THE CEDAR BOOK

Inspiration for the use of Western Red Cedar

WESTERN RED CEDAR EXPORT ASSOCIATION

volume 5

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Inspiration for the use of Western Red Cedar

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Biomedical Research Building
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Lluis Casals

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WESTERN RED CEDAR – Sustainable by Nature

The 5th version of the Cedar Book profiles stunning and award winning architecture from inspired architects around the world. These architects continue a trend that was started centuries ago when native peoples of the Pacific Northwest recognized the value of using this very unique wood species. Western Red Cedar's natural durability, performance characteristics and versatility made it the preferred choice for building ocean-going canoes, post-and-beam houses and lodges. Today's discerning architects enhance their projects with this beautiful and sustainable building material. Nature still knows best for, despite all efforts at imitation, no man-made product can match the beauty, performance and longevity of Western Red Cedar.

Western Red Cedar is one of nature's truly remarkable materials. Not only does it have distinctive beauty, natural durability and centuries of proven performance, it is the ultimate sustainable building product. It produces fewer greenhouse gases, generates less water and air pollution, requires less energy to produce than alternatives and comes from a renewable and sustainable resource. More than ever before, we must find ways to reduce the pressure on our planet's environment and finite resources. By choosing products with a light carbon footprint and by reducing waste, we can have a real impact on climate change now, and into the future. As part of their commitment to transparency, Western Red Cedar producers now have Environmental Product Declarations available for siding/cladding and decking products.

We hope this book will inspire you to consider Western Red Cedar for your next project. If you already have and are interested in submitting your project for consideration for the next edition of the book, we invite you to send your project details including photo, description and a profile of your firm to the Western Red Cedar Export Association via email to info@wrcea.org.

Thank you for your interest in Western Red Cedar.

LOCATION:

Pleasanton, CA, USA

PROJECT TYPE:

INSTITUTIONAL

Bernal Park Support Building

This is one of several small amenity and support facilities designed for the City of Pleasanton CA, as part of the redevelopment of Bernal Community Park and adjacent lands. The overall master plan incorporated 13-acres of baseball fields sized for different ages and 37 acres of parkland for a total park area of approximately 50 acres. Architectural elements within the park included two concession buildings, two shade structures, a restroom and storage buildings. The architectural components support the baseball program and various special events.

The first architectural project to be undertaken on commencement of the landscape masterplan was this restroom and storage building located just off the east parking lot and adjacent to the proposed central gathering area.

The restroom building was designed with a simple form and natural materials to fit seamlessly into the picturesque park setting. Although the facility needed to be durable and enduring, it appears elegant and residential in scale nestled into the landscape.

PROJECT CREDITS

Clients:
City of Pleasanton

Architect:
Mark Cavagnero Associates

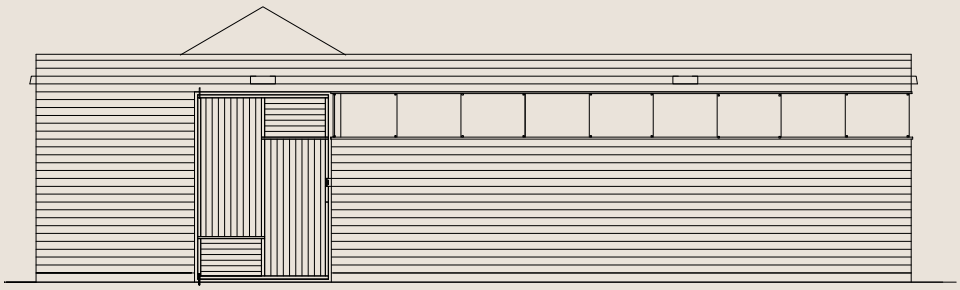
Planning / Landscape:
MD Fotheringham, Landscape Architects Inc.

Civil and Structural Engineer:
Creegan + D'Angelo

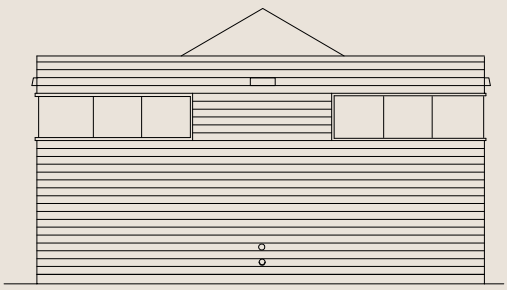
Mechanical/Electrical Engineer:
Belden Consulting Engineers

General Contractor:
Cavallini Construction Inc.

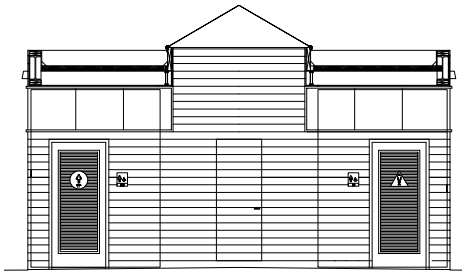
Photography:
Marcus Hanshen, Photographer



North Elevation

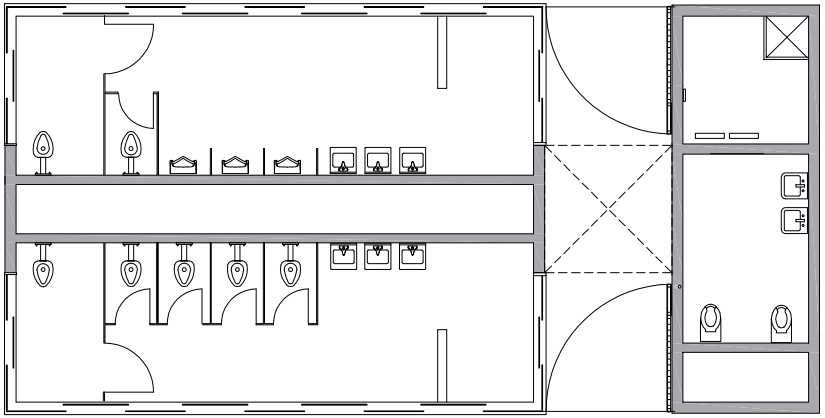


West Elevation

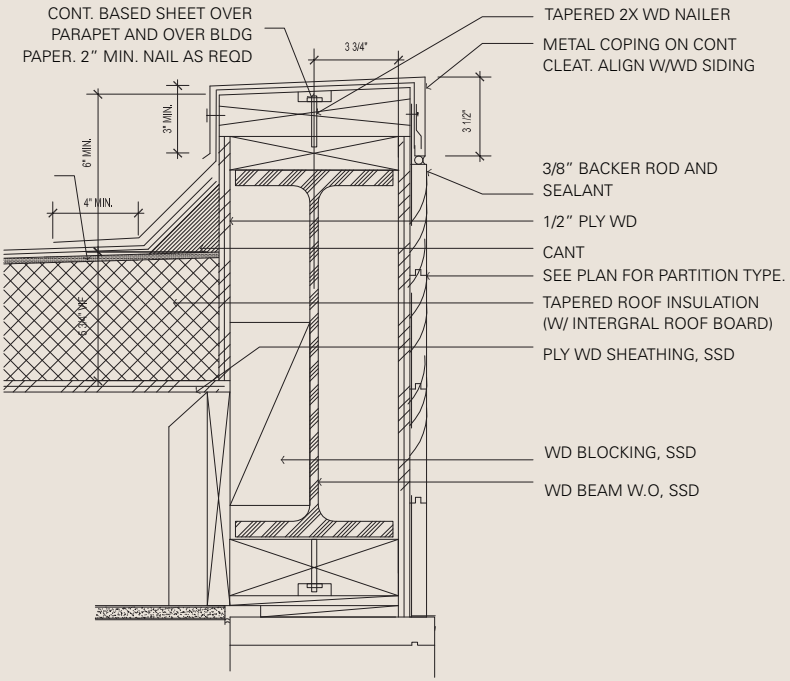


Section Thru Breezeway (Looking East)

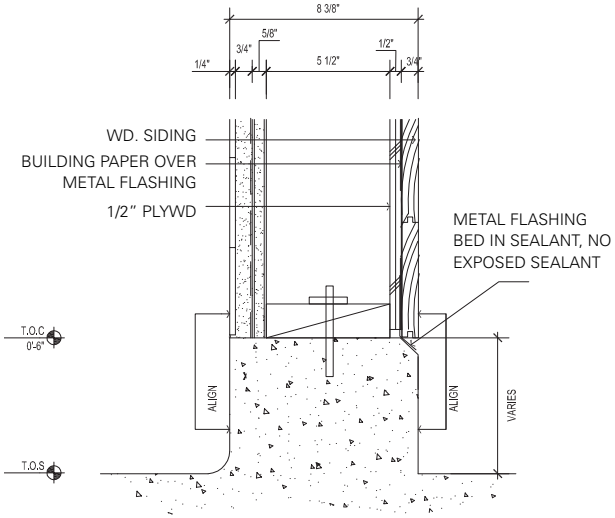
An open-air and skylight vestibule welcomes visitors from both sides of the structure. The façade of the rectilinear form is wrapped in 1x6 horizontal tongue and groove Western Red Cedar siding that have been covered with a semi transparent stain and graffiti coating. A horizontal band of glass panels wraps the building at high level, allowing natural light and ventilation to reach the interior. As the windows wrap the corners, the moment frame structure provides unobstructed views from within and the roof appears to float above the bands of glass.



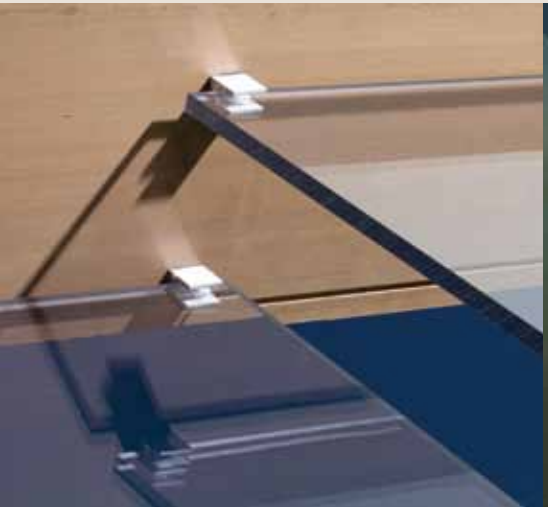
Floor Plan



Roof Parapet / Window Head Detail



Wall Assembly / Curb Detail



WRC SPECIFICATIONS

Vertical grain Western Red Cedar, 1x6, tongue and groove, with blind nailing and SS 316 face nailing. Finished with water based acrylic sealer, white semi-transparent stain and anti-graffiti coating.

LOCATION:

Barcelona, Spain

PROJECT TYPE:

INSTITUTIONAL

Biomedical Research Building

This 55,000m^2 building is the centrepiece of the Barcelona Biomedical Research Park, one of the largest facilities of its kind in southern Europe. Programmatically, the building is an innovative combination of public and private sector facilities designed to improve communication between academic and government institutions and related industry organizations.

The building provides separate administrative and research space for each tenant organization, together with shared facilities such as meeting rooms and auditoria. Computer and communications infrastructure are also shared, maximizing operational synergies and efficiencies for the more than 1100 employees.

The building occupies a prominent 0.9ha site adjacent to the Hospital del Mar on Barcelona's waterfront promenade. The elliptical building includes nine storeys above grade and three storeys below and is designed for maximum functional flexibility. The first two storeys above grade occupy the entire plan area, with the remaining seven storeys taking the form of a perimeter horseshoe around a central courtyard.

PROJECT CREDITS

Clients:
Comunitat de bens del Parc de Recerca Biomédica de Barcelona: El Consorci de la Zona Franca, Ajuntament de Barcelona, Generalitat de Catalunya (DURSI : Departament d'Universitats, Recerca i Societat de la Informació)

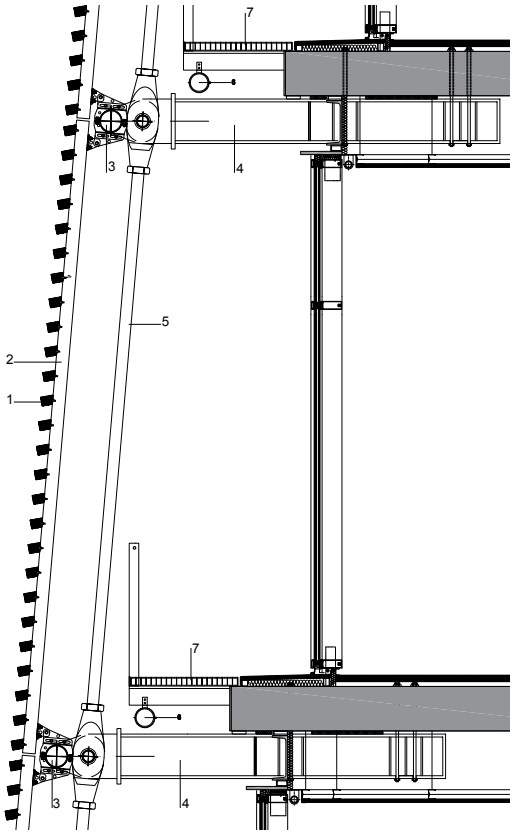
Architect:
Brullet Peneda Arquitectes S.L.P.

Survey Architects:
Enne Gestió Activa de Projectes S.L.P.

Health and Safety:
Servei de Prevenció Gaudí

General Contractor:
UTE Dragados-Comsa, UTE Axima Klimaca,IUTE Cobra Elecnor

Photography:
Lluis Casals



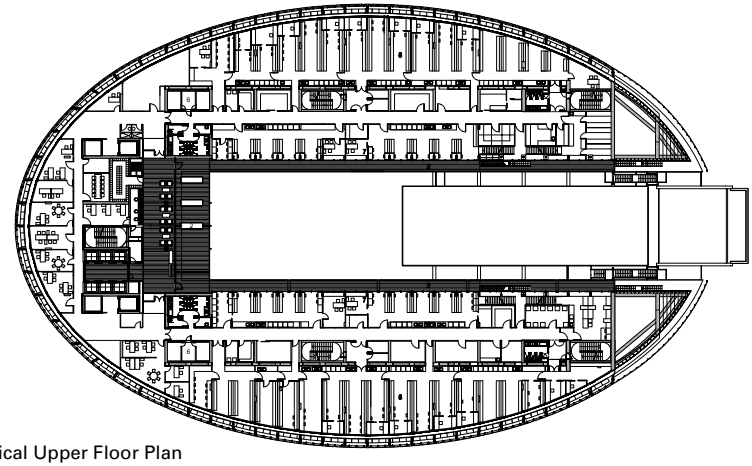
Detail Section Through Façade

The dominant architectural expression is created by a modular Western Red Cedar screen that envelopes almost the entire building. The storey height panels define the elliptical geometry of the structure and also act as sun shades. The cedar slats are designed to admit natural light but prevent direct solar radiation from striking the glass curtain wall that forms the inner skin of the double envelope construction.

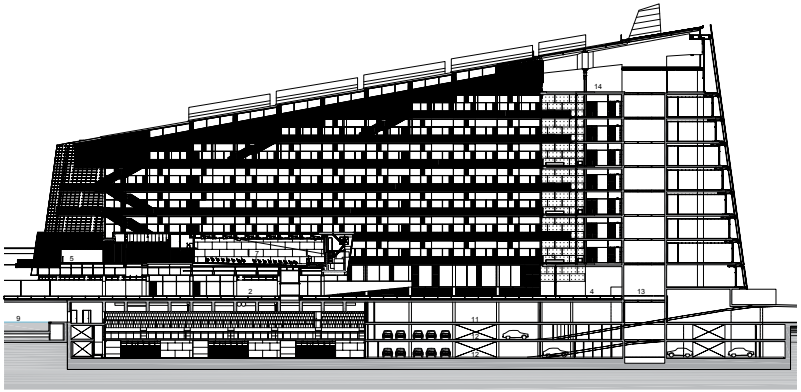
The position of the slats in one panel coincides with the gaps in the panels to either side, so that adjacent sets of slats overlap at each vertical framing member. The overlapping was also necessary to ensure that the cedar slats could follow both the curving plan and the tapering section. The slats at each floor level are 10mm shorter than those on the floor below.

Every sixth panel is omitted, leaving a storey height gap in the façade. This gap serves to break the uniformity of the cedar screen, but also serves the function of facilitating emergency access to the building in the case of a fire. The slats are bevelled top and bottom to create a trapezoidal profile that sheds water and increases service life.

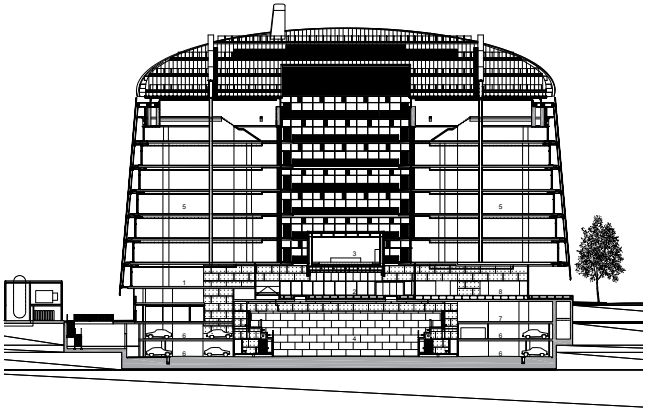
1. Western Red Cedar slats
2. Steel sub-frame
3. Tubular steel frame
4. Steel I-beam
5. Steel rod
6. Balustrade
7. Maintenance platform



Typical Upper Floor Plan



Longitudinal Section



Cross Section

WRC SPECIFICATIONS

Slats: R-List #2 clear grade custom trapezoidal profiles,: 805mm and 650mm long by 57mm and 59mm deep fixed at 97mm centres and finished with Sikkens Cetol.

LOCATION:

Finger Lakes Region,
New York, USA

PROJECT TYPE:

RESIDENTIAL

Combs Point Residence

The residence at Combs Point is sited in a diverse natural landscape that includes a glacial lake, deciduous and evergreen forest, a valley and a stream. It is both a center of activity and a quiet retreat for a family that treasures life on the lake.

From the widening delta at the lake's edge, a delicate necklace of clear Western Red Cedar clad buildings stretches through a forested glen that leads to the waterfall at its head. An elevated boardwalk follows the twisting course of the stream as it connects the buildings before dissolving into a path that leads to the falls.

Upstream, the guesthouse, office and exercise structures occupy the narrow valley meadow with its forested edges. Meandering alongside the nearby stream, this sequence of utility and activity spaces are first detached from, and then clipped to the main house. They share simple massing and clear Western Red Cedar siding, oriented vertically and horizontally, subtly revealing the composition of the structures.

PROJECT CREDITS

Architect:
Bohlin Cywinski Jackson

Structural Engineer:
CVM Engineers

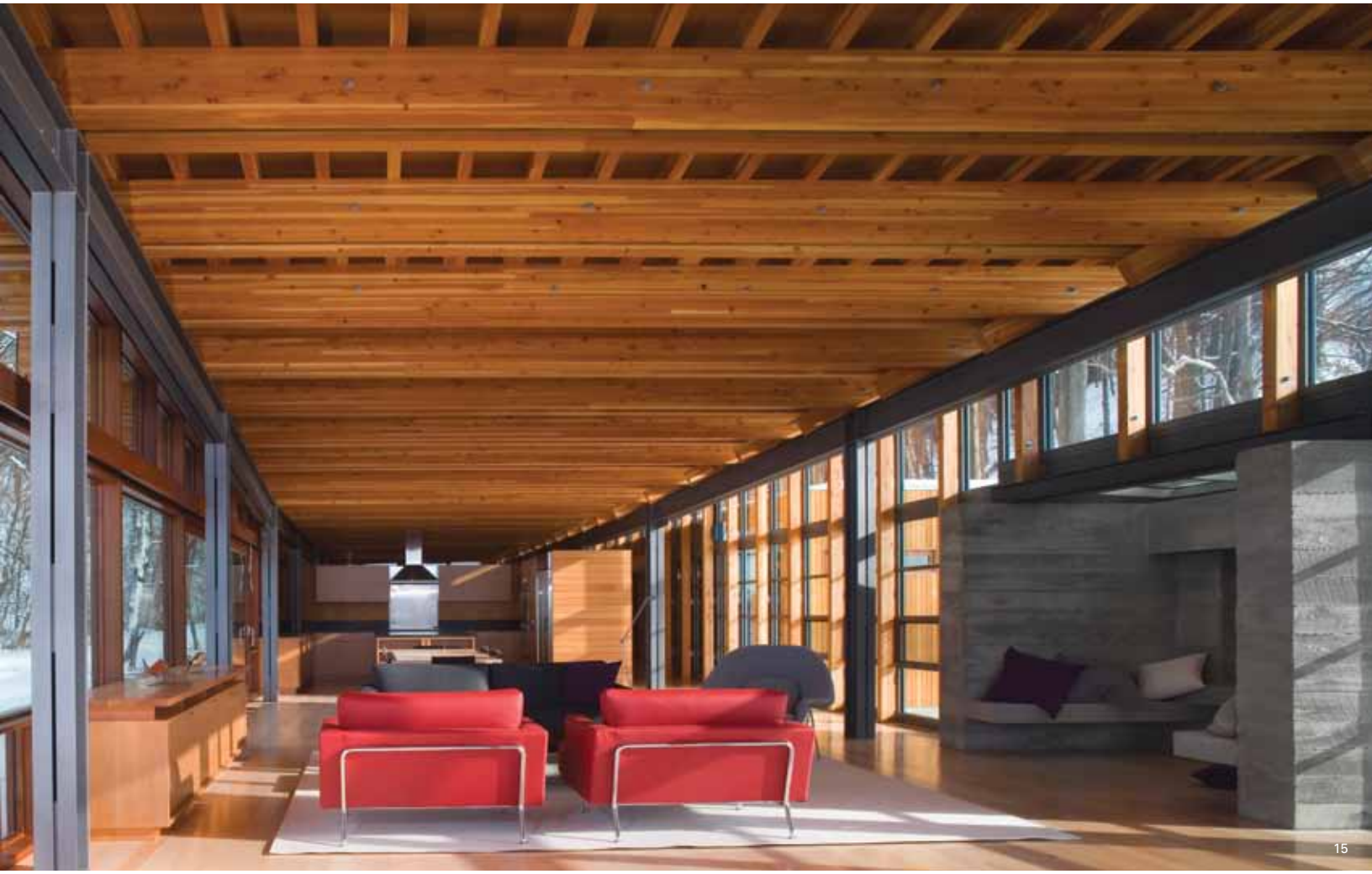
Mechanical/Plumbing/Electrical Engineers:
ASW

Civil Engineer:
Hunt Engineers

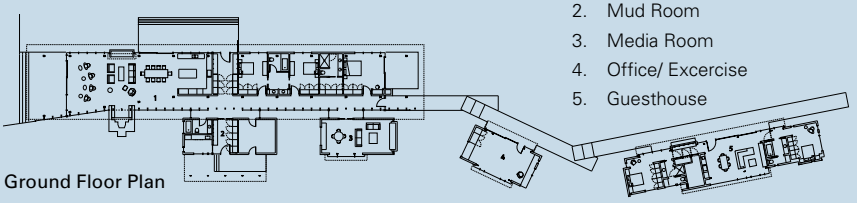
Landscape Architect:
Michael Vergason Landscape Architects, Ltd.

General Contractor:
Pennwood Development, LLC

Photography:
Nic Lehoux

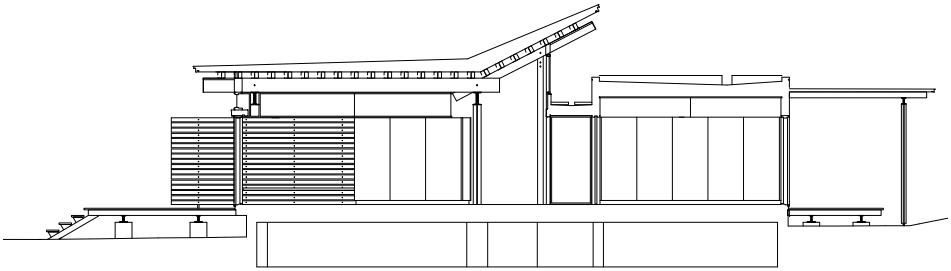


Downstream, the main building's large living space opens to a full view of the deep lake, broad sky and weather. With their longer spans, the primary spaces are framed robustly in wood and steel, sharing the same Western Red Cedar siding as the other smaller structures.



Ground Floor Plan

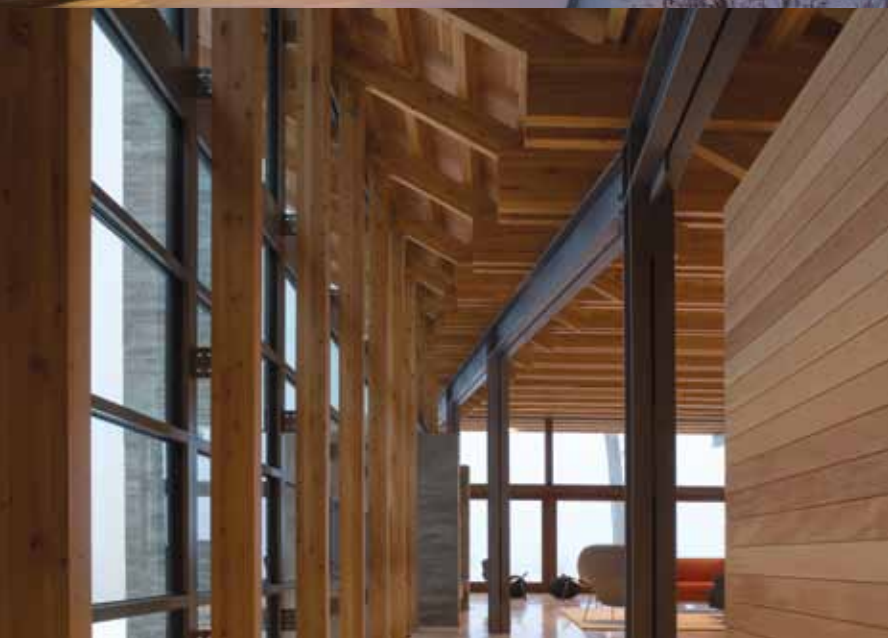
Longitudinal Section

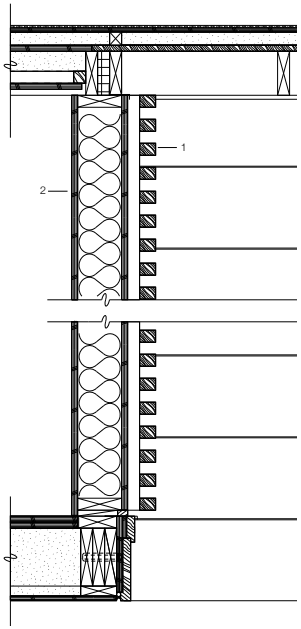


Cross Section

The southern glass wall extends toward the waterfall at one end while focusing on the lake at the other. A linear steel beam, projecting through both east and west elevations, delineates circulation. The beam is the fulcrum of the south edge inflected upward to catch the sun above the rim of the ravine.

Slipped into the site with a light touch, the Combs Point Residence and its outbuildings possess a transparent quality that captures the richly varied character of this natural place.





1. 2x2 WRC batten fastened with #10 stainless Steel square head screws

2. 3/4" plywood painted vapor barrier
2x6 @ 16" 0.C.
batt insulation
3/4" cdx plywood
30# building paper
WRC wood batten screen

3. 3/4" WRC siding beyond

Section WRC Batten Screen

WRC SPECIFICATIONS

Horizontal boards: Clear vertical grain, custom milled tongue and groove flush or fillet joint S2S.

Vertical boards: Clear vertical grain, custom milled shiplap.

LOCATION:

Auckland, New Zealand

PROJECT TYPE:

RESIDENTIAL

Great Barrier House

This house is located on the east side of Great Barrier, a remote 285km^2 island located 90km northeast of Auckland. Once home to thriving mining and forestry industries, the island now has a population of only 850 residents, most of whom make a living from farming or tourism.

The site is surrounded by native forest, including an ancient grove of puriri trees that is home to an extensive birdlife. A hill clad in second growth kauri and nikau rises to the north. Thick grass and gnarled Tasmanian Blackwood's flourish in an old creek bed.

Longtime visitors to the island, the clients wanted their house to enhance the experience of being there, to embrace its sense of peace, quiet and blissful isolation. They wanted to be able to see the trees, for the house to be full of sun, and for it to become a holiday destination for future generations of the family.

The house is elevated for flood protection, and its shed roof rises to acknowledge the nearby hills. The plan is a linear arrangement that culminates in an outdoor living space with a broad flight of steps leading to the lawn. A sense of connection with the outdoors is achieved using generous amounts of glass and a covered open-air corridor between the living space and the bedrooms.

PROJECT CREDITS

Architect:
Crosson Clarke Carnachan Architects (Auckland) Ltd.

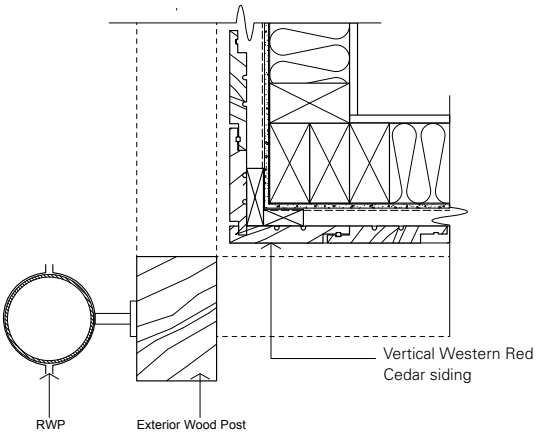
Structural Engineer:
Chris Rose – CMR Engineers Ltd.

General Contractor:
Offshore Homes

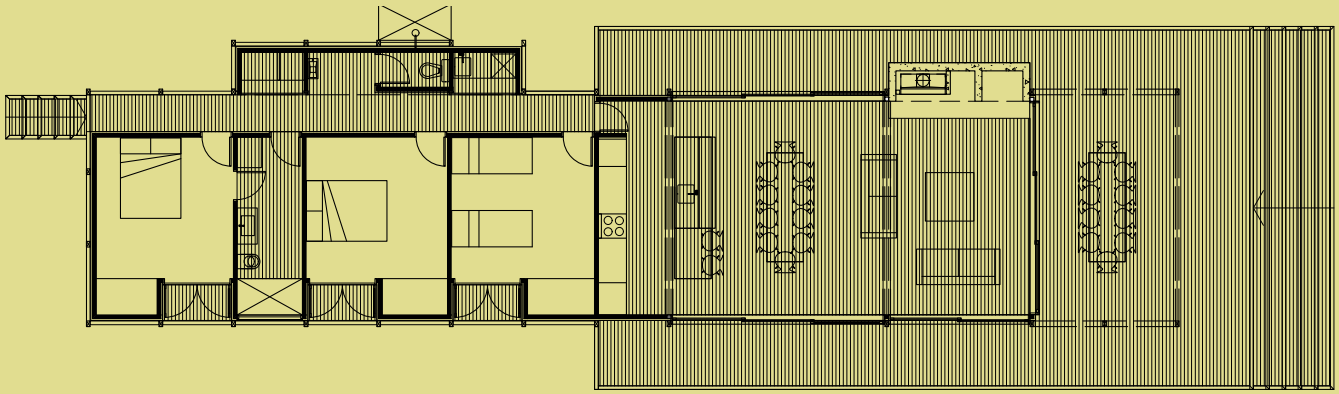
Photography:
Simon Devitt

The house was laid out on a modular grid both for economy of construction and material transportation, and to articulate the relationship between room layout, structure and joinery. The exposed structure also creates a connection between the building and the vertical rhythm of the surrounding trees.

Western Red Cedar vertical shiplap cladding was chosen for its superior performance, stability and low maintenance requirements in harsh coastal environments, as well as for its sustainable qualities. The light weight of the material also reduced transportation costs.



Plan Detail



Floor Plan

WRC SPECIFICATIONS

Clear, band-sawn HP55 vertical shiplap – 110 cover, fastened with 316 stainless steel 85 x 3.15 mm annular grooved flat head nails.

LOCATION:

London, England

PROJECT TYPE:

COMMERCIAL

London 2012 Velodrome

Located in Lee Valley Regional Park the new 6,000 seat velodrome was the first London 2012 facility to be completed, and will be the venue for the Olympic and Paralympic track cycling events. After the Games, the legacy velodrome will become the hub of a destination cycling centre used by both elite athletes and the local community. It will include a café, bike rental and cycle workshop facilities and is expected to attract more than 250,000 visitors a year.

The design ambition for the velodrome was to combine architecture, engineering and cycling to create a unique structure worthy of London 2012. The curved form of the completed building expresses the contours of the banked wooden track, and the refined engineering of the roof structure emulates the lightness and mechanical efficiency of bicycle construction. To create the best possible crowd atmosphere for competitive events, the track has been designed with seating all around.

PROJECT CREDITS

Client:
Olympic Delivery Authority, London 2012

Architect:
Hopkins Architects

Structural Engineer:
Expedition Engineering

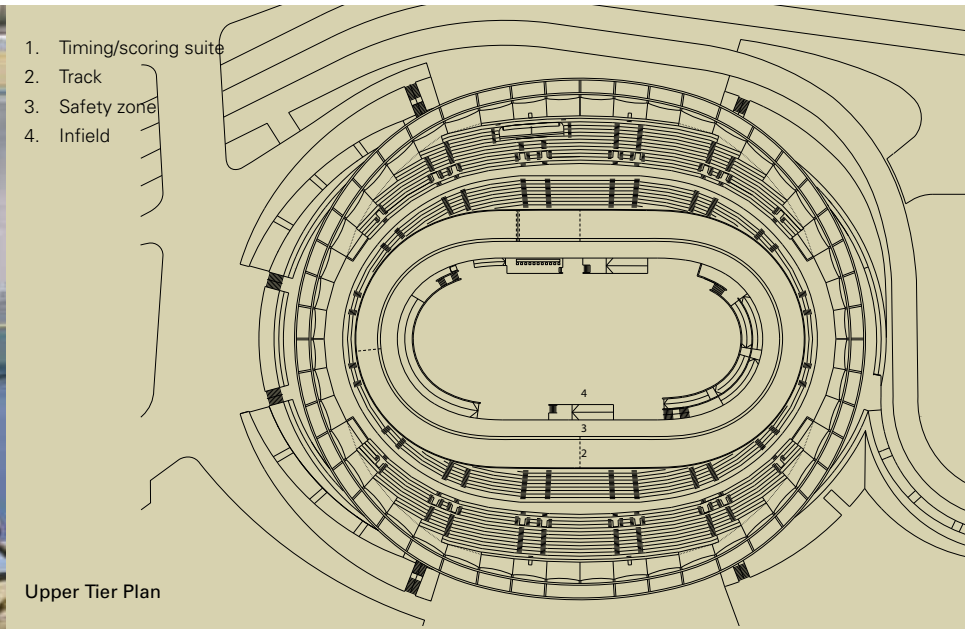
Mechanical Engineer:
Stantec

Mechanical/Electrical/Environmental Engineers:
BDSP Partnership

General Contractor:
ISG

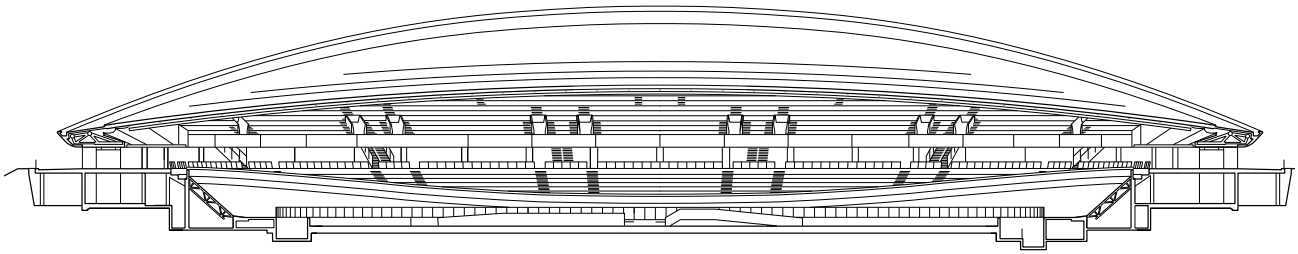
Photography:
Courtesy Olympic Delivery Authority, London 2012

The seating is split into lower and upper tiers, allowing a 360° concourse level in between with a continuous ribbon of full height windows. The site was excavated so that the velodrome sits in a shallow bowl, with the result that the concourse level corresponds to exterior grade. This will enable park visitors to have a view to the cycling track from outside the building when the facility operates in legacy mode.

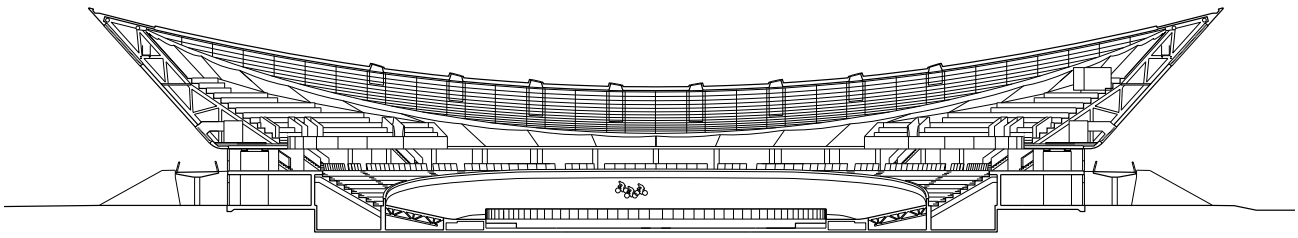


Upper Tier Plan

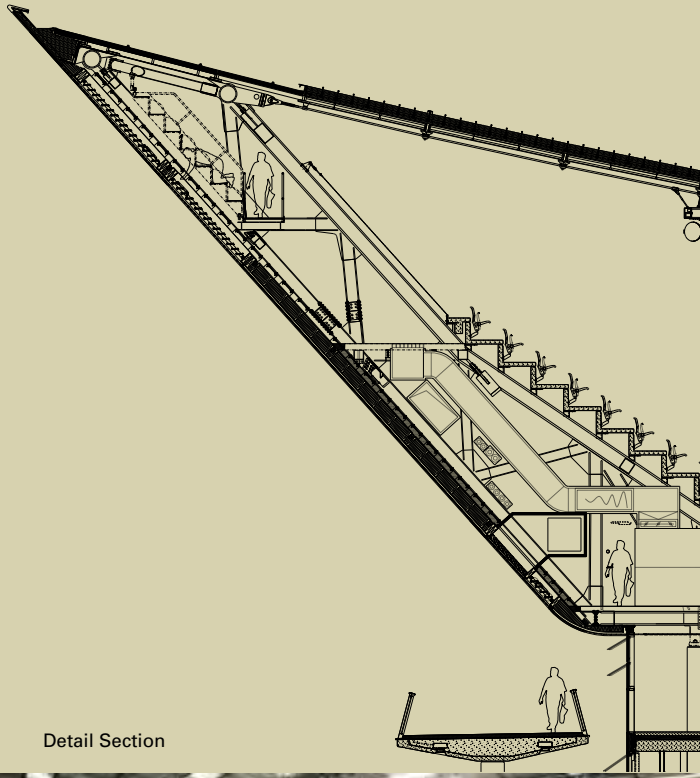
The 12,000m^2 roof is constructed using a very lightweight double curving cable net, suspended from a steel structure. Beneath it, the oval track is 250m in length, engineered for speed and constructed with great precision entirely from wood. The exterior of the building is clad in 5000m^2 of custom-cut Western Red Cedar shiplap boards. Cedar was chosen for its sustainable attributes, its durability and as an outward expression of the material character of the cycling track.



Longitudinal Section



Cross Section



Detail Section

WRC SPECIFICATIONS

Cladding: Western Red Cedar, R-List #2 Clear grade, 100% PEFC certified size 18mm by 140mm shiplapped boards fixed with grade 316 stainless steel nails and screws with a coating of Owatrol Textrol oil.

LOCATION:

Pittsfield, MA, USA

PROJECT TYPE:

RESIDENTIAL

Peel Residence

A residential addition for an elderly family member moving back home, this project provides a distinct programmatic separation between the existing and new components while formally unraveling its exterior surfaces to embrace the main house and connect with the surrounding landscape.

These exterior surfaces are made up of stacked Western Red Cedar members that are `stitched together´at surface intersections to form screens of various types. The detailing of the intersections allow for opaque areas and for partially transparent areas along the exterior of the building. The partially transparent areas occur at windows and doors allowing for sun shade, privacy, ventilation, and an experiential and physical connection to the natural environment in which the project is situated.

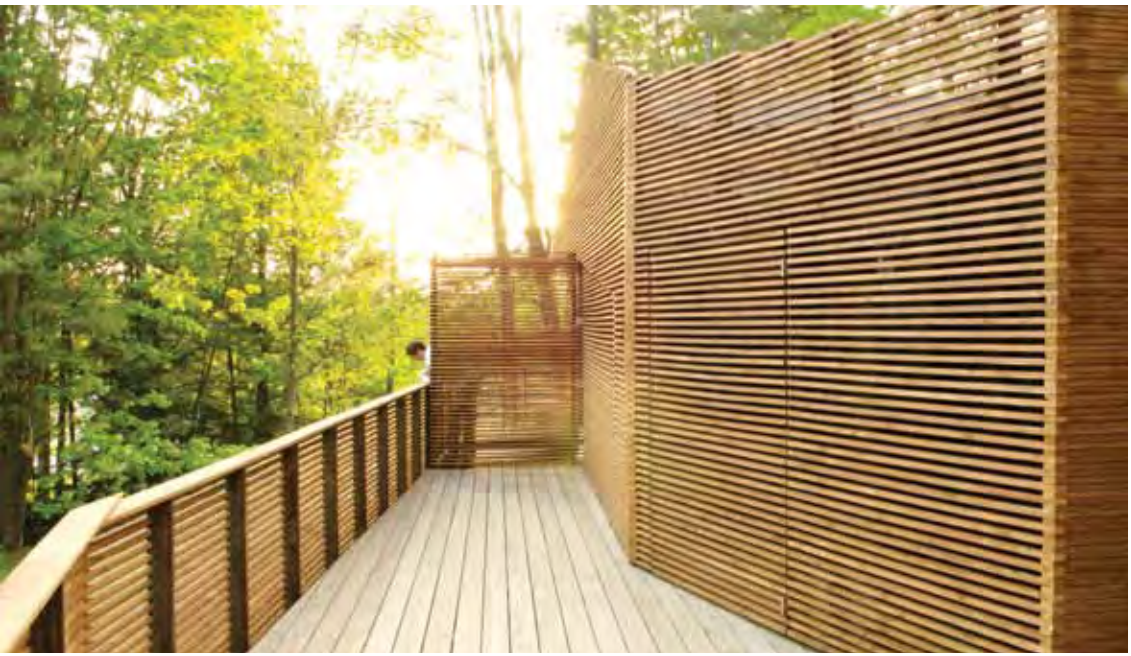
At a detail level, the project utilizes an alternating A-B system of surfaces made of the linear stacked cedar strips. These A and B elements are represented in blue and green in the accompanying diagram. The 1 x 1 slats are ripped from larger dimension Western Red Cedar decking. In order to maintain consistent data through which to align the linear elements, digitally fabricated vertical `teeth´ were inserted at intervals to maintain accurate overlapping, and to allow for material expansion and contraction. These teeth are incorporated into a system of Corten steel framing upon which the screen elements are mounted.

PROJECT CREDITS

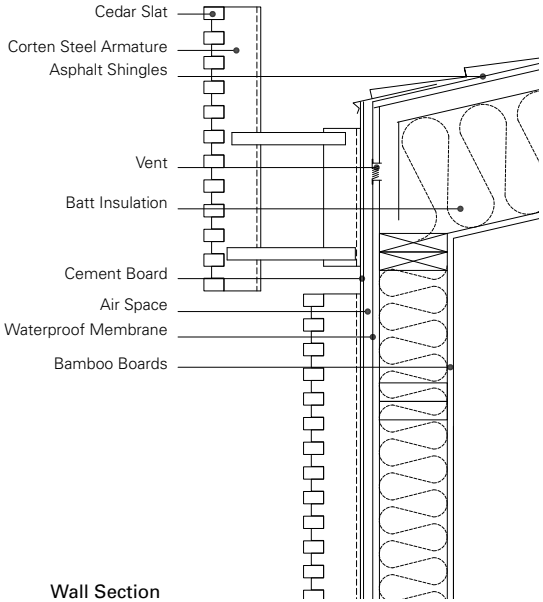
Architect:
Taylor and Miller Architecture and Design

General Contractor:
Taylor and Miller Architecture and Design

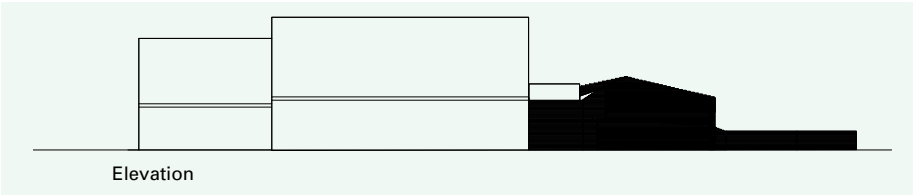
Photography:
Gregory Cherin Photography



The exterior detailing and composition of the project allow for cooling by natural ventilation. In addition to Western Red Cedar, the house features other natural finishes such as bamboo paneling, and uses low V.O.C. products throughout for both base building materials and finishes.

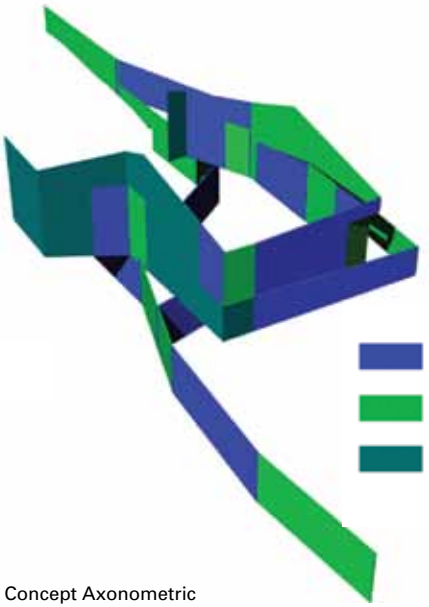


Wall Section



Elevation

Floor Plan



Concept Axonometric

WRC SPECIFICATIONS

5/4x6 decking ripped to 1x1 strips, fastened onto Corten steel armature with stainless steel nails and stainless steel screws, and finished with Cabot semi-transparent outdoor stain.

LOCATION:

Hardenberg,
The Netherlands

PROJECT TYPE:

RESIDENTIAL

Het Entreehuis

As with many other country estates in the Netherlands, the owner of De Groote Scheere was forced to seek new revenue sources for the upkeep of the property. The solution was to carefully insert residential development into the highly varied landscape of forests, streams and meadows. The concept was to apply an architectural approach to landscape design, inserting ten new homes in the most attractive and in landscape terms most meaningful settings on the estate. The forms and materials are simple and sympathetic to the vernacular building traditions of the area.

One or two homes are always visible from different vantage points on the estate's main roads. Rather than being tucked away amongst the greenery, the structures are positioned at prominent locations on the 800-hectare estate. This sense of connection, together with the simple palette of forms and materials gives De Groote Scheere a unique and cohesive visual character.

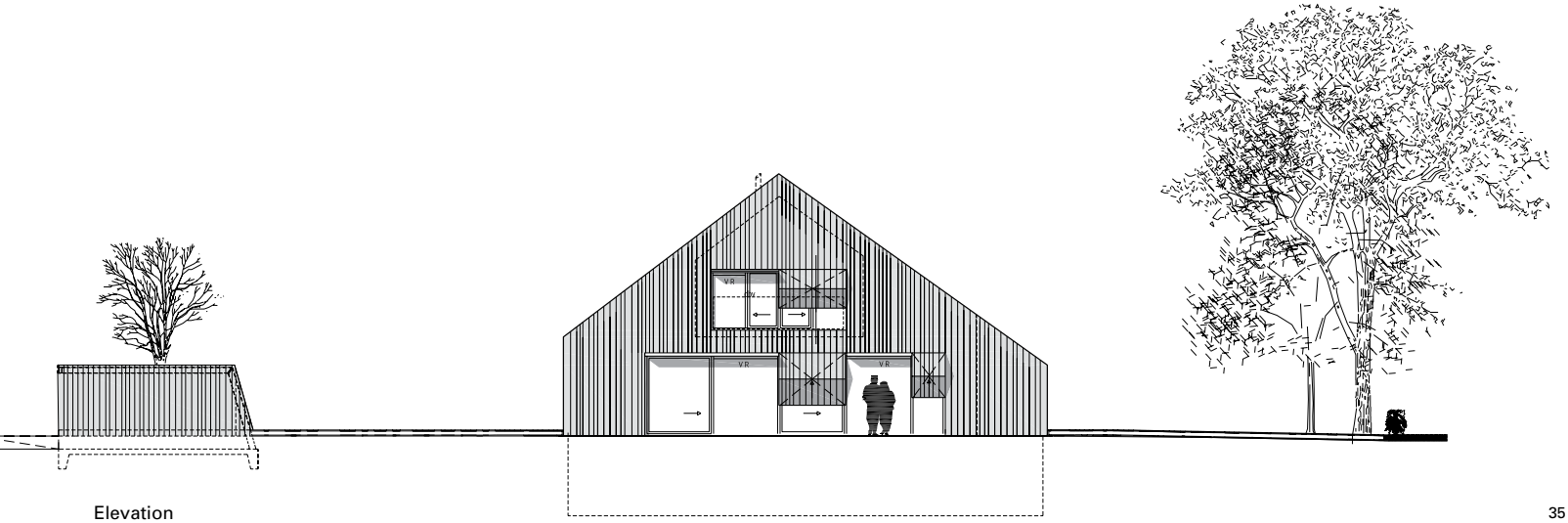
PROJECT CREDITS

Client:
ASR Vastgoed Landelijk

Design Architect:
Bureau B+B Stedebouw en Landschapsarchitectuur

General Contractor:
Bouwbedrijf Zweers & Zn B.V. Ane/ Hardenberg

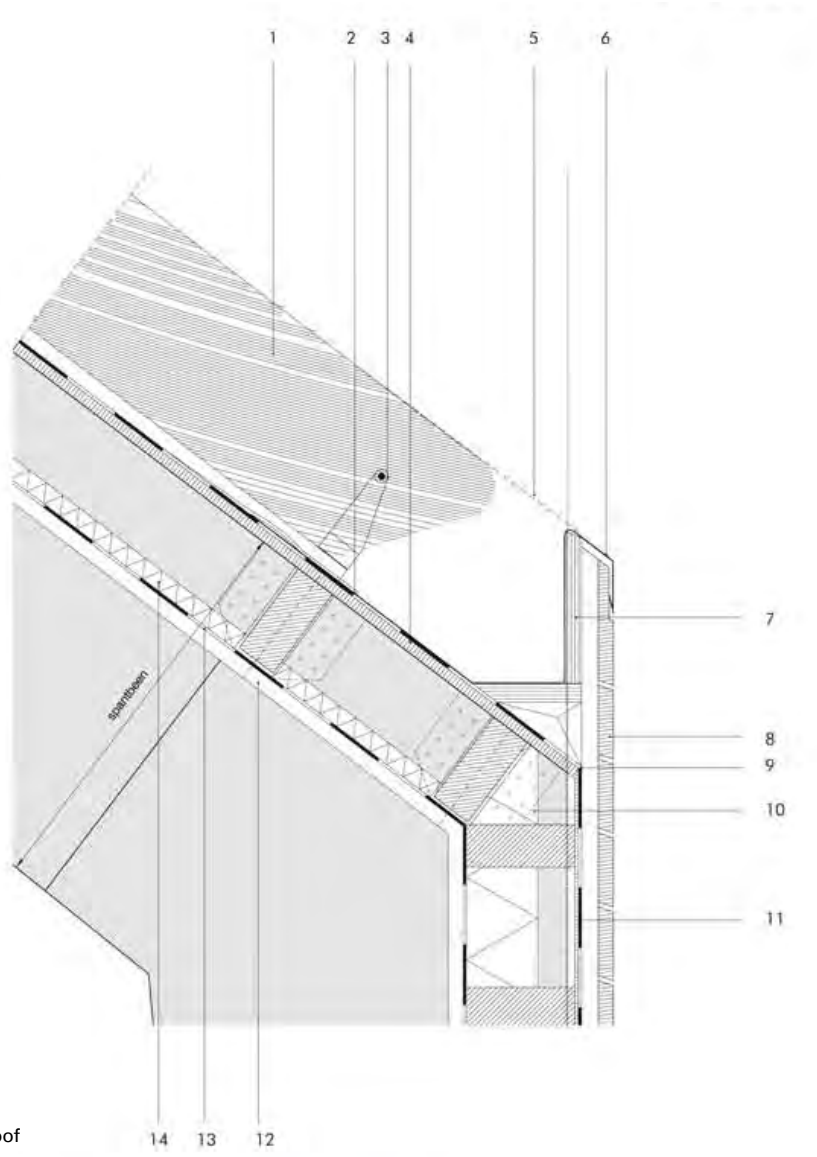
Photographer:
Lard Buurman



Elevation

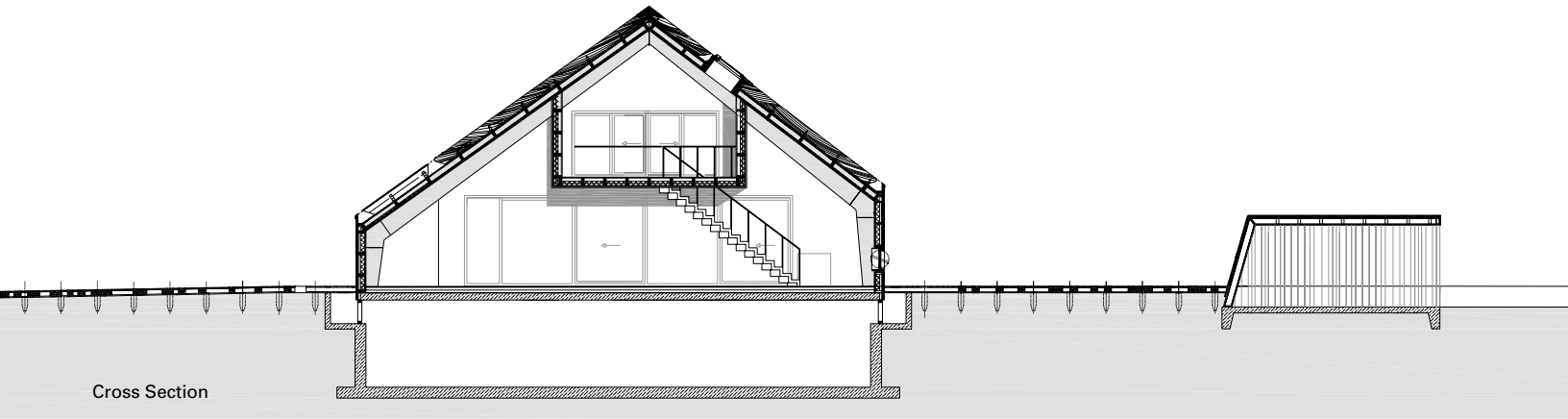
The architects designed a series of conceptual and physical frameworks which vary in capacity from 375m^2 to 1000m^2. For each of the homes, the characteristic relationships of forms found in traditional timber framed hall-farmhouses were taken as a point of departure. With regard to the finer details, generous use was made of region-specific traditions: including the wolfseind (a gable-roof with two beveled surfaces on its short sides) designed as a place where witches cannot sit.

1. Reed 280mm
2. Damp permeable water-repellent membrane
3. Reed rafter
4. OSB board 18mm
5. Wire mesh
6. Dark brown cooper sheet
7. Water resistant multi ply
8. Wood: Western Red Cedar FSC 115, 145, 180mm wide, 25mm thick, coated with Olympic stain oil based colour anthracite
9. Damp permeable water-repellent membrane
10. Insulation 125mm
11. Fibre cement board Eternit "Eter-board"
12. Gypsum fibre board
13. Damp-proof membrane
14. Insulation 30mm

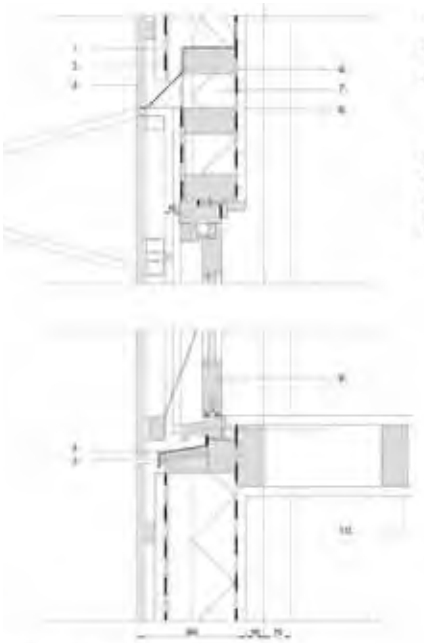


Concealed Gutter Detail – Thatched Roof

A pilot home, dubbed 'Het Entreehuis', was completed in 2009. This structure demarcates the end of an old 'ribbon' village and the beginning of the estate. With its uncluttered lines, the building resembles a simple barn. Both the home and the adjacent farmstead were constructed from the same materials, so that the two appear to merge into a single long, narrow strip. The house is clad in black stained vertical and horizontal Western Red Cedar siding.



Cross Section



1. Damp permeable water-repellent membrane
2. Fibre cemtent board Eternit “Eter-board”
3. FRC keurmerk 115, 145, 180 mm wide 25mm thick coated with Olympic stain oil based color anthracit
4. Weather mould
5. Multi-ply
6. Damp-proof membrane
7. Insulation
8. Gypsum fibre board
9. Lifting/ sliding door timber frame 67x114 mm floor 71x171 mm hoh 400m

Section At Hinged Window Shutter

WRC SPECIFICATIONS

Vertical and horizontal siding in a variety of sizes and profiles, face fixed with stainless steel nails and screws, and finished with anthracite coloured, oil based stain.

LOCATION:

Saanich, BC, Canada

PROJECT TYPE:

INSTITUTIONAL

SAANICH JUNIOR HIGH SCHOOL

PROJECT CREDITS

Client:
Saanich Indian School Board

Design Architect:
Marceau Evans Johnson Architects

Architect of Record:
McFarland Marceau Architects

Structural Engineers:
Equilibrium Consulting

Landscape Architect:
Richard Buccino

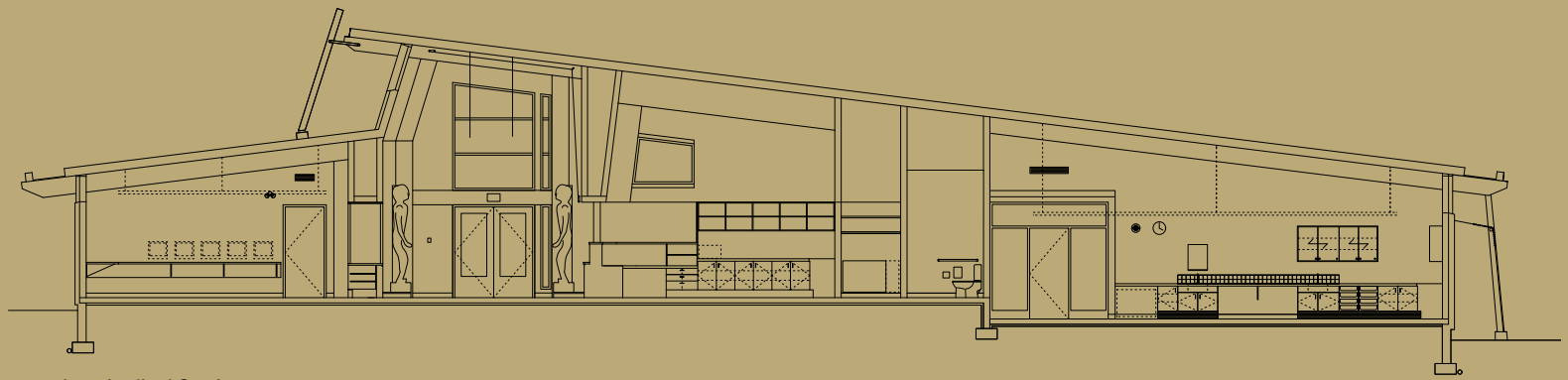
General Contractor:
Newhaven Construction Management

Photography:
Nick Westover

This new junior high school is the latest addition to the educational campus located on the South Saanich Indian Reserve, some 25 km north of Victoria BC. It serves the students of four Coast Salish Indian bands, replacing an old modular structure which was demolished as part of the project.

The client, the Saanich Indian School Board, had several related architectural objectives for the project: to reference traditional building forms; to complement the existing buildings within the campus; to be bright, airy and non-institutional, and to utilize local materials and labour to the greatest possible degree.

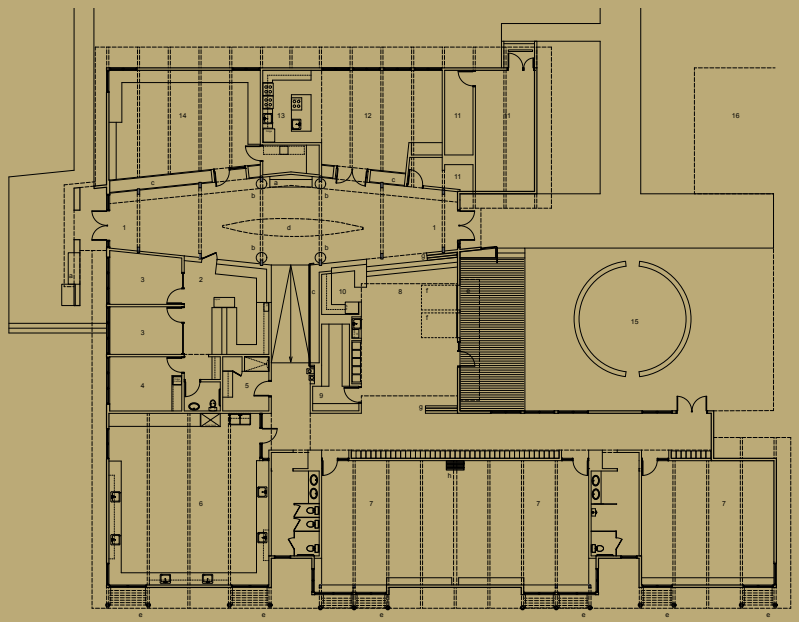
The placement of the building maintains pedestrian connections to the existing cultural building, elementary school and gymnasium and shares existing common space with the elementary program, including the covered play area, sports court, multi-purpose space and library.



Longitudinal Section

With a fluctuating school population, and the need to group students of various ages and abilities, it was necessary to create teaching spaces that could be adapted or reconfigured to accommodate a variety of uses. Open sight lines and transparency within the building allow for supervision with minimum staff.

The primary formal reference for the building is that of traditional plank houses, and a hierarchy of scale helps to articulate the main functional components. Response to solar orientation gives each elevation a distinctive character; open to the morning sun on the northeast side, shaded with screens and overhangs on the southwest.

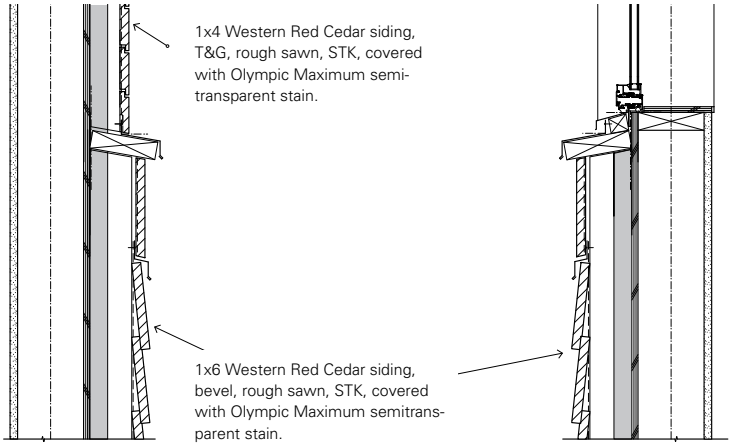


1. Entry hall
2. Reception
3. Counseling
4. Staff room
5. Health room
6. Science
7. Classroom
8. Student hall
9. Storage
10. Canteen
11. Services
12. Multi-purpose room
13. Teaching kitchen
14. Computer / Library
15. Courtyard
16. Future expansion

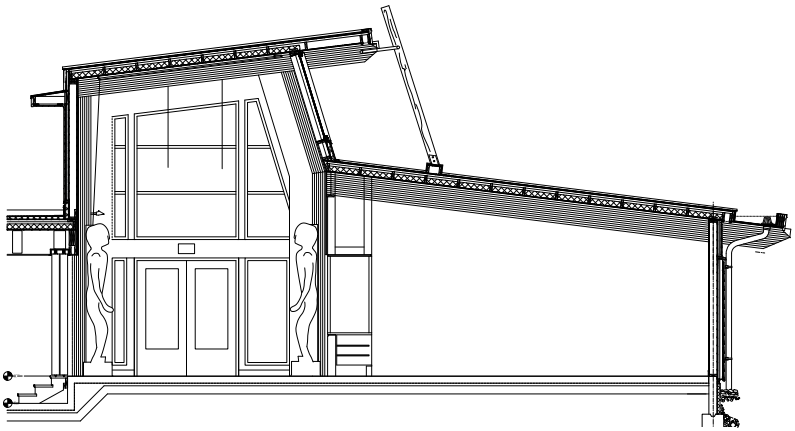
a. Cedar bench
b. Welcoming pole
c. Display
d. Canoe (above)
e. Sunshade
f. Garage style doors
g. Sliding cedar doors
h. Movable partition

Floor Plan

The structure is expressed both internally and externally, and wood detailing reflects that of the existing elementary school and gymnasium. The building is clad in lapped and tongue and groove Western Red Cedar siding. The material was chosen for its cultural significance, durability and local availability.



Exterior Cladding Details



Atrium Section

WRC SPECIFICATIONS

Bevel Siding: 1x6 Western Red Cedar, rough sawn, knotty, fixed with galvanized nails and finished with Olympic Maximum semitransparent stain.

Tongue and Groove Siding: 1x4 Western Red Cedar, rough sawn, knotty, fixed with galvanized nails and finished with Olympic Maximum semitransparent stain.

LOCATION:

Whistler, BC, Canada

PROJECT TYPE:

INSTITUTIONAL

Squamish Lil'wat Cultural Centre

PROJECT CREDITS

Client:
Squamish Nation and Lil'wat Nation

Design Architect:
Alfred Waugh Architect

Construction Administration Architect:
TRB Architecture

Structural Engineer:
Equilibrium Consulting Inc.

Mechanical Engineer:
Stantec

Electrical Engineer:
Acumen Engineering

Civil Engineer:
CJ Anderson Civil Engineering Inc.

Landscape Architect:
Philips Wuori Long Inc

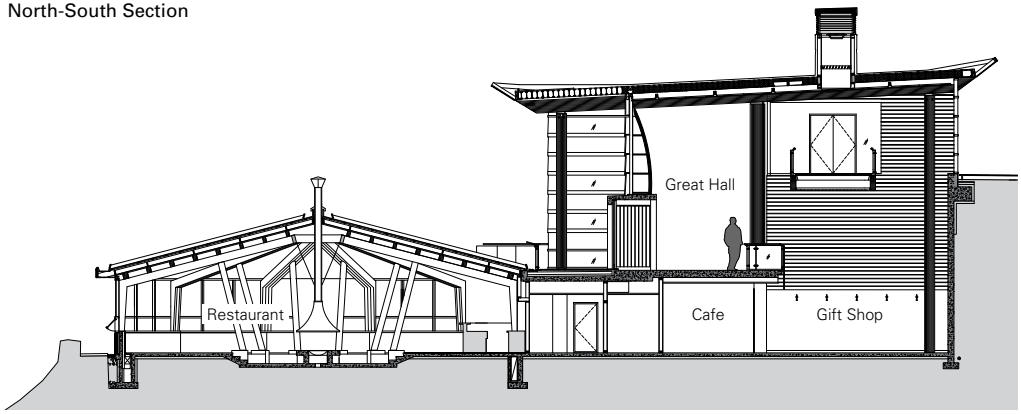
Construction Manager:
Newhaven Construction

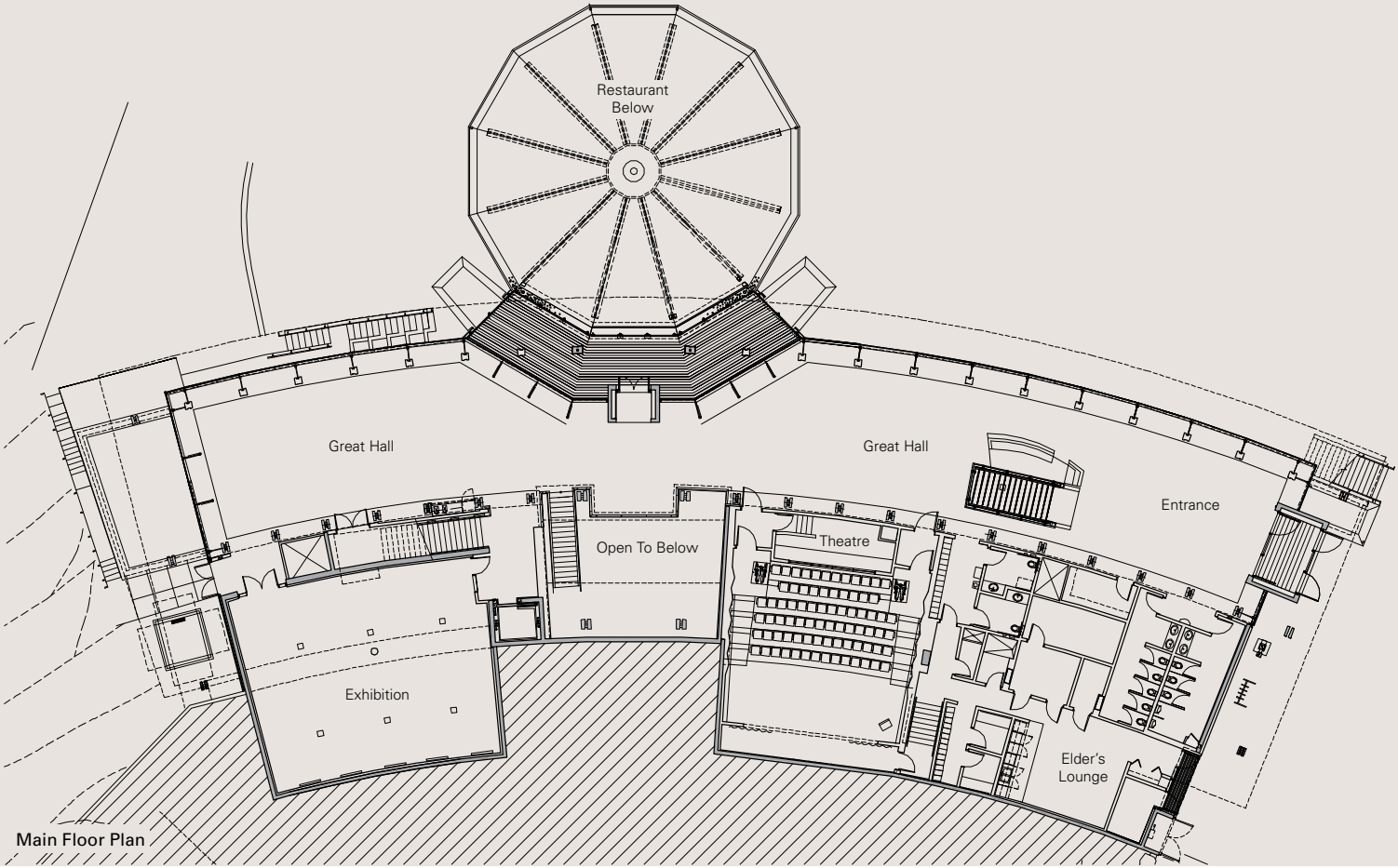
Completed in 2008, this project is a showcase for the cultures of the Squamish and Lil'wat First Nations whose traditional territories overlap in the Callaghan Valley, now home to the Resort Municipality of Whistler.

Located at the edge of a now urban forest, close to Whistler Creek, the building has been carefully sited to minimize its impact on the environment. The building section follows the steeply sloping terrain on the northern side of the property, leaving the forested area to the south mostly untouched.

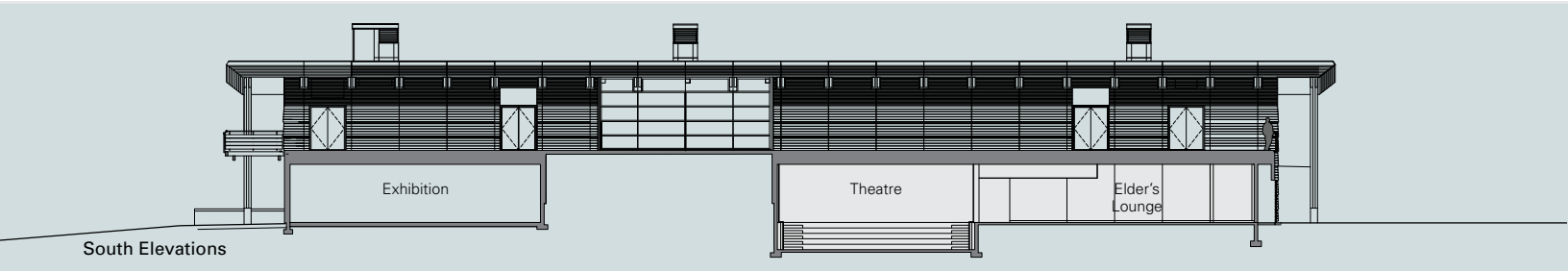
Architecturally, the 3350m^2 cultural centre is a contemporary reinterpretation of the traditional longhouses of the Squamish people, and the Istken or pithouse of the Lil'wat people. The building is arranged on three levels, with the focal space being a double height Great Hall that enjoys panoramic mountain views through a curving window wall. This dramatic space features dugout canoes and massive cedar spindle wheels suspended from the ceiling beams. Flanking the Great Hall are a class A gallery space and a small theatre whose walls are lined with Western Red Cedar paneling.

North-South Section





Main Floor Plan



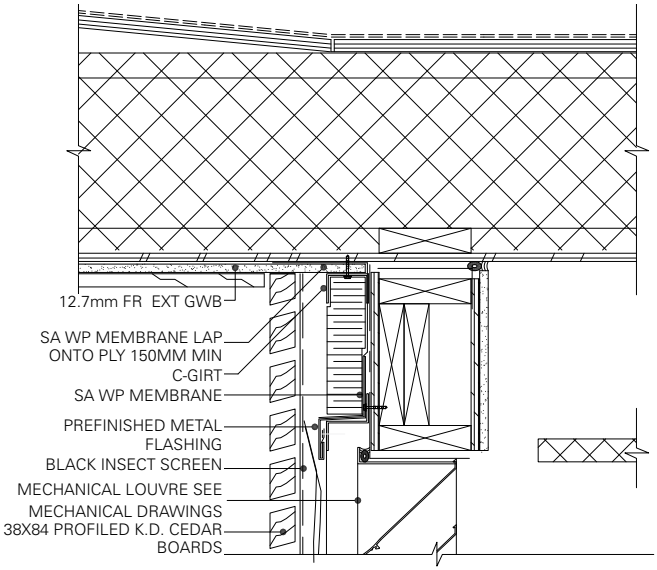
South Elevations

East Elevations

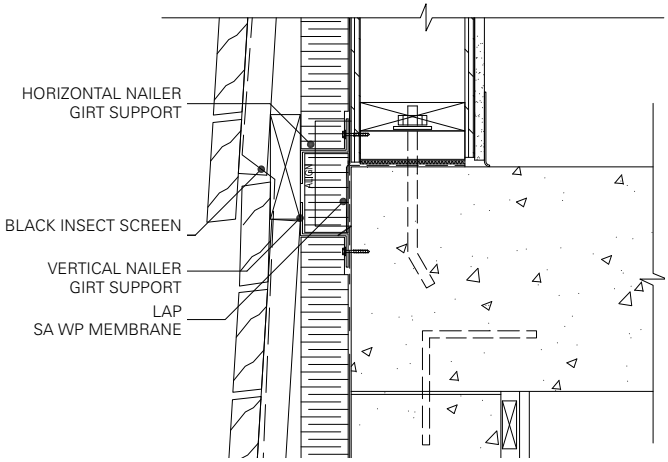
Above, a mezzanine contains secondary gallery space, workshops and access out to a replica longhouse and Istken located on the high south side of the site. Stairs down from the Great Hall lead to the function level, with gift shop, cafeteria, curatorial and administrative spaces. Projecting from the curved north façade on an existing bluff is the Istken-like cafeteria, circular in plan with its conical green roof supported on inclined log posts.

On the exterior, local ledge-stone forms a plinth beneath the window wall along the north side of the building, while prefabricated Western Red Cedar siding panels clad the other elevations. The main entrance with its intricately carved cedar doors is located to the east, and leads visitors directly into the light-filled Great Hall.

The use of wood, and particularly Western Red Cedar, in First Nations buildings fulfils a need to carry forward custom, tradition and the ancestral connection with the land into the 21st century.



Cedar Cladding Detail top of Wall



Cedar Cladding Detail Base of Wall

WRC SPECIFICATIONS

Exterior cladding Boards, Frames, Trim and Fascias: rough sawn Select Knotty Grade, various sizes and profiles. Siding includes custom milled 38mm x 84mm sections.

Ceilings: 19mm x 140mm kiln dried, Select Knotty, one face boards at 160mm centres.

Theatre Exterior Walls: 19mm x140mm smooth one face boards at 160mm centres nailed to battens at 610 centres.

Theatre Interior: 19mm x 140mm smooth face cedar boards at 160mm centres nailed to battens at 610 centres, over acoustic insulation.

LOCATION:

Royal Botanic Gardens Kew,
London, England

PROJECT TYPE:

INSTITUTIONAL

The New Herbarium Library (Art & Archives Wing)

The priceless collections at Kew include over 7 million dried plant specimens and unpublished correspondence and other information on the discovery and investigation of the world's plants and fungi. The new 5000m² extension to the Herbarium provides a modern archive for the most vulnerable pieces of the existing collections as well as space for future acquisitions.

The new wing provides climate-controlled vaults for herbarium specimens, rare books and illustrations, large rooms for research and collaboration, a new reading room open to the public by appointment, and office space on the top floor for Kew Publications, with access to a roof terrace and panoramic views.

Three materials are used to compose the exterior elevations; Western Red Cedar, brick and pale bronze aluminum curtain wall – all chosen for their durability and complementary visual qualities.

PROJECT CREDITS

Owner:
Royal Botanic Gardens Kew

Architect:
Edward Cullinan Architects

Structural and Civil Engineers:
Buro Happold

Mechanical, Electrical, Environmental & Public Health Engineers:
Atelier 10

General Contractor:
Willmott Dixon Construction

Cedar Sub-contractor:
NH Etheridge (Building) Ltd

Cedar Supplier:
WL West & Sons

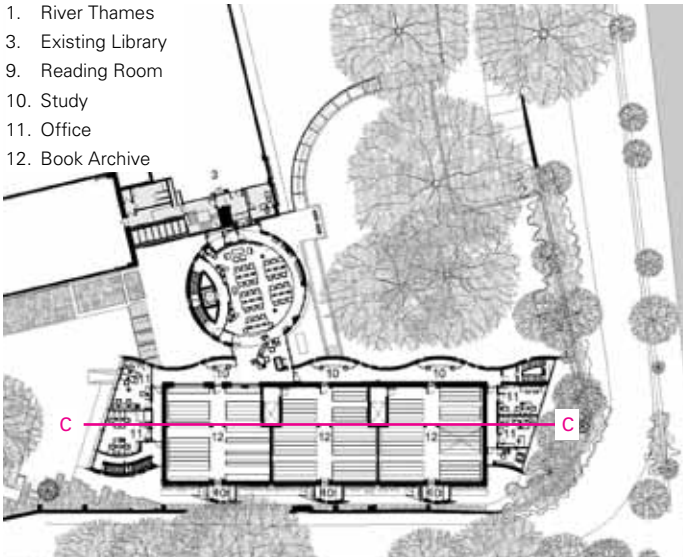
Photography:
Tim Soar, Simon Feneley, Edward Cullinan Architects

West Elevation

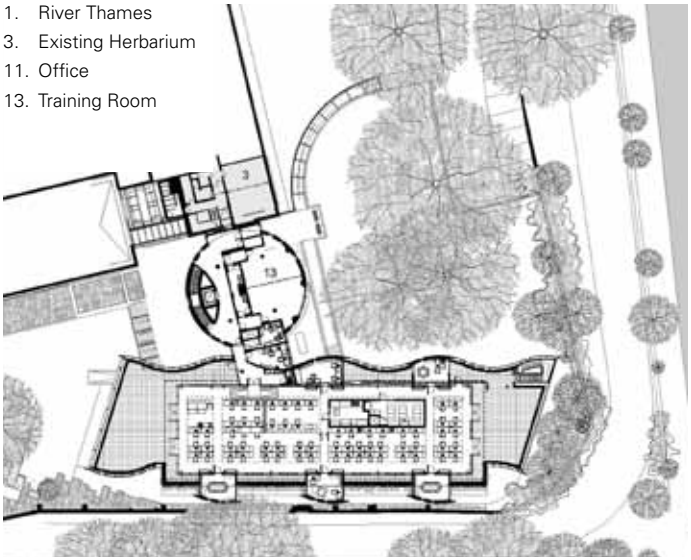
East Elevation

For maximum longevity, the vertical Western Red Cedar board and batten cladding has been kept well clear of the ground, and carefully detailed as a rainscreen system to shed water, and to ensure adequate ventilation of the cavity. End grain has been weather protected, trellis elements with preservative treatment, and the cladding boards with zinc caps. It is anticipated that this will result in a service life for the cladding of at least 50 years.

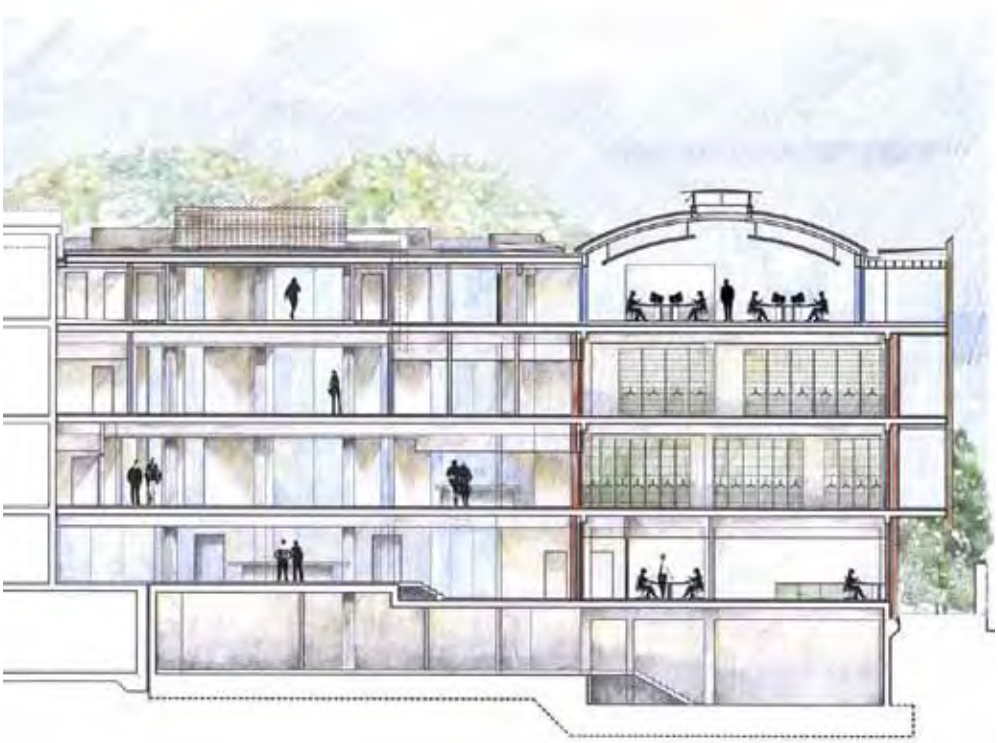
The strict climate control requirements dictated a sealed building, and large pane, floor to ceiling glass curtain wall has been used wherever possible to take advantage of the many beautiful views of the gardens and river Thames beyond. One example is the wavy glazed corridor accommodating study spaces that undulates around specimen trees to the north of the drum. Botanists and others are now able to research with views out through the leaves of these trees.



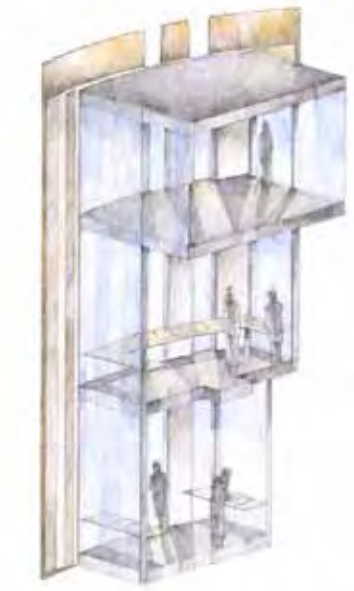
Floor Plan - First floor



Floor Plan - Third floor

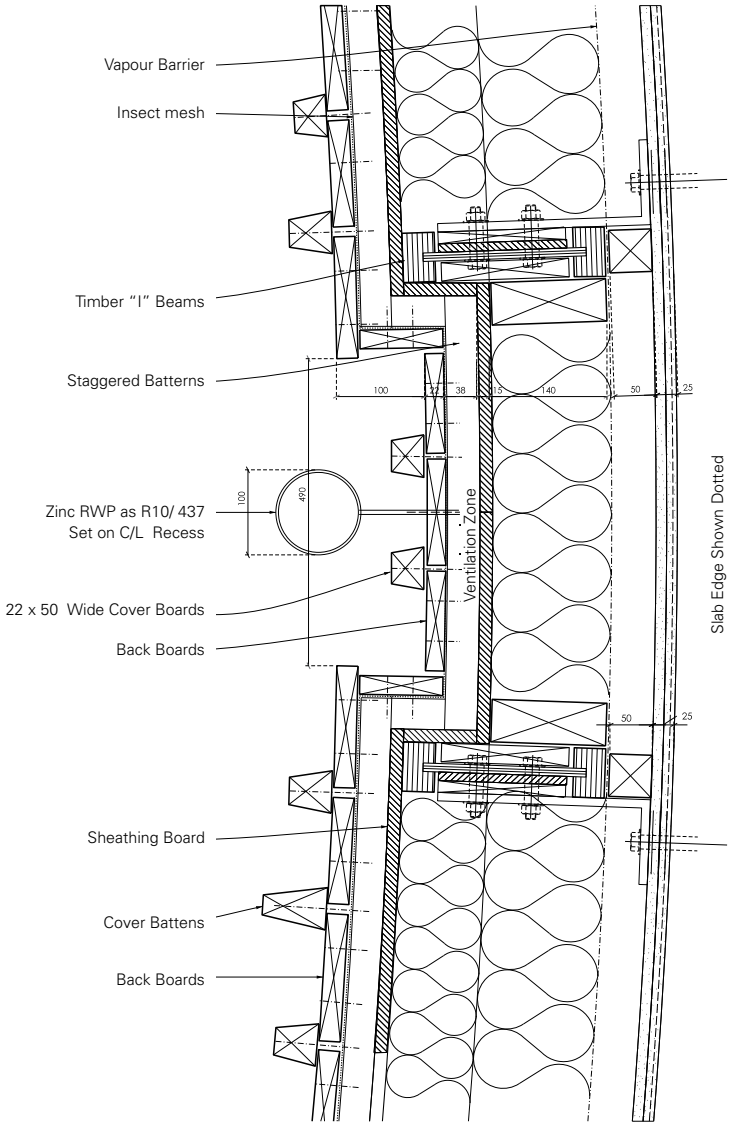


Section - CC



Axonometric of Pod

Internally, one design concept was to continue the exterior brick cladding of the archive on the interior of the building, as a constant reminder of the importance of the vaults. The warm red brick also adds colour, to the interior palette acting as a foil to the concrete and white plastered walls.



Plan Detail of Cedar Cladding

WRC SPECIFICATIONS

Vertical Cladding: Square edged back boards and profiled cover battens, with tapered cuts to top and bottom for weathering. Back boards fine sawn from 25mm x 100mm, 125mm and 150mm material; cover battens fine sawn from 38mm, 50mm and 75mm x 50mm material; all to BS 1186-3, Section 4, Nailed to supporting battens using stainless steel annular ring shank nails. No applied finish.

LOCATION:
Mercer Island, WA, USA

PROJECT TYPE:
RESIDENTIAL

Wood Block Residence

This project is a major reconstruction of a classic 1962 residence originally designed by locally renowned architect, Fred Bassetti. Fronting a busy street, the design strategy was to root the house to its sloping wooded site and provide a protective shelter for family life. The goal was to respect the original intent and spirit of the design while making the house reflective of its owners, its time, and a celebration of its place.

The plan is opened up allowing for large gathering spaces and views throughout the full length of the house. The relationship of interior to exterior space is enhanced with large windows and the creation of new outdoor spaces that relate directly to the interior. These include the large main floor deck, an outdoor room that provides sheltered outdoor space for Taiko drumming, and a sunken courtyard off the media room that allows for private sunbathing. An aluminum grille encloses the outdoor room and main floor deck, filtering interior views and forming a sparkling screen from the street. The entry approach is redesigned with a cantilevered concrete landing in the sunken courtyard and a large glass pivot door to the interior.

Existing exterior roof beam extensions were removed and a new metal clad roof was added that wraps over the house and down the exterior end walls to ground the house strongly to its site. The interior faces are clad in Western Red Cedar that continue seamlessly from the interior ceiling and end walls to the exterior surfaces, reinforcing the idea of `wrapped space´.

PROJECT CREDITS

Architect:
Chadbourne + Doss Architects

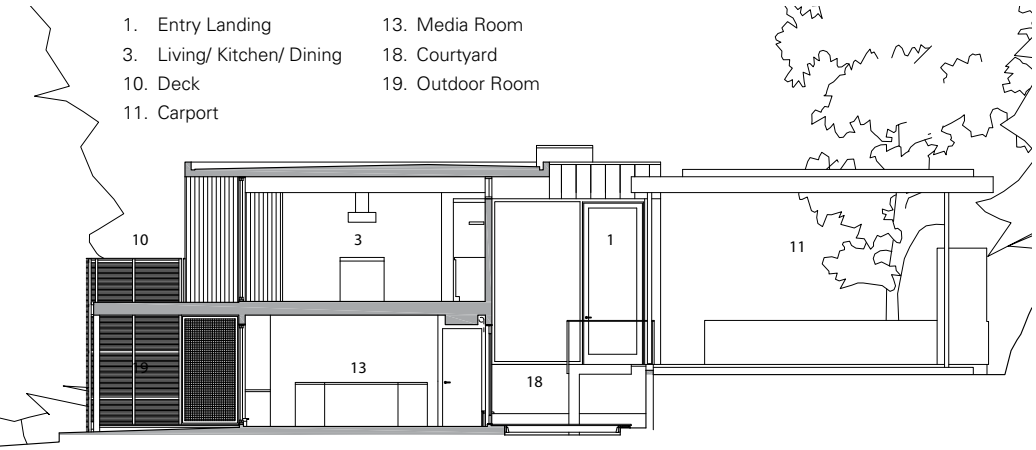
Structural Engineer:
Swenson Say Faget

Landscape Architect:
Alchemie

Contractor:
Constantly Building

Photography:
Benjamin Benschneider

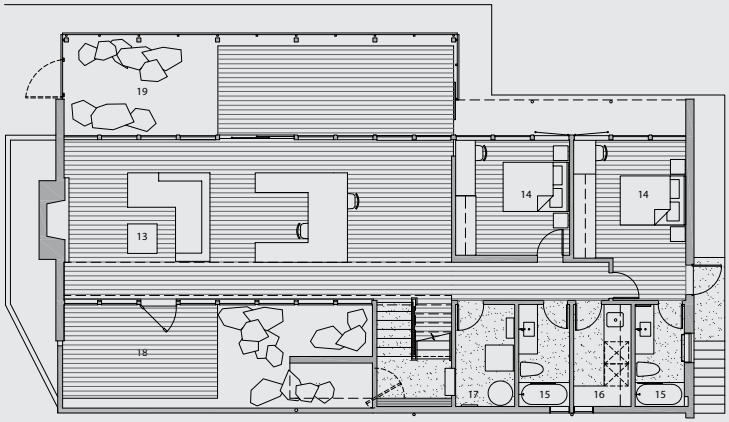
1. Entry Landing
3. Living/ Kitchen/ Dining
10. Deck
11. Carport
13. Media Room
18. Courtyard
19. Outdoor Room



Section

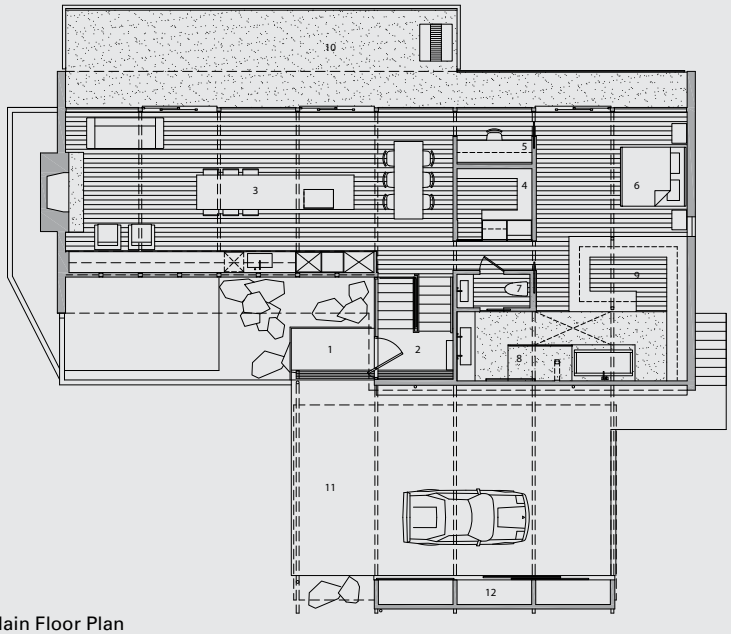
Western Red Cedar was selected to give the interior natural warmth that is native to the site and that contrasts with the neutral palette of materials that include blackened oak and steel, aluminum, and white plaster. Western Red Cedar was also used on the exterior decks, stained dark to extend the interior black flooring outside to the courtyards.

13. Media Room
14. Bedroom
15. Bathroom
16. Laundry
17. Mechanical
18. Courtyard
19. Outdoor Room



Lower Floor Plan

1. Entry Landing
2. Entry
3. Living/ Kitchen/ Dining
4. Pantry
5. Office
6. Master Bedroom
7. Water Closet
8. Master Bathroom
9. Dressing
10. Deck
11. Carport
12. Storage



Main Floor Plan

Concept Isometric

WRC SPECIFICATIONS

Interior cedar liner: 1x4 VG clear tongue & groove paneling, fastened with stainless staples, stained with custom color Cabot semi transparent stain.

Cedar decking: 5/4 x 4 tight knot cedar, fastened with stainless steel square head screws, stained with Cabot semi-solid stain.

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