

**CULTURE, TRADITION AND ARCHITECTURE IN THE
NORTHERN INUIT COMMUNITY OF CAMBRIDGE BAY**

by
Aimee Drmic

Submitted in partial fulfillment of the requirements
for the degree of Master of Architecture (First Professional)

at
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**To my family
To David**

**Thank you for your support.
You are the best.**

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Abstract

Inuit culture and tradition has taken a back door to western influences in the northern communities of Nunavut. Cambridge Bay is but one example of how a culture once rich with community identity has become a culture with high rates of depression, suicide and alcoholism.

This thesis aims to respond to the isolation and degeneration of Inuit culture by extracting the main element that has and continues to bind the Inuit community together, that being the ritual and activity around the harvesting, preparation and consumption of food. By examining traditional and current aspects of Inuit culture, it is the intent of the architecture to propose a gathering space that could facilitate the butchering, preparing, storing, eating, sharing and celebration of traditional food. Perhaps gathering culture and tradition into a place focused around the traditional values of Inuit culture could strengthen pride and identity in the northern Inuit community.

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Michael Dragnea
Community of Cambridge Bay

Thank You.

Introduction



Skin Point Dancers
Cecil Youngfox
(Sa-cinn, 2005)

Traditionally, the Inuit were a nomadic group whose lives were based on the land. Physical, mental and spiritual connections to the land were what allowed Inuit communities to form and survive the way they did. Their shelters were a direct reflection of their livelihood, in that they were built from the materials of the land and they indicated the changes of Inuit social groupings throughout the different seasons. In the summer when the weather was warmer and when 24-hour daylight was in effect, the Inuit would travel in smaller groups, usually a single family. When the winter approached, the weather grew cold, the darkness set in, and food was scarce, the Inuit grouped themselves into larger communities where they could feast and share with one another in order to survive the long harsh winter. A culture based purely on survival, staying together and forming these communities were what allowed the Inuit to sustain physical and spiritual well being.

Today, the Northern Inuit communities no longer follow the nomadic way of life. Cambridge Bay is but one example of how the Inuit have settled into western style settlements, with street grids, western style homes, schools and buildings. They have all the modern amenities of the south: Internet, TV, cable, video games, pop and candy bars. Through this transition, it is evident that the Inuit are on the path to losing their cultural and traditional

roots. Traditional values are becoming increasingly more difficult to integrate into the daily life of the Inuit community.

There is a culture clash, and as is usual in all culture clashes, the dominant culture dominates. The Inuit culture is forced to take on the shape of the dominant culture, rather than the other way around.
(IQ 2002,6)

Daily activities performed by the Inuit consisted of all the cultural and traditional aspects of their lives, those that are slowly disappearing with the rise of modernity. Traditional activities necessary for survival such as hunting, fishing, butchering, cooking, and eating were once daily activities that brought the Inuit together into a necessary circle of social integration. Today, these activities occur less frequently, but they do continue to be of vital importance to Inuit identity. A culture once rich with community identity has become a culture with high rates of suicide, depression and alcoholism.

In a community managed by southerners whose interests in living in the Arctic community include high paying jobs, mining, oil and defense, Inuit culture and tradition has taken a back seat to the increasing speed of contemporary culture. In order to re-establish a healthy environment in the Northern town, an integration of Inuit culture and modern technology might be considered.

Inuit Culture can be defined as the total body of traditions borne by a society and transmitted from generation to generation. It includes norms, values, and standards by

which people act, view the world and give it meaning. (IQ 2002,7).

There are four primary relationships in the Inuit Culture that have sustained them for many generations. They are as follows:

- 1 The relationship of a people to their land, and by extension to their culture
- 2 The relationship to one's family
- 3 The relationship of the individual to his or her own inner spirit.
- 4 The relationship to one's social grouping (to one's community or organization) or the relationship between social groupings.

In order to integrate Inuit culture and modernity into the northern arctic town, the primary relationships of Inuit culture might be re-visited. It is the intent of the architecture to bring all the people of the community together into a building where Inuit culture can be experienced and celebrated on a daily basis.

The public building is not an abstract symbol, but partakes in daily life...when we use these institutions the world is opened up and belonging is realized (Norberg-Schulz 1993, 17).

By reintroducing a traditional focus into the Inuit community, can one strengthen necessary Inuit relationships to the land, to the community and to the individual?



Season Houses
(Nabokov and Easton 1989, 189)

Land

As stressed up to this point, the land and the animals that walk the land are of significant importance to the Inuit. It is the thousands of years of living and surviving on the land that is the foundation of Inuit culture. Inuit cosmology (traditional stories of how Earth and Inuit as people began and continue to develop) stresses an intimate relationship between people and animals. The human community is a part of the greater earth or land community.

The living person and the land are actually tied up together because without one the other doesn't survive. You have to protect the land in order to receive from the land. If you start mistreating the land, then it won't support you. The land is so important for us to survive and live on; that's why we treat it as part of ourselves.

(Bennett and Rowley 2004, 118)

Historically, the survival of the Inuit depended solely on the land, waters and wildlife. Living as nomads, the Inuit followed migration patterns of caribou, musk ox, seal, fish and birds. The land offered shelter from the harsh environment in the winter through the use of snow. In the summer, caribou skin tents or huts constructed of stone and dirt were used.

Hunting and the relationship to the land are of profound cultural and spiritual importance to the Inuit. The meaning of life for most Inuit is still found in nature and most are at least part-time hunters. Hunting provides a link to the past and a cultural identity. It is valued for its contribution to independence, self-esteem, respect from

others, psychological well being, and a healthy lifestyle. 'Going out on the land' is a means of spiritual renewal after the long, cold, dark winter and a method of re-establishing the ancient connection to the land that has sustained the Inuit for thousands of years. A sense of personal pride and fulfillment is gained from providing food for family and sharing with others in accordance with age-old tradition.

Animals

As a culture based on survival, the dependence on animals was of vital importance to the Inuit. Every part of the animal was used, what was not eaten would go to the dogs. The bones were brought back to where the animal was caught in order to ensure more animals the following year. On the outskirts of Cambridge Bay, many bones are seen scattered around the landscape, indicating that old-age traditions and beliefs still prevail.

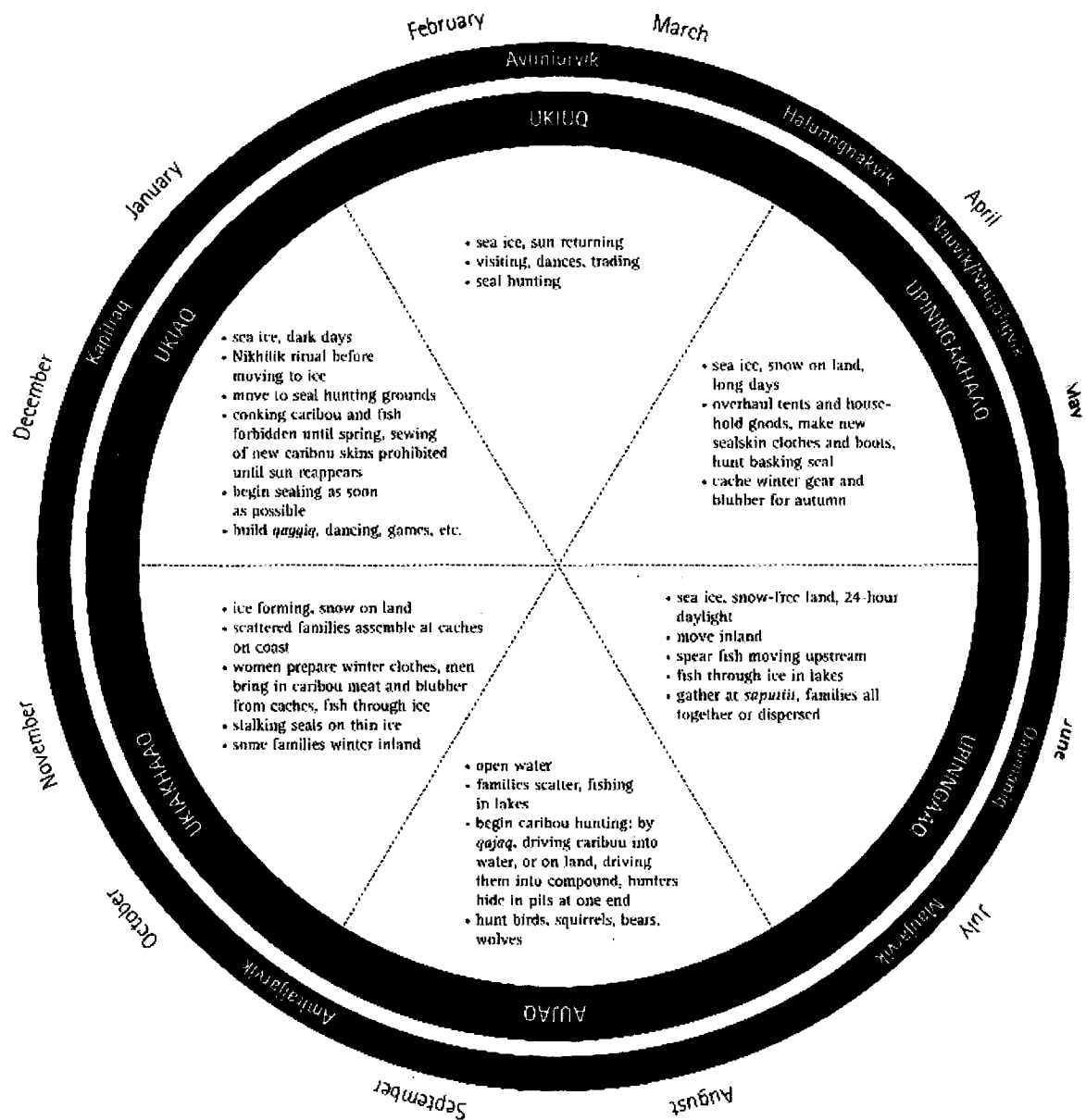
Rituals and artistic traditions reflect beliefs in relationships of reciprocity and respect that bind animal and human populations together to each other, and both to the land that nourishes them.

(Berlo and Phillips 1998, 139)

The animals would provide not only food to the Inuit throughout the year. Animal skins would provide clothing year after year as well as floor and interior wall coverings within the igloo and floor and roof coverings for summer tent structures. The bones would be used to construct tools for the hunting, butchering, cleaning and cooking of the animal as well as toys for the children and a material for carving. Fat and oil would be used for heat. This sustainable use of the animal was what bound the Inuit to each other and in turn to the land, animals and spirit world to which they all belonged.



From top to bottom:
Dreaming of a Muskox Hunt, Victoria Mamnguqsua
Thinking of Animals, Simon Tookoome
The Land, Simon Tookoome
Colony of Seals, Meeliea Kelly
(Inuit Gallery of Vancouver)



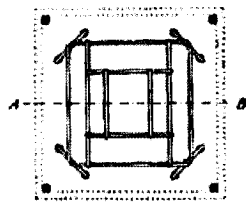
Seasonal Round of the Copper Eskimos
(Bennett and Rowley 2004, 410)

Land and Animals as Culture Within the Community

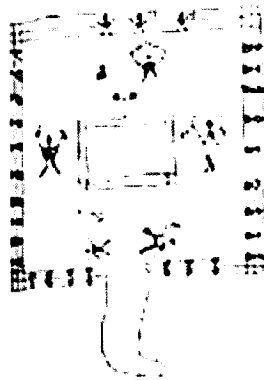
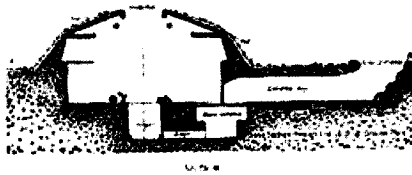
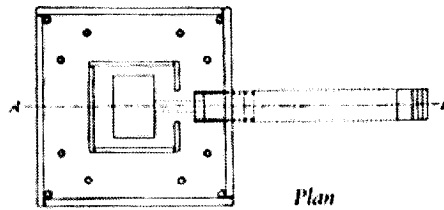
Culture embodies the knowledge, beliefs and behaviors that are common to a group of people, knowledge of the local environment, its dangers, its beauty, its animals and plants. Sharing food is a part of many aboriginal cultures, as are the beliefs concerning the respect of all animal life. Teaching these things to children is the way a common culture is passed from generation to generation.

Traditionally, there were many rituals and activities associated with the hunting of the animal. Hunting required a great knowledge of the land and the ability to track the animals. Hunting was done either alone, or in the case of larger animals, with a larger group of people. The hunt and preparation for the hunt would bring the community together to achieve the common goal of obtaining enough food to survive the long winter. There were many rituals associated with the hunt, stories of experience both good and bad, shaman rituals (drum dances) performed in order to ask for knowledge, and beliefs that the animal will allow itself to be given to the hunter.

Following the hunt, the hunter would return to camp with his catch, preparing for the harvest of the animal. The following tasks involved everyone in the community, men, women and children. The hunter's pride in his accomplishment was revealed through the



Roof plan



Dance Houses:

For feasting, socializing, and conducting sacred activities, most Inuit winter settlements of any duration had their oversize gathering place.

(Nabokov and Easton 1989, 203)

process of butchering the animal in preparation for the steps that followed. The women would then begin cleaning, preparing and storing the meat along with the cleaning and preparing of skins and hides. Once the work was completed, the community would gather in the ritual of eating together where food was shared and the celebration would begin. Drum dances, storytelling, and song all revealed experiences of the hunt while games tested the strengths and honored the skills of the contestants. All revolved around the ritual of gathering.

Inuit built large houses that could accommodate the entire populations of one or two villages to house the dances, singing contests and storytelling that occupied the long Arctic winter nights.

(Berlo and Phillips 1998, 141)

The Inuit culture stems from survival, obtaining enough food to survive. Food is the element that brought people together and food was shared in order to make everyone feel as part of the community. Food, the rituals and activities associated with food continue to be a predominant part of Inuit culture in Cambridge Bay today. All are practiced regularly and although the methods of hunting have changed with technology, all aspects associated with food continue to be of great importance to the community. Someone you shared food with would provide you with help at a later date. Today, the sharing of snowmobiles and tools that not everyone has access to is very common. Sharing created life long partnerships. Food has in the past and continues to bring

people into important human relationships that are necessary for survival in the Arctic.

Food sharing was necessary for the physical and social welfare of the entire group. It made people feel that they were part of the community. Someone you shared food with was someone you could turn to for help at a future date.

(Bennett and Rowley 2004, 89)

Food sharing is seen frequently in Cambridge Bay. During my stay, visiting the planning office, an Inuit man returned from home during his work break and produced a large piece of meat and fat that he placed on a table for everyone to share in. All huddled around the table, everyone shared in a piece of the offering. Another instance in food sharing that I had the opportunity to observe during my stay was that during regular community gatherings (beer dances) food is brought in by other community members and placed in the center of the floor for all to share in.

This diagram expresses the place of food and food sharing in Inuit culture.

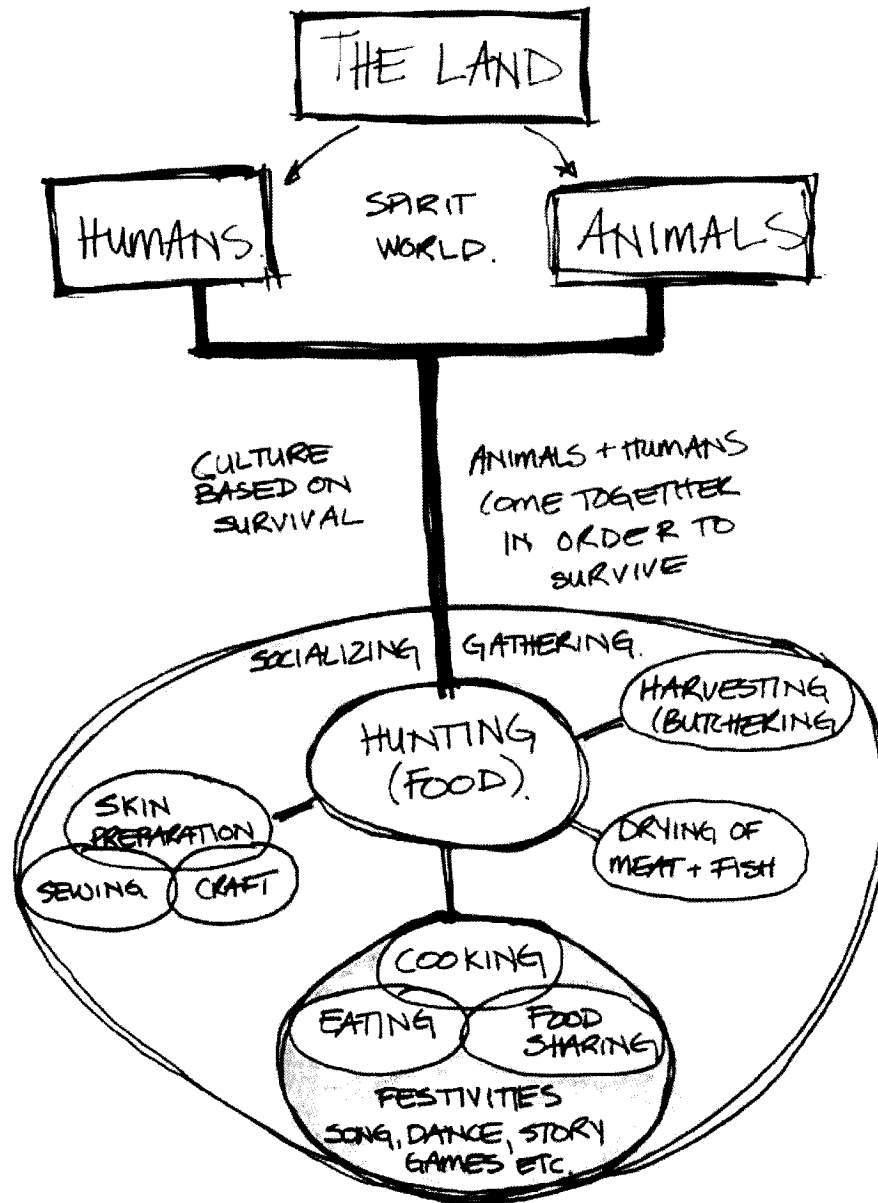


Illustration by author

Strategy

In order to respond to the degeneration of Inuit culture in terms of isolation, this thesis seeks to celebrate the main element that has and continues to bind the Inuit community together, that being the rituals and activities around the harvesting, preparation and consumption of food. This thesis will examine the premise that the solution to the Inuit social condition is to re-introduce a traditional gathering space where the butchering, cleaning, preparing, storing, eating, sharing and celebration of 'country food' can take place.

Inuit foods give us health, well being and identity. Inuit foods are our way of life...total health includes spiritual well being. For us to be fully healthy, we must have our foods and recognize the benefits they bring.
(Health Canada 1996)

Food is a large part of the Inuit cultural heritage, the aspect of Inuit life that truly brings people together. It is important to provide a space where these rituals and activities can take place, a building run as a co-op, where everyone in the community participates. While less than half of the Inuit population in Cambridge Bay is employed, the remainder spend their day isolated in their homes. A building run by the Inuit for the Inuit might pull people out of their isolated homes and bring them together to work together towards a common purpose.

When the activities associated with the hunt are not taking place, the building could function much like the old Cambridge Bay community hall that no longer exists. Many other activities such as army cadets, art, craft, and sewing groups, meetings, breakfast or simply just sitting around and having coffee or tea could take place.

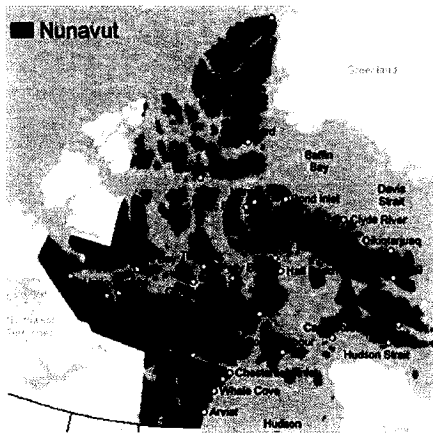
To take the idea further, one could say that every meal could be provided to everyone in this building, a communal kitchen for people to cook together and eat together. Traditionally, Inuit culture is one of survival that is built on mutual interdependence. Bringing the community together to share in their meals (country food or not) regularly may help in reducing the isolation felt by many, and could become a catalyst for other activities that accompany sharing a meal, social interaction. Certainly, sharing meals together at all times may not be a choice for all, but the option is there for those who chose to do so.

Site

The Land



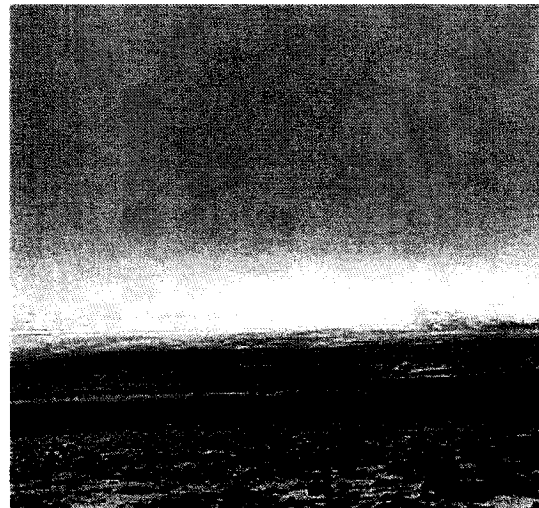
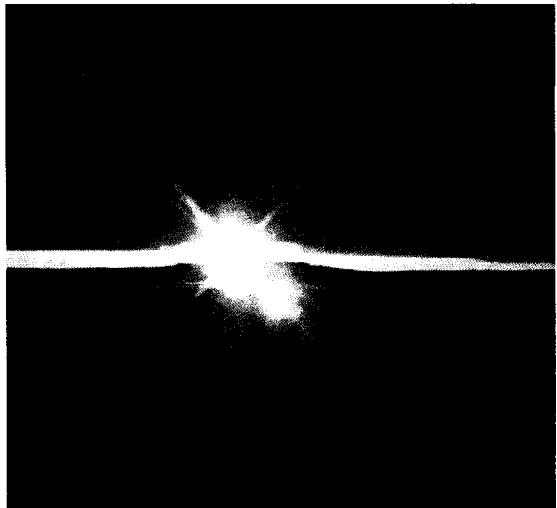
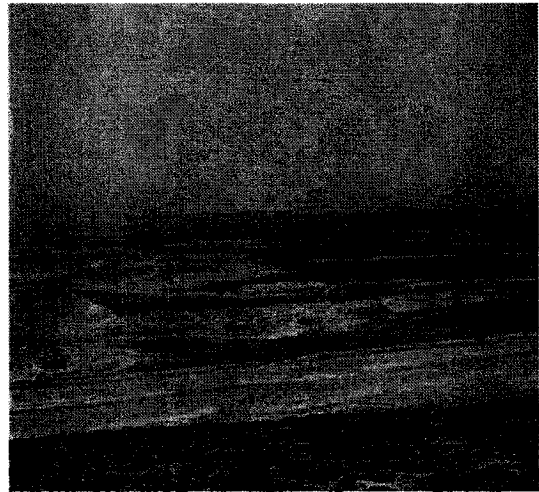
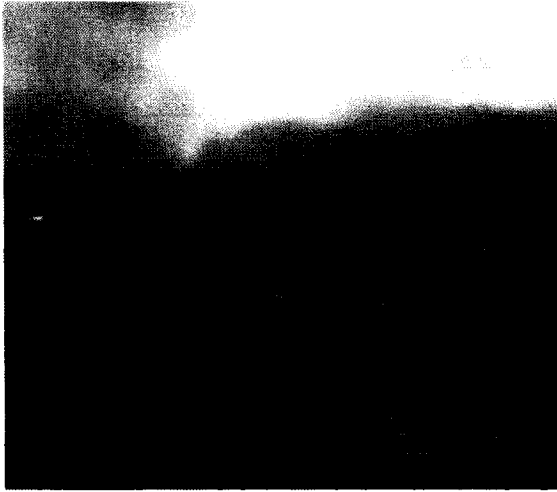
Arctic Circle map (Nunavut Housing Corporation)



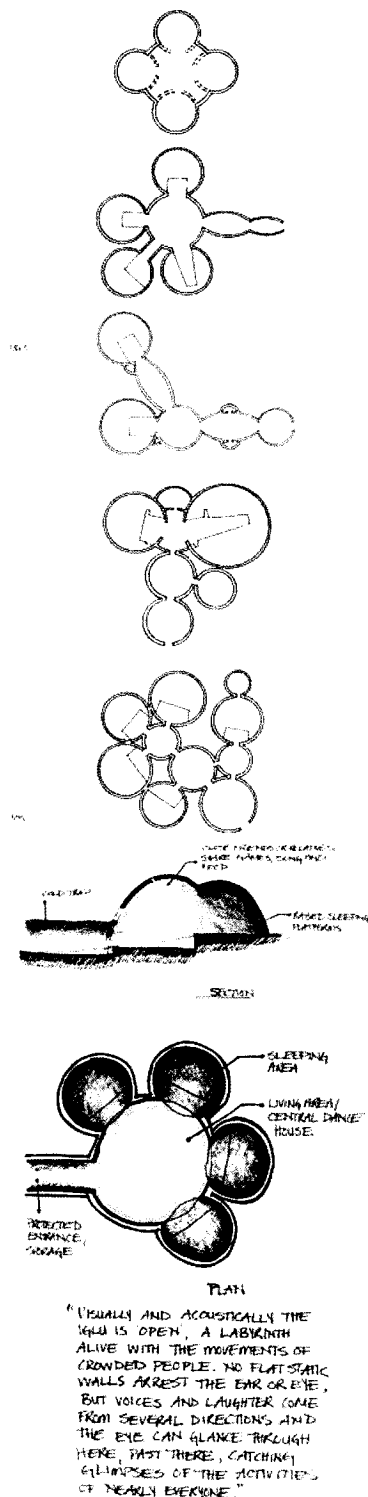
Nunavut Map (Nunavut Housing Corporation)

Cambridge Bay is located on Victoria Island in Nunavut, Canada. The traditional Inuinnaqtun name for the area is Ikaluktuutiak, meaning good fishing place. Cambridge Bay was a traditional hunting and fishing spot for the Inuit. The RCMP and the Hudson's Bay Company outposts were established during the 1920s. Following World War II a loran tower was built near the first location of Cambridge Bay (across the Bay from the current settlement). A DEW Line (Distance Early Warning) site was established in 1955 and the military presence, services and economy this represented acted as a magnet for Inuit who had previously used the area as a temporary site for meeting, hunting, fishing and trade. The town settlement was then moved to the other side of the bay to be closer to the DEW Line construction and a permanent community was soon established.

The landscape of Cambridge Bay consists of sags and wells, dry debris-strewn knolls and moist depressions with very little vegetation. The tundra around Cambridge Bay is dotted with many lakes and rivers. With the exception of Uvjuq (Mount Pelly) to the north, the land is comprised of gentle rolling hills.



Images of Cambridge Bay taken in October 2005



Traditional igloo patterns

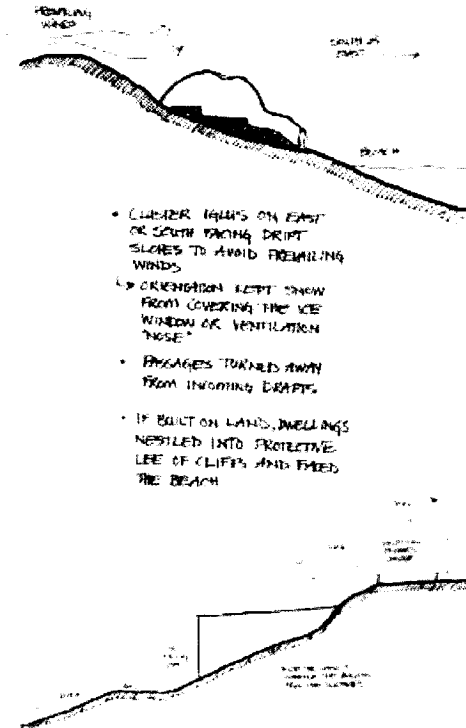
The Town

With a population of approximately 1,350, of which 80% is Inuit, Cambridge Bay is a transportation and administrative center for the region. Outside of the capital Iqaluit, Cambridge Bay is one of the more developed communities in Nunavut.

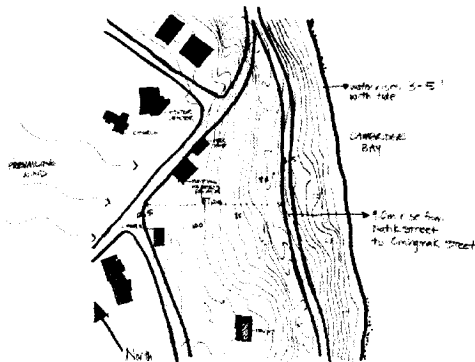
Through town planning investigation, Cambridge Bay can be broken up into two distinct areas. The center of town includes a High School/Cultural Center, Elementary School, Hamlet, Nunavut Housing Corporation, Enokhok Center (planning office, and finance department), Co-op, Northern Store, Visitor Center, Hotels, Radio Station, and Town Hall, which burnt down and is in the process of being reconstructed. Outside of the center is a mix of social housing, staff housing and privately owned housing. It is interesting to note that the majority of social housing is located on the outskirts of the town, and the prime waterfront property is privately owned (by southerners). When comparing the architecture of the buildings in Cambridge Bay, one can see that they are all similar. There is no sense of pride or community identity because each building is isolated and of poor quality construction that can be easily reproduced. These southern solutions do not work for the Inuit and are foreign in their makeup.



18



Traditional placement of structures and potential new structure placement on site



Selected Site

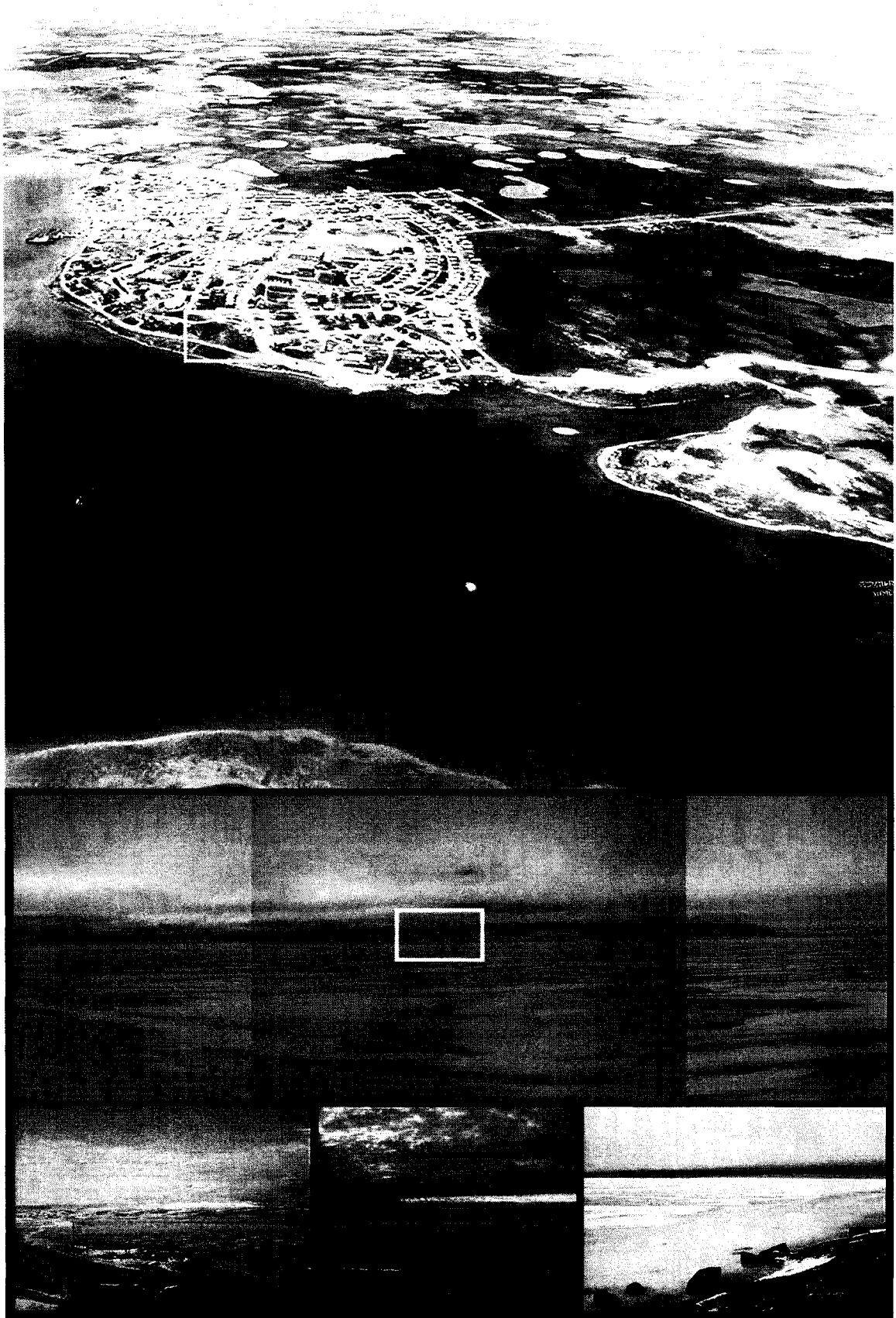
The Site

In order to take advantage of passive climate systems and respond to the landscape, the following site was chosen.

The fundamentals of building in cold climates are outlined below:

1. Select a site that allows for penetration of low angled sun
2. Face away from polar winds
3. Next to water
4. Choose a site that drains melt water and cold air
5. Avoid depressions in terrain that accumulate blowing snow
6. Find solid ground. Exposed bedrock and raised beaches offer stable foundation prospects
7. Select a place with room for expansion (Strub 1996)

The fundamentals of building listed above follow traditional Inuit site strategy and the selected site embodies all the site characteristics important to building in the arctic. Located on a slope facing the water, the site allows for the building to nestle into the side of the hill. The building can be sheltered from the prevailing wind, absorb the low angled sun and drain water away from the building. The site is located on a rocky outcrop, which makes an ideal situation for building. Two roads to the north and west, and a skidoo trail to the south along the water bind the site. The site is also located in town where the building can maintain a strong presence within the community.



Images taken in Cambridge Bay, October 2005

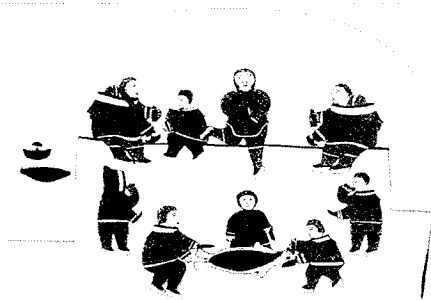
Program

Preliminary Program Observations

Three main programs have been identified that are integral to the Inuit way of life. These are: food, celebration and ritual, and material culture. All encompass a body of knowledge of activities, ideas and relationships, which have been transferred from generation to generation. Neither one exists without the other, as they are all integrated into a larger whole. When one area is lacking it becomes a reflection of all other areas.

Food

In Cambridge Bay, the activities of hunting, harvesting, preparation and consumption of traditional food is the only activity that seems to be practiced regularly. The Inuit continue to go out onto the land and hunt, some more than others. The processing and cleaning of the meat and skins is an activity that both men and women continue to practice. However, the modern home does not encourage this cultural process to exist. The modern kitchen is not set up for a family to gather on the floor and process an animal. Therefore, this activity is forced to occur on the living room floor, as the outdoor temperatures can sometimes be unbearable. As people have been separated and isolated into their individual homes, the ritual of food sharing and feasting as a community has slowly disappeared.

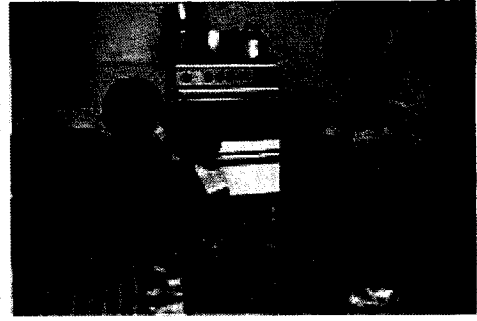


They Are Happy to Eat Together
Kenojuak Ashevak, Cape Dorset
(Bennett and Rowley 2004, 86)



Top: Nunavut News/North,
Front Page, Monday, August
29, 2005

Bottom: Nunavut News/North,
Page 19, Monday, August 22,
2005



In those days, the camp elder would call people together to share in the feast. When the camp gathered at his place for a feast, we the children used to go along too. When the children saw how the adults acted by sharing a piece of meat with bones in it, they too shared a piece of meat with bone.
(George Agiaq Kappianaq, 2004)



Inuit sharing practices are closely linked to identity and pride as the worldview of the hunters is shaped by the relationship between humans and animals. A hunter retains his reputation through the harvest of many animals/fish and through sharing them with other Inuit. Also, Inuit believed that because animals give themselves to hunters it is incumbent upon the hunter to give them in turn to others
(Bennett and Rowley 2004, 88)



Images taken in Cambridge Bay, October 2005

Celebration and Ritual



Songs are thoughts, sung out with the breath when people are moved by great forces and ordinary speech no longer suffices.

(Bennett and Rowley 2004, 106)

The celebrations and rituals were part of Inuit culture that reflected the Inuit spiritual being. Activities such as games, storytelling, throat singing and drum dances were the way the Inuit came together as a community. Traditionally, drum dances occurred when it was necessary to contact the animal spirits for knowledge. Today, these events do not happen regularly as there is a need for an event to be organized in order for large groups of people to come together.



Traditional Inuit Games
(Kativik, 2001)

Material Culture

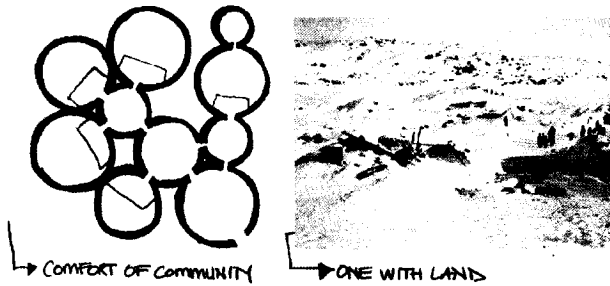
Material culture is the means to survival and everyday is spent using these elements of material culture in order to survive to the next day. The houses built, the clothing and tools made were all part of Inuit life. Although not as prominent as in the past, many Inuit continue to hand craft tools and clothing today. Technological advancement has allowed the Inuit to adapt to more advanced equipment for hunting and fishing, yet traditional tools for harvesting the animals continue to be utilized.

Goods in the form of art production have become a commodity in the Inuit culture today. Material culture comes in many forms, carvings, drawings, tool making, sewing etc. Art production, in whatever form it comes, offers a greater opportunity for people to come together and to work together.

Initial Program Ideas

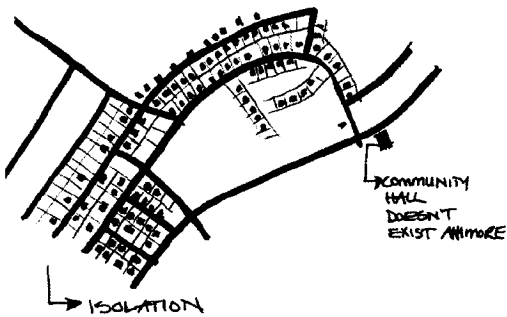
- NO WHERE TO GO + NOTHING TO DO
- DARK, COLD, LONELY
- WHEN SEPARATED YOU CAN UNDERSTAND WHY PEOPLE ARE UNHAPPY + DEPRESSED
- NEED A SENSE OF COMMUNITY + SUPPORT

GLOOPATTERN



TRADITIONALLY, NEEDED TO COME TOGETHER IN ORDER TO SURVIVE PHYSICALLY AND MENTALLY

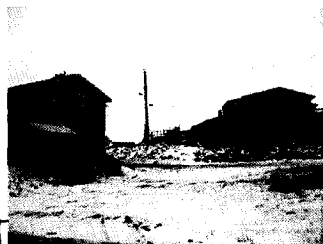
MODERN TOWN PATTERN



→ NOTHING HAS CHANGED EXCEPT FOR THE INTRODUCTION OF TECHNOLOGY. ENVIRONMENT STILL HARSH AND COLD, STILL DARK AND LONELY. ∴ NEED TO COME TOGETHER TO SURVIVE MENTALLY

- SUICIDE RATE HIGH AMONG CHILDREN
- ALCOHOLISM

BECAUSE — NO COMMUNITY — NO IDENTITY



- NO CONNECTION TO LAND
- EVERY BUILDING LOOKS THE SAME
 - NO SENSE OF IDENTITY

drum
sing
dance

relationship to sky-spirits



food
hunt
fish
process

relationship to land



educate
art
craft
storytell

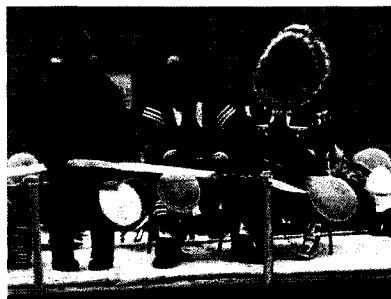
relationship to eachother



Program

A number of activities have been identified and studied in order to facilitate a well-rounded solution to the program for the community food building. The following chart details the traditional activities that are prominent in today's Inuit community.

Activity		Description of Activity and Space Requirement
Cooking	Caribou Seal Beluga Musk ox Char Narwhal Bannok Birds eggs	<ul style="list-style-type: none"> Requires specialized equipment-large pots, stoves, open fires, large cutting surfaces Messy activity that requires a large work space Caribou boiled over open fire to avoid condensation Strong smells and high heat Traditional foods tend to be cooked in large batches or eaten raw to reduce prep. time
Eating	All of the above	<ul style="list-style-type: none"> Done with extended family or in larger group communal gatherings Remains a highly valued way of sharing food
Hunting	Butchering animals Cleaning meat and fish Drying meat and fish Preparing hides Splitting bone for marrow	<ul style="list-style-type: none"> Requires large amount of work space Specialized equipment Often messy task Depended on weather because no indoor space available and access to tool and other equipment
Socializing	Eating Visiting Singing Dancing Storytelling Games Coffee/Tea Smoking	<ul style="list-style-type: none"> Eating traditional foods requires large open space Most integrated and frequent activity Music and dance have long played a roll in defining Inuit culture Drum dance most popular-part of all social gatherings-weddings, births, funerals, seasonal and hunting celebrations
Sewing/Craft	Hides Carving Jewelry Wall Hangings Print Making	<ul style="list-style-type: none"> Requires large work spaces Traditional skin clothing still made and worn today
Maintenance	Honda (quad) Skidoo Boat Fishing nets Rifles Hunting equipment	<ul style="list-style-type: none"> Usually an outdoor activity because no shed or garages-cold outdoors-frostbite common Noisy Activity that needs to be done in order to prepare for hunting and going out onto the land
Storage	Hides Hunting equipment Sewing equipment Tools Meat/fish Cooking pots etc.	<ul style="list-style-type: none"> Hides need to be cured outdoors and hung Fish and meat need the outdoors to dry Large freezer to store food



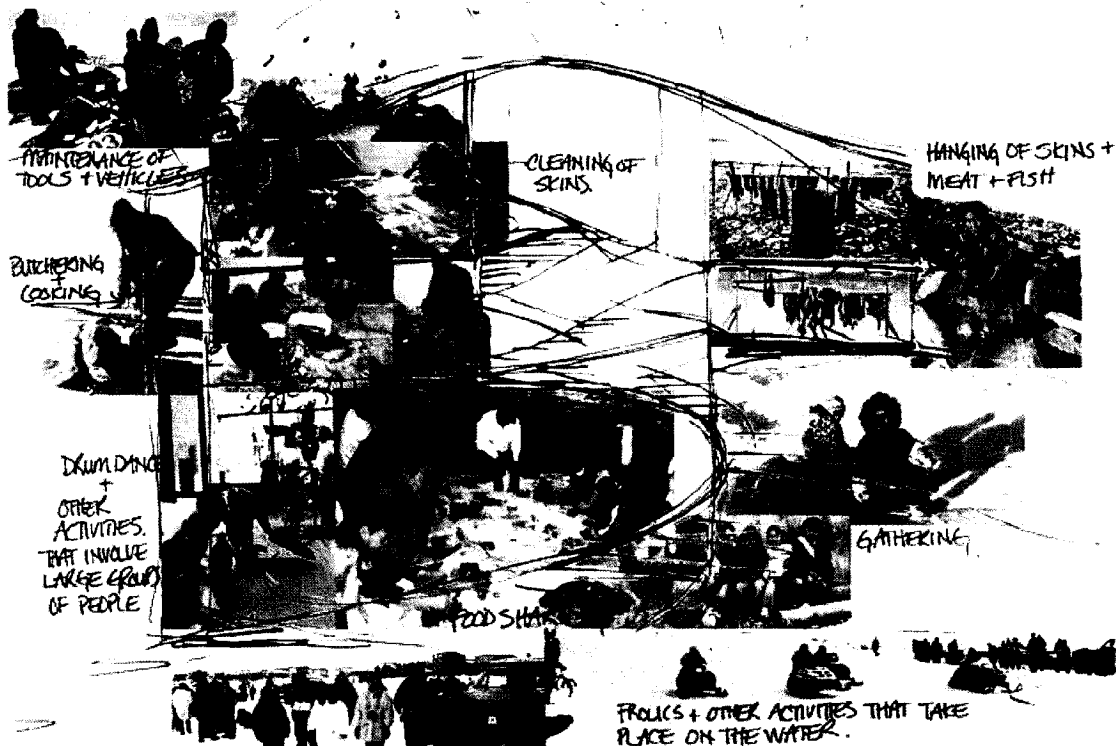
Top three photos:
Cambridge Bay frolics
celebration
(Polarnet, 2003)

There is an importance placed in Inuit society on maintaining ties and networks of mutual assistance through face-to-face contact. Socialization is of extreme importance. Due to high unemployment in the community, members share food, hunting equipment and labors, therefore social activities provide a means of re-affirming such ties, as well as assessing information on hunting and fishing activities.

Along with the activities described in the chart above are seasonal festivals. The major event that occurs in Cambridge Bay is the Frolics, which celebrates the end of winter and the welcoming of spring. This week long community games event takes place in May and includes an abundance of games and competitions. Many of the games and competitions take place out on the ice, where skidoo racetracks are built and food and game pavilions are set up. Activities of both traditional and non-traditional roots bring the entire community together. Some of these events include: fishing derby, elders games, teen/family dances, hunts, community feasts, talent shows, costume parades, tournaments, snow races, breakfasts, traditional games and snow surfing along with many others.

PROGRAM 1

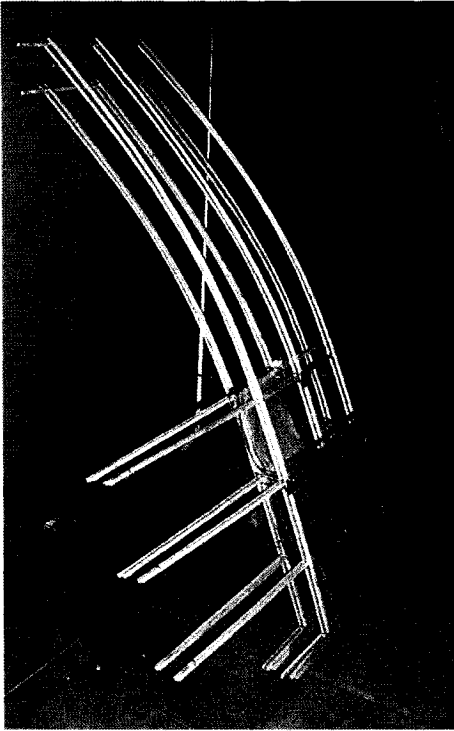
FOOD + ALL THE ACTIVITIES + RITUALS
ASSOCIATED WITH IT.



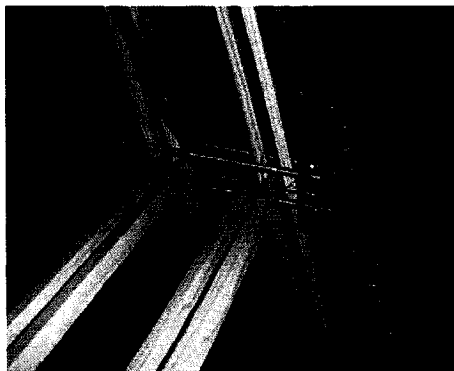
Program Relationship Sketch

Material Ideas

Building Systems Interface Detail

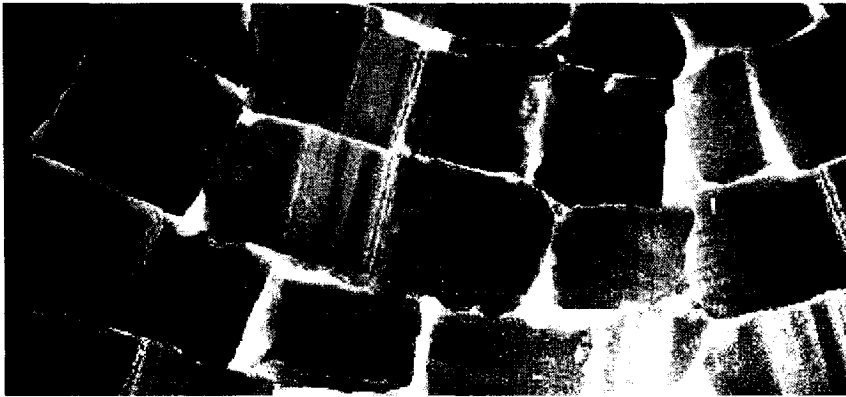


Inside a snowhouse, just above the entry tunnel, a patch of daylight pokes through the dome. A small skylight diffuses light from a pane of sheet ice wedged into the snow block structure. The patch of daylight becomes an indicator of the weather outside. From the outside, during the long polar night, that patch of light reverses itself, becoming a patch of lamplighter distinguishable at a distance: a beacon, a sign of life, of warmth and shelter, of help if needed, of friends and family. Seen at the end of an exhausting journey a camp site without a beacon chills the heart. (Strub 1996)



Detail photographs

The main inspiration in the construction of this detail was drawn from the igloo and how light is taken advantage of in a place that lives in darkness for a large part of the year. In order to achieve an assembly that allows light to pass through during the day and in times of darkness, stone was used with an aerogel bead insulation. Being an isolated community where resources are scarce and all building materials are shipped in by barge, stone was the material of choice as it is a material found in abundance. The relationship to the land is one of great importance to the Inuit, therefore it was important to try and utilize a natural material that comes from the same land the building will be built upon.



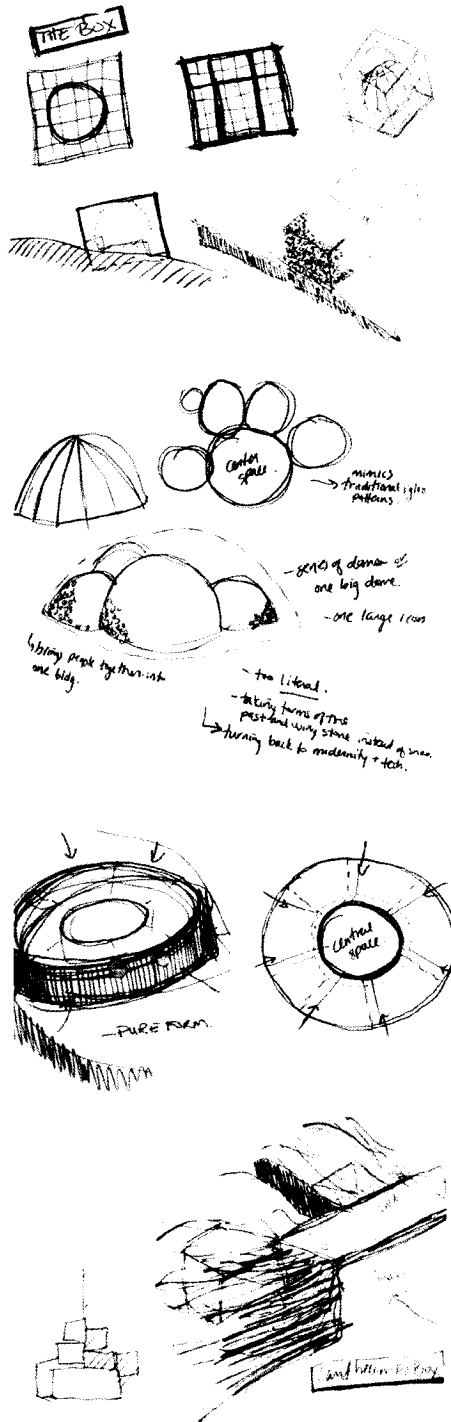
Igloo inspiration
(Sierraclub, 1996)



Material and lighting studies

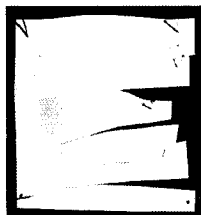
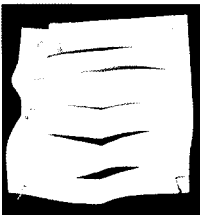
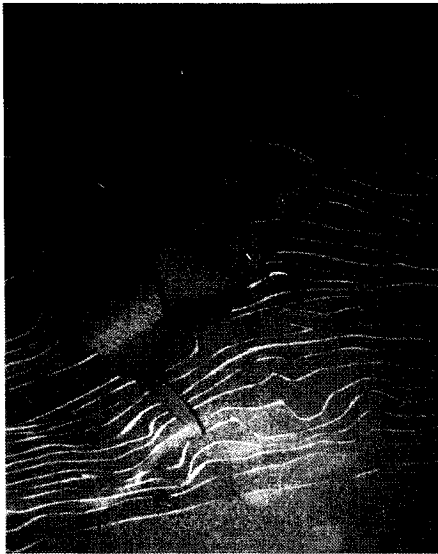
Concept

In attempting to define a space that incorporates the program described above, a number of concepts were explored. The range of concepts included the box, the simplest solution in its ease of construction, opportunity to create a large communal space and the opportunity to use a strong modern form to represent Inuit culture in a modern way. However, the box makes no consideration of the landscape and seems to reaffirm a building form that is found throughout the entire community. The second concept considered, a large dome, uses the form of the igloo. The dome concept achieves the large open space while taking a form of the past in order to make a relationship to the land. However, this solution was deemed too literal. Third was the concept of one large iconic form. Here, the central space is surrounded by other programs and looked onto from all areas of the building. However, the central space in this case is buried within the building, making no connection to the outdoors. Fourth was the option to bury the entire building. In this concept, the building would be hidden, making it difficult for visitors to find and exerting an unwelcome feeling, one, which does not reflect the Inuit. Finally, the concept of 'pulling up' the landscape to create a space was the solution that appeared to embody all the positive elements found in the previous concepts.



Initial concept sketches for various schemes

Design Strategy



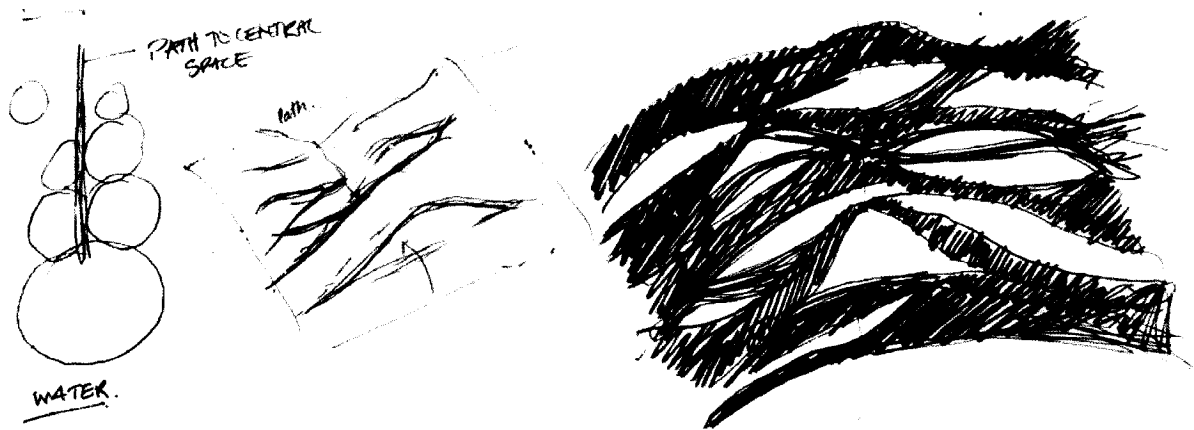
Conceptual Models

By 'pulling up' pieces of the land, a path is created through the landscape. Areas are then carved out of the rock and the raised pieces of land are then returned to shelter and embrace the program below. The building becomes one with the land, mimicking the gentle rolling hills of the landscape. The path through the building becomes a series of terraces along the hillside. Natural grade changes on the site define the program changes, allowing one space to overlook another. Each space then relates back to a roof piece. Along the path other program exists, program that requires both indoor and outdoor space. By creating a path, it allows everyone to travel through the building, through each program area, seeing and participating in the activities taking place. This allows everyone to feel as if they are part of something. The series of indoor spaces is connected to their corresponding outdoor spaces by the path. The path provides a series of informal seating areas or smaller gathering areas that link indoor and outdoor space. Each program guides one further into the building and down to the main gathering space.

Each space along the path becomes a celebration of the hunt, the animals and the food. The path can be seen symbolically as the necessary steps taken in the harvesting and preparation of the animal in order to reach the

final stage of celebration, song and dance that takes place within the main gathering space.

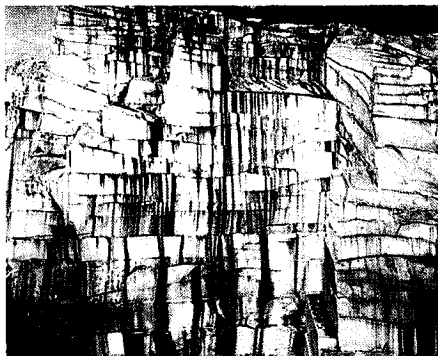
Essentially, the building is one large open space with level changes defining the program. The building embodies ideas of the past and takes activities of the present that continue to be of great importance to Inuit culture.



Concept sketches for chosen scheme:
Pulling up the land

Visually and acoustically the igloo is 'open', a labyrinth alive with the movements of crowded people. Voices and laughter come from several directions and the eye can glance through here, past there, catching glimpses of the activities of nearly everyone. (Nabokov and Easton 1989, 199)

The Ground

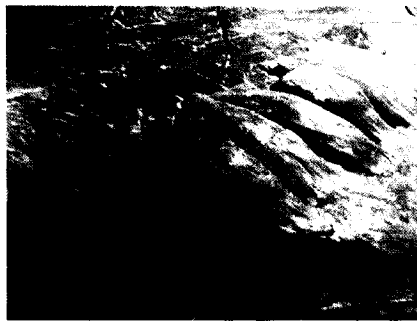


Drawing from work conducted in the building systems interface course, stone continues to be my material of choice in the construction of the building. Although the way in which the stone is used has changed, the idea remains constant. Finding ways to allow light to enter the building continues to be of importance as well as making a strong connection to the land through the use of stone as a building material.

The building is made from the rock of the land. As an igloo is made from snow and melts away to become part of the land as the group moves on, this building is made of stone and represents permanence, the state of Inuit communities today.

As the strips of land are 'pulled up' off the ground, a rough, rocky outcrop of bedrock is exposed. The building is carved from the rock as each program finds its space along the side of the hill. The stone is carried though the entire building, where it is placed in order to create seating areas, stairs and tables. Stone is stacked to create end walls, piers and the fireplace. Smaller units of stone are used to clad the roof.

From top to bottom:
Quarry (Burtynski, 1991)
Granite Quarry (Burtynski, 1991)
Inuit Cache (Canoe, 2006)
Frank Lloyd Wight, Falling Water



Model Photographs

The stone becomes an important tactile element that varies in its surfaces, smooth in some areas and rougher in other areas. Ground becomes seating area, which then becomes counter top, then storage area, then ramp or stair. The life in the stone is represented through its veins, which travel through the entire building, along the floor and wrap over surfaces. The grain lines of the rock represent time; the thousands of years the Inuit have walked the land.

Utilizing the rock of the land acknowledges the Inuit relationship to the land. The entire community can become a part of the process of construction. The land physically grounds the building and changes its form in order to accommodate a variety of spaces and activities.

Much like the traditional quilliq (oil lamp) found in the center of the igloo, a large stone fireplace becomes the hearth in the building that connects the kitchen area to the large communal room. The fireplace warms the building and also allows for traditional cooking over open fire to take place. The hearth becomes the center of the building where people congregate. The stone absorbs the heat, storing it to release when the fireplace is not in use. The stone works in the same way as it absorbs the sunlight entering the building, taking advantage of passive energy. Traditional hide and skins are in abundance to be used as cushions for seating in all areas of the building.

The Roof

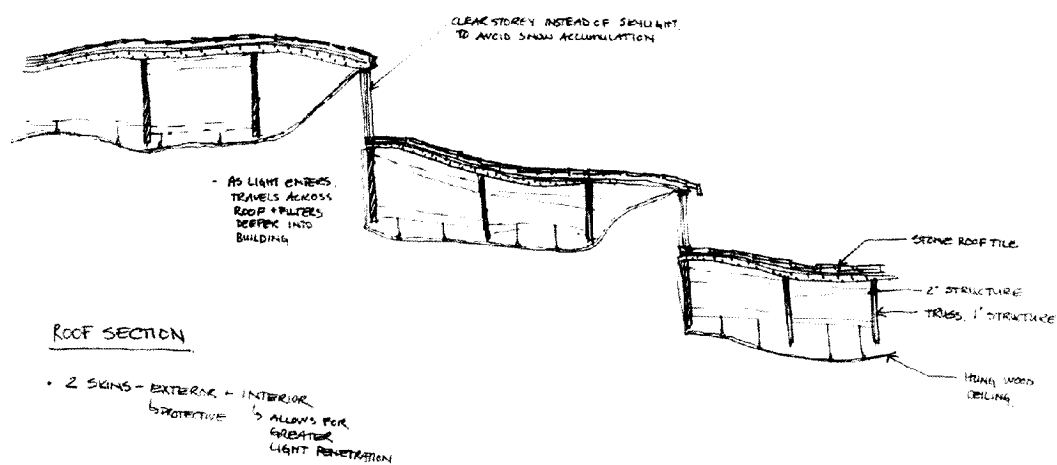
Lifting up pieces of the land, the roof breaks apart resembling large fingers that gently wrap back down to form a roof structure that shelters the building. The roof pieces directly relate to the strips of land that form the program below. Just as the program below terraces upwards along the hill, the fingers of the roof follow the same pattern. As each finger joins another higher set finger, the space between becomes a clerestory in order to allow light to enter the building. Due to the high latitude of Cambridge Bay, the sun is fairly low for most of the daylight hours. Therefore, a clerestory is used in order to maximize the amount of light entering the building. From the outside during the long polar night, the strips of light reverse becoming a lantern at a distance.

The roof consists of a dual skin. The outer skin is the protective skin that follows the outside curve and is clad in stone. The inner skin becomes a monolithic form, an independent curve that is shaped in order to allow the light that enters through the clerestory to travel along the ceiling and penetrate deep into the building. In addition to the natural day lighting strategy, the inner skin takes advantage of artificial lighting, which works in times when daylight ceases to exist. Artificial lights are buried in the wood ceiling, allowing for a uniform glow to filter through the slats, creating a feeling of warmth from above.

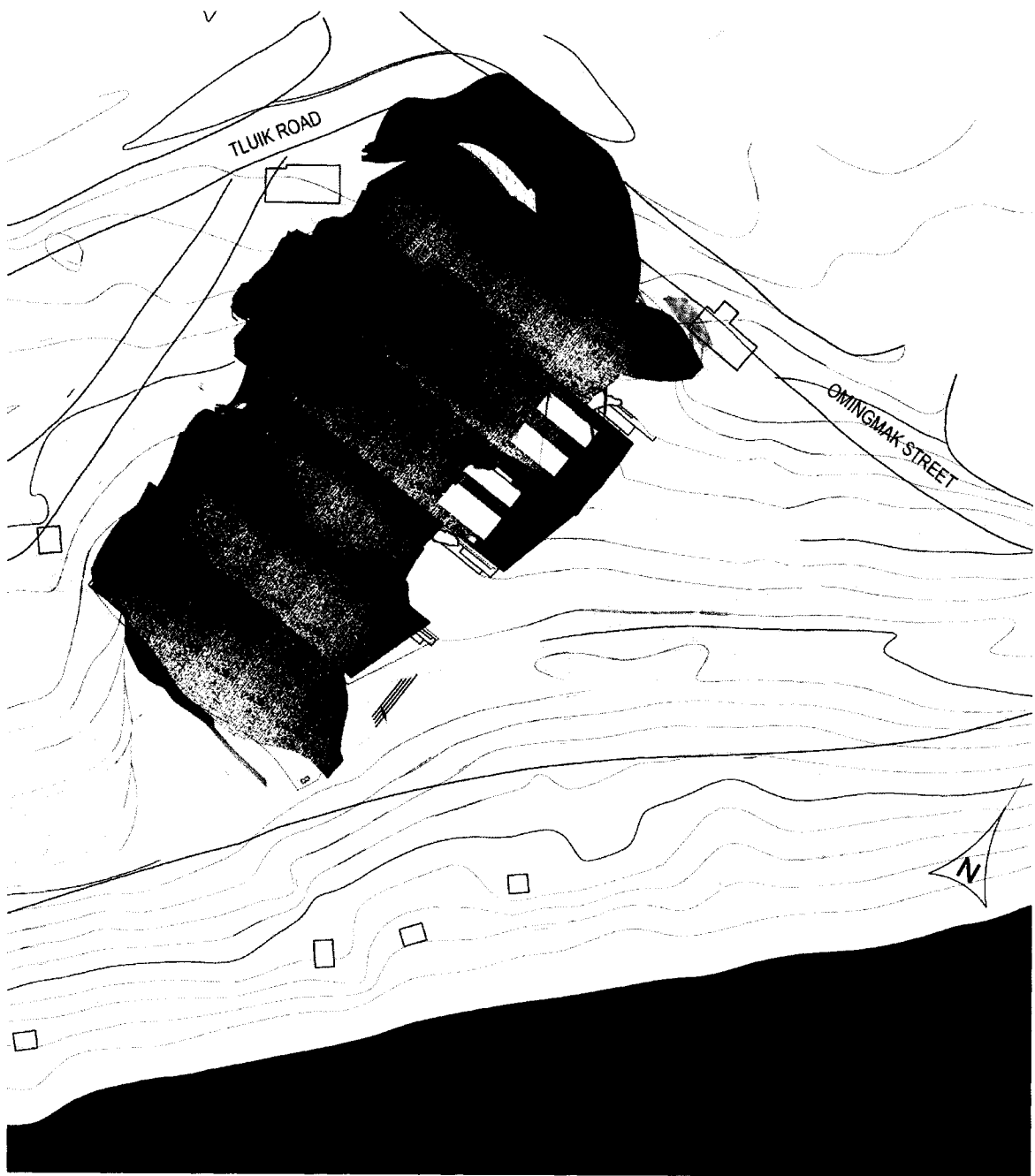
The roof also takes the shape it does in order to keep snow accumulation to a minimum. Oriented to the north, the prevailing winds coming from the northwest and west, will blow the snow over the building (following the roof curve) and back off the building as it reaches the roof's edge and down towards the water.



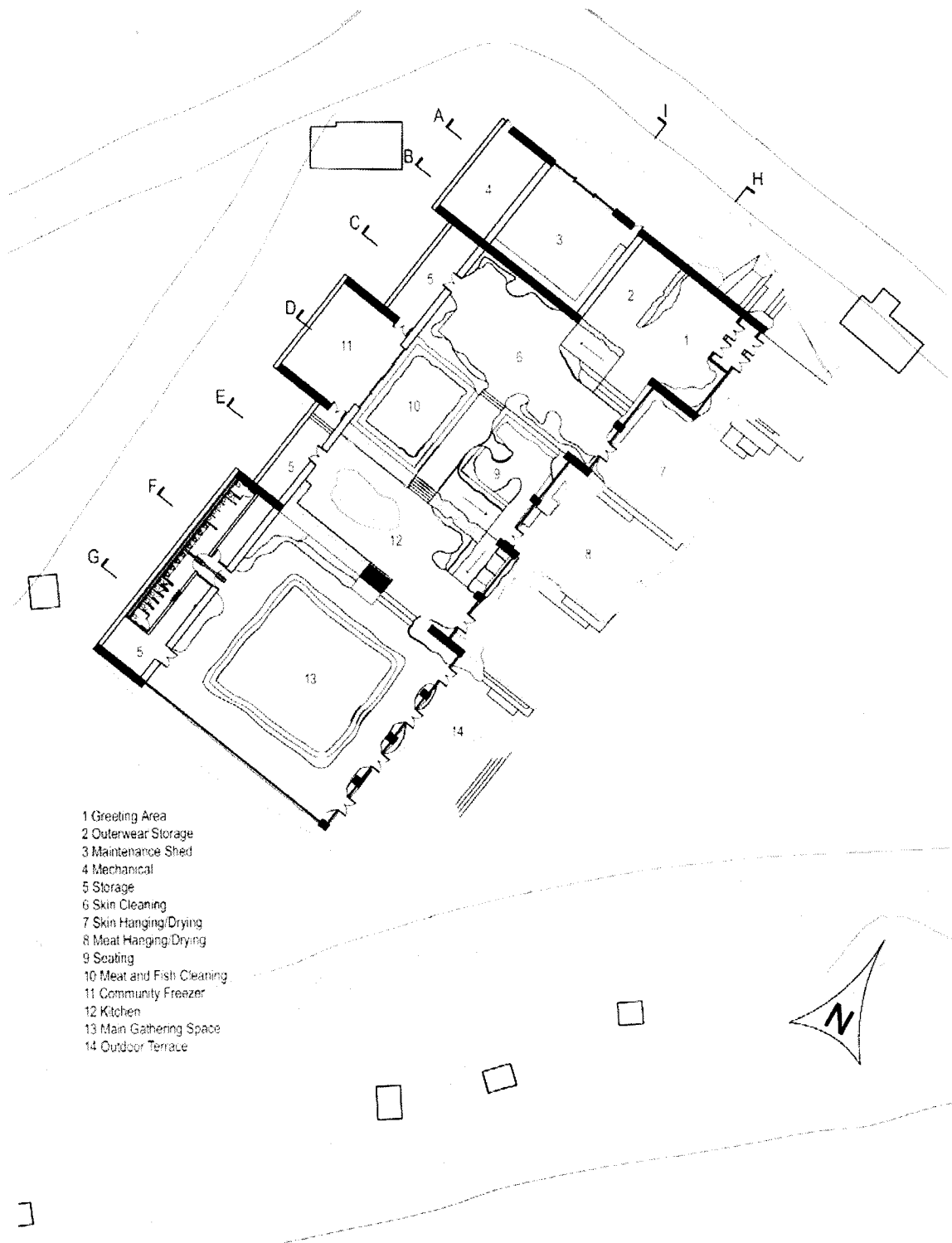
South Elevation – the building becomes a lantern during the polar night



Longitudinal roof section showing dual roof and natural light penetration into the building



Site Plan



- 1 Greeting Area
- 2 Outerwear Storage
- 3 Maintenance Shed
- 4 Mechanical
- 5 Storage
- 6 Skin Cleaning
- 7 Skin Hanging/Drying
- 8 Meat Hanging/Drying
- 9 Sealing
- 10 Meat and Fish Cleaning
- 11 Community Freezer
- 12 Kitchen
- 13 Main Gathering Space
- 14 Outdoor Terrace

Plan

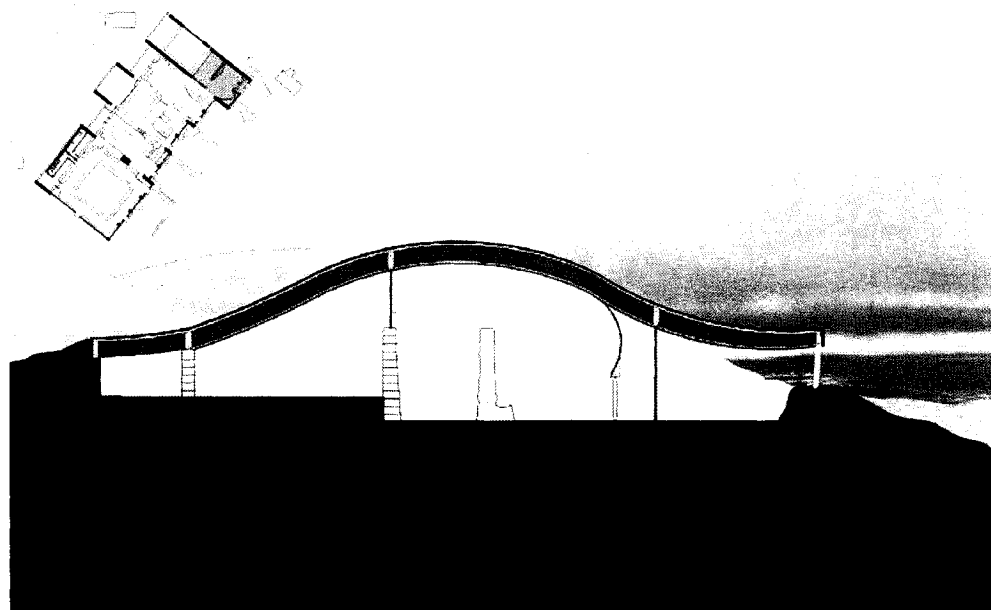
Greeting Area



Traditional oil Lamp
(Newbery 1999)

As one walks down the path towards the entry, one is aware of the surrounding landscape. The texture of the rough cut stone is exposed as it is carved out of the land. Upon entering the building one is greeted with the warmth and light emanating from the qulliq. This glow and heat fills the entirety of the greeting area where one becomes aware of the activity and the people that occupy the building. Sounds and smells overwhelm the visitor who all the while is being drawn more deeply into the space.

The qulliq was traditionally the heart of the home during the long winter. It was made from ordinary rocks that had a hollow in the center. Like the carved path through the landscape, the qulliq is carved out of the same rock and used to greet any visitor that enters the space.



Section A

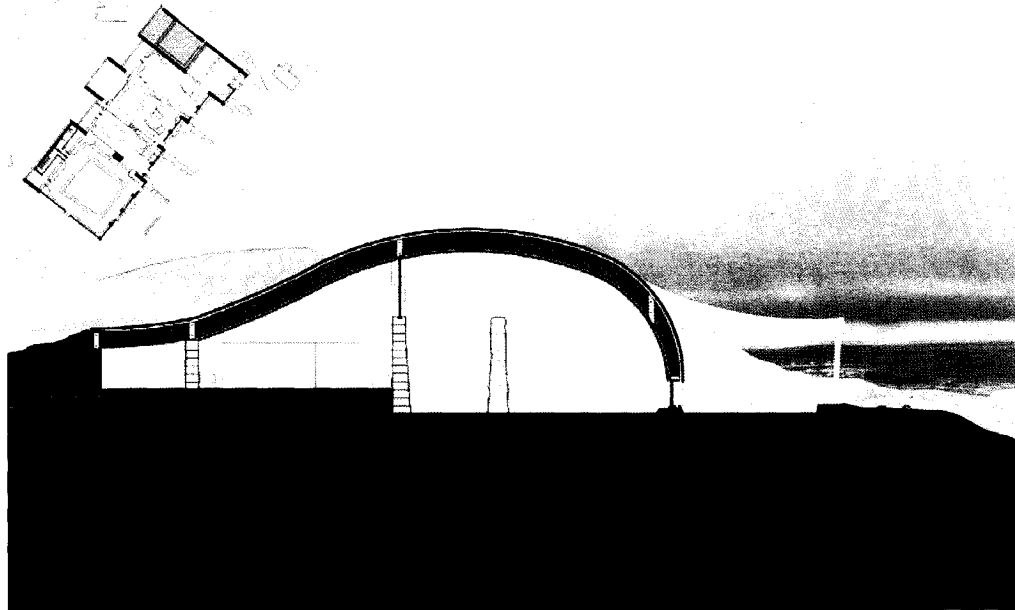
Maintenance Shed



Cambridge Bay frolics
(Polarnet, 2003)

In order to prepare for hunting and going out on land, regular maintenance of equipment is important. However, many Inuit are not fully equipped with the tools necessary for maintenance, therefore, sharing of these kinds of equipment is necessary. The maintenance shed provides all the tools one would need to prepare for a hunt, as well as proper equipment for the upkeep of these tools.

Children gather as they watch others working on the skidoo. Fascinated by the work being done and awaiting the chance to go for a ride.



Section B

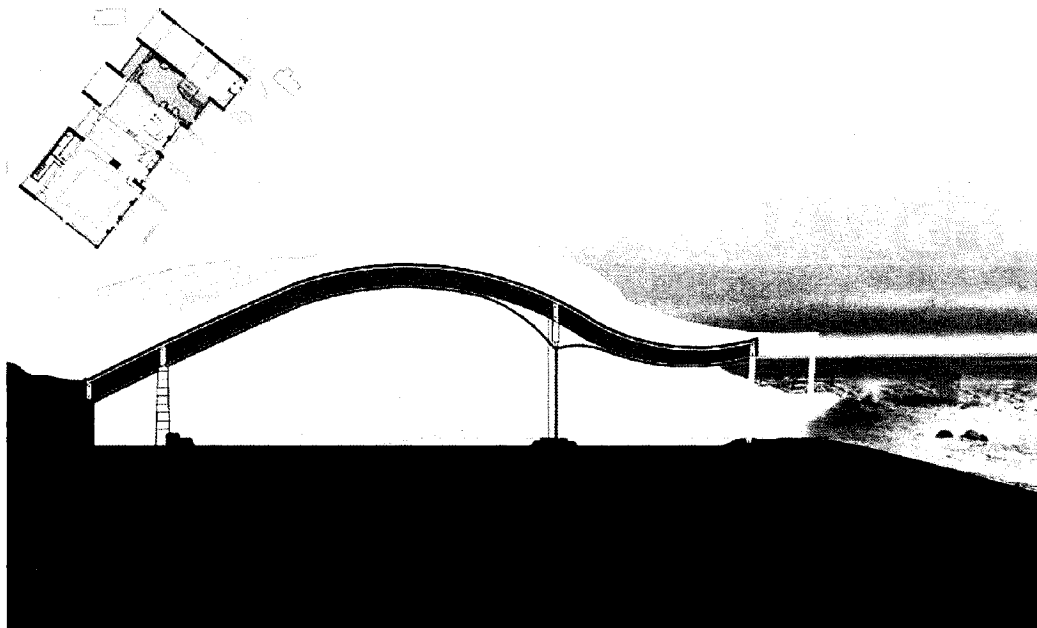
Hide/Skin Preparation



Hide and skin preparation
(Newbery 1999)

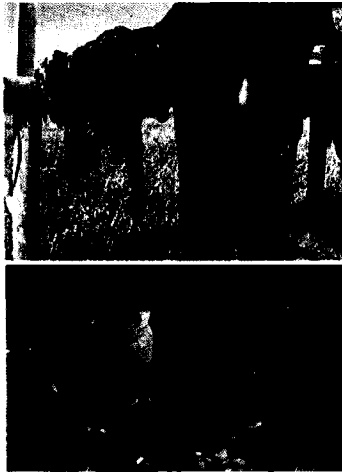
The members of this group are sitting in a circle facing one another as they clean the skins and prepare them for hanging. The task of preparing the hides is one that requires much time and concentration. Mistakes are easily made when care is not taken and one rushes through the work. The sounds coming from the people butchering fills the room with laughter and excitement. There is a group sitting to the side engulfed in a conversation, watching as the others work carefully.

In the crisp dry air, the hides hang to dry, being tanned by the low sun that bounces along the horizon. Both hanging area and flat surfaces are required to tan, dry and stretch the skins. Once ready, the women will take the hides and skins and transform them into wall hangings, clothing, or use them as warm cushion seats.



Section C

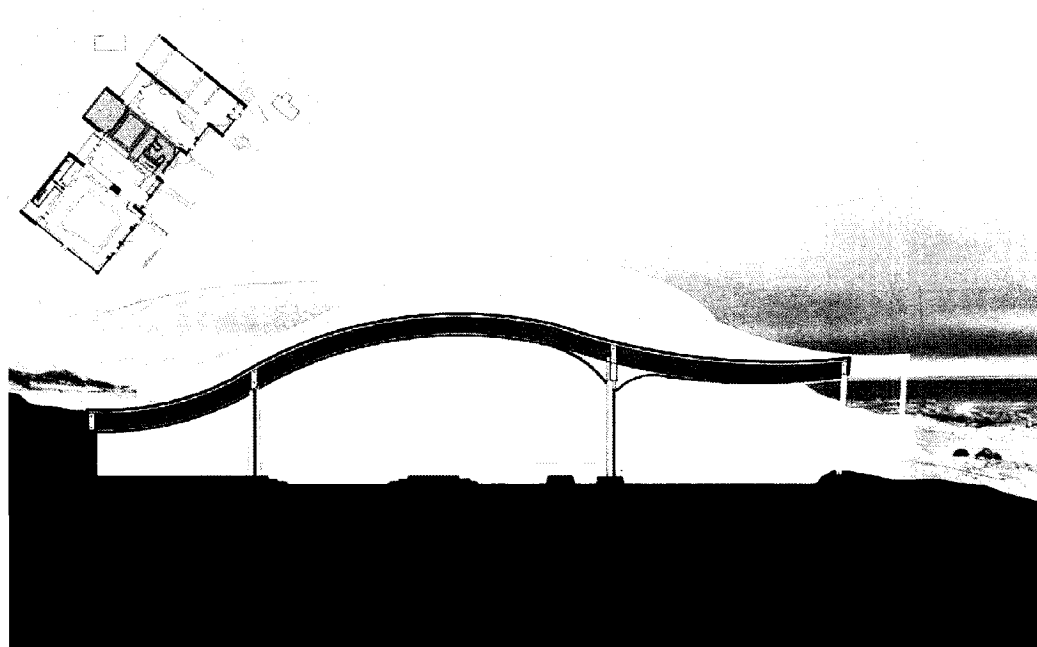
Butchering and Meat Hanging



Inuit food hanging and harvesting
(Arcticphoto, 2006)

Many gather around and take part in the butchering of the gift the land has given to them. The sunken floor keeps the blood contained while the perimeter steps allow the hunters to sit while they cut. Some parts will be hung to dry, others frozen, and some parts will be eaten as they are being cut. While some work, others wait for the task to be done so they all can enjoy in the festivities that will follow.

A community freezer is where the pride of the hunt is on display and celebrated. The hard work that has gone into the hunt is there for all to see. The community freezer allows for everyone to store food.



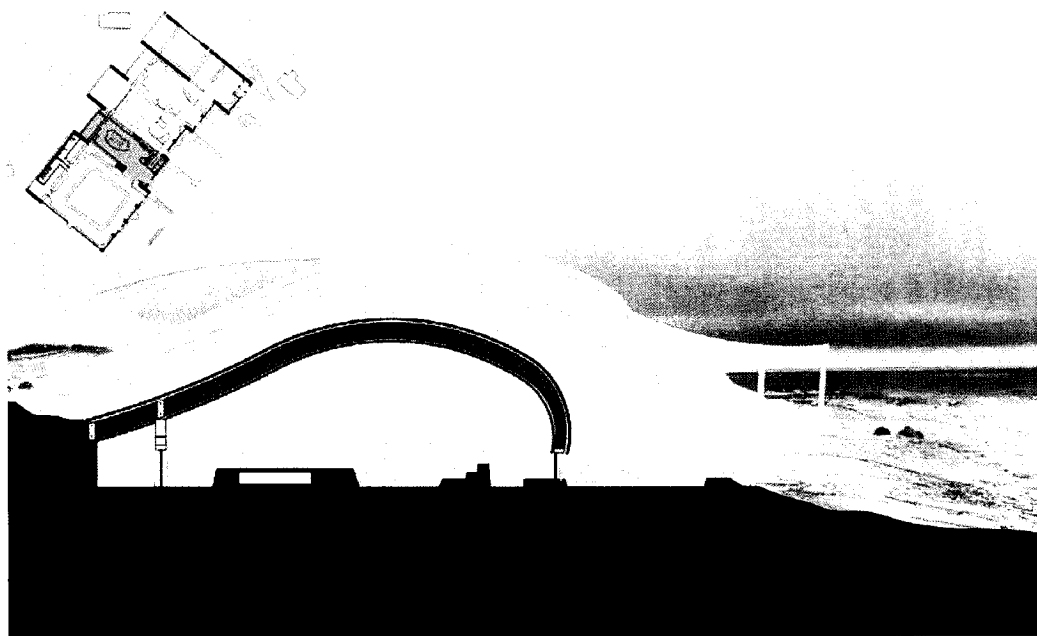
Section D

Communal Kitchen



Inuit food harvesting
(Arcticphoto, 2006)

The communal kitchen is where another group gathers around awaiting the cooked caribou to be ready. People huddle around the cutting table to prepare for cooking. The open fire slowly boils the water in which the caribou meat sits. The smell of boiling caribou fills the air. The kitchen is filled with many cooks, each doing their task in order to prepare for the feast.



Section E

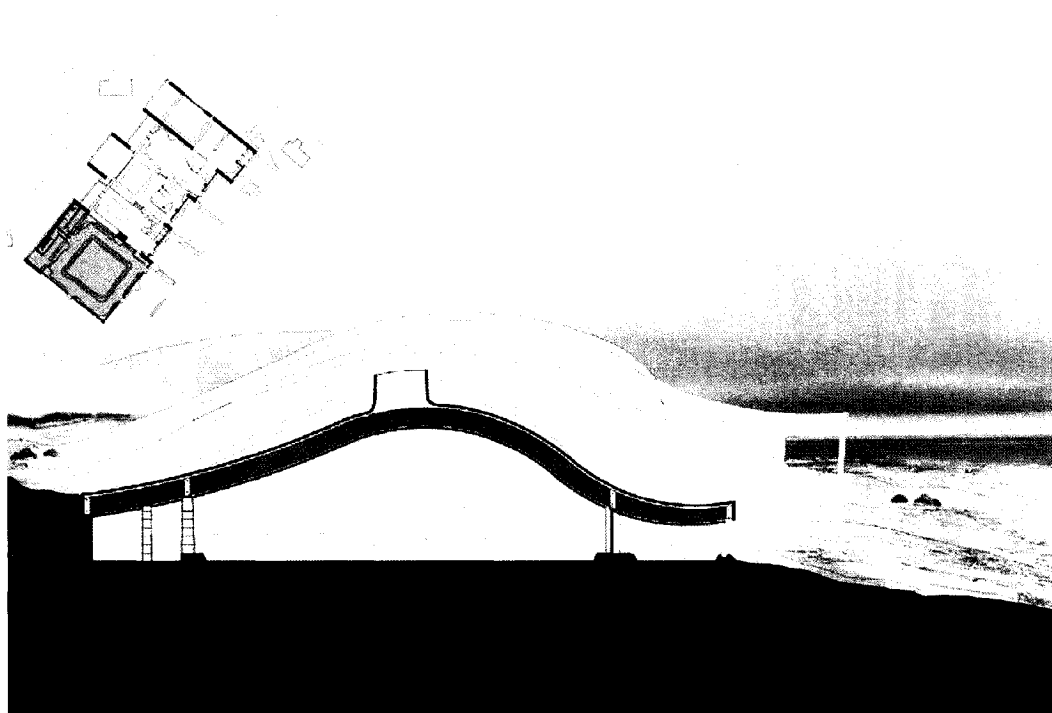
Main Gathering Space



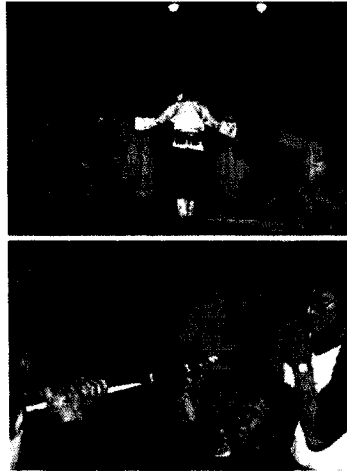
Inuit feast
(inac, 2003)

Within the main gathering space, the fire warms the room while everyone gathers around to share in the feast. On a cold, dark winter day everyone from the community gathers together to eat, socialize and pass the time.

The group gathers in the center of the room with an abundance of food in the center waiting to be consumed. Drum dancing is happening; singing is heard, stories are being told and games are being played. Laughter fills the air and everyone enjoys the good food and the company of their neighbours and friends.



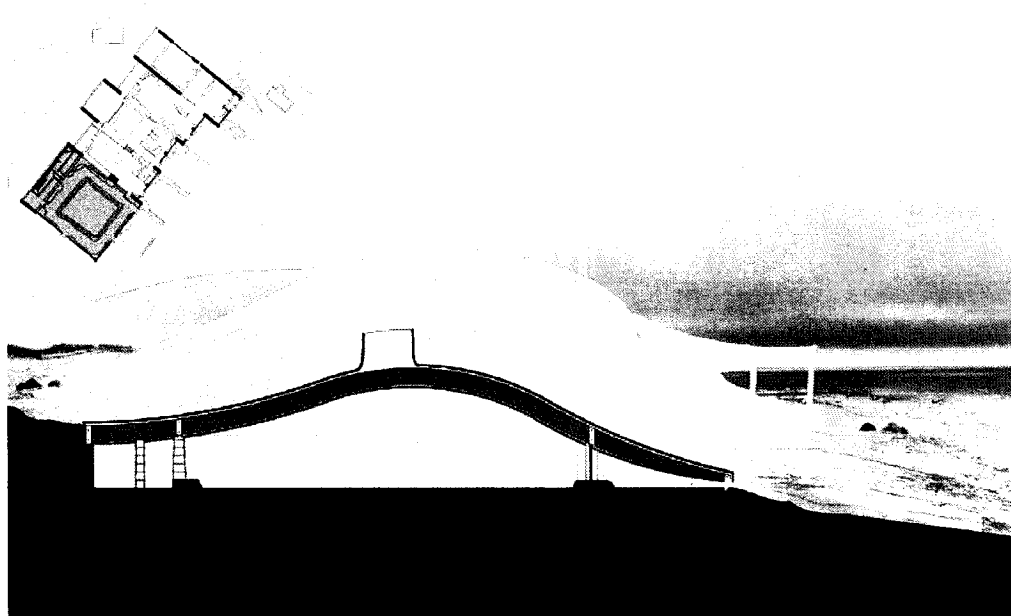
Section F



Inuit celebration and games
(Newbery 1999)

When a feast and its associated festivities are not taking place, the space becomes one for local meetings, children's organized events, art, craft and sewing groups, community breakfasts, concerts and shows or simply just relaxing, socializing and having coffee or tea.

The space is large enough to accommodate a great number of people and an even larger number of activities. Tables and chairs can be taken out from storage and arranged to accommodate a more formal seating arrangement, or furs/hides can be taken out and placed on the stone to provide comfortable and informal seating.



Section G

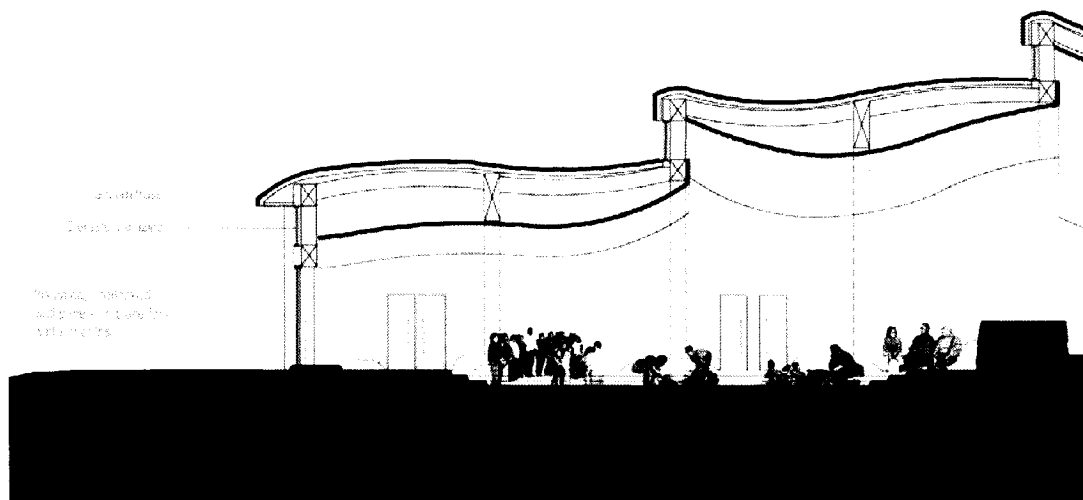
The building is designed to be transformed seasonally in order to support the community and its changing activities throughout the year.

In the winter, the building retracts as the people and activity are brought indoors. They gather together in order to shelter from the harsh exterior environment. The sliding walls on the south end of the building are closed and fixed to the ground, roof and side piers. They are made to interlock in order to create a tight seal and minimize heat loss throughout the winter months.

In the summer however, the activity shifts outdoors. The glass pivot doors along the east side of the building open up where the terraces extend into the landscape and people and activities are scattered along the hillside. The path extends down to the water where people fish or work on their boats. The roof structure extends out as a wood frame that is attached to the roof's edge where meat, fish and skins are hung. The sliding wall panels located along the south wall are stacked together and stored during the summer months, allowing the south end of the building to open up entirely onto the landscape.



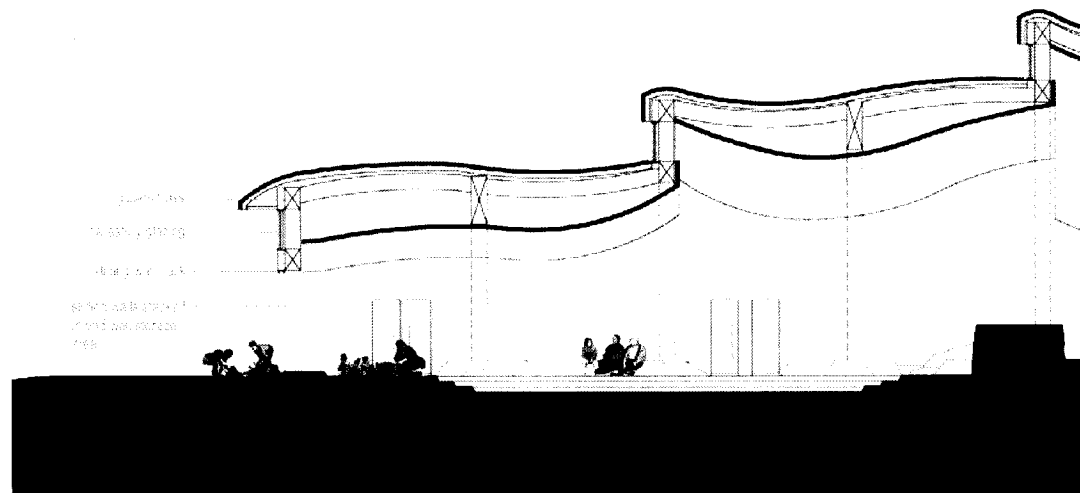
Exterior Perspective Winter



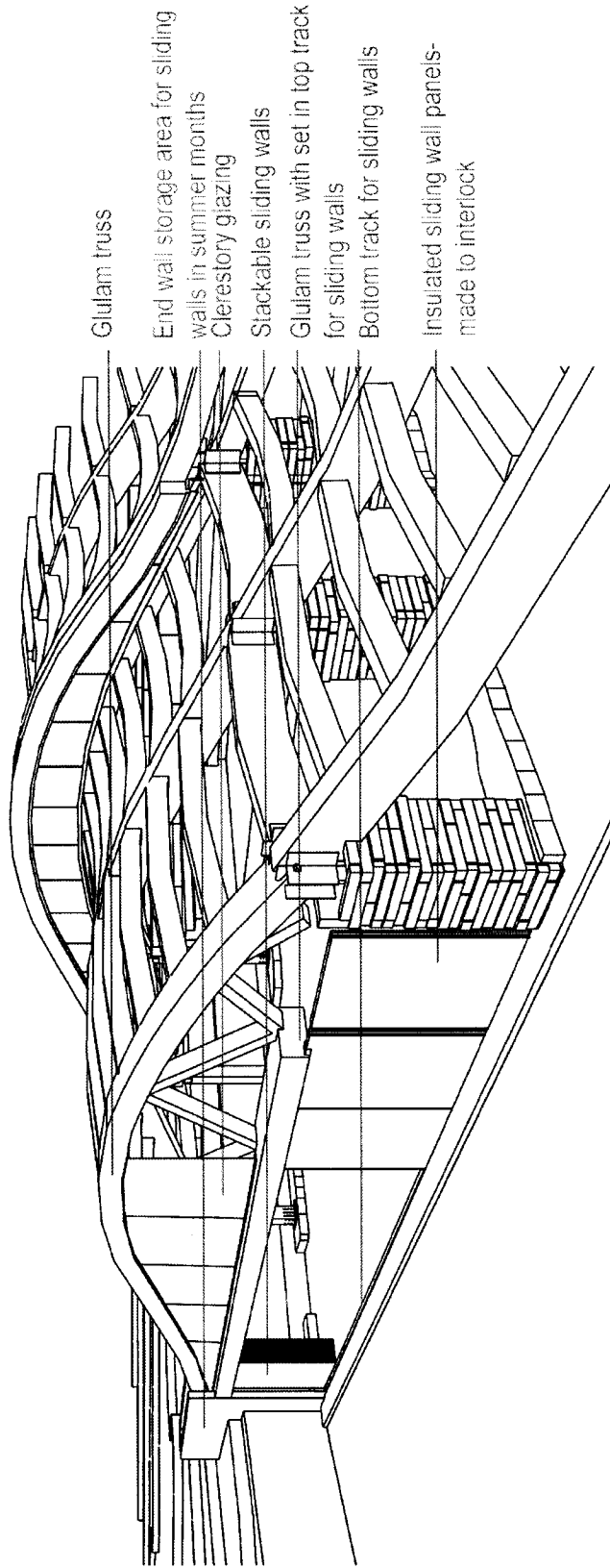
Partial Section I - main gathering space: winter condition, sliding wall closed



Exterior Perspective Summer



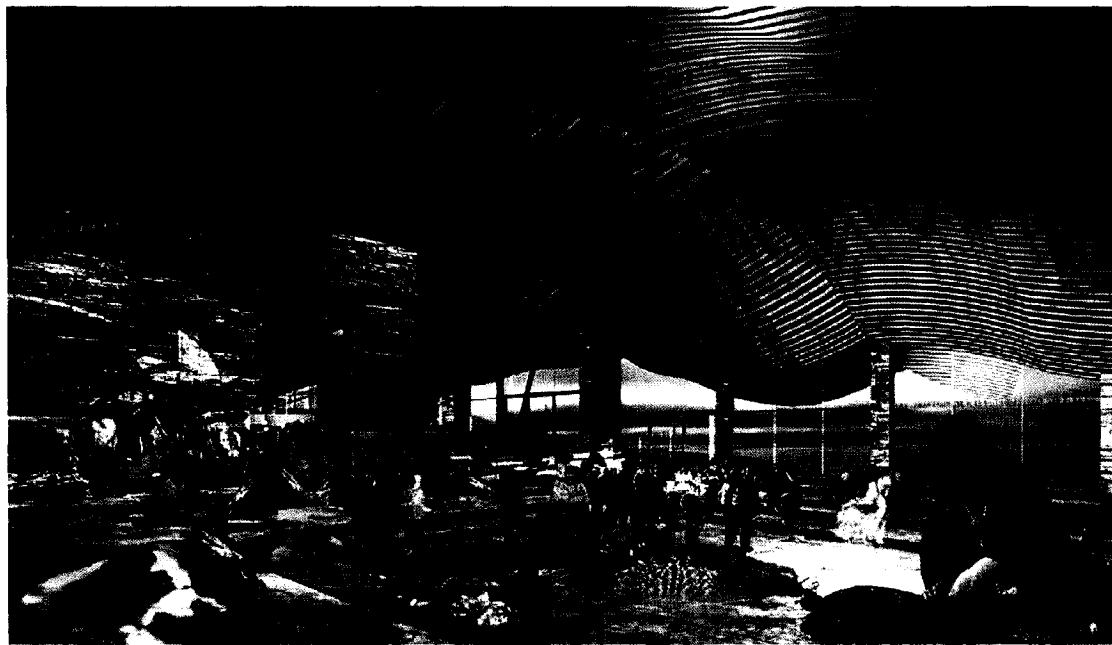
Partial Section I - main gathering space: summer condition, sliding wall open



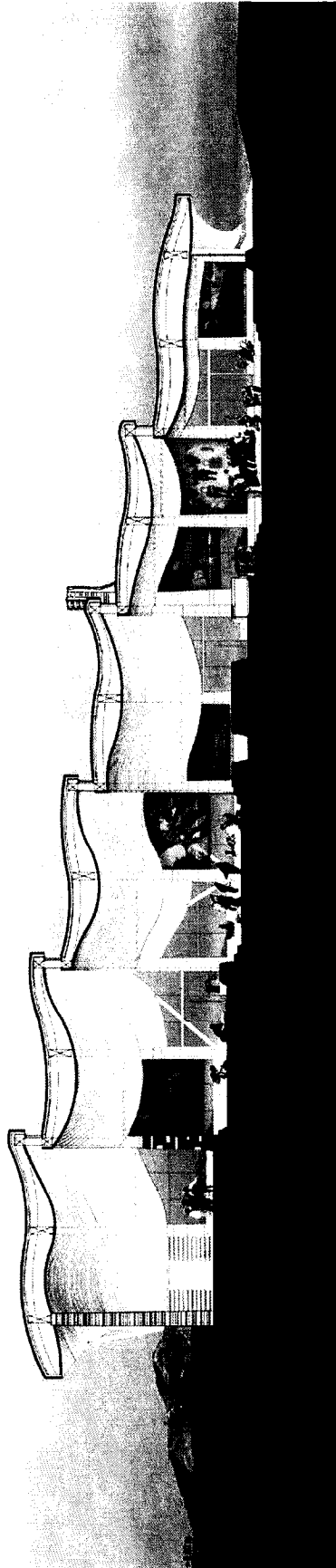
Sliding South Wall



Interior view from greeting area looking down



Interior view of main gathering space looking up



Section H

During the long cold winters, keeping heat inside the building is of great importance. This is achieved through the use of Inuit art in the form of wall hangings. Wall hangings were sewn by women to show the life and spirit of the people, a spirit formed in the most extreme natural condition.

The wall hangings will be used as roll down screens that are fixed above the slat ceiling. When the weather grows cold, the screens can be rolled down and fixed to the stone ledge on the ground and the stone piers on the sides to create a tight seal. The community can produce these hangings and celebrate their culture on cloth. Light from the interior will filter through the cloth and its various colours may filter onto the hillside.

Inuit Wall Hangings:

Left:

Red Willows Camp

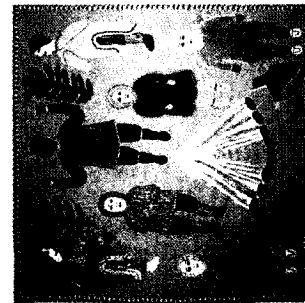
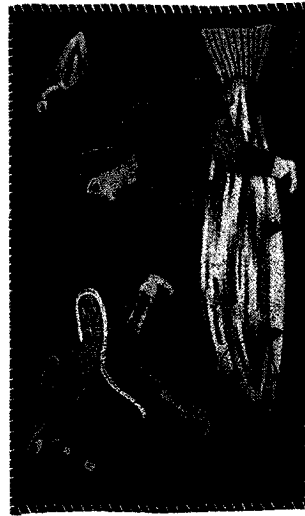
Mary Kutsiq Mariq

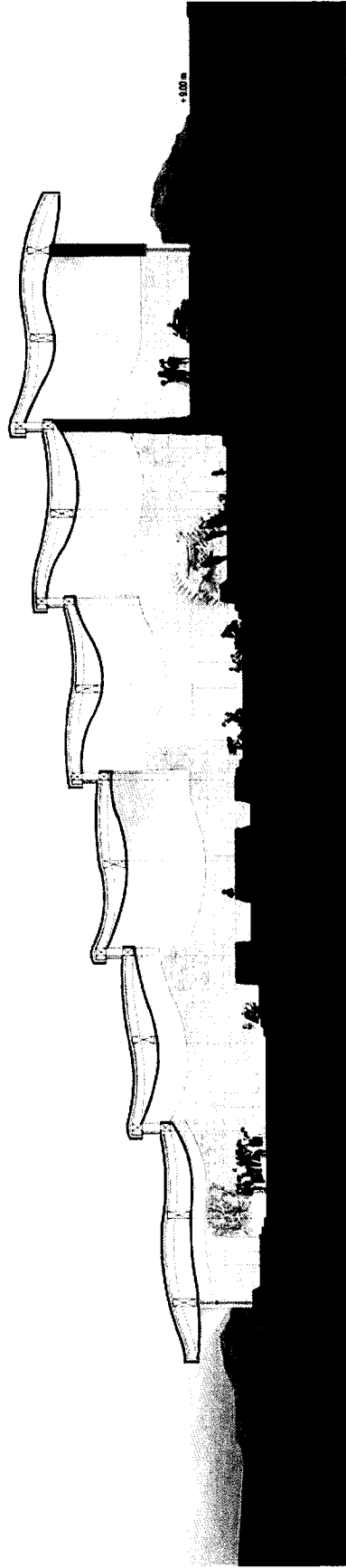
Right:

Kiviup Riding a Fish

Victoria

Mamnguqsualaka





Section I

Much as Inuit wall hangings tell stories and celebrate culture through representation, Inuit carvings do much the same. Most of the West side of the building is a block granite wall that is intended to act as an art wall for Inuit carving. Here the Inuit can carve stories until the entire wall becomes a translated history and no longer a simple block wall. Everyone can get involved in the carving, from experienced carvers to people willing to learn.

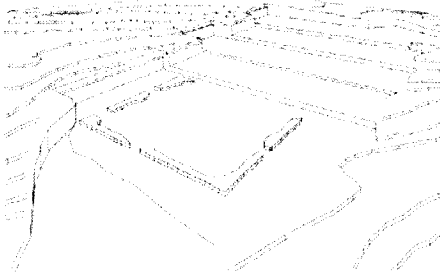


Inuit Carvings
Left:
Northern Lights
Davidialuk Alasua
Amittu
Right:
Inuit father teaching
his son to hunt
Eleano Milne



Construction Sequence

Excavation



Excavation of major level changes



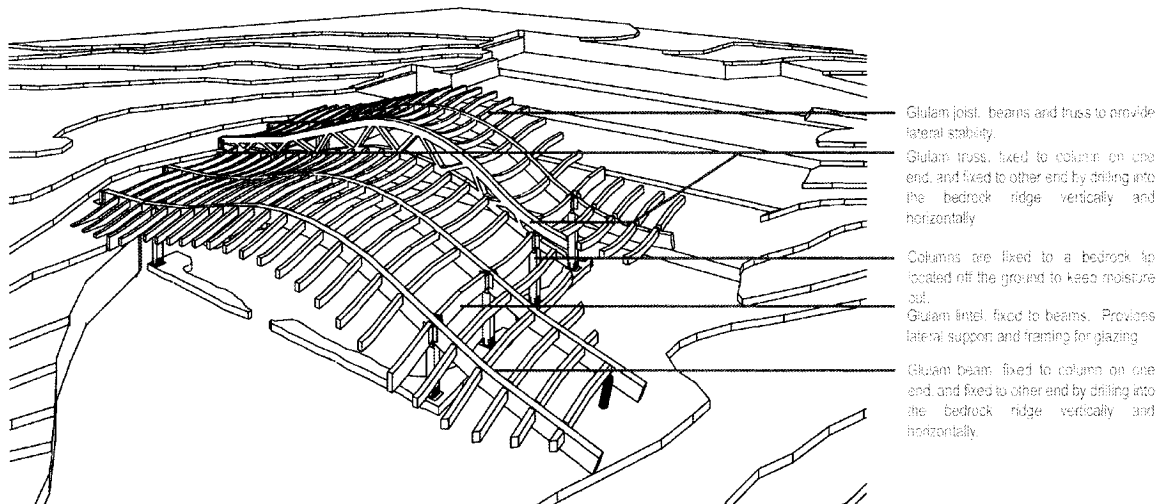
Granite quarrying process
(Birkendale, 2002)

The land consists of granite bedrock overlaid with sedimentary rock. In order to cut into the land, excavation equipment is necessary. With mining in abundance through Nunavut and the NWT, mining and excavating equipment can be brought into the community. A skilled worker would have to be brought into the community to supervise the work and train a few individuals in the community for this task. Before any blasting can begin, the land must be prepared. The face of the land is stripped exposing the bedrock and holes are drilled prior to blasting. The blast loosens the rock so that it can be pulled apart and removed. The excavator then separates, removes and stock piles the loosened rock in preparation for processing.

There are five major level changes within the building that are subtracted. The subtracted rock is piled into three major categories that include: Armour stone blocks that do not have any good split lines. These types of stones are used for retaining walls, or anything that requires larger blocks. Manual Processing includes rock selected for hand splitting. The rock contains grain lines that enable to rock to be split by hand producing two flat surfaces. Guillotine Processing uses a machine to shape stone into different sizes. The large teeth of the machine add pressure to the stone in order to cut it to size.

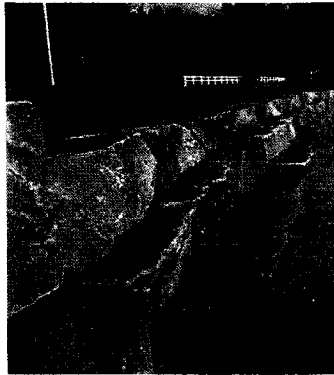
Structure

The primary structure, glulam columns, trusses, and beams get put into place, followed by the secondary structure, glulam joists and lintels. While a team lifts the structure into place, the excavated stone gets cut down further. Different teams are assembled for different cutting purposes. One team will work towards getting the stone cut into large blocks for the “carving wall”. Another team will work to cut the stone into smaller thinner blocks that will be used for the column cladding. Team three will work at cutting down the stone into its smallest form that will become the 20mm thick roof cladding. The final team will gather, sort and cut stone that will be suitable for forming stairs, ledges, seating areas and tables.



Primary and secondary structure

Stone Placement

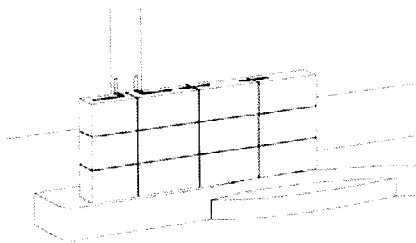
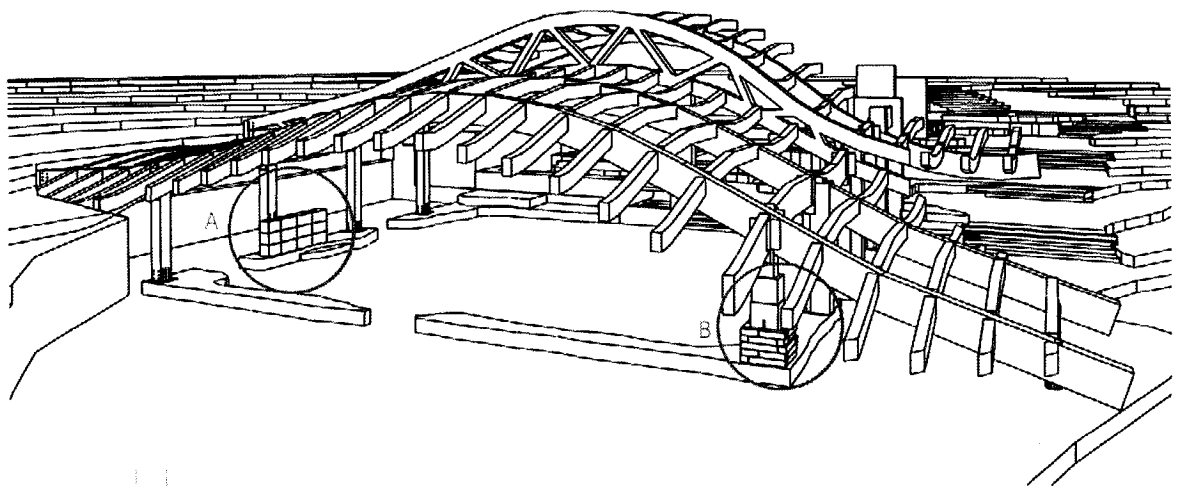


The teams begin to add back the rock that has been subtracted and processed. The teams work in placing and fixing the rocks to the walls and the columns and assembling rocks to form seating, stairs and tables.

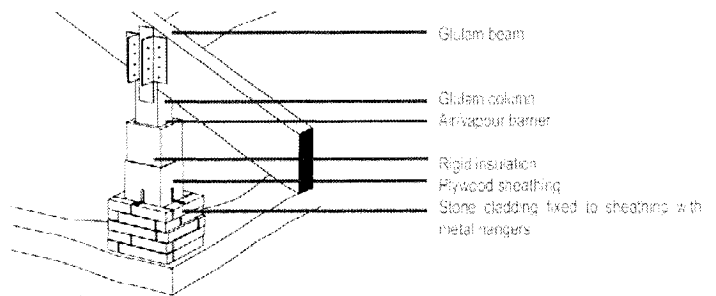
Due to the columns being exposed to the outdoor temperatures, it is necessary to insulate before cladding in order to protect from the outdoor environment and prevent moisture from seeping into the structure.

The opposite wall however is an interior wall therefore insulation is not required. The granite blocks are tied back with metal hangers to the column behind. This wall will become the carving wall, where the Inuit can carve from in order to tell stories or translate history.

Various stone placement examples from top to bottom:
Stone seating and ledges, stone hearth, tables and counter tops, and stairs.
(Birkendale, 2002)



A - Granite block tanking wall



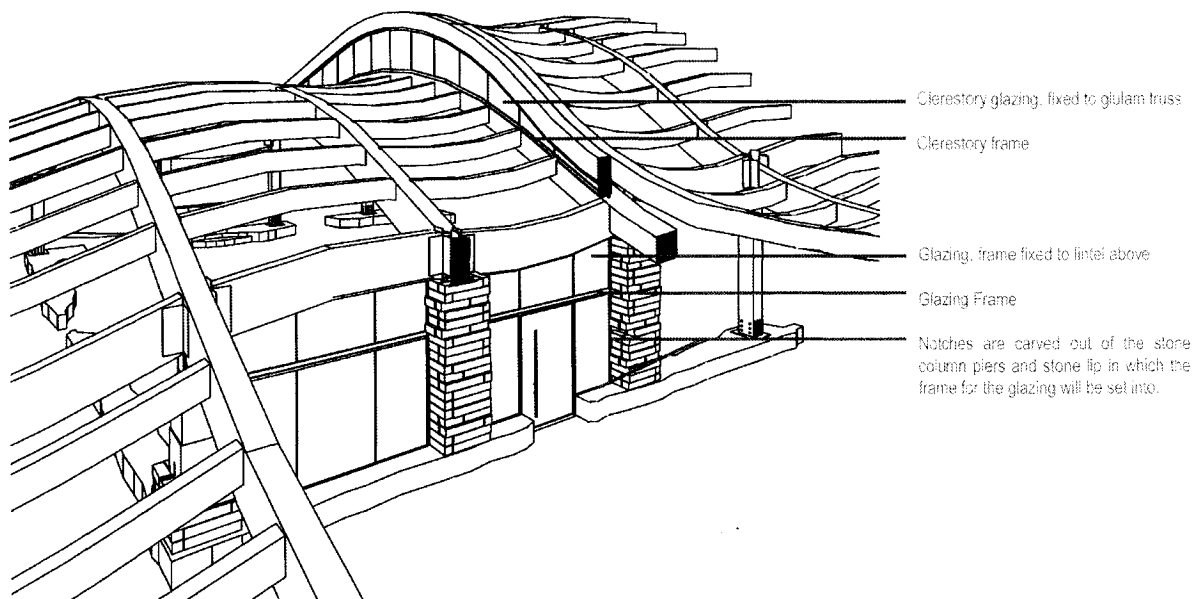
B - Stone column cladding

Various stages of stone placement

Glazing

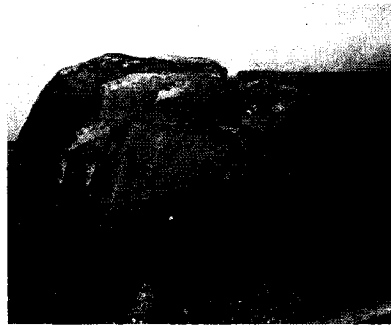
The roof breaks apart creating a series of eyebrow windows. These clerestories allow natural light to filter into the building throughout the day, while at night a lantern effect is created with the warm glow of the interior emanating back into the landscape.

The frame of the clerestory is fixed to the glulam truss. Glazing along the side of the building is fixed to the bottom and sides of the stone and to the underside of the lintel. Slots cut into the stone allow the frames to be set in slightly.



Glazing Installation

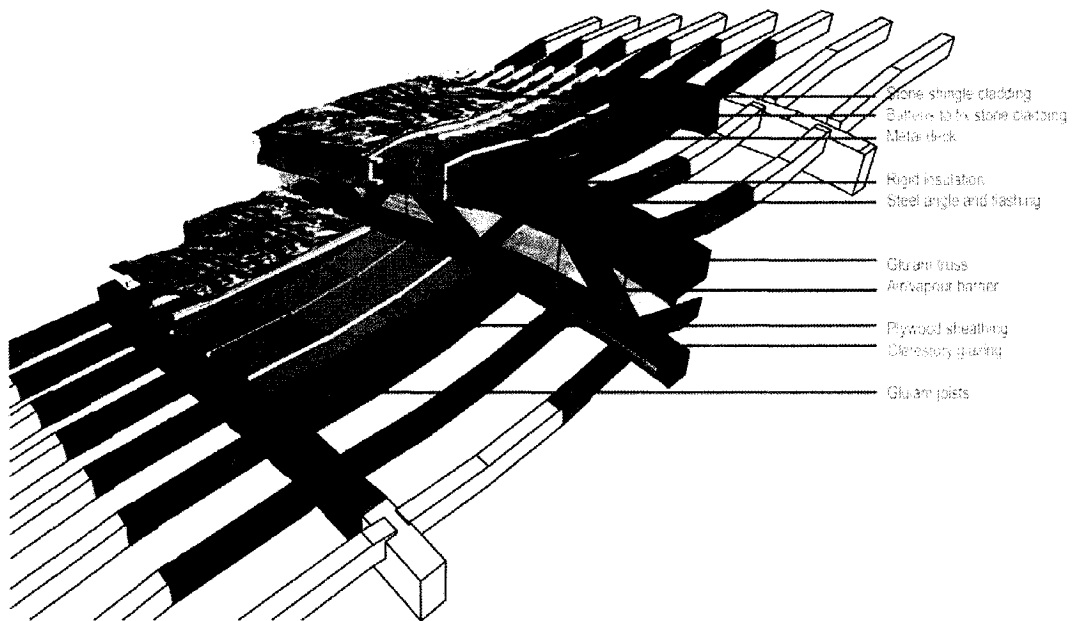
Roof Assembly



Stone roof examples
(Canoe, 2006)

The roof follows standard roof assembly principles. Plywood sheathing is fixed to the beams and joists. There is a potential for reuse with the plywood, as many materials shipped to the arctic arrive in plywood crates. The crates used to bring in the materials can be taken apart, cut to size and used as sheathing throughout the building. The air/vapour barrier is placed between the rigid insulation and the sheathing in order to prevent any moisture from reaching the structure. A metal deck is then placed above the insulation, which will allow any moisture that may seep through the cladding to drain away. Battens are fixed to the deck in order to lift the stone cladding up off the deck and allow for an air space. Where a clerestory appears, the roof assembly wraps down to cover and protect the structure.

Granite has been used as a building material for centuries in many applications including: wall cladding, roofing, flooring and a variety of indoor and outdoor applications. Granite resists wearing and tearing because of its hardness. When used outdoors, granite's mineralogical structure is not influenced by freeze-thaw cycles; therefore it works well in resisting to weathering.

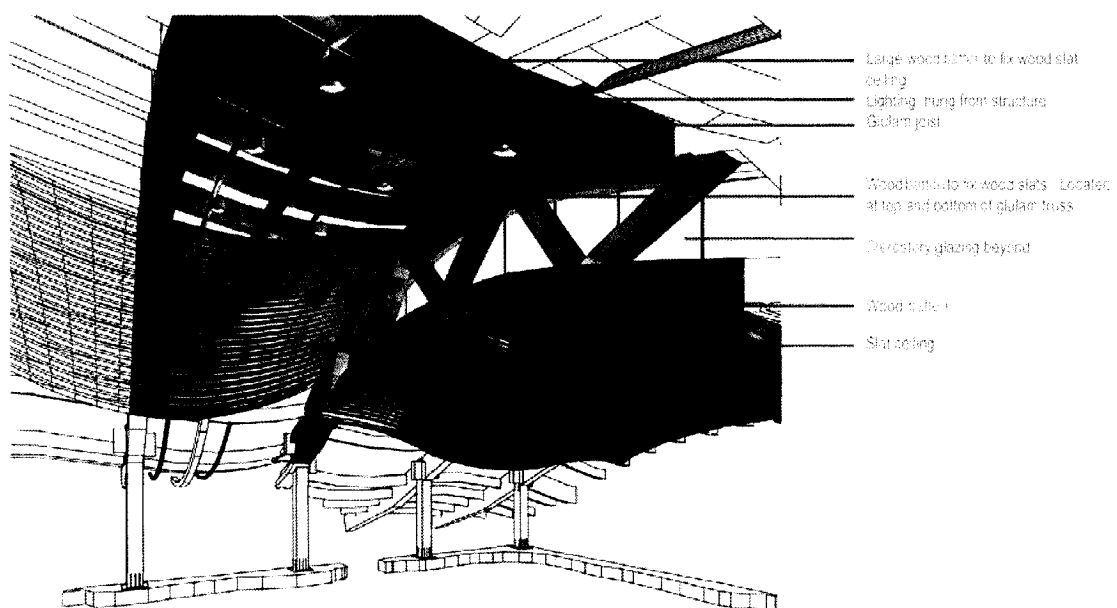


Roof Assembly

Ceiling Assembly

The final phase of construction involves the installation of the wood slat ceiling. The slats are fixed to the underside of the structure and interstitial battens. The ceilings dip down and then back up where one ceiling meets the top of the glulam truss and the next ceiling meets the bottom of the glulam truss. This break in the ceiling allows for light to enter through the clerestory, travel along the ceiling and penetrate deep into the building.

When natural daylight is not available, the artificial light buried beneath the slat ceiling will diffuse light through. Rather than exposing the lighting, structure and other services, the slat ceiling allows for a monolithic form. Here, light diffuses through the slats subtly creating evenly distributed light, mimicking the natural outdoor lighting.



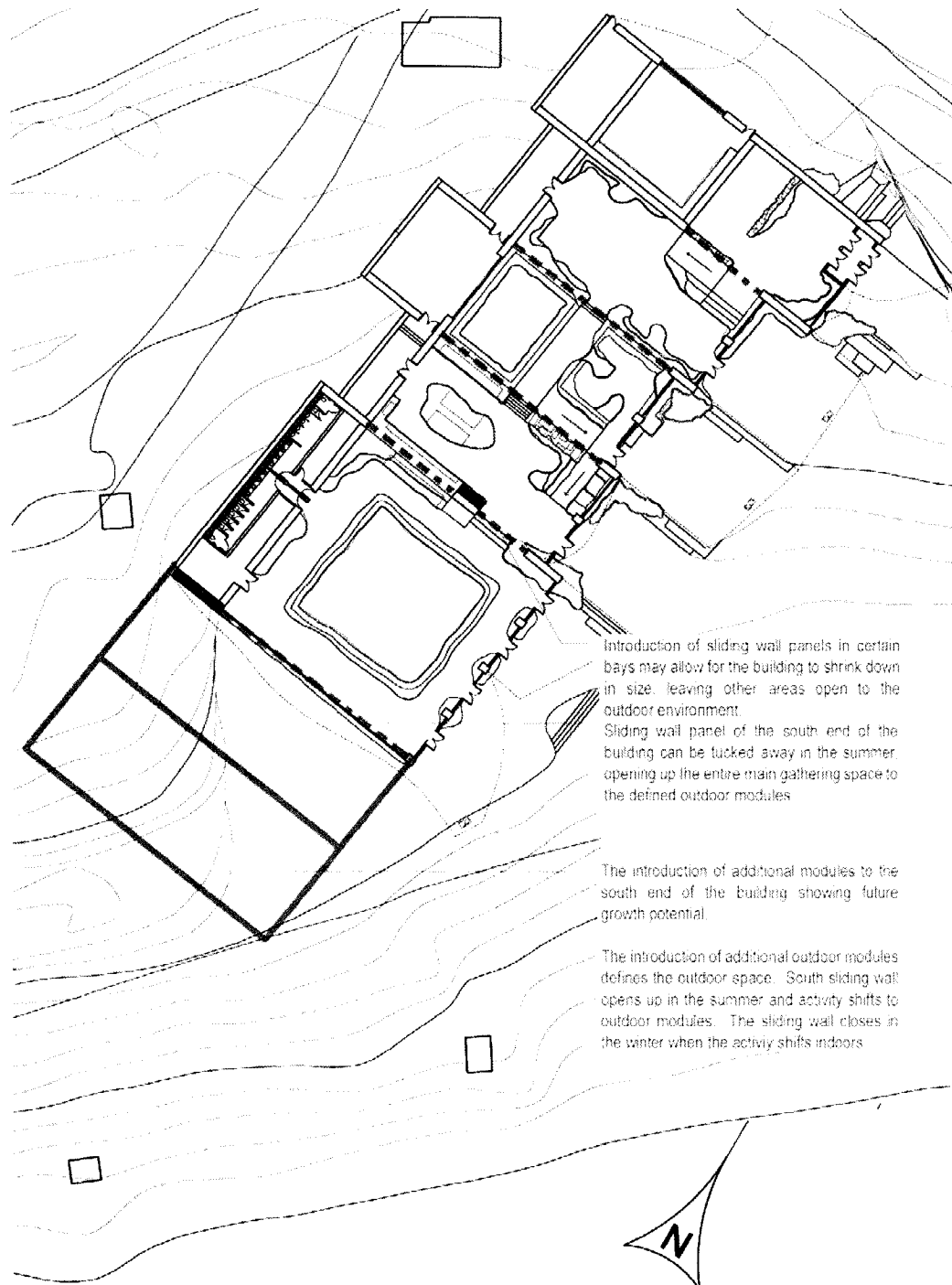
Ceiling Assembly

Summary

Here we have proposed to gather culture and tradition in order to reinforce the traditional aspects of Inuit life in the modern Arctic community. It is impossible to undo previous years of cultural change brought on by southerners. The Inuit are an accomplished people who have mastered living together in an extreme environment and are struggling to adapt to changing circumstances. Revitalizing aspects of traditional culture may help in the process of reconnecting and re-establishing the primary relationships that constitute Inuit culture. Food is the element that has in the past and continues to bring the Inuit community together. Introducing a building that is focused on the rituals of food harvesting, preparation and consumption, a building the Inuit can run themselves, may aid in reducing the isolation that is felt in this arctic community.

A building design has been proposed in which the Inuit community can gather in a flexible space that can change with the seasons. The design allows for the idea to be taken further. As its been designed on a grid, the addition or subtraction of modules allow for further expansion and contraction as the community grows or becomes smaller. As well, incorporating additional sliding wall elements along the modules could allow for certain areas of the building to open up entirely in the warmer months. A more flexible roof structure could be

incorporated in some modules, while keeping with a fixed roof structure in other areas. This will allow the building to open up much more in the summer months and contract again throughout the winter months.



Addition of future modules to south end of building and sliding wall components throughout the building.

Due to its remote location, we are aware that all building materials are shipped into Cambridge Bay. Thus, in proposing a design solution, we have attempted to minimize the amount of material that would have to be shipped in. Rock, an indigenous material was used as a main element in the design of the building. Even in doing so, a significant portion of building materials would still need to be shipped in. As well, in proposing a community built project, constructability has become extremely important. Simplifying certain elements in the building would aid in the process of construction and in the future replacement of damaged components. As a community built project, the construction could allow the Inuit to learn different trades and help in the construction of future projects in the community.

A building that allows the community as a whole to gather together in comfort and familiar surroundings could become a prototype for use in other communities in Nunavut. The building becomes a representation of the land and the community activity. The rituals that revolve around food sharing practice are common to all other Inuit communities. A building focused around the traditional values of Inuit culture could bring pride and identity back into the lives of the Inuit community and allow for a healing process to begin.

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