# Guardian Program Building- Emphasize State

## 1. Introduction

The objective of this project is to develop a building for the Guardian program. The Guardian Program will incorporate a monitoring initiative that draws upon Algonquin Knowledge, operating in conjunction with the monitoring program of the Canadian Nuclear Laboratories Ltd. (CNL). This collaborative effort aims to protect the environment and the local community. The program's documentation and modules will outline the aims, methodology, and procedures for monitoring operations, while also establishing protocols for data collecting and reporting. The Algonquins of Pikwakanagan First Nation acknowledge the significance of amalgamating traditional knowledge and scientific competence in order to provide a comprehensive and culturally sensitive framework for environmental monitoring. The Guardian Program seeks to build a comprehensive and cooperative monitoring structure in conjunction with CNL, with the objective of facilitating the sustained stewardship of the NSDF Project.

## 2. Project Needs

| User Statements | Interpret needs | Level of importance | Design Criteria |
|---|---|---|---|
| There needs to be a place to park cars at the side of the building which is protected | A lean-to off of the side of the building fitting at least 2 vehicles | 2 | Length of lean on (ft) |
| The roof should be tall enough to fit a standard 2 1500 truck | The lean is at least 16-20 ft (6m) in height | 3 | Height to lean on (ft) |
| An outdoor workspace dually a parking space as a workspace which is protected | Having a portable workbench which is in combination with an indoor workspace | 4 | Mobility of workbench |

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|---|---|---|---|
| There is a want for accessibility to the building since they are working with elderly people in the community often. | An accessible wheelchair ramp, with automatic door open buttons. | 4 | Accessibility of building |
| The building should reflect the First Nation culture and represent who they are. | A culturally involving design with indigenous (Algonquin peoples) style architecture and elements using green spaces, a circle centre and timber materials. | 5 | Reflective culturally significant ties |
| Enough space for dying, storage, freezer (-4℃) and outdoor cleaning of specimens | Storage space and working space for safe working with specimens. | 5 | Storage space (ft^2)<br>Freezer temperature (℃)<br>Cleaning space (ft^2) |
| A different use for a workspace table, it could be moved easily | Big enough table, could move easily | 4 | Table size (ft^2)<br>Table mobility (weight (lbs)) |
| A common area which includes kitchen and washrooms, 5-7 small offices, max 10 | Should be able to fit 10-12 people, work comfortably | 4 | Size of building common area and office space (ft^2) |
| There should be a computer lab space around the outside of the lab space | A computer work-space for compiling data | 3 | Working space (ft^2) |
| A circle shape dominates in the design | Every section specified for unique needs | 5 | Ties back to culture and specific spaces |
| The building should have cameras in order to prevent theft | Security cameras for vehicles | 2 | Available security devices |

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|---|---|---|---|
| Open space for community involvement, school trips and many other activities | Should reflect the indigenous identity | 2 | Reflective of community and provide community identity |
| A space for loading equipment and samples to be sent off to other facilities | A loading dock for easy semi-truck access | 3 | Easy access for transportation |
| Locally sourced timber should be used in construction | Using timber material for lean to and other parts as cultural significance. | 3 | Ties back to culture and using community materials for a community building |
| Material to be used should always be clean/ easy to clean<br><br>Avoid using any wood materials, specially in lab space | A sterile material environment for clean lab workspace | 1 | Sterile environment provided |

## 3. Problem- Statement

A need exists for an environment analysing building for indigenous peoples to conduct research and surveys of their sacred land using an accessible, sustainable and culturally reflective building.

## 4. Design Criteria

| Functional Requirements | Non-functional Requirements | Constraints |
|---|---|---|
| - Portable Workbench<br>- Accessibility features<br>- Mobility of workbench (weight(lbs))<br>- Lean on height and | - Sterile environment<br>- Aesthetic<br>- Available security devices<br>- Storage space (ft^2)<br>- Working space (ft^2) | - Operating conditions (snow, wind, rain, etc.)<br>- Table size (ft^2- same as lab table)<br>- Table mobility (weight (lbs)) |

| | | |
|---|---|---|
| width (ft)<br>- Storage and Working space<br>- Reflective culturally significant ties<br>- Mobile table with wheels<br>- Green space | - Easy access for transportation | - Size of building workspace and office space (ft^2)<br>- Freezer temperature(-4C)<br>- Unlimited budget<br>- Unlimited space |

## 5. User Benchmarking

| Requirement | Importance (weight) | Tindall Field (https://www.queensu.ca/gazette/stories/new-indigenous-gathering-space-inspired-traditional-designs) | Wildlife Habitat Research Laboratory (https://www.ckwri.tamuk.edu/about/facilities/campus-research-facilities/wildlife-habitat-research-laboratory) | Penticton Indian Band Health Centre (https://www.greyback.com/projects/listing/19/Penticton-Indian-Band-Health-Centre/) |
|---|---|---|---|---|
| **Reflective Culturally** | **5** | **3** | **1** | **3** |
| **Green Space** | **5** | **2** | **2** | **2** |
| **Sustainability** | **4** | **2** | **1** | **3** |
| **Aesthetic** | **4** | **3** | **1** | **3** |
| **Storage and Working space** | **3** | **1** | **3** | **3** |
| **Laboratory and Herbarium** | **4** | **1** | **3** | **2** |

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|---|---|---|---|---|
| **Accessibility Features** | **3** | **2** | **2** | **2** |
| **Total marking** | | **49** | **50** | **72** |

### Tindall Field

The design of the building reflects the indigenous culture in various ways: a shape which reminds traditional wigwams, its wood architecture, and its entryways positioning. Associate Director of Queen's Office of Indigenous Initiatives said that outdoor gathering space is valuable both for the campus learning environment and as a tie to the original teacher: the land. The building took into account its ceremonial uses and already existing indigenous infrastructure.

### Wildlife Habitat Research Laboratory

"Existing equipment in the laboratory includes a drying oven for evaluating plant matter, freezers and a refrigerator for preserving biological samples, and several computers for graduate student data analysis. The herbarium collection provides plant samples for use in plant identification for both academic and research purposes."

### Penticton Indian Band Health Centre

The building, spanning over 7800 sq ft, features eco-friendly geothermal heating and cooling systems, along with medical and dental facilities, offices, a conference room, and a gym. The sheer scale and exceptional features of this building are truly impressive.