Waaka’ Iigan Inc. Business Plan

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1. Executive Summary

Waaka' Iigan Inc. is a First Nation Housing not for profit company to provide not only the next generation but the seven generation residential building system that designs and builds with and for First Nations. Local wood that meets structural code requirements will be built under a new cost-effective process of logging, grading and building of houses in remote communities with local people's skilled trades. Using local resources for housing will result in more durable and affordable houses that are culturally appropriate, providing both jobs and quality houses.

Garden Hill First Nation has a substantial need/market demand for housing and rebuilding its community using local resources and local labour. The government has committed to invest in First Nation housing, to combat the health and social costs of overcrowding. The only question is will First Nation people benefit by better housing and jobs in the spirit of reconciliation.

A sizeable investment in a labour force of 23 workers has already started as of October 2018 with a 15-month course that trains Garden Hill workers in a holistic course, called Boreal Home Builders. Boreal Home Builders covers every part of a housing/logging operation from logging, maintaining small motors (chainsaws, forestry, sawmilling, carpentry, plumbing and house building in 2018-2019. Although a small sawmill has been operating in the community for years the addition of a business plan, a business model for using lumber and wood in housing and incorporation of this business is needed for it to be sustainable.

By the sawmill expanding to incorporate a housing construction business and renting its purchased equipment Waaka' Iigan Inc. is expected to provide an excellent return on investment and be prepared to make money the first year after receiving start-up funds. Waaka' Iigan Inc. has many inkind contributions for this proposal amounting to a $583,390 investment by Garden Hill First Nation, University of Manitoba and others -- the Community Futures Inc ask is approximately one-fifth or 20% of the total investment at $116,000. The return on investment is less than one year due to many positive supports this business has to make it a model of success in the first few years, being part of a partnership grant for educational programming called Mino Bimaadiziwin Partnership. The In-kind contributions include a steel warehouse building to house the sawmill and modular home construction, a sawmill, a $350,000 investment in worker training (Boreal Home Builders) and a memorandum of understanding to build two houses in 2018 with CMHC funding. As well the wood and timber permit fees for crown land nearby the reserve, considered the best wood in the province for housing being old growth and sizeable, have been waived.

Products of the sawmill and housing construction business will include:
- Production of high quality stick wall, timber frame and log houses
- Secondary wood product manufacturing (furniture, insulation of curly wood and wood chips, trim, wood siding)
- Displacement of current imports of wood materials

2. Company Description

Waaka' Iigan Inc. is a registered not-for-profit. Waaka' Iigan Inc. will increase the capacity of Indigenous communities to take advantage of the future opportunities for

First Nation housing, forestry and wood product sectors. Federal announcements of funding for innovative housing to solve the First Nation housing crisis hold great promise and this company can meet this need and provide a model for an incorporated sawmill and housing construction business.

2.1 Mission Statement

By meeting the needs of Garden Hill First Nation and other northern and First Nation communities for quality lumber and housing, Waaka' Iigan Inc. will solve the housing crisis by building durable, sustainable First Nation housing, and solve the youth employment crisis by employing and training local labour to become highly skilled tradespeople.

2.2 The need: end the housing shortage in Garden Hill and show an alternative.

The poor condition and shortage of housing is causing a crisis in First Nations (FNs) across Canada but particularly in the FN reserves of Island Lake, Manitoba. James Anaya, Special Rapporteur on the Rights of Indigenous Peoples, reported in July 2014 that housing in Canada's Indigenous communities "has reached a crisis level" (Anaya cited in The Interim Report of the SCAP, 2015, p. 5). Many homes on reserves are in substandard condition, require major renovations or replacement to meet standards o Chief David McDougall from Island Lake calls the housing situation a "ticking time bomb" with 1500 houses on the waiting list for the cluster of four reserves, including Garden Hill and Garden Hill FNs. The Chief documented 23 people living in a two-bedroom home where "they had to take turns sleeping" (Puxley, 2016).

Garden Hill's challenges stem from being a fly-in community, which makes non-local materials difficult to transport on winter ice roads, permafrost causing foundations to shift and walls to crack (SCAP, 2015), as well as CMHC rules not providing mortgages for First Nations in third party. The shortage of livable housing units has resulted in overcrowding and homelessness. Some are in need of significant repairs and may not meet current building code requirements, resulting in unsafe and/or unhealthy conditions. House needing major repair tip the scale at 83%; this housing crisis results in average of 5 people in each house (Statistics Canada, 2017) but, in some cases, as many as 23. The Royal Commission on Aboriginal Peoples (RCAP) states:

> Injection of capital and the integration of housing objectives with other social and economic activities in Aboriginal communities will create a synergistic effect, making housing a source of community healing and economic renewal (Canada Royal Commission on Aboriginal Peoples, 1996c, p. 341).

Inadequate housing on reserve is linked to negative health impacts for both children and adults in addition to the destructive social impacts. A high incidence of mold growth exists in "the dilapidated housing that characterizes much of the shelter available to the Indigenous people of Canada" (Optis, Shaw, Stephenson and Wild, 2012, p. 14). Inadequacies and overcrowding of on-reserve housing are linked to higher incidence rates of: hepatitis (Jin and Martin, 2003), acute rheumatic fever (Gordon et al., 2015), asthma (IHC, 2003) and tuberculosis (Clark and Ribben, 2000; Clark et al., 2002; Lancombe et al., 2011 Smeja and Brassard, 2000). Tuberculosis, a major public health problem for Canadian FN communities, is nine times more prevalent in these communities than in Canada as a whole (IHC, 2003).

The shortage of on-reserve housing causes migration to larger urban centres and exacerbates young women's and girls' vulnerability to sex trade work and trafficking, particularly since affordable housing in urban centres to people without a rental history is difficult to access (Beavis, Klos, Carter and Douchant, 1997; Collins, 2010; Geisler and George, 2006; Peters and Robillard, 2009; Westerfelt and Yellow Bird, 1999; Zerger, 2014). Some people with inadequate on-reserve shelter have ended up homeless in Winnipeg and other cities (Brandon and Peters, 2015, p. 7). By linking the social and health impacts of the housing crisis on reserves will raise awareness about FN housing and share solutions.

2.2 Objectives

The Waaka' Iigan Inc. in Garden Hill First Nation will be a business that offers the following products and services:

- Production of durable homes using different wood building techniques including stick wall homes, timber frame homes and log homes appropriate to the environment and community.
- Secondary wood product manufacturing (furniture, insulation of curly wood, wood chips, trim, wood siding, rental of skidder)

Waaka' Iigan Inc. hope to have more than 50 to 60% (60 to 70% by volume) of the house materials be local by using wood siding for exteriors, wood paneling for interiors (instead of dry wall which is prone to mould), insulation (curly wood or wood chips) with double walls, as well as furnishings in the house be local.

Many ready-to-move (RTM) stick-wall housing and log home businesses exist in Southern Manitoba but no sawmill and housing corporations exist in the north and no Aboriginal housing incorporated businesses in Island Lake or the East-side of Lake Winnipeg. Waaka' Iigan Inc. will differentiate itself and provide a model for local, affordable production of quality housing.

Waaka' Iigan Inc. will differentiate itself by focusing on housing and sawmill development in First Nation market in remote communities. We are trying for next generation sustainable homes that may have some modular aspects to be built within the large steel sawmill/housing building – so that the housing industry can work full year. Some housing designs have been developed that are culturally appropriate, with Sundial Passive Solar Inc and Indigenous Development Support Services and are affordable under CMHC funding rules with considerable savings from the $245,000/home (with appliances and furniture) going back to the loggers, sawyers, construction workers, business (5 to 10% will be going towards business upgrades of equipment, building and designs and for contingencies, such as repairs and oil).

With a timber and wood permit to harvest the provincial forest near to Garden Hill on the nearby islands, winter road and on the reserve Waaka' Iigan Inc. will be able to log the local forest and not have to ship wood products up on winter roads, there will be considerable savings to building homes. As well, this housing company will provide a better more sustainable product by designing to the cold climate and employing local people. We plan to develop wood products highly marketable.

2.3 Management plan and structure

The Management plan and structure section for Waaka'Iigan Inc. is broken down it into the following sections:

1. Ownership Structure
2. Internal Management Team
3. External Management Resources
4. Human Resources Needs

2.3.1 The Ownership Structure

This company is structured as a legal non-profit organization. This non-profit organization is created with the intention to not make personal profits to any of the directors. Waaka'Iigan Inc. is formed for non-commercial purposes to perform the important community work of developing housing in the community and providing funding back to the community for further housing and training to build capacity of Garden Hill First Nation. Any profit will be used to further the goal, or undertaking of the organization, to build a sustainable sawmill and housing corporation and build better and more housing in the community and to train and employ Garden Hill workers in the building trades and also to create local architects, planners and interior designers. After expenses and training payments, any profits will not be used by the individuals involved for their own personal financial gain but for building a housing industry that provides jobs and housing for the communities.

This corporation is already registered and is being Incorporated under The Corporations Act of Manitoba. Incorporation creates a legal entity for the organization and board members and supervisors who are involved with it providing the following advantages, as follows:

1. Limited Liability: The board members and supervisors are involved in the corporation are not normally responsible for the legal and financial obligations of the corporation with some exceptions to this general rule.

2. Title to Property: The corporation will own the sawmill steel building and the sawmill under its corporate name, allowing the membership of the corporation to change if people retire, the legal ownership of the property will remain undisturbed by the corporation.

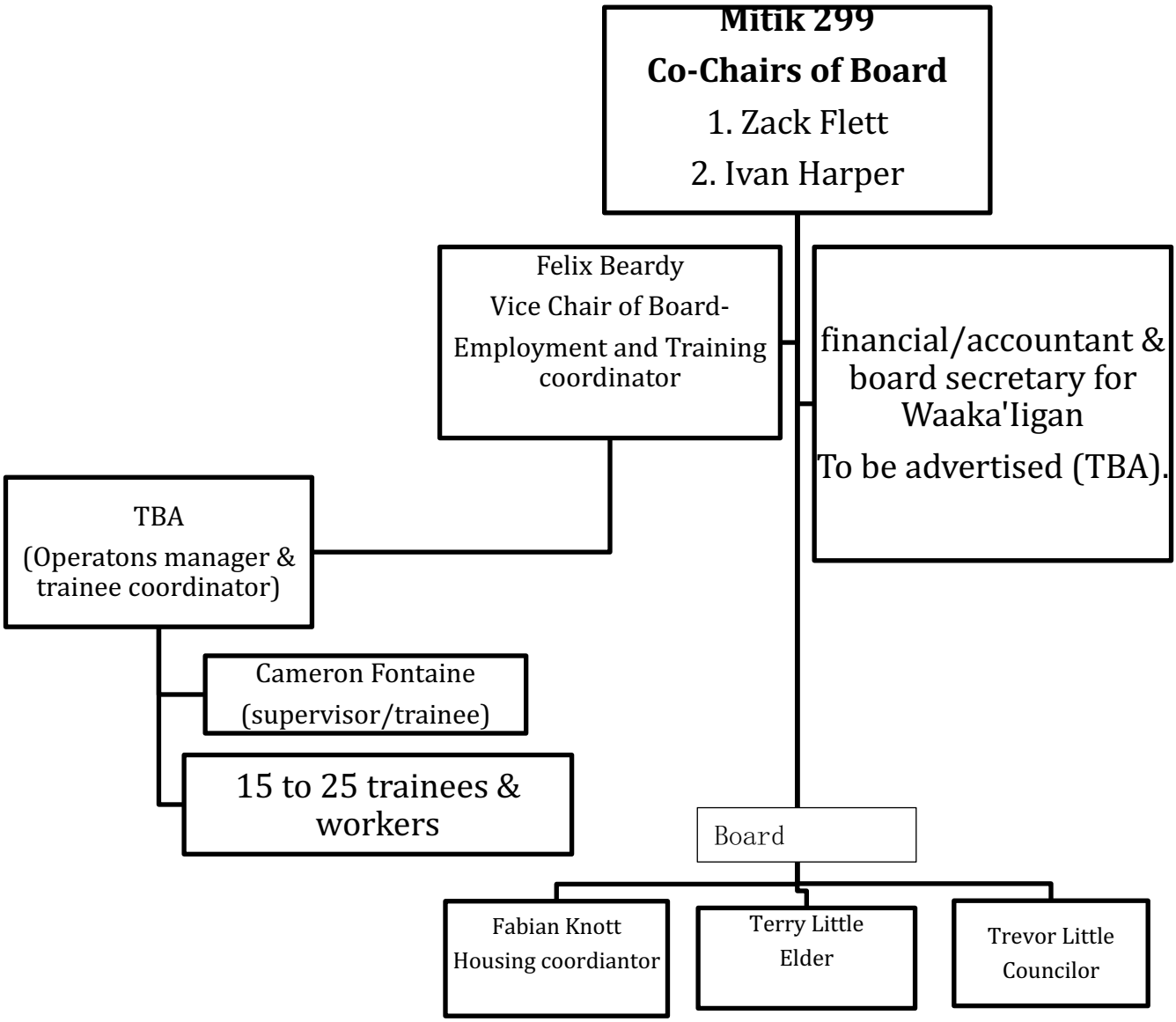
3. Continued Existence: The existence of a corporation is expected to continue for the long-term and does not depend on the continued involvement of its individual members or directors. The corporation has a long-term game plan to build houses for a decade or more.

2.4.2 The Internal Management Team

This section identifies who's going to have responsibility for each category, and profile that person's skills in the board of directors to the company. The board members possess all the skills to provide expertise and capacity in the basic business roles of: Sales, Marketing, Administration, Production, Human Resources and Research and Development.

Waaka'Iigan Inc. board will have weekly or biweekly meetings for the first few months until the infrastructure and materials are all shipped up and the steel building

are in place and functional and the students are able to sawmill. After the two houses have started and the carpentry program is underway meetings may be able to be less frequent but will occur at least monthly. At these meetings, the budget, the overall operations, training status, attendance records and production will be reviewed at least monthly and any corrective action required will be noted and shared with the supervisors and chief and council. Waaka'Iigan Inc. has many supports and resources being part of the First Nation and working with Employment & Training to obtain the University of Manitoba training allowance. As well, the supervisor and manager will meet with Employment Training staff (Felix) once per week to discuss future operations and training.



The board members are the people in the key positions with the right skills and position to direct this business over the long haul, as shown below for each person:

- Felix Beardy is the Employment Training Administrator and has a college education in management and administration. He has human resources, accounting training, proposal writing and budgeting skills. He will develop training and education programs to ensure that trades training results in sufficient and highly professional electrical, plumbing and carpenter red seal (highest apprenticeship status that takes at least four years) as well as architects and planners. Felix will also correspond with Shirley Thompson and the advisory team on Research and Development and training issues.
- Fabian Knott has been housing coordinator for five years and trained in timber frame house building, sawmilling and logging. He has the ability and interest to provide housing contracts to ensure that Garden Hill's funding for housing is used best through Waaka'Iigan Inc. by using local materials and knows about houses to approve new designs by Waaka'Iigan Inc. for building in this community by Waaka'Iigan Inc. for CMHC, teacherage and other funding sources that he can subcontract to some degree to Wazikamang Nahkaway Inc., and grow this business over time as it proves its capacity to provide better housing. Fabian will also correspond with Shirley Thompson and the advisory team on Research and Development.
- Trevor Little is a councilor with Garden Hill First Nation in charge of economic development. Trevor undertook the standing tree to standing home program and so knows how to log, sawmill and build houses. He will provide ways of ensuring Waaka'Iigan Inc. is meeting the community needs for housing and training. Trevor Little will represent Waaka'Iigan Inc. to ensure it is meeting the housing and training needs and providing good value to the community.
- Ivan Harper is a school teacher at Garden Hill First Nation. He has a college community economic development education and will help with direction from the economic development. He is also a licensed heavy equipment operator and traditional person.
- Zack Flett has a university education and taken some business courses. He will co-chair the program.
- Terry Little worked for Manitoba Conservation and recently retired. He will assist to ensure that the forestry is environmentally sustainable and network with the youth to teach them cultural aspects of the business as the Elder.

By having people with accounting, human resource, budgeting, proposal writing, marketing, housing, construction, planning, management and public consultation. These people have the skills required to direct and ensure success of this enterprise and the networks to ensure that this business obtains contracts to build houses and can deliver on these contracts. These board members are all employed by Garden Hill First Nation and each person holds an aspect of this work in their job description. As a result, there will be no compensation directly to the board members as this focus is part of their existing job description. Each department will fulfill their job duties of providing training grounds and job opportunities for Employment Training and for the Housing Department and Economic Development department.

Management and Supervisors for Mitik 299
As well as the board a management team will be created including the Operations Manager position as well as the financial/accounting and board secretary half-time person – TBD.

The Training and Waaka'Iigan Inc. Coordinator is now a part-time position but this funding will allow this position to become full-time. The management team will not have any funding from the project initially but in the second year, the salaries of the supervisor and manager will be paid by the company and although many workers will continue to be paid by an employment training allowance as is currently provided, particularly for those who graduated with level 1 carpentry apprenticeship, some carpentry labourers who graduated from the Boreal Home program who do not want to continue towards apprenticeship may be hired. The Boreal Homebuilding program will help fund students all the way up to be a red seal trades person, which takes four or five years work/education experience. This will fully develop a workforce of many highly skilled tradespeople of 10 to 15 will result, with 15 to 30 trained labourers with good skills to bring to the workforce. As well, the business presently accepts wood and pays piece meal for wood and may continue to provide this service to the community members to allow all people to have an income from this business.

2.4.3 External Management Resources
To be at the leading edge of sustainable housing and renewable energy in housing, the board of directors and supervisors will consult with external management resources. External management resources have agreed to provide expertise and include both:

1. Professional Services
2. Advisory Board.

2.4.4 Professional Services
The following companies will provide external professional advisors to provide a "web" of advice and support outside the internal management team that will be invaluable in making management decisions and ensure this business is a success. Accountants, lawyers and business advisors are available at the following organizations:

Island Lake Tribal Council, 338 Broadway, Winnipeg, MB R3C 0T3
Phone: (204) 982-3300 Contact: Norman Wood Email: vincentnwood@gmail.com

BDO Canada LLP- Winnipeg, 200 Graham Ave, Suite 700, Winnipeg, MB R3C 4L5
Phone 204-956-7200 Fax: 204-926-7201 Contact: Brent Simms
Phone: (204)-926-7590 Email: Bsimms@BDO.ca

Mino Bimaadiziwin Partnership
70 Dysart Rd., Winnipeg, MB R2V 1B8
Phone: 204-291-8413 Contact: Shirley Thompson Email: S.thompson@umanitoba.ca

Indigenous Development Support Services
Call (204) 226-9698 Contact: Laurel Gardiner Email: Laurel.Gardiner@outlook.com

m.me/idssmb.ca

2.4.5 The Advisory Board

An Advisory Board will provide a management think tank. These advisory members of the board will provide additional advice to ensure a good business that is sustainable and keep on the leading edge of housing technology. The advisory board will include:

1. Dr. Shirley Thompson, Sustainability Professor, University of Manitoba.
2. Lancelot Coar, Architect Professor, University of Manitoba
3. Shauna Mallory-Hill, Architect Professor, University of Manitoba
4. Laurel Gardiner, Principal, Indigenous Development Support Services

2.4.6 Human Resources Needs in the Business Plan

The specific human resources we need are:

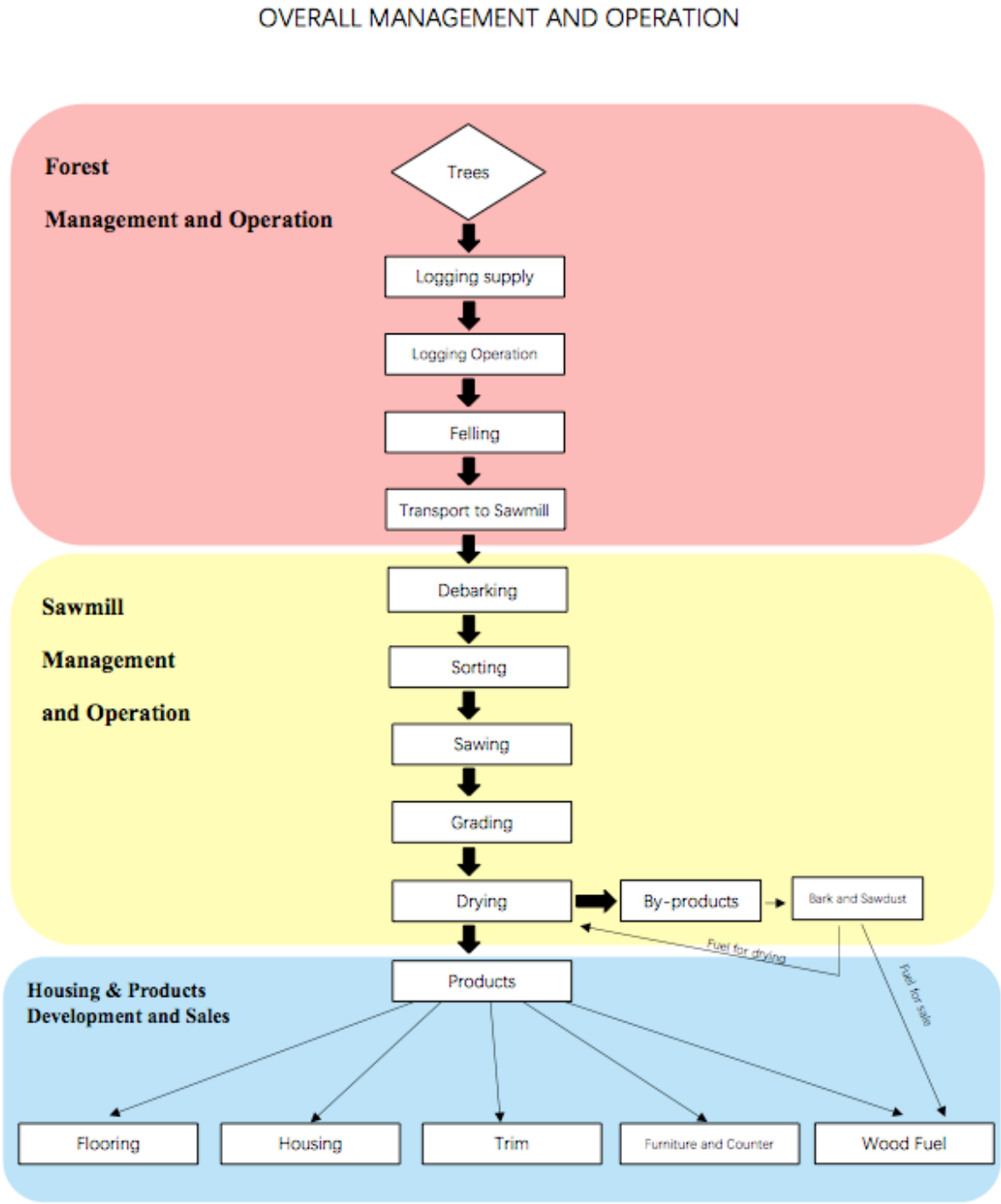
- for the first year we have in place 15-25 trainees (currently 23 but all may not pass requirements of attendance and grades) and two supervisors as well as a full-time Boreal Home Builder Training coordinator who will be enhanced by this Futures program and
- for 2020-2021 we expect to have 8-12 trainees in the second year of apprenticeship and 5 to 10 labourers who graduated the Boreal Home builders program but did not pass the Apprenticeship Challenge test to build housing with manager and supervisor. As well new applicants will apply and become part of the program. From 2018-2023 Mino Bimaadiziwin will have funding for training students in the trades to ensure this program has paid trainees and sufficient trades people are available.

At least 20 of these trainees or workers require home building and renovations skills including: framing, blueprint reading, foundation pouring, math skills, carpentry tools, sawing, carpentry, tools safety for each equipment, chainsaw safety, sawmill safety certificates with experience and sustainable logging course (Boreal Home Builders certificate).

2.4.7 Summary of Human resources section.

Waaka'Iigan Inc. management and supervisors will be guided by the Board of Directors and the employment training coordinator. The management and Board will work with the supervisors in consultation with the external management team from ILTC, BDO and Mino Bimaadiziwin Partnership and the advisory team, previously discussed in 2.3. Please refer to 2.3 for the detailed discussion. Other experts will be regularly consulted on technical matters related to forestry, such as regional forester – Bruce Holmes, expert grader, Mr. Wu and the FP Innovations' Peter Sigardson. As well, for housing design we will gain advice from University of Manitoba architects Lancelot Coar and Shauna Mallory Hill as well as Eric Bjornson from Sundial Building Performance to ensure that the designs meet all requirements and are environmentally sustainable

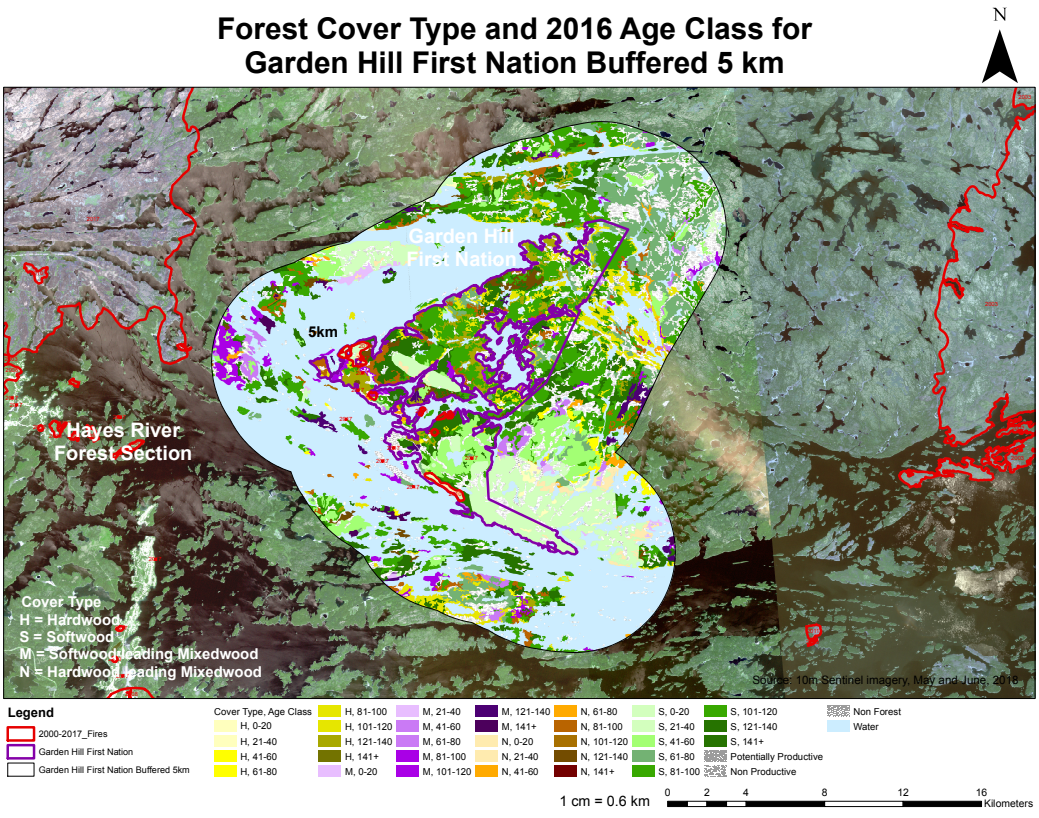
3. Operational Plan: Table of Forest Management and Operation to Housing



3. Log supply

Regional Forester waiving all fees and granted all permits.

Bruce Holmes, Regional Forester of Manitoba Sustainable Development has promised in writing to: “assist the communities in developing a practical Forest Plan for a harvest of timber.” See Appendix A. He also promised to help forestry instructors teaching the “Boreal Home Builders Program.” Manitoba Sustainable Development has agreed to waive all fees, according to Bruce Holmes stating:” Manitoba Sustainable Development waives all Stumpage dues for timber harvested, as this timber is for community benefits” (Holmes, 2018). The work permit and timber permit are being granted without charge, with Bruce Holmes stating:” Manitoba Sustainable Development will provide a Work Permit and Timber Permit at no cost to the Island Lake Communities.” This will include wood and Bruce Holmes also mentions that the Sustainable Harvest is no concern with lots of timber with only 1% of the annual allowable cut being cut for this project. Bruce Holmes’s letter is dated August 8th, 2018.



Garden Hill First Nation territory has excellent timber resources. Most of the land is covered by old growth forests, which is considered the finest quality of wood for housing and furniture. The community is surrounded by forest, which means resources are nearby, reducing transportation costs. Local trained labour funded, through employment training, will reduce labour costs

What's more, a majority of the species (spruces) have small knots and provide long sections of evident straight grain. The majority of the structural products come from a

spruce-pine-fir (SPF) grouping, which has the following advantages for structural applications:
• straight grain
• good workability
• lightweight
• moderate strength
• small knots
• holds nails and screws well
Wood has further good properties of being mould resistant and durable.

This enterprise will make houses and furniture from black spruce and jack pine. Black Spruce, a medium-sized coniferous tree and jack pine, a cold-tolerant native species that populate the traditional territory of Garden Hill with being over 50 years (and many being over 100 years).

The dominant coniferous species in the boreal shield are black spruce, jack pine, white spruce, tamarack and balsam fir but in Garden Hill 's territory spruce and pine dominate. As well, the most common deciduous species are trembling aspen, white birch and balsam poplar. Presently, trembling aspen is in high demand for insulation materials in Europe and could be in Canada with its many excellent properties for insulation: Aspen insulation has the following features: diffuses moisture to prevent mould, has low thermal conductivity from 0.037W/mK to 0.05W/mK and has excellent fire resistance.

The business will sell lumber, trim, furniture and finished houses. The primary customer is the Garden Hill First Nation housing office. Garden Hill band office, through Island Lake Tribal Council, receives mortgage funding from Canadian Mortgage and Housing Corporation（CMHC） housing and renovations and other First Nations for CMHC. This funding at $245,000 Canadian must complete the house with electrical and water/sewage (may require cisterns) as well as appliances and furnishings. To generate more business, secondary customers will include construction companies working in the Garden Hill area on projects, furniture and do-it-yourself people (DIY) in this remote fly-in area. This corporation will endeavor to sell value-added products such as trim for export as well to be shipped out in winter for companies doing back-haul.

The University of Manitoba, Indigenous Support Service (IDSS) and Sundial Building Performance Inc. will develop a preliminary open-source net-zero passive solar housing design, which maximizes the use of local materials including timber and domestic wood-fibre insulation. The design will be for a next generation building to meet the energy efficiencies of the future and environmental design.

3.2 Log supply

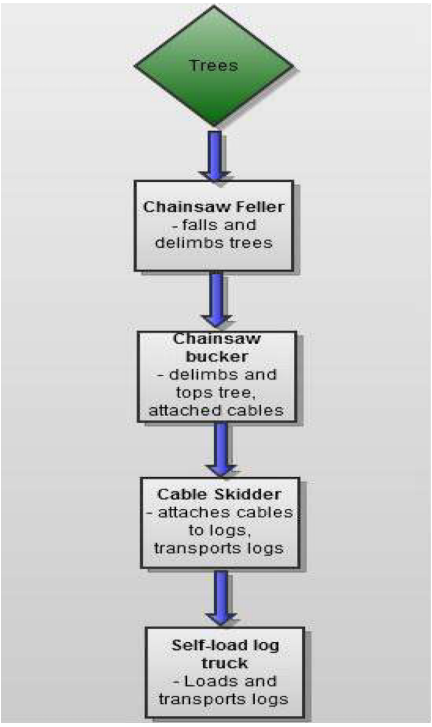
The sustainability of logging and forestry in the area was considered to provide sufficient for the current 2 to 10 houses built per year, considering teacheridge builds and also Canadian Mortgage and Housing Company (CMHC) housing, which will be the amount for the first few years. The forest would be sustainable as it grows from 2 houses in its first year to 100 houses in future years to gear up to meet the need in the

community. This business would also provide furniture for those houses and for other houses as well as biomass.

The goal of this company, after starting with a few houses for the first few years, is to build at least ten houses per year. Framing lumber used for a home can be estimated at about seven board feet (FBM) / ft2. According to our marketing objectives, ten houses should consume about 150,000 to 20,000 board feet, some of which will be off-grade and unusable for framing. Thus, from the projected harvest for 5 to 20 houses at 300 to 1600 trees (60 to 80 trees equal one house) annually, the actual volume of timber harvest is estimated to be between 450 cubic metres and 2,400 cubic metres. The Annual Allowable Harvest in FMU 90 is 263,720 cubic metre (1973 inventory) and so the community could do as much as 2000 houses per year and still be within the allowable cut. Consulting with experts, we found that a sustained log supply of about 150,000 board feet and will sustain the renewable resource of the forest in Garden Hill 's traditional territory and not require a considerable distance to travel to obtain logs.

3.3 **Logging operation**

The logging operating system we will use is a motor-manual harvesting (MMH) based on felling and processing with chainsaws, cable skidding logs to the roadside, and loading onto a self-loading log truck. The MMH system offers lower harvesting costs and provides greater employment opportunities than a mechanical harvesting system, and requires less capital investment and thus allow easier access to a potential market. The MMH system is coherent with our mission to provide employment and economic development opportunities. The literature supports the application of the motor-manual harvesting and thinning operations findings of higher employment levels (worker-day/m3) and lower capital costs (Lortz, 1997; Meek et al., 1999; Phillips, 1997).



3.4 Felling

Most tree felling is done with chainsaws. Two cuts are made near the base, one on each side, to control the direction the tree will fall. Once the tree is harvested, the limbs are trimmed off with chainsaws, and the tree is cut into convenient lengths for transportation. Selected trees in an area are visually inspected and marked as being ready to be cut down or felled. If a road does not already exist in the area, a new road is cut and graded using bulldozers. If operations are expected to extend into the rainy season, the road may be gravelled, and culverts may be installed across streams to prevent washouts.

If the terrain is relatively level, diesel-powered tractors, called skidders, are used to drag the fallen tree sections to a cleared area for easy loading. If the terrain is steep, a self-propelled yarder is used. The yarder has a telescoping hydraulic tower that can be raised to a height of 110 ft (33.5 m). Guy wires support the tower, and cables are run from the top of the tower down the steep slopes to retrieve the felled trees. The logs are then loaded on trucks using wheeled log loaders. Trucks make their way down the graded road and on their way to the lumber mill.

3.5 Debarking

After the trees are felled, and they are brought to the area where they will be processed, the logs are left to soak for about 20 minutes. Sometimes the trees are moved by a river and won't have to be pre-soaked. Either way, soaking removes mud and makes the bark softer and easier to remove. When they're finished soaking, the trees go through a "debarker." Debarkers come in many different varieties from hydraulic to specialized saws. These machines chew off the bark of a tree exceptionally quick and often need less than 10 seconds to shave the log bare. After they have been shaved, the logs move on to the next step.

3.6 Sawing Site

A pre-existing sawmill building has been established from previous years This building location is ideal being within 50 m of water in Island Lake to deliver the logs and already has a large red steel building set up for the sawmill operation. This sawmill site is near the Garden Hill First Nation band office and docks. Since the costs of loading logs onto trucks or into a river and offloading to storage at a sawmill are independent of distance travelled, this is an ideal location.

The terrain at this location is reasonably level and gently sloping to facilitate drainage, and the sub-soil is small, well-drained sandy gravel able to sustain wheel loads from a logging truck and fork-lift trucks. Also, the site has adequate electric power (220 V) by using the pre-existing sawmill site. There is a significant capital cost and operating cost advantage.

Figure 1: Large Steel Sawmill building available from Garden Hill First Nation nearby to water and with adequate power supply

3.7 Power Supply

An essential difference between traditional and modern sawmilling practice is the amount of power applied to the sawing process. By using more electrical power to the saw teeth running at the correct speed, more lumber can be produced in a given period without increasing the workforce.

A reliable and adequate power supply is available through the use of electricity at the sawmill operations at 220 V.

3.7.1 Power requirements

Sufficient power is available by the existing power supply to power the following pieces of equipment, as estimated from the following table:

Log haul	7 - 10 kw
Log deck (if powered)	4 - 7 kw
Head saw	75 -150 kw
Carriage drive	7 - 10 kw
Log turners	4 - 7 kw
Setworks	2 - 4 kw

Main rollcase	4 - 8 kw
Transfer tables (chains)	10 - 15 kw
Edger infeed or resaw infeed	5 - 8 kw
Edger (two-saw)	10 - 20 kw
Resaw	15 - 20 kw
Edger outfeed or resaw outfeed	4 - 8 kw
Sorting chains	4 - 8 kw
Trim saw	4 - 8 kw
Sawdust conveyor	1 - 2 kw
Edging and slab conveyor	3 - 5 kw

3.7.2 **Mill selection**

We consulted different experts to consider what sawmills are most appropriate for this location, considering: mobile or portable sawmills, semi-permanent sawmills or permanent sawmills.

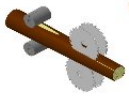
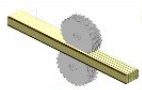
Permanent sawmills are comprised of conventional units of head saw, carriage, resaw, edger and trim saw with roll cases, transfer tables and refuse conveyors, all mounted on steel and timber supports on concrete or treated timber foundations. A pre-existing building will provide an all-weather protection.

LT40 is the present equipment and will do for the first few years with repairs and new blades. However, in the third to fifth year with expansion it would be recommended to buy an additional LTPS-260X is feasible and would benefit for the development of Garden Hill First Nation housing company. With an input of this magnitude, a resaw is added to share the load with the headrig, and more trimming and sorting capacity is necessary. Furthermore, log handling into the mill, log cleaning, removal of finished products and by-products must keep pace with the production capabilities of the mill machinery. Generally, more power is applied to the head saw, resaw and edges to obtain faster cutting speeds than those used in semi-permanent mills.

Figure 2 & 3: Existing Sawmill LT40 Portable sawmill in Garden Hill First Nation

An analysis of the existing Model at Garden Hill First Nation was undertaken on November 18th, 2018 of Woodmizer LT40, Hydraulic Portable Sawmill 12/08/09 Serial # 456B424109NMK5905 by Don Richard, CARS mechanical and engine expert. This Woodmizer LT40 had been working in 2012 to 2017 but needs some repairs to be operational. This Woodmizer LT40 was found to be missing: battery, gas tank, manual and cooling Tank. The Woodmizer LT40 also requires the following: wiring repair, cleaning – rust removal etc., width guide checkers and hydraulic controls looked into.

Don Richard recommended sending Woodmizer expert into Garden Hill FN for training for operation, maintenance, and repair as this would cut down on serious downtime and expense due to malfunction etc. This will save on costs many times over. He also recommended bringing the sawmill indoors or at the very least get the track oiled and protected from the elements (wrapped and allowed to breathe) The Woodmizer was brought indoors into the steel building and is now awaiting repairs. Although a local person, Abraham Harper, can repair, due to it needing many replacement parts it may be cost effective to have Woodmizer experts come in with these replacement parts.

Model	Specification (please inquire for details)	Feeding speed Power of motors	Details
LTPS-260X Log Gang/Rip sawing machine  Length: 20 ft (6.3 m) Width: 6 ft (1.7m) Height: 7 ft (2.1 m) Weight: 11025lb (5 ton)	Min top - Max butt log diameter range: **5½ – 13¼" (140-340 mm)** Min log length: 10ft (3m) Dia of saw blades: 17¾" (450 mm) Sawing frequency: 2025 rpm	12, 19, 26,40 ft/min (4, 6, 8, 12 m/min) Sawing motor: 2 x 40HP (2 x 30KW)	 **1st pass: Log Gang mill** Max saw blades: 2 x 8 Max height of the saw-cut: 12¾" (325mm) Max width of the saw cut: 11 ¾" (300mm)  **2nd pass: Multiple Rip saw** Max saw blades: 2 x 10 Max height of the saw-cut: 10¼" (260mm) Max width of the saw cut: 11 ¾" (300mm)

(Woodlandia, 2018).

3.7.3 Water Supply

Two fire-fighting trucks are nearby to the sawmill in the community for fire fighting. The fire station is within 100 metres from sawmill site and the lake is within 50 M for pumping water from.

3.8 Sorting

Once the trees have been debarked, they are sorted into large and small logs. The saws and exact method will differ depending on the size of the trees, but the end result is similar. There are different levels of intensity of sorting. Sorting of the logs will be determined by sort by thickness, width, length, grade and species. Sorting by species of trees allows different production runs for each group, facilitating the selection of appropriate saw teeth, feed speed and cut sizes. The sawing of each species group is consequently carried out with a high degree of efficiency.

3.9 Sawing

Each tree is cut into 7 or 8 long pieces of wood. Larger pieces will often go through a resaw where they are cut into halves to make narrower lengths. At this point, these lengths of wood will then be cut further to make the assortment of standard lengths and widths suitable for our customers and product lines. Within each species group, the characteristics of density, strength, colour, drying and end-user will be similar to simplify processing and marketing.

3.10 Grading

A log harvesting industry grading for structural lumber has been organized to be carried out for 2018 for structural lumber. Canadian dimension lumber is manufactured to confirm the grading rules meet Canadian requirements. Each piece of lumber is inspected to determine its grade, and a stamp is applied to indicate the assigned grade, the mill of origin, a green or dry moisture content at a time of manufacture, the species or species groups, and the grading authority. (Canadian Wood Council, 2018).

Lumber has traditionally been graded by visual inspection. The grade of a given piece of lumber is based on visual observation of such characteristics as a slope of grain and the location of knots. Most softwood lumber is assigned either an appearance grade or a structural grade based on a visual review by a lumber grader. Based on the correlation between appearance and strength, lumber graders are trained to assign a

strength grade to lumber based on appearance criteria such as the presence, size and location of knots, the slope of the grain relative to the long axis and several others.

We have made arrangement to have a grader and lumber mill expert from The Pas inspect and grade and teach the Employment training students how to grade in March 2019. As well a number of Island Lake people have their grading license.

3.11 Drying

Drying will be done to:

i. Reduce the weight of lumber.
ii. Stabilize the lumber dimensions for grading for structural lumber.
iii. Develop desirable colour or strength characteristics.

Drying can be accomplished by natural air drying or forced drying in heated or refrigerated kilns

3.11.1 Natural air drying

To obtain optimum drying results, species will be sorted into groups with similar drying characteristics.

- Air drying: Capital cost, is not required for kilns and heaters, the added flexibility allows different species to be dried separately, and the process can be easily controlled by local personnel. Lumber that does not need to be at a low moisture content, air drying is generally sufficient to meet the requirements of most applications.
- Dry Storage: Forklift trucks are available, but also manual labour will allow the stacking of the dry lumber.

3.11.2 Kiln Drying

Before being put in the kiln to dry, panel and block wood would be placed in between each row of lumber to ensure that the moisture content to evaporate from outdoor temperature. To ensure quality wood for structural wood, at least one week after sawmilling, the wood will be dried. The drying process (Kiln Dried) is a process to reduce the moisture content on the wood about 12 to 15%. All species of wood must be dried. Softwood will easily crack in the process of drying quickly. Kiln dry process need two to four weeks, depending on species of wood, panel thickness, and room drying capacity. The right equipment can minimize the risk of being broken and warped wood. This process is the critical manufacturing process for furniture.

4. Products

4.1.1 Primary Product: Housing

The housing stock built by this company will include stick wall, which is the housing standard but also offer better products, that resonate with the local people and are considered more durable. There is a team of architects working with the communities after design workshops with youth and community, to develop more culturally appropriate, durable and environmentally sustainable supplies.

✓ Timber Frame Homes

Timber frame homes are built from large wood posts and beams that form the structural support of the house and require no interior load-bearing walls. The timbers are joined by connecting a mortise (hole) on the end of one timber with a corresponding tenon (tongue) that fits precisely and tightly. Mortise-and-tenon joinery can be cut to accommodate different angles, complexities and design of a timber frame.

In true timber framing, the joints are secured with wooden pegs – no metal fasteners will be used in the construction the huge – whereas metal fasteners and nails are used in post-and-beam construction. In either method, once the timbers are erected, the walls, often structural insulated panels or SIPs, are put into place, enclosing the home on the outside but leaving the beauty of the timber framing exposed on the interior. The wall panels can be finished with any exterior material, including wood, siding, stone and brick.

Materials are prepared by milled timbers, those created by sawmill machine, will be uniform in appearance and tend to be a little less expensive.

✓ Log Homes

The selected log home designs will include horizontal logs interlocked at the corners by notching. Logs may be round, squared or hewn to other shapes. Milled log homes employ a variety of profiles which are usually specified by the customer:

- D-shape logs: round on the outside and flat inside
- Full-round logs: fully round inside and out
- Square logs: flat inside and out, and may be milled with a groove which could be chinked. When dealing with milled logs, chinking is a personal preference and not required to seal a house; however, a log house will eventually leak if it is not properly sealed.

Nearly every profiled log features an integral tongue and groove milled into the top and bottom of the log; this aids in stacking, and reduces the need for chinking. Wood is not airtight and so caulking or chinking will improve energy efficiency.

The designs will be developed and stamped for local lumber through the boreal home builders' program as we are working with different architects and builders.

Provided $150,000 ($50,000 for the foundation costs and $100,000 for the housing costs of the $250,0000 (220,000 considering management costs for the First Nation) for home materials to finish it with labour at this point covered by Boreal Home builders training) and local wood we expect to finish it with appliances and materials for $170,000 to 180,000, providing a profit of $40,000 to $50,000.
In 2019 we are designated and approved to build two houses, which will provide a profit of $80,000 to $100,000.
Total profit = $90,000.00/yr

4.2.2 Secondary products

✓ Paneling, Siding and Flooring

Solid wood paneling, siding and flooring is milled from a single piece of timber that is kiln or air dried before sawing. Depending on the desired look of the floor, the timber can be cut in three ways: flat-sawn, quarter-sawn, and rift-sawn. The timber is

cut to the desired dimensions and either packed unfinished for a site-finished installation. It can be provided tonge and groove.
Panels $3/sq foot x 1200 sq feet = $3600
Flooring $3/sq foot x 1200 feet = $3600
Siding $2/sq foot (uninstalled) x 1200 sq feet = $2400
Total = $9600/yr

✓ Furniture and Counters

The wood result of hewing is known as logwood, from which the furniture making process is started. The logwood will be distributed to the sawmill. In the millet area, split boards disjointed according to the thickness and type of wood for easy arrangement in kiln dry. Splitting and cutting process is the first of the component process. Here, the wood is cut and split according to size product that was needed with a cutter saw. Small blocks of wood are then sent to plane machine to get final result with a smooth surface without line saw. After planning, the component is moved to a drilling machine or pen machine to get construction.
= 10 tables and chairs at $150 = $1500
= 50 picnic tables at $50 = $2500
= 5 couches/beds at $300 with cushion = $1500
= 50 bed frames at $200 = $10,000
= 25 bunk bed frames at $250 = $7500
Total from furniture = $23,000/yr

✓ Trim

Trim will provide a good high quality product to sell and ship back on backhaul trucks at $2 to 4 or $ 8 to 10/board feet/m.
= 3000 board feet x $3/ linear foot
Total from Trim = $9000/yr

✓ Rental of Skidder with grapple hook

We will purchase a used skidder with a grapple hook and rent out when not in use for logs. At $384/hr rental by construction companies and for winter road construction we would plan to rent out for 20 to 40 hours per week for 6 months per year as we only need it during winter logging season.
= 10 hrs x 4 weeks x 4 months x $384/hr
Total from rental of skidder= $368,640/yr

Waaka' Iigan Inc. Total Sales expected per year for first years

Item for sale/yr	Purchase price ($)	Cost to produce/manage/ market/ship ($)	Expected profit ($)
Houses (2 the first year)	500,000	420,000	90,000
Paneling, siding, flooring	9,600	3,200	6,400
Furniture	23,000	15,000	8,000
Trim	9,000	3,000	6,000
Skidder	40,000	60,000	308,640
TOTAL	581600	501,200	419040

NOTE: as labour is paid by the Boreal Home Builder's Experts training and the only cost is tools, gas, paint/varnish, nails, repair, management and equipment/building replacement and upgrades. Waaka' Iigan Inc. has a large need to reinvest and replace equipment and upgrade the portable sawmill from gas to electrical and permanent in future years. This applies to all the items except the house which will have many other electrical wiring, plumbing materials, sinks, bathtubs, roofing and appliances and other costs required for it as well as shipping costs.

4.2 By-products

By-products produced by the sawmill operations include:
i. Fuel from bark and residual wood
ii. Sawdust.
iii. Slabs.
iv. Edgings.
v. Trim ends.
vi. Broken logs, limbs, etc.

The dry bark is often a valuable source of domestic fuel. The wet bark can be piled in a suitable location and allowed to dry for fuel. The bark will be used as kiln fuel be sold or given away as fuel. Sawdust is also a valuable fuel for domestic or industrial use, provided that it is not too wet. Some species produce sawdust suitable for use as agricultural mulch or animal bedding and could be used at Meechim Farm. Slabs, edgings, trim ends, and broken logs are a potential source of raw materials for small secondary or home industries.

4.2.1 Waste Disposal

Sawmill by-products will be used economically to burn in people's fireplaces as wood logs. Controlled burning may be necessary to reduce fire hazards and minimize environmental impact. Simple, natural draft burners are available for this purpose.

4.2.2 Removal of By-products

Sawdust beneath the headrig, resaw and edger for delivery to a single sawdust storage area. Small slabs, edgings, trim ends, and broken pieces will be removed from the operating flow on a low-level conveyor and delivered to a separate area. From there they can be sold off the site, cut up for fuel or sent for chipping if desired. Storage of

water will be done in the sawmill area for fire-fighting. The communities Fire Department will be called in to controlled burn.

5. Personnel

5.1 Personnel Requirements/ Operating Personnel

There is an education program in place to pay workers and create management. In order to smoothly operate the sawmill, employees will be trained by Boreal Home builders 15-month post-secondary program how to perform all the essential functions efficiently. Employees have the responsibility for all the physical operations involved in receiving, sorting and handling the logs; in sawing the wood into finished lumber; in managing the lumber for sorting, drying and preparation for sale; in maintaining the sawmill machinery and building in right operating conditions and in keeping the site insecure, low fire hazard condition.

In the community, skilled personnel will be available with the appropriate training and experience. For example, a maintenance mechanic (Abraham Harper, GHFN) and a head sawyer (Cameron Fontaine and Glendale Harper, GHFN) has been identified to ensure an effect expending, who has been sawing for years now.

The Boreal Home Builder's Program will provide the expertise for semi-skilled workers. Trainees will have at least 15 months of training and experience in work being performed, but still subject to supervision and further training. After taking the Boreal Home Builder's Program, they will be capable of being edger operator, trim saw operator, log wood, manage forest and build housing by different techniques including stick frame, timber frame and logging. Further-apprenticeship positions will be funded to allow workers to get their red seal in carpentry. This apprenticeship training provides 4 years of training to reach red seal.

Train the trainers in Island Lake are Zeb Harper and Cameron Fontaine. Cameron Fontaine and Zeb Harper who recently were sent to Arboriculture program, receiving their train-the-trainer certification to teach and provide certificates in Chainsaw Safety.

Level 1 course subjects:

- Orientation to Apprenticeship
- AT QB Standard Trade Safety
- Wood and Wood Products (materials)
- Non-Wood Products
- Fasteners / Adhesives
- Tools and Equipment – Theory and Application
- Personal Protective Equipment
- Fall Protection
- Working Environments
- Industrial Health Hazards
- Statutory Documents
- Construction Mathematics / Geometry
- Ladders & Ramps
- Access and Temporary Structures
- Suspended Access Equipment
- Hoardings

OTHER topics to improve student success

- Communication (main problem identified by FireSpirit is that Indigenous students reading/communication level is at grade 7.5 but the textbooks are at grade 12 and national building code is at grade 12).
- Project management (Firespirit reports that developing a daily project management plan applies English and math skills and can be done on a daily basis)
- Applied math
- Enhanced COR safety training
- Applied housing and other skills training (considering that training needs to ensure that most current technologies are used rather than what apprenticeship trainers have always done).

Training Schedule for Boreal Home Builder's Program for 2018/2019

Training Schedule for Boreal Home Building Program, 2018-2019																		
Month	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
			Phase 1: Forestry (7 months)							Phase 2: Construction (8 months)								
MOUs & Select & Train Instructors																		
Trainee Selection & Assessment																		
• Upgrading 1 • Intro Small Engines																		
Module 1: Forestry • Chainsaw Operators • Wilderness FA																		
• Intro Forestry Mgmt • Harvesting Plan • Harvesting						Christmas												
• Harvesting																		
Module 2 • Sawmilling • Lumber Grading																		
Into to Carpentry • Upgrading 2 • Construction Safety																		
• Apprenticeship 1 Challenge Prep • Basic Home Maintenance • House Construction Course (Shop/Classroom)									Basic Home Maint.	House Construction and Level 1 Apprenticeship Prep (Classroom and Industrial Arts Shop)								Challenge Exam!!!
• Hands on Practical Training (Worksite)as houses are built									Home Repairs Practice Training until Ground Thaw	Fdns	Fram	Plumb Elec	Flooring, Walls, Interior Finishing			Plumb Elec Finishing		
Career Development			Small Engines Technician		Natural Resources Technician Diploma				Facilities Basic Maintenance	MCSC Foundat	MCSC Framing	Plumbing Fundamentals		Electrical Fundamentals.		Carpentry Fundamentals		
Possible Businesses or Employment			Small Motors Shop		Line Clearing	Log Sales	Lumber & Value Added		Home Repair Service	General Contracting business or specialty businesses such as roofing, painting/drywalling, furniture and cabinetry, plumbing, electrical, etc.								

This Boreal Home Builder Program will fund the workers, supervisor and manager for operations out of the employment and training budget for the first year and provide some funding in future years if further apprenticeship training oc curs.

5.2 Administration

The manager and board team (will include professional house and logging experts) have the responsibility for the marketing, management and administrative functions which would include the following duties:

i. Financing and accounting
ii. Acquisition of logs through appropriative model
(e.g.: Waaka'Iigan Inc. buying from local people at fixed price).
iii. Marketing of finished lumber.
iv. General management of operations.
v. Record keeping.

vi. Timekeeping.
vii. Payroll.
viii. Human resources
ix. Public relations.

Some staff members will be required to perform more than one or all of the above functions.

6. Marketing Plan

Develop the Memorandum of Understanding and financial agreement with Garden Hill First Nation chief and council and Island Lake Tribal Council to commit to buy the local lumber from the sawmill to meet all the timber, wood, trim, furniture and other siding needs for the CMHC houses. A grader will be brought in to allow this wood to be used for structural lumber.

- Work with the ILTC CMHC person to obtain enhance CMHC funding for on-reserve First Nation houses to produce better quality, culturally appropriate homes for Garden Hill First Nation and provide timber and wood products or St. Theresa and Red Sucker Lake First Nations in Island Lake.
- Establish connections with major national and regional retailers that may purchase bulk orders of wood trim directly from Garden Hill First Nation sawmill business.
- Produce lumber and finished materials for renovations.
  - Supply contractors with lumbers and buildings from different business organization in/around Garden Hill

6.2 The 4Ps

6.2.1 Price

Our lower cost allows us to lower the price of our products for improved quantity. We use the motor-manual harvesting (MMH) system offers lower harvesting costs and provides greater employment opportunities. There is a significant capital cost and operating cost advantage. Thus, the low-price strategy is possible for the First Nation corporation, and it allows easier access to a potential market. We can build a house and equip it well below the $250,000 CMHC funding while providing a better product and better employment opportunities.

6.2.2 Promotion

The primary customers in Garden Hill First Nation housing department and Island Lake Tribal Council (administers CMHC funding), and with the purpose of generating more business, its secondary customers include construction companies working in the area on projects, furniture, packaging and joinery industries, timber retailers and DIY companies and individuals in this remote fly-in area. To achieve this goal, we will use the following promotional mix:

- Regular visits with chief and council
- Social media marketing
- Content marketing
- Email marketing

The sawmill business intends to create an extensive marketing campaign that will ensure maximum visibility to the cause of First Nation housing and its success through a website, YouTube videos, press releases and journal articles.

This local sawmill operation will be a good news story to show how First Nations can successful dealing with the housing crisis and combat low youth employment

rate/high poverty. Local sawmills with housing corporations will be shown to provide suitable quality housing and jobs. This good news story will be shared through different films available on YouTube and journal articles assisted by Dr. Thompson at the University of Manitoba as well as mass media (Facebook, Twitter, etc.).

6.2.3 Product

The First Nation Corporation will provide quality products, but also innovates to provide more value to our customers and capture more of the market.
At present, the following main categories of First Nation-owned Corporation products are:

- Production of timber frame houses, log homes and stick-wall homes.
- Secondary wood product manufacturing (furniture, insulation of curly wood and wood chips)
- Displacement of current imports of wood materials

6.2.4 Place

We primarily serve Garden Hill First Nation with the sawmill and housing warehouse located in Garden Hill First Nation but also will be trying to provide wood materials to other Island Lake communities and have the ILTC approve us for selling to St. Theresa and Red Sucker Lake First Nation.

7. Budget

Project Activities	(1) Funding from other sources (minimum 15%)		(2) CRED	Total estimated project cost
	InKind	Cash		
Training of workers (training allowance) Mino Bimaadiziwin partnership and design/expert work	200,000	250,000	0	450,000
Training of workers (Welfare/EI supplement)	0	300,000	0	300,000
Supervision (two workers full-time) of training workers	0	83,200	0	83,200
Trainers and experts for workers by ATI/IDSS & insurance for trainees	120,000	0	0	120,000
Full-time coordinator	0	0	50,000	50,000
Board of directors' guidance and meetings	0	72,000	0	72,000
Housing materials	0	100,000	0	100,000
Accounting/financial provision	0	20,000	20,000	40,000
Existing Sawmill equipment and chainsaws owned by Band with repair and extra blades required	40,000	0	12,000	52,000

Steel building (60000)& Renovations for steel building	70000	0	5,000	15,000
Edger/trimmer sawmill equipment	0	2,000	16,000	18,000
Elder	0	0	3,600	3,600
Dryer building materials and heater	2000	0	5,000	7,000
Grapple Skidder – used.	0	10,000	40,000	50,000
4 by 4 Vehicle saftied to transport materials and trainees/workers	0	4,000	12,000	16,000
Operating expenses – gas for skidder and sawmill, operating tools & equipment	0	2,500	25,000	27,500
License/Insurance for	0	0	12,000	12,000
Shipping fee for equipment on one truck bed	0	0	8,000	8,000
Subtotal	432,000	843,700	208,600	1,498,700
Contingency fund (5%)	0	0	10,775	10,775
Total	**432,000**	**843,700**	**219,375**	**1,509,475**

8. Sales

There are a lot of products to sell from the sawmill and equipment to allow a good profit. The most profit will come from rental of skidder equipment to province for winter road, which is much in demand and has very high per hour fees. Also some furniture, siding and trim materials will be produced to test the market. CMHC provides mortgage funding for two to five houses per year at $250,000/house. For 2018 it provided 12 houses at 3 million. For 2019 the same is expected. The number of houses is expected to increase in the future with more focus on reconciliation and realizing the harm that was done by not only residential school but underhousing.

The budget developed below shows the Garden Hill First Nation is able to contribute valuable resources to build the house, and the band will provide their sawmill, warehouse and $100,000 in materials for housing to build two houses this year. This will test our housing product and concept at no cost or risk but not result in much profit the first year.

The return on investment is less than one year due to many positive supports this business has to make it a model of success in the first few years, being part of a partnership grant for educational programming called Mino Bimaadiziwin Partnership. As the return on investment (ROI) is less than one year, no graphs were computed or payback periods computed.

The request for community futures is $219,375 to ensure the sawmill, skidder and manager are possible. The inkind is $432,000 and the cash provided is 843,700 -- which provides a total of 1,265,700 from other sources. This sustainable not-for-profit business with the contribution by $291,375 will provide a huge boost to the economy in Garden Hill First Nation. By the sawmill expanding to incorporate a housing construction business and purchasing equipment that it now rents Waaka' Iigan Inc. is expected to provide an excellent return on investment (ROI) and be prepared to make money the first year after receiving grant start-up funds.

Many guaranteed sources of income (housing and skidder rental by winter road provincial funding) so that the first year will produce housing and other materials and also profit. This first year's profit of $449,040 is largely from renting out the skidder but just the house building is expected to return this amount the first year. This was assured us as a solid business investment. If start-up costs are provided this business will be self-sustaining and allow the second-year development at the same scale but under its own cashflow (with CMHC housing of another two houses) until it scales up in the third or fourth year to try to double these amounts in five or six years when more housing funding becomes available or people's prosperity and capacity creates the ability for people to build their own homes. The important aspect is to provide good quality housing to ensure that Garden Hill First Nation and Island Lake Tribal Council CMHC analyst buy their housing through this business.

Waaka' Iigan Inc. Total Sales expected per year for first years

Item for sale/yr	**Purchase price ($)**	**Cost to produce/manage/ market/ship ($)**	**Expected profit ($)**
Houses (2 the first year)	500,000	420,000	90,000
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Trim	9,000	3,000	6,000
Skidder	368,640	60,000	308,640
TOTAL	910,240	501,200	419040

NOTE: as labour is paid by the Boreal Home Builder's Experts training and the only cost is tools, gas, paint/varnish, nails, repair, management and equipment/building replacement and upgrades. Waaka' Iigan Inc. has a large need to reinvest and replace equipment and upgrade the portable sawmill from gas to electrical and permanent in future years. This applies to all the items except the house which will have many other electrical wiring, plumbing materials, sinks, bathtubs, roofing and appliances and other costs required for it as well as shipping costs.

** This full funding for housing will not be provided in 2018 as they are providing other supports that are very valuable for the Boreal Home Builders and the sawmill/shed with $100,000 in shipped materials for housing development guaranteed. However, in the future with funding this is the expected profit.

Conclusion

Waaka' Iigan Inc. is not only meeting a critical social need but is also a profitable business idea due to the many supports in the community for the first year and a provision of start-up costs by Community Futures. Waaka' Iigan Inc. will allow local people to benefit from better housing, jobs and capital generation in the community.

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