CELEBRATING EXCELLENCE IN WOOD STRUCTURES

2011-12 NORTH AMERICAN WOOD DESIGN AWARD WINNERS

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Canadian Wood Council Conseil canadien du bois

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2011-12 North American Wood Design Award Winners

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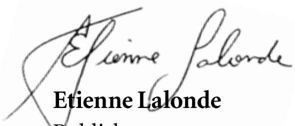
Pushing the Boundaries of Innovation

This year's Wood Design Awards received an array of impressive submissions that varied in terms of building type, level of complexity and structural/architectural applications. Throughout all of this diversity, a few underlying themes remained omnipresent – the innovative, economical, aesthetic and practical solutions offered by wood in new construction and renovation projects.

In addition to the winners of *Wood Design & Building* magazine's North American Wood Design Awards program, this 2011/2012 awards book features recipients from the Canadian Wood *WORKS!* Awards (British Columbia, Ontario and Prairie), as well as the U.S. WoodWorks Wood Design Awards (Central, East and West). Celebrating a diverse demonstration of wood product applications, award winners allow us to delve into their passion for wood construction and, in doing so, develop a deeper understanding of the unique attributes of this renewable building material.

A special thank you to our program sponsors and judges, the U.S. and Canadian Wood *WORKS!* teams for their ongoing support, and to our award winners for inspiring us all to challenge ourselves in the use of wood in future building projects.



Etienne Lalonde
Publisher
Wood Design & Building

WOOD DESIGN & BUILDING AWARDS

CANADIAN WOOD *WORKS!* AWARDS

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Wood Design & Building Awards

Jurors

JAMES CUTLER
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www.cutler-anderson.com

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2011/2012 North American Wood Design & Building Awards Program

Storytelling

I imagine that much like being a writer, architects tell stories. Each design tells a story of where the architects have been, where they are going, what they have read, and what they have learned, combined with all of the same components from the client's life as well. Each design is the sum of many parts, including those that really bring it to life: the materials used to build it.

As a great architect once so eloquently told me, wood, especially, has a story to tell. It tells a story about itself, how it grew, how old it is, and how it's connected – within the architecture and to us. Indeed, each and every one of the projects in this book tells you about itself.

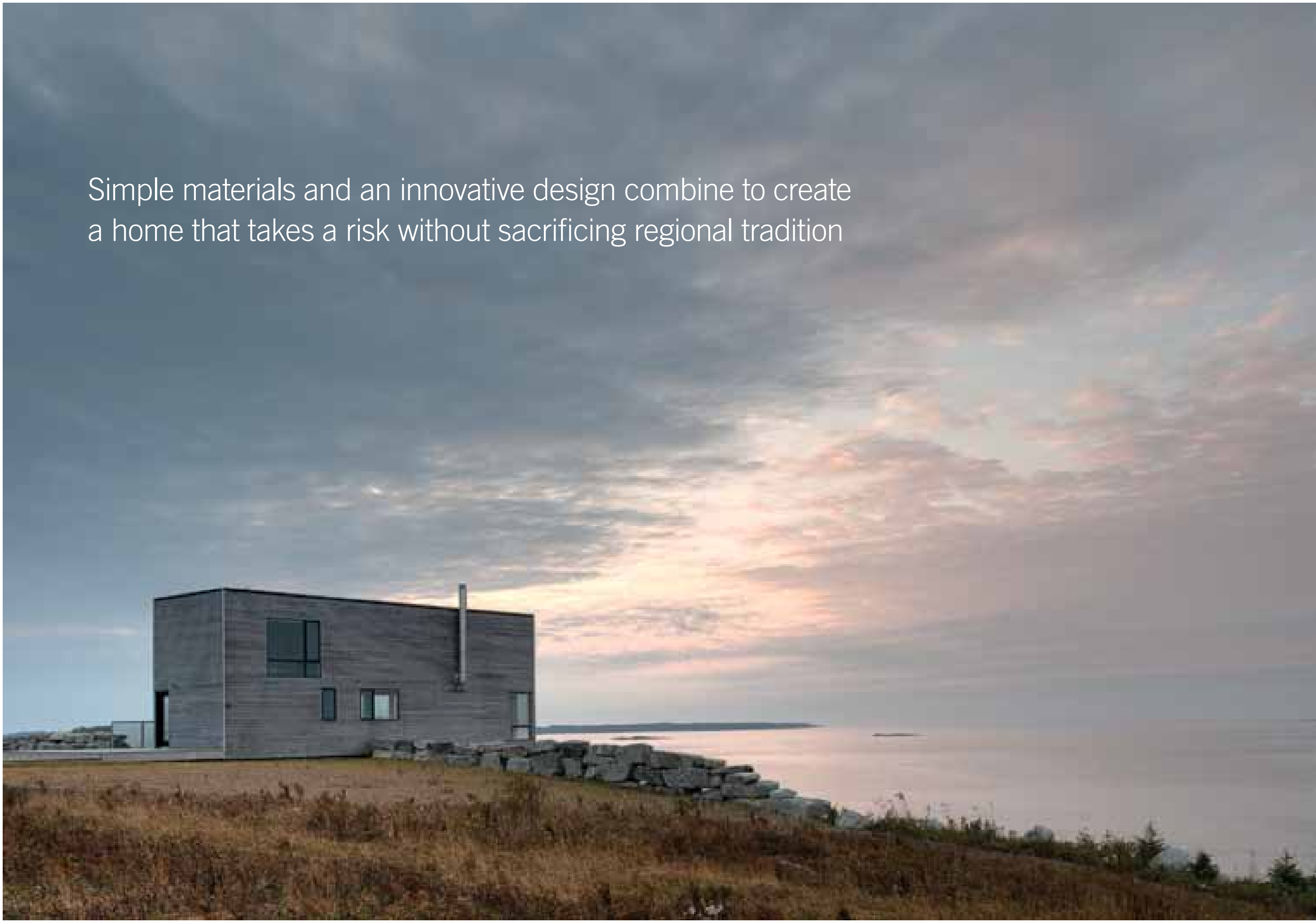
In fact, when I speak with the architects and engineers and builders of these fabulous projects, all of them want to convey their inspiration and their love of wood. There is something about wood, more so than any other building material available, which makes people respond with genuine emotion. They use words like warm, home and health, and speak of its versatility, tactile qualities and color. They speak of its life.

Whether sitting in one of the many incredible residences featured in this book, in the garden, by the pool, in a place of worship, or one of the many other public spaces, the stories told are of our past and future. And with wood, the story is still being written.

The beauty with any art is that each piece speaks to us differently. I trust that many of the projects in these pages will speak to you, as they have to me.

Theresa Rogers
Editor
Wood Design & Building

HONOR Awards



Cliff House

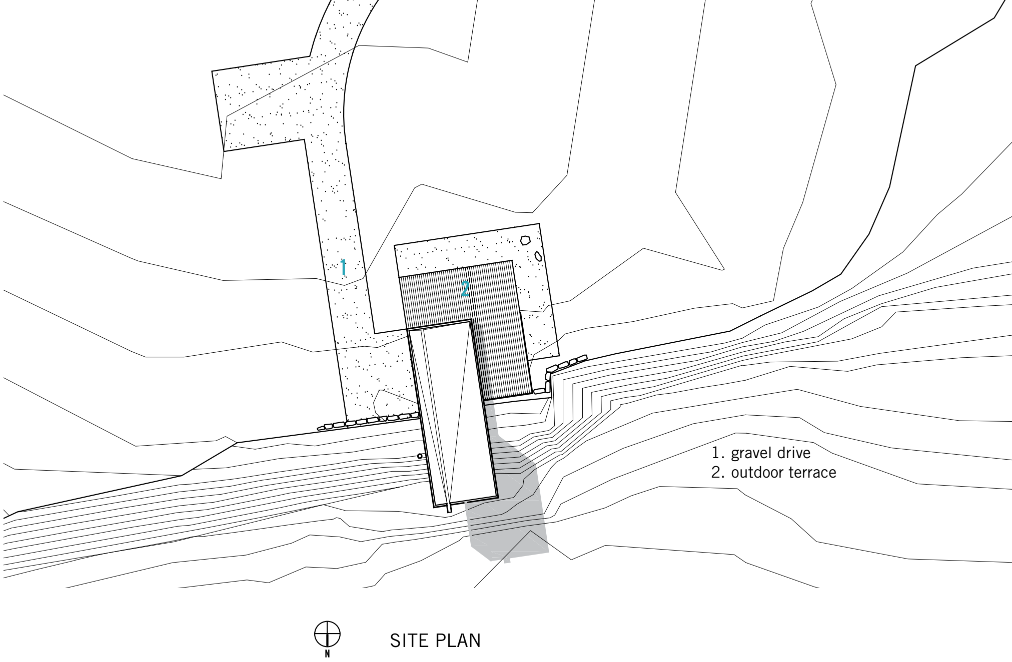
MacKay-Lyons Sweetapple Architects Limited

Cliff House is first in the series of projects to be built on a 455-acre property on the Atlantic coast in Nova Scotia. It acts as a didactic instrument intended to heighten the experience of "dwelling" in landscape. A pure, austere wood box is precariously perched off the bedrock cliff, "teaching" about the nature of its landscape by creating a sense of vertigo while floating above the sea. This strategy features the building's fifth elevation – its "belly." When approaching the cabin from the land, one is presented with a calm wood box with its understated landscaping, firmly planted on the ground, in contrast with the subsequent dramatic interior experience of flying off a cliff.

This efficient, 960-sq.ft. cabin functions as a rustic retreat. It is intended as an affordable, high amenity prototype-on-a-pedestal. Its main level contains a great room with a north cabinet wall and a compact service core behind. The open loft is a sleeping perch. A large, south-facing deck on the cliff edge allows the great room to flow outward. The cabin's fenestration optimizes passive solar gains and views, both out to sea and along the coastline.

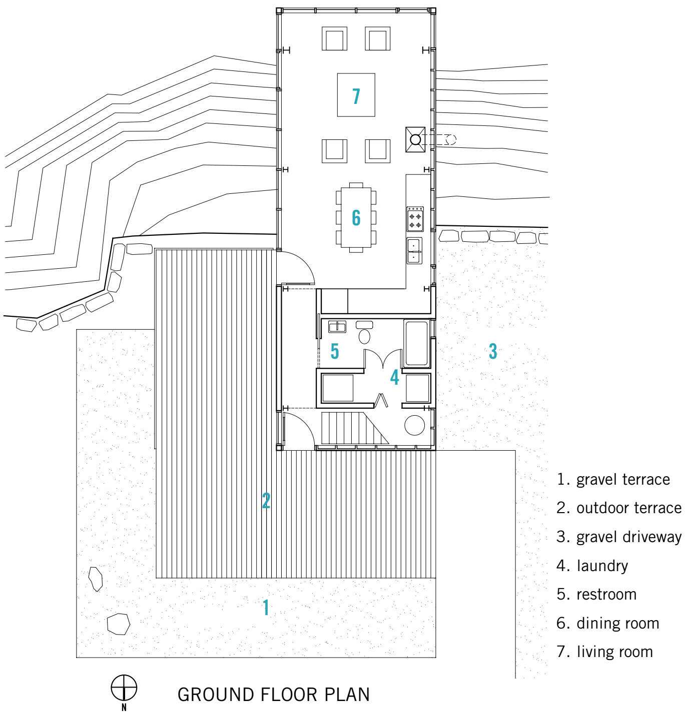
“There are a lot of people who do the simple box but in this case, it’s an elegant, simple box and it sits on the plane and it hovers over the cliff edge. The series of asymmetrical trusses are wonderful. It’s absolute simplicity.”

– Jury



SITE PLAN

The project’s rich spatial experience and dramatic landscape strategy is contrasted by its material frugality. This is a modest project with an extremely low budget. A galvanized superstructure anchors it to the cliff. A light steel endoskeleton forms the primary structure expressed on the interior. The envelope is a simple, conventional, taut-skinned platform framed box. The “outsulation” strategy allows the conventional wood framing system to be expressed on the interior, avoiding the need for interior finishes, and the problems typically associated with condensation in insulated wall cavities. The cedar shiplap siding on a ventilated rain screen creates an abstract modern effect.



GROUND FLOOR PLAN

Atlantic Canada has a cool climate characterized by constant wet/dry, freeze/thaw cycles, resulting in a high weathering rate for buildings. Over the centuries Maritimers have developed an elegant, economical lightweight wood building tradition in response to this challenging climate. The light timber frame has also become the dominant domestic construction system in North America. Despite its widespread use, inherent high level of environmental sustainability, affordability and subtle refined aesthetic, architects have been reluctant to embrace it. The research conducted at MacKay-Lyons Sweetapple Architects Limited, however, builds upon and extends this often understated, everyday language of construction, often through modest projects such as Cliff House.

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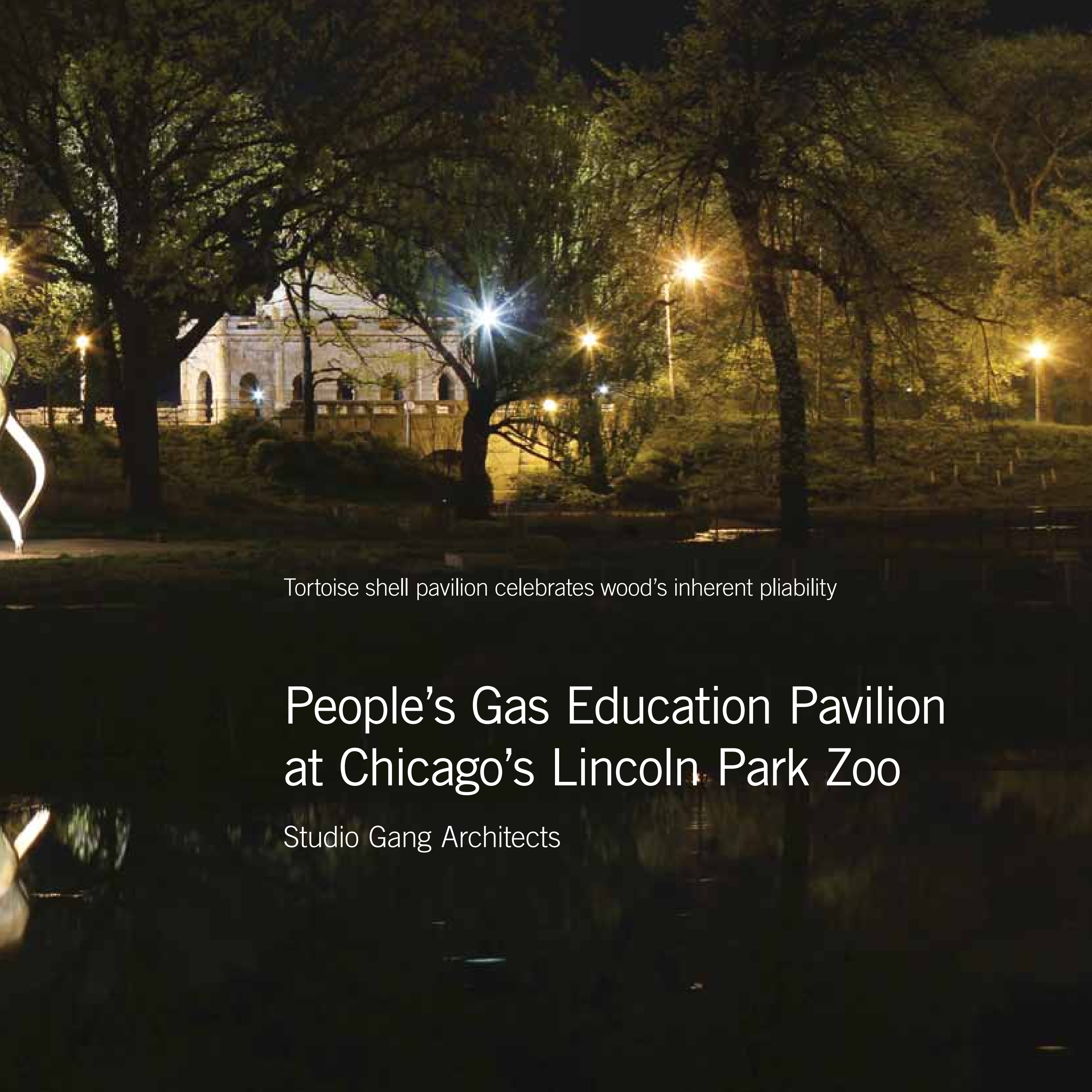
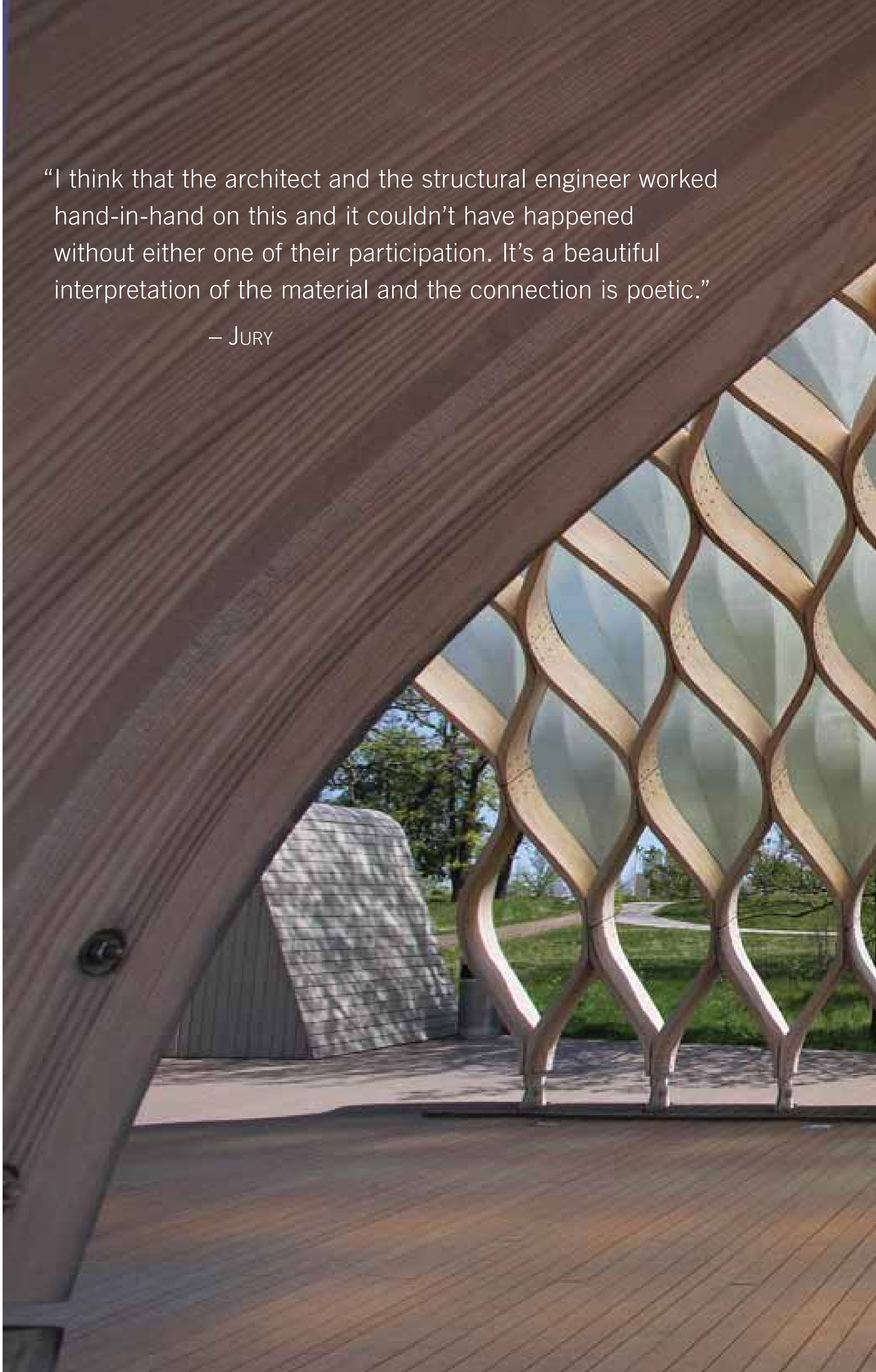


Tortoise shell pavilion celebrates wood’s inherent pliability

People’s Gas Education Pavilion at Chicago’s Lincoln Park Zoo

Studio Gang Architects

> "I think that the architect and the structural engineer worked hand-in-hand on this and it couldn't have happened without either one of their participation. It's a beautiful interpretation of the material and the connection is poetic."
>
> – JURY



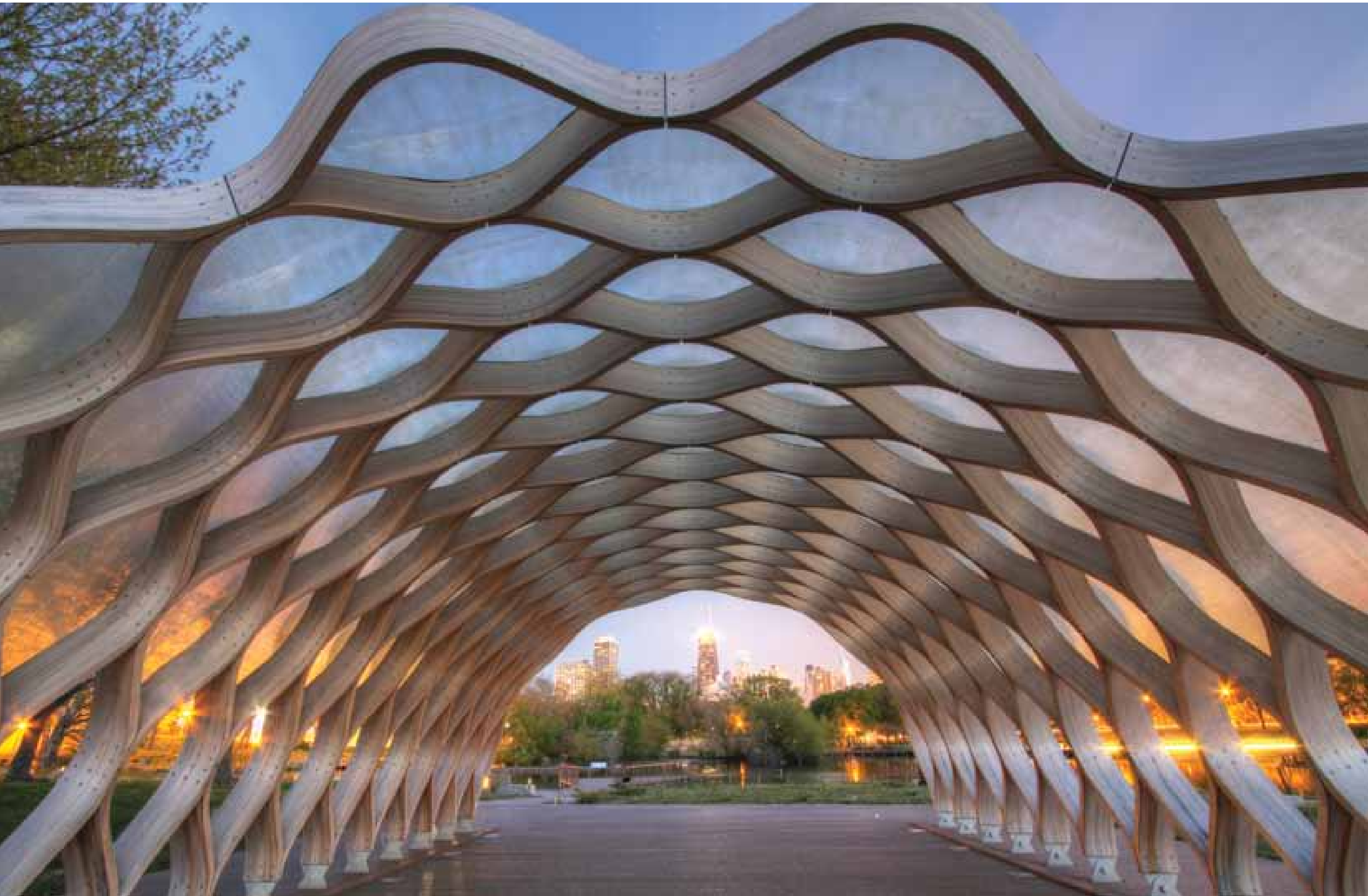
The Nature Boardwalk at Lincoln Park Zoo has transformed an urban pond into an ecological habitat buzzing with life. Through improvements to water quality, hydrology, landscape, accessibility and shelter, the site now functions as an outdoor classroom in which the co-existence of natural and urban surroundings is demonstrated.

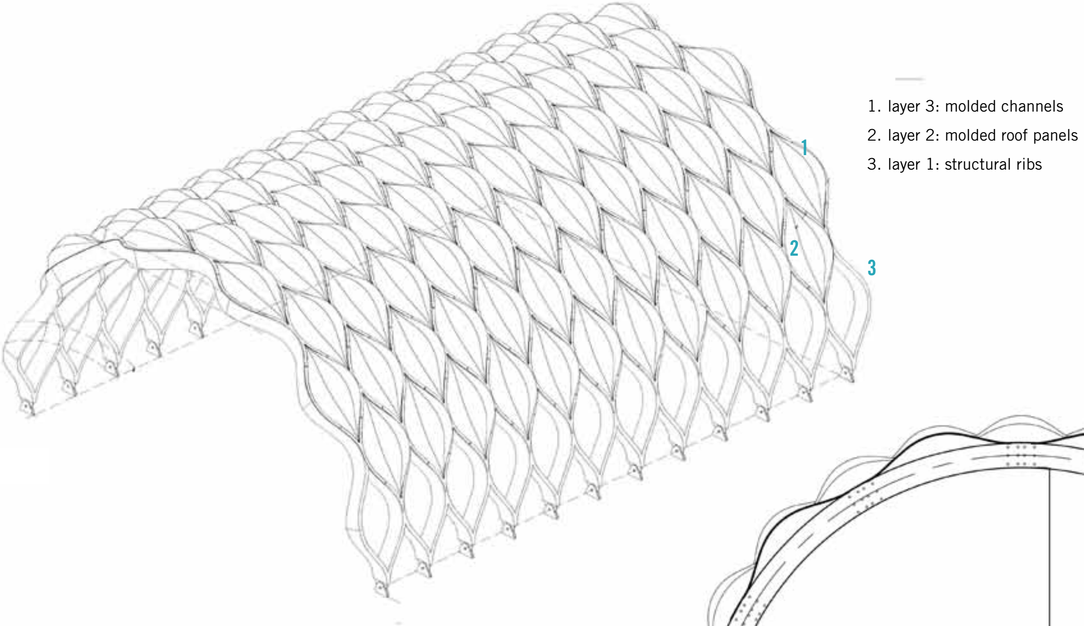
Two structures enhance visitors' experience of the pond habitat. The boardwalk invites people to meander along a path, exploring both the water side and land side of the riparian edge. Visitors pass through various educational zones that explain the different animals, plants and habitat found in each. This boardwalk leads to the education pavilion which overlooks the reclaimed wetlands in the middle of a highly developed urban environment.

Functioning as part refuge and part outdoor classroom, the pavilion is inspired by a tortoise shell, forming a sheltering arch for open-air classes and other activities. The laminated structure consists of prefabricated bent wood members and a series of interconnected fiberglass pods that give the pavilion

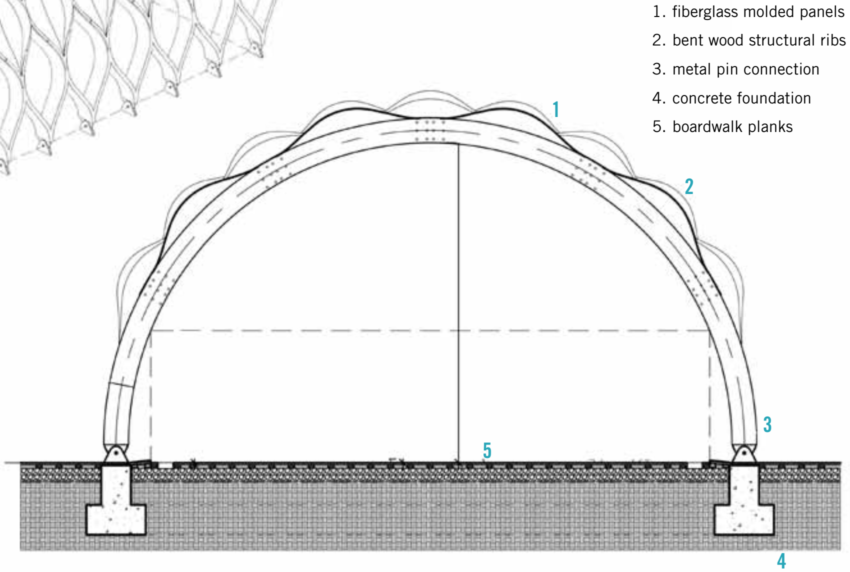
its organic form. Each member of the lattice-like structure is curved in two directions. The project team studied lamination techniques traditionally used in boat-making to achieve each member's double curve. The bending action used to make the wooden elements provides additional strength and allows the pieces to be smaller and lighter. In the case of the pavilion, the pieces were light enough to eliminate the need for large construction machinery; instead, only two people were needed to assemble the structure using steel connection plates and simple tools.

Douglas fir was chosen for its great abundance in the Pacific Northwest, the home of the project's wood fabricator. This region of the country enforces strict environmental management and





SCHEMATIC AXONOMETRIC



SECTION

protection policies to safeguard natural habitats and biodiversity. Douglas fir's natural resistance to mold and decay adds to the project's sustainability by reducing the need for standard chemical treatments normally applied to increase a structure's longevity.

The inherent pliability of wood is rarely highlighted in architecture today. The double curved beams of the pavilion test the limit of wood's abilities to create a unique, inviting space for visitors to enjoy.

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PAVILION FABRICATORS
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PAVILION ERECTOR
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Beth Zacherle, Studio Gang Architects
Chicago, IL

Spirit Of Space
Chicago, IL

Plywood shelters huddle together, shielding each other and their occupants, from the elements

Winnipeg Skating Shelters

Patkau Architects Inc.

"These forms are so animated and they're all so different. They use that skin idea of bending them to get their own strength. They're really almost human in their shape."

– Jury

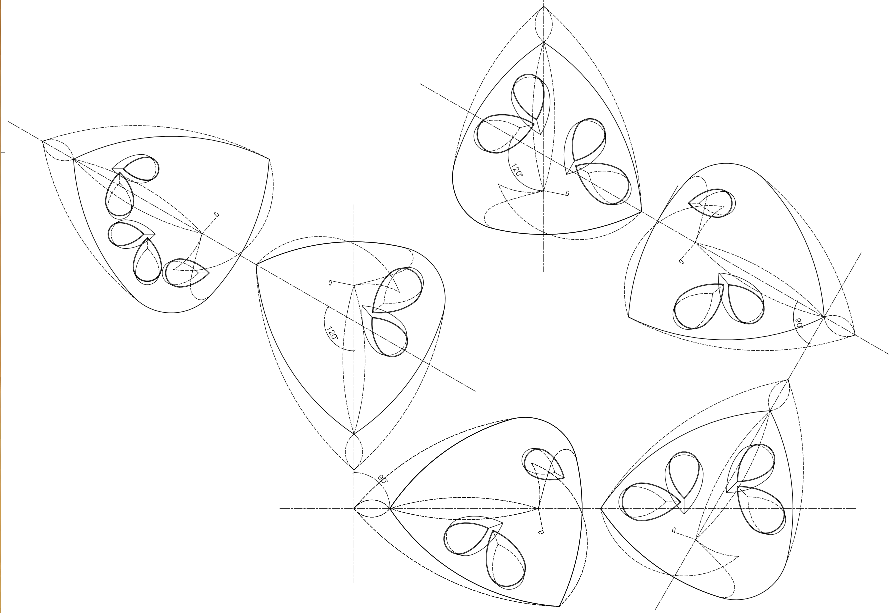
Winnipeg is a city of 600,000 residents located on the Canadian prairie. It is the coldest city of its size outside of Siberia. Winter can last six months. So learning to celebrate winter – learning to take advantage of the opportunities that winter provides – makes sense.

The Red and the Assiniboine Rivers meet in the center of the city, and in winter, when plowed of snow, skating trails many miles long are created. But with temperatures that drop for long periods of time, and biting winds, creating opportunities to find shelter greatly enhances the ability to use the river skating trails.

This cluster of intimate shelters accommodates only a few people at a time. They are grouped in a small 'village' (or 'herd', or 'school') to form a collective… of 'something'… irreducible to a single interpretation. They stand with their backs to the wind like buffalo, seeming to have life and purpose as they huddle together shielding each other from the elements.

Each shelter is formed of thin, flexible plywood which is given both structure and spatial character through bending/deformation. Skins, made of two layers of 5 mm thick flexible plywood, are cut in patterns and attached to a timber armature that consists of a triangular base and wedge-shaped spine and ridge members. Experiments in the workshop with a full-scale prototype mapped the stresses of bending. Stress points were relieved by a series of cuts and openings. The form of the shelter is a resultant of this process of stressing/deforming and then releasing stress.

Grouping the shelters into a cluster begins with the relationship of two, and their juxtaposition to qualify the size and



AGGREGATION PLAN

accessibility of their entrance openings. This apparently casual pairing is actually achieved by a precise 120-degree rotation. Three pairs (one with mirror reflection) are then placed in relation to one another through a secondary rotation of 90 degrees to form the cluster and define an intermediate 'interior' space within the larger grouping. Together, the shelters create dynamic solar/wind relationships that shift according to specific orientation, time of day and environmental circumstance.

These are delicate and 'alive' structures. They move gently in the wind, creaking and swaying to and fro at various frequencies, floating precariously on the surface of the frozen river, shaking off any snow that might adhere to their surfaces. Their fragile and tenuous nature makes those sheltered by them supremely aware of the inevitable ferocity and beauty of winter on the Canadian prairies.

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PHOTOGRAPHER
James Dow
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Wood and other natural materials allow Buddhist retreat to merge with the landscape

Won Dharma Center

Hanrahan Meyers Architects LLP

The Won Dharma Center is a recreational and spiritual retreat in Claverack, New York for a Korean Buddhist sect that emphasizes balance in daily life with a focus on nature.

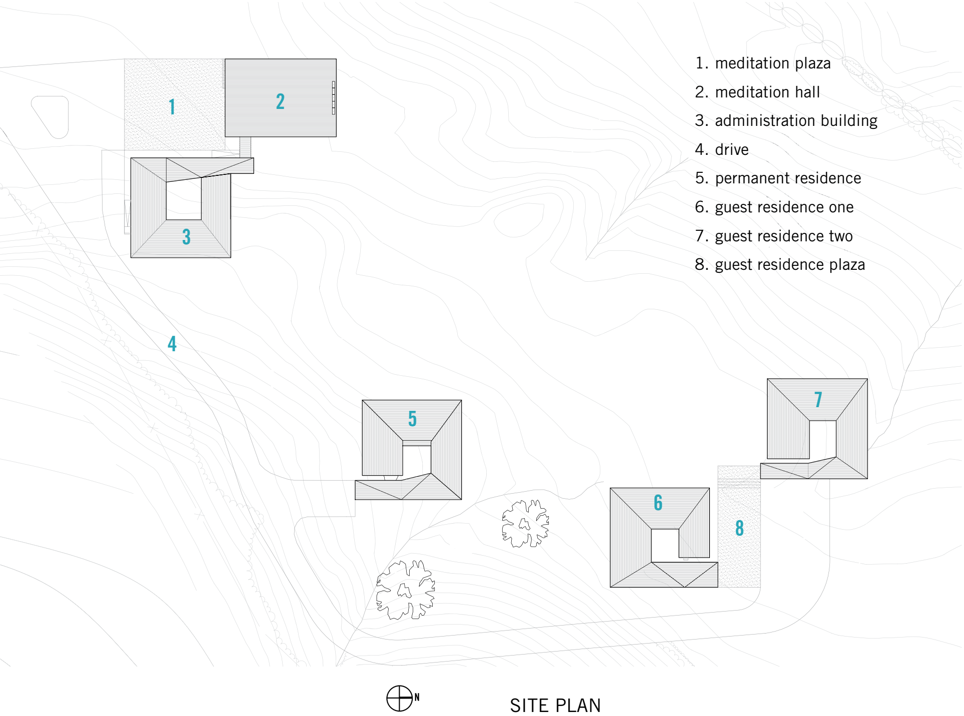
The site is a 500-acre property on a hill with views west to the Hudson River Valley and Catskill Mountains. The retreat buildings, including permanent and guest residences, an administration building and a meditation hall, are sited as far as possible from the rural highway at the south of the site. The buildings are oriented west toward views of the Catskills, and south to maximize natural light.

The clients requested the retreat use as many natural materials as possible in harmony with the rural character of the region. Wood was selected to address the client's philosophy. With the Buddhists' tree-planting agenda for the future remediation of the site, cedar screens were designed for all of the building porches to further the goal of designing the buildings to merge with the landscape. The screens recreate the dappled effect of sunlight coming through tree canopies, while also providing solar protection.

The first point of site access takes visitors through an entrance gate. Retreat visitors are encouraged to leave their cars at the parking lot, located 500 feet south of the Meditation Hall, and walk to the center along a winding path. The first view of the retreat compound is the grass lawn in front of the administration building and meditation hall. This view

"The courtyard expression with the roof form never finishing off, all the gaps between it and the creativity of the way the framing is done, is ingenious."

– Jury



SITE PLAN

on arrival of the meditation hall acts as a public gate to the retreat experience.

The meditation hall is a rectangular void and a lightweight frame to the natural surroundings. Its wood structure is exposed on three sides to form entrance and viewing porches, while the interior offers views of the mountains. The administration building is linked to the meditation hall by a series of wood clad and framed porches designed to accommodate formal walking from administration to meditation. These two buildings and their porches, with the triangulated wood geometries of their roof structures above, frame the outdoor lawn with views of the Catskill Mountains to the west.

The other buildings include the residential buildings for guests and permanent residents. The designs of the residential buildings and the administration building are based upon traditional grass-roofed Korean farmhouses, loosely clustered and organized internally around central courtyards. The internal organization of each courtyard building supports silent walking meditation around the inner courtyards and adjacent outdoor porches and spaces. All of the courtyard buildings are clad in FS-certified cedar, without any finish, as the clients preferred to see the material weather in its natural state.

The permanent residence building is exclusively for retired ministers, and provides lodging for 24 members of the organization. The two guest residences provide lodging for up to 80 visitors. Rooms are simply furnished with custom furniture made from plywood and oak, complementing the architectural design. Tables in the dining hall are also custom oak, to bring the materiality of the landscape into the dining hall.

The area where the buildings are sited had been cleared of trees for use as a quarry for crushed rock, by the former owners. The Won Buddhists are working with a local arborist to plant new trees across the site, and are conducting an ongoing remediation of the site to include a mixture of wooded areas mixed with meadows to foster local wildlife habitats.

The master plan for the entire site is a zero-carbon footprint. A heating and cooling system includes geothermal wells, a photo-voltaic array, solar thermal roof panels, and a central biomass boiler. The Won Buddhists have committed to harvesting only fallen trees from their nature reserve as fuel for the boiler, resulting in a zero-carbon footprint for the heat system. The buildings employ state-of-the-art construction systems, including spray-foam insulation, low-e glass insulated windows, and a radiant in-floor heating system to minimize energy costs for year-round occupancy.

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KITCHEN DESIGN
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LANDSCAPE DESIGN
Seo An Landscape
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INTERIOR DESIGN
Myonggi Sul Design
New York, NY

PHOTOGRAPHY
Michael Moran/ottoarchive.com
New York, NY

MERIT Awards

Low-impact construction techniques were used to protect the nearby mature oaks which shape the character of the building's spaces and form the remarkable heritage of the building site

Cottage

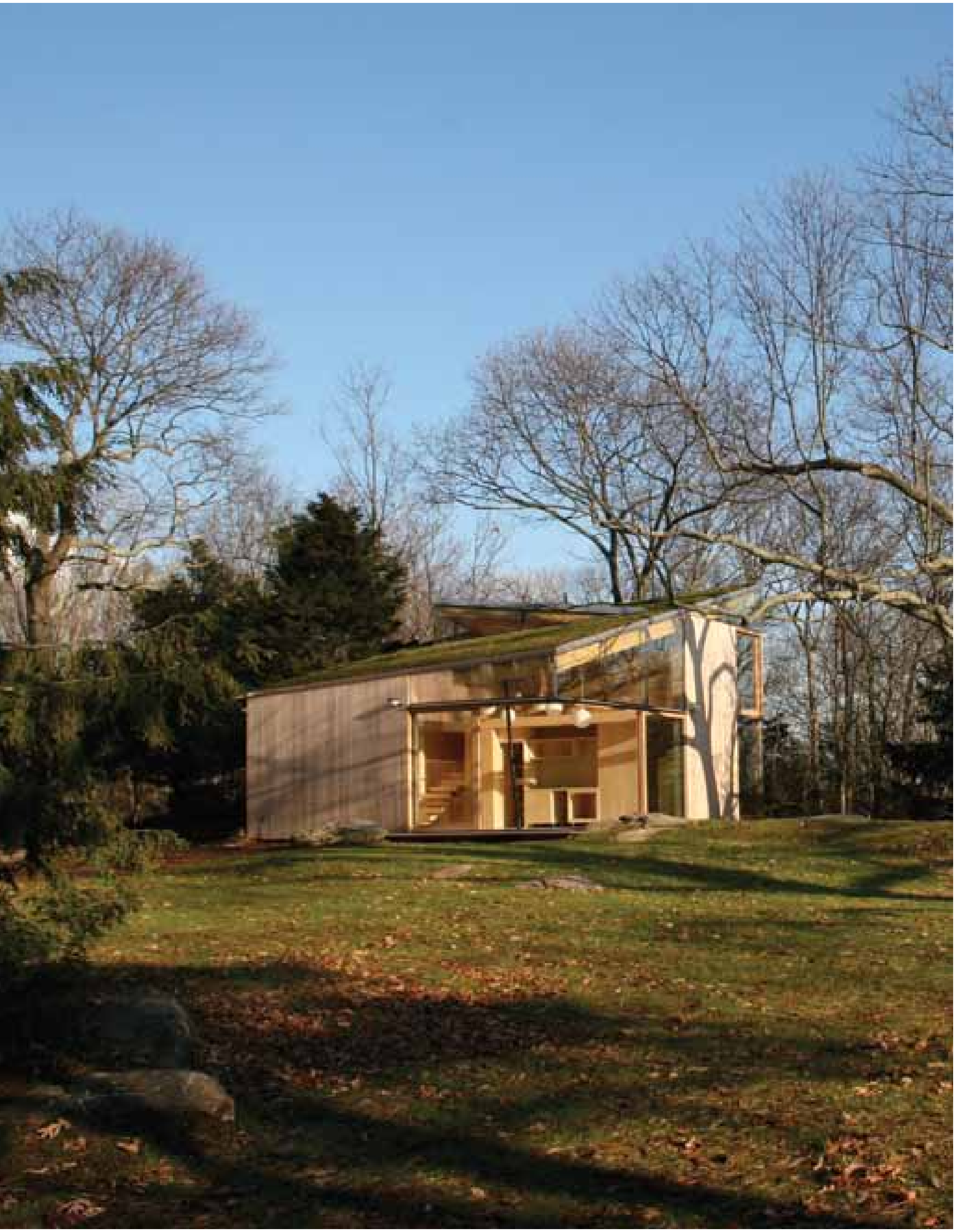
Gray Organschi Architecture

This small guest house stands in an upland meadow dotted with large oaks and granite outcroppings, a new addition to an enclave of house, garage, and barn overlooking Long Island Sound and the Thimble Islands. It occupies the site of a former cottage that was too dilapidated and decayed to salvage for clients who sought a tranquil retreat for guests and, as they aged, future accessible living quarters for themselves.

As longtime residents of the property, the clients' lives were intimately intertwined with the history of their "garden" and they were especially sensitive to any changes to its character. But they were as committed to architectural exploration and the principles of ecological building practice as they were to the protection of the site. They requested that the building optimize the visual and environmental qualities of the place, that it incorporate renewable materials and energy sources, and that it provide both an experience of solitude and privacy while reinforcing the connections to other buildings on the site. Wood was used as a primary material of construction for its beauty, structural capacity,

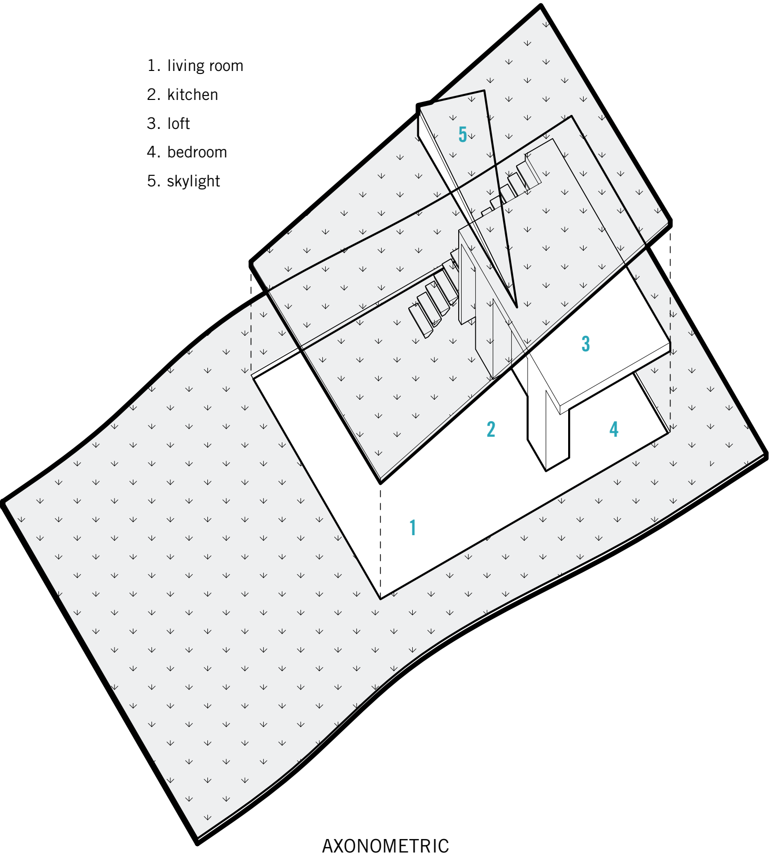
"It's beautiful. There's a singularity of material throughout the entire interior: walls, ceilings, floor, they all sort of fold together to make one kind of plastic space and it's quite beautiful with these cuts of light through it."

– Jury

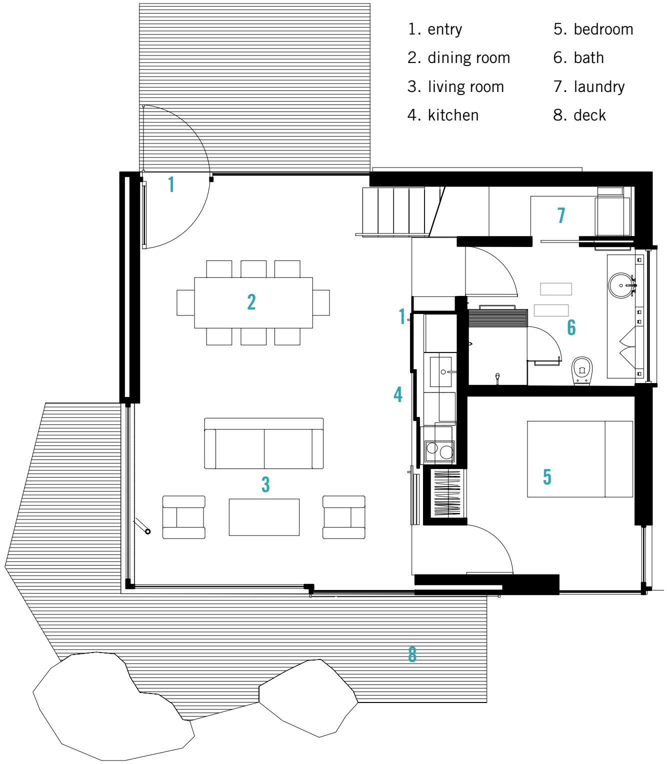


durability, and renewability. The material serves as a structure, interior and exterior finish and gives the building its spatial character and presence within the landscape. All of the salvageable wood from the prior building was reused to construct a small woodshed nearby. Low-impact techniques were used during construction of the new cottage to protect the delicate root systems and branches of the nearby mature oaks which would shape the character of the building's spaces and which had formed the remarkable heritage of the building site.

The clients' project brief was relatively modest: a combined living and dining room with a small kitchen, a single accessible bedroom and bath and an upper-story room that would double as additional sleeping or recreational space. Due to its proximity to the primary residence, however, the building was considered by the local zoning codes as an "accessory building," strictly limited in both ground plan and height, allowing barely enough headroom for legal occupation of an upper story. A simple plan incorporated a bedroom, bathroom and kitchenette within an enclosed volume with communal living and dining spaces surrounding it. The sedum-covered shed roof was thought of as another planted surface in the garden spilling excess water into the landscape, a steeply pitched plane lifted by the "pressure" of the spaces beneath it. Glazing details were developed to dematerialize the building's



AXONOMETRIC



GROUND FLOOR PLAN

seams: eaves come apart from the walls, corners detach, the roof tears open to connect the light bamboo-lined interior to the expanse and beauty of the site; the long views, the canopies of oaks, and the ever-changing coastal sky that encompass the small building. In contrast to the bright spaces of the light-filled interior, the planting of the roof and the slow graying of the Atlantic white cedar siding allow the building to settle quietly into its role as a supporting structure in the site.

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GENERAL CONTRACTOR
Andrew Fowler
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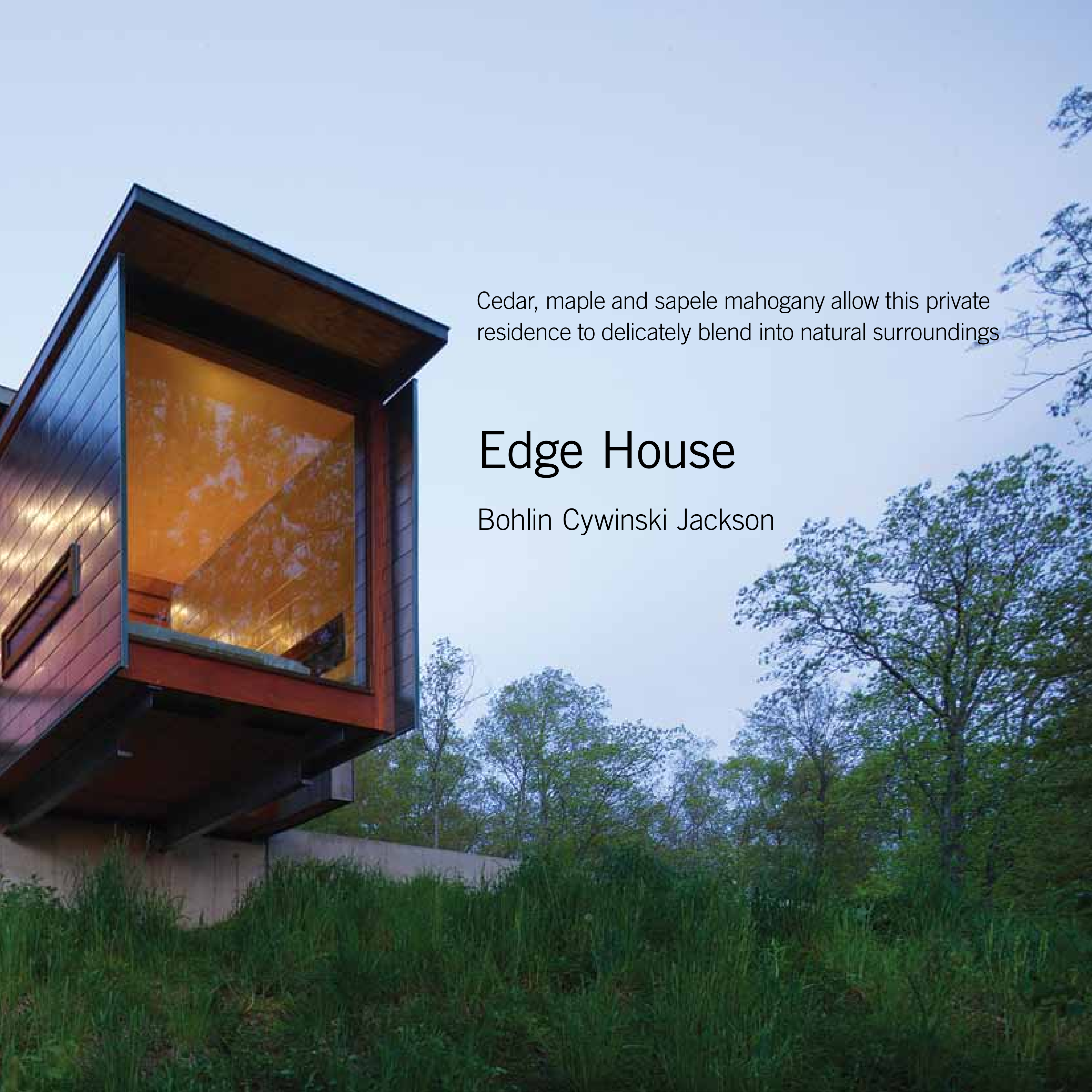
PHOTOGRAPHY
Bo Crockett
New Haven, CT

"In the end I was really won over by the mastery of the material. This is probably the only project we viewed in a collection of good projects where wood's potential to take on color and be a canvas for color was really exploited. It ended up being materially probably the richest and most sophisticated of what we've looked at."

– Jury



Cedar, maple and sapele mahogany allow this private residence to delicately blend into natural surroundings

Edge House

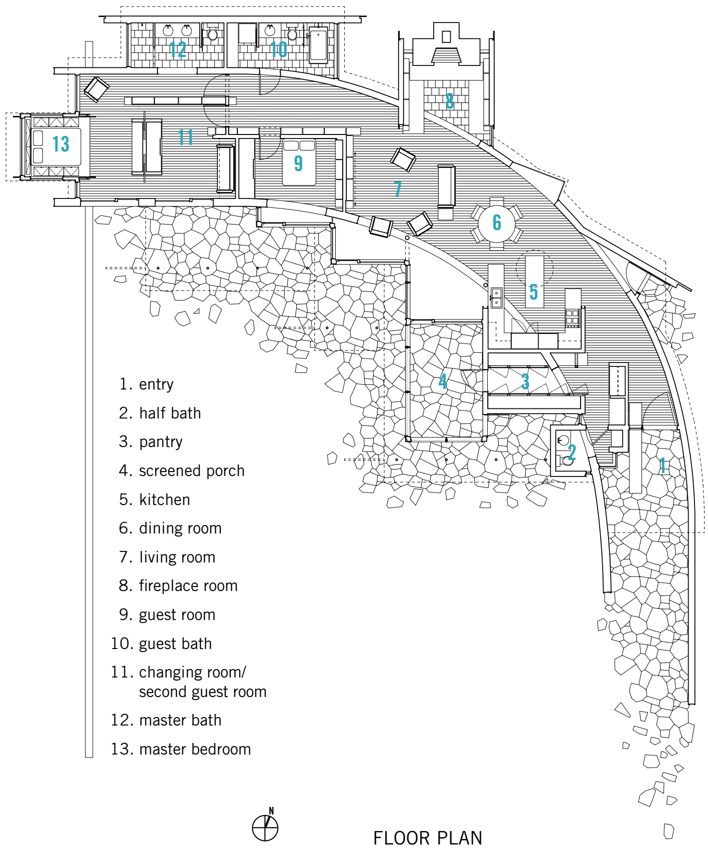
Bohlin Cywinski Jackson

Nestled in the mountains of northwestern Connecticut, the Edge House borders a sun-filled clearing in the forest above a stream which meanders through the valley below. This private residence offers a quiet retreat with spectacular views to the west. Two curved walls clad in vertical cedar boards carve into the landscape and form the major organizational elements of the house while preserving the existing clearing as a lawn.

The primary wall, stained red using a natural pigment mixed with a low VOC clear base, acts as the spine of the house and marks the path of circulation from the main entry at the southeast to the master bedroom and its western views over the valley below. This wall borders the forest and shelters the home from prevailing winter winds. The secondary walls respond to a more rectilinear geometry, passing through the curved walls and forming nooks that connect the interior to the lawn and primary views. An alignment of the fireplace and the screened porch forms a cross-axis in the otherwise continuous exterior envelope of the house. This axis reflects the linear orientation and spacing of the roof framing and birch veneer plywood ceiling revealed throughout the house, which contrasts and emphasizes the curvilinear nature of the stained cedar walls.

The span and characteristics of the 2 x 12 roof framing orchestrates the relationship between the two curved walls, which gently converge at the southeast in order to minimize cross-beams in the project. Sapele mahogany wood windows on the west and sliding doors on the south elevation provide ventilation and openness to reduce or eliminate the need for air conditioning, while deep overhangs to the south provide shelter from the summer sun and rain. Because the clients are avid readers and book collectors, walls were replaced with maple bookshelves topped with glazing, providing a sense of continuous space while sharing the constantly changing light.

The metal-clad master bedroom reaches out over the mountainside, framing the view to the west while reflecting the shimmering late afternoon sun and illuminating the maple floors and red spine wall. Small flipper doors at the head of the bed platform allow cool mountain breezes to pass up and over the bed during the warm summer months. Delicately inserted into the natural world, the Edge House exists in the realm between forest and sky.



FLOOR PLAN

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Noto Brothers Construction LLC
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PHOTOGRAPHY
Matt Wargo
Philadelphia, PA

Durable Atlantic white cedar blends harmoniously with the shoreline location of garden pavilions

Lanterns

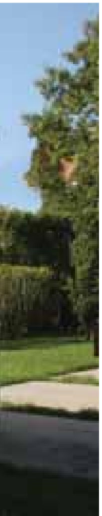
Gray Organschi Architecture

"Each one is almost a big Swiss Army knife because it does a lot of different things. It's a light, it has a fold-out canopy, and it becomes a piece of furniture. It's a great object. It's a refreshing variant on the slat idea."

– Jury

The design of a group of garden pavilions with operable shade canopy for a garden in Fairfield County, CT, was done in close collaboration with a landscape architect. The buildings take their position, dimension, and form from paving patterns that surround an existing pool; stone bands interrupted by wide grass joints, their rhythm and geometry projecting into the topography and detail of the surrounding landscape. The structures were conceived as simple sculptural volumes that would change in form and program with the season: during warm-weather months, the small buildings open to create enormous roofed sofas beneath a pleated and folded cloth canopy strung on a high-tension aircraft cable trellis; in the winter, translucent panels enclose the containers and accommodate storage of garden furniture.





In response to the constraints of a congested site and a tight schedule, on-site work on the buildings and canopy was dramatically compressed by prefabricating the building components in a workshop during the winter and early spring. Installed quickly and with minimal impact as finished modular components at the final stage of landscape construction, the reversal of the conventional construction sequence allowed the garden to be completed and functional for use during the summer.

The wood structure consists of a series of internal moment frames, cantilevered ribs fabricated from LVLs precut and unique to each leg of the frame. The legs were sistered and glue-laminated in an offset pattern to produce mortise and tenon joints at each moment connection. That joint was then glued and bolt connected to form a rib in the final profile for each of the loungers. This shaped frame, dimensionally calibrated for comfortable sitting and reclining, is clad in reharvested Atlantic white cedar, a material commonly used in this shoreline location for its resistance to decay. A demountable enclosure made from a lattice of Atlantic white cedar slats, gently bent in an undulating pattern along concealed steel rods with alternating spacers between the slats and mounted against an internal layer of translucent polycarbonate, provides protection to the loungers during the winter. Lit from within, the boxes transform into lanterns in the winter landscape, austere freestanding lamps that echo their function in warmer weather and the promise of summer months to come.

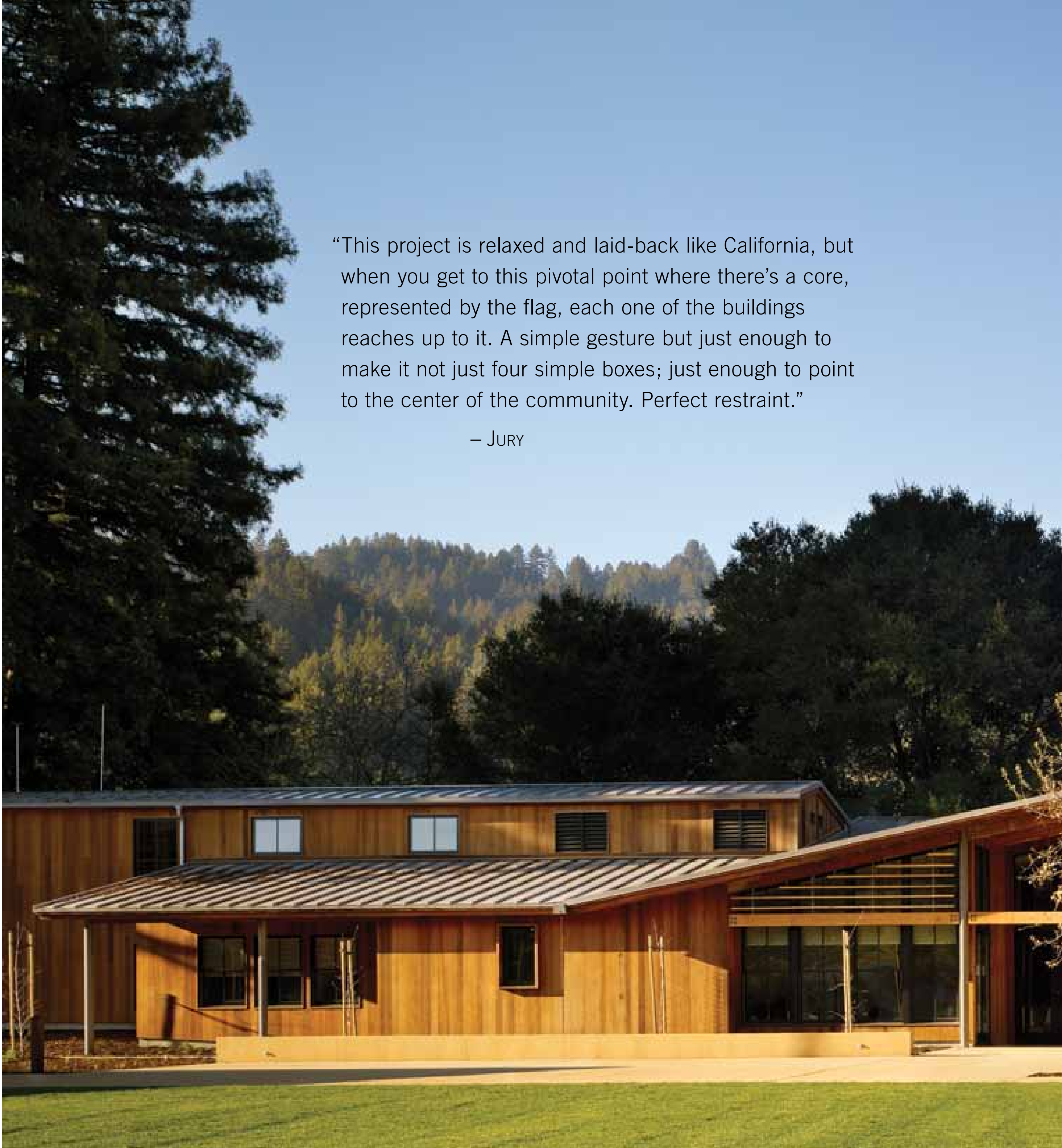
ARCHITECT
Gray Organschi Architecture
New Haven, CT

STRUCTURAL ENGINEER
Edward Stanley Engineers
Guilford, CT

GENERAL CONTRACTOR
JIG Design Build
New Haven, CT

LANDSCAPE ARCHITECT
Reed Hilderbrand
Watertown, MA

PHOTOGRAPHY
Gray Organschi Architecture
New Haven, CT



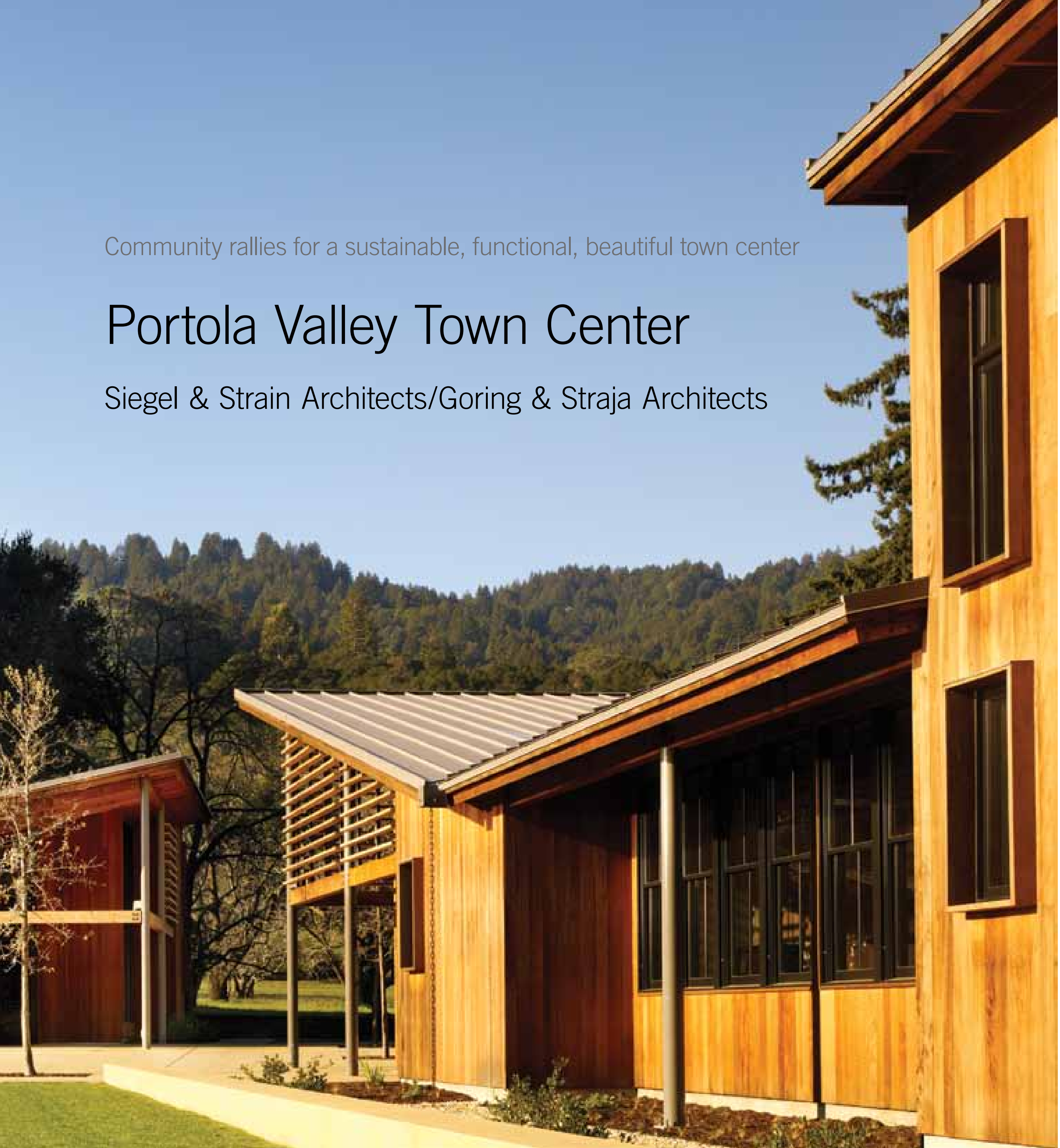
"This project is relaxed and laid-back like California, but when you get to this pivotal point where there's a core, represented by the flag, each one of the buildings reaches up to it. A simple gesture but just enough to make it not just four simple boxes; just enough to point to the center of the community. Perfect restraint."

– Jury

Community rallies for a sustainable, functional, beautiful town center

Portola Valley Town Center

Siegel & Strain Architects/Goring & Straja Architects



The Portola Valley Town Center, in the foothills of the Santa Cruz Mountains south of San Francisco, weaves together oak woodlands, playing fields and new buildings into a civic center designed around the town's goals: complement the natural beauty of the landscape in the most sustainable way possible. The design and placement of the buildings meet the functional needs while respecting the landscape and the town's simple, elegant aesthetic. This mutual respect, between the built and the unbuilt, the formal and the informal, is central to the ideals of the Town of Portola Valley and helped shape the design of the Town Center.

The town wanted to take advantage of the surrounding landscape, views and rustic feel. The complex is tucked between a redwood grove and an old walnut orchard and opens onto a town plaza and performance lawn that serves as the town's living room. Native riparian plants and a newly restored creek provide the fourth edge to the town green, symbolically and literally completing the connection between the town, open space and nature.

The site plan reflects the community's commitment to open space in all its forms and creates a variety of flexible outdoor spaces. By consolidating various programmatic elements – sports fields and native landscape – with the community hall, library and administrative offices, the design provides a venue for all of the town's public activities. This combination of civic, educational, cultural and recreational activities, while pragmatic and efficient, is emblematic of the way the town functions and reduced the buildings' footprint by 20 per cent.

The residentially scaled buildings maintain view sheds and recall the low-key, sometimes vernacular, sometimes contemporary, inviting nature of many of the area's homes. The community was involved throughout the design process, raising 80 per cent of the funding through private donations. The inclusive and open design process – based on truly reflecting residents' input and exemplifying the town's best stewardship ideals – was central to the success of the project.

FLOOR PLAN

1. reading room & collection
2. children's room
3. learning center
4. office
5. circulation desk
6. meeting
7. lobby & permit counter
8. kitchen
9. community room
10. activity room

SITE PLAN

1. library
2. town hall
3. community hall
4. maintenance building
5. maintenance shed
6. historic school house
7. restroom building
8. town plaza
9. performance lawn
10. daylit creek
11. native meadow
12. redwood stand
13. playground
14. oak grove
15. existing creek
16. central path

ARCHITECTS
Siegel & Strain Architects
Emeryville, CA

Goring & Straja Architects
Berkeley, CA

PROJECT/CONSTRUCTION MANAGER
TBI Construction & Construction Management
San Jose, CA

CIVIL ENGINEER
BKF Engineers
San Francisco, CA

STRUCTURAL ENGINEER
Forell/Elsesser Engineers
San Francisco, CA

MECHANICAL ENGINEER
Rumsey Engineers (now Integral Group)
San Jose, CA

ELECTRICAL
Integrated Design Associates Inc.
Santa Clara, CA

PLUMBING
Rumsey Engineers (now Integral Group)
San Jose, CA

LIGHTING
David Nelson & Associates
Littleton, CO

INTERIORS
Staprans Design
Portola Valley, CA

Pivot Interiors
San Jose, CA

LANDSCAPE
Lutsko Associates
San Francisco, CA

Carducci & Associates
San Francisco, CA

ENERGY CONSULTANT
High Sun Engineering (now Zep Solar)
San Rafael, CA

PHOTOGRAPHY
César Rubio Photography
San Francisco, CA

ÉCOLE MER ET MONTAGNE/Princeton, BC
McFarland Marceau Architects
Please see page 118

CITATION **Awards**

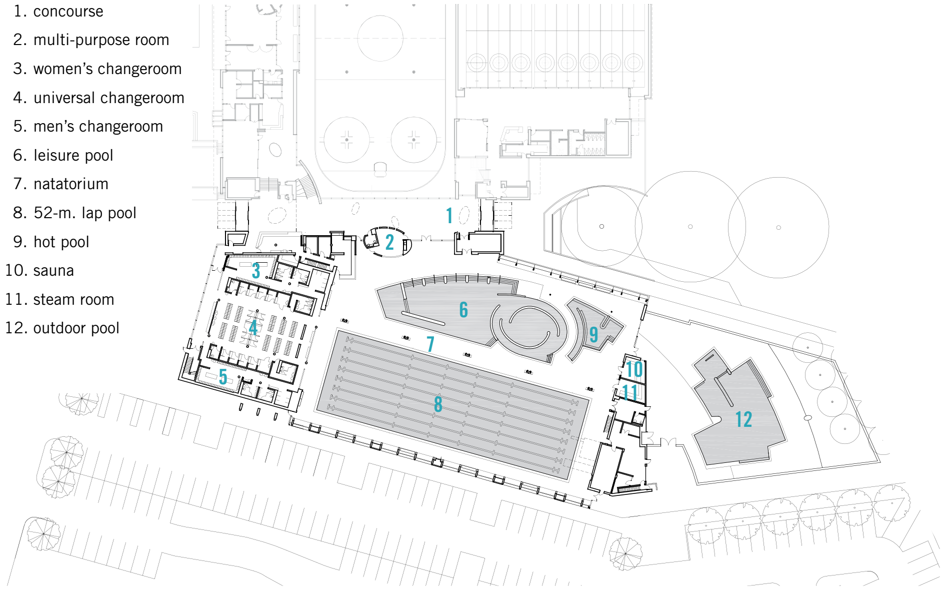
Aquatic Centre at Hillcrest Park

Hughes Condon Marler Architects

Large aquatic center draws on Douglas fir to impart friendliness and grandeur

"An heroic structure that clearly demonstrates the power and strength of glue laminated members. Its asymmetry relative to the direction of the pool adds nothing but strength. It's a nice way to use the depth of the structure. They've incorporated the mechanical systems that are often working at odds with the structure and here it's completely integrated and in fact, adds an element of color and materiality."

– Jury



FLOOR PLAN

The Aquatic Centre at Hillcrest Park replaces an existing community-scale pool on a neighboring site. The new center will serve the local neighborhood residents, but also act as a destination pool for the city at large.

The building's overall design needed to convey a sense of familiarity and friendliness to the local constituents and at the same time portray a grandeur and civic scale. The choice of wood for the Aquatic Centre was based on several criteria including wood's inherent sustainability (building with wood contributes positively to an overall reduction in greenhouse gas emissions and the mitigation of climate change), superior structural performance in humid conditions (wood's natural properties allow it to absorb and release moisture in order to maintain equilibrium with the adjacent air), recognition of its role as a regional material and its acoustic and visual qualities. By using wood as the primary structural and envelope element in the natatorium, the design imparts friendliness and grandeur at the same time.

The 6,200-sq.m. (66,500-sq.ft.) center includes a 50-m. lap pool, leisure pool, outdoor pool, steam room, sauna and hot tub. This center addresses the important relationships and inter-connections of key facilities in the city. Located near the geographical center of Vancouver, the facility carefully balances the needs of both the local community and broader city population. The Aquatic Centre at Hillcrest Park formed part of the new Vancouver Olympic/Paralympic Curling Centre, which is now undergoing its legacy conversion to a community center

(opening September 2011). During the 2010 Olympic and Paralympic Winter Games, this legacy community center was the main venue for curling events, while the aquatic center served as a marshalling area for the athletes.

The roof structure of the pool is made of 10½ x 41½-inch Douglas fir glulam beams at 12 ft. intervals, supporting 2½-in.-thick tongue-and-groove decking, and 5/8-in. plywood sheathing which acts as a diaphragm for shear resistance. The overall width of the building is 130 ft. and due to the limitations of truck transportations, each Douglas fir glulam beam had to be fabricated on site from two pieces. The curved roof lines help reduce its apparent scale and the large areas of glazing provide a visual connection to the surrounding park. At the east end of the building, the beams are supported on outwardly inclined Douglas fir glulam columns of similar cross-sections with steel V supports. This V support picks up the other end of the beams at approximately the 123-ft. point, leaving a cantilever of a further 20-ft. glazed west wall. The glulam beams are Forest Stewardship Council Certified and were site-finished with a low VOC finish.

Building materials were selected to ensure the aquatic center upheld the Vancouver Board of Parks and Recreation's ongoing commitment to sustainability. The facility was built to high environmental standards, targeting LEED Gold standard. Some of the environmental elements include: use of regional materials, including wood components, for construction; a 30 per cent reduction in water use due to harvesting rainwater for use in dual-flush, water-efficient toilets; the transfer of excess heat from ice slab cooling to heat the building; the use of certified and sustainable wood in glulam beams; and, the use of indoor materials, including wood products, that are low in VOC compounds and fumes and contain no urea formaldehyde.

ARCHITECT
Hughes Condon Marler Architects
Vancouver, BC

CLIENT
Vancouver Parks Board and Vancouver Olympic Committee for the 2010 Olympic and Paralympic Games
Vancouver, BC

STRUCTURAL ENGINEER
Reed Jones Christoffersen
Vancouver, BC

MECHANICAL/ELECTRICAL ENGINEER
Stantec Engineering
Vancouver, BC

GENERAL CONTRACTOR
Stuart Olsen Constructors
Vancouver, BC

LANDSCAPE ARCHITECT
PWL
Vancouver, BC

COST CONSULTANT
The BTY Group
Vancouver, BC

CODE CONSULTANT
LMDG Code Consultants
Vancouver, BC

PHOTOGRAPHY
Hubert Kang Photography
Vancouver, BC

House takes its cue from a covered bridge and surrounding natural landscape

Bridge House

Joeb Moore + Partners, Architects LLC

The Bridge House is located in Kent, Connecticut along a 300-ft. ridge that parallels the Housatonic River and Kent Falls State Park. The most obvious feature at the park is a series of falls and cascades. The overall experience of this dynamic ecological and geological system is the gradual and cascading flow of water and rock that seems to ebb and flow over time and slowly slide down past its more stable and rooted surroundings of trees, plants and earth. Impressions and observations of the falls and the more recent "historic covered-wood bridge" that now spans one of the falls served as inspiration and a starting point for the conceptual design of the Bridge House.

Translating and mirroring the slow geological flow of bedrock and the more

"It's a beautiful handling of wood and materials in the building and a strong idea."

– Jury

active currents and streams of water above, a broad conceptual site-building diagram and strategy where the building becomes a kind of vessel and bridge that appears to spring out of the natural landscape and sloping topography, were invented. As the house takes on form and volume, it turns and bridges across the very landscape that the house itself is anchored into. The house proper (the wood structure) sits above and is buttressed into the hillside on either side of the living/dining "bridge" by two opposing concrete foundation/buttress/chimney structures with dual "hearths."

The house form and its key "interlocking" interior space, the dual living-dining area are now open on both sides and turned parallel to the open meadow, the valley floor, and the Housatonic river below. The living-dining area and the vertical stair light wells are a wonderful example of a kind of camera lucida or viewing chamber that makes continuous adjustments of internal relations (functions, activities, rituals) with external conditions (natural site, views, changing weather, light, and air). It is at these moments, in these chambers, the house creates a life-world suspended between land and air.

It is hoped this feeling of suspension produces just enough of a "loose fit" and play between nature and convention for unexpected alliances to emerge. The house oscillates between a tree house, a campground and a cave all in one – in other words, a perfect vacation escape.

ARCHITECT
Joeb Moore + Partners, Architects LLC
Greenwich, CT

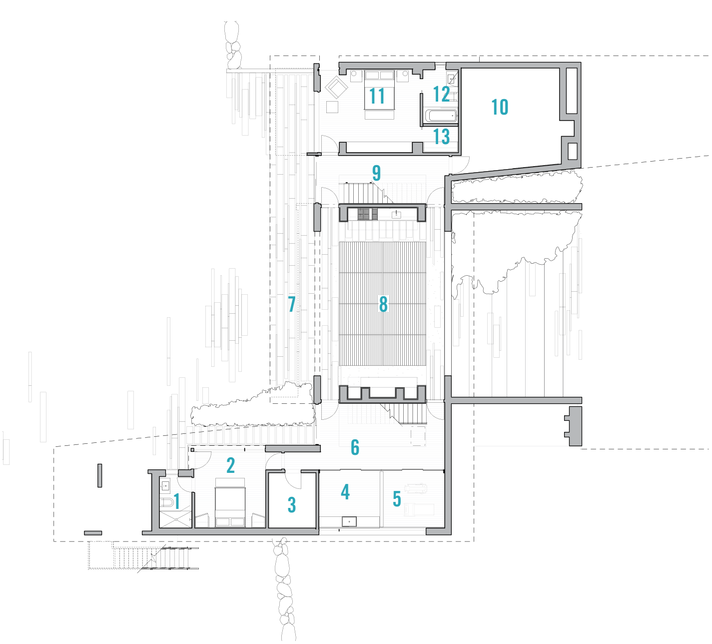
STRUCTURAL ENGINEER
Edward Stanley Engineers
Guilford, CT

GENERAL CONTRACTOR
Corporate Construction Inc.
New Milford, CT

LANDSCAPE ARCHITECT
Donald Walsh

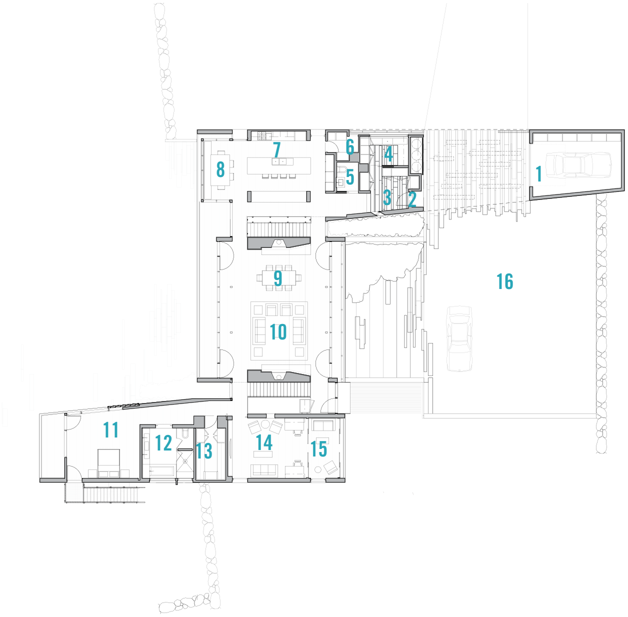
INTERIOR DESIGNER
Ann Nicholas
Alpine, NJ

PHOTOGRAPHY
David Sundberg/Esto
New York, NY



GROUND FLOOR PLAN

1. guest restroom
2. guest bedroom
3. mechanical closet
4. studio
5. exercise room
6. corridor
7. terrace
8. screened porch
9. corridor
10. mechanical room
11. guest bedroom
12. guest restroom
13. guest closet



FIRST FLOOR PLAN

1. garage
2. entry
3. mudroom
4. laundry room
5. powder room
6. pantry
7. kitchen
8. breakfast nook
9. dining room
10. living room
11. master bedroom
12. master bath
13. master closet
14. study
15. solarium
16. motorcourt


Vacation home brings together two families while maintaining the autonomy and distinct personality of each

CP Harbour House

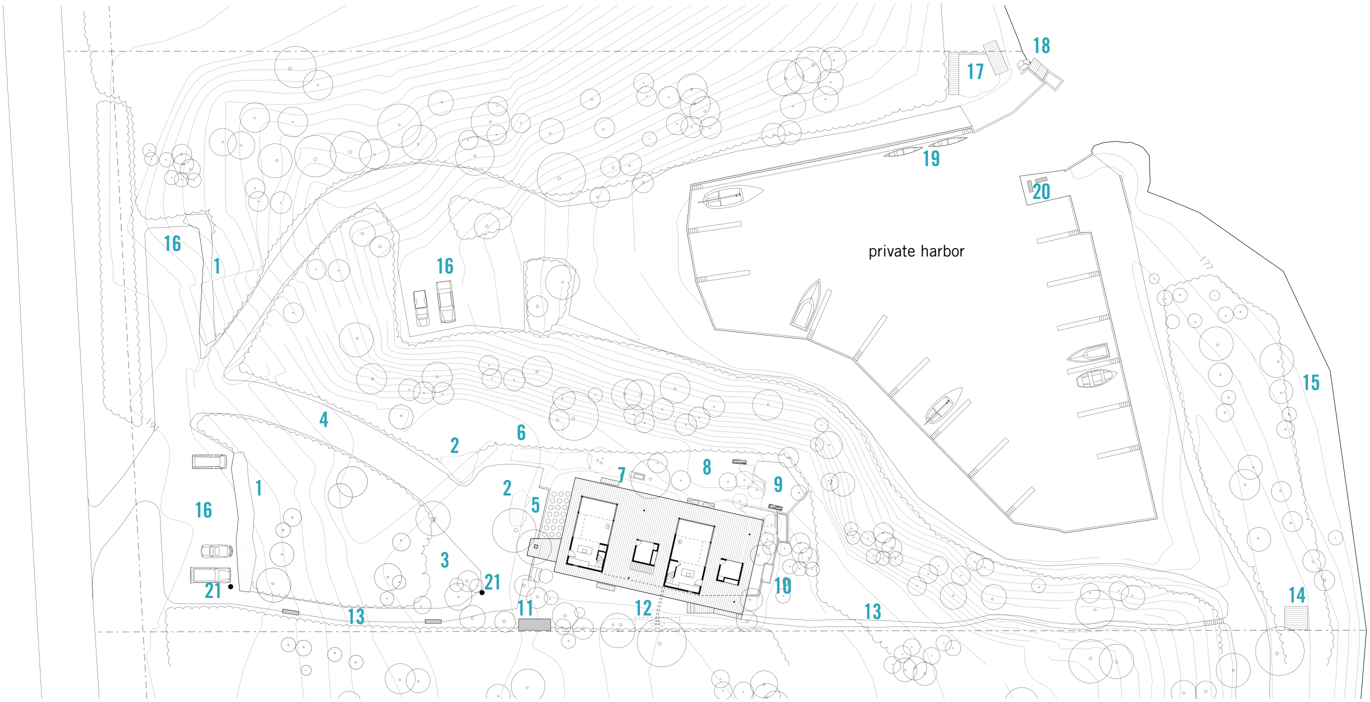
McMinn + Janzen Studio

The CP Harbour House is a vacation home accommodating two households on the shores of Georgian Bay north of Owen Sound, Ontario. Overlooking the limestone cliffs of the Niagara Escarpment on the Bruce Peninsula to the north, it hovers atop a small harbor, housing sail and motorboats that connect to nearby island cottages. The site and harbor was reclaimed in the 1980s from its former brownfield character as a disused gravel pit. Native plantings of pine and birch trees, sumac, edible varieties of berries and native ground cover have created an untended, natural quality to the immediate surroundings of the house and the larger site.

"I love the social possibility that this house sets up: Two dwellings on one floor that we assume two families share and there's this magical communal realm between the houses sandwiched between the roof and a big deck. Even though there's an inherent roughness to the detailing and some conditions aren't resolved, that supports the informal atmosphere that a house like this has to have."

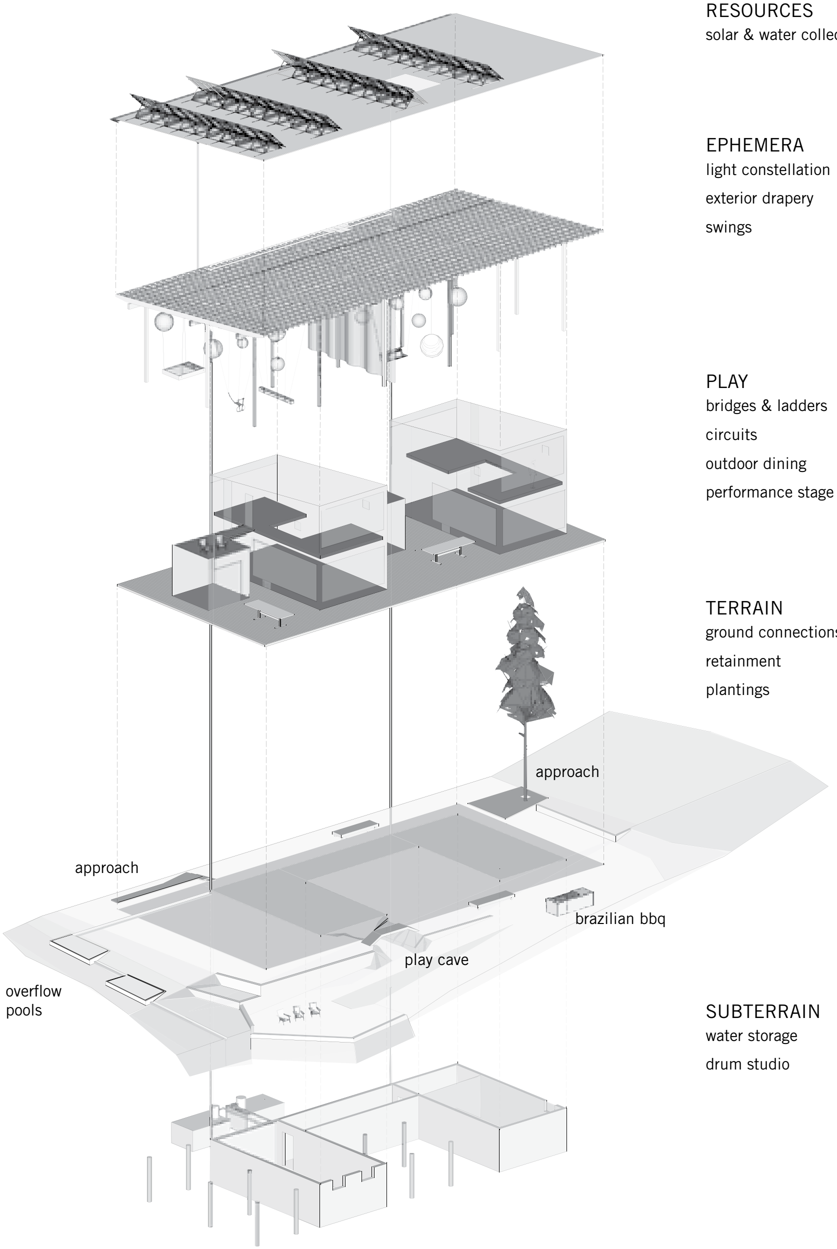
– Jury

The building is an assembly of four discreet enclosures linked by an expansive deck and roof. Mirrored double-story cabins are flanked by smaller guest bunkies, providing autonomy to the two diversely programmed households: one an intensely social gathering place with a distinctly Latin vibe; the other more cerebral, with a focus on playscapes for young children. A less-is-more philosophy informs the building character, with



SITE PLAN

1. raspberry bushes
2. Saskatoon berry bushes
3. septic field
4. gravel laneway
5. vegetable and herb garden
6. strawberry patch
7. brazilian bbq
8. shade herbs
9. locally quarried stone patio
10. cistern water overflow (phase II)
11. woodshed
12. water collection cisterns
13. footpath through bushes
14. tenting platform
15. natural rocky beach
16. harbor parking
17. sand
18. play beach
19. canoeing and rowing shell launch
20. harbor seating
21. electric car charging station



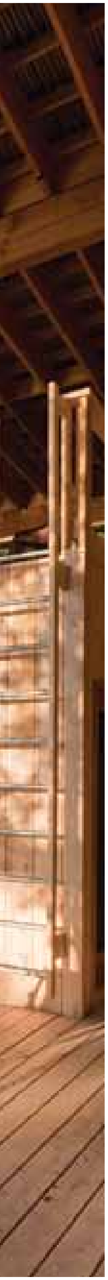
RESOURCES
solar & water collection

EPHEMERA
light constellation
exterior drapery
swings

PLAY
bridges & ladders
circuits
outdoor dining
performance stage

TERRAIN
ground connections
retainment
plantings

SUBTERRAIN
water storage
drum studio



untreated wood left to naturally weather and framing selectively left exposed celebrating the raw aesthetic of the structure. The interior areas are modest; tightly planned for snug winter accommodation, contrasted in summer with greatly enlarged outdoor living, dining and entertaining spaces, under the sweeping expanse of the roof. The totemic temple-like quality of the post and beam structure provides a flexible armature for hanging seats, swings, beds and lanterns, amplifying both the social events and play functions of the program, the latter which includes multiple 3D circuits for the kids, including stairs, bridges, ramps and ladders.

Careful site integration based on building orientation and configuration is guided by the aim for carbon neutrality, achieved through the efficient shared infrastructure of water, sewage and electrical systems, optimized passive heating, cooling and ventilation, wood burning heat, Energy Star heat recovery ventilators and appliances, and a large photovoltaic array feeding back into the electrical grid with planned use of electric vehicles for the commuting households. In addition, new and recycled building materials and systems were selected with an agenda of low embodied energy. These include locally derived materials for earthen floors, locally harvested cedar decks and siding, recycled thermal glazing, high-efficiency SIPs for the roof, and mineral wool and soy-based eco foam wall insulation. The sustainable building systems include roof-based rain water collection, solar voltaics and solar hot water for in-floor heating in conjunction with retro second-hand 1970s Norwegian wood burning stoves. Additional recycled materials include billiard table slates for countertops, and salvaged marine canvas from a bankrupt Roots garment factory, used for balustrades and privacy screens, in conjunction with other green materials such as linoleum flooring and bamboo cabinets and shelving. The project tries to face head-on the inherent conflict for sustainably conscious recreational property owners, using a reclaimed brownfield site, and net zero building and transportation.

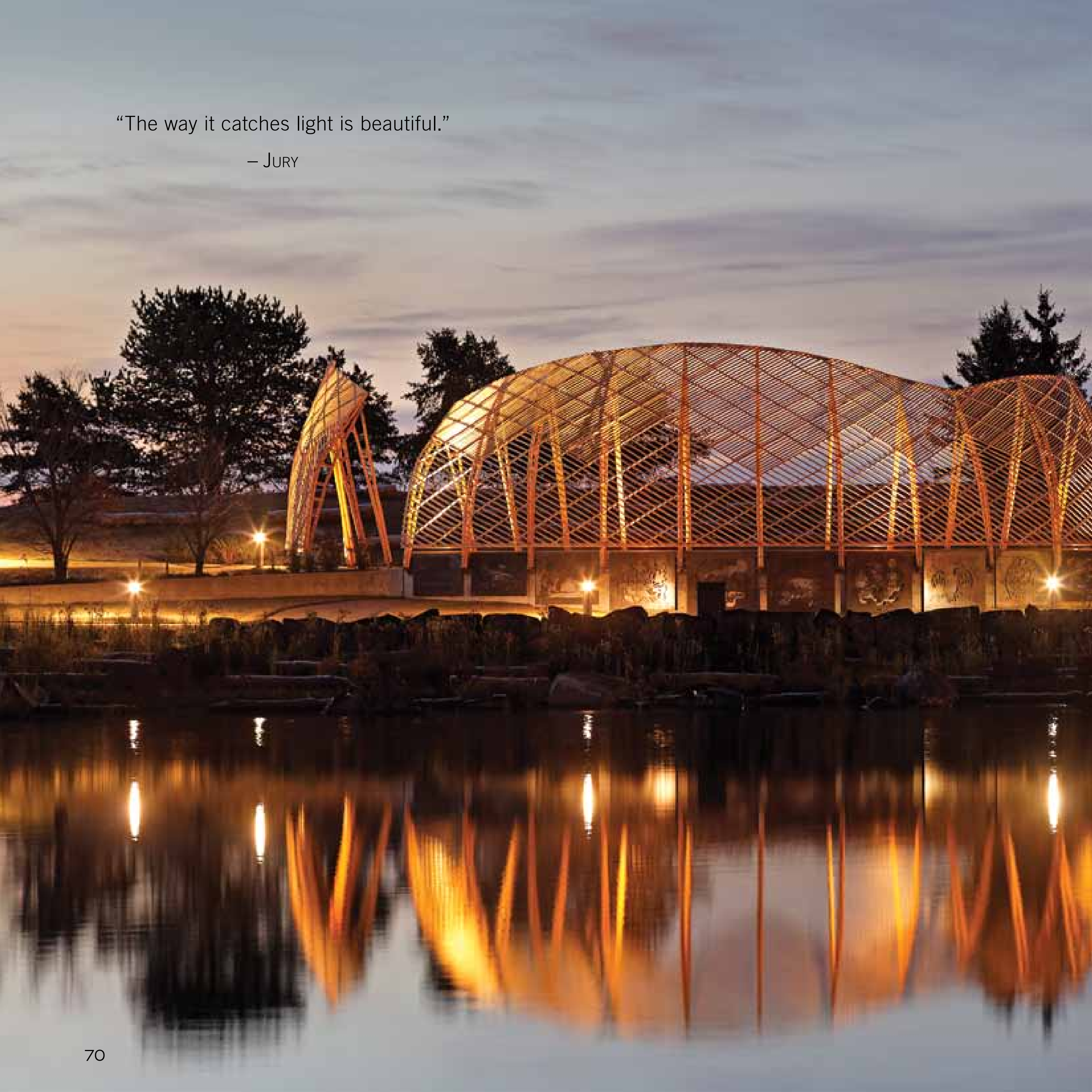
ARCHITECT
McMinn + Janzen Studio
Toronto, ON

CLIENT
2077516 Ontario Ltd.
Toronto, ON

STRUCTURAL ENGINEER
Blackwell Bowick Partnership Ltd.
Toronto, ON

BUILDER
Ken Burrows and Son
Owen Sound, ON

PHOTOGRAPHY
Terence Tourangeau
Toronto, ON



"The way it catches light is beautiful."

– JURY

Open-air pavilion connects to the earth
with locally harvested wood trusses

The Gathering Circle

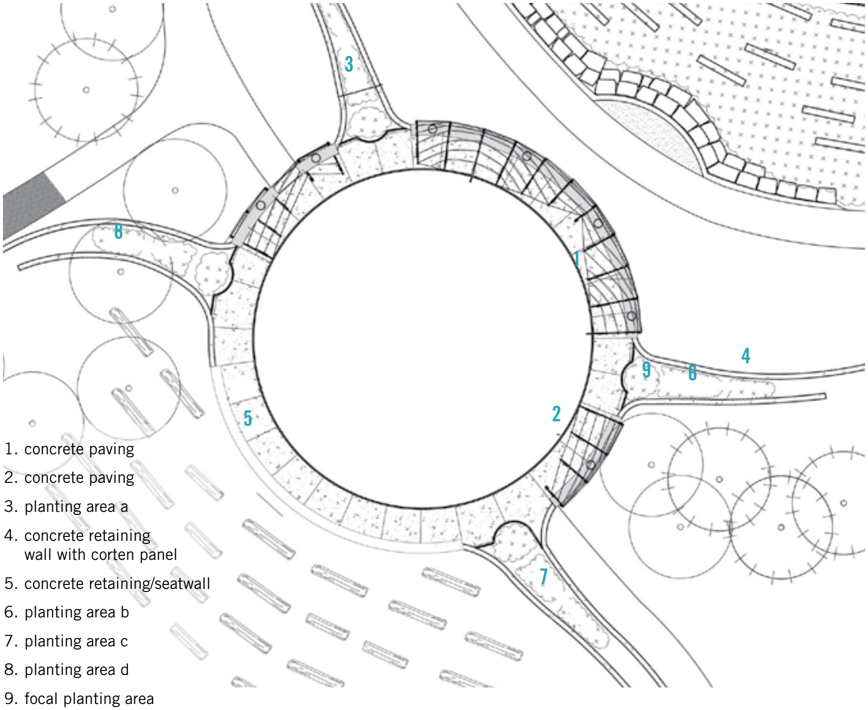
Brook McIlroy Architects

The Gathering Circle is an open-air pavilion located within the Spirit Garden at Prince Arthur's Landing on Thunder Bay's downtown waterfront. The Spirit Garden is a headland extending into Lake Superior and is one component of a larger revitalized public park. The Gathering Circle is the main structure within the Spirit Garden, and gives expression to the deep cultural and historic roots that link Aboriginal peoples to the Lake Superior shoreline.

The Circle's design reflects an adaptation of a traditional Aboriginal bentwood building technique, using modest means of construction and sustainable building practice. Spruce trees were harvested in the spring by a local Aboriginal craftsman and were bent and lashed to create 20 arched, truss-like column supports. The trusses were installed around the Circle and clad with a lattice of laminated local cedar, creating a semi-enclosed shroud over the structure. The platform is a drum-shaped concrete retaining wall that also provides seating for viewers into the Circle. Four landscape elements extend from the circle orienting the Gathering Circle and reinforcing the symbolism of the turtle when viewed in plan or from the sky. A main pedestrian path connects with the Circle's archway entrance at the cardinal east and west points inviting visitors in, while a footpath circulates underneath and between the 20 bentwood arches. The pattern echoes imagery associated with Anishinabe woodland art. The design was created as a collaboration between Brook McIlroy and a young Aboriginal intern architect/artist, Ryan Gorrie from Thunder Bay. The exterior north wall of the Circle is lined with 10 weathering steel laser-cut panels designed by local Aboriginal artist Randy Thomas.

The Gathering Circle tucks into the south hillside of the Spirit Garden landscape providing a natural amphitheater configuration with large, reclaimed ash tree logs draped across the hillside, providing seating and an elevated view into the Circle. The shroud is a "light-catcher," a patterned surface of overlapping, divergent planes that enables views through its wooden frame onto the adjacent waterfront as well as the city's downtown. By night, a network of soft lighting highlights the curved, luminous shell form that can be seen from many vantage points throughout the city. The cedar shroud transforms depending on the season and time of day – reflective of the profound beauty and spiritual resonance of Lake Superior's north shore.

Thunder Bay has a significant Aboriginal population, yet the presence of this founding culture (which has inhabited this shoreline for 9,000 years) in the fabric of the cityscape is virtually invisible. The design of the Circle evolved from a series of workshops hosted by the city that drew



SITE PLAN

ERECT BENT WOOD TRUSSES

ASSEMBLE TOP & BOTTOM RAILS

ASSEMBLE LOWER SUBSTRUCTURE

ASSEMBLE UPPER SUBSTRUCTURE

together community representatives from Fort William First Nation, communities of the Robinson Superior Treaty and Red Sky Métis. The Gathering Circle gives expression to a rich culture and strives to serve as a common ground – a place of meditation, mediation and celebration – gathering together all cultures. The 80-ft. diameter space provides the city's residents and visitors with an event space for ceremonies, blessings, music, storytelling, theater and gatherings. The Gathering Circle reflects Aboriginal concepts of inclusion, peaceful co-existence and respect for the natural world created through adaptations of traditional building methods.

ARCHITECT
Brook McIlroy Architects and Ryan Gorrie
Toronto, ON

STRUCTURAL ENGINEERING
Blackwell Bowick Partnership Ltd.
Toronto, ON

GENERAL CONTRACTOR
Wilco Superior Contractors Inc.
Thunder Bay, ON

CONSTRUCTION OF BENTWOOD TRUSSES
George Price

BENTWOOD TRUSS INSTALLATION AND EXTERIOR CEDAR CLADDING
Man-Shield Construction
Thunder Bay, ON

ARCHITECTURAL CONCRETE AND FOUNDATION/ RETAINING WALL
KA Vanderzwaag Construction Inc.
Thunder Bay, ON

LANDSCAPE LIGHTING
Prezio Electric
Thunder Bay, ON

PHOTOGRAPHY
David Whittaker
Toronto, ON

"It is masterfully detailed and finished and makes a beautiful retreat within the garden and pool space of this house."

– Jury

Natural materials allow pavilion to blend with organic environment and surrounding woodlands

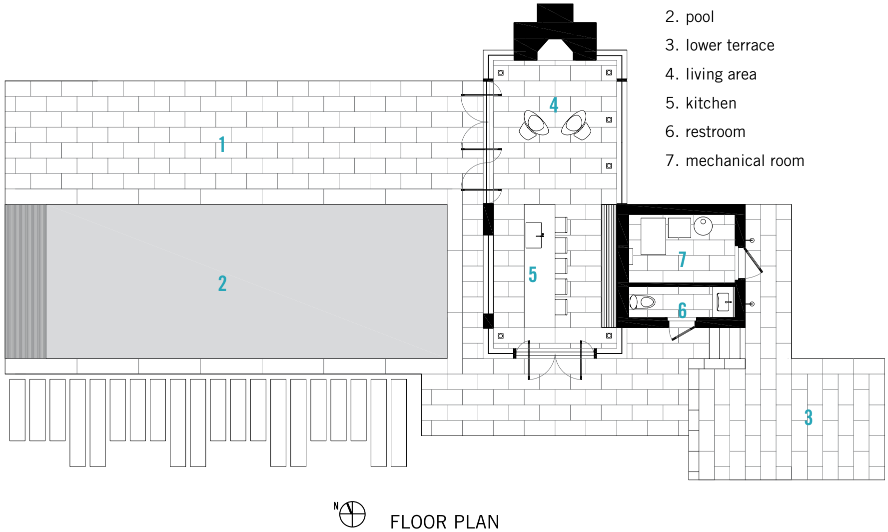
Nevis Pool and Garden Pavilion

Robert M. Gurney

Located in a neighborhood bordering Washington, DC, this suburban site has the advantage of being located adjacent to woodlands. A contemporary house surrounded by mature trees and manicured gardens anchors the site. A new swimming pool, stone walls, and terraces located behind the existing house organize the rear yard and establish a dialogue between the existing house and new pavilion. New paths, trees and structured plantings reinforce the geometry.

The new pavilion, intended for year-round use, is strategically located to provide a threshold between the structured landscape and adjacent woodland. A low-pitched, terne-coated stainless steel roof floats above a dry-stacked slate wall and mahogany volume. Five steel-framed glass doors along with frameless glass walls and mitered glass corners enclose the space, creating an environment that is surrounded by views of the structured landscape, pool and the adjacent woodland. The doors pivot to open the space much of the year while a large Rumford fireplace and heated floors provide a cozy counterpoint in winter months.

The interior contains a stainless steel kitchen component with seating, along with a small living space anchored by the fireplace. The bluestone flooring, stone and mahogany walls, and Douglas fir ceiling create a warm, natural space. This new pavilion is intended to provide shelter from the harsh natural elements while simultaneously allowing the occupant to enjoy both the beautifully structured garden and the native, natural surroundings.



1. upper terrace
2. pool
3. lower terrace
4. living area
5. kitchen
6. restroom
7. mechanical room

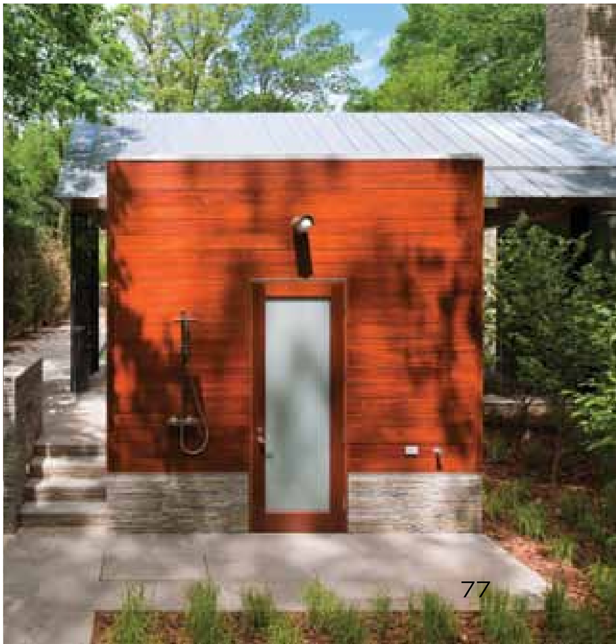
ARCHITECT
Robert M. Gurney, FAIA, Architect
Washington, DC

PROJECT ARCHITECT
John Riordan

ENGINEER
D. Anthony Beale LLC
Springfield, VA

CONTRACTOR
Peterson & Collins
Washington, DC

PHOTOGRAPHY
Maxwell MacKenzie Architectural Photographer
Washington, DC



Wood links nature, architecture and imagination in this inspiring home on the sea

Two Hulls House

MacKay-Lyons Sweetapple Architects

"I like the way the wood is interpreted in the interior of the building. There are very furniture-like aspects; the notion of stairs that are also storage drawers or a chest of drawers, and this animated, playful aspect inside the house as well."

– Jury

Two Hulls House is situated in a glaciated, coastal landscape, with a cool maritime climate. The geomorphology of the site consists of granite bedrock and boulder till, creating pristine white sand beaches and turquoise waters. The two pavilions float above the shoreline like two ship's hulls up on cradles for the winter, forming protected outdoor places both between and under them.

This is a landscape-viewing instrument; like a pair of binoculars, first looking out to sea. A third transverse "eye" looks down the coastline and forms a linking entry piece.

A concrete seawall on the foreshore protects the house from rogue waves.

This is a full-time home for a family of four, consisting of a day pavilion and night pavilion. One approaches from the understated land side between the abstract, library ends of the two pavilions; then either passes through toward the sea, or left into the living pavilion, or right into the sleeping pavilion. One structure contains a central core, while the other contains a side core. The seaward ends of the two main forms (living and master bedroom) delaminate, creating protected outdoor porches, or night time "lanterns" over the water. The third linking form contains the generous entry foyer, core and the kitchen. The great room contains a floating 30-ft. totemic hearth.

This is a steel frame house with a wood skin. Its white, steel endoskeleton resists both gravity loads and wind uplift. The 32-ft. cantilevers and concrete fin foundations invite the sea to pass under without damage. The wooden rain screen consists of 8-in. vertical, board-on-batten on the two "hulls," while the linking piece is a monolithic block of weathered wood inside and out, clad in 4-in. horizontal shiplap. The lantern ends dematerialise by eliminating the 1-in. channel joints.

The fenestration of the "binocular" ends is minimalist curtain wall with structural silicone. The side elevations contain storefront glazing. The concrete floors contain a geothermally heated hydronic system.

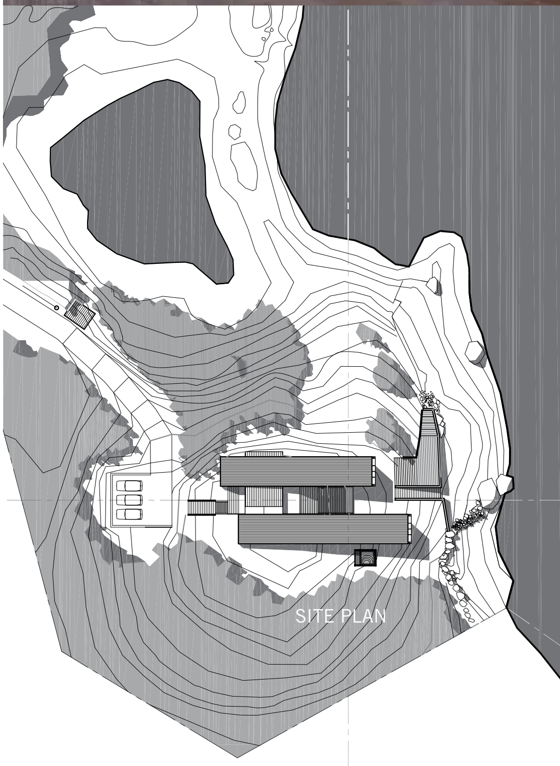
This sculptural, yet calm and mature project contains generous white volumes on the interior and exhibits the ironic monumentality of boats on the exterior.

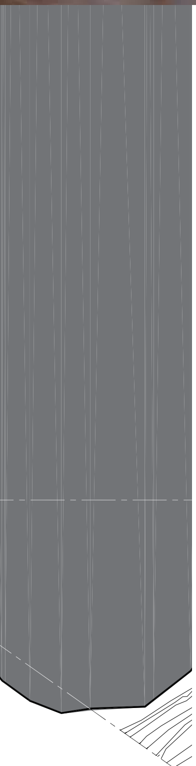
ARCHITECT
MacKay-Lyons Sweetapple Architects
Halifax, NS

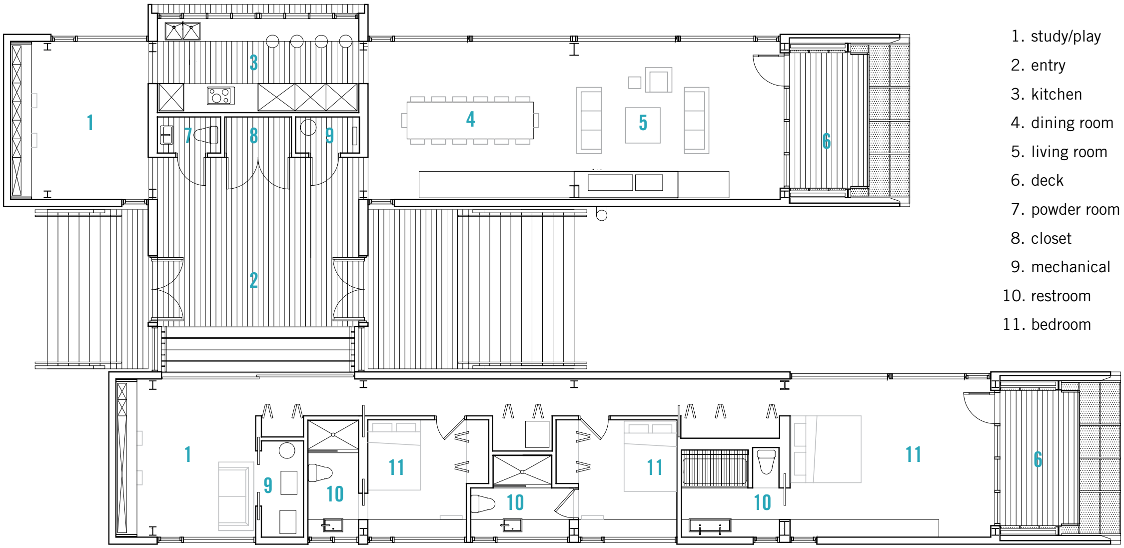
STRUCTURAL ENGINEER
Campbell Comeau Engineering Limited
Halifax, NS

GENERAL CONTRACTOR
Delmar Construction
Yarmouth, NS

PHOTOGRAPHY
Greg Richardson







FLOOR PLAN

1. study/play
2. entry
3. kitchen
4. dining room
5. living room
6. deck
7. powder room
8. closet
9. mechanical
10. restroom
11. bedroom

NON-RESIDENTIAL

ÉCOLE AU COEUR-DE-L'ÎLE/Vancouver, BC

McFarland Marceau Architects

Please see page 128

"We really wanted to commend this series of buildings because we find it outside of the usual parameters of a design awards program... The Ghost Campus epitomizes a life mission. This architect is not just an architect, but a teacher who has created this compound of buildings which really are about experimenting and teaching young architects not only to design, but to build and make things with wood. It is his legacy."

– Jury

Innovative international architectural education center focuses on the timeless architectural values of place, craft and community

Ron Thom Award

Ghost Campus

MacKay-Lyons Sweetapple Architects

The Ghost Laboratory is sited at the LaHave River estuary on Nova Scotia's Atlantic coast, where Samuel de Champlain made his first landfall in the new world in 1604. This landscape was recleared from forest by the architect over the past 25 years, revealing its historic ruins and 400 years of agrarian history. Since 1994, the Ghost Lab is an international architectural education center in the tradition of Frank Lloyd Wright's Taliesin or Samuel Mockbee's Rural Studio.

It has also functioned as the 1:1 research laboratory for MacKay-Lyons Sweetapple Architects, focusing on the timeless architectural values of place, craft and community. As a result of this research agenda, these Ghost projects can be viewed as either a series of landscape studies, experiments in wood construction, or as community design. From an educational perspective, the Ghost Lab has involved a collaborative, hands-on learning process.

The resulting campus is an expression of utopian architectural ambitions despite being constructed with modest

means. From an environmental perspective, the campus is a relatively dense compound, conserving the surrounding landscape for agriculture. The courtyard makes a south-facing microclimate which complements the passive solar structures. All structures are constructed of local technology and local renewable materials from nearby sawmills. The court refers both to the environmental common sense of the simple barnyard and a proto-urban aspiration. By "listening" to the site's rich history and local material culture traditions, yet "willing" buildings which are clearly modern, the Ghost Lab is a built critical regionalist argument.

ARCHITECT
MacKay-Lyons Sweetapple Architects
Halifax, NS

STRUCTURAL ENGINEER
Campbell Comeau Engineering Limited
Halifax, NS

GEOTECHNICAL ENGINEER
Terrain Group Incorporated
Dartmouth, NS

GENERAL CONTRACTOR
Gordon MacLean

PHOTOGRAPHY
Nicole Delmage
Steven Evans
Brian MacKay-Lyons
Steph MacKinnon
Kristen Nakamura
Chris Oxner
Manuel Schnell
James Steeves

The “Spirit of Montauk” comes alive in this private residence

Residential Wood Design

Genius Loci

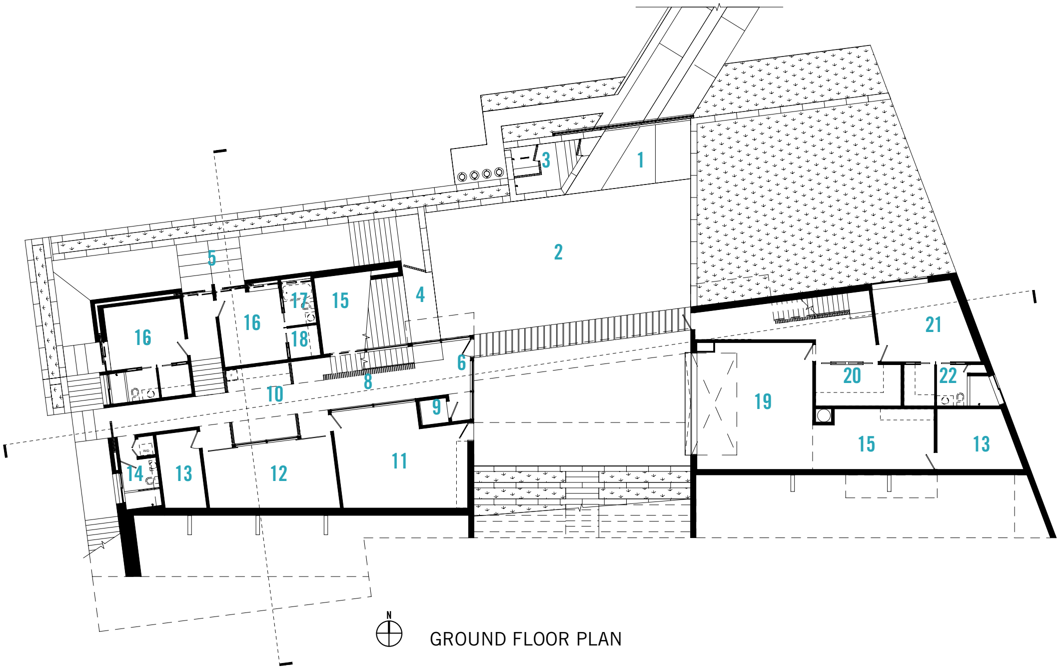
Bates Masi Architects

Montauk, New York, may appear to be like any other small seaside community upon first glance, however, it possesses unique characteristics that imprint lasting memories. The weather is unpredictable with banks of heavy fog and gusty winds. History is closer to folklore than truth with stories of the Montauk Project Conspiracy, German Submarines and most recently, the Montauk Monster. Structural remnants of the past such as a radar tower and bunkers are scattered throughout the landscape. Socially, there is a seasonal migration and mix of economic classes. The clients could have chosen to vacation anywhere in the world, but were lured to Montauk by the characteristics that make it unique from other areas. These characteristics embody the "Spirit of Montauk" and the clients challenged the architect to design a house that would embody and capture this spirit in the architecture.

The house responds to the site context and strengthens the "spirit of place." Formerly a horse ranch, the rolling green pasture of the site is located at one of the highest elevations in Montauk. The extensive program is terraced and embedded into the steep slope of the hill without compromising access to the exterior or natural light. Approaching from the south, the house appears to be two modest and separate one-story ranch houses. Circling around to the north, the house unfolds to reveal a more extensive project. In this case, the conventional Montauk building typology of the low-pitched gabled roof is modified by the geometries of the allowable building envelope and height restrictions of the site. The geometric anomaly is apparent upon entry and it is clear that the ridge is offset and the walls converge, directing one's view west to the lake. The optical illusion caused

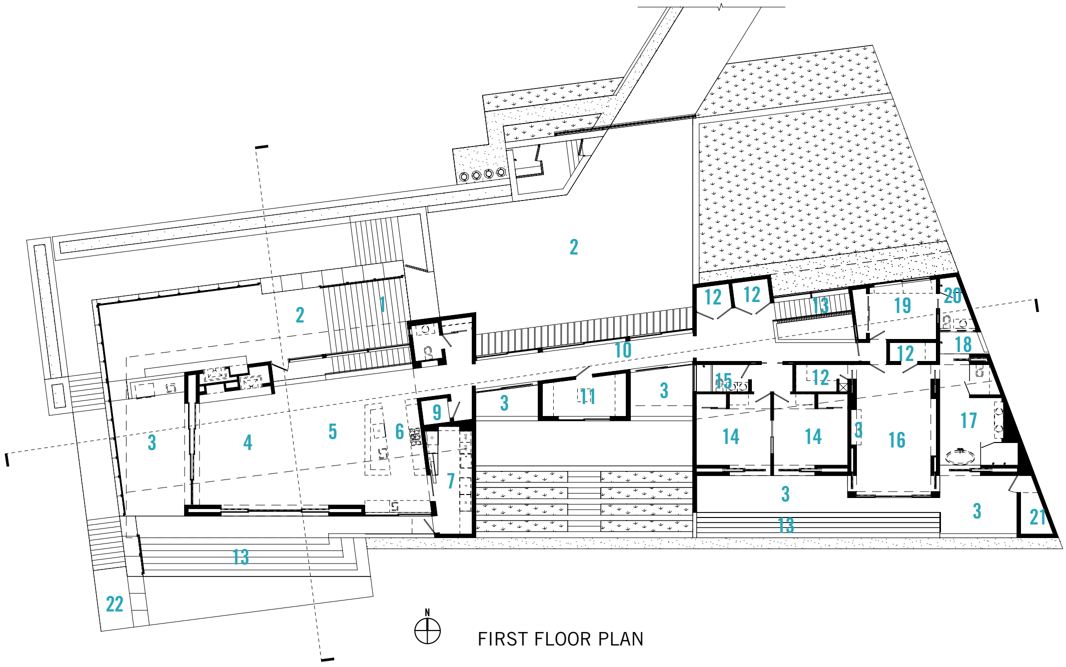
by the parabolic roof is visible on the south side and entices a second look, as do numerous other details.

Architectural details throughout the house occur at unexpected moments. A wood screen covered bridge unifies the two separate cedar shingle clad volumes, allowing light into the grass paver courtyard below. The cedar screen of the bridge reads differently from day to night. It appears flat during the day, but as darkness falls, light seeps out in an undulating pattern showing the wedge shape cut in the back of the boards. In front of several clerestory windows, a milled bluestone screen is similarly detailed. The stone appears weightless as alternating stones are removed from the stone wall pattern to let light into the guest area. These details reinforce the larger idea of capturing the unexpected.



GROUND FLOOR PLAN

1. driveway
2. parking
3. outdoor shower
4. entry stair
5. walkway
6. vestibule
7. stair
8. hall
9. elevator
10. common area
11. playroom
12. gym
13. mechanical
14. pool bath
15. storage
16. guest room
17. guest bath
18. closet
19. garage
20. laundry
21. maid's room
22. maid's bath



FIRST FLOOR PLAN

1. entry stair
2. entry
3. deck
4. living room
5. dining room
6. kitchen
7. butler's pantry
8. powder room
9. elevator
10. bridge
11. office
12. closet
13. stair
14. kids' room
15. kids' bath
16. master bedroom
17. master bath
18. outdoor shower
19. guest room
20. guest bath
21. storage
22. walkway

There is no prescribed path of circulation for the occupant, encouraging different encounters much like the social experiences of Montauk. One can enter beneath the bridge that frames the sky beyond and up a series of terraced planter steps revealing the pastoral rolling hills and ocean in the distance. This path draws a visitor directly into the landscape bypassing the house. One can also climb the exterior entry stair that directly connects to the interior stair, separated by a wall of glass, choosing to enter into the house or continue the journey to the outdoor fireplace, dining area and pool. A guest staying at the house can privately come and go by a stone terrace that wraps the exterior of the guest area from the entry courtyard around to the pool without having to enter the house. The exploration resulting from unique circulation yields a different memorable experience for everyone.

The house celebrates the "spirit of place" of where it is located. With the rise of technology and rapid transmission of information through the Internet, the identity of place can be lost. This project explores regionalism and the project evolved from the community in which it is located.

ARCHITECT
Bates Masi Architects
Sag Harbor, NY

CLIENT
Rick and Alicia Scanlon
Montauk, NY

STRUCTURAL ENGINEER
Steven L. Maresca
Hampton Bays, NY

GENERAL CONTRACTOR
Davis Builders
Montauk, NY

PHOTOGRAPHY
Michael Moran
Brooklyn, NY


MAIN ENTRANCE

Canadian Wood *WORKS!* Awards

Canadian Wood *WORKS!* Awards

These are exciting times for wood design. Ongoing technical innovation has resulted in stronger, smarter, and more versatile wood products and systems that are being enthusiastically embraced by building and design communities around the globe. As a result, we are witnessing the advent of an incredible new generation of wood buildings.

Across Canada, wood products and systems are being used in an ever-increasing array of building types and applications. This is an encouraging development because the structural, environmental and socio-economic benefits of wood construction are so significant. Design and construction solutions that incorporate sustainably sourced wood products significantly lower the carbon footprint of any building, reduce our dependence on non-renewable materials and fossil fuels, decrease construction costs and provide warm, beautiful, human-centered environments that people love.

It is our privilege to present the winners of the 2011-12 Ontario, British Columbia and Prairie Wood Design Award programs. The innovative teams responsible for these projects are advancing the science and art of wood design and building. They have explored wood's potential and showcased its strength, beauty and versatility in their work.

Each project in this remarkable collection demonstrates how using wood makes buildings better and helps communities realize their visions for the future. We congratulate the winners for their leadership and pursuit of wood design excellence, and invite you to join us in being amazed and inspired by the achievements celebrated in the pages ahead.

Marianne Berube
Executive Director
Wood *WORKS!*
Ontario

Mary Tracey
Executive Director
Wood *WORKS!*
British Columbia

Brady Whittaker
Executive Director
Wood *WORKS!*
Alberta

Jurors

JOHN ALLAN
CEO
Council of Forest Industries
www.cofi.org

REZA VAZIRI, PH.D., P.ENG.
Professor and Head
Department of Civil Engineering,
University of British Columbia
www.civil.ubc.ca

GREG JOHNSON, MAIBC, MRAIC, P.ENG., LEED AP
School of Architecture &
Landscape Architecture,
University of British Columbia
www.sala.ubc.ca

SCOTT WOLF, AIA, LEED AP
Partner
The Miller Hull Partnership,
LLP, Seattle, WA
www.millerhull.com

STEVEN KUAN, PH.D., P.ENG., FEC
Senior Seismic Engineer
Office of Housing and
Construction Standards, Ministry
of Energy and Mines and Minister
Responsible for Housing with the
Government of British Columbia
www.gov.bc.ca/ener

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Natural Resources Canada / Ressources naturelles Canada

BRITISH COLUMBIA

Gulf Islands Residence & Boat House and Nike Football Training Centre

RUFproject

ARCHITECT

A private residence and a community football training centre showcase an architect's responsive, innovative wood designs

GULF ISLANDS RESIDENCE & BOAT HOUSE

The design of this private residence responds to the client's desire to build a "modern log cabin" on a precious 3.1-acre oceanfront property. The client was torn between the idea of the rustic Canadian log cabin and the desire for a glass house. Through the use of a highly expressive structure, expanses of glass and a simple and minimal material palette, the project took this challenge as its fundamental concept, striving to reconcile the rustic with the modern in its form, materiality and organization.

There was a conscious decision to root the design of the house in the local tradition of First Nation's longhouse construction and the West Coast style as pioneered by B.C. Binning, Robert Berwick, Ned Pratt, Ron Thom, Fred Hollingsworth and Arthur Erickson. Post and beam construction, exposed timber structural members, extensive glazing, open floor plans, the integration of interior and exterior, wood finishes, flat roofs, orientation to views and a delicate integration with a natural setting were carefully integrated while confidently pushing the design into a new and innovative direction.

Surrounded by 80 acres of forest, and set within an apple orchard cleared and planted at the beginning of the century, the setting for the house is dramatic with respect to its natural features, topography and unimpeded panoramic views of the Strait of Georgia and beyond. A critical design imperative was to bring the experience of the outside in, creating a seamless experience between the house and the landscape.

The house has been sited predominantly on the location of the previous house to minimize the impact on the site, though sited slightly lower on the hill and further from the water location to minimize the visibility to and from the neighboring homes. A new garage and workshop is located behind the largest hill, surrounded by existing trees, to minimize its visual impact.

The design and organization of the house allows for a refined open plan flow of spaces, with carefully located divisions created through the necessary shear walls to resist seismic forces and provide structural rigidity. Nearly every wall in the house performs a structural task and simultaneously has been carefully positioned to act as a spatial divider. The tightly knit integration of architectural and structural design was only possible through a highly collaborative design process with the engineering consultants. The intent was to create an experience such that when living in the house, there is a feeling of simplicity, calm and beauty, where the house and landscape are one and the boundaries of inside and outside are blurred.

The design of the house is an attempt to make the complex appear simple, representing an intricate and complex balance of aesthetics, emotion, structure, material, landscape and sustainability in a simple and integrated whole.

ARCHITECT
RUFproject
Vancouver, BC

STRUCTURAL ENGINEER
Parallel Consulting Structural Engineers Ltd.
Vancouver, BC

MECHANICAL ENGINEER
Jade West Engineering Co. Ltd.
Surrey, BC

GEOTECHNICAL ENGINEER
Braun Geotechnical Ltd.
Surrey, BC

GENERAL CONTRACTOR
H.Hazenboom Construction Ltd.
Salt Spring Island, BC

BUILDING ENVELOPE CONSULTANT
Richard Kadulski Architect
Vancouver, BC

MILLWORK
Canadian Bavarian Millwork & Lumber
Chemainus, BC

PHOTOGRAPHY
Ivan Hunter Photography Inc.
Vancouver, BC

1. tennis courts
2. garage
3. house
4. wood platform
5. forest

SITE PLAN

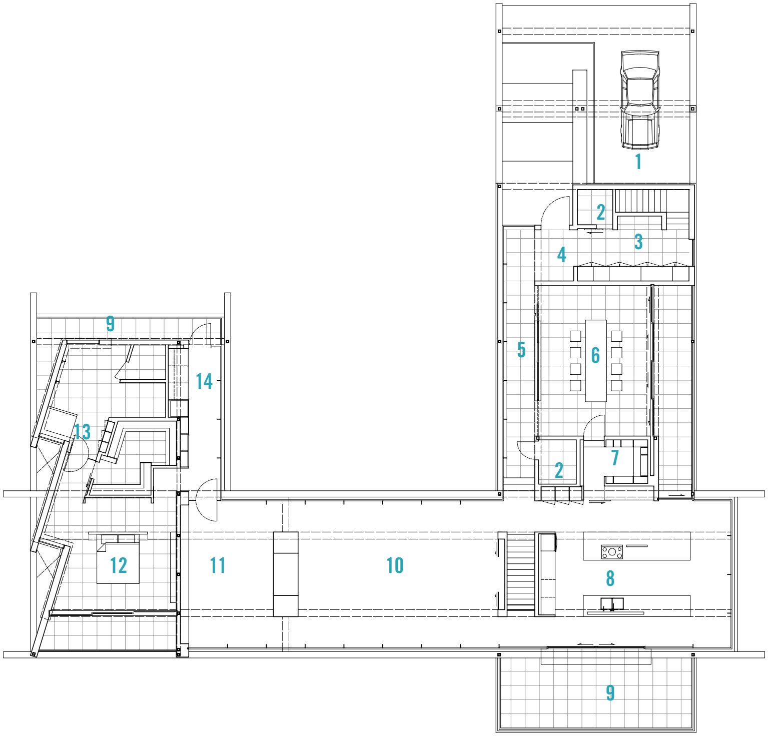

NIKEFOOTBALL

NIKE FOOTBALL TRAINING CENTRE

Situated in the heart of Soweto, the Football Training Centre is the centre of football in South Africa, where 1,200 teams and 20,000 footballers will play each year. In less than six months, the facility was transformed into a state-of-the-art football training centre – the first of its kind in Africa. The facility encompasses two new full-sized artificial pitches, two junior turf pitches, new lighting, a clubhouse and player lounge, an education facility for the Grass Roots Soccer & Life Skillz program, a training gym, and other service facilities.

The facility was designed from the outset for and around the player, supporting the various aspects of their training. The concept was to create a clear but intricately woven relationship of spaces with transparency between functions, such that views between spaces to and from other areas of the building are established. Everything has been considered to make the facility flow and remain "open" while managing the reality of creating a secure and safe place to play football.

The previous situation at the football park was a high solid perimeter fence around the entire property and the auxiliary buildings themselves had bars on the windows. Theft and

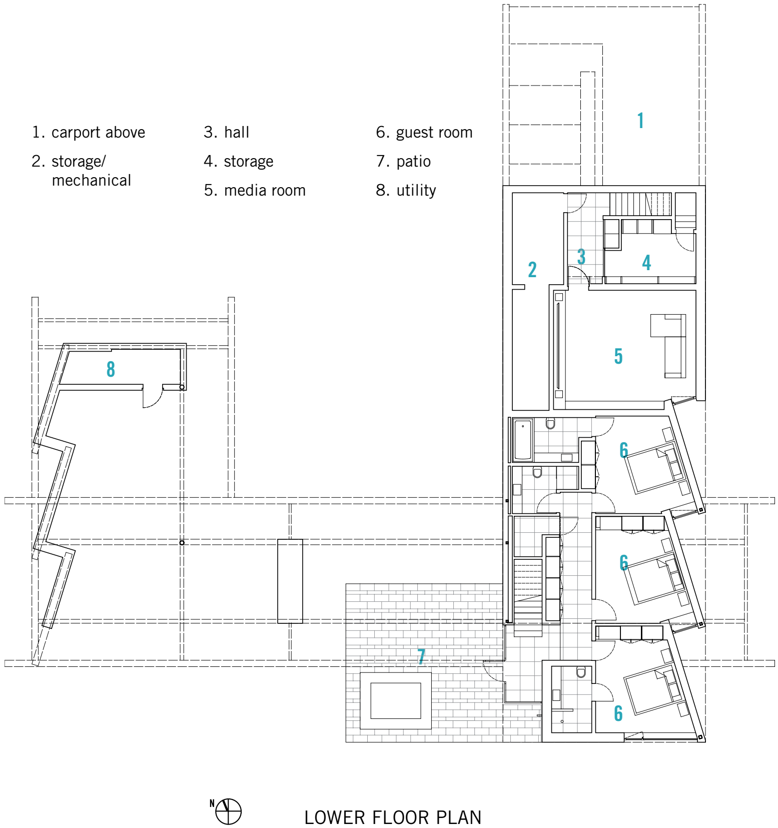


GROUND FLOOR PLAN

1. carport
2. restroom
3. mudroom
4. foyer
5. hall
6. dining room
7. pantry
8. kitchen
9. terrace
10. great room
11. library
12. master suite
13. master bath
14. laundry

personal security was a real concern, and it was critical that the new facility provide a safe place for the boys and girls to be able to focus their attention on football. The designers opted for Clear-View fencing to the perimeter, to allow clear views in and out of the grounds to the community. An internal courtyard was created between the main buildings and talented artist, Kronk, was commissioned to help turn the security fence into something beautiful, integrating his artwork into a woven chain link fence.

As the main building is quite simple and monumental in form, the materiality was carefully chosen to connect the building to its context. Local materials were utilized in non-traditional ways, overlapping them and playing with reflection and shadow. The overlap of the timber louvres and the stone rain screen creates an ever-changing facade to the fields, depending on the angle of view and the time of day. From the interior, the shadows create dramatic overlapping patterns and color, which again speaks to the incredible beauty of the South African sun.



LOWER FLOOR PLAN

ARCHITECT
RUFproject
Vancouver, BC

Nike Global Football
www.nikefootball.com

CLIENT
Nike South Africa

LOCAL ARCHITECT
Design Space Africa
Cape Town, South Africa

LOCAL STRUCTURAL ENGINEER
AKI Consulting Engineers
Cape Town, South Africa

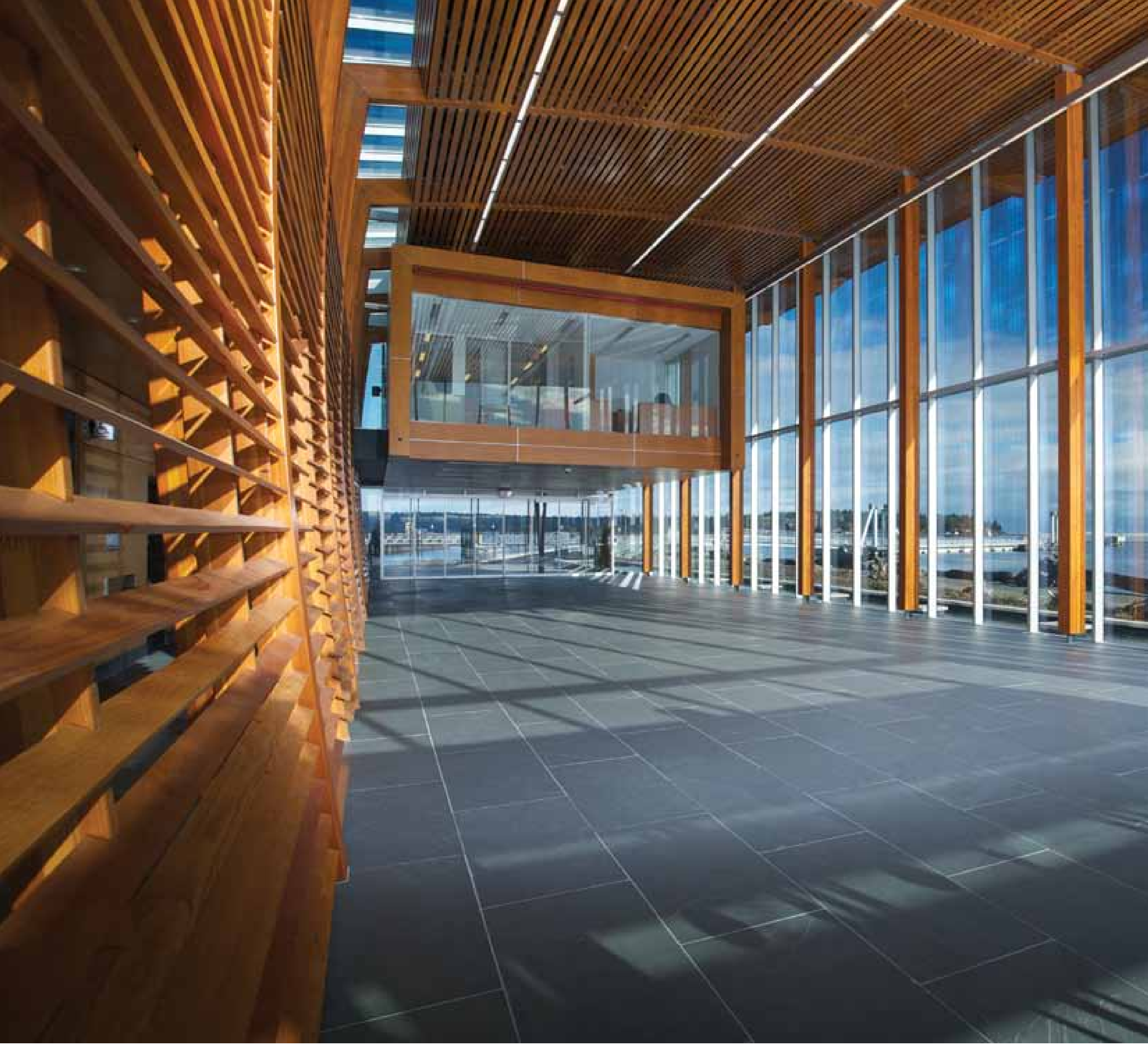
LOCAL ELECTRICAL AND MECHANICAL ENGINEER
Spoormaker & Partners
Cape Town, South Africa

GENERAL CONTRACTOR
Rainbow Construction
Cape Town, South Africa

LOCAL PROJECT MANAGER
SIP Project Managers Ltd.
Cape Town, South Africa

LOCAL GRAPHIC AGENCY
Grid Worldwide Branding & Design
Johannesburg, South Africa

INTERIOR CONTRACTOR
Umdasch Shop-Concept Ltd. (UK)
London, England



COMMERCIAL

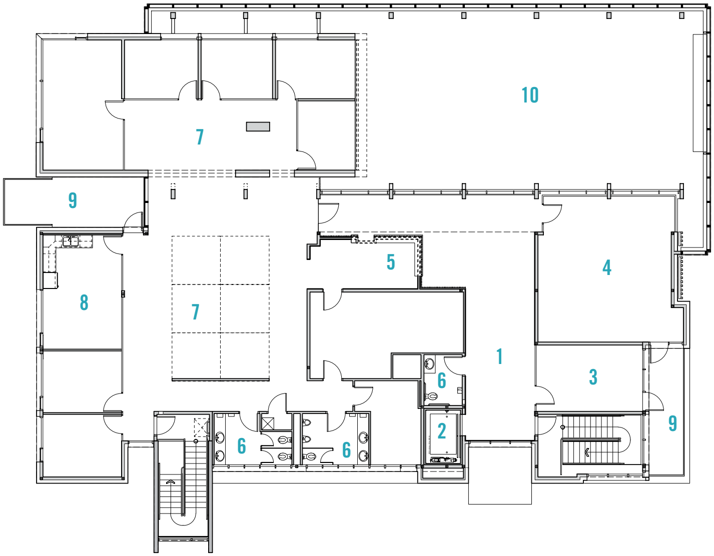
Reminiscent of a ship's hull, a Douglas fir terminal building connects passengers to the region's rich history with wood

Nanaimo Cruise Ship Terminal Building

Checkwitch Poiron Architects Inc.

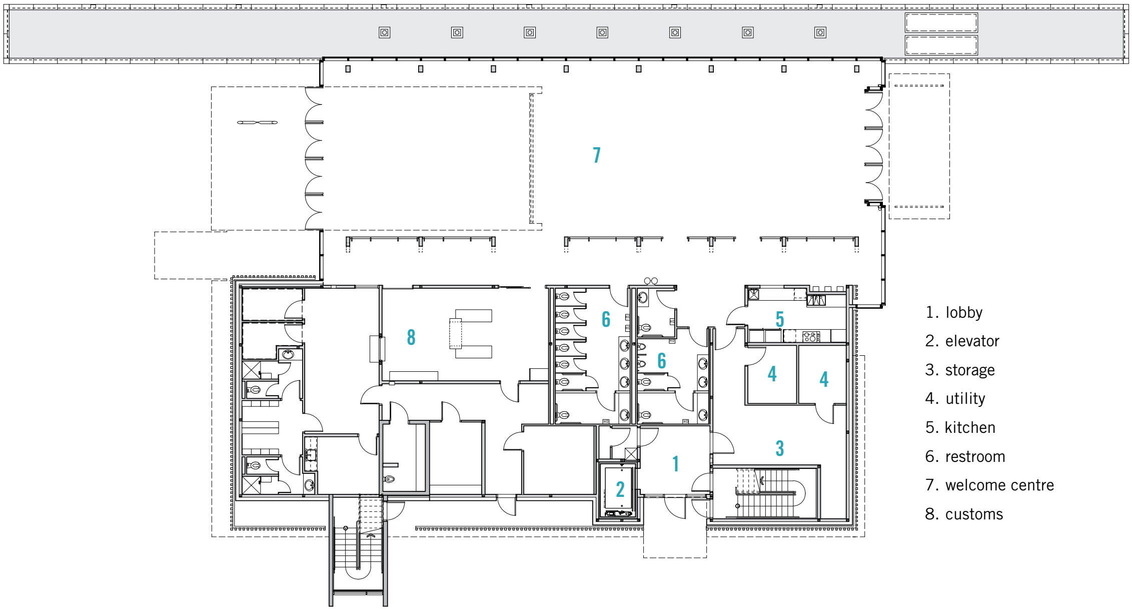
Situated on the edge of the Nanaimo Assembly Wharf, the 13,300-sq.ft. Nanaimo Cruise Ship Terminal Building contains a large welcome center/multi-purpose hall, facilities for the Canadian Border Services Agency and offices for the Nanaimo Port Authority.

The building site was formerly used for the processing and storage of the wood products that were the lifeblood for the region. A connection is made to the past by employing a variety of wood products including large curved glulam columns and beams, interior and exterior wood screens, and stratified timber panels. These materials echo the region's rich natural resource and make the main hall reminiscent of a giant ship's hull. Large glass walls open up the hall to panoramic views of the Nanaimo harbor.



UPPER FLOOR PLAN

1. lobby
2. elevator
3. meeting
4. board room
5. reception
6. restroom
7. office
8. staff
9. balcony
10. open to below



LOWER FLOOR PLAN

1. lobby
2. elevator
3. storage
4. utility
5. kitchen
6. restroom
7. welcome centre
8. customs

As the facility is the first point of contact for many cruise ship passengers to Nanaimo, it was important to portray the region's historical and ongoing relationship with the wood industry. As such, wood plays a dominant role in the passenger experience through the building. The wood clad office box (stratified timber panels), located partially interior and partially exterior to the building, gives an initial wood impression to passengers who must walk underneath the suspended structure while being processed by Canada Customs. Proceeding to the welcome center, passengers are surrounded by the main structure consisting of curved and straight Douglas fir glulam columns and beams, and Douglas fir wood slat screens. These elements give a sense of enclosure, warmth and directionality, and open up the space to the view of the harbor beyond.

An exterior vertical Douglas fir screen wraps around the south and west facades of the terminal's lower level. This screen helps guide visitors from the main building entrance around to the welcome center entry, where much of the interior wood is directly visible from the exterior through the glazed walls of the welcome centre.

The building employs a passive solar scheme where sunlight enters through the extensive glazing on the east and south sides of the building and warms the stone floor during the day, slowly releasing its heat during the night and circulating within the building before exiting through louvers at the top of the building.

Working with a local artist, custom artwork was commissioned and printed onto a large roll-screen. This screen can be raised or lowered to alter the configuration of the main hall. A native plant garden is positioned between the building and the water's edge. Light bounces off a linear water feature and is reflected up into the main hall.

ARCHITECT
Checkwitch Poiron Architects Inc.
Nanaimo, BC

CLIENT
Nanaimo Port Authority
Nanaimo, BC

STRUCTURAL ENGINEER
Herold Engineering Ltd.
Nanaimo, BC

MECHANICAL ENGINEER
Rocky Point Engineering Ltd.
Nanaimo, BC

CIVIL ENGINEER
Herold Engineering Ltd.
Nanaimo, BC

ELECTRICAL ENGINEER
RB Engineering Ltd.
Nanaimo, BC

PROJECT MANAGER
Herold Engineering Ltd.
Nanaimo, BC

CONSTRUCTION MANAGER
Heatherbrae Builders Co. Ltd.
Nanaimo, BC

FIRE SUPPRESSION CONSULTANT
Des Design Ltd.
Nanaimo, BC

GEOTECHNICAL CONSULTANT
Lewkowich Engineering Associates Ltd.
Nanaimo, BC

LANDSCAPE ARCHITECT
Dr. Nancy Mackin
Ecological Landscapes
West Vancouver, BC

PHOTOGRAPHY
Ben Checkwitch
Mark Corbett
HA Photography

Samuel Brighouse Elementary School

Fast + Epp

Atrium roof structure is a striking topper to elementary school

Samuel Brighouse Elementary School, in Richmond BC, is divided into a single and two-story building connected by a double-height, 260-ft.-long atrium. The southern building, constructed entirely of wood, provides a single story of classrooms, offices and multipurpose spaces wrapped around an existing gym and stage. The northern block consists of a timber-frame second story above a concrete main floor structure. The 50,000-sq.ft. structure replaces an existing elementary school.

The original intent was to frame the building entirely with wood, however, building code limitations regarding the double-height atrium and the building footprint meant it was not possible. While a concrete structure was used for the second floor of the north block, the remainder of the building remained wood construction. Heavy timber construction was chosen to allow for an expressive structure which would still meet code requirements. The large distances between columns in the atrium space also required a creative solution of steel king posts and cables to support the exposed, thin, solid wood roof profile because the spans exceeded the lengths of commonly available lumber. For the flat roof areas, prefabricated panels allowed for quick erection. Similarly, for the curved roof at the atrium, a series of custom shop-fabricated panels provided an efficient solution, as did the use of solid wood joists throughout the project.

The building's signature roof panels – consisting of solid, nail-laminated 2 x 4s supported by glulam post and beam framing – proved to be a very economical and aesthetically pleasing architectural solution. However, the primary innovation lies in the atrium roof structure and features what is likely the first application in North America (and possibly Europe) of a solid nail-laminated 2 x 4 flat roof structure that is able to span far beyond the normal span range for 2 x 4s. This long span is made possible by a finely detailed series of light steel cables and king posts. The entire assembly not only provides sufficient strength, but a striking architectural effect as well. The gently sloping panels allow for passive ventilation through windows at the peaks of the wave.

The use of wood in this school project proves it is possible to design and build public buildings that are cost effective, yet architecturally expressive and engaging. The striking and economical structure, which uses an abundance of a locally grown staple product (2 x 4s), targets LEED Gold standards and should foster the advancement of wood use in buildings across North America.

ARCHITECT
Perkins+Will
Vancouver, BC

CLIENT
Richmond School District
Richmond, BC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

MECHANICAL ENGINEER
Cobalt Engineering
Vancouver, BC

ELECTRICAL ENGINEER
Acumen Engineering
Vancouver, BC

CIVIL ENGINEER
Hub Engineering
Surrey, BC

GEOTECHNICAL ENGINEER
Exp (formerly Trow)
Burnaby, BC

GENERAL CONTRACTOR
EllisDon
Vancouver, BC

LANDSCAPE ARCHITECT
Durante Kreuk
Vancouver, BC

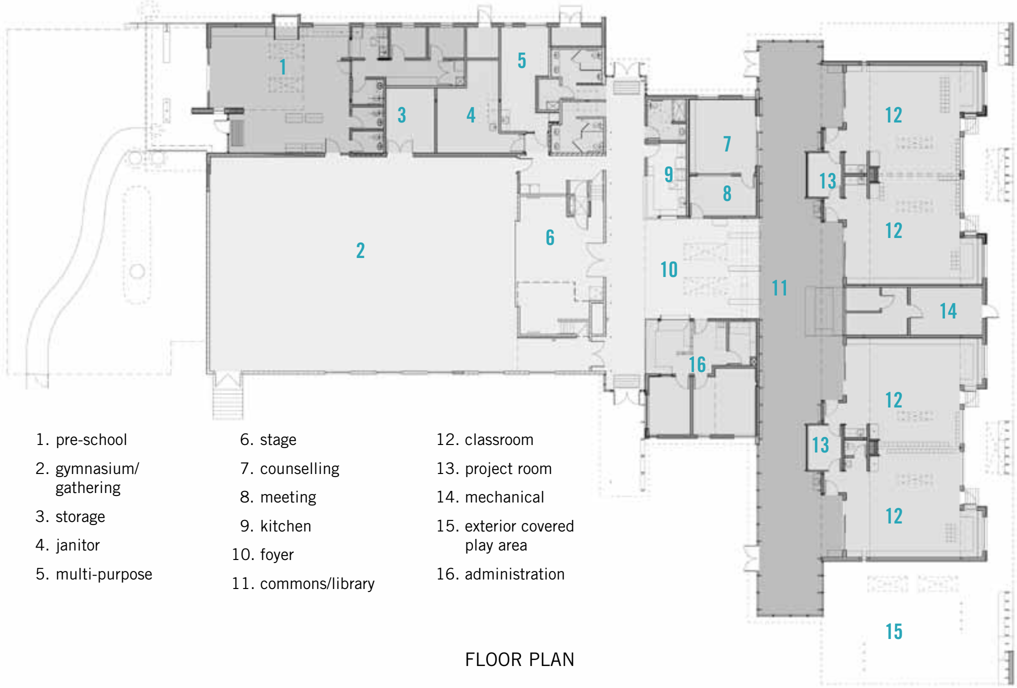
PHOTOGRAPHY
Stephan Pasche

Reused and repurposed wood joists serve as the concept inspiration for this school

École Mer et Montagne

McFarland Marceau Architects

The concept for this small francophone elementary school in Campbell River evolved almost entirely out of the reuse and repurposing of existing wood joists discovered within the derelict existing school building on the site – partly in support of the LEED Gold target, but mainly as an appropriate response to a remarkable resource. One of many similar schools rapidly constructed across British Columbia in the 1960s, the existing building had long outlived its service life and was slated for demolition. The



FLOOR PLAN

SITE PLAN

building, however, contained two key resources worth preserving: a treasure trove of beautiful 3 x 12 tight-grained Douglas fir joists, and a serviceable gymnasium (a later addition), whose size was significantly greater than the area prescribed by the province for the new school.

The new design springs from the upgraded gym structure, expanding to the north in a cascading series of bars, which link the east and west halves of the site and blur the distinction between corridor and room. This is a fundamental condition for an adaptive learning environment in a small school dependent upon mixed grades, team teaching and a variety of spaces for groups of students. The building form is expressed entirely with the salvaged timbers, which undulate up and down as wall, roof, eave and column.

The spacing of the timbers expands and contracts in response to their span, accentuating the expansion and contraction of space as one moves through the building. The beautifully-aged patina of the rough sawn structure is unfinished, except for a light sanding below 2.4 meters to remove splinters. Having spent the first 50 years of their service life concealed above an acoustic tile ceiling, the salvaged timbers have been repurposed with reverence: as structure, cabinetry, seating, shelving, privacy screen and doorway.

The organic qualities of wood have inherent resonance with the human condition. Its tactile quality, its variety and adaptability, its rendering of light and its sustainable nature all contribute to a myriad of architectural possibilities. Here, these qualities define a school which will function as a de-facto community center and the most visible presence of the francophone community in Campbell River.

ARCHITECT
McFarland Marceau Architects
Vancouver, BC

CLIENT
Conseil scolaire francophone de la Colombie-Britannique
Richmond, BC

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.
Vancouver, BC

MECHANICAL ENGINEER
Bycar Engineering
Surrey, BC

ELECTRICAL ENGINEER
MMM Group
Vancouver, BC

CONSTRUCTION MANAGER
Newhaven Construction Management Ltd.
North Vancouver, BC

PHOTOGRAPHY
Derek Lepper
Vancouver, BC

INSTITUTIONAL SMALL

Committed to the environment, new fire hall shows its civic pride

Steveston Fire Hall

Hughes Condon Marler Architects

After extensive study, the City of Richmond decided to replace an existing 40-year-old fire hall, which no longer met the needs of the community, with a new state-of-the-art post-disaster facility. The city's goals for the project included the provision of an iconic civic facility marking the entry into the Steveston area of the community.

The program required that Richmond Fire Rescue be operated out of a temporary facility on a newly-acquired portion of the site during construction. The location of the temporary facility, existing sewer right-of-ways, building setbacks and the strict truck turning requirements for drive-through apparatus bays resulted in a very precise location and oblique orientation of the new fire hall building. The hose-drying/training tower was positioned closest to the street intersection, allowing it to act as a beacon and to help mark the arrival

into the Steveston community. Facing the streets, the transparent apparatus bays, with turn-out gear rooms and workshops attached, proudly open their inner workings to the public's view with the extensive use of glazing. Work areas, including the communication counter, offices, meeting room, captain's office, day room and kitchen/dining room were located away from the street intersection for better privacy and to provide quieter sleeping quarters. A gender-neutral dormitory and washrooms were located on the second floor with the fitness area overlooking the apparatus bays. Each of the program spaces were strategically organized and designed to maximize visual connection and to minimize response time from the work/accommodation areas to the apparatus bays.

Most conventional fire hall design relies on visually distinct forms for the apparatus bays and working/living areas. This project employs a contrary strategy whereby the programmatic elements are united cross-grain, tying the various elements together in a cohesive whole. Furthermore, unlike conventional inconspicuous and closed-box fire hall buildings, Steveston Fire Hall represents a strong civic gesture by providing openness and transparency to the public. The wood and metal composite building skin is folded into three distinct forms. Each is folded differently in response to the massing required by the program. The open ends of the building skins are infilled with a glass curtain wall to bring in daylight and to accommodate natural ventilation. The gaps between the skins become light-filled circulation spaces. Additional skylights and windows are created by cutouts in the building skin to bring natural daylight into typically enclosed spaces.

Square-edge pine beetle-killed 2 x 4s are nailed face to face in place and in continuous panels on site. The nail-laminated solid wood panel spans uniformly 2.8 m between steel columns and beams creating structural support for exterior cladding. The flush solid wood walls and roofs provide a flat nailing surface for the plywood diaphragm on the outside face while creating a smooth and natural interior finished surface. The solid wood panels also cantilever beyond structural columns and beams, creating overhangs and projecting walls to provide solar shading. Electrical conduits are concealed outside of the wood panels, encapsulated within the exterior insulation cavity, which further enhances the visual appearance of the interior wood finish. Pine beetle-killed 2 x 4s are finished with low-VOC finish. All rough carpentry is FSC-certified. Millwork is constructed of bamboo plywood including a bespoke dining table in the kitchen.

In keeping with the City of Richmond's commitment to sustainability, Steveston Fire Hall has been designed targeting LEED Gold certification. The use of pine beetle-killed wood helps mitigate impacts from the provincial mountain pine beetle infestation and facilitates socio-economic benefit to the region. Wrapping the building interior with wood consistently throughout imparts a sense of familiarity, friendliness and visual warmth. Transparency of the space layout and the consistent use of wood contribute to the success of the design, creating an iconic and functional facility for the city.

ARCHITECT
Hughes Condon Marler Architects
Vancouver, BC

CLIENT
City of Richmond
Richmond, BC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

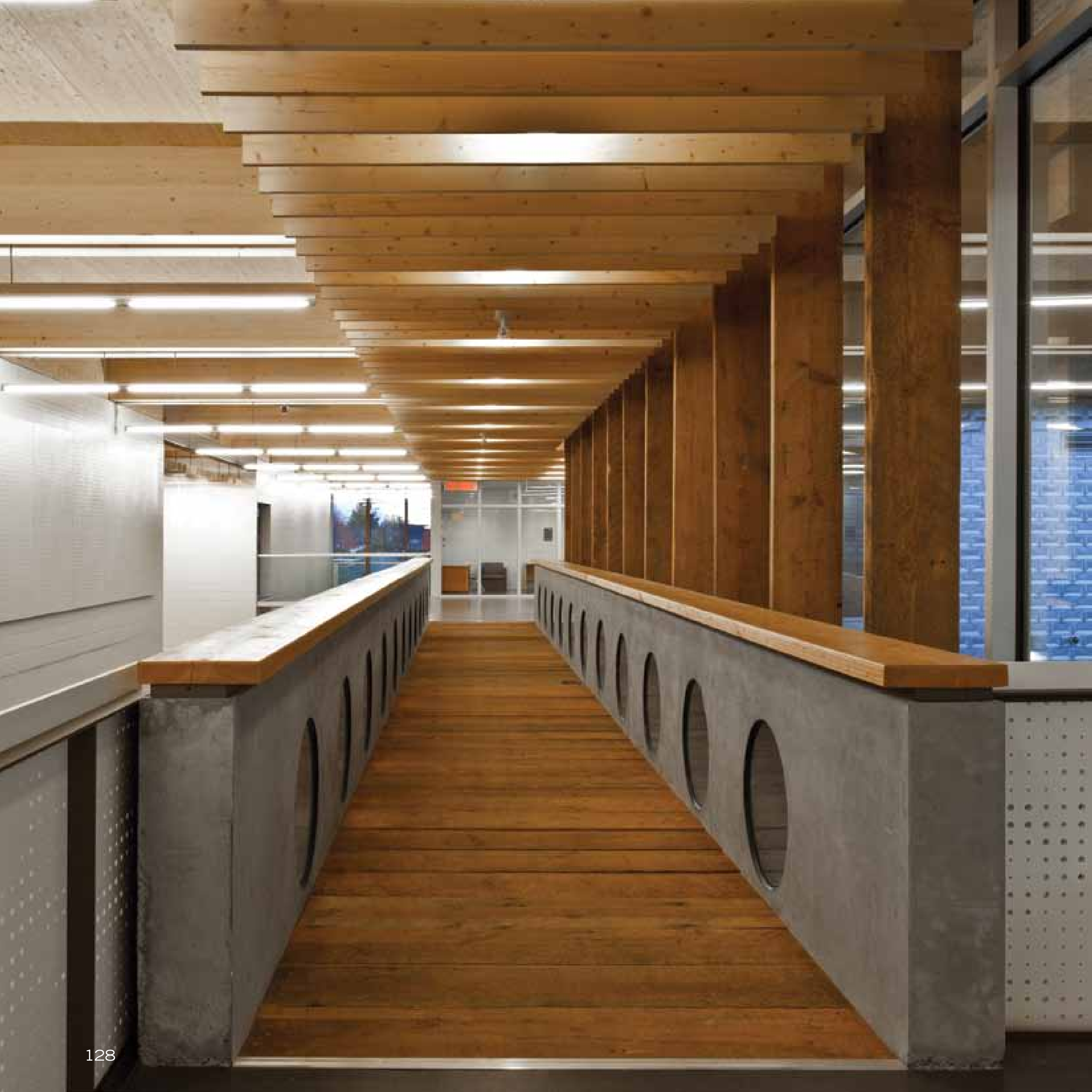
MECHANICAL ENGINEER
AME Consulting Group Ltd.
Vancouver, BC

ELECTRICAL ENGINEER
Roy Campbell Inc.
Vancouver, BC

GENERAL CONTRACTOR
Stuart Olson Dominion
Matt Degen, Project Manager
Richmond, BC

PHOTOGRAPHY
Michael Boland Photography
Vancouver, BC

Hubert Kang Photography
Vancouver, BC

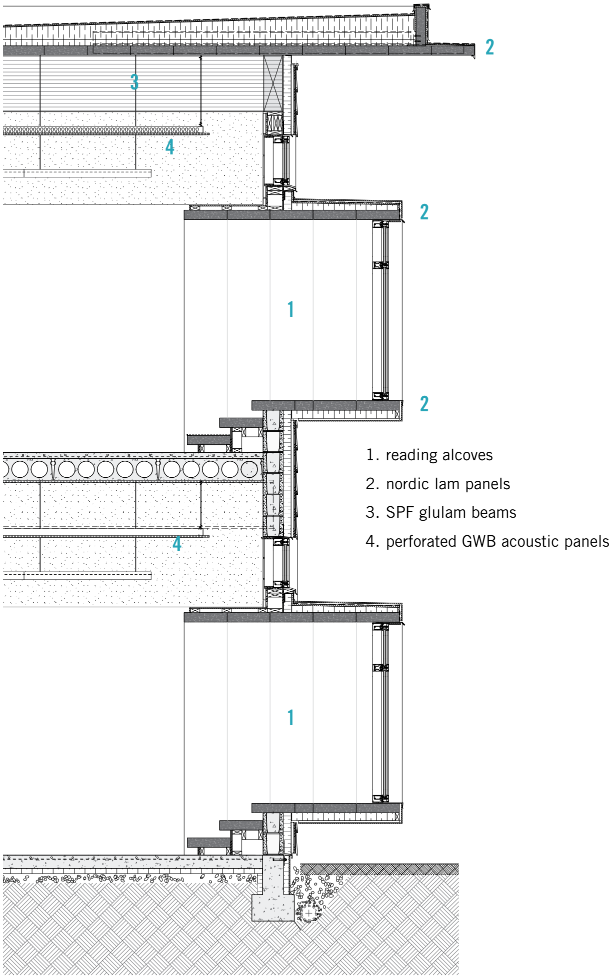


INSTITUTIONAL LARGE

A new school uses wood in carefully designed buildings to connect students to nature, their education and the community

École au Coeur-de-l'île

McFarland Marceau Architects



SECTION THROUGH CLASSROOM AT READING ALCOVES

The new École au Coeur-de-l'île, designed for the British Columbia Francophone School Board, serves the francophone community of the Comox/Courtenay region of Vancouver Island. In addition to providing educational space for 360 students, ranging from kindergarten to Grade 12, the new facility provides spaces for community use, including a preschool, library, performance space and community offices.

Located on the site of a former provincial school, the new building occupies a man-made, rectangular clearing of land, bordered by a forest to the north and south, and bookended by residential streets on the east and west. The imposed, orthogonal quality of the clearing becomes elaborated in the figure ground of the building, resulting in a quilted pattern of rectangular blocks and courtyards, which create an interplay of positive and negative space, along with a nod to the region's agricultural heritage with its patchwork of agricultural fields cut out of the trees. The composition is stitched together by a flat roof plane, consisting of a plate of solid glulam, which extends the sheltering quality of the forest canopy over the building.

With the intent of supporting numerous modalities of learning, and of engaging both site and community, the plan evolved as a community of "buildings" clustered along a main organizing spine that mediates between a mature forest to the north and the existing cleared site to the south. Using the language of urban design, the arrangement establishes strong connections to the

surrounding environment, separates school and community functions, and creates legible "neighborhoods" for different age groups, enabling a sense of transition as students graduate from one year to the next.

Developed in response to 21st century learning principles, educational spaces are organized around four separate pods, each containing a variety of learning spaces, project rooms, meeting rooms, student areas, teacher prep areas, and enhanced corridors which act as both circulation and learning commons. Developed as a "learning pathway," interior circulation provides opportunity for independent learning and social interaction. Strong connections to the outdoors are created through generous glazing, direct exterior doors in first-floor classrooms, and two large inhabitable stairways on the south side. Scale is manipulated with the use of alcoves and bays made of solid wood and projecting inside and outside the building, providing sheltered spaces for small groups of children.

Spatial organization and choice of material are intended to promote openness and transparency, qualities integral to modern learning concepts. The ability for users to manipulate spaces, also fundamental to these new ways of learning, is achieved through movable walls, movable furniture, and sliding partitions. To ensure that open concepts do not generate uncomfortable noise levels, acoustic treatments are carefully considered and include ceiling slats, extensive acoustic insulation, and perforated drywall. Quality of light and access to views, considered essential to support a stimulating learning environment, have been achieved through deep glazed courtyards, full-height curtain walls, and roof monitors, which infuse the wood structure with natural light and highlight nodes of circulation and activity.

The exterior of the building is wrapped in zinc alloy shingles, whose metallic finish and multiple facets create ever-changing patterns of light. The human scale of the shingles belies the masonry construction behind and reduces the perceived mass of the building, while their reflective qualities enhance the soft lighting that characterizes the Pacific Northwest.

To meet its LEED Gold certification target, the project includes sustainability strategies such as natural ventilation, daylighting, geoexchange energy, radiant heat, high-performance envelope, rainwater harvesting, low-VOC finishes and the extensive use of lumber reclaimed from the demolition of the school that previously occupied the site.

ARCHITECT
McFarland Marceau Architects
Vancouver, BC

CLIENT
Conseil scolaire francophone de la Colombie-Britannique (SD 93)
Richmond, BC

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.
Vancouver, BC

MECHANICAL ENGINEER
Bycar Engineering
Surrey, BC

ELECTRICAL ENGINEER
MMM Group
Vancouver, BC

GENERAL CONTRACTOR
Ketza Pacific Construction
Campbell River, BC

PHOTOGRAPHY
Derek Lepper
Vancouver, BC

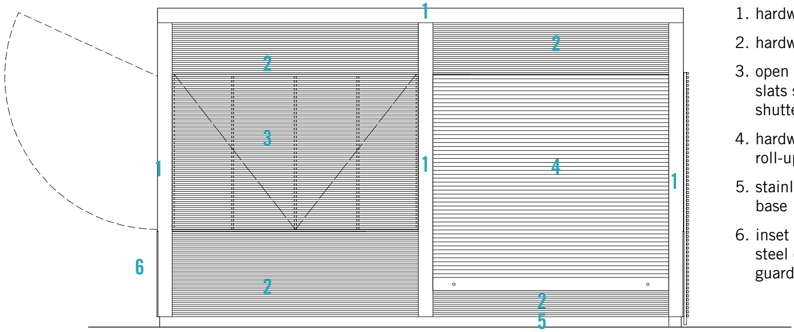

Aris

INTERIOR

Western birch kiosk serves up a beauty and warmth as rich as its coffee

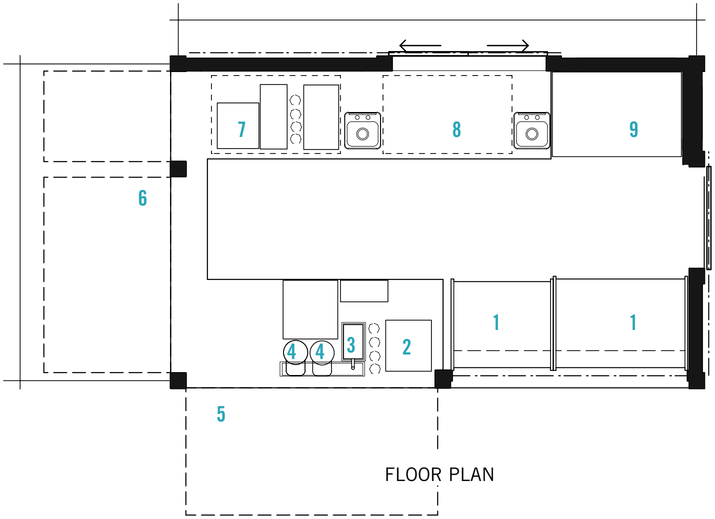
Arts Place Food Services Outlet

Warner James Architects Inc.



ELEVATION

1. hardwood trim
2. hardwood slats
3. open hardwood slats swing up shutter
4. hardwood roll-up door
5. stainless steel base
6. inset stainless steel corner guard



FLOOR PLAN

1. display cooler
2. juice cooler
3. hot water
4. coffee
5. place order
6. pick up order
7. espresso machine
8. prep area
9. refrigerator

Located in the lobby of the Fine Arts Building in the southwest precinct of the University of Victoria, Arts Place is one of a series of coffee facilities that are distributed throughout campus, supplementing the larger, more centralized dining areas. The lobby is a delightful light-filled space with full-height glazing in one corner and a tiered seating area diagonally opposite, the whole bisected by circulation space.

The original direction was to build the coffee bar into one corner of the lobby where it would be tight up against the two-story glazing and heating registers. There was also a requirement that the facility be secured after hours, which is typically accomplished elsewhere by rolling metal screens. Each of these elements was felt to be a negative intrusion into the elegant lobby space.

After much consideration, it was felt that a free-standing kiosk approach would better respond to the spatial characteristics than a more traditional built-in.

During the design process, the kiosk evolved in a somewhat whimsical direction, whereby morning “opening ceremonies” involved hydraulically lifting flaps, sliding panels, swinging doors and rolling shutters, in contrast to after-hours when the kiosk sat quietly as a closed glowing box. It was also felt that the extensive use of wood would best complement the glass, brick and tile lobby finishes and address the priority given to the use of wood by the provincial government.

The use of wood was critical to achieving the dual requirements of the kiosk to be open all day and closed all night. Extensive use of carefully spaced wood slats not only provided the necessary security and allowed interior (red) lighting to glow through the openings, but also did not impede natural light and views provided by the lobby windows.

Western birch, with a clear finish, was selected for the exterior slats as a rich hardwood able to withstand wear and tear while retaining a consistent warm texture, day and night. It also conforms to the university’s commitment to sustainability.

The kiosk is structurally framed to provide required strength with minimal dimension. The base is stainless steel with a continuous strip of LED lighting that reflects off the base and floor tiles to give an appearance of the kiosk floating in the space. Openings vary: raised flaps at servery areas, a roll-up shutter at display cases, sliding panels facing the windows and a sliding barn door for staff access. Again, wood provided the most flexible material for each of these applications.

ARCHITECT
Warner James Architects Inc.
Victoria, BC

CLIENT
Facilities Management,
University of Victoria
Victoria, BC

MECHANICAL ENGINEER
Genivar Mechanical Engineers
Victoria, BC

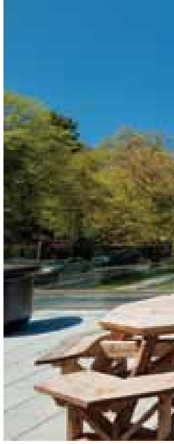
ELECTRICAL ENGINEER
Applied Engineering Solutions,
Electrical Consultants
Victoria, BC

GENERAL CONTRACTOR
Aral Construction
Victoria, BC

CONTRACTOR
Aral Contractors
Victoria, BC

MILLWORK
West Isle Millwork
Victoria, BC

PHOTOGRAPHY
Normand Marcotte, Warner James
Architects
Victoria, BC



MULTI-UNIT

Wood helps community create a homeless shelter that integrates into the landscape and the broader Victoria, BC, community

Camas Gardens Supportive Housing

Chow Low Hammond Architects Inc.

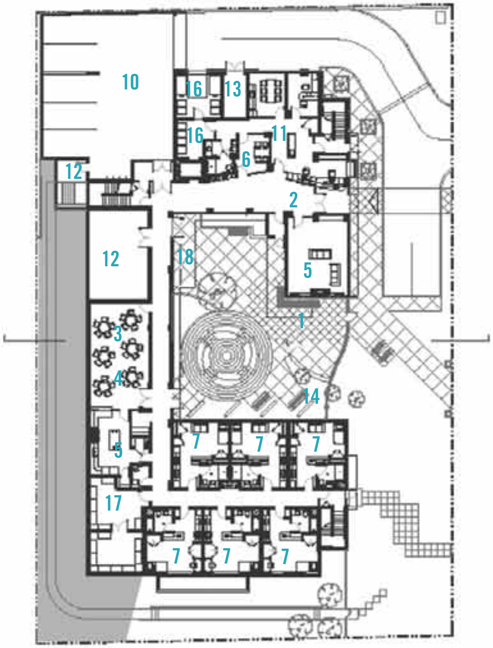
Humboldt Street is a dichotomy of architectural languages and typologies, from high-end modern condominiums to the adjacent contrasting seniors' residence and the 1970s walk-up apartments. The architects sought to translate the diversity of architectural languages within the neighboring context by offering a solution that is contemporary, durable and restores a piece of the city fabric.

Furthermore, implanting a homeless shelter into a residential community such as Humboldt Street may be overshadowed by a cultural attitude that government-funded housing is simply a prudent social investment, and should look low-cost. The architects set about to challenge this preconception and to provide an architectural solution that would meet the project budget while exceeding the expected quality of space and materials, and to aid in the rehabilitation of the inhabitants while contributing to the greater urban context of the built environment. The use of wood on the facade and soffit, in the building structure

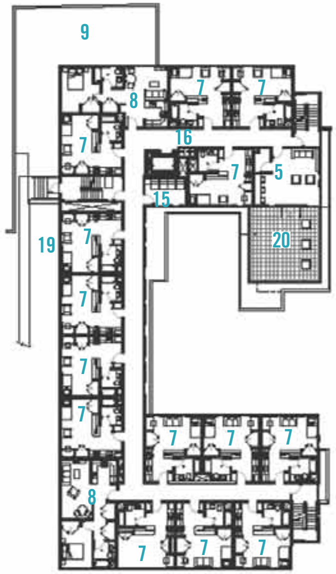
and surrounding landscaping, was an important contribution to the quality of experience and the sustainable goals set for this project.

Designed to LEED Gold standards, the building is a mix of three- and four-story wood frame construction with the main entrance punctuated by a one-story common room that partially encloses a south-facing courtyard. The internal layering of the building weaves around this courtyard, at once embracing the residents within and gesturing to the neighborhood a sense of openness. This warming to the community is achieved through the elegant use of Western red cedar in the facade, emphasizing the creation of shared courtyard space while addressing the street and enhancing the neighborhood. As residents move from public spaces to their private

retreats and back, they are empowered to make choices about interactions with their neighbors, to make desired connections or avoid undesirable situations; a first step toward consciously controlling their environment. The wood ribbon becomes a beacon on the tree-lined residential street and is visible from within the hallways and suites, providing a reminder of our human connection with nature.



GROUND FLOOR PLAN



SECOND FLOOR PLAN

1. courtyard
2. entry
3. kitchen
4. dining
5. commons
6. meeting
7. studio suite
8. one bedroom
9. green roof
10. u/g parking
11. staff
12. service
13. bed bug sanitation
14. privacy screening
15. laundry
16. recycling
17. storage
18. bicycles (covered)
19. roof terrace
20. solar panels (hw)

ARCHITECT
Chow Low Hammond Architects Inc.
Victoria, BC

CLIENT
BC Housing
Burnaby, BC

FACILITY OPERATOR
Pacifica Housing Advisory Association
Victoria, BC

DEVELOPMENT CONSULTANT
CitySpaces Consulting Ltd.
Victoria, BC

STRUCTURAL CONSULTANT
Reid Jones Christoffersen
Victoria, BC

MECHANICAL CONSULTANT
Genivar Mechanical Engineers
Victoria, BC

ELECTRICAL CONSULTANT
Applied Engineering Solutions
Victoria, BC

CONTRACTOR
Ledcor Group
Victoria, BC

CIVIL & STORM WATER MANAGEMENT
Kerr Wood Leidal Associates
Victoria, BC

SUSTAINABILITY
Advicas Group
Victoria, BC

BUILDING ENVELOPE
Chatwin Engineering
Victoria, BC

GEOTECHNICAL
C.N. Ryzuk & Associates
Victoria, BC

LANDSCAPE CONSULTANT
LADR Landscape Architects Inc.
Victoria, BC

PHOTOGRAPHY
Destrube Photography Ltd.
Victoria, BC

RESIDENTIAL

A new structure shows how large-scale wood structures can be realized through innovative structural engineering

Linear House

Read Jones Christoffersen

Linear House sits on a 16-acre farm located on Salt Spring Island, an island in the Strait of Georgia between Vancouver Island and the mainland of British Columbia. The farm is bisected from east to west by a long row of mature Douglas fir trees. There is a gentle slope falling across the site from south to north. The south half of the property is an orchard containing a variety of fruit trees. The north half of the property is a hay field.

The new Linear House extends 276 ft. in a straight line along the south side of the fir trees. The orchard has been made more regular with the addition of further fruit trees so that the clarity of the juxtaposition of cultural landscape to the south, and natural landscape to the north of the new house, is reinforced.

The new house is subdivided by a breezeway into a principal dwelling and guest quarters. The exterior of the house is clad in charcoal-colored fiber-cement panels which render the house almost invisible when seen against the dark green foliage of the fir trees. Interiors are described by a luminous inner lining made of translucent acrylic panels. More than 40 skylights bring sunlight into roof and wall assemblies during the day which causes this interior liner to glow softly. At night, fluorescent lights mounted within the skylight openings turn the entire interior into a luminous field.

Wood was used creatively and innovatively in this project to achieve its unique architectural design intent of an open-air pavilion in full complement with the

natural landscape. This project successfully demonstrates that wood structure can be used in projects with significant spans even in remote locations where transportation constraints limit other conventional construction choices.

For this project, wood was deemed the best choice in material due to its local availability, the local availability of skilled trade, the limits to transportation, the lack of heavy equipment, and wood's cost-effectiveness in addressing the structural/large span challenges. As society moves toward greater emphasis on the use of local, sustainable materials as well as skilled trade, this project exemplifies that large-scale wood structures can be realized through innovative structural engineering.

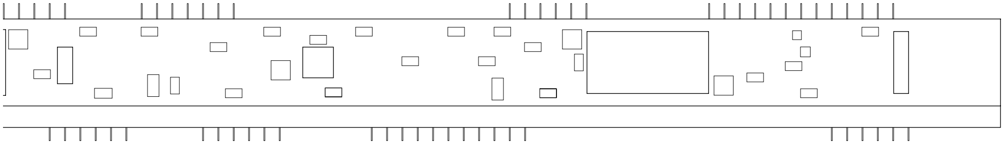
ARCHITECT
Patkau Architects Inc.
Vancouver, BC

STRUCTURAL ENGINEER
Read Jones Christoffersen Ltd.
Vancouver, BC

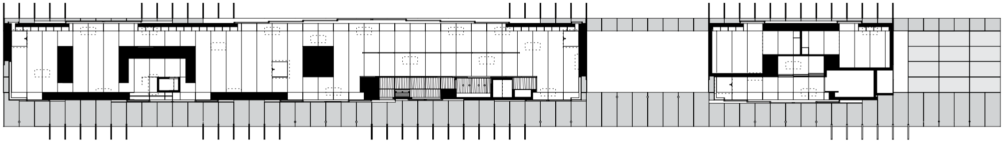
GENERAL CONTRACTOR
G Speed Construction Ltd.
Saltspring Island, BC

TECHNICAL REVIEWER FOR PANEL WEB BEAM CONCEPT
Dr. Frank Lam, P.Eng.
University of British Columbia, Vancouver, BC

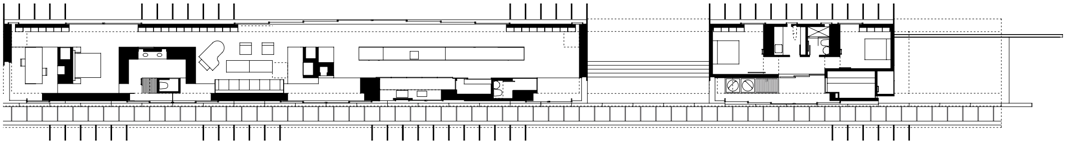
PHOTOGRAPHY
Patkau Architects Inc.
Vancouver, BC



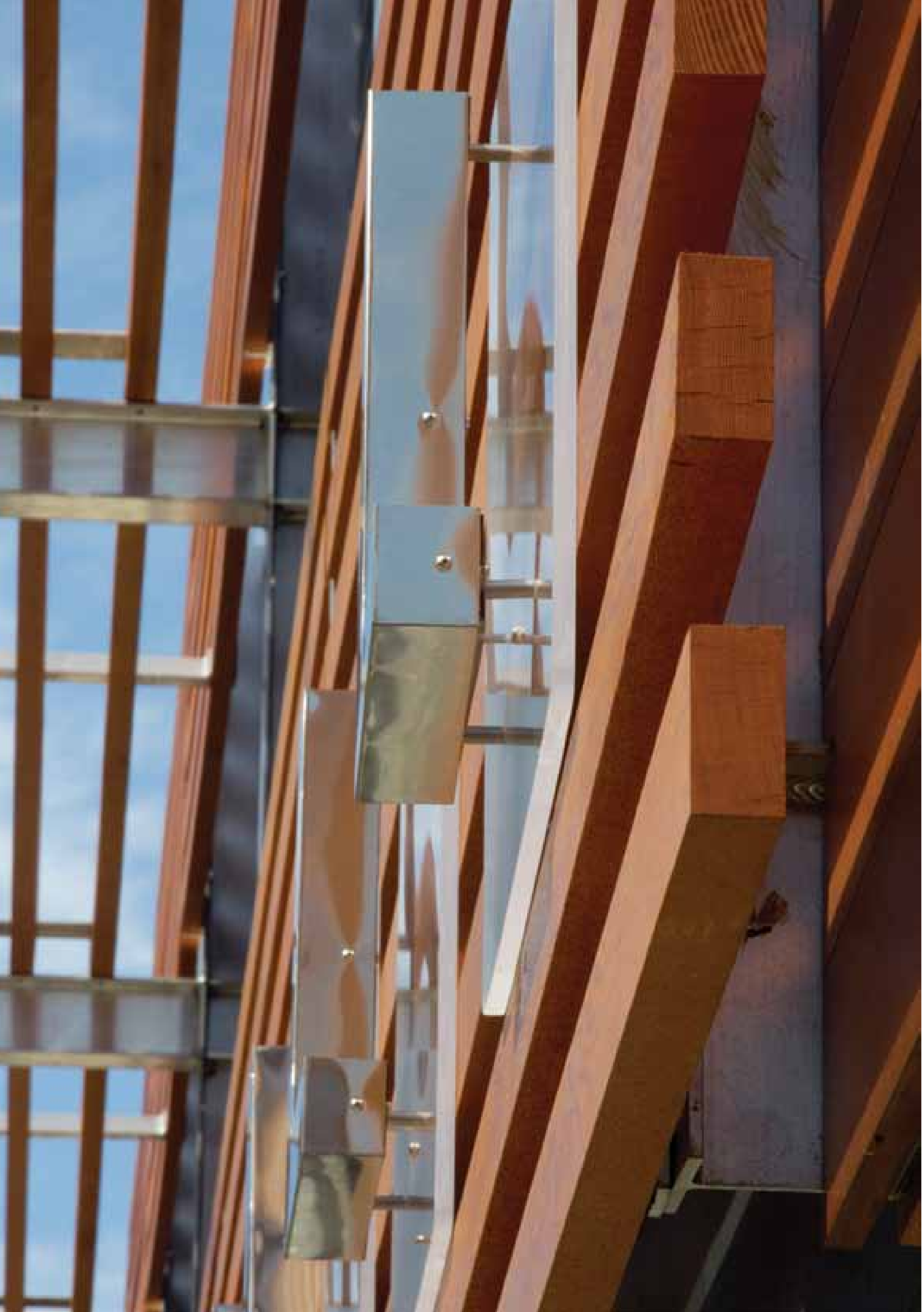
ROOF PLAN



REFLECTED CEILING PLAN



FLOOR PLAN



WESTERN RED CEDAR

Wood plays starring role in much-needed renovation

Courtenay City Hall Renovation

Martin Hagarty Architect Ltd.
and City of Courtenay

Courtenay City Hall began life as a car dealership in 1948 along the east side of the main street in a clean Moderne style with big, curved showroom windows, decorative pilasters, and a flat roof. In the 1970s, the building was converted to a two-story office building and the architectural quality of the original building was lost. In 1995, the adjacent City Hall burnt down and the city moved in temporarily until a new City Hall was built. However, 16 years and two facelifts later, using prefabricated awnings, the city decided to finally renovate the leaking, unattractive exterior.

There were four components to the architectural strategy for the exterior facelift: structural repairs and building envelope upgrades, new cladding, a new entry, and a new bay window. The city wanted the project to showcase local materials, especially native woods, nurture community pride, and set a standard of excellence for renovations in the city.

Courtenay is in a high seismic zone and the building site, near a steep bank, was compromised. Those conditions limited the amount of new openings permitted, the weight of new materials, and the size of the new entry. Structural repairs and upgrades included replacing rotten framing, improving the floor and roof-to-wall connections, and improving the internal stiffness of the building.

The existing stucco, which was leaking badly, was removed and the building envelope was upgraded to a rainscreen system to combat the long winters of wind-driven rain on a building with no roof overhangs to protect its walls. Windows were removed and reinstalled.

Stone facing, cedar siding, cement panels, fir screening and galvanized steel provide a rich and balanced variety of exterior finishes to suit existing conditions and the design intent. The stone facing, Douglas fir screen and red cedar cladding were sourced and manufactured locally.

Vancouver Island split stone provides an attractive, dense finish for the main floor walls. Warm yellow tones in the stone complement the wood siding. The existing windows divide the stone into several well-scaled piers that appear to support the second floor.

The second floor walls, except at the long bank of windows, are finished with 1 x 6 premium grade, tongue and groove Western red cedar, with the square edge out to provide a flat, smooth wall plane. The original double-height signature curved corner was squared off at the second floor. The new cantilevered edge balances on the curved wall of stone below to highlight both stone and cedar.

Cement panels, with an architectural reglet edging, create a deep black window band masked by a decorative wood screen. Six-inch deep inverted aluminum L frames provide a window eyebrow and support the screen of dressed 2 x 4 fir. The screen, which from the street appears higher than the roof parapet, offsets the long and low character of the front facade, provides sun protection for the west-facing windows, and is stained to contrast with the cedar siding.

The two curved stair towers are clad in galvanized steel with a vertical ripple pattern. They bookend the building and temper the rich coloring of the wood finishes.

The new entry porch highlights and protects the front doors. A simple black steel frame supports a roof of stained Douglas fir timber rafters and skylights draining to a hidden gutter.

The new two-story bay, with its tinted curtain wall glazing, colored panels, and stained fir soffit and liners, celebrates the City Council chamber and provides a visual connection between council meetings and the people they serve.

ARCHITECT
Martin Hagarty Architect Ltd.
Courtenay, BC

ARCHITECTURAL TECHNOLOGIST
James Matthew Design Ltd.
Courtenay, BC

STRUCTURAL ENGINEER
Bates Engineering Ltd.
Courtenay, BC

ELECTRICAL ENGINEER
Muir Engineering Ltd.
Comox, BC

GENERAL CONTRACTOR
Muchalat Construction Ltd.
Courtenay, BC

LANDSCAPE DESIGN
Mariel Swan Landscape Design
Courtenay, BC

CITY PROJECT TEAM
Joy Chan, Jennifer Nelson, Randy Wiwchar and Sandy Gray

PHOTOGRAPHY
Sarah Kerr and Anne Guillo

(From left to right) Brian Bertrand, Crispin Howes and Kate Bowman

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Halcrow Yolles
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Laurentian architecture Laurentienne
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ONTARIO

COMMERCIAL

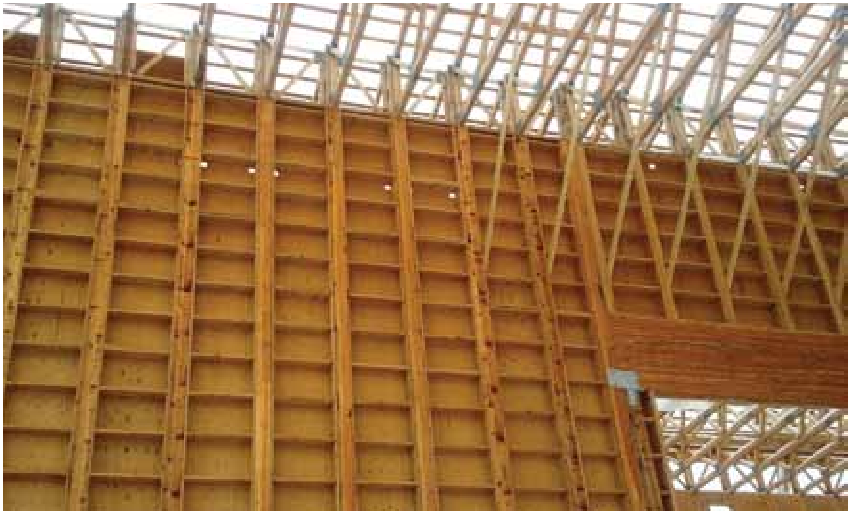
Rugged storage structure demonstrates the long-term performance qualities of wood

MTO Patrol Yard, Sundridge – Sand & Salt Storage Building

URS Architects & Engineers Canada Inc.

Long spans, large scale and filled with sand and salt, the Ministry of Transportation of Ontario (MTO) Patrol Yard in Sundridge demonstrates the structural capabilities of engineered wood products.

Unlike most of the projects recognized for wood design awards, this 3,600-sq.m. building wasn't built for its aesthetic qualities – although one could argue that there is a certain rugged presence to the large format wood members and the barn red sides – but for the ability to meet the significant structural and long-term performance qualities required by MTO.



As a supply station for 10,000 tons of sand and 200 tons of rock salt, the building is large enough to allow salting trucks to drive inside for loading and unloading. This feature, along with a membrane under the building to catch grey water, helps to limit contamination of salt into the water supply.

Wood was used exclusively in the sand and salt storage portion of the facility. Wood was selected for its inherent resistance to corrosion and its strength. Multiple windows allow for natural lighting of the facility during the day. Motion sensors turn on the lights during the night so that lights are never left on accidentally. Transparent doors allow even more light into the huge structure. On days when a storm hits this rural community, the doors open and the maintenance vehicles move in and out of the building as they deliver salt and sand to 60km of road on Highway 11 and Highway 124.

Located in a rural setting without access to a water supply adequate to allow for the design to rely on sprinkler systems for fire resistance, the heavy timber glulam construction along with fire retardant treated lumber and plywood offered a safe, economical solution. Hybrid walls designed using both conventional lumber studs as well as large section glulam studs were pre-fabricated off site in sections and transported to site resulting in minimal installation time.

Pre-fabricated wood trusses, lumber framing, glulam wall studs and columns, and large section glulam beams are among the range of structural wood products found in the storage area of the building as well as the unload and reload areas.

LEAD ARCHITECT
URS Architects & Engineers Canada Inc.
Markham, ON

CLIENT
Ministry of Transportation of Ontario

TIMBER BUILDING ENGINEER
Anrep Krieg Desilets Gravelle Ltd.
North Bay, ON

GENERAL CONTRACTOR
Pedersen Construction Inc.
New Liskeard, ON

BUILDING CONTRACTOR
Kenalex Construction
North Bay, ON

FRAMING INSTALLATION
BHE
Belleville, ON

WALL PANEL &
TRUSS PRE-FABRICATION
Kent Trusses Ltd.
Sundridge, ON

STRUCTURAL DRAWINGS
Anrep Krieg Desilets Gravelle Ltd.
North Bay, ON

PHOTOGRAPHY
Geordie Secord
Barrie, ON

Wayne Gravelle
North Bay, ON

Kelly McShane, Almaguin News

ENGINEER WOOD ADVOCATE

Prototype wood school met all of the challenges of working in a disaster zone and is better able to withstand natural disasters such as earthquakes and hurricanes

Haiti Prototype School

Blackwell Bowick Partnership Inc.,
Halsall Associates, Quinn Dressell Associates and
Read Jones Christoffersen Ltd.

On January 12, 2010, a magnitude 7.0 earthquake struck Port-au-Prince, the capital of Haiti, and reverberated throughout the country. The earthquake destroyed or damaged large parts of the built environment, including 300,000 houses, leaving 1.5 million people homeless. It also destroyed or damaged more than 4,000 schools, including most of those in Port-au-Prince and in a large area of Haiti's southwest.

In response to this disaster, a group of four engineering firms – Blackwell Bowick, Halsall Associates, Quinn Dressell and Read Jones Christoffersen – answered a call from Finn Church Aid (FCA), a Finnish NGO, to help rebuild Haiti's destroyed schools. Recognizing they could make a bigger difference if they banded together, these four firms created a joint venture to provide pro bono engineering services for FCA's Haiti Schools Project.

The goal of the joint venture was to develop and build at least two prototypes for permanent, durable schools that could be replicated throughout Haiti depending on the local conditions. It also aimed to transfer knowledge and skills to local Haitian engineers and contractors to ensure future projects built in Haiti after their departure would be better designed to withstand natural disasters such as earthquakes and hurricanes.

Rebuilding the schools in Haiti presented considerable challenges. In addition to a basic lack of infrastructure (compounded by the devastation wrought by the earthquake), issues included material shortages and/or expensive materials, lack of access to typical North American building supplies, a narrow supply chain, and the necessity to achieve results without being able to resort to costly machines and equipment or skilled labor.

A significant challenge was the remoteness of some of the school sites. St. Joseph School in Embouchure, for example, was located in a remote area, reached by a rigorous two-hour hike down a hillside and across a riverbed. This meant that the building materials chosen for rural schools had to be as lightweight and efficient as possible.

Despite issues and challenges, the results exceeded all expectations. In just over a year, two prototype schools were built: St. Matthieu, a heavyweight structure of reinforced concrete columns and shear walls with rubble masonry infill for areas accessible by road, and St. Joseph, a lightweight alternative featuring a timber stud wall construction with plywood shear walls.

Wood was the natural material choice to satisfy the design criteria for a lightweight, efficient and easily adaptable material that can be transported on foot and used in a relatively low-tech environment. Resistance to hurricane and earthquake forces was another crucial consideration in selecting wood as the preferred building material. Because a wood structure itself is significantly lighter than a masonry structure, it has correspondingly lower seismic loads. Wood also presents ease of on-site construction. In the case of the St. Joseph school, truss and wall elements were designed and pre-cut, carried in and assembled on-site. Overall, wood is a material that allows for small changes and adapts well to site conditions.

Using the Canadian engineers' prototype designs, Finn Church Aid intends to build 50 schools in all, delivering not only safe and comfortable school buildings, but tremendous positive social and economic impact in Haiti as well. This project demonstrates the significant difference that a small-scale, volunteer engineering effort can make in improving our world.

PROJECT LEADER
David Korpela
Finn Church Aid

CANADIAN ENGINEERING TEAM
Blackwell Bowick Partnership Inc.,
Halsall Associates,
Quinn Dressell Associates and
Read Jones Christoffersen Ltd.

ON-SITE
Dan Carson, Halsall Associates;
Christian Bellini, Michael Hopkins,
Tim Joyce and Kenneth Cryer of
Blackwell Bowick; and Shane Copp,
Read Jones Chistoffersen

PHOTOGRAPHY
Blackwell Bowick Partnership Inc.
Toronto, ON

GREEN BUILDING

Daycare uses wood to create a sustainable and natural learning environment

Christopher Children's Centre

Lillepold Dowling Architects in association with CS&P Architects

The Christopher Children's Centre sits in a unique mid-block condition, where residential yards surround a quiet retreat for 68 toddler and preschool children. A mature tree canopy and patchwork of hedges and fences frame playgrounds, and a series of extended threshold spaces offer protection from direct sun and rain. The project is organized around a day-lit circulation and play corridor, with a central open kitchen and support offices. Ceilings of varying textures and heights create carefully scaled spaces, with subtle variations linked to children's developing spatial understanding.

The client's approach to early childhood education advocates active learning and an environment where children are in contact with natural materials, with

abundant natural light and connection to outdoor spaces. FSC certified woods are combined with polished and roughened concrete to provide a variety of colors and textures – from the smooth face of white maple panels and black walnut benches to rough sawn siding and battens. The project's public art budget used lumber from an American black walnut tree on the site to create a bas-relief in the main entry as well as life size animal sculptures at the doorway to each children's room.

Sustainability and budget led to the incorporation of wood as the primary structural element. Within a sprinkler equipped building, wood allowed a rapid and low-tech construction system utilizing a renewable resource. Large overhangs are cantilevered with LSL beams, with joist spaces insulated and separated to avoid exterior sprinklers. Pre-finished wood siding is further protected by a parged foundation upstand that aligns to low precast concrete windowsills around the building.

Minimal depth strip footings at interior bearing walls allowed framing to proceed quickly during winter construction, and the concrete slab on grade is polished to expose aggregate in circulation, washroom and storage areas. Hydronic floor heating utilizes the thermal mass, while adding the great benefit of a warm floor for infants and toddlers.

Fresh air and cooling equipment are placed strategically in small groups on the flat roof, surrounded by screens of vertical wood battens, allowing limited ductwork and a minimal service space

above dropped ceilings. Corridors incorporate surface-mounted lighting on Tectum panels and air supply and return through millwork battens to gain additional ceiling height at limited cost.

Over 95 per cent of generated construction waste was sent to recycling facilities and diverted from landfill. The centre has an extensive ongoing recycling program that includes collection of organic waste and storage in semi-buried containers, and acts as a client pilot project for rooftop solar hot water heating.

Playgrounds include raised vegetable gardens and naturalized zones, fostering understanding of nutrition, environmental sustainability and stewardship, the importance of plants and insects to the environment, and the benefits of local and organic alternative means of food production. Combined with the significant mature tree canopy, new native plantings will reinforce edges and boundaries while allowing the site to further soften over time. It is hoped the project touches the childhoods of many in a positive way.

ARCHITECT
Lillepold Dowling Architects in association with CS&P Architects
Cambridge/Toronto, ON

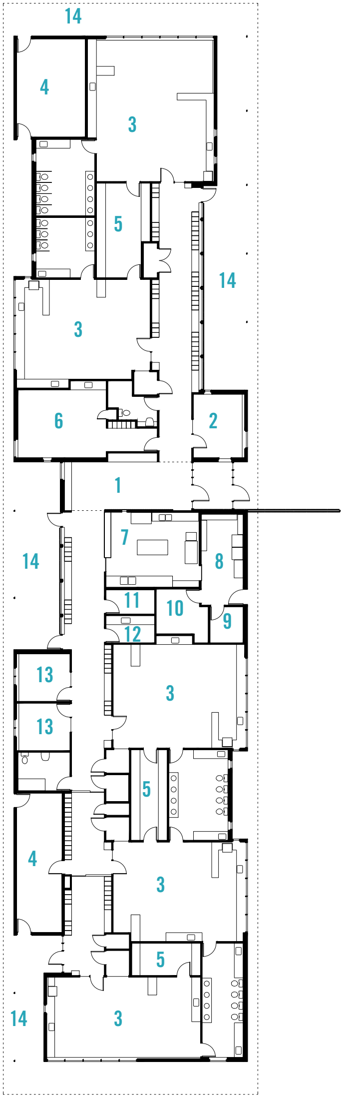
CLIENT
Region of Waterloo
Kitchener, ON

STRUCTURAL ENGINEER
Blackwell Bowick Partnership Ltd.
Waterloo, ON

GENERAL CONTRACTOR
Dakon Construction Ltd.
Waterloo, ON

PHOTOGRAPHY
Henry Dowling/Paul Dowling
Paris, ON

Tom Arban
Toronto, ON



FLOOR PLAN

1. entrance
2. supervisor
3. children's room
4. outdoor storage
5. storage
6. staff
7. kitchen
8. pantry
9. electrical
10. mechanical
11. custodian
12. laundry
13. office
14. covered play

INSTITUTIONAL <10M

Community honors its heritage as a forestry town with an inspiring wood information center

Lake of the Woods Discovery Centre

Nelson Architecture Inc.

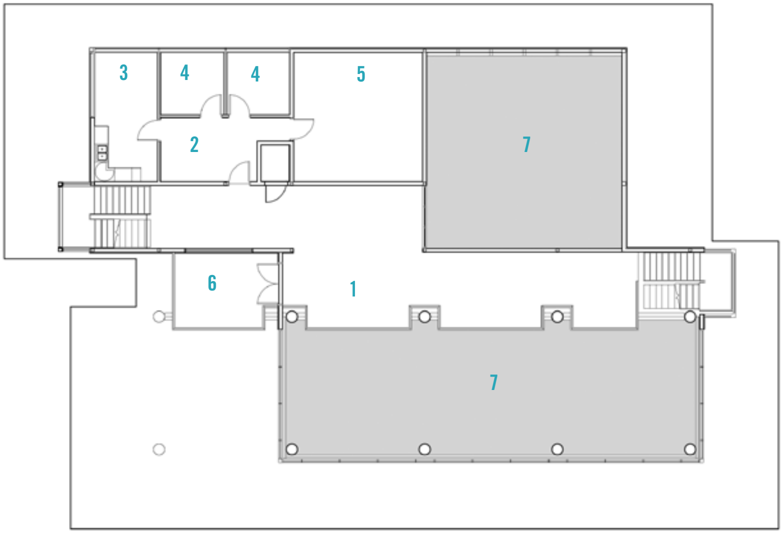
The Lake of the Woods Discovery Centre is a 6,500-sq.ft. building providing tourist information and an overall introduction to the history, culture and future of the Lake of the Woods. It is situated on a former lumber mill site within the City of Kenora, with a south view over Safety Bay on Lake of the Woods.

The building's plan has been kept simple and consists of a gallery space with loft, administration space and a small multi-purpose space.

Kenora's principal industry has, until recent years, been forestry. The recent closure of the paper mill has necessitated that the community look actively at its other great resource: Lake of the Woods and the tourism opportunities it represents.

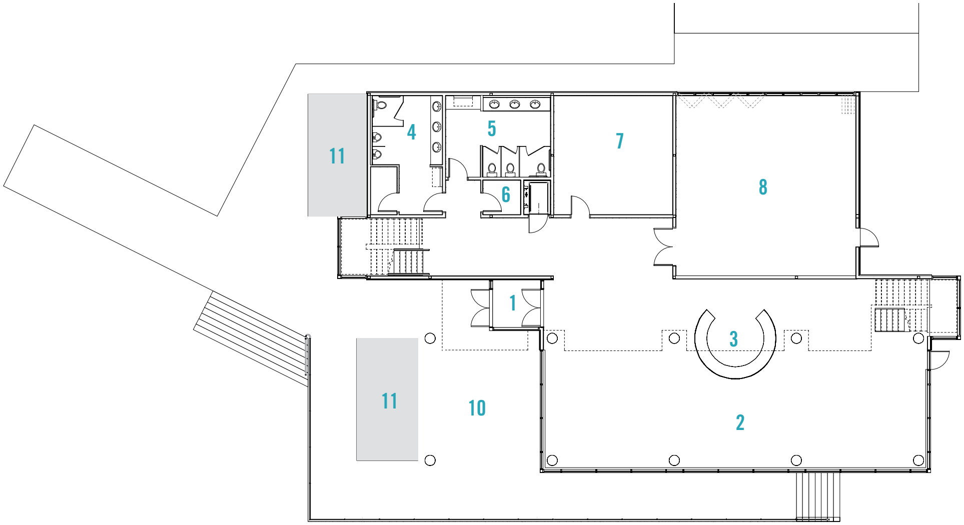
The use of wood in the Discovery Centre is both an acknowledgement of the community's wood industry and its cultural past, and perhaps a step toward the community's cultural and industrial future. It is intended to be a celebration of the beautiful and extensive forest surrounding the community.

The use of wood, in particular the roof structure, allowed the 10-ft. cantilever which enables full shading in the height of summer, without creating any significant thermal bridging of the envelope by the structure. The building takes advantage of the passive solar contribution but its principal heat source is the lake itself, by means of a thermal heat loop on the lake's bottom connected to heat pumps within the building.



SECOND FLOOR PLAN

1. upper gallery
2. general office
3. staff room
4. office
5. mechanical room
6. outdoor balcony
7. open to below



GROUND FLOOR PLAN

1. vestibule
2. lower gallery
3. reception
4. men's restroom
5. women's restroom
6. utility
7. storage
8. multi-purpose room
9. outdoor amphitheatre
10. covered patio
11. planter

The primary structural frame of the building is glulam beams and local white pine tree columns where exposed. All exterior and interior wall framing is wood stud. The mezzanine floor utilizes engineered wood joists with plywood subfloor.

Wood takes on an important symbolic role for a community whose historical principal industry has been based in the forest. Lake of the Woods is widely considered to be one of the most beautiful lakes in the world and the exposed wood frame speaks to both the history and future of the community.

ARCHITECT
Nelson Architecture Inc.
Kenora, ON

CLIENT
City of Kenora, ON

GENERAL CONTRACTOR
Solid Construction Inc.
Kenora, ON

STRUCTURAL ENGINEER
Lavergne, Draward & Associates
Winnipeg, MB

MECHANICAL/
ELECTRICAL ENGINEER
MCW/AGE Consulting Engineers
Winnipeg, MB

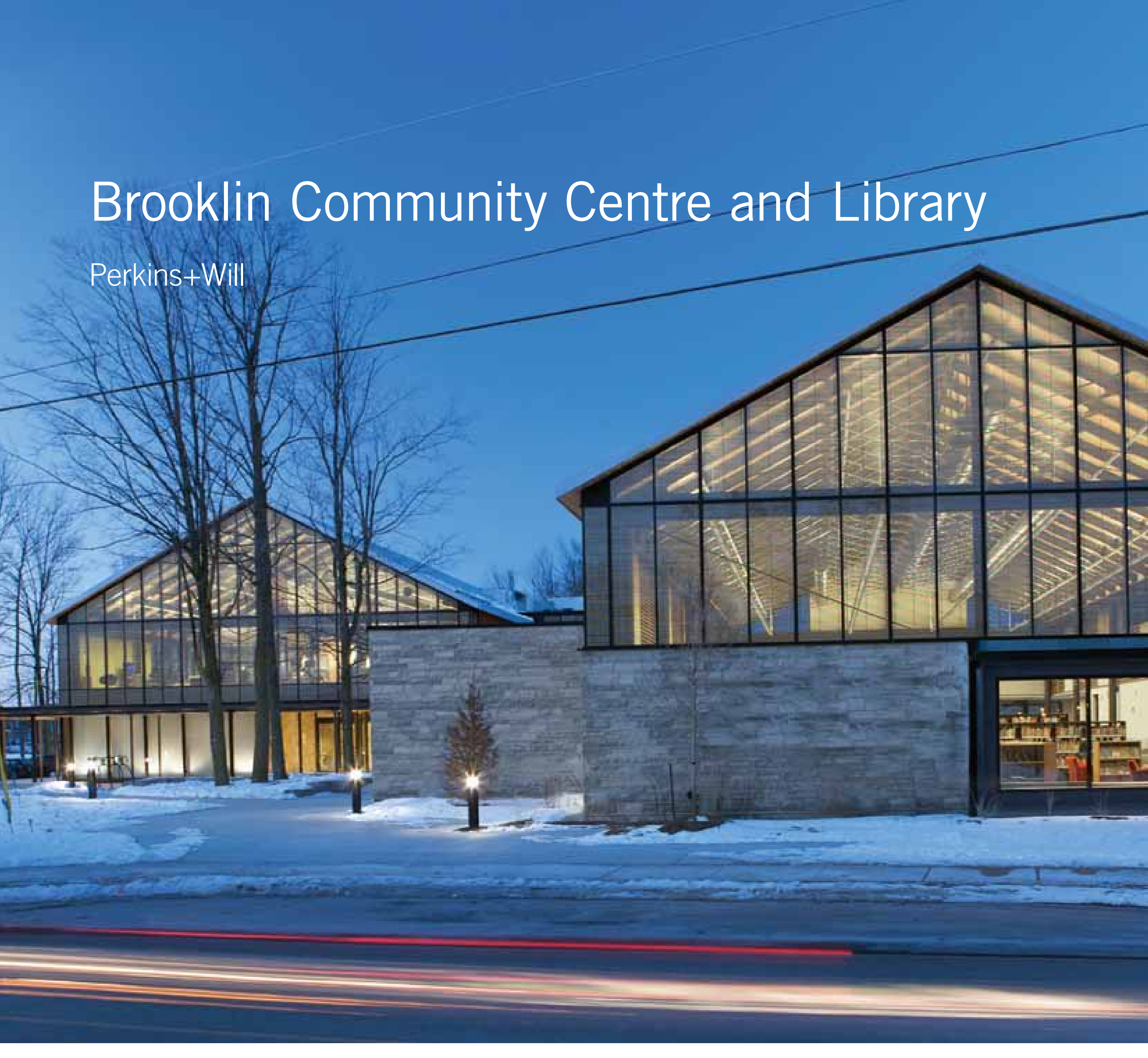
LANDSCAPING
Hilderman Thomas Frank Cram
Winnipeg, MB

GLULAM
Western Archrib
Edmonton, AB

PHOTOGRAPHY
Ihor Kortchevich
Kenora, ON

Brooklin Community Centre and Library

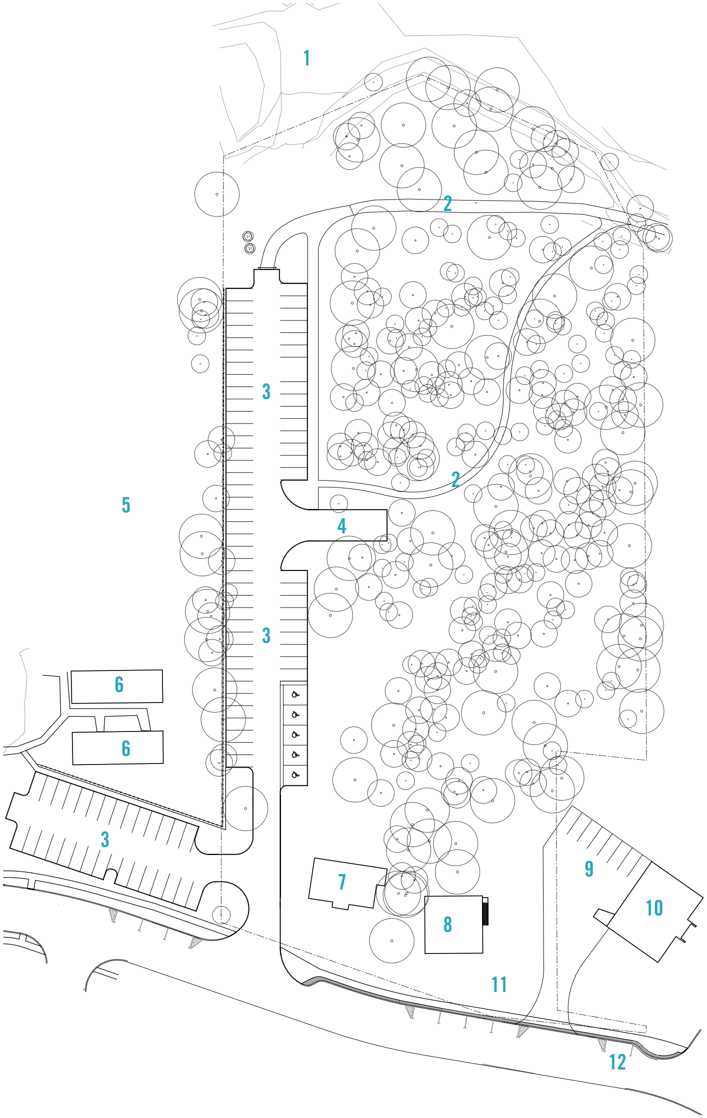
Perkins+Will



INSTITUTIONAL >10M

Wood provides a connection to the building's naturalized site and economic and cultural roots

A remnant forest in the historic village of Brooklin, Ontario, provides the setting and inspiration for this district Library and Community Centre. Each of the key program areas (library, community centre and gymnasium) is housed in one of three linked structures whose rooflines and simple forms recall the region's agrarian and industrial roots. A sophisticated approach to structural articulation, detailing and materiality transforms a regional inspiration into a sharply articulated response to the design issues of the 21st century. Porches, breezeways and glazed links provide the common space and allow the three shed volumes to frame courtyards and views into the surrounding hardwood forest. Each of the key program areas



SITE PLAN

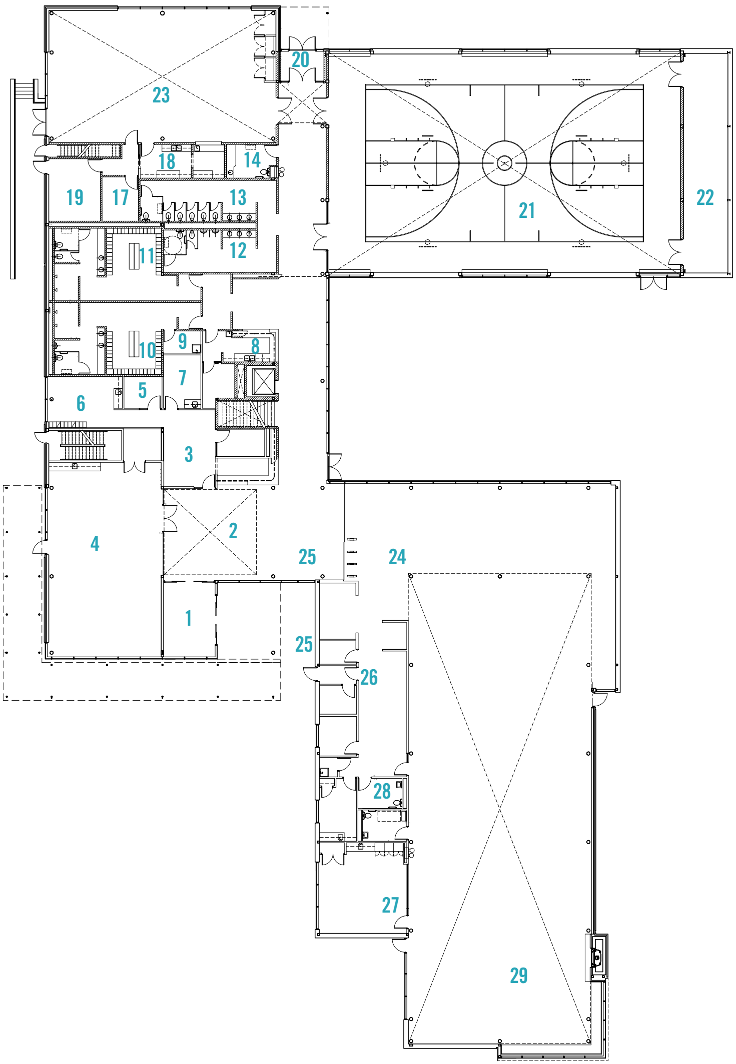
1. creek
2. existing trails
3. parking
4. loading
5. school yard
6. portable
7. existing library
8. fire hall
9. post office parking
10. post office
11. view to/from downtown
12. downtown

is accommodated under a pitched roof with exposed structure. To evoke agrarian structures and to provide a sense of warmth an intimacy within this relatively large complex, wood was used throughout for the structural roof decking. Lightweight steel cable trusses provide an economical, long span solution and allow the wood to provide the primary material characteristic of the large spaces.

Throughout the interior, wood is used extensively in the creation of custom millwork counters that feature robust planes of oak butcher-block. Walls and ceiling feature oak slat acoustic panels and doors are all solid core wood with oak or maple veneer. Oak and maple are used for their durability but also to provide an association with the hardwood forest, which is seen through expansive glazing.

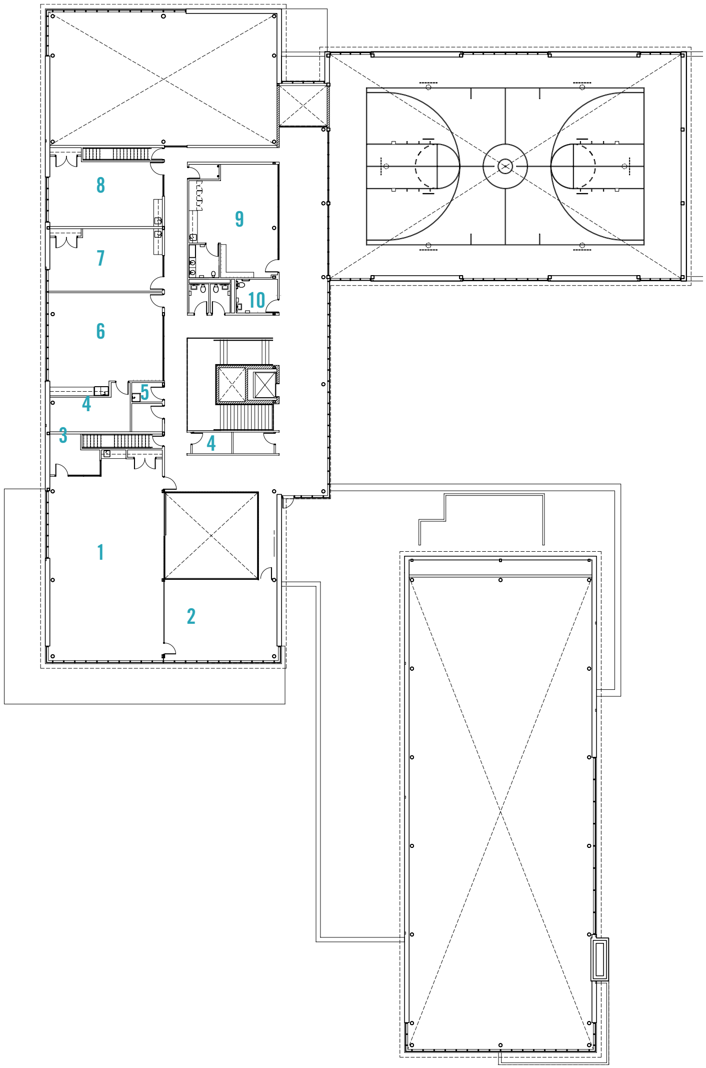
The preservation of specimen hardwoods, the native topography and watershed were critical to the placement of the building footprint. The careful control of run-off and overland flow protects the watershed of Lind Creek at the north end of the site and ensures the proper irrigation of the surrounding woodshed. Parking lot run-off is filtered through bio retention swales and roof water is captured for grey water conveyance.

The strategy of articulating the program as a series of discrete elements allows the building to bridge between the fine-grained urban fabric of the village and its wooded site. The planimetric arrangement maximizes the enjoyment of the naturalized setting and the penetration of daylight into the building's program spaces. As a legacy to the Village of Brooklin, the



GROUND FLOOR PLAN

1. main entrance vestibule
2. lobby
3. admin./control
4. seniors' room
5. office
6. staff room
7. sick room
8. servery
9. janitor
10. male changeroom
11. female changeroom
12. male restroom
13. female restroom
14. barrier free restroom
15. mechanical/ electrical
16. multi-purpose room
17. storage
18. kitchen
19. garbage
20. vestibule
21. gymnasium
22. gymnasium storage
23. multi-purpose room
24. library
25. book drop
26. library administration
27. program room
28. restrooms
29. family lounge/ fireplace



SECOND FLOOR PLAN

1. youth room
2. computer commons
3. youth supervisor
4. storage
5. janitor
6. craft room
7. meeting room
8. board room
9. preschool room
10. restroom

project sets an example for a considered approach to building siting and form that is highly responsive to the area's natural and built heritage. The resulting design achieves an intimacy of scale and a variety of spatial experiences rarely achieved in a multi-use facility of its size. The use of wood becomes an important part of this overall design strategy, not only for its sustainability but also for its cultural and historical resonance. The combination of wood in a wide range of interior elements as well as the building structure provides a strong connection to the building's naturalized site and its economic and cultural roots – The Brooklin Saw Mill on Lind Creek was the economic engine of the community for early settlers. The continued integration of local wood working trades and regional suppliers of timber products into this significant public building carried an important message to the local community while rooting it to its context.

ARCHITECT
Perkins+Will
Toronto, ON

STRUCTURAL ENGINEER
Blackwell Bowick Partnership Ltd.
Toronto, ON

MECHANICAL ENGINEER
Smith + Andersen
Toronto, ON

ELECTRICAL ENGINEER
Mulvey + Banani
Toronto, ON

CIVIL ENGINEER
MMM Group
Thornhill, ON

GENERAL CONTRACTOR
AquiCon Construction
Brampton, ON

ACOUSTICS ENGINEER
Aercoustics Engineering
Etobicoke, ON

LANDSCAPE ARCHITECT
Fleisher Ridout Partnership
Toronto, ON

COST CONSULTANT
Cm2r
Toronto, ON

CODE CONSULTANT
Randal Brown & Associates
Toronto, ON

BUILDING ENVELOPE
Zec Consulting
Toronto, ON

PHOTOGRAPHY
Lisa Logan
Toronto, ON

INTERIOR

Wood floors, millwork and cabinetry civilize the building's institutional qualities and impart a sense of home

Salvation Army Harbour Light

Diamond Schmitt Architects

The Harbour Light is the flagship facility of the Salvation Army in the downtown core of Toronto. The seven-story, 94,000-sq.ft. building houses a community church, transitional housing, a residential addictions recovery program, and community and family services.

The north wing is a short-term residential addiction recovery facility operated in conjunction with the Ministry of Health Long-Term Care (MOHLTC) that houses 48 single-, double- and triple-dwelling rooms over six floors. A vertical glass volume along Jarvis Street contains the social programmatic elements for each floor – the recreational lounge, group room and dining area.

Residents are brought together as

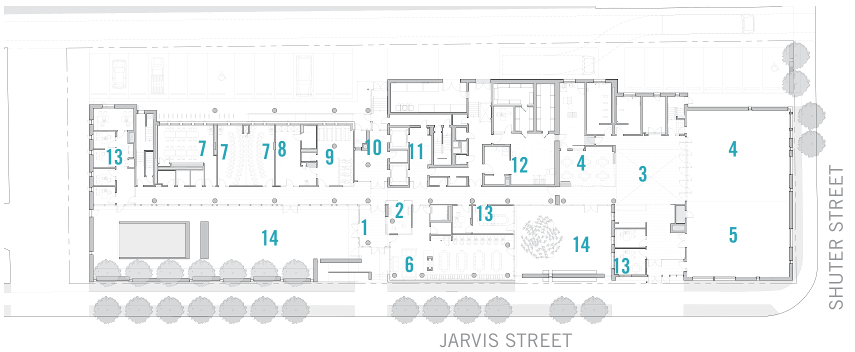
extended family groups of 15 with their own counselor, eventually graduating to one of the 98 transitional apartments located in the south wing of the building. There they live independent lives with continued access to counselors as well as education, job training and employment services. The south wing features a two-story communal living room to foster social interaction and support.

Maple floors and red oak millwork and cabinetry are used throughout the residential wings to civilize the building's institutional qualities and bring the sense of home to the apartments and clinic.

All apartments and offices are located around the perimeter of the building allowing every room to have an operable window as well as access to natural light and views. Horizontal sunshades are provided on the glazing to control south and west exposures while vertical fins lower solar gain on the east and north elevations.

On the ground floor, a central corridor links together program rooms, classrooms, amenity spaces, two landscaped courtyards and the community church which sits as an independent volume to the north of the residence wings. It is clad in polycarbonate panels, backlit to produce a beacon of light, emblematic of the center's mandate as a place of hope. They rise above the solid masonry base and cut back to reveal two crosses incised into the brick.

The sanctuary is built to the lines of the sidewalk in a dense urban manner,



GROUND FLOOR PLAN

1. main entrance
2. reception
3. foyer
4. multipurpose room
5. chapel
6. day program room
7. classroom
8. laundromat
9. exercise room
10. south residence elevator lobby
11. north residence elevator lobby
12. north residence kitchen
13. office
14. enclosed landscaped terrace

and windows are punched into the brick base to carefully modulate the view and natural light and reveal the warm wood interior to passersby.

The sanctuary of the church is the heart of the Harbour Light. It is constructed entirely of wood at the interior within the shell of exterior masonry and polycarbonate. Red oak is used for the interior walls, with the lower portions in a solid pattern derived from shingles for acoustic reflection. The upper walls and ceiling are of oak configured in acoustically transparent, reflective and absorptive patterns. The floor is maple.

The sanctuary has an operable, oak veneer acoustic partition that enables the space to be divided into a multipurpose room and smaller chapel.

The addition of the Harbour Light Centre has improved the streetscape of Jarvis Street, and serves as a highly visible, socially significant institution.

ARCHITECT
Diamond Schmitt Architects
Toronto, ON

STRUCTURAL ENGINEER
Read Jones Christoffersen
Toronto, ON

GENERAL CONTRACTOR
Atlas Constructors Inc.
Concord, ON

LANDSCAPE ARCHITECT
DTAH
Toronto, ON

PHOTOGRAPHER
Tom Arban
Toronto, ON

JURY'S CHOICE

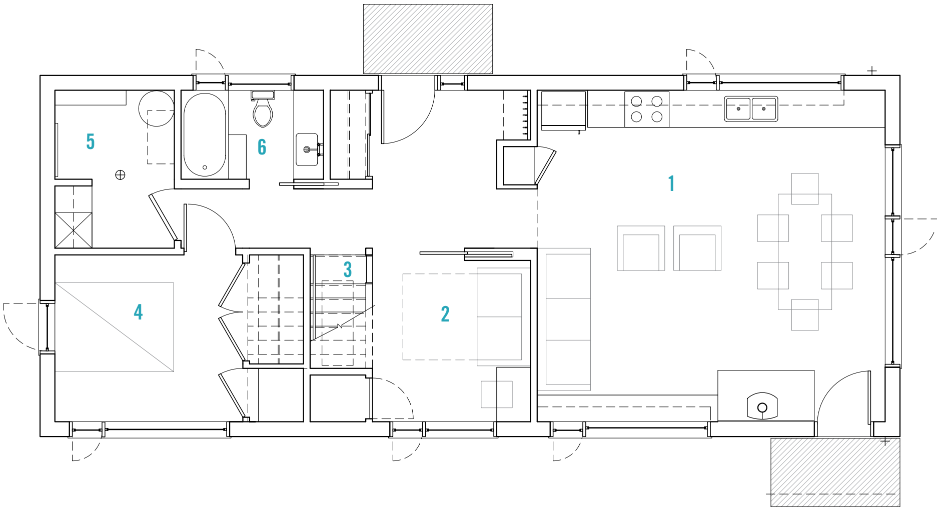
Simple, contemporary home connects residents to the landscape by incorporating local tradition and local materials

Opeongo Road House

Levitt Goodman Architects

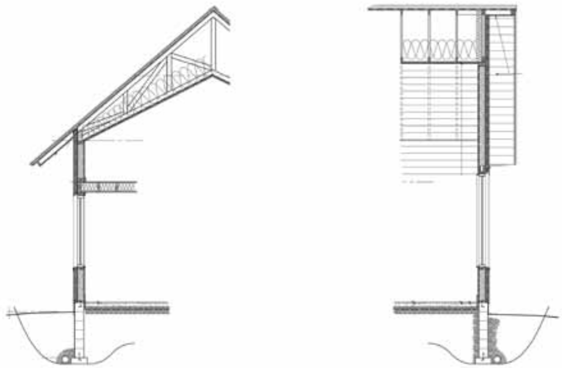
Inspired by the wooden barns found in the surrounding landscape, the clients, Antonin and Miroslava Lhotsky, wanted to keep the form and finishes of their home as simple as possible and make strong connections to the landscape through large windows carefully oriented toward the stunning surroundings.

The focus for the architects was to build a small, sustainable house, and to build a well-insulated high-quality wood exterior envelope. The truss design provides ample space for insulation. Given that the residents may not be in the home for weeks at a time, the architects had to design a wood structure that could withstand significant snow accumulation and the freeze/thaw phenomenon every spring. All aspects of the exterior walls, doors



GROUND FLOOR PLAN

1. living/kitchen/dining
2. den
3. stairs to loft above
4. guest bedroom
5. mechanical/laundry
6. bathroom



SECTION DETAILS

and roof were detailed to withstand the harsh winters. Window and door opening sizes and orientation were carefully tuned to take full advantage of natural ventilation and natural shading in the summer and passive solar gain in winter. This allowed the house to be built without any mechanical air conditioning. Finally, the architects used as many local materials and local trades as possible. The ground floor is polished and sealed concrete, with in-floor radiant heating using an on-demand boiler as the energy source.

Notably, this was the firm's first completely drywall-free house. All of the walls and ceilings are completely clad in local 6-in. pine boards whitewashed with a coat of thinned latex paint, allowing the natural texture of the wood to telegraph through. The kitchen and bathroom millwork were all built on site of solid birch with an oiled finish of natural linseed. The interior of the stair is fully clad in plywood but left natural in this location and oiled for wear. By experimenting with the many ways in which wood can be finished, the architects were able to capture a varied interior environment, all enhanced by the warm glow inherent to the material. Even the skylights in the roof have been encased with wood pine veneered plywood. They bring light and ventilation to the sleeping loft and draw focused light down into the stair. Using wood was central in the design. It is a renewable and local material that references the barn vernacular, but it also creates a contemporary house.

ARCHITECT
Levitt Goodman Architects
Toronto, ON

CLIENT
Antonin and Miroslava Lhotsky

GENERAL CONTRACTOR
HavenCraft Inc.
Bancroft, ON

WOODWORKING
HavenCraft Inc.
Bancroft, ON

PHOTOGRAPHY
Antonin Lhotsky

MULTI-UNIT

Construction time and costs were minimized with prefab components

Lippincott Living

STAMP architecture

Lippincott Living is an eight-unit townhouse project in Toronto's Kensington Market district. The project is the result of collaboration between Netkin Architect (now STAMP architecture) and Cecconi Simone Design. The team came together and formed the Blurredge Group, a development group focused on building smart and modern low-rise infill projects.

The building offers eight purchasers a fully realized living environment. All of the fixtures, finishes and built-in details are provided beyond what would be expected. The design and function of the living spaces are integrated into the home to maximize the function and ease of enjoyment by the residents. The goal was to provide a superior form of new residential housing. It is a product akin to high fashion apparel, which provides a completely finished, "ready to wear" product. It is a turnkey home for sophisticated urbanites.

The story of this building begins with the siting. This is based upon maximizing the amount of quality living space for every resident. The site's east-west orientation optimizes the design of each home. All eight units have a south-facing outdoor court that is integrated into the plan of the home. Large movable glass walls open the interior space directly onto the court. The building is also detailed to address different exposure conditions. On the south, overhangs and solar shades are used to control direct solar gain. The siting is also designed to exploit views of the Toronto skyline from the private third-floor master balcony.

On the interior, the floor plan and extensive built-in millwork maximize the floor space to create a light-filled, comfortable family home. On the main level, the outdoor room is adjacent to the dining room. The kitchen is in the middle and the living room is at the far end. Each room is carefully detailed, incorporating wood built-ins and other elements to their best advantage.

The materiality of the building is driven by the suitability of different materials for different jobs. Firmness, commodity and delight are all taken into consideration. Wood is an excellent material for low-rise housing. It is used in many ways due to its aesthetic quality, versatility, economy, durability, and renewability. The structure and the finish of the building incorporate many wood products. Engineered wood products are integral to the building, including the frame. The finished materials enhance the warmth and intimacy of both the interior and exterior spaces.

The heart of the building begins with the wood frame structure, which is composed of factory-built wood wall and floor panels. The systemization of the building structure off-site resulted in a significant reduction in the on-site construction schedule. The wood frame structure was prefabricated in a local factory and erected in winter in Toronto in three weeks. Wall, floor and roof panels were built in a shop. The panels incorporate engineered and recycled materials which meant a better quality product and installation, and minimized waste and materials.

The overall cost of prefab versus conventional construction was less than 10 per cent of the framing cost and less than one per cent of the building cost. The project was built and sold in 10 months.

ARCHITECT
STAMP architecture
(formerly Netkin Architect)
Toronto, ON

STRUCTURAL ENGINEER
Hamann Engineering
Toronto, ON

GENERAL CONTRACTOR
Great Gulf Homes
Toronto, ON

STRUCTURAL FRAMING
Brockport Home Systems
Toronto, ON

INTERIOR DESIGN
Cecconi Simone
Toronto, ON

LANDSCAPE DESIGN
Eden Design with STAMP and
Cecconi Simone

SLIDING WALL
Schueco
Mississauga, ON

WINDOWS
Rehau
Baie-d'Urfe, QC

WOOD CLADDING
Maibec
Baie-d'Urfe, QC

PHOTOGRAPHY
Bradley Netkin
Peter Sellar
Joy von Tiedemann

A newly designed health center is rich in wood, promotes peace-of-mind and connects the local population to the forestry town's First Nation traditions

Sioux Lookout Meno Ya Win Health Centre

Stantec Architecture Ltd.

Throughout history, wood has been a traditional construction material for the First Nations people. The respect for natural resources and their proper utilization is one of the driving principles of the indigenous society's world view. Moreover, the forest industry has been a part of the local economy for as long as Sioux Lookout has existed as a town.

As such, using heavy timber for the main public spaces of the Meno Ya Win Health Centre was a natural choice. The use of wood in the public spaces and main gathering areas within the hospital not only supports the local forest products industry and the First Nations tradition of wood as a construction material, but aims to become a key connection between the local native and non-native culture and residents.

The main concept behind the master plan of the project is the Medicine Wheel, a powerful 350 meter-wide (1,148 feet) circular mark on the land, capable of being seen from an airplane, the main means of arrival for the majority of the patients to the Health Centre. Oriented to the four cardinal points, the Medicine Wheel is used by many First Nations as a healing device with various traditional symbolic meanings at the four directions. The circle of the Medicine Wheel provided the project with a forceful compositional focus. Locations for a recently completed hostel for the patient families, for hospital expansion, future clinics, a long-term care facility

and other related buildings have been provided in the master plan of the site, all connected from the circular road.

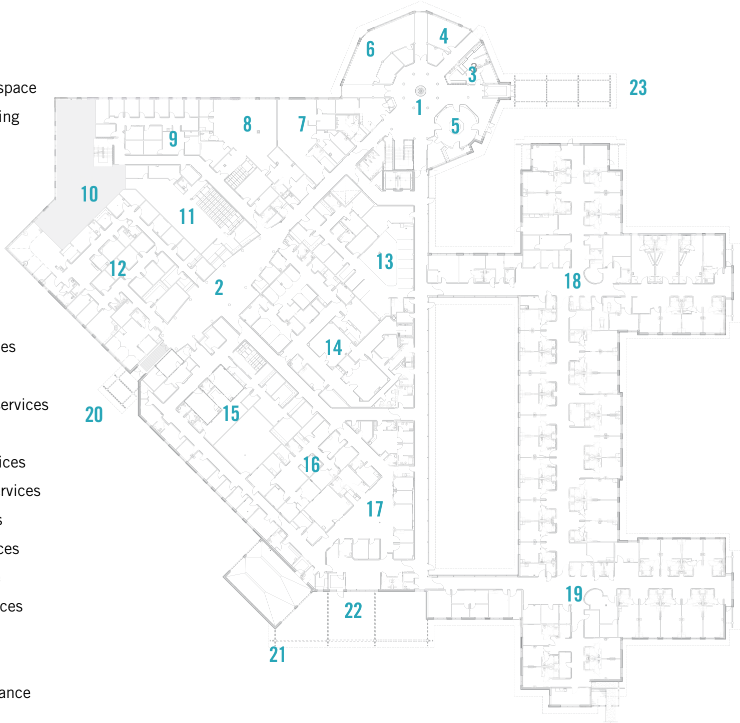
At the center of the circle is the Main Gathering Space, the main access point of the hospital and a warm, welcoming orientation device for the patients and visitors alike. Built entirely of heavy timber, the tree-like columns support the timber beams, rafters and deck of the octagonal wood roof structure, giving a powerful spatial experience while reducing the intimidating feeling a hospital can sometimes generate. In this high space, architectural features such as a fire feature, a skylight, or a fountain refer to the primordial elements – earth, fire, air and water – allowing an inclusive reading of those symbols according to the culture of the person experiencing it.

A Multi Denominational Quiet Room and a Traditional Ceremonial Room, both under the same octagonal roof of the Main Gathering Space, are treated with solid wood finishes, providing an additional connection to nature.

Further along a diagonal corridor, one arrives at the canoe-shaped Ambulatory Lobby. Round timber columns support a system of timber and steel trusses separated from the surrounding flat roof by a clerestory that allows sunlight to comfort the waiting patients. The main diagnostic and treatment departments are located around this welcoming waiting space.

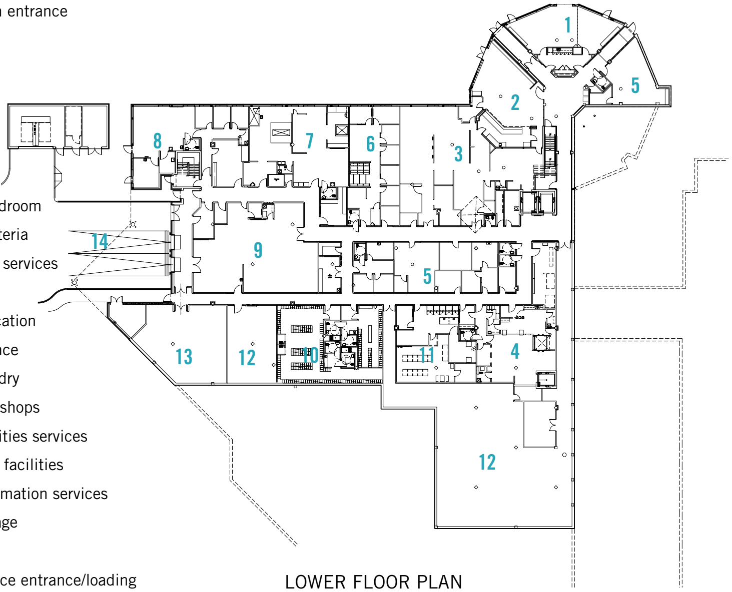
The corridors and the inpatient

1. main gathering space
2. ambulatory waiting
3. reception
4. multi-faith quiet room
5. traditional ceremonies room
6. offices
7. pharmacy
8. laboratory services
9. mental health
10. administration services
11. medical records
12. ambulatory services
13. rehabilitation services
14. surgical services
15. diagnostic services
16. surgical daycare
17. emergency services
18. inpatient unit 1
19. inpatient unit 2
20. ambulatory entrance
21. ambulance
22. emergency walk-in
23. main entrance



GROUND FLOOR PLAN

1. boardroom
2. cafeteria
3. food services
4. CSR
5 education
6. finance
7. laundry
8. workshops
9. facilities services
10. staff facilities
11. information services
12. storage
13. M+E
14. service entrance/loading



LOWER FLOOR PLAN

wing are surrounded by generous roof overhangs with regular timber-clad supports that, together with the landscape of the exterior space, manage the natural light penetration and further reduce the institutional image and scale of the facility. Timber structure canopies protect and welcome the public at the main entrances to the facility.

ARCHITECT
Stantec Architecture Ltd.
Toronto, ON

ASSOCIATE ARCHITECT
Douglas Cardinal Architect Inc.
Ottawa, ON

CLIENT
Sioux Lookout Meno Ya Win Health Centre
Sioux Lookout, ON

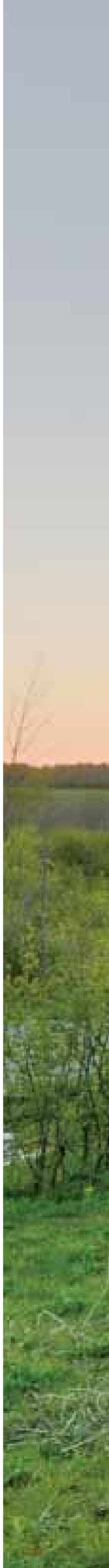
ENGINEER
Neegan Burnside Ltd.
Orangeville, ON

GENERAL CONTRACTOR
EllisDon Corporation
Mississauga, ON

STRUCTURAL WOOD CONTRACTOR
Bryte Designs/Goodlam – a Goodfellow Company
Toronto, ON

LANDSCAPE ARCHITECT
Hilderman Thomas Frank Cram
Winnipeg, MB

PHOTOGRAPHY
Richard Johnson
Toronto, ON

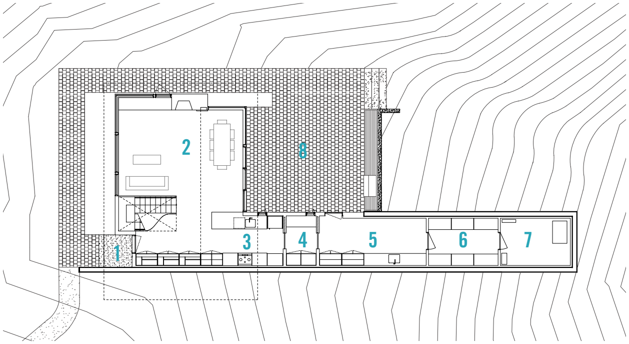



RESIDENTIAL

Country retreat’s architectural form and environmental footprint reinforce its connection to the land

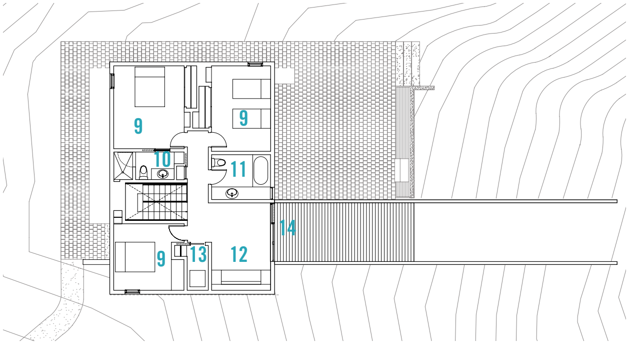
House in Frogs Hollow

WILLIAMSONWILLIAMSON Inc.



1. entry
2. main living/dining area
3. kitchen
4. computer nook
5. workshop
6. storage
7. mechanical
8. patio

GROUND FLOOR PLAN



9. bedroom
10. ensuite
11. restroom
12. family room
13. laundry
14. walkout to hill

SECOND FLOOR PLAN

The House in Frogs Hollow – a 2000-sq.ft. country retreat – is located on a long slope of the Niagara Escarpment overlooking Georgian Bay. The property is a collection of eroded clay hills and protected watershed zones blanketed with a dense field of hawthorn and native grasses.

The clients, who gather at the property throughout the year, are avid cyclists. They spent months on the 100-acre property prior to construction cutting in discreet mountain biking trails and learning the paths that have been created by horses and snowmobiles over the years. Because of their connection to the landscape, a primary site strategy was to resist the inclination to build on top of the hills. Instead, a building area was carved out at the base of the hillside. The house is not the final destination, but a stopping place within the network of activity.

The muscular tectonic of the long concrete wall figuratively clears the site for building while bridging the natural and tempered environments. The concrete has a toughness that mirrors the landscape, providing protection from the prevailing winter winds. During the summer months the wall provides patio shade, creating pools of cooler air that are passively drawn through the house.

Entry is at the west end of the concrete wall into a service bar containing the stair, kitchen, office, bike workshop, storage room, and mechanical room. This functional zone serves as a backdrop to the glassed-in living area that opens on three sides to an expansive view of the rolling landscape.

The second level hovers above the concrete wall and living space. It contains the bedrooms, bathrooms, and family room in a tight wrapper of customized 2-in. thick pine shiplap siding. Designed as an undulating rhythm of varying widths, the thin boards were CNC milled to a shallow depth while wider boards were milled with deep striations which cast long shadows that track the sun as it moves around the house. The siding is stained with a linseed oil-based iron oxide pigment that requires reapplication only once every 15 years.

The first and second floors are connected by a figured stair enclosure. In

contrast to the solid birch stair treads, handrail, and balustrade, this digitally fabricated element is made of laminated CNC-milled birch plywood profiles that filter light from the clerestory volume above. At the ground floor, the curved profiles carve into the area below its upper run to gather more space at the entry and allow for a seating area.

The house's connection to the land is reinforced not only in its architectural form, but also in its environmental footprint. The house is heated with radiant floor loops that supplement the passive winter heat gain from south facing windows. In addition, there is no mechanical cooling. Instead, the stair tower and operable windows facilitate passive ventilation that draws cool air through the house from shaded exterior areas. Natural materials and pigments were used throughout and a small square footage was maintained to further reduce construction costs and keep future energy consumption to a minimum.

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Toronto, ON

PROJECT TEAM
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Toronto, ON

MILLWORK
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SIDING FABRICATION
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Peter Odegaard, Taryn Sheppard,
Byron White

STAIR FABRICATION
Byron White, Jeff Powers

PHOTOGRAPHY
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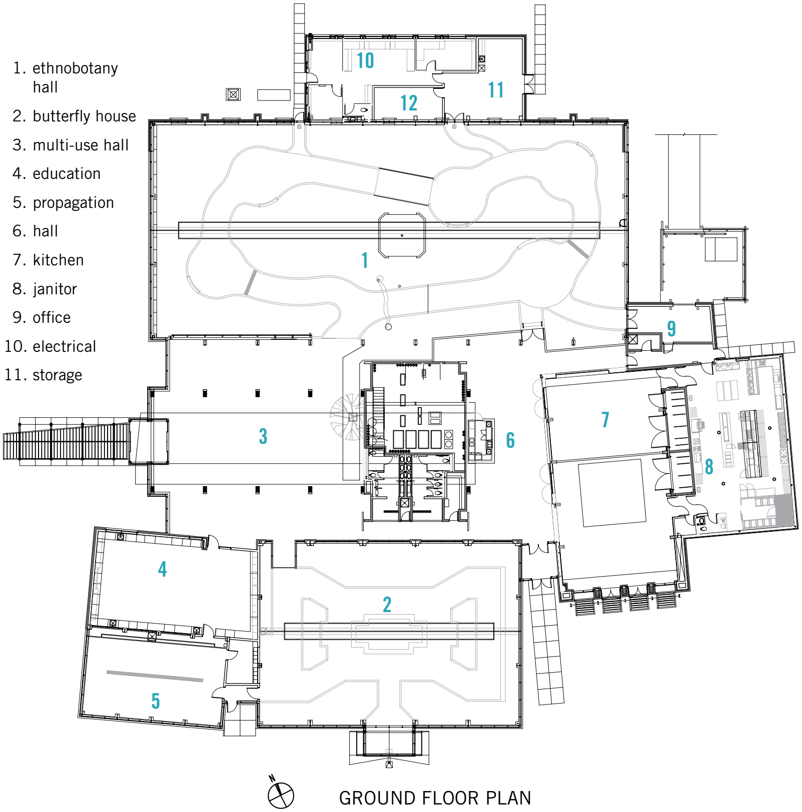
PRAIRIE

COMMERCIAL/INSTITUTIONAL

Merger of nature and infrastructure symbolize zoo's efforts to achieve a seamless exchange between nature and the community

Enmax Conservatory at the Calgary Zoo

Gibbs Gage Architects



The Enmax Conservatory sits at the center of the Dorothy Harvie Gardens at the Calgary Zoo and houses a horticultural showcase, banquet facilities and three distinct environments. The architects were commissioned by the Calgary Zoo to prepare an evaluation of the existing butterfly conservatory building and to devise a strategy of implementing a new, more intensive and functional program. The program focused on providing new opportunities in visitor amenities, revenue generation, and banquet and conference services; all in an energy-efficient showcase facility for sustainable design technologies.

The existing facility had been adapted over the years to address the evolving programs and services provided by the Calgary Zoo. The main north and south greenhouses were built in 1967 and 1964

Completed in November 2009, the Enmax Conservatory now offers improved amenities for the community, increased revenue-generating potential for the organization and has positioned the Calgary Zoo as a local leader in sustainability. Achieving LEED Gold certification in 2012, the conservatory is the first facility of its kind to achieve this level of certification. The use of wood, bamboo-based veneers and the high recycled content of the glulam beams contributed significantly to this achievement in recognition of sustainability in design.

respectively. The 40-year-old structures were constructed with conventional greenhouse technology of the era and therefore required a high level of energy consumption to maintain the environmental conditions needed to support plant and animal life. The dated physical infrastructure also hindered the ability to operate various educational, recreational and business services.

As the project involved the repurposing of an existing butterfly conservatory, there was the desire to reuse portions of the building where possible. The steel structure was preserved while a new wood structure was infilled to accommodate new hospitality and banquet facilities. The extensive use of wood in the interiors interacts with the horticultural showcases and fauna that spill from the greenhouses. The language of nature is pulled through the glass and steel structure into the millwork, flooring and ceilings within the gathering spaces, conceptually unifying the complex.

Architecturally, the conservatory expresses a duality between the understated stone, glass and metal palette of the exterior, and the warm, vibrant wood interior. Wood was chosen for its ability to create a sense of warmth and life, acting to invite the outside in. This effect is most notably achieved after dusk when the core of the building emits a glow that is visible throughout gardens. The juxtaposition of nature and infrastructure symbolizes the zoo's efforts to achieve a seamless exchange between nature and the community.

Applications of wood products within this project include the distinctive incorporation of glulam beams in the timber structure/design and ceilings composed of Douglas fir.

ARCHITECT
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Calgary, AB

CLIENT
The Calgary Zoo
Calgary, AB

STRUCTURAL ENGINEER
TRL & Associates
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MECHANICAL ENGINEER
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Calgary, AB

ELECTRICAL ENGINEER
Wiebe Forest Engineering Ltd.
Calgary, AB

GENERAL CONTRACTOR
Ledcor Construction
Calgary, AB

PHOTOGRAPHY
Caminus Photography Inc.
Calgary, AB

ENGINEER WOOD ADVOCATE

ISL Engineering and Land Services

JURY'S CHOICE

Atlas Coal Mine National Historical Society

Original timbers and hardware are reconditioned and re-used along with new, carefully chosen materials at this national historic site

Atlas Coal Mine Restoration

ISL Engineering and Land Services

(formerly Cascade Engineering Group)

Built in 1936, the Atlas Coal Mine #3 was one of 139 mines operating in the badlands of Alberta between 1911 and 1979. It was the last mine to close, shipping out its last load of coal in 1979. The Tipple, consisting of the Main Tipple, South Tower and Inclined Conveyor, is the last wooden tipple in Canada and was designated as a National Historic Site of Canada in 1989.

The Tipple has a complex geometric shape that is formed by hundreds of individual timbers. Functionality, the re-use of materials, limited funds and plenty of common sense were the dominant forces that shaped these buildings. The years of repair work performed by Atlas employees led to as-built conditions that are slightly different to those shown in the original construction drawings. This includes a variety of simply scarfed repairs, timber replacements and additional blocks and metalwork at connections.

Most of the tipple components are exposed to the elements and after 75 years there were some areas of major structural concern. A steel support scaffold had been inserted in 2001 to prevent some of the structure from collapsing while the museum sought funding for restoration.

In keeping with the *Standards and Guidelines for Conservation of Historic Places in Canada*, the repair interventions maintained the maximum historic building fabric while using new materials that closely match but can be distinguished from the originals. This project required a careful definition of all load-bearing components of the structures, so that new timber could be used at these locations without detracting from the overall objective, which is to conserve the historic structure, and especially those elements that are considered to be character-defining.

The crew surveyed, dismantled, repaired and reconstructed all of the timber posts, struts, walers and braces that make up the south tower of this impressive structure while the long span conveyor truss was shored and repaired in situ. Subtle modifications were made to improve water drainage and drying at specific joint locations, which had been the cause of the failures being repaired. Many timbers were scarf joined to replace rotted ends while retaining most of the historic timbers. Most of the original bolts and other hardware were reconditioned and re-used alongside concealed modern connection upgrades.

After the timber structure was re-installed, the steel support scaffold was removed after 10 years of holding up the decrepit structure and it now stands on its own feet once more.

ARCHITECT
Simpson Roberts Architecture
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CLIENT
Atlas Coal Mine National Historical Society

ENGINEER
ISL Engineering and Land Services (formerly Cascade Engineering Group)
Canmore, AB

TIMBER FRAMING
Macdonald & Lawrence Timber Framing Ltd.
Cobble Hill, BC

PHOTOGRAPHY
Macdonald and Lawrence Timber Framing Ltd.
Cobble Hill, BC

INTERIOR DESIGN SHOWCASE

Abundant wood in renovation ties in its inherent healing properties and significance to Aboriginal culture

Southeast Child and Family Services (SECFS)

Michael Robertson Architect

Located in a largely industrial area of Winnipeg, the 16,000-sq.ft. office renovation for Southeast Child and Family Services (SECFS) began with intense space planning to accommodate six different departments as well as shared program space. Maximizing natural daylight and creating a warm, welcoming, family-friendly and culturally relevant office environment were the main objectives of the project.

The office is divided into multiple separate working groups, each handling highly sensitive and private information. In order to maximize natural daylight from the large windows lining three sides of the building, priority was given to open office areas and circulation spaces to allow light penetration deep into the office. Private offices and meeting rooms feature as much glazing as possible to allow light to filter into and through these spaces as well.

Wood is featured highly throughout the renovation because of the cultural significance of nature in Aboriginal culture and the various healing aspects inherent in the wood. Its modern application in various locations gives the building a fresh, clean aesthetic while maintaining inherent meaning. Cedar is the most prominent species used throughout the project, chosen because of its significant cultural relevance, use in ceremonies, and healing powers.

 

The design consists of a simple color scheme. White walls and ceilings and locally manufactured finished maple flooring maximize reflected light and convey a sense of lightness and freshness. Green accent walls add a splash of color and cedar slat walls add warmth and comfort. Cedar was used throughout corridors and key shared spaces including the meeting room, reception/waiting area and the ceremonial room. The 4 x 1 cedar slats are secured to the wall using wooden furring strips recessed back to allow a flush finish with the surrounding walls.

Due to the sensitive and potentially volatile nature of their work, it is important SECFS employees have a sense of calm within the office environment, so the reception area became the focal point of the design. This area not only provides people the first impression of the space but also of the services they might receive. Cedar slats are used on both reception desks and the wall behind the main desk. From here, wood slats lead down one of the main corridors.

The ceremonial room features expansive cedar slat walls and seven white birch poles (seven is one of the most sacred numbers in Aboriginal culture). The birch poles form a semicircle around a smaller circle in the middle of the room, highlighted by rotating the direction of the hardwood flooring. The big semicircle is representative of a bigger circle that reaches out, past the walls of the room. A recessed shelf is set into one of the slat walls to hold the smudging tools and supplies for sacred ceremonies.

The project provides SECFS with a modern office environment that instils pride in their culture, people and the services within their walls.

ARCHITECT
Michael Robertson Architect with
Anastasia Derksen and
Melissa Sarrasin
Winnipeg, MB

ELECTRICAL ENGINEER
M2E
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MECHANICAL ENGINEER
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GENERAL CONTRACTOR
Akman Construction
Winnipeg, MB

PHOTOGRAPHY
Gerry Kopelow Photographics Ltd.
Winnipeg, MB

JURY'S CHOICE

Student design/build studio project leverages salvaged and reclaimed wood to create a sustainable refuge

The Oxbow Field Station

University of Manitoba (UM) Department of Architecture, under the direction of Professor Eduard Epp

The Oxbow Field Station was realized in the context of a Sustainable Design Studio offered by University of Manitoba (UM) Department of Architecture, under the direction of Professor Eduard Epp, together with a group of nine undergraduate design students.

The project was conceived to provide a studio space for site meetings and fieldwork; to serve as an instrument to measure on-site habitability, and to establish a compelling sense of place for the future artists' colony. The initial survey work and design began in September and its construction was completed mid-December 2010.

The field station site is located on the UM Faculty of Agriculture Point Lands. The 130-acre landscape is distinctly agricultural, surrounded by an idyllic river bottom forest along the banks of the Red River. The field station site is subject to seasonal flooding from the Red River.

The building site and building floor plate were determined after finding an abandoned structure on the Point Lands. The structure was approximately 40 years old, built of wood and nails, and appeared to have been built to support a significant load, likely a water tank. Only the wood base remained and it was partially reconstructed as the foundation. It also provided 8 ft. between the flood prone land and the field station studio (a canoe will be used to access the field station in the event of significant flooding).

The Oxbow Field Station studio measures approximately 14 x 14 x 10 Including a rooftop viewing deck, the

building stands 20 feet above grade. A ladder wall connects the on-grade platform, studio and rooftop deck. The building is comprised of light wood frame construction built upon a post and beam structure. The building skin, the floor surfaces, and the deck railing are comprised of salvaged and reclaimed materials.

The building's form grew from the initial idea of entering by climbing. To emphasize the ladder wall as a transitional element, it was extended upward to provide access to the roof. A platform was added (on grade) that reaches beyond the perimeter of the structure like the invitation of an extended hand. The L shape of the base structure was reproduced above; elevating and rotating it to protrude horizontally toward the levy created a cantilevered balcony that can be accessed by a sliding door. This extends to match its counterpart at 4 feet above the roof deck (providing adequate climbing surface before stepping onto the roof). The resulting cube of interior space provides protection and sanctuary, while maintaining a feeling of openness and accessibility.

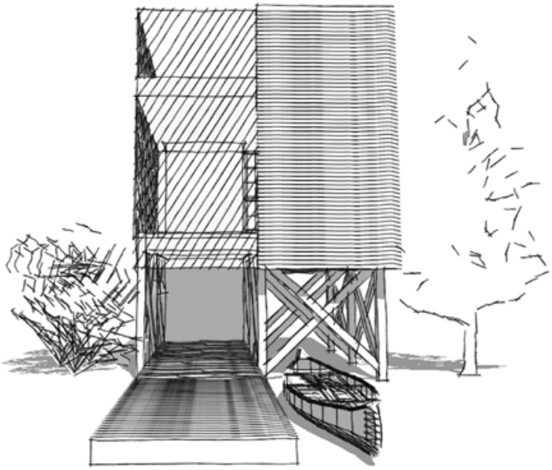
The cantilever was designed to use the 2 x 8 capping as the structural support along the outer rim of the horizontal part of the second L. Using 20-ft. lumber, these caps were bolted to the columns as two lengths of double-ply beams that project 6 ft. beyond the last column. Set within the 2 x 8 beams are a series of 2 x 6 joists that support the 1½-in. decking and are clad underneath with the same material ripped down to ½-in. The result is a completely hidden joist system that functions also as strapping for the soffit.

The existing columns protruded 10 inches above the existing platform. New columns were connected to the old using mortise and tenon joints, then reinforced with steel plates to conceal the joint.

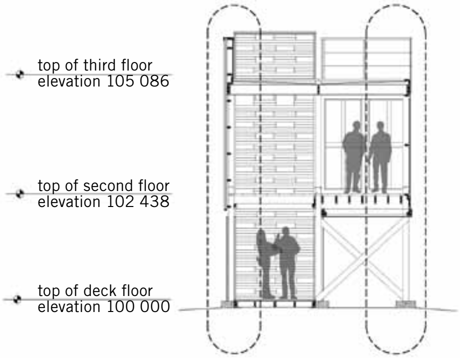
In an effort to maintain a minimal interior aesthetic, the window wall was built using top and bottom plates as well as a single 2 x 4 spanning horizontally between the columns to brace the horizontal joint of the windows. The windows were fastened to the horizontal members using stainless steel cup screws donated by Anchor Products Ltd.

Project building materials – 80 per cent salvaged, reclaimed or repurposed and 20 per cent new – included concrete, wood, steel, plastic and glass. Approximately 90 per cent of the materials were produced locally or regionally.

With a clear idea of the building materials available, a collaborative



FRAMING



BUILDING SECTION

studio design process yielded the final design. The on site wood trellis frames, which were disassembled and milled, were used on the approach, the ladder wall, and the building envelope. A salvaged cottage deck provided the interior floor and the rooftop observation deck. Two hundred salvaged fluorescent light covers provided exterior cladding on the south and west elevations to diffuse light to the field station interior. Cottage windows, circa 1910, were reclaimed to provide clear fenestration along the east and north elevations.

The total project cost was $5,300.00 CDN (average cost of $9.00/sq.ft. gross). All of the labor was provided by the students with some assistance from members in the Faculty of Agriculture, the Faculty of Architecture, and the UM Physical Plant.

PROFESSOR
Eduard Epp

STUDENT DESIGN/BUILD TEAM
Matt Cibinel, Taren Wan, Michael Chan, Elaine Pang, Richard Chiang, Jen Rac, Thilini Samarasekera, Scott Dean, and Alex Needham

PHOTOGRAPHY
University of Manitoba,
Faculty of Architecture

MUNICIPAL/RECREATIONAL

Refurbished and renovated recreation centre rejuvenates community spirit and gives residents and tourists more space to play

The Fenlands – Banff Recreation Centre

GEC Architecture

The Town of Banff is located in Banff National Park, Canada's first national park and a UNESCO World Heritage Site. It is home to more than 8,700 residents and greets more than three million visitors from around the world each year.

Constructed in 1958, the town's recreation center was in dire need of renewal – the roof of the curling rink was considered deficient, the hockey rink dressing rooms were no longer adequate, the ice refrigeration piping system needed replacement, and an additional ice rink was needed. The solution was a combination of demolition and reconstruction, refurbishment, and new construction.

Completed in 2011 to the LEED Silver standard, the redeveloped Banff Recreation Centre has a new curling rink, a new NHL-sized hockey arena, and new meeting rooms, lounges and concourse. The new construction uses wood and glass to provide views of the mountains, while providing superior thermal performance.

The town desired a special visitor experience unique to Banff and to highlight the facility's 50-year history in the community. Throughout the center, users will find large feature spaces designed to showcase the natural environment and foster a greater appreciation and understanding of the park's history. As well, memorabilia related to the building's historical significance and role in the community are displayed and preserved for the enjoyment of future generations.

In this place of incredible natural beauty, there exists a rich history of building with wood in a manner that is at once utilitarian and expressive, traditional and modern. The Banff Recreation Centre embraces and extends this ethos, while adding another, more contemporary layer of utility through practices of salvage, reuse and renewal.

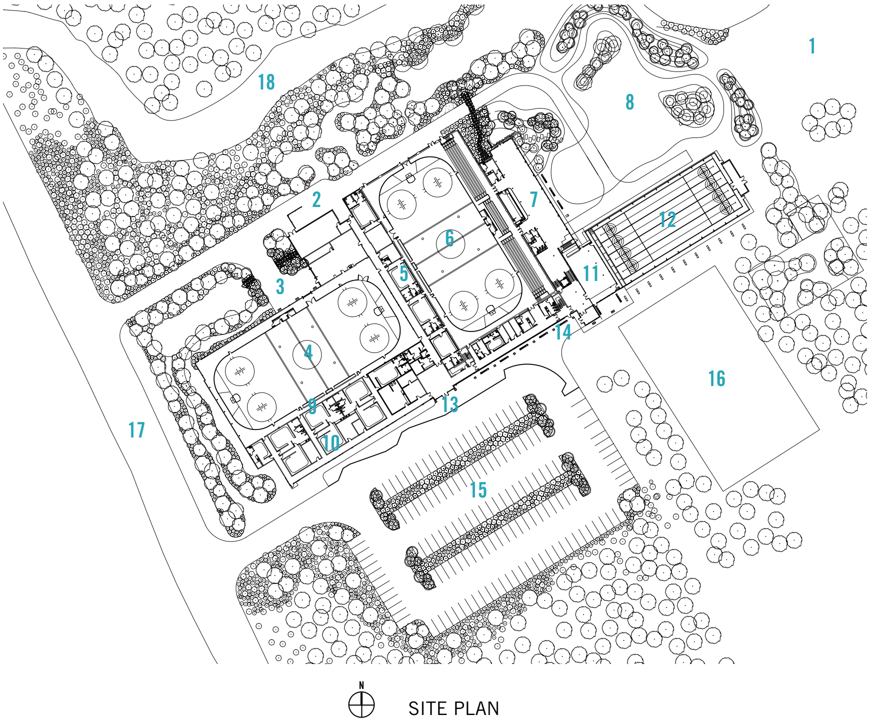
The extensive use of wood for both cladding and structure, use of natural materials such as local rundle stone and limestone, exposed timber bracing and deep overhangs, and a design approach that reduces a large building to smaller components were all responses to Banff's best building traditions. Throughout the facility, local materials and design elements are incorporated to reinforce the sense of place. Large windows afford significant views from all spaces (including the hockey rinks) and bring the outside environment in. Additionally, significant outdoor spaces were created around the building to highlight the natural surroundings and draw the user's attention to the grandeur of the natural environment that surrounds them.

The original curling ice was spanned by curved glulam beams with ends that had rotted due to weather exposure. These were salvaged and renewed by removing the rotted ends and re-dressing the remaining portions. The resulting beams are as good as new, albeit shorter than the originals. The new, four-sheet curling ice is spanned by these renewed beams, configured into a tilted and braced form that is combined with canted walls to meet the span requirements, while affording expansive mountain views and generous north daylight.

In addition to structural wood salvaged from the original building, glulams were salvaged from a demolished school located in Canmore, Alberta, just 25km (15 miles) away. These were refurbished and reused as purlins in the concourse between the new curling rink and refurbished existing rink.

Roof structure for the new ice rink is comprised of curved glulam trusses braced with steel tension members to achieve a long span with a lightweight appearance while complementing the structural materials of the original rink components.

The site is adjacent to natural open space that had been abused over the last 40 years and was in need of reclamation. Invasive plant species were removed and replaced with native grasses, shrubs and trees, some of which were reclaimed from other portions of the site slated for development. Creek banks subject to human traffic-induced erosion were stabilized and replanted with native species. Parking areas were kept well away from a creek, with drainage directed to bioswales to gather and treat pollutants.



SITE PLAN

1. reclaimed landscaping
2. wood screened cooling tower
3. loading/recycling
4. new NHL sized rink
5. changing rooms
6. fully refurbished, existing NHL rink
7. concession area
8. outdoor ice skating rink
9. changing rooms
10. Banff hockey academy
11. lounge
12. curling sheets
13. main area entry
14. curling entry
15. new parking with bioswales
16. existing skateboard park
17. Norquay Road
18. 40 mile creek

ARCHITECT
GEC Architecture
Calgary, AB

STRUCTURAL ENGINEER
ISL Engineering and Land Services (formerly Cascade Engineering Group)
Canmore, AB

MECHANICAL ENGINEER
Hemisphere Engineering Group
Calgary, AB

ELECTRICAL ENGINEER
Stebniki and Partners
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LANDSCAPE ARCHITECT
Scatliff & Miller & Murray
Calgary, AB

PHOTOGRAPHY
Gleb Gomberg
Montreal, QC

RESIDENTIAL

Judicious use of Douglas fir and handcrafted features create a feeling of warmth

WY House

Syverson Monteyne Architecture Inc.

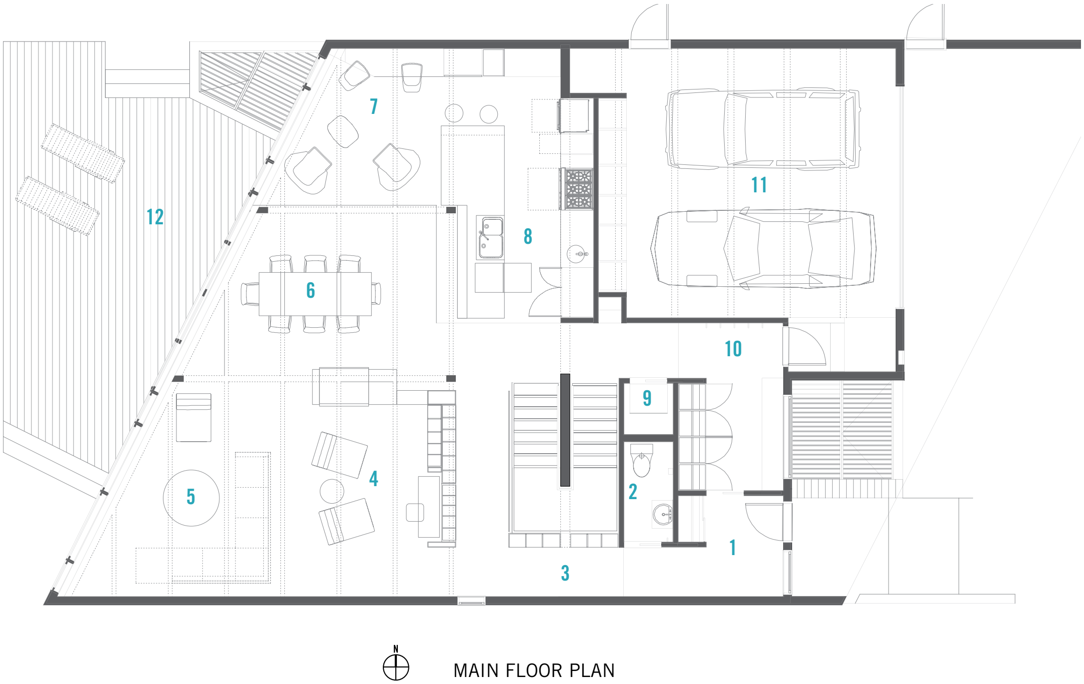
The project is a single-family house for a surgeon and a scientist with three young children. The clients expressed a desire to live in a house that embodied simplicity, authentic materials, and a rational composition of all the parts.

The site is in an established neighborhood on the Red River near downtown Winnipeg. The shape of the river channel in this location is straight, and the road that accesses the lot runs parallel to

it. The long sides of the lot are parallel to each other, but meet the street and the river at acute angles of approximately 23 degrees. The buildable area of the lot is a 40 x 60 parallelogram. Extruding the parallelogram to accommodate two floors of house allows for the optimizing of views, access to natural light, and retention of privacy. At the same time, the shape allows the house to be a good neighbor that does not block the view or access to light of the adjacent houses.

The design resolves this family's domestic program in a direct manner. A white, cast-in-place concrete wall divides the house into riverside and street side. "Public" rooms are grouped on the riverside in an open space with a glass wall that faces the view. A central two-story volume with clerestory windows, encourages passive ventilation from all of the rooms of the house. The centrally located stair straddles the two halves of the house and the landings support extensive bookshelves for this learned family. The shelves are designed to be accessed from either landing or floor, preventing the need for a ladder. "Private" spaces are located on the second floor. The master bedroom, screen room and terrace overlook the river, while the three children's bedrooms overlook the street.

The use of wood components in the construction of this house was fundamental to the conception of the



MAIN FLOOR PLAN

1. foyer
2. restroom
3. library
4. enclave
5. quiet living
6. dining room
7. read/work
8. kitchen
9. pantry
10. mudroom
11. garage
12. deck

design. The diagonal of the site, set by the river intersecting with the lot lines, approximates the angle produced by the diagonal bisection of a 4 x 8 sheet of plywood. An underlying grid of full and bisected 4 x 8 modules regulates the plan. A glulam timber frame of Douglas fir supports the floors on the river side of the wall. An aesthetic desire for simplicity led to the use of Timberlinx fasteners for the timbers.

The owners expressed a strong desire for an uncluttered and easily cleanable, allergen-free zone to live in. This objective led to the use of smooth and hard surfaces such as terrazzo flooring and quartz composite countertops. Radiant heating in the floors and the judicious use of Douglas fir, both in the exposed structure and in the handcrafted stairs, landings, and bookshelves, help create a feeling of warmth. The play of authentic material textures, from coarse to fine, busy to plain, and transparent to opaque, was composed to produce an effect both stimulating and serene. The use of Douglas fir was also a nod to the west coast upbringing of one of the clients.

ARCHITECT
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STRUCTURAL ENGINEER
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Eng-Tech
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GENERAL CONTRACTOR
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Winnipeg, MB

WOODWORKER
Pastora Custom Furniture
Winnipeg, MB

PHOTOGRAPHY
Bryan Scott
Syverson Monteyne Architecture Inc.
Winnipeg, MB

U.S. WoodWorks Wood Design Awards

Celebrating excellence in wood design is an essential part of the U.S. WoodWorks program. Wood design awards allow us to recognize innovative projects that extend the boundaries of what's possible as well as those that demonstrate attributes of wood such as beauty, versatility, strength and cost effectiveness. They also serve as an inspiration to others and, in so doing, complement our technical and educational offerings.

In 2008, the Wood Products Council established WoodWorks as a pilot program in seven states with the goal of helping U.S. architects and engineers design wood buildings more easily and at less cost. Modeled on the Canadian program, it sought to achieve this through a combination of one-on-one project support, online resources and educational events. To date, WoodWorks technical directors have given advice on nearly 800 projects. The resources available at woodworks.org range from an Online Training Library, to CAD/REVIT details, design examples, calculators and more, and we offer a robust program of Wood Solutions Fairs, workshops and in-house 'lunch and learn' presentations.

As a result of our success to date, WoodWorks is in the process of transitioning from pilot to mature initiative. Last year, we expanded to include the Pacific Northwest, Greater DC and Texas. We also increased our focus on building types and systems such as mid-rise/multi-family, schools, cross laminated timber, tall walls and panelized roofs, where nationwide support is required.

It has been our experience that designers who understand wood's value proposition are often compelled to use it in their projects. Wood costs less, economically and environmentally, and delivers more on many fronts. It is clear that many of this year's award winners are as passionate about the use of this natural, renewable resource as we are.

Adrian Blocker
President and CEO
Wood Products Council

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DRICON Fire Retardant Treated Wood

FastenMaster Faster Easier Stronger

LP Building Products

NFBA National Frame Building Association

Nordic Engineered Wood

iRISA Technologies

Sierra Pacific Industries Growing Forests For Our Future

USP Structural Connectors A MiTek Company

Hardy Frames

Western Red Cedar Lumber Association Real Cedar WRCLA

U.S. WoodWorks Wood Design Awards

Jurors

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www.matrixchicago.com

DAVID RODRIGUEZ
Vice President & Director of Sustainability
Ware Architecture Studio
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JON M. BUGGY, AIA, NCARB
Managing Principal
AECOM
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MICHAEL ROGERS
President
Michael Rogers Architects

DAVID M. CHASCO
Director of the School of Architecture
University of Illinois at Urbana-Champaign
www.arch.illinois.edu

CENTRAL

COMMERCIAL

Wood used for both rough and fine details at creative arts school

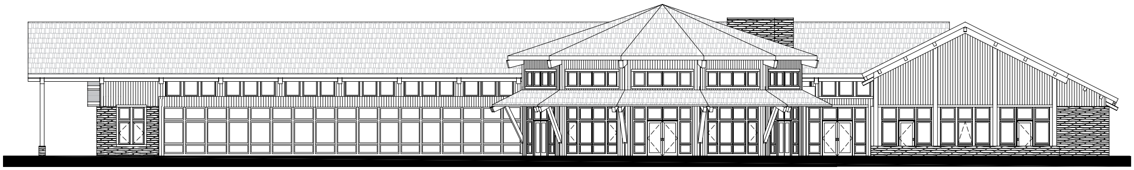
Trollwood Performing Arts School

Mutchler Bartram Architects

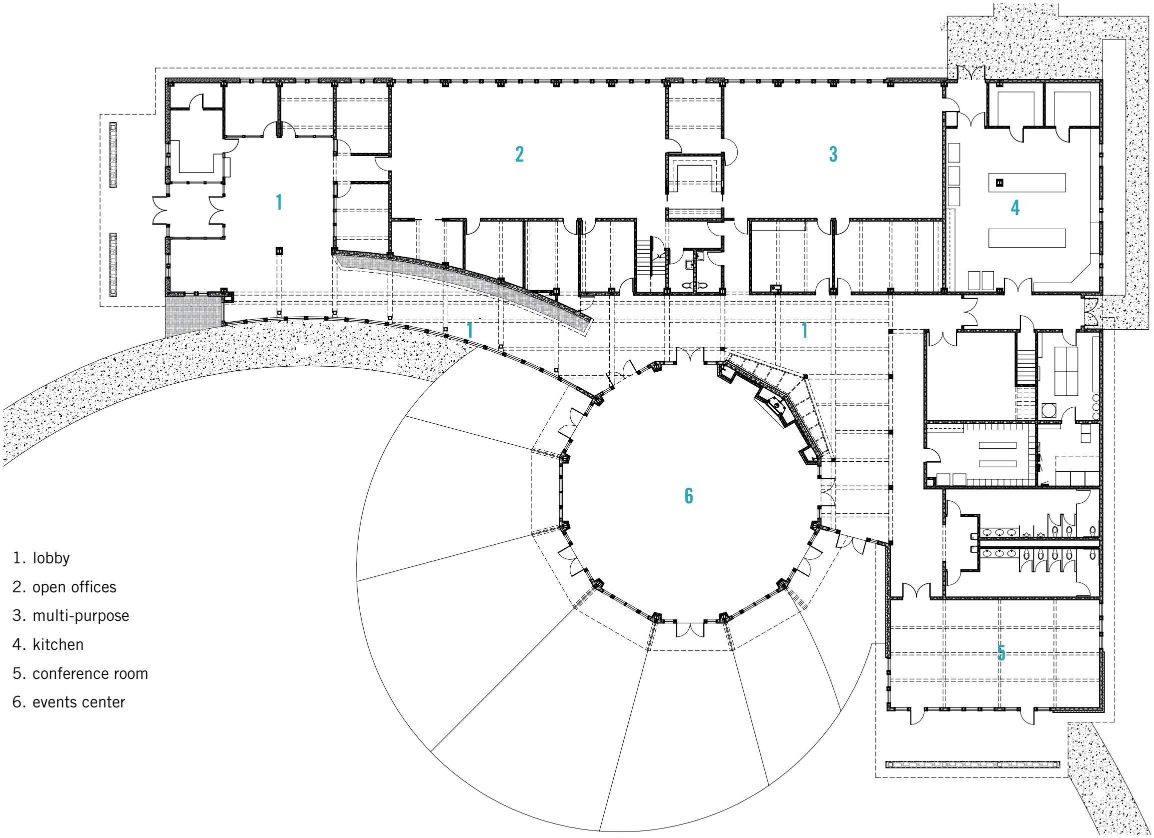

Trollwood is a creative arts organization that performs Broadway-style outdoor plays. It hosts summer classes in a variety of creative arts specialties for nearly 500 middle school and high school students every summer. The new campus for Trollwood Performing Arts School includes a 3,000-seat outdoor amphitheater, supported by a 20,000-sq.ft. administration building that includes offices, performance/practice spaces and additional spaces including a prep kitchen, locker rooms and gallery. The space can be leased for events including weddings, conferences and concerts.

The construction and detailing of the administration building was based on the use of wood through-

NORTH ELEVATION



WEST ELEVATION



1. lobby
2. open offices
3. multi-purpose
4. kitchen
5. conference room
6. events center

FLOOR PLAN

out the structure in various amounts of rough and fine detailing. The infill of walls between the steel frames is accomplished with dimensional framing lumber that is sheathed on the inside and outside, then covered with cedar wood siding on the outside and pine tongue and groove lumber on the inside. The roof structure consists of laminated structural purlins that span between the steel frames and are covered with structural wood tongue and groove decking. All windows, interior doors and trims are wood.

ARCHITECT
Mutchler Bartram Architects
Fargo, ND

DESIGN ARCHITECT
Cuningham Group
Minneapolis, MN

STRUCTURAL ENGINEER
Ulteig Engineers
Fargo, ND

MECHANICAL AND ELECTRICAL ENGINEER
Ulteig Engineers/MBN Engineering
Fargo, ND

CONSTRUCTION MANAGER
Gehrtz Construction Services
Fargo, ND

LANDSCAPE ARCHITECT
Coen + Partners
Minneapolis, MN

Land Elements
Fargo, ND

PHOTOGRAPHY
Dana Wheelock
St. Paul, MN

ENGINEERING

Exposed wood framing provides a wonderful backdrop to learn and explore the Chickasaw Nation's history and culture

Chickasaw Nation Cultural Center

Datum Engineers Inc.

In 2003, the Chickasaw Nation initiated the design for a state-of-the-art campus to share and celebrate Chickasaw history and culture. The center is located on 109 rolling acres near the Chickasaw National Recreation Area in Sulphur, Oklahoma.

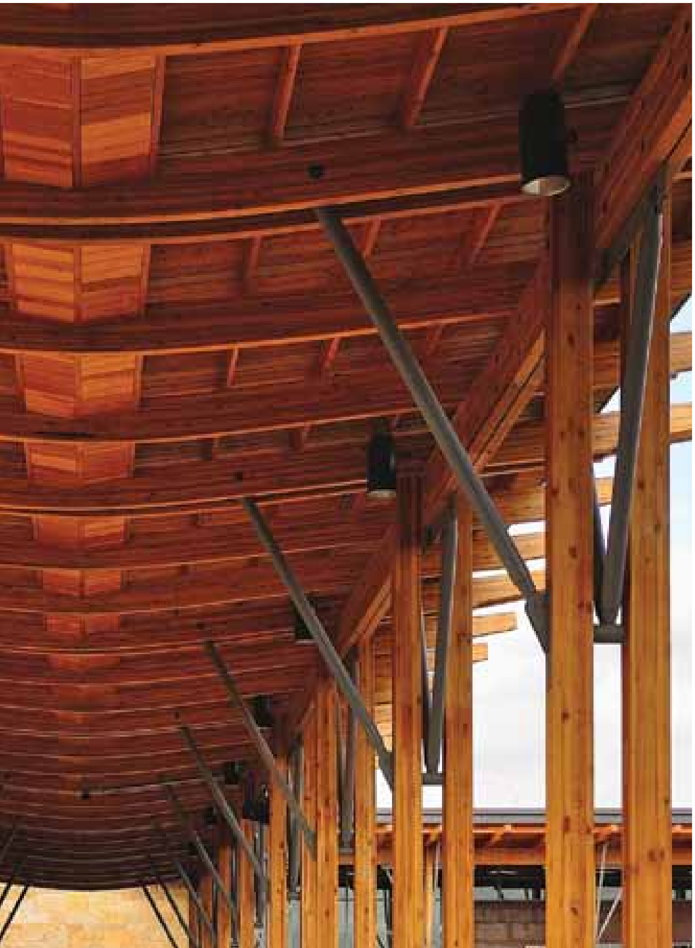
The project consisted of various buildings for exhibits, a theater, resource and education, and retail. The combined building areas total more than 96,000 sq.ft. In addition, a sky pavilion, a water pavilion, and a bus pavilion were also included.

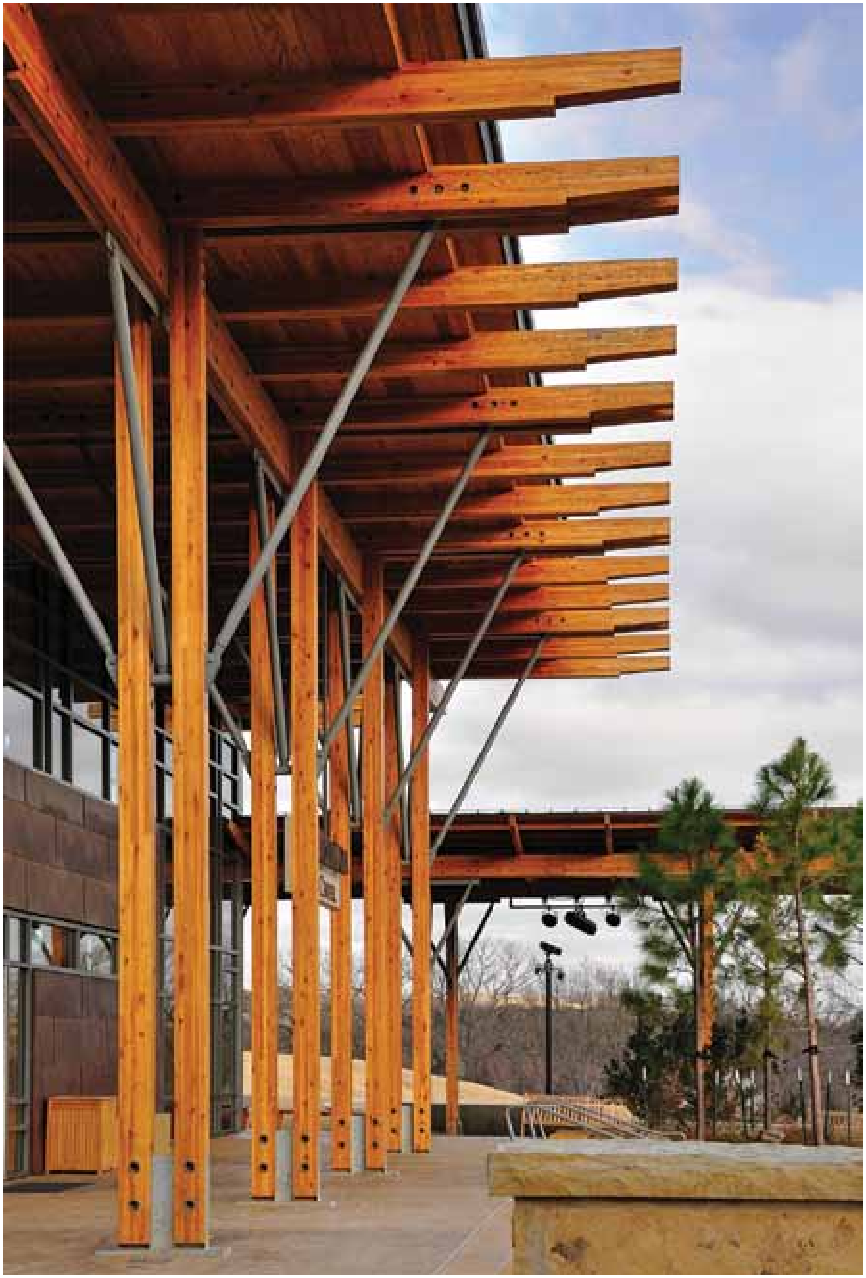
Based upon the client and project type, a natural material palette of native stone, copper, and wood was selected. Exposed wood is used extensively in gathering spaces such as building entries and lobbies. In addition, exposed wood framing is utilized for the pavilion roofs and the 16-ft. wide wood-framed canopy connecting the exhibit and theater buildings.

The selected glulam members consist of Douglas fir with exposed members specified as AITC architectural appearance grade. The connection designs and detailing posed a significant challenge. Since the wood connections are exposed, the final configuration needed to be simple and elegant. This issue was especially critical at column bases where connections are readily seen and the resulting loads are highest.

The architectural concept sought a column base detail with each wood column supported from a single vertical steel plate. After several iterations, a column base detail was developed that transferred the code-prescribed loads while also limiting the quantity of connectors between the wood column and the vertical steel plate.

Given the desired column size, the taller wood columns required moment connections at their bases. The applied





base moment yields a force couple that can be resisted via bearing between the wood column face and an adjacent load-bearing surface. Thus, moment connection bases were simply created by adding four steel plates oriented perpendicular to the vertical support plate and aligning the new steel plate with each wood column face.

The completed buildings, with extensive use of exposed wood framing, provide a wonderful environment to learn and explore the Chickasaw Nation's history and culture.

DESIGN ARCHITECT
Overland Partners
San Antonio, TX

ARCHITECT OF RECORD
Frankfurt Short Bruza (FSB)
Oklahoma City, OK

CLIENT
Chickasaw Cultural Center
Sulphur, OK

STRUCTURAL ENGINEER
Datum Engineers, Inc.
Dallas, TX

MEP ENGINEER
Blum Consulting Engineers, Inc.
Dallas, TX

CIVIL ENGINEER
Kimley-Horn & Associates
Dallas, TX

GENERAL CONTRACTOR
Boldt Construction
Tulsa, OK

LANDSCAPE ARCHITECT
EDAW (now part of AECOM)
Denver, CO

GLULAM SUPPLIER
Universal Timber Structures
Auburndale, FL

PHOTOGRAPHY
Datum Engineers, Inc.
Dallas, TX


Education and

GREEN BUILDING

An open wood facility gives visitors a warm welcome to central Wisconsin

Mead Wildlife Area Education & Visitor Center

Thomas Brown

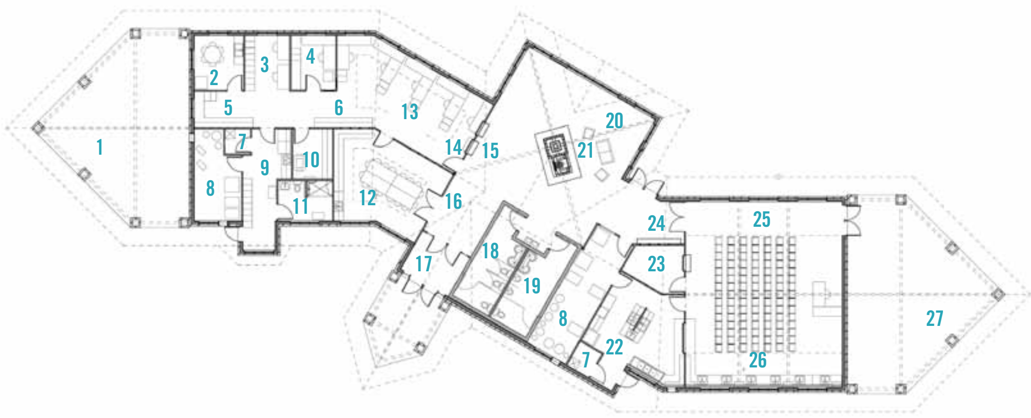
This 6,208-sq.ft. facility serves as an office for a small field staff managing a 30,000-acre wildlife area in central Wisconsin, and also serves as an education center for visitors and area schoolchildren. The exposed wood timber trusses, wood ceilings, wood wainscoting, wood doors, wood windows, wood cabinetry and wood trim all contribute to the warmth and human scale desired for this facility. It also ages well, with minimal maintenance or upkeep needed.

The building's primary environmental performance can be attributed to the high-performance building envelope. To achieve a high level of energy performance, the project team adapted and employed a set of modified wood framing details. The modified details are carpenter-friendly and had been proven in several high-performance residential projects in the harsh winter climate of central Wisconsin, before being adapted for application in this light-commercial building.

The primary modification to conventional wood framing methods involved the addition of an interior layer of horizontal 2 x 2 wood strapping or furring across the interior face of the exterior 2 x 6 wall studs, to create a thermal break and isolate the inside skin from the outside skin of the building. The area of solid wood conductive paths through the assembly was significantly reduced, resulting in a higher effective insulation level. A layer of exterior 1 x 3 furring creates a rain-screen siding drainage-plane cavity. Air-tight construction is assured with an interior sealed vapor barrier, air-tight electrical box enclosures and an exterior sealed air barrier.

The modified framing details were also designed to be readily executed using standard materials and methods and were particularly suited to smaller locally based builders, minimizing the need for non-local specialized subcontractors.

Good passive solar orientation and natural cool daylighting were also important contributing factors. The resulting modest heat load was then addressed with five different types of renewable energy systems: geothermal, wind, solar photovoltaic, solar hot water and biomass. The hybrid strapped wall and roof assemblies were insulated with wall-spray and blown cellulose, a recycled-content wood-based material. Wood framing details and intersections were modified for air-tightness, with air-tight electrical box enclosures and continuously sealed air-infiltration and vapor barriers to ensure continuity.



FLOOR PLAN

1. visitor information kiosk/open shelter
2. break room
3. LTE tech/intern office
4. manager office
5. mail/fax
6. files/prep
7. janitor
8. mechanical
9. mudroom entry/lockers
10. copier
11. restroom
12. library/small meeting
13. permanent technician office
14. clerical/reception
15. service counters
16. lobby
17. entry
18. women's shelter
19. men's shelter
20. orientation/display
21. sitting area
22. kitchen
23. table/chair/A-V storage
24. coats
25. large meeting/activity room
26. student cleanup stations
27. student staging area/open shelter

ARCHITECT
Thomas Brown
Stevens Point, WI

CLIENT
Wisconsin Department
of Natural Resources

STRUCTURAL ENGINEER
JPF Engineering
Waupaca, WI

MEP ENGINEER
Hein Engineering
Madison, WI

LANDSCAPE ARCHITECT
SAA Associates
Madison, WI

GENERAL CONTRACTOR
Wausau Homes/Ohrmundt Construction
Wausau, WI

CONSTRUCTION MANAGER
Boldt Construction
Stevens Point, WI

PHOTOGRAPHY
Thomas Brown
Stevens Point, WI

INNOVATIVE

Nature center showcases the tree's natural architecture of branching connections and curved forms

Myrick Hixon EcoPark Nature Center

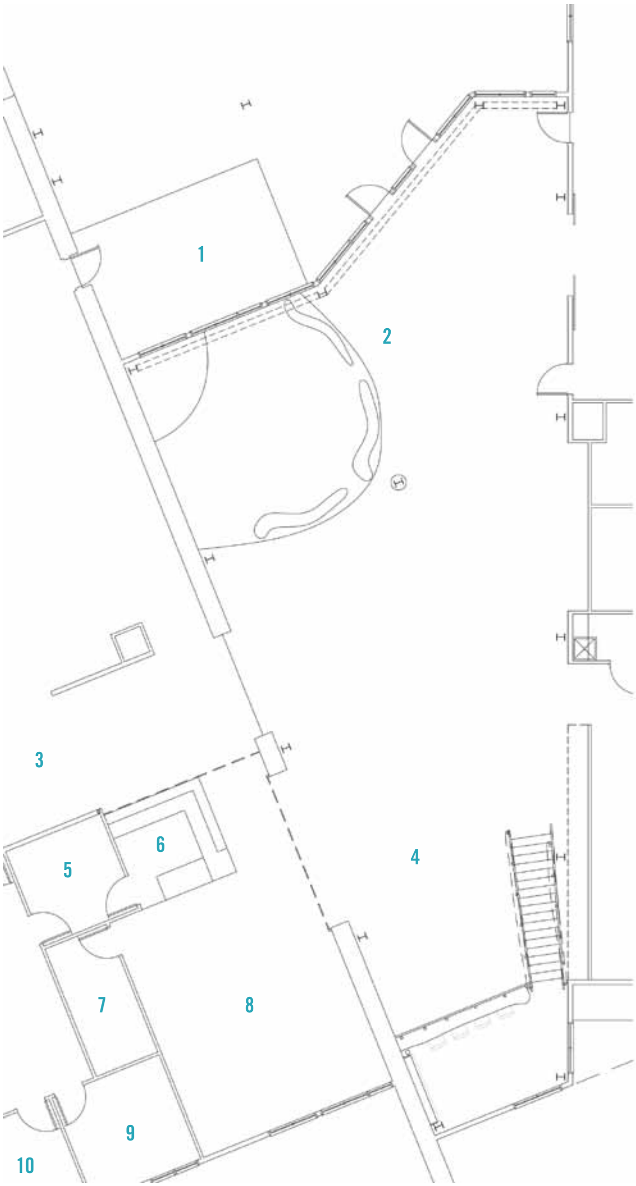
WholeTrees Architecture & Structures

The Myrick Hixon EcoPark Nature Center attempts to achieve a community understanding of, and respect for, nature, and to protect the environment for future generations. Through dynamic indoor and outdoor educational programming, interactive displays, ecosystem exhibits, and nature walks/demonstrations, the EcoPark is a unique destination that will advance the appreciation and conservation of our natural resources.

The site is located within Myrick Hixon Park, northeast of downtown La Crosse, WI, surrounded by the La Crosse River Marsh, grass prairies, limestone outcroppings, the Mississippi and La Crosse Rivers, and the University of Wisconsin-La Crosse campus. The center provides a trail head for a plethora of outdoor recreational trails, community shelters and outdoor playscapes.

Programmatically, there is a large entry/atrium space that connects the city to the marsh beyond, a view formerly not accessible to visitors indoors. This space is centralized in the overall plan with an information kiosk, ticket sales, tour starting points, and children's play area. Classrooms, offices, restrooms, a gift shop and storage flank either side of the atrium.

The existing building provided the atrium enclosure for the renovation which involved creating a sculptural stair leading up to a new, accessible mezzanine space for educational talks, cafe seating, wedding events, views of the wetland, and a small library branch to display nature-related literature. Additional

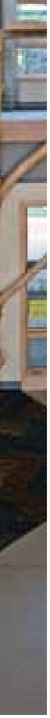


GROUND FLOOR PLAN

1. future aviary
2. exhibit/display
3. corridor
4. lobby
5. gift shop office
6. reception
7. storage
8. gift shop
9. naturalist's office
10. director's office

work included replacing a 26-ft. steel column in the center of the atrium with a load-bearing, branching round timber black willow tree, softening the space and providing a sense of scale to the expansive central corridor. The tree column is approximately 33 years old with a base diameter of 20 inches. It is affixed to both the floor and existing steel beam at the ceiling with welded, through-bolt metal plate connections and sleeves (at the top condition), welded in place.

Additional design components come from a variety of tree species. The stair treads and risers are red oak, the trees supporting the bar and top of the stair are white oak, the branches supporting the bar are ironwood, and the bar is American elm. The underside structure is a red cedar glulam commercial-grade beam. Railings are black ash.



The use of a timber column in the atrium substituted two tons of steel with carbon sequestering, FSC-certified timber. The timber inventory for the Eco-Park was sourced within 12 miles of the project site, utilizing a local, renewable, energy-efficient, and beautiful resource.

RENOVATION ARCHITECT AND GENERAL CONTRACTOR
WholeTrees Architecture & Structures
Stoddard, WI

ORIGINAL BUILDING ARCHITECT
River Architects, Clint Rasmussen
La Crosse, WI

STRUCTURAL ENGINEER
TCI
La Crosse, WI

PHOTOGRAPHY
Paul Kelley, Spherical Photo

SECOND FLOOR PLAN

1. electrical/plumbing
2. nocturnal/aquarium
3. vestibule
4. corridor
5. open office area
6. gift shop office
7. reception
8. office
9. work room/copier
10. storage
11. gift shop
12. meeting room
13. director's office
14. naturalist's office
15. observation deck
16. future aviary
17. exhibit/display
18. lobby
19. multipurpose room
20. table & chair storage
21. serving kitchen
22. staff prep & storage
23. mud room

INSTITUTIONAL

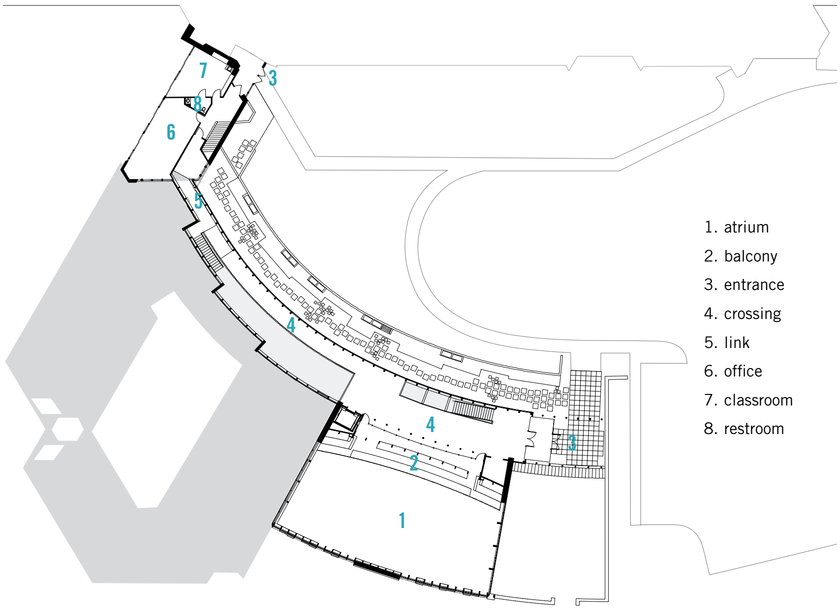
Addition maintains the integrity of original Frank Lloyd Wright design, while allowing for congregation's expanding needs and environmental sensibilities

First Unitarian Society Meeting House Addition

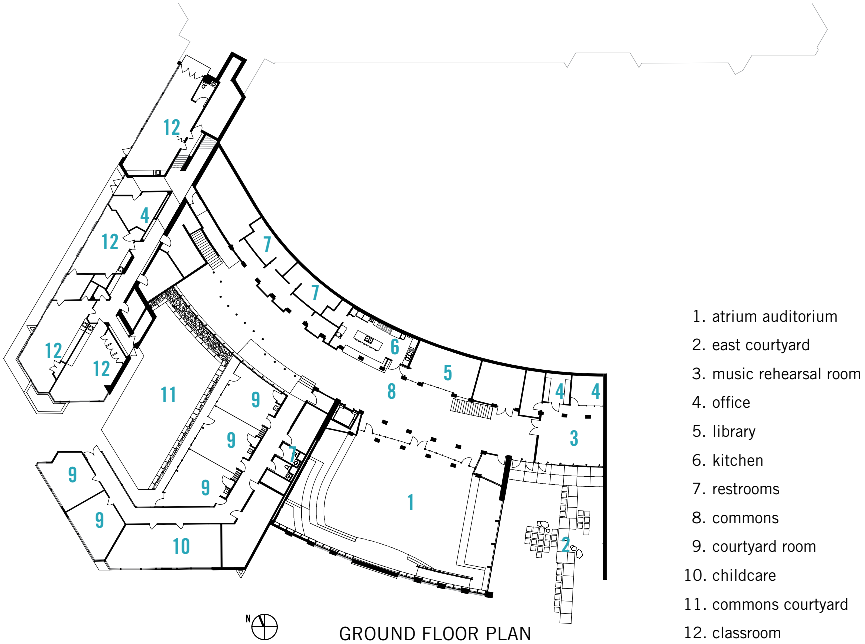
The Kubala Washatko Architects Inc.

In September 2008, the First Unitarian Society of Madison celebrated a major new addition to its Frank Lloyd Wright-designed National Historic Landmark Meeting House. Completed in 1951, the original Meeting House has been hailed as one of the world's most innovative examples of church architecture. In recent years, the First Unitarian Society of Madison has grown to become the largest Unitarian congregation in the United States. This growth, along with ongoing architectural tours by visitors from around the world, placed increasing demands on the original historic structure. As stewards of this historic building, the congregation wished to maintain the integrity of Wright's original design, provide space for expanded daily needs, and align construction with its deeply held environmental values. The 20,000-sq.ft. addition includes a 500-seat auditorium, office, fellowship and meeting space, expanded kitchen, and music rehearsal space.

Recognizing the historical significance of the original Meeting House, the architects convened a unique peer review group comprised of nationally recognized Wright experts. The peer review group met to identify critical issues in the design of a new addition and to assess its impact on the historic building and site. Ultimately, the architectural team developed four key principles that guided all design decisions: build in the spirit of the original, yet refrain from historic mimicry; see the Meeting House and addition as a coherent whole; use geometry that reinforces the iconic power of the landmark



FIRST FLOOR PLAN



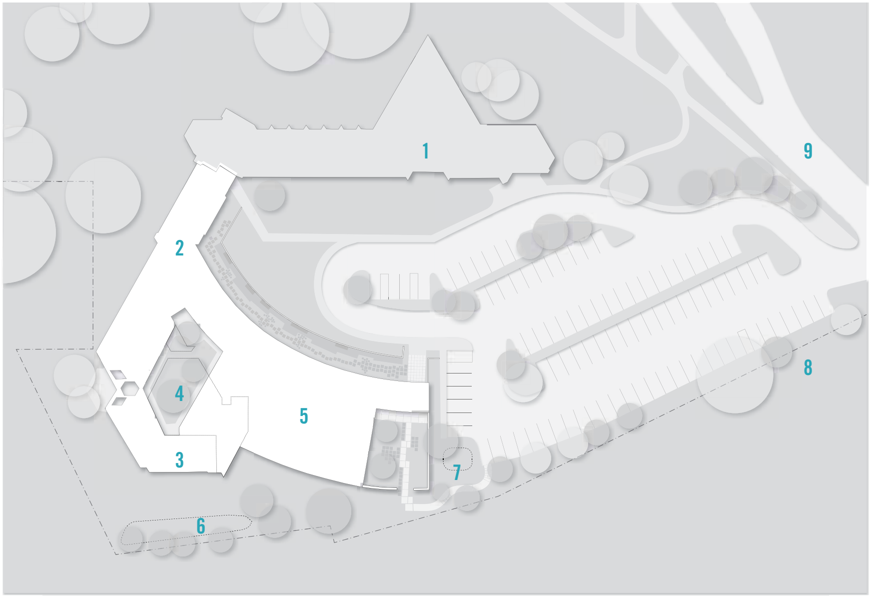
GROUND FLOOR PLAN

building; advance Wright's integration of buildings with natural systems.

Rather than mimic Wright's original design, the new addition offers a contemporary expression of exposed glue-laminated wood structural beams and columns. The inherent qualities of wood as both a structural and visual material were leveraged in the most honest and direct way. Careful attention was given to design of connections between roof and column structural elements. Wood provides balance, warmth, and contrast to other contemporary interior and exterior materials – including board-formed concrete and metal – that were sympathetic to Wright's original design without duplicating it.

The success of this project lies in its geometry. The gently curving arc incorporated into the addition keeps geometric focus on the historic Wright building and reinforces its iconic power. Fabrication and on-site construction of this critical design element was simplified with the use of glulam components. Interior wood ceiling structural elements always point back to the "Master's" work. Together, the old and the new create a coherent whole.

Wright designed the original Meeting House as an intimate space. An important project goal was to preserve this feeling in the new auditorium, despite increasing in size nearly five times. The choice of wood as a structural system allowed more opportunities for introducing levels of scale in design that support a sense of intimacy. The wood and steel queen bow-truss roof system creates a



SITE PLAN

1. existing a wing
2. existing b wing (remodeled)
3. existing c wing (remodeled)
4. removed portion of original building
5. new addition
6. west rain garden
7. east rain garden
8. property line
9. university bay drive

tighter rhythm and filigree of structures that enhance the intimate quality of an otherwise expansive interior space. The warmth and tactile qualities of wood were also an important consideration here. Maple veneer plywood was chosen to contrast with structural elements and to create the interplay of natural daylight and artificial light.

In January 2009, the addition received a LEED Gold rating, becoming the highest rated religious facility of its type in Wisconsin, and one of the first in North America. Fifteen-foot tall interior red Norway pine columns were harvested from the Menomonee tribe's sustainable forest in northern Wisconsin. FSC-certified wood was used for interior finish materials on cabinets. In areas where structure spans interior and exterior spaces, wood is more highly insulative than other materials – creating a reduced thermal bridge. The highly sustainable aspects of the new building are a contemporary expression of Wright's idea of Organic Architecture.

Careful attention was also given to design and placement of interior wood details that diffuse and reflect sound to enhance the acoustics of the 500-seat auditorium. Wood provides warmth and creates an outstanding natural acoustic environment for unamplified instrumental and choral music.

ARCHITECT/FIRM
The Kubala Washatko Architects Inc.
Cedarburg, WI

CLIENT
First Unitarian Society of Madison
Madison, WI

STRUCTURAL ENGINEER
Arnold & O'Sheridan
Madison, WI

GENERAL CONTRACTOR
J.H. Findorff & Son
Milwaukee, WI

LANDSCAPE ARCHITECT
Ken Saiki Design Inc.
Madison, WI

ACOUSTICAL DESIGN
Downer's Grove, IL

PHOTOGRAPHY
Zane Williams
Madison, WI

Mark Heffron
Milwaukee, WI

The Kubala Washatko Architects, Inc.
(Allen Washatko and Wayne Reckard)
Cedarburg, WI

INTERIOR

Multi-purpose facility is an icon for a growing community

Vadnais Heights North Service Center

Oertel Architects

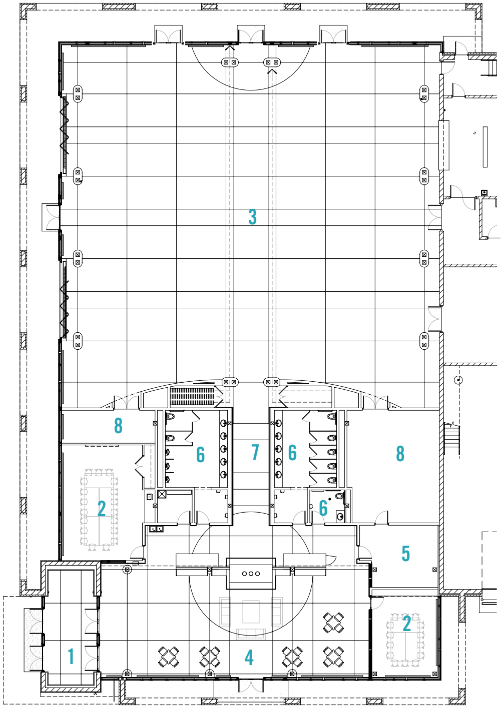
The site of this facility has been given a renewed sense of purpose. Previously the location of a city landfill, a dilapidated city hall and public works garage, now it stands as an icon for the growing community of Vadnais Heights. The new multi-purpose facility is utilized by city employees, the city council, the Boy Scouts, the Lion's Club, seniors' groups, hockey players, and wedding parties, among many others.

The community center portion of the facility is an open, light-filled, glulam-framed space featuring a flexible floor plan, exceptional day-lighting, generous ceiling height, a commercial kitchen, conference rooms, offices, and a large community gathering room that can accommodate up to 350 people.

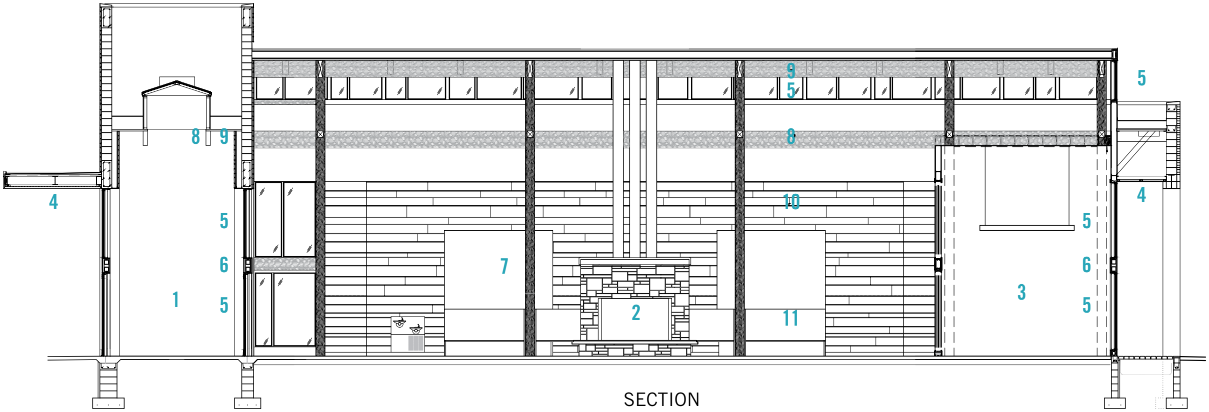
The building design focuses on providing an obvious connection to the exterior surroundings, while also avoiding excessive solar gain and glare. The materials were displayed and patterned based on their function. Both the masonry brick and the timber structures adhere to a rigorous and repetitive pattern, whereas the windows, given their more direct connection with the outdoors, exhibit a major/minor patterning which is more organic and fluid in nature. The polished and stained concrete floor provides both a pattern (at the control joints) and an organic quality due to the natural variation achieved by the staining process.

The large community room has views (due to the substantial amount of glazing) of the park beyond, and also features slide-fold Douglas fir doors

1. vestibule
2. conference room
3. community room
4. lobby/ gathering
5. office
6. restroom
7. corridor
8. storage



FLOOR PLAN



SECTION

1. vestibule
2. lobby & gathering
3. conference room
4. cedar soffit
5. douglas fir window & door assemblies
6. douglas fir trim
7. douglas fir glulam columns
8. douglas fir beams & purlins
9. douglas fir roof decking/ceiling
10. red oak paneling
11. red oak benches

which stack and open to the outdoors, creating a true indoor/outdoor experience. The Douglas fir windows, in conjunction with thoughtfully placed skylights, also greatly reduce the need for harsh artificial lighting and help reduce energy costs.

Wood was identified as a natural choice the community area of the Vadnais Heights North Service Center because of its ability to provide both structure and finish with a single cost-effective material. Wood also displays an inherent honesty in that it is evident upon observation what every wood structural member is contributing to the overall support of the building. The Douglas fir glulam structural members, decking, and window and door assemblies were all fabricated locally, resulting in a readily available and sustainable material choice. All of the wood supplied and used on the facility was sourced from sustainably managed forests. Wood was used for interior and exterior trim, paneled walls, and soffits. The inherent warmth of wood, the complementary variations from different species, and its durability and ease of fabrication made it a logical choice as a finish material.

A great deal of time and effort went into the detailing of the building's amenities. All of the material transitions were detailed to exhibit clean unencumbered lines. The major mechanical functions of the building were housed in the transitory cedar soffit at the top of the wood window walls. The strip HVAC linear diffusers were also accommodated on the sidewalls of this cedar "plenum." The cooler stain color for the polished concrete floor was chosen for its contrast to the underlying warmer tones of the other materials, but also for its ease of maintenance. All of the woodwork within the building, including the Douglas fir structure, Douglas fir windows, red oak paneling, Douglas fir and cedar ceiling, and wood details (such as the red oak benches) were thoughtfully designed and detailed to maintain clean, minimalist lines.

ARCHITECT
Oertel Architects
Saint Paul, MN

CLIENT
City of Vadnais Heights
Vadnais Heights, MN

STRUCTURAL ENGINEER
Paulson & Clark Engineering, Inc.
White Bear Lake, MN

MECHANICAL ENGINEER
Paulson & Clark Engineering, Inc.
White Bear Lake, MN

ELECTRICAL ENGINEER
Paulson & Clark Engineering, Inc.
White Bear Lake, MN

GENERAL CONTRACTOR
CBS Construction Services
Champlin, MN

STRUCTURAL WOOD SUPPLIER
Structural Wood Corporation
Saint Paul, MN

PHOTOGRAPHY
Ron Betcher
Minneapolis, MN

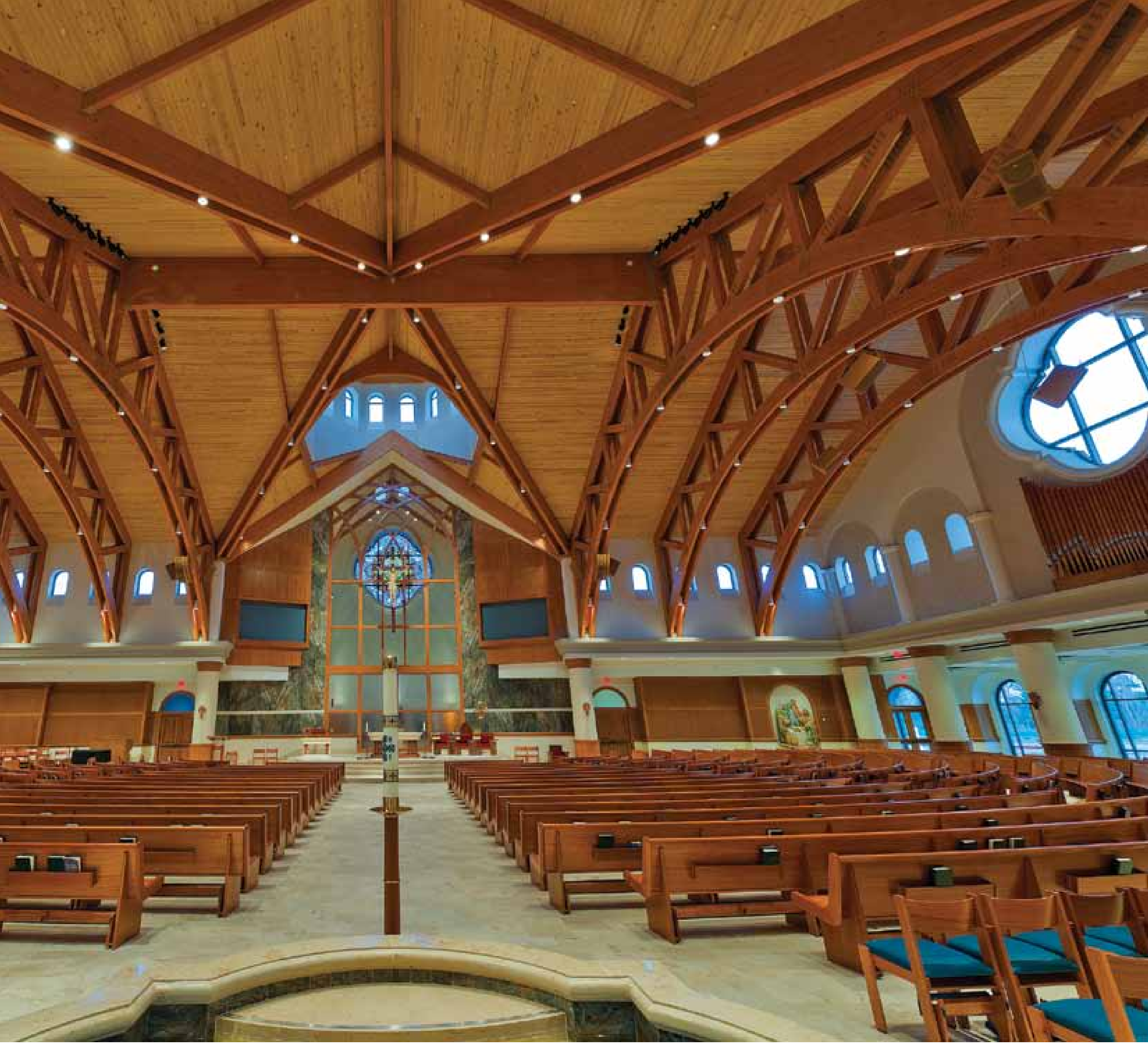
Troy Thies Photography
Minneapolis, MN

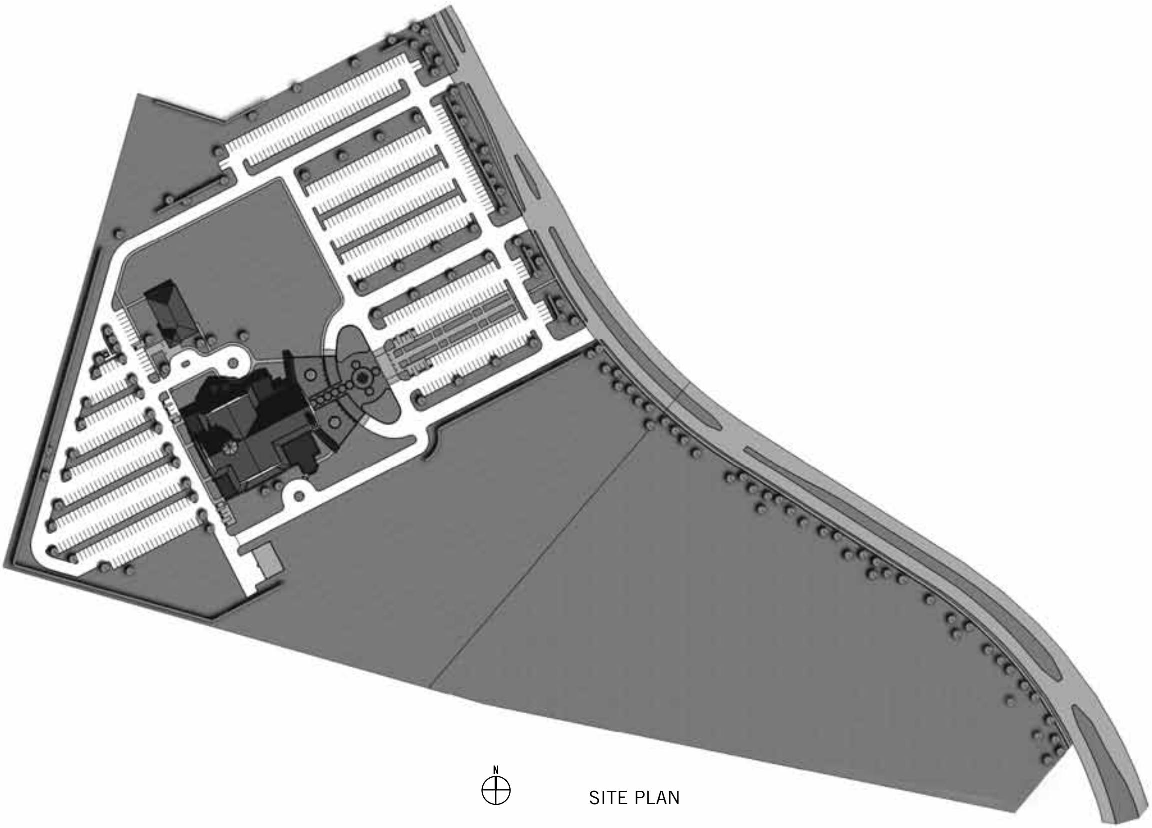
TRADITIONAL USE OF WOOD

Design evokes St. Peter's Basilica in Rome and uses wood to convey strength, presence, majesty and prayer

St. Martha Catholic Church

Turner Duran Architects, LP



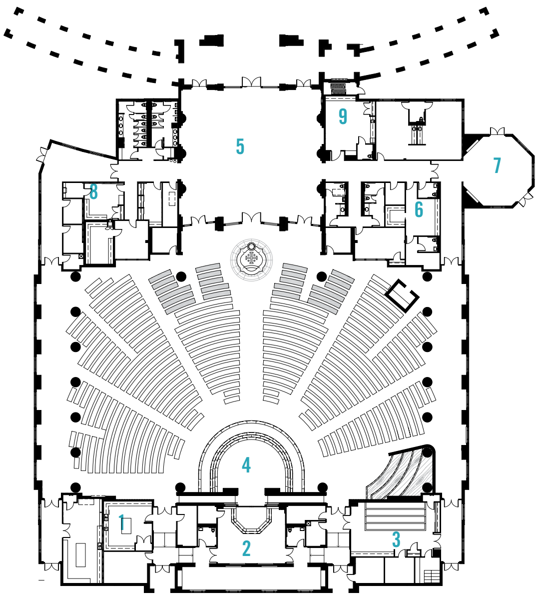


SITE PLAN

The Diocese of Galveston-Houston, Texas, commissioned a new church in Kingwood, TX. The design of St. Martha's Catholic Church is centered around a theme of timeless imagery, tradition and holiness. Catholic Church design in America has historically involved adherence to liturgical principles in concert with parochial community expression, so associations are often made to both local and historical building traditions. In the case of the design for this singular church, the exterior campanile tower, with its massive arched portal and twin columns, evokes the traditional tri-partite of body, soul and spirit, while the large dome situated over the altar makes a reference to the stately presence of the St. Peter's Basilica in Rome.

The cruciform footprint of the building, coupled with the light brick and cast stone facades reminiscent of stone pillars, evokes the streets of Vatican City, which is the cradle of Catholicism. In the design of the church, the parish and design team wanted a building that conveys a sense of strength and presence. The new St. Martha's Catholic Church represents optimism for the future of the Catholic liturgy and represents hundreds of years of religious tradition.

The design team felt the interior should elicit a sense of awe and majesty, while conveying intimacy and warmth. Primarily, it should be a good place for prayer. Early in the process, the team came across information on



FLOOR PLAN

1. sacristy
2. chapel
3. choir practice
4. sanctuary
5. narthex
6. vesting sacristy
7. lobby
8. ushers
9. bride's parlor

architectural woodwork, studied traditional techniques and worked with the structural engineers to minimize the visible bolted connections and enhance the visual aesthetic.

The use of double trusses provides additional strength and allows each individual truss to be smaller and lighter. The double truss design also provides an opportunity to conceal the light fixture housing which allows the architectural components, such as the wood trusses and wood deck, to enhance the visual aesthetic and reinforce the sense of reverence. The design team felt strongly that this woodwork would help instill the spiritual quality in the interior spaces. The resulting use of laminated trusses as well as the use of various woods throughout has proven successful in conveying this design intent.

Southern yellow pine was chosen for the laminated trusses and roof deck because of its structural properties and abundance in the southeast where the trusses were fabricated. It is a sustainable resource that yields timbers with high strength and stiffness, enabling trusses to span large distances without intermediate columns. This translates to large uninterrupted spaces and considerable design flexibility. The natural beauty of the wood and inspirational creative design possibilities made laminated trusses ideal for the St. Martha worship space's superstructure.

ARCHITECT
Turner Duran Architects, LP
Houston, TX

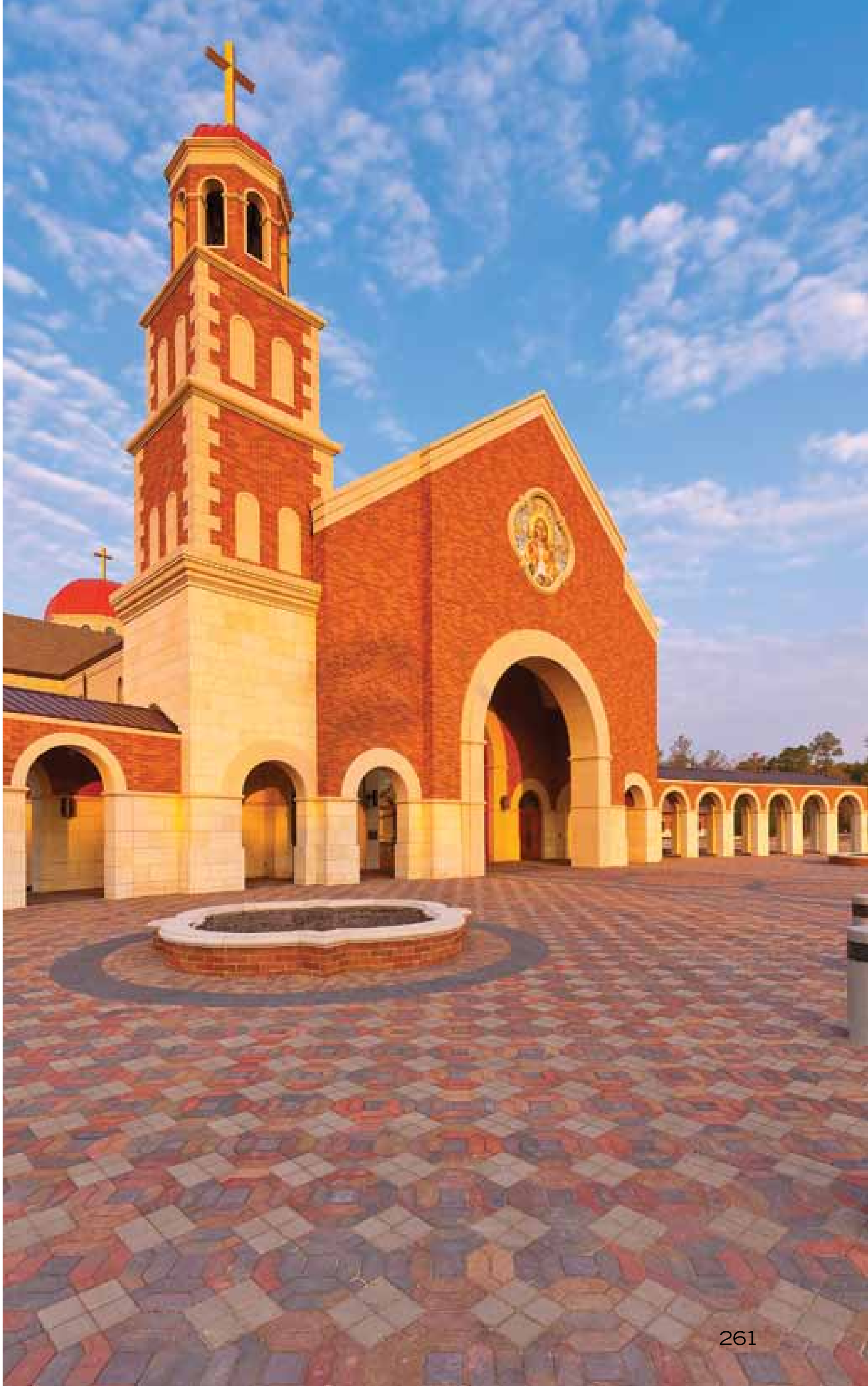
STRUCTURAL ENGINEER
Pinnacle Structural Engineers
Houston, TX

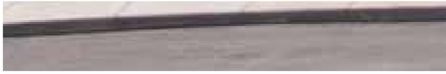
MECHANICAL ENGINEER
Advanced Technologies, Inc. (ATI)
Houston, TX

CIVIL ENGINEER
Landtech Consultants, Inc.
Houston, TX

GENERAL CONTRACTOR
JE Dunn Construction
Houston, TX

PHOTOGRAPHY
G. Lyon Photography, Inc.
Houston, TX





WOOD BEHIND THE WALLS

Locally produced wood products give a senior center and intergenerational facility a warm, non-institutional feel

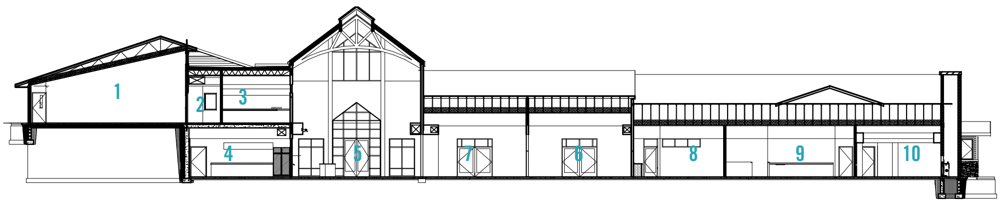
Plymouth Intergenerational Coalition – Generations Facility

Smies & Associates, Architects LLC

The 29,000-sq.ft. Plymouth Intergenerational Coalition Generations Facility houses the Plymouth Senior Center, Family Resource Center, Growing Generations Child Care, Sheboygan County Head Start, and Parents Plus, Inc. all under one roof.

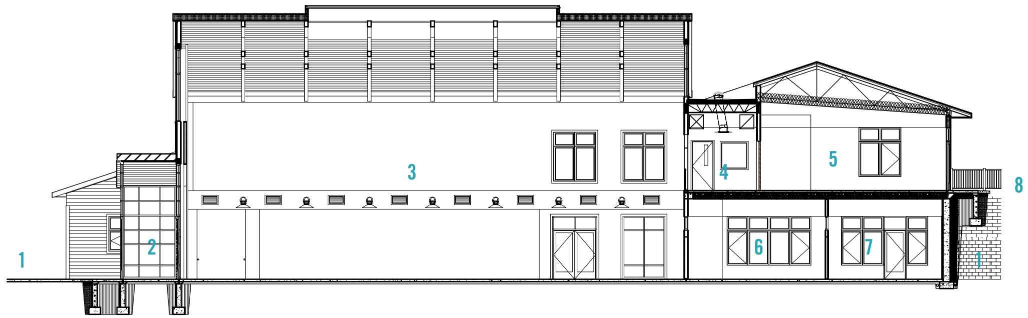
An important criterion of the owner was to use locally built sustainable products along with local contractors. Wood roof trusses fabricated less than 10 miles from the site were used for nearly all of the roof structure. Structural Insulated Panels (SIPs) were also used, and produced only a few miles from the site. This plywood and rigid-insulation sandwich panel is used on approximately 90 per cent of the exterior. The panels are covered with siding on the outside and drywall on most interior walls.

The main entry gathering area is a focal point of the facility. The two-story space is the central hub of the facility where senior citizens and chil-



CROSS SECTION

1. classroom
2. corridor
3. kitchen
4. play room
5. gathering
6. M.P. area A
7. M.P. area B
8. wellness
9. craft
10. living room



CROSS SECTION

1. ground floor
2. vestibule
3. gathering
4. upper lobby
5. toddler
6. coordinator workspace
7. parent education workspace
8. second floor

dren can gather together for games and learning. The adults teach the children talents and skills learned over a lifetime while the children bring enthusiasm and energy to the adult community. One highlight of the gathering area is the vaulted 34 ft.-high ceiling framed with glue-laminated Douglas fir wood trusses. The ceiling panels that span between the trusses are SIPs covered with 3/4-in. wood decking as the interior finished material.

Using locally produced wood products with local contractors was also important for this facility because it was built during the recent recession and allowed the local manufacturing facilities to continue working. It also allowed a large number of carpenters and tradesmen in the area to work on the erection of the facility. Wood was a good choice because of its ease of use, its strength, its visual warmth and its cost-effectiveness.

The building committee also wanted the building to have a home-like, non-institutional feel. Using wood on both the interior and exterior (exposed wood trusses, extensive wood trim, wood doors and wood windows) were important components in the building construction and allowed the project team to achieve this objective. As a result, the Plymouth Intergenerational Coalition Generations Facility is a warm, inviting facility being used by a generation of people from ages six months to 85 years of age.

ARCHITECT
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STRUCTURAL ENGINEER
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CIVIL/STORM WATER MANAGEMENT
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ELECTRICAL & FIRE PROTECTION DESIGN
Muermann Engineering
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LANDSCAPE DESIGN
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PHOTOGRAPHY
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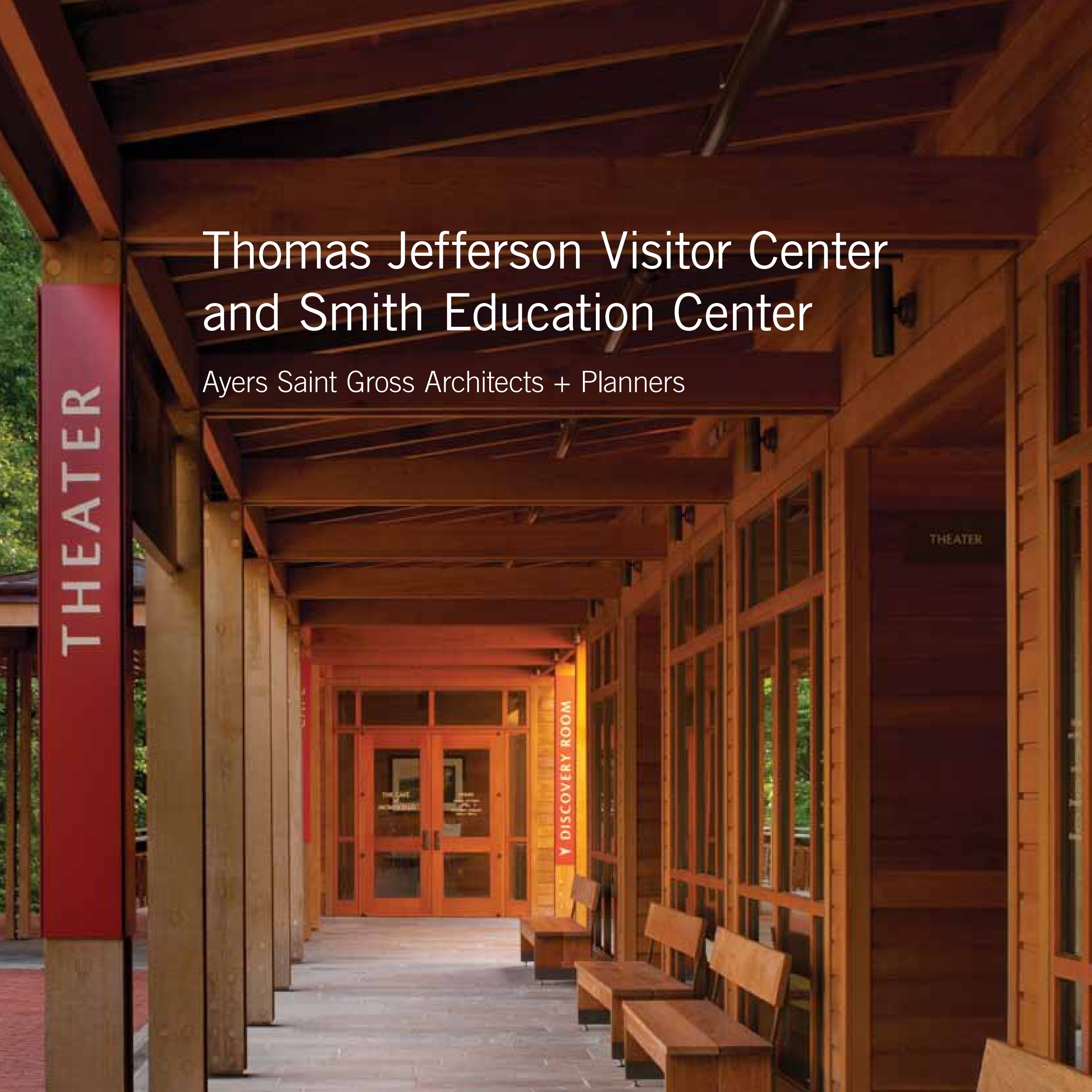
EAST

Wood visitor center complements the brick of Monticello and foundation's green building strategy

Thomas Jefferson Visitor Center and Smith Education Center

Ayers Saint Gross Architects + Planners



Thomas Jefferson, the principal author of the Declaration of Independence and third president of the United States, embarked upon the design and construction of his residence when he was 25 years old. Over the next four decades, Jefferson redesigned and rebuilt until he was satisfied with the hilltop property known as Monticello ("little mountain"). His masterpiece now stands as the only house in America listed on the United Nations prestigious list of World Heritage Sites.

Preserving and interpreting this cultural icon led the Thomas Jefferson Foundation, the overseer of the property, to transform its outdated visitor facilities with a sustainable building complex. The foundation considers the new 42,000-sq.ft. facility "the most ambitious project [at Monticello] since Thomas Jefferson walked the grounds." The gateway building is nestled into the hillside below the famous house to enhance the visitor experience and understanding of Jefferson and his achievements.

Interconnected pavilions provide a ticketing area, a theater for an orientation film, exhibition galleries, museum shop, café and restrooms. An education wing houses classrooms and learning spaces for the more than 78,000 children who

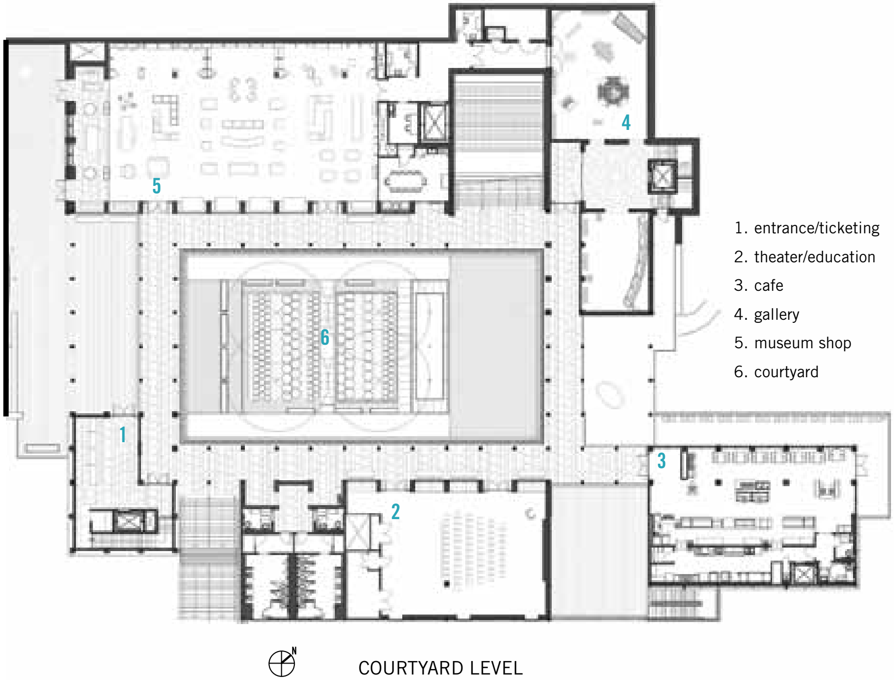
visit Monticello every year. The buildings are arranged in pinwheel fashion around a planted courtyard to contrast with the formal, symmetrical design of Jefferson's house. Porches connecting the pavilions provide shelter and shade.

Rather than establishing a predetermined path, the center allows visitors to discover and learn at their own pace before boarding a shuttle bus to tour Jefferson's house. The intent is to encourage tourists to return in the future to find out more about Monticello and its owner-architect.

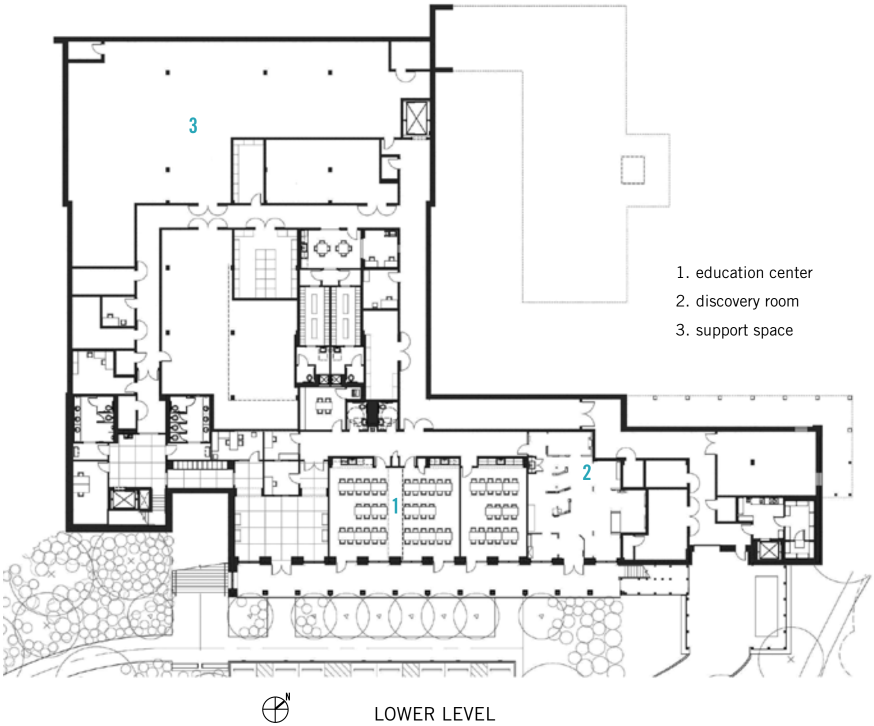
Wood was chosen as the primary building material so as not to compete visually with Jefferson's brick architecture. The visitor center's timber-clad surfaces blend into the beauty of the forested site and reinforce the continuity of the surrounding woodland. The preservation of the tree canopy and open space was part of a comprehensive sustainable strategy for the site and building.

LEED Gold certification was achieved through the use of 72 geothermal wells to minimize heating and cooling loads, green roofs and bio-retention areas to manage stormwater, re-use of existing parking lots and installation of high-efficiency fixtures and occupant sensors to save energy and resources.

Wood is a renewable material that complements this green design strategy while offering the value of a durable structure and natural finish. Various species were selected for both structural elements and finishes. Western red cedar was chosen for its ability to resist moisture, decay and insect damage as well as for its dimensional stability and warm color. This wood is used for exterior siding, window louvers, as well as the columns, beams and ceilings of the porches. Posts, studs and plates for exterior staircase and service yard enclosures are fashioned from Southern yellow pine. Exterior decking, stair treads, risers and railing systems are made from durable Ipe. FSC-certified Spanish cedar is applied to doors, windows and interior trim. Reclaimed antique heart pine covers the gallery floors and café walls.



COURTYARD LEVEL



Throughout its tiered spaces, the visitor center draws from the dependable and long-lasting appeal of wood. The intention of its design is best summarized in Jefferson's words: "When buildings are of durable materials, every new edifice is an actual and permanent acquisition to the state, adding to its value as well as to its ornament."

ARCHITECT
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CLIENT
The Thomas Jefferson Foundation
Charlottesville, VA

STRUCTURAL ENGINEER
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Oaks, PA

MECHANICAL ENGINEER
Mueller Associates, Inc.
Baltimore, MD

CIVIL ENGINEER
RK&K Engineers, LLP
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GENERAL CONTRACTOR
Barton Malow Company
Charlottesville, VA

LANDSCAPE ARCHITECT
Michael Vergason Landscape Architects, Ltd.
Alexandria, VA

PHOTOGRAPHY
Alan Karchmer
Washington, DC

Maxwell MacKenzie
Washington, DC

ENGINEERING

Tallest timber-backed glass facade in the world delights Washington D.C. theater lovers

Arena Stage at the Mead Center for American Theater

Bing Thom Architects

Arena Stage at the Mead Center for American Theater is the substantial expansion and renovation of a prominent Washington, D.C., theater complex, totaling 200,000 sq.ft. Two existing heritage-designated theaters were gutted and significantly refurbished.

The three theaters are enclosed by a dramatic roof featuring an 85-ft. cantilever and unique wood and glass facade. Elliptical composite parallel strand lumber (PSL) columns with custom-cut PSL muntins provide support to the soaring roof and the sloping glass facade.

The project team worked diligently to develop an exterior design that utilized wood and steel – each with its strengths – in the appropriate locations to carry high wind and gravity loads, meanwhile optimizing material to produce a transparent medium and reduce cost. They strived to meet the client's desire for a unique facade structure that exhibits high-quality craftsmanship, and accurately constructed the complex structure so the glazing system could be mounted without problems and on schedule. The team's careful attention to detail was effective in overcoming the hesitancy of building officials to permit wood as a structural material in Washington, D.C., where steel and concrete are the usual construction materials.

The soaring roof is supported for most of its length by a series of engineered timber columns between 45 and 58 ft. tall. These columns economically serve as backup to a sinuous 650-ft., double-

glazed exterior, which itself does double duty as an acoustical and environmental barrier. The complexity of the free-form facade geometry was further exacerbated by a four-degree tilt from vertical, introduced to minimize reflection. Normally, such large and complex walls are installed as elements separate from the primary structure, but extraordinary care and coordination between disciplines allowed for a successful and cost-effective installation – in this case, using an unusual combination of materials.

The timber elements are made of PSL. For the columns, the PSL billets were laminated into larger sections, and then turned on an enormous lathe, specially rigged for this application, into an elliptical cross-section close to 60-ft. long. The shape was not only desirable architecturally, but efficient to carry axial forces (400,000 pounds) and the out-of-plane wind forces, minimizing the amount of PSL material used. There was strong potential for movement and checking in this large cross-section of wood, and a partially restrained relief joint was provided as a vertical plane in its center. This proved necessary, as not-insignificant movements were later observed in the joints of a few of the columns. Another interesting development was the base connector for the columns – a highly visual element meant to evoke the thought of a ballet slipper lightly touching the ground, and even the PSL column was “pencil-sharpened” to that end. But the forces were high, and non-linear 3D solid finite element analysis, along with full scale load testing, was performed to make the ductile iron casting as light as possible.

This timber-backed facade is believed to be the tallest timber-backed glass facade in the world, and has certainly been the delight of the client and the city of Washington, with the warmth of the enormous timber pillars radiating to both interior and exterior of the energetic new facility. The structure demonstrates that wood can be substituted for steel or concrete – even in cases when there are high loads to carry.

ARCHITECT
Bing Thom Architects
Vancouver, BC

CLIENT
Arena Stage at the Mead Center for American Theater
Washington, DC

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

MECHANICAL ENGINEER
Yoneda & Associates
Kelowna, BC

ELECTRICAL ENGINEER
Stantec
Vancouver, BC

Vanderweil Engineers
Washington, DC

CIVIL ENGINEER
Wiles Mensch Corporation
Reston, VA

GENERAL CONTRACTOR
Clark Construction
Bethesda, MD

CONSTRUCTION MANAGER
KCM
Paeonian, VA

MECHANICAL DESIGN/BUILD
Southland Industries
Washington, DC

CODE CONSULTANT
LMDG
Vancouver, BC

Koffel Associates
Columbia, MD

GLAZING CONSULTANT
RA Heintges & Associates
New York, NY

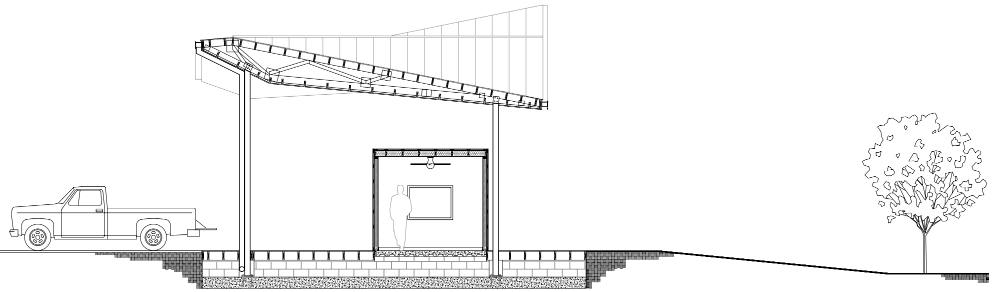
LIGHTING DESIGN
William Lam
Cambridge, MA

EXTERIOR USE OF WOOD

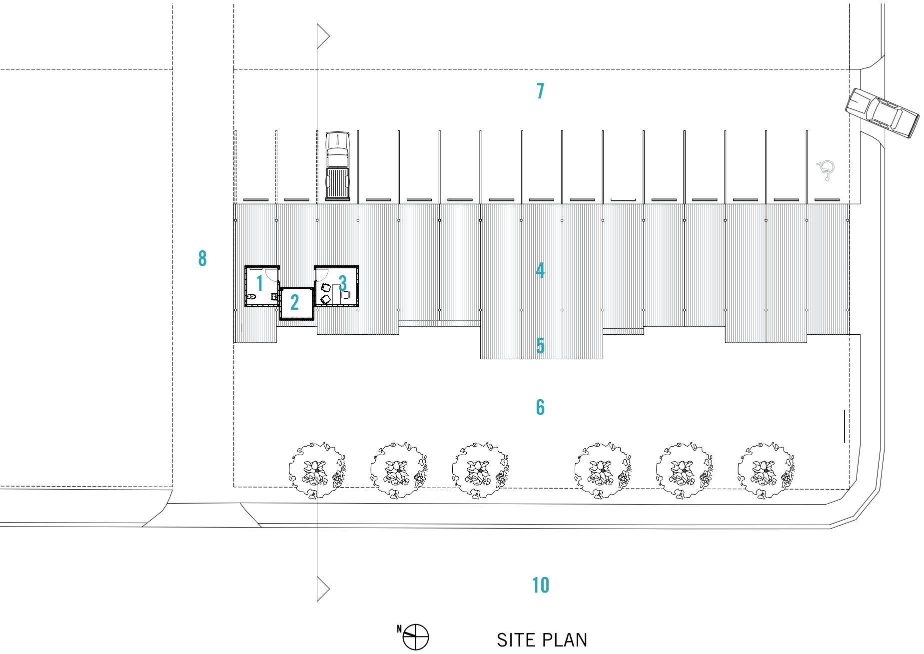
Re-used and locally sourced wood fits market's model of sustainable development

Covington Farmers Market

design/buildLAB, VA Tech School of Architecture + Design



SECTION



SITE PLAN

1. restroom
2. storage
3. office
4. market pavilion
5. stage
6. park
7. parking
8. alley
9. Main Street
10. Monroe Avenue

The project was conceived as three parts: Ground Plane, Occupied Space, and Pavilion Roof. All component parts are based on a 10-ft. wide module to facilitate prefabrication and transportation to the site. At the scale of the town, the building reads as a seamless gesture. At the scale of the occupant, the details express the modular construction. A locust deck serves as the market floor. It folds up to allow the nesting of an office, storage room and restroom. It extends beyond the market and into a sloped earth park to provide a stage and seating. A sculptural roof and ceiling of reclaimed heart pine and galvanized sheet steel floats overhead.

This market pavilion is the modern expression of timeless agrarian sensibilities. Because all goods sold at this market are required to be produced within a 100-mile radius, this distance was also the goal for the procurement of construction materials. Essential to this approach was the use of recycled building material in the construction, in particular the re-use of wood salvaged from an old warehouse in a neighboring

town. Additional, new lumber, including locust decking and yellow pine cladding, were sourced from locally sawn timbers.

One of the goals of the project was to serve as a model of sustainable development. The building, 90 per cent of which was constructed of wood, is the demonstration of the intelligent use of locally available and renewable resources.

Since the mission of the Farmers Market is to promote healthy living, wood became the ideal material of choice. Aside from the ease of construction it enabled, wood is a pleasant material to handle and inhabit.

ARCHITECT
design/buildLAB, VA Tech School of Architecture + Design
Blacksburg, VA

STUDENT DESIGN TEAM
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PROFESSORS
Marie Zawistowski, Architect DPLG – Professor of Practice
Keith Zawistowski, Assoc. AIA, GC – Professor of Practice

CLIENT
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Covington, VA

STRUCTURAL ENGINEER
Draper Aden and Associates
Charlottesville, VA

PHOTOGRAPHY
Jeff Goldberg
Esto Photographics Inc.

GREEN BUILDING

New net-zero education center preserves the natural environment while creating a vibrant educational space for visitors

Bosarge Family Education Center – Coastal Maine Botanical Gardens

Maclay Architects and Scott Simons Architects

Coastal Maine Botanical Gardens desired an education center to serve as a model of sustainable design for the region and influence future development by example. The building was to be an active teaching tool for visitors to the gardens by outwardly demonstrating energy and resource conservation. Coastal Maine Botanical Gardens set forth a strict schedule, to preserve the experience of visitors during the high summer season, and a tight budget.

The site was a confined parcel adjacent to an existing visitor's center, set in a valley. This presented the challenge of maximizing the solar access critical to net-zero performance. In addition, Coastal Maine Botanical Gardens wanted to preserve as many of the large coniferous trees as possible.

The net-zero building design connects directly to the surrounding gardens through views and access. The orientation maximizes performance of passive solar panels, while minimizing impact to the existing site and trees.

A central open gallery acts as a gateway to the gardens. Two wings extend from this center into the landscape; one housing administrative functions and the other offering flexible public space.

The building is sited along the central circulation core with educational signage and an interactive display for visitors to explore. The staff inside is connected to not only the gardens, but to the arrival and departure of visitors.

Extensive use of wood and natural materials embodies the character and vision. Ninety per cent of on-site construction waste was recycled. Natural and low-VOC finishes including clear wood finishes and polished concrete were used. Eight-five per cent of the

wood was FSC-certified. Spruce, pine, Douglas fir, maple, and eastern white cedar were used for everything from ceilings and walls, to floor joists, doors, and shingles. The building envelope was constructed using pre-fabricated panels built off-site to cut costs and shorten the construction schedule.

ARCHITECTS
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Scott Simons Architects
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CLIENT
Coastal Maine Botanical Gardens
Boothbay, ME

STRUCTURAL ENGINEER
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Portland, ME

MECHANICAL AND ELECTRICAL ENGINEER
Allied Engineering Inc.
Portland, ME

CIVIL ENGINEER
Knickerbocker Group
Boothbay, ME

GENERAL CONTRACTOR
HP Cummings
Woodsville, NH

BUILDING SYSTEMS FABRICATOR
Bensonwood
Walpole, NH

ENERGY CONSULTANT
Energy Balance
East Monpelier, VT

SUSTAINABILITY CONSULTANT
Fore Solutions
Portland, ME

LIGHTING DESIGNERS
J&M Lighting Designs
Kennebunkport, ME

LANDSCAPE ARCHITECT
AECOM Inc.

PHOTOGRAPHY
Robert Benson
Hartford, CG

Chapel functions as a lantern in the landscape using indirect, reflected light off of the natural wood ceiling

The Bishop's Chapel at Roslyn Retreat Center

Bartzen + Ball

The conceptual design process for the new Bishop's Chapel at The Episcopal Diocese of Virginia's Roslyn Retreat and Conference Center in Richmond, Virginia, began by analyzing a number of available building sites across the 70-acre campus. Each of the sites had unique opportunities and constraints. Some of the available sites were on open land, and some were in the context of existing buildings, providing for a relationship between the new chapel and the existing fabric.

The Bishop's Chapel was eventually sited to take advantage of both the community aspect of the Roslyn campus and the commanding views of the surrounding pastoral landscape. The site is located on the prow of a hill with magnificent views available looking south and west across the James River. The chapel is both a focal point for visitors, and distinct within the larger setting as a place for worship and inspiration.

Intimately scaled for services of 20 to 120 people, the chapel is intended to bridge the natural and the spiritual. While the chapel is not intended to mimic the early Anglican churches of the Tidewater region, or the Carpenter Gothic churches of the turn of the century, it draws inspiration from these sources in its steeply pitched roof form, vertical fenestration, simple massing, and choice of materials. The design process focused on the clarity of structure, design and refinement of the connection details, as well as the selection of appropriate wood finishes.

The simplicity of the building form allows the structure to be clearly

expressed, and the warmth of the wood finishes invites visitors in. Cherry-stained poplar is included on the interior finishes as well as dark-stained maple. Yellow pine glulam beams provide primary support of the chapel roof structure and Douglas fir 4 x 4 purlins provide secondary roof and ceiling support.

Lighting was an important factor in the design, as the building was intended to be a "lantern" in the landscape. No lighting pendants or fixtures are apparent within the internal volume, as all light is indirect, reflected off of the natural wood ceiling boards. The ceiling boards are spaced to allow for reflected sound to be absorbed by fabric-covered acoustical panels mounted behind the boards. The floor is patterned maple with a dark stain.

Acoustical panels are provided on the interior walls to create an ideal acoustical volume within the chapel for musical performances.

In cladding the exterior of the chapel, the use of exposed cypress, clear glass (in aluminum curtain wall), standing seam metal roof with pewter finish, and

natural stone are intended to establish an architectural language which both complements and enhances the Roslyn experience, bringing the desired scale and warmth to the building.

ARCHITECT
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STRUCTURAL ENGINEER
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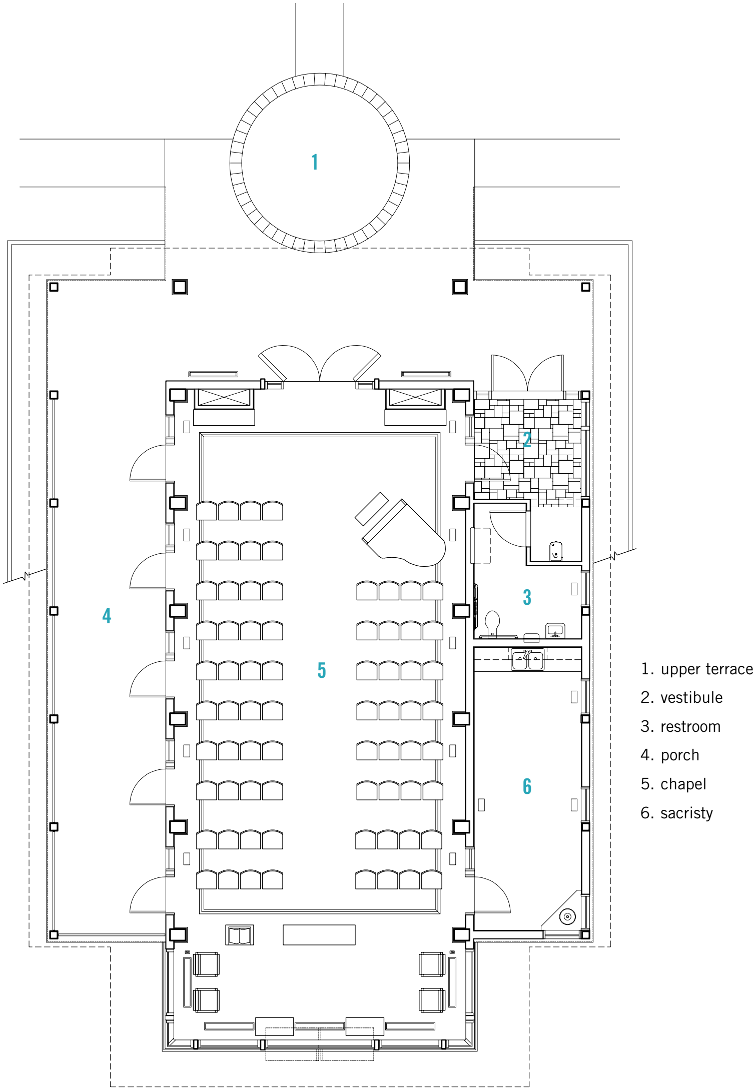
Charlottesville, VA

MEP ENGINEER
Potomac Energy Group
Falls Church, VA

GENERAL CONTRACTOR
Taylor & Parrish, Inc. Construction
Richmond, VA

LANDSCAPE DESIGN
Garden Graces
Richmond, VA

PHOTOGRAPHY
Crittenden Studio
Richmond, VA



FLOOR PLAN

INTERIOR BEAUTY OF WOOD

Renovated Navy mess hall uses natural wood to evoke the beauty and tradition of a boat and preserves the rich history of the existing building

King Hall Galley Renovation

HKS, Inc


WORLD'S FARE

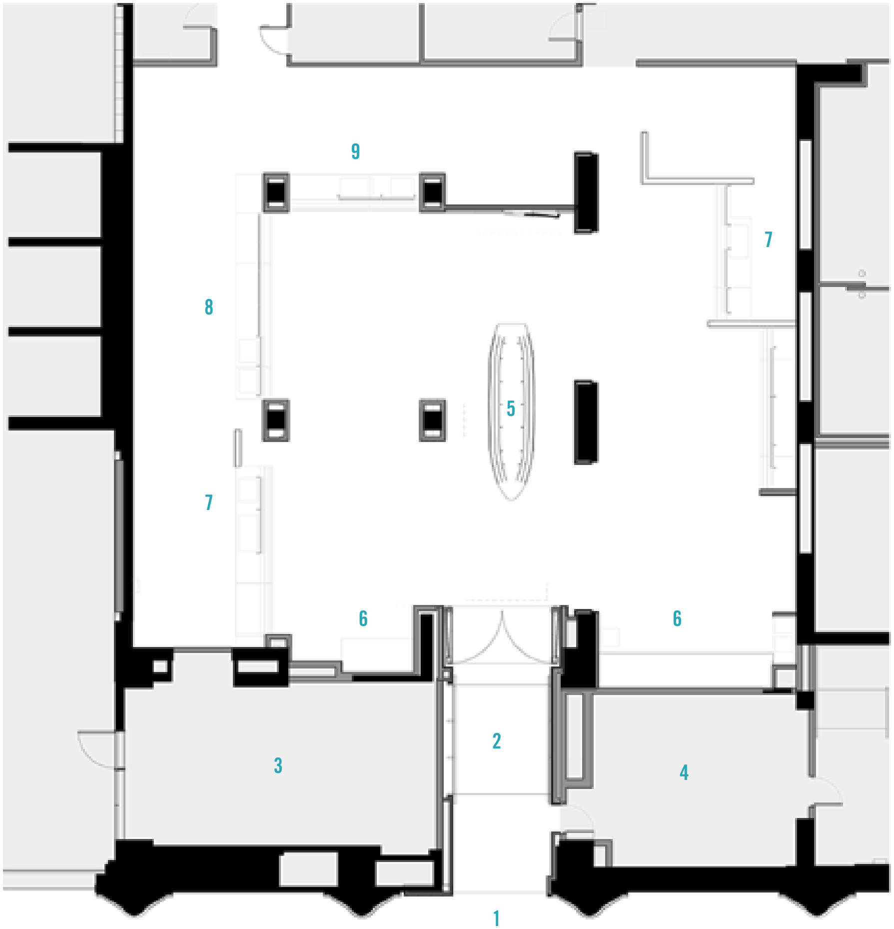
Named for Secretary of the Navy George Bancroft, the founder of the Naval Academy, Bancroft Hall houses all midshipmen at the academy, at present some 4,300 men and women. Bancroft Hall, designed by Beaux-Arts architect Ernest Flagg, is a small city in itself, containing a bakery, barber shop, soda parlor and the massive mess hall, otherwise known as King Hall. The entire brigade of midshipmen is served simultaneously three times daily. With an area larger than three football fields, King Hall has a staff of two officers, 200 civilian employees, and 300 stewards who prepare and serve more than three million meals annually. After many years of service to midshipmen, the kitchen was replaced in its entirety and is supplemented with a servery aimed at providing meals for midshipmen during weekends.

Inspired by the beautiful and traditional craft of boat building, natural wood is used to delineate an abstract representation of a ship's hull suspended overhead. The multi-layered armature organizes the composition

and establishes hierarchy in the series of spaces that define the servery. Selective use of tongue and groove layers further expose the rhythmic nature of the framework reminiscent of a boat's intrinsic structure. Curved ribs made of solid cherry are assembled through use of conventional scarf joints with routed edges and mahogany plugs to conceal fasteners. Walls defining entry, the vertical terminus at rear of the servery, and the set of 10-ft. high entry doors are skinned in tongue and groove cherry planks. Deliberate placement of wood plank orientation at entry doors and adjacent walls enhance the composition both when doors are in the open and closed position.

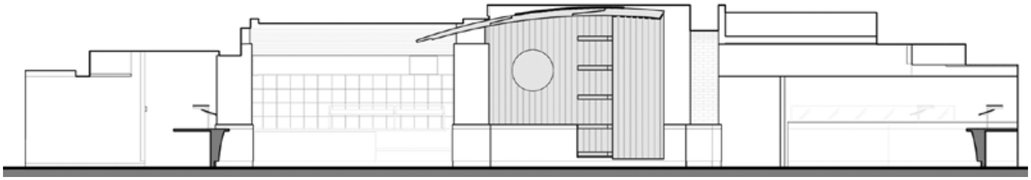
Since the initial construction of Bancroft Hall in the early 1900s, the building has been expanded multiple times. This renovation's demolition process exposed unforeseen conditions such as intricately laid brick arches that, at one time, shaped outdoor courtyards. Existing arches are preserved and will serve as a symbol of the academy's rich history and evolution. Hence, thoughtful consideration is given to detail when merging materials of old and new.

A material palette consisting of terrazzo, stone, painted brick, stainless steel, glass tile and cherry wood with mahogany accents infuse spaces with visual warmth and balance. The intervention, driven by the wooden assemblage and its inherent properties, serves as an educational device in recalling the Naval Academy's fundamental vessel in its most minimalist form.

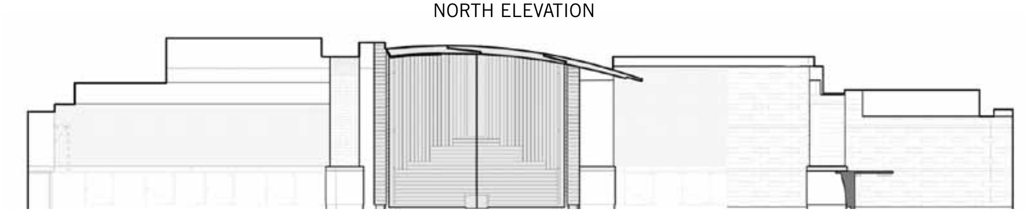


FLOOR PLAN

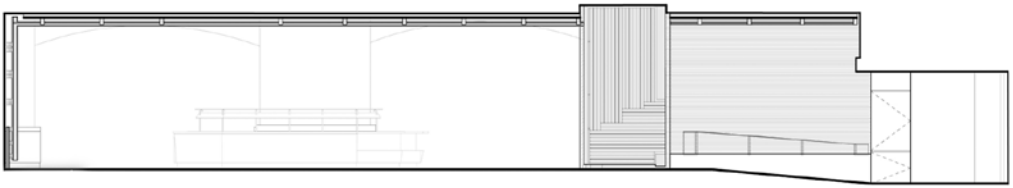
1. existing king hall dining
2. vestibule
3. mechanical
4. diet kitchen
5. salad bar
6. beverage
7. grill
8. pizza
9. entree



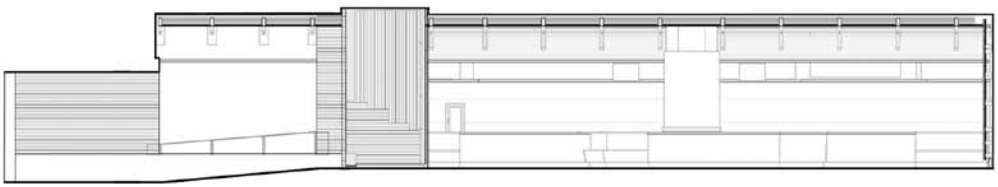
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

ARCHITECT
HKS, Inc
Richmond, VA

PROJECT TEAM
Fred Ortiz, Mike Drye, Jason Huber,
Lamont Wade, Laura Hild,
Amy Gilkey, Sarah Clair

CLIENT
United States Naval Academy
Annapolis, MD

DESIGN – BUILD FIRM
Barton Malow Company
Southfield, MI

MEP ENGINEER
Leach Wallace & Associates
Elkridge, MD

MILLWORK FABRICATION
Tektonics Design Group, LLC
Richmond, VA

PHOTOGRAPHY
HKS, Inc., Blake Marvin
Dallas, TX

JURY'S CHOICE

Shed honors native building traditions by using locally harvested and milled eastern hemlock and white pine lumber

Kiln Shed

Chad Everhart Architect

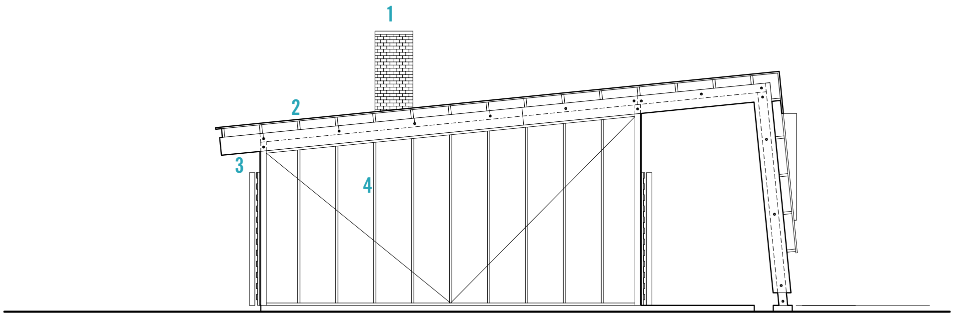
Commissioned by a local potter as a protective shed for a large kiln, this project was inspired by the process of firing ceramics. Conceptually, the building personifies the firing temperature within the field-built kiln: 2600˚F. Designed as a modern interpretation of vernacular lean-to sheds, the structure is sited in a garden and creates a visual experience of the firing concept for the owner and guests. During the day, wooden slats blaze orange and brown, suggesting a stack of burning sticks and alluding to what happens within. At night, the building glows, acting as a beacon for visitors to gallery openings.

The shed is completely raw and exposed with nothing hidden except for the kiln itself, which acts as a precious object contained within a ghostly shell of open wood framing and twin-walled polycarbonate. The kiln can contain hundreds of ceramic pieces and is only publicly revealed during the firings, which are extraordinary events that occur just a few times a year. Another part of the firing ceremony is the barn quilt – an indigenous artifact found on many barns and outbuildings in the area – which changes with each new firing; it is housed in an adaptable wood frame that allows the artist to insert a new quilt design as necessary.

Wood was chosen as the primary structural and finish material in an effort to fit this modern outbuilding into the local building context. Most of the vernacular architecture of the North Carolina mountain region was constructed by woodworking artisans that used readily available lumber. The

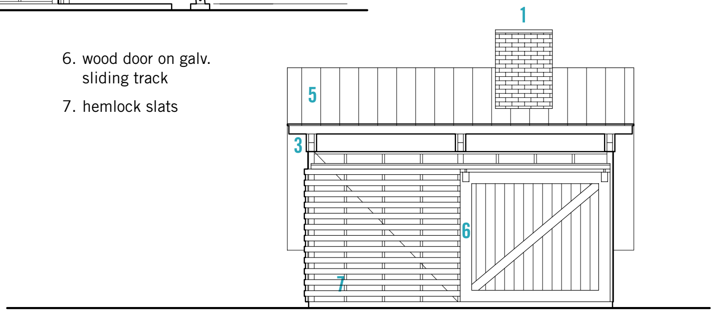
"The jury wishes to commend the owner of this delightful project, first for commissioning the design and then for building it himself. The architect has devoted great care and attention to the details of pottery making, crafting the building as carefully as a potter throws a clay pot. We applaud the innovative and graceful use of wood in a modern building that serves an ancient craft."

– Jury

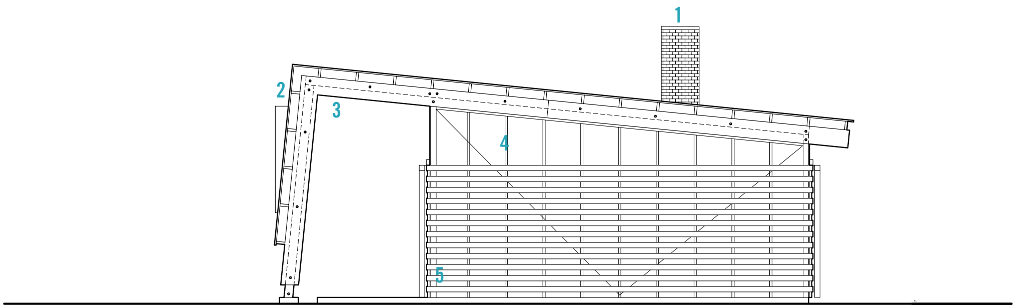


LEFT SIDE ELEVATION

1. brick chimney
2. 2 x 6 purlins
3. wood girder
4. walled polycarbonate over 2 x 4 studs
5. galvalume metal roof
6. wood door on galv. sliding track
7. hemlock slats

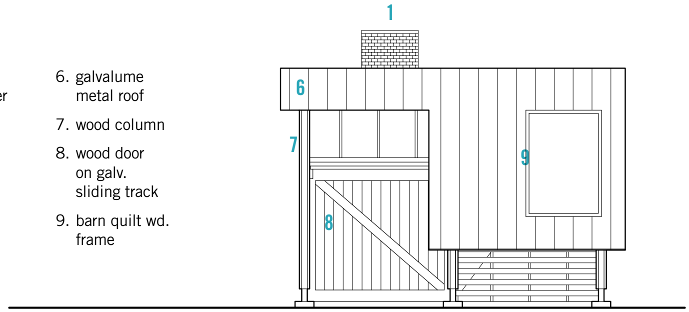


REAR ELEVATION



RIGHT SIDE ELEVATION

1. brick chimney
2. 2 x 6 purlins
3. wood girder & column
4. walled polycarbonate over 2 x 4 studs
5. hemlock slats
6. galvalume metal roof
7. wood column
8. wood door on galv. sliding track
9. barn quilt wd. frame



FRONT ELEVATION

Kiln Shed honors native building traditions by using locally harvested and milled eastern hemlock and white pine lumber, which is left exposed and used throughout the building to provide beauty, tectonic expression and ease of construction.

In an effort to provide a design that could be constructed by the artist himself, the building was planned as a kit of parts using dimensional lumber, minimal cuts and simple connections. The structure incorporates built-up dimensional lumber posts and beams composed of a 4 x 6 with 2 x 12s on each side as well as 2 x 4 framed infill walls and 2 x 6 roof purlins. The open slats on the exterior – a cladding found on many outbuildings in the area – were

constructed with eastern hemlock 1 x 4s over 2 x 2 furring strips to protect the walled polycarbonate skin from impact at lower levels.

ARCHITECT
Chad Everhart Architect
Boone, NC

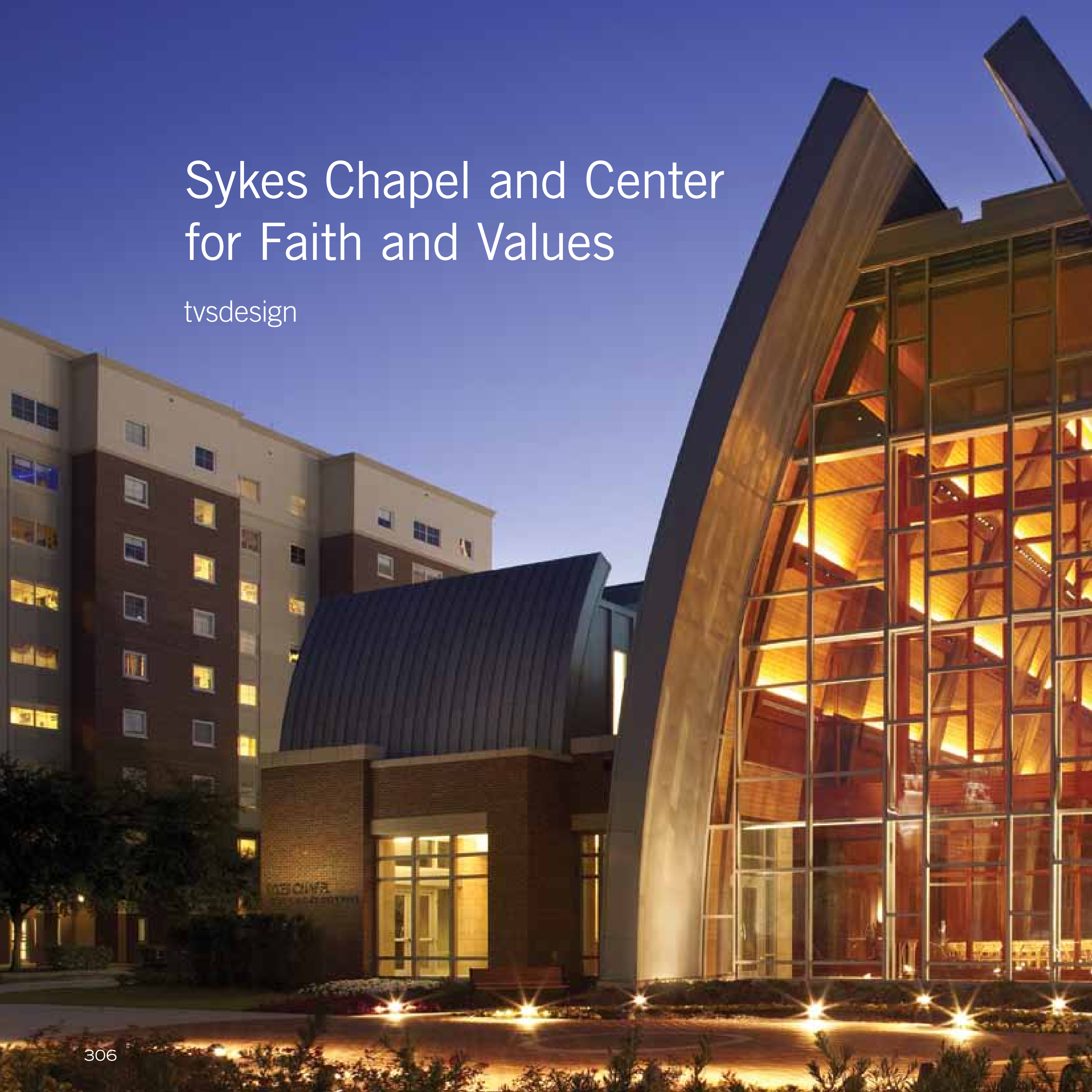
CLIENT
Eric Reichard Pottery Studio
Boone, NC

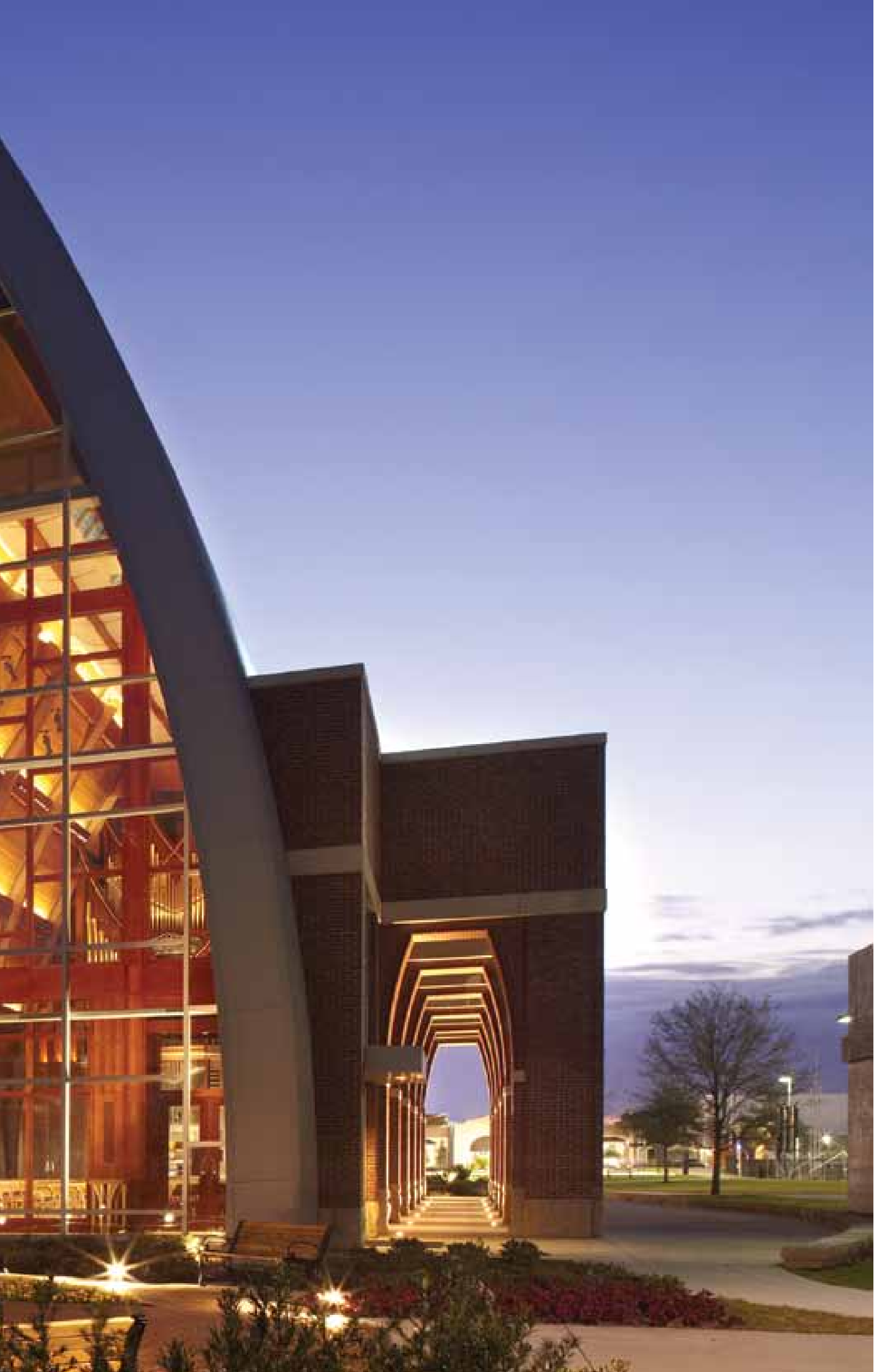
GENERAL CONTRACTOR
Eric Reichard
Boone, NC

PHOTOGRAPHY
Chad Everhart
Boone, NC

Sykes Chapel and Center for Faith and Values

tvsdesign



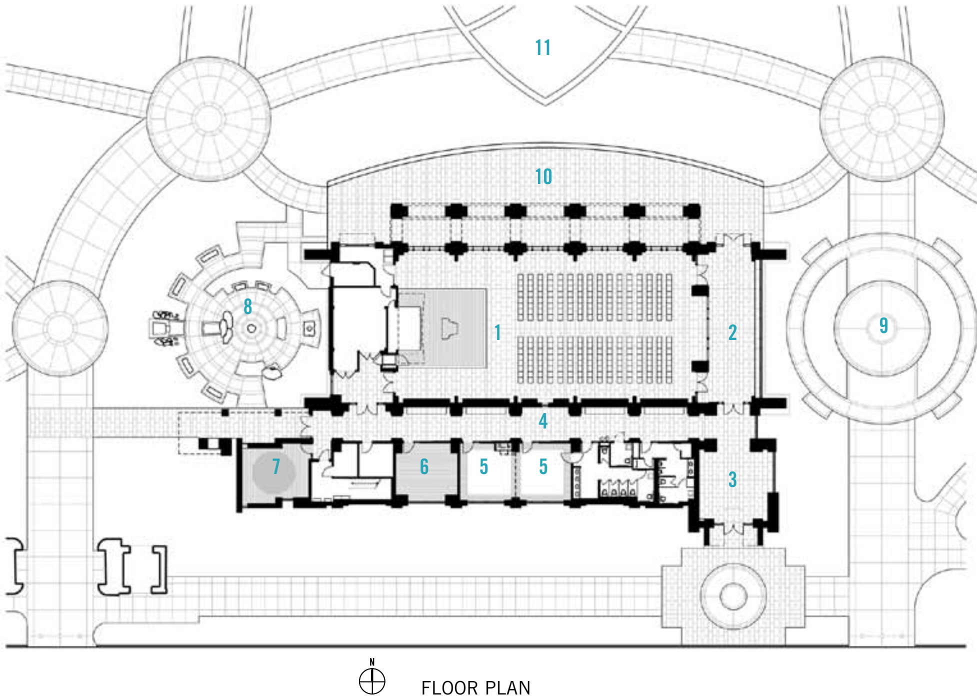


TRADITIONAL USE OF WOOD

Wood was chosen for its acoustical properties and timeless connection to other campus architecture

Located in the heart of The University of Tampa's campus, The Sykes Chapel and Center for Faith and Values is a reflection of the secular university's commitment to the importance of holistic development of its students. The donors, John and Susan Sykes, envisioned a place that would speak to the modern student and at the same time evoke a timeless connection to the campus' historical architecture.

The chapel was sited with the past, present, and future in mind. The long axis of the building aligns with the center of two turret towers on Plant Hall, an intricately detailed historical brick, wood, and metal-clad building built as a hotel and now used for campus offices and classrooms. In the future, the north plaza of the chapel will overlook a quad green space complete with a musical sculpture.



1. main hall
2. prefunction
3. foyer
4. gallery
5. meeting rooms
6. traditional meditation room
7. contemporary meditation room
8. meditation garden
9. sunrise garden
10. north plaza
11. future quadrangle

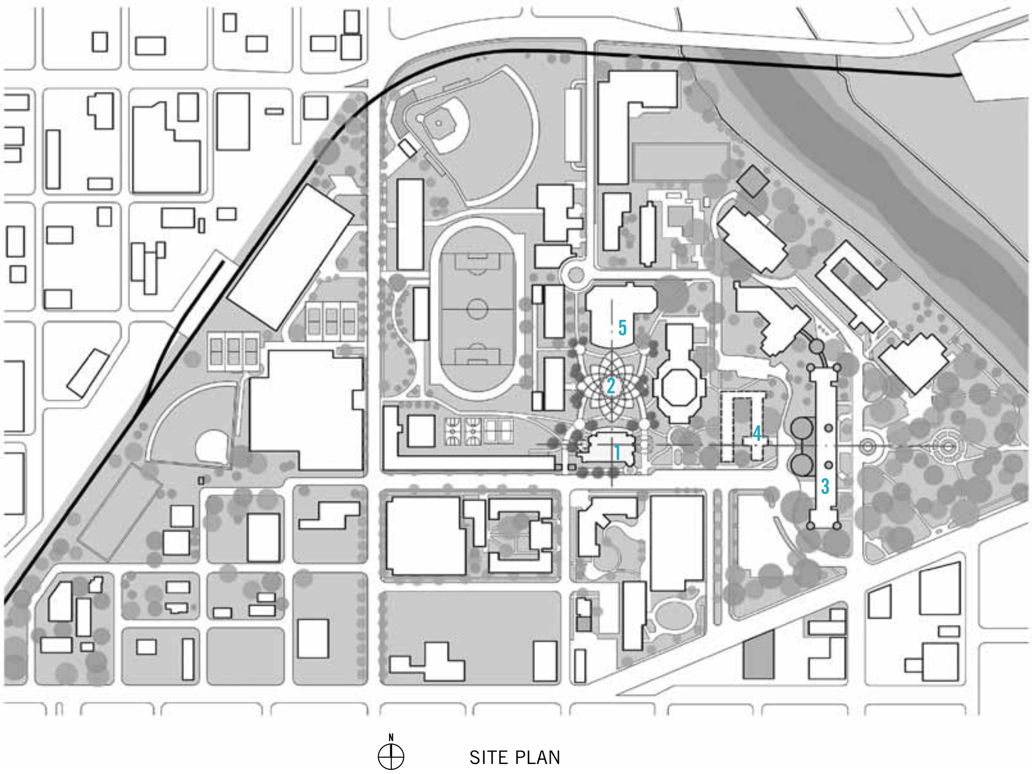
FLOOR PLAN

The chapel is composed of a singular volume expressive of its function from which other secondary spaces are joined. A long barrel vaulted form created from structural glulam arches, separated by a continuous skylight at the top, was used to evoke an embracing sense of enclosure, like cupped hands held slightly apart, allowing light to pass between them from above.

With design sensitivity to volume, human scale, daylight, and selection of warm and durable materials, the building elicits the same positive emotions experienced in the beauty of nature. Accordingly, the chapel architecture provides a space for reflection and contemplation that assists the student in considering their spiritual development amid a busy campus.

The chapel/center accommodates programmed needs in carefully designed spaces that can flexibly serve multiple uses. A main hall provides seating for approximately 260 people for lectures, ceremonies, discussions and musical performances, including those involving its 55-ft. tall, 3,184 pipe, custom-tracker organ. Two meeting rooms, a traditional meditation room, contemporary meditation room, and gardens facilitate smaller group discussions and individual contemplation. Generously sized foyer, prefunction and gallery spaces support activities before and after events.

1. Sykes Chapel
2. future quadrangle
3. plant hall
4. building to be demolished
5. proposed performing art center



SITE PLAN

Wood was chosen as the primary interior finish for the chapel mainly for its warmth and beauty. The exterior of the building is clad in brick, stone, and zinc, which complements the campus vocabulary and evokes timelessness while the wood in the interior breathes life into the building. This is especially apparent at night as the wood interior glows through large windows on the north and east facades. Inside the chapel, the cherry wood organ case, walls and pine ceiling work in harmony with the light-colored granite floor. Wood was also chosen for its acoustical properties as a dense material given that the space is used for musical performances. Tongue and groove southern pine wood decking covers the ceiling of the vaulted main hall. The decking is arranged in a wave-like geometry to bounce and diffuse the sound around the grand space during musical performances.

ARCHITECT
tvsdesign
Atlanta, GA

CLIENT
University of Tampa
Tampa, FL

DONOR
John and Susan Sykes
Tampa, FL

STRUCTURAL ENGINEER
Walter P. Moore and Associates
Atlanta, GA

GENERAL CONTRACTOR
Peter R Brown Construction, Inc.
Clearwater, FL

MILLWORK SUBCONTRACTOR
Mill-Rite Woodworking Inc.
Pinellas Park, FL

GLULAM FABRICATION
Unit Structures
Magnolia, AR

Steel Fabricators LLC
Orlando, FL

PHOTOGRAPHY
Brian Gassel/tvsdesign
Atlanta, GA

University of Tampa
Tampa, FL

WOOD BEHIND THE WALLS

Church eschews big box suburban design and beckons worshippers with a message of warmth, spirituality and beauty

The Sanctuary

Hughes, Beattie, O'Neal, Law Architects & Planners

Although a relatively new congregation, The Sanctuary church in Evans, Georgia, has experienced phenomenal growth in the last few years. Because of its location in the rapidly growing suburbs of Columbia County and a gifted preaching staff, the congregation quickly outgrew its first building, originally constructed to function as both a school and church.

With the church lot surrounded by newly built homes, Pastor Bryan Cockrell realized what he was missing – a more traditional-looking church, one that wasn't skinned in metal which could pass for any number of other uses, including an automobile repair shop. He believes traditional church design is one way a congregation can speak to the surrounding community, especially with the proliferation of "big box" churches often found in suburbia. His research seems to show that those not attending church regularly actually prefer visiting a house of worship that looks like a church.

The pastor already had the name – The Sanctuary – evoking pleasant memories of a place set aside for serene, spiritual reflection and the joy of fellowship with other like-minded souls. Cockrell wanted The Sanctuary to emanate warmth, using slightly darker shades of grey, along with stained wood on the interior. This church has a large central nave, supported by lower-roofed side aisles framed in southern yellow pine, which is known for its strength. The board and batten exterior further accentuates the vertical aspect of worship.

Buttresses were originally constructed in Europe where stone was readily available, but a gifted craftsman can do wonders with woodworking tools and a supply of lumber from one of nature's most renewable resources, our trees. They can they be shaped for structural support and interior warmth, as with this church. Cockrell says The Sanctuary makes use of this natural and spiritual gift and mirrors some of the beauty we are rediscovering in the natural world.

Through the use of natural and renewable materials in the construction of The Sanctuary, its congregation and pastor are communicating a message of warmth, spirituality, and beauty to the surrounding community.

ARCHITECT
Hughes, Beattie, O'Neal,
Law Architects & Planners
Aiken, SC

STRUCTURAL ENGINEER
JLA Engineering
Augusta, GA

MECHANICAL ENGINEER
ING Consulting
Augusta, GA

ELECTRICAL ENGINEER
Electrical Design Consultants, Inc.
Augusta, GA

GENERAL CONTRACTOR
Allen-Batchelor Construction
Augusta, GA

PHOTOGRAPHY
LaDonna Armstrong
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CHERYL A. CIECKO
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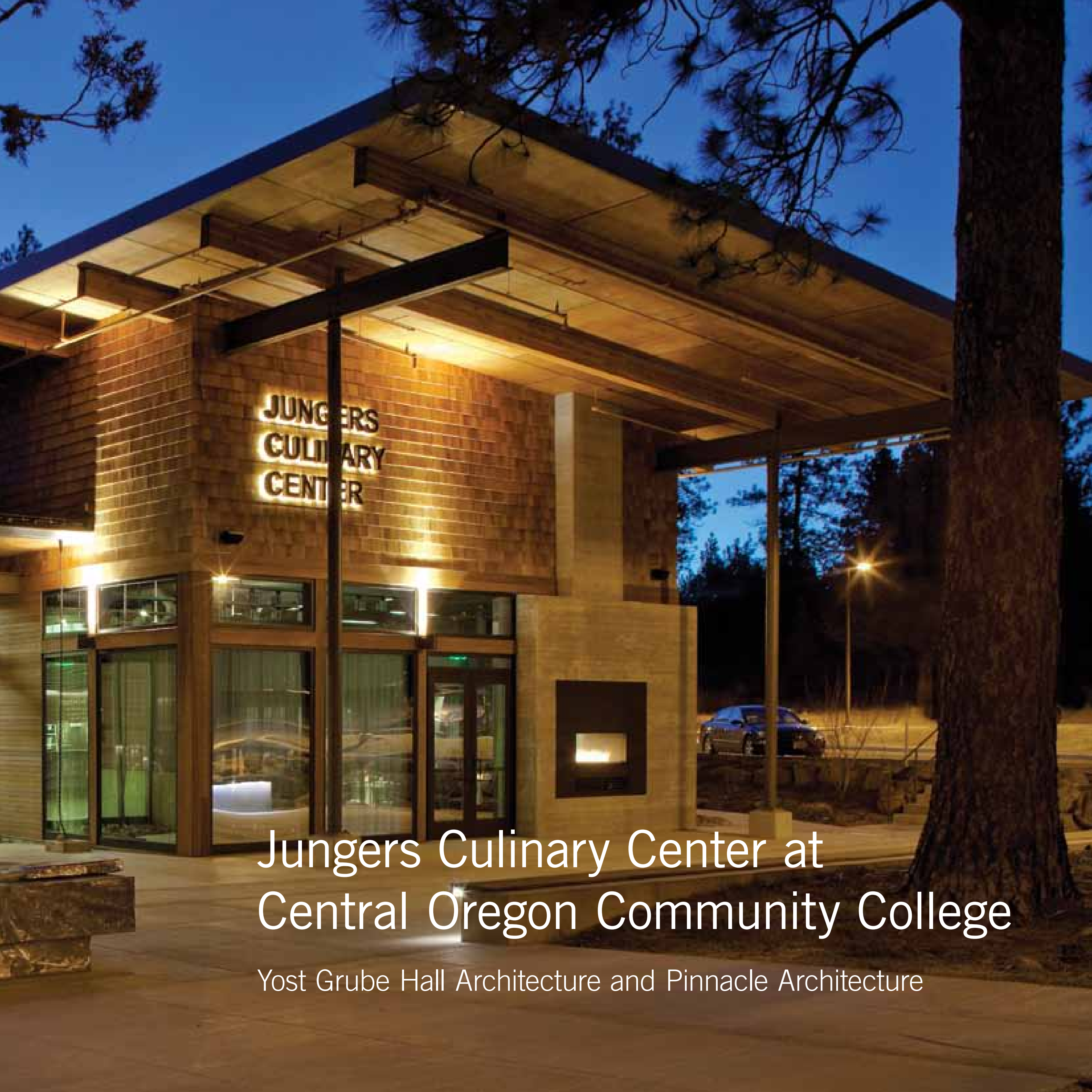
WEST

COMMERCIAL

“Cottage in the woods” concept guides the use of simple forms and construction methods, utilizing regionally sourced materials

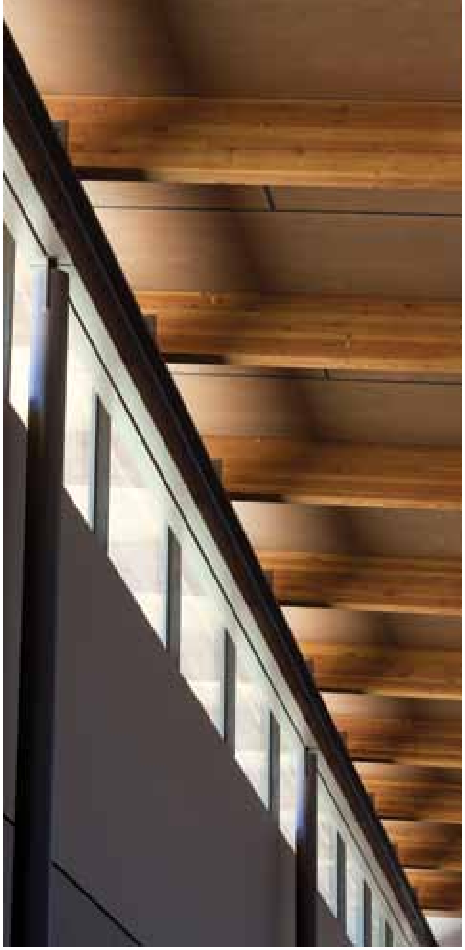


Jungers Culinary Center at Central Oregon Community College

Yost Grube Hall Architecture and Pinnacle Architecture

The Jungers Culinary Center at Central Oregon Community College is designed to embrace the natural beauty of central Oregon. Inspired by a simple cottage in the woods, the building reflects the culture of the community, celebrates the region through its use of materials and blurs the boundaries between interior and exterior spaces.

Nestled in a dense forest of ponderosa pines and a rocky hillside, the 15,000-sq.ft. center maximizes connectivity to the land. A grand front porch invites the community in, welcoming students and visitors. A transparent main lobby and dining room with an indoor/outdoor fireplace strengthens the connection of the outdoors to the interior learning spaces.



The "cottage in the woods" concept guides the use of simple forms and construction methods by utilizing regionally sourced materials. The building forms are volumetric rectangles captured under a shed roof. Wood is the primary material of the building, used both as structure and finish. The materials retain a careful interplay of contrast – the warmth and lightness of wood, the cool mass of concrete, strength and flexibility of steel, transparency of glass and the textural qualities of cedar shingles and horizontal cedar siding.

The main lobby is simple but intimate. Finished with a polished concrete floor, exterior cedar shingle siding and glass exterior walls, the lobby allows the small library to become a focal point in the space. Wrapped in dark wood slats, wood panels and glass, the library houses community-donated culinary books and computer work stations. Adjacent to the lobby, the main dining room is designed to be flexible while maintaining its inviting ambiance for dining and learning experiences. Located under a 25-ft. tall roof, the intimacy in the room is achieved by lowering the wood slat ceiling plane. The indoor/outdoor fireplace provides warmth and a small dining room provides additional coziness. Clad in board-formed concrete, the small dining space can be expanded into the main room by manipulating its 20-ft. wood and glass doors.

The shed roof, with south-facing clerestory windows, allows natural light to flow into the main hallway. Bathed with constantly changing beams

of light, the exposed Douglas fir roof joists run the length of the hallway in a repetitive and rhythmic pattern. This is contrasted with accents of color on the walls where display cases highlight student works.

ARCHITECT
Yost Grube Hall Architecture
Portland, OR

Pinnacle Architecture
Bend, OR

STRUCTURAL ENGINEER
KPFF Consulting Engineers
Portland, OR

MECHANICAL ENGINEER
Mazzetti Nash Lipsey Burch
Portland, OR

ELECTRICAL ENGINEER
Sparling
Portland, OR

CIVIL ENGINEER AND LANDSCAPE ARCHITECTURE
W & H Pacific
Bend, OR

ACOUSTICAL ENGINEER
Listen Acoustics
Portland, OR

GENERAL CONTRACTOR
HSW Builders
Bend, OR

KITCHEN CONSULTANT
Food Facilities Concepts, Inc.
Carnegie, PA

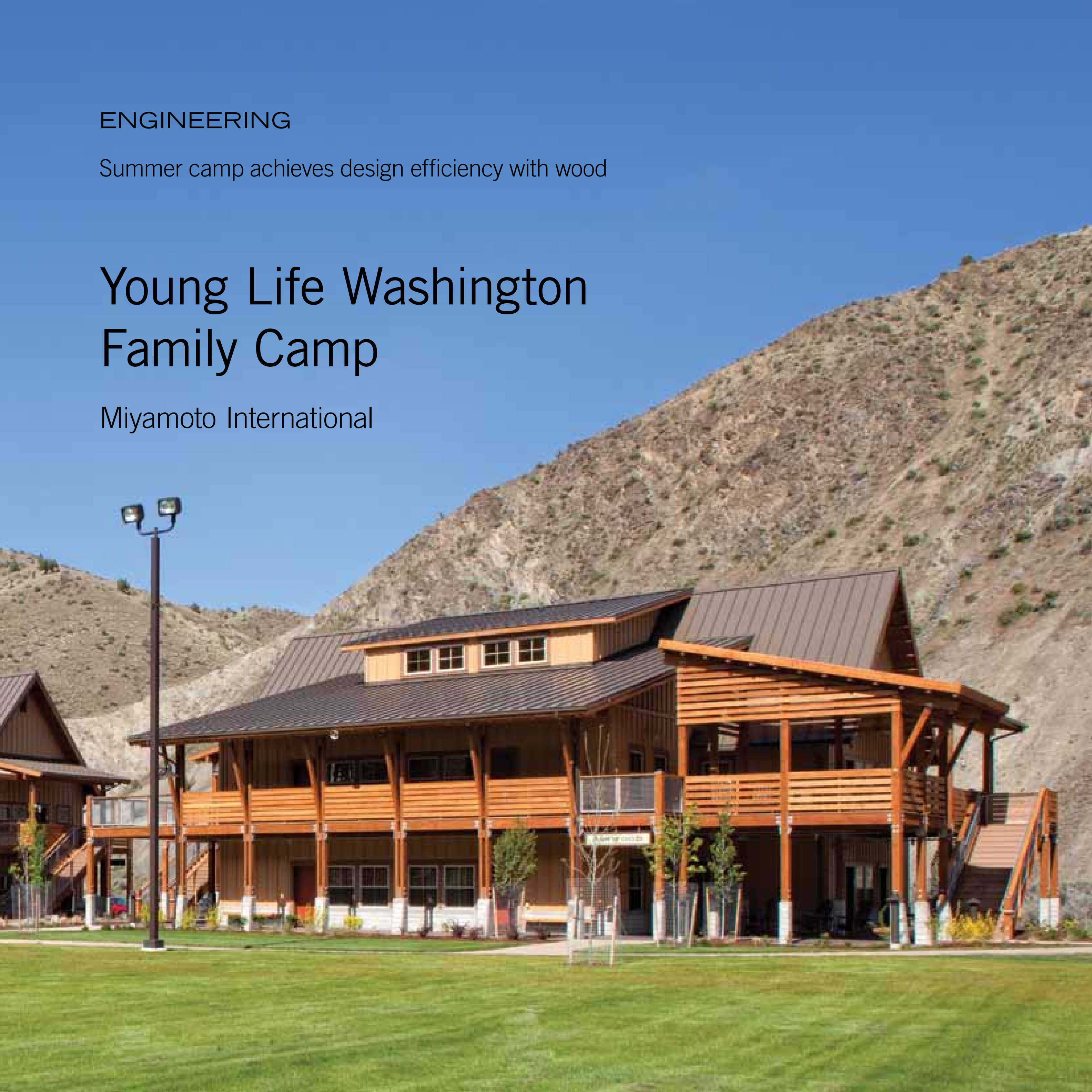
PHOTOGRAPHY
Eckert & Eckert Photography
Portland, OR

ENGINEERING

Summer camp achieves design efficiency with wood

Young Life Washington Family Camp

Miyamoto International



The project for this resort-style summer camp facility included four staff houses totaling 9,000 sq.ft., a 400-seat stage and lounge auditorium, a 22,000-sq.ft dining hall and kitchen with exposed long-span heavy timber trusses, two-story guest cabins covering 47,000 sq.ft, a reception building and central plant designed to support the pumps and equipment required to support a swimming pool and waterslides. The recreational location consists of water-slides, pools, assorted water activity areas and a 32,000-sq.ft. skate park, basketball court, rope gym, climbing wall and recreational center facility.

Several factors played into the design decision to use wood as the main structural component. Some of these factors include the variety of building types constructed, the geographical location, constructability and appearance. In order to achieve efficiency in design, a single material type was desired, and due to the large variance of building type, ranging from the open dining hall with exposed long-span heavy timber trusses to the two-story guest cabins, wood appeared to be the ideal material. Considering the site is located in a remote area, wood was the ideal choice as it limited the need of cranes for steel erection or delivery of concrete. To maintain the vision of the project, wood afforded the flexibility to achieve a synergy between the structural and architectural components.

ARCHITECT
Ankrom Moisan Architects
Portland, OR

ENGINEER
Miyamoto International
Portland, OR

CONTRACTOR
Sunwest Builders
Redmond, OR

PHOTOGRAPHY
Josh Partee, Curtis Martin
Portland, OR

GREEN BUILDING

New classrooms take cues from the existing campus and are integrally connected to outdoor learning spaces

Marin Country Day School

EHDD Architecture

Life at Marin Country Day School is close to nature. The school's philosophy is to teach and instill a love of nature by living in it. The campus is located within its own watershed and set in a beautiful natural valley of grasslands and native trees. The school's vision was to create a new library resource center and classroom buildings that would make strong connections with the setting and blend in with the existing campus – making new buildings seem as if they had always been there, while also providing a contemporary look and inspiring life-long learning and eco-literacy in their students.

The existing campus buildings are wood-framed structures with wood shingle siding. Opting for a wood finish allowed seamless blending of the new buildings into the existing context. The use of flush, tongue and groove wood siding rather than shingles presents a more modern finish and meets the requirements of the 2007 Wildland Urban Interface code with wood siding over plywood. FSC-certified wood siding is utilized for its warmth and intimacy and to maintain continuity between old and new buildings.

The decision to build only within the previously developed footprint of the campus and not encroach on hillsides or other natural areas of the surrounding site means new buildings are built on infill sites or on space created by demolishing existing buildings. This decision provided for a denser campus by developing two-story elements where one-story elements once stood. The new classroom buildings are slender – allowing for operable windows on two sides of every space for balanced daylight, cross-ventilation and improved indoor air quality. The narrow buildings snake about the campus to shape and create outdoor spaces, with connections and views through them back to the larger site. Taking cues from the existing campus, the modest architecture intentionally refrains from being "over-designed" and new structures are integrally connected to outdoor learning spaces.

Strategically located Honduran Mahogany horizontal wood slats shade the buildings, while precise building orientation and the operable windows enable it to be naturally ventilated and passively cooled. The Honduran Mahogany rails and sunshades are strong enough to span freely between posts and sunshade supports. While this type of wood moves slightly when wet, it returns to form as it dries. This dimensional stability was a key factor in its selection for this application. The high value of the wood in this application relative to its cost, and its ease of construction, made it an easy choice for everyone from the client to the contractor and is a more appropriate solution than a metal alternative.

The design emphasizes buildings and landscape equally, creating a rich weave of buildings and outdoor courtyards, playgrounds and gardens, and brings a community commons – the "Step-Up" court – into the heart of campus. The existing stairs of the court consisted of old-growth redwood ties, which were refinished and made into sculptured dovetail seats and a broad and sturdy timber bench seating area. The old stairs and the redwood ties were a sentimental association for the campus community; reusing the ties gave them new life and meaning. Likewise, new trees planted in the midst of the stairs make the implicit connection that trees are a life force that give us joy and pleasure throughout their lifecycle.

ARCHITECT
EHDD
San Francisco, CA

GENERAL CONTRACTOR
Oliver & Company
Richmond, CA

MEP ENGINEER
Stantec
San Francisco, CA

CIVIL ENGINEER
Sherwood Design Engineers
San Francisco, CA

STRUCTURAL ENGINEER
Tipping Mar
Berkeley, CA

LANDSCAPE ARCHITECT
CMG Landscape Architecture
San Francisco, CA

ACOUSTICS
Charles Salter Associates
San Francisco, CA

GEOTECHNICAL
Miller Pacific Engineering Group
Novato, CA

PHOTOGRAPHY
Josh Partee
Michael David Rose
Cesar Rubio

FLOOR PLAN

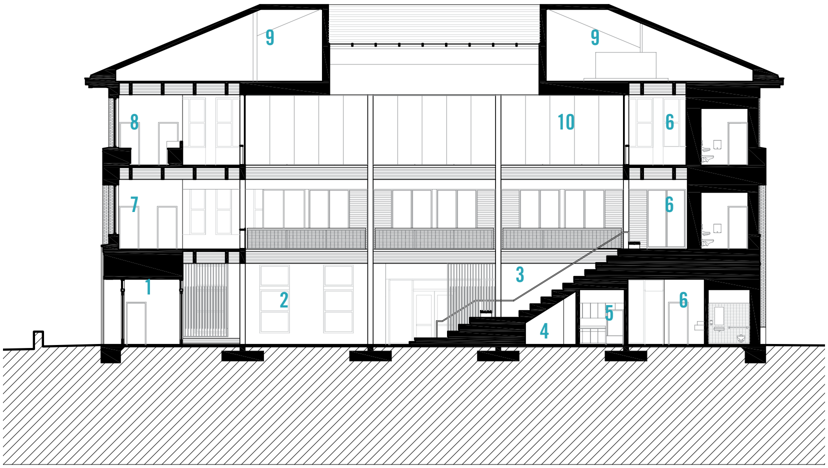
1. music facilities
2. administration building
3. admissions & faculty lounge
4. lower school music
5. multi-purpose room 2 and kitchen upgrades
6. upper school playground
7. upper classroom renovations
8. new step-up court
9. Ginko grove
10. learning resources center
11. art studios
12. lower school playground
13. lower school classroom
14. bioswale
15. stream restoration

INSTITUTIONAL

Prominent use of wood marries center's aesthetic and sustainability requirements and is a tribute to the major project donors

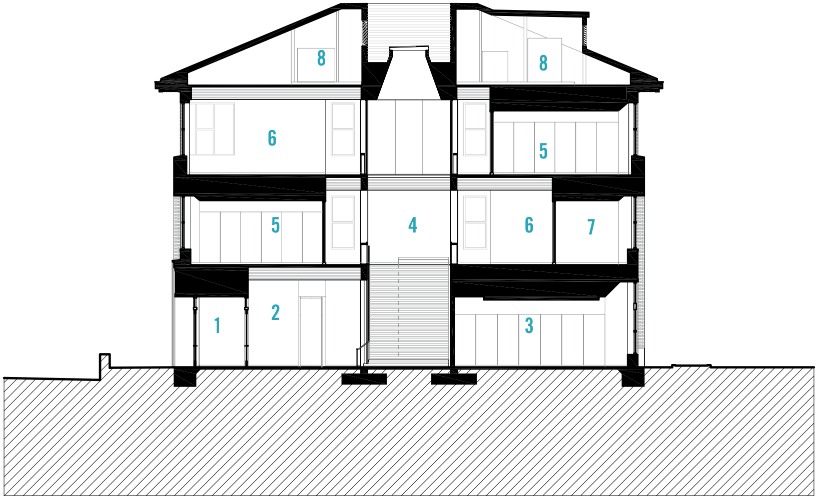
Hallie E. Ford Center for Healthy Children & Families

THA Architecture



SECTION

1. entrance
2. lobby
3. atrium & bleacher seating
4. storage
5. kitchenette
6. restroom
7. resource room
8. work room
9. mechanical attic



SECTION

1. entrance
2. lobby
3. conference room
4. atrium & bleacher seating
5. project room
6. open office
7. core director's office
8. mechanical attic

The Hallie E. Ford Center for Healthy Children & Families at Oregon State University brings together faculty and student researchers to advance scholarship around the holistic health of children and families in Oregon and around the world. The facility houses seminar rooms, offices, and collaborative research areas for Oregon State University's College of Health and Human Sciences. The three-story building is sited in the historic district of campus, requiring careful harmony between the Hallie E. Ford Center and surrounding campus buildings.

A hallmark of the new center is collaboration among disciplines, and that spirit is evident in its design, which features a three-story atrium. An inviting family-style lobby and seminar rooms on the ground level of the building support the center's public outreach programs. The center's director and four core leaders share the second floor with a collaborative zone for research teams. Research takes place on the third floor in an open office setting and project rooms.

Minimizing the building's carbon footprint was a primary goal that influenced the selection of a wood structural system, comprised of glulam Douglas

fir timber columns and beams, which are exposed throughout the interior and provide the framework for several interior infill walls. Constructed of dimensional lumber – a local and renewable resource – the columns and beams were chosen for their regional relevance and sustainable qualities. With a manufacturing process less energy-intensive than concrete or steel, coupled with the carbon sequestering benefits of wood, the project team saw further incentive for their specification.

The desire to reinforce the center's mission to promote children and family also led to the selection of warm and tactile wood materials to support the well-being of building occupants. Wood was used in a variety of ways throughout as an interior finish material. Stair treads, landings, and benches were fashioned from regionally sourced, reclaimed and re-milled Douglas fir lumber. To help define public spaces while still allowing a measure of transparency, wood screens made of clear vertical grain Douglas fir – finished to match the glulam beams – were placed at the main stair and entry lobby.

The wood cap along the atrium guardrail serves as a narrow countertop for building users and creates a place for informal discussion and interaction.

Custom-built tables and countertops throughout the building were constructed of wood, as were the trim and accents for much of the casework. All were constructed of European steamed beech, quarter sawn, with a clear finish.

Aside from wood's aesthetic and sustainable features, the prominent use of wood in the center serves as a tribute to the major project donors, the Ford family, who founded Roseburg Forest Products Company. THA chose wood in order to honor the Fords' generosity and to celebrate the industry that helped fund this project.

ARCHITECT
THA Architecture
Portland, OR

STRUCTURAL ENGINEER
KPFF Structural Engineers
Portland, OR

CIVIL/MEP ENGINEER
Balzhiser & Hubbard Engineers
Eugene, OR

LANDSCAPE ARCHITECT
Mayer Reed
Portland, OR

LIGHTING DESIGN
Biella Lighting
Portland, OR

ACOUSTICS/AV
Listen Acoustics
Portland, OR

PHOTOGRAPHY
Lara Swimmer Photography
Seattle, WA

Sustainable living achieved with salvaged wood for mixed-use building

Drs. Julian and Raye Richardson Apartments

David Baker + Partners

In the heart of San Francisco, this mixed-use single room occupancy building provides 120 permanent, supportive studio apartments for formerly homeless residents, many with mental and physical disabilities. The five-story sustainable infill development remediates the site of a collapsed freeway with green homes, street improvements and neighborhood-serving retail.

The design balances independence and security. The ground level includes a monitored "air-lock" lobby, property management, medical clinic and counseling suite, courtyard, lounge, program rooms, and kitchen and laundry facilities. These day-lit spaces are visually accessible throughout, creating a layered transparency and sense of depth and openness.

Each unit has basic designer furnishings, a private bathroom and kitchenette, and an in-house phone to call other residents and the front desk. All units are close to the 300-sq.ft. average to preserve feelings of equity. The courtyard, second-level deck, and roof garden provide social opportunities and address community concerns about sidewalk loitering.

Units are reserved for chronically homeless residents. The maximum tenant income is $34,800 per year, with 42 units reserved for incomes below $18,825. Residents pay 30 per cent of income as rent, creating a monthly rental scale ranging from $0 to $870.

The infill development takes a major step toward mending the rift in the urban grid created by the earthquake-collapsed freeway. The decision to eliminate the required 128 parking spaces – based on a realistic evaluation of parking needs of a homeless population – maintained the perimeter and site for retail and social spaces, including the at-grade courtyard with in-ground trees, and preserved public sightlines to an existing mural.

In the prominent retail corner, a social-venture bakery will make training and jobs available to tenants and disabled neighborhood residents. Additional retail spaces connect the building to the busy neighborhood retail corridor. Well-lit sidewalks, permeable paving, street plantings and bicycle racks make for a safe and active addition to the streetscape. Providing permanent supportive housing has proved to be more cost-effective ultimately than the police

FLOOR PLAN

and hospital interventions generated by a chronically homeless population.

The goal was to maximize a tight site to meet program needs and create gracious homes and community spaces. Reserving big moves for prominent areas streamlined construction. Focusing on the natural beauty of materials – salvaged wood, zinc, and board-form concrete – and concentrating budget on the iconic corner, entry, and shared spaces created a building with a strong identity and sense of place. Wood was used for the primary structural material (four levels of Type V-A construction) due to its relative cost savings compared with concrete and steel.

As a prominent green project in the neighborhood, this project also uses sustainably sourced wood as a symbol of nature and as a renewable resource. Reclaimed wood was used in interesting public applications to reinforce and make known the green philosophy of the building.

The public store-front-style entryway is clad with reclaimed redwood. Inside, the custom reception desk, mailboxes, message cubby-holes, and doors to public spaces are made from reclaimed elm and bamboo plywood. The courtyard furnishings are fashioned from urban harvest cypress from the Presidio in San Francisco.

The supportive project has a medical and counseling suite and social service and management spaces. Wood was used throughout to add warmth, texture, and variety to the private and common spaces to make the building feel more welcoming and less institutional.

At 276 units per acre, the dense development had a high open-space requirement, which was realized by complementing the courtyard with a roof deck incorporating a living roof, urban agriculture and gathering spaces.

The building incorporates extensive security measures yet conveys the impression of transparency and spaciousness through high ceilings, floor-to-ceiling street windows, open common rooms and corridors, and layers of glass panels. Designed with long-term durability in mind, the building rates 143 GreenPoints and surpasses California's strict energy standards by 15 per cent.

ARCHITECT
David Baker + Partners
San Francisco, CA

ASSOCIATE ARCHITECT
Baker Vilar Architects
San Francisco, CA

STRUCTURAL ENGINEER
Structural Design Engineers
San Francisco, CA

CIVIL ENGINEER
Sandis
San Francisco, CA

MEP ENGINEER
Tommy Siu and Associates
Mechanical Engineers
San Francisco, CA

ELECTRICAL ENGINEER
F.W. Associates Consulting Engineers
San Francisco, CA

GENERAL CONTRACTOR
Cahill Contractors
San Francisco, CA

LIGHTING
Horton Lees Brogden Lighting Design
San Francisco, CA

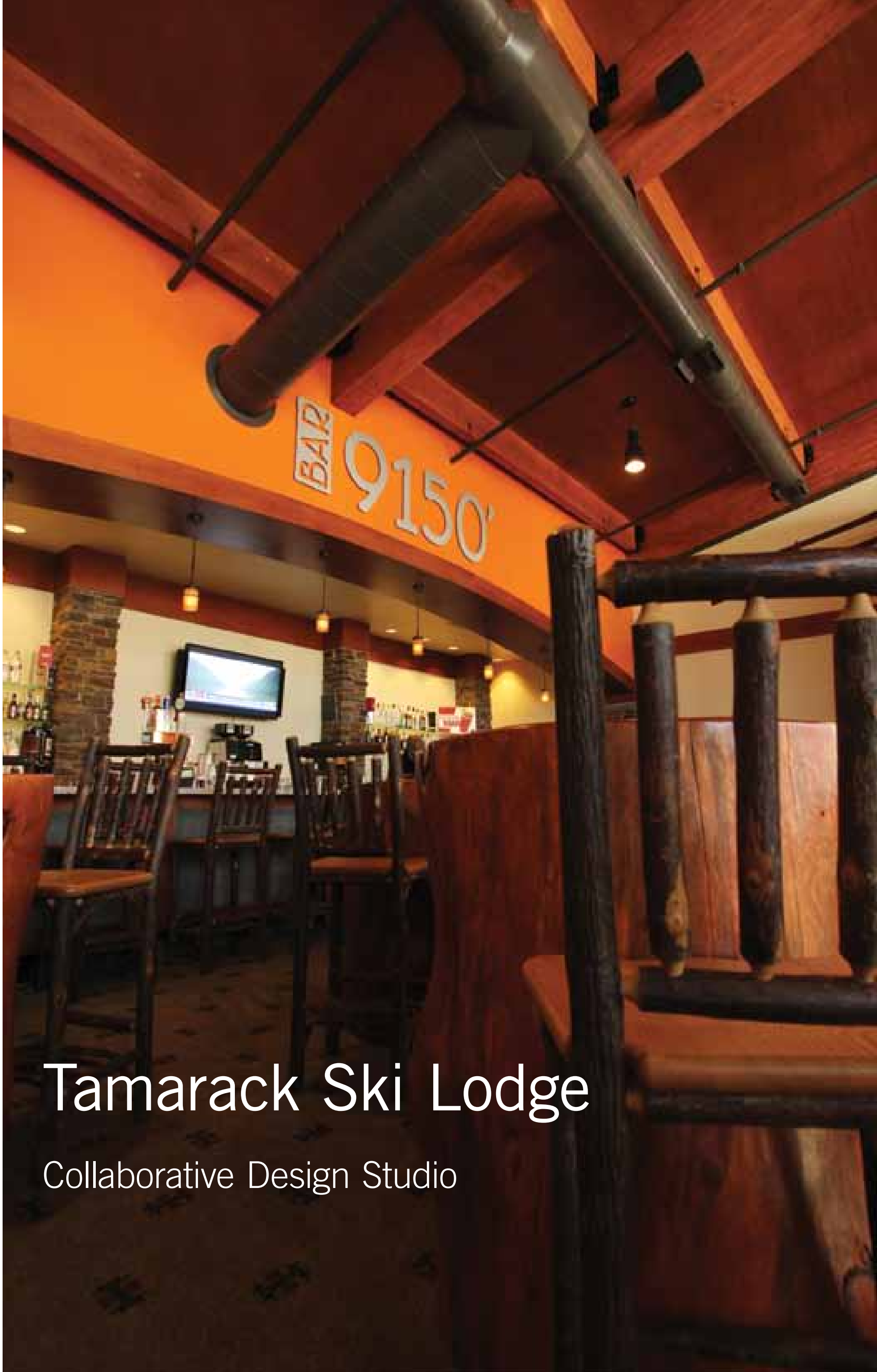
ACOUSTICAL AND VIBRATION CONSULTANTS
Wilson Ihrig & Associates
Emeryville, CA

LANDSCAPE ARCHITECT
Andrea Cochran Landscape Architects
San Francisco, CA

PHOTOGRAPHY
Bruce Damonte
San Francisco, CA

TRADITIONAL USE OF WOOD

Lodge, simplistic in its massing, elegant in its detailing, still makes a statement

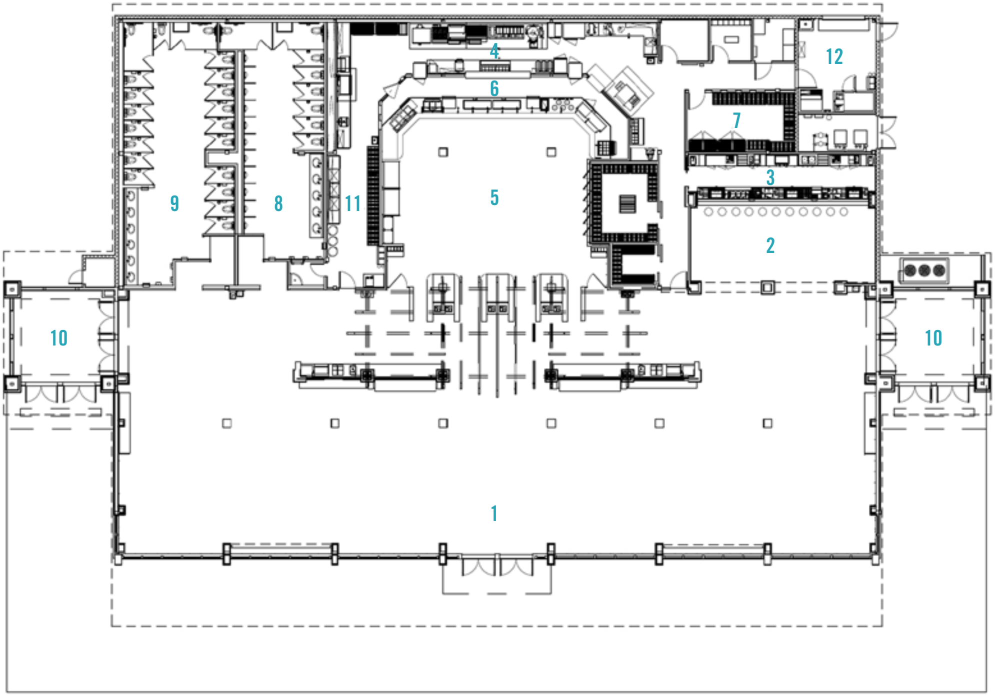


Tamarack Ski Lodge

Collaborative Design Studio

Located at 9,150 feet above sea level, the new Tamarack Ski Lodge at Heavenly Lake Tahoe Ski Resort is the first new lodge constructed at the resort in 30 years and has realized years of planning and design.

This new mid-mountain day lodge is located just east of the top of the gondola station. The location was chosen based on its ability to be located at the center of all activities in the area, both summer and winter-based; accommodate existing skier and other visitor circulation patterns; maximize views from the dining area; allow passive solar gain for the public spaces in the lodge; provide an outdoor seating opportunity adjacent to the lodge that would opti-



FLOOR PLAN

1. dining room
2. bar dining
3. bar
4. kitchen
5. scramble
6. servery
7. dry storage
8. men's restroom
9. women's restroom
10. vestibule
11. scullery
12. receiving

mize sun/shade patterns; and minimize tree removal.

The building's program included a scramble-style servery, full-size kitchen, seating for 500 guests, a bar area, restrooms, and outdoor seating. Understanding that the main programmatic desire was to maximize seating in the facility and to enhance the dining experience of patrons, a large, expansive seating area was designed. This seating area has glazing to the south that captures magnificent views of the Sierras while also providing the daylighting and solar exposure desired. Ancillary spaces, such as the kitchen, restrooms, and service areas, were then located on the north side of the structure, out of the view of the public.

The intent was to create an appealing structure that blended into the dominant beauty of the surrounding mountain environment. This was accomplished by keeping the building's massing simplistic in nature, exposing the naturally compatible wood structure, utilizing cedar wood siding and


BAR

trim as its exterior skin, and incorporating wood detailing throughout the interior of the facility. This vernacular was evident in lodge designs of years gone by that were simplistic in the massing forms and elegant in their detailing, while simultaneously making a monumental statement.

Wood was key to the successful design of the facility. The only vehicle access to the site was a 10-mile winding dirt road that traversed the side of the mountain. Logistics in building within a limited five-month construction timeframe, as well as the desire for the building to blend into its natural forested environment, were also factors in choosing wood.

Understanding the severe snow loads that would regularly be imposed on the building, a structural grid was established early that allowed for ease of delivery of wood members to the site, did not necessitate special order structural members, and allowed for "panelization" of the roof structure. The structural system is strictly wood-based with the exception of a steel girt system directly behind the south facing curtain wall to handle the severe wind loads. Interior structural columns are 18 x 18 Douglas fir, and the roof framing is made up of APA structural roof sheathing over 37 1/2-in. deep resawn Douglas fir glulam roof beams with secondary Douglas fir 3x wood-framed "paneled" members spanning between the glulam roof beams.

Douglas fir and cedar were the chosen species of wood due to their abundance in the area and their natural ability to withstand the severe climatic conditions that are imposed on them with little maintenance.

Interior finish elements were predominantly made of Douglas fir including the 8-ft. high, 2 x 12 wainscoting, standing and running trim on walls and soffits, casework, and other decorative elements, such as the trellis structure marking the entrance to the servery area. Within the bar area, wood tables were made from ponderosa pine harvested locally on the resort.

While the Tamarack Ski Lodge stands alone as an impressive addition to Heavenly Resort's natural surroundings in the summer months, the contrast of sunlight and snow in the wintertime against the clean, dramatic wood structure of the lodge emphasizes the building's rich natural composition, and makes it a monumental and landmark structure.

ARCHITECT
Collaborative Design Studio
Reno, NV

CIVIL ENGINEER
JWA Consulting Engineers
Zephyr Cove, NV

STRUCTURAL ENGINEER
Forbes Engineering
Reno, NV

MECHANICAL / ELECTRICAL ENGINEER
MSA Engineering Consultants
Reno, NV

GENERAL CONTRACTOR
SMC Contracting, Inc.
Reno, NV

PHOTOGRAPHY
CarrieCompton.com

OTHER AWARDS

CANADA

British Columbia

BC PREMIER'S WOOD CHAMPION AWARD

Jim Taggart, FRAIC
Vancouver, BC

WOOD INNOVATION

Commercialization of Mechanically Fastened CLT at Fire Hall 15, Vancouver
Gerald Epp, StructureCraft Builders
Delta, BC

and

Commercialization of the WoodWave Structural Panel at Alberni District Secondary School, Port Alberni
Brian Woudstra, StructureCraft Builders
Delta, BC

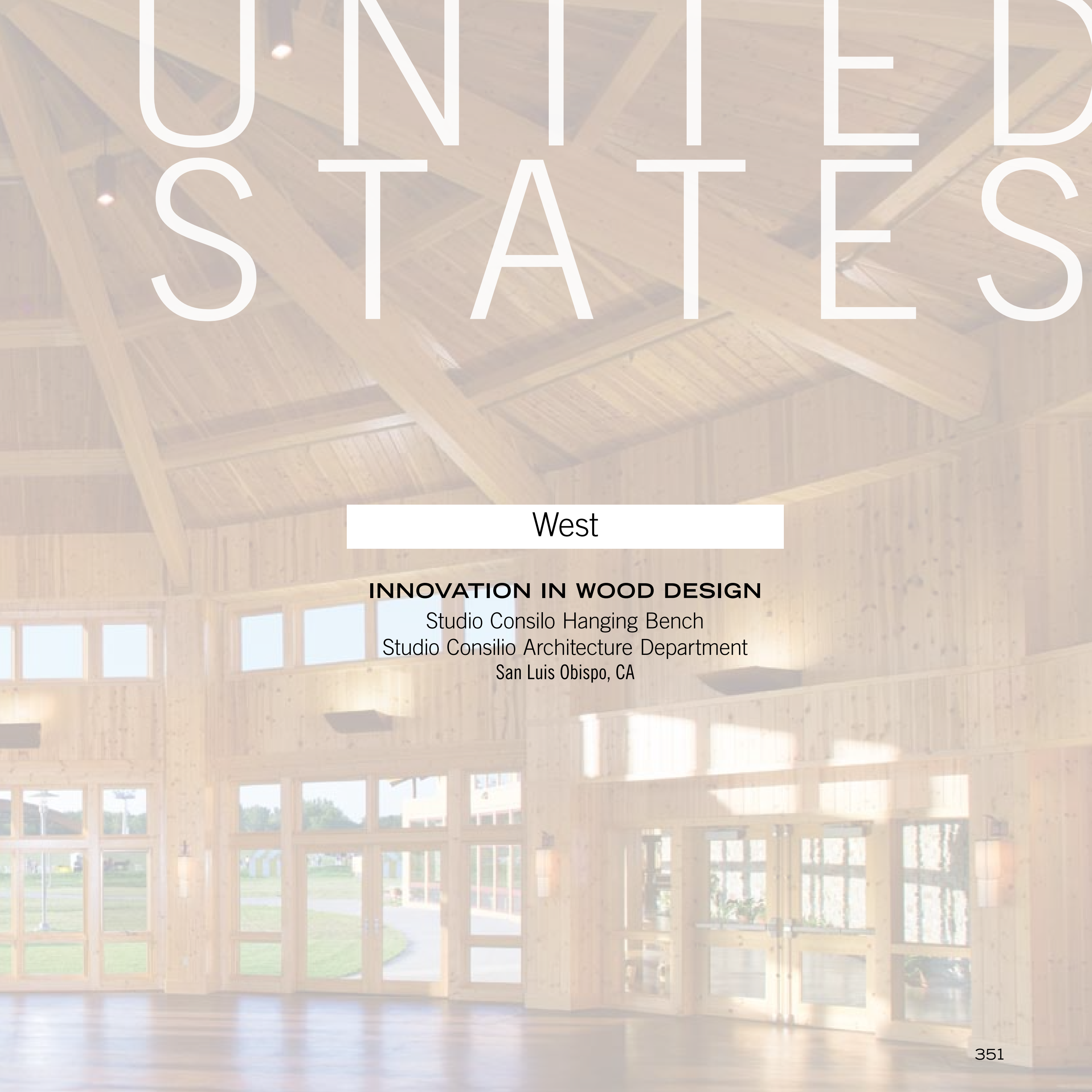
Ontario

ARCHITECT WOOD ADVOCATE

St. Thomas Aquinas High School, the Northern Ontario Sport Fishing Centre and the Lake of the Woods Discovery Centre
Nelson Architecture
Kenora, ON

WOOD CHAMPION

Pioneer Nursing Home, Notre-Dame Hospital, Town Hall and Community Centre and Heritage Sawmill
Roger Sigouin, Mayor
Hearst, ON



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