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Wood Architecture for Native Indian Culture

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1. Introduction

1.1 Professional Background

Larry McFarland Architects Ltd. has been a practice in the Pacific Northwest for 28 years and has completed over 20 First Nations projects ranging from Village Day Cares to University/Community Educational and Health Care Facilities.

I will be speaking today regarding two specific projects: the First Nations House of Learning at the University of British Columbia in Vancouver, British Columbia and the **Ans\$pay\$w Community School** in Kispiox, British Columbia. These projects will demonstrate an understanding of traditional wood technology in the First Nations culture but will go beyond that to demonstrate how the cultural values of the First Nations people extend into the spiritual development of their buildings and sites.



1.2 Historical Background

Anthropologists believe that the First Nations people have inhabited the North American continent for over 10,000 years and that they originally arrived there via an Ice Bridge across the Bering Strait. North America is broken up into approximately 11 cultural areas based largely upon language and life style. Within the North West Coast area, which includes coastal British Columbia and Washington State, there are in turn 10 distinct cultural groups and within these there are 57 different languages.

The book *Native American Architecture* refers to the traditional buildings of the North West Coast as *Plank Houses*. The first European to visit this region was British Navy Captain, James Cook, in 1778 who described the houses of the Nootka as full of *filth and confusion*, yet the Indian builders had clearly invested them with great symbolic importance.



○Cook had entered the last American Indian world below the Arctic that was virtually unknown to the white man. The Northwest Coast was a dramatic environment of thundering surf, mist-shrouded islands, hidden bays, lofty mountains, and dense rain forests. In winter, temperatures rarely dropped below 35 degrees. Among the wettest regions on Earth, its annual rainfall averaged more than 80 inches. Its forests, coast, sounds and rivers offered its Indians diverse food sources. Extended family groups owned traditional rights to shellfish beds, salmon-fishing riverbanks, berry patches, and hunting areas in the valleys. This freedom from want fostered the development of highly stylised art forms, which adorned their clothing, tools, ritual paraphernalia, sea craft, and architecture. With it also developed a complex social organization that placed a premium upon ancestry, status, prestige, and wealth - all of which were amply displayed in the architecture.○¹

2. The First Nations House of Learning, University of British Columbia, Vancouver

2.1 Background



Located on the Campus of the University of British Columbia at the western tip of the Lower Mainland, the First Nations House of Learning would be built upon what was traditionally identified as Coast Salish territory. This is the southern most region of the ○Plank House○ style and was first seen by Simon Fraser while following the Fraser River to the Pacific Ocean.

The buildings were typically of a Shed style with the front wall being lower than the rear wall and with an internal post and beam structure that supported the roof independent of the exterior walls.

The exterior walls were made of cedar planks tied between 2 rows of columns that could be removed and transported to fishing camps when necessary. Villages were observed to consist of one very large shed to which the extended family merely added on their own apartment. Simon Fraser noted Shed Houses in the order of 600' in length.

The First Nations Longhouse was proposed as a replacement and enhancement of the existing facilities currently used by various First Nation's programs on campus. It was intended to serve as a strong statement of the University's commitment to leadership in First Nations educational opportunity. At the same time, it must serve as a cultural base and useful support for First Nations students.

¹ Native American Architecture, Peter Nabahoo, Robert Erten, 1989 - Oxford University Press

In order to serve the specific needs of the First Nations students, direct design response to the native perspective was required. This response was to go beyond mere decoration or tokenism. The native perspective had to be integral to the functions, spaces, materials and forms of the building. In this way cultural vitality of the facility supports the cultural vitality of the First Nations Students.

The project was expected to make a positive and unique contribution to the continuing development of the campus as an academic environment.

2.2 Process

Planning for the First Nations House of Learning began in 1989 with representatives of Larry McFarland Architects Ltd. joining staff, students, administrators and elders in a series of workshops that extended over a 4 month period during which the now considerably expanded design team addressed the issues of:

- Image
- Identity
- Function
- Site

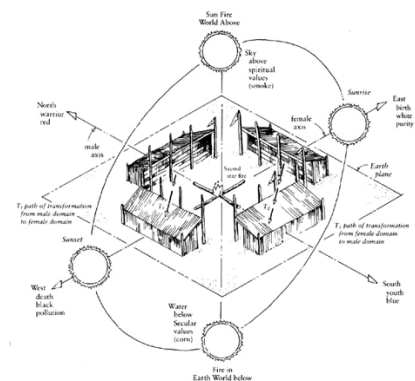
Following this series of workshops, Larry McFarland Architects Ltd. submitted a Pre-Design Brief to the University seeking their commitment to the project. This commitment was received and the process of design began.

2.3 Design

Over 50 botanically significant tree specimens ranging from 25' to 125' in height currently occupied the proposed site of the First Nations House of Learning (FNHL). This site was selected from 5 available on the basis of its proximity to the academic core of the campus, its visibility on campus, and the belief that the new facility would heal the site. The building was oriented on the site according to the cardinal compass points of North, South, East and West all of which have significance in First Nations cosmology. This placed the building 17° to all other buildings on campus.

The design challenges included:

- The utilization of the Coast Salish Longhouse form in a contemporary building incorporating both traditional and contemporary activities.
- The integration of the complex program onto the site with the loss of only 8 of the 35 major tree specimens.
- The utilization of the Pit House form at the east corner of the site to contain the Resource Centre as a symbolic link to the campus.
- Orientation of the entire project on a true North/South orientation contrary to the campus planning grid, but in direct response to the spiritual and cultural symbols of the First Nations People.
- Integration of water, both still and flowing, in a logical sequence that reinforces its symbolic importance.
- Development of construction details that accommodate cross grain shrinkage of major timber columns and beams.



2.4 Implementation

Having established the planning principles of the FNHL, it became necessary to develop the design in a manner that would see its implementation from building materials not readily available from traditional sources, on an urban site in an area of considerable seismic activity with over 4 feet (1.2 metres) of rainfall per year.



The supply of timber beams and columns, ranging from 600 mm to 915 mm in diameter and from 6 M to 15 M in length was pre-tendered so that there was adequate time to locate, fall, transport, mill, transport, carve and erect the structure.

Traditionally, design considerations such as air and water tightness, seismic restraint and shrinkage were not addressed. The use of the “curtain wall”, as represented by the exterior cedar planks, served as the basis for the design of the building envelope. In this manner the exterior walls are all located approximately 610 mm from the centre line of the load bearing columns, extending vertically to the centre of the perimeter roof beams.

Wishing to avoid extensive seismic cross bracing to resist the high horizontal forces experienced in this region, the columns were cantilevered from the floor slabs incorporating large concrete footings, concealed anchor bolts, expanding grout and very large torque wrenches to achieve the necessary design loads. Thus the timber structure is able to stand and resist seismic forces independent of any external wall or diagonal bracing.

Working almost exclusively with milled, round timbers, details were developed that allowed for accurate milling of connections where the roof purlins met the often sloping perimeter roof beams. Each timber delivered to the site had been fabricated according to shop drawings provided by the fabricator facilitating the erection process and resulting in a building enveloped that is both water and air tight.

2.5 Celebration

“Six ceremonies marked important stages in the process of building the longhouse. These ceremonies gave everyone involved an opportunity to observe the protocol of the Coast Salish and other Aboriginal cultures. Through the teachings of the Elders, we were guided in the traditions of the First Nations people and extended these teachings and practices to the University community.

Ceremonies among First Nations people are a way of acknowledging important events, a way to record history through oral communication, a way to pass on the culture to succeeding generations, and a time to strengthen the bonds within the community.

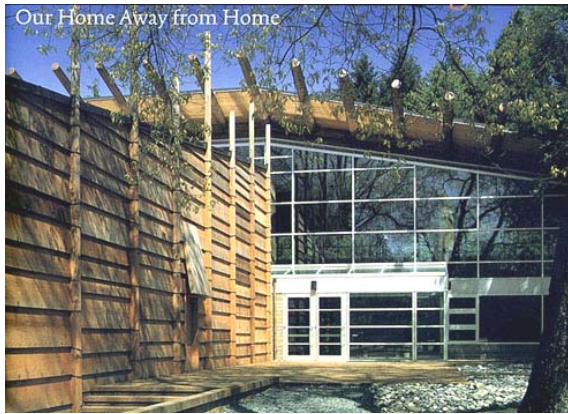
The Elders reminded us that we must begin each gathering by forming a circle and joining hands in prayer. The joining of hands is a symbol of strength and unity. The Elders reminded us of the importance of the oral tradition and made witnessing a function of all ceremonies. They explained that while everyone present had the responsibility to pass on to others what they had witnessed, certain people should be officially designated as witnesses and given a token payment. A witness will be called upon to speak, and as he or she does so, the hosts of the gathering may place more quarters in the palm of the speaker’s hand to indicate their thanks and respect for what is being said.

Providing food for such an occasion is an essential part of each ceremony. We were taught that it is the responsibility of the younger people to serve the Elders first, then those who have come the greatest distance are next, with the hosts always being the last to eat.

As I think of these ceremonies and the project as a whole, I marvel at the way it all seemed to flow and come together. Along the way, in our planning meetings and workshops, many difficult decisions had to be made. Though the Elders, the students, and the staff were of many different cultural backgrounds, this did not influence our judgement. First and foremost, we were preparing a home away from home for all Aboriginal students. Although our decisions favoured the Coast Salish tradition much of the time, we understood why that had to be the case. Elder Vince Stogan reminded us many times that the longhouse, though built in the Musqueam style and located on their traditional territory, was for everyone.

Ceremonies were held to dedicate the site, to bless the ground, to turn the sod to mark the beginning of construction, to raise the house posts and roof beams, to cleanse the longhouse before occupancy, and to celebrate the official opening of the longhouse.”²

2.6 Function



The building is broken down into four reasonably distinct physical components, the first of which is the Resource Centre, which serves as the primary entry to the project from the Academic core and is located at the intersection of West Mall and Agricultural Road. This component is set into the ground, evocative of the plateau peoples' "Pit Houses", thus providing a flat roof deck that serves as an orientation/entry plaza to the site.

From this plaza can be seen the Great Hall which is oriented with the ceremonial entry facing east, and on axis with the Entry Plaza. The Great Hall could be described as an anthropologically correct representation of a traditional coast Salish Longhouse utilizing massive cedar beams, columns, and cladding.

Abutting the Great Hall and extending from the Resource Centre approximately 100 metres, is the contemporary interpretation of the Coast Salish Longhouse utilizing cedar columns, beams, and purlins in a manner consistent with traditional usage but organized in a dramatic manner that evokes the spirit of a large winged bird. This component will house the administration offices, student services, and technical support spaces. To the north of the main building, set amidst the large coniferous trees is the Spirit Renewal Hall which will be a free standing pavilion which natives and non-natives can use for special ceremonies.

All of the above components except the Spirit Renewal Hall are linked by a water feature that starts as a reflecting pond at the entry plaza, flows as a waterfall and stream adjacent the entry boardwalk and ends as a reflecting pond over which participants in ceremonial events must cross.

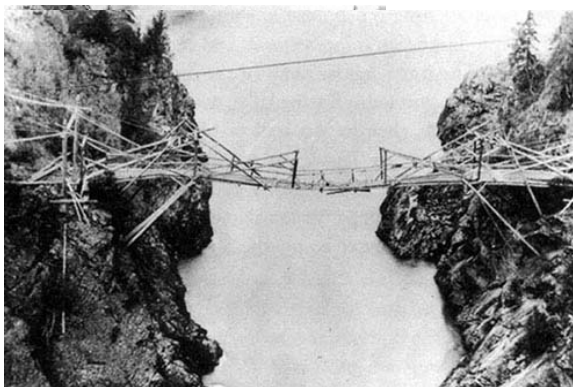
²The First Nations House, "Our Home Away From Home" by Verna Kirkness and Joann Archibald, Friesbu Press

3. Kispiox Community School Kispiox, British Columbia

3.1 Background

The Gitksan are related both culturally and linguistically to the Tsimshian of the Pacific coast and to the Nisga of the Nass River Valley. Their traditional territories encompass the deepest penetration inland of the Pacific Northwest coastal culture. Traditional building forms and art are similar to those of neighbouring First Nations on the coast.

The European influence extended to Kispiox in 1866 with the construction of the Collins Overland Telegraph line, an early attempt to link Europe and America by a mostly land based telegraph line through Alaska and Russia. This project was abandoned with the successful laying of the trans-Atlantic telegraph in July 1866.



The client's vision of the school included the use of logs and other traditional structures and materials. Bridges built by the Gitksan spanning local rivers provided inspiration for the vaulted roof design. These original bridge structures used cantilevered logs, joined at mid-span by cedar ropes. Telegraph cables, discarded in the vicinity were sometimes used to strengthen these bridges and inevitably replaced the cedar ropes allowing for longer spans.

3.2 Process

As with the First Nations House of Learning, the design process began with a series of workshops with staff, students and administrators of the existing school as well as Village Elders who would provide picture of Gitksan Villages throughout the Nars and Bulkley Valleys. It was through these pictures that the design team learned of Gitksan people's development of bridges to cross the many rivers in the region. The longhouses in the Gitksan Villages of Nars Valley were typically built by the Nisga and Tsimshian, thus the bridge structure was seen as a unique opportunity to express the Gitksan Architectural Heritage.

3.3 Design

The site is located just to the north of the existing community. Long distance views to the surrounding mountains were carefully considered in the siting of the building. The siting also acknowledges pre-existing trails that traversed the site. These pre-existing trails were identified by the Village Elders as part of the "Grease Trail" over which the Gitksan people transported their cargo of "oolichan grease" from the Skeena River to the interior of British Columbia. When the Collins Overland Telegraph arrived in 1866, the "Grease Trail" formed the base of the Telegraph Line through the Bulkley Valley directly across the proposed school site. Existing trees were preserved with the building nestled against the forest edge. Adjacent to the school are the Kindergarten, Primary, and Intermediate play areas.

The building form is reminiscent of the traditional longhouse forms used by the Gitksan, with a sloped roof offering protection to the enclosed space below. The building is organized around the central hall, an immense space that extends over the length of the building and unites the entire school. The design aims to evoke the spirit of the longhouse as well as to make reference to traditional building techniques and materials.

3.4 Implementation



One of the requirements of the Client was to design and implement a construction process that would provide opportunities for community involvement. This interest was fulfilled using a Construction Management approach, involving approximately 20 full time construction jobs and training programs created for community members.

3.5 Celebration

The village of Ans'pa'yaxw is divided into three tribes or crest groups: the Lax See' or Frog/Raven, the Lax Giboo or Wolf and the Gishoast or Firewood. These crest groups traditionally controlled the social life of the village but today are largely ceremonial in function. During the design and construction of the Ans'pa'yaxw School each crest group provided historical/cultural comment. These often resulted in carefully planned ceremonies involving unsuspecting team members.

3.6 Function



From the main entrance one enters around a carved cedar screen directly into the Central Hall, which dominates the academic area of the school. Facilities common to both Elementary and Secondary functions, such as the Multipurpose Room, Library and Language rooms, are located in the Central Hall. This space is flanked by interior streets, which provide access to the classrooms.

Elementary classrooms are placed on one side with Secondary classrooms opposite. Kindergarten and Primary grades are placed closest to the administration and main entrance areas. Secondary rooms are adjacent to the community entry and parking area, to accommodate after-hours use by the Community. The gymnasium is located at the opposite end of the building from the main entrance. Like the Central Hall, the gymnasium is roofed with a vaulted wood and steel composite structure.

References

Native American Architecture, Peter Nabahoo, Robert Erten, 1989 - Oxford University Press

The First Nations House, ◦Our Home Away From Home◦ by Verna Kirkness and Joann Archibald, Friesbu Press