2018 WOOD DESIGN AWARDS - WINNER

Residential Wood Design
D’Arcy Jones, D’Arcy Jones Architecture, Vancouver
Okada Marshall House, East Sooke

“A beautiful way to integrate wood into design...it frames nature.”
“A subtle box in the middle of the trees...very artistic.”
- jury comments

This low-slung and modest house belies an inner complexity and spatial variety in plan. It is a comprehensive tribute to wood with an efficient and ambitious engineered wood structure, delicate yet robust courtyard screening, and hard-wearing traditional board and batten cladding that will last hundreds of years.

A minimum number of 2x6 light wood-frame shear walls were sculpted and carved to allow for large windows and doors in all spaces. Soaring engineered LVL (laminated veneer lumber) beams push their limit, spanning more than 30 feet without posts to hold up an outdoor dining roof, define natural outdoor courtyard areas, and make a typically generic parking area into a well-composed and inviting outdoor room. The Shou-sugi ban wood, charred by the owners themselves to learn this ancient Japanese craft, is well-suited to the dampest regions of British Columbia. This house without stairs has elongated hallways to emphasize the house’s sense of expansiveness within a compact footprint. It explores the value and delight in movement with focal points and compressed proportions. The seemingly random angles of the plan result from fitting all of the house’s internal spaces to the topography of the site. Like a wagon caravan encircling a fire for security and warmth, the shape of the house passively creates an inner microclimate.

Photos – all Courtesy: Wood Design Awards in BC
High resolution images available. Please e-mail mmclaughlin@wood-works.ca
Located on the UBC campus in the heart of Wesbrook Village, Prodigy uses West Coast modern architecture that blends a stunning six storey wood frame building with the natural elements of its surroundings using exposed wood beams, cedar soffits and inviting warm brick cladding interplayed with glass.

A courtyard encompasses a grid of wide, flat reflecting ponds that extend to edges of the building’s outdoor patios, giving the effect of a waterfront location. The use of natural materials reflect locale; gorgeous glazing blurs the boundary between interior and exterior, bringing the outside in. The dramatic two storey lobby bridge and breezeway is designed with floor-to-ceiling glazing and rich cedar soffits for stunning character upon arrival. An open and inviting layout is created through an efficient use of space. Rooftop terraces create additional private outdoor living spaces. It includes the largest private rooftop lanais ever built by a developer, entered through a sky study with panoramic views of surrounding neighbourhoods – the ultimate private outdoor retreat for living large. Over 50 per cent of the materials used were manufactured locally, all lumber was harvested from sustainable forests, and 70 per cent of construction waste was diverted from landfill.
The Heights is a six-storey mixed-use building with a ground level commercial space and single level of underground parking constructed in concrete, and 85 apartments occupying the rear of the ground floor and the five storeys of wood frame construction above. The project, Canada's largest building designed to the Passive House (PH) standard when constructed, has been instrumental in setting the Passive House standard for multi-unit residential projects in Vancouver. Passive House buildings consume 80-90 per cent less energy for heating and cooling than conventional buildings and require a significantly higher standard of technical design and construction quality control.

The majority of the work was tendered to trades in the normal manner, but the key aspects of the work necessary to elevate the quality of the building envelope to PH standard were retained under the direct control of the general contractor, with key members of the crew trained at BCIT. Wood-frame construction is ideal for achieving Passive House standard buildings. Wood itself has reasonable insulation value and facilitates detailing to minimize thermal bridging. At commissioning stage, the airtightness test showed only 0.3 air changes per hour, half the air infiltration rate permitted by the PH standard, and the HRV balancing has been at, or better than, the designed criteria.
The six-storey, 70-suite West Wing at Penticton Lakeside Resort is constructed of mass timber and features perhaps the most extensive use of cross-laminated timber (CLT) panels in any building in the Okanagan.

The large CLT panels – up to nine feet wide and 41 feet long – are used in all major shear elements of the building: in the floor and roof, and in the vertical walls that separate decks on the exterior. The building also features exposed wood ceilings, large glulam columns and beams, wood stairs and stair shafts, and more throughout the building’s interior design. The CLT panels and light wood-frame components were prefabricated for easier construction plus major time and cost savings. The warm finish wood provides in its natural state also resulted in cost savings. One of the core design initiatives of the project was to expose the wood wherever possible – CLT and glulam is exposed in and out of the suites, corridor ceilings are exposed CLT with no interruptions, and the atrium wall and ceiling structure is exposed mass timber. The wood structure provides environmental efficiency with a lower carbon footprint, was constructed to exceed all standards of the building code, and weighs roughly half what a concrete structure would weigh – 450 pounds per square foot, versus 1,000 pounds per square foot.

“This could have been built using light frame but CLT and wood was used instead...wood is featured everywhere.”

-jury comments
The 10-year phased plan to redevelop the Crofton House School campus was completed in 2017. Many aspects of the school were replaced, renovated and refurbished, and the infrastructure and landscape environment upgraded. The “capstone” component of the development is the school’s new assembly and dining hall, now known as Manrell Hall. Used by the entire school community for assemblies, major celebrations and recognition events, and on a daily basis for dining, the new hall – with an assembly capacity of over 1,000 and similar dining capacity (in two sittings) – has already changed the school culture.

Achieving a rich and coherent character of the interior environment throughout was a strong theme for the campus redevelopment. A major strategy to achieve this has been the generous use of wood finishing – through the design of a palette of applications and details. Custom coloured maple, both in veneer panelling and solid elements, is the principal material. Perforated wood panels have been used for acoustical purposes, while crown moldings and handrails have been incorporated to bring the wood into intimate contact with users. Solid and engineered hardwood has been used extensively for flooring in the signature spaces.
2018 WOOD DESIGN AWARDS - WINNER

Institutional Wood Design: Small

Kimberly Johnston, Johnston Davidson Architecture + Planning Inc., Vancouver

Logan Lake Fire Hall, District of Logan Lake

“A fire hall befitting a town of 2,000 people needs to meet post-disaster standards, be durable and cost-effective, and benefit the local economy. The application of wood helps Logan Lake Fire Hall realize all these goals. The project showcases the seismic resistance superiority of wood and engineering prowess of mass timber structure by unprecedentedly using 95 per cent structural wood above grade. Not only can the glulam post-disaster structural system resist 1.5 times more seismic force than a normal building, but the wood-to-wood connections can also comfortably accommodate the seismic forces at less cost. Overall, the wooden structure allows the building to enjoy a more than 50-year estimated lifespan.

The application of wood extends to finishes, millwork, doors and ceilings. The innovative use of the exposed wood roof panel system as the interior finish yields greater saving on interiors. Meanwhile, the natural aesthetics of wood creates a healthy and pleasant working environment with minimal environmental impact. The wooden envelope requires less artificial insulation and helps lower the heating costs in winter months. The dimensional lumber, glulam beams and posts, and plywood sheathing were installed by trades mostly from within a radius of 200 kilometres.

“Interesting to have the joists sit on the glulam, allowing the light to filter through.”
“The clear-span use of larger glulams exposes the wood throughout the building”

- jury comments

Photos – all Courtesy: Wood Design Awards in BC
High resolution images available. Please e-mail mmclaughlin@wood-works.ca
“The angled wood bracing adds beauty and utility.”
“...used member sizes in scale with the space.”
- jury comments

The various structural and architectural wood elements in the Okanagan College Trades Renewal and Expansion create a warm and inviting space throughout the addition, clearly demonstrating the sustainable approach taken to the design of the complex.

The beauty and versatility of wood is prominently featured in the timber-lined and exposed wood structure of the atrium. The new addition is a three-storey concrete structure with a large atrium roof comprised of 130-mm-thick fluted glue-laminated timber (GLT) panels on glulam beams and V-columns. The V-shaped glulam columns keep the supports slender by transferring loads directly to the offset concrete landing below. They also elegantly support the sloped timber roof, which is canted towards the south to create an optimal location for solar panels. Gaps between GLT panels provide space for the seamless integration of sprinkler and electrical conduits. Careful detailing of the steel-to-wood connections using hidden dowels and knife plates add to the elegance and simplicity of the wood elements and help create the unique aesthetic of the space. GLT panels used at the exterior entry and lower soffits envelop visitors in wood as they enter the building. These exterior GLT panels are flat rather than fluted to allow for easier maintenance and refinishing over the life of the structure. The panels, beams, and columns for this project are Douglas fir glulam.

Photos – all Courtesy: Wood Design Awards in BC
High resolution images available. Please e-mail mmclaughlin@wood-works.ca
This facility, built to house the manufacturing of the new dowel laminated timber (DLT) mass timber product, showcases a new way to construct industrial buildings using wood as the primary material instead of steel and concrete.

Thirty-foot-tall tilt-up timber structural wall panels form the exterior of the building. The 63-foot-long roof panels along both panel edges are made of slender Douglas fir glulam beams that have strategically placed steps in the top surface, creating inverted “belly-beams”, deeper (for structural efficiency) in the centre of the span, while also naturally creating slopes to drain. The 2x12 Douglas fir custom-notched roof joists rest on the stepped beams so the plywood-sheathed curve is completely smooth.

The entire shop was erected in five days, including 74 wall and 54 roof panels. The office component has exposed spruce glulam and nail-laminated timber (NLT) panels and non-exposed prefabricated stud and plywood wall panels – all brought together and analyzed first in 3D. The second floor and roof are panels with machined recesses filled with fibrous material, hidden and very effective for noise absorption. The cladding and rain screen system uses spaced horizontal Douglas fir 2x6 boards shaped to repel water that are stood off from the membrane-clad plywood with vertical cleats, so that almost all the water is shed and the wood members can breathe. Prefabricated panels with “planned random” staggering of the joints allow the cladding system to be easily replaced as required in the future.
The GoodLife Fitness Family Autism Hub is designed to address the challenges of living with Autism Spectrum Disorder (ASD). The primary goal was to develop a nurturing, supportive and sustainable environment for the physical and emotional well-being of the building's occupants. The province's Wood First Initiative informed the design from choice of structure, to cladding, to interior finishing. The post-and-beam glulam structure is expressed throughout the building, contributing to a warm, inviting environment. The economy and versatility of a hybrid system of TJI joists and engineered wood was also introduced to maximize budget dollars.

All materials were selected based on their durability, functionality, aesthetics and low environmental footprint with a high priority placed on materials containing recycled content and sourced locally. Wood was an obvious choice. The exterior materials are primarily stained cedar siding and metal panels. The Western red cedar is finished with a clear sealer to maintain the natural warmth of the wood and provide visual richness. Most of the exterior site structures are also clad in Western red cedar. Beyond the expressed wood structure, interior finishes include linear wood ceilings, wood acoustic wall panels, and extensive millwork. These are all designed and detailed to create a modern expressive architecture and a nurturing place for people living with ASD.
Brock Commons - Tallwood House aspires to be a model for a future featuring mass wood buildings that are quick, clean and cost-effective to construct and which maximize carbon sequestering and reduction of greenhouse gas emissions. Brock Commons is extraordinary for its height and because its structure of glue-laminated Douglas fir columns, cross-laminated timber spruce-pine-fir floor panels, and prefabricated façade with 70 per cent wood fibre cladding went up in only 66 days. The project also demonstrates that a mass wood building can be comparable in cost to a traditional concrete building.

The prefabricated façade includes pre-installed punched and L-shaped corner window openings. The cladding features vertical striations of alternating light wood and charcoal-coloured panels. An extensive cross-laminated timber canopy runs the length of a curtain wall base, revealing the ash panelling and albus wood slat panels of the social and study spaces within. Glulam columns at an 18th floor student lounge are left exposed. Hallway finishes feature ash veneer wood doors and a palette of rich umber and ochre carpet and paint accents. Elevator lobbies have the same cladding material used at the exterior. The 305 studio and quad-unit interiors are spare and simple with bright white finishes and warmly-hued carpet and countertops.

“Simple, clean, innovative and cool...exterior is very well done...”
“...pushed the boundaries in the design-build...lots of structural innovations.”
- jury comments

Photos – all Courtesy: Wood Design Awards in BC
High resolution images available. Please e-mail mmclaughlin@wood-works.ca
For the ninth Jiangsu Horticultural Expo, the main hall of the timber structure enterprise pavilion was built under three concepts: pastoral landscape, ecological science and cultural life. This was achieved by assimilating the elements that are full of Jiangnan style – like the fishing net, boat with a canopy and villages – and forming a totally coordinated architectural complex without losing rich changes. Industry 4.0 robot manufacturing technology was even adopted in processing, enabling all the links to be involved such as design, R&D, processing and installation. The difficulty of each link has created the most modern wood structure in China. Without question, these pavilions fully reflect the integration of traditional Chinese wooden structure technology and modern technology to the fullest extent.

The ninth Horticultural Exposition project utilizes imported Douglas fir from Interfor in Canada for its straight textured appearance and pale rose colour. The Douglas fir creates a beautiful structure with its high bearing, weight ratio, high strength and good bonding.