SEKUWE - MY HOUSE

DENE FIRST NATION'S PERSPECTIVES ON HEALTHY HOMES

By The Northern and Aboriginal Health Research Group
University of Manitoba
Assembly of Manitoba Chiefs
Northlands Denesuline First Nation
Sayisi Dene First Nation
Dedicated to the Dene Youth, those who have journeyed into the next world and those in this Fifth World.

Feel the power of their imagination.
A collaborative project between the University of Manitoba, Northlands Denesuline First Nation and Sayisi Dene First Nation 2018. All Rights Reserved.

Editors:  Dr. Linda Larcombe  Departments of Internal Medicine, Medical Microbiology, Community Health Sciences and Anthropology, University of Manitoba

Lancelot Coar  Department of Architecture, University of Manitoba

Publication Design:  Evan Taylor  Department of Architecture, University of Manitoba

Carson Wiebe  Department of Architecture, University of Manitoba

Translations:  Jimmy Thorassie  Sayisi Dene First Nation

Acknowledgements: The decision to discover, explore and create housing designs that reflect Dene First Nations people's values and promote health was made jointly in 2012 by Chief Joe Antsanen (Northlands Denesuline First Nation), former Chief Jimmy Thorassie (Sayisi Dene First Nation), Dr. Linda Larcombe (University of Manitoba), Mr. Lancelot Coar (University of Manitoba), Mr. Brian Saulnier (Assembly of Manitoba Chiefs), Dr. Kathi Avery Kinew (Assembly of Manitoba Chiefs) and Dr. Pamela Orr (University of Manitoba). Over the 2 years of the research program many people from the Dene communities at Lac Brochet, MB and Tadoule Lake, MB contributed to the successful completion of the housing designs. From Northlands Denesuline First Nation former Chief Leo Dettanikkeaze, Councillor Sarah Samuel, Elder Theressa Dettanikkezhe, Elder Baptiste Dettanikkeaze and Darson Tsessaze guided the project as members of the Dene Housing Task Force. Former Chief Peter Thorassie, Councillor Jimmy Clipping, Clifford Anderson, Former Chief Walter Duck, Tommy Cheekie, David Yassie, Moses Thorassie, and Moses Powderhorn were members of the Dene Housing Task Force at Sayisi Dene First Nation. They and Chief Ernie Bussidor guided the research in this community.

We gratefully acknowledge the participation of the Elders from the Dene communities who took the time to share their wisdom and knowledge about housing and health. There are many people at Lac Brochet and Tadoule Lake who participated in the workshops, discussion, Housing Week events, feasts and meetings. Their ideas for designing healthy housing were inspirational.

The students involved in the project and the making of this book from the University of Manitoba, from Northlands Denesuline First Nation and from Sayisi Dene First Nation took a chance on a new endeavour to discover, design and create health housing for remote First Nation communities.

This research and healthy housing program was financed by Canadian Institutes of Health Research by an operating grant for Population Health Intervention Research.
Sekuwe “My House” - Dene First Nation’s Perspectives on Healthy Homes

PROJECT COLLABORATORS: The people who made it happen

INTRODUCTION: Sekuwe “My house”

PROJECT PARTNERS:
- Northlands Denesuline
- Sayisi Dene First Nation
- Assembly of Manitoba Chiefs
- University of Manitoba

HEALTHY HOUSING RESEARCH: SEKUWE

VOICES OF DENE ELDERS AND YOUTH:
- T.J. Powderhorn
- Raven Yassie
- Shirlena Cheekie
- Jessica Thorassie
- Matthew Cutlip
- Patricia Dettanikkeaze
- Dana Tssessaze
- Melissa Tssessaze
- Reagan Danttouze
- Ty Gazayou

UNIVERSITY OF MANITOBA ARCHITECTURE PROJECTS:
- Project Descriptions
- Emily Bews
- Branton Leskiw
- Jessica Martin
- Jeannine Senecal
- Carson Wiebe
- Erik Arnason
- Marla Bigelow
- Andrew Hansen
- Michelle Peake
- Evan Taylor

CONTENTS:
COLLABORATORS
Healthy Housing Project Collaborators
The people who made it happen

Lizette Denechezhe
Project Coordinator
Northlands Denesuline First Nation

Evan Yassie
Project Coordinator
Sayisi Dene First Nation

Matthew Singer
Project Coordinator
University of Manitoba, Rady Faculty of Health Sciences

Lancelot Coar
Project Director
University of Manitoba, Faculty of Architecture

Pamela Orr
Project Director
University of Manitoba, Rady Faculty of Health Sciences

Kathi Kinew
Project Director
First Nation Health and Social Secretariat, MB
Dene and University of Manitoba students working on Dene Healthy Housing

INTRODUCTION
SEKUWE
For First Nations in northern Manitoba, inadequate housing contributes to the health inequity that exists between indigenous and non-indigenous Canadians. The Dene First Nation in Manitoba maintain strong connections with the caribou, the land, the language, their traditional ways of being, and their families from two remote communities at the 59th parallel. The Dene are navigating their way in a larger world of broken promises, colonialism, racism, intergenerational trauma and poverty to live healthy lives on a path of their choice.

As such, Northlands Denesuline First Nation and Sayisi Dene First Nation have been active in housing and health research with the University of Manitoba, Departments of Medicine and Architecture and the Assembly of Manitoba Chiefs (the Research Partners) in an effort to improve the lives of their children and the generations to follow. The question, “how is our housing effecting our health?” was asked in 2005 when we were investigating the high rates of tuberculosis in northern communities. The overcrowding, inadequate ventilation and mold were identified as risk factors for the transmission of infectious diseases and for worse health outcomes. Infact, many elements of Dene life were negatively effected by the condition and style of their houses. Building more of the same Euro-Canadian inspired houses, for urban and rural locations, with non-local materials and labour is a crisis management tactic that has so far been unsuccessful.

Given the opportunity with funding from the Canadian Institutes of Health Research, the Research Partners envisioned, designed and created housing plans and specific elements that would work to support the Dene First Nation on their path for improved health. The outcomes of this project are both tangible and intangible and this book is an artifact that uses words and images to remember where we started and what we have accomplished. No one individual will have the ability to improve housing and health equity for the Dene First Nation. This project demonstrates that if we, who are each on our own path, are willing to walk with others for a time, the path towards health can be made more equitable.
PROJECT
Sekuwe
"My House" - Dene First Nation’s Perspectives on Healthy Homes

PARTNERS
We still hunt caribou and fish for food for ourselves and our dog teams. We have done our best with what we have, but change is needed for us to become healthy and to continue our traditional ways. The Dene Healthy Housing project has been a good start to make our community healthy in mind, body and spirit.

When this project started two years ago, we were not sure how new house designs could help us. Bringing the workshops into our community to allow people to share their ideas started us talking and creatively thinking about our homes and future. When people have good ideas, you take their ideas and it adds to the project, but first you need to take the ideas from the people. The workshops held in Lac Brochet helped, but things don’t happen in one day, it can take years for thing to get into place and young people need to be involved too. At the housing workshops we talked about the past, our culture and our future. We identified a need to go back to some forms of the old ways of living off the land and its resources. After seeing some of the designs that resulted from these meetings I now see how the land can help us create a house (using local resources), and how a house can actually help promote our culture.

The house designs created by the Architecture students took our concerns into housing designs. Places to dry meat, secondary sources of heat, public and private areas make our lives healthier and encourage our culture. Our culture defines us, we need space to dry meat, process hide, bead, but the way our houses are designed now, we find it difficult to do these things. When we dry our meat over a furnace it tastes different, better to dry over a fire, tastes like it should. Some of the house design promote us growing our food. We need that in Lac because of our short growing season we need new techniques and housing designs for us to grow healthier food.

The architecture students coming up to Lac Brochet was good for them to see an isolated community. For the Dene students who came down to Winnipeg, they were able to see how University students live and learn. The Lac students were exposed to medicine, dentistry and health by Aboriginal students, which gave them ideas of their own future.

The future of the Lac Brochet housing project and to actually build the new designs would be a good experience for the students and workers in Lac. The young people around Lac do not have a healing centre that could be used in all seasons. Currently there are no opportunities for youth, they don’t see options for their lives. The Dene Healthy Housing project has opened our eyes and has shown us possibilities for the future.
The Sayisi Dene were originally from Duck Lake, MB but were forcibly relocated to Churchill in the 1950’s. After more than ten years at Churchill where many lives were lost due to violence, alcoholism and racism, Ronnie and Mary Bussidor, George and Mary Sandberry, Charlie Ellis, Sandy Clipping and Charlie Thomas travelled back to the Barrenlands to look for a home where they could be caribou hunters. Tadoule Lake (Churchill Indian Reserve (IR) No. 1) is an area of 212 hectares and in 2002 the population was 350 people. Sayisi Dene people are strong, and our history has made us strong. When the Dene Healthy Housing project started over 2 years ago, we were excited to work with Dr. Linda Larcombe. We had worked with her to identify how housing conditions effect health. This new project, using the resourcefulness of the Sayisi Dene people to come up with new housing designs was something new for myself and the community.

After the first workshop people began to talk about housing. It was different kind of talk, it was about the future, it was about being Dene. Sometimes when people aren’t given an option, you forget about the possibilities. At the workshops we talked about our houses in the past, how they had no mold, how they felt more like a home than the houses they build here now. Our Elders spoke about the houses they lived in and the youth listened. The workshops became a place for people to share stories and for people to learn and listen. The University of Architecture students listened too.

When the new Dene inspired housing designs were presented to the community they signaled the possibility of new way of living, which was promoting our old ways of living. Places to cut up meat, shelters for our snowmobiles, areas to grow our own food indoors, all things that would promote a healthy Sayisi Dene pathway. Our community needs healthy options, cultural options and most of all, options that maintain our Sayisi Dene way of life.

It is up to our people now, to take these designs, to keep talking about these designs, to look towards a future that uses these designs. This project has revitalized housing opportunities for the Sayisi Dene people and it will be us to work with others, to make these designs a reality.
First Nations Health and Social Secretariat of Manitoba

Dana Tssessaze (Lac Brochet, MB) at the AMC offices in Winnipeg
The Assembly of Manitoba Chiefs (AMC) contributed to the development of the Dene Healthy Housing research project and later established Nanaandawewigaming First Nations Health and Social Secretariat in 2014 to promote the health and wellness of First Nations. Nanaandawewigaming Research staff continued to partner in this project, with Dr. Linda Larcombe and Dr. Pam Orr and the staff at the University of Manitoba, Northlands Denesuline, and Sayisi Dene First Nations in this worthwhile research to develop housing designs from the community, with the energetic help of Mr. Lancelot Coar and the University of Manitoba Faculty of Architecture students. Sekuwe delivers much of the story of the Dene people sharing their way of life, their hopes and ideas, to bring about major change and innovation in their homelands. Mahsi to all involved! The Chiefs and organizations will continue to work in partnership for healthy housing in the north!
The University of Manitoba is committed to research and education that has relevance for Manitoba First Nations. Linda, Lancelot, Pam and Matthew are academics who recognize how research and education with First Nation partners can be mutually beneficial. The University of Manitoba’s Northern Health Research group has been working with Manitoba’s First Nations investigating the role of nutrition, housing conditions, and biological conditions on health. Recently we researched and developed culturally appropriate housing designs for future use in Manitoba’s Dene communities.

The impact of living in houses that are not suited for the environment, the culture and the economic conditions of the Dene First Nation in Manitoba is impossible to quantify and there is the temptation to take a reductionist approach to the issues and focus on the causes and effects between health and housing conditions. It is inappropriate to continue to investigate housing conditions and health without explicitly linking it to research action. To envision, create and design healthy housing we explicitly modelled the consultation, relationship and the knowledge sharing processes that will be key for building culturally appropriate, healthy housing for remote First Nation communities.

The designs were informed by community workshops, first hand experiences with Dene lifestyle, student exchange programs and the exchange of knowledge between architectural students, Dene students and the communities.

Here we present some of the designs, concepts and design elements that were inspired using this relational approach to understanding the impact of housing on health. Key themes addressed by the designs include education, job opportunities, local and recycled resources, alternative heat sources, sustaining traditional and current activities and local cultural and environmental assets.

University of Manitoba and Dene students created healthy housing designs and we demonstrate a process through which housing might impact health even before the soil is turned. Future research will continue to model approaches that build relationship, experience and knowledge to build health equality.
HEALTHY HOUSING
Discovering Sekuwe: Housing design and health

By: Dr. Linda Larcombe, University of Manitoba, Faculty of Medicine

In the 1980’s the Canadian Federal Department of Indian and Northern Affairs provided funding for the two communities to build houses that could make use of newly available electricity, water and sewage. The plans, designs and materials for the houses were imported from Winnipeg and Thompson, Manitoba as a way to quickly build cost effective houses that matched those in other Canadian communities. On-reserve First Nation housing is a distinctive part of many communities and their designs are products of Euro or Anglo-Canadian history, sensibilities, world views, values and concepts of functionality. A house at Lac Brochet and Tadoule Lake is typically 900 to 1000 square foot, three-bedroom, one bathroom, bungalow built on a cement footing with a 4 foot crawl space under the house, two doors and an oil furnace with a heat recovery ventilation unit that has recently replaced the wood-burning stove. The windows are double pane aluminum sliders, vinyl siding with an asphalt tile roof. The houses become uninhabitable after 16 years of use by an average family sizes between 2 and 12 people, little maintenance and severe environmental conditions. The Euro-Canadian “living-room” functions in some households alternatively as a bedroom, a TV room, a butcher shop, a hide drying/tanning area, a meat drying area and a place to visit. On-reserve housing is not built or designed for the First Nations families and their way of life.

The houses in these communities are owned by the local governing body (The Band), which is comprised of officials (Chief and Councilors) that are elected by the community every two years. The Chief and Council are responsible for managing and allocating the financial resources for new house building, maintenance and community development. Funding for housing comes directly and indirectly to the Band from the Federal government through initiatives such as the recently completed Canada's Economic Action Plan, the Canada Mortgage and Housing Corporation and through special funds.

In 2005-2010 Northlands Denesuline First Nation at Lac Brochet and Sayisi Dene First Nation at Tadoule Lake Manitoba partnered with the University of Manitoba Department Of Medicine to study the effects of housing conditions on health. The study participants and researchers identified poor household air quality, lack of adequate ventilation, mold growth and overcrowding as key barriers for health. The community participants also identified that the existing housing designs do not support the Dene way of life, traditions, language, values or beliefs and the lack of cultural identity in their housing affects physical and mental well-being.

While it was relatively easy to identify what was wrong with the houses, solutions were not as easy to come by and issues around housing are complicated by the politics, economics and historical management processes at all levels (community through to the federal government). Historicall, options for Dene housing consisted of a tent, or a small log house, which accommodated their highly mobile caribou hunting, trapping and fishing way of life. In the 1970’s Euro-Canadian bungalow style and more recently, a bi-level became the permanent shelters that were meant to accommodate a sedentary life for the Dene.

One question in the early study specifically asked about “what changes would you like to see in the design of your house”? A further probing question “what would a Dene house look like?” was asked. The answers of “more bedrooms”, “bigger house”, “more counter space”, or “new windows” were confined in their scope and reflected the Dene people’s lived experience and financial restrictions. In houses with seven or more people the answer to the question of “is your house crowded?” became complicated with discussions about multi-generational families, Elders who needed care but some privacy and about youth who were old enough to be on their own but had nowhere to go.

The University of Manitoba’s mission statement is to “create, preserve and communicate knowledge and thereby, contribute to the cultural, social and economic well-being of the people of Manitoba, Canada and the world” (http://umanitoba.ca/about/mission.html). Research in the Rady Faculty of Medicine on the environmental and social determinants of health has been taking their place with biological and genetic health determinants. The Department of Architecture has explored concepts of First Nation spaces and buildings but not in the context of health or with the Dene First Nations. The Dene First Nation agenda is to improve the physical, mental and emotional health of the people in their community particularly for the youth and Elders.

At the outset we described the process of designing houses as linear, but interconnected phases, of “discovery”, “envisioning” and “creating”. The “two-eyed seeing” approach to Dene housing design was a central theme for the project so that Dene and University of Manitoba students, researchers and participants all practiced and learned from Dene and Academic teachers using traditional, popular and academic styles.

The project was planned as a two-year program that would start with community planning and would gather a critical mass of knowledge about housing and health through the scheduled and deliberate engagement of university students, Dene community members, high school students and other stakeholders. Here, the end product would be eleven housing designs that reflect various aspects of Dene culture. The Canadian Institutes of Health Research (CIHR) provided funding for the project through their Health Intervention Program. Funding from CIHR is a highly competitive process and in 2013 it required a person holding an academic position at a university and a community partner (in this case First Nation) to apply.
Sekuwe

“My House” - Dene First Nation’s Perspectives on Healthy Homes

Top Left: Three bedroom bungalow at Lac Brochet, MB
Mid. Left: Designing a Dene style house at Tadoule Lake’s Craft Night
Bottom Left: Designing houses during Craft Night at Lac Brochet, MB

Top Right: K.J. Dettanikkeaze recording events at Craft Night
Mid. Right: Housing design at Craft Night
Bottom Right: Lancelot Coar speaking at a community workshop at Tadoule Lake, MB
Envisioning Sekuwe: What is a healthy Dene house?

By: Dr. Linda Larcombe, University of Manitoba, Faculty of Medicine

The intention of the project was community led and participatory. A Dene Housing Task Force (DHTF) was established to lead each community through an exploration of concepts and ideas about health and housing and how they are understood and evaluated by the Dene. The DHTF objectives were to: 1. Question whether or not houses can be healthier if we include important Dene cultural elements into the housing designs; 2. Plan and hold Housing Week activities that took place in February/March (2014) to raise awareness of healthy housing and to have activities that involved the broader community in designing culturally relevant housing or raising ideas what a healthy house should include; and 3. With the UM and AMC partners, plan and run an exchange program to facilitate knowledge sharing between Dene and UM architecture students. Meetings of the DHTF were held in the fall of 2013 are summarized in two reports “Sayisi Dene House Task Force Review 2013” and “Northlands Denesuline Housing Task Force 2013.”

A week-long “Housing Week” event was held in both communities in the winter of 2013-14 to focus attention on Dene housing design through feasts, workshops, meetings, contests, and a craft night.

The workshops focused on discussions about the health and housing in the community and how their needs were met (or not) by housing in the past and present. In the past Dene shelters were warm, dry, temporary and mobile because they followed and relied on the caribou. “We had to be physically active to survive”. Today their houses are immobile, damp and sometimes without heat. They have to rely on the store for food but caribou and fish are still preferred. Various styles of workshops were held to encourage participation from groups that are not easily attracted to workshops. For the Elders for whom Dene was their primary language, workshops were held and the participants were encouraged to discuss housing in Dene. The workshops were audio recorded and then the Dene research assistant translated the dialogue after the event. A campfire and hotdog roast was held on the beach at Tadoule Lake for the Dene youth to talk about housing. The casual relaxed atmosphere encouraged conversation, play and communicated the important role that the youth have in the future of housing in their communities.

An exchange program between students from the Dene communities and the University of Manitoba’s Department of Architecture brought youth face-to-face with the challenges and opportunities around housing and health. The Northlands Denesuline and the Sayisi Dene First Nations are the only two Dene communities in Manitoba, Canada. The First Nation’s people in these communities are “people of the caribou”.

In the past the Dene people were highly mobile and moved throughout Nunavut, the Northwest Territories and northern Saskatchewan to harvest caribou, fish and other resources for food, clothing and their shelters. The skins of the caribou were used to make clothing and shelters that were warm and dry, and that could be easily moved. The meat, organs, and blood of the caribou provided nutrition, and the bones were used for tools.

At both communities the Dene lived in tents and built log houses from local materials. Houses were heated with stoves fueled with locally harvested trees, water was collected and used straight from the lake, outhouses were the toilet facilities, and dog teams and sleds were used for transportation. The Dene continued to travel extensively between northern communities where they once resided and to hunting and fishing cabins in their traditional territories.

Ten Dene students from the communities of Lac Brochet and Tadoule Lake were selected to participate in the healthy housing exchange program through a detailed application process. Applications required a short essay about their experience with housing conditions and ideas for how to improve the situation.
“My House” - Dene First Nation’s Perspectives on Healthy Homes

Bottom Left: Laying out an ice fishing net in Lac Brochet, MB
Mid. Left: Students learning to cut caribou meat in Lac Brochet, MB
Top Left: Architecture and Dene students designing homes at the University of Manitoba

Top Right: Designing an idea for a new Dene home at a housing workshop
Mid. Right: Arthur’s design for an eco-friendly home for Tadoule Lake, MB
Bottom Right: Students exploring abandoned home in Tadoule Lake, MB
ELDERS & YOUTH
Voices of Dene Elders and Youth

The Dene Elders and youth contributed to the housing designs in both formal and informal ways. The words of the Elders from interviews and workshops are presented here in their original language. Dene students spoke with the Elders about housing, photographed both the positive and negative aspects of their current houses, and wrote about their impressions and their visions for the future.
The housing situation in my community is bad in my perspective. The windows are so bad that people have to board up their windows because other people have smashed it. Doors are so busted up that they have to use string to keep it close. Some houses have no wood stove, and that's important to have one, so when the power goes out we'll have heat to stay warm. In every house there should be an extra water barrel, because if the water freezes will have a backup water supply. Insulation in our homes is terrible and not safe. In some homes there is no insulation at all in one or two rooms so no one could sleep in there. Eventually the house becomes old and moldy and no one would want to live there so then the house go abandoned. Every home should have a backup generator so if the power goes out will still have power for the heat and to keep the food safe. We need to build more houses out here so families don't have to be crowded in one little house. Lots of families out here are doing that because they have nowhere else to live but with their family. It is either that or the houses they were looking at were so run down that they didn't want to live there. If there were more houses out here lots more people would move here but that's not going to happen because people are too lazy to do anything even for their own families, so why would they build more houses if they are too lazy or don't have the schooling to do it.

Some houses should be two levels. In the bottom level there should be four bedrooms and one bathroom, but there bedrooms will have to be small because they have to fit four bedrooms and one bathroom. And the upstairs level should have one big kitchen and living room with a bathroom and one bedroom. It should also have a shed outside so we can store outdoor equipment and hunting gear. Some houses should also have a ramp for the elders, so they don't have to walk up the stairs. The house should have a backup generator and waters supply. If there is a power outage, at least we will have heat and water until the power comes back on. We should have our own building for playing hand-game so we don't always have to play it at the band hall. It will be a place where we can play hand-game whenever we want and for fun. It should have a small kitchen so there can be a place to have a cup of coffee and have a little rest. It should also have a good clean working bathroom. I hope that this community will start to rebuild and fix up houses for the elders can have their own place and more families can live on their own.
The way I see housing around Tadoule is not good at all, we have family’s living in houses with mold, or heater problems or sometimes water pipes freezing over the winter. Sometimes in the summer houses burn down leaving some people without a place to stay. It’s a very good idea to combine our Dene style to housing because our elders take our culture very seriously. They can teach the young ones about their language and the sacred lessons about the drum and their culture. It would be nice to have nice homes for a change so it won’t look like we don’t look after ourselves. I feel like we as the younger generation are losing our culture. We are supposed to be a role model for the little ones and pass down what we learned from the elders. Some of the houses need to be renovated cause some homes don’t have enough insulation. After the winter water will go through the walls which will cause problems like mold and fungi. Because of this people get sick and it is sometimes fatal. Our beliefs are our Dene drum songs, we don’t use the rosary like the Catholics. Our Dene drum songs are sacred to our Dene people cause you handle the drum its like holding your loved ones and strength and pride and courage and that’s the values of the drum. We use the church but we don’t use the bible we use the Dene bible. Our art work can definitely be put into our housing cause we have stuff like mukluks, dream catchers, beading, painting, carving, drawing, and sewing. The dream catchers can be hung up around the house cause the power of the dream catcher is that when you are near one it is said to catch bad dreams in the web and only good dreams and thoughts go through. And the carving is been apart of the Dene for quite a bit now and what we carve is soapstone, wood. The art work is so beautiful; say you’re building a house for an elder, you can draw a big painting on the wall for them showing courage and pride. The beading is a beautiful craft, its so amazing to watch an what an elder can still make these days. Caribou heads, hides, craving, sharing caribou meat) sewing, hunting and trapping. We use the caribou brains for the hide for making gloves, mukluks, slippers) jackets, vests, hats) pants, and drums. Sharing the caribou meat is the value of kindness and to share what you had sent your mind to do. For the houses you can have smoke free houses and if they want to smoke go out to the porch. Back up generators would be helpful so if anything happens to the power you can use the back up generators. Finally, more and bigger houses because the ones we have now are so overcrowded.
The houses in Tadoule Lake were never renovated since they were built. They should renovate the walls, painting, windows, doors, outlets, washer, dryer, floor tiles, rooms and bathroom. There is a lot wrong with the houses that were never renovated. The windows are broken and are covered up with boards or poly which makes them cold. Not all houses have wood stoves so when the furnace goes out it'll get cold in their house or when the power goes out it'll get cold in there so every house should have a wood stove even though there's a furnace. In the winter the pipes would freeze, their water would go out and they would have to get water from someone else's house and do their laundry there. Some houses in Tadoule Lake are built on muskeg, because of this every spring there is constant flooding under the house. This flooding situation causes mold to grow and can make the whole family sick. There should also be porches built on the front and back doors of every home so the doors don't freeze shut in the winter. The insulation in the houses should be upgraded to ensure that the houses will be kept warm in the winter. They need to upgrade cupboards, counters, doors, windows, floor tiles, and toilet. There are a lot of abandon homes around here that can be renovated and fixed for families. Every house should have a garage, attic, and a basement to store things. Every house should have about 2 or 3 floors.

If I had my own house, I would be okay. It's overcrowded, I cannot send my grandchildren out, especially since there is nowhere for them to go. (Dene Elder)

It's not only about Elder's health, it is also about the children's health. If you don't renovate the houses, they get moldy. (Dene Elder)

There is a shortage of houses because families are living with other families in a small house or 1 person is living in a 3 or 4 bedroom house alone. Some people don't have washers and dryers so they go to someone else's house and do their laundry there. Some houses in Tadoule Lake are built on muskeg, because of this every spring there is constant flooding under the house. This flooding situation causes mold to grow and can make the whole family sick. There should also be porches built on the front and back doors of every home so the doors don't freeze shut in the winter. The insulation in the houses should be upgraded to ensure that the houses will be kept warm in the winter. They need to upgrade cupboards, counters, doors, windows, floor tiles, and toilet. There are a lot of abandon homes around here that can be renovated and fixed for families. Every house should have a garage, attic, and a basement to store things. Every house should have about 2 or 3 floors.

Tadoule should have its own separate building just for high school to grades 9-12 and adult education in it. It could also have a science lab, separate computer room and library, cosmetology, mechanics, gym, kitchen. Tadoule should have a restaurant and a hotel put together. They should have a shed for all the guns and stuff that people use to go hunting. Tadoule should have a bigger store, a bigger nursing station, and the airport should be bigger. Tadoule should have apartments and duplexes. Every home should have a back-up generator in case something goes wrong with the power. Tadoule should have an arena and a complex. In every home they should have an emergency kit that include blankets, batteries, pens, paper, dry goods, and more necessary things.
Our housing was built years ago, and was never renovated. This problem is within many houses; especially the elders need new housing. Most of the windows are broken and covered with poly. The doors were broken into, or they weren’t put in properly, so when winter comes around it would get very cold around the door. Houses have mold in the ceiling, basement and even in the walls, it’s very uncomfortable when you have to see people live like that. Their cupboards are broken, or they don’t have cupboards. Floor tiles are missing; people don’t even have a wood stove. Wood stoves are also very important to have during the winter. Most people complain that they don’t have enough rooms for their children, or for relatives to sleep. People’s washer and dryers hardly work, so they have no choice but to do their laundry at someone else’s house. Our water lines to these houses sometimes don’t always work very well in the winter so they ask around for help to get water or go to the lake and fill up jugs. Most people don’t even have houses, or a place to sleep. Toilets don’t always work, so they must use a slop pail to use the washroom. It’s sad when you see people who don’t even have beds to sleep on; their couch is their bed or a small mattress with no bed spring. Some of their walls are broken with holes all over them, when they have a chance they get someone to cover them with dry wood. It sucks to also see housing with no doors what so ever, not even room doors or a bathroom door, all they could use are blankets for privacy. There are many things wrong with these houses; it just takes a lot of help to fix them. We can help this situation between broken down housing we should at least try to get as much housing done as possible, they also say their isn’t anywhere to put more houses... I think that’s a lie, this is just my opinion. There is absolutely nothing wrong with cutting down trees and making space to put more houses. We could also get help by fund raising to get new windows, floor tiles, cupboards, doors, or beds.

We should help get more involved with the housing problems. Maybe if you at least try, or get others to help, or even take care of your houses this problem wouldn’t be happening. We need to get new insolation and remove the ones with mold in the ceiling and walls, the mold can do lots of damage to a young child’s breathing, and they can get asthma from always being around the mold. Houses with just furnaces should also get a wood stove, a furnace isn’t always going to keep you warm, they can shut down, or don’t work while in the winter. We can also get a very well trained mechanic to help fix most of these houses water lines which would really help us from struggling in the winter to get clean drinking water. We must help get these houses renovated, especially the ones who really need it, I would love to hear what you have to say about my essay, this may be about what’s all wrong with these houses, and some of its about trying to fix them, but as you can see trying to help get these houses fixed is really important to me, and the whole community.
The houses in Tadoule Lake are not all that great. The houses are cracking because they are built on unstable ground so they are sinking into the ground. Some people don’t have wood stoves they rely on a furnace that runs on diesel and that gas will sometimes run out. Every house should have a wood stove for back up so when the furnace runs out of fuel they have it for heat. A lot of people need their drywall fixed; some people have condemned their houses and the doors don’t even work. The pipes for water need to be kept clean so they can have clean water to drink. People should have a water barrel handy in the house for when the water pipes freeze up in the winter time. The people need to get their roofing fixed which leaks though to the inside when it rains. Some houses are built on muskeg which causes flooding under the house. That flooding under the house will cause mold and can make the family sick with sores, asthma. The electricity wiring needs to be maintained or upgraded. Some of the housing had shortages on the circuit. The main breaker switch needs to be changed around some of these houses the fuses will eventually blow and could cause a house fire. When they build new houses they need to put new wood stoves in the newer house. Some of the people need proper heating. The only heat some houses have is a little element. The school needs to be renovated or just tear it down to build a new school. When they start building new houses in the future it will need new plumbing and electricity so the houses will not break down so fast. Newer houses need to be built on solid ground. They should build a big house for people that don’t have anywhere to sleep or don’t have a house to go to or anything like that. They could build houses at Stony Lake and Twin Lake or even on the esker. When people that live off reserve come home they have no place to stay because of the shortage of the housing. Some houses don’t have a picture window and they don’t open what if their was a fire and the door was frozen and they needed an exit they would have to break the window to get out. The school needs an upgrade on plumbing and wiring the wires in the gym are broken or cut there is no light in the equipment room. The pipes are always freezing and there will be no school for a few days or so. The maintenance man said to me he will not let it happen this year but it happened already once. Some houses need insulation like my house my room doesn’t have any insulation. Houses should have garages for storing wood or drywall. All of the elders should have backup generator for heat.

"It would be better if we had a furnace and a wood-stove together. Most reserves have both, like at Tadoule Lake. If you have a wood-stove, you have to pile your logs, when your furnace is out, that is when you use a wood-stove, it is good for emergencies." (Dene Elder)
In the north the weather gets really cold and the housing here is not built for the type of weather we get during the winter. We would like our houses to be built right for the conditions that we have to deal with. There are a dozen things that can be done to the houses in the north and these things would not cost so much to add these details. Basements should not be a tiny crawl space with no stairs and sand on the ground. Mice and spiders love crawl-spaces and a whole bunch of other living things that are not healthy like to live there too but what is the use to northern people? The answer is nothing. We should at least have an extra four feet added to basements with stairs going up to the main floor. Basements would be really useful for a lot of things. Put in cement floors instead of sand and a door so you can get to the outside would be a fantastic idea. Overcrowding is also a major problem here in the north. Adding another story to the house would be so much more space. Adding bedrooms and bathrooms would be useful too in the upstairs. Having an attic in the house would be great and would be easy to get to if there was a second story added to the house. We can put things up there that are hardly used around the house. It is a great place for storage and for kids to play. The amount of insulation that is put into the walls of the house could be increased. Having 10 inches of insulation would be great rather than having 4 inches. It would be so much warmer. It would not cost much more either. The attic should have a lot of insolation and should be boarded over. Wood siding should be used to cover the house and no vinyl siding.

Having garages attached to the house would be perfect. You can put your stuff in there. For example, your trucks, skidoos, four wheelers, etc. Having heat in the garage would be very useful and people would not be getting cold while working on their machines. Heated garages would make a lot of people up north very happy. It would be like winning the lottery. Adding a porch to the house while building the house would be a really good idea especially for the moms who have to wash the floor all the time. People take off their working clothes, boots, and other clothing they use, they are usually dirty and smelly. A fan in the washroom would be great so the steam caused by showering would not turn to mold. Mold is not healthy and it can cause illness and other health conditions. Adding a wood stove into the house would be useful because when the power goes off, it gets cold and there is no other way Dene people could cook so the wood stoves would be perfect. With all this said, making changes in the Dene housing is what is needed for the north. Adding a basement, making two story houses, using lots of insulation, double garages, porches, fans in washrooms, and wood stoves are things that would make Dene have a much easier and productive life.
I am writing about my community as there is a shortage of housing. There is 160 houses and 15 buildings that are maintain by only four people. We should have at least ten people maintain the buildings and houses. Each year they only release funds for only three to four houses and that contract usually takes up to a good year to complete framing, roofing, siding, shingles, plumbing, electrical, then plumbing and heating. Other houses from when us Dene people first move to this community to be official called Lac Brochet as there were only four houses first built then over the year more houses were built into a healthy community. As our population is growing fast as we are close to 2000, some houses are over crowded and has up to 3 to 4 families in one house. That is why we as a community are short on houses. Some houses are broken, moldy, and need repairs done on them. Each year houses are renovated but not all houses once repaired are fixed. From my suggestions I think there should be at least up to ten new houses, have apartments for single parents and units for elders and bachelor apartments for singles. That way our community will grow more and have good houses that will made to fit people. This way houses will not be over crowded and houses will have more room and space that people can use for their personal use.

All of the elders teach the young people the traditional ways of making everything out here and how traditional skills are used. The young people and the young people will get all the experiences from our Elders and we all listen to an elder that is telling us a story about themselves way back in those days that were very difficult way in their life's and it must be hard for them to be there for us. There's a way for us to be happy with our elders teaching us everything and they help us. It is fun that our Elders teach us a traditional way because someday it will be our turn to be like them. Some of our elders are very sick in our community. Our Elders are the ones that give advice and the knowledge of teaching of the land, values, and more. They are the ones that founded and made Lac Brochet official to be a reserve under the INAC officially which has been forty two years active. Current time and past times are way different from either ways of life, because in the past there were no phones, houses, running water, electricity and people were living in tents and cabins. Today when you look at it, there are a lot because there is technology everywhere you go so some first nations are not into traditions ways of life. Traveling was different; the past people were travelling by dog team and canoe and today we use boat skidoo and plane. The styles of Dene life from the past to today are two different worlds.

“I've been staying in a house that has never been renovated, it will be falling apart pretty soon. I'm like an orphan, I don't have any family.” (Dene Elder)
Dene housing needs to be constructed differently from down south because we live up north. The reason Dene houses need to be constructed differently is because we're isolated. We have longer winters than down south. Usually the temperatures go down to 50 below. Up north houses need wood stoves and furnaces because in winter when the power goes out the furnace won't turn on. With a wood stove you can make a fire and make heat and cook. People in places like Lac Brochet need log house instead of vinyl and plastic because they break easily and are much colder. The houses need lots of Insolation in the walls and attic. It needs to be thick to keep the house warm and they won't have any problems during the winter. The great thing about using logs is that they can be cut from nearby forests. The biggest windows should be facing south because that's where the sun shines and no big windows should be facing up north because it's colder in that direction. They should have bigger houses for more space because some people live in overcrowded small houses which cause problems. Dene would prefer to have two levels in our homes so the bed rooms can be upstairs. The attic could be used for storage as well. Some off the things that should be added downstairs are storage rooms to keep their stuff like their winter clothing or something else. Everybody should have a laundry room with running water. Some houses don't. The kitchen cupboards should have doors because they make it more sanitary. The Dene need bigger kitchens, all the women would agree to that. Some people should have a garage for their materialistic things and to keep their stuff inside instead of keeping it cold and so it won't break. Tools, the truck, skidoos, boats, motors, and four-wheelers could be put in the garage. Double garages would be the best with one big double door. A man-door would be great to get to the basement. The best thing would be to have a heated garage where you could walk right into the house. Some people should have a satellite and Internet dish so they won't get bored and some people actually need the Internet dish for their studying. Because some people take online courses around here and instead of going to someone else's house and studying there. They need a high speed internet dishes on the roof in places like Lac Brochet. The kitchens and the bathrooms need fans and a bigger space because it's important so the walls won't get moldy and they need fresh air because some people have health problems. Houses around here need steel roofs because during the summer time when it's raining the rain drops go through the ceiling and go inside the house and make a mess. It would be better to have a steel roof that lasts longer than shingles. Sometimes there's no room inside the freezer for the caribou meat. It's best to have a shed attached to the house to keep their meat in there instead of giving the meat or fish to somebody else all because there's no room in the freezer.

In conclusion, Dene northern housing needs to be custom made because it is a really cold and isolated place. This would make a happier, healthier, and more productive northern people. Housing changes like wood stoves as a backup, log homes, good windows, bigger two story houses, storage space, full basements, garages, good roofs, laundry rooms, and lots of freezer space would be good additions to make.
Dene housing should be made differently up north because it's isolated and colder up here. Many times there's a big family in a one bedroom house. It causes overcrowding and all kinds of problems like stress, suicide, and not enough room. It causes a lot of drama and people get kicked out. So what we have to do is make a two story house so they have a lot of room. Dene housing needs a two-bay garage attached to the house. Having it heated would be nice so you can put a four wheeler and a snowmobile inside the garage so they won't freeze as well as the truck. Dene windows should face south because the sun comes out from south and there can be much heat and more light in your living room. There should be a lot of insulation and thick insulated walls. There should be wood siding because it’s warmer and stronger. Vinyl is bad because it doesn’t work because it cracks easily and is cold. A storage room would be good as well so you can put the things that you work with like guns, traps, and the stuff you don’t use like truck motors and skidoo parts in this room. It is important to have a two story house so you can have bedrooms upstairs or have two bathrooms and also you can have an attic upstairs for a little storage room and put things like Christmas stuff or what you have or not use for the house. Some northern houses have crawl spaces but I would recommend a full basement with a cement floor and eight foot tall ceiling, a set of stairs to the first floor, and a door from the outside to the inside of the basement. It would be good to have a gym so we can be fit and do workouts so we can get in better shape to do hard labour. Heated floors in the bathroom would be nice so you get up in morning and the floor would be warm. That would make people in the cold north warm and happy. The Internet needs to have a high-speed dish so Dene can search for things for their work quickly. Therefore, there needs to be a better tower. The tower in Lac Brochet is really old and run down. Cell phone towers for caller ID are not even here so houses need a dish on the roof. It is an isolated town so homes need a dish on the roof for the Internet, TV, and cell phones. A lot of Dene need smoke houses so they can smoke fish and dry meat. Dene people could then save money and stay healthy because traditional food is better for the people and as well the Dene won’t have to go to the store and pay for expensive stuff to eat. Sometimes there is no room in a freezer. It would be good if Dene houses had a meat shed attached to the house so there would be room to put the meat and fish in. It would be nice if there would be a fish plant on the houses so northern Manitobans could sell fish and enable them to process the fish, pack it, and sell it out in the markets down south. A porch is important so you won’t dirty the house or make a mess with lot of snow and families could put their coats and hunting gear in there. In conclusion, it is really cold and isolated in northern Manitoba. Dene need to have their houses specially made and more of them made so they can live happier and healthier lives.
For starters, we need home security because some people in town would break into other people's houses and I think someone has to do something about it. We also need to put our pile of wood somewhere secure since people do like to steal those as well to sell them for money. It would be nice to build a room for our dry meat. As for new houses, there still some space here in this community to build a few more houses for those who still stay with their parents. Speaking of more space, they should build a place for kids to socialize. It would be fantastic to build places for jobs because there's not many job opportunities here, probably a little store or a restaurant would be nice too.

Ty Gazayou
Lac Brochet, MB

"If they are to make a cabin house, they would have to make two doors. The houses they make now are too crowded. The emergency door is usually blocked by freezers, washing machines, or dryers, because there isn't enough room." (Dene Elder)

"Gasoline is so expensive, gas for the furnace costs a lot of money. Really expensive to bring up the winter road, people use their pension and welfare to buy gas to heat the home. When they first said we would get a furnace, we thought it would be free gas, we didn't know that we would have to pay for fuel. Welfare doesn't cover fuel it only covers groceries and clothing. We need wood-stoves, because sometimes as a community we get short of fuel, so we need wood-stoves for when we run out of fuel. The wood-stove is an emergency backup, for use when the furnace goes out. Sometime ago it happened, there was no wood-stove and it was pretty hard." (Dene Elder)
DESIGN PROPOSALS FOR A DENE HOME
OR A DENE HOME
Creating Sekuwe: Architecture Student Housing Designs

“The recent housing stock that has been built for indigenous communities in Canada has developed primarily out of two things: need and intention. Although the intention has arisen out of the restraints of economy and politics, the need has been born out of a different set of criteria, holding it accountable to the complex issues of cultural transformation, unsettled histories, and a rapidly changing environment. Over the past several decades the houses that have been built for these communities have revealed themselves as having served the intention much more than the actual needs of those who inhabit these structures.

In Northern Manitoba 42% of homes are over crowded, housing more people than it was designed for, and 58% of homes are in need of significant repair, presenting unhealthy living conditions for its residents.¹ This year the United Nations Human Rights Council reported that despite its more recent efforts and economic stimulus projects ($30M in 2010-12) the Canadian government has been unable to quell the severely inadequate housing conditions of indigenous people.² What these numbers do not reflect is whether the houses provided to these communities actually serve the culture and lifestyle of the people who live in them. One need only visit a remote reserve to discover that the people living there have often transformed the spaces intended to serve a single use to accommodate a very different life-style. Traditional events like communal gatherings, ceremonies, fires, and the traditions of hunting and harvesting of wild game are either forced into living rooms or dining spaces or suppressed by the limitations an inappropriateness of the imported style of these southern single family homes.

Simply put, Canada is facing a housing crisis in our indigenous communities. The questions are: How can architecture help with this challenge? Who is best suited to address this crisis? Is this a problem of ideas, needs, or something else?” (Excerpt from design studio brief - Fall 2014)

Projects for Tadoule Lake:
- Emily Bews  ED4
- Branton Leskiw  ED4
- Jessica Martin  ED4
- Jeannine Senecal  M1
- Carson Wiebe  ED4

Projects for Lac Brochet:
- Erik Arnason  AMP2
- Marla Bigelow  ED4
- Andrew Hansen  ED4
- Michelle Peake  M1
- Evan Taylor  ED4

¹ Assembly of Manitoba Chiefs, Manitoba First Nations Regional Health Survey, 2010, Winnipeg.
Bringing the Knowledge Together
By: Professor Lancelot Coar, University of Manitoba, Department of Architecture

The eleven architecture students who participated in this project were made up of 4th year undergraduate and 1st year masters level students in the Department of Architecture at the University of Manitoba. The projects described in this book span over two academic terms (September 2014 - April 2015) and describe the outcome of the final semester's project, a new home for a Dene family in Tadoule Lake or Lac Brochet.

Research Methods
The team of students were broken up to either base their projects in Tadoule Lake or Lac Brochet. These students initially researched the Dene culture in their communities through published literature (both from community publications as well as academic research) and video documentation on and by the Dene people. Much of their focus was on the cultural origins of these two Dene communities and how their particular experiences have influenced their collective identity, lifestyle, and the unique challenges and opportunities facing in securing healthy homes to live in today. The students also studied the various forms of traditional homes that were built by both communities. This research focused on the great ingenuity of these structures to be environmentally efficient, structurally sound, and capable to be maintained using indigenous materials and skills.

The second form of research came in the form of direct experience. The two teams traveled to both reserves with Professors Lancelot Coar (architecture), Dr. Linda Larcombe (medicine), and Matthew Singer (researcher, medicine). On these visits the students and professors met with a community liaison (Evan Yassie from Tadoule Lake, and Lizette Denechezhe from Lac Brochet) who led them on tours and meetings with community members to offer them the opportunity to learn about each community’s life, history, and current realities related to health, housing, and traditional activities.

Students from each team had the opportunity to discover first-hand about Dene traditions through an invitation to participate in activities such as Caribou butchering, meat smoking, fishing, drumming, singing, hand games, and community feasts. These activities greatly impacted the students understanding of how life on these reserves are restricted by the limitations of the buildings to support such activities. Students were additionally taken on housing tours to see the quality of the construction of the homes as well as the state of disrepair and the problems often exacerbated by faulty construction which has led to structural, environmental and material failures in homes. It was also became clear that the lack of housing available in these communities contributed greatly to the overcrowding which further stressed the building systems in these homes (plumbing, ventilation, and structure).

In spite of these challenging realities, students also discovered the great sense of pride, self-empowerment and resolve that many community members displayed in how they redesigned, transformed, and even added to the existing housing stock to support the needs not met by their homes. This included anything from a redesign of the interior space of homes to provide a buffer from the cold air at the entry space into the living space, to additions added on to existing homes to house furnaces and washing spaces not otherwise provided, to entirely new buildings that allowed for recreational and traditional activities to take place in (like meat smoking, hide stretching, and casual gathering). It was observed that there was an impressive capacity in these communities to harvest local trees, prepare them, and implement high quality construction methods using these indigenous materials to produce these transformations.

Students learned that many community members felt that the traditional homes of these communities, mostly made from log home construction, were still desired. They also heard that the wood stoves that were removed in order to make room for the oil furnaces in these homes were missed and had inadvertently removed with them a range of other functions that the furnaces could not replace. This included the use of wood stoves to dry hunted meat, a back up heating source that could be used to cook on and be operated independent of external fuel sources, and provided jobs and activities for community members who could harvest the wood from surrounding forested areas.

Based on the literature research, interviews, site visits, and informal conversations with many community members, the architecture students each developed design proposals for a new Dene home. These designs were intended to reflect their understanding of how a house design could confront the constraints posted by the economic, material, and environmental challenges in each community as well as become more meaningful to the Dene families by taking advantage of the cultural traditions of each community, the relationships they had to the land, and the evolving realities of a contemporary lifestyle within a traditional context.

These designs were presented to the community members at Tadoule Lake and Lac Brochet in two separate occasions. First there was a specific trip taken in February where two students from the architecture program along with Dr. Linda Larcombe presented the housing designs as they were being developed. Several community members gave ample feedback and commented on how to improve the designs to make them respond to the needs experienced by
the community members. The second occasion was during the student exchange visit where the Dene students and Elders were able to review and comment on the designs in process during their visit in March. Using this feedback the students of architecture were able to finalize their designs and present them to the University and to the communities of Tadoule Lake and Lac Brochet. Professors Dr. Larcombe and Lancelot Coar traveled to the communities to show the community members the posters and held feasts and community events to share the ideas developed by the students. This included meetings with Elders and Band Councils as well as the youth from both communities. 

**Design Project Findings: Material Identity**

For many Dene, the importance of selecting what materials a home is made of is not an issue of “nostalgia” or an aesthetic preference, rather it represents a deep connection to their history, teachings, and a regional identity; referring to a time when homes were literally made “of the land” by their people. In this project several community members expressed a disconnect with the materials used to build modern homes. Drywall was highlighted as being “cold” and “impersonal”. While the comforts and convenience of contemporary homes were appreciated and desired, the material choices for the finished homes were not always wanted. A desire was expressed by several community members to see more exposed materials without paint; namely wood. The use of natural wood also conjures a cultural affinity to the wood used to build the homes that were used to settle these communities.

First and foremost, it was recommended by most student projects that community members be consulted when a home is being planned/designed for them to inquire about preference of material finishes. It was suggested in the student projects that local materials be used to construct and finish houses as much as possible. The advantage of using local materials (like wood) is that it creates local jobs for harvesting and preparing the materials, it creates a local connection for the homes to the land, and offers a unique material quality to the finish of the buildings if desired.

**Design Project Findings: Cultural Design Integration**

Members of both communities described a desire to have more opportunities to transfer traditional knowledge from Elders to younger generations, as currently there is a lack of public and private spaces to do so. The unique histories and contemporary lifestyles of the Dene people of Tadoule Lake and Lac Brochet are not supported by the housing design currently being built in these communities. Specifically the traditions of hunting and butchering, craft making, smoking meat, tanning, large community gatherings, hand-games, among others are not supported in current homes. These activities are either discouraged, disallowed, or fit into the current home designs. In some cases these practices which are central to the Dene identity (like hunting, butchering, and preparing of traditional foods like the caribou) create unhealthy conditions due to excess moisture, and animal remains processed in living spaces. Some culturally significant social activities take place in the Band Hall and School because of the lack of flexible space anywhere else on the reserves. At times spaces within the homes would be appropriate to support social activities such as larger family gatherings, feasts, and hand games.

The projects by the students recommend that the homes designed for Dene community members should take into consideration the lifestyle of the various family members who may live in these homes. Activities which help to transfer history, skills, traditional knowledge, and cultural identity should be strongly encouraged through flexible spaces and appropriate utilities and resources within the home (sanitary areas for meat preparation, waste and water locations, and proper ventilation to support food production activities).
communities is another challenge. Many homes have ineffective insulation detailing, and are often climatically inappropriate designs for the locations they are built in. A basic example of this is how the window placement and the orientation of the homes are frequently not planned to take advantage of the passive heat gain offered by the sun. Homes are also commonly positioned without consideration of the major wind corridors that draw heat out of a home and create uncomfortable drafts in the living spaces.

A number of the student designs propose that a back-up high-efficiency wood-stove be installed in all new homes. This would create opportunities for new jobs for local members to gather and distribute wood throughout the community. It would additionally create an energy “safety net” for when the imported heat source is interrupted or the furnace breaks down. Finally, it would help to relieve some of the time-critical urgency for the band when working to fix a broken furnace. Many projects propose that homes should be designed to maximize passive heat gain and energy from the sun, including window placement, increase thermal heat storage in wall systems and organize house orientation to minimize exposure to prevailing winds.

Design Project Findings:

Food Security

While it may not be obvious, food security is directly related to housing design. Because of the remote nature of these reserves, the impact that homes have on food choices is significant. Two major food sources are currently available for Tadoule Lake and Lac Brochet, the Northern Store, which provides imported “southern” food (primarily processed food in limited supply and at a high cost), or wild food sources from the land (mostly caribou and fish). The often unhealthy and expensive food options at the Northern store are linked to health problems for many including high cholesterol, diabetes, high blood pressure, and low nutritional intake. Yet the traditions of hunting wild game offer a broadly healthier food source providing rich nutritional value and a fresh quality diet. Additionally, hunting promotes traditional teachings to be shared, encourages exercise, builds life skills, offers food security, and helps to strengthen community bonding and cultural identity. Current house designs discourage traditional forms of food production because there are no spaces to support the necessary activities related to hunting and fishing.

Most student projects attempt to integrate and even celebrate the needs of a proper space dedicated to butchering, cleaning, and meat preparation. Some designs also sought to encourage vegetable production with an adjoining greenhouse incorporated into the home. It was also recommended that education and healthy food programs in the communities could help to promote small scale food production in homes. By building-in these capabilities within a house design, it also helps to provide food security and money savings for the families with these facilities.

Design Project Findings:

Long-term Maintenance

As identified from the research carried out by Dr. Larcombe and M. Singer, as well as the work done by the students in the architecture program, the most dominant housing problems were observed to have been the direct result of minimal or no maintenance being carried out on the homes in these communities over the years since they were built. Small problems that required minor maintenance attention compounded and became much more significant problems affecting the health and safety of the families in these homes.

Many student projects focused on recommending simple construction methods that would be possible for trained community members to take part in the construction as well as long-term upkeep of the homes. In addition, it was suggested that when possible, home owners should be educated in the design and construction selection so they are able to identify inevitable maintenance issues and the potential causes (as they may relate to lifestyle or home use issues, i.e. preventative care through education.)

Conclusions:

Overwhelmingly the students in this project felt that the most important thing that can be done to improve the designs for homes in First Nations communities is the simplest; to listen to the community members. By listening to individuals about what they need, and to invite them into the design process provides, an opportunity to both improve the design and to offer them a stake in their own home. It became clear from the conversations students had with members from both communities that many challenges they face in their homes today could have been avoided if there was some degree of even minimal consultation in the home design they were provided. It is hoped that the designs proposed here might offer new (and traditional) approaches to addressing the challenges and opportunities facing the Dene people. Like many First Nations communities, the Dene have a deep knowledge and understanding about what does and does not work in their community and environment. It is clear that our job, as designers and as people who share the same land and resources, is to learn how to listen in our practice and to merge traditional knowledge with the complex and evolving building industry so that we can provide meaningful solutions and learn how to do our work more honorably and effectively.
Architecture students at Tadoule Lake

(from left to right): Jeannine Senecal, Carson Wiebe, Daryl Holloway, Emily Bews, Mackenzie Sinclair, Jessica Martin, Evan Yassie, Branton Leskiw, Lancelot Coar
Architecture students ice fishing at Lac Brochet

(from left to right): Christopher Denechezhe, Lancelot Coar, Joseph Moise, Lizette Denechezhe, Linda Larcombe, Marla Bigelow, Andrew Hanson, Aron Coates, Michelle Peake, Erik Arnason, Evan Taylor
Icon Glossary

Each of the following student projects focused on attempting to integrate multiple aspects of Dene life in the design proposals. Concerns of cultural activities, climate, energy consumption, and community engagement, to name a few, drove each project towards its final form.

On the first page of every student project there are icons that broadly describe the individual qualities that project offers. These icons serve as a graphic table of contents at the beginning of each project. This spread describes these icons and explains what they mean.

Student Projects

The design projects are displayed over six pages and describe each part of the project in a particular way: the initial project-specific description and information, technical methods, and construction drawings, and the anticipated lived-in conditions of the spaces inside and outside.
Working with the Dene indigenous community of Tadoule Lake, Manitoba, this project proposes the deconstruction of the old homes as a means of acquiring material for the new homes. Deconstruction is used as a method of teaching. It is a way to reduce the amount of material entering the landfill, reduce the cost of purchasing and shipping the materials up to the community, and allowing a second life for the material.

One main problem which surrounds northern homes is the issue of mold. The proposed design uses the technology of the double (or arctic) wall system. Moisture problems within the home stem from overcrowding and the practice of certain cultural activities (such as boiling the caribou head). The arctic wall system uses two feet of insulation and two air barriers (omitting all vapor barriers). It allows moisture to dry to either side and allows the inhabitants to continue their present activities without worry of moisture build up or mold problems.

To accommodate for this large and obtrusive thick wall system, the design plays around with creating reveals in the seemingly sealed and thick system to allow for linkages between the house and nature. The envelope is pulled away at points to create outdoor spaces that are protected from the extreme environment (summer heat, blowing sand, cold winter winds) by the rest of the house. As the spaces became more exposed to the environment (physically), they became spaces which require less maintenance and are also more subject to passive systems. The spaces are reliant on the time of day/climatic conditions outside, preventing the entire house from being a constant condition. Finally, the semi conditioned spaces allow for inexpensive space additions to the home.

The main purpose of this project is to begin building an economy in the community. By using local labour as well as material that already exists in the community, the process of creating homes begins to be rooted more directly in the community itself. This relieves a large amount of the reliance on outside parties. Although deconstruction does add extra time to the construction of a home, it is a very small percentage of the total process, only adding a maximum of 2 weeks more to the usual build time of 26 weeks. This extra time allows for more job opportunities.
The envisioned site has lake-front access as well as existing and is situated within the scattered treeline outside of the community, sheltering it from high winds.

The open floor plan allows for a wood stove to be a sufficient primary heat source while the visibly thick arctic walls continue to exhaust moisture filled air to the exterior.
Depending on the condition of each home, select materials such as wall studs, roof rafters, floor joists, plywood sheathing and other finishes are collected in hopes of reusing them.
The envelope of the design was pushed and pulled in order to create reveals in the structure, allowing the interior to connect to the exterior. These reveals became areas sheltered by the rest of the house.
Sekuwe

“My House” - Dene First Nation’s Perspectives on Healthy Homes

Left: Bedroom Interior
Top: Boot/Storage Room
Bottom: Meat Preparation Space
The influence of the natural world is so closely tied to the traditions and culture of the Sayisi Dene. This sub-arctic terrain where they call home is vastly beautiful with large lakes, rolling hills, bedrock outcrops, and an immense amount of trees, namely black spruce. In order to build successful architecture within the constraints of a dynamic, deeply routed culture, as well as the locational and economic constraints, the project proposes a few specific architectural, and tectonic ideas which will address these concerns.

This housing proposal adheres to the Dene's deep connection towards fire, as well as their physical connection with the earth by creating an architecture that uses a rammed earth method of construction, combined with the necessity of a wood burning masonry heater. The formal, physical, and psychological affects of a fireplace will all coexist to help dictate not only how the final house is formed, but also how the house is used, by designing 'from the inside out.' The construction of the rammed earth will involve trained labour from the reserve itself since much of the physical building does not require a significant amount of training. The key aspects of the building are to involve a collaborative effort between the builders and the Dene people to allow for a mutual respect of what they are building and to therefore create a highly valued piece of architecture.

The concept of the rammed earth is to harness its density and strength to not only provide the structural support for the house, but to more importantly, provide the heat within its interior. A masonry heater traps the heat within its dense walls, and uses it to radiate heat outwards into the living space. Therefor, the layout of the house is directly related to the ranked importance of each interior room. The priorities being the kitchen, living area, bedrooms, and bathroom, while keeping the masonry heater in the center of the house. The secondary zones, would be the hallways, stairs, and the large back entrance, which allows for storage of firewood, tools, and winter accessories.

The use of local earth and sand will help reduce the importing costs of material from regions such as Winnipeg or Thompson, and will hopefully establish a stronger connection to their homes because of the material utilized in the build. The community will be able to hire local labour to assist with the collection, and ramming of the earth, providing work for a minimum of five people. The use of rammed earth provides a structure that is fireproof, rot resistant, and regulates clean air, which will hopefully result in a home that is dependable, and that lasts for future generations.
The proposed site looks out across the adjacent lake and forested landscape while remaining within walking distance of the town school and community town hall.

The S-shape formation of the building, the masonry heater, not only provides a primary heating source but is also a structural element. Rooms are clustered around this central heat source in a way that corresponds to the function of each room and its importance of gathering.
The form work used in the construction of the foundation walls and masonry heater are applied to the exterior envelope in an effort to recycle.

Detail displaying the key components including that of locally sourced tree branch sun shade.
Replicating the construction process by reusing scaled formwork to create the masonry heater and perimeter foundation footing provided an estimated idea of how much could be reused.
Qualitative interior renderings
When designing or picking a house people are most often concerned with the interior spatial planning, like where are the bedrooms, how many bathrooms and how big is the kitchen? These are important things to keep in consideration, but what is sometimes not thought about is the space around the house, and how it connects to the outdoors. Because every extra square foot of space costs more to build, finding ways to create space that is still usable and enjoyable but doesn’t require the same construction cost is an important factor to consider. In this proposal, different levels of “transitional” spaces are created using different construction methods to create areas that are not completely insulated like the indoors, but still allow for activity and comfortable living conditions. In an extreme climate like northern Manitoba, it may seem unlikely that semi-outdoor space could be comfortable in the winter, but using strategies like Passive Solar design (warming a space using the sun and a thermal mass wall to capture the warmth) these spaces can begin to be more enjoyable. As well, they can offer other benefits like creating a buffer zone when entering the house so that winter gear can be taken off and stored out of way, and freezing air does not blow directly into the house every time someone enters.

Having spaces that flow together and move from indoor to outdoor can start to allow people to make connections with the environment around their house as well as with neighbors and other outdoor activity. This transition can help remove the harsh separation between a home and it’s surroundings which could allow people to take advantage of the most amount of space possible. It also creates a variety of spaces that can be used for different functions not only in relation to each other but also throughout different seasons.
The building’s position on site and its correlation to the sun and wind was of utmost importance in achieving specific requirements for the structure’s hybrid exterior envelope. Diverting wind and snow build up, while positioning certain walls and windows in a response to the calculated sun angles played a large role in the final design of the structure.
Detailed section and elevation drawings highlighting significant connection types within both interior and exterior wall assemblies.
Displayed are various exterior moments around the dwelling. These spaces attempt to rediscover the function of transitional corridors and spaces. Also highlighted are the multiple wall systems that work together to create the building’s envelope.
Rather than designating a room to a single purpose, the looseness of these transitional spaces provide opportunities for a wider variety of functions. Gathering, work shop, and relaxation are examples of spaces shown above.
The particular soil type in Tadoule Lake allows for in-ground type construction due to the mass availability of the sand on the outskirts of the reserve. In addition, this soil can be used as a construction material for the home itself to help give strength to the walls in the ground. Sand bagging is an ideal material due to how simple they are to construct and most importantly, how they can be fabricated using any type of soil. Without any specialists needed, local labour can be used to construct the sand bags and then placed to form wall supports for the in-ground building. As a result, this type of construction relieves the ground pressure forced onto the walls and requires no additional shipped material other than the bags.

Using sandbags as walls will conserve heat and energy in aide of thermal mass properties of the soil. Having soil built over the walls will conserve the exterior of building allowing for a longer-lasting structure. In addition to the earth bags being used to keep the temperature of the home consistent, other features are incorporated into the home to ensure the home is well protected from the elements. With the home being earth-bermed, the roof will also integrate a green roof system. With all these building systems in place, the home will withstand the cold climate of North as well as keep the temperature inside well controlled.

A main central space will be the center of all activity and gatherings in the large home, with the private spaces branching off radially. This large space will be circular in form in order to allow for ceremonial meetings and traditional assemblies. This room will have the ability to be transformative and adaptable to allow for a variety of activities to take place such as, crafts, television, computers and reading areas.

The workshop is dedicated to the culture and traditions of the Dene community. With a workshop and work area projecting from the home, this gives the family the opportunity to learn from each other and make with each other. Hunting storage, meat processing, meat smoking & drying, carving, mechanical repair, and other traditional crafts can all take place in this area.
Built into the side of a hill, the home feeds off of the ground mass as an additional insulator. With a roof near grade, wind and snow loads become a concern, therefore the domed shape naturally diverts winds/snow loads away from the centre of the roof.

In plan view, the central cavity becomes a focal point where all other rooms are derived from in a radial succession. As indoor spaces protrude outwards and exterior conditions reach in, the architecture begins to promote gathering spaces indoors and out.
Triple, Double and Single sandbag walls are used in various locations of the house depending on the loading applied to them.
Scaled model construction reveals the internal radial framing structure that supports the home and its relationship to the interior spaces within. Special consideration was made into how soil would be formed to the wall and the weatherproofing materials used to ensure no deterioration to the exterior walls.
Renderings of inside and outside of the home.
Since the introduction of reservation settlements and the educational programs that were put in place, many First Nations communities have experienced difficulty in passing on their traditional way of life to the younger generations. Extensive research and a visit to the community elementary school in Tadoule Lake, Manitoba demonstrated this idea to be present between the older and younger generations. This project proposes an architecture to support a retreat program in association with the school’s curriculum in which students are guided by an Elder and embedded in a more traditional atmosphere.

The program enables students to leave the typical school environment and situate themselves in a place that is embedded with the Dene lifestyle. Students would embark on seasonal excursions with a course Elder, as they would learn the ways of the past Dene people by imitating their techniques and methods.

The architecture is to rely upon the local supplies as much as possible while creating an efficient structure that promotes said activities. Students and members of the community would be encouraged to help construct the facility as many of the building methods would require minimal expertise. Utilizing a modular cordwood wall system, simple truss roof configuration, and an off-grid structure will allow the participants to be involved and learn during the project’s entire construction.
The open floor plan creates a sense of community between the group of students during their stay. The indoor and outdoor activities carried out by the students are portrayed above in an attempt to give a sense of the life within the structure.
Section drawing reveals continuation of exterior walls to the foundation and the floor joist system.

Renderings capturing moments of the building's interactive qualities.
In constructing a scaled model of the structure, the simple, yet time consuming, method of building cordwood walls was revealed. The roof trusses were derived from an interlocking bridge system but translated into an undulating roof frame.
The exterior life of the architecture plays a significant role in the Dene teachings. Its adaptability and adjacent access to the natural environment places the structure itself in the heart of the Dene lifestyle. The interior layout equips the Dene Elder with the necessary tools and space to carry out the traditional teachings and bond with the students during their seasonal excursions.
This is a concept for a three bedroom, 1500 sf. family dwelling located in Lac Brochet. It is intended to serve as a single family home but to provide ample space and be flexible and functional even at over capacity. It accomplishes this through practical open space planning and a built in capacity to expand or accept additions.

The dwelling is a circle. Two thirds of the circle form the interior of the home, and the remaining one third is a sheltered space nestled against the building. This space is guarded from the wind and the cold by the building. The interior opens up to a large gathering space centered around a wood stove. The roof radiates out from the center and large overhanging eaves shelter the building and provide cover from the sun and snow. Along the perimeter of the building, a wooden framework extends down from the freestanding roof and creates opportunities for additional usable spaces and structures to become part of the home. Fences, workshops, garages, outdoor seating and sheltered entrances to the home can all easily be constructed from local materials and woven into the fabric of the home. The building is designed to grow and adapt with the homeowner. The building is seen as a living organism that will grow alongside those who dwell within it.

The house is designed to be flexible and adaptable. The rustic wooden construction of the house is suitable for the northern climate and made to be durable and easy to repair. The house will age well as it weathers and settles and remain strong throughout a cold winter. The double thick durable walls are designed to provide extra insulation to ensure warmth through the coldest winters. Special consideration has been taken in the design of the walls to ensure moisture will not be trapped within the walls so the home remains dry and free of rot and mold. A furnace will heat the house throughout the winter and the wood stove will provide a backup heat source or a warm place around which to gather.

The inclusion of local materials and a straightforward stick frame construction method will enable the community to fully participate in the buildings development. The use of local jack pine wood as siding is a part of the local vernacular and its presence on this home will allow it to blend into its surroundings. Although an emphasis on providing space and a durable robust construction will increase the costs, this will be offset by allowing the house to accommodate the overflow of family members that often end up sharing a home and will create a long lasting structure.
Sun patterns and shadows at various seasonal times throughout the year.

Plan view drawing of N-Habitat showing the exterior and interior spaces.
Section elevation drawing cutting through half of the house, viewing west.
Three dimensional modeling aided in the development and visualization of the design.

Images of various key points of the dwelling's exterior:
vehicle port, exterior shelter, entryway, fire pit.
Drawings of interior spaces and activities throughout the house.
This project has two parts: a living area and a greenhouse. The greenhouse is intended not only for growing plants, but also for maximizing passive solar gain in the house. By using the sun in a passive system, the house is kept at a constant above zero temperature throughout the winter without the need for a furnace. The project seeks to utilize local materials through the use of sandbags, and reduce the weight of shipped materials through the use of a fabric roof system that imitates the traditional aesthetic of the tipi. The sandbags act as a natural thermal mass that supports the passive system. The envisioned family is small to medium (2 parents, 2-3 children), that shares an interest in growing food and building with local materials.

The challenges addressed in the project include warming a house passively, reducing the weight of materials that need to be shipped, creating a roof system that can support and direct snow loads, insulating an unconventional wall system, and creating a form for a building that effectively maximizes solar gain. These all were opportunities that directed the design process. Concerns that were brought up by the community were about alternate uses for the greenhouse, as well as the durability of a fabric roof system.

The form of entire structure is elongated and the dividing wall (central thermal mass) is straight in order to maximize the amount of solar warmth that is absorbed. The choice of materials for the walls and roof reduces the weight and amount of items that need to be shipped up. PTFE woven fibre-glass, chosen for the exterior of the roof assembly, is highly durable and self-cleaning with little to no maintenance required. The form of the roof (created with V-shaped struts) directs the condensation/snow/rain off the roof, which reduces loading. The positioning of these cabled trusses balances the weight between each one. The sandbag walls are mainly curved and bound together with barbed wire in order to increase durability. “Papercrete” (or paper adobe), is used as insulation on the exterior and also increases durability (for it hardens) while utilizing local recycled paper.

This project is intended to increase positive feelings towards growing fresh food in-home. It is also anticipated that the design will open minds in the community to new and different possibilities introduced throughout the design process. These ideas include passive solar heating and utilizing the environment (the sandy soil in particular) for its ability to retain heat, breathe, and release moisture. This project seeks to minimize the idea that “everything must be shipped” and that “we have to wait for the money”. Instead, it seeks to answer the question, “what can be used here?”
Foundation to wall detail.

Suspended roof system detail.

Section elevation drawing cutting through half of the house, viewing north.
Section elevation drawing illustrating various activities and events happening within the dwelling, the overall form of the building envelope as well as an integrated plumbing and irrigation system.
Interior images of the dwelling showing various spaces, activities and construction typologies.
The house was designed for a family of five to be living in it. The family consisted of two parents, two children and one Elder. It was imagined that the Elder in the family had a deep interest in teaching his grandchildren elements of the traditional lifestyles as well as hunting, fishing and food preparation techniques. The parents knew some of these methods however began growing up not needing to know as much as their grandparents. One of the children was very much into learning how to live off of the land while the other child was more into video games and technology.

One challenge of this project is creating a house that will attempt to aid in the teaching of traditional activities. How can the house foster a dialogue between the Elders and the children? These questions allowed for opportunities for the house to be more than a shelter, that the house can actually play a role in maintaining and strengthening of a culture.

The structure of the house is built in such a way to be able to accommodate various and changing activities. The horizontal members of the structure are able to accommodate meat drying and smoking and can also act a bench to cut the meat on. To attempt to foster a dialogue between inhabitants of the house, the living area is large and centered around the wood stove, which is the main heat source of the house.

Through the inhabitation of this house, I hope that residents can strengthen their traditions through improved interactions with Elders. I also anticipate a desire within the community to have a more efficient way of processing their meats.
Technical sectional drawing through the width of the dwelling, illustrating the vertical changes in the structure.
To facilitate the flexibility of the space, there are very few interior finishes throughout the house. The frame is visible and available for the residents to adapt and change the storage and living conditions to suit their needs.
The caribou processing room shown both while the caribou is drying and also when it is not drying. It can be used as storage for tools when caribou is not hanging. Although the intended use of this room is for the processing and drying of the caribou, such activities only happen a few times a year. It is important that the space can be as multi-functional as possible.
The students of the Architecture Oriented Otherwise Studio are working in collaboration with the Faculty of Medicine. Studies have taken place in two specific northern reserve communities Tadoule Lake and Lac Brochet, Manitoba. The project researches housing conditions on the reserves and its effect on the health of the inhabitants. Overcrowding and excess moisture causing mold are major health concerns that are being studied. The houses that have been built for Tadoule Lake and Lac Brochet are not suitable for the social and cultural needs of the Dene people. The aim of this project is to develop an approach in which culturally appropriate houses can begin to be designed for northern communities in Manitoba.

The following is a proposal for the design of a family dwelling in Lac Brochet, Manitoba. One of the challenges that this community faces is the recent change in lifestyle. The Northlands Dene went from an active life to a sedentary life on the reserve. The proposed project will explore various ways to respond to this challenge that the Dene face. There is a fear by some that the traditional knowledge and the Dene way of life is being compromised due to Southern influence in the communities. The proposed dwelling is striving to strengthen and encourage active relationships between individual families, their communities, the environment and the architecture they live in. Through carefully thought out, yet subtle moments the design of the home attempts to enhance the traditions and teachings of the Northlands Dene. The design will be sensitive to the Dene way of life and their valued relationship to the land and the creator. The architecture of the home begins to interact with the community and invite those outside to take part on events happening inside or around the home.

The specific dwelling that is proposed is a design for a family that consists of a single mother and two young boys. The home is designed to respond to their daily activities that take place. The home consists of three bedrooms, one bathroom, kitchen, cold storage, living and dining space. The total square footage of the dwelling is 1138.
PASSIVE SOLAR HEAT
Complimentary Heat Source
• thermal mass wall absorbs heat from the sun during the day
• thermal mass stores heat
• when the sun goes down thermal mass will radiate heat into the space
• most effective with South facing windows
• if windows are covered, it will minimize heat entering the house
• no maintenance

WALLTHERM WOOD STOVE
Primary Heat Source
• double combustion wood stove
• stove connected to a water tank to heat hot water and provide space heating
• 70% heats hot water
• 30% heats ambient air
• one filling will last 3.5-5 hours
• spare parts are available

DIESEL FURNACE
Back up Heat Source
• Occasional use when family members are unable to tend the wood stove
Section elevation drawing illustrating various interior and exterior spaces, activities and material finishes of the dwelling.
A window at the corner of the house is specifically placed to give a view into the space where the homeowner works on their crafts and allows a space for their products to be displayed to the community.

Operable doors clad in wood slats offer light into the house while protecting the window from damage.

Movable screens are used as interior partitions, to allow light and airflow through the spaces while creating stages of privacy for the inhabitants.

Exterior enclosures fold open and down revealing storage and creating a temporary working space.
The Dene First Nations reserve of Lac Brochet, Manitoba faces a shortage of available housing for the growing community. In this scenario this form of overcrowding has lead to mental illnesses such as depression and sometimes worse within the community. This project aims to create an alternative pathway towards new housing compared to the standard housing stock. Currently, the Dene youth have little to no alternative options for new housing options. This project proposes a method and process of construction that creates an opportunity for a single youth to develop into series of necessary living spaces into a complete dwelling over a period of time.

In remote communities such as Lac Brochet resource and material collection can be difficult and costly when transportation time and costs are considered. This process of goods and material shipment becomes a major issue in the contemporary northern building practices. This project seeks to find an alternative method to this current building practice: one that returns the First Nations community’s housing stock back into a relation with the land and natural surroundings by utilizing local Black Spruce trees as core building materials. The integration of the University College of the North’s carpentry program becomes a basis of working and construction skills necessary for creation of the building. The project utilizes a locally-sourced small round-timber exo-skeleton frame system to allow for external additions and flexibility of cladding types relative to the intended interior spaces. The timbers are connected into a three-dimensional frame through a series of simple, milled perpendicular connections aided by steel collars and steel tubing tied with bolts. These frames can be constructed in form for one to two story configurations. This process on the ground and raised up into place with the efforts of a few people. Interior and exterior finishes are milled from the same type of wood used in the frame; centre log cores sliced to form studs that can hold insulation and other typical framed inserts, smaller cuts can be utilized as interior wall, floor and ceiling surfaces, and off-cut ends of these trees can be lapped horizontally to create a finish for exterior siding.

The intention of this housing concept is to start a discussion into what a contemporary form of housing could be for the community of Lac Brochet. Traditionally, First Nations communities of all backgrounds lived all aspects of their life from the earth. This projects seeks to regain a sense of this natural harvesting process by integrating it back into contemporary construction. The implications and influences of technology and southern lifestyles are undeniable and unavoidable in the present time of these remote communities. A discussion through the creation of new structures could lessen the reliance on government-funded housing, and reinforce a sense of importance in the community and re-connection with the earth and local landscape.

**A HOUSE FOR A CRAFTSPERSON**

*STUDENT: EVAN TAYLOR - ARCHITECTURE YEAR 4*

The Dene First Nations reserve of Lac Brochet, Manitoba faces a shortage of available housing for the growing community. In this scenario this form of overcrowding has lead to mental illnesses such as depression and sometimes worse within the community. This project aims to create an alternative pathway towards new housing compared to the standard housing stock. Currently, the Dene youth have little to no alternative options for new housing options. This project proposes a method and process of construction that creates an opportunity for a single youth to develop into series of necessary living spaces into a complete dwelling over a period of time.

In remote communities such as Lac Brochet resource and material collection can be difficult and costly when transportation time and costs are considered. This process of goods and material shipment becomes a major issue in the contemporary northern building practices. This project seeks to find an alternative method to this current building practice: one that returns the First Nations community’s housing stock back into a relation with the land and natural surroundings by utilizing local Black Spruce trees as core building materials. The integration of the University College of the North’s carpentry program becomes a basis of working and construction skills necessary for creation of the building. The project utilizes a locally-sourced small round-timber exo-skeleton frame system to allow for external additions and flexibility of cladding types relative to the intended interior spaces. The timbers are connected into a three-dimensional frame through a series of simple, milled perpendicular connections aided by steel collars and steel tubing tied with bolts. These frames can be constructed in form for one to two story configurations. This process on the ground and raised up into place with the efforts of a few people. Interior and exterior finishes are milled from the same type of wood used in the frame; centre log cores sliced to form studs that can hold insulation and other typical framed inserts, smaller cuts can be utilized as interior wall, floor and ceiling surfaces, and off-cut ends of these trees can be lapped horizontally to create a finish for exterior siding.

The intention of this housing concept is to start a discussion into what a contemporary form of housing could be for the community of Lac Brochet. Traditionally, First Nations communities of all backgrounds lived all aspects of their life from the earth. This projects seeks to regain a sense of this natural harvesting process by integrating it back into contemporary construction. The implications and influences of technology and southern lifestyles are undeniable and unavoidable in the present time of these remote communities. A discussion through the creation of new structures could lessen the reliance on government-funded housing, and reinforce a sense of importance in the community and re-connection with the earth and local landscape.
"My House" - Dene First Nation's Perspectives on Healthy Homes

TWO STORY FRAME CONSTRUCTION SEQUENCE

- STEEL METAL ROOF
- TIMBER FRAMING
- INSULATED SECOND LEVEL
- TIMBER AND CROSS PIPE STEEL CONNECTIONS
- INSULATED FIRST LEVEL
- TIMBER AND CROSS PIPE STEEL CONNECTIONS
- UN-MILLED BLACK SPRUCE TIMBERS
- ADJUSTABLE SCREW PILES

- CROSS PIPE AND NUT CONSTRUCTION
- EXPLODED DETAIL DIAGRAM

- round wood timber column in frame
- steel collar
- milled-flat beam to bolt to steel bracket
- ELEVATION DETAIL - COLLAR LEVELING IN INSTALLATION
The interior walls are finished in boards cut from the local black spruce trees. This type of surface allows for an allowance of construction upon it as well as the ability for easy repair and replacement.

The interior spaces are sealed and insulated as the timber frame wraps the exterior, creating a workable and transformable structural separation between the exterior and interior functions.
“My House” - Dene First Nation’s Perspectives on Healthy Homes

Top Left: Exterior space south of main entrance.
Top Right: Behind workshop, opened up for working.
Bottom Left: Second floor balcony space.
Bottom Right: Exterior space at night.