The Wood Design Awards 2007

A NORTH AMERICAN PROGRAM OF ARCHITECTURAL EXCELLENCE

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The Wood Design Awards 2007

Editor: Bernadette Johnson, Dovetail Communications Inc.
Design: Sharon MacIntosh, Dovetail Communications Inc.
Printing: Web Offset

National Library of Canada Cataloguing in Publication

Wood Design Awards 2007/edited by Bernadette Johnson

ISSN 1708-5233 The Wood Design Awards
ISBN 978-0-9783213-1-4

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: Four Seasons Centre for the Performing Arts, Diamond and Schmitt Architects Photo: Tim Griffith, San Francisco, CA

Every year, *Wood Design & Building* profiles the winners of the annual Wood Design Awards, the only North American-wide program that recognizes achievements in wood architecture.

This year's winners celebrate a diverse range in building type and scale: from a backyard patio structure in Seattle, a music room in Stratford, ON, to large college buildings and residences in both the U.S. and Canada. The 15 winning projects – selected from more than 220 submissions – each depict the sheer brilliance and durability of wood architecture. In addition to the award profiles, this book features the Real Cedar Award and WoodWorks for Non-Residential Construction Award.

Special thanks to every firm and designer that submitted a project – your inspiring work showcases wood architecture in its fullest forms.

We also extend our gratitude to the Wood Design Awards judges. Judging was held at the National Gallery of Canada in October 2007. Our esteemed panel of jury members included: Mary Griffin, FAIA, Turnbull Griffin Haesloop Architects; Vivian Manasc, MAAA, FRAIC, MBA, LEED Accredited Professional, Manasc Isaac Architect Ltd.; Jefferson Riley, FAIA, Centerbrook Architects and Planners.

We sincerely acknowledge the support of the Wood Design Awards sponsors and industry associations: Western Red Cedar Lumber Association, Sustainable Forest Initiative, WoodWorks for Non-residential Construction and the Canadian Wood Council.

Wood Design & Building is honored to present the work on the following pages. We hope the award-winning images and accompanying descriptions will inspire you and challenge you to use wood in your future building projects.

With thanks,

Jennifer Duthie
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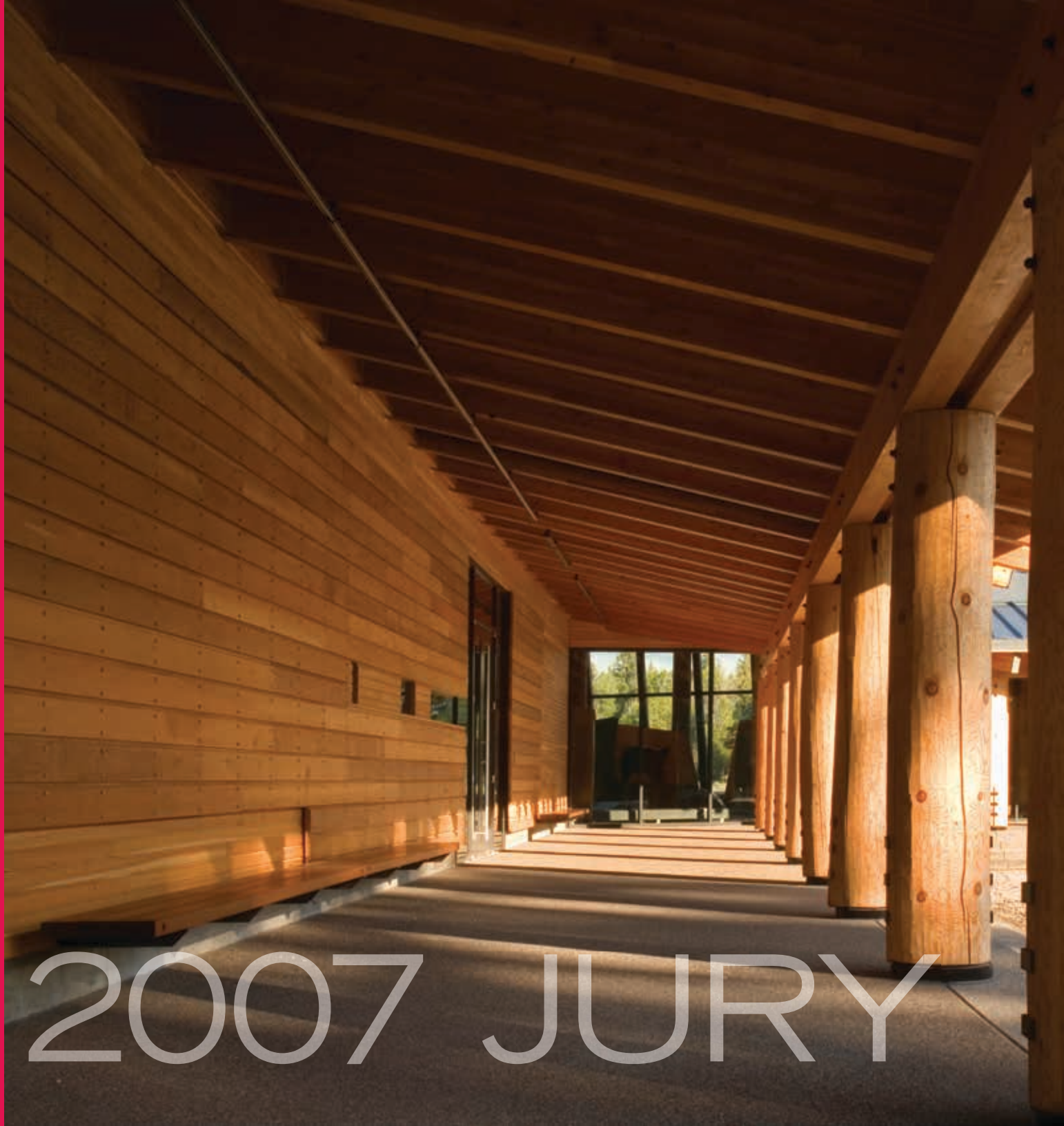


2007 JURY

Mary Griffin
FAIA
TURNBULL GRIFFIN HAESLOOP ARCHITECTS, SAN FRANCISCO, CA

Mary Griffin is a principal with Turnbull Griffin Haesloop Architects is San Francisco, California. From Atlanta, she was educated at Brown University and M.I.T, where she received her Masters of Architecture. Mary practiced with Hartman-Cox, James R. Grieves Associates and Lyndon Buchanan Associates before joining William Turnbull Associates in 1986. The San Francisco firm renowned for site-sensitive sustainable design became Turnbull Griffin Haesloop in 1997. Mary and partner Eric Haesloop, AIA, have received over 60 awards for their designs. A frequent juror and visiting lecturer at UC Berkeley, Mary was named a Fellow of the American Institute of Architects in 2006.

Vivian Manasc
MAAA, FRAIC, MBA, LEED
ACCREDITED PROFESSIONAL, MANASC ISAAC ARCHITECTS LTD., EDMONTON, AB

Vivian Manasc is senior principal of Manasc Isaac Architects. The firm specialises in architecture, functional programming, interior design, planning, and urban design. It is the leading LEED Certified Professional "green" architectural firm in Alberta and has been recognized nationally and internationally with awards for design excellence. Vivian is Immediate Past President of the Royal Architectural Institute of Canada, Vice-Chair of the Canada Green Building Council and Chair of the Council's Continuing Education Committee, founding member of the Sustainable Buildings Symposium, in addition to serving on numerous other boards and being active in various community organizations.

Jefferson Riley
FAIA
CENTERBROOK ARCHITECTS AND PLANNERS, CENTERBROOK, CT

Jeff Riley is a founding partner of Centerbrook Architects. Early in Jeff's career he studied the art of wooden boat building and began touring and photographing villages around the world. Both interests have informed his designs ever since. His experience ranges from private residences to religious buildings, museums, educational facilities, and community centers across the United States. His work has received 65 national and regional awards for design excellence including the AIA New England 25 Year Award and the American Institute of Architects 1998 Firm Award.

contents

HONORAWARDS

MERITAWARDS

CITATIONAWARDS

SPECIALAWARD

HONOR AWARDS

"Introducing wood to a rugged and durable college dining hall gives a warmth and sparkle to this large room. It carries us out to the forest – where some of the wood comes from. This is an example of using wood for quality of experience."

– JURY

Atwater Commons

KieranTimberlake Associates

ARCHITECT:
KieranTimberlake Associates LLP, Philadelphia, PA

CLIENT:
Middlebury College, Middlebury, VT

GENERAL CONTRACTOR:
Lee Kennedy Co., Boston, MA

STRUCTURAL ENGINEER:
CVM Engineers, Wayne, PA

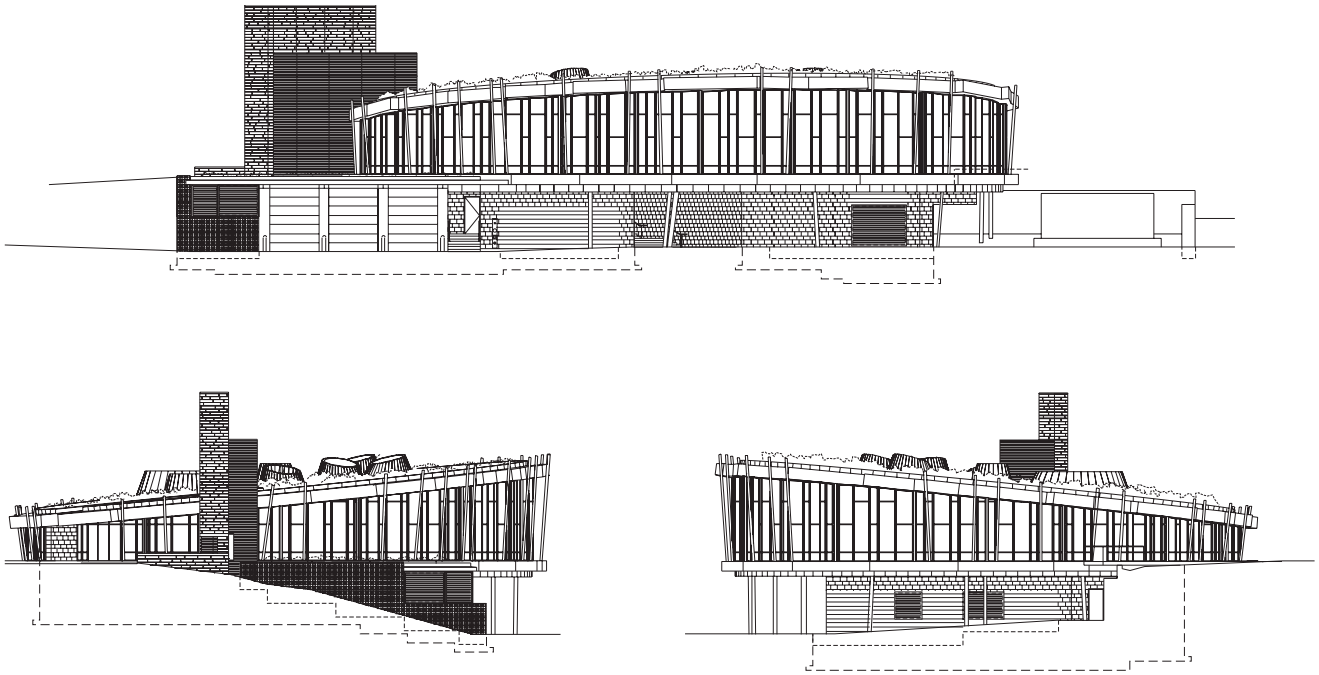
LANDSCAPE ARCHITECT:
Andropogon Associates, Philadelphia, PA

PHOTOGRAPHER:
Barry Halkin, Philadelphia, PA

Middlebury College is in the process of developing five residential commons of approximately 450 students each. Each of the new commons – among them, the Atwater – is intended to provide intimate living-learning environments for students, offering residential, social, academic and support programs within a precinct on campus.

The Atwater project – the second commons to be completed – supplements existing housing with 154 new beds in suite configurations and a new 225-seat dining hall. Two new stone-clad residential buildings frame distant views to the north and back to Le Chateau, an icon on campus. The dining hall is articulated as a glazed pavilion nestled in the woods, providing tree-level views out to the Town of Middlebury and mountains beyond.

The project reflects the college's environmental goals with careful attention to site strategy, water runoff and material selection. The residence halls are naturally ventilated, incorporating floor-through suite plans, transom windows and ceiling fans in all rooms. Ventilation is supplemented by attic fans, which exhaust through rooftop chimneys. The dining hall incorporates a planted roof, providing excellent insulation, protection of the roofing membrane, and, most significantly, reduction of impervious surfaces on campus. The majority of materials selected for this project – inside and out, for construction and



ELEVATIONS

finish – reflect the college's commitment to materials local to Vermont and the region, durable and of long-life, and generally 'green' or sustainable to the environment.

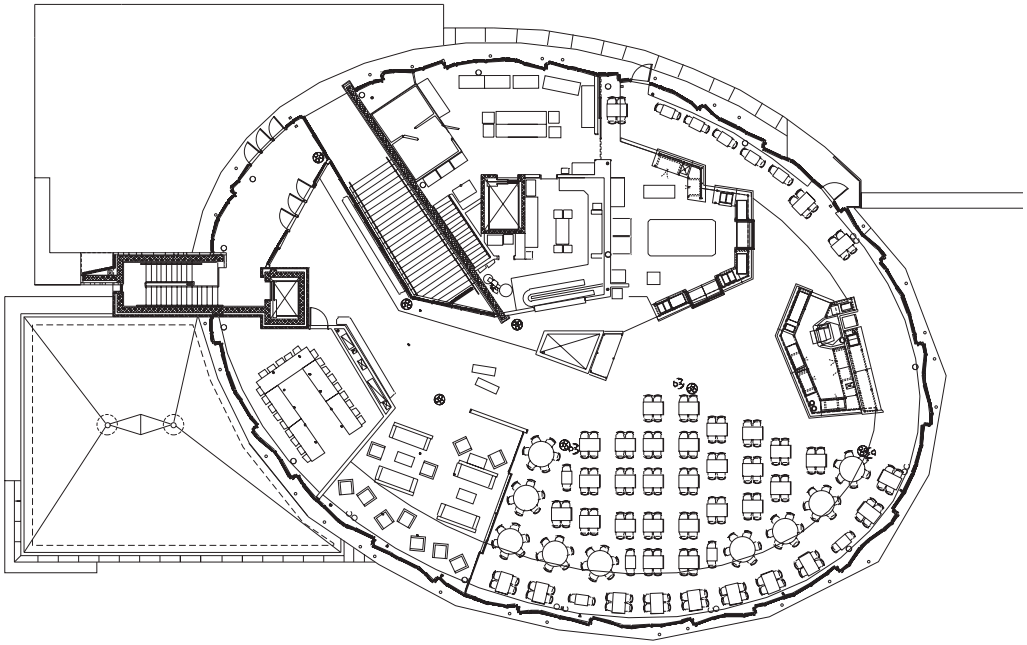
In general, the architecture of the college represents simplicity, order, materiality and quality. Each building on campus employs a diverse but common palette of gray stone with brick, wood, plaster and metal as secondary materials, rendered in simple forms, carefully detailed and finely crafted. At first glance it seems very uniform. At second and third glance the richness of the campus is displayed and the diversity of each building enjoyed. The new buildings of Atwater use these precedents.

The dining hall is conceived as a pavilion in the woods, fully engaged with the landscape. While many of the college's buildings are rectangular in plan and clad in stone, this building is intended as a counterpoint to campus tradition. Structural steel defines an elliptical frame, open to views on all sides, with a sloping roof deck. The frame is fully expressed: bundled steel tubes form architectural columns that extend from the exterior landscape up through to the interior.

The main level contains a student lounge, reception area and seminar room in addition to dining, serving and kitchen support spaces. The exterior walls are primarily glass in wood frames with wood infill walls. The chimney/stair tower is limestone and brick, forming a visual landmark for the dining hall while sharing a common element with the residence halls. Trims and other surfaces of the soffits and roof are lead-coated copper. Service spaces are located below the main level in a plinth engaged into the slope. The base itself is faced in lead-coated-copper shingles and pierced by the pathway stair. Site walls adjacent to the service area are gabions utilizing stone from the site.

The project reflects the college's environmental goals with careful attention to site strategy, water runoff and material selection. The dining hall's green roof provides excellent insulation, protection of the roofing membrane, and, most significantly, reduction of impervious surfaces on campus. The green roof allows the college landscape to extend literally through and across the dining hall structure.

The Atwater Commons Dining Hall makes extensive



GROUND FLOOR PLAN

use of wood as both an exterior and interior material. This use of wood, which was strongly supported by the client, achieves several goals: it conveys a connection to the natural, wooded site; participates in the college's sustainability agenda; establishes a warm domestic setting for student life; and continues and extends campus and local tradition. Cypress and white oak were used for the curtainwall, exterior walls, and entrance doors, while white oak was used for the interior trim and benches. The interior paneling and trim are made from cherry; the open grid pattern ceiling is painted poplar; the paneling at food service is made from stained Finland plywood.

During the design process wood products, species and suppliers were researched extensively to provide the most appropriate items for this specific application. This research extended to the college's own land holdings, which were the source for maple flooring throughout the dining hall. The architects were guided by issues of sustainability, durability, appearance, initial cost and long-term costs.

Product Specs

FRAME

Structural steel; structural steel, concrete floor and roof slab; wood veneer paneling and trim, steel stud framing

EXTERIOR

Cypress wood infill panels at curtainwall; PVC roofing membrane with green roof – Sarnafil; cypress wood at exterior, white oak wood at interior – Duratherm; planted roof

INTERIOR

Painted poplar wood ceiling, open grid; maple floor from college's own forest landholdings; cherry veneer interior panels and trim; stained Finland plywood, Finply, paneling in food service; white oak wood interior trim adjacent to exterior walls

"This space is like living in a work of art. There's a topography to this project – they created a landscape. Wood is a great material for making things horizontal – and calm, serene. It's magical to play wood off cold concrete and steel. Wood takes this stark industrial space and gives it a layer of warmth."

– JURY

Chicago Apartment

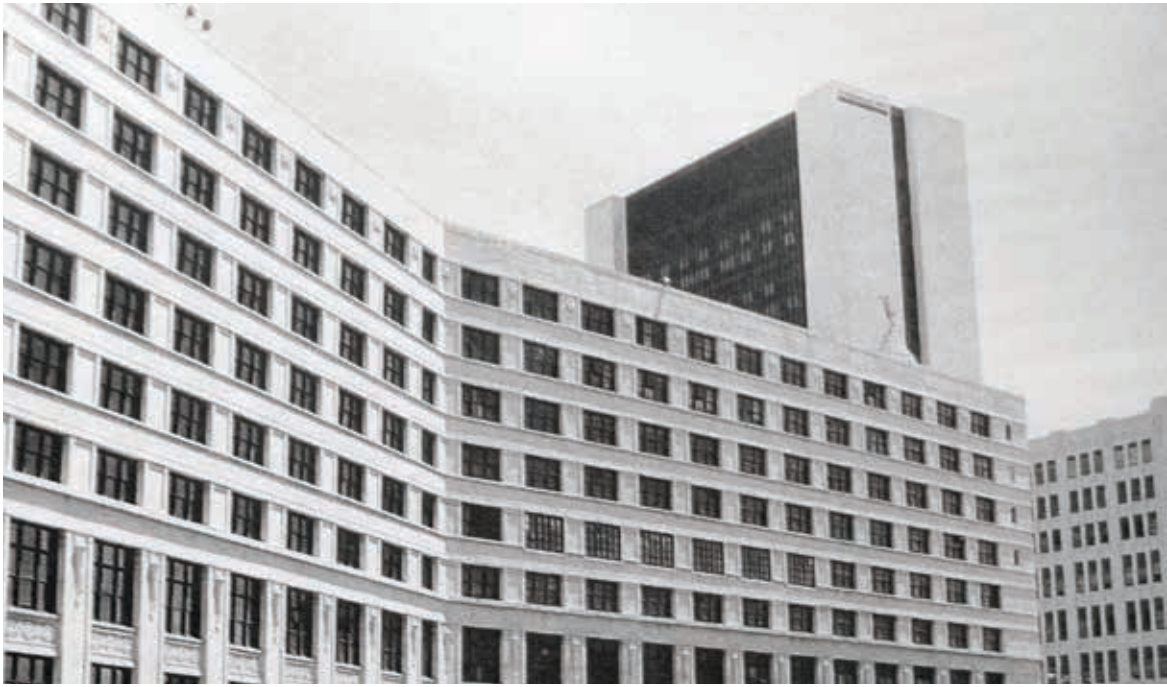
Vincent James Associates Architects

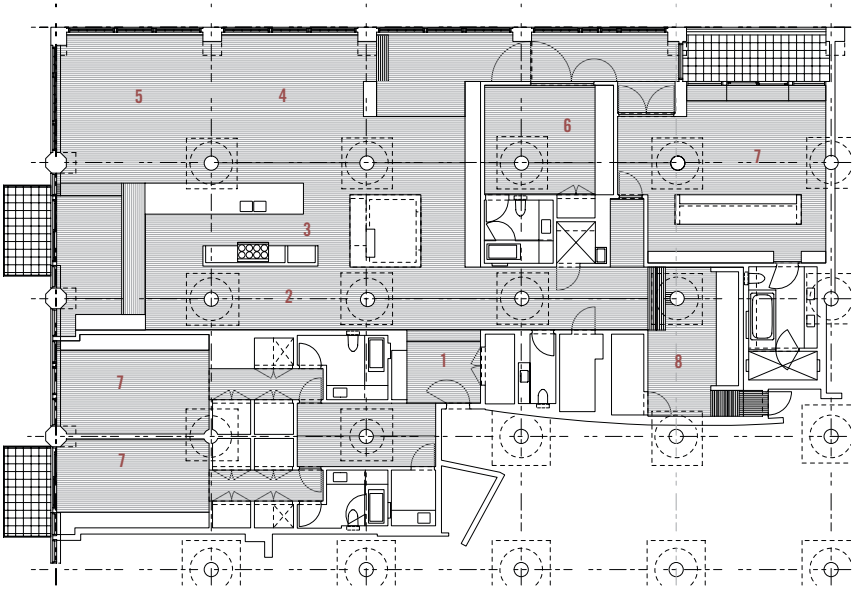
ARCHITECT:
VJAA,
Minneapolis, MN

GENERAL CONTRACTOR:
Linn-Mathes Inc.,
Chicago, IL

PHOTOGRAPHER:
Michael Moran Photography,
New York, NY

The 5,500 sq.ft. loft apartment is located in the historic Montgomery Ward building located on the Chicago River. The 600 ft. long building, constructed in 1908, is an early example of a large-scale reinforced concrete building.



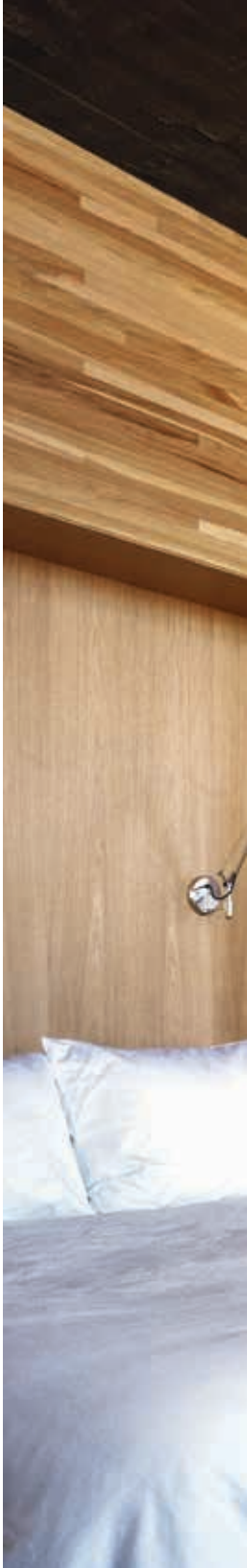


1. ENTRY
2. HALLWAY
3. KITCHEN
4. DINING
5. LIVING ROOM
6. OFFICE
7. BEDROOM
8. MEDIA LOUNGE

FLOOR PLAN

The loft apartment for a young family was designed to preserve the expansive spatial qualities of the original building. The design employs a deliberately simple palette of plain-sliced hickory wood paneling constructed of tongue and groove boards that combine with plaster walls in a complementary relationship with the original board-formed slabs and concrete columns. The rich and varied imperfections of the original concrete surfaces were considered an essential aesthetic component of the design. A wood with a high-level of pattern and variation was selected to complement this quality. Joints and tolerances were critical. All wall planking at exposed ends had stopped tongue-and-groove planking to achieve the clean appearance of the finger-jointed corner.

To control quality of construction and achieve a high level of craftsmanship, the wood volumes and cabinets were largely assembled and finished off-site by Bernhard Millwork in Chicago and then installed and further assembled on site to achieve required tolerances. The hickory floors were raised to conceal all of the ducts and plumbing, while bringing the bottom sill of the windows closer to the floor plane and the panoramic view of the city.



Product Specs

INTERIOR

Custom plain sawn hickory paneling and flooring; millwork – Bernhard Woodwork Ltd.; tinted lacquer finish – AWI TR-2 – on all hickory planking and veneer (to match polyurethane finish on floor)

"Simply beautiful. This inspiring intervention is considerate of small-space living. It's modest but inventive. The wood is used for the habitual space – the inner rooms – and it draws you in. They've made focal points out of the wood. The way the light plays on it is amazing."

– JURY

Courtyard House

Studio Junction Inc.

ARCHITECT:
Studio Junction Inc.,
Toronto, ON

CLIENT:
Peter Tan and
Christine Ho Ping Kong,
Toronto, ON

PHOTOGRAPHERS:
Rob Fiocca, Peter Tan,
Toronto, ON

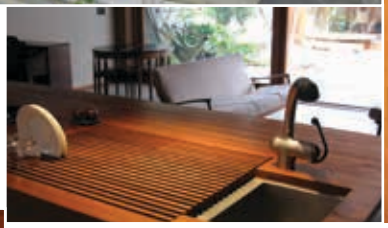
The Courtyard House was inspired by an ancient form of architecture and a desire to experiment with new urban thinking – infill housing that can be developed as an alternative typology for downtown Toronto.

The original property, located in a mixed-use industrial neighborhood in Toronto's West end, consisted of two parts: a 1200 sq.ft. one-storey contractor warehouse, and an approximately equal amount of vacant land. The ambition for the Courtyard House was to create a modern, affordable home, which could successfully adapt to a situation in a mid-block or laneway where there is no typical front or back. The organization of this house is generated by an emphasis on the courtyard, where all the windows look inwards.

This project uses the ancient idea of a courtyard house, which crosses many cultures, and mixes it with modern design, materials and aesthetic. Physically, intellectually and emotionally, the courtyard is celebrated as the heart and soul of the house. It is an intimate room, open to the sky. In the summer, it is an enclosed play area for the children and a wonderful living space to cook, eat, and linger outdoors. In the fall, winter and spring, the courtyard and its sole Japanese maple are the link to the changing seasons.

Conceived as a series of horizontal strata, the open space of the ground floor includes a home office, dining room, kitchen and living room. Across the courtyard is a workshop/studio. The more private second floor includes bedrooms, an elongated bathroom/sunroom, and a thru-view upper terrace.

The material palette for the Courtyard House is selective and restrained. As concrete



block is common to this neighborhood and denotes exteriority, the original concrete block was maintained and extended. Voids were made into the monolithic block, and at these strategic cuts, the wood cladding highlights the volume and signifies a warm residential inhabitation – an interiority.

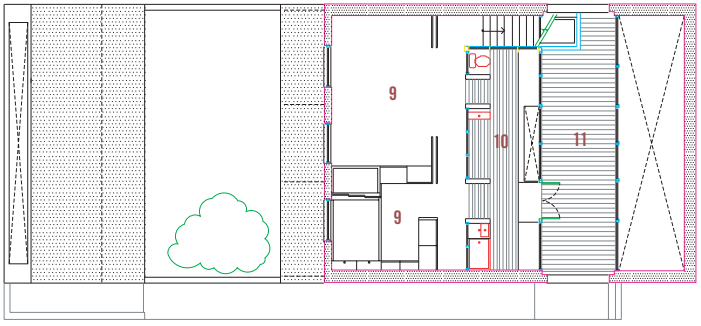
Within the house, the polished concrete flooring, grey sandstone paving stones and concrete block walls in the courtyard are again consistently used to denote either the ground or the exterior. To reinforce the idea of interior, warm rich textural woods are used extensively throughout the house and studio.

On the ground floor, there are few openings to the street. Natural light is indirect and from above, captured by the various courtyards, skylights and clerestory windows throughout. This indirect natural light works together with the millwork to subtly identify various intimate moments in the larger space.

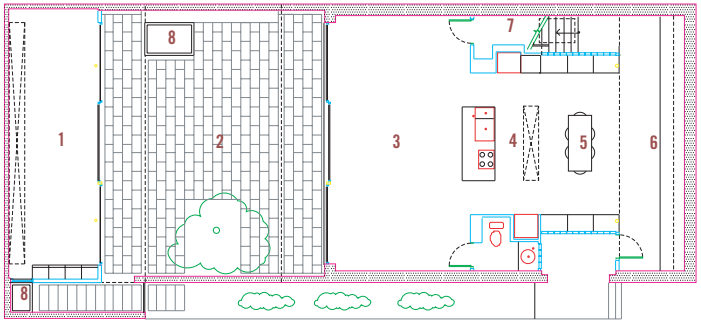
A warm-toned variegated teak plywood is used to unify and simplify the dining room and kitchen millwork elements – the cabinetry is perceived as continuous walls. The mahogany plywood panels also help wrap and envelop the space. The understanding of the ceiling plane as a continuous plane which also moves from indoor to outdoor, is strengthened as the plywood panels move from the office back wall, to the underside of the ceiling, to the underside of the outdoor canopy.

While the exterior façade is blank and monolithic, the interior is absolutely transparent. The open ground floor plan and the two sets of large sliding glass doors allows for a sequence of long views thru the house and studio, towards the varied activities in the courtyard. The honeyed tone of the Spanish cedar has a warm rich beauty, which glows even on a winter's day. The Spanish cedar frames were also chosen for the strength and stability of the hardwood, consistency of the grain, and ability to complement the various woods on the ground floor.

The material palette also incorporates a number of

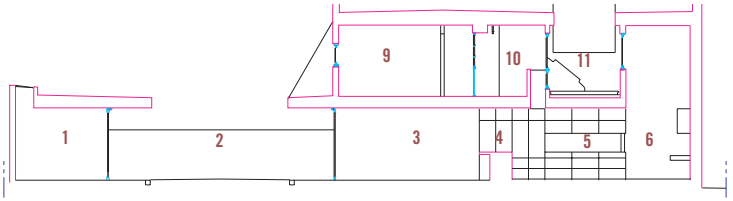


SECOND FLOOR PLAN



GROUND FLOOR PLAN

recycled elements. The original Douglas fir trusses were planed down and re-used as slats for the built-in beds and cabinetry, bathroom and bedroom cladding, screen wall millwork and flooring. On the second floor, various profiles, dimensions, scale, texture and details were explored as the wood slats were used to express and articulate an intimacy and spatial complexity beyond that of standard stud and drywall construction.



LONGITUDINAL SECTION

1. STUDIO
2. COURTYARD
3. LIVING ROOM
4. KITCHEN
5. DINING ROOM
6. HOME OFFICE
7. MECHANICAL ROOM
8. SMALL POOL
9. BEDROOM
10. BATHROOM/LAUNDRY
11. TERRACE
12. LANEWAY

Product Specs

FRAME

Engineered lumber – Parallam; engineered lumber floor and roof systems – truss joist; 2 x 4 framing integrated with plywood cabinetry

EXTERIOR

Western red cedar and marine-grade mahogany plywood siding; 2-ply roll-on roofing membrane; Douglas fir windows – Loewen; Spanish cedar sliding doors – Bauhaus; ipe gate at courtyard entrance; cedar decking terrace; Sikkens cetol and Epifane exterior varnish

INTERIOR

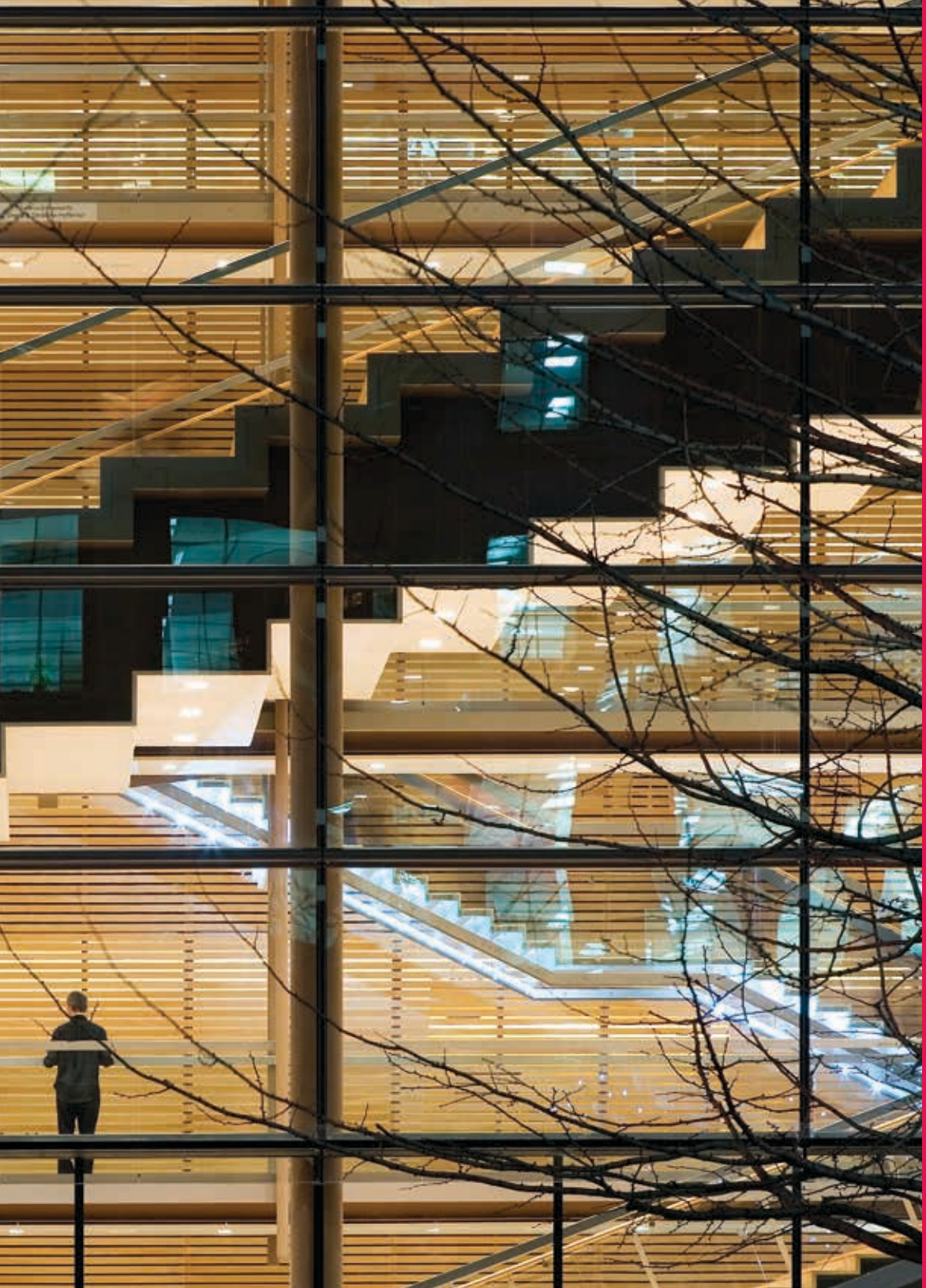
Mahogany plywood panels (¼-in.), birch plywood (¼-in.); Douglas fir plywood (¼-in.), ipe decking; solid Douglas fir cladding and flooring; variegated teak plywood cabinetry; Douglas fir cabinetry and wall cladding; solid teak countertop and island, Ipe countertop; varathane – Epifane, pure tung oil

"This project brings wood to the street life of the city. The large-scale and dramatic use of wood can be seen from the exterior. It's beautifully detailed. A reason for being."

– JURY

Four Seasons Centre for the Performing Arts

Diamond and Schmitt Architects



ARCHITECT:
Diamond and Schmitt Architects, Toronto, ON

CLIENT:
Canadian Opera House Corporation, Toronto, ON

GENERAL CONTRACTOR:
PCL Constructors, Toronto, ON

STRUCTURAL ENGINEER:
Halcrow Yolles, Toronto, ON

MECHANICAL ENGINEER:
Crossey Engineering, Toronto, ON

ELECTRICAL ENGINEER:
Mulvey & Banani International, Toronto, ON

INTERIORS:
Diamond and Schmitt Architects, Toronto, ON

LANDSCAPE ARCHITECT:
du Toit Allsopp Hillier, Toronto, ON

PHOTOGRAPHER:
Tim Griffith, San Francisco, CA

The performing arts centre in Toronto was designed with the principle that no seat should experience a less than perfect sightline to the stage and enjoy a clear and warm acoustic. Diamond and Schmitt Architects translated the requirement for such a direct theatrical and musical experience into an unencumbered modern aesthetic.

The interior of the The Four Seasons Centre shows a minimal design that uses wood in many aspects – for both aesthetics and acoustics. The spaces are warmed and colored subtlety but significantly by the extensive use of wood inside the lobbies and performance spaces. Wood is used at several scales. On one hand it is grand and elemental to the space, equal to the exposed steel and structural glass, while on the other hand it humanizes the design: railings, drink rails and cabinetry – in short, things you touch – are all wood.

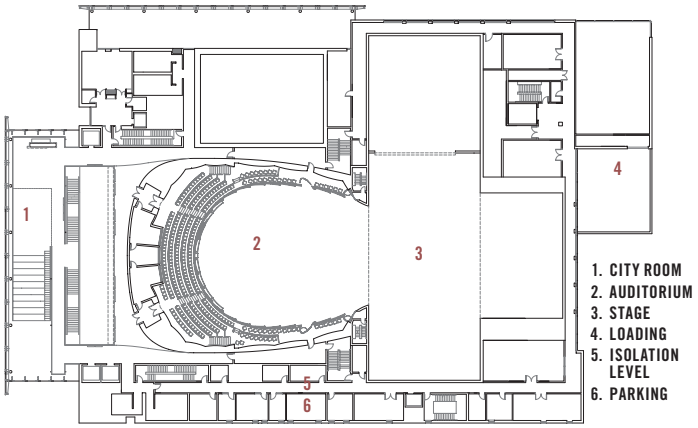
The architects wanted the floors to appear to hover in the City Room, the building's main lobby. The multi-tiered lobby space is a composition of very thin horizontal assemblies of steel and lightweight concrete, all hung from the ceiling and clad in maple flooring and glass, and linked together by a three-storey structural glass stair. Half way up this stair, the plane of the wood floor is folded up into stairs and giant seating risers form the Richard Bradshaw Amphitheatre on the mezzanine level. This simple cascading plate, made from engineered flooring with unstained impregnated maple, is the stage, the floor, and the seats for the varied program of the opera company's free concert series.

Flat planes of wood are then made vertical in the donors' lounges. The Jackman Lounge, a long tall box with a glassed north wall, faces the Osgoode Hall heritage building and gardens across Queen Street. The low iron glass on this façade is so transparent that at night, the south wall of the room, a modern composition of slip matched anigre veneers and slatted solids, really becomes the exterior face of the building. This same paneling is curved in the antechambers and vestibules to the auditorium private boxes.

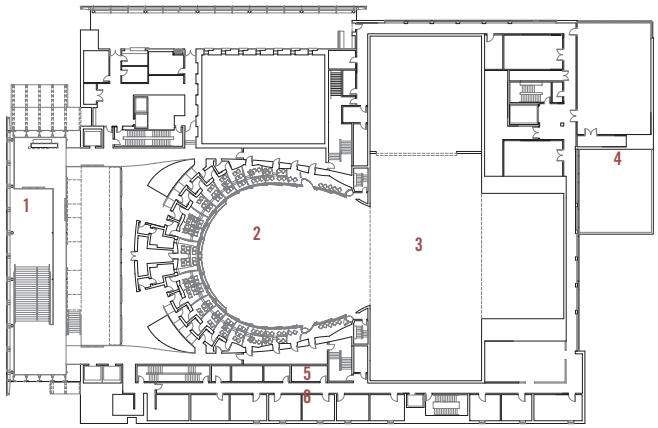
Finally, in the City Room, the most arresting wood feature is the curved four-storey slatted screen. Made of strips of European steamed beech, and cut on a bias so that the atrium side sees only the thinnest edges, this surface appears at once light, ethereal, sensual and warm, hanging below and catching sun from the room's large skylight.

The role of wood plays an important part of the acoustical and theatrical life inside the R. Fraser Elliott auditorium. Intimacy and warmth are created by a judicious use of wood. Wood finishes only add up to a fraction of the total area of the room, but because the other main finishes – pigmented plaster and fabric covered soffits – are muted, the room is largely defined by the warmth and familiarity of wood, in the form of maple floors, beech doors and panels, solid beech handrails and slatted guards, and for seats, balcony backs, and box dividers.

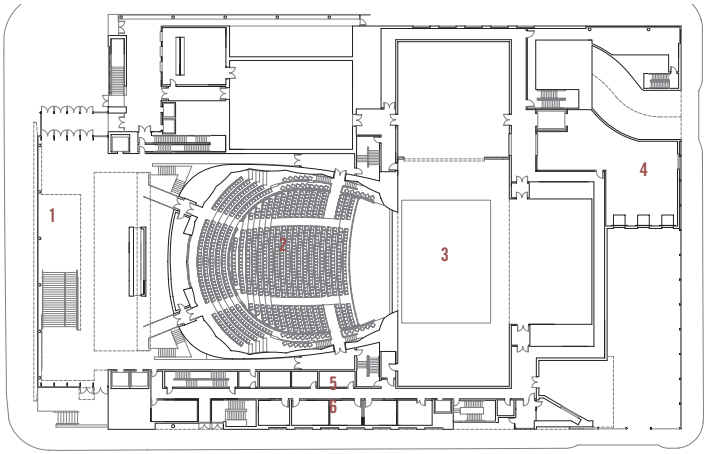
The maple flooring, continuous between the City Room



THIRD FLOOR



SECOND FLOOR



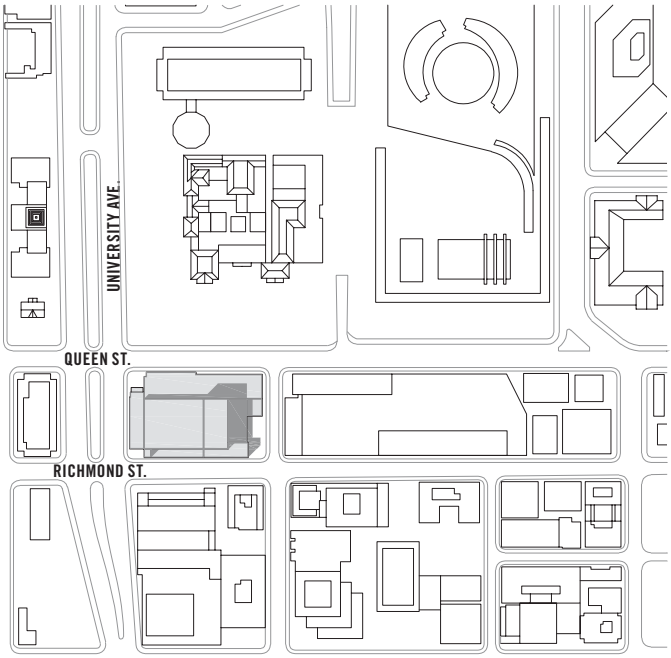
GROUND FLOOR

and the auditorium, changes from the floating thin sheet of the lobby to directly adhering to gently curving concrete slabs in the auditorium, to not allow any absorption of precious sound energy. Each seating riser is curved into a unique saddle shape to allow for perfect sightlines, giving the effect for the auditorium of a knitting together of gently twisting ribbons of wood.

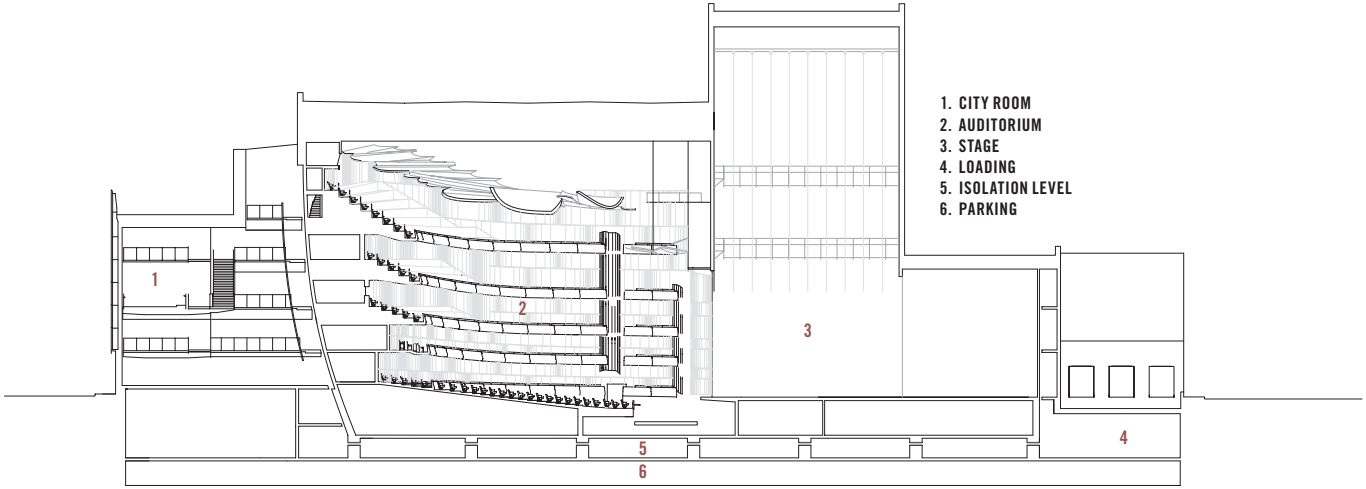
The European steamed beech wood doors are a fundamental part of the isolation of the hall. The building's designers and installers worked together to ensure that the very long list of hardware associated with the doors – sound seals, rated astragals, panic hardware, magnetic hold opens, locks, etc. – did not interfere with the simple pleasure of easily opening and closing the massive doors.

One of the most challenging components was the overlapping, double curvature beech veneer panels on the backs of the balcony guards. The idea is that the balcony backs be a single panel with hidden trim: a concealed veneer covered baseboard, with invisible fastening, flush joints at the tops, and a discreet reveal at the base. As if the double concave curvature wasn't enough of a challenge, the base geometry of each balcony has its own, slightly different curvature. What appears as an effortless repetition of similar parts, flowing around the hall, was in fact one of the hardest details on the jobsite.

Whereas everywhere else in the hall, every effort is made to properly reflect and distribute every last micro-joule of sound energy, this endeavor is substantially tempered in the pit. The hardwoods, engineered woods, and heavy built-up plywood assemblies directly applied to massive substrate are exchanged for a much softer basswood, installed on sleepers. Even the floor is softwood. Sound levels are so hot in the pit (the Wagner orchestrations used in a recent performance of the Ring Cycle had over 105 musicians), that the music could sound too harsh if reflections so close to the source were so sheer. The soft floor is meant to quickly show wear: modest gouges and pits from chairs, music stands and cello and bass endpins will soften and warm the sound, much the way well played older instruments sound better than brand new ones.



SITE PLAN



LONGITUDINAL SECTION THROUGH ATRIUM

Product Specs

F R A M E

Raised flooring – Maxcess; demountable partitions in Jackman Lounge – Moderco

E X T E R I O R

Anigre veneer interior doors – Masonite International; entrance doors – Gartner GmbH, Ferguson Neudorf; windows – Ferguson Neudorf; paint – Benjamin Moore, Sico; laminate – Formica, Nevamak, Abet L

I N T E R I O R

Acrylic impregnated engineered maple floors, millwork, and European steamed beech veneers and solids on balcony backs and box dividers – Art Magic

"Beautiful inflection. This feels like a room where your connection to the outdoors would be dramatic. It's a beautiful building with elegant detailing. A symphony of temple arches dance around inside. This has elevated the typical chunky wood of visitor centers. The pristine temple courtyard – totally ordered and precise – receives you, and opens up to this vista."

– JURY

Grand Teton Discovery and Visitor Center

Bohlin Cywinski Jackson

Real Cedar
EXCELLENCE AWARD

ARCHITECT:
Bohlin Cywinski Jackson, Seattle, WA

CLIENT:
National Park Service, Moose, WY

GENERAL CONTRACTOR:
Intermountain Construction Inc., Idaho Falls, ID

STRUCTURAL ENGINEER:
Beaudette Consulting Engineers Inc., Missoula, MT

MEP ENGINEERING:
Gordon Prill Drapes, Great Falls, MT

CIVIL ENGINEERING:
Nelson Engineering, Jackson, WY

LANDSCAPE ARCHITECT:
Swift and Company, Seattle, WA

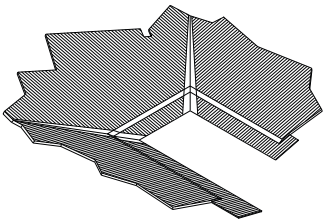
PHOTOGRAPHERS:
Nic Lehoux, Hillary Nelson, Vancouver, BC

Grand Teton National Park, in Moose, Wyoming, is one of the most popular national parks, attracting over two million visitors annually. The National Park Service and the Grand Teton National Park Foundation established a partnership to build a new visitor center to replace an undersized and outdated building, accommodate an increased number of visitors and further the Park Service mission of stewardship, sustainability and exploration.

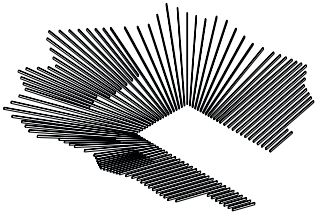
The new 23,000 sq.ft. Grand Teton Discovery and Visitor Center is sited between a sagebrush meadow and a riparian forest along the Snake River. Approaching through a grove of spruce, cottonwood and aspen trees, visitors are drawn into a courtyard that provides a calm and intimate place in the vast Wyoming landscape. The proportions of this outdoor space accommodate groups of people for gatherings and orientation. A colonnade of Douglas fir logs surrounds the courtyard and provides protection from the summer sun and heavy winter snowfall. The roof tilts upward and away from the courtyard, its jagged edges celebrating the peaks of the Teton Range beyond.

Entering through a vestibule at the north end of the courtyard, visitors are drawn into the heart of the building; a large gathering hall that accommodates many functions with the magnificent view of the

Teton Range as a backdrop: an information desk, interpretive exhibits, and casual seating. Tall Douglas fir log frames support a raft of engineered wood beams that radiate from the center of the floor plan and cantilever past the viewing windows. The log frames are placed in a deliberate pattern that minimizes the span of the glue-laminated timbers while allowing circulation through the exhibit spaces. The logs, beams and all structural framing timber is Forest Stewardship Council (FSC) certified, in keeping with the Park's mission of sustainability. Other forest certification programs are Canadian Standards Association (CSA), Sustainable Forest Initiative (SFI) and American Tree Farm system. A bookstore, art gallery and classroom are placed adjacent to the gathering space, allowing for access from the courtyard after hours. Additional program elements are arranged as discrete wooden boxes containing the National Park Service offices, visitor amenities and support spaces. Douglas fir veneer plywood and clear heart Western red cedar are used as wall panels and casework throughout the



ROOF



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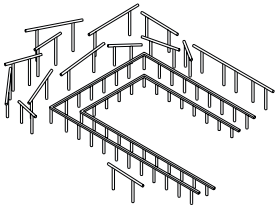
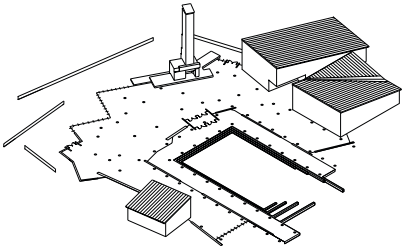


LOG STRUCTURE



FLOOR PLAN

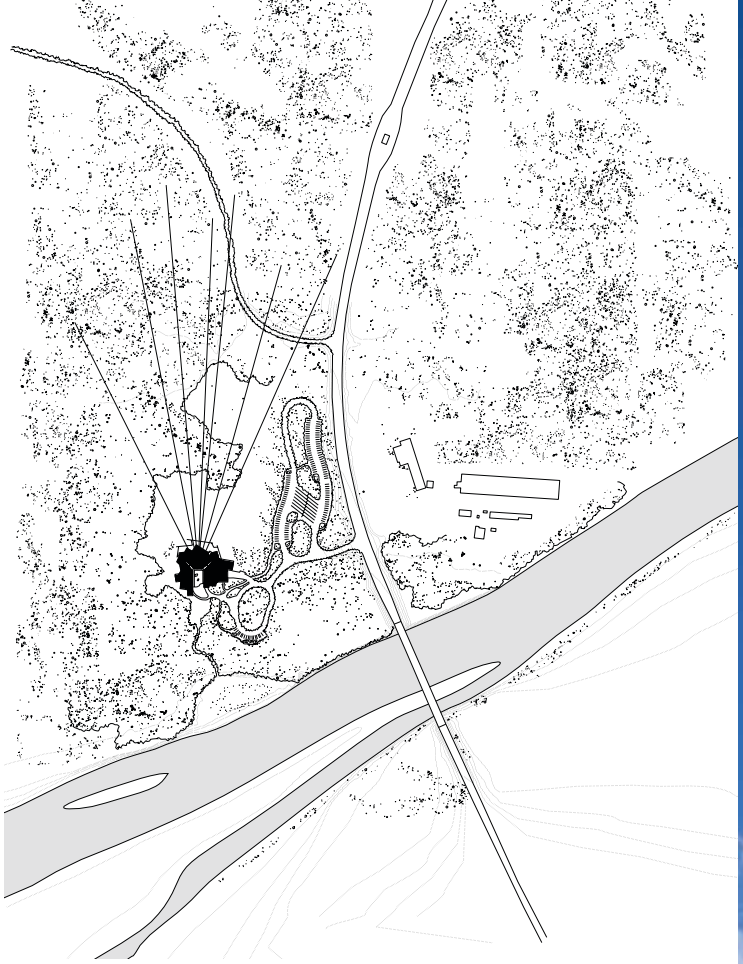
EXPLODED AXONOMETRIC PLANS

visitor center.

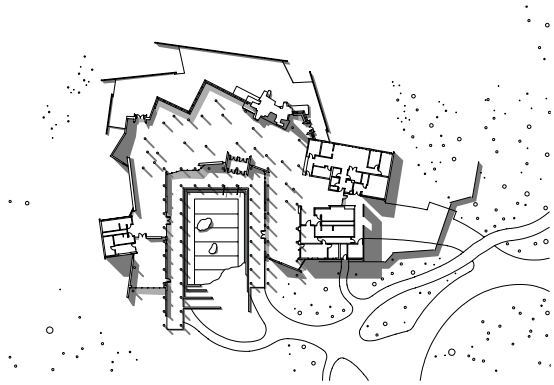
The exhibits are fully integrated with the architecture of the visitor center. The exhibit panels are designed as "uplifts" and tilt out of the floor slab, recalling the geologic process that created the Teton Range. Video screens embedded in the floor show dramatic film footage of the park's geography and wildlife, and are carefully choreographed to educate and inspire visitors to make further explorations in the region.

The building exterior evokes historic National Park architecture without resorting to mimicry or pastiche. Designed for durability in an alpine climate, the cast-in-place concrete walls and wainscot, Douglas fir log columns and clear heart western red cedar siding will weather naturally and complement the colors and patterns of the western landscape. The clear cedar siding is layered in a variety of widths and thicknesses, with patterns of exposed galvanized fasteners to express the means of construction.

The new Grand Teton Discovery and Visitor Center pays homage to the strong tradition of rustic architecture in the national parks while remaining fully modern in its design, execution and interpretive mission.



SITE PLAN



FLOOR PLAN

Product Specs

FRAME

FSC-certified Douglas fir log columns; FSC-certified Douglas fir glue-laminated beams; exterior stud framing, FSC-certified parallel strand lumber – Parallam; concrete slab floor on grade and composite decking; roof, OSB sheathing, 2 layers of 9-in. Louisiana Pacific Engineered wood joists, ¾-in. ACX plywood, 1 x 6 T&G Douglas fir decking; wood studs (2 x 4, 2 x 6, 2 x 8)

EXTERIOR

Clear heart Western red cedar siding, shiplap profile in 3 sizes: 1 x 4, 2 x 8, 2 x 12; AEP Span roofing; windows and doors – Hankins & Johann; Devoe Transparent wood finish

"A typical country residence with a twist. There's a dialogue between painted wood and manufactured wood and plywood – it's an unusually exciting combination. This project is modest, but fresh and elegant."

– JURY

Healdsburg Residence

Nick Noyes Architecture

ARCHITECT:
Nick Noyes Architecture,
San Francisco, CA

CLIENT:
Alexis Woods and
Daniel Donahoe,
San Francisco, CA

GENERAL CONTRACTOR:
Haak & Horick Builders, Inc.,
Petaluma, CA

STRUCTURAL ENGINEER:
JEC Structural Engineer,
Oakland, CA

LANDSCAPE ARCHITECT:
Alexis Woods,
San Francisco, CA

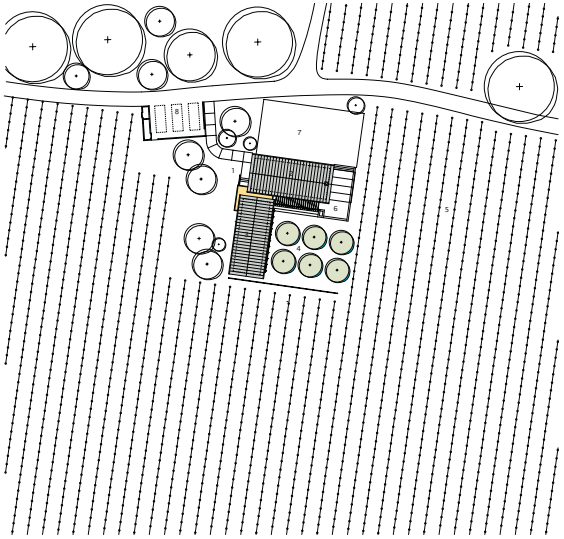
COLOR CONSULTANT:
Helen Eging,
Healdsburg, CA

PHOTOGRAPHER:
Cesar Rubio Photography,
San Francisco, CA

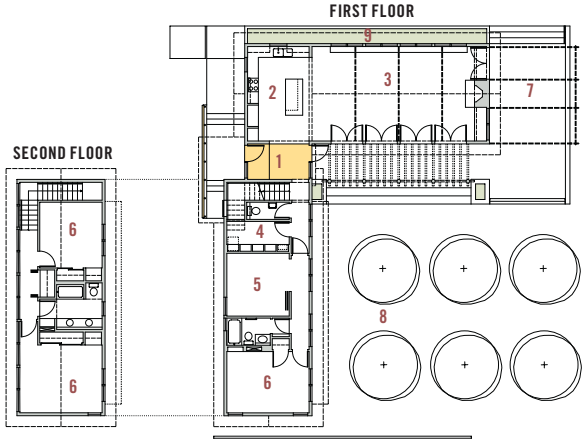
Located on a 40-acre vineyard site in West Dry Creek, Healdsburg, California, this single family residence is composed of two iconic copper-roofed gabled wings that are connected at the entry by an aluminum storefront system and a sunscreen made of reclaimed grape stakes from the site.

The two wings of the house and the carved-out vineyard define an outdoor courtyard that is planted with a high canopied orchard to provide shade during the hot summer months. The free-plan kitchen, dining, and living wing is contrasted spatially by the more cellular make up of the two-storey bedroom wing. The west entry elevation of the bedroom wing is marked by a continuous clerestory window under the eaves and the grape stake sunscreen that allude to the project's modernist leanings.

Interior walls of southern yellow pine plywood and the white-washed southern yellow pine floors were hand picked from the client's family lumber mill in the southeast. The heavily figured and animated plywood is tempered by exacting craft and detailing rendered in a gloss white paint.

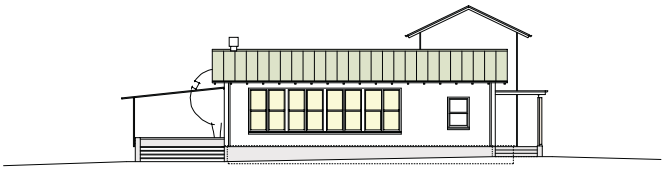


SITE PLAN

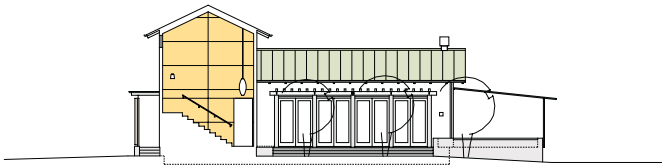


1. ENTRY
2. KITCHEN
3. DINING/LIVING
4. PANTRY
5. MEDIA
6. BEDROOM
7. TERRACE
8. ORCHARD
9. PLANTER

FLOOR PLANS

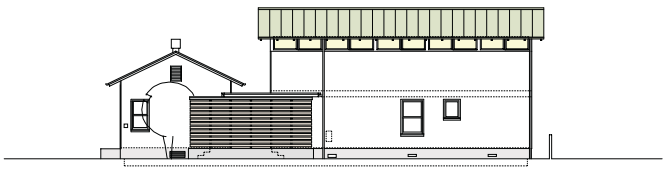


NORTH ELEVATION



SOUTH ELEVATION

EAST ELEVATION



WEST ELEVATION

Product Specs

FRAME

Southern yellow pine (framing – 2 x 6, floor – 2 x 12, and interior partitioning – 2 x 4)

EXTERIOR

Hardi Board siding; copper standing seam roofing; Eagle wood windows and doors; Bonelli aluminum windows and doors; Western red cedar trellis; Benjamin Moore paint

INTERIOR

Southern yellow pine plywood walls; Western red cedar ceilings (1 x 6 v-Groove); Southern yellow pine floors (white-washed); millwork 1x cedar stock; Benjamin Moore paint finishes

MERIT AWARDS

"This is a clever use of wood – wood brought into the 21st century. The diamond pattern is refreshing. The curve is most gratuitous…it is experiential…elevating…and dramatic. The wooden canopy transforms the experience of going across the border from dreadful to delightful."

– JURY

Canadian Border Services Agency Building

NORR Limited
Architects & Engineers

ARCHITECT:
NORR Limited Architects & Engineers, Toronto, ON

CLIENT:
Buffalo & Fort Erie Public Bridge Authority, Fort Erie, ON

GENERAL CONTRACTOR:
Bird Construction, Toronto, ON

STRUCTURAL ENGINEER:
Blackwell Engineering Limited, Toronto, ON

WOOD SPECIALIST:
GoodFellow with Bryte Design, Toronto, ON

The Canada Custom and Immigration Building is an extension of the human settlement and river-crossing activities that have existed on the Fort Erie border crossing site for 10,000 years. The building is placed like an island in the middle of a river of cars – its curvilinear form partially generated by the flow of traffic around it.

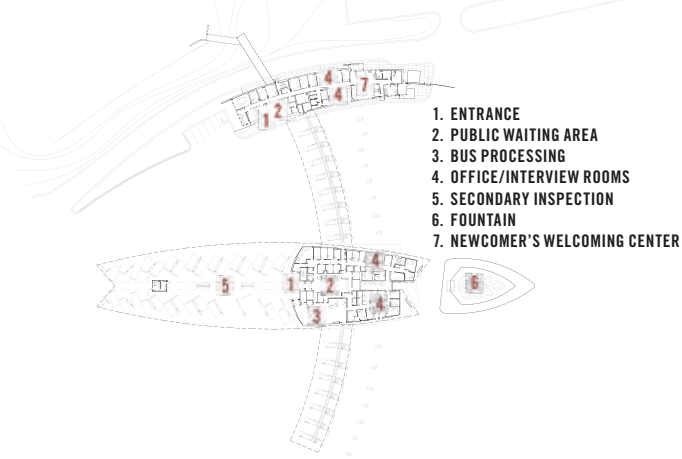
The 29,000 sq.ft. building has two parts: an enclosed building portion that contains public counter areas and administrative support facilities for customs officials; and an exterior covered secondary inspection area for vehicles. The enclosed portion includes public waiting, counters, interview rooms, bus passenger processing area, detention area, staff lockers, meeting rooms, lunch room, office and support areas all designed to meet Canada Customs and Revenue Agency (CCRA) and Citizenship and Immigration (CIC) requirements. The secondary inspection area has parking spaces for 28 cars and two buses.

From the crest of the Peace Bridge the Custom and Immigration Building appears as a streamlined and glistening sculptural form. Upon closer arrival, the modern roof is seen to conceal an inner construction of interwoven wood glulam substructure, supporting an exposed wood roof deck that is evocative of shelter construction and canoes of the native Indians who originally settled this area. The curving wood roof creates an embracing space

that is materially warm and animated, making the vehicle inspection area atmosphere less intimidating and more welcoming. Structurally, the interwoven glulam acts like a membrane or space frame, allowing extensive cantilevers and support from limited points available between the parking spots. This treatment extends into the building forming the ceiling of the public atrium, and the 2nd floor office and lunch room areas.

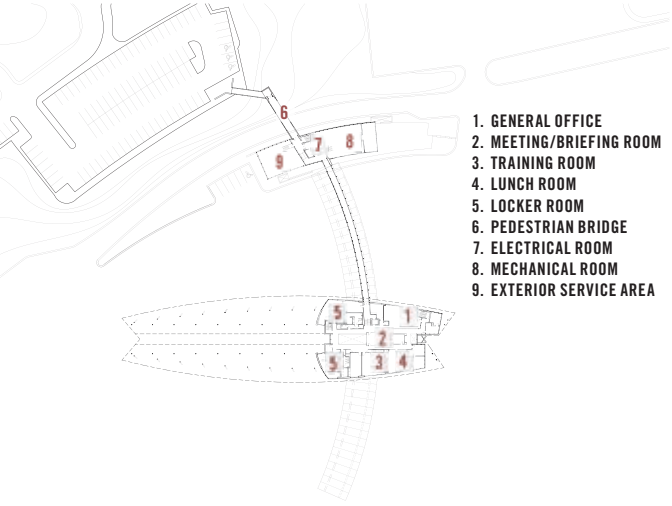
The wood components are fundamental to the design. They go beyond an elegant structural solution and sculptural form to make a connection to a material that is a part of the Canadian identity.

The expressive use of natural materials, including glulam beams, wood decking and local stone is a visible aspect of the sustainable approach used in the building. Less visible aspects where also pursued. To overcome poor air quality from idling vehicles the custom booths are pressurized via underground air ducts supplied from dedicated air handling units in the adjacent buildings. These units capture conditioned air from the buildings and supplement it with filtered fresh air. This provides better air quality, utilizes longer-lasting, more energy efficient equipment than the localized roof top units used typically and reuses otherwise wasted conditioned building air. This innovation was combined with other life-cycle and energy use reducing decisions such as high efficiency condensing natural gas boilers, heat wheels, centralized building control and management systems.



1. ENTRANCE
2. PUBLIC WAITING AREA
3. BUS PROCESSING
4. OFFICE/INTERVIEW ROOMS
5. SECONDARY INSPECTION
6. FOUNTAIN
7. NEWCOMER'S WELCOMING CENTER

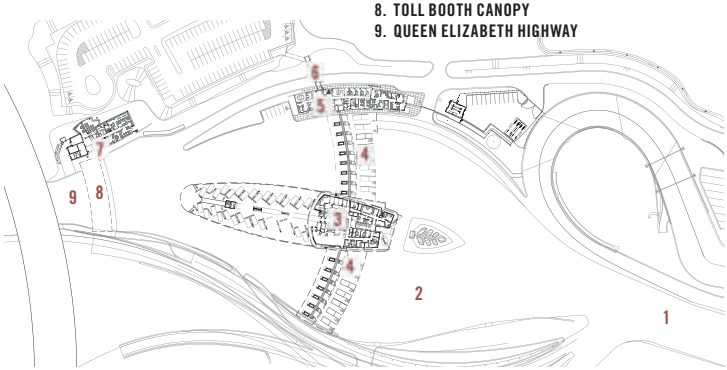
GROUND FLOOR PLAN



1. GENERAL OFFICE
2. MEETING/BRIEFING ROOM
3. TRAINING ROOM
4. LUNCH ROOM
5. LOCKER ROOM
6. PEDESTRIAN BRIDGE
7. ELECTRICAL ROOM
8. MECHANICAL ROOM
9. EXTERIOR SERVICE AREA

SECOND FLOOR PLAN

1. PEACE BRIDGE
2. CANADIAN PLAZA
3. CUSTOMS BUILDING
4. CUSTOMS AND IMMIGRATION BUILDING
5. REFUGEE PROCESSING FACILITIES
6. PEDESTRIAN BRIDGE
7. PEACE BRIDGE ADMINISTRATION BUILDING
8. TOLL BOOTH CANOPY
9. QUEEN ELIZABETH HIGHWAY



SITE PLAN

Product Specs

FRAME

Structural steel; steel decking with cast-in-place concrete topping on steel columns; glulam beams with solid wood decking for roof

EXTERIOR

Limestone siding (Niagara blend natural stone), curtain wall/metal siding; PVC roofing – Sarnafil Inc.; windows and doors – clear anodized aluminum store front and curtain wall with low e-gazing; landscaping – Canadian shield granite boulder and fountain feature in entrance plaza, stone retaining walls and extensively planted transition zones to provide shielding for the surrounding community; finished – Sansin-Envirostain in light cedar

INTERIOR

Drywall, alt, porcelain tile, natural wood

"A gorgeous job. They respected the building and the tools and materials they were building with. A lot of research and a lot of craftsmanship is demonstrated here: this was a completely faithful recreation of the original. It is remarkable."

– JURY

George Washington's Distillery Reconstruction

Quinn Evans | Architects

ARCHITECT:
Quinn Evans | Architects,
Washington, DC

CLIENT:
Mount Vernon Ladies
Association,
Mount Vernon, VA

MEP ENGINEERING:
HC Yu & Associates,
Glen Allen, VA

STRUCTURAL ENGINEER:
Linton Engineering,
Vienna, VA

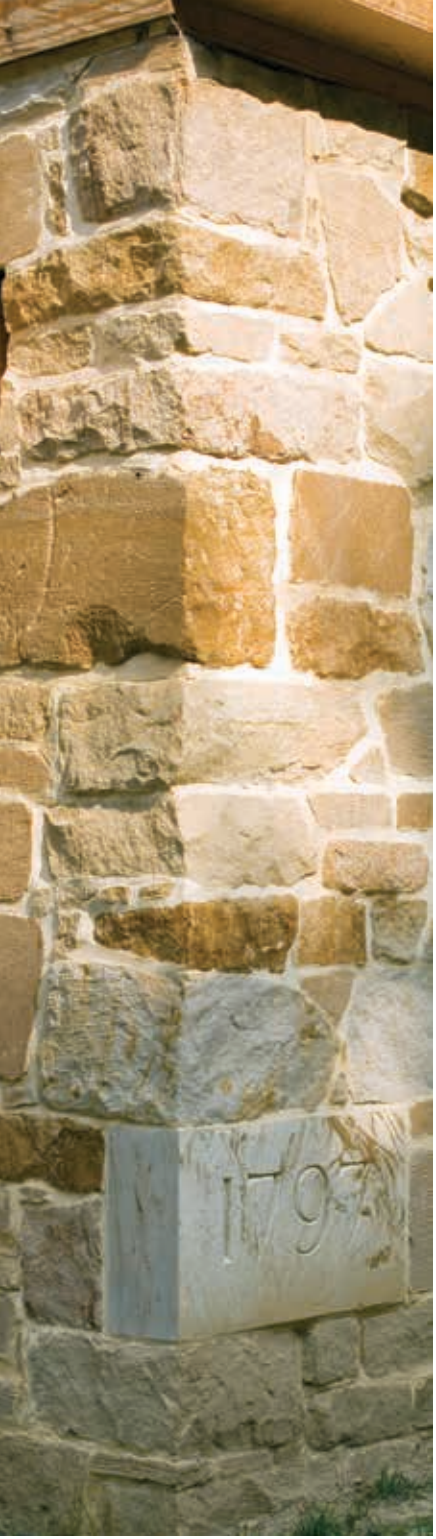
PHOTOGRAPHER:
Ron Blunt Photography,
Martinsburg, WV

George Washington's country estate, Mount Vernon, is one of the nation's oldest and most important historic sites and house museums. The estate as it existed in Washington's lifetime included several outlying properties, not least of which was Dogue Run Farm. A grist mill, hog farm, and distillery were key components in the workings at Dogue Run.

As part of Washington's desire to pursue the most innovative and creative farming practices, the leading plantation owner and entrepreneur situated a distillery venture adjacent to the grist mill at Dogue Run and its abundant water supply. Washington's records and archeological evidence indicate that the original distillery was built with a stone exterior wall, but that other elements – floors, interior partitions, roof and structural members – were all made of wood. The building, measuring 30 ft. by 75 ft. and constructed in 1797, was one of the largest distilleries on the east coast at its completion. It produced over 11,000 gallons of whiskey in its first year of operation. However, with Washington's death in 1799 came the end of the brief success of the distillery.

In 1997, an archeological survey uncovered the well-preserved footprint of the distillery. A generous grant from the Distilled Spirits Council of the United States enabled a five-year program of archeological and documentary research with the goal of ultimately reconstructing and interpreting the distillery operation.

Wood was used to faithfully recreate the appearance of the original structure. Many of the details were inspired by con-



struction techniques found on structures, built in the colonial era, which still exists at Mount Vernon. Most pieces were fashioned by hand using historically-appropriate technologies and tools. Connections were made using mortise-and-tenon joints and other traditional techniques. Wood doors and windows were fabricated by a craftsman who specializes in recreating colonial-era components. In cases where specific species could be identified, every attempt was made to reconstruct that element in kind. Tool markings are evident in much of the timber construction which is consistent with the building's original function as an industrial operation.

The use of wood is not just limited to the building components, instead it is used throughout the distilling process: water is carried to the distillery via a flume made of hollowed out logs, and is distributed as required within the building using log troughs and wood chutes which run from the millrace of the nearby grist mill into the distillery and feed the tubs of the five stills. Stopcocks, funnels, even barrels are all crafted using wood.

Because the building is located in a 100-year flood plain, materials at the lowest part of the building – the first floor framing and flooring, doors and jambs, and wood partitions – were built using water-resistant woods. In an environmental

GROUND FLOOR PLAN

building effort, abandoned logs discovered in nearby bodies of water were reclaimed, salvaged, milled and used in the distillery design.

Documentary evidence unearthed during the research period enabled the replication of Washington's distillery. The location and form of the building was informed by the archeology which revealed the original foundation. Per the archeological findings, 12 different species of wood were used in hidden locations for structural capacity and in visible locations for historical accuracy.

George Washington's Distillery Reconstruction was completed and dedicated in March 2007 as the only example of a colonial-era distillery in America today. It is open to the public as a national distilling museum and the gateway to the American Whiskey Trail. Since its opening, the distillery has tripled visitorship to the historic site.

EXCAVATION PLAN VIEW

Product Specs

FRAME

White oak and reclaimed “sinker” logs graded on site; pressure-treated spruce-pine-fir joists under the first floor; white oak joists support the attic floor; interior partitions of long leaf yellow pine on white oak framing members, or heartwood southern yellow pine on Virginia pine posts, or southern yellow pine on white oak studs

EXTERIOR

Southern yellow pine, of heartwood pine siding and trim; tapered, sawn cypress shingles; heartwood southern yellow pine doors and windows; hand-hollowed cypress logs carry water from mill race to distillery; locust trough support frames; no finishes

INTERIOR

Heartwood southern yellow pine floor boards (first floor); southern yellow pine floor boards (attic); southern yellow pine baseboards in specific rooms

"This is really cool. It's such a light intervention. It uses plywood strips to recall Herman Miller. The use of Herman Miller chair seats as ceiling clouds is very clever and playful. The project really does speak to Herman Miller values."

– JURY

Herman Miller Design Centre

Giannone Associates Architects

ARCHITECT:
Giannone Associates Architects Inc., Toronto, ON

CLIENT:
Herman Miller Canada, Toronto, ON

GENERAL CONTRACTOR:
Jevlan Contracting, Markham, ON

PHOTOGRAPHER:
Richard Johnson, Toronto, ON

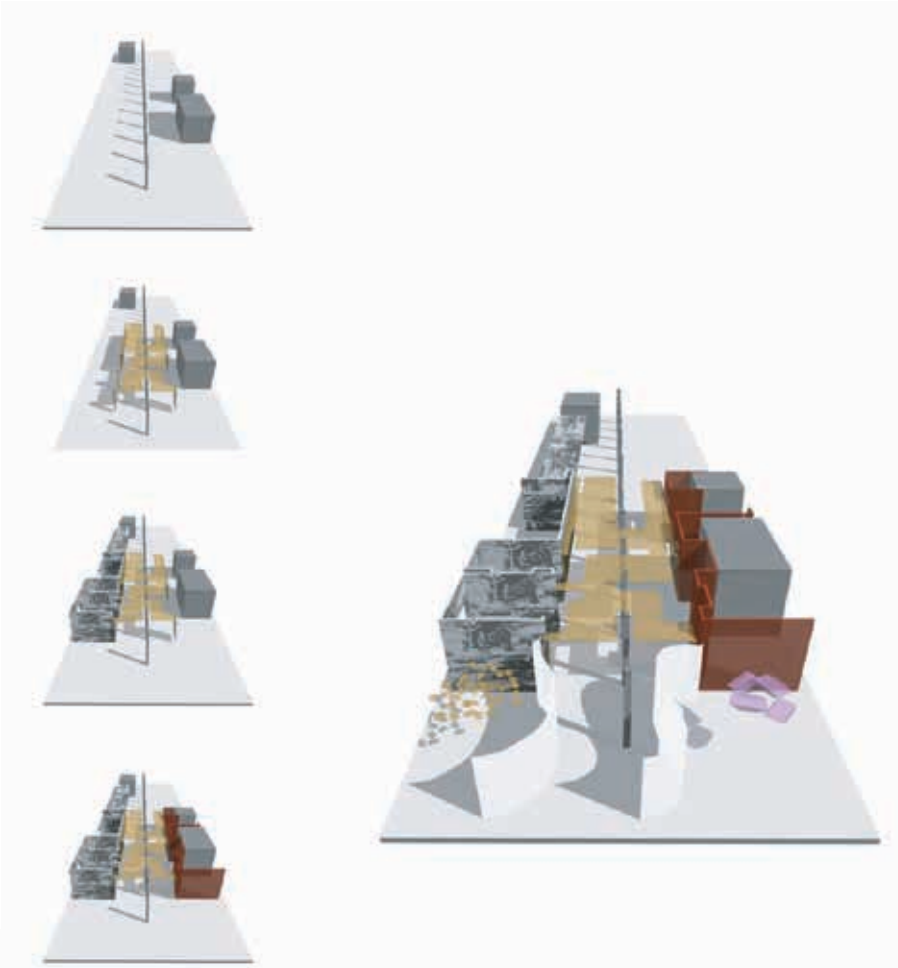
Herman Miller Canada's National Design Centre occupies the fourth floor of the company's Wellington Street West headquarters in downtown Toronto. The existing World War I warehouse building is surgically lined with a simple palette of objectified material layers to display Herman Miller's timeless collection while embracing visitors to experience firsthand the company's enduring design ethic.

The new showroom includes meeting rooms, lounge spaces and a grand conference area defined by overlapping drapes of heavy wool felt, translucent cotton and flame-resistant sheers curved to avoid two large light sculptures made from recycled Eames Lounge Chairs' seats and backs. An elaborate fir plywood tube-like sheathe organizes the space. It also provides an anteroom to the real showroom component distributed throughout the largely unaltered full loft on the north end of the 10,000 sq.ft. floor plate. Herman Miller Canada's

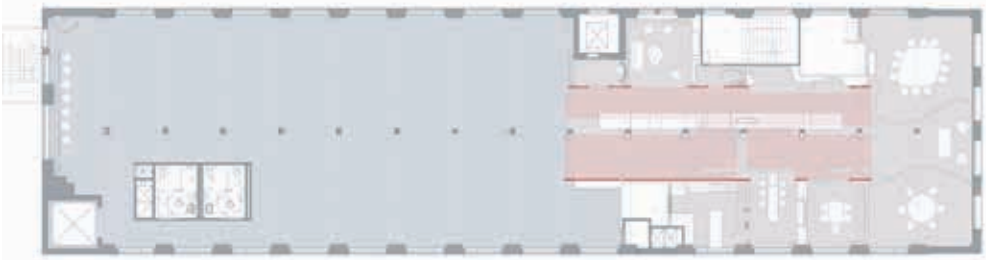
flagship showroom is Canada's first LEED certified interior. The architects were challenged to create an environment that echoes Herman Miller's enduring design philosophy while offering a new, reconsidered showroom experience.

The company's decision to move its headquarters out of an office tower in Toronto's central business district to a slower rehabilitated industrial area of the city was the first step in promoting the idea that a visit to Herman Miller be an encompassing event – a destination. The experience required, therefore, that the visitors' senses be reset, so to speak, upon arrival. This palette cleanser takes the form of a plywood sheathe that greets and slowly redirects the customer right from the elevator entrance. The tube-like element is defined by a series of butt-jointed fir plywood (good-one-side) panels, routed in striped patterns to varying depths. This subtractive devise exposes multiple grains of ply and sublime adhesive patches to be read in stark contrast to the smooth, pristine bent plywood Eames furniture. The simple technique becomes surprisingly decorative, and provides a degree of dizzying abstraction, necessary to transport the visitor form the mundane outside world from which they just came. At the same time, plywood – a Herman Miller signature material – is presented in its raw industrial integrity.

Once captured by the reorienting plywood filter, visitors are snagged by a series of intimate meeting and staging rooms while being lured by the main showroom to the north, and the Marigold conference areas to the south from behind billowing sinuous drapes. Adorning their ceilings are two custom sculptural lighting elements, acting as foils within the loft architecture. Constructed of seats and backs from Eames bent-plywood lounge chairs, the lighting sculptures are meant to evoke sitting under the beech trees' canopy at Marigold (a Herman Miller villa in Zeeland Michigan where Charles and Ray Eames, Noguchi and others spent much time thinking). The disassembly and then reassembly of these iconic chair parts creates an entirely new lighting object automatically imbued with the age-old values of Herman Miller.



SHOWROOM MODEL



FLOOR PLAN

Product Specs

INTERIOR

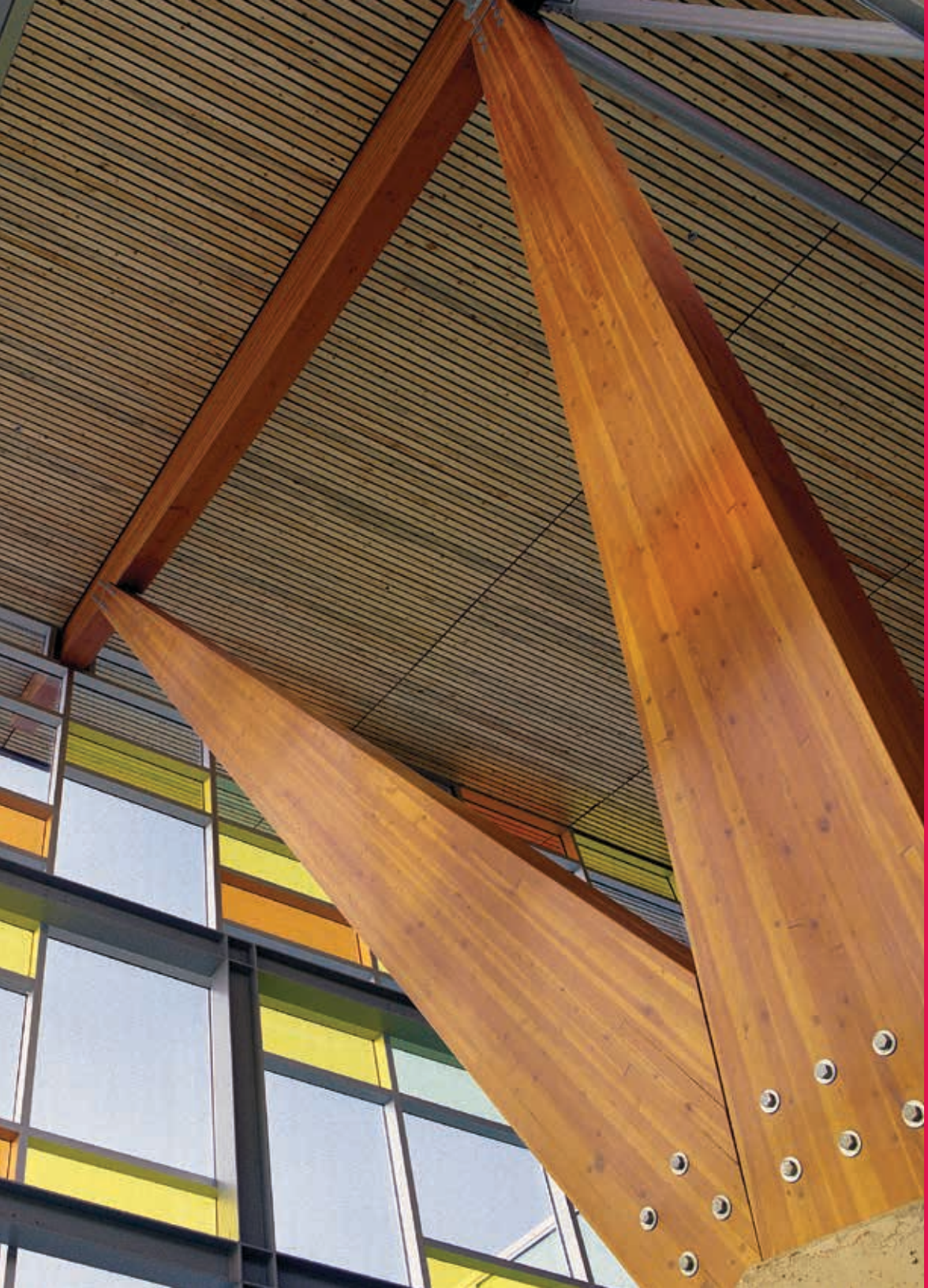
Douglas fir plywood sheath; Douglas fir plywood and Plam millwork; Recycled bent plywood chair seats and back – lighting element

"This project is about the structure of wood doing things you don't expect it to. It brings wood back to a jazzy age. The entrance sequence is almost sacred. It's a trade and technical school using warm wood…and celebrating craft and color through architecture."

– JURY

Kwantlen University College Cloverdale Trades & Technology Centre

Bunting Coady Architects



ARCHITECT:
Bunting Coady Architects,
Vancouver, BC

CLIENT:
Karen Hearn,
Director of Facilities,
Surrey, BC

GENERAL CONTRACTOR:
Ledcor Construction,
Vancouver, BC

STRUCTURAL ENGINEER:
Bush, Bohlman & Partners,
Vancouver, BC

LANDSCAPE ARCHITECT:
PWL Partnership Landscape
Architects Inc.,
Vancouver, BC

PHOTOGRAPHER:
Howard Waisman,
Vancouver, BC

Kwantlen University College's Trades and Technology Centre in Cloverdale, British Columbia, is Canada's newest high-tech facility for trades, technology and applied training programs. Designed to LEED Gold standards, the new 4¼-acre campus consists of three major building blocks with classrooms, workshops and academic facilities.

An indoor covered street provides visual and physical access to each floor and ensures optimum natural light and ventilation. The centre includes 21 shops and 27 classrooms and can accommodate up to 900 full-time students, more than double the capacity of the former facility, which consisted of a converted warehouse space at the Newton campus and a variety of tradeshops located at the Langley campus. The work of professionally trained tradespeople is showcased throughout the new building including masonry, welding, carpentry and building construction. This further enhances the learning experience for new students.

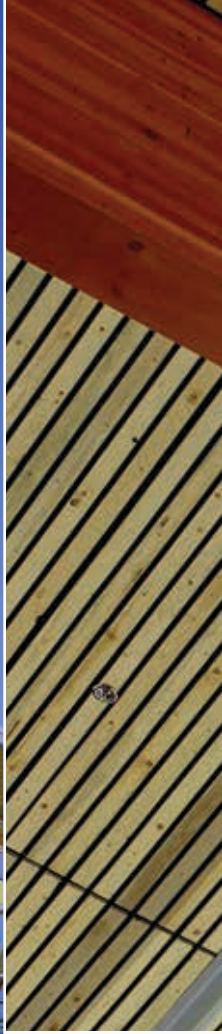
Care was taken to ensure that only locally produced products were used in the construction of this new facility. Large glulam beams are featured predominantly in the atrium and Farrier Building and provide a strong connection between the industrial trades facility and a high-end university centre. The beams were produced within a 500-mile radius of the campus and were primarily produced from wood stained by the pine beetle infestation of BC.

The use of wood in the design softened the use of steel and showcases the multi-colored glazing in the eye-catching atrium. The decision to incorporate colored concrete in the tilt-ups saved valuable time and money during the construction process and added to the aesthetic appeal of the building, giving it a university feel.

Other innovative features include the ergonomic and energy-efficient layout of the welding shop, allowing instructors to view several welders at one time. This has significantly improved safety and training opportunities at the facility. In addition, the state-of-the-art welding equipment encompasses individual lighting controls for each of the 42 welding booths.

Kwantlen University College is regarded as a leader in the field of sustainable practice and the inclusion of energy-

saving features was integral to the development of the Trades and Technology Centre. These include low-flow toilets, waterless urinals and sensor-controlled faucets in the washrooms. All shops have roof skylights which allow natural daylight to illuminate the space and there are views to the outdoors in over 90% of the campus. A water use reduction of 53% over baseline conditions, in keeping with the Energy Policy Act of 1992, was achieved. Energy efficiency and performance requirements were met and energy modelling has revealed that energy consumption has been reduced by 31%.



WEST COURTYARD

ELEVATION

Product Specs

FRAME

Concrete tilt, steel and wood framing; slab of grade, steel trusses and glulam beams and columns (in the atrium and Farrier Building)

EXTERIOR

Wood soffit; curtain wall; integral concrete color

INTERIOR

Plastic laminate on plywood millwork; acoustic wood slat wall/wood soffits with clear finish; flame spread coating on wood soffits

"A modern interpretation of traditional forms in a place that would have had Dutch colonial roots. It is exquisitely detailed – every joint in the rafters, and siding detail is beautiful – and demonstrates time-tested wood crafting and building. Brings back the wonderful tradition of ship-building and bent wood."

– JURY

Snow Point Residence

Hutker Architects

ARCHITECT:
Hutker Architects Inc.,
Vineyard Haven, MA

GENERAL CONTRACTOR:
Vineyard
Construction Services,
Edgartown, MA

STRUCTURAL ENGINEER:
Veitas & Veitas
Engineers Inc.,
Braintree, MA

LANDSCAPE ARCHITECT:
Horiuchi-Solien
Landscape Architects,
Falmouth, MA

TIMBER FRAMING:
Vermont Timber Frames,
Cambridge, NY

PHOTOGRAPHER:
Brian Vanden Brink,
Rockport, ME

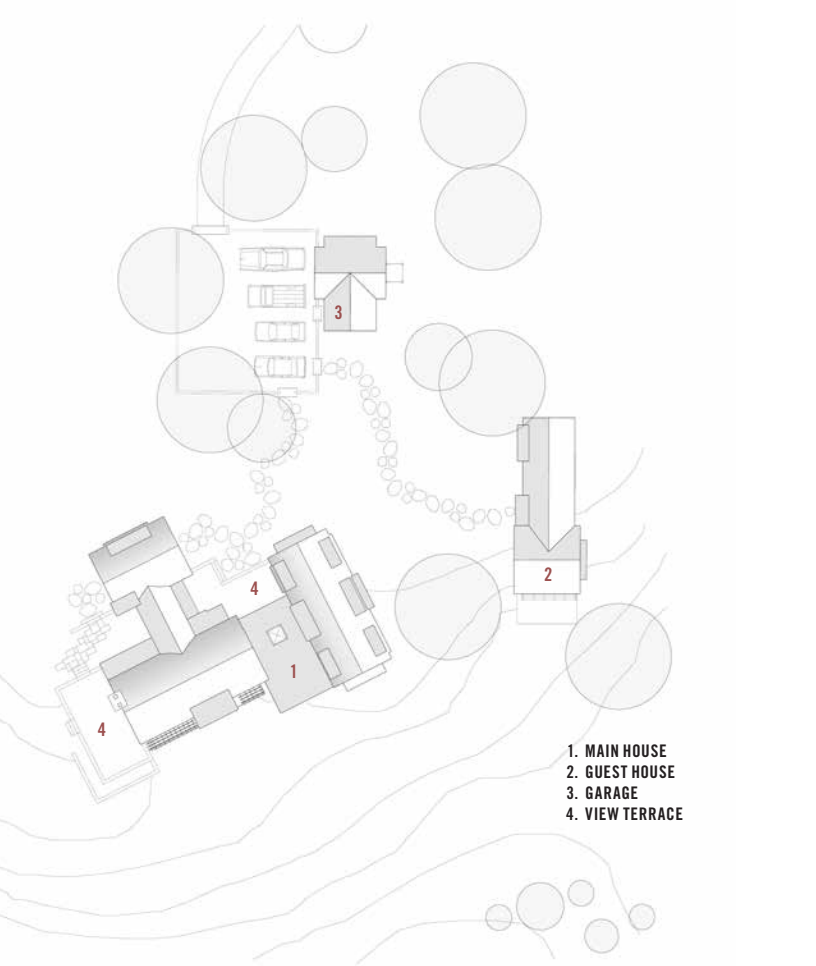
This family retreat has been designed for a growing, multi-generational family. Due to the buildings proximity to a vegetated wetland, an existing building footprint was utilized in the development of the main house design.

A large wind-swept oak was preserved during construction and now acts as a privacy screen between the main house and the guest cottage. A small one-car garage was located adjacent to the guest cottage helping to define the inland courtyard. Public spaces and outdoor terraces were elevated in order to take better advantage of the harbor views.

The house was zoned so that bedrooms could enjoy quiet areas throughout the overall layout. As part of the zoning, the house was designed to accommodate large family gatherings during the summer or holidays while also having smaller more intimate spaces for daily use.

The bowed roof forms and choice of exterior materials were based on deference to the surrounding woodlands and passive harbor front. The great room timber frame, fabricated and erected by Vermont Timber Frames of Cambridge, NY, is comprised of eight curved Douglas fir bents or rafters. Each rafter began as a solid 6 x 12 timber that was sliced into 1-in. strips. The strips were then re-assembled, glued and bent to a specified radius. Once cured, the curved rafters could begin to be cut to size and joined with the tie beam and king post components of the frame. The king post has a taper cut from top to bottom meant to lighten the feel of the frame as perceived from the public space below.

The custom bow roof timber frame at the Great Room utilized curved structural insulated panels with v-grooved cypress finish



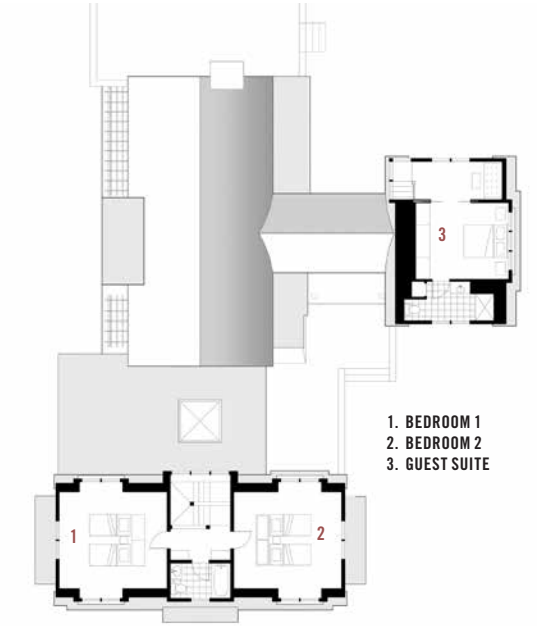
SITE PLAN

decking. The v-groove cypress was harvested from a river bottom in southern Florida. The large stone fireplace was offset in the room to accommodate views of downtown Edgartown. The exterior fireplace brings life to the water-view terrace both in the evening and during the shoulder seasons.

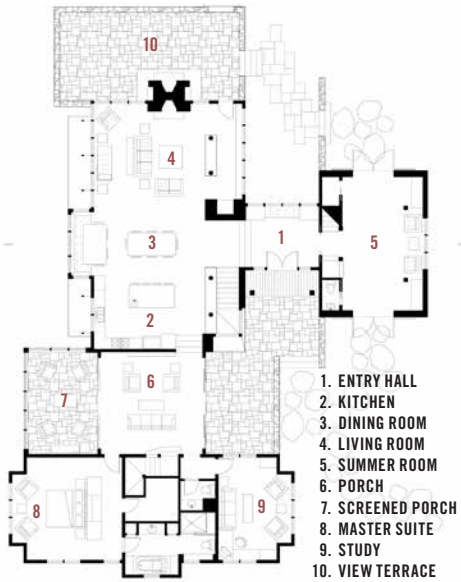
The great room and adjacent outdoor public spaces share a fully integrated audio/video system including a centrally located lighting control system.

The combination of natural Western red cedar exterior trim and cranberry colored windows speak to the reddish marshland grasses that dominate the waterside views during the fall months.

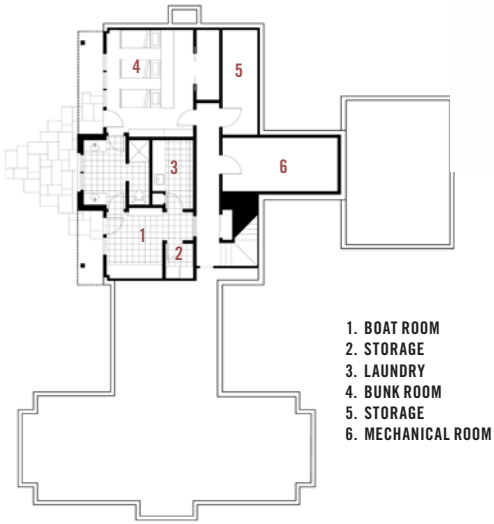
LONGITUDINAL CROSS SECTION



SECOND LEVEL PLAN



MAIN LEVEL PLAN



BASEMENT LEVEL PLAN

Product Specs

FRAME

Standard 2x framing with a custom Douglas fir timber frame – Vermont Timber Frames; engineered floor joists and sub floor with a cherry hardwood finish floor; prefabricated/ laminated curved rafters; typical KD spruce/Douglas fir 2x stud framing

EXTERIOR

Natural white and red cedar sidewall shingles with natural Western red cedar trim; curved roofs finished with red cedar perfection grade roofing shingles; extruded aluminum cladding windows and doors – Marvin Windows; stave core painted cedar custom doors – Horner Millworks; natural red cedar garage doors – Overhead

INTERIOR

Cypress (great room ceiling) with Douglas fir timber frame; cherry wood floor; custom millwork – Vineyard Construction Services

CITATIONAWARDS

"This center employs a clever and diverse use of existing wood from the site. It's very efficient – a net zero building. It's all about how they used the opportunities of their own site."

– JURY

Aldo Leopold Legacy Center

Kubala Washatko Architects

ARCHITECT:
Kubala Washatko Architects, Cedarburg, WI

CLIENT:
Aldo Leopold Foundation, Baraboo, WI

GENERAL CONTRACTOR:
The Boldt Company, Appleton, WI

STRUCTURAL ENGINEER:
Komp/Gilomen Engineering, Milwaukee, WI

LANDSCAPE ARCHITECTS:
Misa Inove, Marcy Huffaker, Baraboo, WI

CARPENTRY CONTRACTOR:
Bachmann Construction Co., Madison, WI

PHOTOGRAPHER:
Mark Heffron, Heffoto, Inc., Milwaukee, WI

A new headquarters and conference facility for a prominent environmental organization, the Aldo Leopold Legacy Center, In Baraboo, Wisconsin, includes office and meeting spaces, an interpretive exhibit hall, a library and archive, and a three-season classroom. Built to the highest standards of energy efficiency and sustainability, the center is carbon-neutral and "zero net" energy in design.

The Aldo Leopold Legacy Center will in fact produce over 110% of annual building energy needs. Certified LEED Platinum in fall 2007, the center received 61 of 61 points submitted, the highest count yet recorded in the USGBC LEED rating system. It is also the first building certified by LEED as carbon neutral in operation.

The center was envisioned as a small complex of structures organized around a central courtyard. This design provides flexibility in managing energy use based on thermal requirements, creates outdoor spaces for work and gathering, and reduces the scale of the buildings on the site. Built on the location where Aldo Leopold died fighting a brush fire in 1948, the new Leopold Legacy Center also serves as a trailhead for visitors who come from around the world to visit the original Leopold shack.

A major building component includes site-harvested wood originally planted during land restoration efforts by the Leopold family in the 1930s and 1940s. The Forest Stewardship Council-certified plan for woodland thinning creates a healthier forest, allowing remaining trees to sequester carbon and contribute – along with permanent carbon storage in the form of timber, siding and trim – to the calculated carbon neutral status of the project. Approximately 90,000 board feet of site-harvested lumber was milled and dried locally for windows, doors, siding, flooring, paneling, furniture and trim. Small-diameter trees were used

"in the round" to construct rafters and trusses, preserving the strongest portion of the wood and showcasing an innovative building technique that utilizes otherwise wasted material. Pine trees were debarked by volunteers on-site and air-dried. Site harvested cherry, maple, and other wood was used as finish materials and furniture throughout the building. Plaster walls are made of locally harvested sand, clay, and straw.

An overall energy budget was established by calculating the amount of on-site solar and geothermal energy available to the building. The design of the skin, heating and cooling systems, ventilation and lighting were then predicated on the allotted energy and confirmed through the interactive use of extensive energy modeling. Solar energy is harvested through a 39kWp photovoltaic system, an active water heating panel, passive heating strategies and day-lighting. Geothermal energy is harvested through a system of wells connected to water-to-water heat pumps as well as a buried concrete earth-tube array for tempering fresh air in winter and summer. Stained concrete floors connected to the ground source heat pump provide radiant heating and cooling. Floor thermal mass reduces temperature fluctuations. The building design allows abundant natural daylight and ventilation. All occupied spaces are naturally ventilated.

A prominent exterior feature is the recycled stone aqueduct, which captures rainwater runoff from the roof and channels it into a rain garden. The aqueduct helps frame the exterior courtyard and connects the building to the earth both horizontally and vertically.

The goal of the Leopold Legacy Center design was to shift the focus from buildings to spaces and the activities associated with them. The new center was designed to quietly support the daily work of the foundation as it strives to further the land ethic through the legacy of Aldo Leopold.

Product Specs

FRAME

FSC site-harvested wood: combination of wood stud bearing walls, site-harvested timber posts and beam, and SIP bearing walls; slab on grade, wood floor joists; site-harvested white pine roundwood rafters and trusses

EXTERIOR

FSC site-harvested wood: white oak and ash (rain screen) siding; metal roof with galvalume standing seam metal roof; wood windows – Pella; site-harvested white oak custom wood doors

INTERIOR

FSC site-harvested pines, maple, straw plaster walls; FSC site-harvested maple ceilings; sealed concrete and site-harvested cherry and white oak floors; FSC site-harvested maple and cherry millwork; low VOC finishes

"The simple building forms and straightforward use of wood siding and plywood paneling belie the sophistication of this design. Composition, proportion, color, natural materials, and harmony combine to make a human-scaled complex that is uplifting and sure to inspire pride among the grounds crew that works here."

– JURY

Boston Golf Grounds Buildings

Estes/Twombly Architects

ARCHITECT:
Estes/Twombly Architects,
Newport, RI

CLIENT:
Boston Golf Club,
Hingham, MA

GENERAL CONTRACTOR:
Hans Schaefer,
Attleboro, MA

STRUCTURAL ENGINEER:
Yoder & Tidwell Ltd.,
Providence, RI

PHOTOGRAPHER:
Warren Jagger,
Providence, RI

There is a rich heritage of farm and industrial buildings that achieve architectural distinction through economical use of local materials and through a graceful and common-sense solution to program requirements. Most of these buildings were constructed before the advent of the metal box and the lighting and central HVAC systems that made these boxes viable.

In researching precedents for this project, the architects found that every new golf course grounds building was a variation on the metal box. Several considerations went in to this project to avoid this standard approach in favor of richer examples offered by farm precedents.

First, the majority of the space – most of which was to be used for storage – did not require heating, so the box's surface efficiencies were not a factor. Given the many types of equipment used in golf course maintenance, the box shape is actually quite inefficient: the architects saw single storage buildings where large areas are devoted to aisles so different equipment could be accessed without moving other equipment. As such, long, narrow buildings with multiple doors allowed the space to be smaller (no aisles) and allowed greater and simultaneous access to all the equipment. Moreover, every other box required artificial light and ventilation during all hours of operation. This narrow shed form – however – provided natural cross ventilation and lighting. The self-contained repair and office building are the only heated and cooled structures.

Second, the whole operation becomes relatively dormant during the winter, so clearing snow or passage between buildings in cold weather was not a problem. The complex is surrounded on three sides by the golf course, so arranging the buildings in a courtyard provided a staging

area where equipment could be loaded or temporarily parked without being seen from the course itself and minimized distances between the buildings. The low sides of the shed face the course, tucking into the landscape. The open south side of the courtyard faces an adjacent street, access from the public domain.

Thirdly, and most importantly, the owners were open-minded and environmentally conscientious. In clearing the course, older trees, including eastern white pine, were harvested and sent to lumber mills. To complete this circle we used locally milled 1 x 12 eastern white pine as clapboards and trim. This is the material traditionally used in New England barns. Interiors are sheathed with rotary cut southern pine, another harvested product. But the owner's real contribution was to encourage an architecture that engaged and respected the landscape. The courtyard solution echoes and functions like a barn yard, providing focus and containment for the busy maintenance operation.

Product Specs

FRAME

2 x 6 and 2 x 4 stud walls; slab floor, truss joist McMillen roof joists

EXTERIOR

1 x 12 eastern white pine siding; Englert standing seam roofing; Eagle clad windows; Benjamin Moore solid stains

INTERIOR

Rotary-cut southern yellow pine plywood walls; exposed trusses with some plywood sheathing; slab floors; matte urethane finishes

"This is making an isolated space beautiful. Very clever using found materials, and inexpensive wood for extraordinary value. They've made very good economical use of this space."

– JURY

The Music Room

Michael Wilson

ARCHITECT:
Bycker Polluck Architects, Stratford, ON

CLIENT:
SSG Enterprises, Stratford, ON

GENERAL CONTRACTOR:
SSG Enterprises, Stratford, ON

PHOTOGRAPHER:
Graham Marshall, Burlington, ON

The Music Room was designed for practice, intimate performance, solo or group playing, listening, and a recording studio. The objective was to use the wall finish surface, as a tool for diffusion, to affect the audible spectrum of frequencies to provide a full, rich and blended sound.

To create the delicate balance of reflections and diffusion of a wide spectrum of frequencies, clear pine was chosen as an exclusive finish material in the room. It is very easily worked; knots removed, cut, secured, sanded and finished. Search of nearby lumber-yards, revealed a supply of "off cuts" (1 x 6 x 6'), which provided a very high quality of material from a sustainable source and an extraordinary value was achieved.

The size of the room and requirements for M and E equipment were determined and coordinated with the structural system of the storage loft above. With the floor predetermined; providing reflection only, and the ceiling cavities providing primarily long wave diffusion, it was easy to see both the ambiance and acoustics of the space would be derived primarily from the walls. Intuitive design sketches and some mathematical analysis based on golden rule and Fibonacci formulas crystallized into rough construction drawings within a few days and construction began immediately.

Standard construction spruce walls set apart on gaskets from the existing walls provide isolation from unwanted external noise. The plywood floor set "floating" apart from the walls and existing concrete floor, on rigid insulation, assists with noise control. The walls are made of clear pine secured to wood studs, while the ceiling is exposed joist cavity, further defined with mechanical and electrical chambers. The floor of the storage loft is ¾-in. Douglas fir plywood, glued and screwed to the ceiling joists of the music room. The floor of the music room is ⅝-in. Douglas fir on spruce framing and rigid insulation.

The interior design idea for the room came from the culmination of two thoughts: The first, what ratio of solid to void could create to maximize yield from the width of a 5 ½-in. board. The second, re-examining the rhythm and dimensions of the acoustic panel configuration we used previously at the restoration of the Stratford Festival Theatre orchestra loft in 1990, the resulting module brought about the results; a 5 ½-in. board is cut into 3-in. and 1 ½-in., or it is cut into 2 or 3 or 4 or 5 equal pieces. With these dimensions of solid lumber, a number of variations are created to affect the different frequencies.

Long wave or low frequency waves are diffused with convex panels with arcs created from human dimension, and recti-

linear chambers descending or ascending, in a "Fibonacci" like scale. Medium and high wave, or higher frequencies are diffused with horizontal bands of smaller and varying dimension. Introducing voids with exposure of absorption provides the means of achieving balance.

The finish of the wood is important, not unlike that used in acoustic stringed instruments; violin family, guitars, and piano, a thin coat of spar varnish applied to the pine maximizes the bright reflection resonance possible only with wood. All wall surfaces not covered with pine serve to provide the required absorption exposing the roxsul batt insulation. The exposed TJI ceiling structure, spaced at one ft. centres, provides low frequency diffusion and allows further absorption to be added at the discretion of the musicians.

The beauty of the grain and color of wood provides a warm and bright ambiance in the room. The atmosphere is enhanced by the comfort of the natural mathematic ratios used in the design. As in music, architecture affects our subconscious as well as our tactile senses. Texture, color, rhythm, volume, tone, warmth and accent, all words that are used to understand the space, can be used as well to describe music. From our previous experience with wood, as a guitar maker, as furniture designers, and as architects, we have drawn upon the many lessons working with wood to produce this room.

Product Specs

FRAME

2 x 6 spruce studs; TJI 360 floor joists; studio floor: ⅝-in. t&g g1s Douglas fir plywood on spruce framing and 1 ½-in. rigid insulation

INTERIOR

Clear pine walls secured to wood studs; ceiling: exposed joist cavity and further defined with mechanical and electrical chambers; storage loft (floor) ¾-in. g1s Douglas fir, glued and screwed to ceiling joists of music room; music room (floor) ⅝-in. g1s Douglas fir on spruce framing and rigid insulation; spar varnish and linseed oil finishes

"This makes a nice statement. It is about inventive pieces…it flip-flops, moves, and you can only do it with wood. The project is inviting and energetic and warm and comfortable. The invention of it is fabulous."

– JURY

Vertical Patio

PIQUE Architecture

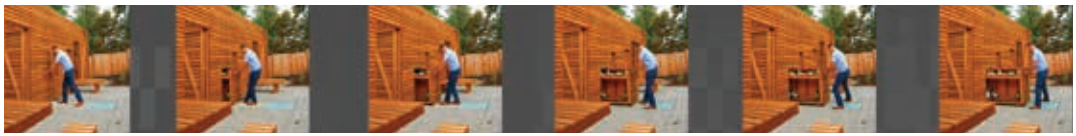
ARCHITECT:
PIQUE Architecture,
Seattle, WA

CLIENT:
Brian Buckley,
Seattle, WA

GENERAL CONTRACTOR:
Gordon Carpenter,
Seattle, WA

PHOTOGRAPHER:
Peter Jahnke,
Seattle, WA

The animation and energy of an occupant is a critical ingredient in the fabrication of architecture. The spatial experience of all great spaces have consistently delivered to the occupant a heightened awareness of place. This backyard patio, situated on a small urban lot in Seattle, provided an opportunity to explore how a very simple and contained architecture can animate a space and continually surprise and engage its owners.



BAR PULLS OUT FROM VERTICAL SURFACE

PICNIC TABLE AND BENCHES FOLD OUT FROM HOT TUB

PROJECT IN USE

STAIR WELL

The challenge was the client's interest in adding a large amount of program (grill patio, hot tub, changing room, dining table, bar, stool, reading area, and security gates) while maintaining as much open area as possible. The solution began with a calculation of the allowable building area in the back yard which was then transferred directly into a single vertical plane. Through a series of hinges and pivots, the individual bits of program are housed in this vertical wall. Sun/shadow studies derived where the specific locations for the various programs would be within the composition of the wall.

The ability for occupants to control and transform their environment is the most fundamental way to interact with and affect the architectural event. This vertical patio responds to a variety of needs, thus creating an atmosphere of circumstance that captures the occupants' attention and immerses them in a powerful appreciation of the place they are in and the people they share it with.

The choice to use wood was not arrived at lightly. All the moving components placed enormous restrictions on the material choice as it had to be lightweight, durable, and modest in price. Clear cedar wood became the material of choice for three primary reasons. First, the ability to manipulate wood for joinery cannot be matched by other materials like aluminum or steel without fabricating custom connectors. We were very easily able to shape the wood for bridle and lap joints, miters and mortise and tenon connections in the field. There is also a myriad of fastener and hardware options available for wood that we could choose from allowing us to detail to cabinetmaking scale and quality. The tactile quality of wood was also very important as it was imperative that the surfaces people touch as they manipulate the structure be warm, soft and textural. Again, something not easily achieved with metal or plastics. Lastly, the architects wanted to stay as true as possible to typical deck construction in scale and material in order to capitalize on the innovative move of turning a standard deck vertical.

PROJECT 100% CLOSED

HOT TUB GATE

TABLE/BENCHES FOLD FROM GATE

PRIVACY GATE/CHANGING ROOM

PROJECT 100% OPEN

BAR AND BAR STOOL

SUNNING BED

PRIVACY GATE TO STAIRS

Product Specs

FRAME

Pressure-treated dimension lumber; clear cedar

EXTERIOR

Clear cedar frame and slats; Penofin penetrating oil finish

SPECIAL AWARD

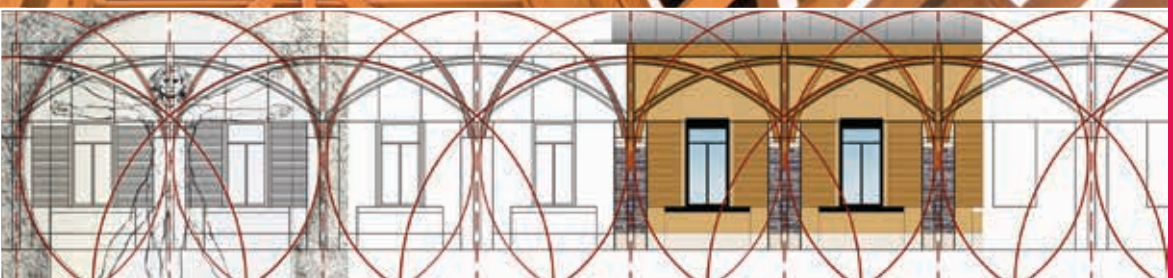
Duke Integrative Medicine Center

Duda/Paine Architects

The Durham, North Carolina healthcare center is considered to be the first facility designed solely for the combined practice of alternative treatments and conventional medicine. The facility and grounds are conceived as expressions of the center's mission: to approach healthcare as a holistic endeavor that embraces the mind, body, and spirit.

WoodWorks

AWARD FOR NON-RESIDENTIAL CONSTRUCTION



ARCHITECT:
Duda/Paine Architects, Durham, NC

CLIENT:
Duke University Medical Center, Durham, NC

GENERAL CONTRACTOR:
Centex Construction, Charlotte, NC

STRUCTURAL ENGINEER:
Gardner & McDaniel, PA, Durham, NC

LANDSCAPE ARCHITECT:
Hughes/Good/O'Leary & Ryan, Atlanta, GA

PHOTOGRAPHER:
Robert Benson Photography, Hartford, CT

Within a warm, non-clinical environment, the 27,000 sq.ft. building includes a sitting room/library and indoor and outdoor meditation spaces, as well as evaluation rooms, state-of-the-art treatment rooms, conference and workshop spaces, fitness facilities, showers and changing rooms, and a full kitchen/dining room for healthy-cooking demonstrations and guest meals.

The woodland setting and grounds are integral to the program and include a meditation pavilion, ornamental and functional herb gardens, walking paths, and seating areas. As befits a program in which nature and technology coexist, the center is sustainably designed and has been registered for LEED certification.

A visit to Duke Integrative Medicine is a journey of self-

discovery that may extend from an hour or two for a seminar to four days for the evaluation and treatment of a medical condition. Reflecting the layers of experience possible in the therapeutic programs, the center's spaces and views unfold in stages. From a gently curved entrance façade, the building radiates out in a series of branches (or fingers), each traveled along undulating corridors and culminated at a major meeting space. The outstretched "fingers" create interstitial outdoor spaces cultivated with gardens and water features. Blurring the distinction between indoors and out, glass walls extend the gardens inside.

There are no incidental spaces here. The main waiting areas are a bench-lined hall that faces a water wall and the circular library/sitting room, where arched wooden trusses overhead suggest a canopy of tree branches that filters the sunlight. The most private "anteroom" in the facility is its grandest space – a covered garden courtyard at the center of the facility. It is into this quiet center that patients emerge, transformed, from the treatment rooms on either side. Planted with a bamboo garden and flanked at one end by the interior side of the water wall, the courtyard also features the arched wooden truss work seen along the entry loggia and in the sitting room. A repeating geometry of overlapping circles that create segmented arcs (and a golden ratio); the motif is used throughout this "house and garden" dedicated to well-being.

Product Specs

INTERIOR

Solid white oak flooring and wall base (public corridors and special spaces); bamboo flooring (Nutrition Center Dining Room and meditation rooms); staggered, linear white oak panels with birch bark accent panels (wood feature wall); fabric-wrapped acoustic panels for noise control (the Quite Area) on custom-built white oak screens; solid white oak panels and oak veneer millwork throughout – Salisbury Millwork of North Carolina; curved white oak panels with hand-tooled white oak accent panels (reception area); custom hand-tooled white oak countertops; clear finish, with a M.L. Campbell N.G.R. stain mixed with a conversion varnish to accomplish a consistent color and finish throughout (a darker stain – Mohawk stain – was selected for millwork in the Library to set it apart)

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