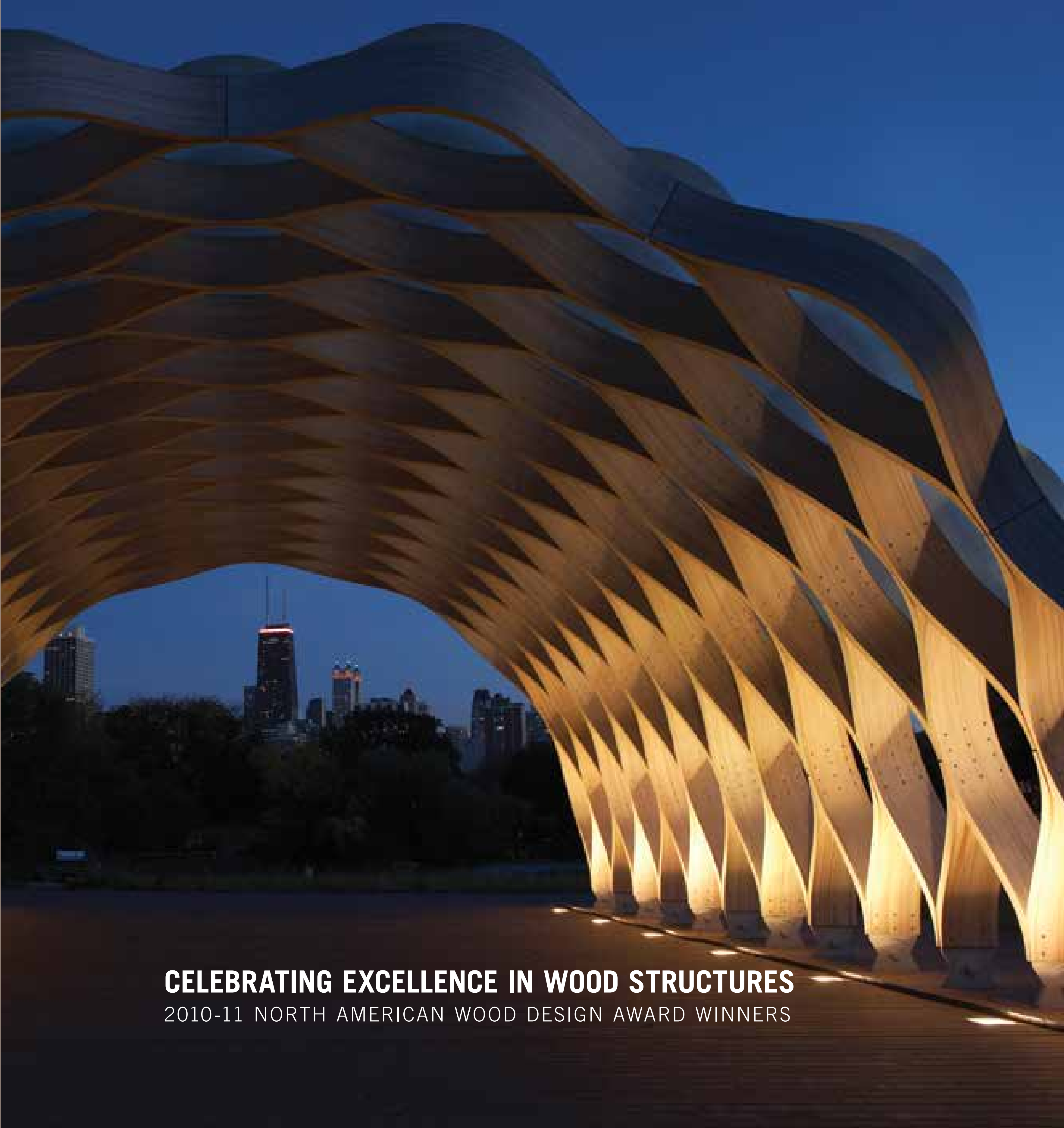
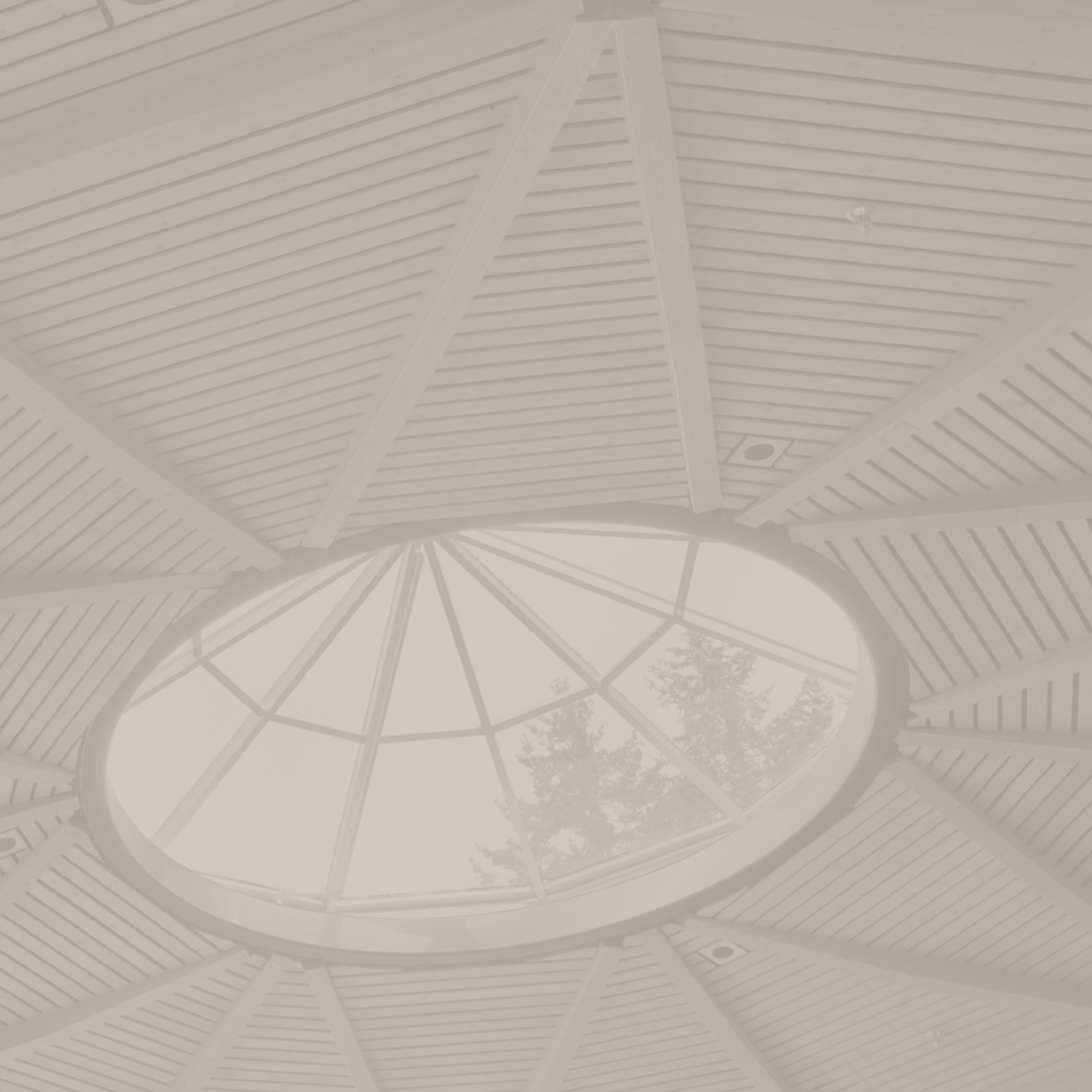
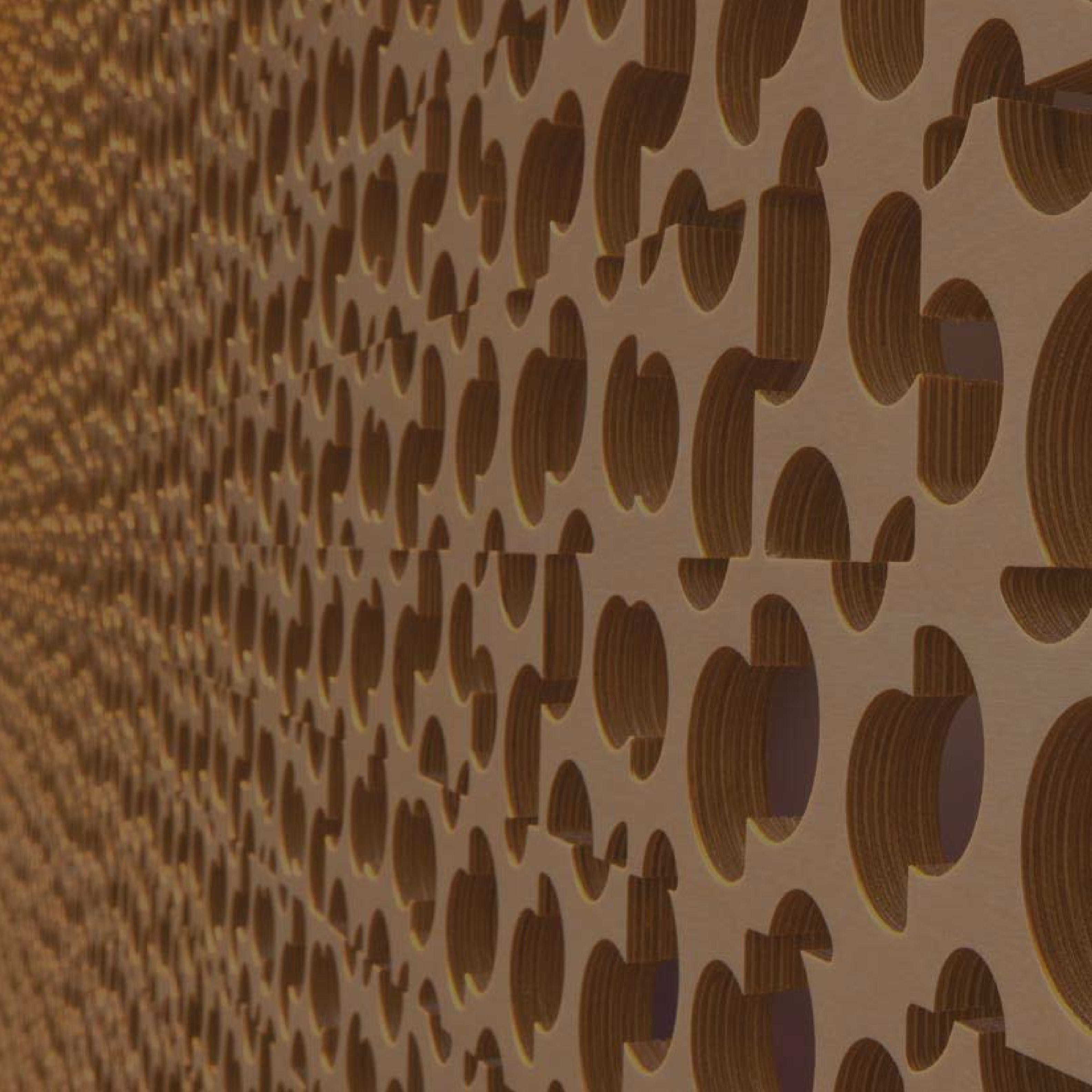


CELEBRATING EXCELLENCE IN WOOD STRUCTURES

2010-11 NORTH AMERICAN WOOD DESIGN AWARD WINNERS





CELEBRATING EXCELLENCE IN WOOD STRUCTURES

2010-11
NORTH AMERICAN
WOOD DESIGN
AWARD WINNERS

Canadian Wood Council
99 Bank Street, Suite 400, Ottawa, Ontario K1P 6B9
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Celebrating Excellence in Wood Structures
2010-11 North American Wood Design Award Winners

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The publishing team would like to thank all the
individuals who contributed to the book including:
Sarah Hicks, Rory Koska, Ivana Kraljevic, Lorna Malone, Maureen McLaughlin,
Duane Schantz, Pat Schleisman, Bryan Schuyler, Natalie Tarini and Roxane Ward

Printing: Friesens

Printed on paper from a company certified under a
sustainable forest certification program
Printed in Canada

National Library of Canada Cataloguing in Publication Data

ISSN 1708-5233 The Wood Design Awards
ISBN 978-0-9783213-7-6

1. Building, Wooden-Canada.
2. Building, Wooden-United States.
3. Architecture-Awards-Canada.
4. Architecture-Awards-United States.
5. Architecture-Canada-21st century.
6. Architecture-United States-21st century.
I. Canadian Wood Council

Cover: Nature Boardwalk at Lincoln Park Zoo, by Studio Gang Architects
Photo: Studio Gang Architects/Spirit Of Space

Inside front and back covers: Carousel Pavilion at Butchart Gardens by Hughes Condon Marler Architects
Photo: Hubert Kang, Vancouver, BC

The Best of Wood Architecture and Design

Aesthetically, structurally and environmentally, wood endures as one of the world's most significant construction materials. Its legacy as a traditional building material is now complemented by new technologies and innovative approaches, leading to an increased appreciation among contemporary architects and designers. Today's wood buildings run the gamut, and perhaps most importantly, they are as sustainable as they come, as evidenced by so many of the projects in these pages.

This year's awards book showcases leading architectural and structural wood uses from three key award programs: Wood Design & Building magazine's North American Wood Design Awards, the Canadian Wood *WORKS!* Awards (including British Columbia, Ontario and the Prairies), and the U.S. WoodWorks Wood Design Awards (including California, North-Central U.S. and Southeast U.S.). Thank you to the many sponsors and award program participants, and congratulations to all of the winners.

The buildings presented in this 2010/2011 compilation use wood in a variety of ways. Some apply new technologies and solutions, others rely on the tried and true; but all demonstrate confidence in wood. These winners are certain to encourage the continued use of wood among readers and inspire the broader design community.

Etienne Lalonde

Etienne Lalonde
Publisher
Wood Design & Building

WOOD DESIGN & BUILDING AWARDS

CANADIAN WOOD *WORKS!* AWARDS

CONTENTS

U.S. WOODWORKS WOOD DESIGN AWARDS

OTHER AWARDS

Wood Design & Building Awards

Jurors

(From left to right:) Richard Fernau, Roxanne Sherbeck and Peter Busby

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2010/2011 North American Wood Design & Building Awards Program

Building and designing with wood requires a thorough understanding of, and passion for, the many special qualities of this renewable building material. As you'll see in this section, the efficient use of wood and remarkable architecture are not necessarily mutually exclusive concepts. The 2010/2011 Wood Design Awards program – the only program that annually recognizes achievements in wood architecture from across North America – highlights the strengths of wood and celebrates innovative wood design.

This year's collection of 15 projects, chosen from hundreds of entries, demonstrates a wide range of wood applications, all the while illustrating the significance of outstanding design and construction. Diverse in size and scope, and set in rural and urban contexts, the winning buildings include everything from a laboratory and a museum, to a pavilion and a footbridge.

On the following pages we showcase wood's natural properties, its cost-effectiveness, its heritage and its promise in some of the most beautiful buildings constructed today. Congratulations to our winners. Each is truly a testament to wood's beauty, versatility and sustainability in thoughtful design and architecture.

For more information about the Wood Design Awards, and to enter the 2011/12 awards program, please visit www.wooddesignawards.com.

B. Johnson

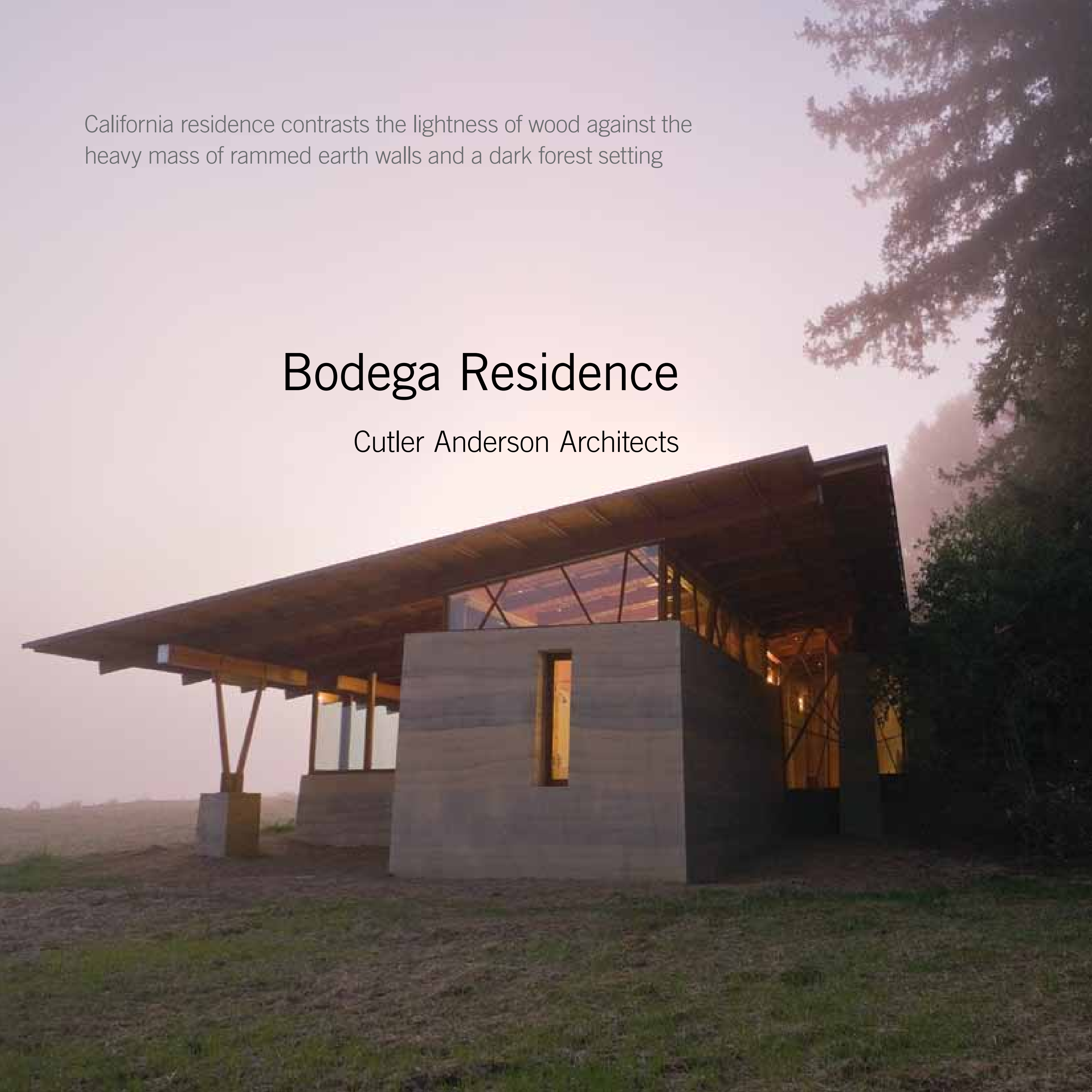
Bernadette Johnson
Editor
Wood Design & Building

HONOR **Awards**

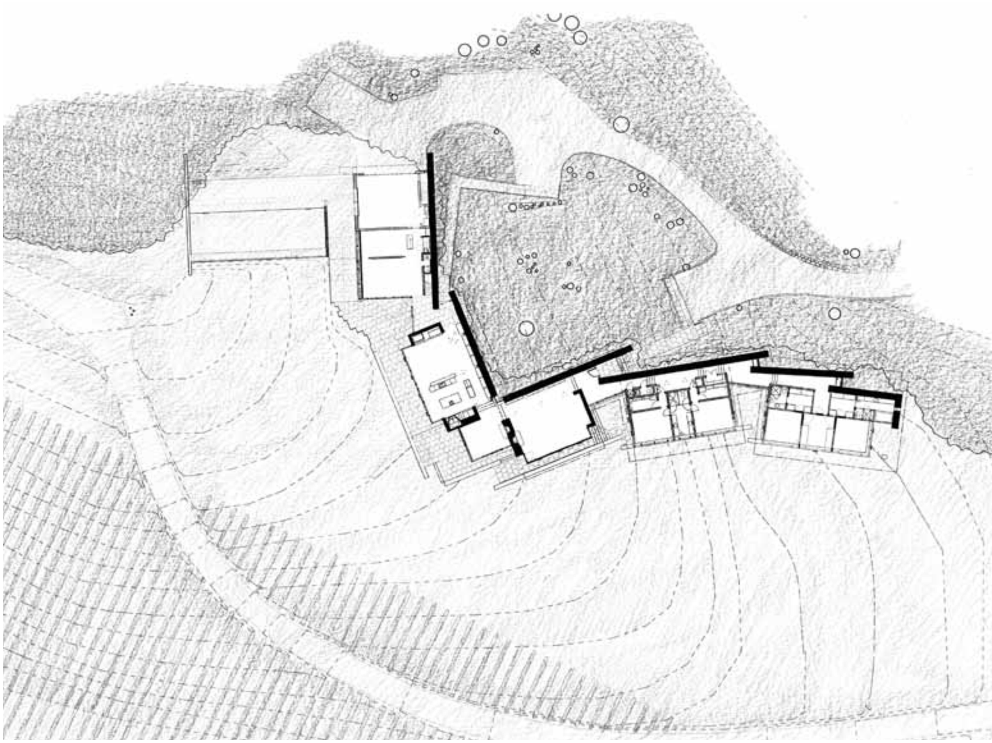
California residence contrasts the lightness of wood against the heavy mass of rammed earth walls and a dark forest setting

Bodega Residence

Cutler Anderson Architects



> "This is drop-dead gorgeous . . . and deliberately refined. It shows restraint and harmony. It is also perfectly sited, sliding out from the forest, with both summer and winter views."
>
> – JURY



SITE PLAN

The divide between dark forest and bright field, between random nature and ordered agriculture and between intimate and distant views seemed like the appropriate location to place a residence. The residence's carefully considered position allowed the architect to reveal all of the varied aspects of the land through a choreography of movement that the family can experience daily.

Designed less as an object and more as a series of visual events, the residence accentuates – through contrast – the multiple natures of its setting. Internally, the lightness of the wooden roof and column structure is set off against the mass of the rammed earth walls. The glulam Douglas fir beam and column system is designed to resist lateral movement while still pushing the material to its lightest possible dimension. The Douglas fir rafters, purlins and overhangs are echoed by the American beech floors. The massive walls are intended to make the dark forest seem even darker. The gaps between the walls are intended to create a compressive experience upon entry into the light-filled interior as well as frame specific views of the forest at the end of each passage.

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PROJECT TEAM
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STRUCTURAL ENGINEER
Coffman Engineers
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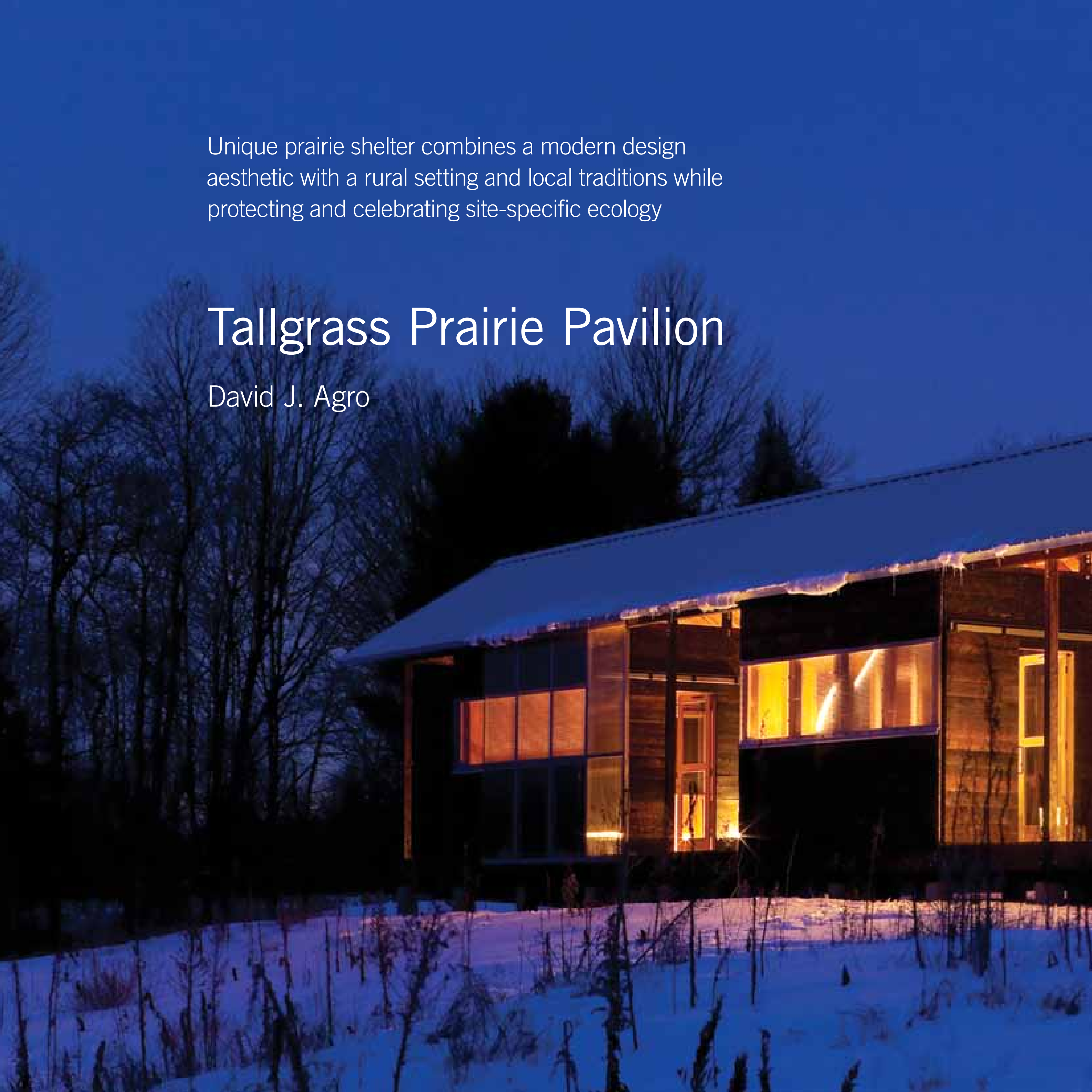
GENERAL CONTRACTOR
Tanglefoot Master Builders
Priest Lake, ID

PHOTOGRAPHY
Art Grice Photography
Bainbridge Island, WA

Unique prairie shelter combines a modern design aesthetic with a rural setting and local traditions while protecting and celebrating site-specific ecology

Tallgrass Prairie Pavilion

David J. Agro



"An elegant and simple solution . . . not too extravagant or fussy. This beautiful straightforwardness demonstrates a complete knowledge and understanding of wood. The contrast created by the variety of wood and finishes is just beautiful. The environmental/preservation aspect is also key."

– Jury

Imagine a place where warm breezes blow over expansive fields of grass; where swallows and butterflies drift over dunes of prairie color; where only the chorus of Meadowlarks or Bobolinks, bumble bees, Treefrogs and Katydids can be heard. This vision of an experience unique to the North American prairies and savannas drove the design of this project.

The small, 600-sq.ft. building was designed as an off-grid, three-season retreat in a restored tallgrass prairie/black oak savanna in southern Ontario. The owners' interest in both design and conservation of natural areas provided an opportunity to explore a modernist approach to design that is rooted to the traditions and ecology of the site.

The building – an elemental, three-season living pavilion – is pared down to its simplest essentials to allow an intimate communion with the natural features that surround it (light, views, sound and wind), and provide protection from rain, sun, wind, and heat without requiring energy or resource intensive materials or processes. Modest in scale and highly conscious of its ecological footprint, the pavilion's architectural elements and construction techniques are adapted from the barns and greenhouses of nearby farms.

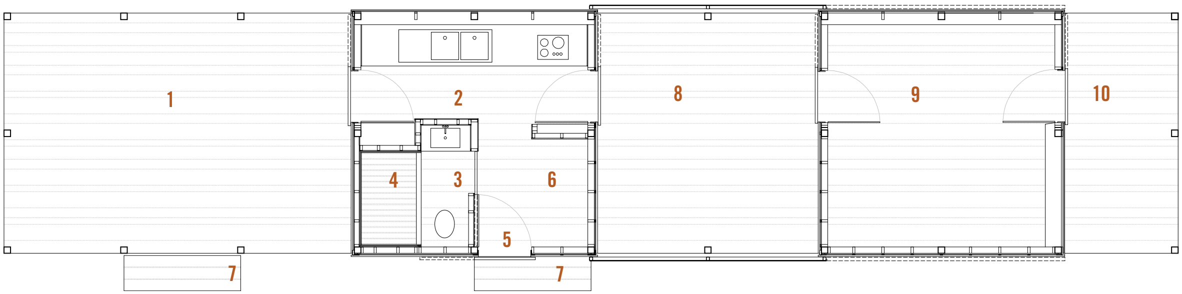
The shelter is long and narrow, its long axis oriented east-west to take advantage of the angle of the sun and prevailing winds, providing shade and cool breeze in summer, and shelter and warmth in spring and fall. The post-and-beam structure is designed to be as light as possible to emphasize its connectedness with the landscape. Sliding polycarbonate panels, made by a local greenhouse manufacturer, open the walls to the landscape yet provide light and protection when closed.

Wood for the project was milled on site from trees felled as part of the ecological restoration. As fire is a critical element in maintaining the ecology of the site, it inspired choices such as charring the wood (an eco-alternative to paint), and a metal roof to protect the building during controlled burns. Using a traditional Japanese technique of wood preservation, the larch structure and siding were charred in pit fires to provide a natural protective seal for the wood and to resist fire during controlled burns on site.

The building site is a 95-acre former tobacco farm undergoing restoration to tallgrass prairie/black oak savanna, now a rare habitat in North America because over 98 per cent has been converted to farmland. The habitat harbours eight endangered species, and will expand the network of important protected areas nearby. It also depends on regular fire for survival and renewal, so controlled burns are conducted each year.

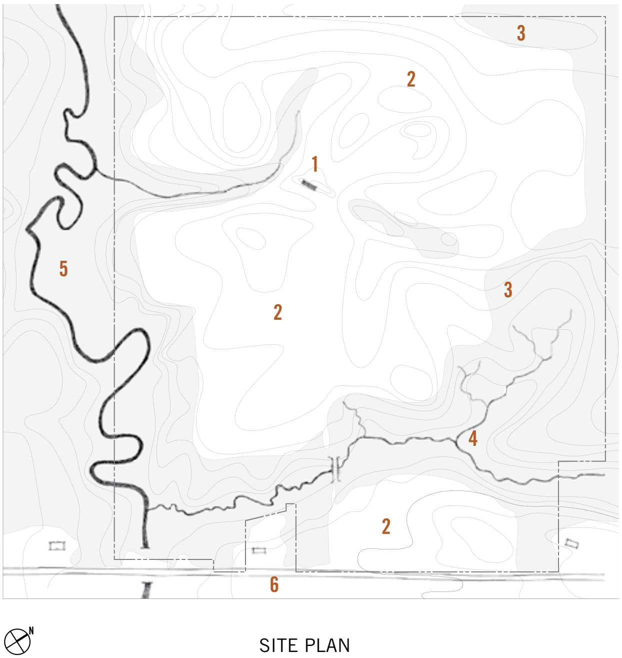
The building and adjacent fire pit are located on a gentle dune near the center of the property where there is evidence of historic First Nation encampments. This site – located in southern Ontario's Norfolk Sand Plain, a generally flat landscape characterized by a deep layer of fine sand deposited by glacial lakes – provides broad vistas over the prairie and surrounding woodland. Over time, wind and water have left their mark on the topography, creating sweeping eolioan dunes and deeply incised ravines with cold-water streams. Once one of the world's premier tobacco growing areas, Norfolk is now gaining recognition as one of the most biodiverse regions of Canada.

The pavilion treads lightly on this subtly dynamic landscape, integrated with its ecosystem through its siting, materiality and unique construction process. Sustainable measures focused on optimizing the primary biological productivity of the site, minimizing reliance on off-site subsidies of materials, energy, and nutrients during and after construction.



1. dining room/porch
2. galley kitchen
3. composting restroom
4. shower
5. entry
6. storage
7. step
8. living room
9. bedroom
10. porch

FLOOR PLAN



1. pavilion
2. prairie
3. savanna
4. wooded ravine
5. creek/floodplain
6. road

SITE PLAN

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GENERAL CONTRACTOR
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PHOTOGRAPHY
Tom Arban and David J. Agro
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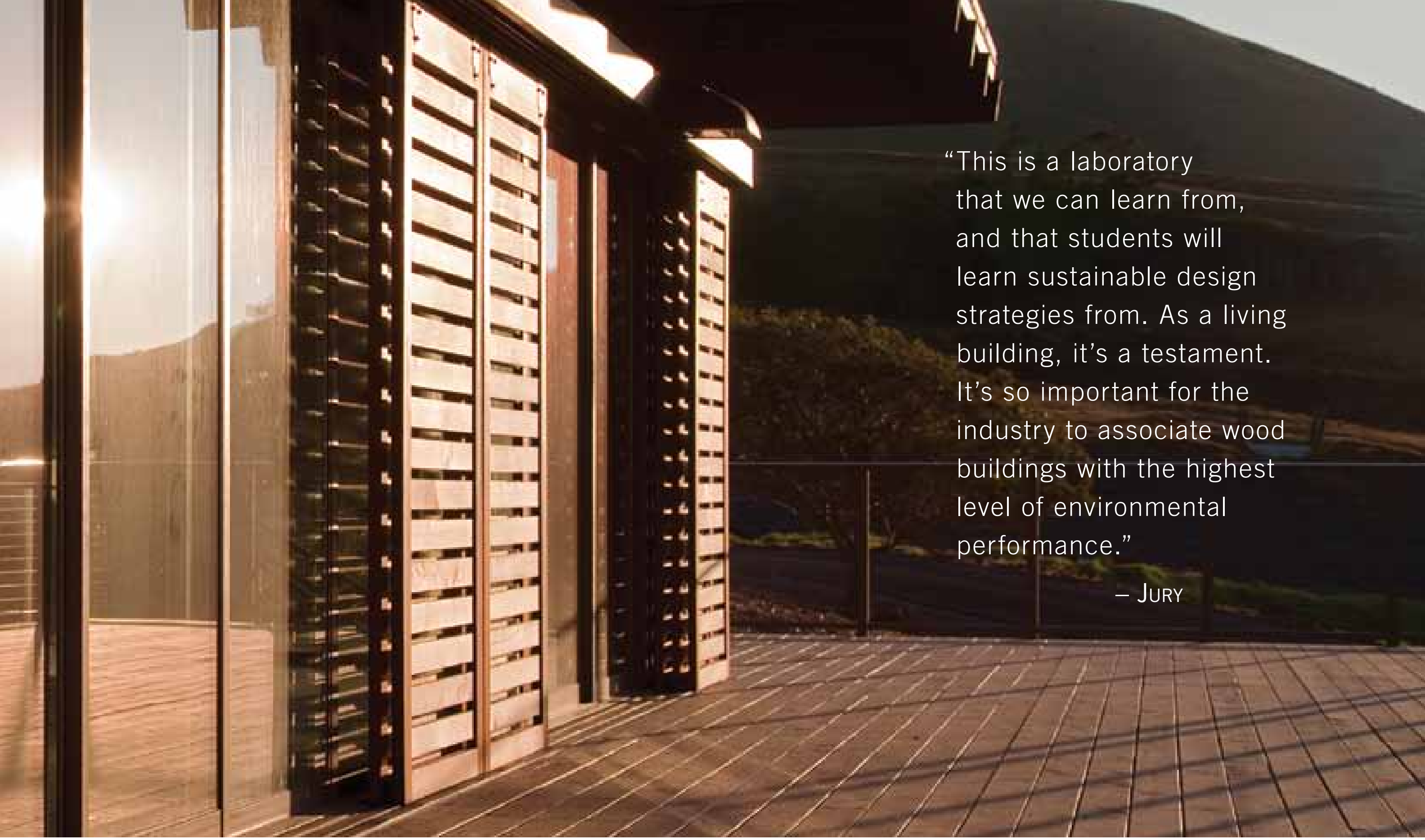
MERIT **Awards**

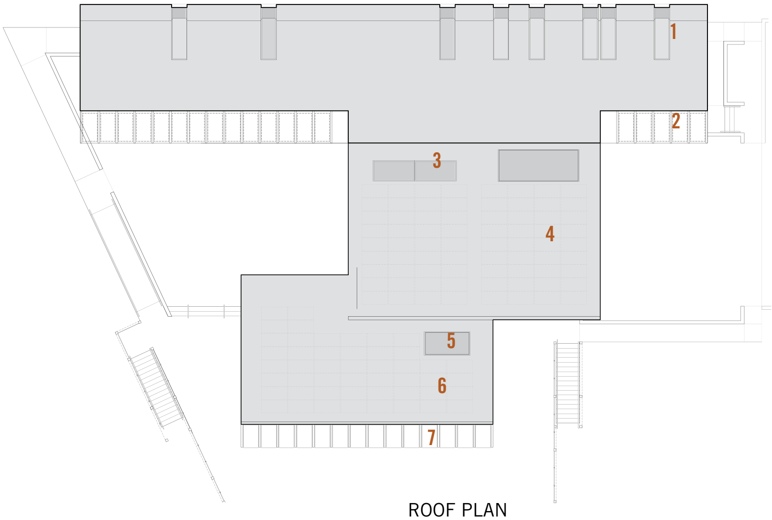


> “This is a laboratory that we can learn from, and that students will learn sustainable design strategies from. As a living building, it’s a testament. It’s so important for the industry to associate wood buildings with the highest level of environmental performance.”
>
> – Jury

School for the study of alternative energy takes a sustainable approach to site, use and materials

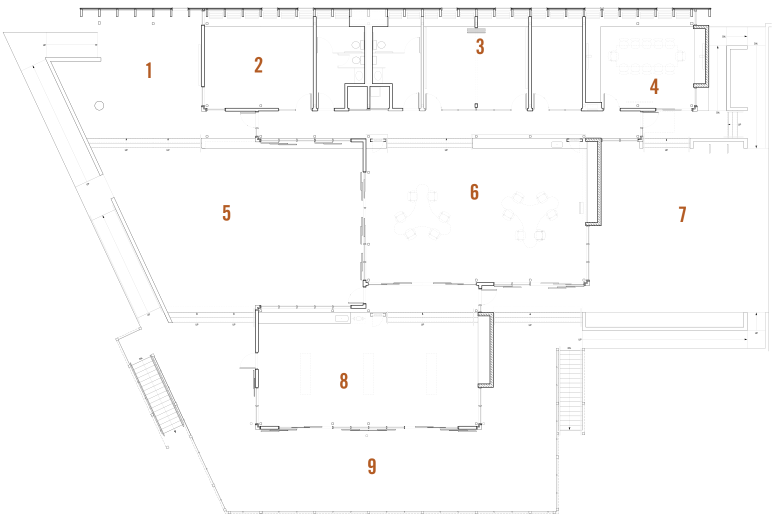
Energy Lab, Hawaii Preparatory Academy

Flansburgh Architects



ROOF PLAN

1. corrugated fiberglass skylights
2. radiant cooling panel
3. solar hot water
4. standard pv
5. corrugated fiberglass skylight
6. standard pv
7. bifacial pv



FLOOR PLAN

1. outdoor classroom
2. monitoring lab
3. project rooms
4. conference room
5. courtyard
6. workstations
7. wind terrace
8. work shop
9. sun deck

As a science building dedicated to the study of alternative energy, the Hawaii Preparatory Academy Energy Lab functions as a zero-net-energy, fully-sustainable building. Awarded LEED Platinum, the project is the third school to achieve the USGBC's new version 3.0 LEED for Schools. The project is also a candidate for Casacadia.org's Living Building Challenge, and will be the first K-12 school, and third overall facility, ever to meet this exceptional building standard.

The facility's mission is to educate the next generation of students in the methods of alternative energy and subsequent building systems. The Energy Lab facilitates scientific study both indoors and out by linking interior spaces with the Hawaiian landscape. Lab spaces encourage student discovery, exploration, and experimentation. Design requirements include sub-divisible project rooms, adaptable workstations, a laboratory, monitoring room, director's office, and conference room.

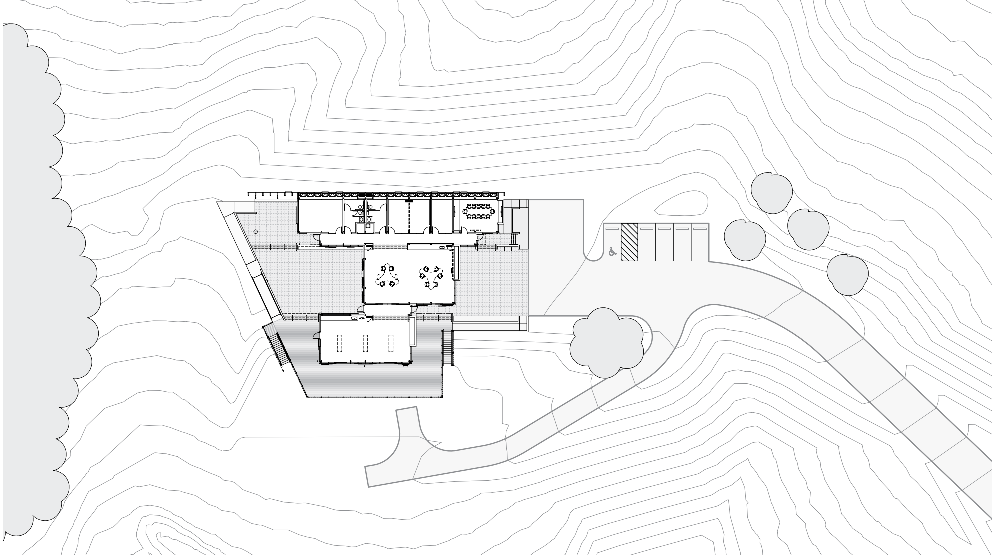
The Energy Lab benefits from an abundant use of wood throughout the interior and exterior – for aesthetic and functional purposes. Under the Living Building Challenge, every wood product installed is Forest Stewardship Council (FSC) chain-of-custody documented.

Major wood components include Douglas fir glulam roof beams which comprise all major building roof spans, complemented by two-inch thick, tongue-and-groove Douglas fir roof decking. A principal feature of the building, the exposed roof system provides a beautiful, all-wood ceiling surface that is visible in nearly every space. The building's structural system demonstrates wood's capacity for long spans while also providing a durable and aesthetically compelling design solution.

Wood serves a functional daylighting need in the form of exterior sun screens. Mounted to sliding tracks on the building's south-facing façades, handsome slatted panels, together with interior-side roller shades, work to reflect, shade, and control natural daylight.

Interior wood finishes include cabinet millwork that incorporates a maple veneer over FSC plywood core construction. The interior is finished with wood shelving in a natural finish and with paint-grade wood casings and trim. Selected for their warmth and durability, natural finish Douglas fir doors line the building's main corridor.

A recycled wood fiber product, Masonite, was creatively installed as flooring in the laboratory space. Intended for screw-attached mounting of student experiments, Masonite flooring can be replaced over time and recycled again. The relatively low installation and replacement cost of Masonite enables students to fasten energy experiments directly to it. The adaptability of a wood product for this purpose was essential to the laboratory's mission as an experimental lab work shop. Salvaged FSC lumber from structural



SITE PLAN


EXIT

framing members was repurposed for use as laboratory work benches.

Perhaps the building's most compelling use of wood is the installation of the functional and symbolic native Hawaiian Ohia Log Column. Supporting the end-bay of the outdoor classroom, this 30-ft.-long, 24-in. diameter tree trunk was found on the ground in a nearby forest.

Sited to utilize the strong northeast trade winds as a teaching tool for wind energy, the entire lab is naturally ventilated. Automated louvers monitor temperature and relative humidity levels to help maintain interior comfort. Air enters the building low on the windward side and exits through high clerestory level windows to the leeward, achieving code required ventilation rates for all spaces. A custom-designed, automated system regulates the building's cooling, heating, water, and energy generation systems.

An unobstructed southern exposure optimizes the efficiency of photovoltaic panels and solar thermal hot water. The building consumes only 30 per cent of the power it generates, metering all excess power back to the campus grid.

To supplement the need for air conditioning the building employs an experimental radiant cooling system. Taking advantage of diurnal temperature swings, water is circulated through roof edge absorber panels at night. The night air cools the water which is then stored for cooling use later the next day. The facility captures and filters all of its own roof rainwater for potable, drinking water use. Waste water is treated and returned to ground on site.

The Energy Lab is an honest and powerful design response to site, use, and materials. It stands poetically in the Hawaiian landscape as a shining example of sustainable building.

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GENERAL CONTRACTOR
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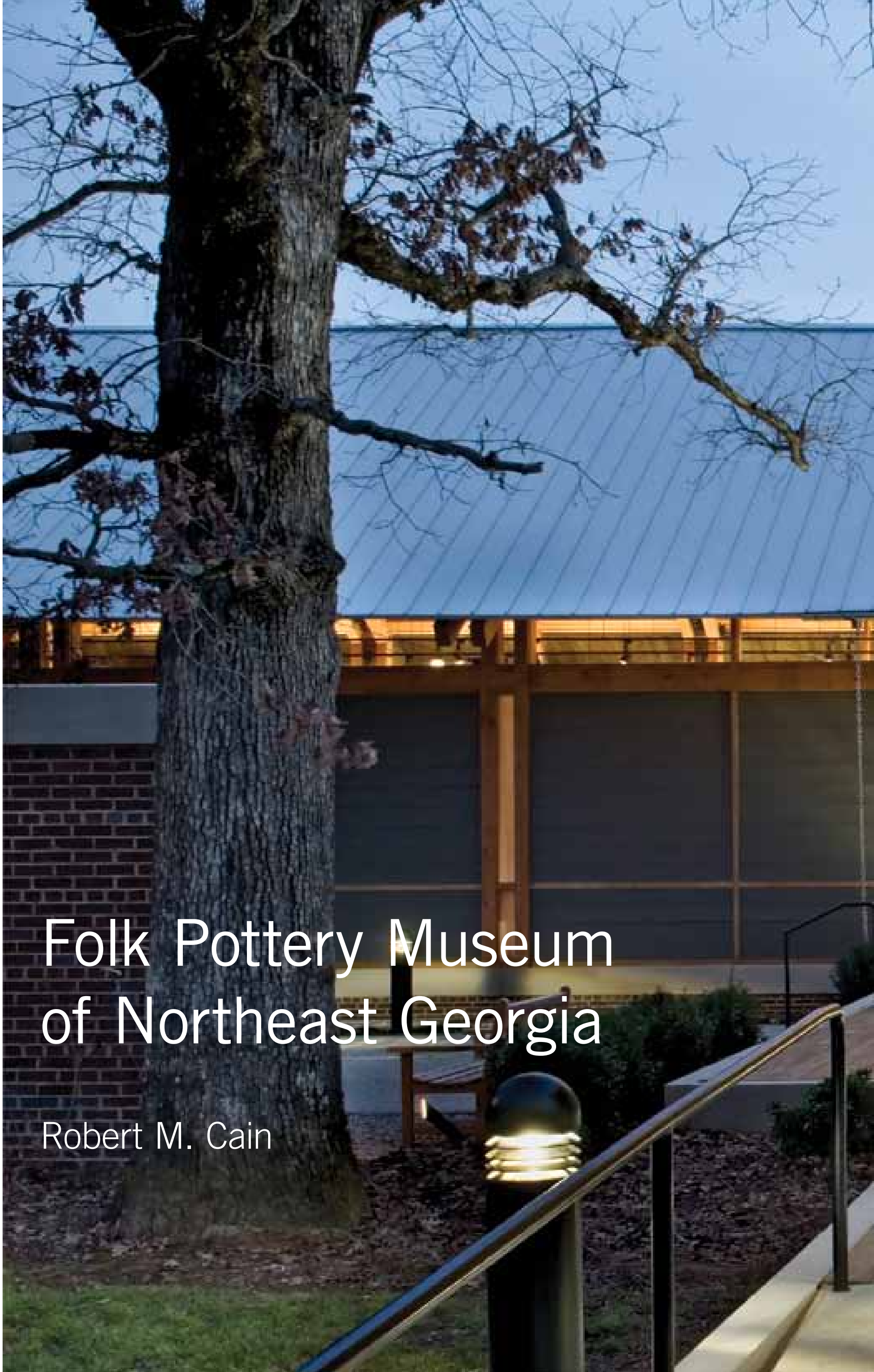
PHOTOGRAPHY
Matthew Millman Photography
San Francisco, CA



Folk Pottery Museum of Northeast Georgia

Robert M. Cain

Southern museum informed by the beauty, simplicity and functionality of Northeast Georgia's pottery heritage and vernacular architecture

"Who wouldn't want to go in here? It's exquisite. This project takes advantage of the warmth of wood. It's the perfect choice of material – the museum objects are not overpowered. Great proportions. Love the simple, but elegant roof, and the clever shading devices."

– Jury

Northeast Georgia's remarkable pottery tradition has many parallels in folk traditions of the south. Blacksmiths, weavers, basket makers and carpenters were involved in producing utilitarian objects and structures – many of superb craftsmanship and beauty.

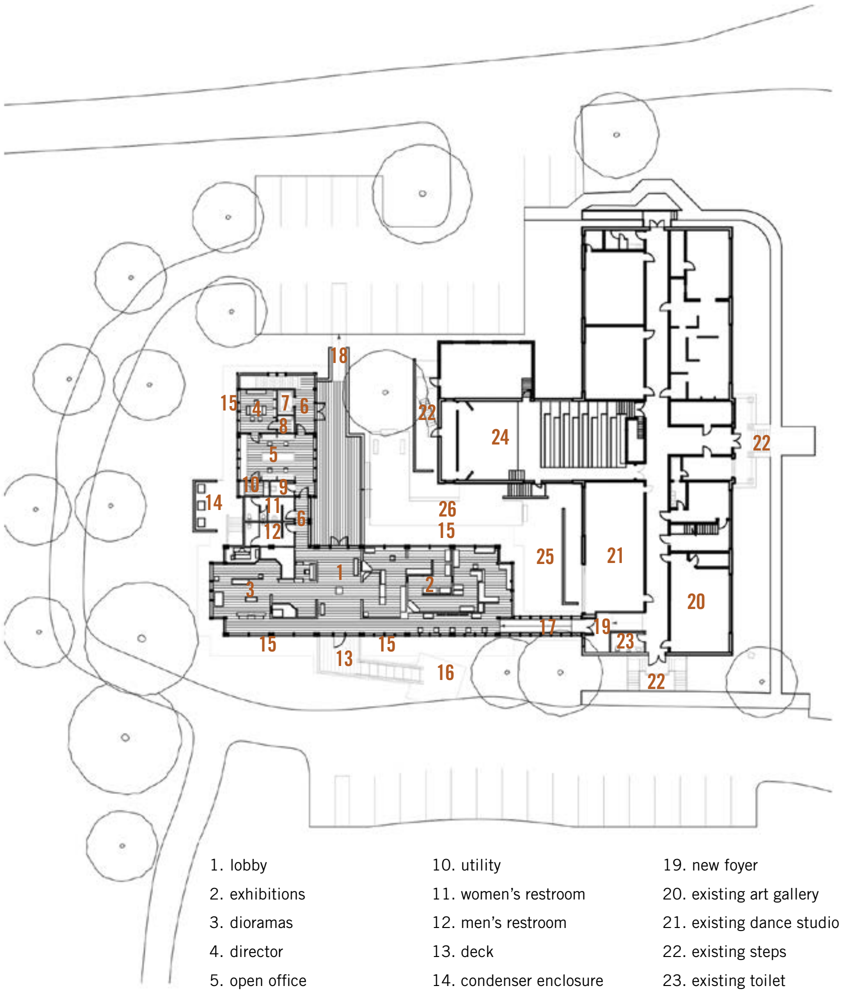
Potters traditionally produced unadorned, utilitarian ware with forms that served their particular purpose. Yet each individual maker added something of their own to the traditional forms. The individuality is the art of the form. The art became more obvious in latter day as folk potters lost their traditional market to mass-produced goods; in order to attract purchasers, potters began to add decoration and whimsy.

The high piedmont of northeast Georgia has climatic characteristics that influenced vernacular buildings: a temperate spring and fall, humid summer and mild winter. Because of the relatively benign climate, many activities occurred outdoors or in open buildings. Structures built to accommodate a farm function were straightforward and direct. Typically narrow, with cross ventilation and extensive eaves, they were often adapted from building forms brought over by the English, Scotch-Irish and German immigrants who settled the upland south. The melding of traditional forms with local and regional influences resulted in southern vernacular architecture.

The goal of the museum design was to build a form with meaning for the extraordinary pottery collection it would house. Naturally, local vernacular structures were explored – from plain-style farmhouses, to barns and everyday utilitarian sheds. The architectural heritage of our common-sense forefathers remains scattered across northeast Georgia. Pure responses to utilitarian purposes, these examples became the inspiration for the museum. Plain, gable-ended shed structures have an appealing simplicity directly connected to the beauty, simplicity and functionality of the wares produced by Northeast Georgia potters.

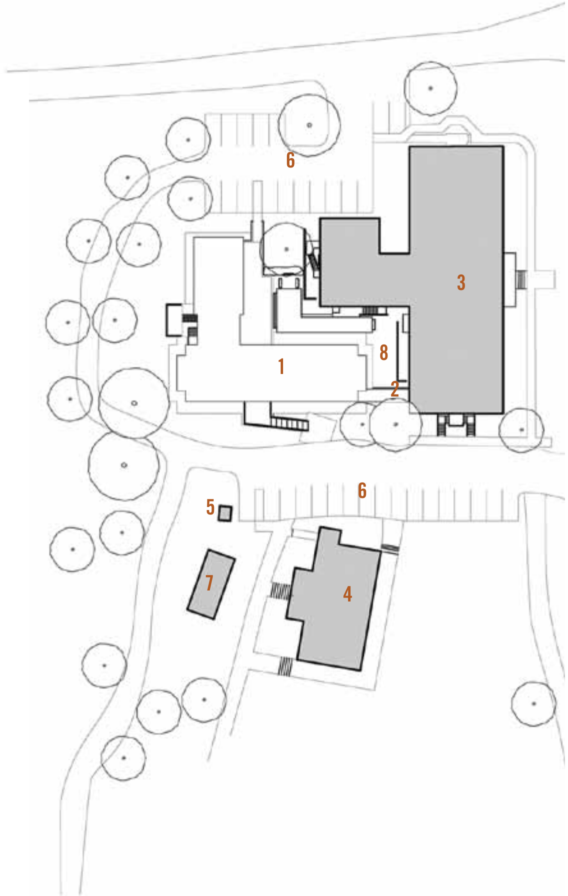
Much of the production of folk pottery was an outdoor activity. From digging and processing the clay, drying and firing the greenware, and distributing the ware by wagon, the process was infused with daylight and the natural environment. In the process of designing the museum, the inclusion of daylight was paramount. Most museums must protect fragile artefacts and are thus hermetically sealed and protected from sunlight. Pottery, however, is not light sensitive; it can be left outside for 50 years and still look as good as the day it came out of the kiln. Also, the Sautee valley surrounding the museum is beautiful, with stunning views from the site. It made sense to incorporate daylight and views of the valley into the museum's design.



1. lobby
2. exhibitions
3. dioramas
4. director
5. open office
6. corridor
7. elevator
8. storage
9. janitor
10. utility
11. women's restroom
12. men's restroom
13. deck
14. condenser enclosure
15. landscape stone
16. concrete pad
17. bridge
18. new concrete ramp
19. new foyer
20. existing art gallery
21. existing dance studio
22. existing steps
23. existing toilet
24. existing theater
25. rain garden
26. memorial garden

FLOOR PLAN



1. new museum
2. new bridge to existing building
3. existing community center
4. existing community hall
5. existing well house
6. parking
7. pavilion
8. rain garden

SITE PLAN

Great care was taken in siting the building, determining its shape and selecting materials. Climate and sun angles dictated the museum's form. The building employs materials honestly and utilizes a variety of sustainable building products and design techniques. The exhibition area is long and linear and its axis is oriented east-west to reduce solar loads and minimize the size, expense and lifecycle costs of the air conditioning systems. Additionally, the extensive overhangs and awnings shield the interior from direct sun in summer, but still allow sun to penetrate in winter to assist with heating. The museum uses heavy timbers and wood-products harvested from sustainable forests in the region as well as other locally or regionally produced products. The courtyard rain garden is designed to divert runoff from the structures back into natural aquifers.

The museum is a marriage of vernacular concepts and contemporary design. The gabled structure is a straightforward response to its purpose of protecting and presenting a collection of folk pottery.

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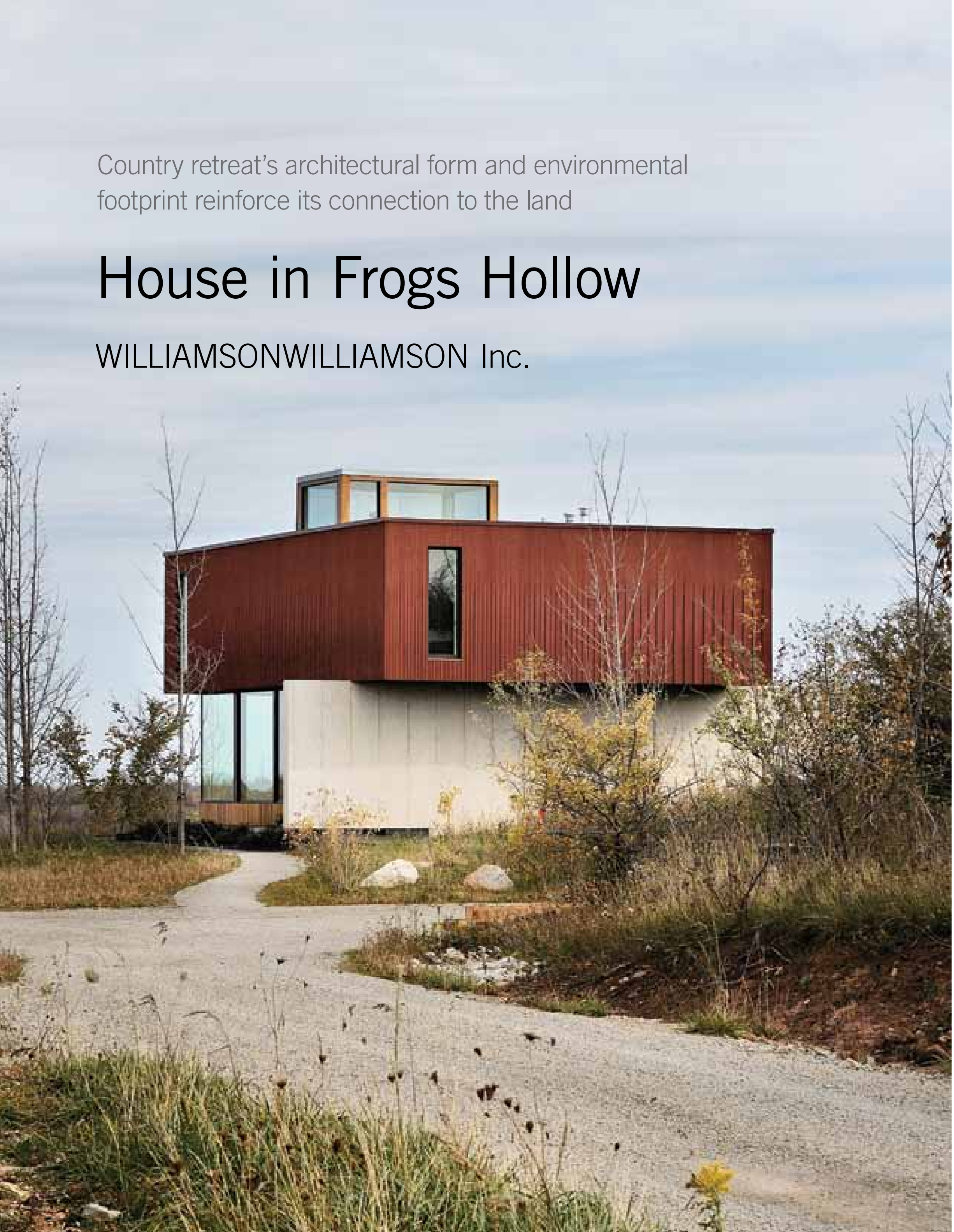
GENERAL CONTRACTOR
Hartley Construction
Gainsville, GA

PHOTOGRAPHY
Paul Hultberg Photography
Rob Karosis Photography
Rollinsford, NH

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

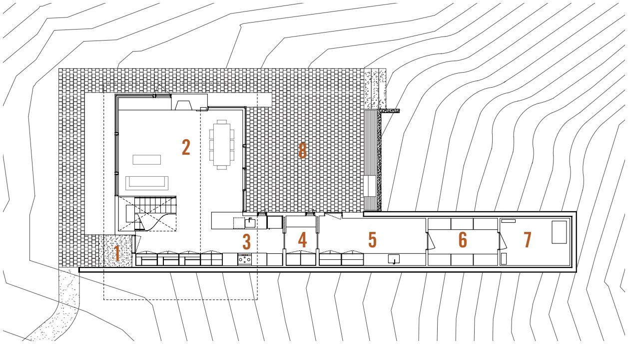
House in Frogs Hollow

WILLIAMSONWILLIAMSON Inc.



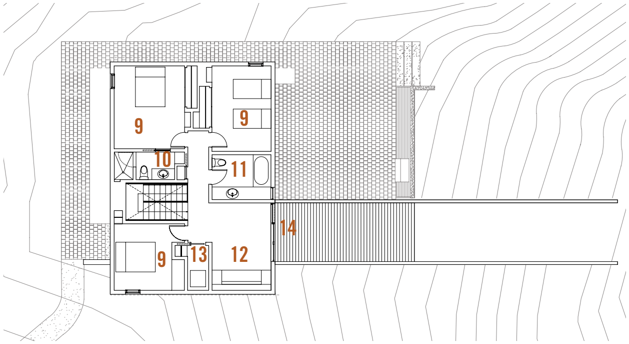
"Love this one because of the very clever detailing. The bevelled 'siding' has an amazing shadow effect, showcasing each piece – it's about using a very basic product to create this incredible solution. This project embraces wood's playfulness."

– Jury



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

FIRST 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. It is not picturesque, but tough and impenetrable.

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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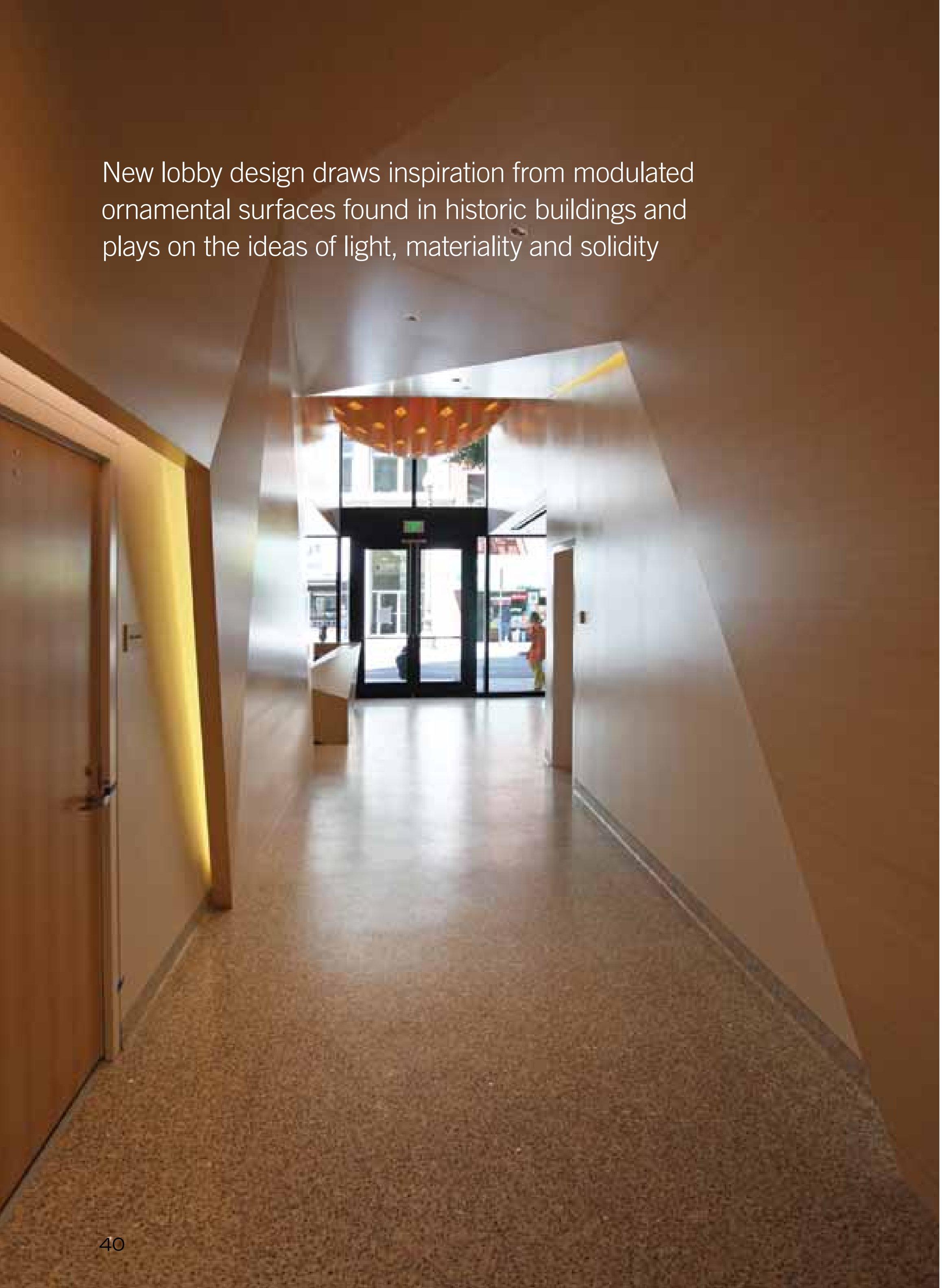
Bob Gundu
Toronto, ON



New lobby design draws inspiration from modulated ornamental surfaces found in historic buildings and plays on the ideas of light, materiality and solidity

Lightfold: One Kearny Lobby

IwamotoScott Architecture/Office of Charles Bloszies

"This is clever; a simple idea, beautifully executed. Love the way this part pulls up off the floor and slides up, and the ceiling coffers come alive. Tiny, but exquisitely made – that's not always easy to do."

– Jury

Located in the heart of downtown San Francisco's Gallery District, adjacent to the museums of the Yerba Buena Arts District, Lightfold is a lobby design for the new One Kearny commercial development.

The project exemplifies architecture as public art. The lobby meets the "percent for art" requirement for the building through an integral piece of the architecture. It was subsequently approved and funded by the SF Arts Commission.

Lightfold is a fully functioning lobby and site-specific installation that was inspired by the modulated ornamental surfaces found in San Francisco's historic buildings like the turn-of-the-century building that is part of the larger One Kearny project. The installation begins by reinventing the coffers common to ceilings in buildings of this era. Lightfold transforms this traditional ceiling element into an abstract, folded and luminous wood chandelier.

The same wood veneer used in the chandelier is repeated as cladding for faceted panels that line the space between the front lobby beneath the coffers and the rear lobby which connects to the elevators. The form of these facets is generated by "unfolding" the coffers, scaling up the shapes, and adapting them to the specific geometry of the angled hallway. Since these facets are opaque, the backlighting emanates from around the facet edges. By using both a geometric logic and a wood material (visually consistent for different parts of the lobby, possessing differing conditions of opacity and translucency), the installation draws together and questions ideas of light, materiality and solidity.

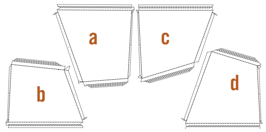
Lightfold is also conceived and executed as a fully sustainable project. The micro-thin wood veneer used for the folded wood chandelier is a highly eco-friendly product, as is the Alpi wood veneer used for the walls. The chandelier is lit by LED lighting that is programmed to dim and brighten according to ambient light conditions. In addition, the project employed laser cutting and CNC routing to minimize material waste. The wood chandelier is constructed using integral material folds that add structure and reduce need for additional fasteners.

An additional component of the installation is a video display wall illuminating aspects of Lightfold's fusion of three different historical eras. Masked by one-way mirrors, the monitors add an additional dynamic art experience to the project.

DESIGN ARCHITECT
IwamotoScott Architecture
San Francisco, CA

PROJECT TEAM
Blake Altshuler, Ryan Golenberg, Lisa Iwamoto, Christina Kaneva, Alan Lu, Craig Scott, David Swain

LIGHTFOLD MODULE 1 PANELS



ARCHITECT OF RECORD
Office of Charles Bloszies
San Francisco, CA

PROJECT TEAM
Charles Bloszies, Matt Jasmin, Katie Hawkins

CLIENT
One Kearny, LLC. (Derrick Chang)
San Francisco, CA

GENERAL CONTRACTOR
Premier Structures Inc. (Elliot Grimshaw)
San Francisco, CA

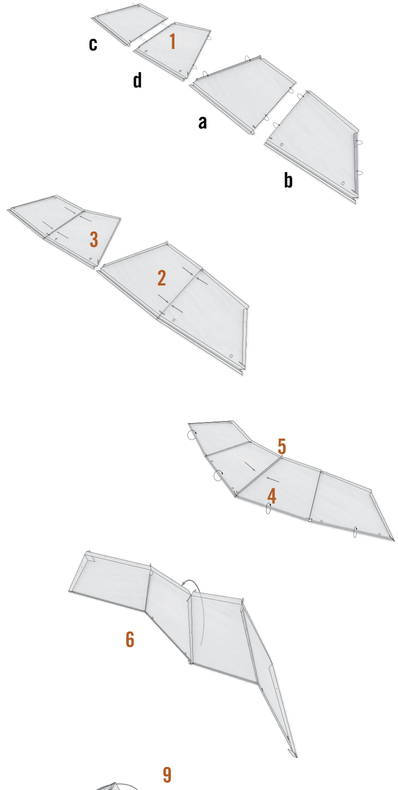
CASEWORK SUBCONTRACTOR
Plant Architectural Woodwork (Steve Malerbi)
San Francisco, CA

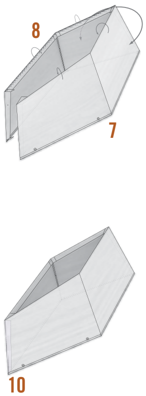
WOOD CHANDELIER FABRICATOR
Ryan Golenberg, IwamotoScott Architecture
San Francisco, CA

TRANSLUCENT WOOD VENEER/LAMINATE SUPPLIER
Lenderink Technologies (Tom Lenderink)
Belmont, MI

PHOTOGRAPHY
Craig Scott, IwamotoScott Architecture
San Francisco, CA

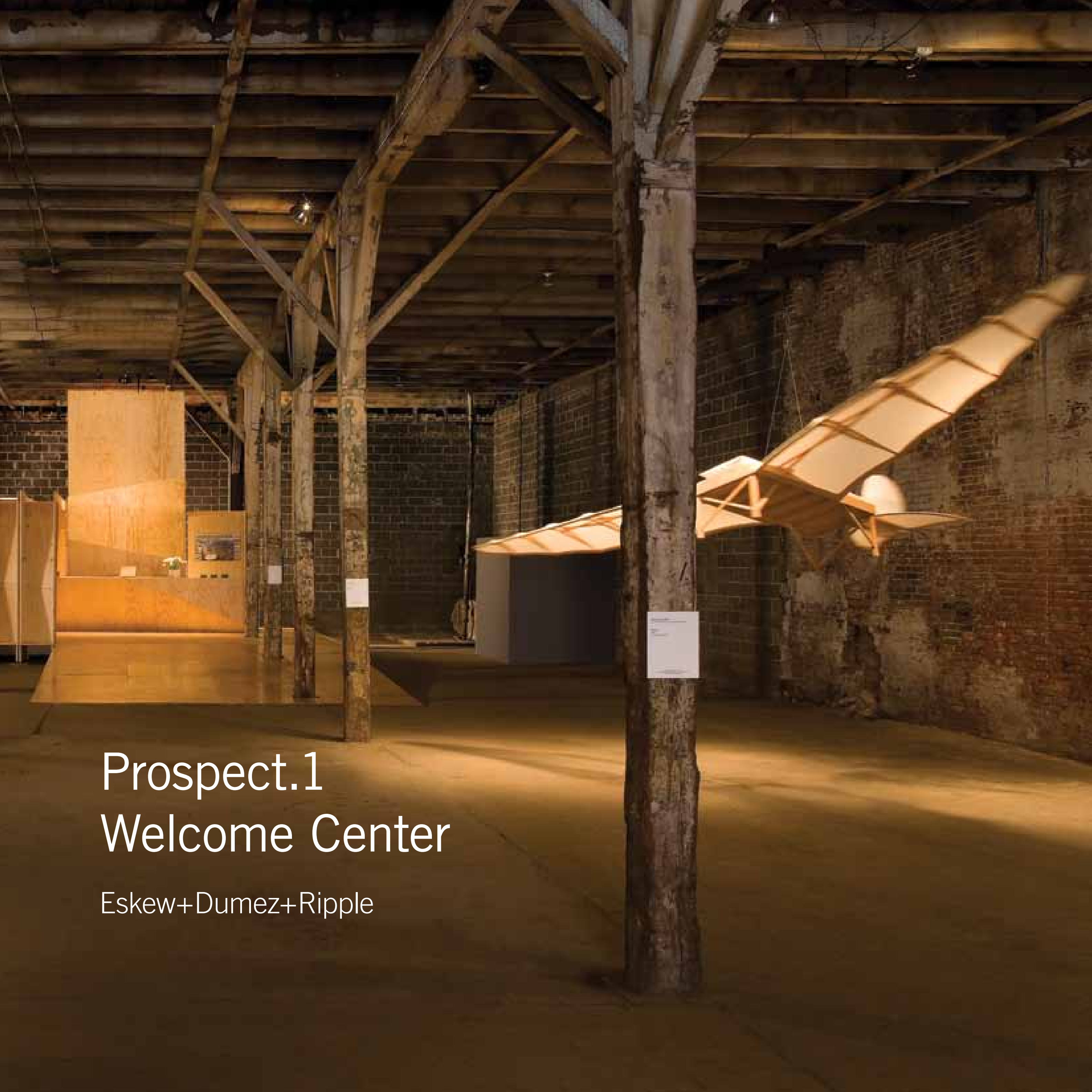
LIGHTFOLD MODULE CONSTRUCTION SEQUENCE





1. bend scores
2. join together panels a and b
3. join together panels c and d
4. rotate and glue structural flaps at the top of the light fold module
5. glue veneer seams between panels a and d
6. rotate panels upright
7. glue interior flaps
8. wrap and glue structural folds at the end of the coffer
9. rotate panels closed
10. glue together final veneer seam

Plywood structure built within a historic New Orleans warehouse contrasts the architecture of old and new, and recalls the shape, scale and significance of shipping containers



Prospect.1 Welcome Center

Eskew+Dumez+Ripple

"It's a small installation, but it does a lot with great efficiency. The focus is exactly where it needs to be. Love that it is modular and out of simple plywood. The economy of means is significant: plywood roof beams matched with vertical detail. The detailing is incredibly simple and sleek . . . inside this rustic warehouse."

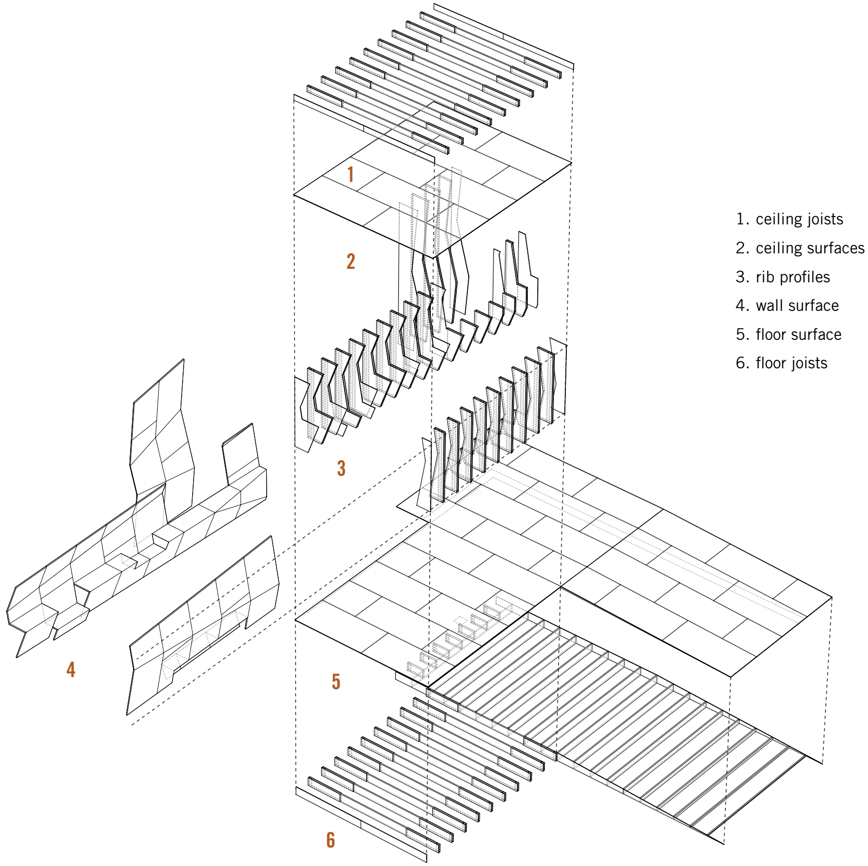
– Jury

Prospect.1 New Orleans, the largest biennial celebration of international contemporary art ever organized in the United States, presented 81 artists in museums, historic buildings, and "found sites" throughout the city of New Orleans. The Welcome Center structure created for the event was housed in one of the exhibition's found spaces – an empty historic warehouse in downtown New Orleans – with the intent to orient visitors to the city and the biennial.

The 400-sq.ft. structure was initially inspired by the shape and scale of shipping containers, a nod to the significance of the port to the city's economy and a reference to the nature of delivery for much of the art exhibited during the biennial. Due to constraints of time and budget (the entire project was designed pro-bono and constructed in less than six weeks at a total cost of $28,000), a construction material was selected that was both inexpensive and readily available. Utilizing construction-grade plywood as floor, wall, ceiling and structure, the form of the Welcome Center is manipulated to provide a hospitality desk, display counter, refreshment center and seating bench for visitors. Acting as a container within a container, the ribbed plywood exterior construction creates a dialogue with the wood structure of the historic warehouse and contrasts the architecture of old and new.

In order to expedite construction of the Welcome Center, a digital model along with a complete set of cut templates was developed to clearly and accurately describe the design intent to the contractor. A total of 115 sheets of construction grade plywood were used, with the majority of the work milled and prefabricated off-site due to limited access to the warehouse during installation of the artwork. Using this approach, final on-site assembly of the structure was completed in less than one week.

In an effort to maintain the "found" nature of the space, minimal modifications were made to the remainder of the warehouse to accommodate the new functions of art display and visitor orientation. Simple, utilitarian spotlights were provided as part of new electrical service to the building, new emergency exits to adhere to the life safety requirement of the building codes were added, and a new steel and polycarbonate entry door was installed to secure the space. The door contrasts with the historic character of the warehouse and provides a glowing street presence at night to signal to visitors the unique nature of the container within.



EXPLODED AXONOMETRIC

ARCHITECT
Eskew+Dumez+Ripple
New Orleans, LA

CLIENT
U.S. Biennial Inc.
New York, NY

GENERAL CONTRACTOR
Canal Construction of Louisiana LLC
New Orleans, LA

FURNISHINGS
Associated Office Systems (AOS)
New Orleans, LA

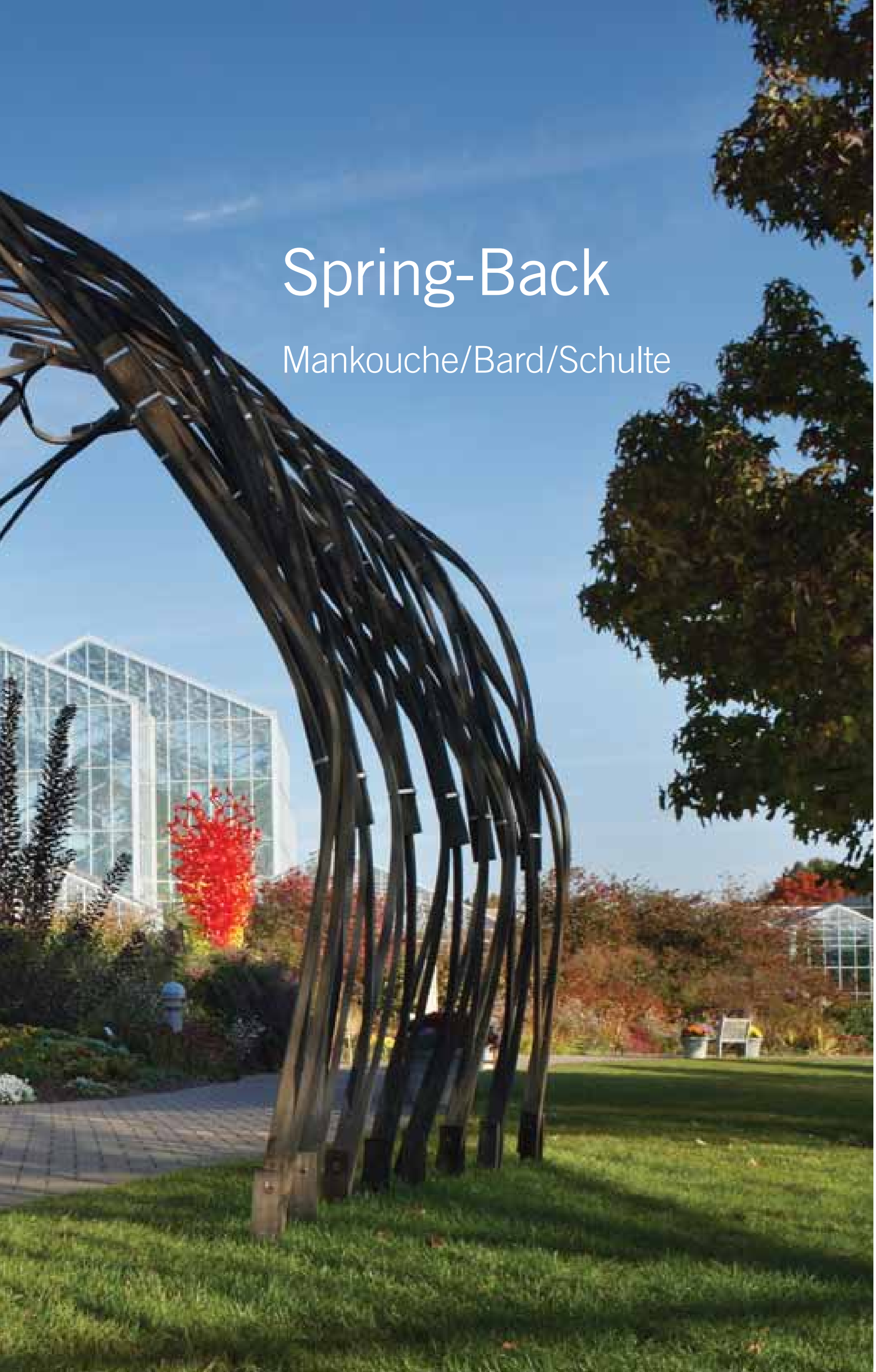
EDR TEAM
Steve Dumez, Thaddeus Zarse,
Nicole Marshall

PHOTOGRAPHY
Will Crocker
Steve Dumez
New Orleans, LA

A parametrically adaptable steam-bent gateway finds inspiration in the ecology and heritage of the Great Lakes region

Spring-Back

Mankouche/Bard/Schulte

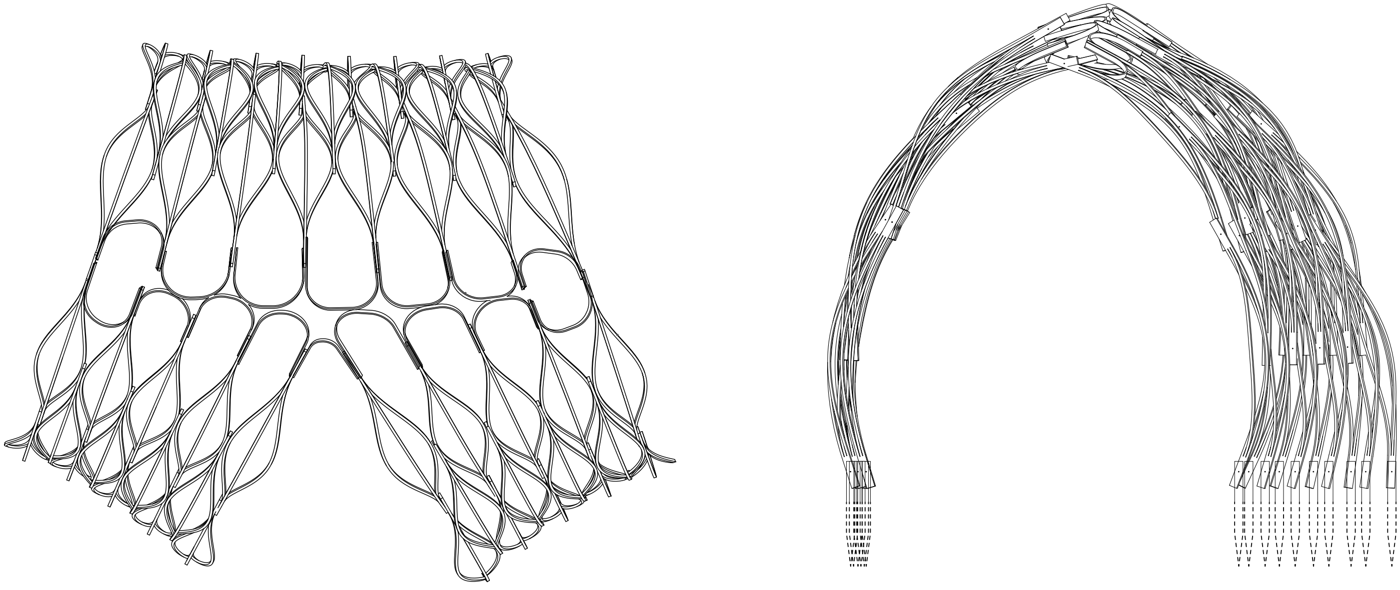


"This dynamic structure is all about innovation. There's been some incredible experimentation and study here. They've gone back to researching original processes and ways of bending wood. Amazing use of material. It's just so thoughtful."

– Jury

Inspired by the bentwood classic café chair designed by Michael Thonet, Spring-Back is a temporary gateway built at the Frederik Meijer Gardens and Sculpture Park in Grand Rapids, Michigan. Situated at the intersection of three pathways, the gateway integrates plants and landscape features to mark a significant nodal point in the overall layout of the gardens.

In the mid-nineteenth century Great Lakes craftsmen utilized abundant local lumber to construct steam bentwood furniture. Spring-Back revisits this virtually forgotten craft assisted by digital technology foregrounding it as an environmentally responsible way of constructing space. The process of steam bending subjects a piece of air-dried lumber to steam moisture, softening its fibres and enabling it to be bent in multiple directions through the use of a jig.



UPPER CONNECTOR PLAN AND ELEVATION

A single piece of white oak split down the middle with three cuts (each stopping just short of the ends) creates a wishbone-form-generating system based on a rib component which bends in three dimensions. The rib is bent over a variable barrel-shaped mold without the use of steel tension straps. Components are easily aggregated to form light-weight, barrel-vaulted spaces. Each rib component can be fabricated from flat to a minimum bend radius of five feet before failure. Depending on the specific site conditions, Spring-Back is meant to be installed outdoors and can take on many different configurations.

Made entirely out of regionally harvested white oak, Spring-Back formally references its organic roots by appearing to grow straight out of the ground it stands on. Even its dark ebonized color is the result of a staining process that occurs naturally when tannic acid in white oak reacts with iron present in water.

The shape and color of the sculpture are derivative of the natural behavior of the material it is made from. Formed by water and made from wood, Spring-Back is inspired by the ecology and heritage of the Great Lakes region.

ARCHITECT
Steven Mankouche, Joshua Bard, Matthew Schulte
Ann Arbor, MI

CLIENT
Frederik Meijer Gardens and Sculpture Park
Grand Rapids, MI

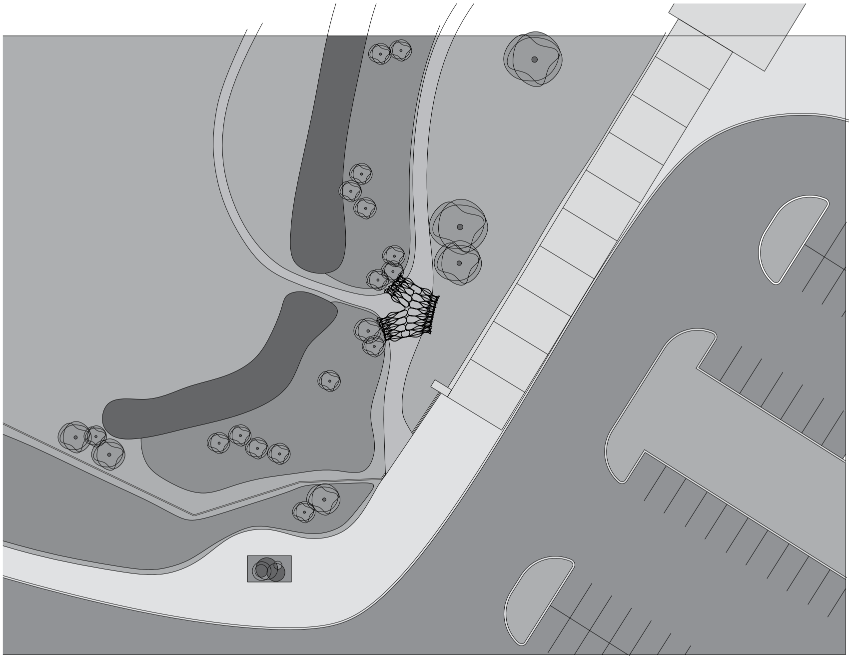
FINAL RESEARCH TEAM
Richard Tursky, Charles Veneklase, Jonathan Strut, Andrew Thompson, Abigail Murray

FUNDING
Office of the Vice Provost of Research, University of Michigan

INITIAL RESEARCH TEAM
Steven Mankouche, Joshua Bard and Tsz Yan Ng (Principal Investigators); Peter Von Buelow (Structural Consultant); Matthew Schulte, Sarah Dean, Richard Tursky and Luke Somo (Research Assistants)

FUNDING
Research Through Making Grant, Taubman College of Architecture and Urban Planning, University of Michigan

PHOTOGRAPHY
Beth Singer
Franklin, MI



SITE PLAN

FOOTBRIDGE OF DREAMS, Princeton, BC
by StructureCraft Builders Inc.
Please see page 94

CITATION **Awards**

Renovation of contemporary art space rejuvenates existing wood rafter ceilings and adds a sculptural ipe roof deck and screen

Arthouse at the Jones Center

Lewis.Tsurumaki.Lewis Architects

"The detailing of the wall and treads is a very strong gesture in wood. The wood pulls you in. Very welcoming. It's a beautiful renovation . . . a brilliant series of design moves; minimal moves to create maximum impact."

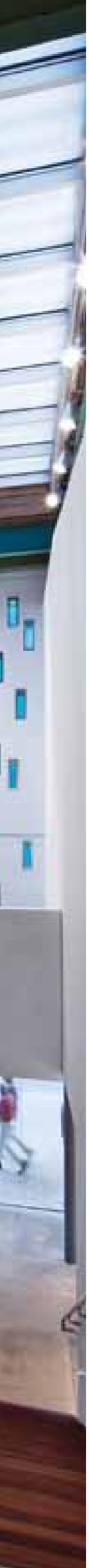
– Jury

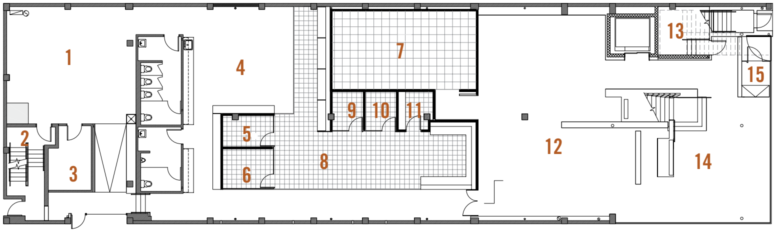
Located in the heart of downtown Austin, this project is a renovation and expansion of an existing contemporary art space. The scope of the design included 14,000 sq. ft. of new program within the building envelope, including an entry lounge, video/projects room, large open gallery, multi-purpose room, two artists' studios, additional art preparation areas, and an occupiable roof deck.

The existing building is an idiosyncratic hybrid of a 1920s theater and a 1950s department store. The architecture is pulled in two directions – as a theater its focus was on the stage at the west, while as a store it was oriented to the street at the east. The building's structure is both a concrete frame with steel trusses and, contained within the concrete frame, a single-story steel frame with a concrete deck. The theater's single large proscenium space was cut in half by the department store's second-floor addition.

In an effort to reinforce this peculiar accumulation of history, the design was planned as a series of integrated tactical additions and adjustments. These supplements revive and enhance existing features including the 1920s trusses, existing wood rafter ceilings, concrete frame, ornamental frescoes and the 1950s awning, storefront, and upper-level display window.

The once mundane roof has been transformed into a sculptural ipe roof deck for large events. The design also opens the second floor and roof through a massive ipe stair and, most importantly, efficiently adds program spaces and objects that allow the building to function as a contemporary art institution. As a contemporary statement, the elevation is perforated by 177 laminated glass blocks. Aggregated where light is needed on the interior, these apertures unify the building and form a logical yet unconventional façade appropriate for an experimental art venue.

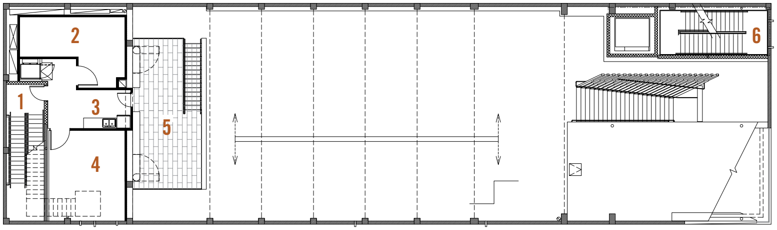




1. work room
2. egress stair
3. closet
4. work room
5. curator
6. director
7. video/projects room
8. office
9. office
10. office
11. av/copy
12. gallery
13. elevator machine room
14. lounge
15. entry

N

FIRST FLOOR PLAN



1. egress stair
2. north studio
3. break room
4. south studio
5. lounge
6. egress stair

N

MEZZANINE FLOOR PLAN

The parapet of the building was raised to a uniform height and the existing patchwork of painted stucco was replaced with new light grey painted stucco. As part of the new ipe roof deck, the mechanical room is screened with the same ipe wood cladding to minimize its appearance from the street. The storefront window at the second floor was maintained with a butt-glazed window and the existing awning structure was re-clad with white plaster that continues into the interior, thus increasing the connection between the Arthouse and Congress Avenue. The entry was relocated to Congress Avenue at the northeast corner of the building, adjacent to the new stainless-steel clad Egress Stair. The existing butt-glazed ground floor windows were replaced with windows of similar construction, height, and proportion.

ARCHITECT
Lewis.Tsurumaki.Lewis Architects (LTL Architects)
New York, NY

CLIENT
Arthouse at the Jones Center (Sue Graze, Executive Director)/ Zydeco Development
Austin, TX

STRUCTURAL ENGINEER
MJ Structures (Richard Martin, Sherry Mundell)
Austin, TX

GENERAL CONTRACTOR
Structura Inc.
Austin, TX

MILLWORK SUBCONTRACTOR
Buda Woodworks
Buda, TX

PHOTOGRAPHY
Michael Moran
Brooklyn, NY

Wood-framed post and beam structure celebrates Port Townsend's rich culture of maritime woodworking through extensive wood use and high-level craftsmanship

Northwest Maritime Center

The Miller Hull Partnership

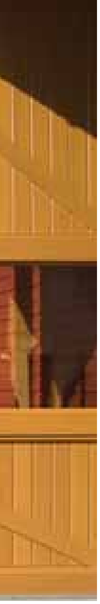
"This project builds on 150 years of heritage . . . prime example of adaptive reuse in a very public/industrial place. The door detailing is beautiful, as is the use of strong, bold stains and alternating colors. Very nice."

– Jury

As home to the Wooden Boat Foundation and the west coast's premier Wooden Boat Festival, the Northwest Maritime Center in Port Townsend, Washington embodies the responsible and effective utilization of wood consistent with the organization's educational mission.

As a non-profit committed to promoting and preserving maritime heritage, industry, skills, and culture, the Maritime Center was designed not just to protect, but to actually improve and restore the waters of the Puget Sound. From energy use reduction to habitat restoration and material selection, all aspects of environmental impact were considered. Engaging Port Townsend's rich culture of woodworking in the design and construction processes was one of the primary goals of the oranization's board of directors; the new facility – with its extensive use of wood and high-level of craft – stands as a testament to that commitment.

SITE PLAN

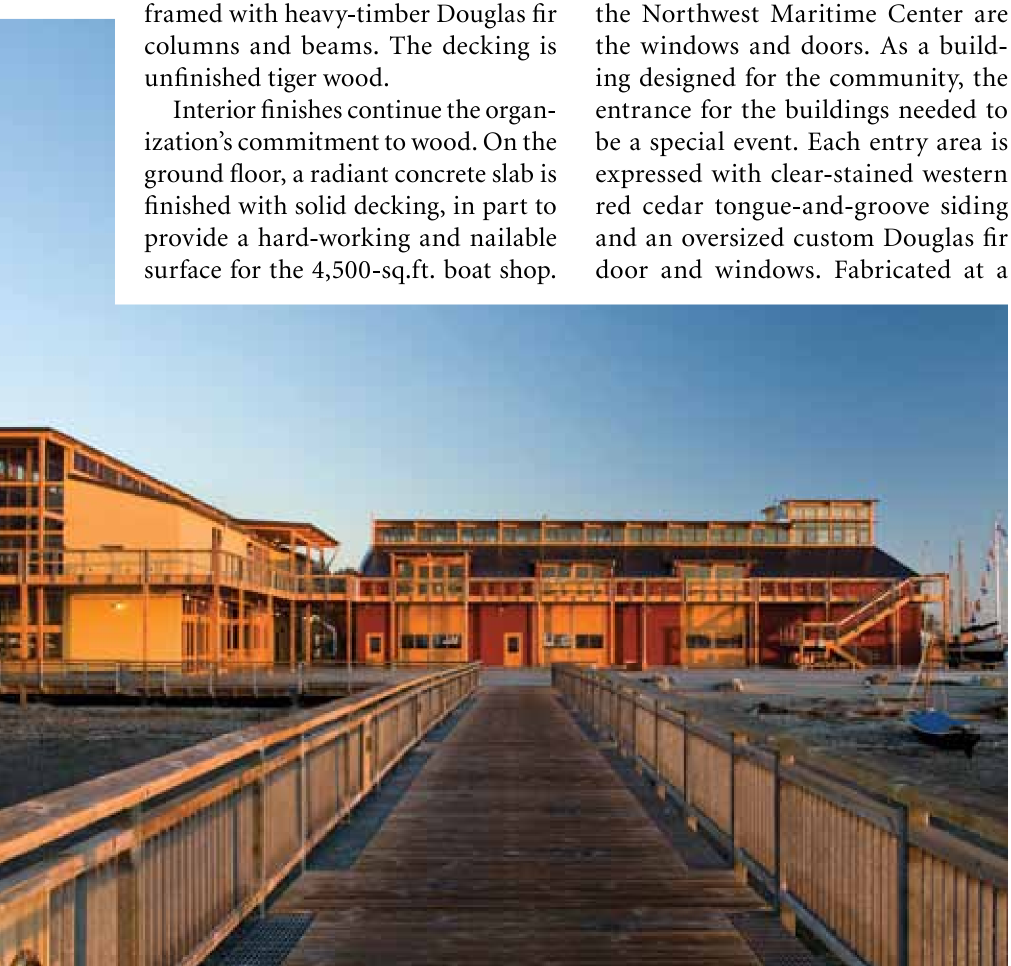


Both buildings are framed with glulam timbers and solid-sawn Douglas fir decking – all exposed to view. The exterior is clad in Western Red Cedar ship-lapped siding with a solid body stain that reflects the historic structures in the area. An enclosed but unconditioned livery space for storing rowing shells and kayaks is clad (walls and ceiling) in rough-sawn fir plywood paneling. This, too, is finished with a solid-body stain. A boardwalk along the waterfront and a second-level deck connecting the two structures is framed with heavy-timber Douglas fir columns and beams. The decking is unfinished tiger wood.

Interior finishes continue the organization's commitment to wood. On the ground floor, a radiant concrete slab is finished with solid decking, in part to provide a hard-working and nailable surface for the 4,500-sq.ft. boat shop. Similarly, wall paneling of clear-finished fir plywood with a vertical butt joint and a custom horizontal batten are designed to be easily sanded out and refinished or even replaced as each boat-building project leaves its mark. Wood overhead doors act as partitions between spaces to allow flexibility; and railings, benches, and countertops are all constructed out of solid wood. Interior millwork and casework, all by local craftsmen, is constructed out of vertical grain Douglas fir or cherry.

The most striking wood features in the Northwest Maritime Center are the windows and doors. As a building designed for the community, the entrance for the buildings needed to be a special event. Each entry area is expressed with clear-stained western red cedar tongue-and-groove siding and an oversized custom Douglas fir door and windows. Fabricated at a northwest custom door and window shop, the doors are a combination of wood, glass and custom hardware designed to slide or swing open to invite visitors. Whether an 18 x 18 single-sliding door, 6.5 x 13 swing doors on pivot hardware, or 6-ft.-wide lift/slide panels, these "events" are constructed out of solid wood and are clear finished to add texture to the experience.

Over 60 per cent of the wood products used in the construction of the structure and shell were FSC certified. All FSC certified wood products available at the time were evaluated for cost effectiveness, and most were used. Certified products incorporated into the construction include glulam framing, dimensional lumber, plywood products, tongue-and-groove decking, and finish wall paneling.



ARCHITECT
The Miller Hull Partnership
Seattle, WA

CLIENT
Northwest Maritime Center
Townsend, WA

GENERAL CONTRACTOR
Primo
Sequim, WA

STRUCTURAL ENGINEER
Quantum Consulting Engineers
Seattle, WA

LANDSCAPE ARCHITECT
GGLO
Seattle, WA

PHOTOGRAPHY
Nic Lehoux
Vancouver, BC

“This project has something real . . . it’s meaningful and draws from longhouse structures and native building traditions. The plan is nice – it follows its own design logic and isn’t the same as others. It’s unique.”

– Jury

Design of new school formally references Coast Salish traditional building forms and the wood detailing of surrounding campus buildings

Saanich Junior-High School

McFarland Marceau Architects

Serving the students from the four Coast Salish Indian bands that form the Saanich Indian School Board, the new junior-high school is located on the South Saanich Indian Reserve, 25 km north of Victoria on Vancouver Island. The School Board's tireless work to improve the education of the local native students has produced many positive outcomes, including higher enrolment, retention and graduation rates. The Board strongly believes that this success is due to a curriculum with a strong emphasis on cultural teaching as well as appropriate facilities that support teaching and foster cultural pride.

There was a clear mandate for the new junior-high school. The new facility needed to reference traditional architecture and complement existing campus buildings while creating its own identity; be bright and non-institutional, yet durable and easy to maintain; incorporate sustainability principles; maximize the use of local materials; and involve local community members during construction.

The new school, which serves adult as well as young students, complements the curriculums of the existing elementary school and the existing adult education centre. It is sited along West Saanich Road at the location of the temporary structure that it replaced. It is easily accessible from the adult education centre to the west and the elementary school to the east. Designed to be easily expanded with additional classrooms, the building will eventually wrap around the central courtyard.

Formal reference for the design draws from the Coast Salish People's traditional plank houses and from the wood detailing of the surrounding campus buildings. Hierarchy of form is created through increased volume and articulation to identify entry and feature spaces. The high volume of the entry hall with its exposed structural ribs was developed to host a suspended Coast Salish traditional canoe. Other areas of the building have also been designed to feature local craftsmanship, including the pedestals in the Great Hall, designed to receive welcoming figures, and thick wood elements (central bench, feature doors) designed to be carved by local artists.

Structure is expressed throughout the building with exposed glulam posts and beams. At the ceiling level, glulam beams and plywood decking are used as both structure and finish. Lighter pole elements were developed, in some locations as sunshade devices, to establish rhythm and variation within the façades. Wood paneling is used throughout the facility to create a warm atmosphere that simultaneously meets the durability requirements for a school.

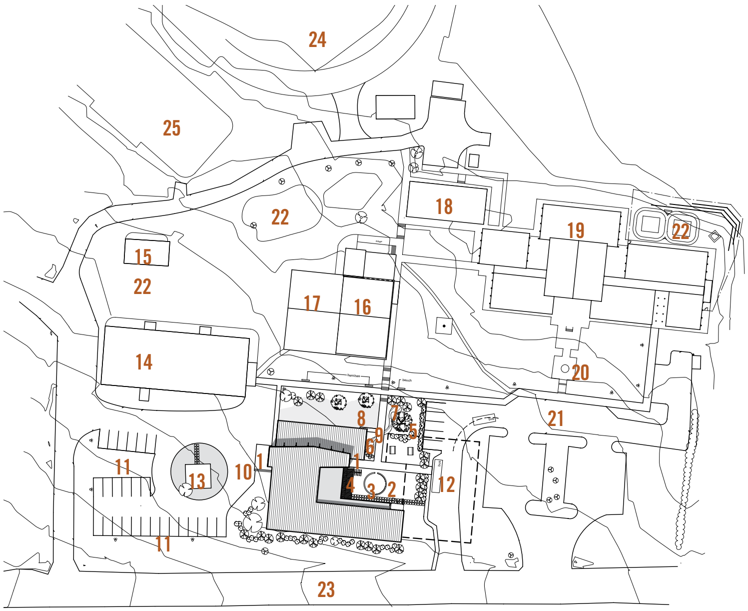
The vertical envelope of the building is an exterior insulated rainscreen assembly clad in cedar siding. The rough-cut random lap-siding pattern at the base of the building contrasts with a smooth ship-lap siding pattern recessed at the clerestory windows, helping to emphasize the grounded nature of the building in contrast to the lightness of the roof edge. A continuous horizontal band caps the rough siding base and will be painted with Coast Salish characters to promote pride in the students' heritage.

Simplicity of form and use of local materials were significant in meeting the budgetary constraints of the project and maximizing the use of local labor. The project was constructed by members of the local bands, creating an important economic stimulus for the community.

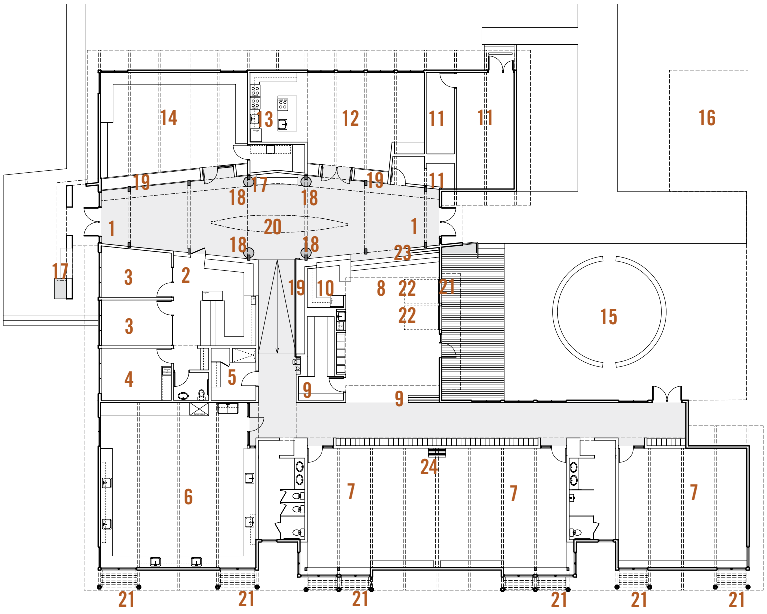
Enrolment size variations and the need to "team teach" student groups with differing skill levels required a design allowing spatial flexibility. Variable classroom sizes and shapes, as well as varying degrees of visual openness, were developed to meet this need. Acoustic separation was implemented both in detailing and in the division of community use components (the computer/library and multi-purpose area) from core student areas. Transparency within the building, as well as open site lines, have been designed to allow for supervision with minimal staff.

The student hall is designed as a dynamic space that can be manipulated by the students. It has the ability to be open or closed to both the entry hall side and the classroom side of the facility. This space is also directly connected to the exterior deck, the exterior courtyard and a native plant demonstration garden, which extends the learning classroom into the exterior environment.

1. entry
2. courtyard
3. stone sitting circle
4. cedar deck
5. native plant demonstration garden
6. cattail marsh
7. source pool and stream
8. camas meadow
9. bridge
10. new drop off
11. bioswale
12. future high school
13. existing one room school house
14. existing SISB offices
15. existing nursery
16. existing gymnasium
17. existing covered play area
18. existing cultural building
19. existing elementary
20. existing welcoming pool
21. existing drop off
22. play area
23. West Saanich Road
24. sports field
25. lacrosse field



SITE PLAN



FLOOR PLAN

1. entry hall
2. reception
3. counseling
4. staff room
5. health room
6. science
7. classroom
8. student hall
9. storage
10. canteen
11. services
12. multi-purpose room
13. teaching kitchen
14. computer/library
15. courtyard
16. future expansion
17. cedar bench
18. welcoming pole
19. display
20. canoe (above)
21. sunshade
22. garage style doors
23. sliding cedar doors
24. movable partition

Sustainable features included the use of displacement ventilation assisted by natural ventilation combined with a hydronic in-slab heating system with full heat recovery; careful siting of the project to use surrounding built elements and trees for shading; and the use of local drought resistant plants in order to eliminate the need for irrigation. Natural light is maximized in the classrooms by bringing in light from more than one direction, while heat gain is controlled with the overhang and sunshade elements.

ARCHITECT
McFarland Marceau Architects
Vancouver, BC

CLIENT
Saanich Indian (WSANEC) School Board
Brentwood Bay, BC

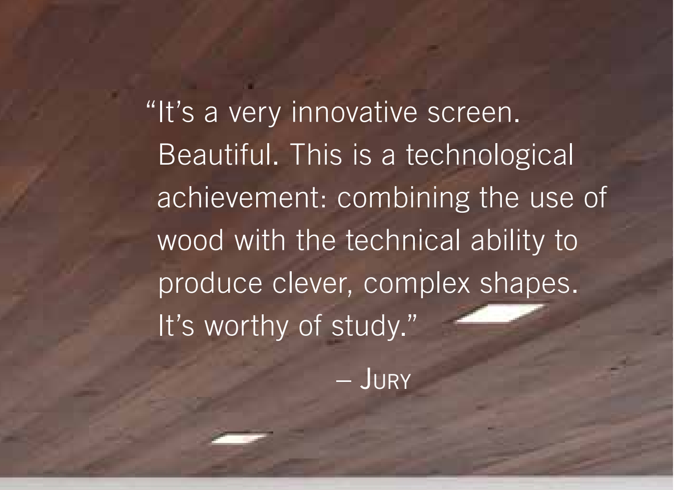
STRUCTURAL ENGINEER
Equilibrium Consulting
Vancouver, BC

GENERAL CONTRACTOR
Newhaven Construction
North Vancouver, BC

MECHANICAL AND ELECTRICAL ENGINEERS
Cobalt Engineering
Vancouver, BC

LANDSCAPE ARCHITECT
Richard Buccino Landscaping
Vancouver, BC

PHOTOGRAPHY
Nick Westover
Vancouver, BC



"It's a very innovative screen. Beautiful. This is a technological achievement: combining the use of wood with the technical ability to produce clever, complex shapes. It's worthy of study."

– Jury

Salvaged old-growth white pine joists, columns and beams form a living history inside a Minnesota museum's new public spaces

Winona County History Center – Laird Norton Addition

HGA Architects and Engineers

Located in Winona's downtown historic district overlooking the Mississippi River bluffs, the Laird Norton Addition at the Winona County History Center enhances the distinctive character of the museum's 1915 Armory while establishing a welcoming architectural presence. The new addition beckons to museum patrons, offering permanent and changing exhibits, public programming and community outreach.

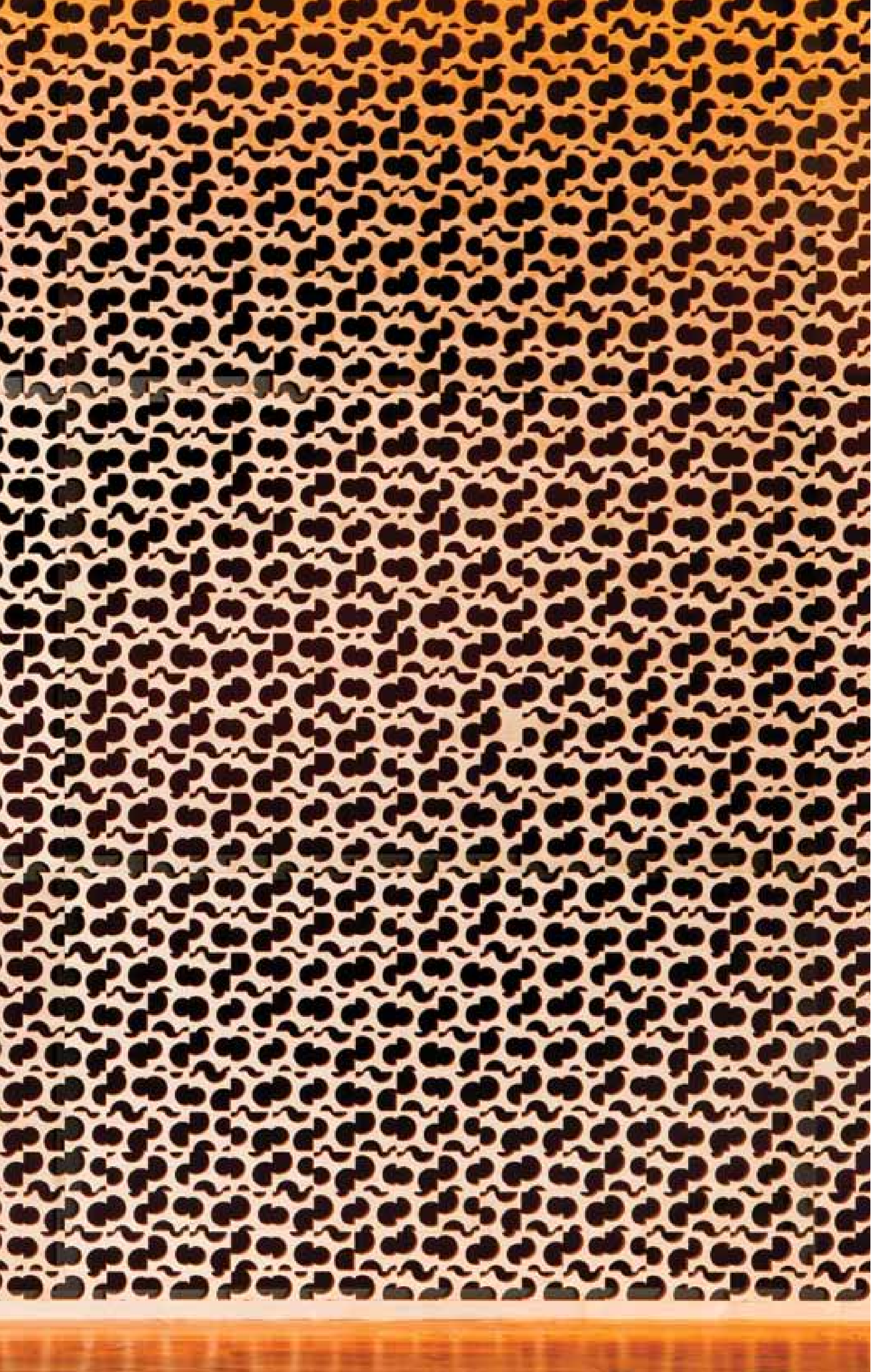
Replacing a former surface parking lot next to the existing museum, the Laird Norton Addition is a contemporary design that celebrates the past in scale, material, and detail. The addition reinforces the urban street edge while respectfully taking massing cues from the existing Armory building. The second level's copper-clad form, separated by an exterior terrace that highlights the Armory's southwest corner, respectfully defers to the height and scale of the older building. A corbelled brick colonnade along Johnson Street follows the Armory's language of deep masonry openings, its telescoping rhythm moves pedestrians toward the Armory's historic entry.

The addition's palette of traditional materials – brick and copper – compliments the dark brown brick of the Armory, while the contemporary detailing differentiates the old from the new. The multilayered, colored and fritted glazing system used at the colonnade is a nod to one of Winona's most notable historic legacies: the magnificent stained art glass in the nearby Merchants' Bank (Purcell and Elmslie, 1912) and Winona National Bank (Tiffany Studios, 1916).

Visitors arrive through the Armory's historic arched entry and reconfigured vestibule. From there, they proceed through a large opening in the Armory's original south-facing exterior wall into the addition and its light-filled, at-grade lobby. The exposed brick wall is a touchstone to the past that visitors can connect with as they move between the lobby, the existing gallery and the second floor of the new addition.

Inside the addition, reclaimed materials form a living history. All interior finishes and millwork – floors, ceilings, stairs, and casework – are built from old-growth white pine joists, columns and beams that were salvaged from a neighboring livery building that once stood on the adjacent block. The salvaged wood creates a sense of warmth and intimacy inside the museum's public spaces while the minimal detailing reinforces the contemporary language of the addition. Indigenous limestone salvaged from the razed 1925 Chrysler Winona car dealership is used for the vestibule and terrace flooring, stair risers, and elevator door frames.

Toward the back of the lobby, a perforated birch veneer plywood wall screens the staircase leading to the second floor, its intricate pattern derived from an historic photograph of stacked logs taken during Winona's heyday as a major lumber shipping port in the mid-1800's.



In addition to reconfiguring the vestibule to direct traffic into the new lobby, the Armory renovation included the removal of an acoustical tile ceiling in the gallery to reveal the original steel trusses and barrel-vaulted bead-board ceiling, now refurbished and painted black. A small portion of the lower level was reconfigured to improve the workspaces and two small offices were added adjacent to the existing gallery.

ARCHITECT
HGA Architects and Engineers
Minneapolis, MN

CLIENT
Winona County Historical Society
Winona, MN

ENGINEER
HGA Architects and Engineers
Minneapolis, MN

GENERAL CONTRACTOR
Alvin E. Benike Inc.
Rochester, MN

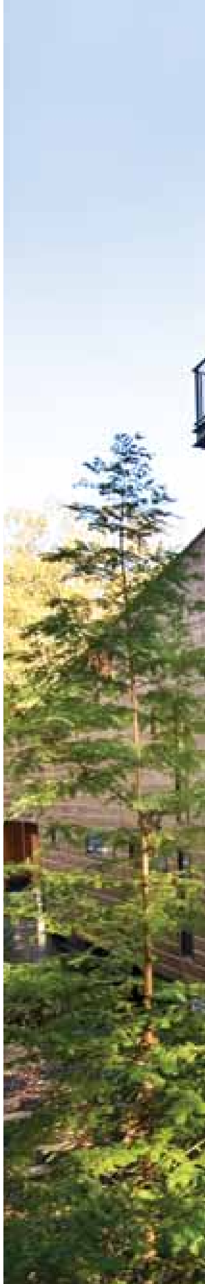
FLOORING SYSTEMS
Hammer Lumber
Kellogg. MN

MILLWORK
Wilkie Sanderson
Sauk Rapids, MN

PHOTOGRAPHY
Paul Crosby Photography
Saint Paul, MN

THE ATRIUM, Victoria, BC
by D'AMBROSIO architecture + urbanism
Please see page 118

SPECIAL **Awards**



Delightfully unexpected log home with grass roof ascends out of wooded suburban Cincinnati, Ohio site

Walnut Woods Residence

John Senhauser Architects

Taking its cues from persona and place, this residence reconciles a difficult, walnut-wooded suburban site with the late client's desire to live in a log home in the woods.

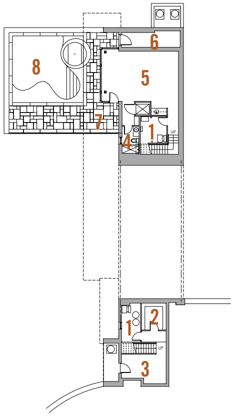
Walnut Woods Residence is a 24 ft. x 150 ft. linear bar that rises into the trees from northwest to southeast. Positioned according to the subdivision's covenants, the structure bridges 40 ft. across an existing, intermittent creek to preserve the site's natural drainage patterns and habitat. The residence's long and narrow massing allowed many of the trees to remain, enabling the client to live in a wooded environment. A pool "grotto" and porte cochère complete the site interventions.

The structure's section rises incrementally up a cascading stair to culminate in a glass-enclosed meditation space (known lovingly as the "bird feeder"), providing access to the roof via an exterior stair.

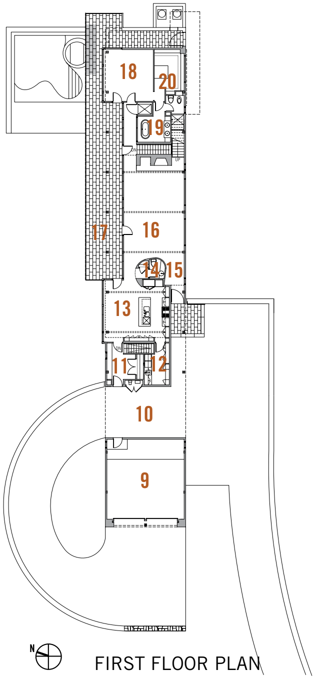
The filtered light of the woods bathes the 80 ft.-long grand terrace in soft light while the double-height window wall that is incised into the linear bar seems to dematerialize the log wall. The terrace provides a sheltered entertaining space that is accessible from the kitchen, living and dining areas, and master bedroom. Running the length of the terrace on the northeast elevation, the window wall provides a seamless connection to the surrounding woods and minimizes the client's need for artificial lighting by enabling indirect daylight to reach the interior.

The structure of the residence consists of a steel base frame with wood/steel flitched columns and trussed roof beams which are all bolted to allow for easy disassembly. The exterior walls are solid cypress logs obtained from a mill located within 300 miles of the site. The logs provide thermal mass and simplify the construction by serving as both the exterior and interior finish material. The walnut trees cleared from the site during construction were sent to a local mill and returned to the residence as hardwood flooring.

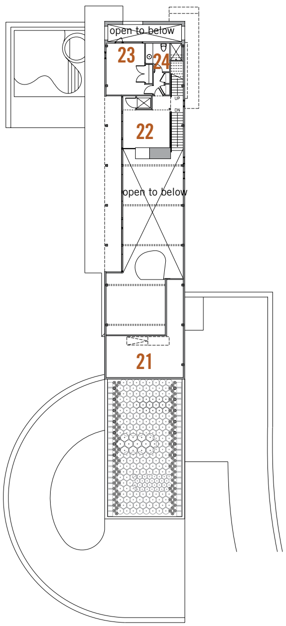

1. mechanical
2. wine cellar
3. dog room
4. pool bath
5. media room
6. pool mechanical
7. lower terrace
8. pool
9. two-car garage
10. porte cochère
11. mudroom
12. pantry/laundry
13. kitchen/breakfast
14. powder room
15. entry
16. living room/ dining room
17. grand terrace
18. master bedroom
19. master restroom
20. dressing room
21. attic
22. study
23. bedroom
24. restroom
25. attic
26. bedroom
27. restroom
28. terrace
29. meditation



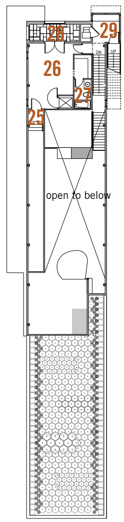
GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

The roofing system supports a variety of seasonal native grasses that change throughout the year. Rain water is absorbed, filtered, and discharged directly to the creek minimizing the potential for erosion.

This signature log home with its grass roof differentiates itself from adjacent homes since it blends into, rather than dominates, the outdoor environment. In a wealthy, suburban community characterized by large Georgian homes sitting on three acre lawns, this unique log home with its rooftop lawn attempts to transform the status quo, by way of example.

ARCHITECT
John Senhauser Architects
Cincinnati, OH

STRUCTURAL ENGINEER
Steve Alexander, CCI Engineering
Cincinnati, OH

GENERAL CONTRACTOR
Skip Allen,
Allen Builders & Remodelers Inc.
Cincinnati, OH

PHOTOGRAPHY
Scott Hisey
Cincinnati, OH

Josh Merideth
Prospect, KY


MUSEUM

Canadian Wood *WORKS!* Awards

Canadian Wood *WORKS!* Awards

Wood is an extraordinary building material. It is strong, lightweight and safe. It is durable, versatile and adaptable. It is also sustainable and, increasingly, building professionals who care about the environment are specifying wood products for innovative, environmentally-responsible construction.

Globally, the pursuit of design solutions that incorporate sustainably-sourced wood products helps us reduce our CO_2 emissions. Since wood products actually store carbon, when we use wood in place of non-renewable materials that require large amounts of fossil fuels to produce, we greatly reduce the carbon footprint of any building.

In addition to wood's environmental advantages, new products and advancements in manufacturing have ensured that today's wood products are stronger, smarter and more versatile than ever. As a result, applications for wood products are almost unlimited and, through design innovation, architects and engineers can create larger wood buildings of diverse occupancies that meet or exceed the requirements for safety and performance. The best of these buildings are showcased here.

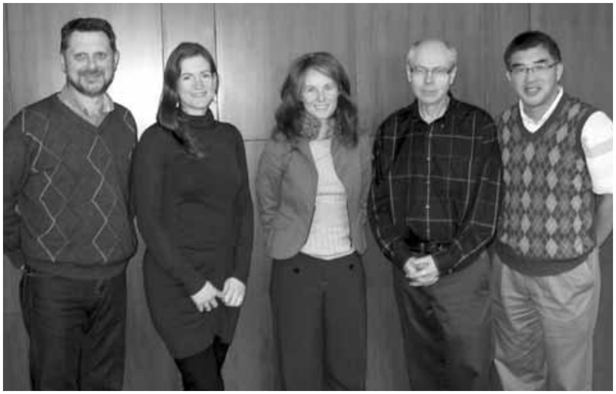
Wood *WORKS!* is proud to honor Canadian architects, engineers and project teams who embrace wood design and inspire us with their beautiful and innovative buildings. We congratulate the winners of the Ontario, British Columbia and Prairie award programs and salute them for their leadership, wood design excellence and valuable contributions to contemporary Canadian architecture.

Marianne Berube
Executive Director
Wood *WORKS!*
Ontario

Mary Tracey
Executive Director
Wood *WORKS!*
British Columbia

Brady Whittaker
Executive Director
Wood *WORKS!*
Alberta

Jurors



(From left to right:) Brian Hawrysh, Annalisa Meyboom, Barbara Bell, David Edmonds and Frank Lam

BARBARA BELL
Principal
FORMATIV DESIGN
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DAVID EDMUNDS
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UNIVERSITY OF BRITISH COLUMBIA
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UNIVERSITY OF BRITISH COLUMBIA
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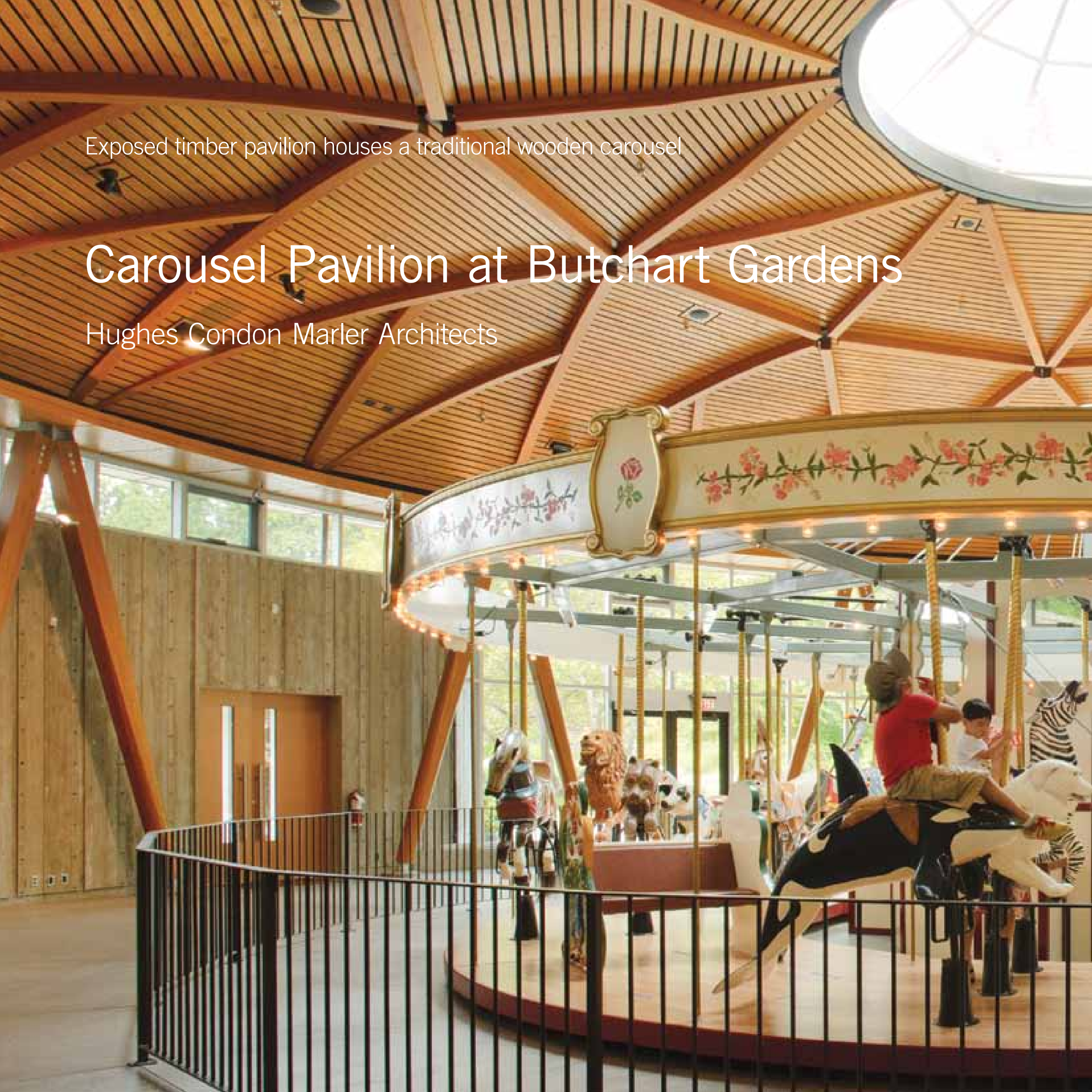
BRITISH COLUMBIA

Exposed timber pavilion houses a traditional wooden carousel

Carousel Pavilion at Butchart Gardens

Hughes Condon Marler Architects



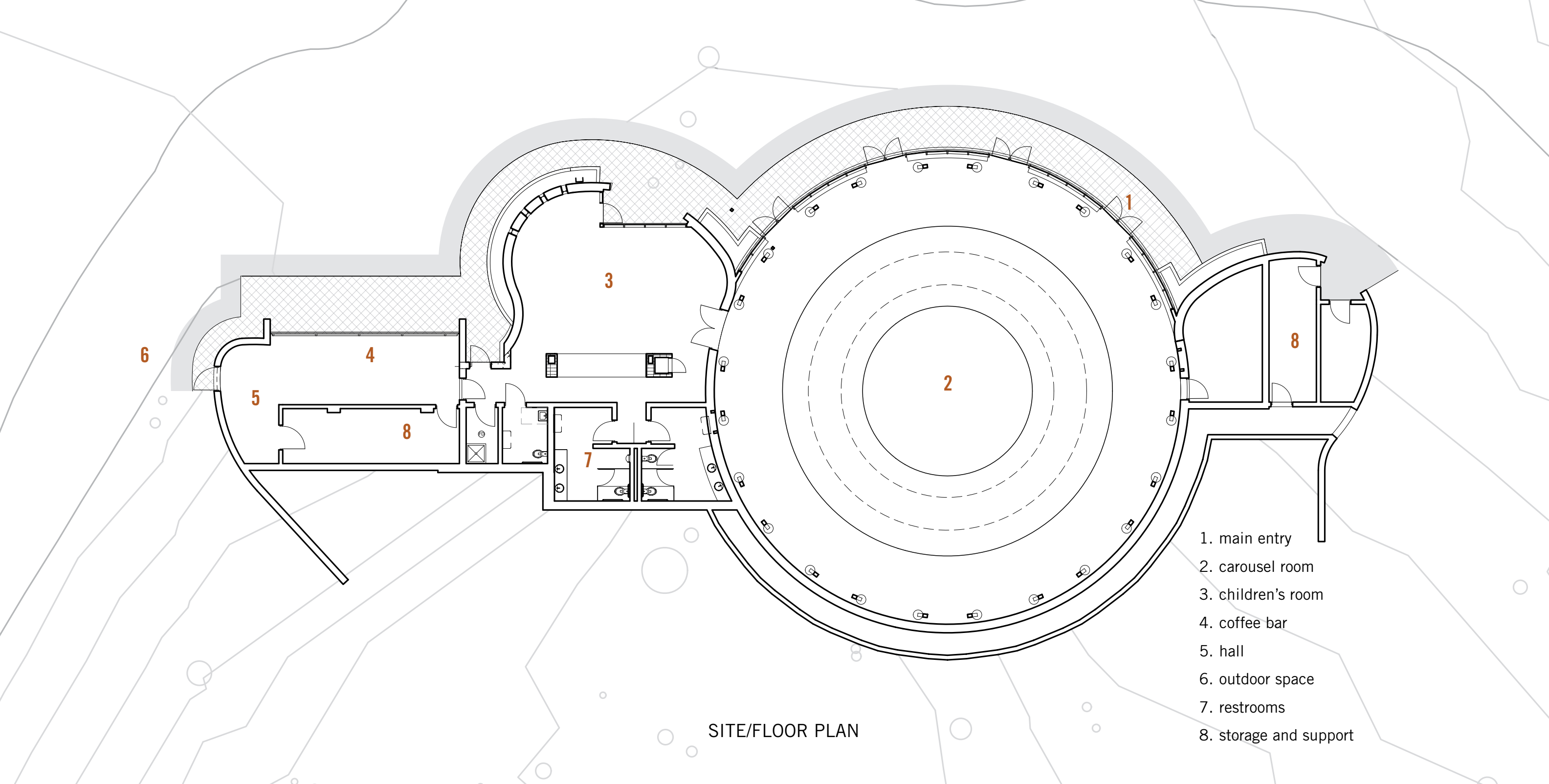
This traditional 32-figure wooden carousel is housed within a concrete, wood and glass pavilion at the base of mature forest at the beautiful Butchart Gardens in Victoria, BC.

The building consists of two main elements: a 90-metre-long serpentine wall made of board-formed concrete and a glass drum with an exposed timber structure. The wall creates cave-like rooms for children's parties, concession and service spaces, and also forms the retaining wall at the rear of the main circular carousel room. The circular roof over the carousel is constructed of exposed glulam beams and features a four-metre-diameter glazed oculus.

The use of wood in the Carousel Pavilion was a natural choice for the structure and interior cladding. The availability, cost, ease of construction, beauty and acoustic qualities of wood set it ahead of any other material options. Minor adjustments during the erection of the structure were possible through the use of wood. The hollow columns permit electrical services to be hidden from view. The curved wood whalers used for the concrete formwork were easily created using a CNC machine at the contractor's millwork shop. The whalers were later incorporated into the bull-nose edge of the roof overhang for the dome.

The pavilion houses a traditional wooden carousel, children's party room and seasonal concession stands. The 32 unique carousel figures, including a giraffe, frog, orca whale and ostrich, are carved out of basswood that was selected for its even grain and resistance to cracking.

The domed roof of the carousel room is supported by 12 pairs of glulam columns that taper to a round shape at their bases. The roof structure is made of a series of straight and curved glulam beams set atop the column pairs in a symmetrical geometric pattern. The interior ceiling finish consists of 1 x 4 fir slats with acoustic batt insulation in the void space. The plywood roof deck is supported by SPF purlins set between



SITE/FLOOR PLAN

the glulam beams and is topped off with a green roof. The upper domed roof is covered in a thin layer of native mosses, sedums and corsica mint. The lower roofs are a continuation of the forest understory and are covered with snowberry, ferns and salal.

The children's room is a 100-sq.m. space used for children's parties, receptions and meetings. The curving walls are clad in random widths of vertical-edge-grain fir boards that echo the random board form of the concrete wall on the outside of the pavilion. Windows and lights are set into the rhythm of boards. A floating cork floor is used to further soften the space in contrast to the concrete of the carousel floor.

The radiant slab heating/cooling system utilizes the existing main irrigation line running past the site. Fresh air is tempered via an air tube set into the hillside, providing low-level supply with high-level ventilation through operable windows.

ARCHITECT
Hughes Condon Marler Architects
Vancouver, BC

CLIENT
Robin Clarke (owner), Carl Molholm (facility manager)
Brentwood Bay, BC

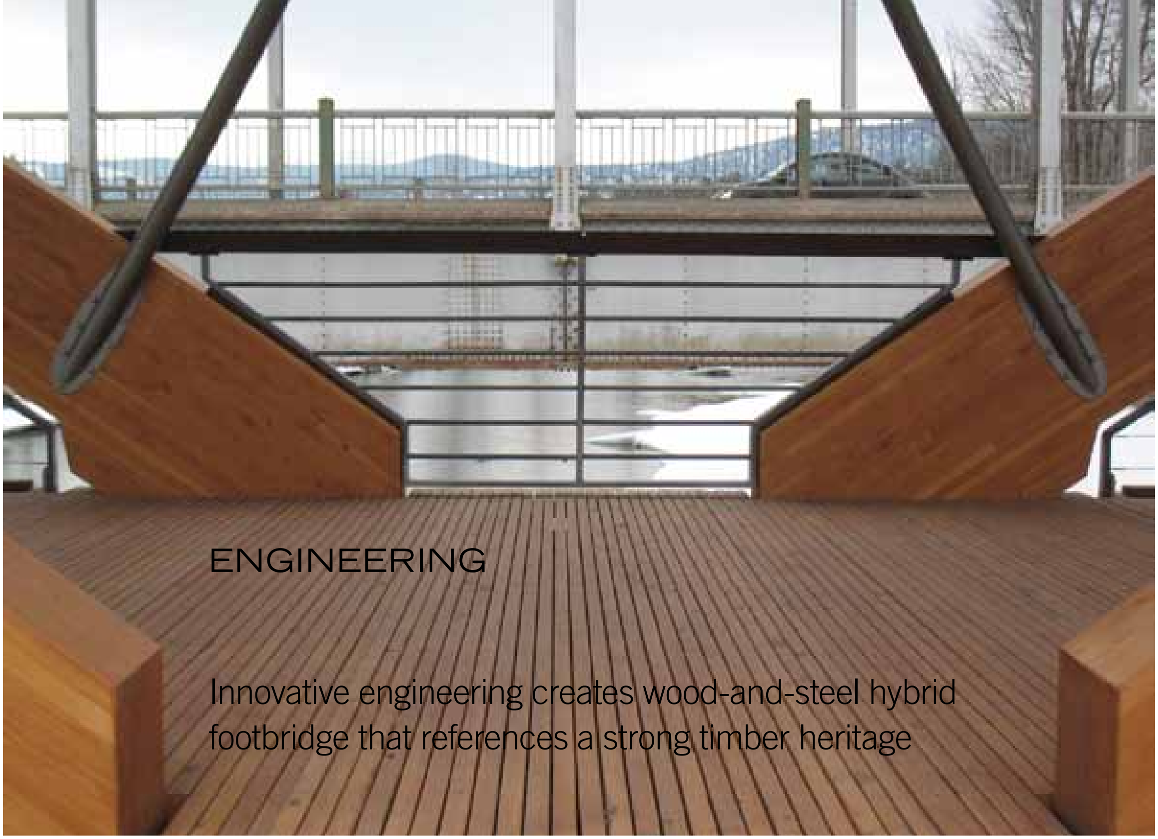
STRUCTURAL/ ELECTRICAL ENGINEER
Genivar
Victoria, BC

GENERAL CONTRACTOR
Campbell Construction
Victoria, BC

MECHANICAL ENGINEER
AME
Victoria, BC

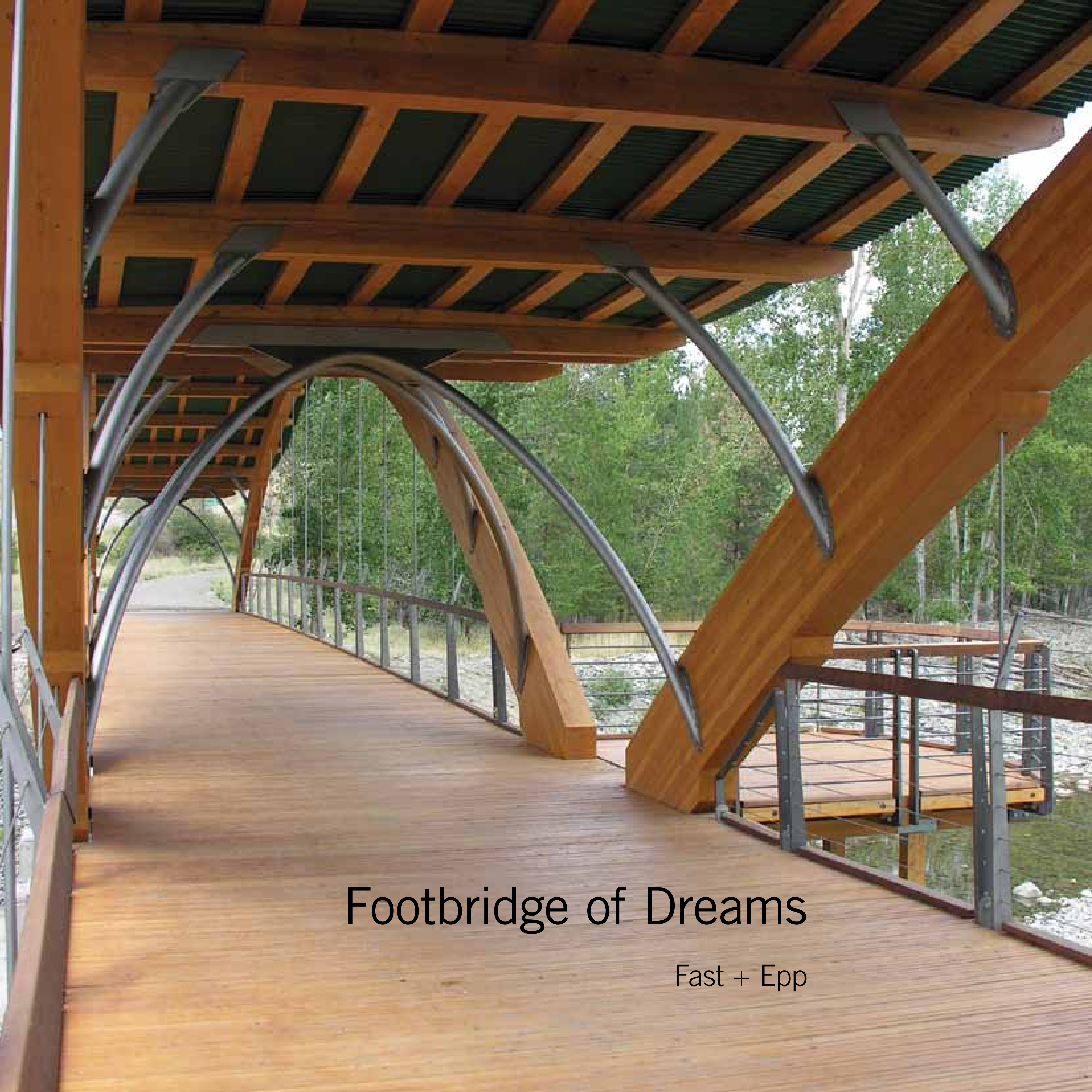
PHOTOGRAPHY
Hubert Kang
Vancouver, BC

Bob Matheson
Vancouver, BC



ENGINEERING

Innovative engineering creates wood-and-steel hybrid footbridge that references a strong timber heritage



Footbridge of Dreams

Fast + Epp

The early 20th century timber "Bridge of Dreams" across the Tulameen River in the town of Princeton, BC was the final link in the Kettle Valley Railroad and integral to sustaining the development of the BC Interior. When the span was decommissioned in the 1960s, the town was left with three large relics – two concrete abutments and a central pier.

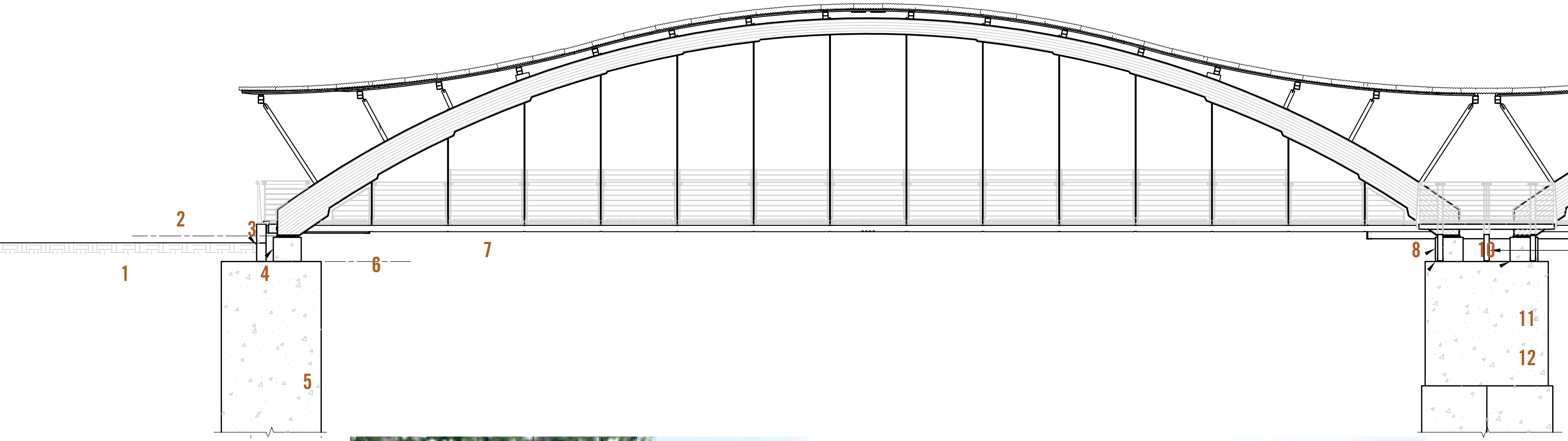
With the development of the Trans-Canada Trail (which often repurposes defunct railway corridors), the Trans-Canada Trail Society's local chapter partnered with the town of Princeton in a shared vision to complete their portion of the trail with a crossing that would reuse the existing piers.

The design references the historic bridge's strong timber presence in the community with a double tied-arch timber scheme, and complements the presence of a more recent tied-arch steel highway bridge built immediately adjacent to this site.

The bridge – which was designed to be a finely detailed kit of parts that would be shop-fabricated and assembled before being shipped to site for final assembly – consists of two spans, 31.5 meters each, with a shared platform at the center pier. The three-pinned arches were fabricated in halves (17 meters each), laid flat on the ground and joined with a simple vertically bolted lap splice, then rotated into position about the steel pipe stringers to achieve a rise-to-span ratio of 0.17. The tie-stringers were welded with connecting tubes to form a vierendeel frame which was suspended from the arches and serves as the primary support structure and diaphragm for the pre-stressed timber deck panels.

A 3D solids computer model was required to establish the geometry of the three-dimensionally curved roof structure and informed all shop and erection drawings for the project. By using a parametric model with accurate geometric and physical properties, the engineer was able to develop an erection sequence that satisfied the weight, stability and safety constraints imposed by the site and crane. The bridge was assembled on the riverbank complete with arches, tie-stringers, timber deck, purlins and a temporary railing. Cross-bracing stabilized the arches until the roof deck and parabolic struts were installed in place. Both bridge halves were installed from the same bank by British Columbia's largest mobile crane. The installation of both spans, which drew a large crowd, was completed in less than four hours.

The Douglas fir glulam arches feature a tapered cross-section optimized to suit the varying axial and bending stresses. This enhances the visual profile, minimizes material, and was achieved economically by working with the laminator to strategically subtract laminations during layup. The arch ends were machined to receive the concealed connection to the tension tie-stringer, also protecting the connection from moisture. In response to durability concerns, a high-performance, water-based coating was applied to both the arches and timber deck. The coatings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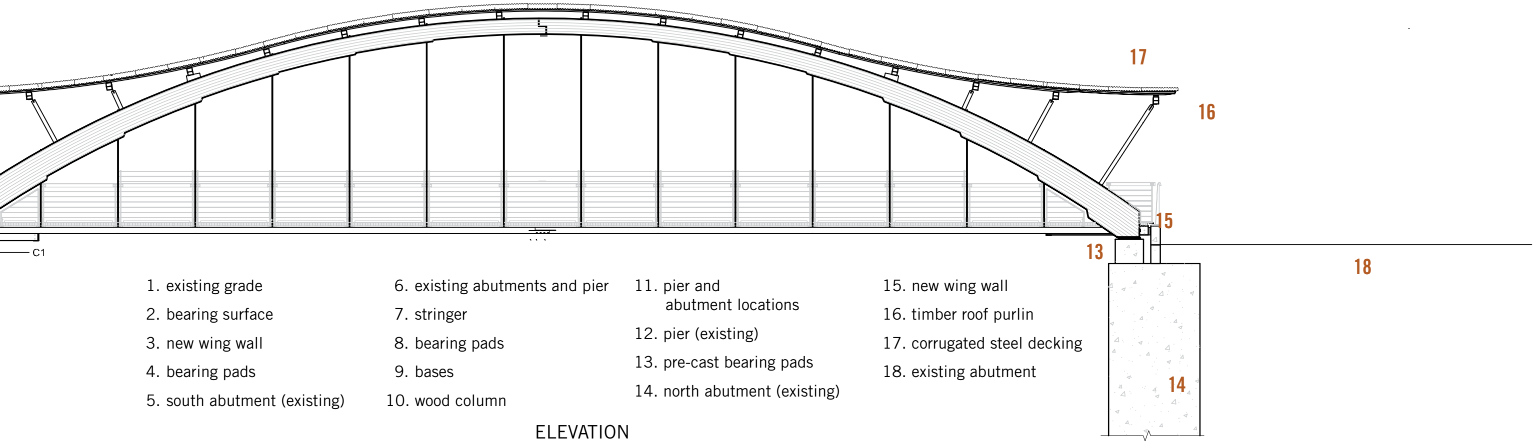


ELEVATION

were selected for their low VOC content, superior UV protection, and amenability to easy maintenance. The 4.3-meter-wide deck consists of pre-stressed panels of Douglas fir 2 x 4s set on edge and spaced to provide ventilation and drainage through the deck while in service.

The members are spaced with shims and tensioned at intervals with threaded rods. The hardness of the rubber shims was selected so that they would compress or relax during the expansion and contraction cycles experienced by lumber exposed to varying moisture and temperature conditions. The panelized system ensures the quality and stability of all deck members and allows for easier maintenance by permitting replacement of individual floor panels as required.

The roof system, comprised of sawn timber purlins, corrugated metal deck, lumber strapping (shop-laminated to match the curvature of the bridge) and parabolic shear bracing, was chosen to protect the timber components from direct weathering while acting as the main diaphragm for the structure. In response to durability concerns, a high-performance, low-VOC, water-based coating was applied to both the arches and timber deck.

The purlins have a curved profile, inducing strong-axis bending of the corrugated deck to facilitate drainage at the sides, eliminating the need for gutters. The parabolic design of the shear bracing was selected for both its structural efficiency and practicality, transferring loads directly to the arch base while providing a safe window of passage for pedestrians, cyclists and equestrians. A carefully detailed guardrail helps make the bridge a true wood-and-steel hybrid.

The community was actively involved in the project, as evidenced by the presence of spectators at every construction milestone. On April 15, 2010, the bridge was officially opened to the public. The celebrations included performances by the local orchestra and the temporary installation of a small steam-driven train which once again carried children and their parents across the “Bridge of Dreams”.

DESIGN-BUILD FIRM
StructureCraft Builders Inc.
Delta, BC

CLIENT
Town of Princeton
Princeton, BC

STRUCTURAL ENGINEER
Fast + Epp (Gerry Epp)
Vancouver, BC

PHOTOGRAPHY
StructureCraft Builders
Delta, BC

Town of Princeton
Princeton, BC

Rehabilitation of historic heavy timber structure delivers environmental performance and social sustainability

Salt Building

Acton Ostry Architects Inc.

The original Salt Building – used for the refining and processing of salt that was shipped to Vancouver from San Francisco – was built in 1930 on the Southeast False Creek industrial working waterfront of Vancouver. At that time, only the southwest corner of the building was situated above the historic high-water line, which required the building be supported on creosote-treated wood piles. The shell is a heavy timber structure made up of beams, columns and a spectacularly complex, heavy timber, long-span roof truss system. The system directs loads onto columns located in the lateral walls and down the center of the floor to create a large, open space. A raised, continuous roof monitor with clerestory wood-framed glazing admits light and air. Infill stud panels are clad with tongue-and-groove channel cedar siding.

The restoration and rehabilitation of the iconic, city-owned landmark presented an opportunity to combine adaptive reuse and heritage conservation practices with a gold certification target under the LEED Core and Shell program. The overall conservation strategy was that of rehabilitation, with the intent being to ensure a compatible use of the historic place through repair and alterations while protecting its heritage value. The rehabilitation process required that new wood be complementary in appearance, but not be imitative of the historic timber.

Interventions to the exterior walls took place from the inside to ensure exterior siding was left in place to the

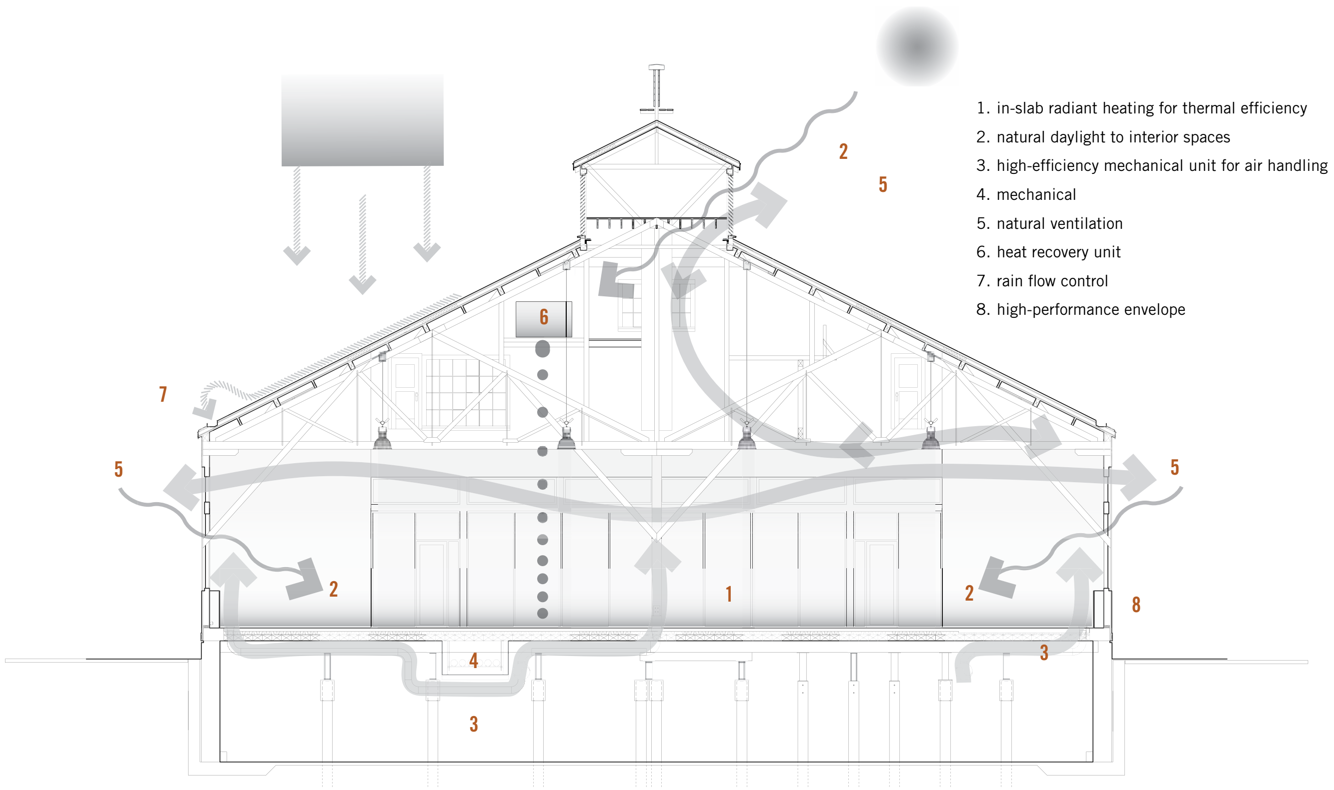
greatest extent possible. The existing 2 x 6 wall studs were twinned with new 2 x 8 studs, and new shiplap cedar siding was custom milled to match the profile of the existing siding where repairs or replacement was required. The timber roof was upgraded from the outside to expose the original diagonal 2 x 8 decking on the inside. Elements of the heavy timber floor structure were replaced as needed. Damaged members of the heavy timber column and truss system were replaced where required and reinforced with steel connections. Wood window frames and ventilation grilles were also restored. The building was raised one meter on steel pile extensions to address changes that had been made to surrounding street levels.

Large glazed openings were cut into the north and south gable walls to create sightlines through the building to the public plaza, water and mountains to the north. Low-flow ventilation is provided through floor grilles located throughout the new concrete floor slab. The Salt Building is tied into the neighborhood energy utility that reclaims heat from sewage wastewater to provide heat to the in-slab radiant floor heating system. A stack effect is created to enhance air movement up to the clerestory monitor where excess heat is collected for reuse.

The building is expected to save 1,400 gigajoules of energy and reduce over 150 tons of carbon dioxide emissions per year – an increase of 60 per cent in energy efficiency. The enhanced energy efficiency is projected to realize energy cost savings of 43 per cent compared to a standard building code-based model. More than 75 per cent of the building envelope was reused. Diversion of 98 per cent of construction waste from landfills was achieved. The rehabilitation incorporates more than 15 per cent recycled materials, with more than 10 per cent of all the new materials used in the process sourced regionally.

The rehabilitation of the Salt Building not only delivers environmental performance but also addresses social sustainability. In November 2009, the City of Vancouver handed over the newly restored Salt Building for use as a social gathering space during the 2010 Vancouver Olympic Games for athletes from around the globe to gather, interact and form friendships.

The Salt Building is currently undergoing a final legacy transformation that will create a gathering space where residents of the emerging Southeast False Creek neighborhood will meet to socialize within a restored heritage structure that will house a restaurant, brew pub, coffee house and bakery.



ENVIRONMENTAL SYSTEMS DIAGRAM

ARCHITECT
Acton Ostry Architects Inc.
Vancouver, BC

CLIENT
City of Vancouver
Vancouver, BC

STRUCTURAL ENGINEER
Glotman Simpson
Consulting Engineers
Vancouver, BC

GENERAL CONTRACTOR
The Haebler Group
Vancouver, BC

HERITAGE CONSULTANTS
Commonwealth Historic
Resource Management
Vancouver, BC

Jonathan Yardley Architect
Salt Spring Island, BC

MECHANICAL/
ELECTRICAL ENGINEER
Cobalt Engineering
Vancouver, BC

ACOUSTIC
Daniel Lyzun & Associates Ltd.
West Vancouver, BC

BUILDING ENVELOPE
Morrison Hershfield Limited
Vancouver, BC

BUILDING CODE/
FIRE PROTECTION
Gage Babcock & Associates Ltd.
Vancouver, BC

SUSTAINABILITY/LEED
Recollective
Vancouver, BC

PHOTOGRAPHY
Acton Ostry Architects Inc.
Vancouver, BC

Bob Matheson
Vancouver, BC

City of Vancouver
Vancouver, BC

INSTITUTIONAL SMALL

Heavy timber and cedar unite institution and community in a building that honors local traditions

Tla'Amin Community Health and Multi-purpose Centre

McFarland Marceau Architects Ltd.

The Tla'Amin Community Health and Multi-purpose Centre houses the primary medical services and traditional healing programs for the Sliammon First Nation. It is located on the Sliammon Indian Reserve, 180 km north of Vancouver, on the west coast of BC.

The project sought to create a fully integrated primary care environment, where caregivers work as a team across a wide variety of disciplines, and where the Sliammon people feel at home. The program included primary medical services, dentistry, social and counseling services, community care, home care, and traditional healing. The multi-purpose aspect of the program includes facilities for council meetings, conferences and social events.

The Tla'Amin Community Health and Multi-purpose Centre is set on the outskirts of the main Sliammon village, occupying a small clearing at the edge of the forest. The north-south axis of the building mediates between the developed village to the south and untouched forest to the north – an imagined spiritual pathway, linking past and future and oriented to the cardinal points of the compass. The east-west axis mediates between the public road and a private outdoor social area.

A double-height circulation spine parallels the contours of the site. Natural clerestory light and yellow cedar columns evoke the surrounding forest. The spine continues as an external pathway that crosses a footbridge to link with the existing child development center to the south, and a sweat lodge to the north. At the center of the plan, a cross-axis defines the formal entry procession from east to west and evolves as a cascading series of spaces. Stairs descend from the road to a small entry court,

gently sloping site and posits a direct approach to shelter. A canted plane rises with the slope of the ground above lower sloped sheds, forming a seam along the central spine described by spatial expansion and light. This seam is ordered by canted, round, yellow cedar columns – evoking the forest canopy. Eastern clerestory windows allow natural light to permeate freely. The lower edges of the building house more intimate clinical functions, while retaining contact with the outdoors.

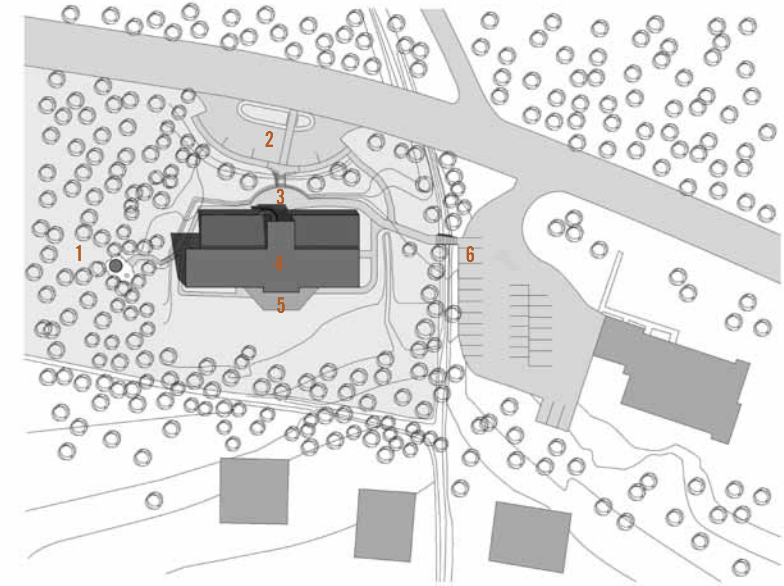
The wood structure is designed for maximum economy in the clinical spaces (comprising TJI joists and engineered wood), while the public spaces are expressed in heavy timber. Western red cedar cladding is detailed in its raw state and juxtaposed against anodized aluminum window frames and a tracery of bright, galvanized battens, flashings and fascias. Light steel details and glass canopies highlight the main entries. On the interior, the yellow cedar columns and purlins, culled from the traditional territories of the Sliammon, are treated with reverence: supported on cast steel connections and sanded to a smooth sheen.

The participation of the Sliammon people in the creation of their building made wood construction a critical choice because of its economy, flexibility, responsiveness to changes during construction on the remote site, and and because of the availability of skilled local labor familiar with wood construction. The whole Sliammon Nation participated through the donation of red and yellow cedar culled from their

where visitors slide past the round form of the traditional healing room to the main entry doors. From here, the lobby intersects the central spine and leads directly into the multi-purpose room, which opens to a west-facing sun deck.

The program areas are placed along the public axes of the plan in clearly defined blocks, each with a subtle variation in external expression belying their differing functions and implying a community of smaller buildings. Although the 700-sq.m. building is small in scale, the simplicity of the plan provides legibility for the users. Larger spaces and a generous lobby are designed for flexibility of use, while the smaller rooms are tailored to their specific functions. The traditional healing room is located at the main entry as a touchstone to the past. Its circular form supports the nature of the ceremonies within. A bent cedar screen and single oculus skylight denote intimate and spiritual proceedings.

The building section responds to the

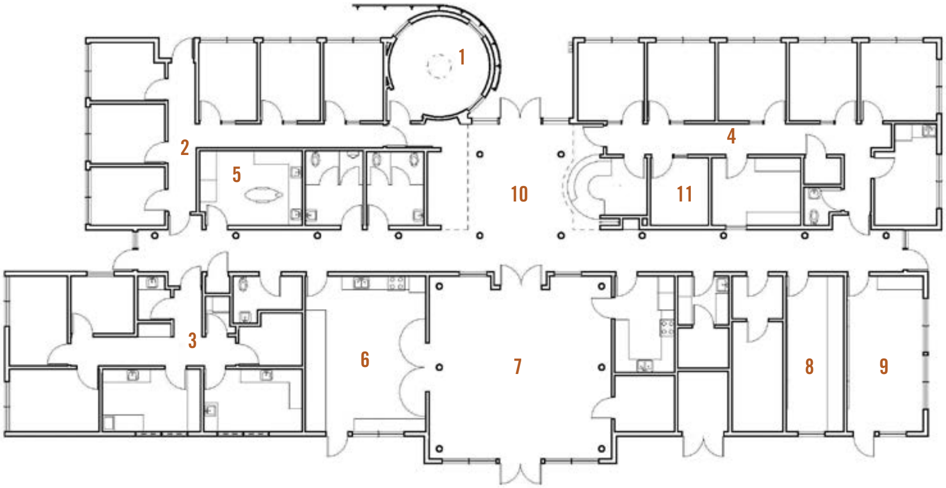


1. sweat lodge
2. drop-off
3. entry court
4. community health centre
5. sun deck
6. foot bridge

SITE PLAN

traditional territories. Design concepts and construction methods were selected to encourage the use of local materials and local skills, and facilitated an apprenticeship program for the local population.

The building blurs the line between institution and community and has come to house many important community events and social occasions; intertwining the health of the individual and the village. Wood was essential to the project for its cultural value – particularly cedar, since it is the "tree of life" for the Coastal Salish people and connects the Sliammon people with their traditions. The spirit of the building could only be described in wood.



1. traditional healing room
2. counseling
3. medical clinic
4. administration
5. dental clinic
6. community health room
7. multi-purpose room
8. home care office
9. meeting room
10. lobby
11. reception

FLOOR PLAN

ARCHITECT
McFarland Marceau Architects Ltd.
Vancouver, BC

CLIENT
Tla'Amin Community Health Society
Sliammon, BC

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.
Vancouver, BC

GENERAL CONTRACTOR
Heatherbrae Builders Co. Ltd.
Richmond, BC

MECHANICAL ENGINEER
Stantec Consulting Ltd.
Vancouver, BC

ELECTRICAL
Cobalt Engineering
Vancouver, BC

GEOTECHNICAL
Levelton Consultants Ltd.
Abbotsford, BC

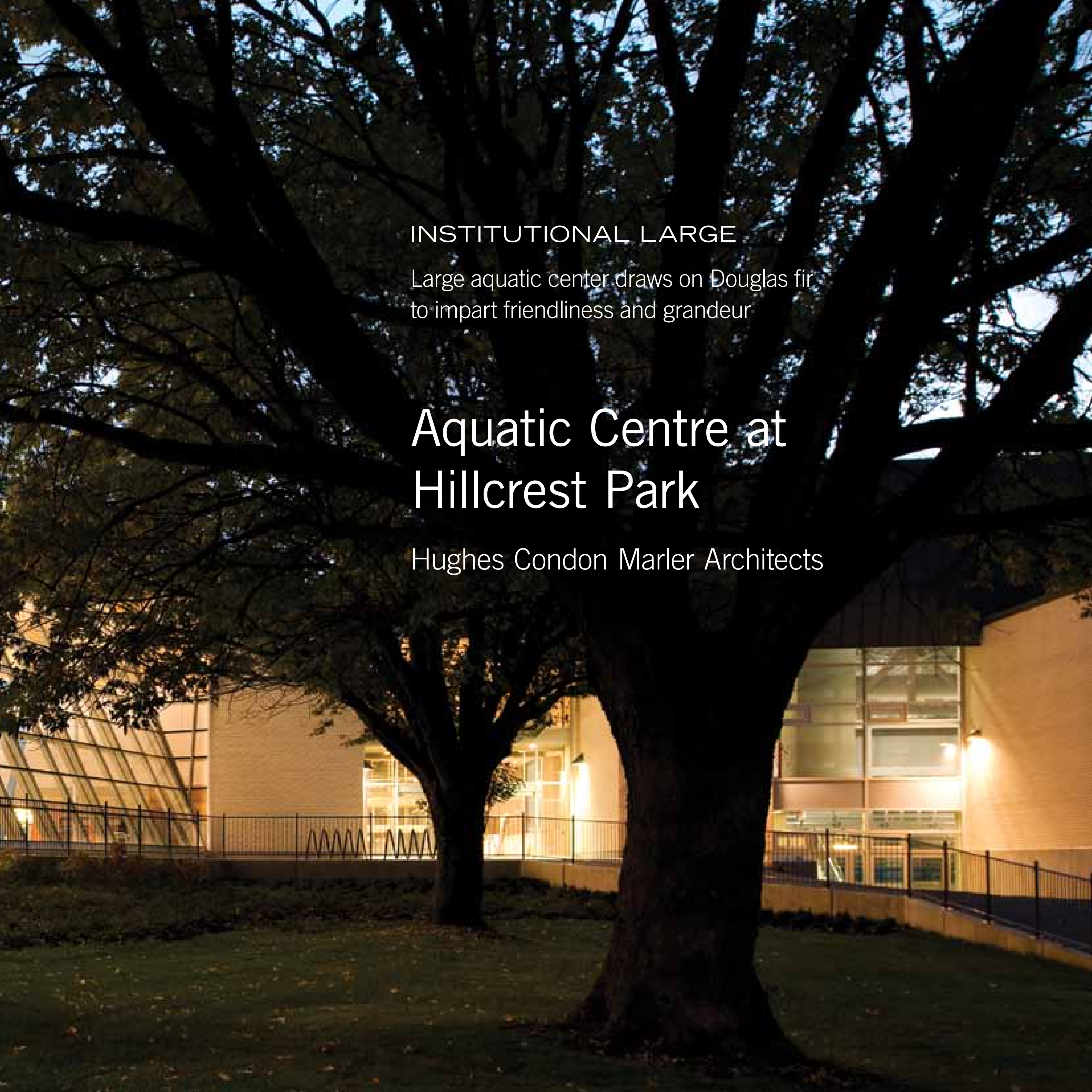
CIVIL ENGINEER
Urban Systems Ltd.
Richmond, BC

LANDSCAPE ARCHITECT
Outlook Land Design
Comox, BC

COST CONSULTANT
James Bush & Associates Ltd.
Vancouver, BC

SURVEYOR
Emery & Rae Land Surveying Ltd.
Vancouver, BC

PHOTOGRAPHY
McFarland Marceau Architects Ltd.
Vancouver, BC



INSTITUTIONAL LARGE

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

Aquatic Centre at Hillcrest Park

Hughes Condon Marler Architects

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

GENERAL CONTRACTOR
Stuart Olsen Constructors
Vancouver, BC

MECHANICAL/
ELECTRICAL ENGINEER
Stantec Engineering
Vancouver, BC

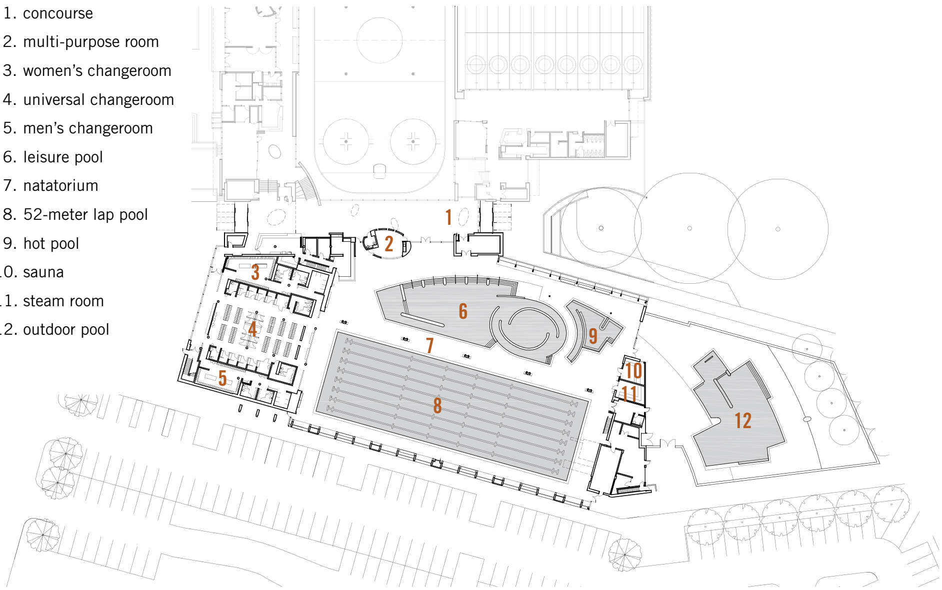
LANDSCAPE ARCHITECT
PWL
Vancouver, BC

COST CONSULTANT
The BTY Group
Vancouver, BC

CODE CONSULTANT
LMDG Code Consultants
Vancouver, BC

PHOTOGRAPHY
Hubert Kang Photography
Vancouver, BC

1. concourse
2. multi-purpose room
3. women's changeroom
4. universal changeroom
5. men's changeroom
6. leisure pool
7. natatorium
8. 52-meter lap pool
9. hot pool
10. sauna
11. steam room
12. outdoor pool



FLOOR PLAN

INTERIOR BEAUTY – COMMERCIAL

Timber history inspires the expression of small dimension lumber in a highly visible, semi-public urban room

The Atrium

D'AMBROSIO architecture + urbanism

SOUTH WEST ELEVATIONS

The Atrium is a high-density, mid-rise office building with ground floor shops and services in a historic downtown neighborhood of Victoria, BC. The building centers around a seven-story atrium that introduces daylight into the heart of the building, and maximizes the use of wood in non-combustible construction.

Wood was specifically chosen due to its rich aesthetics, structural resilience and its suitability for a Pacific coast context. The wood, visible from the street night and day through a seven-story glass wall at the Atrium's south end, distinguishes the Atrium from the offices surrounding it, and identifies the large space as a welcoming urban room. The Atrium has already hosted events such as a fundraising dinner and performance by "The Pacific Opera", the "Victoria Film Festival" opening reception, and a number of "Dance Victoria" events.

Innovative wood trusses support a 7,200-sq.ft. skylight, panelized hemlock slats follow the sweep of curving walls, and tongue-and-groove cedar soffits bring warmth and definition to the building's street level.

The leap of scale from the repetition of small dimension slats over the curving expanse of the Atrium's sides has

NORTH EAST ELEVATIONS

strong visual impact. The hemlock slats, as well as the cedar soffits, also form an integral part of the Atrium's acoustic strategy.

Continuing the expression of small-dimension lumber in a structural capacity, 12 filigreed wood trusses support the Atrium's skylight. Each truss consists of two Space-Lam top chords, a timber kingpost, and a steel cable tension chord. The project represents the first use of Space-Lam technology for truss chords, developed in collaboration with award-winning, Vancouver-based structural design-build firm StructureCraft.

Space-Lam gets its name from the open cross-section produced by the strategic spreading and spacing of the laminations. The trusses consist of mechanically-fastened, laminated lumber strands complete with spacer blocks to increase member depth and to permit light passage through the truss chord section. The lenticular shape of the truss chords is achieved by building up arched strands of mountain pine beetle-killed lumber, and connecting them together via elliptical glulam blocks of reclaimed Douglas fir. The ductile iron castings and stainless steel pin caps are all custom-designed for these trusses.


The family-owned company that commissioned the building ran one of the first lumber companies on Vancouver Island – a history that provides an additional layer of meaning to the innovative and expressive use of wood in the Atrium.

ARCHITECT
D'AMBROSIO architecture + urbanism
Victoria, BC

CLIENT
Jawl Investment Corporation
Victoria, BC

STRUCTURAL ENGINEER
Stantec Consulting Ltd.
Victoria, BC

SUSTAINABILITY CONSULTANT
Advicas Group Consultants Inc.
Victoria, BC

MECHANICAL ENGINEER
Hirschfield Williams Timmins
Victoria, BC

ELECTRICAL ENGINEER
Applied Engineering Solutions Inc.
Victoria, BC

CIVIL ENGINEER
Bullock Baur
Victoria, BC

LANDSCAPE ARCHITECT
Murdoch De Greeff Inc.
Victoria, BC

GEOTECHNICAL ENGINEER
C.N. Ryzuk and Associates
Victoria, BC

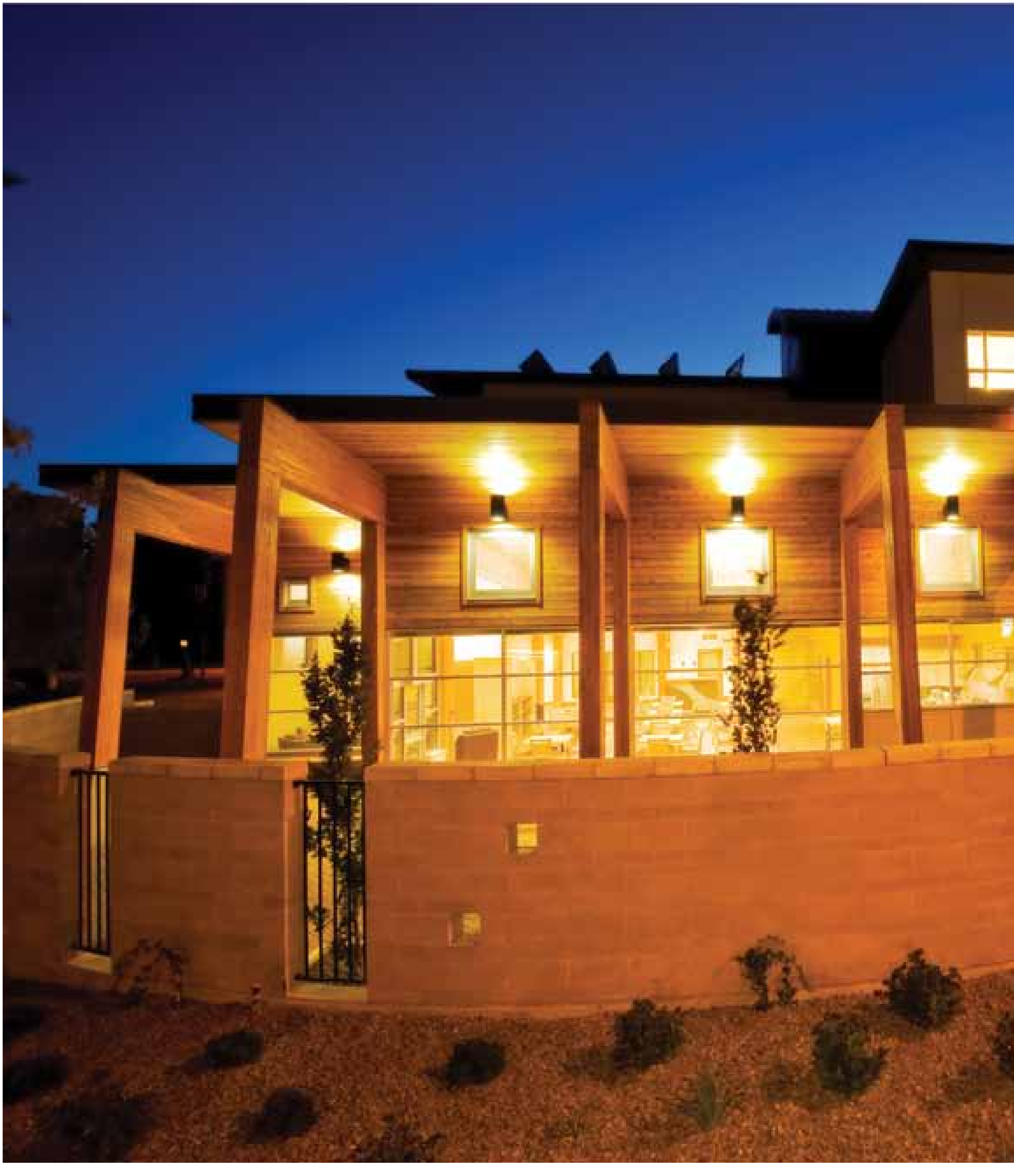
CODE CONSULTANT
G H L Consultants Ltd.
Vancouver, BC

SPECIFICATIONS CONSULTANT
J.D. Dunsmore & Associates Inc.
Port Coquitlam, BC

COMMISSIONING AUTHORITY
Avalon Mechanical Consultants Ltd.
Victoria, BC

ACOUSTIC CONSULTANT
Clair Wakefield
Victoria, BC

PHOTOGRAPHY
Franc D'Ambrosio
Victoria, BC



MULTI-UNIT RESIDENTIAL

Oversized glulam timbers and cedar cladding bring strength and warmth to Okanagan transitional home

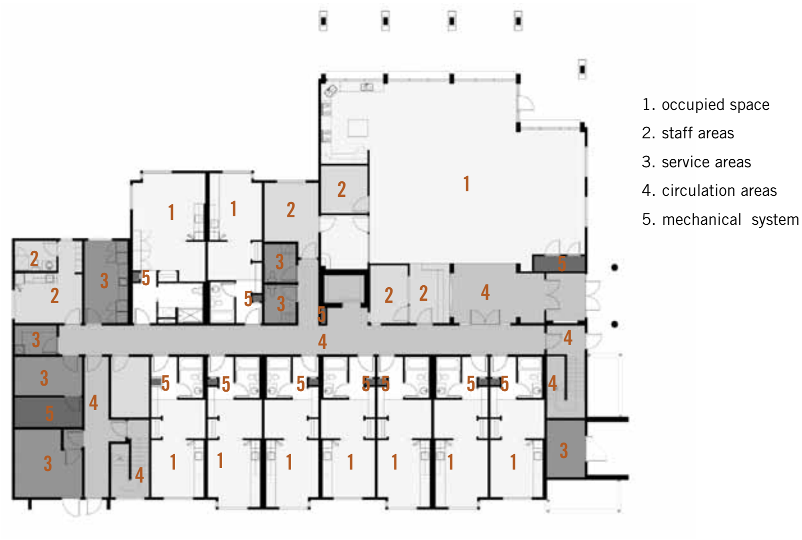
Willowbridge

Philip MacDonald Architect Inc.

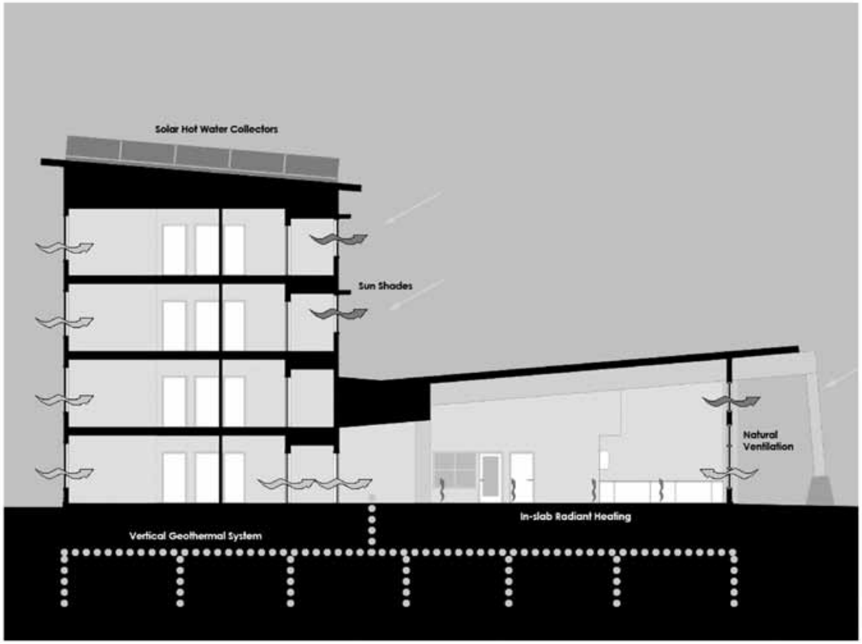
Located in Kelowna, BC, at the center of the Okanagan Valley, Willowbridge provides 40 transitional housing units for people who are attempting to regain active, purposeful lives. The building was planned to permit independent living, with some support and amenities to promote social integration with other residents.

The design approach used simple but powerful forms to anchor the building to the street. Clarity of form and function were primary objectives; residents of the building often come from a vulnerable and insecure place, and their stay is limited to a few months, so the building needed to be welcoming, soothing, safe and easy to navigate.

This strength and durability – inspired by classical architecture and nature – were primarily expressed through the use of wood. Massive columns and lintels that evoke the timeless architecture of antiquity are also reminiscent of the coastal Douglas fir and spruce forests. Oversized Douglas fir glulam beams and columns were selected to create a simple yet enduring structure. In addition to strength, wood also infuses warmth and texture. The sloping glulam elements anchor the building to the site and define a protected courtyard for the building's residents.



FLOOR PLAN



BUILDING CROSS-SECTION

The curving masonry wall that wraps the colonnade and separates the street edge from the courtyard is punctuated with openings to permit limited views for a positive coexistence between both public and private realms. The colors and textures of the curving masonry wall complement those of the angular glulam beams.

The use of wood cladding and structural elements also had a strong impact at the main entrance to the building where exposed twin glulam beams, fixed to peeled pine columns, project through the entrance canopy. The building forms are simple, purposeful and enriched with the warm tones of cedar on soffits and walls. Residents and visitors to the building enter into a vaulted space clad with red cedar between the large exposed glulam beams. The ceiling slopes up toward the exterior wall that is extensively glazed and fills the room with natural glare-free light. The entrance lobby merges with the multi-purpose lounge/dining/family room and leads residents to the elevator lobby to access their suites.

Sustainable design was also a critical consideration. The building was designed to achieve LEED Gold certification utilizing ground-source geothermal heating/cooling; solar heating; in addition to a plethora of low-impact design strategies. Locally sourced wood framing for walls, floors and roof trusses contributes significantly to the low carbon footprint of this building and the value-added benefit to the local economy.

ARCHITECT
Philip MacDonald Architect Inc.
Kelowna, BC

CLIENT
Canadian Mental Health Association
Kelowna, BC

GENERAL CONTRACTOR
Sawchuk Developments Ltd.
Kelowna, BC

STRUCTURAL ENGINEER
4-D Engineering Ltd.
Kelowna, BC

MECHANICAL ENGINEER
Stantec Consulting Ltd.
Kelowna, BC

ELECTRICAL ENGINEER
Falcon Engineering Ltd.
Kelowna, BC

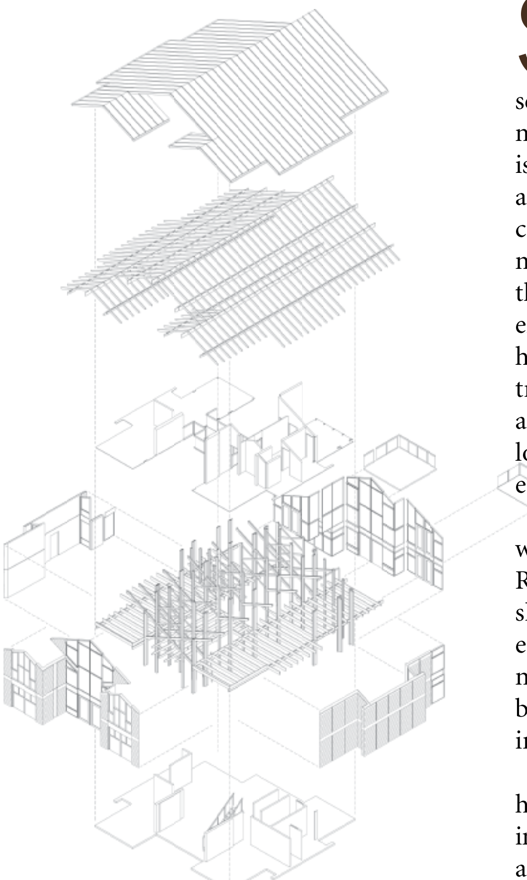
PHOTOGRAPHY
Michael Hintringer Photography
Kelowna, BC

RESIDENTIAL

Single-family home re-interprets conventional wood framing and celebrates a sustainable approach

Guscott Kemp Residence

Scott M. Kemp Architect

EXPLODED AXONOMETRIC

Situated on the south banks of the Fraser River, the site for this small single-family home is located in a secondary waterway separated from the main river channel by a series of estuary islands. The property is surrounded by a mixture of suburban housing, agricultural farmland and a spectacular natural river setting – a small oasis in the transition zone between the built environment and nature. The area was historically used by the fishing industry with the river providing moorage and the upland property used for net lofts, storage and the maintenance of equipment.

In order to maximize the gentle west coast climate, the Guscott Kemp Residence is envisioned as a simple shelter, providing protection from the elements while maximizing the connection to the natural environment by breaking down the barrier between indoor and outdoor space.

The form of the building also pays homage to the industrial sheds, blending the historic industrial typology with a domestic expression. The shed form closes the building off to the adjacent neighbors while framing the views of the river and mountains. Transparency through the building resolves the conflict of maximizing the exposure of views to the north with the desire for maximum sunshine. This transparency allows sunlight to penetrate throughout the building to allow the principle rooms to be situated adjacent to the river.

The house is zoned into three parts longitudinally. Two side zones are two-story elements while the central is a large vaulted space that provides the transparency through the building. The two side elements are shifted in plan to open up the view of the main rooms to the west-setting sun, and to create outdoor space adjacent to the river. The stepping also uses the western portion of the building as shade for the main south-facing glazing. Although the building form does not follow the conventional east-west orientation with south-facing roof overhangs, it is designed in compliance with solar orientation with 90 per cent of the south glazing shaded at midday on June 21 and exposed on December 21.

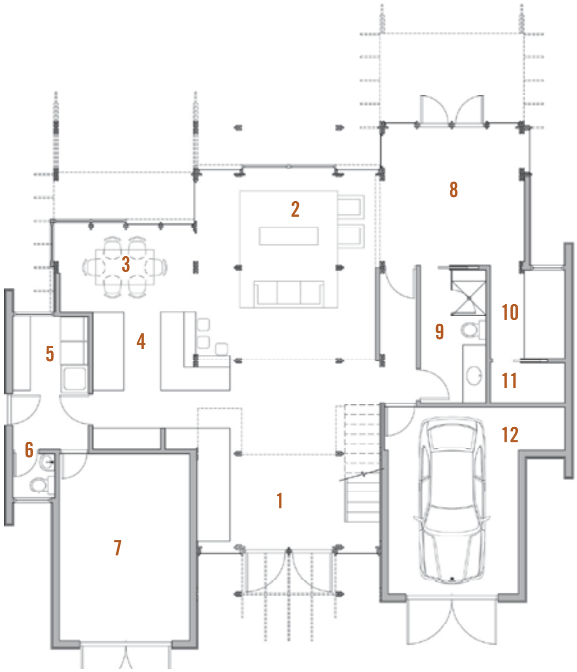
The house is constructed with two building systems: structural insulated panels (SIPs) and exposed timber framing. SIPs make up the southern portion of the house (garage and workshop, including the side walls) and the roof. The remaining portion of the house is constructed of exposed timber framing. The framing is not, however, constructed from large heavy timber sections, but rather conventional dimensioned timbers (2 x 6, 2 x 8 and 2 x 10) intertwined together to create a

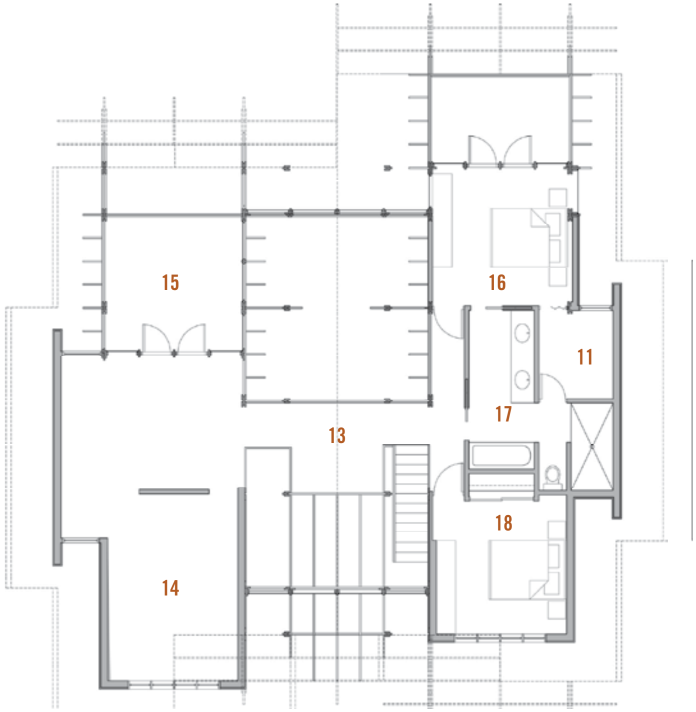
heavy timber expression. A prominent feature of the design is the laminated, stepped-edge timbers used throughout to create the post and beam structure. The lattice joints also form a truss to provide lateral bracing.

The flooring and stairs are made from Douglas fir, with all other elements in cedar. Western red cedar is rarely used structurally today, although there is a long tradition of extensive use of cedar on the west coast – especially by First Nations. The client aspired to design as small a house as possible while still allowing for maximum flexibility. At approximately 2,200 sq.ft., the house is actually smaller than that allowed by the zoning.

The ultimate goal of the Guscott Kemp Residence was to rethink conventional wood framing to develop a sustainable approach to single-family home construction. Wood as a sustainable building material was an integral component in the design. No trees were cut to build the house. All the timber and wood elements of the house were milled from salvaged logs harvested from an elk reserve on Vancouver Island near Port Alberni. A significant number of trees were blown down during a large wind storm that hit the west coast several years ago. These fallen trees presented a significant fire hazard, and were obstructing the natural migratory routes of the elk. This is the first forest harvesting of this kind on the west coast. The logs were milled and graded locally and then all components were cut and pre-assembled to ensure an accurate fit. Dimensioned lumber was also used for glazing frames, with sealed glazed units installed in-situ. The prefabrication process maximized wood yield and minimized construction waste.

The house is carbon zero; all heating, including hot water, is through a heat pump utilizing a closed geothermal loop system that has a heat exchange plate hanging in the river below the dock. The house does not include a fireplace and has no connection to gas. Minimal air leakage was obtained through the use of SIP panels and careful detailing. Two types of e-coating were specified for the glass – a hard coat on the south and east façades that allows solar heat gain into the house, and a soft coat on the north and west façades that radiates the heat back into the house. The building was modeled for energy consumption and obtained a rating of Energuide 87. The house also has heat recovery ventilation (HRV). The site is close to community amenities, transit and public open spaces. The ground floor has an exposed concrete slab with radiant floor heating. Upstairs features hardwood flooring with some natural wool carpet. All wood was finished with a natural water-based stain. The riverbank was stabilized and replanted with native riparian vegetation. All other landscaping used local indigenous plants – no turf was installed and there is no need for irrigation. Rainwater is collected and used to flush toilets. All fixtures are high efficiency. The house achieved a LEED Platinum rating from the Canadian Green Building Council.





1. entry
2. living room
3. dining room
4. kitchen
5. laundry
6. powder room
7. workshop
8. family room
9. restroom
10. study
11. closet
12. garage
13. bridge
14. winter room
15. summer room
16. master bedroom
17. ensuite
18. bedroom

FIRST FLOOR PLAN

SECOND FLOOR PLAN

ARCHITECT/CLIENT/CONTRACTOR
Scott M. Kemp Architect
Ladner, BC

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

CARPENTRY TEAM
Les Jackson (lead) and Ryan Winchester

SIP PANELS
Insulspan Corporation
Delta, BC

Leeward Construction
Coquitlam, BC

ENGINEER
JM Engineering
Vancouver, BC

MECHANICAL/PLUMBING
CR Martin Heating & Refrigeration Ltd.
Langley, BC

Waterworks Mechanical
Vancouver, BC

ELECTRICAL
Delport Electric
Delta, BC

PHOTOGRAPHY
Darren Willis
Victoria, BC

Fan-like installation of cedar slats creates an infinite variety of effects depending on the time of day

Canada Pavilion at Expo 2010, Shanghai, China

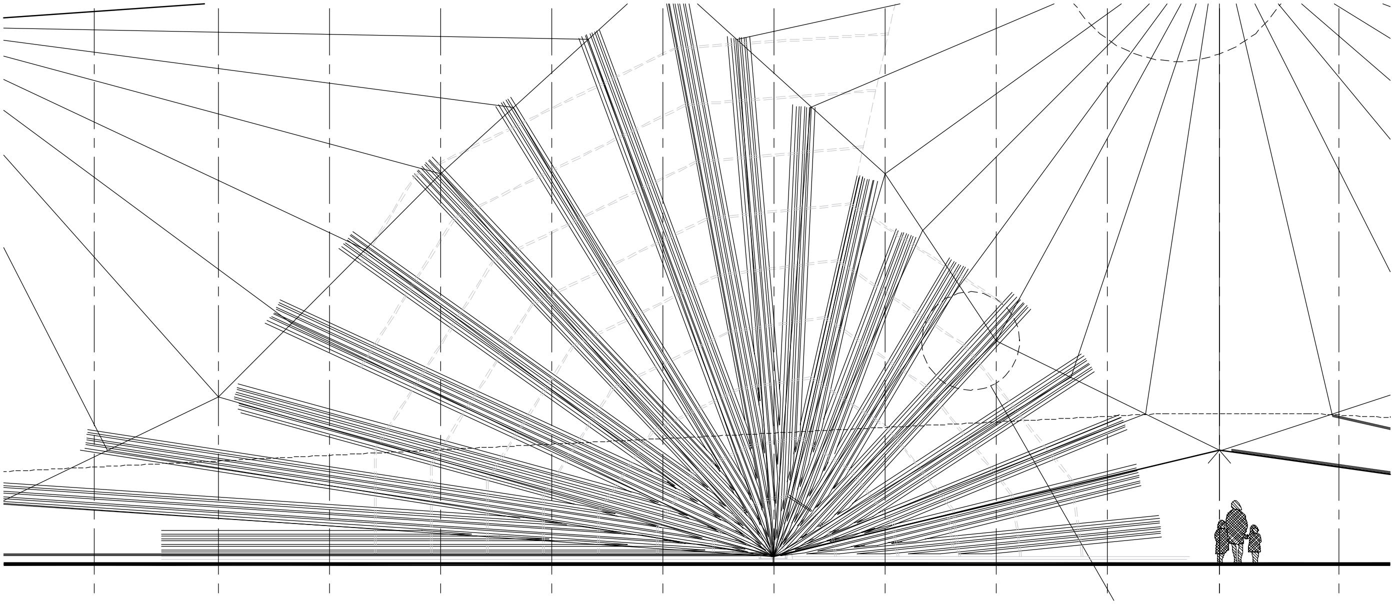
ABCP Architecture


CANADA

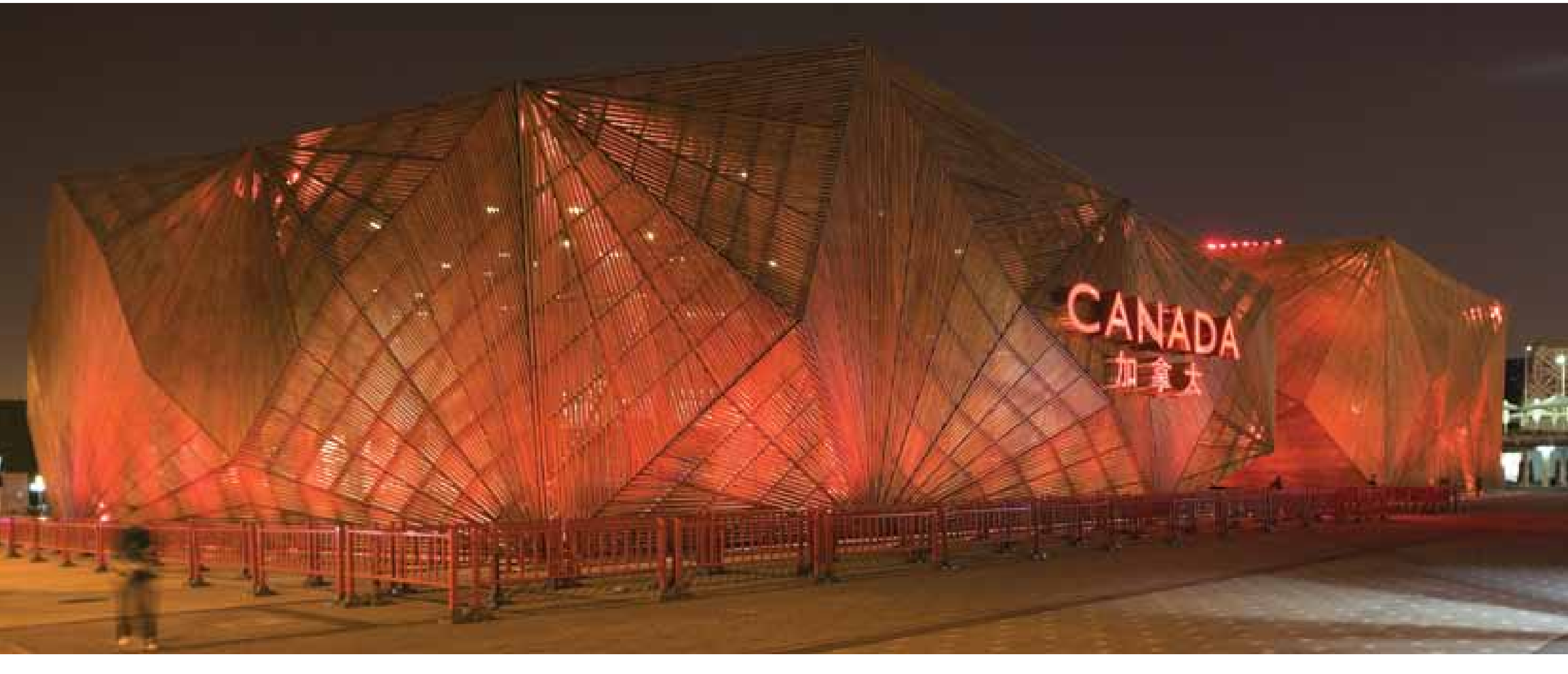
Designed as a temporary structure, the Canada Pavilion was a key component of Canada's participation in the Shanghai 2010 International Exposition, and welcomed over 6.4 million visitors during the six-month Expo period. Among the largest pavilions on site, the 4,800 sq.m. pavilion was built to provide each visitor with a glimpse of life in a Canadian center.

In keeping with the Expo theme, "Better City – Better Life", the three-story Canada Pavilion was designed to reflect the Canadian ideals of social and cultural inclusivity and environmental stewardship. The public presentation, which was opened to the general public and reflected Canada's theme "The Living City: inclusive, sustainable, creative", occupied the first floor along with a boutique that carried Canadian goods and an authentic Canadian restaurant. The second floor was occupied by a unique conference center and visitor's lounge used for hosting events, meetings and presentations on trade, investment and educational opportunities in Canada. Finally, the third floor housed the operations and administration to ensure the smooth functioning of pavilion programs.

The goal was to embrace the large public space designed to promote interaction between visitors, and to create a feeling of community. A large "living wall" of evergreen seedlings provides a backdrop to the courtyard. In addition to illustrating a universal desire for green space in urban centers, the green wall also operates as a natural



PARTIAL ELEVATION



By day the pavilion is opaque, impressive and imposing, but it undergoes a transformation at night. Lighting mounted on the steel structure behind the cedar skin glows through the slats, giving the pavilion a light, transparent, lantern-like quality. Each carefully selected board was site-trimmed and individually fastened to the structure so that it could be easily dismantled, and reclaimed for use on future projects.

bio air filter. An angled accessible ramp leads visitors beyond the courtyard into the pavilion.

Western red cedar was chosen for the exterior shell of the pavilion because it is a recyclable, reusable material and very Canadian – it is the official tree of British Columbia and has been called "the cornerstone of Northwest Coast aboriginal culture" with great spiritual significance. Western red cedar is known and respected for its beauty, versatility and natural durability, and is valued for its distinct appearance, fragrant aroma and high resistance to decay, moisture and insect damage. The fan-like and angled installation of the wood boards on the Canada Pavilion led to an infinite variety of effects depending on the time of day or special night-time lighting. The crystalline forms of the pavilion's red cedar façades also evoked the precious character of our Canadian natural resources.

Inside, spatial relations and points of view change with every movement and offer an unedited and stimulating architectural experience much like the image of Canada. The volume is placed in such a way as to generously allow the penetration of natural daylight. The complex shapes and organization of the walls allow for a sensorial impression of spaces which – depending on the different angles – seem either impressively big or surprisingly intimate. The lines and folds create shadows and light, which in turn transform the notion of distance and contribute to the abstraction of matter.

While the outward appearance of the pavilion is organic – an undulating skin of Western red cedar slats – the underlying structure is rectangular and clad in stainless sandwich panels. An exterior framework of steel tubes forms the supporting structure for cedar joists, to which the more than 4,800 sq.m. of cedar slats are fastened. The cedar skin is divided into radiating triangular panels, in a geometric pattern reminiscent of maple leafs.

ARCHITECT
ABCP Architecture
Montréal, Québec

CLIENT
Canada Pavilion, Government of Canada Department of Heritage
Gatineau, Québec

CONCEPTUAL DESIGN
Cirque du Soleil Inc.
Montréal, Québec

STRUCTURAL ENGINEER/ PROJECT AND CONSTRUCTION MANAGEMENT
SNC-Lavalin International Inc.
Montréal, Québec

TECHNICAL CONSULTANT
Canada Wood China
Shanghai, China

DRAWINGS
ABCP Architecture with the collaboration of The Architectural Design & Research Institute of Tongji University

PHOTOGRAPHY
Patrick Alleyn
Shanghai, China

Jurors

(From left to right) Daria Khachi, Marco VanderMaas and Robert Sims

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The Working Forest newspaper

ONTARIO

Design for retail development plans for disassembly and recoverability for future use

Mountain Equipment Co-op Development

SMV Architects

Mountain Equipment Co-op (MEC) Burlington is a 2,500 sq.m. stand-alone, member-only, retail co-operative building containing retail, warehouse and office space on three levels.

Stand-alone retail buildings are temporal by nature. Studies show that commercial steel buildings have the shortest life expectancy of any building type, not more than 25 years on average. Lack of maintenance, area redevelopment and inappropriateness of the layout for reuse are the main reasons for demolition. MEC Burlington is a commentary on this development type.

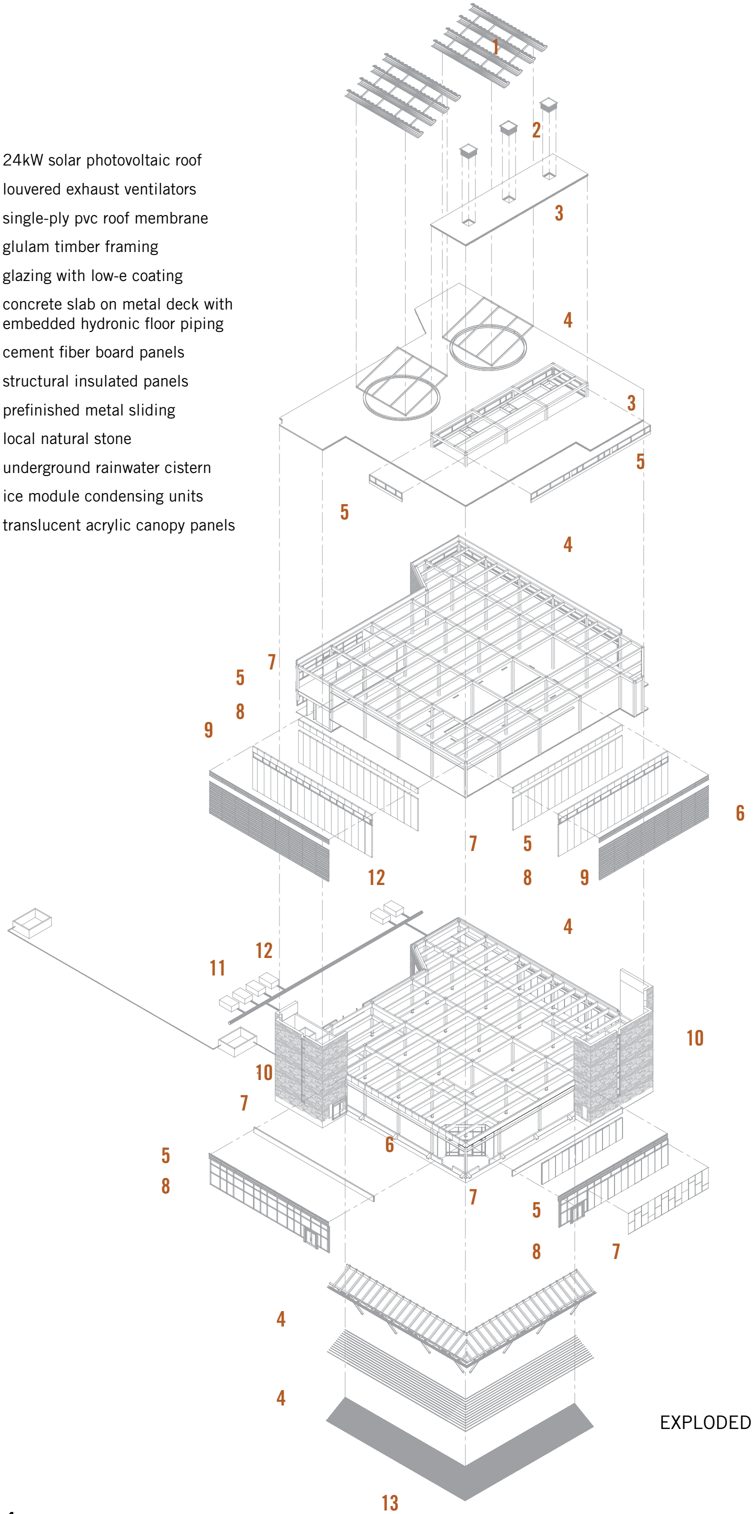
The current economic system, based on infinite growth within a finite system of resources, is not sustainable. Things taken for granted today may become precious in the future. The usefulness to future generations of buildings constructed now needs to be considered since, without cheap energy, it will be increasingly cost prohibitive to demolish buildings to remove and recycle their materials. MEC Burlington was designed with recoverability in mind. The project anticipates greater density in the future, either through densification of the balance of the site and modification of the existing built form, or through the demolition and subsequent replacement of the building. For the site to reach its development potential the existing structure will likely need to be removed so the buildings' component parts have been specifically designed for disassembly.

Municipal zoning and official plans dictated a minimum two-story structure. The structure is a hybrid, glued-laminated post-and-beam design that uses steel deck and concrete floor diaphragms. Structural insulated wall panels (SIPs) were used for the insulated curtain wall. Wood was chosen for its low embodied energy, its ability to sequester carbon and because it is a renewable resource. The design is straightforward and was detailed to be simply connected (and un-connected) using bolts and screws.

The glulam structural members provide aesthetic opportunities, long-term carbon entrainment, and easy disassembly for re-use. Wood provides a wider range of options for re-use because it can be resized by hand with simple tools for a future application. Glulam beams, rather than trusses, were chosen in part because beams can be re-used independently in future structures, whereas trusses are built-up from other components and pre-engineered for a specific application.

The wall panel system forms the insulated curtain wall of this building. Structurally, it is used to resist wind pressure against the faces of the building but it is not designed as a load-bearing element for gravity loads, nor is it a shear wall. Connections with oversized

1. 24kW solar photovoltaic roof
2. louvered exhaust ventilators
3. single-ply pvc roof membrane
4. glulam timber framing
5. glazing with low-e coating
6. concrete slab on metal deck with embedded hydronic floor piping
7. cement fiber board panels
8. structural insulated panels
9. prefinished metal sliding
10. local natural stone
11. underground rainwater cistern
12. ice module condensing units
13. translucent acrylic canopy panels



EXPLODED AXONOMETRIC

holes were used to prevent the floor and roof deflections from adding load to the wall panels. For disassembly of the entire structure, the SIP walls can be removed from the building without compromising the lateral load resisting system of the primary structure.

The typical wall system is a high efficiency envelope utilizing structural insulated panels. The system is advantageous due to its material efficiency and the simplicity and rapidity of assembly on site. The system requires no vapor barrier, reducing material and labour requirements. The panels are fastened together with screws that allow them to be disassembled and re-used elsewhere in alternate forms. Both the interior and exterior finishes are mechanically fastened for disassembly and re-use. The grid of the building was co-ordinated with the standard widths of the SIPS and cement fibre board panels to minimize cutting and waste.

Floors and concrete block walls are generally exposed concrete on the interior, and concrete clad in local stone on the exterior at the vertical circulation elements. The steel roof deck is exposed (unfinished and unprimed) as the second floor finished ceiling. The wood structure throughout is exposed unfinished except on the exterior where an EcoLogo-certified clear protective sealer is used.

1. 24kw solar photovoltaic roof
2. louvered exhaust ventilators
3. underground rainwater cistern
4. ice module condensing units
5. translucent acrylic canopy panels
6. storm water filtration gallery

SITE PLAN

Other sustainability strategies were also included: extensive daylighting in the built form reduces the requirement for artificial lighting; 100 per cent of the project's storm water and storm water discharge is handled on site by underground cisterns, swales and filtration galleries; roof water is used for toilet flushing and irrigation; a system utilizing ice module condensing units shifts loads from peak demand periods; and solar technology generates up to 20 per cent of the building's energy requirements through a combination of on-site solar electric and solar thermal systems in the form of two 24 kW photovoltaic arrays mounted on the roof.

MEC has implemented a comprehensive green building education program consisting of signage, case study information at interactive public kiosks and guided tours of the building and its site features. The choices made by MEC Burlington demonstrate to their membership the sustainable development features that can be incorporated into building design, and challenges other retailers to continue the investigation.

ARCHITECT
Stone McQuire Vogt (SMV) Architects
Toronto, ON

PROJECT TEAM
Daniel Cowling, Craig Bonham, Omar Hamdy

CLIENT
Mountain Equipment Co-op (Sandy Treagus)
Burlington, ON

GENERAL CONTRACTOR
PCL Constructors Canada Inc. (Matt Stainton)
Mississauga, ON

STRUCTURAL ENGINEER
Equilibrium Consulting Inc. (David Moses)
Toronto, ON

CIVIL/SITE SERVICING ENGINEER
Trafalgar Engineering Ltd. (Paul Cifoni)
Oakville, ON

RENEWABLE ENERGY
Resco Energy Inc. (Fidel Reijerse)
Mississauga, ON

GREEN BUILDING CONSULTANT
Green Building Consulting + Design (Corin Flood)
Toronto, ON

MECHANICAL/ELECTRICAL ENGINEER
Enermodal Engineering Ltd.
Toronto, ON

PHOTOGRAPHY
Graham Marshall Photography
Toronto, ON

Sustainable museum bridges past and present with reclaimed materials and creative approaches

Waterloo Region Museum

Moriyama & Teshima Architects/The Walter Fedy Partnership


57
118

Positioned as the new gateway to Doon Heritage Village, the Waterloo Region Museum expands upon the experience of the 1914 living history village and tells the larger story of the Waterloo region from its early Mennonite roots to its multicultural, high-tech present.

A façade of colored glass announces the museum to the main street. The design was inspired by the quilts in the museum's collection and the region's history of quilt-making, a woman-centred tradition that speaks of community. To reference the present-day, high-tech nature of Waterloo Region, hexadecimal computer code was used to map a quote by Sir Wilfrid Laurier, Canada's seventh Prime Minister, to 16 colours, giving the façade its distinctive pattern.

At the main entrance, the names of the seven regional municipalities are expressed in colored glass panels, each imbued with images from the museum's collection.

The museum sits at the crossroads of two historic transportation routes that were critical to the development of Canada and the region: the Old Huron Road and the Elmira to Galt railway line. Actual fragments these historic routes cross one another on site and shape the heart of the museum's design.

Aligned directly on Old Huron Road, the timber-framed Huron Hall leads visitors from the main entrance to the crossroads. Rough-hewn walnut flooring alludes to a regional narrative of how the first settlers were led to the site by following a trail of black walnut trees. The interior wall of Huron Hall is clad with wood reclaimed from a highly significant barn that was built in the early 1800s by one of the first Mennonite families to settle the region. The mortise and dowel holes from the re-sawn pine barn beams are left exposed on the wall as a reminder of their history.

Visitors enter the museum lobby at the exact crossroads, where a section of the historic train line is revealed under a glass floor. Stepping from the walnut floor of Huron Hall to the stone floor of the lobby symbolizes the shift from the agrarian settlers to the factory builders of subsequent generations. A pattern of slender vertical windows in a stone feature wall yields views of the exhibition spaces beyond. In the floor an alternating pattern of black granite and glass light boxes marks the original location of the train tracks.

Huron Road continues through the lobby and forms the main entry into the galleries where 5,500 sq.ft. of temporary gallery space is earmarked for changing exhibitions, and the remaining 10,000 sq.ft. is designated as a permanent gallery. The permanent gallery space will tell the story of the region from First Nations to the present day. A 3,000-sq. ft. mezzanine offers views into the galleries, a framed view back down Huron Road, and a panoramic view over the living history village beyond.

The museum is 25 per cent more energy efficient than a typical museum of this type and size and uses 60 per cent less water. The pond in front of the museum functions as both a storm water retention pond and a water cistern for the building's grey water systems. Landscaping incorporates drought tolerant, low maintenance, native plant species that require no irrigation.

Other sustainable design measures for the Waterloo Region Museum include the use of: reclaimed materials (15 per cent of the building material used in the museum contains recycled content), local materials (30 per cent of the construction material in the building was extracted and manufactured regionally and over 50 per cent of the wood used on the project was sourced from within Ontario), and certified materials (98 per cent of the wood used in the museum comes from FSC- or PEFC-certified sources from responsibly managed forests). During construction, over 75 per cent of construction waste was diverted from landfills to be recycled.

ARCHITECT
Moriyama & Teshima Architects
Toronto, ON

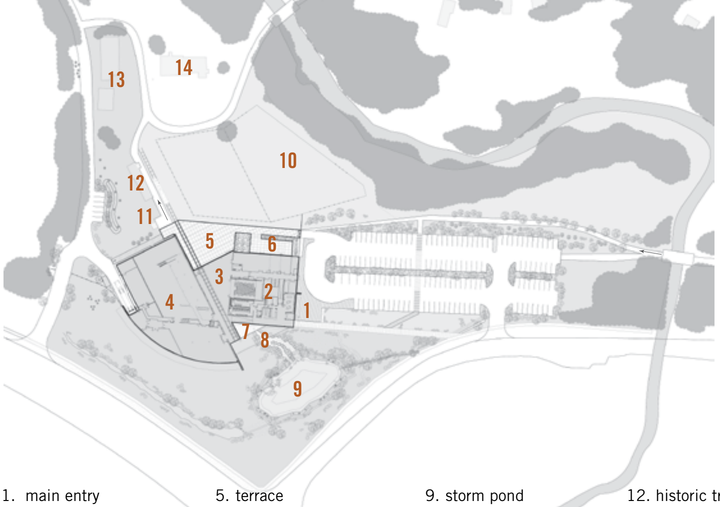
ASSOCIATE ARCHITECT
The Walter Fedy Partnership
Kitchener, ON

GENERAL CONTRACTOR
The Walter Fedy Partnership
Kitchener, ON

STRUCTURAL/CIVIL/MEP ENGINEER
The Walter Fedy Partnership
Kitchener, ON

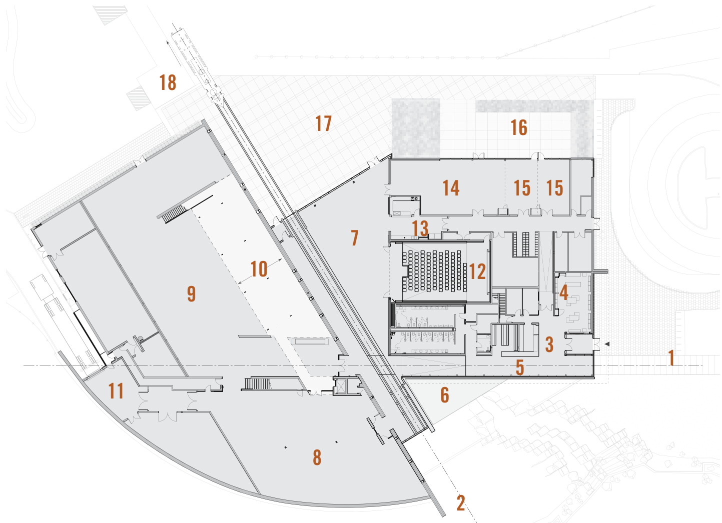
LANDSCAPE ARCHITECT
Moriyama & Teshima Planners
Toronto, ON

PHOTOGRAPHY
Tom Arban Photography
Toronto, ON



1. main entry
2. classroom wing
3. lobby
4. gallery wing
5. terrace
6. outdoor pool
7. pool
8. waterfall
9. storm pond
10. animal paddocks
11. entry to historic village
12. historic train station
13. historic barns
14. historic Martin House

SITE PLAN



1. Huron Road axis
2. railway axis
3. main entry
4. gift shop
5. Huron Hall
6. pool
7. lobby
8. temporary gallery
9. permanent gallery
10. mezzanine/hall of fame
11. loading
12. theater
13. food service
14. multi-purpose room
15. classroom
16. outdoor classroom
17. events terrace
18. to Living History Village

FLOOR PLAN

Smart wood roof structure covers open-air rink creating a four-season community space

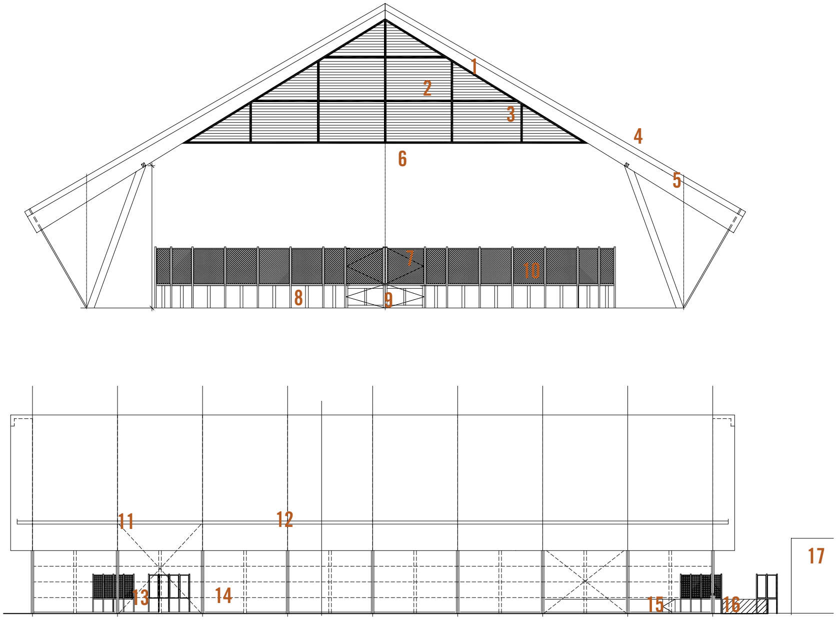
Bill Barber Complex

Evans Bertrand Hill Wheeler Architecture Inc.

The Bill Barber Complex accommodates a variety of recreational activities for the benefit all Callander, ON residents. The multi-use facility provides a home for sport and activity initiatives, while fostering community spirit and local economic development.

Adjacent to the Callander Community Center in Yarlasky Park, the complex is a roof structure, with provision for future complete close-in, that spans an existing rink surface and provides shelter for four seasons of sport, leisure and community events on the site.

Demanding budget constraints and a short construction timeline required an economical and efficient structural solution for the all-weather 2260 sq. meter building cover for the 80 ft. x 180 ft. open air rink. Not only did the creative design for the glulam framing serve to achieve these demands, but it also brought a warm and inviting ambiance to the facility. The project features a proprietary TSL glulam arena frame, spruce-pine tongue-and-groove decking and Western red cedar siding.



SOUTH/EAST ELEVATION

1. timber systems structure
2. louvres
3. vertical horizontal members
4. pre-finished metal fascia
5. girt
6. end wall
7. fence gate
8. existing rink end boards reconstructed to new location
9. gate
10. new chain link fence
11. eavestrough
12. snow retention system
13. rink boards and chain link fence
14. future potential curtain wall bracing
15. barrier-free door entrance to rink
16. rink boards and chain link fence
17. existing building to remain

This important community structure was named in honor of Hockey Hall of Famer Bill Barber, a Callander native who maintains close family ties to the community.

ARCHITECT
Evans Bertrand Hill Wheeler
(EBHW) Architecture Inc.
North Bay, ON

ENGINEER
Piotrowski Consultants Ltd.
North Bay, ON

PHOTOGRAPHY
John Minkowskyj,
EBHW Architecture Inc.
North Bay, ON

Tim Buhler
North Bay, ON

Building design based on a best practice psycho-social model offers a comfortable healing environment, supports improved clinical outcomes

North Bay Regional Health Centre

Evans Bertrand Hill Wheeler Architecture Inc.

Built on an 80-acre hillside site, the new 750,000 sq.ft. North Bay Regional Health Centre is the largest construction project in Northern Ontario. The $551-million facility has achieved many firsts in health care construction.

The center is a state-of-the-art acute care hospital and a modern, rehabilitation-focused mental health facility where families can come for care regardless of whether they are facing physical or mental health challenges. Built to replace North Bay's existing hospital facilities, the North Bay Regional Health Centre (NBRHC) is made up of the new North Bay General Hospital and the new Northeast Mental Health Centre.

The new North Bay General Hospital (approximately 500,000 sq.ft.) includes a larger emergency department with 32 treatment beds, a consolidated ambulatory care centre, and 275 acute care beds. The new Northeast Mental Health Centre (approximately 250,000 sq.ft.) is linked to the general hospital by a shared entrance and common areas. It includes 52 forensic psychiatry beds, 61 specialized mental health beds, a client services mall, a gymnasium, workshops, psychiatric offices, and outpatient services. As a regional facility, the North Bay Regional Health Centre is the first instance in Canada where a forensic mental health center has been co-located with an acute care general hospital.

The building's structure is a hybrid of concrete, structural steel and timber frame. The exterior cladding is a combination of brick, curtain wall and metal siding. The design moves away from the institutional style of wards and long corridors. The design is modeled after a small Northern Ontario community, the core of which is comprised of a chapel, meeting areas, marketplace café and library. A main street for each of the two facilities gently curves in opposite directions and meets to form the main wayfinding route through the building complex to the town center. Side streets navigate large courtyards and clusters of support and amenity services to create wayfinding nodes and sub-gathering areas. The low-rise scale permits ease of access to grade and connection to the surrounding natural countryside and walking trails.

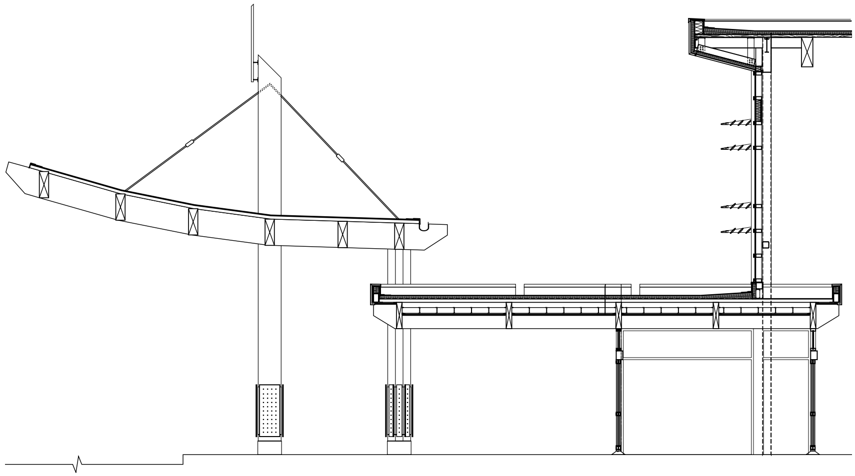
The design is based on a best practice psycho-social model offering a comfortable healing environment that leads to better clinical outcomes. Features of this approach include: a two-story facility with inpatient "lodges" that are interconnected to secure inner courtyards and a village-like environment; and a two-story amenity and therapeutic support building at the heart of the village that houses a client services mall, a gymnasium, workshops, psychiatric offices, clinical space and administrative functions.

The North Bay Regional Health Centre is the first hospital to utilize heavy timber and structural wood in a B2 occupancy. Wood is used effectively in several applications throughout the facility.

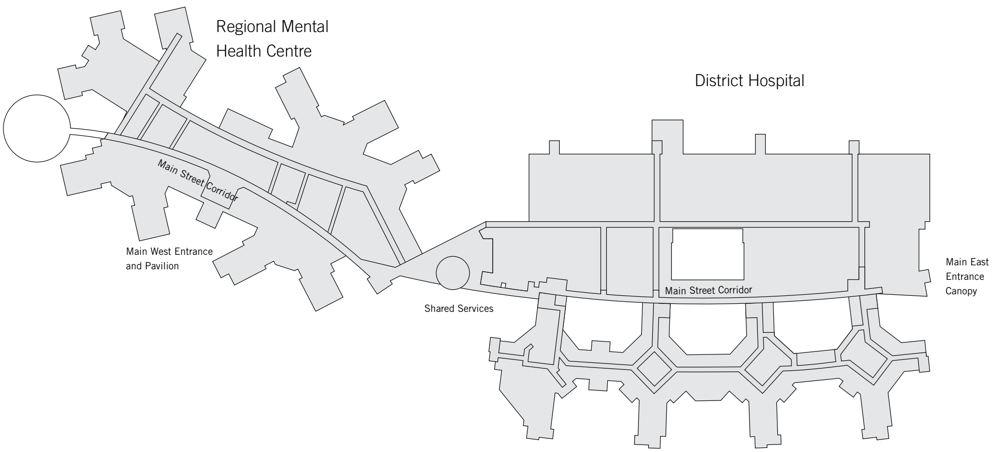
Wood – its importance and its structural qualities – speaks directly to the essence of the design philosophy; it anchors the heritage of Northern Ontario's Palette (wood, water and stone) and expresses the natural ruggedness of the site and escarpment. The facility reflects Northern Ontario's heritage and founding industries. Wood is central to the design and creates a warm, inviting healing environment. All visitors and staff are drawn to the warmth and character of the wood. It is what sets this design and facility apart.

A total of 670,000 board feet of timber were used in the NBRHC's building structure. This is made up of 550,000 board feet of structural timber and 120,000 board feet of wood decking.

The new facility was designed and constructed to adhere to the guidelines and sustainability principles of the LEED rating system. The new facility will be the first LEED certified project of its kind in eastern Canada. The facility utilizes 100 per cent fresh air in every room and there is one complete air change per hour. To do this efficiently, enthalpy heat recovery wheels are used to recover heat from exhaust air. The heat exchange system is capable of recovering 75 per cent of heat at -30°C. The spaces are also designed to take advantage of natural light during the daytime. The facility's efficient systems translate into major capital savings of almost $1M and projected energy cost savings of $350,000 annually.



SECTION THROUGH MAIN EAST CANOPY



KEY PLAN

The North Bay Regional Health Centre is more than purely functional; the design and appearance has the power to uplift, inspire and reflect the way of life in Northern Ontario. The facility provides positive distractions that reduce the stress related to the experience of healthcare. The idea is about being connected to and reflective of the community as a means of generating a sense of wellness, familiarity and comfort.

ARCHITECT
Evans Bertrand Hill Wheeler Architecture Inc.
North Bay, ON

DESIGN CONSULTANT
Henry Lowry
Brantford, ON

STRUCTURAL ENGINEERS
Halsall Engineers-Consultants
Toronto, ON
Anrep Krieg Desilets Gravelle Inc.
North Bay, ON

BUILDING ENVELOPE DESIGNER
Robert Kendall Consulting Inc.
Port Credit, ON

DEVELOPMENT CONSULTANT
Marshall & Murray Inc.
London, ON

STRUCTURAL TIMBER SUPPLIER
Timber Systems Limited
Markham, ON

PHOTOGRAPHY
Ed Eng Photography
North Bay, ON

Chapel interior uses Douglas fir to infuse warmth and spirituality, color and texture

Mount Pleasant Visitation and Reception Centre Chapel

Strasman Architects Inc.

The Mount Pleasant Visitation and Reception Centre's chapel is situated amongst old forest trees and vast open green space. Established in 1876, this venerable cemetery is a part of Toronto's rich cultural history and is the final resting place of many prominent Canadians.

The 200 acre park-like site is a beautifully landscaped cemetery that is centrally located within the urban setting of Toronto, one of Canada's largest and busiest cities. Upon entering the cemetery, the activity and distractions of city life are left behind. It is from this first encounter that the inspiration for the design of the chapel's interior was born. The goal was to create a quiet, reflective space that would evoke pleasant memories of the loved one being remembered.

Given the emotions and circumstances surrounding a visit to the chapel, materials that evoked calmness and spirituality were sought. Wood was chosen for its natural intrinsic qualities of warmth, familiarity, colour and texture, and its ability to soothe and comfort those in sorrow.

Visitors enter the chapel under the wood soffit of the upper mezzanine, which soon opens to a high, heavy-timber trussed space that exhibits strength and beauty. The double-height walls are clad in Douglas fir plywood. Wood screens on the windows manipulate and filter the daylight. This manipulation and play of daylight was crucial not only to the function of the chapel but also to its ambience. The wood-screened windows frame stunning views of the grounds which have a full array of old-growth trees and botanical specimens. In contrast to the austere and classic exterior, even from afar, the golden warmth of the chapel's interior glows and beckons, a place of light and refuge.

Douglas fir was used extensively – from the structural elements (heavy timber trusses), to the aesthetic elements

including plywood panels, balcony and canopy soffits. Even the functional elements of the large window screens and guardrails highlight wood's strength and versatility.

Scale and size were also considered as the wood elements are experienced at different levels and vantage points. Heavy timber trusses inhabit the large open space of the chapel and visually welcome visitors upon their entrance, while at other times the wood is experienced through touch via the wood guards and handrails.

ARCHITECT
Strasman Architects Inc.
Toronto, ON

CLIENT
Mount Pleasant Group
Toronto, ON

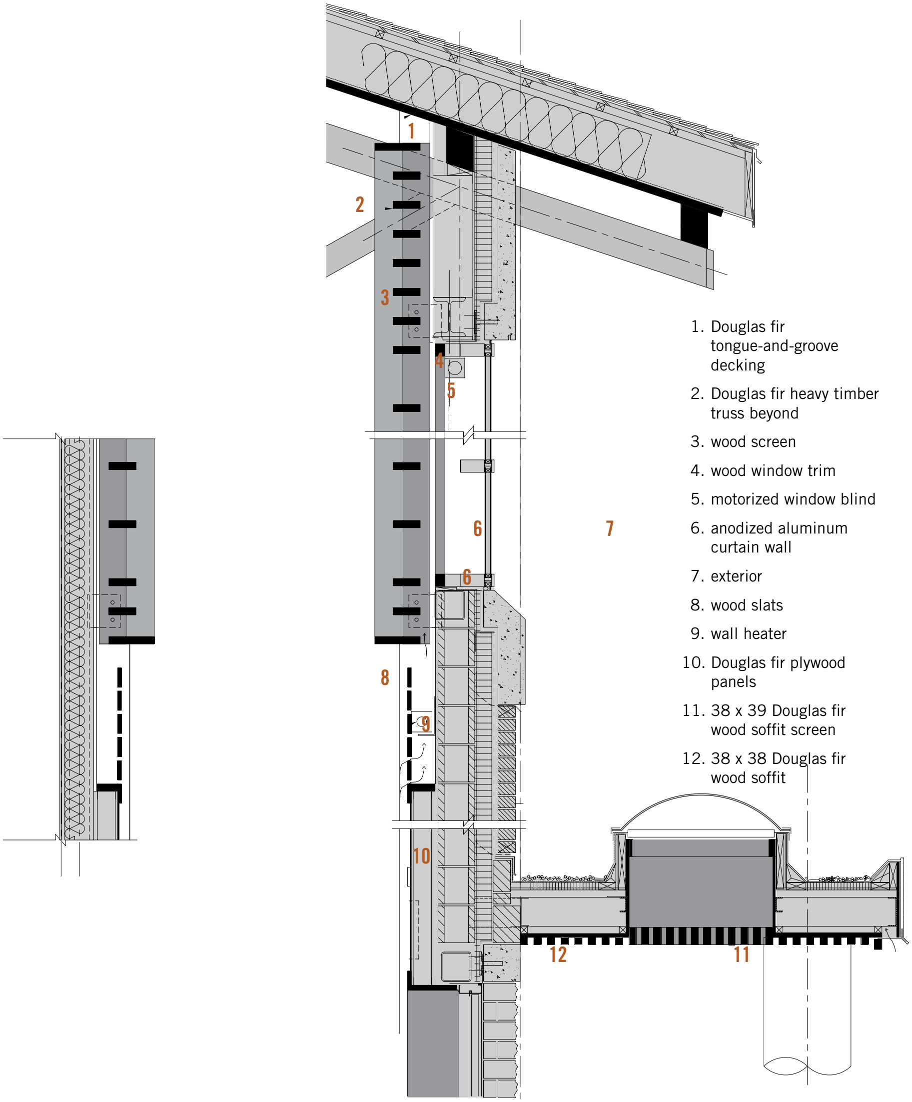
GENERAL CONTRACTOR
Berkim Construction Inc.
Toronto, ON

STRUCTURAL ENGINEER
Brown & Company Engineering Company
Toronto, ON

MECHANICAL AND ELECTRICAL ENGINEER
John Angus and Associates Inc.
Toronto, ON

LANDSCAPE ARCHITECT
NAK Design Group
Toronto, ON

PHOTOGRAPHY
Greg Pichnej Photography
Haliburton, ON



EXTERIOR CHAPEL WALL SECTION

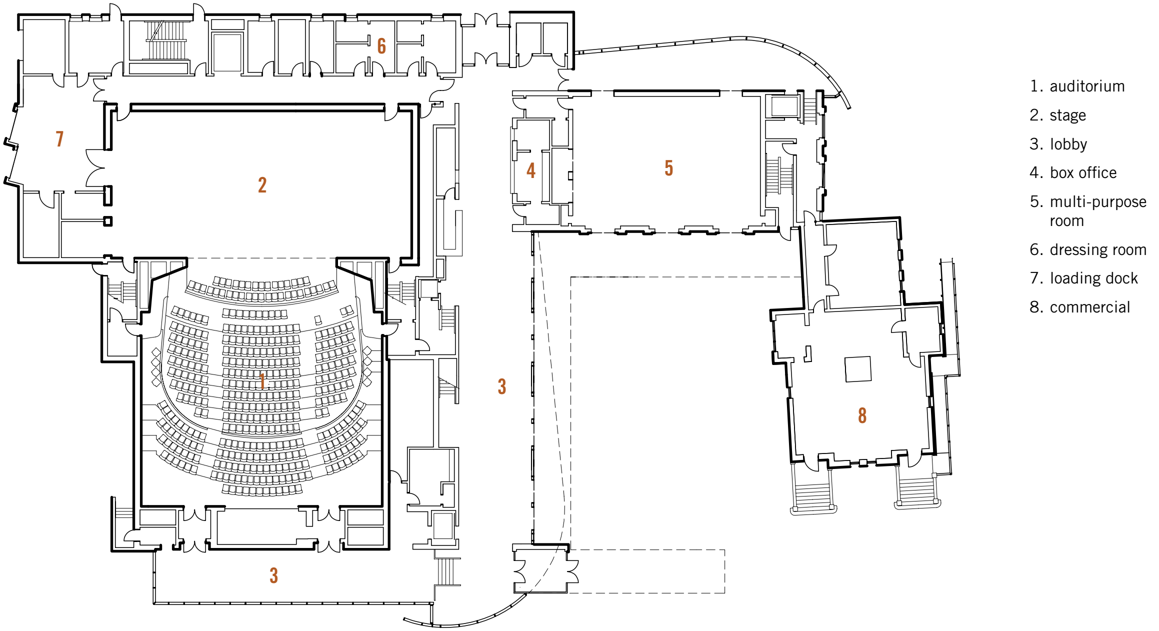
JURY'S CHOICE

Performing arts facility uses wood-veneer panels to create a warm, welcoming atmosphere with superb acoustics

Richmond Hill Centre for the Performing Arts

Diamond and Schmitt Architects

The Richmond Hill Centre for the Performing Arts is the largest cultural facility of its kind in York Region. The principal goal of the design was to create a world-class cultural facility that embraces the diversity of Richmond Hill and is a landmark destination in the downtown core.



FLOOR PLAN

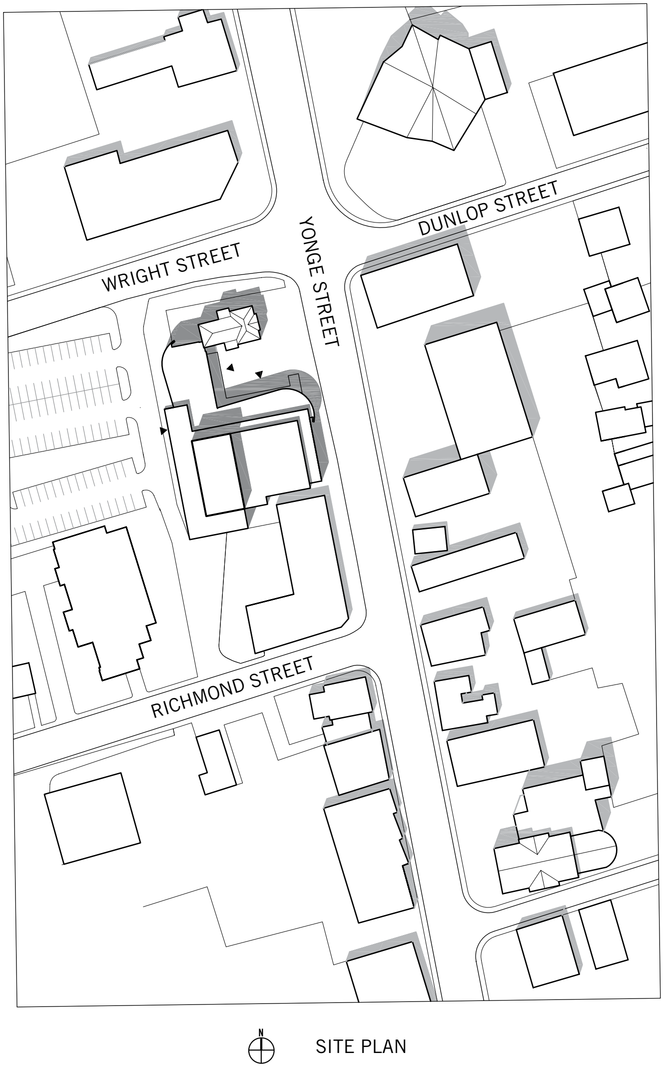
The theme "community through artistic diversity" encapsulates the mandate of the center. An educational program is offered where unique and interactive workshops enhance the theater experience through student participation. These workshops are often led by the artists themselves and are an exceptional way to continue the learning process in a more intimate setting.

The new 42,000-sq.ft. arts facility is an understated composition of forms, rendered in red brick with a highly transparent, cutting-edge, curved glass façade. The lobby presents the interior activity of the theatre to the surrounding town, knitting it dramatically into the fabric of the historic main street. This openness encourages the public to experience the artistic life of the building and forms a new relationship between the patron and the town.

In the public lobby spaces, the walls are lined from floor to ceiling with flat wood-veneer panels. The durable wall is designed to act as a mounting surface for rotating art exhibitions. The warm colour of the wood panels seems to glow when viewed from the exterior of the theatre, attracting the attention of arriving patrons and creating a welcoming atmosphere.

The 630-seat auditorium is designed in a traditional horseshoe shape, providing an intimate space with excellent acoustics and sightlines. Curved wood-veneer panels are employed as acoustic reflectors for the balcony fronts, proscenium and ceiling. The complex form of the curved shapes ensures the even distribution of sound throughout the theater interior; additionally, facetted wood-veneer panels are positioned at the back and side walls of the room to disperse and reflect sound from the stage. This acoustic function sets the architectural tone for the warm and enveloping character of the theatre.

Integrated into the design is the fully restored Richmond Hill High School (circa 1897), a registered heritage building located in the town's historic core. The former school now houses administrative offices and commercial space for the theater and demonstrates the town's commitment to preserving its historic buildings.



SITE PLAN

ARCHITECT
Diamond and Schmitt Architects
Toronto, ON

CLIENT
Town of Richmond Hill
Richmond Hill, ON

STRUCTURAL ENGINEER
Halcrow Yolles
Toronto, ON

GENERAL CONTRACTOR
Bondfield Construction Ltd.
Concord, ON

MEP ENGINEER
Crossey Engineering Ltd.
Toronto, ON

THEATRE CONSULTANT
Fisher Dachs Associates
New York, NY

ACOUSTICS
Jaffe Holden Acoustics Inc.
Norwalk, CT

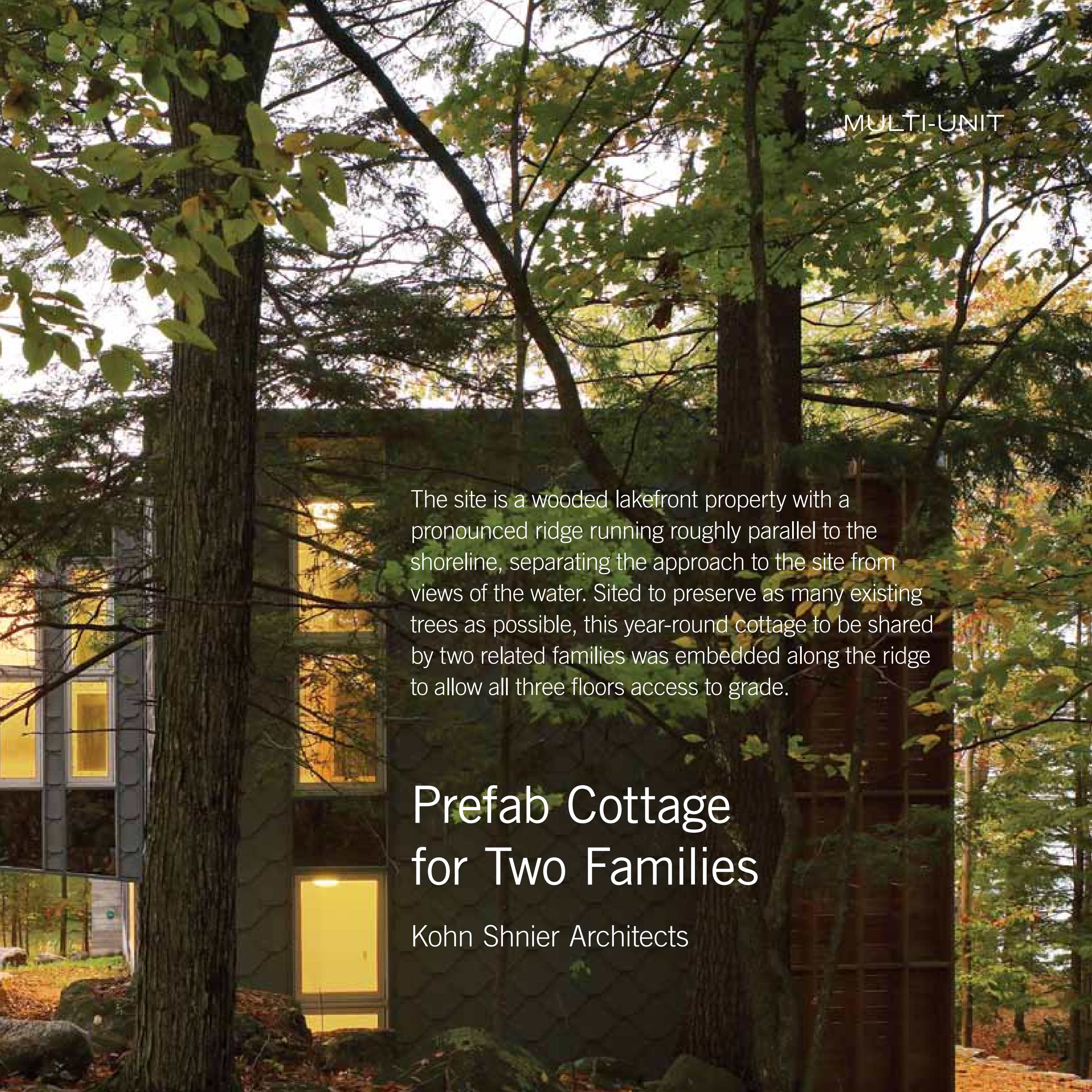
LANDSCAPE ARCHITECT
du Toit Allsopp Hillier
Toronto, ON

PHOTOGRAPHY
West Photo
Toronto, ON

Tom Arban
Toronto, ON

"The aggressive use of modular pre-fabrication here reduces the construction footprint on the landscape. It's very sensitive to the site…floating over the topography like a treehouse."

— Jury



The site is a wooded lakefront property with a pronounced ridge running roughly parallel to the shoreline, separating the approach to the site from views of the water. Sited to preserve as many existing trees as possible, this year-round cottage to be shared by two related families was embedded along the ridge to allow all three floors access to grade.

Prefab Cottage for Two Families

Kohn Shnier Architects

A long, narrow wooden causeway touches the forest floor very lightly and threads its way between the trees to arrive at the public upper floor. In order to reduce site impact and increase efficiency of construction time and materials, a prefab structure was designed.

The cottage consists of seven prefabricated units built at an indoor facility 325km from the site. The design of the cottage accepts and exploits some of the inherent limitations of this process to respond to the site and program. The cottage is built to the 4.875 m. width limit allowed on local highways, resulting in a long, thin form. Program demands were met and the heavily treed site preserved by stacking the units on top of one another. This narrow cross-section creates an intimate scale, an unavoidable immediacy to the outdoors and an opportunity for natural cross ventilation on hot summer days. The length, 38.4 m., generates considerable distance within the house offering remoteness and privacy when desired. This makes the cottage both small and big at the same time.

The cottage is embedded into the lake side of the ridge obliquely, such that there is a point on each of the three floor levels with access to grade. Shared facilities are at the highest level, affording the best views. This level is entered from the top of the ridge. Sleeping areas are in the middle level, and workshop, play and utility uses are in the lowest level. Facing the lake, the east elevation of the cottage consists entirely of sliding glass doors and provides every room with views of the water and access to the forest or balconies.

Materials were selected to be long lasting and maintenance free. They fall into two categories: reflective surfaces (glazing and mirror) and those with a muted coloration (unfinished cedar,

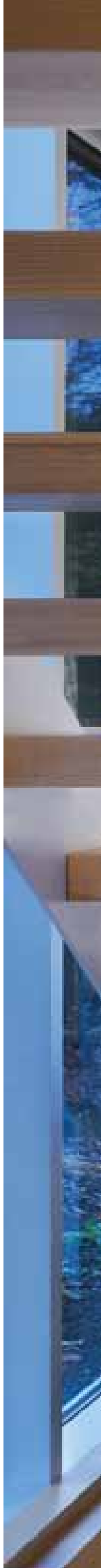
zinc cladding and galvanized steel). The objective is to visually push the structure into the background.

Construction of the units, totalling about 375 sq.m. in area, took 25 days in the builder's facility. Transit and placement of the units was accomplished in about 48 hours. The use of factory construction allowed for minimal disruption on the site (and to neighbors) during peak seasons as the units arrived at the site in early fall. A summer of sawing and hammering was replaced by the concentrated and exciting event of delivery and placement. Site work – the foundations, lower level, cladding, balconies and the construction of one bay containing a two-story high-glazed section – required normal construction durations.

The interior of the project is conceived holistically, as a piece of fine millwork. While the surfaces facing the lake are floor to ceiling glass, every other surface including floors, walls and ceilings are white ash. This creates a heightened transition between exterior and interior that highlights the contrast between the natural textures and smells of the forest and the seamless and continuous qualities of the interior wood. Major programmatic furniture elements such as the dining table, benches, coffee tables and beds are hand-crafted from solid jatoba – a dark wood that provides a distinct dark and weighty presence within the field of light ash.

1. restroom
2. bedroom
3. sitting room

FLOOR PLAN



ARCHITECT
Kohn Shnier Architects
Toronto, ON

PREFABRICATOR
Klaas Jorritsma, Royal Homes
Wingham, ON

GENERAL CONTRACTOR
Wayne Judges,
Judges Contracting Ltd.
Bracebridge, ON

STRUCTURAL ENGINEER
Tim Kieffer, Kieffer Engineering
Bracebridge, ON

MILLWORK
Alex Krupa, Tomalex Woods
Toronto, ON

PHOTOGRAPHY
Tom Arban Photography
Toronto, ON

'Magical' children's treatment center is grounded in its northern context through the use of natural materials like spruce and pine timbers, cedar and maple

One Kids Place Children's Treatment Centre

Mitchell Architects Inc.

In contrast to many environments created for children, One Kids Place Children's Treatment Centre does not offer sensory overload, or apply childish decoration. Quality materials and spatial character create an atmosphere of professionalism to give parents confidence in the quality of service provided. Within this matrix, artistic, playful elements of colour, light and texture animate the center and embody the energy of youth.

One Kids Place Children's Treatment Centre provides occupational therapy, physiotherapy, speech language therapy, social work services, therapeutic recreation and has a specialized medical clinic. In this unique, multidisciplinary environment, therapists can determine and provide an appropriate range of stimuli and activity for children with varying needs and abilities.

To celebrate the wood culture of northern Ontario and to fill the center with the beauty and warmth that only wood can provide, heavy timber roof construction, consisting of glulam beams and columns and structural tongue-and-groove decking, was used in all major public areas. Spruce, pine


LANDSCAPE MASTER PLAN

and fir species were selected since these are native to the forests surrounding North Bay. Stained to enhance its natural beauty, the wood achieved the design objective of creating a warm, welcoming and comfortable environment.

Maple, another local species, was used extensively throughout the facility in millwork, door frames, doors, decorative wall paneling and furniture. To protect walls from damage by wheelchairs, designers avoided vinyl wall protection in favour of solid maple rails which will last a long time and sustain their beauty and warmth even when dented and worn. This also helped achieve superior indoor air quality by avoiding materials that are known to off-gas. Wood panel products, used extensively in millwork, are all formaldehyde-free.

To provide freedom of movement, regardless of physical challenges, the center is a single-story structure. The spaces are organized around an intimate courtyard which provides an outdoor space for therapy, respite and celebration that is sheltered from the sights and sounds of traffic. The progression from vestibule to lobby to waiting area unfolds for visitors both horizontally and vertically, with the vista opening to the courtyard through six-meter-high glazing accented by colored stained glass. All major circulation spaces of the building are visually connected to the outdoors. Links to the courtyard provide accessibility, natural light and help users orient themselves within the building.

The central corridor and the waiting area are flooded with natural light from the south by a full-length clerestory, which also provides borrowed light to the treatment rooms along the corri-



dor. In addition to the tall glazing to the courtyard and the clerestory, the central waiting area at the heart of building also features two pyramidal skylights, one of which sustains the six-metre-high Living Green Wall. Beyond its sensory appeal, the hydroponically grown plant material on the wall contributes to indoor air quality, functioning as a bio-filter through which the buildings return air is mechanically drawn and purified.

The north/south corridor on the west side of the courtyard fully engages the courtyard with floor-to-ceiling glass, providing borrowed light to the public-access offices along it. One north/south corridor running up the east side of the courtyard has its east wall washed in natural light by a slender clerestory as well. In afternoon hours, the lowering sun casts beams of light through the stained glass down to each of the small alcoves which open to the courtyard. These colored beams of light blend with the accented floor colors and reflect off the ceiling to enliven the space and differentiate each therapy destination on the corridor for the children. The gymnasium is lit with natural light from high level windows facing northeast.

Further evoking the heritage, importance and magic of Northern Ontario's wood culture, local artisan Sean Ledoux created "Forest Dreamscape", a series of three large multi-media panels offering a visual and tactile journey of discovery. The installation is a representation of a walk through the northern forest. Details and materials in the panels honour the complexity and mystery of this natural world. Much of the material used is reclaimed and found wood. The children delight in seeing, touching and exploring these magical panels.

The building is anchored in its northern context by natural materials which include limestone, clay brick, spruce and pine timbers, cedar, maple, and slate. One Kids Place Children's Treatment Centre is a magical place, built with an infectious enthusiasm because, like it says on the cornerstone, it is "For Our Kids".

1. lobby/waiting area
2. pediatric clinic
3. day clinic
4. therapists' workstations
5. therapy room
6. family resource room
7. administration
8. staff lounge
9. gymnasium
10. classroom
11. courtyard
12. services

FLOOR PLAN

ARCHITECT
Mitchell Architects Inc.
North Bay, ON

CLIENT
One Kids Place
North Bay, ON

INTERIOR DESIGN
Carlyle Design Inc.
Ottawa, ON

ENGINEER
Anrep Krieg Desilets Gravelle Engineers Ltd.
North Bay, ON

GENERAL CONTRACTOR
Rheault Cy Construction Ltd.
Timmins, ON

GLULAM STRUCTURE
Timber Systems Ltd.
Markham, ON

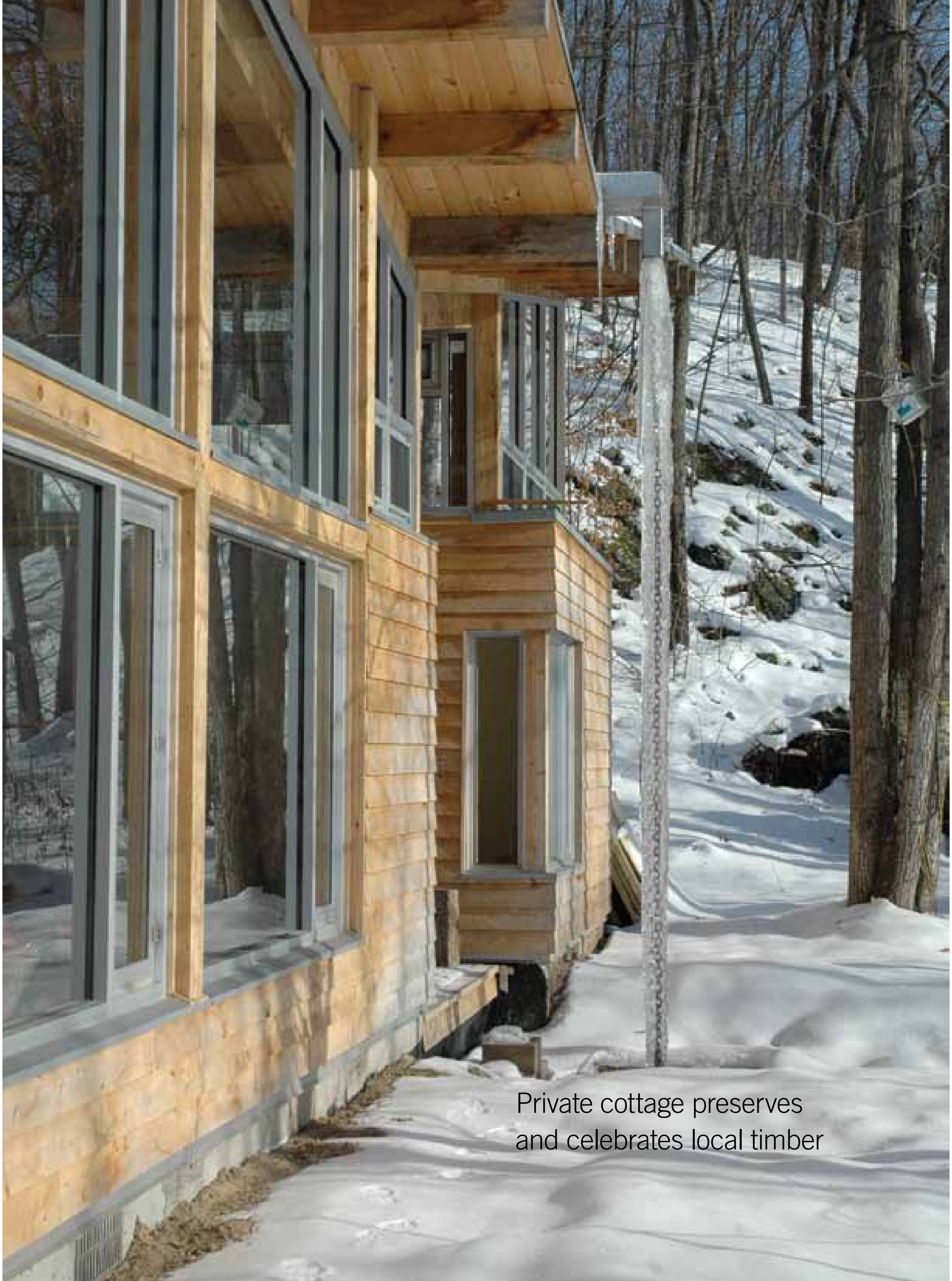
MILLWORK CONTRACTOR
Peter Conti Custom Woodworking & Design
North Bay, ON

WOOD CASE GOODS/FURNITURE
Three H Furniture Systems Ltd.
New Liskeard, ON

LIVING GREEN WALL
Nedlaw Living Walls Inc.
Breslau, ON

LANDSCAPE ARCHITECT
Vertechs Design Inc.
Toronto, ON

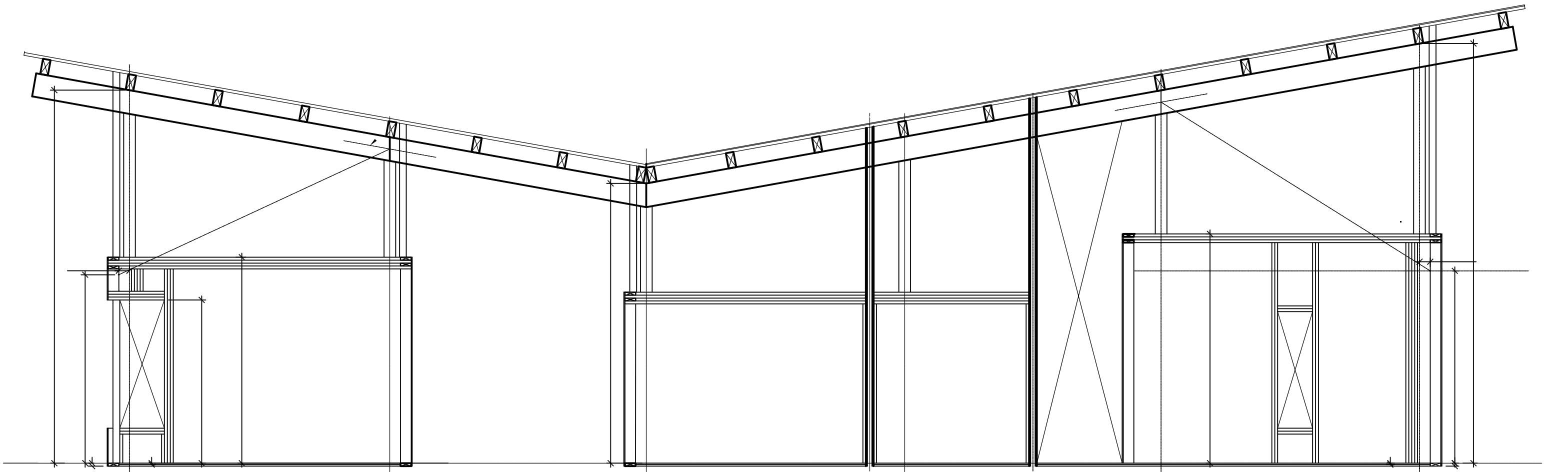
PHOTOGRAPHY
Richard Johnson
Toronto, ON



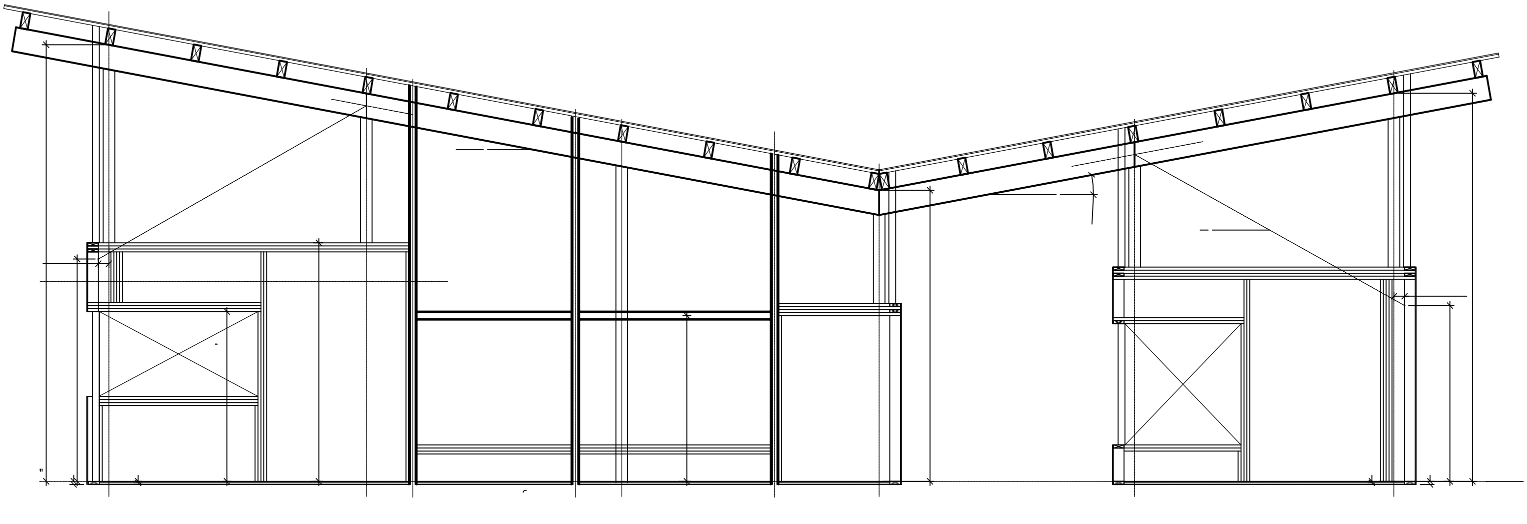
Private cottage preserves
and celebrates local timber

Southeastern Ontario Cottage

Chris Klemt



NORTH ELEVATION



SOUTH ELEVATION

The vision for Southeastern Ontario Cottage was born onsite, where the client spent many lazy summer days, his prized moments under tarps in the blinding summer rain, dry, yet part of the forest. This off-the-grid cottage is built to access and breathe in the land in an open tent-like environment that is even equipped with an indoor fire-pit.

The preservation and celebration of wood was integral to the entire design program. Sited to preserve as many existing trees as possible – in a location with limited access – wood and light-weight members were delivered with some connections fabricated onsite. The design is a modern application of local, Ontario milled, post & beam sawn timber with wood-sheathed shear walls.

Built over three summers, the entire 1,100-sq.ft. cottage is made from locally sourced and milled wood, except for the foundation, diagonal tension rods, and the large window panels. The siding is Ontario white cedar, milled at the family-owned Richard "Lutes Cedar" in nearby Norwood. The dimensional lumber, tongue-and-groove roof deck and loft decking was milled by family-owned Wilson's Forest Products in Madoc. The wood floor is reclaimed hardwood (mostly oak) from the roof of a Northumberland County barn. The lumber was sent to Grey County where it was milled by a Mennonite shop and turned into floor boards. There are over 3,000 pegs in the floor. All the spruce and plywood came from Broadbent's Home Hardware in Marmora.

Southeastern Ontario Cottage was the last project Chris Klemt designed before he passed away in July of 2006.

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Western Economic Diversification Canada / Diversification de l'économie de l'Ouest Canada

Weyerhaeuser

PRAIRIES

COMMERCIAL/INSTITUTIONAL
and ENGINEER WOOD ADVOCATE

Engineered wood delivers precise geometry and excellent structural performance to stunning truss canopy structure

Atrium Timber Structure, SAIT Polytechnic Parking Garage

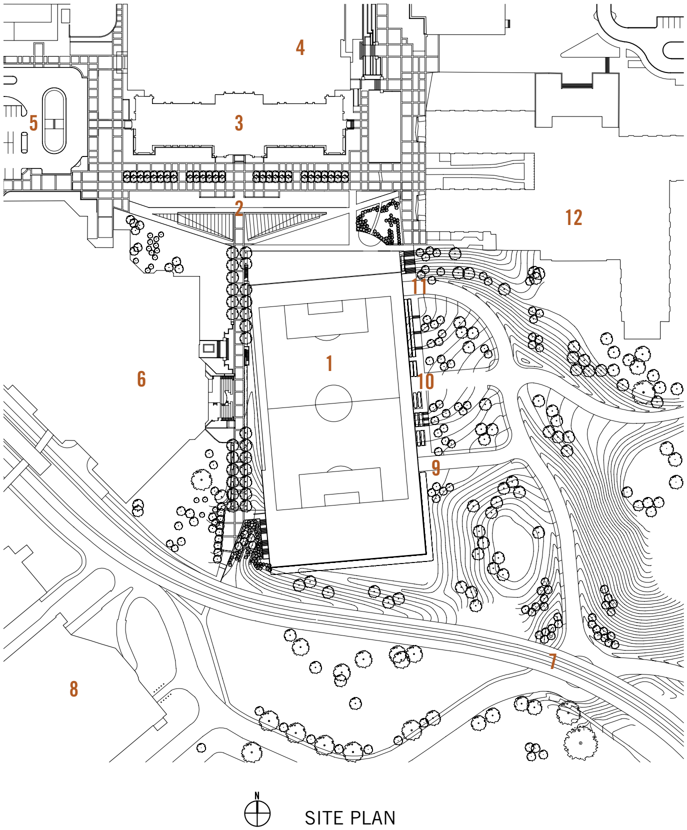
Bing Thom Architects/
Marshall Tittemore Architects/
Fast + Epp



The Southern Alberta Institute of Technology (SAIT) Parkade is a 1,100-stall parking structure that forms an integral, strategic piece of SAIT's new master plan. The partially subterranean, three-level parking structure is situated under a ceremonial field fronting Heritage Hall. The field was temporarily removed during construction and subsequently re-instated at the same elevation as both a ceremonial field and FIFA sized Soccer pitch. The parking areas open to a large, sunken atrium covered by expansive gestural skylights, which orient circulation below grade with natural light and define a prominent new entry to the campus, directly in front of Heritage Hall, for those arriving by car. Traffic to and from the parkade benefits from road and campus infrastructure upgrades to the east. The exposed façades of the structure are clad with a customized, punched-metal screen that uses an unprecedented system of oriented metal tabs to form a graphic image; the artistic tooling, manufacturing and installation all mark a first for this type of application.

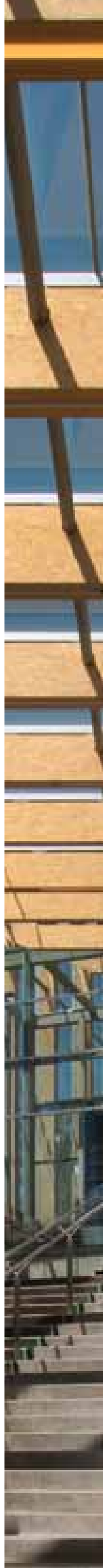
The roof of the atrium consists of two tilted and facetted pyramidal forms that create skylight "wings", allowing natural light to enter into the atrium space below. Each wing is triangular in plan, measures about 120 ft. by 40 ft. and is comprised of parallel timber portal frames spaced at approximately six feet on centre with varying beam spans and column heights to form the geometric shape of the skylight structure. The timber beams and columns are double members made of Timberstrand engineered wood. These members are shaped with extreme precision and contain numerous intricate cuts to ensure proper fit at all joints and splices. In addition to carrying the weight of the structure and snow loading, the portal moment frames also provide lateral resistance to wind loading in the short dimension of the structure. Adjacent frames are interconnected with steel pipes that provide lateral resistance for the longitudinal direction of the structure. The connections at the beam-to-column joints and beam splices consist of tight-fitting steel pin connectors and hidden birch plywood splice plates, whereas the column bases are connected to the concrete base structure with steel knife plates. All connections are carefully crafted to ensure architectural quality.

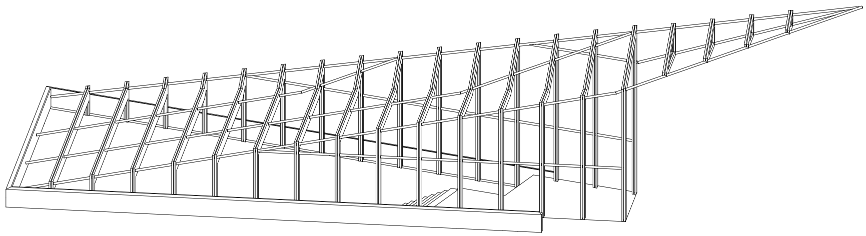
The west wing rises from a low point at the east to the tallest frame at the west framing the entry, and then takes off into a tetrahedron-shaped feature canopy structure that soars 35 ft. above ground level at its tip. The truss contains a combination of Timberstrand members, steel pipes, and stainless steel cables, and the connection details are highly refined to provide a clean visual appearance. Efficient design and engi-



SITE PLAN

1. COHO commons
2. SAIT parkade entry atrium
3. Heritage Hall
4. library
5. SAIT entry plaza
6. campus center
7. L.R.T. railway
8. ACAD parkway
9. p3 entry
10. p2 entry
11. p1 entry
12. Burns building





STRUCTURAL AXONOMETRIC

neering enable this stunning canopy to cantilever an effortless 40 feet, making it a notable landmark on campus.

Laminated Strand lumber (LSL) grade 1.55E, Timberstrand-brand by Weyerhaeuser was used for the construction of the frames. A continuous clear anodized aluminum glazing frame bridges the top of each double-beam, using both laminated and fritted glazing for the outer skin.

Engineered wood products such as Timberstrand represent a renewable, regional resource that can deliver precise geometry and excellent structural performance, which were key elements in the success of this design.

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Vancouver, BC

ARCHITECT OF RECORD
Marshall Tittemore Architects
Calgary, AB

STRUCTURAL ENGINEER
Fast + Epp
Vancouver, BC

DESIGN BUILDER
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Vancouver, BC

BASE BUILDING STRUCTURAL
Dialog
Calgary/Edmonton, AB

GENERAL CONTRACTOR
PCL Construction Management
Edmonton, AB

Maple dining room a place of solitude and warmth, enhancing the feeling of home within an institutional building

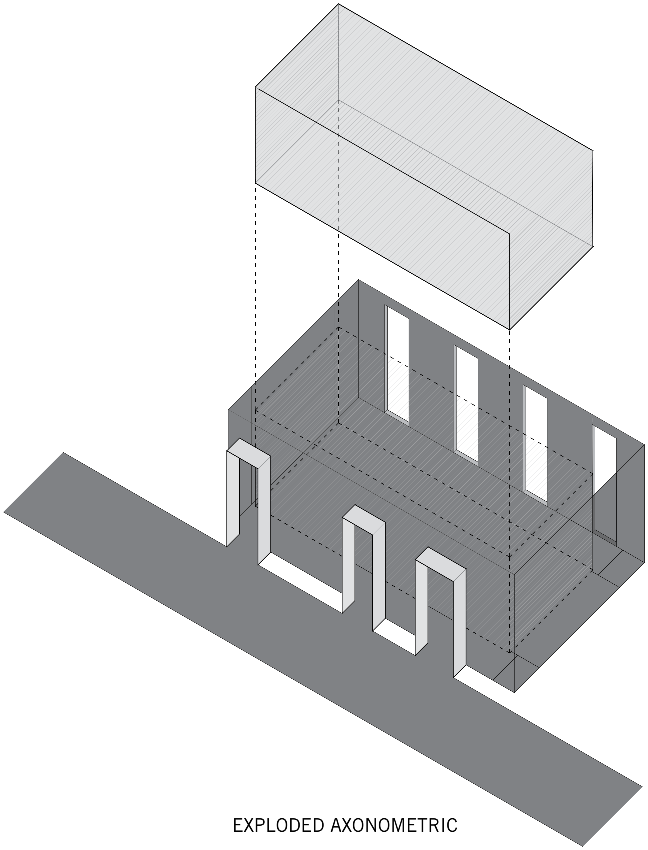
Holy Names House of Peace Dining Room

5468796 Architecture Inc.

Located in downtown Winnipeg, Holy Names House of Peace is a modest four-story, 16,000-sq.ft. building that provides sanctuary space and transitional residences for groups and individuals within the city. The House's chapel is used by various religious congregations and also serves as a meeting place for addiction recovery organizations and self-help groups. The residential portion of the facility is a safe house for women and the dining room provides a peaceful place for gathering, serving meals, celebrations and puzzle making.

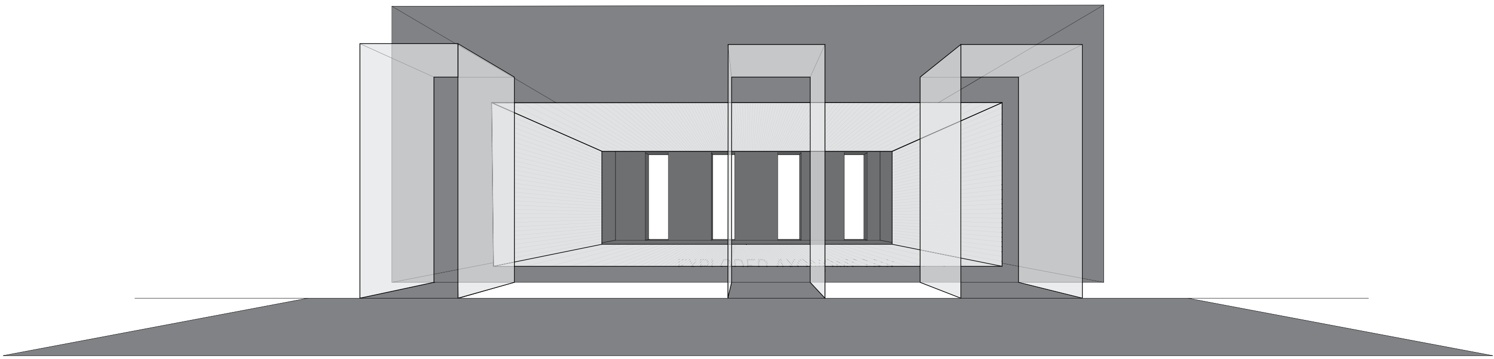






EXPLODED AXONOMETRIC

Work on this project focused on expansion and interior renovations, including a redesign of the dining area. Women living in the safe house are searching for hope and a renewed sense of self. Creating a place of solitude and warmth that would project empowerment and provide a feeling of “home” within an institutional building was the guiding principle of the design. To emphasize the residential aspect of the building, the existing boundary between the dining room and the adjacent corridor was deconstructed. The finish materials from the corridor flow into the dining room area, extending the perimeter of the space 3ft. beyond the doorway. Eighteen-inch-deep door frames further magnify the threshold space, dissolving the prominence of the corridor and enhancing a sense of arrival. The result is a ‘room within a room’. A new line of demarcation was created by clearly



BIRDS-EYE VIEW

defining the color transitions and by constructing a recess for the dark planes. The dining room is framed by a gap of darkness which extends through the millwork, flooring, ceiling and wall finishes to clearly characterize the dining room as a space of arrival.

Wood's ability to communicate rich warmth and to fashion intense contrast made it the best material choice for this project. All of the finishes introduced into the 420-sq.ft. dining room are made from maple hardwood, chosen for its clean grain and simple finish. Maple wood, maple engineered flooring and maple wood veneer stained charcoal were used for the darkened areas of the room as well as for the millwork. Maple plywood and engineered flooring stained blonde were used for the floors, walls, ceiling and door frames. The backing and framing materials are dimensional lumber and spruce plywood.

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GENERAL CONTRACTOR
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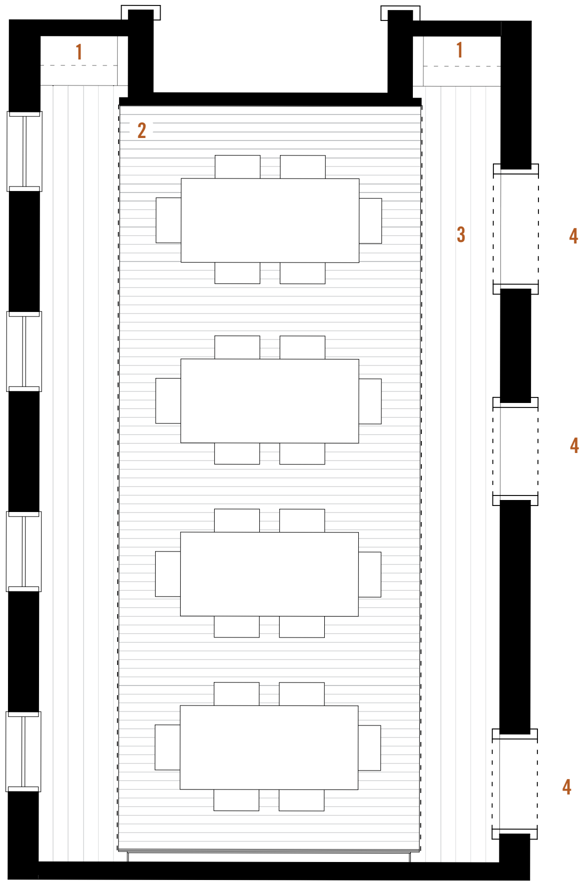
PHOTOGRAPHY
5468796 Architecture Inc.
Winnipeg, MB



1. millwork
2. dining room
3. threshold
4. entry

FLOOR PLAN

MUNICIPAL/RECREATIONAL
and JURY'S CHOICE

Olympic pavilion features elm – salvaged from a Winnipeg landfill – in a stunning horizontal ceiling and floor deck treatment

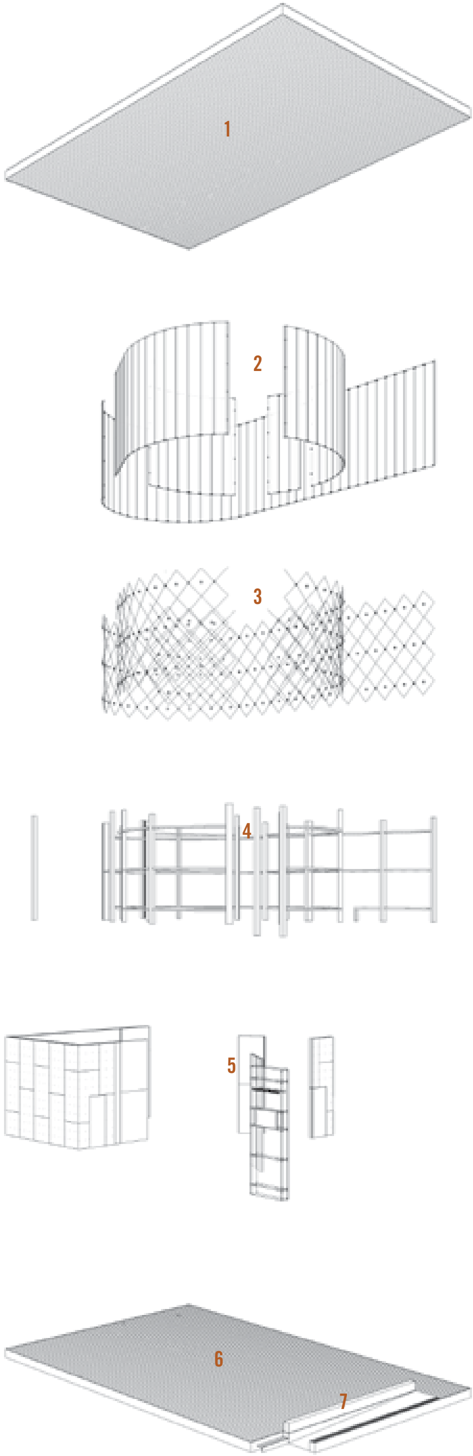
CentrePlace Manitoba

Cibinel Architects Ltd.

CentrePlace Manitoba was commissioned by the Province of Manitoba. The intent of the project was to create an Olympic pavilion that embodied the energy of the province and its people; reinforced Manitoba's position as a center for culture and trade in the global community; and, most importantly, demonstrated Manitoba's commitment to sustainability.

Wood products were chosen for the design because of their sustainable attributes, durability, and ability to be quickly assembled and disassembled as a kit of parts.

The pavilion's most stunning feature is the assemblage of horizontal wood planes that form the ceiling and floor decks and enclose the illuminated translucent polycarbonate skin. These, along with the monolithic solid bench that rests at the entry ramp, were fabricated from reclaimed elm salvaged from the City of Winnipeg's landfill site. Winnipeg has one of the largest urban elm forests in North America, however every year a huge number of trees succumb to Dutch elm disease and have to be cut down. Once these trees are debarked, they can be milled down and used for construction with no risk of spreading the disease. The pavilion used over 7,000 board feet of reclaimed diseased elm, saving over 100 trees from the landfill to create a warm and inviting sensory experience reminiscent of Manitoba's cottage country.



EXPLODED AXONOMETRIC

1. reclaimed elm soffit
2. translucent polycarbonate panels
3. steel cables and aluminum brackets
4. prefabricated glulam columns and beams
5. over-sized pivoting door
6. reclaimed elm flooring
7. reclaimed elm bench

In order to provide a post-Olympic legacy beyond the pavilion's initial six-week life span, the project was conceived as a pre-fabricated structure. Pre-fabricated wood components streamlined construction and disassembly processes, maximized the use of Manitoba materials and labor, and supported innovative Manitoban wood manufacturing companies like Wood Anchor and Western Archrib.

The elm-clad floor deck is comprised of ten 8 ft. x 26 ft.-long modules constructed with pressure treated lumber, while the elm clad roof soffit is comprised of eight 8 ft. x 40 ft.-long modules constructed of engineered wood joists. Once these components reached the building site, they were fastened together and the roof system was lifted in one piece, by crane, onto the glulam columns. The pivoting wood doors (7 ft.-wide and 16 ft.-high) constructed of 4 x 8 birch plywood panels were also prefabricated in Manitoba, as were the curved spruce glulam beams and the glulam columns.

Significant thought and coordination was also put into limiting the amount of material used to minimize the cost and implications associated with transportation. All components were designed to fit on three flatbed trailers for transport to Vancouver. Shipping materials like the plywood strapping used for transporting roof and deck modules were reused as exterior cladding on the rear portion of the structure.

CentrePlace Manitoba was the only pavilion to be awarded the 2010 Olympic and Paralympic Winter Games (VANOC) Sustainability Star to highlight sustainability in action.

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Steve Li, Provoke! Studios
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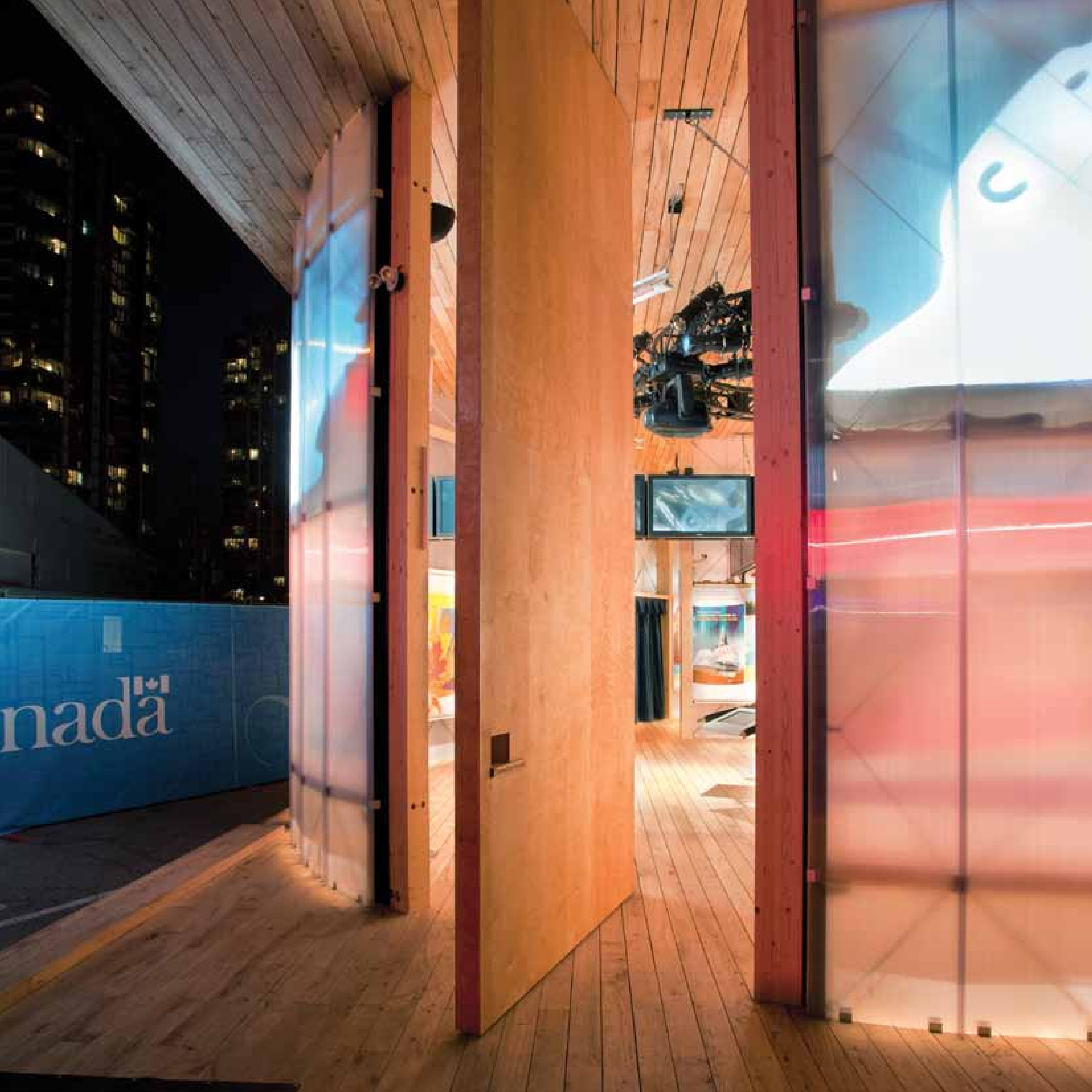

nadä

Different wood treatments emphasize the contrast between the dark roof surface and light internal spaces of this four-season lakefront home

Webster Cottage

5468796 Architecture Inc.

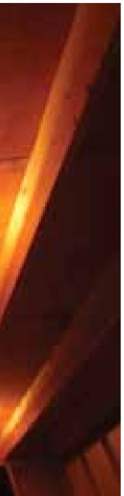
Located adjacent to Lake Winnipeg in the community of Dunnottar, this four-season cottage was conceived as a modest home away from home for a family of four. A long, linear volume housing the client's requested program folds onto itself in order to open views, define private exterior space, capture sunlight and weave around existing trees.

Intended for use in all seasons, the building contracts to conserve energy during the coldest winter months, heating only those rooms that are occupied. This seasonal expansion and contraction begins with a main, insulated cottage and extends to a series of uninsulated spaces, including water-tight summer and storage rooms, a covered/screened porch, and open-air covered

decks. A raised walkway links these spaces on the ground, while a single blanketing roof unifies the main programmatic elements as one cottage.

Situated on a 50 x 140 foot lot within 150 feet of the shore, the project takes advantage of lakefront views offered by a narrow greenway linking the site to a small portion of public beach. Two ancient white spruce trees frame the northern edge of the site, while a 250-year-old great oak occupies the southwest corner. A handful of smaller trees line the public lane and several mature timbers are clustered just west of the lot's center. These trees are retained and become key visual and environmental reference points.

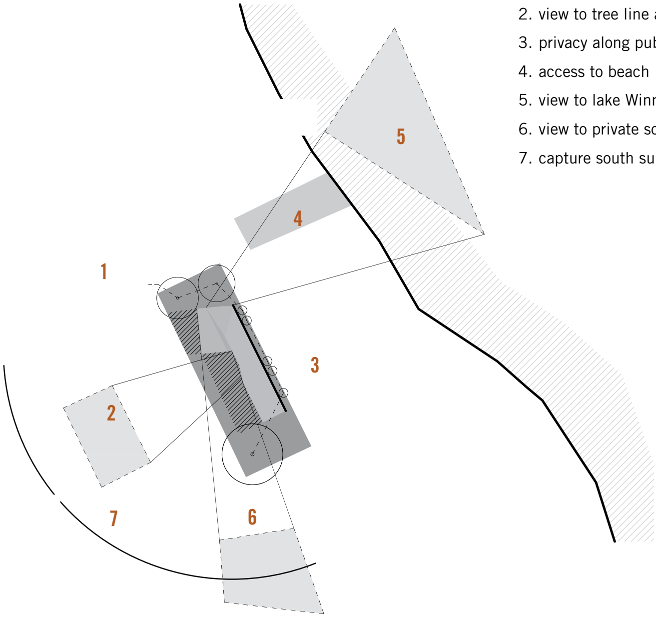
Envisioned as a simple structure within a heavily wooded site, the material palette consists primarily of various types and applications of wood. Flooring is cedar, applied in both a conventional manner (interiors and decks) and as a mill deck (along the long linear 'boardwalk' linking grade level program with the mezzanine level covered deck).



Exposed framing – hand-picked spruce and cedar, ranging in size from the standard 2 x 4 to larger 2 x 12s for the staggered sawtooth wall – differentiates public from private spaces within the insulated portion of the cottage. The various exposed and untreated woods were intended to sharply contrast the exterior cladding which consists of dark-stained PWF plywood board and batten and a corrugated metal roof.

Exposed wood framing emphasizes the simple structural/construction logic. Standard stick-frame construction on a 24-in. grid makes up the linear bar of the uninsulated structure, while a 30-in. grid is maintained in the 650-sq.ft. main cottage as the structural lines transition across the architectural fold. Complexity is concentrated at this juncture where the single-story bar folds back on itself, becoming two storys.

Stained wood cladding provides subtle texture on the exterior and responds to the mature trees on the site. Wood flooring on the interior provides richness and texture that will subtly mature with use. Material variations are kept to a minimum to emphasize the contrast between the dark roof surface (standing seam cor-ten steel) and the light internal spaces (exposed framing, plywood finishes, paired with both translucent and transparent glass and plastics).



1. preserve existing trees
2. view to tree line across yard
3. privacy along public lane
4. access to beach
5. view to lake Winnipeg
6. view to private south yard
7. capture south sun

SITE PLAN

The individual programmatic elements are further articulated at night as the randomized pattern of standard ceiling fixtures with mirror bottom bulbs illuminate the joist cavities and ceilings. The resulting warm, yellow-orange glow within each space allows the connecting roofline to recede and the interior spaces to be activated.

The cottage gives its residents opportunities to bask in direct sun, remain outside and dry in a rainstorm, get up high into the trees, view the lake, and dine outside protected from mosquitoes – through such considerations, the dwelling becomes as varied as the site.

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GENERAL CONTRACTOR
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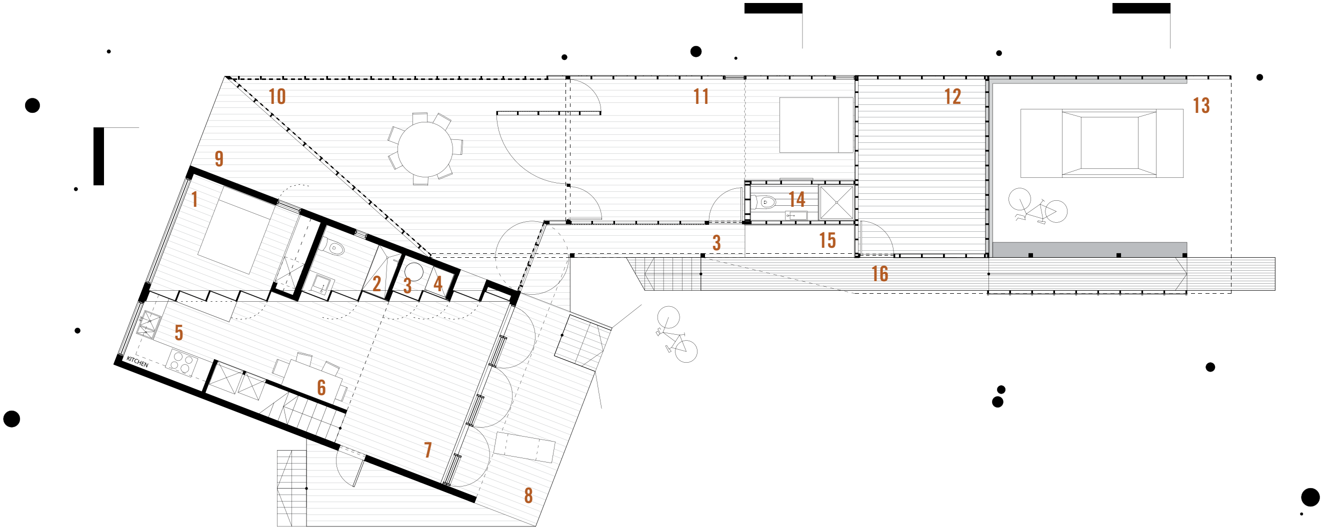
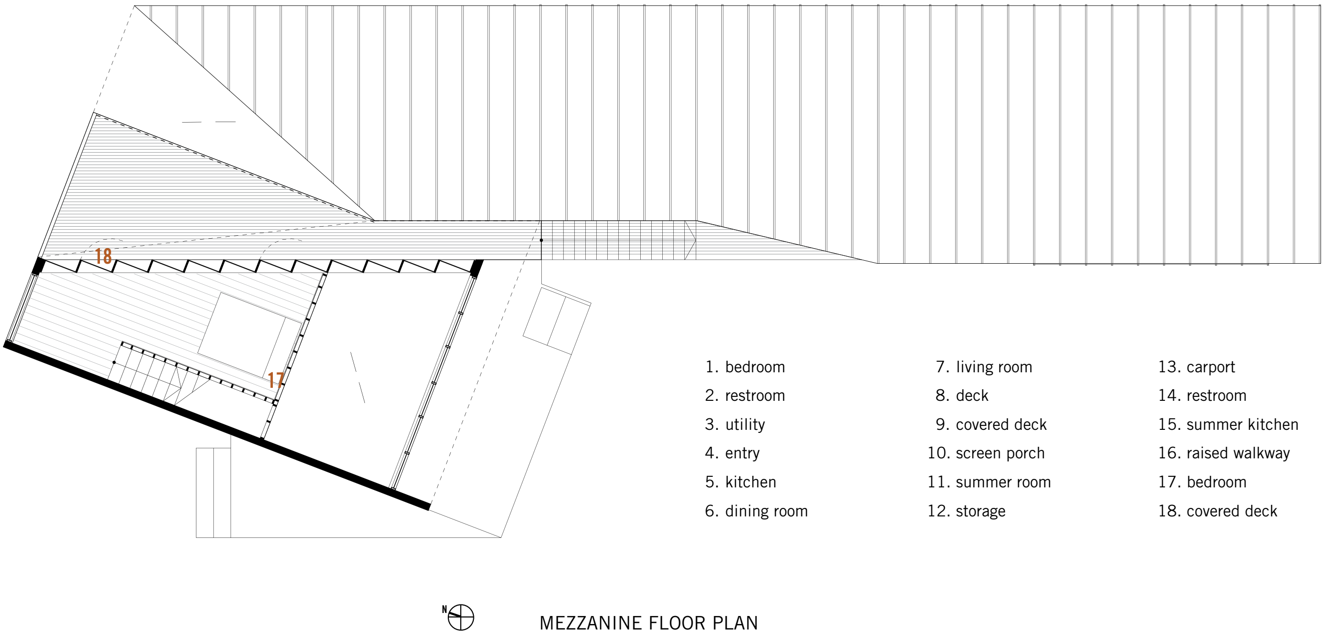
PHOTOGRAPHY/DRAWINGS
5468796 Architecture Inc.
Winnipeg, MB



FIRST FLOOR PLAN



MEZZANINE FLOOR PLAN

1. bedroom
2. restroom
3. utility
4. entry
5. kitchen
6. dining room
7. living room
8. deck
9. covered deck
10. screen porch
11. summer room
12. storage
13. carport
14. restroom
15. summer kitchen
16. raised walkway
17. bedroom
18. covered deck

U.S. WoodWorks Wood Design Awards

In 2008, WoodWorks U.S. was established as a pilot initiative in three regions that collectively encompassed seven states. The purpose of the program was to help architects and engineers use wood more easily in non-residential and multi-family buildings – and to achieve cost savings as a result. WoodWorks sought to accomplish this through a mix of one-on-one project support, educational events and online resources such as CAD/REVIT details and design examples.

From the beginning, Wood Design Awards were held annually in each region to celebrate excellence and inspire others to push the limits of wood design. Each year, these regional programs have grown with more award nominees and a greater breadth of nominated buildings. And now, WoodWorks itself has also grown – into a national program supporting all 48 continental U.S. states.

By the end of the three-year pilot, our technical team was supporting more than 500 building projects, helping with everything from code issues to seismic design to appropriate connections. It has been our experience that more design professionals are choosing wood where previously they defaulted to other materials. They are recognizing that wood provides more value – in terms of its beauty, design flexibility and environmental attributes – at less cost. Innovative designers are leveraging wood's inherent versatility to create schools, condominiums, arenas and restaurants. They're designing airports and transit stations, office buildings and resorts. And by choosing wood, they're lowering the carbon footprint of the built environment while also lowering costs.

Once again, WoodWorks is pleased to have this opportunity to showcase award-winning buildings that demonstrate the diversity of wood use across the U.S. They are a testament to wood's strength, even where the wood is encased behind cladding and finishes, as well as its beauty and versatility. Our gratitude goes to the architects and engineers of these projects, who have embraced wood in their designs and, through this book, will serve as an inspiration for anyone interested in wood's exciting possibilities.

Dwight Yochim, RPF
National Director
WoodWorks

U.S. WoodWorks Wood Design Awards

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MARK HORNBERGER, FAIA
President, Founding Principal
HORNBERGER + WORSTELL
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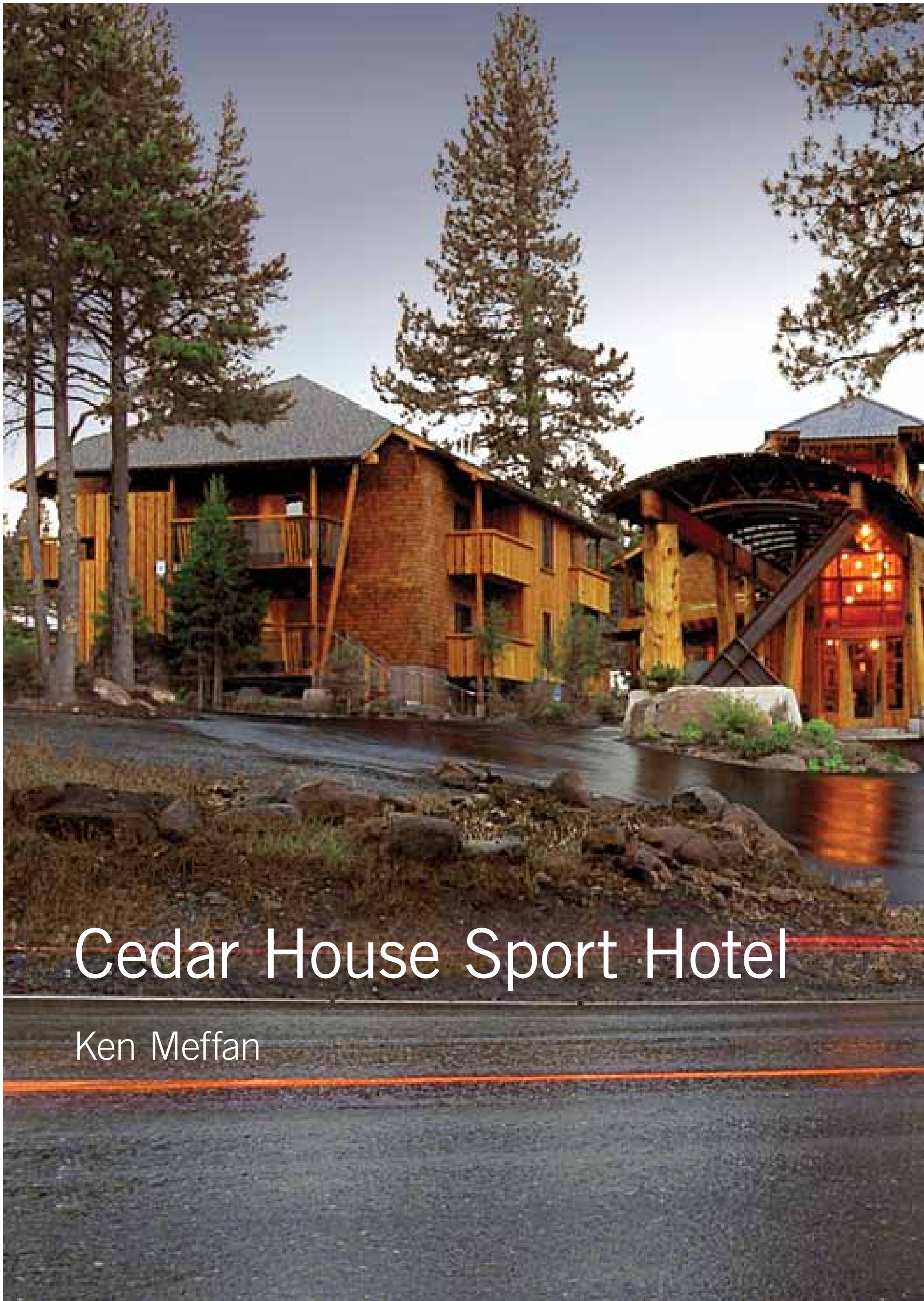
CALIFORNIA



Cedar House Sport Hotel

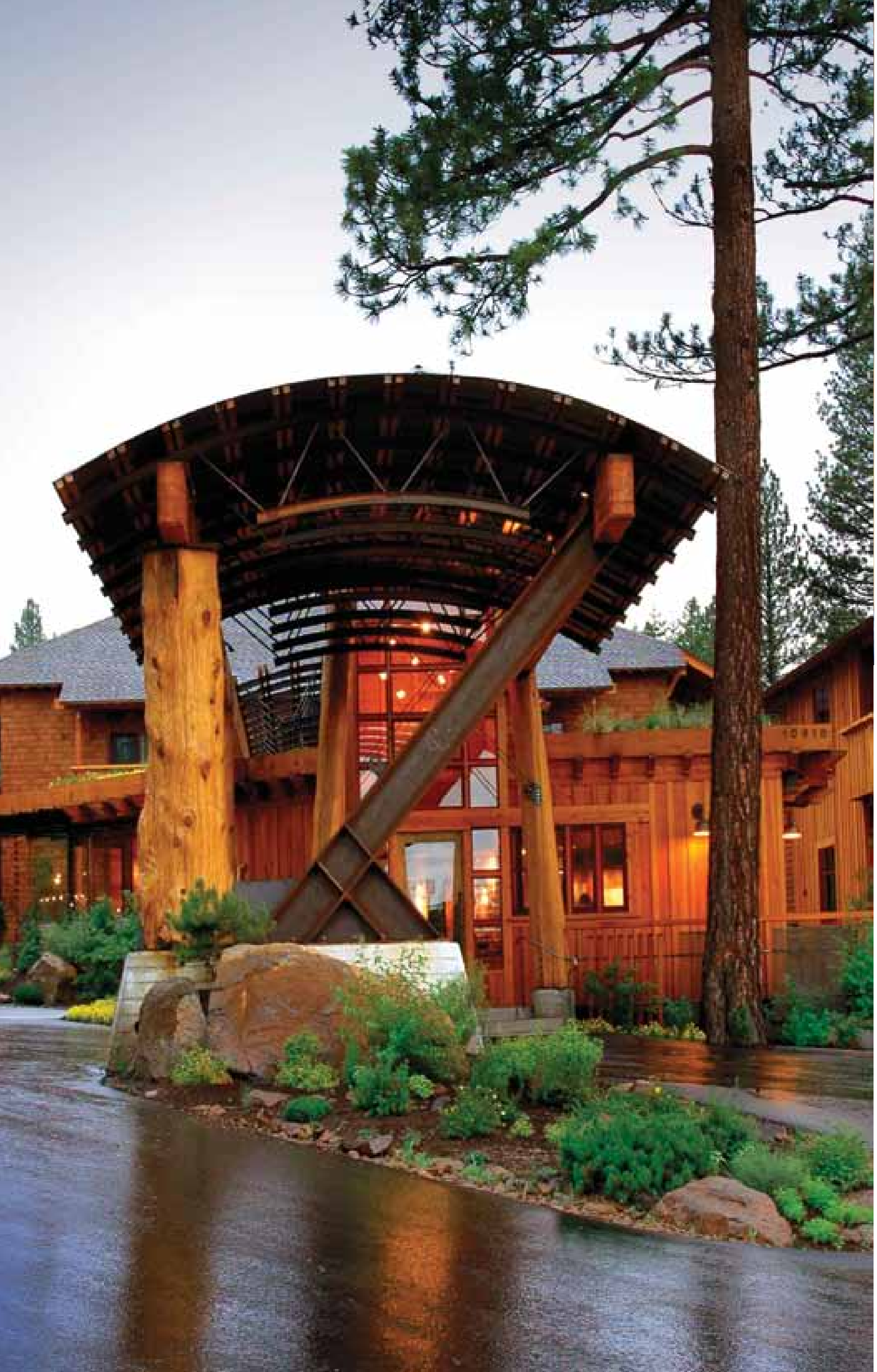
Cedar radiates warmth of character in mountain lodge's unique, exposed structural system

Ken Meffan

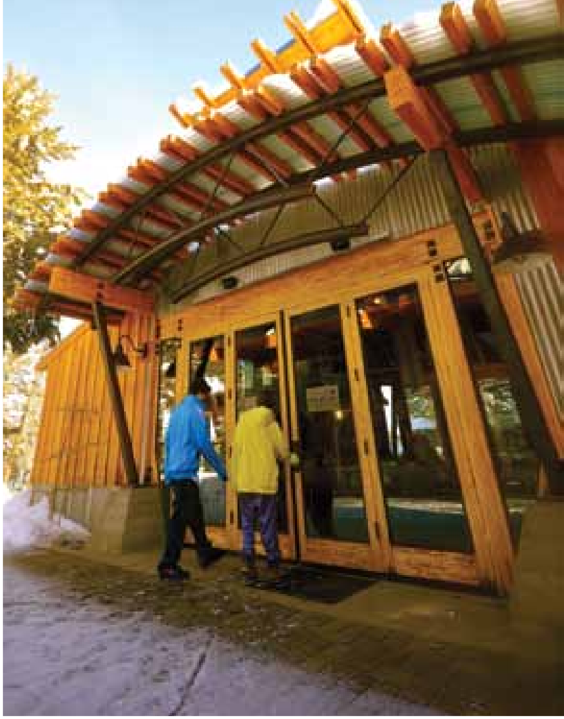
Located near the historic and rustic high-mountain town of Truckee, CA, by the beautiful north shore of Lake Tahoe, the Cedar House Sport Hotel and adjoining Stella Restaurant are dedicated to nature and coexist effortlessly with the outdoor environment. This green spirit extends to the pallet of chosen materials which are used in their true form. Wood is left unpainted to reveal its beauty and warmth; steel is left to patina naturally; concrete is treated as a finished surface and glass allows light and views to flow into the interior spaces.

The Cedar House Sport Hotel is a 42-room eco-hotel with a 'mountain-industrial' style whereby the details and structural system are exposed and emphasized as architectural elements. Cedar log columns support an oxidizing steel truss arc. On approach, visitors are immediately struck by the inviting ambiance wood creates in this unique mountain lodge. Sustainably harvested and locally milled rough-sawn wood is used throughout, as well as recycled wood from a neighboring derelict building demolition job. Incense cedar is used on the exterior where direct human interaction takes place. Exterior walls that are outside the protection of the inner courts and more exposed to severe weather are 'armored' with corrugated cold-rolled steel, intended to oxidize. A sod roof shelters the lobby with indigenous plants and helps to strengthen the relationship with the local mountain setting and further the eco experience.

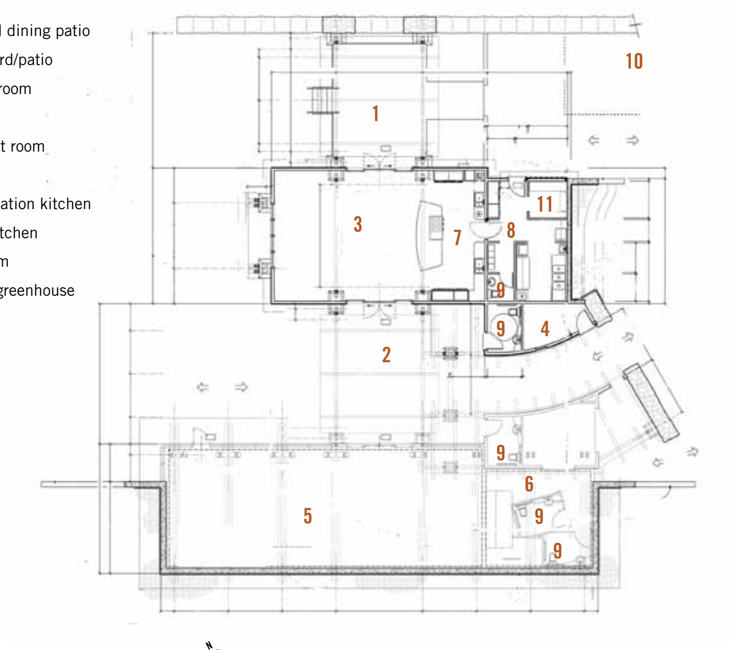

Welcome.
Benvenuto
Willkommen
Welkom
EXIT



For the interior, incense cedar is used once again on the walls in the lobby to create a warm, welcoming feeling and infuse the lobby with the unmistakable aroma of real wood. Engineered wood was milled for interior trim, the entry door and other architectural details. The combination of cedar cladding, a countertop made from sequoia redwood (from a tree that was planted too close to a house and needed to be cut down), heated concrete floors and the raw steel structure create a natural serenity. The lobby extends to a bar which opens up to the outside and allows guests to be completely surrounded by nature and the fresh mountain smells of the nearby pine and fir.



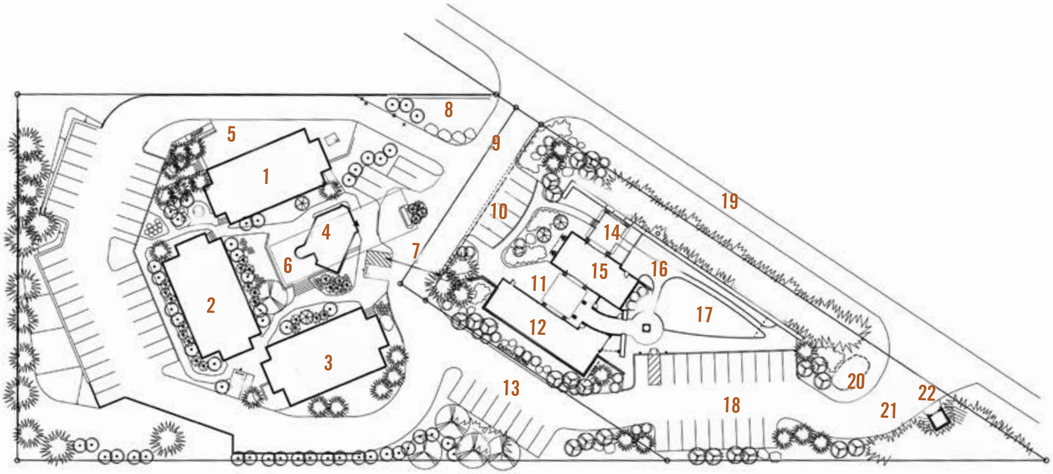
1. covered dining patio
2. courtyard/patio
3. dining room
4. office
5. banquet room
6. hall
7. presentation kitchen
8. back kitchen
9. restroom
10. future greenhouse
11. pantry



FLOOR PLAN

Adjoining the hotel is the Stella Restaurant which provides a unique dining experience: guests are able to view the chef preparing the culinary delights. The material vocabulary of the restaurant mimics that of the hotel and lobby with an emphasis on nature. Gabion-style rock walls separate the restaurant from the street and road noise, while locally milled cedar siding contributes added warmth and natural ambience.

Across the outside corridor from the restaurant is a conference building. Its arched glulam roof is supported by a tee-pee of steel columns that controls the lateral forces and provides interesting visual appeal.



1. existing hotel building 1
2. existing hotel building 2
3. existing hotel building 3
4. existing hotel building 4
5. patio
6. patio
7. pedestrian path to hotel
8. existing drainage basin
9. existing driveway
10. new parking
11. patio
12. new construction
13. existing hotel parking/driveway
14. deck
15. remodeled existing building
16. patio
17. lawn
18. reconfigured existing parking area
19. Brockway road
20. new drainage basin
21. existing driveway
22. new transit stop

SITE PLAN

ARCHITECT
Ken Meffan
Rough and Ready, CA

CLIENT
Jeff and Patty Baird
Truckee, CA

GENERAL CONTRACTOR
J.B. Construction (Jeff Baird)
Truckee, CA

STRUCTURAL ENGINEER
Kevin Baird
Santa Cruz, CA

INTERIOR DESIGN
Patty Baird
Truckee, CA

MILLWORK
Moonshine Forest Products (Bob Prout)
Camptonville, CA

PHOTOGRAPHY
Cedar House Sport Hotel
Truckee, CA

GREEN

Wood weaves together new and old, combining modern sustainable building features with cultural and vernacular design aesthetics

Yountville Town Center

Siegel & Strain Architects

In 1998 the Town of Yountville embarked on a master planning process that envisioned a new, sustainably designed towncenter where Yountville residents could meet, learn, play and celebrate. Through community participation and perseverance, construction began in 2008.

The Yountville Town Center project saw the development of a new 10,000-sq. ft. multi-purpose facility, the renovation of an existing community hall, and the addition of a sheriff's substation adjacent to the post office. These three civic buildings frame a new Yountville Town Square.

The new building houses a branch library, multi-purpose room, and teen center, in addition to meeting and program spaces. Because the residents of Yountville wanted to reduce the town center's carbon footprint and be a local model for sustainable development, a number of green features were incorporated. The development includes a ground source heating and cooling system, a 38 kW photovoltaic array, low-flow plumbing fixtures, environmentally preferred building materials, efficient lighting and daylighting, natural ventilation, a water-conserving landscape, and an innovative subsurface irrigation system.

Construction materials were selected to minimize the building's life-cycle impact, blend with the rural architectural character, and provide light and airy interiors free of formaldehyde and VOCs. Wood played a significant role in connecting the Yountville Town Center to the agrarian buildings of the Napa Valley, combining cultural and vernacular aesthetics with economical design and locally familiar construction methodologies.



Wood was specified because it is a renewable resource. The small-sawn FSC lumber and laminated wood beams were an obvious choice for their greater availability, minimal expense, and lower environmental impact. Because the new community center building was designed to dimensions established by the existing community hall, wood framing was preferred over light gauge metal framing because wood is easier to work with in nonstandard lengths.

The exterior wood selections – western red cedar, Alaskan yellow cedar, and redwood – and most of the interior wood selections – Douglas fir and white fir – are all regionally sourced and selected for the warmth and beauty they will provide over the lifetime of the building. Over 75 per cent of framing and finish wood materials are FSC certified from sustainably managed forests.

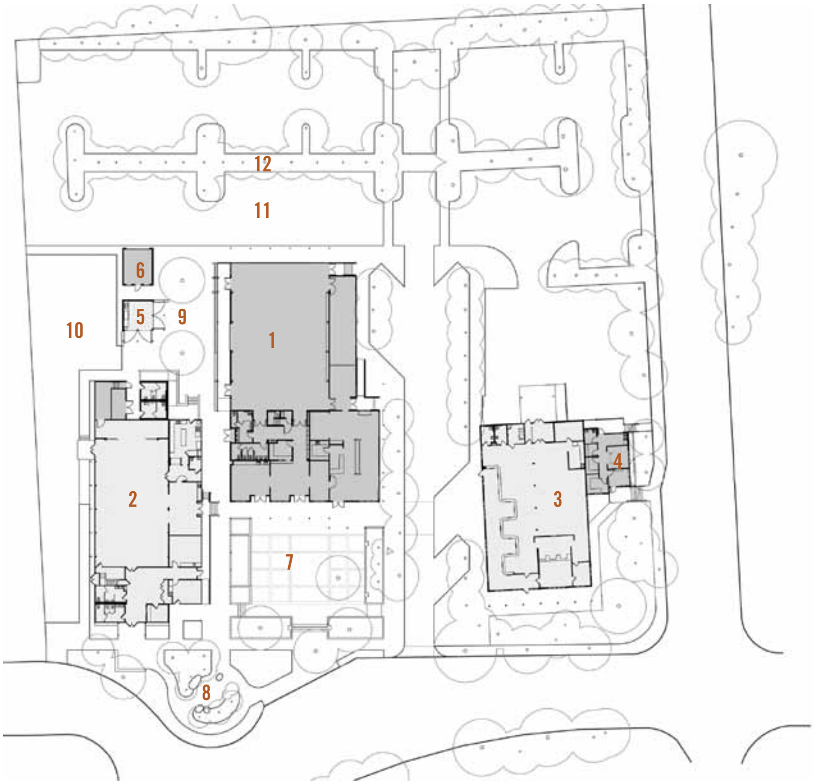
To add warmth to areas where people come into the building, regionally harvested western red cedar was selected for porches and entrances. Slatted wood ceilings are locally sourced white fir. Interior finish materials were selected for their durability, ease of maintenance, and non-toxic, low VOC, formaldehyde-free composition.

Exteriors blend with the town's rural character, while inside the spaces are light and airy. Sunscreens were a major design element in the project. Alaskan yellow cedar was specified for the horizontal slats because it is an exceptionally hard, weather-resistant, low maintenance wood that weathers to an appealing silver grey. This lighter color gives it reflectivity, making the individual slats light shelves that bounce sunlight onto adjacent ceilings.

Barn doors open to extend the multi-purpose room out onto the adjacent barbecue patio. The large multi-use room is daylit by a ridge skylight and supported by unique wood and cable trusses. The western red cedar porch's posts and beams were designed as paired 3 x 6 and 3 x 10 members instead of single 6 x 6 and 6 x 10. Metal plates and self-tapping screws connect the members and hold them off the ground.

The design of the cabled roof trusses makes very efficient use of materials by taking advantage of strengths inherent to each. The wood glulam members take the compression and bending loads, the steel cables take the tension forces, and the welded steel plates provide the connections. No special construction was required in the assembly. The trusses are made of standard lumber (in the form of paired glulams), steel cable, and steel plates connected with ¼-in. self-tapping screws. The trusses were tensioned on-site in one morning by the steel fabricators. The unique design creates a beautiful, light and soaring space designed to host a wide array of events and activities, from after-school programs to community celebrations.

In the new Yountville Town Center wood successfully marries design and sustainable practices into a purposeful statement that has become a great source of pride for the residents of Yountville.



1. community center building
2. community hall building
3. post office building
4. public service office addition
5. bbq kiosk
6. service enclosure
7. town square
8. founders' circle and landscaped marker at point
9. bbq patio
10. picnic lawn with subsurface irrigation
11. public parking lot with geothermal field below
12. bioswales

SITE PLAN

ARCHITECT
Siegel & Strain Architects
Emeryville, CA

CLIENT
Town of Yountville
Yountville, CA

GENERAL CONTRACTOR
Swank Construction
Vacaville, CA

CONSTRUCTION MANAGEMENT
Pound Management Inc.
Oakland, CA

STRUCTURAL ENGINEER
Endres|Ware Architects Engineers
Berkeley, CA

LANDSCAPE ARCHITECT
John Northmore Roberts & Associates
Berkeley, CA

CIVIL ENGINEER
Coastland Civil Engineering
Santa Rosa, CA

MECHANICAL, ELECTRICAL, PLUMBING
Timmons Design Engineers
San Francisco, CA

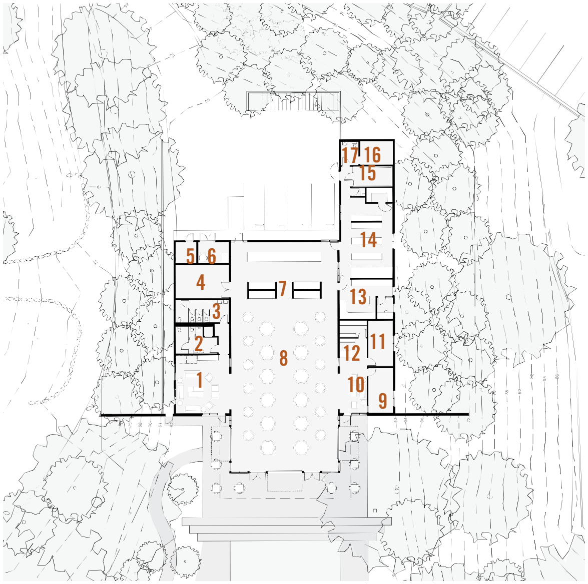
LIGHTING
Alice Prussin Lighting Design
Berkeley, CA

PHOTOGRAPHY
David Wakely Photography
San Francisco, CA

Student Commons embodies school's mission to promote responsible leadership and serves as an example of sustainability to students

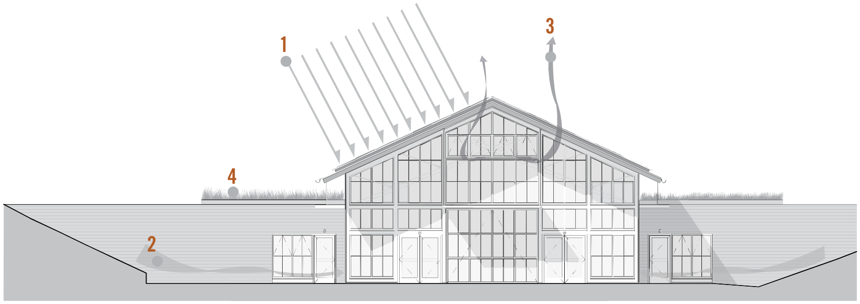
Branson Commons

Turnbull Griffin Haesloop



1. lounge
2. men's restroom
3. women's restroom
4. storage
5. electrical
6. mechanical
7. server
8. dining hall
9. counseling reception
10. lounge
11. counseling office
12. counseling office
13. scullery
14. kitchen
15. refrigerator
16. mechanical well
17. staff restroom

FLOOR PLAN



1. photovoltaic panels convert sunlight to electricity
2. passive cooling and natural ventilation: cool air enters building
3. passive cooling and natural ventilation: warm air rises and exits
4. living roof

ENVIRONMENTAL DIAGRAM

The Branson School is an independent high school occupying 17 acres of hilly terrain in the residential community of Ross, CA, north of San Francisco. The new 7,550-sq.ft. student commons building is located in a narrow glen at the center of the campus along the pedestrian path between the upper and lower campuses.

The building's central gable and large window wall face an inviting terrace and lawn while the flanking support wings, sheltered under green roofs, connect to the adjacent hillsides with board-formed concrete walls. Sited to take advantage of the sunny southern exposure, the new building features large overhead doors that open out to a generous plaza for dining, meeting and outdoor learning. By providing spaces to gather and socialize throughout the day, the student commons is the heart

of campus activity. The building is LEED Platinum certified and features many sustainable strategies.

Wood was chosen as a primary material for the construction of this project for its relatively low environmental impact and the ease with which it can be configured to communicate a feeling of both warmth and precision in a communal space. The roof trusses were site-built using re-sawn wood timbers. The aluminum windows were installed in a steel frame entirely clad in wood on the interior and exterior. The lower portion of the interior walls and the servery are clad in tongue-and-groove Douglas fir paneling. The exterior soffits are built from tongue-and-groove cedar. Using wood creates a balance with the other interior materials which were selected for acoustical absorption properties, ease of cleaning, and ability to reflect light. The natural wood provides a visual warmth within the great room of the student commons.

The environmental approach for the Branson Student Commons reflects the school's mission to promote "responsible leadership in the global community." As an educational facility that believes in personal and intellectual integrity, the school uses the addition of the student commons as an example of sustainability to students. Native landscaping and living roofs enhance the commons' relationship to nature and reduce water consumption/irrigation needs, diminish stormwater runoff, and mitigate the urban heat island effect. Photovoltaic panels capture energy from the roof that is exposed to sun most days of the year.

In addition to sustainable education through the experience of the building, the school supplies a LUCID interactive screen with quantitative, real-time data on water, gas, electric, and PV use. The science department and a group of teachers plan to offer a course to study the results.

ARCHITECT
Turnbull Griffin Haesloop
San Francisco, CA

PROJECT TEAM
Mary Griffin, Eric Haesloop, John Kleman, Georgianna Salz, Evan Markiewicz, Tory Wolcott

CLIENT
The Branson School
Ross, CA

GENERAL CONTRACTOR
Herrero Contractors Inc.
San Francisco, CA

STRUCTURAL ENGINEER
Fratessa Forbes Wong
Oakland, CA

LANDSCAPE ARCHITECT
The Landscape Office/Sasaki
San Rafael, CA

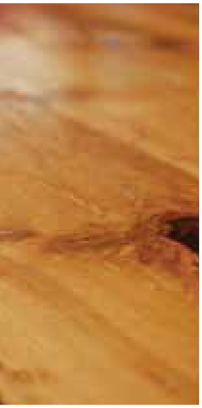
ELECTRICAL/LIGHTING
O'Mahony & Myer
San Rafael, CA

CIVIL ENGINEER
Sherwood Design Engineers
San Francisco, CA

ENERGY CONSULTANT
Loisos and Ubbelohde Associates Inc.
Alameda, CA

PHOTOGRAPHY
David Wakely Photography
San Francisco, CA



INTERIOR BEAUTY OF WOOD

Restaurant uses wood to balance the rough and the refined, creating a sensually rich drinking and dining experience

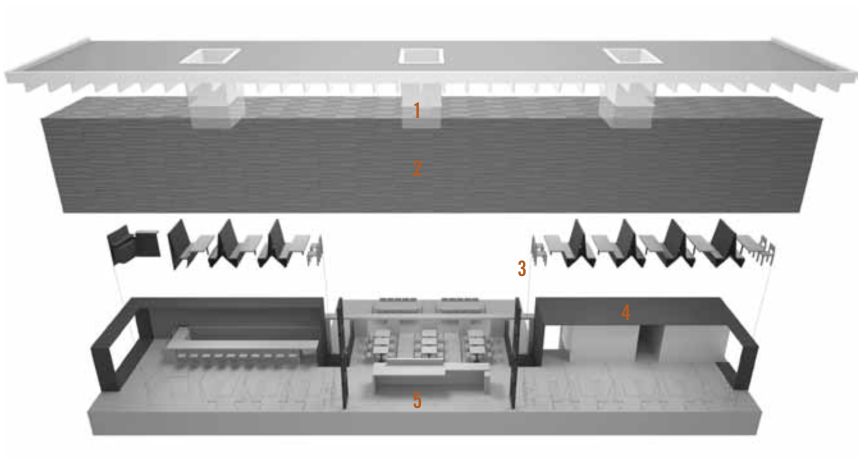
Bar Agricole

Aidlin Darling Design

With a name inspired by the farmhouse rums of the French Caribbean, Bar Agricole embodies both the urban and the agricultural through its simple, seasonal fare, organic and biodynamic wine, and artisanal spirits. Located on a gritty street in San Francisco's industrial South of Market district, the restaurant is at once down-to-earth and sophisticated in its approach to food, drink, and the dining experience.

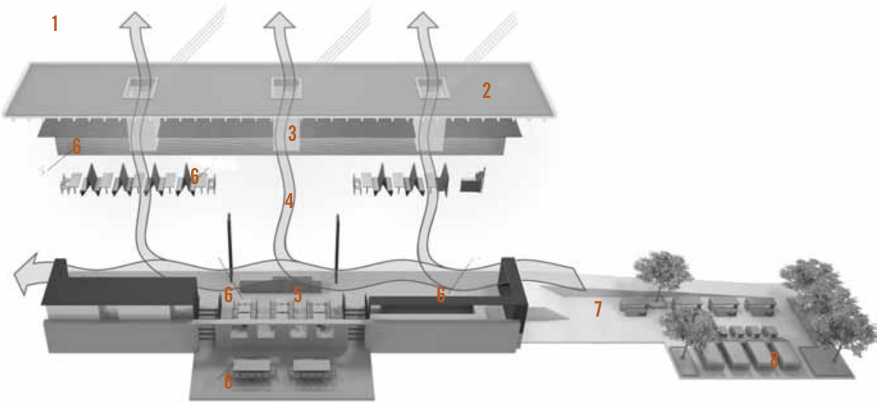
Drawing on long-term relationships with local artisans, the architect and owner assembled an expanded design team for a collaborative design-and-build process. Concrete, wood, metal and glass fabricators weaved their distinct talents together, highlighting individual crafts and experimenting with new materials and techniques to create a cohesive, welcoming environment.

Specifically, the sophisticated use of reclaimed wood throughout the interior provides rustic yet urban warmth. The reclaimed wood – with its wormholes and markings of age – provides a sense of history and permanence.



1. sculptural light scoops
2. wood hull
3. fixed seating
4. ribbons
5. concrete plinth and bars

DESIGN ELEMENTS



1. regional fabrication
2. site selection
3. daylighting
4. natural ventilation
5. recycled content
6. reclaimed wood
7. pervious pavers
8. on-site agriculture

SUSTAINABLE STRATEGIES

As a primary spatial gesture, the existing long and tall warehouse interior was given a sense of intimacy through the installation of a wooden "hull." The hull is crafted of reclaimed whiskey barrel oak, milled into thin strips and lapped in a scale-like texture. Delicate glass sculptures descend from skylights above the hull, puncturing through the wood ceiling and distributing daylight throughout the dining room. Their airy and fluid lines are formed from warped pyrex cylinders fused into curvaceous, glittering volumes that float gently overhead.

The restaurant's bars, banquettes, and service spaces are arrayed as furniture-like objects within this interior volume. The bar tops and host stand top are made from board-formed concrete and reclaimed oak barn beams. Table tops and banquette seats are also made from reclaimed oak pieces that have varying degrees of wormholes depending on the location and desired level of refinement. The chairs are custom made from reclaimed wine barrel oak from the Napa Valley.

The dining experience does not end at the perimeter of the building envelope. Through a deep steel-and-glass façade, the dining room connects to an outdoor courtyard and organic garden where raised redwood beds hold herbs harvested for artisanal cocktails. The FSC-certified cedar fence provides an intimate enclosure within the urban environment.

Designed as a complement to the restaurant's menu, the overall space balances the rough and the refined to create a sensually rich drinking and dining experience. Much like the integration of hand-foraged produce sourced from a network of sustainable farms, the use of reclaimed and FSC-certified wood throughout the restaurant provides durable and sustainable materials fabricated locally to achieve the greatest effect in a minimalistic and efficient manner.

ARCHITECT
Aidlin Darling Design
San Francisco, CA

PROJECT TEAM
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GENERAL CONTRACTOR
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STRUCTURAL ENGINEER
Berkeley Structural Design
Berkeley, CA

MECHANICAL ENGINEER
MHC Engineers
San Francisco, CA

LIGHTING DESIGNER
Revolver Design
Berkeley, CA

ACOUSTIC CONSULTANT
Charles Salter Associates
San Francisco, CA

SUSTAINABILITY CONSULTANT
Simon and Associates
San Francisco, CA

GRAPHICS
Albertson Design
San Francisco, CA

FOOD SERVICE CONSULTANT
Restaurant Consultation & Design
Oakland, CA

GLASS SCULPTURE DESIGN
Nikolas Weinstein Studios
San Francisco, CA

CUSTOM CHAIR DESIGN
Sebastian Parker
San Francisco, CA

METAL FABRICATOR
Chris French Metal
Oakland, CA

CONCRETE FABRICATOR
Concreteworks
Oakland, CA

WOODWORKING
Cabinet Works Co.
San Leandro, CA

WOOD HULL FABRICATOR
Matarozzi Pelsinger Builders
San Francisco, CA

GARDEN FABRICATOR
Cronin Construction & Development Inc.
San Francisco, CA

PHOTOGRAPHY
Thomas Winz
San Francisco, CA

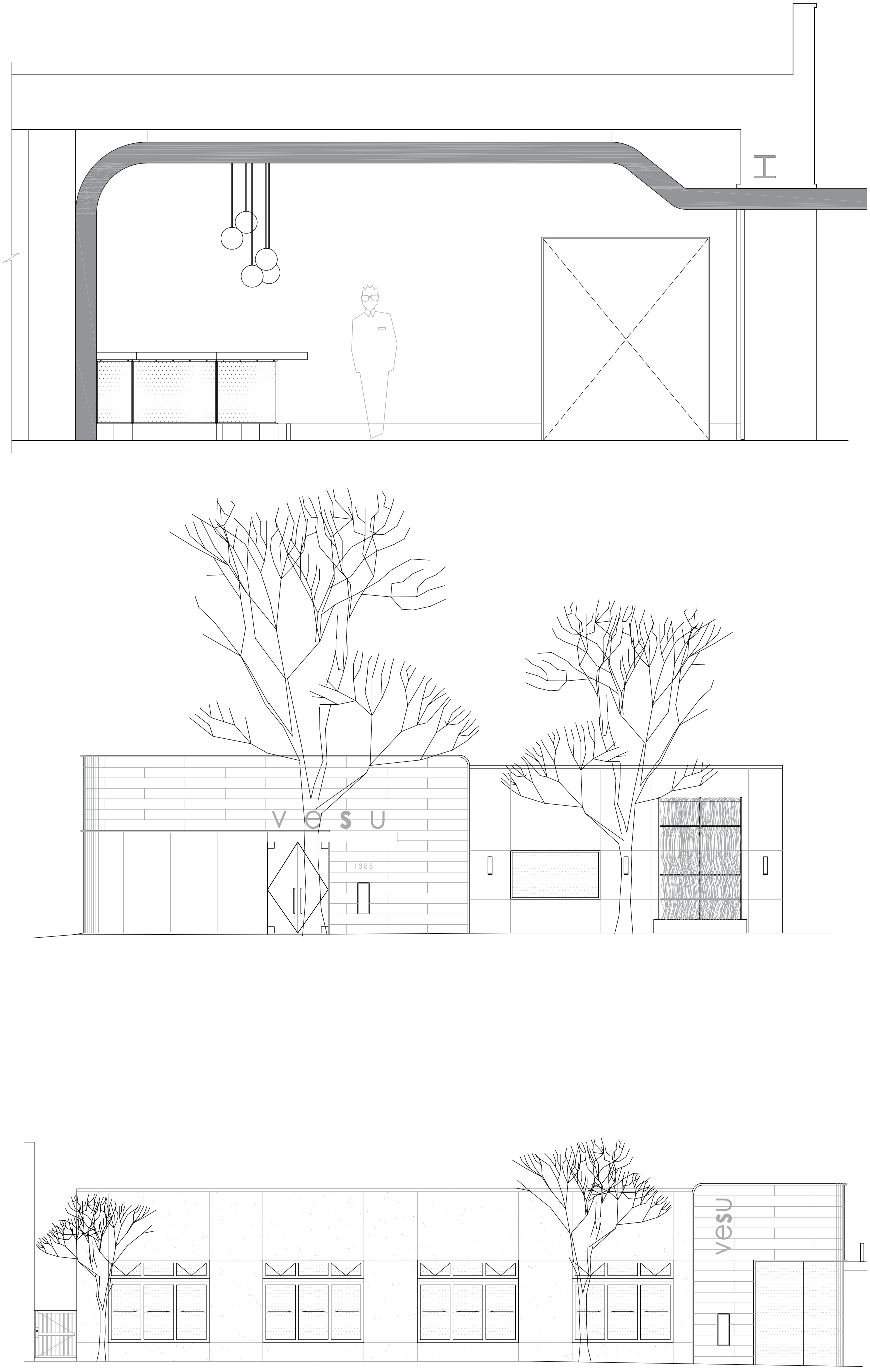
Matthew Millman, Jennifer Yin, Thomas Winz, Aidlin Darling Design
San Francisco, CA

MAJOR RENOVATION

Suburban restaurant delivers a metropolitan aesthetic while celebrating the materiality of the space

Vesu Restaurant

Arcsine Architecture



ELEVATIONS

Situated in a lively pedestrian zone in downtown Walnut Creek, CA, Vesu Restaurant is approximately 4,200 sq.ft. The space includes a bar area, fireside lounge, dining area that seats 80, plus kitchen and service zones that utilize the rear extension. A contemporary, wood-panel rainscreen façade wraps the exterior of the building and is complimented by a curving wall of frameless glass which entices passersby to step inside.

The rounded nature at the corner responds to local context. Many nearby buildings have radiused corners; however, a functional and fresh solution was achieved by using wood, glass, and anodized aluminum. In addition, the rainscreen applied to the dappled surface of the exterior, brings a visually engaging storefront to the street corner and aids in the preservation of the existing building structure.

A projecting canopy of FSC-certified eucalyptus extends into the interior, guiding guests through the space from the entry to the bar area via a sensuous "S-curve" that concludes at the rear of the bar. This architectural gesture highlights the exquisite grain and hue of the wood and is a central feature of the restaurant and lounge experience.

The curves echo the flow of circulation within the restaurant and act as transition planes. The wood façade serves as the first plane of transition, from exterior to interior, and the downward curve of the soffit becomes the wall that separates the bar area from the more intimate dining space.

This contemporary expression is further articulated in the monochromatic finishes and furnishings. This simplicity celebrates the rich texture and color of the wood. An example of this juxtaposition can be seen in the black floor tile that offsets the warmth and character of the redwood dining tables.

At the bar itself, a carefully curated selection of spirits is displayed in wall-mounted boxes of black micro-dot laminate, backlit with individual lamps. While the varied selection of light fixtures provides distinct identities to different zones, the use of dark blue and green tones throughout unifies the space as a whole.

Vesu Restaurant, nestled on a suburban corner, delivers a metropolitan aesthetic while celebrating the materiality of the space.

ARCHITECT/INTERIOR DESIGNER
Arcsine Architecture
Oakland, CA

STRUCTURAL ENGINEER
Gregory Paul Wallace, SE
Emeryville, CA

GENERAL CONTRACTOR
Terra Nova Industries
Walnut Creek, CA

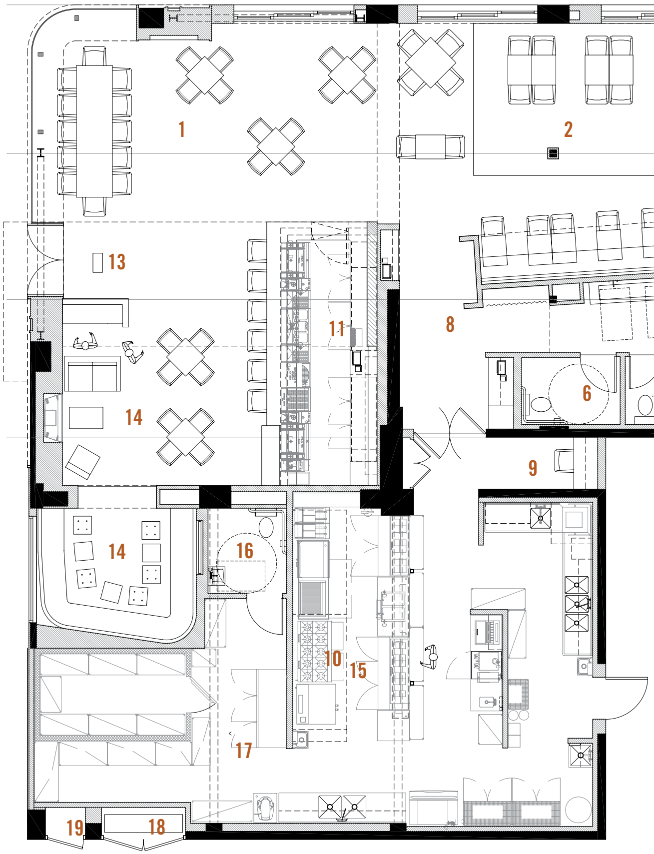
MECHANICAL/ELECTRICAL ENGINEER
Encon Consulting Engineers
Los Altos, CA

INTERIOR FINISHES/FURNITURE
Bellusci Design
San Francisco, CA

KITCHEN DESIGN
JM Design & Associates
Manteca, CA

LIGHTING
Caprice Carter Lighting Design
Alameda, CA

PHOTOGRAPHY
Sharon Risedorph
San Francisco, CA



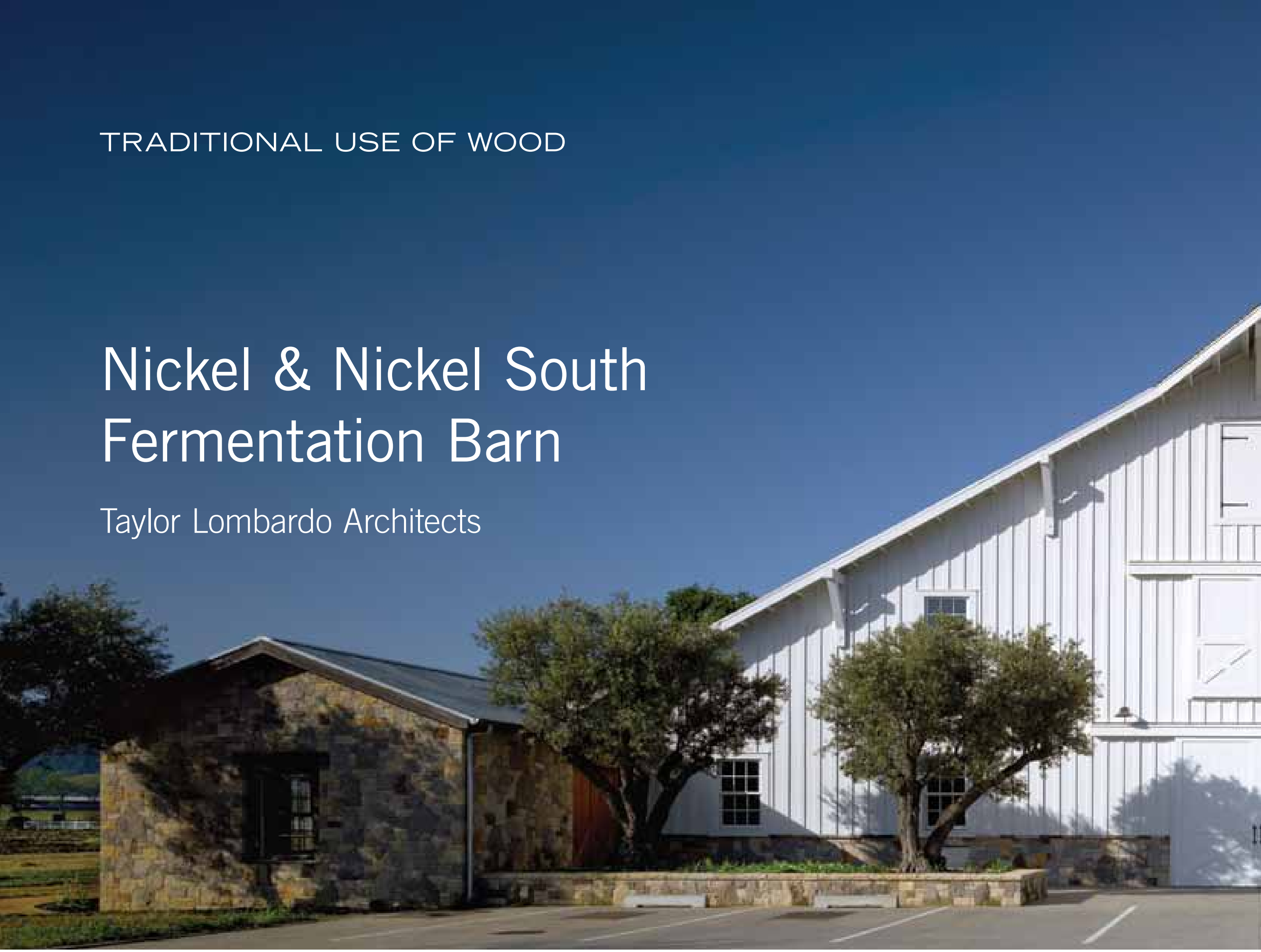
1. dining room
2. dining room
3. restroom
4. women's access
5. women's restroom
6. men's restroom
7. men's access
8. hall
9. office
10. kitchen
11. bar
12. dining room
13. entry
14. lounge
15. cook line
16. employee restroom
17. dry storage
18. electrical room
19. fire escape

FLOOR PLAN

TRADITIONAL USE OF WOOD

Nickel & Nickel South Fermentation Barn

Taylor Lombardo Architects



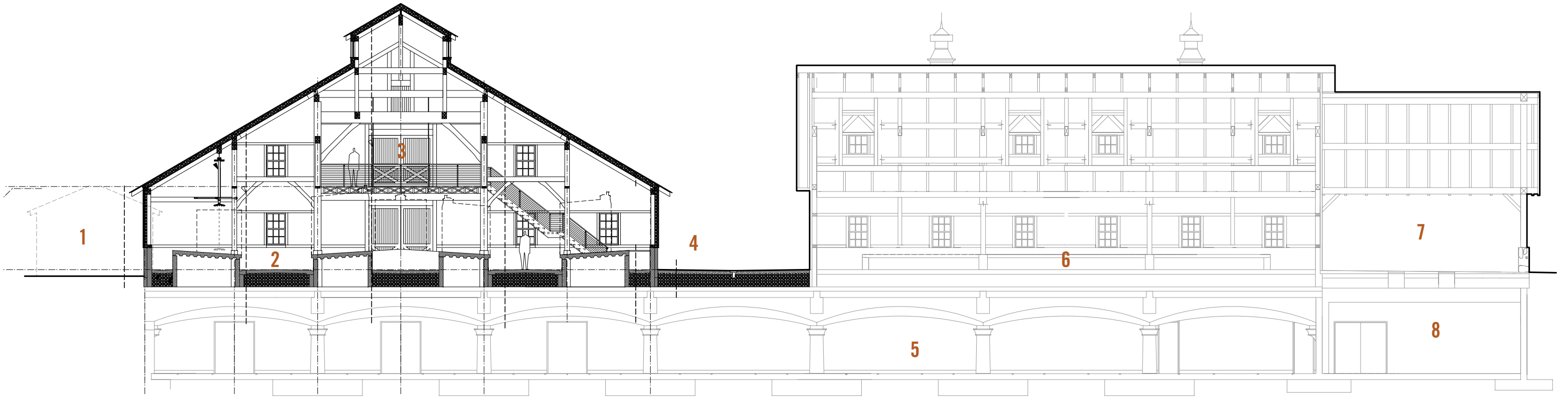
The South Fermentation Barn is the most recent addition to the Nickel and Nickel Winery Campus. The winery is located in Oakville, CA, on the historic 19th century John C. Sullenger 42-acre farmstead. This barn and the adjacent North Fermentation Barn sit atop a 30,000-sq.ft. subterranean barrel cellar that is accessed by descending a stairway housed in a traditional stone outbuilding at the southeast corner of the South Fermentation Barn.

The 6,000-sq.ft. South Fermentation Barn is built with hand-hewn fir beams, rafters and boards. It features traditional American barn-building methods. The entire structure and framework are completely exposed. The wood-frame barn

State-of-the-art winery built with the timeless look and appeal of a traditional American farmstead

was assembled using age-old techniques of hand joinery for post and beam construction that were common in the 1800s. Creative engineering enabled the barn to meet seismic building codes, while preserving its 19th century American farmstead vernacular.

Cross-braced rafters are among the common construction methods found in both turn-of-the-century framing style and the South Fermentation Barn. Below the prow peaks are large sliding barn doors that open into a loft level on two sides of the building. The latter, along with the cupola and a series of clerestory windows, allow natural light to filter through the interior. The exterior is clad with western red cedar



1. barrel entry
2. south fermentation
3. lot storage b
4. breezeway
5. barrel storage
6. north fermentation
7. covered crush
8. presses

SECTION

board-and-batten siding with hand-cut and chiseled limestone and volcanic tuff wainscot. A traditional corrugated galvanized tin roof completes the barn.

This 19th century styled building houses 21st century equipment uniquely suited to making custom small-lot, single-vineyard wines. The south fermentation barn contains 25 computer- and temperature-controlled stainless steel tanks in various sizes with floating aluminum catwalks. A pneumatic punch-down device with open-top fermentation tanks has also been added to the winemaking process. All fermentation tanks sit on raised tank pads with integrated open trenches and hose stations. In addition, night flow air ventilation and louvers automatically open and close throughout the day and night to maintain the proper temperature. One hundred per cent of the winery's electrical needs are met by solar panels. These elements, combined with careful coordination of utilities, deliver a practical and efficient approach to winemaking in a building that fits into its historic setting and maintains the original look and appeal of a traditional American farmstead.

ARCHITECT
Taylor Lombardo Architects
San Francisco, CA

PROJECT TEAM
Tom Taylor, Maurice Lombardo, Pam Lao

STRUCTURAL ENGINEER
JVA Incorporated
Boulder, CO

GENERAL CONTRACTOR
Ledcor Construction Inc.
Napa, CA

TIMBER FRAME ENGINEER
Timber Creations
Santa Rosa, CA

MECHANICAL/ PLUMBING ENGINEER
The Engineering Partnership
Santa Rosa, CA

ELECTRICAL ENGINEER
Ray Slaughter & Associates
Petaluma, CA

PHOTOGRAPHY
Adrian Gregorutti
Rutherford, CA


SIMPSON STRONG-TIE
MATERIALS DEMONSTRATION LAB
BUILDING 187

WOOD BEHIND THE WALLS

University laboratory's braced heavy timber structure educates students about principles and details of construction

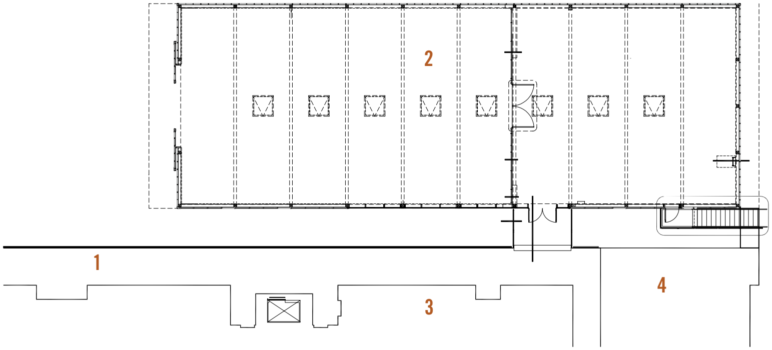
Simpson Strong-Tie Materials Demonstration Lab

Omni Design Group Inc.

The Simpson Strong-Tie Materials Demonstration Laboratory (MDL) is a 7,800-sq.ft. facility with a 5,000-sq.ft. attached working courtyard. The lab is at the heart of the recently completed Construction Innovations Center on the campus of California Polytechnic State University at San Luis Obispo, CA.

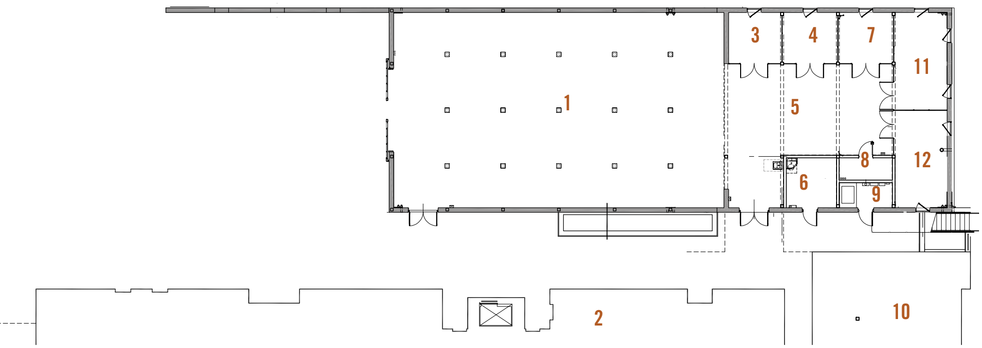
The MDL is an interactive teaching laboratory not just for the Construction Management Department, but for all the departments of the College of Architecture and Environmental Design including: architecture, architectural engineering, city planning, regional planning, and landscape architecture. The design, engineering, and installation of different materials in the built environment is one of the key unifying subject areas that brings all five of these departments together. The building provides working spaces where students can work on full-scale models and building components applicable to both indoor and outdoor environments, investigate components and assemblies of materials, and demonstrate static and interactive displays of material and building components.

A central theme in the programming for the project was that the building itself should provide a pedagogical



1. balcony
2. lab area
3. building b
4. building c

MEZZANINE FLOOR PLAN



1. lab area
2. building b
3. storage
4. storage
5. lab area 2
6. maintance/ custodial
7. storage
8. computer room
9. electrical
10. building c
11. storage
12. storage

FIRST FLOOR PLAN

experience. With that in mind, the lab was designed to express the structure of the building and reveal the tectonic expression of its components. This "exposed skeleton" idea is intended to instruct students in the principles and details of construction.

The building is designed with a base of low, exposed cast-in-place concrete walls, a common aspect of many other structures on the campus. Above the walls is an exposed heavy timber-braced frame composed of 7 x 7 Paralam columns and diagonal braces. The roof structure is composed of tapered high-strength glulam beams, 6 x 8 sawn purlins and 3 x 6 exposed decking. Exposed stock and custom Simpson Strong-Tie connectors are used extensively throughout the structure.

At the exterior, three sides of the building are clad with a translucent 40 mm. polycarbonate glazing system which allows the timber frame to be seen from outside the building. The polycarbonate also allows natural light through to the interior during the day and creates a lantern effect in the evening when the building is lit from within. The south side of the building adjacent to the existing Construction Innovations Center is clad in insulated metal sandwich panels and has an extensive curtain wall glazing system to allow clear views into the lab from nearby exterior balconies. On the wall facing the working courtyard is a pair of 9 x 20-ft.-high rolling gates that provide maximum connectivity between the interior of the lab the exterior teaching space. The working courtyard has a steel frame which is used for the demonstration and testing of exterior wall cladding systems.

It is important to note that as a heavy timber braced frame structure, this building was one of the first to be designed and approved under the 2007 California Building Code and ASCE 7-05. With the adoption of that model code, the use of heavy timber-braced frames as a seismic vertical lateral resisting system has been omitted. The university made the choice to continue with the use of the braced frame as an alternative, non-prescriptive lateral system. Seismic design criteria was subsequently established by the project engineer and accepted by the California State University seismic peer reviewer, Dr. Thomas Sabol.

Wherever possible, sustainable design was incorporated into the building and site. The use of wood represents a major building material that is renewable, sustainable and recyclable. The roof structure and system is designed to support a future green roof, and permeable pavers are incorporated in the working courtyard to provide for stormwater quality and quantity control. Fly ash was incorporated into the concrete as a recycled byproduct.

Although only open for one school quarter, the space has already been used for teaching, end-of-year landscape architecture shows, the California Central Coast American Institute of Architecture award presentation dinner, and other school functions that required a vibrant, active and functional space. The $2.5-million facility was made possible by generous capital and material donations by the Simpson Strong-Tie Corporation and the support of WoodWorks, an initiative of the Wood Products Council.

ARCHITECT
Omni Design Group Inc.
San Luis Obispo, CA

CLIENT
Construction Management Department
College of Architecture and Environmental Design
San Luis Obispo, CA

STRUCTURAL ENGINEER
Lampman and Smith
San Luis Obispo, CA

GENERAL CONTRACTOR
Newton Construction
San Luis Obispo, CA

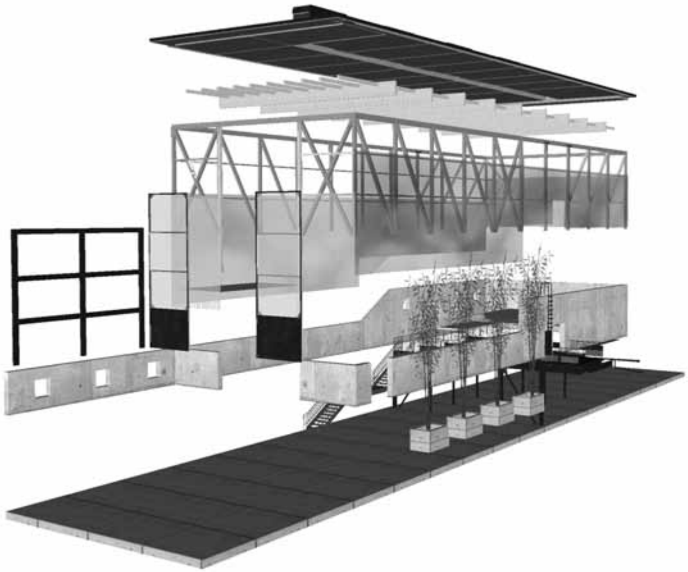
CIVIL ENGINEER
Omni Design Group Inc.
San Luis Obispo, CA

ELECTRICAL ENGINEER
Omni Design Group Inc.
San Luis Obispo, CA

MECHANICAL ENGINEER
Brummel/Myric Associates
San Luis Obispo, CA

LANDSCAPE ARCHITECT
Debbie Black Landscape Architecture
Cayucos, CA

PHOTOGRAPHY
Josef Kasperovich, Cal Poly Photo Presentation Facility
San Luis Obispo, CA



EXPLODED AXONOMETRIC

Jurors

MAMIE HARVEY
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STEVE KIBLER
Structural Engineer
and Architect
STEVE KIBLER STRUCTURAL ENGINEERING INC.
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JUAN MORENO
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MATT WEIL
Project Engineer
THORNTON TOMASETTI STRUCTURAL ENGINEERS
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NORTH-CENTRAL (Minnesota, Wisconsin, Illinois)




ENGINEERING

Historic wood structure rebuild uses modern wood connections and construction techniques to capture the essence of the original round barn

Bollingbrook Historic Farm – Roundbarn Reconstruction

Halvorson and Partners

The Village of Bollingbrook, IL, dedicated a parcel of land with a collection of farm buildings for use as a public park and interpretive center focused on the area's farming history. The village had in its possession a historic roundbarn that had been saved from demolition – the Frank Eaton Roundbarn, also known as the Ron George Roundbarn, built in 1913. Dismantled in the late 1990s after partial roof collapse (due to heavy snow), it was stored in a warehouse for several years until reconstruction began in 2007.

The main goal was to reconstruct the historic barn to its original state using the salvaged wood in a framing concept that was true to the original form. The reconstruction had to meet current building code standards – most notably for wind and snow loads – within a limited budget.

The barn is 61 ft. in diameter and 46 ft. to the top of the silo. After a rigorous 3D analysis of the original structure, it was obvious that a more substantial structural system would be required.

The new structural system for the barn is true to the original layout and employs platform framing wall studs with metal strap uplift anchors, doubled up 2 x 6 wall studs, wood roof truss joists, and a plywood-sheathed shear wall at the central silo. Wood connections and construction techniques were devised to rebuild this historic wood structure with modern day materials and cost limitations. Strategies included using prefabricated wood roof trusses, using multiple sheets of plywood for the circular shear walls to facilitate forming these during construction; fabricating the radius wood beam of the loft floor with precut 2x boards stacked up and connected with plywood sides; and fabricating the entire cupola structure on the ground and lifting in place with a crane. The prefabricated roof trusses incorporate a diagonal strut (which existed in the original structure) that reduces the roof span and braces the roof structure to the silo core.

Every structural member in this reconstruction is wood – save a few nails and plate connectors – demonstrating its durability and capacity to meet the current demands of stringent building codes. New technologies and connections simplified the construction effort. While the structural members are all new material, the exterior cladding and silo walls are almost entirely comprised of salvaged wood from the original building. The ability to rebuild a historic building with its original material helps capture the essence of the original round barn and is a testament to the longevity of wood.

ARCHITECT
Interactive Design Eight Architects
Chicago, IL

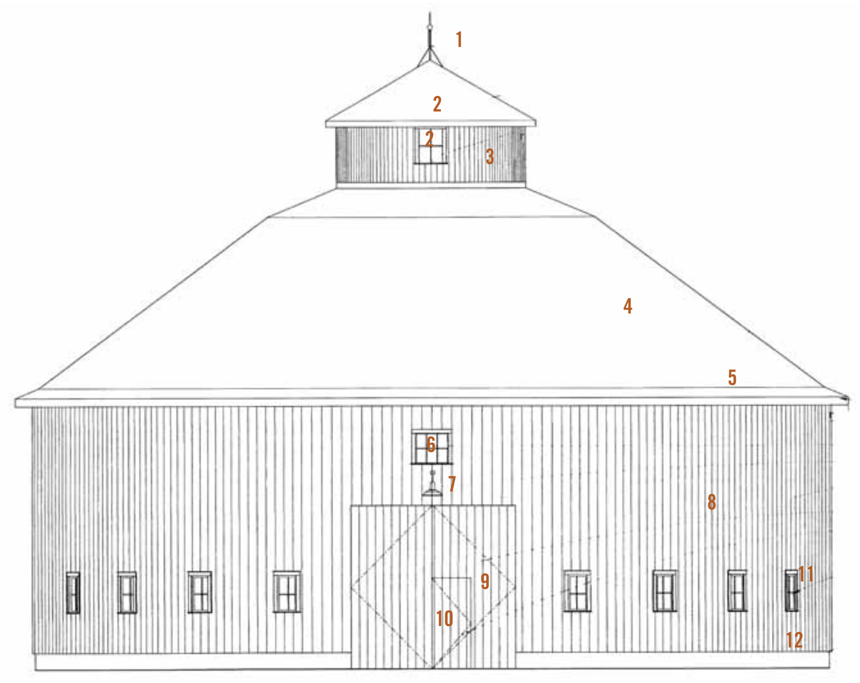
STRUCTURAL ENGINEER
Halvorson and Partners
Chicago, IL

CONTRACTOR
Great Midwest Contracting Corporation
Chicago, IL

PHOTOGRAPHY
Halvorson and Partners
Chicago, IL

Tom Gill Photography
Chicago, IL

1. copper lightning rod with decorative glass globe
2. new fire-retardant cedar shingle roof; new wood windows based on historic wood windows below with painted wood trim
3. painted vertical wood siding
4. new fire-retardant cedar shingle roof with galvanized flashing at vertical terminations, changes in roof pitch, and other areas as recommended by cedar shingle manufacturer
5. painted wood fascia
6. historic fixed wood windows with historic or new painted wood trim
7. typical exterior light fixture above each door
8. painted historic 1 x 10 wood vertical siding
9. new operable wood barn doors to approximate appearance of original
10. operable man door leaf
11. historic operable wood windows with new wood-framed screen panels and historic or new painted wood trim
12. new concrete foundation



ELEVATION

Red cedar creates a serene retreat sensitive to patient recovery and the environment

Herrington Recovery Center

TWP Architecture

Perched atop a wooded hill beside a serene rural lake, the Herrington Recovery Center promotes healing and recovery. The facility is a 23,000-sq.ft, 20-bed residential substance abuse treatment center. The program's serves people from across the country who are in need of chemical addiction recovery.

Green building and sustainable design are growing priorities in the health care industry because they help create healthier buildings. Integrating these features not only benefits the environment, but also positively influences patients and the community as a whole. The goal of the Herrington Recovery Center was to create a serene environment sensitive to patient recovery with minimal impact on the environment. LEED Silver from the USGBC was achieved. Energy Star-rated building systems were used throughout the project to reduce energy consumption and operating costs. Natural daylighting and ventilation strategies are used throughout to promote indoor health.

The Department of Natural Resources (DNR) was very involved in the design of the site, which included special environmental corridor adjustments never given approval locally. By removing two buildings that were in non-compliance with DNR regulations, the new building re-established the primary environmental corridor. The building was situated on the site in such a way to take full advantage of daylighting and lake views. To minimize parking adjacent to the building, the hospital site has a shuttle service operating between campus buildings.

A natural, contemporary exterior of warm red cedar siding and Wisconsin Chilton natural stone sets the tone for the new building. The exterior blends

harmoniously into the wooded setting. The low cost of wood as a construction material and the ability to harvest and manufacture it locally were major reasons why wood was used for the project. In addition, wood products are available in smaller components which minimized the construction area thereby preserving the woods. To complete the building envelope, locally manufactured operable wood windows and doors were installed. The landscaping retained many established trees and included new water efficient landscaping using indigenous plantings. Storm water runoff is channeled and absorbed through a collection of rain gardens and bioswales. The building has a green roof which provides additional building insulation and is an environmentally sensitive way to handle storm water. The vegetated green roof is occupiable and used for therapeutic meditation. The remainder of the roof employs a white roof system to reduce the heat island effect. Recycled content sun shades are used to reduce heat gain.

The design team worked closely with the hospital staff to create an efficient and effective space plan that supports patient recovery through privacy and comfort. The layout flows from patient sleeping rooms to functional group areas to recreational spaces. All of these major room types have lake views and the interiors mimic the exterior through the use of local natural stone and red cedar. Wood ceilings and soffits in the recreation room, dining room and sleeping room entrances create a warm feeling reflective of the rural Wisconsin landscape. Interior design elements and materials also included low-VOC paints, recycled content carpet, linoleum and sheet vinyl, recycled glass resin panels (used as sidelights, door inserts and in millwork), solar-powered faucets, waterless urinals and locally manufactured low-flow plumbing fixtures.

ARCHITECT
TWP Architecture
Elm Grove, WI

CLIENT
Roger's Memorial Hospital
Oconomowoc, WI

STRUCTURAL ENGINEER
Pujara Wirth Torke Inc.
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GENERAL CONTRACTOR:
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Pewaukee, WI

ELECTRICAL
Faith Technologies
Milwaukee, WI

FIRE PROTECTION
J.F. Ahern Company
Menomonee Falls, WI

CIVIL ENGINEER
Losik Engineering Design Group
Brookfield, WI

HVAC
Pat's Heating
Oconomowoc, WI

ROOFING
Pioneer Roofing LLC
Johnson Creek, WI

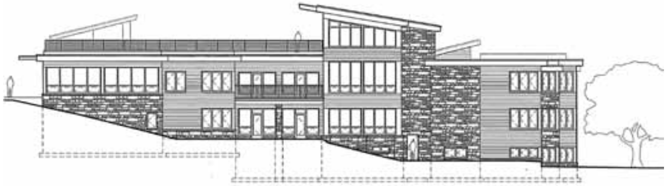
PLUMBING
Premier Plumbing
Waukesha, WI

LANDSCAPE ARCHITECT
Garland Alliance
Shorewood, WI

PHOTOGRAPHY
Curtis Waltz
Milwaukee, WI

Pioneer Roofing
Johnson Creek, WI

Tom Davenport
Milwaukee, WI



EAST ELEVATION

WEST ELEVATION

Tortoise shell pavilion celebrates wood's inherent pliability

INNOVATION

Nature Boardwalk at Lincoln Park Zoo

Studio Gang Architects

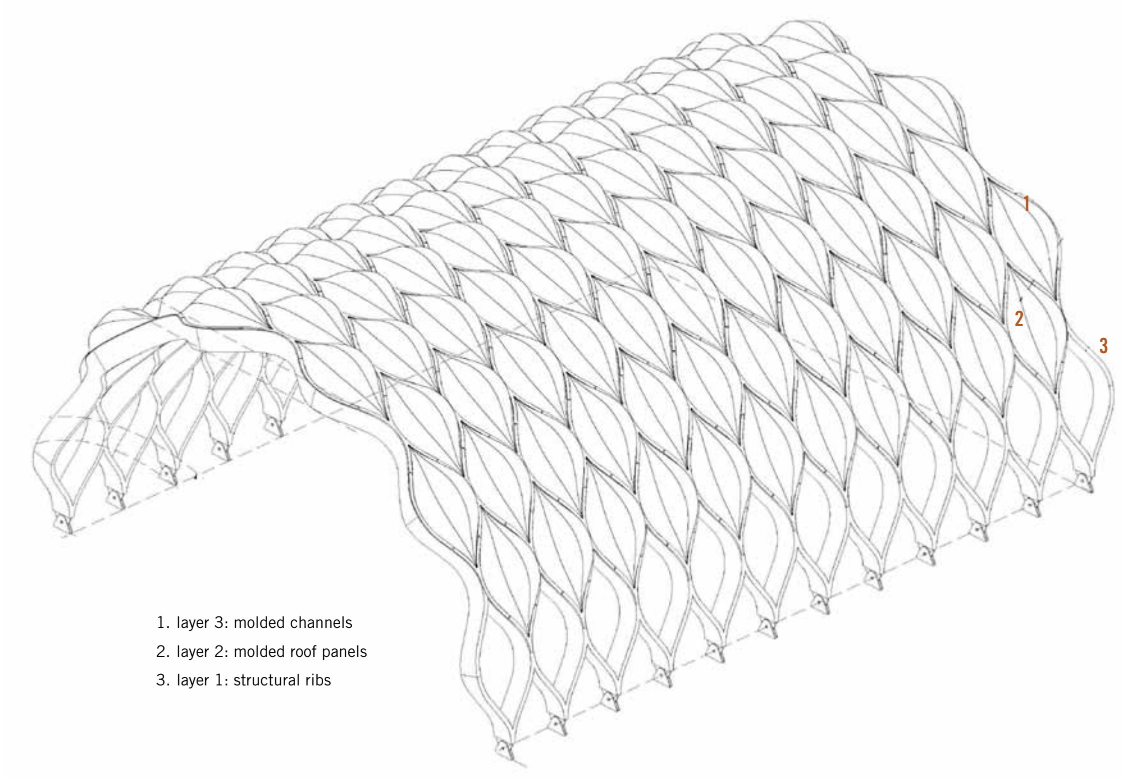
The Nature Boardwalk at Lincoln Park Zoo has transformed an urban pond into an ecological habitat buzzing with life. Through improvements to water quality, hydrology, landscape, accessibility and shelter, the site now functions as an outdoor classroom in which the co-existence of natural and urban surroundings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



SCHEMATIC AXONOMETRIC

ARCHITECT
Studio Gang Architects
Chicago, IL

CLIENT
Lincoln Park Zoo
Chicago, IL

STRUCTURAL ENGINEER
Magnusson Klemencik Associates
Chicago, IL

GENERAL CONTRACTOR
Pepper Construction
Chicago, IL

PAVILION FABRICATORS
Fox River Components with RLD Company and Shelton Lam and Deck
Chicago, IL

PAVILION ERECTOR
Cosgrove Construction
Chicago, IL

PHOTOGRAPHY
Beth Zacherle, Studio Gang Architects
Chicago, IL

Spirit Of Space
Chicago, IL

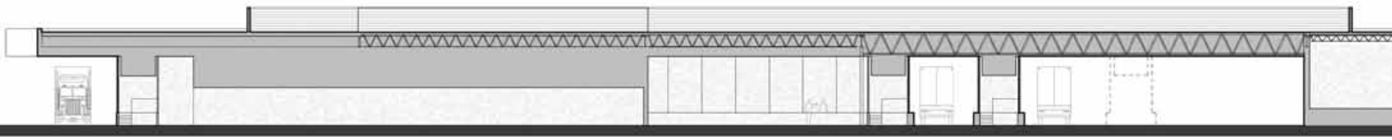
INSTITUTIONAL

A gateway to the nation and to the city of Warroad, cedar-clad border facility celebrates local wood heritage

U.S. Land Port of Entry

Julie Snow Architects Inc.

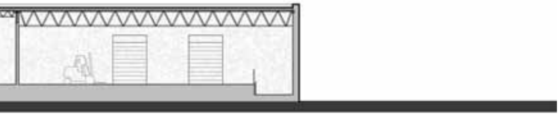
This U.S. Land Port of Entry is part of the U.S. General Services Administration's Design Excellence program. It was built in Warroad, deep in Minnesota's Northwoods region. Originally an important wood milling town, Warroad eventually produced both Marvin (wood) Windows and Christian (wood) Hockey Sticks. Wood is at the heart of the city's culture, both in its products and as the setting for its resident's favorite diversions:

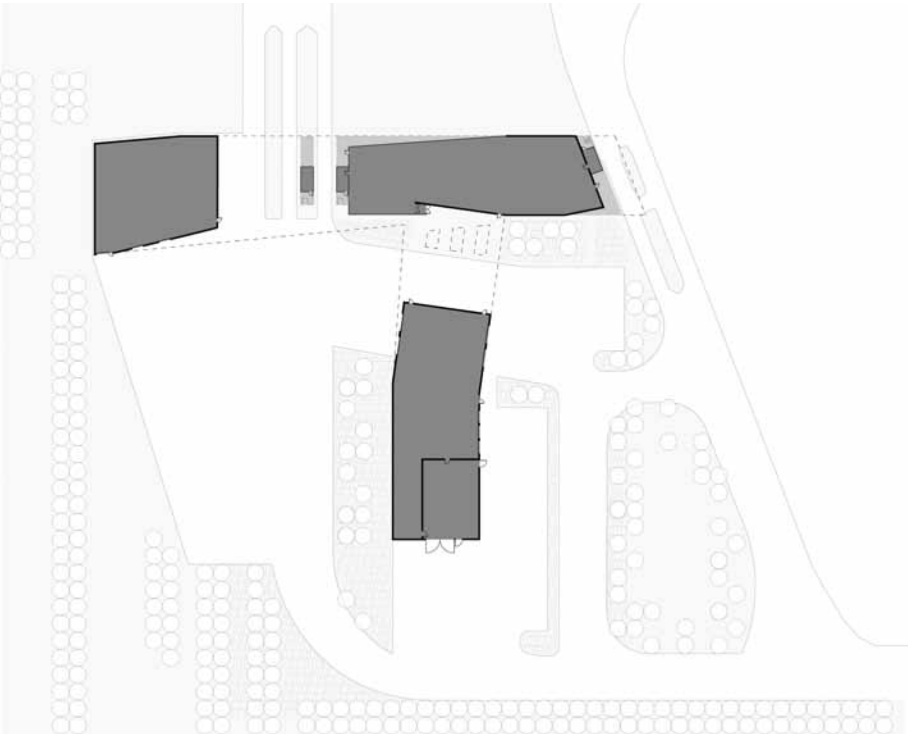


hunting and fishing. In addition to the regional importance of wood, environmental impact, aesthetics and ease of construction were important contributing factors to the selection of wood as the primary cladding system for the interior and exterior of the facility.

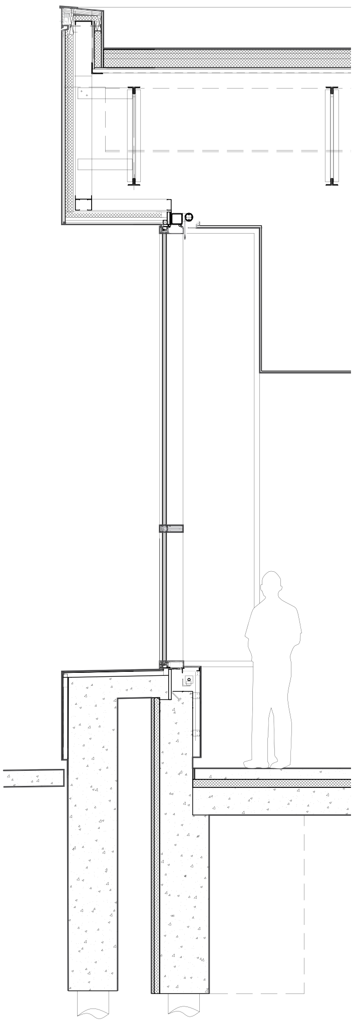
Initially the project sought to achieve LEED Silver Certification. Now complete and awaiting certification, the project has the potential to earn a Gold rating. The choice of sustainably harvested western red cedar helped meet this goal, with additional points for the exemplary performance of wood, a renewable resource. Using wood also met the GSA Design Excellence program's highest standards and created a warm, welcoming presence for visitors to this often cold, harsh climate.

The Warroad Land Port of Entry was conceived as a specific response to the vast open landscape along this section of the U.S.-Canada border. The design and material choices reiterate the dominant horizon of the landscape while making reference to the east-west





SITE PLAN



WALL SECTION

border. The building's form facilitates intuitive use by visitors, enables officers to better survey the entire site, and accommodates vehicle access to secondary and commercial inspection areas. Vehicular inspection areas (experienced primarily from the car) and the public spaces use expanses of glass and stained cedar siding to create an open, welcoming environment. The exterior cedar siding is finished in a black stain, anchoring the building to its site. This strong contrast reinforces the threshold, creating a material warmth and richness in the cold winter months for officers and visitors alike.

The detailing of the wood-clad rainscreen gives the port a richly textured façade that lends depth to the sleek exterior. Each wall of the facility, from the front façade to the screen walls at service areas, is detailed with an alternating pattern of three board sizes: 4-in., 6-in., and 8-in. The shiplap overlay creates a shadow line to highlight the differing board sizes, but remains taught and flush to emphasize the broader concept of the natural stained openings instead of the texture of the siding.

The remote location of this project made it important to select a material that didn't require imported expertise and could capitalize on local labor, talent and craftsmanship. The back-ventilated wood-clad envelope creates a sophisticated wall assembly system that was easy to construct and will be equally easy to maintain.

ARCHITECT
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PROJECT TEAM
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Connie Lindor, Tyson Mcelvain,
Jim Larson, Dan Winden, Pauv Thouk

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U.S. General Services Administration
Washington, DC

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Minneapolis, MN

MECHANICAL/ELECTRICAL/ LIGHTING ENGINEER
Sebesta Blomberg
Roseville, MN

CIVIL ENGINEER
Jacobs Engineering
Edina, MN

GEOTECHNICAL ENGINEER
Key Engineering
Milwaukee, WI

GENERAL CONTRACTOR
Kraus Anderson Construction
Minneapolis, MN

INTERIOR DESIGN
Julie Snow Architects Inc
Minneapolis, MN

LANDSCAPE ARCHITECT
coen + partners
Minneapolis, MN

PHOTOGRAPHY
Paul Crosby
Minneapolis, MN

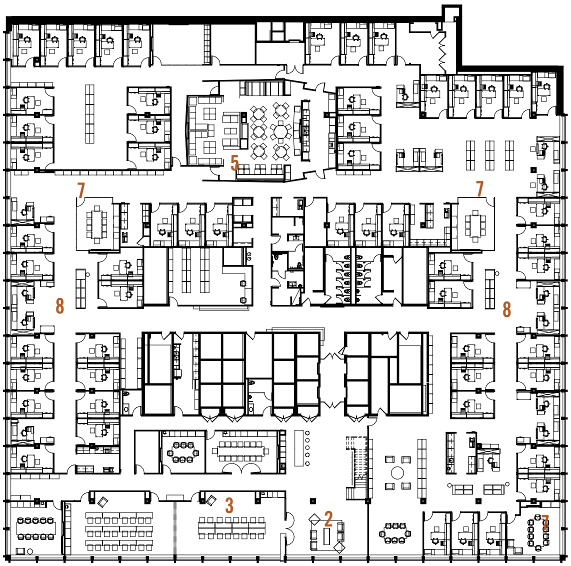
Frank Ooms
Denver, CO

INTERIOR BEAUTY OF WOOD

Law office's wood design reflects firm's dedication to excellence, collaboration and community

Nilan Johnson Lewis

Cuningham Group Architecture

THIRD FLOOR PLAN

FOURTH FLOOR PLAN

1. entry reception
2. conference room
3. great room
4. mock trial/training
5. café
6. copy center/files
7. team room
8. general office

Bright and elegant, featuring rich woods and alive with interaction, the design the Nilan Johnson Lewis office was formulated in response to the progressive law firm's commitment to excellence, focused client practices, collaborative culture and strong sense of community.

The new 70,000-sq.ft. space is in the first major post-World War II skyscraper in Minneapolis. Sustainably sourced and manufactured natural materials provide a richness and texture that express integrity and strength, a primary aspect of the overall design. Walnut wood was the clear choice and is incorporated into flooring, furniture, wall paneling and millwork. Forest Stewardship Council woods support the sustainable commitment and goals of the project and contributed to LEED certification.

Simple lines and a palette based on tones of light and shadow reinforce the modern style, while splashes of color provide energetic punctuation to the space. Each of these elements emphasizes simplicity, absence of ornamentation, and function over form as a reflection of the firm's approach to modern law practice.

Planning maximized the efficiency of the floor plate and achieved rhythm and a visual logic. Configurations of spaces provide shared daylight, neighborhood areas for practice groups, team rooms, and easy access to support resources. Special spaces include a large inviting lunchroom with lounge and dining areas. The conference center is stacked on two levels accessed from the main reception area. New signage and remodeling of the skyway-level entry provides signature access to this important law firm. Fireplaces and spaces for informal and formal gathering are featured on both levels.

The design takes maximum advantage of the 11-ft. floor-to-ceiling perimeter windows that provide daylight, extraordinary views and an open, urban experience.

Special features of the space include: an absence of expensive commissioned art, in favor of artistic architectural features such as wood, figured glass, and concrete used in functional ways; client-focused conferencing and event spaces that provide integrated technological resources with spectacular views of the city; and a multi-function "connection" lounge located at the core of the office to spark gatherings, dialog and creative discourse among legal teams and their clients, and to underscore the emphasis on connection between the firm's internal culture and its impact on client' experience.

Sustainable strategies included: Forest Stewardship Council-certified wood; demolition process to divert 80% of materials from landfills; energy-efficient mechanical, electrical and lighting systems; daylighting throughout the space, with perforated manually adjusted shades to respond to glare and individual needs; occupancy sensors for lighting; locally sourced materials, with low VOC emissions, manufactured from recycled materials; and reused and/or refurbished furniture.

ARCHITECT
Cuningham Group Architecture
Minneapolis, MN

PROJECT TEAM
John W. Cuningham, Sara Weiner, Tom Kyllo, Chad Clow, Ted Steiner, Amy Randy, Shawn L. Olson, Theresa Andrews

CLIENT
Nilan Johnson Lewis P.A.
Minneapolis, MN

PROPERTY MANAGER
Behringer Harvard
Minneapolis, MN

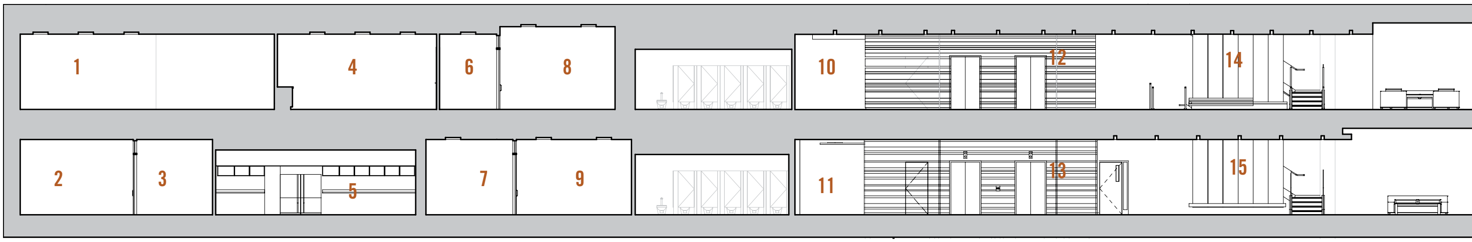
GENERAL CONTRACTOR
Greiner Construction
Minneapolis, MN

TECHNOLOGY CONSULTANT
Elert & Associates
Stillwater, MN

MECHANICAL/ELECTRICAL ENGINEER
Michaud Cooley Erickson
Minneapolis, MN

LIGHTING CONSULTANT
Lighting Matters Inc.
Minneapolis, MN

PHOTOGRAPHY
Dana Wheelock Photography
Minneapolis, MN



1. work room
2. office
3. corridor
4. multi-purpose room
5. kitchen
6. corridor
7. corridor
8. office
9. office
10. corridor
11. corridor
12. wood board wall
13. wood board wall
14. reception
15. lounge

SECTION

MULTI-FAMILY

Wood contributes to the warmth, comfort,
energy efficiency and affordability
of large independent seniors building

Cobblestone Square

Elness Swenson Graham Architects Inc.
and Jay P. Nelson Architect

Wood was the natural choice of material for this 60-unit independent seniors building. Designed to express the passage of time through the movement of shade, shadow and natural sunlight, the massive eight-foot eave and two-story tall brackets teamed with trelliswork structures supported on twisting masonry columns, create an ever-changing display of light and shadow over the building throughout the days and seasons.

The building establishes a unique identity in a developing part of town. Its strong roof line and lighted gables, as well as the daytime play of light and shadows, make it a landmark visible from the highly trafficked Pilot Knob Road and 160th Street West in Apple Valley, MN.

Cobblestone Square helped the community take a step forward in the implementation of an existing area plan to develop a neighborhood greenway and landscape amenities that would connect public transportation, walking routes, biking paths, local lakes and housing. A new walking and bike path on the south side of the property connects to the area's public transportation link to the west under Pilot Knob Road. To the east, the pathway extends to Cobblestone Lake Parkway where it connects to the existing walking areas and future connections to Cobblestone Lake. New planting along the route will provide previously missing shade and natural landscaping variety. Nearby

neighborhood amenities include opportunities to shop, buy groceries, access public transportation and enjoy walking trails.

Using wood to construct affordable seniors' housing has many advantages. Two-by-six wood exterior walls provide high-quality insulation and fire protection. Insulated, staggered-stud 2 x 4 interior walls with gypsum board provide sound and fire separation between units, as does the two-by-ten floor joist system combined with gypsum topping, gypsum board, sound channels and insulation. Wood trusses easily span from the perimeter walls to the bearing walls at the center corridor. These trusses allow room for a deep layer of energy conserving blown-in fiberglass roof insulation. Prefabricated roof trusses used with panelized floors and walls accelerated construction and resulted in a warm, comfortable, energy-efficient structure.

The front porch reaches out to greet visitors at the automobile drop-off area and provides an outdoor waiting area and social gathering place. Inside, the two-story foyer with maple-trimmed columns, grand stair and ceiling welcomes visitors. Opening directly to the foyer are the wood-lined parlor with fireplace, the manager's office, and the community room. The community room (which includes a small commercial kitchen) features painted maple trim. The outdoor patio and screened porch adjacent the community room overlook Cobblestone Lake to the east and provide a shaded area outdoors on warm summer afternoons.

On the second floor, the central foyer opens into a maple-paneled library with a matching maple and painted ceiling design. The opposite side of the foyer features elevator access and a computer area for residents.

At the third floor, an exercise room and an activities room overlook the building entrance. The 30 one-bedroom units average 677 sq.ft., while the 30 two-bedroom units average 948 sq.ft. All units feature maple cabinetry and matching flush-faced birch doors and trim.

Wood was an instrumental element in creating a welcoming design. Complemented by comfortable, energy-efficient features, the inviting wood design is conducive to good social interaction between the residents and the community at large.

ARCHITECTS
Elness Swenson Graham Architects Inc.
Minneapolis, MN

Jay P. Nelson Architect
St. Louis Park, MN

CLIENT
Dakota County CDA
Eagan, MN

STRUCTURAL ENGINEER
HCI Consultants Inc.
Winnipeg, MB

GENERAL CONTRACTOR:
Frana Companies Inc.
Hopkins, MN

CIVIL ENGINEER
James R Hill Inc
Burnsville, MN

MECHANICAL/
ELECTRICAL ENGINEER
Steen Engineering
Crystal, MN

PHOTOGRAPHY
Jay P. Nelson Architect
St. Louis Park, MN

Tradition, history, and liturgy call for specific species of wood and specific forms in the construction of a sacred space

Congregation Emanu-El B'ne Jeshurun

Phillip Katz Project Development

Founded in 1856, Congregation Emanu-El B'ne Jeshurun is the oldest congregation in the state of Wisconsin. The $12-million project saw the complete renovation of the existing building as well as the construction of a new addition that includes a sanctuary, interior promenade, catering kitchen, bathrooms, social hall, library, lounge, and education and administrative spaces. The project was constructed over a 16-month period and was dedicated September 11, 2009.

The building and interior designs aimed to create a feeling of completeness or wholeness between the buildings and surroundings. The selection of wood as a main structural element and interior finish material was of primary importance. The design alluded to the poetic biblical narrative and integrated wood accordingly. Tradition, history, and liturgy make reference to specific materials, forms, proportions, and techniques in the construction of sacred spaces.

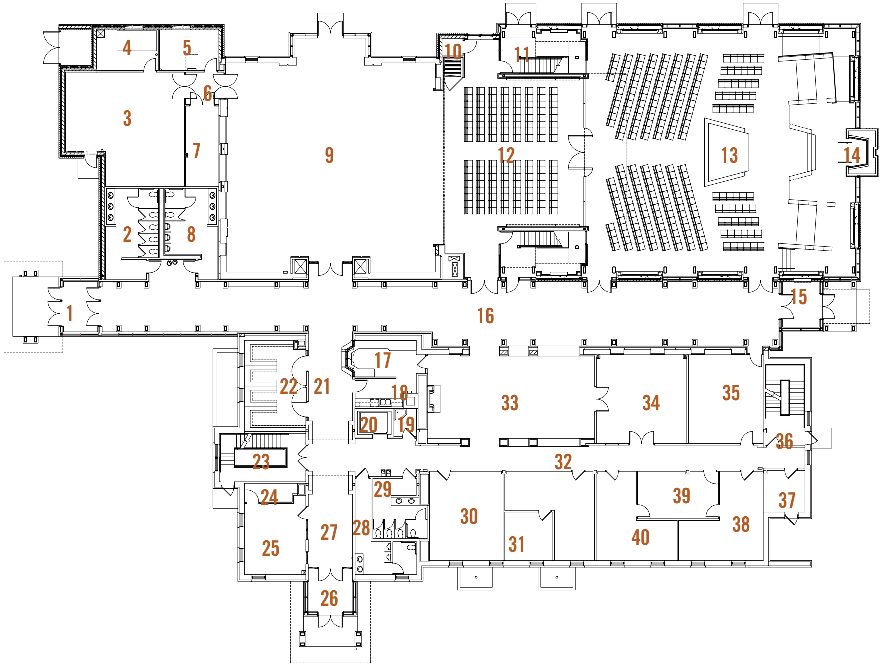
The Jewish people look to the Torah (Five Books of Moses) to give life significance. The Torah gives form, shape, and meaning to the matter of the world. There are Jewish laws derived from the Torah that set forth a code for human conduct and outline ideas that affect all parts of life including synagogue architecture.

The building is entered from the west through a covered porte-cochère with a green roof that rests on four massive glulam columns. The procession begins in the west end of the site and proceeds

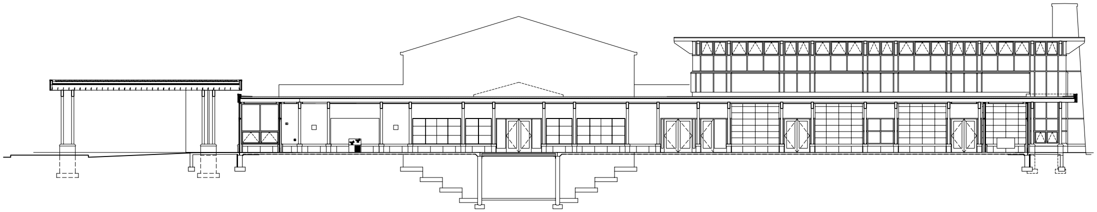
to the sanctuary at the east through a 400-ft.-long interior promenade of Douglas fir glulam structural bays. The promenade integrates maple display cabinets that house the congregation's collection of Judaica and artwork. The interior promenade is reminiscent of the cardo in Jerusalem and is the spine that organizes the communal spaces of the synagogue campus. The promenade serves as a meditative path to allow for the transition from the mundane to the sacred world.

The sanctuary at Emanu-El has a reverence for wood. The surfaces are rich and finely crafted. The finishes amplify the natural glow of the materials. The use of wood also represents how American and Jewish values have flourished together. The sanctuary is full of light and comfortable and warm all at the same time.

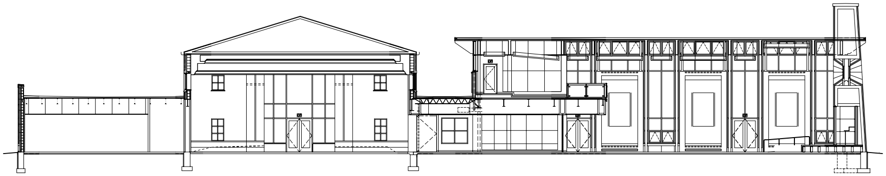
FLOOR PLAN



1. vestibule
2. women's restroom
3. kitchen
4. mechanical
5. storage
6. vestibule
7. storage
8. men's restroom
9. social hall
10. electrical
11. stair 5
12. expansion space
13. sanctuary
14. ark
15. vestibule
16. interior street
17. reception
18. kitchenette
19. janitor
20. elevator 1
21. corridor
22. coats
23. stair 1
24. storage
25. gift shop
26. vestibule
27. corridor
28. men's restroom
29. women's restroom
30. executive director
31. office
32. corridor
33. lounge
34. conference
35. open office
36. stair 2
37. storage
38. rabbi office
39. secretary
40. cantor office



SECTION-INTERIOR STREET



SECTION SANCTUARY

The structure and roof in the sanctuary are composed entirely of wood. The tall slender columns and deep clear span beams are built from glulam Douglas fir members with a high-quality finish and clear stain.

The use of wood extends to the building finishes and custom-designed furniture. The wood wall panels are made of maple lattice with a natural stain and have carefully detailed the integration of artwork and acoustical insulation. The maple lattice custom wall at the west end of the sanctuary space is demountable and retracts elegantly to the sides of the expansion space to extend the sanctuary area into a much larger worship space. Walnut burl floor tiles adorn the movable platform and stage areas. The liturgical furniture is custom-designed for the sanctuary space. Bird's eye maple, walnut, and acacia wood are all used in the design for the reading table, pulpits, and scroll holders.

The planks of acacia in the tabernacle and masonry walls in the temple were all oriented vertically, reaching upward as per scripture: "You shall make the planks of the tabernacle of Acacia wood, standing erect", Exodus 26:15. The planks represent humankind reaching upward to God, from earth toward the heavens. This symbolizes the religious person's spiritual goal of binding together heaven and earth. The columns and masonry piers at Emanuel and their detailing are intended to reinforce the upward reaching of man to God.

STRUCTURAL ENGINEER
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CONTRACTOR
Northtrack Construction
Fox Point, WI

DESIGN ARCHITECT
Phillip Katz Project Development (PKPD)
Mequon, WI

ARCHITECT OF RECORD
Kahler Slater Architects
Milwaukee, WI

INTERIOR DESIGN
Phillip Katz Project Development (PKPD)
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PHOTOGRAPHY
Phillip Katz
Mequon, WI

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SOUTHEAST (Georgia, North Carolina, South Carolina)

COMMERCIAL

Innovative design for new airport terminal pays homage to North Carolina's past as a leading furniture manufacturer and its future in high technology

Raleigh-Durham International Airport Terminal 2

Fentress Architects

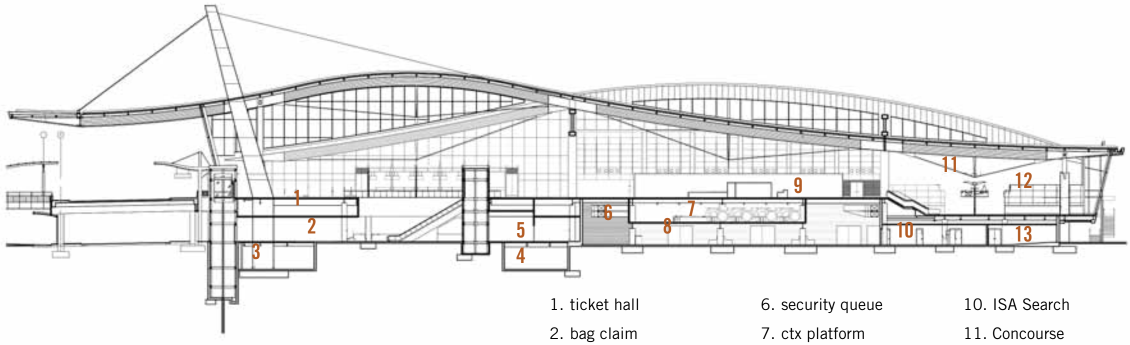

C9

North Carolina is the kind of place that stays with you. The beauty of the land, the fine craft traditions and the world-renowned southern hospitality forever linger in the memories of visitors to the state. Inspiration for the design of the Raleigh-Durham International Airport (RDU) Terminal 2 was taken from the region's landscape, cultural heritage and high-tech industries, resulting in a memorable gateway to North Carolina and the Research Triangle Region.

The goal of the design of the terminal was to embody the spirit of the region and incorporate the concept "handmade, mind-made." The design guides passengers effortlessly through a high-functioning public space that maximizes flexibility for the future. At 920,000 square feet, Terminal 2 is nearly three times larger than the terminal it replaces. It serves two concourses with 36 gates, accommodating up to 11.4 million passengers a year.

Visitors are initially taken with the rolling roof of the terminal – the first of many design features that honor the state and evoke the graceful and familiar undulations of the region's Piedmont hills. Upon entering the building, visitors are then overcome by feelings of warmth and comfort, sentiments not normally associated with airports.

The most prominent interior features are the dramatic lenticular wood trusses arching overhead – rarely seen in other North American airports. The Douglas fir beams bring the craft traditions of the region into the building, giving it a distinct feeling of Carolina and a warm southern hospitality. The trusses create a long-span, column-free space that allows maximum flexibility for responding to the future needs of the airport – vital in an industry required to adapt quickly. The trusses span as long as 156 feet in the ticketing hall and security areas, and 90 feet in the concourses.



EAST/WEST SECTION

1. ticket hall
2. bag claim
3. utilidor
4. utilidor
5. vendor
6. security queue
7. ctx platform
8. bag make-up
9. security
10. ISA Search
11. Concourse Circulation
12. F&B Seating Area
13. Corridor

The design and construction of the trusses was a feat of structural engineering, from fabrication to installation. Borrowing a technique not traditionally used in North America, the engineers developed a truss solution that consists of large glulam timbers and structural steel cables connected with fabricated steel ends and a king-post at mid-span to form a propped-tied arch. The result is a system in which the connection mechanisms are nearly invisible, fitting seamlessly into the wood.

The trusses marry the warmth of crafted wood with the high technology evident in the region's innovative industries. In choosing wood over steel, significant financial savings were also achieved due in part to the high steel prices at the time.

Although tested in Germany and Japan, this was the first time the innovative truss system was used on a project of this scale in the United States. To ensure that the structural system would support the design, contractors built several prototype samples of the wood-to-steel joints with the connectors.

Working with NC State University's Constructed Facilities Laboratory, three samples of the 8-1/2 x 30-inch glulam member to steel joints were tested to failure, as were three samples of the 10 x 54-inch glulam to steel joints. The university measured strains, loads and displacements of each sample to determine the ultimate capacity of each configuration, confirming the system that could indeed be used to carry significant loads in complex structures with large spans.

An additional unique feature of the terminal roof is the main entry canopy which extends 100 feet over the passenger crosswalk and departures level roadway in front of the terminal. It is supported by the same locked coil cables used for the roof trusses. The cables extend down to the roof from a 130-foot-tall steel mast projecting above the roof.

State-of-the-art technology features common-use facilities where the airport authority can fully manage the building's operations and increase the efficiency of the space. In addition to larger check-in areas and a fully automated in-line baggage screening system that simplifies the security process, the building also includes new restaurants and a retail concourse. Extensive glass curtainwalls along the terminal and concourses allow abundant sunshine to illuminate interior spaces while connecting travelers to activity on the tarmac.

ARCHITECT
Fentress Architects
Denver, CO

ASSOCIATE ARCHITECTS
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Durham, NC

The Freelon Group Inc.
Durham, NC

CLIENT
Raleigh-Durham
Airport Authority
RDU Airport, NC

STRUCTURAL ENGINEER
Arup
New York, NY

ASSOCIATE
STRUCTURAL ENGINEER
Stewart Engineering Inc.
Raleigh, NC

CONSTRUCTION MANAGER
Parsons Transportation Group
Raleigh, NC

GENERAL CONTRACTOR
Archer Western Contractors
Raleigh, NC

GLULAM SUPPLIER
Structurlam
Vancouver, BC

GLULAM ENGINEERING
CONSULTANT
Equilibrium Consulting Inc.
Vancouver, BC

PHOTOGRAPHY
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Chicago, IL

Brady Lambert
Chapel Hill, NC

Jason A. Knowles, Fentress Architects
Denver, CO

78-ft. North Carolina bell tower is the first non-residential cross-laminated timber structure in the United States

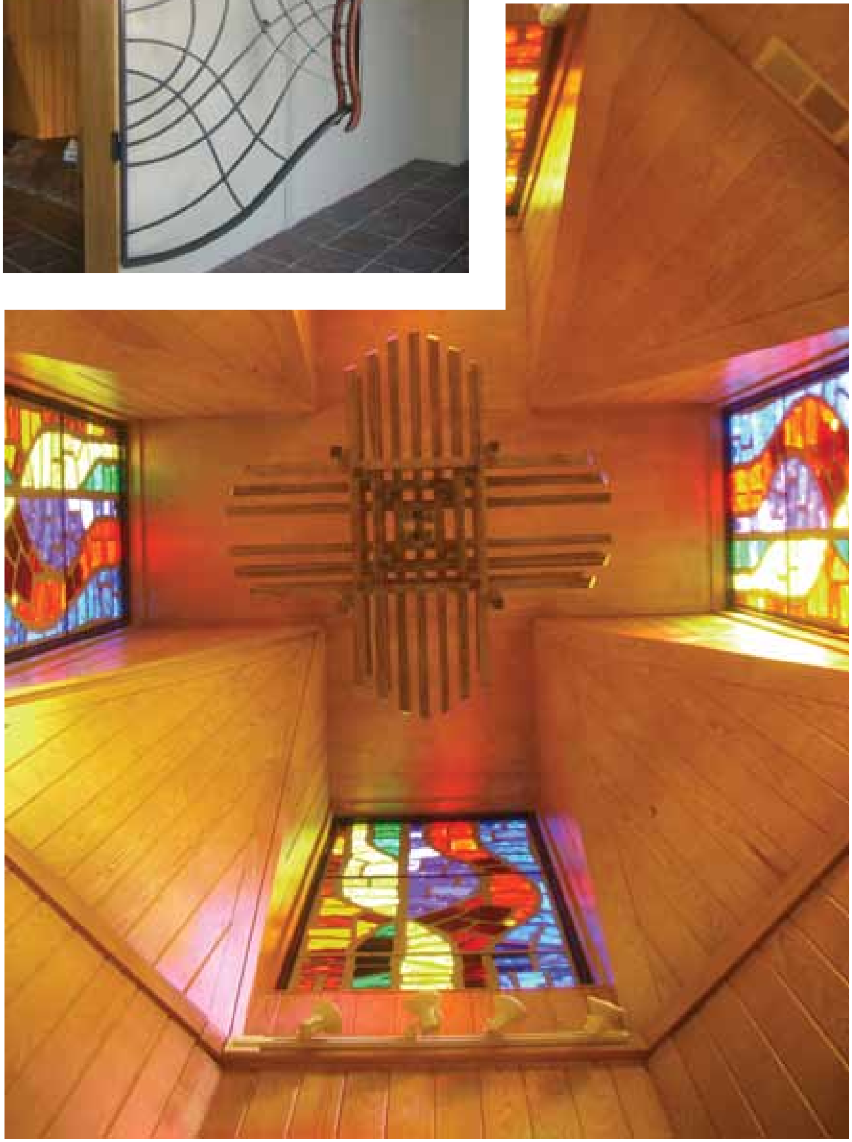
Myers Memorial United Methodist Church Bell Tower

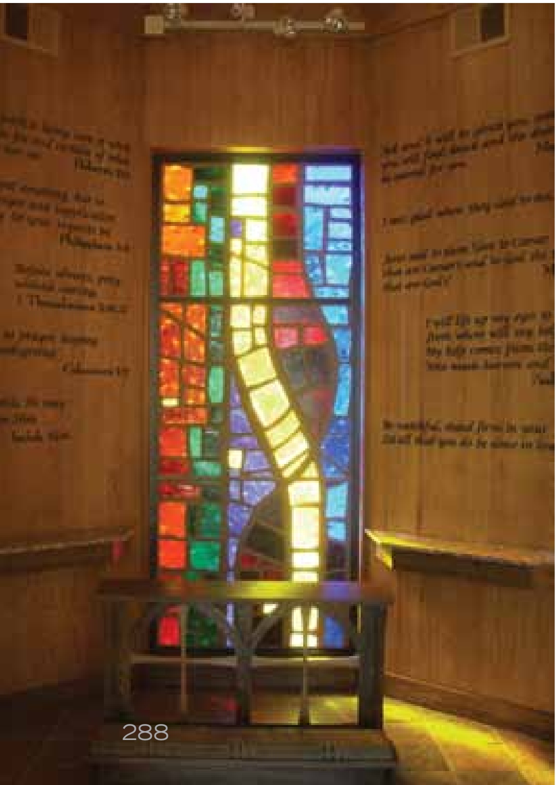
MDS10 pllc Architects

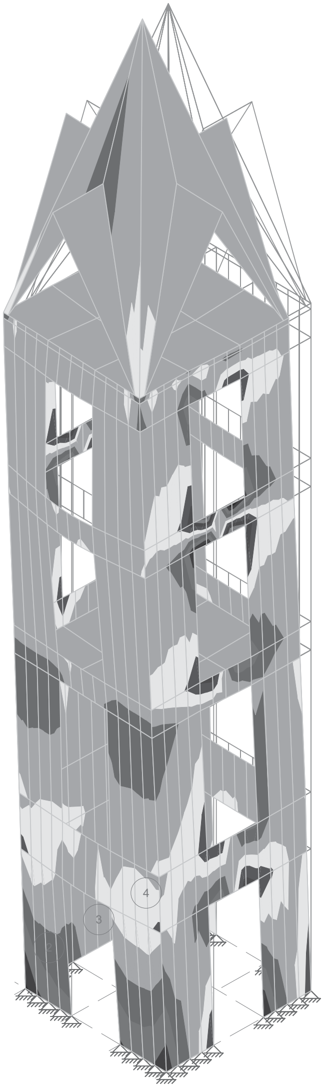
The Myers Memorial United Methodist Church Bell Tower in Gastonia, NC, is a landmark structure in the U.S. construction industry. It serves as a demonstration project for the feasibility and widespread use of cross-laminated timber (CLT) as a renewable building material throughout North America. The church's 78-ft. tall bell tower, prayer chapel and covered drive is the first pure CLT structure in the United States.

Speed of assembly is an advantage of CLT, once imported from Europe but now in production in North America. The tower – which used CLT panels imported from Binderholz of Austria – was erected (by five workers using a truck crane) and ready for finishing in just four days. Other advantages include the fact that cross-laminated timber construction results in much lighter structures than concrete and steel construction; CLT is highly sustainable, sequestering large quantities of carbon dioxide.

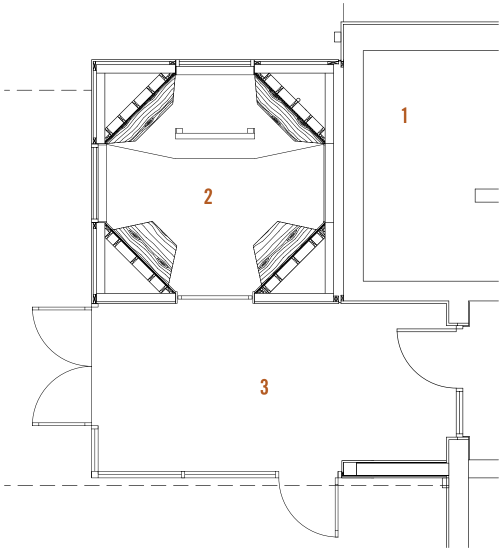
CLT technology originated in Europe 15 years ago, with several thousand projects now completed. The technology consists of gluing smaller-grade timber at right







BELL TOWER



1. men's restroom
2. prayer chapel
3. vestibule

FLOOR PLAN

angles and placing the panels under high hydraulic pressure. The process can produce panels up to 50 ft. by 10 ft. and of varying thickness. Openings and shapes in the panels are then routed out with computer-aided precision.

The cupola section that houses the Paccard Bells (from Christoph Paccard Bell foundries of Charleston, SC) was assembled on the ground and hoisted into place as the crown. The plan footprint is 12 ft. square plus a small vestibule and a drive-through canopy.

The base of the tower (in a 24-ft. tall space) houses a prayer chapel made entirely of wood. It features biblical verses around the walls. Two benches and a kneeler are provided for quiet meditation. The floor is a natural stone slate of many colors. A custom-fabricated iron gate adorns the entrance. The vestibule serves as a major entrance to the worship space. The overall height of the tower is 78 ft. and the exterior finish is cement plaster to match the existing church materials.

ARCHITECT
MDS10 pllc Architects
Asheville, NC

STRUCTURAL ENGINEER
Medlock & Associates Engineering PA
Asheville, NC

MEP ENGINEER
Sims Engineers
Asheville, NC

GENERAL CONTRACTOR
Glass Building llc
Tryon, NC

STAINED GLASS
Statesville Stained Glass
Statesville, NC

PHOTOGRAPHY
MDS10 pllc Architects
Asheville, NC


2458

GREEN BUILDING

Expansive roof structure incorporates sustainable products to lessen ecological footprint and offset lifecycle costs

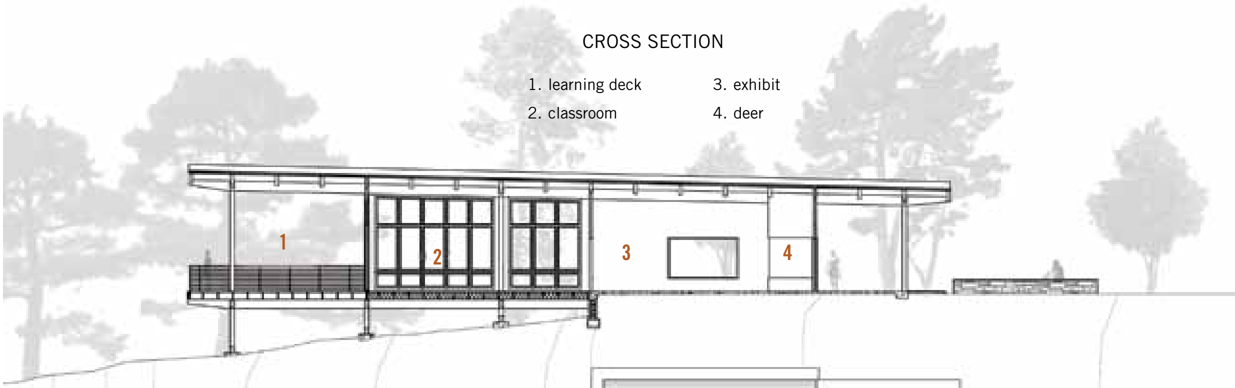
White Deer Park Nature Center

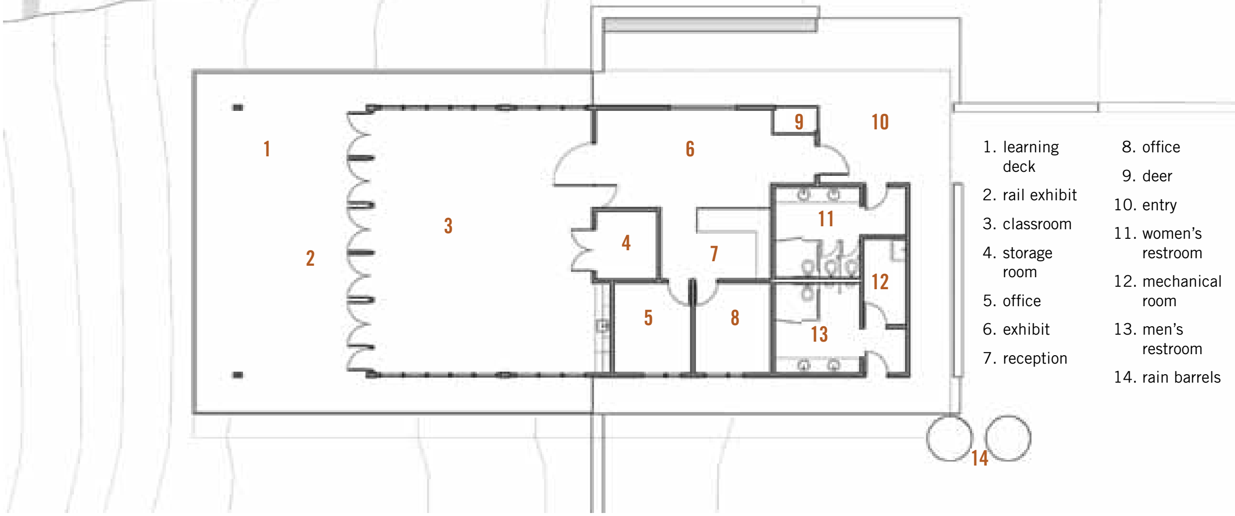
RATIO Architects Inc.

The White Deer Park Nature Center, located in a town park that was once a blueberry farm in Garner, NC, is an environmental education center with interpretative exhibits and live programs about the surrounding natural habitat. The mission of the facility is to provide environmental education with an emphasis on global, local and individual conservation of natural resources.

The idea of an agricultural shed was a metaphor for the simple design of this structure which has a prominent roof for shade and water collection. The Nature Center lessens its ecological footprint and offsets lifecycle costs via an expansive roof structure that works with available natural resources and innovative sustainable products. The building is sized to echo an average modern home (2,500 sq.ft.). Many of its sustainable features are strategies that the average person could incorporate in their own home because they available throughout the US.

Site grading was kept to a minimum.





FLOOR PLAN

The concrete slab and Nor Carla bluestone flooring make up about half of the building's footprint. The classroom and exterior deck rest lightly on concrete piers.

The building has an east-west orientation and is nestled among the trees for additional shading. The roof provides shelter from the sun's rays in the summer and allows sunlight in during winter months. Thermal mass in the concrete and stone flooring allows heat to be collected from the sun during the day (solar gain) and then released to help heat the building throughout the cold winter nights.

Hot water is produced using solar panels on the roof and rain water is funneled into a large gutter and collected in two cisterns where it is treated and then used for toilets.

The materials used in the construction of the Nature Center were organized as part of a three-fold strategy: local and salvaged materials; rapidly renewable materials; and high-performance composite materials. The wood floor in the classroom was reclaimed from a 1940s farmhouse on site. A local business provided slate that had been salvaged from a local high school to be used as caps on seat walls throughout the park.

Other materials were specified and sourced within a 500 mile radius of the site. Materials found outside that radius were only used if they were especially sustainable and valuable from an educational perspective. Eastern white cedar siding and Nor Carla bluestone are indigenous to North Carolina and the eastern seaboard. Parallam beams are a composite material made up of many smaller tree particles and old growth trees are not used in their production. Plyboo sheets, similar to plywood, are made of many pieces of bamboo, a highly durable grass. Both are rapidly renewable resources. Recycled materials include a recycled plastic deck and recycled glass and concrete countertops.

ARCHITECT
RATIO Architects Inc.
Raleigh, NC

CLIENT
Town of Garner
Garner, NC

STRUCTURAL ENGINEER
Stewart Engineering
Raliegh, NC

GENERAL CONTRACTOR
George Raper and Son (GR&S)
Raleigh, NC

PME ENGINEER &
SUSTAINABILITY CONSULTANT
Isaac Panzarella
Raleigh, NC

LANDSCAPE ARCHITECT
OBS Landscape Architects
Raleigh, NC

PHOTOGRAPHY
James West
Raleigh, NC

Approachable and welcoming, hospice delivers full healthcare services in an intentionally non-institutional environment

Willson Hospice House

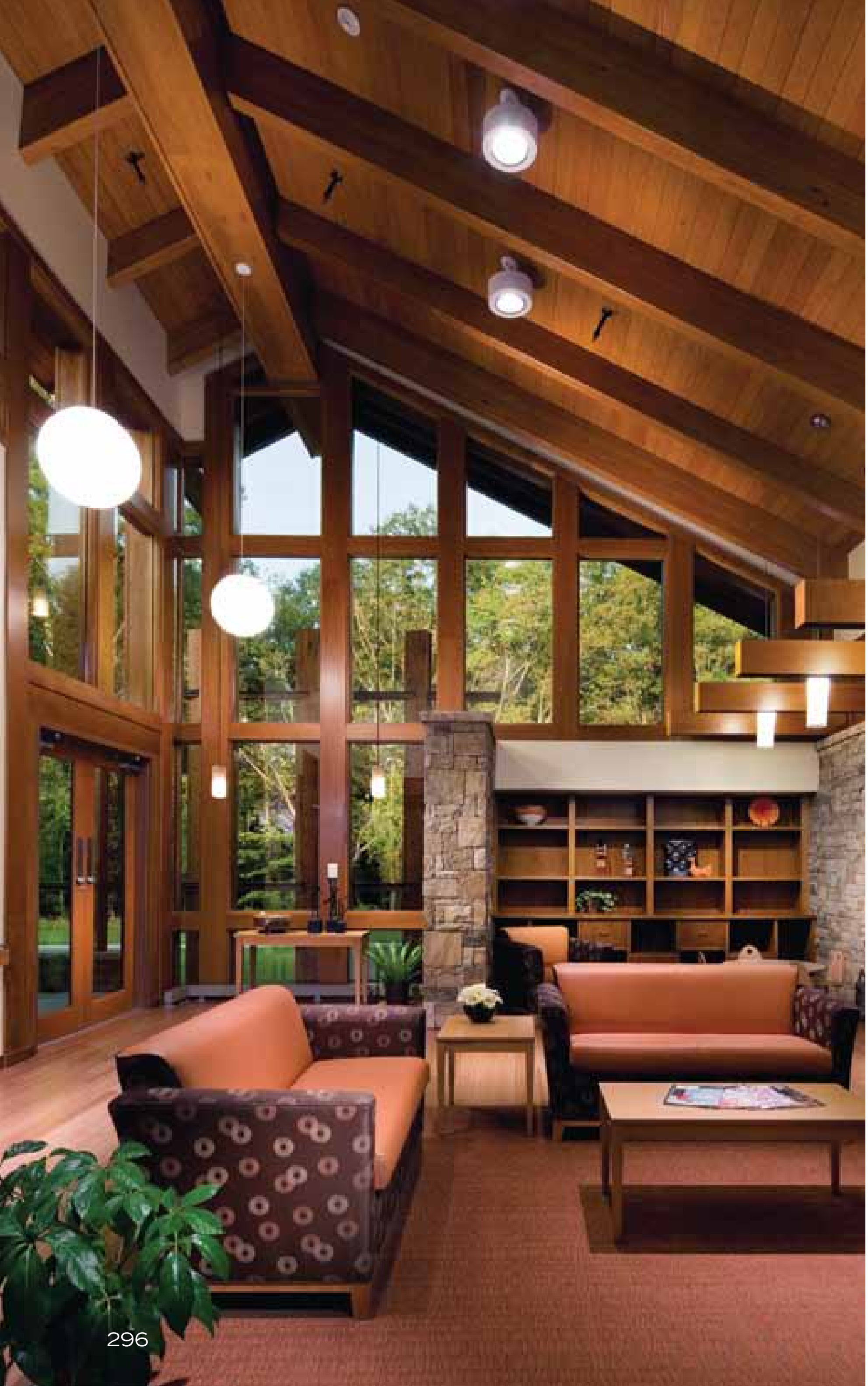
Perkins+Will

Willson Hospice is a new 34,000-sq.ft. facility serving terminally ill patients in Albany, GA. It includes an administrative component for 50 home care staff who travel each day to reach patients in the surrounding 11 counties, as well as educational and meeting space for volunteers. The residential component for 18 inpatients is organized into three pods, each arranged around a family living room with a reading inglenook, children's game millwork, dining area, conversation area, and two outdoor terraces protected by sunscreens. Other assembly areas include a chapel, music room, playroom, family kitchenette, and sunroom.

From its inception, Phoebe Putney Memorial Hospital intended the hospice not only to serve patients but also to be an ecological oasis for the local community. The project's carefully minimized footprint disturbs only 14 of the 210 acres on the wetland site, preserving native flora and fauna and creating a variety of public and private gardens. A one-mile walking trail loops the site perimeter, connecting the front courtyard, family gardens, and outdoor chapel with boardwalks and a viewing platform at the bird sanctuary formed by a natural pond. The building was located deeply enough into the parcel so that its curving entry drive past oaks hung with Spanish moss emphasizes the spaciousness and peacefulness of the site, a contrast to the busy arterial approach road. Willson Hospice's site sensitivity was recognized by its designation as the only healthcare facility in the world to become a Certified Silver Audubon International Signature Sanctuary.

Because the project's objective was the provision of full healthcare services in an environment that is intentionally un-institutional, its building design is approachable and welcoming, conveying its connection to its south Georgia community. The overall building mass is broken down into small pods to create a collection of forms that feel like a friendly village, not a formidable treatment center. Simple geometric shapes with sloping and gabled roofs and large eaves are reminiscent of agrarian buildings. Exterior detailing includes cedar trellises, sunscreens, and canopies as well as decorative double- and triple-member rafter tails constructed with truss outrigger and joist extensions with paired sisters.

Inside, warm familiar materials like stained cedar, pine, Douglas fir, bamboo, and cork impart texture and natural color, in contrast to colder more traditional healthcare materials like stainless



steel or terrazzo. Extensive birch millwork in patient rooms accommodates personal belongings; stained paneling disguises medical outlets and switches, making the spaces homelike instead of clinical. Reading lights are attached to the beds, not the headwalls, so patients can adjust the bed locations, even taking them out onto shared porches. Beds for family members staying overnight are built into window seats, an arrangement which keeps crucial nursing space clear around patients.

The hospice's design also emphasizes transparency, incorporating views into the heavily treed woodland landscape wherever possible. Major gathering rooms like the lobby, family living rooms, chapel, sunroom, and multi-purpose room feature high, exposed fir plank ceilings, glulam beams, and tall wood-window walls; these spaces function as lanterns, glowing at dawn and dusk inviting visitors to join activities within.

Wood played other key roles. Wood framing helped maximize budget dollars. Rapidly-renewable cork and bamboo, and recyclable wood structural and finish materials helped the project meet ambitious sustainability goals. Heavy timber reclaimed from a local cotton mill was re-milled to furnish the lobby fireplace mantel, as well as outdoor chapel pews. Willson Hospice was recognized as LEED Silver in January 2011.

ARCHITECT/INTERIOR DESIGN/
LANDSCAPE ARCHITECT
Perkins+Will
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PROJECT TEAM
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CLIENT
Phoebe Putney Memorial Hospital
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STRUCTURAL ENGINEER
Uzun & Case
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GENERAL CONTRACTOR
Brasfield & Gorrie
Kennesaw, GA

CIVIL ENGINEER
Lanier Engineering Inc.
Albany, GA

MECHANICAL ENGINEER
Cornelius Engineering Inc.
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ELECTRICAL ENGINEER
Spencer Bristol Engineering
Norcross, GA

PLUMBING AND
LIFE SAFETY ENGINEER
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Atlanta, GA

LEED COMMISSIONING
Energy Ace Inc.
Decatur, GA

PROGRAM MANAGER
KLMK Group Inc.
Albany, GA

PHOTOGRAPHY
Jim Roof Creative Photography
Duluth, GA

ADMINISTRATION BUILDING

1. team room
2. multi-purpose room
3. team room
4. conference room
5. executive director
6. reception/lobby
7. admissions
8. library
9. large meeting room
10. volunteers
11. staff break room
12. medical director

PATIENT POD 1

13. soiled utilities
14. soiled linens
15. kitchen
16. family kitchenette
17. sunroom
18. ancillary nurse work area
19. clean utilities
20. restroom
21. family living room
22. clean linens

PATIENT POD 2

23. storage
24. chapel
25. ancillary nurse work area
26. family living room

PATIENT POD 3

27. playroom
28. quiet room
29. laundry room
30. medical room
31. primary nurse work area
32. family living room

Dining and activity club echoes the form of a hand-crafted canoe with soaring, vaulted wood ceilings supported by arched structural ribs

The Canoe Club Wilson's Landing

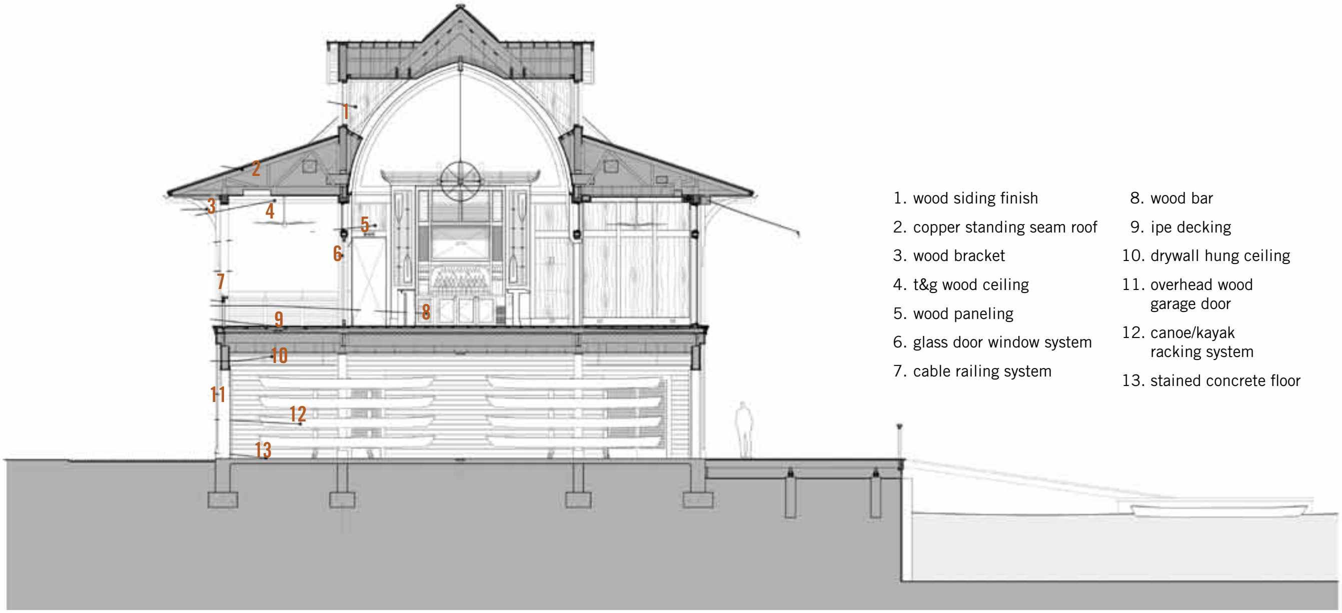
Hart Howerton

The Canoe Club is a new destination and gathering place for the members of the Palmetto Bluff community. Located at Wilson's Landing, the maritime and boating heart of Palmetto Bluff, the club provides a bar and dining club for lunch and dinner, canoeing and kayaking activity, a family-oriented swimming pool experience, and a state-of-the-art fitness room.

Anchoring the northern edge of Wilson's Landing, the Canoe Club is situated at the confluence of an inland waterway and the May River. This serves as a unique transfer point for boating activity between these two bodies of water. All the spaces are organized around ancient live oaks with views of the inland Water Trail and May River.

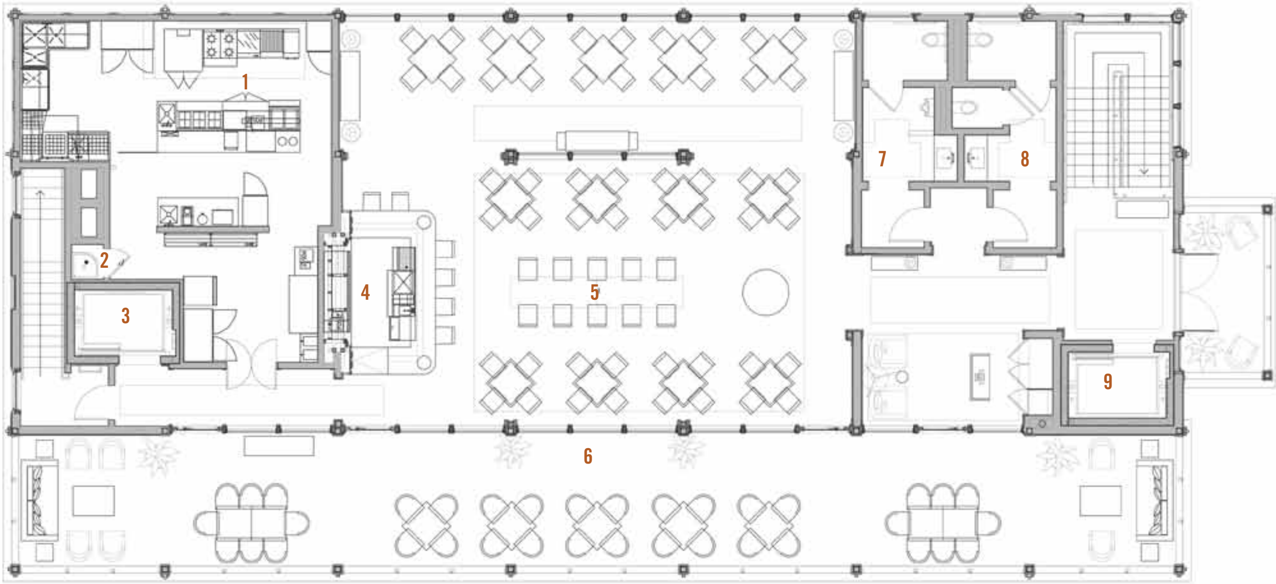
Conceived as a bridge between the Water Trail and the May River, the bar/grille room has expansive views to the water's edge. Echoing the form of a hand-crafted canoe, the main volume is a vaulted wooden ceiling supported by a series of structural arched ribs. Art is integral to the architecture; two large-scale murals on display reflect life on the water at Palmetto Bluff. The ground floor of the building provides storage for canoes and kayaks.

Fashioned after the shape of an upside-down boat hull, the Canoe Club dining room ceiling soars to an impressive 27 ft. On two sides of the building, commanding views of the May River and the inland lagoon system make the upper deck of the Canoe Club a great place for outdoor dining.



1. wood siding finish
2. copper standing seam roof
3. wood bracket
4. t&g wood ceiling
5. wood paneling
6. glass door window system
7. cable railing system
8. wood bar
9. ipe decking
10. drywall hung ceiling
11. overhead wood garage door
12. canoe/kayak racking system
13. stained concrete floor

SECTION



1. kitchen
2. janitor
3. elevator
4. bar
5. clubroom
6. covered porch
7. men's restroom
8. women's restroom
9. elevator

FLOOR PLAN

ARCHITECT/INTERIOR DESIGN/ LANDSCAPE ARCHITECT
Hart Howerton
San Francisco, CA

PROJECT TEAM
Timothy K. Slattery, David Mateja, Zachary Poole, Fatima McNell, Anne Howerton

CLIENT
Crescent Resources
Bluffton, SC

GENERAL CONTRACTOR
Fraser Construction Inc.
Bluffton, SC

STRUCTURAL ENGINEER
Saussy Engineering
Savannah, GA

WOODWORKER SUB CONTRACTOR
Charleston Woodworks Inc.
Charleston, SC

CIVIL ENGINEER
Thomas & Hutton
www.thomasandhutton.com

MEP ENGINEER
DWG Consulting Engineers
Mount Pleasant, SC

KITCHEN DESIGNER
Harry Parker, INC
Charlotte, NC

LIGHTING DESIGNER
Craig Roberts Associates
Dallas, TX

ACOUSTIC ENGINEER
Charles Salter Associates
San Francisco, CA

ART CONSULTANT
Sandee O. Photography
Atlanta, GA

PHOTOGRAPHY
Eric Embry Photography
San Francisco, CA

Eric Prine, Attic Fire Photograph LLC
Savannah, GA

JURY'S CHOICE

School building takes a contemporary approach with traditional materials, capturing the progressive vision of historical college

College of Charleston Admissions Office at Craig Hall

Watson Tate Savory Liollio Architecture

As the point of first contact for prospective students at the College of Charleston, Craig Hall and the Office of Admissions needed to create an impression representative of the school, the people, and the campus as a whole. It also needed to accommodate the daily operations of the admissions staff and recruitment counselors.

Situated at the center of the historic College of Charleston campus, Craig Hall is seamlessly integrated with the immediate context, drawing visitors in through an arcade which continues into the interior beyond the frameless glass entry. It is here that the narrative of the college begins; large LCD monitors provide vivid, graphic displays to visitors in a series of "information zones," which cycle through current events, student life, and historical moments at the college – all as visitors progress toward the multi-purpose presentation space.

Upon entering this space, prospective students encounter a large, glowing acrylic rendition of the college's seal, which captures the school's 240 year history in a relevant material for contemporary visitors. The seal, floating in

a wall that peels up from the floor and subtly curves into the ceiling, reorients the visitor to a screen, where a short presentation reaches its crescendo as the blackout shades beyond roll up to reveal a direct, floor-to-ceiling view of the historic Cistern Yard. In the establishment of this axial relationship, Craig Hall emphasizes the connection between the College of Charleston's rich past and the students that are its future; and it becomes a vehicle of communication for the admissions staff to address the school's vision as the visitors proceed on their campus tours.

Supporting these initial impressions of the College of Charleston, the back-of-house program for the Office of Admissions focuses on creating efficiently organized, collaborative work spaces. These areas are united by natural light, which penetrates deep within the building from the south via corridors located in response to existing openings. Housed in one location for the first time, admissions officers are organized in pods, while shared spaces are placed throughout and large corridors provide for spontaneous conversation and encourage interaction.

Used selectively against a pure white palette, wood becomes the focus. In the entry gallery, sound is dampened through use of FSC-certified cherry veneer acoustical panels. In the admissions theater, acoustical panels of the same species wrap from ceiling to wall and join to strand-laminated bamboo flooring in an unbroken folded plane. Teak is used on benches, counters and reception desks, as well as on a custom-fabricated lectern.

The project received LEED Gold Certification for Commercial Interiors, and the extensive use of FSC-certified wood was crucial to that effort. Multiple species were used, all of which were FSC-sourced: cherry, teak, ash and cypress.

ARCHITECT/INTERIOR DESIGNER
Watson Tate Savory Liollio Architecture
Charleston, SC

CLIENT
College of Charleston
Charleston, SC

PROJECT TEAM
Jennifer Charzewski, Dinos Liollio, Mary Mac McFadden, Jennifer Sanders, Jay White

GENERAL CONTRACTOR
Palmetto Construction Group
Charleston, SC

LANDSCAPE ARCHITECT
DesignWorks
Charleston, SC

PHOTOGRAPHY
Jay White, Watson Tate Savory Liollio Architecture
Charleston, SC

MULTI-FAMILY

Multi-family residence successfully combines modern living and sustainable design

Inman Green Lofts

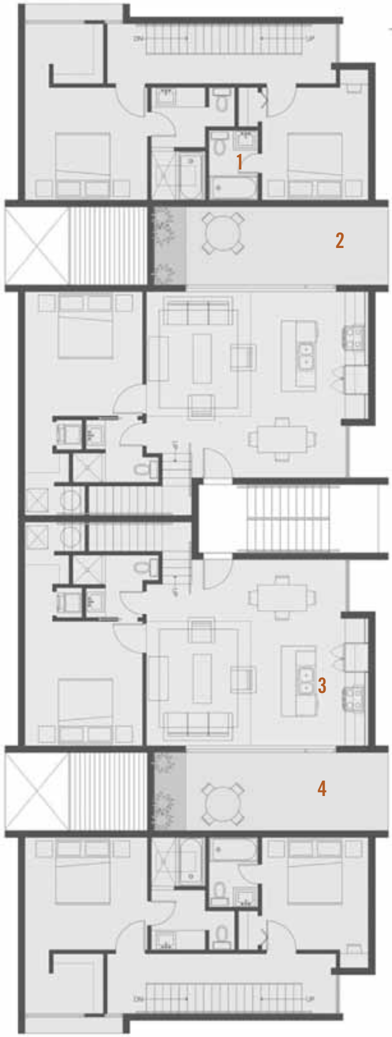
Rutledge Alcock Architects

On a stretch of road heading east from downtown Atlanta, clusters of buildings face south towards the railroad tracks. These tracks have marked the landscape for over 150 years and the buildings lining them have evolved from simple general stores to factories and distribution centers. In the ever-evolving city fabric the rail line is now paralleled by a commuter line and the buildings have transformed into offices, coffee shops, and lofts.

From the beginning, the goal of this project was to create a sustainable multi-family residence with a design focus on a contemporary and urban style of living. As the project evolved, it became increasingly evident that modern living and sustainable design were indeed very compatible.

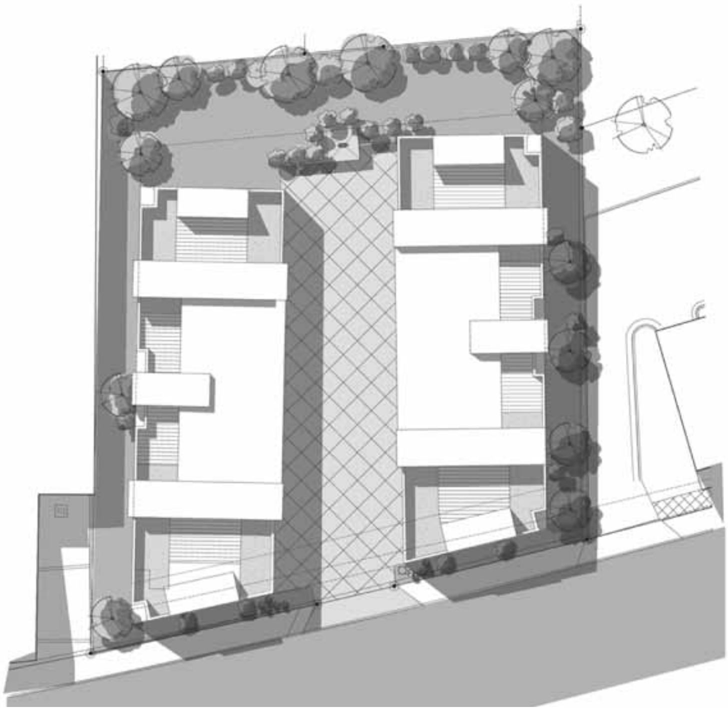
Settled next to a factory for making bathtubs and sinks, Inman Green Lofts rises on a constricted urban site. A central courtyard-like driveway separates two buildings, each with just six residences. Drawing on the industrial character of the region and the local shipping yard, the building's massing is based on stacked containers. To achieve open living plans the architects choose to blur the boundaries of interior and exterior living with voids and shifts in the massing that create balconies, interior patios, and roof decks. The complexity of the form required a flexible structural system and wood framing was determined ideal for the project.

Engineered wood beams and standard lumber support poured concrete



1. townhome
2. loft
3. loft
4. townhome

FLOOR PLAN



SITE PLAN

floors on 19.2-in. centers, reducing the amount of lumber needed to build each floor plate. The exterior of the form is brought together by a modern material palette of cypress planks, stucco, and corrugated metal panels. These elements fold and slide from exterior walls through openings and windows into the walls of the interior. Stained cypress panels on the outside become an accent wall in the dining room, stucco shifts to plaster walls, and metal folds overhead.

As the project neared completion the name Inman Green was adopted; Inman for the neighborhood it was located in and Green because of the level sustainability the project had achieved. At completion it was awarded LEED Gold for Homes (falling only 5 points shy of LEED Platinum), and certified as an Earthcraft Multi-family Home.

ARCHITECT
Rutledge Alcock Architects LLC.
Decatur, GA

STRUCTURAL ENGINEER
Stability Engineering
Decatur, GA

GENERAL CONTRACTOR/CLIENT
Pelle Development Group
Atlanta, GA

CIVIL ENGINEER
EMC Engineering
Savannah, GA

MEP ENGINEER
Minick Engineering Inc.
Tucker, GA

GREEN CONSULTANT
SouthFace
Atlanta, GA

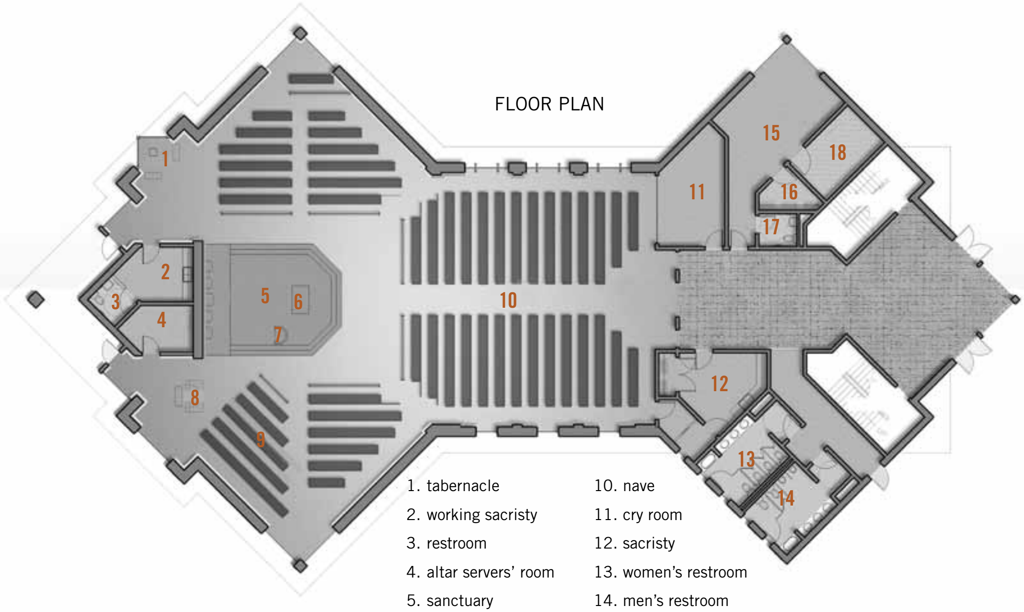
PHOTOGRAPHY
Paul Holtenberg
Atlanta, GA

TRADITIONAL USE OF WOOD

Material palette that includes wood for columns, trusses and exposed wood decking is selected to create a harmonious relationship with nature

Christ the King Catholic Church

CDH Partners Inc.



1. tabernacle
2. working sacristy
3. restroom
4. altar servers' room
5. sanctuary
6. altar
7. ambo
8. organ
9. choir
10. nave
11. cry room
12. sacristy
13. women's restroom
14. men's restroom
15. multi-purpose room
16. closet
17. restroom
18. mechanical room

The parish of Christ the King Catholic Church has come a long way since its inception in 1964, when it celebrated its first mass in a renovated gas station. Despite numerous building additions over the next 40 years, the parish still outgrew its facilities as well as its land. In 2005, the church acquired a 19-acre parcel adjacent to a 13,000-acre nature resort and began the master plan for a new campus that would serve its needs well into the future.

The first phase of the campus called for the design and construction of a new 400-seat church. In order to minimize the impact on the site and to take advantage of natural views, the building was set in a small clearing amidst a grove of pines. The exterior material palette enjoys a harmonious relationship with the natural setting; limestone from a local quarry is used to tie the building to the earth in a metaphorical and literal manner, while a wood-and-glass cap creates a clerestory which provides ambient light inside the church. A cupola of wood and glass, located strategically above the altar, highlights the heart of the church during the day while acting as a light beacon at night.

In a seamless expression, the exterior palette is pulled inside the church to reinforce the building's relationship with nature. Raw concrete piers support stained wood columns, trusses and exposed wood decking. As on the exterior, stone dominates the base of walls while glass occupies the upper portion; at times creating the illusion that the roof is floating. Large expanses of glass are strategically placed to capture and frame picturesque views of the landscape. It was for this reason, to allow nature to merge with the built form, that stained glass was used sparingly. Lightly stained wood pews as well as sanctuary and altar furniture provide warmth in the rustic interior. The floor is covered with carpet that hints of grass and moss.

The success of the building has resulted in increased membership and greater fundraising opportunities for the parish. Christ the King Catholic Church is currently embarking on the next phase of the master plan, which includes a large fellowship hall and new facilities for education and administration. The design precedent established by the construction of the church will dictate future projects at the parish.

1. pond
2. paved drive and crossing
3. service drive
4. parish center
5. alternative route to GA 18
6. terrace
7. outdoor chapel
8. tabernacle
9. phase 1 church building
10. existing rectory
11. future ballfields
12. gym building
13. statues
14. stone pathways
15. stations of the cross
16. education/ administration building
17. water feature
18. covered cloister
19. covered drop-off
20. outdoor gathering

SITE PLAN

ARCHITECT/INTERIOR DESIGN/ ENGINEER
CDH Partners Inc.
Marietta, GA

PROJECT TEAM
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Thomas K. Smith, Kirsten Wittan

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Pine Mountain, GA

STRUCTURAL ENGINEERING
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GENERAL CONTRACTOR
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WOOD DETAILS
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Atlanta, GA

PHOTOGRAPHY
CDH Partners Inc.
Marietta, GA

Pleasant Ridge Camp and Retreat Center

DP3 Architects Ltd.

Pleasant Ridge Camp and Retreat Center is located in the northern-most portion of the South Carolina foothills, at the base of the Appalachian Mountains. The $7.6-million facility is the result of a public-private collaboration between the Greenville Hospital System Children's Hospital and the Greenville County Recreation District.

The facility provides a traditional residential summer camp experience for children and adults with disabilities and special needs through Camp Spearhead, and for children with cancer and blood disorders through Camp Courage. Even amidst mountainous terrain, the facilities and surrounding site have been designed specifically to provide access and meet the unique needs of the campers. When not in use by camps, the center is an excellent location for family reunions, corporate retreats, weddings, youth retreats and other group outings.

The camp was constructed within a forested portion of Pleasant Ridge County Park. The forested setting and desire to create a traditional summer camp experience made the extensive use of wood in the design a natural choice. Wood also played an important role in meeting the design and construction mandate's sustainability goals within the established budget.

The camp is centered around a 20,000-sq.ft. main lodge which includes a dining hall that can double as a meeting hall for large groups, a full-service commercial kitchen, administrative offices, and private sleeping suites for directors and staff. The dining/meeting hall is large and uses wood trusses to create a clear-span open space. The hall includes a stage area and large wood-burning stone fireplace which is flanked by large double-entry doors. A

Wood meets sustainable design goals in iconic summer camp for children and adults with special needs

1. future cabin pod
2. pool amenities area
3. new cabin pod
4. new activities pavilion and amphitheater
5. existing playfield
6. new bell tower
7. new cabin pod
8. future cabin pod
9. plaza
10. new administrative and lodge buildings
11. existing detention pond
12. existing parking area

SITE PLAN

deck that runs the length of the building connects the staff area and main entry point of the camp via a wall of large glazed doors. On the exterior, and connected within the same stone façade as the interior fireplace, is another inviting wood-burning fireplace, open to an area large enough to gather a small- to medium-size group.

Cabins for the campers are built in pods. Each pod has two single cabins and a double cabin which can accommodate total of fifty-six campers. The single pods each have rooms that sleep two and a bunk room that sleeps eight, bathrooms, and a kitchenette/living room shared space within each cabin. The cabins feature hardwood floors, heavy timber trusses, wood trim and cabinet work.

Large decks overlook the forest at the rear and connect to the front where large screened porches and patios face the main lodge and recreation pavilion. The camp currently has two pods, accommodating 112 campers, with the ability to construct two additional pods to create lodging for up to 224 campers per session.

To round out the camp experience, the campus has a 6,200-sq.ft. open-air recreation pavilion which includes a full-size basketball court, stage, crafts room, concessions area, rest rooms, therapeutic/recreation swimming pool with zero-depth entry and a spray pad play area. Wood is again a focal point in the design of this open air pavilion, repeating in the crafts room the same use of heavy timber trusses and exposed framing that is featured elsewhere on campus.

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STRUCTURAL ENGINEER
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GENERAL CONTRACTOR
SYS Constructors Inc.
Greenville, SC

MECHANICAL/ELECTRICAL ENGINEER
DeVita and Associates Inc.
Greenville, SC

PHOTOGRAPHY
Joseph Ciarlante
Charlotte, NC

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Vancouver, BC

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California

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North-Central

COMMERCIAL

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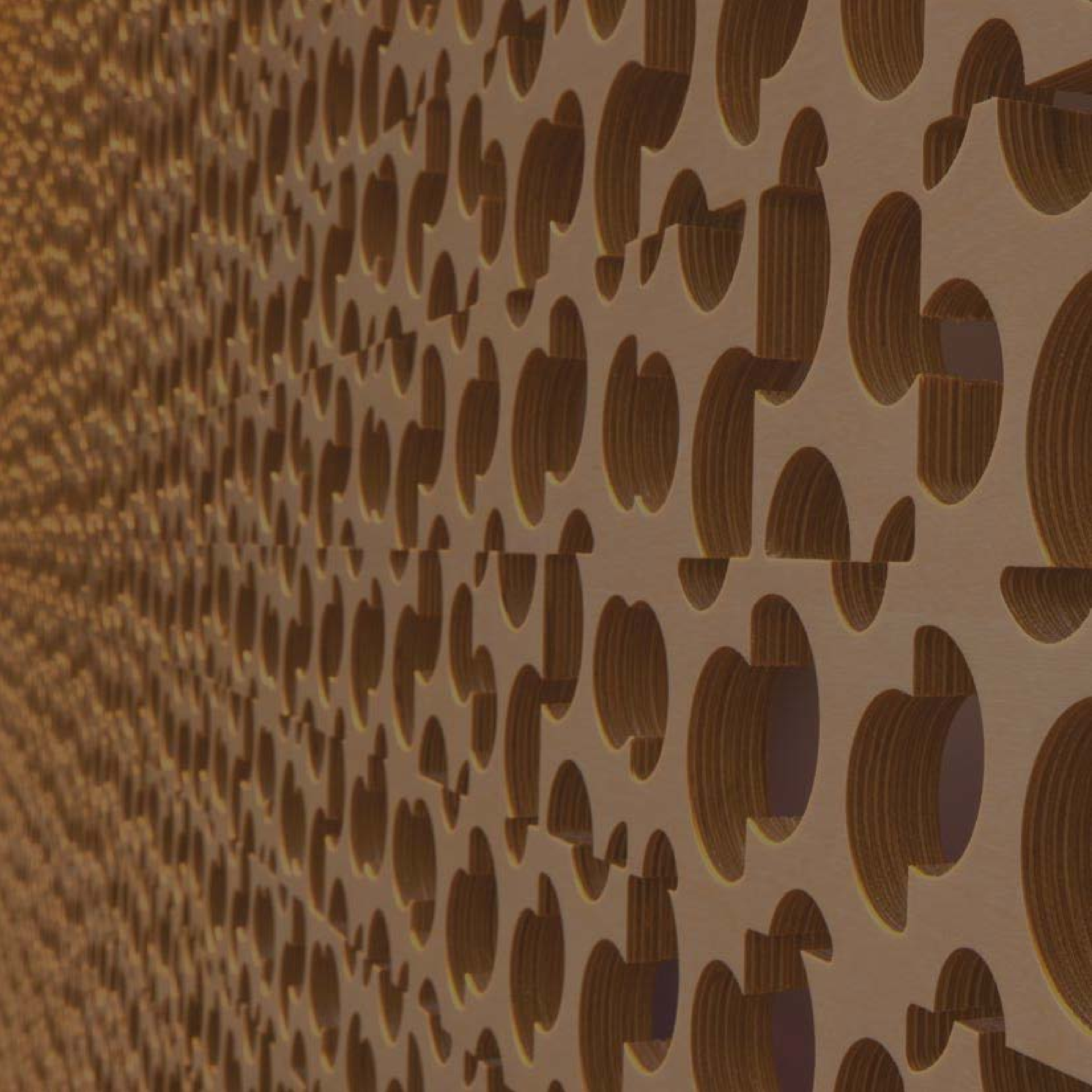

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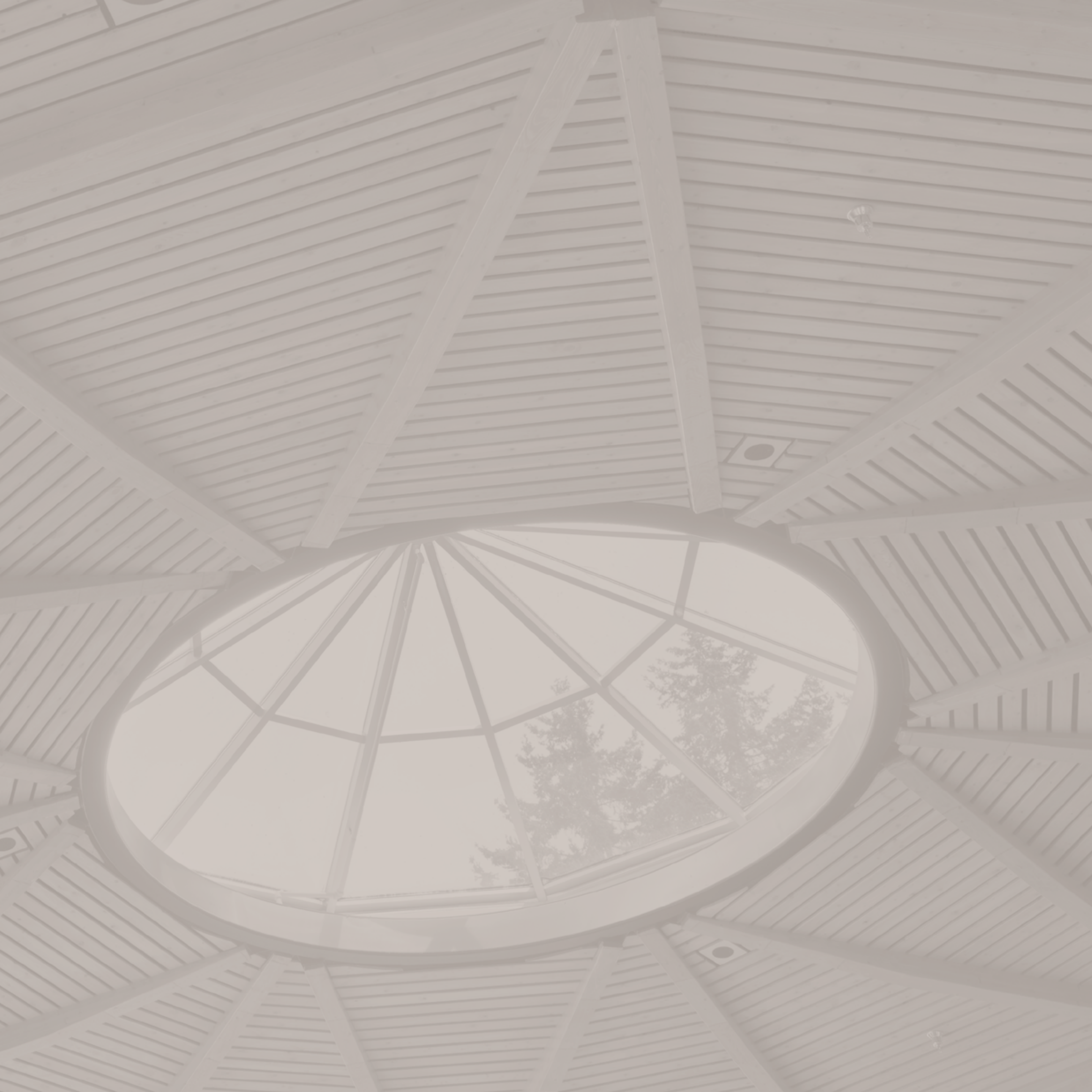

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