wrapped with a glimmering glass curtain wall that illuminates at night—providing an attractive mix of office and light industrial space that is both sustainable and marketable.

The design team took advantage of mass timber's long-span capabilities to design this iconic structure. Precisely fabricated glulam beams and columns connect seamlessly with CLT floor panels using integrated connectors. The beams were notched, allowing the panels to sit flush with the top of the glulam to maximize floor-to-ceiling heights. The 25 x 30-ft. grid was optimized for open-office configurations, demonstrating the flexibility of mass timber for commercial spaces, which also contributed to leasing the building quickly. The wood structure was left visible to the exterior to make a statement about the importance of building systems with a light carbon footprint.

1 De Haro was built much like many podium structures, with stacked wood construction on a concrete base—but utilizes CLT and glulam instead of light-frame wood. According to the design team, it was lighter, more sustainable and quicker to construct than a comparable steel or concrete building. The relative light weight of mass timber allowed the team to reduce the cost of the foundation and utilize fewer deep piles to anchor the building.

Beyond dollars and cents, the warmth and quality of the exposed wood connects to the building's purpose of supporting local makers. At street level, roll-up doors and storefronts bring light manufacturing to the surrounding neighborhood. The doors, which open from the lobby to adjacent plaza, create an indoor/outdoor atmosphere.

PDR (production, distribution, and repair) is a unique San Francisco zoning designation designed to strengthen the supply of light industrial buildings. PDR zoning districts do not allow the construction of new office buildings unless those buildings also provide one-third of their space exclusively for businesses that comply with the PDR designation.

PDR buildings adapt to the needs of creative people and are, by definition, more raw and straightforward than typical office buildings. PDR developments like 1 De Haro create opportunities for traditionally siloed industries to become more integrated into the fabric of a neighborhood, helping to blur boundaries and spur innovation.

ARCHITECT
Perkins&Will
San Francisco, CA

STRUCTURAL ENGINEER
DCI Engineers
San Francisco, CA

GENERAL CONTRACTOR
Hathaway Dinwiddie Construction
San Francisco, CA

PHOTOGRAPHY
David Wakely
San Francisco, CA

Kyle Jeffers
Toronto, ON

Commercial Wood Design—Low-Rise

"Rustic comfort" and "light touch" were mantras guiding the team behind the construction of this woodland getaway for the Girl Scouts of Greater Los Angeles.

Girl Scouts Camp Lakota

The Girl Scouts of Greater Los Angeles identified Camp Lakota, a 57-acre getaway located in the mountains just north the city, as the premier year-round camp to serve its 44,000 members. The Girl Scouts wanted to reimagine the camp and transform it into a place that attracts and inspires campers of all ages—and comforts their parents as their children head off on their first sleepaway adventures.

The project consists of six village clusters and a central dining hall. Each cluster contains a restroom/shower building and either tent camping or newly built cabins. The design team's challenge included designing to a tight budget, addressing wildfire risk, respecting the natural environment, and enriching the girls' camp experience. Ultimately, creating "rustic

comfort" by doing more with less and using a "light touch" became mantras that guided the team in its design decisions.

The dining hall and six restroom buildings were built with light-frame wood construction, and glulam beams were used to create the dining hall's expansive open space. Each of the 24 cabins is an enclosed A-frame shelter sized to sleep eight campers. Highly efficient structurally insulated panels (SIPs) were a natural solution, combining insulation with a simple form. Initially conceived as flat-pack assemblies, the panelized system could be easily trucked to the remote site and assembled with minimal waste and onsite labor. The structural panels themselves provide the cabins' interior finish, further minimizing cost and waste.

To encourage an integrated team, the Girl Scouts engaged the contractor during the construction documents phase. Together, this larger team scrutinized each cabin component—walls, floor, foundation, and overhang—to find the most economical and supplier-friendly combination of systems and materials.

The form, material, and construction of the sleeping cabins proved to be an all-around innovative solution that met the design challenges. The final design includes SIP walls resting on floors made from a veneer-based CLT, floating above the ground on four small concrete footings (which helped meet wildfire requirements). This reduced the need for concrete and contributed to both operational and embodied carbon reduction, while allowing a light touch on this precious land.

ARCHITECT
Perkins&Will
Los Angeles, CA

STRUCTURAL ENGINEER
Risha Engineering
Burbank, CA

GENERAL CONTRACTOR
Illig Construction Co.
Los Angeles, CA

PHOTOGRAPHY
Here and Now Agency
Los Angeles, CA

Wood in Schools

Choosing mass timber materials offered this university a chance to raise awareness of an innovative and sustainable building system while providing an enriching learning environment.

MSU STEM Teaching and Learning Facility

Michigan State University's (MSU) new STEM Teaching and Learning Facility houses undergraduate teaching labs in a central campus location, with modular labs flexible enough to respond to changing instructional models and research projects. The completed building allowed the university to consolidate a number of teaching laboratories that were dispersed across campus, creating a central hub for STEM teaching and learning and helping to solidify MSU's place among the world's premier research and teaching institutions.

Not only is MSU STEM the first building on campus—and the first in the state—constructed with CLT, the entire facility is situated on the site of the university's decommissioned Shaw Lane Power Plant, demonstrating an exemplary blend of adaptive reuse and state-of-the-art infrastructure for flexible learning.

Encompassing 120,000 sq.ft. of new construction and 40,000 sq.ft of renovated space, the project utilized the existing power plant as the central portion of the building, with large additions on the north and south sides. The power plant required heavy demolition and reconstruction while keeping select architectural components to integrate the historical significance of the building into the new facility.

At the start of this project, MSU expressed a desire to explore mass timber and other structural materials. The project team engaged a variety of subject matter experts in a series of workshops to evaluate mass timber, structural steel and hybrid solutions.

The team chose a hybrid design featuring three stories of glulam post-and-beam construction with steel diagonal bracing, and a structural steel penthouse for mechanical equipment. While the roof deck was built with 3-ply CLT, designers chose atypical 4-ply panels for the floors instead of the more traditional 5-ply. This approach allowed them to preserve ceiling space and reduce the volume of wood required while still meeting span and vibration requirements. In the power plant, CLT structural floor decks were used anywhere new walking surfaces were needed, further linking it to the STEM wings. By choosing a hybrid solution, the team ensured MSU STEM would offer best-in-class features in terms of fire resistance, sustainability, efficiency, and strength. However, implementing CLT on such a complex project was not without its challenges—such as structural, envelope and MEP systems integration, protection of the mass timber from moisture and handling, and insurance.

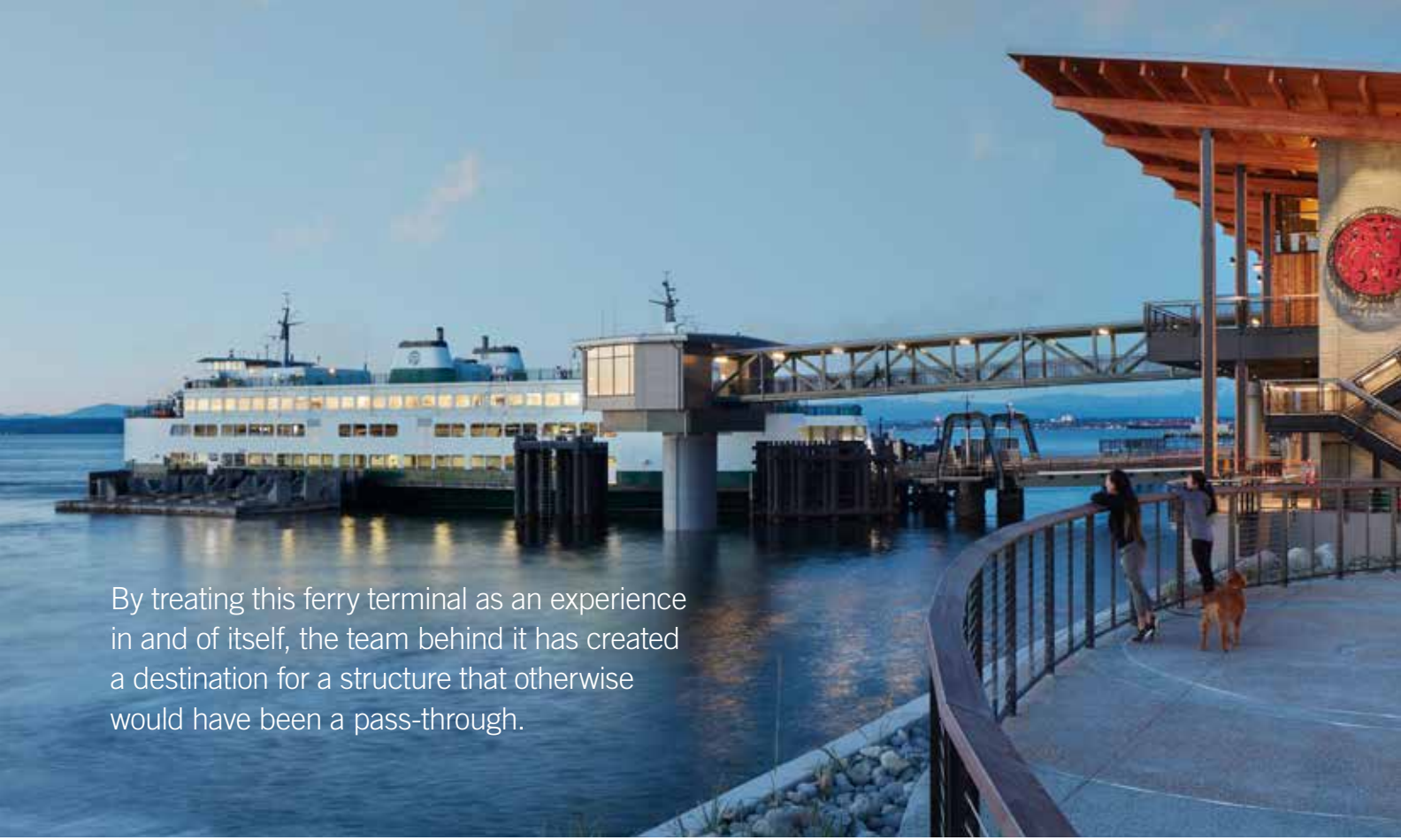
Rising to meet those challenges has paid off. Thanks to its central location at the crossroads of campus among many other academic buildings, this site proved optimum for putting learning on display, occupying a key position on a main pedestrian and vehicular thoroughfare. This location also enabled the new facility design to leverage existing shared spaces, structures, and utilities within the plant to tie into the north and south additions.

ARCHITECT
Integrated Design Solutions (AOR & power plant)
Ellenzweig (STEM addition)
Troy, MI

STRUCTURAL ENGINEER
SDI Structures
Ann Arbor, MI

GENERAL CONTRACTOR
Granger Construction
Lansing, MI

PHOTOGRAPHY
Christopher Lark
Troy, MI
Kevin S. Marshall
Troy, MI



By treating this ferry terminal as an experience in and of itself, the team behind it has created a destination for a structure that otherwise would have been a pass-through.

Mukilteo Multimodal Ferry Terminal

Located on Puget Sound just north of Seattle, Mukilteo Multimodal Ferry Terminal is the West Coast's busiest, with more than two million vehicles and four million riders passing through each year. It is also Washington State's first new ferry terminal in 40 years—a rare opportunity for the design team to make a public statement about wood's importance to the region.

In addition to using sustainable

wood to support Washington's commitment to environmental stewardship, the project showcases the cultural influences of the Pacific Northwest's Indigenous people, transcending its function as a critical piece of transit infrastructure. The project is located on the site where the Treaty of Point Elliott was signed in 1855, guaranteeing perpetual hunting and fishing rights to the tribes on their ancestral lands. The terminal illustrates how sensitive placemaking, inclusive engagement, and environmental awareness can redefine civic architecture.

A contemporary interpretation of a Native American longhouse, the two-story design includes wood and steel composite columns supporting double glulam rafters, purlins, and a CLT roof deck, with Western red cedar the exterior cladding. The design team also chose wood framing for a separate structure sheltering the ticket booths. Tribal cultural artworks created by local Native American artists are displayed throughout the terminal, creating a strong connection to the tribal community and its history; the waiting area, in particular, is a showcase for rotating displays of ancient tribal artifacts and contemporary works.

The building's form, derived through close collaboration with Coast Salish tribes, enriches the passenger experience, streamlining circulation and managing large patron flows with intuitive wayfinding. The waiting room is a daylight-filled space with views to land and sea that help orient ferry riders. A new waterfront promenade connects a path from downtown, through the terminal, and onto the beach, creating an elevated pathway for public use.

The design team also worked closely with several of the tribes to incorporate environmental stewardship into the concept, and, as a result, features designed with sustainability in mind abound. Efficient heating of the concrete-slab main floor with electric heat pumps provides interior comfort in the winter, while in the warmer months a thermostatically controlled rack and pinion window system optimizes airflow and comfort.

Overall, the project significantly improves regional mobility while incorporating the cultural influence of the community and paying homage to the site's historic roots. The ferry terminal demonstrates a sustainable approach and has become a model for how local, state, and tribal governments can work together. The project represents what is possible when the community and a multidisciplinary team collaborate in support of a shared vision.

ARCHITECT
LMN Architects
Seattle, WA

STRUCTURAL ENGINEER
KPFF Consulting Engineers
Seattle, WA

GENERAL CONTRACTOR
IMCO Construction
Ferndale, WA

PHOTOGRAPHY
Benjamin Benschneider
Seattle, WA

Sustainable Wood Design

The first mass timber boutique hotel constructed in North America deftly demonstrates why builders should have no reservations about working with wood.

Hotel Magdalena

Located in the heart of Austin's South Congress neighborhood, Hotel Magdalena is the first mass timber boutique hotel in North America. The structure honors the history of the site, home in the 1950s to the Austin Terrace Motel, a heavy timber building in the mid-century modern aesthetic. The hotel's interiors also draw inspiration from the city's 1970s music scene, an homage to a later tenant, the Austin Opry House.

Hotel Magdalena consists of four buildings surrounding two central courtyards. Buildings are comprised of DLT panels on light-frame wood bearing walls, and each features an exposed timber walkway and oversized exterior porches.

Visitors are greeted by a two-way, heavy timber porte-cochère, and an entry walkway shaded by one of several heritage oak trees preserved on the site. The common exterior spaces, outdoor walkways and lushly planted terraces enhance the outdoor experience and foster a sense of community. The porches and heavy timber structural components are stained with a pre-weathering finish, allowing the decks to feel natural and weathered, recalling the porches of nearby Texas Hill Country ranch homes.

The mass timber panels, light-frame walls and heavy timber porches were prefabricated offsite, then delivered and installed on a streamlined schedule, allowing both quality control and efficiency. The multi-story walkways were designed to accommodate the

preserved oak trees, and required careful organization of panels and spacers. From the start of the project, the hotel ownership and design team agreed that the structure and materials needed to be integrated into the project's larger sustainability goals. Using wood instead of fossil fuel-intensive materials contributed to the project's relatively light carbon footprint. Exposing the wood structure also reduced the need for finishes, while encouraging guests to spend more time outdoors reduces ongoing energy demands. In addition to creating a warm and richly textured environment for guests, the wood structures makes sustainability an integral part of the hotel experience.

ARCHITECT
Lake | Flato Architects
San Antonio, TX

STRUCTURAL ENGINEER
StructureCraft (Wood)
Abbotsford, BC

ARCHITECTURAL ENGINEER
Collaborative (Steel, Concrete)
Austin, TX

GENERAL CONTRACTOR
MYCON General Contractors
Dallas, TX

PHOTOGRAPHY
Casey Dunn
Austin, TX

Beauty of Wood

In a dramatically transformed San Francisco neighborhood, an events space pushes the idea of transformation to the next level.

The Lighthouse

Designed to provide shared amenity space for a group of biotech companies in the South San Francisco neighborhood of Oyster Point, this beautiful 22,000-sq.ft. facility lives up to its name, boasting floor-to-ceiling windows that spill light out of the LEED-certified building onto a landscaped garden path and adjacent boulevard.

The wide-brim roof extends out to willow trees that ensconce the restaurant and help to make guests feel removed from the tall office buildings and city hubbub around them. Inside, a pre-function space, presentation room, meeting rooms, and a beautifully appointed private dining room are available for events and conferences.

While sustainability was a driving factor behind the overall development, and a key reason for choosing mass timber, wood added further value by creating a warm and beautiful gathering space. CLT panels are supported by an intricate, elegant glulam framing system, allowing the structure to also serve as a finish.

Because the designers wanted to display the material in its purest form, they worked to hide connections and utilities as much as possible, allowing visual attention to focus on the wood itself while creating a single architectural expression. The mass timber structure features 20-ft. double cantilevered overhangs that provide outdoor seating areas as well as solar protection to minimize heat gain, which helps contribute to the project's net-zero energy goals.

The facility's commitment to sustainability goes beyond its windows and walls to all aspects of the project. Solar panels (435 of them with a 10,000-sq.-ft. photovoltaic array) on the building's roof power an all-electric kitchen that

ARCHITECT
Gensler
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STRUCTURAL ENGINEER
Arup
San Francisco, CA

GENERAL CONTRACTOR
XL Construction
Milpitas, CA

PHOTOGRAPHY
Jason O'Rear
San Francisco, CA

features induction burners and combi ovens (not a gas-powered appliance in sight), while executive chef Justin Houck sources 50% of the restaurant's ingredients from within 150 miles of Oyster Point, with only a smattering of products coming from outside the state. The team has also taken great strides to reduce the amount of waste generated by the restaurant by composting food waste, recycling cooking oils, and eliminating single-use disposable items.

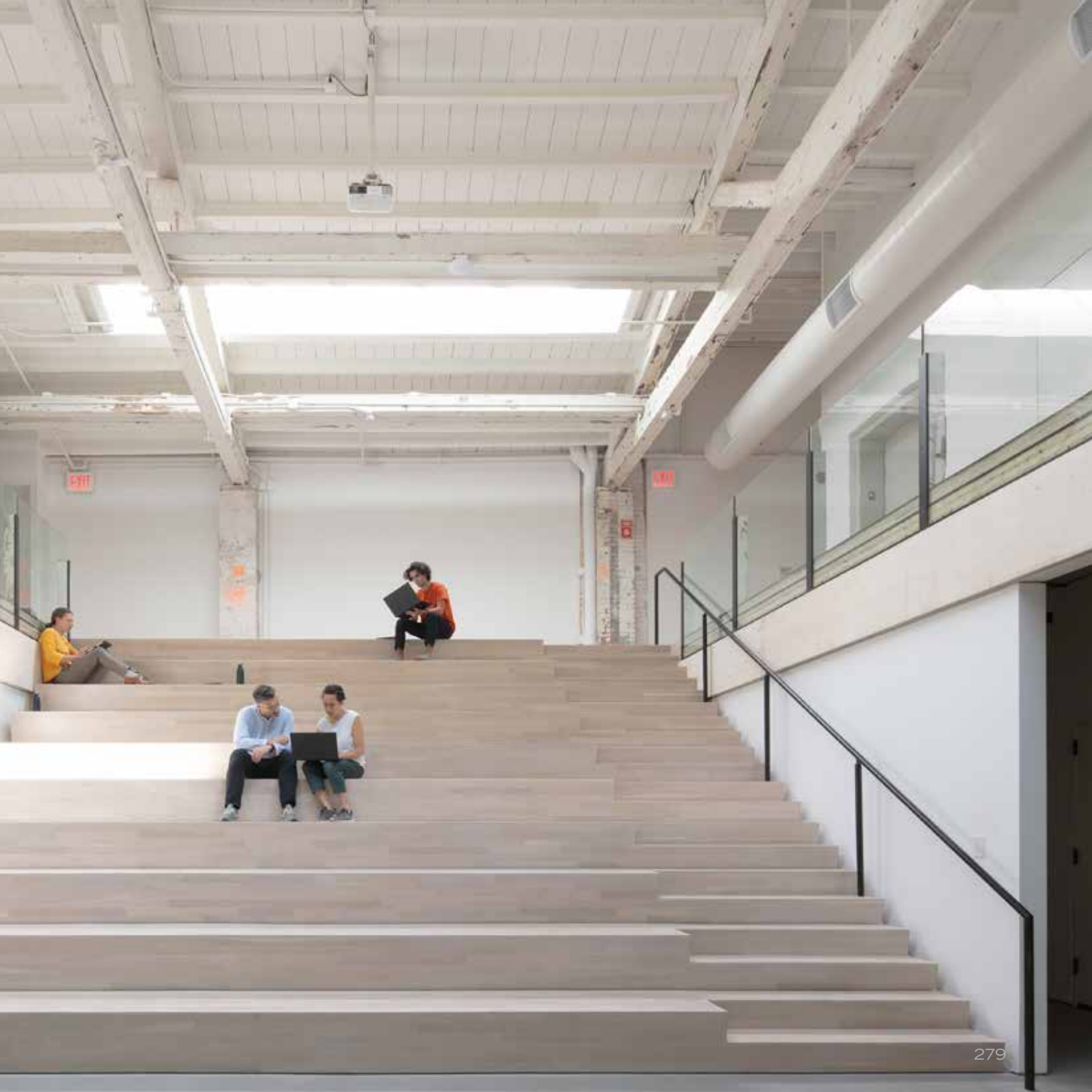
An adaptive reuse project intended to inspire "creative collisions" among artists demonstrates its own creativity.

Timber Adaptive Reuse Theater

Dating back to 1902 and located in Brooklyn's Gowanus Canal district, this double A-frame, heavy timber and brick building had three previous lives: first, as the Royal Metal Furniture Company foundry; next, as a warehouse and storage facility; and, prior to its recent renovation, as highly compartmentalized art studios and office space. Historically home to heavy industry, Gowanus is undergoing a transformation sparked by remediation efforts and substantial rezoning that allows for denser residential, commercial, and cultural sites; as part of that transformation, this repurposed building provides much needed creative space for Brooklyn theater artists.

The clients expressed a desire to create an open, light-filled space that was classic in its clarity and authentic to the building's character and inherent qualities. Objectives included the ability to understand wayfinding upon entry, which was very counter to the state of the purchased the building (a dark labyrinth of rooms and hallways). It was also important that the building have a social center, a space to serve as the connecting core between rehearsal studios that could foster unintended conversations and creative collisions.

While half the 12,700-sq.ft. building was reconfigured through the addition of mass timber elements—to support gathering spaces, administrative offices, and smaller studios—the other half was transformed by removing wood joists and floor plates to create a double-height space for theatrical rehearsals and performances.



Wood is the project's dominant material: old longleaf pine is reconstituted, while new insertions are made from CLT, making the project the first use of CLT on a fully commercial building in New York City. CLT panels and glulam beams and columns allowed for the long spans and open layout needed to support the new program, and the wood joists removed to create the larger space were reclaimed and reused for architectural features.

The existing character of this heavy timber building drove the design; the team focused on exposing and honoring the beautiful wood trusses and reinforcing the double A-frame while adapting the building to meet the new programmatic function. By exposing much of the original wood structure and complementing it with mass timber, the design team extended the honesty of expression from past to present, which was very much in line with the clients' brief.

By avoiding demolition, retaining the existing structure, using mass timber elements for structural insertions, and reusing removed structural wood, the design team also minimized the embodied carbon of new construction while allowing wood to remain as the dominant architectural feature.

ARCHITECT
CO Adaptive Architecture
Brooklyn, NY

STRUCTURAL ENGINEER
A Degree of Freedom
New York, NY

GENERAL CONTRACTOR
Yorke Construction Corp.
New York, NY

PHOTOGRAPHY
Naho Kubota
New York, NY

Regional Excellence

Spanish for “a grove of trees,” the word *soto* is an apt name for this building, one of the first North American projects to combine mass timber with a masonry façade.

The Soto

Part of a mixed-use development near San Antonio's famed River Walk, this six-story, 140,000-sq.ft. mass timber office building provides a unique and beautiful workplace that appeals to tenants, is highly flexible, and incorporates technologies that make the building operationally efficient and sustainable.

The first phase of an 8.5-acre site destined to offer a full complement of restaurants, retail, and entertainment, The Soto includes ground-floor commercial retail, office space, and below-grade parking organized around an open courtyard. A two-story porch wraps one corner and offers views along one of the city's main thoroughfares.

The dramatic cantilevered roof, formed with DLT panels supported by glulam columns and beams, was designed to highlight mass timber's beauty against the city skyline. Each edge of the narrow 1.5-in. boards was molded with a small chamfer to add texture and definition to the exposed ceiling.

The typical floor gravity structure uses DLT panels supported by a glulam post and beam frame, with the columns set on a 20 x 30-ft. grid. An under-floor air distribution system gives building occupants an unencumbered view of the timber ceiling and direct air control. The DLT panels were prefabricated in 8 x 60-ft. sections, allowing for rapid installation. The timber connections were engineered to minimize costs, while considering constructability and tolerance.

The Soto is one of the first North American projects to combine mass timber with a masonry façade. Combining timber—a material that has an inherent tendency to creep—with brick, a material that is particularly sensitive to deflection, presented significant design challenges. They were

successfully solved through precise detailing that prevents long-term deflection and allows for a high-tolerance connection between the brick and mass timber system.

To make the mass timber more visible to pedestrians at street level, the columns were brought down to the concrete podium on the building's exterior. DLT was also used for floor panels, exterior canopies, and lobby accents.

ARCHITECTS
Lake | Flato Architects (design)
San Antonio, TX

BOKA Powell (AOR)
Dallas, TX

STRUCTURAL ENGINEERS
StructureCraft
Abbotsford, BC

Danysh & Associates
San Antonio, TX

GENERAL CONTRACTOR
Byrne Construction
San Antonio, TX

PHOTOGRAPHY
Travis W. Baker
Annapolis Valley, NS

Erika Brown Edwards
Austin, TX

Cheyne Smith
Dallas, TX

Regional Excellence

More than just a good-looking piece of architecture, this transit hub is a testament to Greenville's commitment to being, well, a little greener.

G.K. Butterfield Transportation Center

Extensive community involvement led to the use of wood in this environmentally conscious transit hub, which connects the neighborhoods surrounding East Carolina University with downtown Greenville, NC, a nearby medical school campus, and a growing historic "tobacco district."

Sitting on 1.7 acres, this 9,390-sq.ft. project began with the city's desire to create a facility that would encourage multiple modes of transportation within the city, provide a central access point where people could transfer from one mode to another, and act as a catalyst for revitalization and economic development. The center combines local and regional transportation services such as Greenville, Pitt Area and ECU transit systems, Greyhound, and an Amtrak connector.

The city chose mass timber to signify its commitment to sustainability and stewardship. The two-story timber- and steel-frame structure includes CLT roof and floor panels supported by CLT bearing walls; the lateral system consists of CLT shear walls and angled glulam bracing at the building's perimeter. CLT panels were also used to construct the atrium stairs.

Exterior canopies designed to provide shelter for transit riders

were formed using steel columns and horizontal framing with CLT infill panels. The exposed wood structure and large covered waiting areas provide safe, accessible space for passengers, and will serve as a hub for local and regional transportation for years to come.

In addition to its LEED certification, the center is ADA-compliant throughout with elements such as elevators, ramps, kneeling buses, and hearing loops, allowing riders who require a hearing aid to better hear announcements in the lobby and conference rooms.

The site also features a 15-ft. stainless steel sculpture created by renowned sculptor and East Carolina University professor Hanna Jurban, as well as a customized bike rack created by sculptor Jim Gallucci.

ARCHITECT
Jacobs
Cary, NC

STRUCTURAL ENGINEER
Jacobs
Cary, NC

GENERAL CONTRACTOR
Thomas Construction Company Enterprises
Louisburg, NC

PHOTOGRAPHY
Aaron Hines
Greenville, NC

Hidden Creek Community Center

Hidden Creek Community Center is the first mass timber community center in the U.S., and includes a post and beam frame supporting CLT floor and roof planes. The 51,500-sq.ft., two-story facility is also the City of Hillsboro's first building to use a mass timber CLT structural system. As one of the first mass timber community centers in the country, Hidden Creek demonstrates the effective use of CLT in this typology.

Situated within a 20-acre park and forest, the building's cruciform plan reinforces visual and physical connections to the park and recreation spaces within the forest, marrying beauty and craft with functionality and sustainability. This linkage between built and natural environments is reinforced through transparency, courtyards, and an outer skin of bark-colored metal panels and inner layer of CLT that blends into the trees.

The system was optimized to allow for the necessary spans in the two-court gymnasium without sacrificing the 18-ft. cantilever at the entry. The facility also utilizes glulam beams spanning north-south, a 9-ply exposed CLT deck, large glass windows, and a rooftop photovoltaic system.

The design team took full advantage of cantilevers and multi-span beams to create open spaces, optimizing daylight and views while allowing staff to easily supervise activity spaces. Along with the gymnasium (and its 90-ft. glulam beams), the facility features a running track, a Kids' Club with onsite childcare, two fitness rooms, a cardio/weight center, locker rooms, and a large surface parking lot. It also houses multiple spaces for community programs, educational classes, and special events.

With a large solar array on the roof of the community wing, natural ventilation, water conservation measures, and balanced daylighting, the center is enrolled in the Energy Trust of Oregon's Path to Net Zero program and is expected to achieve net-zero energy use.

One of the first mass timber community centers in the country uses wood to connect with its surroundings, marrying beauty and craft with functionality and sustainability.

ARCHITECT
Opsis Architecture
Portland, OR

STRUCTURAL ENGINEER
KPFF Consulting Engineers
Portland, OR

GENERAL CONTRACTOR
Swinerton
Portland, OR

PHOTOGRAPHY
Christian Columbres
West Linn, OR


moxy


moxy

Enticing urban travelers with hip, affordable rooms, this hotel is the first in the U.S. to be built with modular wood-frame units.

Moxy Oakland Downtown

The Moxy Oakland Downtown is a Marriott-owned, seven-story hotel at the corner of Telegraph and West Grand Avenues in Oakland, CA. Located in the city's Art and Entertainment District, this boutique hotel exudes a local, fun-spirited brand and serves as a playful anchor for the fast-developing KoNo (Koreatown Northgate) neighborhood. The 72,000-sq.ft. hotel boasts a few firsts: the first hotel in downtown Oakland in 20 years, the first modular Moxy hotel completed in the U.S., and the first hotel in the U.S. to be built with modular wood-frame units—an approach that lends itself to the construction of boutique hotels on smaller urban sites.

The building consists of five levels of factory-built wood-frame rooms over a two-level concrete podium housing common areas and public tenant space. With just a few configurations, 135 king-size rooms, five accessible rooms, and five bunk-bed rooms were able to be constructed offsite, delivered, and stacked within a few weeks. The developer chose modular design for its sustainability. They also intended for the hotel to be a recognized modular example for visitors to experience the built environment and discover the possibilities of modular construction.

At the ground floor, the lobby and common space mirror and celebrate Oakland's vibrant art scene, paying homage to the neighborhood's art deco vibe. The bold, unconventional, and welcoming brand invites a creative energy with its showstopping art installation by Faulders Studio, colorful murals from local artist Bud Snow, and featured curated pieces from Creative Growth, a studio that works with artists with disabilities.

In typical Moxy fashion, you won't find an average reception desk; instead, guests check in at the bar and are greeted with a complimentary drink. Upon check-in, they can head up to their rooms or enjoy a sprawling city view on the rooftop deck. To capitalize on its streetfront proximity to the monthly Oakland First Fridays festival, the building features a visually porous ground-level façade to enhance the pedestrian experience and accommodate the open lounge/lobby concept. Additionally, the hotel offers ground-floor retail, a fitness gym, and transit-oriented design.

Oakland is in a high-seismic zone, and stacked modular units comprise the overall seismic system. Wood floor and ceiling sheathing was used for the diaphragm, and wood-frame shear walls formed the vertical elements. Demonstrating the creative flexibility of modular systems, the team designed an articulated building exterior, helping the stylish hotel fit in perfectly with its surroundings.

ARCHITECT
Lowney Architecture
Oakland, CA

STRUCTURAL ENGINEER
DCI Engineers
Seattle, WA

GENERAL CONTRACTOR
Suffolk Construction
San Francisco, CA

PHOTOGRAPHY
Mark Compton
Venice, CA

Regional Excellence

Set amid the area's cathedral pines, this clubhouse provides the community with a multifunctional facility that creates appreciation for its environment while being minimally intrusive.

Mystic Creek Clubhouse

The clean silhouette of this two-story, 8,400-sq.ft. clubhouse blends beautifully with the rolling, wooded hills of the Mystic Creek Golf Club, recognized as one of Arkansas's premier courses. The facility includes a golf shop, men's and women's locker rooms, and Mystic Grill, a full-service bar with panoramic views of the golf course through floor-to-ceiling windows and an outdoor patio that overlooks the 18th green.

Set amid tall cathedral pines and inspired by the historic rural architecture of E. Fay Jones, the clubhouse features an all-exposed timber structural system with columns that support both the main dining area in Mystic Grill and the upper terrace. The clubhouse's exterior employs other

organic materials, including red cedar siding, glass, and weathered zinc. The natural elements flow into the interior with exposed beams and a wood roof deck; the timber frame is infilled with glazing to allow daylight and views of nature within the space.

Designers organized the clubhouse's program and structural elements using an evenly spaced grid of local southern yellow pine glulam beams and wood roof decking. The expressive roof forms broad overhangs along the perimeter to provide outdoor shaded walkways and seating areas while still allowing unobstructed views. Densely spaced columns that support both the main dining/event space and an upper terrace contextualize the tall slender trunks of the cathedral pines, creating a sense of living within the tree canopy

ARCHITECT
DLR Group
Cleveland, OH

STRUCTURAL ENGINEER
DLR Group
Magnolia, AR

GENERAL CONTRACTOR
Clark Construction
Little Rock, AR

PHOTOGRAPHY
Kevin Reeves
Cleveland, OH

Regional Excellence

Drawing inspiration from the natural qualities of its wooded site, this library uses wood to convey a familiarity and warmth that put visitors at ease.

Norwell Public Library

Norwell Public Library is situated on a large heavily wooded wetland property, remote from the town's commercial and civic centers. Unlike its urban and suburban counterparts, which respond to their respective fabric, this 21,000-sq.ft. building lacks the context of nearby structures, but the natural beauty of the site provides ample inspiration for an appropriate architectural response. As public libraries are transforming from centers of information into centers of culture, this building was designed to be an accessible,

approachable, and welcoming center of community life, engagement, enjoyment, and enrichment.

Organized around a central courtyard garden, the building's three wings (adult, children, and community), were designed to maximize natural light and views, and to facilitate patron wayfinding and staff supervision with a general openness. The change in scale from the intimate courtyard and modest height lobby to the generous reading rooms, gesturing outwards to the site, creates an intentionally delayed enjoyment of views to the vast surrounding woods.

Designed with flexibility in mind, one wing of the building is accessible for after-hours community use while the rest of the library is secured. An emergency generator provides partial power, allowing the library to serve as a cooling/warming center for the community during outages. The exposed mass timber structure, comprised of glulam beams and columns and timber roof decking, connects the library to its wooded setting and brings a sense of warmth to the interior.

The exterior material palette is a combination of regional materials, primarily Vermont slate shingles and cedar cladding. Slate was chosen as the primary wall cladding on elevations facing the woods for its durability and moisture resistance, and its green color complements the natural setting. The library's expansive windows provide ample daylight, and thoughtful connections to the outdoors include two reading porches that allow patrons to experience and enjoy the outdoor setting.

Given the sensitive location, wetland protection was a major design consideration. Great efforts were made in collaboration with the local Conservation Commission to balance new disturbance against restored wetland. Large parking lot bio-retention swales (all with native drought-tolerant plants) and the building's central garden, which collects rainwater from the inward sloping roofs, serve to filter runoff and slow its eventual release into the surrounding landscape.

Other sustainable features include daylight sensors for automatic dimming of lighting, reducing the building's interior lighting load by 22%. A high-efficiency, all-electric, heat recovery, variable refrigerant flow (VRF) HVAC system, coupled with a tight building thermal envelope, achieves a 35% reduction in energy use over the baseline, and low-flow plumbing fixtures reduce indoor water use by 28%. The library is anticipating LEED Silver certification.

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Poplar Hall is an 8,400-sq.ft. contemporary multi-use event center and concert venue located along the scenic Fox River in Appleton, WI. Acting as a connector between a multi-family housing development to the south and Marriott Hotel to the north, the double-height event space comfortably accommodates 180 reception guests (or 400-plus concert-goers). It also boasts a state-of-the-art audio/video system, environmental projection, and color-changing house lighting throughout to create immersive environments that complement event themes of all types.

Although the building has a relatively small footprint, this space has a high density of amenities to cater to all its occupants. These include 30-ft. windows to the west for brilliant views of the Fox River, two full-service bars, one full-service kitchen and servery, a decorative timber tread monument stair between floors, and a wrap-around mezzanine pre-function space with a fireplace, two bars, coatroom, warming kitchen, and green room.

The design team chose wood for this venue because they wanted a distinctive yet versatile space that could be configured for a variety of events, including weddings, receptions, conferences, and concerts. The driving aesthetic is the sensitive balance between warm wood expressed in the

Regional Excellence

Thoughtful materiality takes center stage at this multi-use event space and concert venue that comes stocked with everything from A to Z(amboni).

Poplar Hall

exposed glulam columns and beams, CLT floor panels, and tongue and groove wood decking contrasted with subdued concrete and steel accents. Expansive two-story glazing and a glass panel overhead door provide uninterrupted views of the river and the natural environment beyond, blurring the experience between interior and exterior space.

On the exterior, a dramatic, sloped roof cantilevers to provide shaded outdoor areas; the building also has an attached storage and garage area to house the Zamboni that will maintain and groom a future ice-skating rink.

Having been tasked to appeal to diverse groups of people for many purposes, Poplar Hall demonstrates that good design can achieve multiple goals when driven by considerations for the human experience and thoughtful materiality.

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Regional Excellence

Though focused on helping students with their own career goals, this mass timber project can boast a few achievements of its own.

University of Denver Burwell Center for Career Achievement

Designed to facilitate connections within the University of Denver community, the focus of the new 23,000-sq.ft. Burwell Center for Career Achievement will be on student career development, employer engagement, and alumni activities. The center is situated at a key nexus between the traditional campus core and the growing urban edge, helping draw people in to learn how to best engage with the university's community and beyond.

The center includes classrooms, lecture and events spaces, breakout and meeting rooms, and offices for the university's Career Services and Advancement department. Indoor/outdoor spaces encourage flow into and through the building, promoting chance encounters and serendipitous collaborations. Career advising, interviews, and alumni events are hosted throughout the building, engaging the broader University of Denver campus in the center's program. A central lounge on each floor creates a welcoming environment, with views to the campus and neighboring city and mountains to connect visitors with the landscape.

The three-story structure features CLT floor panels, shear walls, and core, and glulam columns and beams. CLT walls are left exposed on both sides of the stairs, elevator, and shaft enclosures, allowing the mass timber's beauty to remain visible while still providing the required fire resistance.

The center combines traditional University of Denver materials like brick, limestone, sandstone, slate, and copper with a photovoltaic roof structure and mass timber structural system that put the school's and the building's commitment to sustainability and authenticity on display. Thanks to the university's progressive approach, it will be one of the first all-mass timber projects in Colorado and is aspiring to be LEED Platinum certified.

The Burwell Center boasts open, welcoming spaces and a beautiful patio surrounded by Colorado native landscaping, and its mass timber structure contributes to a warm and tactile experience that connects visitors to the natural environment. By leveraging this innovative structural system, the construction schedule was reduced by six weeks due to prefabrication and fast installation of the frame, reducing overall construction costs to within $5/SF of a comparable steel structural system.

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