ENGINEERING DESIGN PROJECT
DELIVERABLE B –NEEDS IDENTIFICATION & PROBLEM STATEMENT
Jonathan Augustine Soliman, Rowan Kovacs, Ben Olaveson, Rotimi Akalusi
Group A04-13
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Professor Muslim Majeed
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Step 1: Who is the customer, and who is the user?

- The user of our product will be the *Algonquins of Pikwakanagan Neyagada Wabandangaki* **Guardian Program**. The customer of this product will be Amber (insert Last Name).

> **Commented [RA1]:** The Last Name of our client is unknown at time of writing!

Step 2: List All Needs, Wants, Likes, and Dislikes (__NO__ Technical or Metric Information At This Stage!!)

Needs	Wants
• Space for community infrastructure • Small Offices • Space for work on various cultural events • Kitchenette & Washrooms • Outdoor Lean-To • Freezer Space • Harvesting Space • Space for vehicles, other cultural items • Space for storing and drying medicines (Herbarium-Inspired Space) • Storage for Handheld & Water Sampling Tools • Road Access • Half-Parking Lot, Wooded Area • Mobile Work Stations • Large Table for Processor (On Wheels, For Optimized Space) • Loading Dock Open Space for Work Table • Sorting Space (for collected plants) • Computer Lab • Space to Back-Up Data, Admin Members to have access to data • Board Room & Training Room, for the Board Room Table • Security Cameras • ***End Goal of the design: For support of the project from proponents in the program***	• Dual Workspace • Planned with the future in mind (?) • Open Space Concept is Ideal • Use local materials in the construction • Cleanable material for work stations

> **Commented [RA2]:** This entry is aptly coloured because it both describes the need for a space for a freezer, and implies that there therefore must be a freezer as an element of the building.

Likes	Dislikes

• Ideally reflect the people of the community
• Relect the identity of the community
• Should reflect that the land is the foundation of the community
• The environment should be seen in the structure
• Plan the design on unlimited power
• Should contain cultural items
• Reflect the culture of the community
• The building should have units that can be rented out
• Reflect who the program is and its purpose to the community and the country, and the global environment
• Must be inspired by the culture
   o Aspects of Timber, Green Spaces, and a Circle Center
   o Holistic Aspects
	• Not and Industrial Look
	• No religious items on structure
	• No fixed structures in the building (prefer mobility)
	• Land should not be located near bodies of water

> **Commented [RA3]:** These dislikes are all comprised of different elements, and so I will leave them as is and they will move on independently to the next phase of organizing.

> **Commented [RA4R3]:** After developing some criteria for what kind of need or detail each group should contain, I no longer feel that these are independent statements, as they all fit one of the four groups stated in the previous comment.

> **Commented [RA5]:** LEGEND:
> •Blue: What Types of Spaces to Include
> •Green: What Elements to Include
> •Red: What Type of Building Is This?
> •Purple: Goals For What This Building (And Therefore Its Design) Represents

Step 3: Organize Each Need According To Similarity And Remove Or Combine Redundant Needs

What Types of Spaces to Include	What Elements to Include

Grouped: Operation Facilities
• Space for community infrastructure
• Space for work on various cultural events
• Outdoor Lean-To
• Space for vehicles, other cultural items
• Space to Back-Up Data, Admin Members to have access to data
 	
Grouped: Lab Work & Storage Space
• Harvesting Space
• Space for storing and drying medicines (Herbarium-Inspired Space)
• Storage for Handheld & Water Sampling Tools
• Sorting Space (for collected plants)
• Freezer Space
	Grouped: Worker Utilities
	• Kitchenette & Washrooms
	• Security Cameras
	
	Grouped: Lab Work & Production Areas:
	• Small Offices
	• Freezer Space
	• Mobile Work Stations
	• Large Table for Processor (On Wheels)
	• Loading Dock
	• Open Space for Work Table
	• Computer Lab
	• Cleanable material for work stations
	• Board Room & Training Room, for the Board Room Table
	
	Grouped: Cultural Relevance:
	• The Environment should be seen in the structure
	• ~~Should contain cultural items~~
	• Must be inspired by the culture
	    ○ Aspects of Timber, Green Spaces, and a Circle Center
	    ○ Holistic Aspects

What Type of Building Is This?	**Goals For What This Building (And Therefore Its Design) Represents**
Grouped: Overall Look & Theme • Half-Parking Lot, Wooded Area • Dual Workspace • Open Space Concept is Ideal • Not an Industrial Look • Road Access • No fixed structures in the building (prefer mobility) **Grouped: Location & Inherent Characteristics** • Planned with the future in mind • Use local materials in the construction • Land should not be located near bodies of water	• Create a culturally-inspired design that focuses on the importance of the community's identity and the program's purpose • Think Big in terms of what the building can do and has access to!

Step 4: Establish Hierarchical Order Of The Importance Of Each Need (A 3-Scale Sorting)

3	4	5
1. *Create a culturally inspired design that focuses on the importance of the community's identity and the program's purpose* 2. *Think Big!*	1. *Location & Inherent Characteristics* 2. *Cultural Relevance* 3. *Worker Utilities*	1. *Operation Facilities* 2. *Lab Work & Storage Space* 3. *Lab Work & Production Areas* 4. *Overall Look & Theme*

Step 4: Devise A Problem Statement Identifying The Problem And What The Solution Should Be

A need exists for the Algonquins of Pikwakanagan Neyagada Wabandangaki *Guardian Program* to acquire a building for laboratory work and processing, and community events and involvement, which would reflect the values of their community and will act as a multifunctional space for the work done by the *Guardian Program*.