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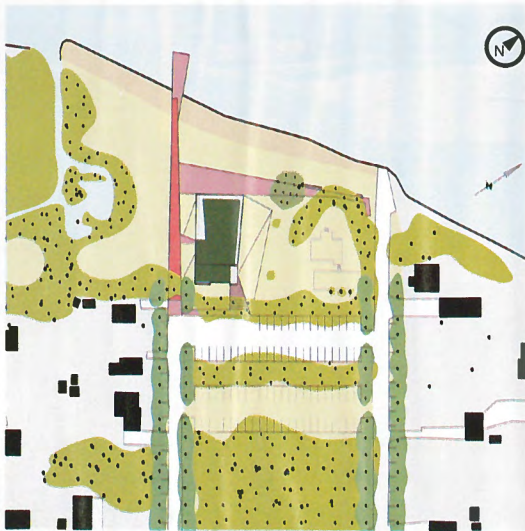
THE CANADIAN GREEN BUILDING AWARDS

Living Building Case Study CaGBC National Summit



POINTE VALAINE COMMUNITY CENTRE

Otterburn Park, QC



Site plan

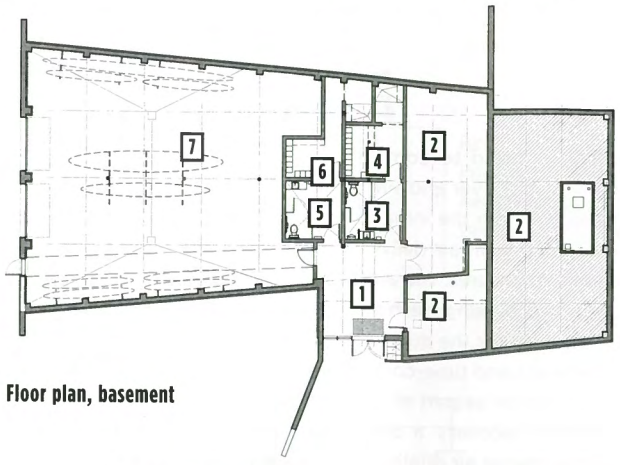
Jury comments - This is a building that makes us want to visit. It makes clever re-use of insulated precast panels integrated into the walls, and smart use of passive heating and natural ventilation that has a sense of "reclaiming lost knowledge."

This new community centre for the city of Otterburn Park on the Richelieu River, includes a 200-seat exhibit and meeting hall, a smaller 12-person meeting room, and office and support spaces. At the lower level, it provides storage space for canoes, kayaks and recreational equipment, a workshop, lockers and showers. The site, at Pointe-Valaine, has been the focal point of local recreational activities since 1885 and was the location of the renowned 'club de canotage' whose facility burned to the ground in 2002.

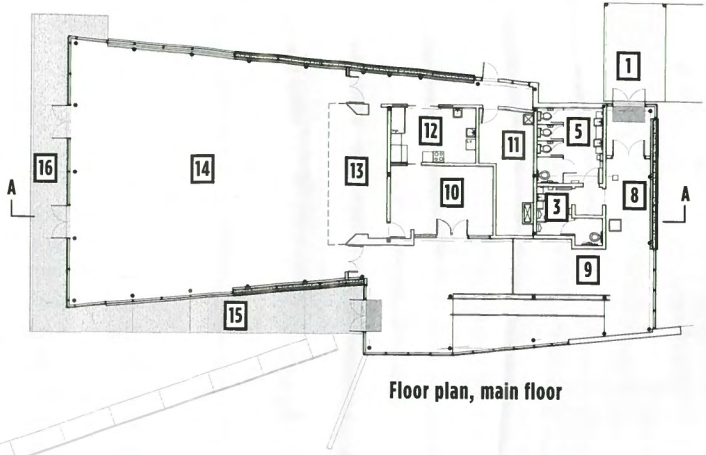
Just as the beach emerges from the river, so the pavilion emerges from the community as an expression of its values and vision. Easily accessible, the pavilion introduces a play of levels with ramps that encourage fluid indoor/outdoor connections. The design approach began with an exploration of the site's history. The historic 'chemin des Patriotes' and old Otterburn Park were sources for understanding the community's vernacular design. Functionally and environmentally, the site needed restructuring, including restoration of the riverbank and a redefinition of park functions. The solution employs a simple vocabulary of architectural forms, and relies heavily on passive design for its environmental performance.



- | | | | | | | | |
|---|-------------------|---|----------------------|----|-----------------|----|----------------|
| 1 | Entrance | 5 | Women's washroom | 9 | Exhibition hall | 13 | Stage |
| 2 | Storage | 6 | Women's locker room | 10 | Conference room | 14 | Community hall |
| 3 | Men's washroom | 7 | Canoe /kayak storage | 11 | Storage | 15 | Ramp |
| 4 | Men's locker room | 8 | Entry Hall | 12 | Kitchen | 16 | Terrasse |



Floor plan, basement



Floor plan, main floor



2



3



4

THE BUILDING FOLLOWS THE GENTLE CONTOURS OF THE SITE, ITS HORIZONTAL LINES CONNECTING IT TO THE SURROUNDING LANDSCAPE. [1] RAMPS INTRODUCE A PLAY OF LEVELS AND REINFORCE THE CONNECTION BETWEEN INDOOR AND OUTDOOR SPACE. BRICK FOR THE INTERIOR WALLS IS FROM SALVAGED SOURCES. [2] POLISHED CONCRETE FLOORS ARE INEXPENSIVE AND DURABLE, BUT ALSO MIMIC THE REFLECTIVE SURFACE OF THE RIVER OUTSIDE. [3] EXTERIOR DECKS ARE A PERFECT PLACE FROM WHICH TO OBSERVE THE ACTIVITIES ON THE RIVER. [4]

PROJECT PERFORMANCE

Energy Intensity 607MJ/m²/year
Including both base building and process energy

Water Consumption from municipal sources 355l/m²/year
Including both base building and process consumption

Local materials [800 km radius] by value 28%
Recycled material content 15%

MATERIALS

Exterior

SIP roof panels by Insulspan, curtain wall by Kawneer, **Soprema** white coat roofing membrane, salvaged precast insulated wall panels by Tremca, fibre cement board

Interior

Falcon waterfree urinals, American Standard Flow wise toilets, Toto EcoPower sensor faucets, concrete floors, salvaged brick, building controls by Delta Controls Inc.

HVAC

Mammoth-WEBCO Inc. geothermal heat pumps, York fan coils, Uponor radiant floors and plumbing system

Windows are strategically located to admit natural light, reduce solar gain and glare, and to permit views to the river and surroundings. For security reasons, operable windows were removed from the initial concept. However, natural ventilation being the primary source for fresh air delivery in the building, responding to the positive and negative wind pressures, the automated louvre systems are activated by interior monitors, hence delivering fresh air into 70% of the main floor area.

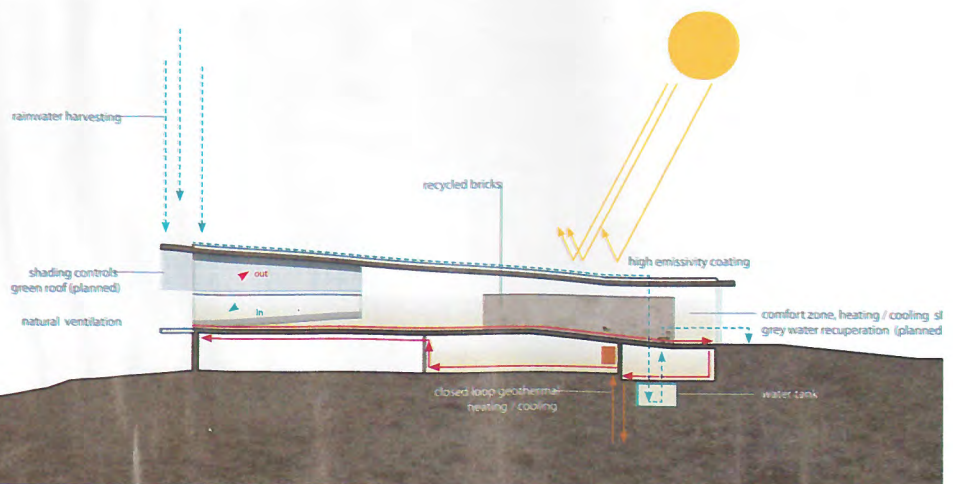
The roof recovers water run-off for the dual low-flush toilets. Waterless urinals, low-flow faucets and showerheads and time-control fixtures are installed. Grey water is to be collected for site irrigation as part of a future phase.

The HVAC system with heat recovery, a closed-loop geothermal heating/cooling component, and real-time interior air quality control are incorporated into an automated building system. Cooling is assisted by an energy star rated white roof membrane that reduces the heat transmission.

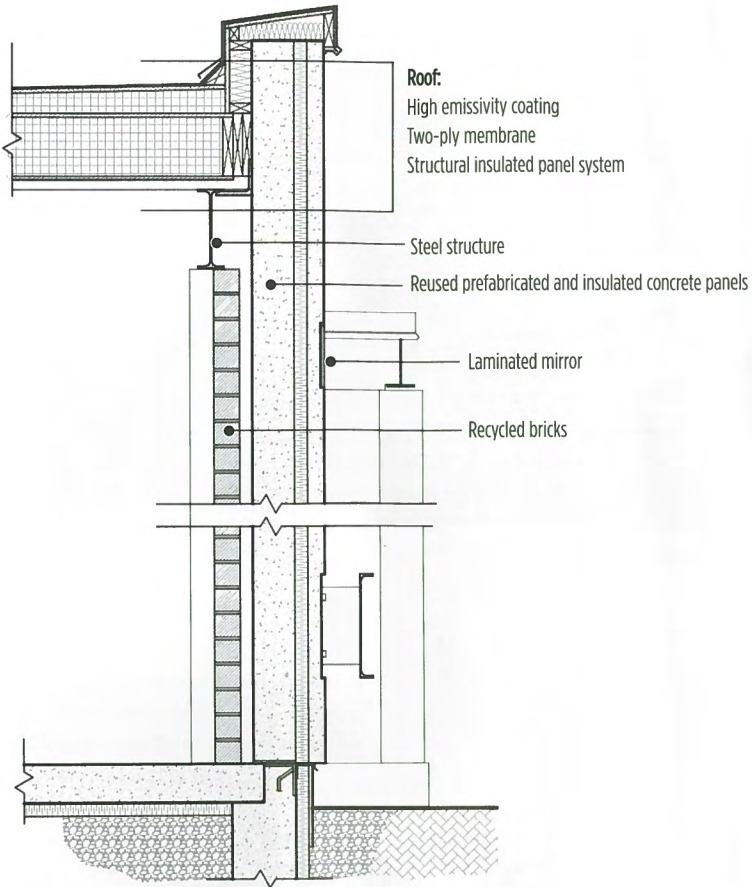
One of the design challenges was to integrate reused concrete insulated precast panels. These panels cover approximately 40% of exterior wall surfaces. Other exterior materials are high efficient curtain wall system, fibre cement board and wood. Interior walls are mainly built with masonry and recycled brick. Besides increasing the thermal mass, the masonry provides a durable warm finish. Radiant floors [precast and concrete slab] finished with a clear sealant reduces the use of additional flooring materials, and provides a healthy and efficient form of heating.

The project acts as a social, cultural, and recreational centre, unifying beach, river walk, picnic area, and the historic road, and acting as a fulcrum between earth and water.

CLIENT City of Otterburn Park **ARCHITECT** Smith Vigeant Architects **STRUCTURAL ENGINEER** EGP
MECHANICAL ENGINEER Concept R **ELECTRICAL ENGINEER** Concept R **LANDSCAPE ARCHITECT**
Smith Vigeant Architects **GENERAL CONTRACTOR** Progest construction **COMMISSIONING AGENT**
Teknika HBA **PHOTOGRAPHY** Yves Beaulieu



Section A-A



Wall section



5

THE MATERIAL PALETTE IS SIMPLE AND DURABLE, AND INCLUDES WALLS CONSTRUCTED FROM PRECAST CONCRETE PANELS REMOVED FROM A CANADIAN TIRE STORE. [5] THE MAIN ENTRANCE AT THE SOUTH-EAST CORNER OF THE BUILDING. [6]



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