



**Garden River First Nation Housing
10 Year Housing Plan**
December 31, 2017

To: Garden River First Nation
Housing Department

From: BDO Canada LLP
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EXECUTIVE SUMMARY

The Garden River First Nation (GRFN) Housing Department has developed a 10 year housing plan that provides an approach for managing existing housing programs; as well as, pursuing non-traditional opportunities for meeting the housing needs of GRFN members. The plan is a road map for success to be shared within the Economic Resource and Community Development department and various other departments and specifically with Chief and Council and the community as a whole. This plan will assist and support GRFN in their efforts to increase resources in the community for housing development and building cooperation with the Government of Canada and Canada Mortgage and Housing Corporation (CMHC), a Crown corporation of the Government of Canada, and other stakeholders.

The Government of Canada's goal is to provide First Nations on-reserve with the same housing opportunities as other Canadians. The 2016 Federal budget announced an additional \$416.6 million over the next two years, through the former Indigenous and Northern Affairs Canada (now Indigenous Services Canada), to improve on-reserve housing conditions, reduce overcrowding and increase health and safety. This is in addition to about \$146 million annually provided by the department to First Nations to support a range of housing needs.

The action items in this business plan are a road map for GRFN Housing to take advantage of the resources available for the next 10 years with a long-term goal of being a self-sustaining organization. The objective of the plan is to provide a detailed approach to achieve the mission of the housing department. The mission is *"to create a vibrant and effective Housing system that will contribute to the health and well-being of all GRFN community members by offering a wide range of programs, which will enable and encourage tenants and homeowners to take responsibility of their dwelling to maximize their comfort and home enjoyment"*.

In conjunction with GRFN and their key staff, BDO Canada LLP and EPOH Architects assisted with the development of the 10 year Housing Plan. As part of the process, the following was undertaken:

- Situation Analysis - a situation analysis was conducted that:
 - revisited purpose and programming of GRFN Housing with:
 - an examination of governance, funding and policy;
 - reviewing community inventory and demographic profiles;
 - undertaking consultation with key housing staff;
 - and other challenges/opportunities as identified by staff.
- Plan - a two part planning process was conducted using the information from the Situation Analysis. A plan with goals, objectives, strategies and action items for existing and planned housing development initiatives including but not limited to:
 - Existing Programs
 - CMHC Section 95 Rental & Lease to Own Housing
 - Market Housing Loan Program (FNMHF)
 - On-Reserve Mortgage Program

- Home Adaptation for Senior Independence Program (HASI)
 - Residential Rehabilitation Assistance Program (RRAP)
 - Renovation Loan Program; and,
 - Administration of the Housing department to improve efficiency and effectiveness.
- Feasibility of New Opportunities - the consultants worked with staff to determine the likelihood of implementation of the following over the next 3 years and if not currently feasible provide action items for follow-up with respect to:
- Off reserve development - purchasing homes off-reserve for our citizens to live. For example, purchasing homes near Sault College or Algoma University for students to rent;
 - Revolving loan program - creation of a small loan program for citizens to utilize for renovations. Long term goal is to start a mortgage loan program;
 - Creation of a construction company - build turn-key homes on-reserve and then sell; long-term goal - build turn-key homes off reserve and then sell;
 - On-Reserve Housing Development Master Plan - to assist in the Feasibility Analysis for the next phase of community housing that is proposed at Garden River First Nation, Ontario. The geographic area that was identified for the next phase of community housing is located, north of the train tracks on highway 17B and south of the Brookfield Power Line Easement, with Belleau Lake Road serving as the western boundary and Syrette Road as the eastern boundary - **See Appendix A.**

What follows is a detailed plan for the short-term, wherein, the situation analysis and consultation with Chief, Council, management and staff determined that GRFN Housing focus on:

- Governance
- Management and Administration
- Existing Programs and Development of the On-Reserve Housing Development Master Plan
- Communication strategies

Further, the following are medium and long-term study/analysis or planning considerations:

- Off reserve development
- Revolving loan program
- Creation of a construction company

TABLE OF CONTENTS



INTRODUCTION & BACKGROUND	1
MISSION, VISION AND VALUES	3
SITUATION ANALYSIS	4
Environmental Scan	4
S.W.O.T. Analysis	5
Problems/Gaps.....	6
MANAGEMENT/PERSONNEL.....	7
Organizational Structure	7
ACTION PLANS	8
Key Priorities	8
Commitment	15
FINANCIAL	19
APPENDIX	20
Appendix A -	21
Appendix B	22



INTRODUCTION & BACKGROUND

The Garden River First Nation (GRFN) provides a summary of their 10 year strategic housing plan that provides a detailed approach for managing existing housing programs; as well as, pursuing non-traditional opportunities for meeting the housing needs of GRFN members. In addition, the plan includes a Master Plan with a financial feasibility analysis for the next phase of community housing that is proposed at Garden River First Nation, Ontario. This document is only a summary and should be read in conjunction with GRFN 10 year Housing Plan.

The plan is a road map for success to be developed in conjunction with the Economic Resource and Community Development (ERCD) department and various other departments and shared with Chief and Council and the community as a whole. This plan will assist as GRFN moves towards increasing resources in the community for housing development and building cooperation with Canada Mortgage and Housing Corporation (CMHC), a Crown corporation of the Government of Canada, and other stakeholders.

The objective of the plan is to provide a detailed approach to meet the purpose of the housing department which is to create a vibrant and effective Housing system which will contribute to the health and well-being of all GRFN community members by offering a wide range of programs and housing opportunities. This will enable and encourage tenants and homeowners to take responsibility of their dwelling to maximize their comfort and home enjoyment.

GRFN Housing manages:

- 500 homes on reserve
- 150 units through rental or lease to own agreements Section 95 program
- 93 homes that are in On-Reserve Mortgage Program with RBC and BMO
- and adding 15 more units to Portfolio by end of 2017





GRFN housing decisions will be based on the demographic profile of the community that follows and the resulting housing needs that are established as priorities:

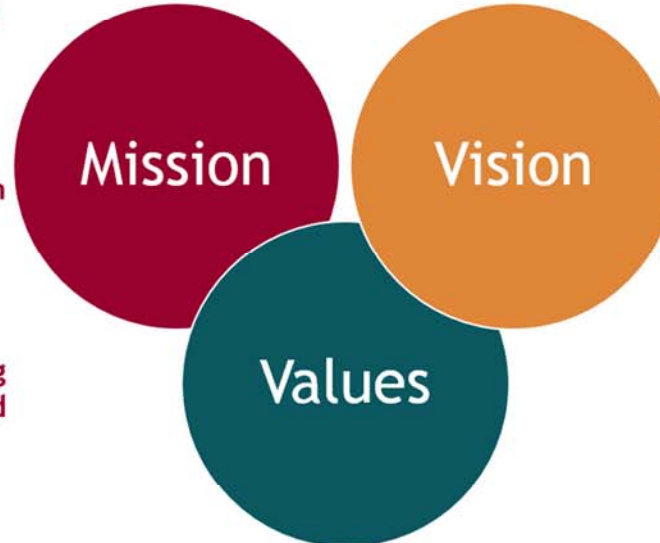
Category	Total 2014	% of Population	Total 2017	% of Population	Change
Total GRFN Registered Indians	2,728	100.0	2,862	100.0	134
Total GRFN Registered Indian Living On-Reserve	1,148	42.1	1,167	40.6	19
Total GRFN Registered Indians Living Off-Reserve	1,580	57.9	1,695	59.2	115
Non Band Members living on reserve (affiliated)	53	4.6	63	5.4	10
Total On-Reserve Males	571	49.7	575	49.3	4
Total On-Reserve Females	577	50.3	595	51.1	18
Total Off-Reserve Males	740	46.8	807	47.6	67
Total Off-Reserve Females	840	53.2	925	54.6	85
Total Pre-school (aged 0-4)	142	5.2	130	4.5	-12
Total Children (aged 5 - 9)	179	6.6	198	6.9	19
Total Youth (aged 10 - 19)	397	14.6	381	13.3	-16
Total Young Adult (aged 20 - 29)	412	15.1	470	16.4	58
Total Adult (aged 30 - 54)	986	36.1	981	34.3	-5
Older Adult (aged 55 - 64)	315	11.6	358	12.5	43
Seniors (aged 65+)	297	10.9	344	12.0	47



MISSION, VISION AND VALUES

Our inspiration and ability to grow and move forward comes from our mission, vision and values (MVV) ... it is how our all our stakeholders see us. GRFN Housing will keep them top of mind, so they become the image and culture of the organization.

We are committed to creating a vibrant and effective Housing system which will contribute to the health and well-being of all our Community members. We aim to offer a wide range of programs which will enable and encourage tenants and homeowners to take responsibility of their dwelling to maximize their comfort and home enjoyment.



In operating the largest First Nation asset, the housing department's vision for the next 10 years and beyond is to:

- Provide an affordable self-sustaining Housing system
- Locate in the community amongst our homeowners and tenants
- Implement a permitting system
- Provide quality long lasting housing units
- As our demographics and housing needs change continue to develop and implement enforceable policies and procedures

- Transparency
- Fairness in selection
- Relationship Driven



SITUATION ANALYSIS

The situation analysis examines trends and the stakeholder environment that may impact the organization. It discusses positive and negative factors that could influence the organization's goals and objectives.

Environmental Scan

Key issues, trends and changes in world that affect GRFN Housing/Community:

Issue/Trend	
1. Energy	<ul style="list-style-type: none">• High costs• Alternative energy opportunities
2. Funding	<ul style="list-style-type: none">• Increased Federal/Provincial opportunities in the area of housing
3. Demographics	<ul style="list-style-type: none">• Latest stats - GRFN population increasing both on and off the reserve• Increased housing demand and wait list
4. Education	<ul style="list-style-type: none">• Important when dwellings are acquired, transitioned, leased, owned• Communication/information sharing on program based policies/protocols/customer service
5. Technology	<ul style="list-style-type: none">• opens up world (+ and -)• enhances opportunities• some left behind / housing must use both traditional and new technology to communicate its policies / protocols / customer service
6. First Nations' moving to sustainability through economic and social development	
7. World is changing - land (management and development) is critical in First Nation development	



S.W.O.T. Analysis

A summary of the key themes/issues in the form of a SWOT Analysis are:

Strengths (+ Internal)	Weaknesses (- Internal)	Opportunities (+ external)	Threats (- external)
C&C can lobby - need direction on issues that are important to housing	Infrastructure - better cooperation amongst departments on need and scope & magnitude	Revolving loan fund	Changes to government programs
Existing Programs - three levels of opportunity of housing (rent, L to O, own) for GRFN members	Need to better measure effectiveness of housing programs and celebrate successes	Master Plan - new subdivision	Access to Capital
Staff - understand need to plan, shovel ready projects, need for better communication	Concept/Housing Model - Responsibility for dwelling (who is responsible) - not well communicated/received	Real Estate/management - acquire housing/property in SSM	Arrears - need to get better handle on, work with Finance, should self-fund but doesn't (hard to enforce policy if politics gets in way)
Mission Statement - clear statement of purpose (health, well-being, responsibility)	Existing Programs (see Problems/Gaps)	Construction Company - take advantage of development on/off reserve	Security Deposits - 80% of time it gets used - threat to GRFN assets
	Elders Issues - age, available housing, proximity to healing lodge/gathering places/each other/family/etc.	Capacity Building - for opportunities above - alliances with Sault College trades and management	
	Transportation - No public transportation to Sault Ste. Marie may discourage some to move home or inhibit living in certain areas of GRFN Need to get handle on land allotment/services/responsibilities - disconnect between lands, i/s and housing	Green homes - energy efficient homes and funds to support construction costs with ground source heat, superinsulation and solar panels	



Problems/Gaps

Existing Programs

Sec 95

Lease to own

Issue w/ house - won't pay until fixed

Chronic problems

Program misunderstanding

Clarify Lease to own & rental programs to potential tenants/ owners (see education above -must be communicated don't just provide binder and sign here)

Tenant responsibility

Education on workings of program

Forecast demand

RRAP

\$16K to 60K - last year

Need better p/p's

RRAP w/disabilities - identify

Program 1 pager - create?

What you need to do better before you see housing

HASI

Down \$ - 1 allocation

Work with health? Not enough

MLHP

On reserve mortgage program

Families not financially stable

Lack of lots

Default issue - banks - shared risk

Better policy

Gaps in Current Programs

Fixed income <serve, needs, CMHC

CMHC - cover basic needs?

Look at and address

Strength - 3 levels of opportunity

RLP

Revolving? \$5K <2% others

Timeline? - 5 years

\$70K budget

Who can access? L to O - homeowners

- Policy
- Emergency /safety
- Look at gaps

Allotment, Services & Responsibilities

What lot size/acreage to meet individual / family needs

Water/Waste water management

Cost for individual infrastructure (separate water, hydro

Treaty rights

Taxing? Individuals

User pay system (maximum pay)

Reverse mortgage opportunity

Recycling

Environment / ecological footprint (e.g. only allowed 1 bag of garbage, have to pay any over & above)

Register pets

Lot sizes not enough room to make gardens or to do what they want to do

Cooperation between departments

Disconnect - housing lands

Mississauga FN did a pilot project for a septic system



MANAGEMENT/PERSONNEL

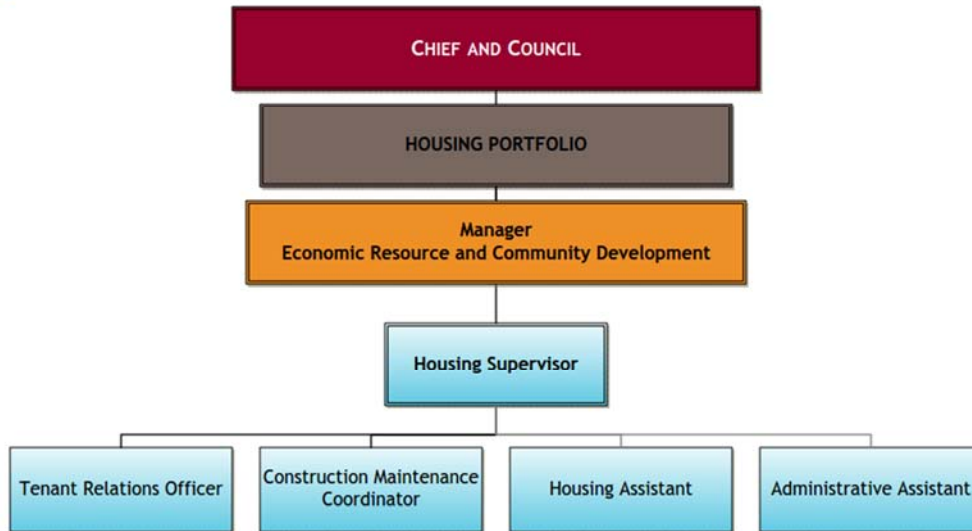
Organizational Structure

The day to day operations of GRFN Housing are managed by the Housing Supervisor, under the supervision of the Economic Resource and Community Development Manager as part of the Housing Portfolio. The Housing Portfolio entity is the responsibility and obligation of the GRFN Chief and Council.

Organizational Chart



**GARDEN RIVER FIRST NATION
HOUSING DEPARTMENT - ORGANIZATION CHART**



Location

- 6 Shingwauk Street
Garden River
ON P6A 6Z9



ACTION PLANS

Key Priorities

Priorities	What Needs to be Addressed
1. Governance	<ul style="list-style-type: none"> • Involvement/direction to C&C in lobbying efforts on behalf of housing • Enhance communication/cooperation between Housing and C&C, Lands, Public Works regarding key issues, scope and magnitude (e.g. allotment, development, level of infrastructure, etc.) and impact/linkages that 10 year Housing plan will have on all the departments/CCP
2. Management/Administration	<ul style="list-style-type: none"> • Revisit/enhance GRFN Housing model/concept - mission, vision and values (MVV) specifically addressing "responsibility for dwelling" issue • Revisit Housing management and staff's authority, responsibility and accountabilities (ARA's) to ensure properly assigned and informed decisions are made • Understanding of financial position, operating budget, lending/borrowing capacity and arrears (with Housing and Finance)
3. Programs/Development	<ul style="list-style-type: none"> • Existing Programs - address gaps/responsibility for dwelling issues by revisiting policy/protocol /communication methods, take advantage of new funding and address elders issues • New Programs - address feasibility/viability of RLF, Off-reserve Housing, Subdivision, Construction Co. • Examine capacity building initiatives for new and existing programs • Measure effectiveness of housing programs and celebrate successes • Green homes - energy efficient homes and funds to support construction costs with ground source heat, superinsulation and solar panels
4. Communication	<ul style="list-style-type: none"> • Identify and engage key internal/external stakeholders • Communicate/market to members/funders/partners • Mentorship/sharing best practices with other First Nations



GRFN is planning for a coordinated effort for dealing with the above by developing action plans. It is envisioned that goals, objectives and strategies for the organization will consider action plans in the areas of:

Goal 1 - Governance

Promote and collaborate on housing initiatives and supporting infrastructure to achieve a vibrant and effective Housing system which will contribute to the health and well-being of all our community members by working effectively with Chief and Council and other GRFN departments on planning, policy and two-way communication.

Objectives:

1. To provide for greater involvement/direction to C&C in lobbying efforts on behalf of housing
2. To enhance communication/cooperation between Housing and C&C, Lands, Health, Social Services and Public Works regarding key issues, scope and magnitude (e.g. allotment, development, level of infrastructure, etc.) and impact/linkages that 10 year Housing plan will have on all the departments/CCP

Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Involve C&C /portfolio holders by sharing regular reporting, other documents & activities (e.g. ERCD day, papers, symposiums, etc.) & receiving feedback	i. Provide monthly report activities/ stats to C&C ii. Provide quarterly report activities/with financial summary to C&C iii. Provide annual report activities/with financial summary to C&C iv. Other activities	Monthly Report Quarterly Report Annual Report	Manager Manager Manager	Time Time Time	Monthly Quarterly Annually
	Create and share planning documents	i. Strat and business plans created/updated and shared with C&C	Strategic and Business Plans	Manager	Time	Annually
2.	Examine a case management system	i. Create/integrate/maintain method for dealing with shared clients amongst GRFN departments	Policies / procedures for dealing with clients and issues (e.g. land, construction, agreements, health, etc.)	Manager	Time and other department heads	Ongoing



Goal 2 - Management/Administration

A GRFN Housing Department that has a **clear direction and roles** for management and staff to **achieve their planning objectives** through implementation of **strong operating guidelines** and **sound funding and financial management** for their department

Objectives:

1. To revisit/enhance GRFN Housing model/concept - mission, vision and values (MVV) and overall direction that specifically addresses "Responsibility for Dwelling" (RFD) issue
2. To revisit Housing management and staff's authority, responsibility and accountabilities (ARA's)/job descriptions (j.d.) to ensure properly assigned and informed decisions are made
3. Understanding of financial position, operating budget, lending/borrowing capacity and arrears (with Housing and Finance)

Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Enhance MVV's to meet needs of 10 year plan & communication of RFD	i. Revisit MVV ii. Focus on RFD and enhance process manuals (checklist, file, admin, condition review, etc.)	Updated MVV New move-in and move-out checklist and file management process	Staff	Time	2018
2.	Revisit ARA's/j.d.s	i. Update ARA/j.d.	Housing ARA/j.d.	Consultant	\$?
3.	Gain insight interpretation of finances clarify and document finances/ position/ opportunities	i. Meet with Finance, RBC, auditor, CMHC etc. ii. Seek new lenders/ opportunities/ programs to leverage and for planning goals/objectives	Accurate Financials New Program apps completed	Manager Staff	Time Time	2018 2018



Goal 3 - Programs/Development - Existing

Offer a wide range of programs and housing opportunities and enable and encourage tenants and homeowners to take responsibility of their dwelling to maximize their comfort and home ownership/tenancy experience

Objectives:

1. To address gaps/responsibility for dwelling issues by revisiting policy/protocol /communication methods, take advantage of new funding and address elders issues within existing programs
2. To examine capacity building initiatives for new and existing programs
3. To measure effectiveness of housing programs and celebrate successes
4. To take advantage of energy efficient homes and funds to support construction costs with ground source heat, superinsulation and solar panels

Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Update/revisit housing policy and apply to new/existing programs based on need	i. Focus on L to O, Sec 95, sustain rentals after mortgage subsidy ends (reserve), etc. ii. Issue re: security deposits - Improve tenant responsibility/respect for dwelling iii. INAC Housing Programs - Phase 3 Call Package iv. Seniors	Policy " Applications ?	Staff	Time	2017-18



Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
2.	Provide for positions and skill updates	i. Address internal need for phone, filing stats/data entry, communication, etc. ii. Training in finance, contract admin, dealing with volatile situations/people, new housing products	Staff Admin position Improved Staff Capacity	Manager Delivery Agent	\$ \$	2017-18 fiscal
3.	Measure effectiveness	i. Design system to track calls, e-m's, etc., run pilot in 2017 implement in 2018	Performance Measure	Staff	Time	2017-18
4.	Consider energy efficient homes/construction	i. Assess feasibility of implementation/programs		Staff		



Goal 3 - Programs/Development - New Opportunities

To study and/or implement feasible housing opportunities/initiatives to ensure a wide range of options are available for developing/constructing/acquiring housing stock for the benefit of GRFN members.

Objectives:

1. To purchase homes off-reserve for GRFN members.
2. To investigate the viability of creating of a small loan program for community members to utilize for renovations and possibly start a GRFN mortgage loan program;
3. To study the feasibility of creating a GRFN construction company that will build turn-key homes on-reserve and then sell with a possible long-term goal of building turn-key homes off reserve and then sell;
4. To implement the next phase of community housing that is proposed at Garden River First Nation, Ontario in the geographic area, north of the train tracks on highway 17B and south of the Brookfield Power Line Easement, with Belleau Lake Road serving as the western boundary and Syrette Road as the eastern boundary. See Appendix A

Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Purchase homes near Sault College or Algoma University for students to rent	i. Engage real estate agent ii. Set terms of reference/criteria and budget with agent iii. Purchase and rent	Acquisition of 2-4 homes	TBD	TBD	2018-19
2.	Work with lending institutions and FNMHF to develop	i. Create terms of reference ii. Share and discuss with lenders	Finalize \$5000 loan fund	Staff	TBD	2020
3.	Not feasible at this point	i. in parking lot until further				Long term



Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
4.	Infrastructure (Syrette Lake Road to East Development Limit)	<ul style="list-style-type: none"> i. Planning & Engineering ii. Roadways & Culverts iii. Watermains & Hydrants iv. Services & Walkways 	Access to Development area	<ul style="list-style-type: none"> WSP GRFN Public Works 	<ul style="list-style-type: none"> \$900,000 Time 	2018-2019
4.	Infrastructure - Phase 1 Development - (19 Lots + 1 Multi-Lot)	<ul style="list-style-type: none"> i. Planning, Engineering & Legal ii. Roadways & Culverts iii. Watermains & Hydrants iv. Services & Walkways v. Power 	Phase 1 site preparation complete	<ul style="list-style-type: none"> WSP GRFN Public Works Algoma Power 	<ul style="list-style-type: none"> \$1.8 million \$195,000 	2019-20
4.	Construction - Phase 1 (8 single dwelling homes)	<ul style="list-style-type: none"> i. <ul style="list-style-type: none"> 2 - Single Dwelling - 2 bed 5 - Single Dwelling - 3 bed 1 - Single Dwelling - 4 bed 	Phase 1 Building Construction Complete	Staff	\$1.8 million	2021



Medium Term Goals - Housing Subdivision

Offer housing opportunities and enable and encourage **tenants and homeowners to take responsibility** of their dwelling to maximize their comfort and home ownership/tenancy experience

Objectives:

1. Funding/Financing
2. Plan/Design
3. Infrastructure
4. Servicing and Construction

Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Attract funding/financing	i Use plan to attract funding/financing		Staff		
2.	Existing Site Conditions Neighbourhood Design	Community integration Zoning by-law Analysis Site Development Strategy	Plan	Staff		



Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
3.	Phase 2 Infrastructure (32 Lots + 1 Multi Lot)	<ul style="list-style-type: none"> i. Planning, Engineering & Legal ii. Roadways & Culverts iii. Watermains & Hydrants iv. Services & Walkways v. Power 	Phase 2 Infrastructure Complete	WSP GRFN Public Works Algoma Power	\$3.2 million \$365,000	2023
4.	Construction - Phase 2 (20 single dwelling homes +2 Multi Lot)	<ul style="list-style-type: none"> i. <ul style="list-style-type: none"> 6 - Single Dwelling - 2 bed 13 - Single Dwelling - 3 bed 1 - Single Dwelling - 4 bed 2 - Multi Lot Dwellings 	Phase 2 Building Construction Complete	Staff	\$5.4 million	2024-25



Long Term Goals - Subdivision Expansion

Offer housing opportunities and enable and encourage **tenants and homeowners to take responsibility** of their dwelling to maximize their comfort and home ownership/tenancy experience

Objectives:

1. Funding/Financing
2. Plan/Design
3. Infrastructure
4. Servicing and Construction

Obj	Strategy	Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Attract funding/financing	i. Use plan to attract funding/financing		Staff		
2.	Existing Site Conditions Neighbourhood Design	Community integration Zoning by-law Analysis Site Development Strategy	Plan	Staff		
3.	Phase 3 Infrastructure (13 Lots + 1 Multi Lot)	i. Planning, Engineering & Legal ii. Roadways & Culverts iii. Watermains & Hydrants iv. Services & Walkways v. Power	Phase 3 Infrastructure Complete	WSP GRFN Public Works Algoma Power	\$900,000 \$124,000	2025



4.	Construction - Phase 3 (8 single dwelling homes)	i.	2 - Single Dwelling - 2 bed 5 - Single Dwelling - 3 bed 1 - Single Dwelling - 4 bed	Phase 3 Building Construction Complete		\$1.8 million	2026
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Goal 4 - Communication

Establish key internal and external stakeholders and engage them using communication tools to understand housing program needs and promote/convey housing plans.

Objectives:

1. To identify and engage key internal/external stakeholders
2. To communicate/market to members/funders/partners
3. Mentorship/sharing best practices with other First Nations

Obj	Strategy		Actions	Deliverable/Measure	Responsibility	Resources	Time Frame
1.	Continue with existing and enhance communication w/ C&C, portfolio and comm'ty	i. ii.	Monthly newsletter Monthly meetings Annual Report Social Media Campaign		Staff/Contract		
2.	TBD						
3.	TBD						



Commitment

Staff and management have committed to keep the lines of communication open and specifically to see the following tasks through. This communication and commitment exercise will be renewed/reviewed in _____ when plan is approved

Staff/Management	Task/Action
Name:	My Commitment to team is:
Name:	
Name:	
Name:	
Name:	
Name:	

FINANCIAL

See Appendix B for a 10 year Master Plan Capital Budget. Two scenarios were analyzed :

- Scenario 1 - \$150 per square foot housing construction costs (2018 \$'s) based on builds to date/2018 construction costs or status quo in terms of design and construction
- Scenario 2 - \$200 per square foot housing construction costs (2018 \$'s) based on Appendix A Master Plan for enhanced housing stock

APPENDIX

Appendix A - Master Plan



SCOPING REPORT AND FEASIBILITY
STUDY FOR:

GRFN HOUSING MASTER PLAN

FOR GARDEN RIVER FIRST NATION

January 2018

SECTION

IX

TABLE OF CONTENTS

SECTION 1: PROJECT OVERVIEW

SECTION 2: PROJECT NEEDS ASSESSMENT

SECTION 3: MASTER PLAN PROCESS AND STRATEGIES

SECTION 4 : HOUSING PROTOTYPE DESIGNS

SECTION 5 : COST ANALYSIS

SECTION 6: NEXT STEPS



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PAGE

2

SECTION 1

PROJECT OVERVIEW

IDEA

INTEGRATED DESIGN
ENGINEERING + ARCHITECTURE

SECTION

1.0

PROJECT OVERVIEW

1.1 PROJECT OVERVIEW

1.1.1. REPORT AND STUDY SUMMARY

Garden River First Nation is currently facing large volumes of housing applicants and requires immediate action in developing a strategy to providing the community with affordable housing solutions. Garden River First Nation has commissioned this Master Plan to provide it with a development strategy for the next phase of the community's housing. It is based on a demonstrated needs analysis provided by GRFN in consultation with BDO. Based on these needs, GRFN requires a variety of housing types to be implemented in phases over a period of 5 to 7 years. This Master Plan identifies the proposed location, establishes a plan of subdivision, identifies the required infrastructure to support it, provides an architectural vision that is



socially and culturally appropriate, and estimates the overall capital costs associated with the development.

A key objective for this assignment is to establish an effective "land-use" plan that allows a variety of different house designs to be implemented on a prioritized basis, over a phased time-line. The design solution for these housing types must be locally focused, reflecting the unique strengths, culture and landscape of the Garden River First Nation.

FIGURE 1.1.1
Proposed House Prototype
Exterior Perspective



PAGE

4

SECTION

1.0

PROJECT OVERVIEW

1.1.2 CMHC AND HISTORY OF FIRST NATION HOUSING DEVELOPMENTS

The Canadian Mortgage and Housing Corporation is a government funded organization that provides financial and risk assessment services to social housing projects across the country which include a sector dedicated to First Nation Housing developments. In the past, CMHC has conducted a number of studies aimed at improving housing difficulties in northern First Nations communities. In the most recent years, many organizations and political figures have attempted to alleviate the pressure of inadequate and unhealthy practices for affordable housing on First Nation reserves, in particular. Recent studies show that there are approximately 80,000 houses in First nation communities require extensive repair and remediation, while the number of individuals seeking help for funded homes is continuing to escalate.

To better understand the magnitude of the housing problem on First Nations communities, the federal government has financed a number of studies hoping to identify and alleviate housing problems on First Nations communities. These findings also begin to define the standard for new construction of these types of housing developments. Problems range from poor construction, mold infestation, improper insulation values and overall unethical construction practices that do not meet building regulated laws such as the National Building Code. These obstacles have added to an increase of health related and infrastructure problems that many northern communities have been facing for decades. As a result, this Master Plan study has reviewed many of the recommendations that studies have concluded will help assist in creating greater housing environments and conditions. These recommendations include: recognizing the unique qualities and circumstances of the community in question, understanding the history and traditions, assessing the needs of the community in more depth to inform the composition, flow and function of the home as it relates to physical and social needs, and construct homes that are efficient, cost effective and

can be easily maintained by the individual users. We recognize that each First Nation community holds a specific set of social, cultural and environmental needs that need to be analyzed for the housing development to succeed. Thus, this report has reviewed the social and societal structure of Garden River First Nation to inform the strategies for this particular development that pertain to both the land and home construction.

3.4.2 GRFN COMMUNITY AND HOUSING

Garden River First Nation is an Anishinaabe Nation that is a member of the North-Shore Tribal Council and governed by a council consisting of a Chief along with twelve Councilors. The community is well-established, providing services and programs to the community ranging from social, health care, educational and recreational facilities. Over half of GRFN members reside on First Nation Land, while others are located in other adjacent communities such as Echo Bay and Sault Ste. Marie. The average age of the population is largely comprised of individuals under the age of 20 years and individuals over 50 years, that make up 60% of the total. Thus indicating that there are large numbers of young families and aging population in the community. Many in the community have felt that they are not as closely linked to their ancestry and heritage, while this trend continues to diminish with each new generation.

In 2015, Garden River First Nation accounted for approximately 450 resident dwellings with a large majority of the population (70%) having independent ownership of their dwelling. In large part, most of the houses on First Nation land have been constructed in the late 1980's, with approximately 25% of these homes reaching the capacity of the construction life-cycle, requiring renovations or major repair. Garden River First Nation currently manages a number of CMHC homes, offering residents rent-to-own programs. In 2011, GRFN received qualification to build additional homes under the CMHC First Nation Market Housing Fund to increase resident capacity and alleviate CMHC applicant numbers.



SECTION 2
PROJECT NEEDS
ASSESSMENT

IDEA

INTEGRATED DESIGN
ENGINEERING + ARCHITECTURE

SECTION

2.0

PROJECT NEEDS ASSESSMENT

1.1.1 PROJECT SCOPING REPORT

As with major housing community projects, it is important to be all-inclusive and involve primary and secondary stakeholders in the thinking about the design of a new residential community housing project, ensuring that the final solution addresses GRFN's cultural, social and residential needs. Our process began with a Community Engagement Strategy to achieve maximum public participation and to allow GRFN to take ownership for the project. The planning process combined related activities such as Market Research (BDO), Development Scenario Analysis (IDEA + WSP), Facilities Planning (IDEA), Feasibility Analysis (BDO) and Capital Cost Planning (IDEA + WSP) so that critical factors from each can be considered as the project advances. Once complete, the said planning process has resulted in:

- **Project Scoping – Programming and Market Analysis:** This phase involves the identification of the quantity, types of housing and density to be located within the community.
- **Physical Plan – Facility and Site Planning:** This phase involves the development of a physical plan which embodies a strong guiding concept with the flexibility and vision to accommodate present and future goals. Suitable strategies for site development based on preferred site use potential, size and location of new facilities, and landscaping elements have been established based on predictable stages of development. The physical plan also identifies options for future expansion.
- **Financial Analysis:** From partial to full implementation of the preferred option, this analysis articulates the needs for capital funds expressed in terms of Net Present Value (NPV) for construction and ancillary costs associated with the capital project. This information will then be incorporated into the Feasibility Analysis being performed by BDO.

1.1.2 KEY PROJECT OBJECTIVES

This project focuses on the specific needs of GRFN with respect to future community housing, in particular improving the quality of life for its members based on improved environmental living standards, access to affordable housing and healthy neighborhoods. The following are considered to be key project objectives that were used to guide the development of the planning:

- Creating individualized housing designed to uplift sensibility of ownership and pride
- Develop a variety of high quality housing type designs (prototypes) that result in high quality neighborhoods when combined.
- Develop housing prototypes that are healthy and promote well being. Housing designs should focus on appropriately sized and thoughtful planning of the location of rooms.
- Ensure adequate quantity of accessible homes have been incorporated to meet needs of aging population.
- Maximize use of local resources such as skills, labour, construction materials and first nation business.
- Utilize sustainable and renewable resources that are paired with flexible design to grow and manage the needs of future housing developments.
- Honour traditional practices to bridge the gap between First Nation heritage and contemporary housing.



SECTION

2.0

PROJECT NEEDS ASSESSMENT

2.1.1 CMHC HOUSING DEMAND ANALYSIS

The extent of the number of lots to be developed and houses to be constructed is a result of the Housing Demand Analysis performed by BDO LLP. Demand is driven by the volume of applicants and families on an annual basis that carries over from year to year. CMHC First Nation Housing Analysis explores the current demand of housing applications for GRFN. The process of submitting requests for housing begins with exploring the number of applicants on queue and funding reserved per year. GRFN has a large volume of individuals seeking CMHC housing. These are per-dominantly families between 3 to 5 residents. The number of housing permissible for development per annum is calculated based on a formula driven by CMHC funding. Funding applications may fluctuate on an annual basis based on the specific housing needs of that community. This formula forms the basis of the demand analysis and the level of commitment GRFN is able to absorb to ensure the proposed development is feasible.

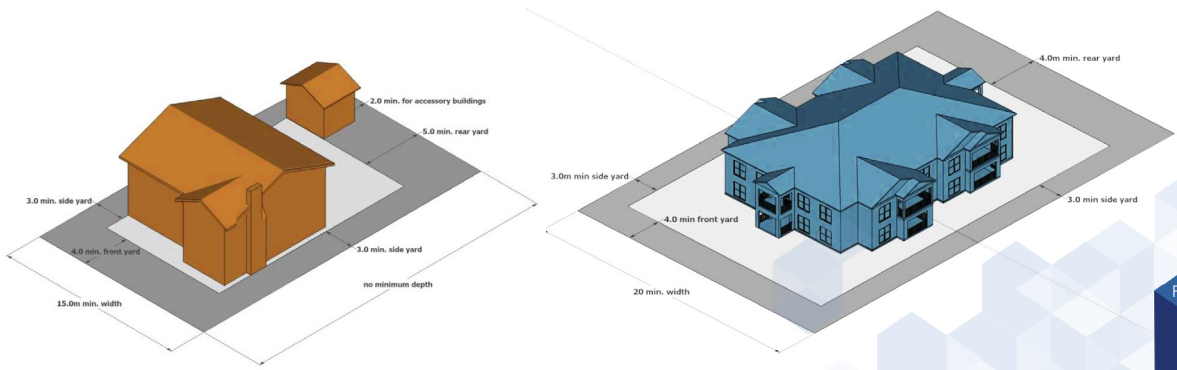
The following table reflects the number of proposed homes allowable for construction through the CMHC fund and will be phased on a yearly basis from 2019 to 2023. Within this time-line, it is anticipated that 50% of the available land will be occupied. This table reflects a theoretical number of homes under the CMHC funding which may fluctuate up or down based on specific demands and available funding for any given year. For this reason, each phase incorporates flexibility by introducing a minimum number of (5) lots that can be sold privately should the funding allocation not require all of the available lots. This analysis also establishes assumptions on the types (single or multi unit) and size (number of bedrooms) of homes to be developed. It anticipates that every two years there will be approximately 9 Single Family Dwellings and 1 Multi-Unit to meet the CHMC funded quotas. The demand for private lots will also vary each year but will be accommodated by providing additional lots based on available and serviced land that will vary with each phase.

GRFN HOUSING PLAN : PHASING SCHEDULE										
PHASE #	YEAR	FUNDED HOMES					PURCHASED HOMES			
		1 BED UNIT	2 BED UNIT	3 BED UNIT	4 BED UNIT	MULTI-UNIT	1 BED UNIT	2 BED UNIT	3 BED UNIT	4 BED UNIT
1	2019	0	2	2	1	0	0	0	3	0
1	2020	0	2	2	0	1	0	0	2	0
2	2021	0	2	2	1	0	0	0	3	0
2	2022	0	2	2	0	1	0	0	2	0
3	2023	0	2	2	1	0	0	0	3	0

NOTES

- Funded - costing should be in the range of \$120k to \$180k depending on # of bedrooms (not incl M/U)
- Purchased - costing should be market price - should be built to allow room for expansion (e.g. garage, car port, deck) with basements

SINGLE DWELLING | MULTI-UNIT DWELLING



IDEA INC. INTEGRATED DESIGN ENGINEERING + ARCHITECTURE
 421 Bay Street, Suite 507 Sault Ste. Marie, Ontario, Canada t. 705 949 5291 e. info@epohinc.com
 76 Chamberlain Ave. Ottawa, Ontario, Canada t. 613 695 3764 e. info@epohinc.com

SECTION 3

MASTER PLAN PROCESS AND STRATEGY

IDEA

INTEGRATED DESIGN
ENGINEERING + ARCHITECTURE

SECTION

3.0

MASTER PLAN PROCESS AND STRATEGY

3.1.1 EXISTING SITE CONDITIONS

The proposed site is situated between Highway 17A and 17B and between Syrette Lake Road and Belleau Lake Road and is currently heavily forested. The total acreage of the site is approximately 150 acres (622,135 m²) and is configured in a long and narrow strip that is approximately 2000 ft wide by one mile long. The site can be accessed by either Belleau Lake Rd. on the west side or Syrette Lake Rd. on the east. The site is constrained by the Brookfield power service line located along the northern boundary

and the railway line located along the southern boundary. There is also a Ministry of Transportation (MTO) easement setback and Ontario Hydro Utility right of way that will impact on the development. The site also contains a gravel service road that extends east-west between Belleau Lake Rd. and Syrette Lake Rd. The existing Bingo Hall and Garden River First Nation Recreation Centre anchor the east side of the site. GRFN's existing community housing neighborhoods are located west of Syrette Lake Rd on Hiawatha and White Birch Drive. Little Lake George, Bells Point and the Silver Creek Golf Course are all in close proximity to the proposed site.

FIGURE 1.1.2
Regional Map of Garden River
Proposed Site Location



SECTION

3.0

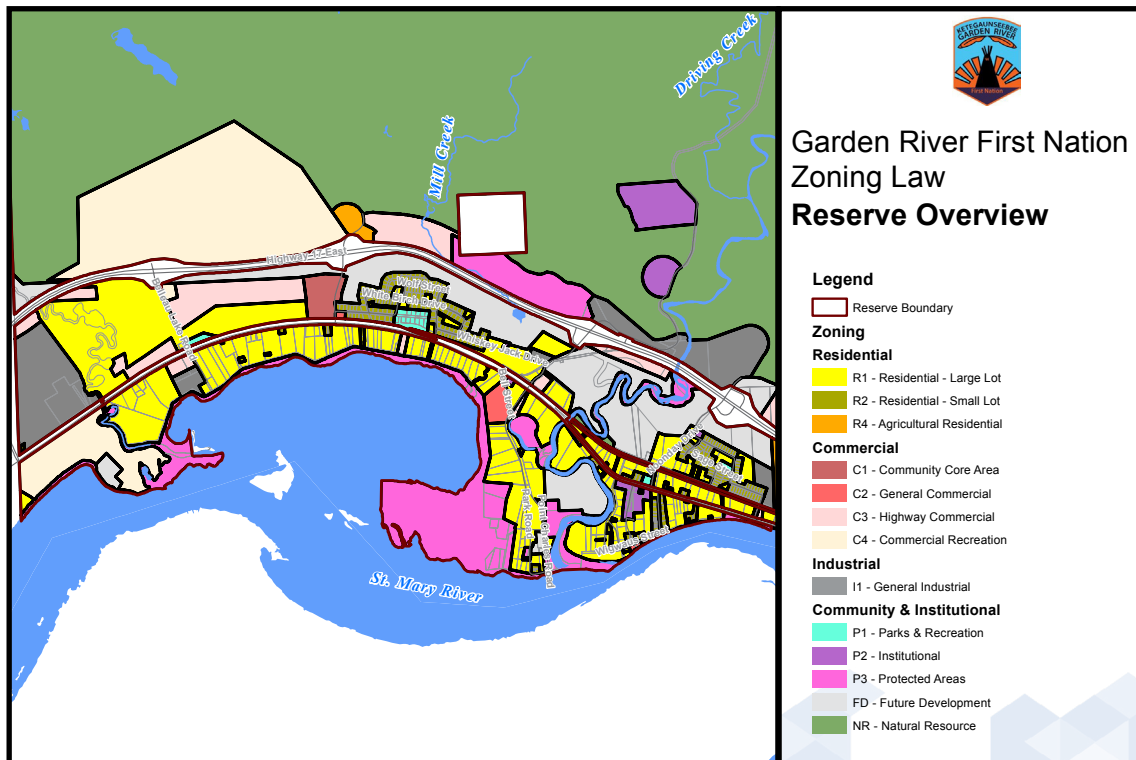
MASTER PLAN PROCESS AND STRATEGY

3.2.1 COORDINATION WITH THE GRFN COMMUNITY PLAN

The development of new housing for its members is one of the key focus points of the GRFN Community Plan. It generally describes desired outcomes with respect to how new housing should be meaningfully integrated within Garden River First Nation. It contemplates new housing within the context of GRFN's Land Use Plan which mandates where residential land should be located, and establishes policies around environmental management and cultural sensitivity. This Master Plan began by understanding these parameters and is therefore compatible with it. For example, this site was identified as a preferred site for accommodating future community housing needs. The proposed site meets many of the criteria set forth in the GRFN Community Plan such as visibility, accessibility, size, configuration, compatibility with adjacent land uses,

availability of services, topography, Geo-technical, natural characteristics, development issues and cost considerations. Many of the core values described in the Community Plan have been applied within the proposed design that is reflected within this Master Plan. These core values include the creation of parks and natural landscape within nodes along the neighborhood to integrate community gardens and re-utilization of the existing services road. The Community Plan study expresses and this Master Plan articulates the desire for sustainability, higher quality of design and well being, and better construction standards.

The proposed site contains a variety of zoning designations including R1 and R2 Residential and C3 Highway Commercial. A portion of the Commercial C3 will have to be formally revised if it is to be used for residential purposes. Because this type of development will form part of a Future Development Area, a Land Use Plan and Zoning By-Law Amendment will be required.



SECTION
3.0 MASTER PLANNING PROCESS & STRATEGY

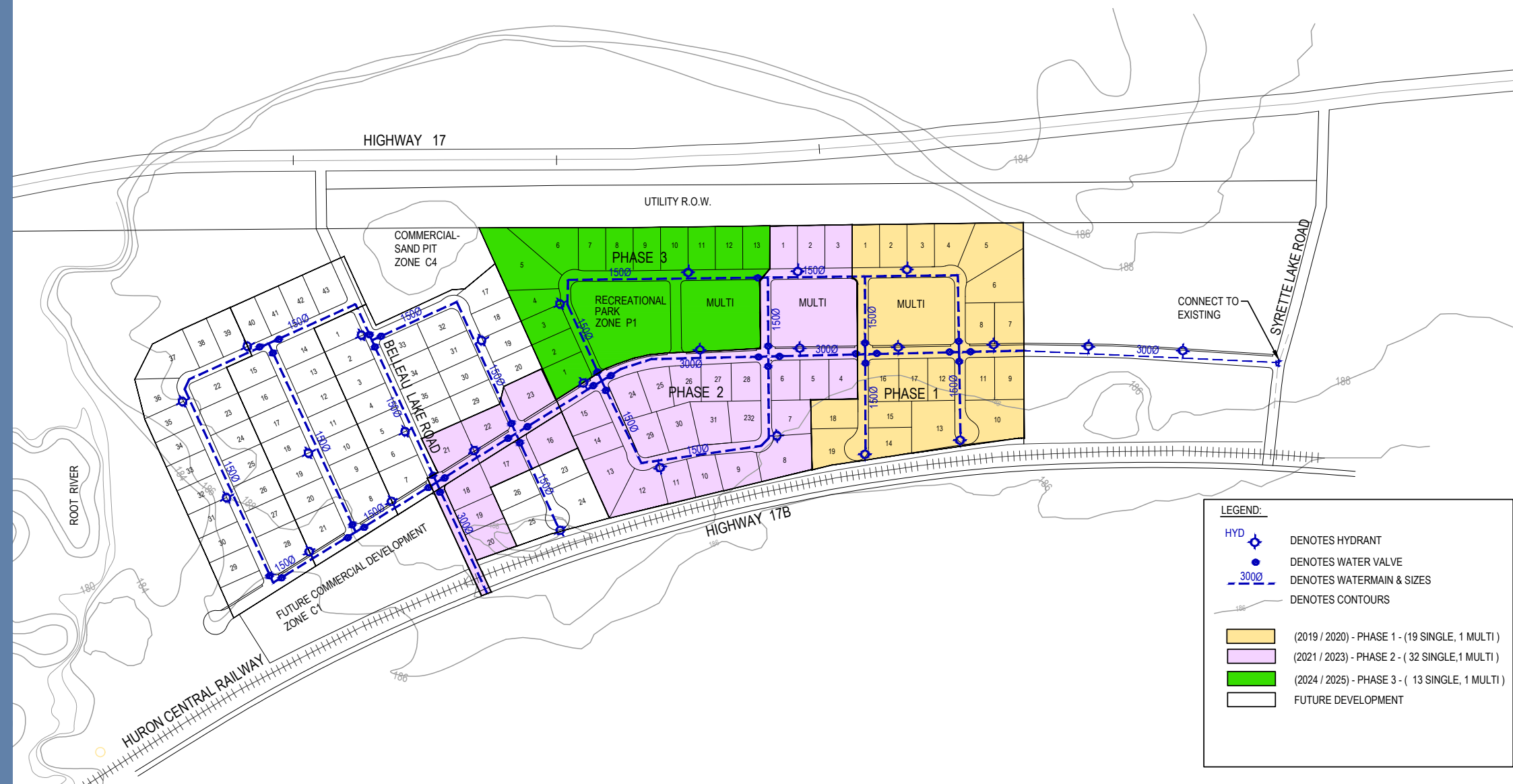
3.3.1 SITE DEVELOPMENT STRATEGY

The following Subdivision Site Plan has been developed by WSP Engineering. The design involved analyzing the existing site conditions, site infrastructure and historical soil tests in this specific location to inform the civil design with respect to infrastructure required to support this project.

This plan has been developed to allow a phased approach based on accommodating the quantities of housing identified in the CMHC Housing Demand Analysis. Each phase will vary in the number of lots provided to allow for effective and affordable construction as it relates to the road network and underground utilities. Phase 1 involves the construction of 19 single family and 1 multi-unit. Phase 2 involves the construction of 32 single family and 1 multi-unit, and Phase 3 includes the construction of 13 single family, 1 multi-unit and a recreational park. In every phase, the minimum 10 lots required to satisfy CHMC funded housing demands are met. The remaining lots can either be used for additional CHMC funded housing in the same or subsequent years or be sold as private lots.

Only the eastern portion of the new east-west roadway will be constructed during phase 1, whereas the balance will be constructed during phase 2, at which time it will connect Belleau Lake Rd. to Syrette Lake Road. Geo-technical reports indicate the soil is mainly composed of sandy soils which are ideal conditions for construction of homes. The increase of demand capacity induced by this development will affect water pressure which will need to be further analyzed to ensure that regulations are met in accordance with OBC, Fire Safety and other authorities having jurisdictions. The required scope of work of civil infrastructure for this Housing Development has been described as follows:

- The offsite work required to extend the water distribution system from Syrette Lake Road to the East limit of the future residential community includes the installation of a 300mm watermain, isolation valves, hydrants for fire protection and water services to the future school and seniors building.
- The access road to the future residential community will be a 7m paved road with 1m gravel shoulders, road side ditching, roadway drainage culverts and a 3m paved walkway providing a pedestrian connection to the future school and park area.
- Each Phase of the development will include a water distribution system sized to meet domestic water consumption demand and fire flow requirements.
- Water services will be installed to each single lot and multi lots.
- Development of each Phase will include clearing and grubbing of the road ROW, road bed excavation, granular road bed construction, paving, ditching and the installation of road side drainage culvert, and driveway culverts.



SECTION

3.0

MASTER PLAN PROCESS AND STRATEGY

3.4.1 ZONING BY-LAW ANALYSIS

The following table illustrates how the community housing contemplated under this Master Plan conforms to the prescribed requirements of the Zoning By-Law for GRFN. The Master Plan illustrated in the previous section is based on the lot sizes

indicated for each single family - large lot, and multi-unit lots. The building area associated with each housing type is also indicated and their respective schematic designs can be referenced on pages 18 to 22.

Garden River Housing Master Plan - Site Information									
Zoning Criteria	Building Typologies			Proposed Development Information					
	Single Detached	Multi-Unit (4)/ Duplex(2)	Apartment Building						
R1 - Residential - Large Lot				House Type 1	House Type 2	House Type 3	House Type 4	Multi-Unit	
Setbacks									
Lot Area	4050m2	n/a	n/a	4300m2	4300m2	4300m2	4300m2	n/a	
Frontage	30m	n/a	n/a	56m	56m	56m	56m	n/a	
Front Yard	5.0m	n/a	n/a	34m	33m	32m	34m	n/a	
Exterior Side Yard	5.0m	n/a	n/a	22m	22m	22m	22m	n/a	
Interior Side Yard	3.0m	n/a	n/a	22m	22m	22m	22m	n/a	
The Other Side Yard	3m	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Rear Yard	6.0m	n/a	n/a	34m	33m	32m	34m	n/a	
Lot Areas and Height Restrictions									
Maximum Building Height	2 Storeys	n/a	n/a	1 Storeys	1 Storeys	1 Storeys	2 Storeys	n/a	
Building Area	n/a	n/a	n/a	81m2	103m2	117m2	80m	n/a	
Total Number of Lots: 64									
R2 - Residential - Small Lot				House Type 1	House Type 2	House Type 3	House Type 4	Multi-Unit	
Setbacks									
Lot Area	1000m2	1400m2	n/a	2150m2	2150m2	2150m2	2150m2	n/a	
Frontage	15m	18m	n/a	28m	28m	28m	28m	n/a	
Front Yard	4.0m	4.0m	n/a	34m	33m	32m	34m	n/a	
Exterior Side Yard	3.0m	3.0m	n/a	8m	8m	8m	8m	n/a	
Interior Side Yard	3.0m	3.0m	n/a	8m	8m	8m	8m	n/a	
The Other Side Yard	3.0m	3.0m	n/a	n/a	n/a	n/a	n/a	n/a	
Rear Yard	5.0m	5.0m	n/a	34m	33m	32m	34m	n/a	
Lot Areas and Height Restrictions									
Maximum Building Height	2 Storeys	2 Storeys	n/a	1 Storeys	1 Storeys	1 Storeys	2 Storeys	n/a	
Building Area	n/a	n/a	n/a	81m2	103m2	117m2	80m	n/a	
Total Number of Units: 0									
R3 - Residential - Multi-Unit				Multi-Unit Complex (4 Units)					
Setbacks									
Lot Area	n/a	1000m2	1000m2	4385m2 (w/ 985m2 Landscaping for Each Unit)					
Frontage	n/a	20m	20m	75m					
Front Yard	n/a	4.0m	4.0m	19m-22m					
Exterior Side Yard	n/a	3.0m	3.0m	19m-22m					
Interior Side Yard	n/a	3.0m	3.0m	n/a					
The Other Side Yard	n/a	3.0m	3.0m	n/a					
Rear Yard	n/a	4.0m	4.0m	n/a					
Lot Areas and Height Restrictions									
Maximum Building Height	n/a	2 Storeys	5 Storeys	2 Storeys					
Building Footprint	n/a	n/a	n/a	275m2 (Gross: 430m2)					
Total Number of Lots: 12									

SECTION

3.0 MASTER PLAN PROCESS AND STRATEGY



3.5.1 NEIGHBORHOOD DESIGN

The thinking behind the urban design strategy for this Master Plan extends outside the boundaries of the proposed site. The plan considers traffic, pedestrian connections, proximity to community centers and schools, as well as convenient access to the natural landscape. Since this site is adjacent two highways, which are not ideal for pedestrian circulation, it became necessary to create a pedestrian boulevard within the site. The center of the development incorporates a pedestrian boulevard, nature trails and bike paths that not only provide safer means of transportation but also

connects community buildings such as the Bingo Hall and children's community centre to the respective residential neighborhoods. This pedestrian boulevard also connects the neighborhood's recreational parks and green spaces. Recreational parks can be programmed for cultural events, neighborhood gatherings, to enhance the development and well-being of the community. Since the existing site contains large mature trees, the intention will be to maintain as much of the natural landscape as possible. Each of the large residential lots are approximately 1 acre in size, and therefore trees can assist in creating privacy, appeal and smart solar site strategies for each lot.



SECTION 4
HOUSING PROTOTYPE
DESIGNS

IDEA

INTEGRATED DESIGN
ENGINEERING + ARCHITECTURE

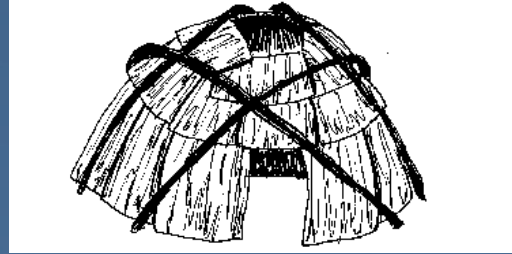
SECTION

4.0

SCHEMATIC DEVELOPMENT STRATEGY:
ARCHITECTURAL APPROACH4.1.1 HOUSING AND TRADITIONAL
KNOWLEDGE

For this particular project, the teaching of traditional knowledge is a key component of house typologies and site planning that needs to be strongly considered when establishing the curriculum of a First Nation housing development that stands apart for other communities in Ontario. Incorporation of traditional knowledge in planning and house design can provide First Nation communities with houses that are better-suited to social, environmental and cultural needs. Thus understanding the Ojibway culture in more depth and their daily life-style, practices and social strata will inform the design strategies for this project. The intent will be to connect modern practices with traditional knowledge to create socially and culturally appropriate spaces for residents on the First Nation land.

Traditional Ojibway heritage, up until the latter century, has been predominantly a nomadic style of living where attachment to the land is much greater than to physical structures. Homes were therefore either portable or easily erected out of materials found around their immediate environment. The sustainability of their lifestyle, for both material and spiritual needs, were satisfied by the resources of the surrounding landscape and nature. This traditional lifestyle, however, has shifted over the last century to a style that is more closely paralleled with the Canadian urban way of life. First Nation Housing has often been criticized by many members as being confined in homes and buildings not suited for practices commonly found in the household or community that abandon reliance and special connection with the land. To this end, many communities are emphasizing the importance of creating independent types of housing that depart from the typical Canadian rural or urban model of the household. Today's challenge is incorporation of First Nation ideals with housing design that deals with



the technological age and contemporary building practices. The first step in our design process involved understanding the paradigm between traditional and contemporary First Nation housing. The conceptual foundation of house types developed in this Master Plan reflects construction methods referred to in historical and vernacular buildings of that First Nation community and intertwines them with conventional building practices. In Ojibway Culture, the historical structure is the wigwam. Even today, this iconic shelter is erected by many First Nation members throughout the year to display and utilize them on their properties in current Garden River First Nation neighborhoods.

4.1.2 STRUCTURE AND HOUSE
CONSTRUCTION

In the realm of building practices, the closest form of conventional construction to the wigwam is the post-and-beam method. Post-and-Beam construction poses many benefits that provide flexibility for expansion between structural members, has the ability of create greater open concept spaces, more fire/rot resistant and have longer lifespans over other methods of construction. The Post-and Beam house design mimics the construction of a traditional Wigwam and attempts to bridge a connection between old tradition and modern construction methods. This reference to the sacred cultural practice of building begins to express the unique qualities inherent to First Nation Housing. Although wigwams consist of a circular pattern and domed shape while the homes are justified by straight edges, the essence of its construction and steps



PAGE

16

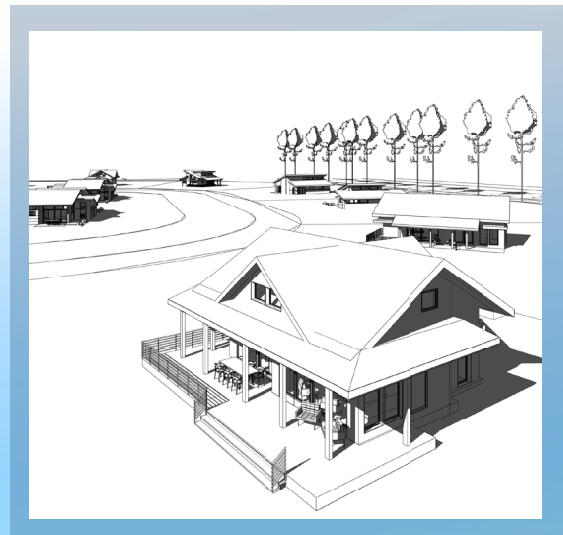
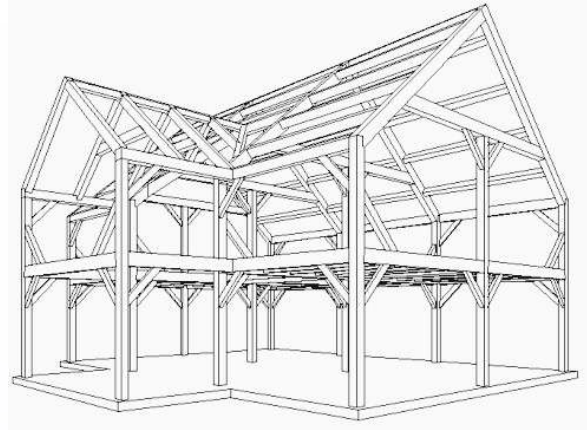
SECTION

4.0

SCHEMATIC DEVELOPMENT STRATEGY:
ARCHITECTURAL APPROACH

4.1.2 STRUCTURE AND HOUSE
CONSTRUCTION (CONTINUED)

are inherently the same. Much like the approach to wigwam erection, Post-and-beam begins with a careful analysis of the site whereby spot locations are determined on site. Since the practice of site selection is sacred and integral to the wigwam, it is important to consider traditional knowledge of surveying the land to find the most fitting and suitable settlement for the home. This type of analysis should be integrated into the site developing and home construction as they are symbiotic to culture and good practice. Once post locations have been decided, posts are then secured to the foundation. The next steps of wigwam construction consist of strengthening the structure by providing cross members. This would consist of bringing materials for on-site construction and assembling secondary components to the structure such as trusses and wall-panels, then applying strapping surfaces for exterior finishes. Given the type of structure, a variety of truss designs can be utilized which provides greater flexibility in personalization of the homes. As a symbolic homage to the final bent poles on the wigwam, exterior structures for canopies and balcony covers will use naturally cultivated and carved tree trunks to create an iconic feel to the house design. Integration of artistic community in GRFN is recommended for this project as it adds detail and finishes in a unique fashion that exhibits the skills and crafts of locals to solidify the homes identity as being truly First Nation. First Nation identity is defined by the richness of materials and the manner of displaying the craftsmanship of the community. With a combination of these two crafts, First Nations people can not only design and construct homes that are more appropriate for their needs, but will also possess the skills needed for building houses in their communities that are meaningful to their heritage.



SECTION

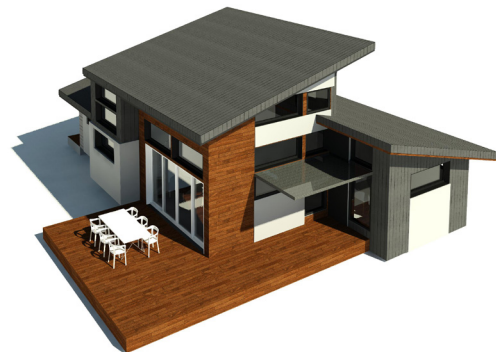
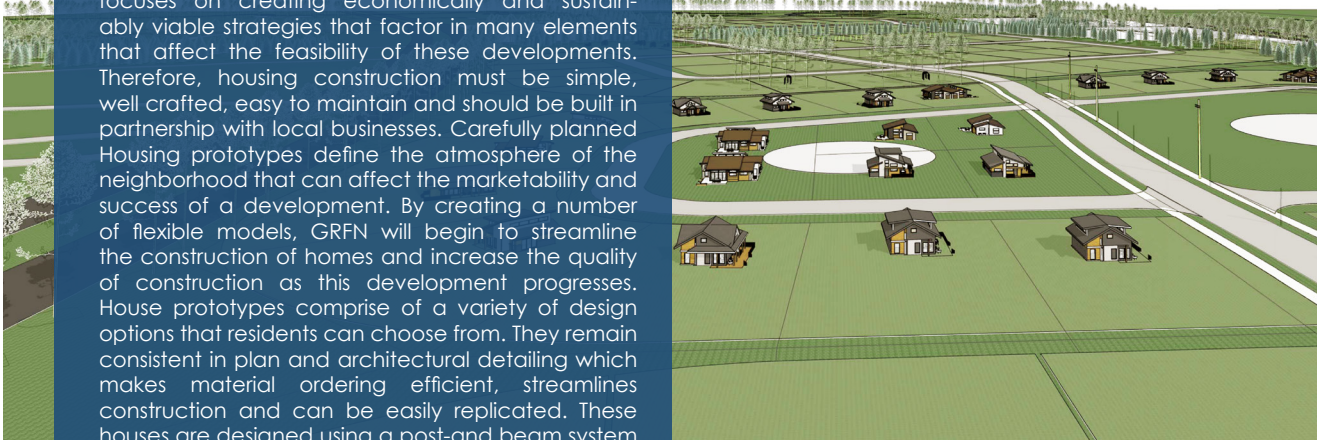
4.0 HOUSING PROTOTYPE DESIGN

4.1.3 HOUSING SUSTAINABILITY

In addition to respecting First Nation traditions and lifestyle for house designs, this study also focuses on creating economically and sustainably viable strategies that factor in many elements that affect the feasibility of these developments. Therefore, housing construction must be simple, well crafted, easy to maintain and should be built in partnership with local businesses. Carefully planned Housing prototypes define the atmosphere of the neighborhood that can affect the marketability and success of a development. By creating a number of flexible models, GRFN will begin to streamline the construction of homes and increase the quality of construction as this development progresses. House prototypes comprise of a variety of design options that residents can choose from. They remain consistent in plan and architectural detailing which makes material ordering efficient, streamlines construction and can be easily replicated. These houses are designed using a post-and beam system paired with trusses that can be easily fabricated in a warehouse. Prefabrication of homes in an environmentally regulated space promotes better quality and craftsmanship.

Since available funding for these homes is restricted, designs attempt to create sensible, smart and efficient layouts. Emphasis on traditional materials and architectural character promotes quality of life, pride and well being. When home-owners feel a sense of pride in their space, it is more frequent that they will focus on up-keep and can consider passing their properties onto the next generation of family members or to others within the community. This can affect the stability of the neighborhood that has a direct connection to the success of the development and well-being of the community.

Each home consists the same configuration for the kitchen, laundry and living room that is repeated for all house designs. Keeping these designs modular will help GRFN streamline construction as future projects progress. These areas have been designed for comfort, maximum natural ventilation flow and daylight that create quality spaces for any size family. Emphasis on larger, family-centered gathering spaces is a core concept that is carried for all prototypes. Bedrooms, however, have been sized to accommodate at a minimum two individuals per room with either queen-size bed or two single bed furniture configuration.



2.1.1 SINGLE DWELLING - 3 BED

PAGE

18

SECTION

4.0 HOUSING PROTOTYPE DESIGN

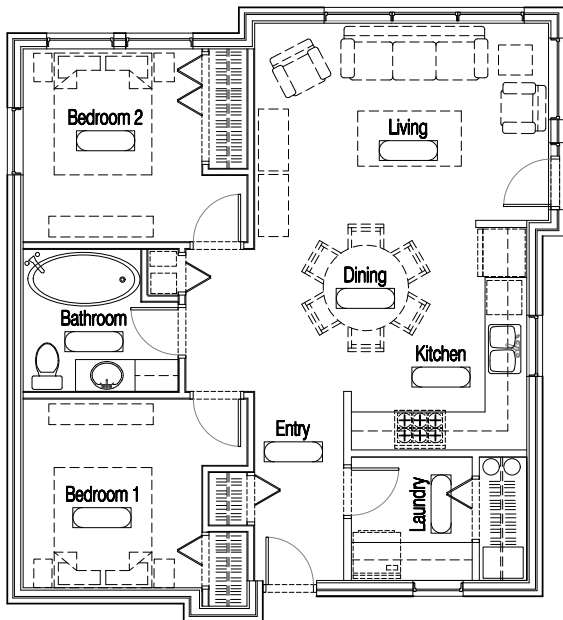
4.1.4 HOUSING PROTOTYPES

These buildings will utilize quality building products such as exterior cladding, waterproofing, insulation and interior finishes. Smaller homes can be more easily maintained, heated and serviced which adds benefit to the cost.

Floor plans and three-dimensional models of five different housing scenarios are illustrated in the following sections. The housing types and related floor plans created for this development are the following and have been described:

- **House Type 1: Single Dwelling, 2 Bed, 1 Storey**
- **Single Dwelling, 3 Bed, 1 Storey**
- **Single Dwelling, 4 Bed, 1 Storey**
- **Single Dwelling, 4 Bed, 2 storey**
- **Multi-Unit Quad (4 Units), 3 Bed, 2 Storey**

Each home can be personalized by different applications and, materials and roof-lines to set homes apart from one another. The intent is to show how the floor plans can be dynamic without having to re-invent the layout and constructibility, while providing the community with unique homes.



SECTION

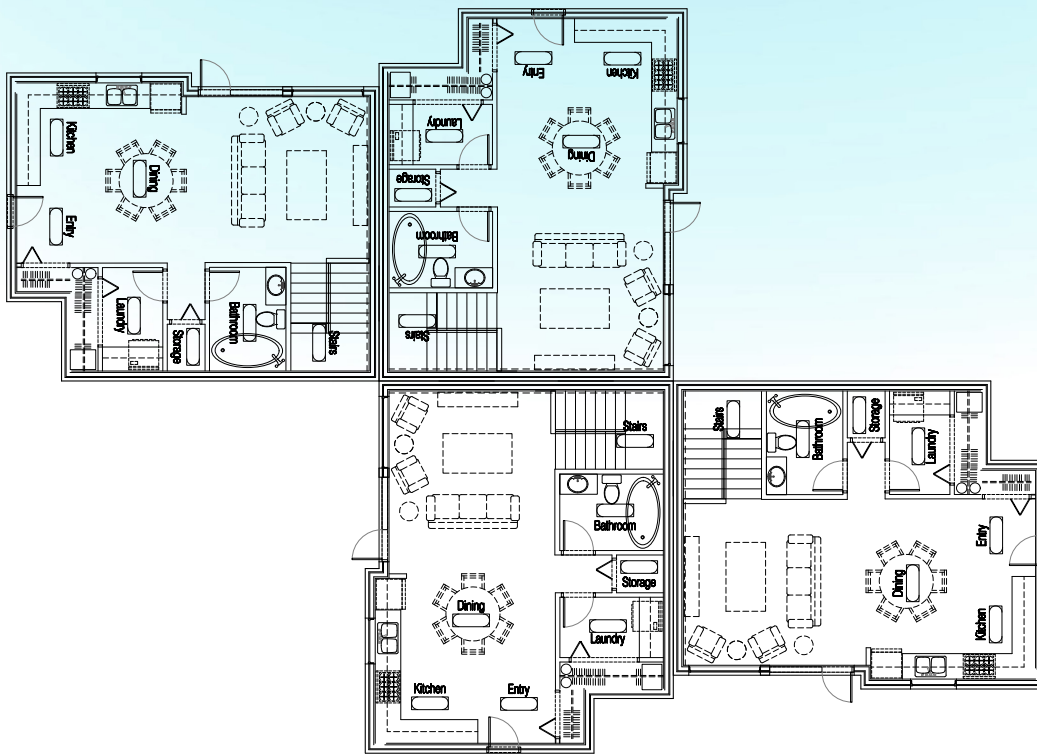
4.0

SCHEMATIC DEVELOPMENT STRATEGY:
ARCHITECTURAL APPROACH

4.1.5 MULTI-UNIT DWELLING

Multi-Unit dwellings have been designed to respond to the unique configuration of the multi-unit lots contained within each phase. They accommodate a front, side yard and private drive to each resident. To remain consistent, areas within the home such as living, kitchen, dining and bedrooms are the same as those proposed in the single family housing types. Each Multi-Unit Lot can be subdivided into a smaller

scale development, since lots are oversized based on the zoning by-law, these lots can be subdivided by private roads to provide maximum use of the lot. Lot areas for each of the units will have sufficient space, and will have an area similar to that of an R2 lot. This means that each family or tenant will own a substantial parcel of land despite the fact that they are attached to other dwellings. Although this house type is cheaper than single family, the design strategy provides a sense of individualized ownership similar to the single family house.



SECTION

4.0 HOUSING PROTOTYPES

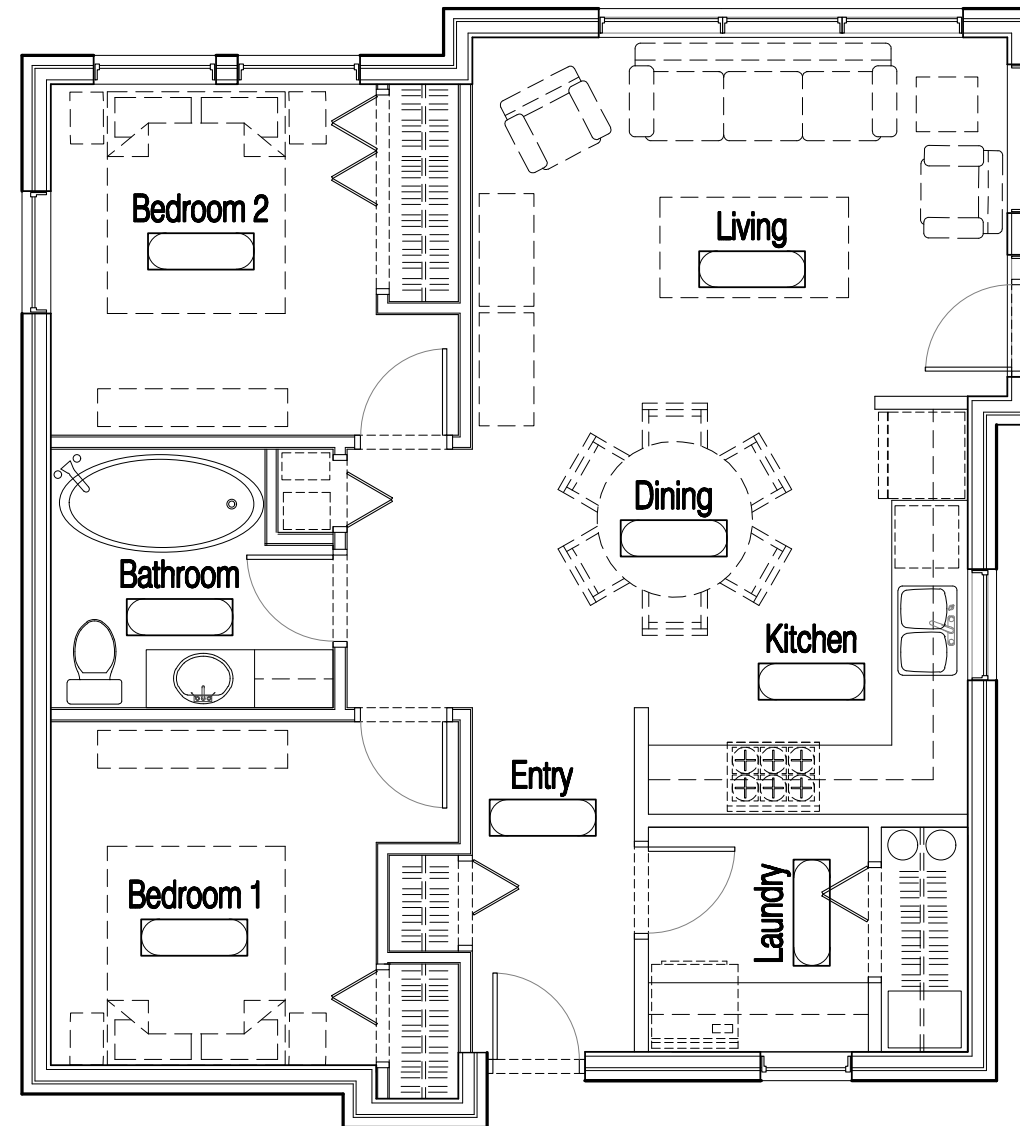
House Type Information				
Room Name	Quantity	Room Area	Room Area Total	
House Type 1 - Single Dwelling, 2 Bed, 1 Storey				
Number of Storeys: 1				
Number of Units: 1				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	1	60	60	sqft
Bedroom	2	120	240	sqft
Total Area:		625		sqft
Building Gross Up (30%)		255		sqft
Actual Area:		880		sqft



TYPE 1A



TYPE 1B



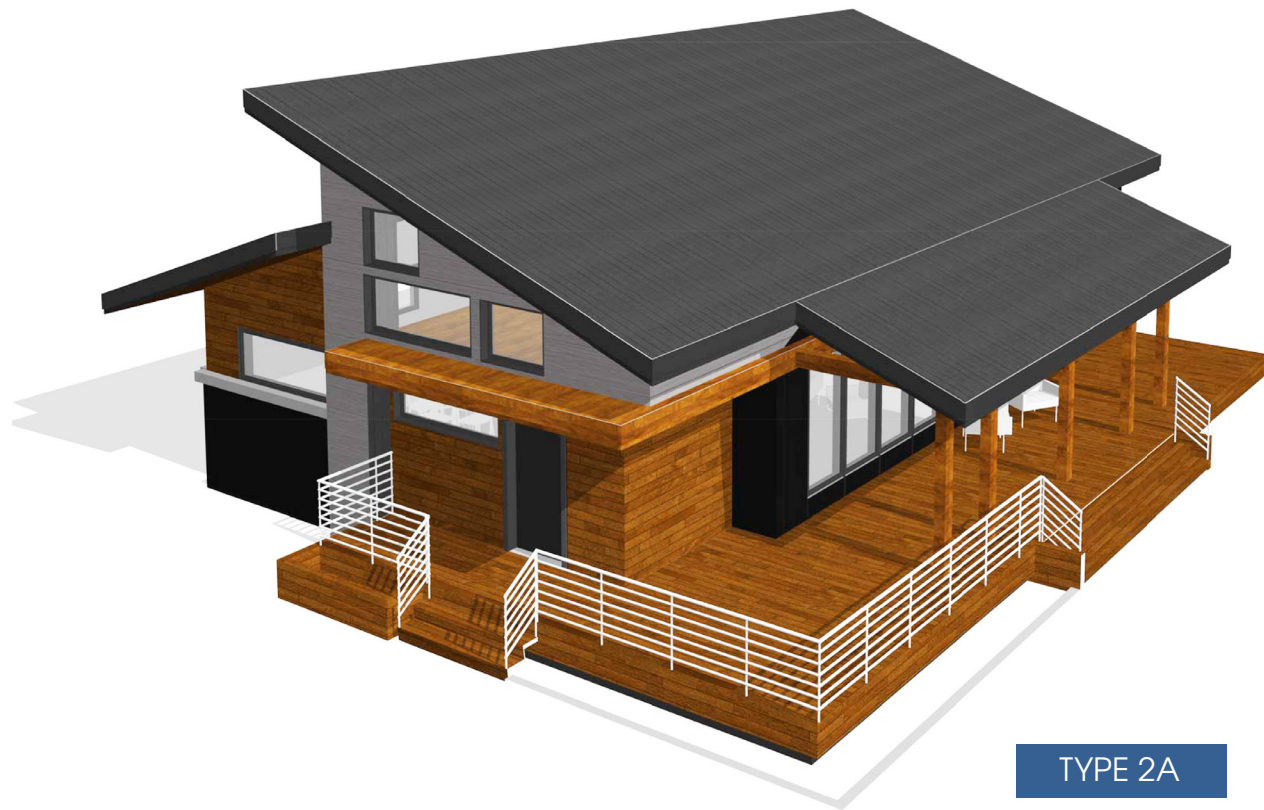
2 BEDROOM - 1 STOREY
 Level 1 - Floor Plan (880 sqft)
 Scale 1/4"=1'-0"
 Project North

SECTION

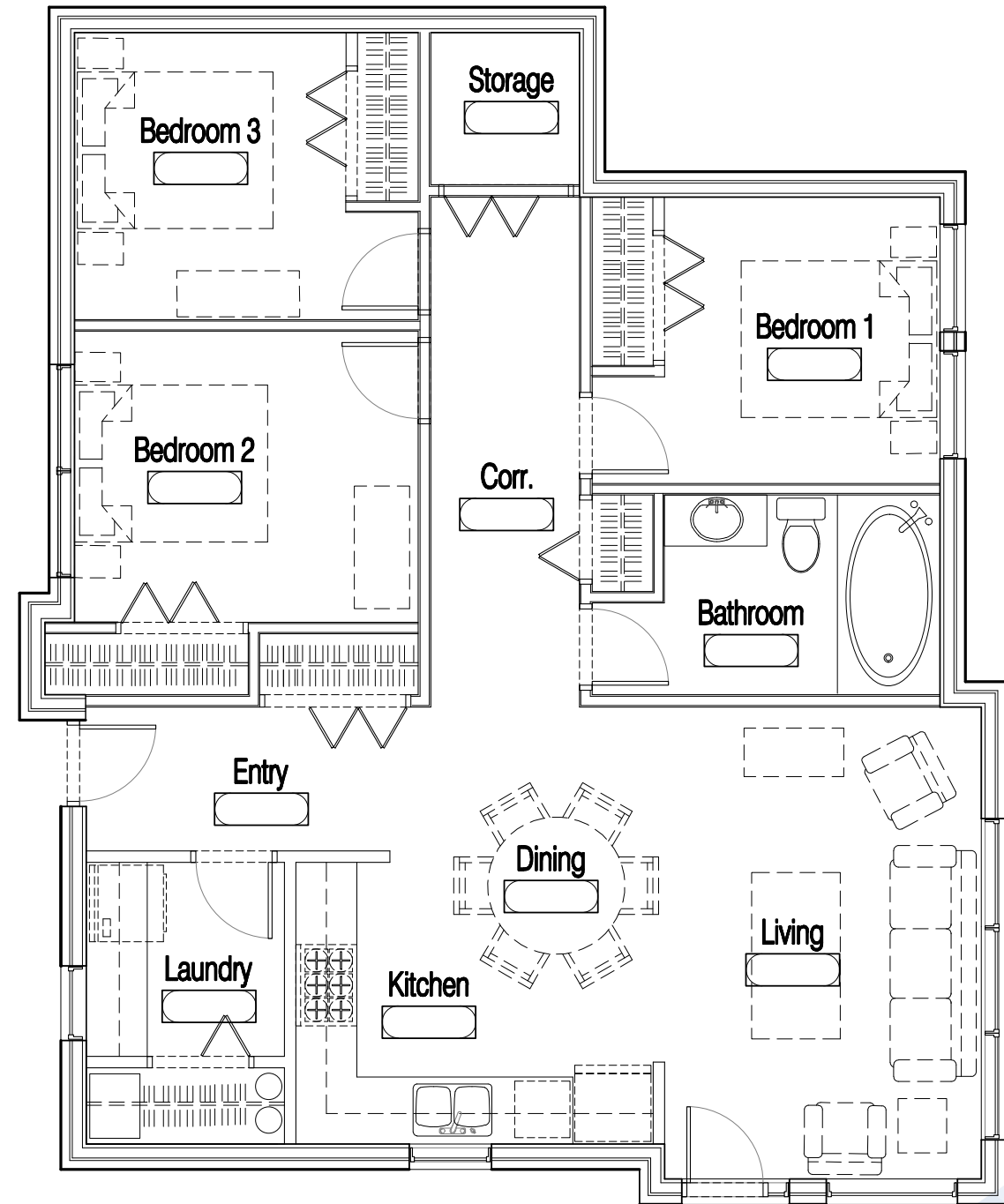
4.0 HOUSING PROTOTYPES

House Type Information

Room Name	Quantity	Room Area	Room Area Total	
House Type 2 - Single Dwelling, 3 Bed, 1 Storey				
Number of Storeys: 1				
Number of Units: 1				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	1	60	60	sqft
Bedroom	3	120	360	sqft
Storage	1	25	25	sqft
Total Area:			890 sqft	
Building Gross Up (20%)			225 sqft	
Actual Area:			1115 sqft	

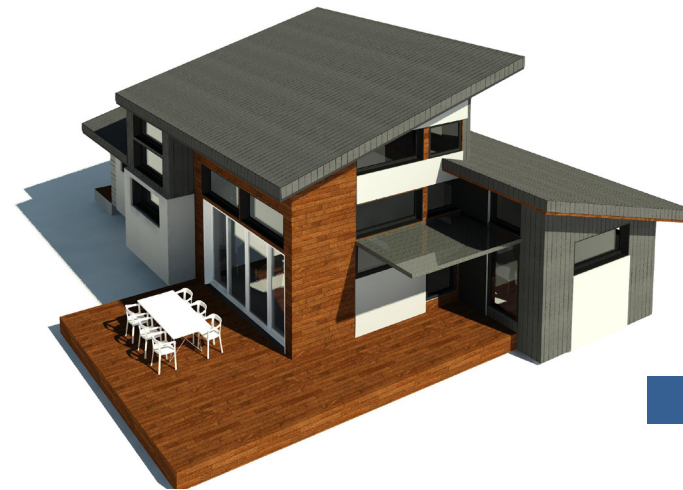


TYPE 2A



SECTION
4.0 HOUSING PROTOTYPES

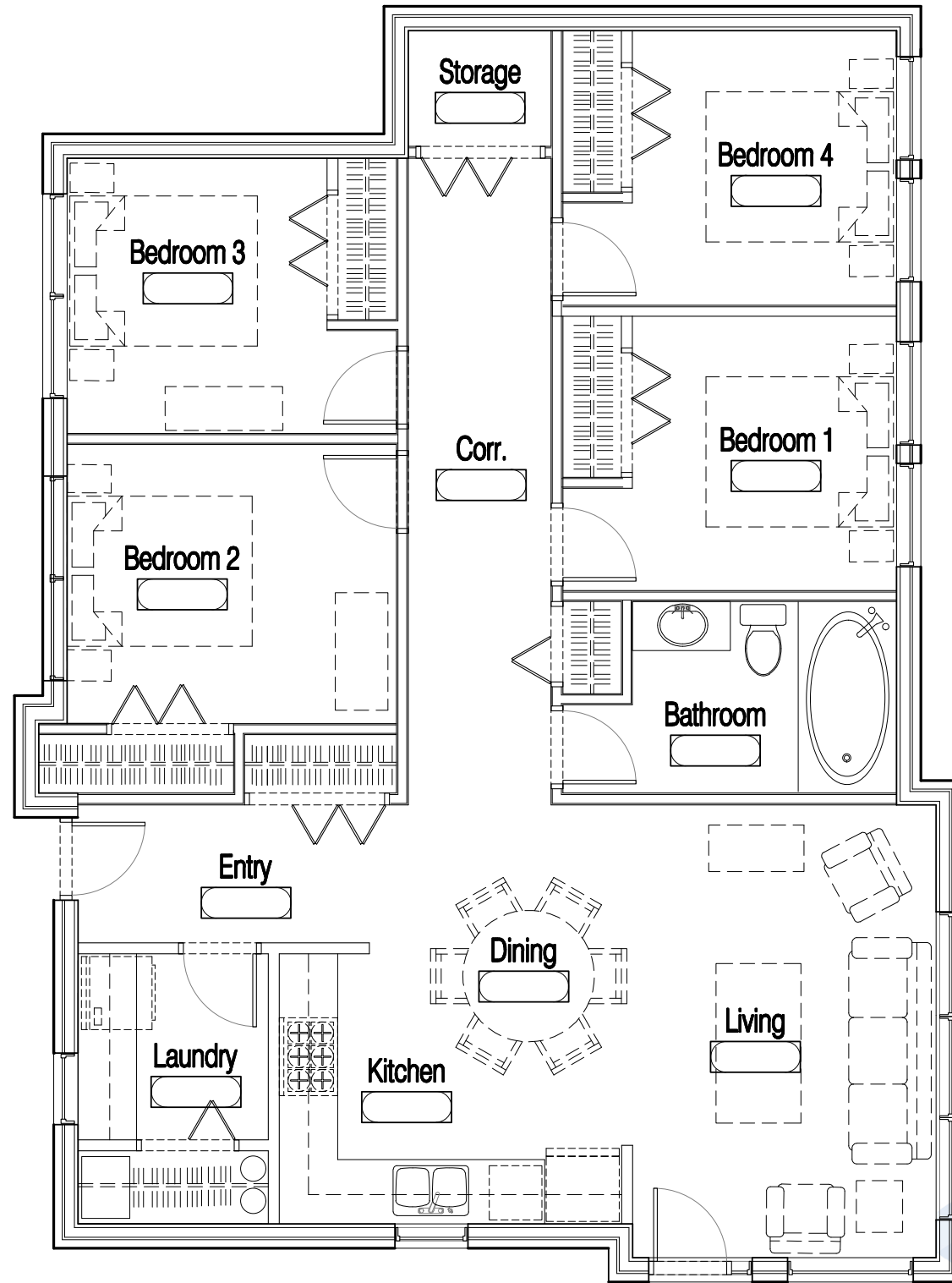
House Type Information				
Room Name	Quantity	Room Area	Room Area Total	
House Type 3 - Single Dwelling, 4 Bed, 1 Storey				
Number of Storeys: 1				
Number of Units: 1				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	1	60	60	sqft
Bedroom	4	120	480	sqft
Storage	1	25	25	sqft
Total Area:			1010 sqft	
Building Gross Up (20%)			250 sqft	
Actual Area:			1260 sqft	



TYPE 3A



TYPE 3B



SECTION

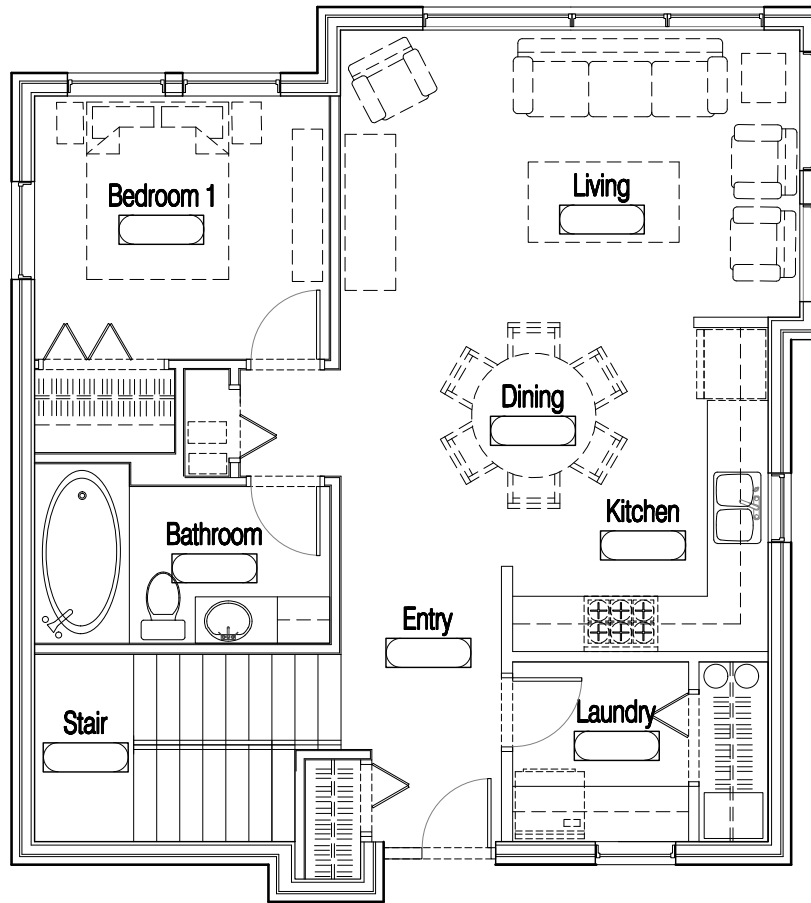
4.0 HOUSING PROTOTYPES

House Type Information

Room Name	Quantity	Room Area	Room Area Total	
House Type 4 - Single Dwelling, 4 Bed, 2 Storey				
Number of Storeys: 2				
Number of Units: 1				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	2	60	120	sqft
Bedroom	4	120	480	sqft
Storage	1	25	25	sqft
Total Area:			1070 sqft	
Building Gross Up (30%)			470 sqft	
Actual Area:			1540 sqft	



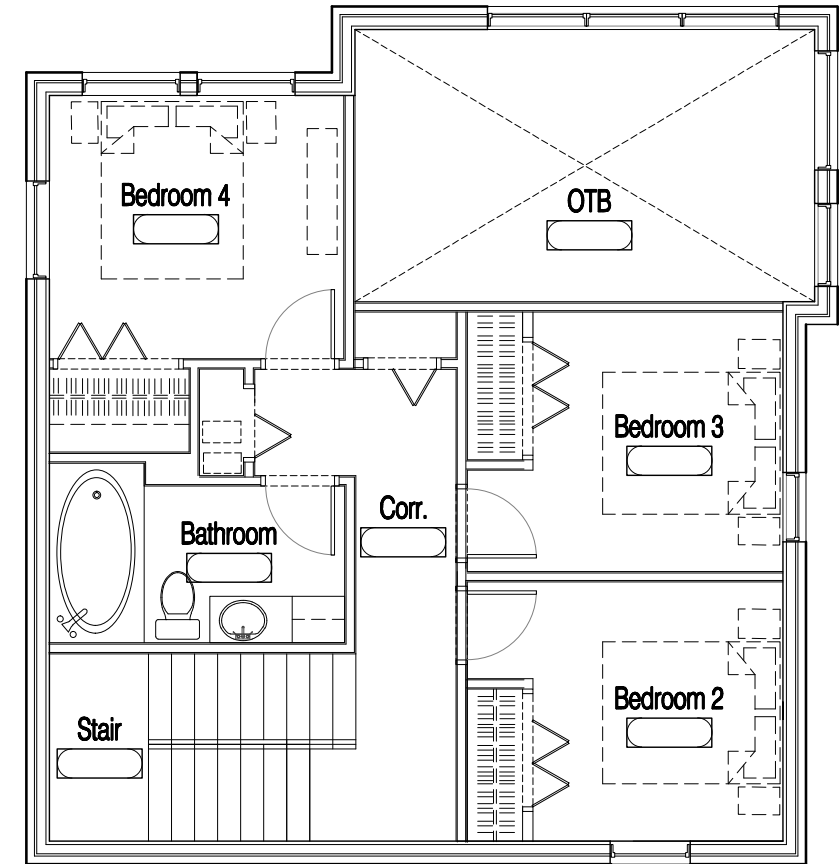
TYPE 4A



4 BEDROOM - 2 STOREY

Level 1 - Floor Plan (865 sqft)

Scale 1/4"=1'-0"



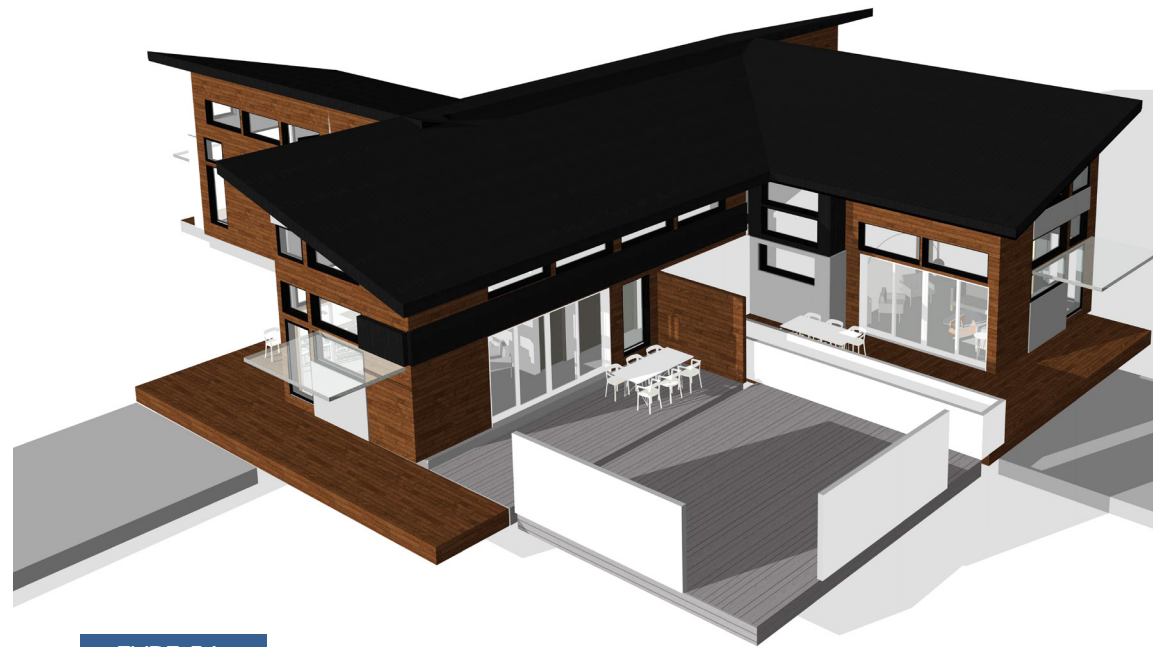
4 BEDROOM - 2 STOREY

Level 2 - Floor Plan (675 sqft)

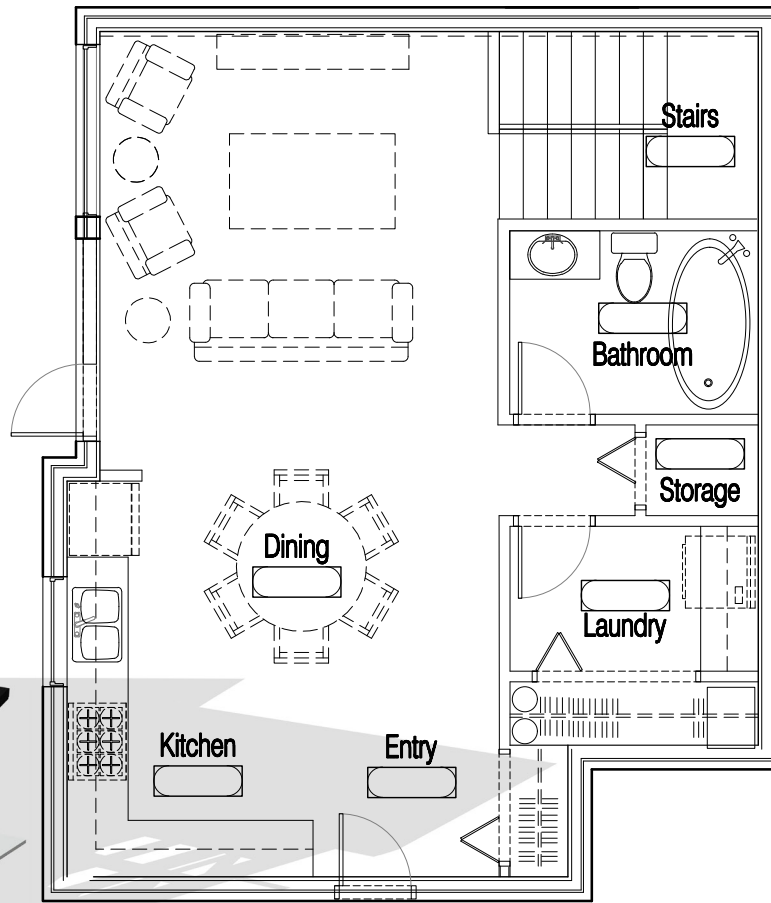
Scale 1/4"=1'-0"

SECTION
4.0 HOUSING PROTOTYPES

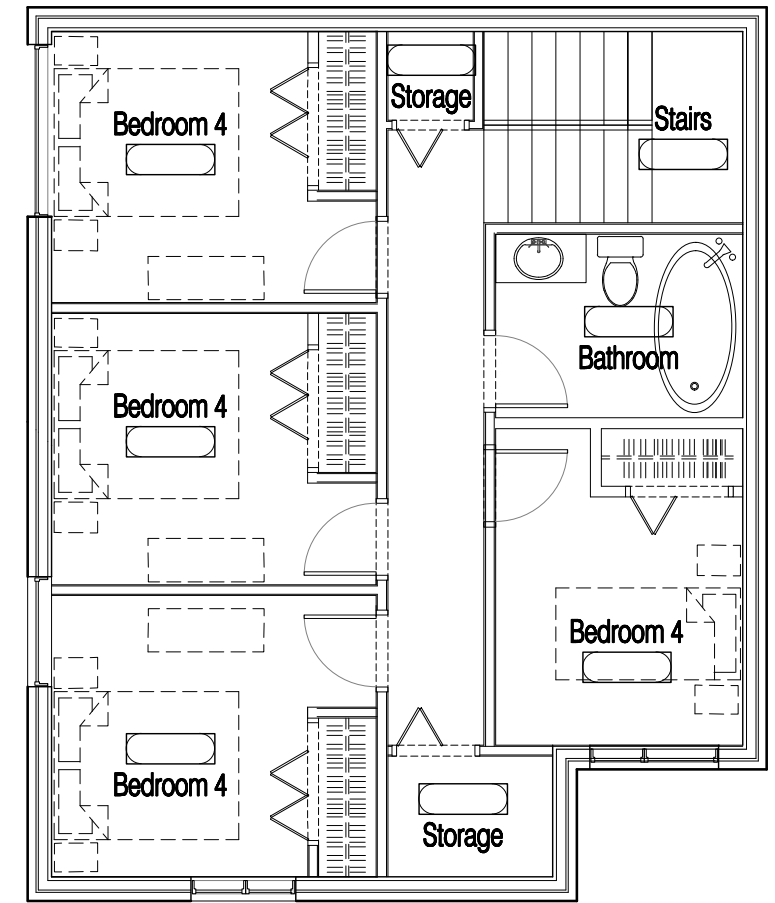
House Type Information				
Room Name	Quantity	Room Area	Room Area Total	
House Type 4 - Multi-Unit, 4 Bed, 2 Storey				
Number of Storeys: 2				
Number of Units: 4				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	2	60	120	sqft
Bedroom	3	120	360	sqft
Bedroom (Small)	1	95	95	sqft
Storage	2	25	50	sqft
Total Area:			1070 sqft	
Building Gross Up (30%)			460 sqft	
Actual Area:			1530 sqft	
Total Building Area - Combined Units:			6120 sqft	



TYPE 5A



4 BEDROOM - 2 STOREY
Level 1 - Floor Plan (760 sqft)
Scale 1/4"=1'-0"



4 BEDROOM - 2 STOREY
Level 2 - Floor Plan (760 sqft)
Scale 1/4"=1'-0"

SECTION
4.0 HOUSING PROTOTYPES

TYPE 5A - LEVEL 1



House Type Information				
Room Name	Quantity	Room Area	Room Area Total	
House Type 4 - Multi-Unit, 4 Bed, 2 Storey				
Number of Storeys: 2				
Number of Units: 4				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	2	60	120	sqft
Bedroom	3	120	360	sqft
Bedroom (Small)	1	95	95	sqft
Storage	2	25	50	sqft
Total Area:			1070 sqft	
Building Gross Up (30%)			460 sqft	
Actual Area:			1530 sqft	
Total Building Area - Combined Units:			6120 sqft	

SECTION
4.0 HOUSING PROTOTYPES

TYPE 5A - LEVEL 2



House Type Information				
Room Name	Quantity	Room Area	Room Area Total	
House Type 4 - Multi-Unit, 4 Bed, 2 Storey				
Number of Storeys: 2				
Number of Units: 4				
Room Areas				
Entrance	1	45	45	sqft
Laundry/Service Room	1	60	60	sqft
Kitchen	1	110	110	sqft
Living Room	1	160	160	sqft
Dining	1	70	70	sqft
Bathroom	2	60	120	sqft
Bedroom	3	120	360	sqft
Bedroom (Small)	1	95	95	sqft
Storage	2	25	50	sqft
Total Area:			1070 sqft	
Building Gross Up (30%)			460 sqft	
Actual Area:			1530 sqft	
Total Building Area - Combined Units:			6120 sqft	



SECTION 5
BUILDING COST
BREAKDOWN

IDEA

INTEGRATED DESIGN
ENGINEERING + ARCHITECTURE

SECTION
5.0 COST ANALYSIS

5.1.1 BUILDING COST BREAKDOWN
PER PHASE AND HOUSING TYPE

These estimates are intended to provide Garden River First Nation with a high-level understanding of the Capital Costs required to implement the Community Housing Master Plan.

The Total Anticipated Project Costs associated with GRFN's Community Housing Master Plan is approximately \$12.6 million. This is only for the CHMC Funded Housing based on the Demand Analysis.

This includes the cost of providing building parcels and infrastructure for the 30 lots associated with the CHMC Funded Housing based on the Demand Analysis and approximately 37 additional lots for private sale and development. This estimate does not include the cost of the individual houses that will be located on the private lots since they will be developed privately, although the

cost for the development of the private lots is included, it is an up front cost to GRFN that is recoverable when the lots are sold. Should more or less than 10 CHMC funded houses be required per annum, than the cost estimate should be adjusted upward or downward by the cost of each respective building type as indicated in the Unit Cost schedule below.

This Costing Analysis is at "Class D" (within 20 %) level of accuracy and involves establishing unit rates for the construction, based on historical data gathered for similar projects in the respective geographic location. They are conducted at a high level for the purpose of providing GRFN with an "Order of Magnitude". These estimates are expressed in 2018 dollars. The following schedules provide a breakdown of the capital costs associated with the various housing types and site development infrastructure costs. These estimates are exclusive of: Taxes, Site Acquisition, Escalation Costs Beyond 2018, Development Charges and Levies, Design and Engineering fees.

GRFN HOUSING MASTER PLAN : Estimate of Building Construction Cost based on \$200 / SF																					
PHASE	YEAR	Funded								TOTALS	Purchased					\$200 / SF					
		2 BED		3 BED		4 BED		MULTI			2 BED		3 BED		4 BED		Storeys	Area (SF)	Unit Cost	Estimated Cost	
1	2019	2	\$352,000	2	\$446,000	1	\$252,000	0	\$0	\$1,050,000	0	\$0	3	\$669,000	0	\$0	1 BED UNIT	n/a	n/a	\$200	n/a
1	2020	2	\$352,000	2	\$446,000	0	\$0	1	\$598,000	\$1,396,000	0	\$0	2	\$446,000	0	\$0	2 BED UNIT	1	880	\$200	\$176,000
2	2021	2	\$352,000	2	\$446,000	1	\$252,000	0	\$0	\$1,050,000	0	\$0	3	\$669,000	0	\$0	3 BED UNIT	1	1115	\$200	\$223,000
2	2022	2	\$352,000	2	\$446,000	0	\$0	1	\$598,000	\$1,396,000	0	\$0	2	\$446,000	0	\$0	4 BED UNIT	1	1260	\$200	\$252,000
3	2023	2	\$352,000	2	\$446,000	1	\$252,000	0	\$0	\$1,050,000	0	\$0	3	\$669,000	0	\$0	4 BED UNIT	2	1540	\$200	\$308,000
Net Present Value									\$5,942,000						MULTI-UNIT	2	2990	\$200	\$598,000		

1. Funded - costing should be in the range of \$120k to \$180k depending on # of bedrooms (not incl M/U)
2. Purchased - costing should be market price - should be built to allow room for expansion (e.g. garage, car port, deck) with basements

SECTION

5.0

SITE DEVELOPMENT COSTS



**Garden River First Nation
Community Master Plan
Infrastructure Cost Estimate**

Offsite (Syrette Lake Road to East Development Limit)					
Item #	Description	Quantity	Units	Unit Price	Total
1	300 mm Diameter Watermain	500	m	\$ 550.00	\$ 275,000.00
2	300 mm Diameter Water Valve	4	ea.	\$ 5,500.00	\$ 22,000.00
3	Hydrants	2	ea.	\$ 8,000.00	\$ 16,000.00
4	Services	2	ea.	\$ 4,000.00	\$ 8,000.00
5	Roadway	500	m	\$ 645.00	\$ 322,500.00
6	Walkway	510	m	\$ 90.00	\$ 45,900.00
7	Roadway Culverts	30	m	\$ 450.00	\$ 13,500.00
8	Driveway Culverts	25	m	\$ 275.00	\$ 6,875.00
9	Engineering & Contingency	1	L.S.	\$ 150,000.00	\$ 150,000.00
Total					\$ 859,775.00
Phase 1 - 19 Lots + 1 Multi Lot					
Item #	Description	Quantity	Units	Unit Price	Total
1	300 mm Diameter Watermain	300	m	\$ 550.00	\$ 165,000.00
2	300 mm Diameter Water Valve	4	ea.	\$ 5,500.00	\$ 22,000.00
3	150 mm Diameter Watermain	840	m	\$ 380.00	\$ 319,200.00
4	150 mm Diameter Water Valve	4	ea.	\$ 3,500.00	\$ 14,000.00
5	Hydrants	5	ea.	\$ 8,000.00	\$ 40,000.00
6	Services (Single)	19	ea.	\$ 2,500.00	\$ 47,500.00
7	Services (Multi)	1	ea.	\$ 4,000.00	\$ 4,000.00
8	Roadway	1150	m	\$ 645.00	\$ 741,750.00
9	Walkway	300	m	\$ 90.00	\$ 27,000.00
10	Roadway Culverts	70	m	\$ 450.00	\$ 31,500.00
11	Driveway Culverts	275	m	\$ 275.00	\$ 75,625.00
12	Legal Survey	1	L.S.	\$ 20,000.00	\$ 20,000.00
13	Engineering & Contingency	1	L.S.	\$ 300,000.00	\$ 300,000.00
Total Phase 1					\$ 1,807,575.00
Phase 2 - 32 Lots + 1 Multi Lot					
Item #	Description	Quantity	Units	Unit Price	Total
1	300 mm Diameter Watermain	1040	m	\$ 550.00	\$ 572,000.00
2	300 mm Diameter Water Valve	8	ea.	\$ 5,500.00	\$ 44,000.00
3	150 mm Diameter Watermain	875	m	\$ 380.00	\$ 332,500.00
4	150 mm Diameter Water Valve	9	ea.	\$ 3,500.00	\$ 31,500.00
5	Hydrants	7	ea.	\$ 8,000.00	\$ 56,000.00
6	Services (Single)	32	ea.	\$ 2,500.00	\$ 80,000.00
7	Services (Multi)	1	ea.	\$ 4,000.00	\$ 4,000.00
8	Roadway	1920	m	\$ 645.00	\$ 1,238,400.00
9	Walkway	850	m	\$ 90.00	\$ 76,500.00
10	Roadway Culverts	125	m	\$ 450.00	\$ 56,250.00

171-01711

December 18, 2017



IDEA INC. INTEGRATED DESIGN ENGINEERING + ARCHITECTURE

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Ottawa, Ontario, Canada
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SECTION

5.0

SITE DEVELOPMENT COSTS



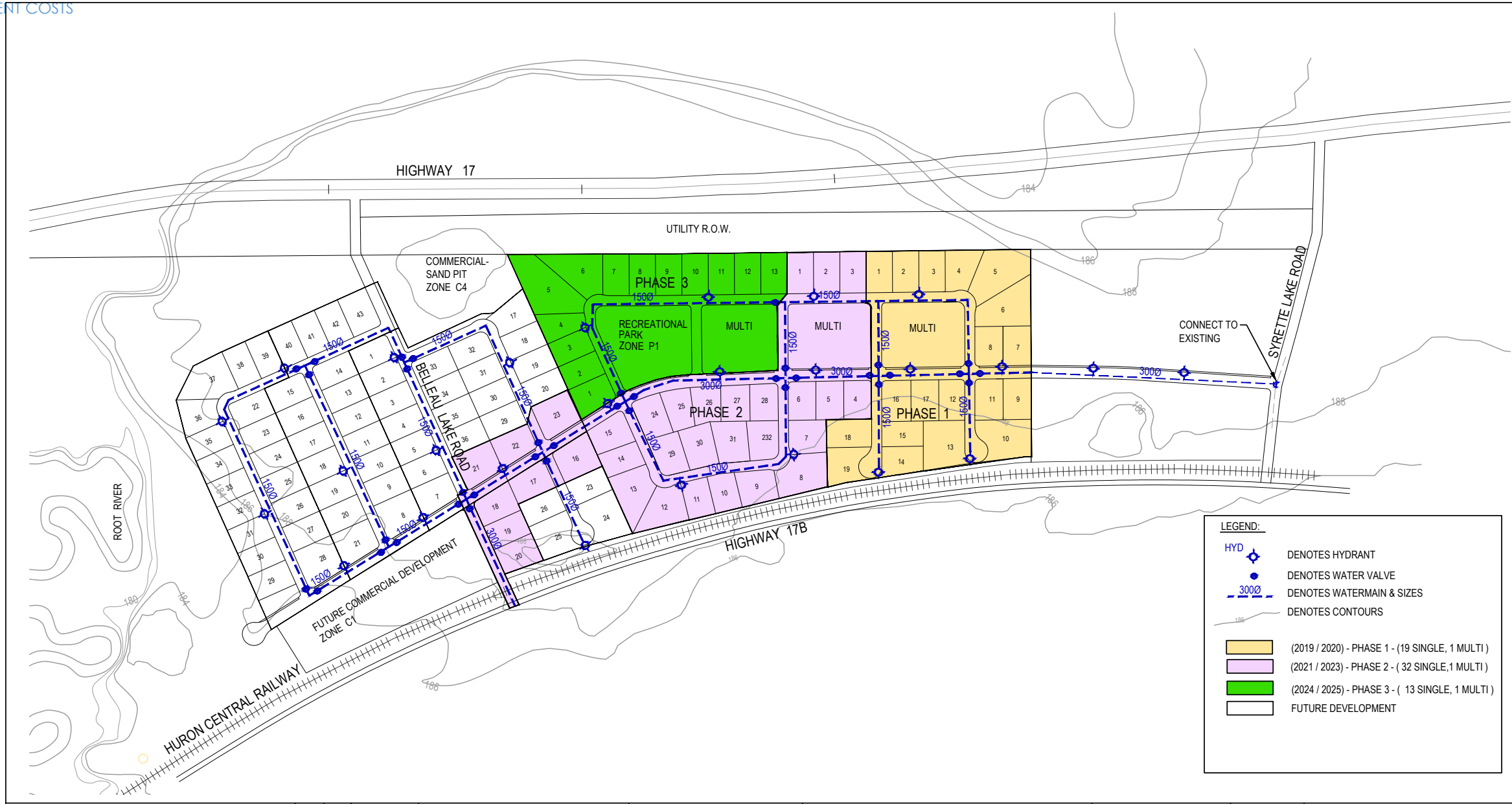
11	Driveway Culverts	432	m	\$ 275.00	\$ 118,800.00
12	Legal Survey	1	L.S.	\$ 30,000.00	\$ 30,000.00
13	Engineering & Contingency	1	L.S.	\$ 500,000.00	\$ 500,000.00
Total Phase 2					\$ 3,139,950.00

Phase 3 - 13 Lots + 1 Multi Lot					
Item #	Description	Quantity	Units	Unit Price	Total
1	150 mm Diameter Watermain	550	m	\$ 380.00	\$ 209,000.00
2	150 mm Diameter Water Valve	1	ea.	\$ 3,500.00	\$ 3,500.00
3	Hydrants	2	ea.	\$ 8,000.00	\$ 16,000.00
4	Services (Single)	13	ea.	\$ 2,500.00	\$ 32,500.00
5	Services (Multi)	1	ea.	\$ 4,000.00	\$ 4,000.00
6	Roadway	550	m	\$ 645.00	\$ 354,750.00
7	Roadway Culverts	42	m	\$ 450.00	\$ 18,900.00
8	Driveway Culverts	200	m	\$ 275.00	\$ 55,000.00
9	Legal Survey	1	L.S.	\$ 15,000.00	\$ 15,000.00
10	Engineering & Contingency	1	L.S.	\$ 150,000.00	\$ 150,000.00
Total Phase 3					\$ 858,650.00

Total Infrastructure Costs	
Offsite	\$ 859,775.00
Phase 1	\$ 1,807,575.00
Phase 2	\$ 3,139,950.00
Phase 3	\$ 858,650.00
Total	\$ 6,665,950.00

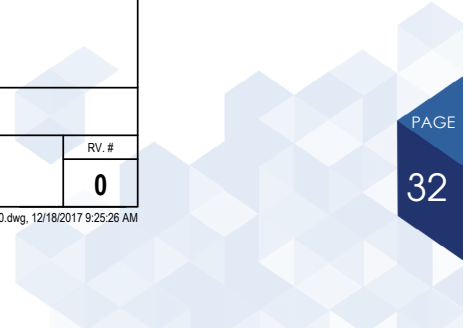


SECTION 5.0 SITE DEVELOPMENT COSTS



<p>185 EAST STREET SAULT STE. MARIE ONTARIO CANADA P6A 3C8 TEL.: 705-942-2070 FAX: 705-942-3532 WWW.WSPGROUP.COM</p>				SEAL:	CLIENT:	PROJECT NO:	DATE / DATE:	TITLE:
					GARDEN RIVER COMMUNITY MASTER PLAN	171-01711-00	NOV.7,2017	--
					CLIENT REF. #:	DESIGNED BY:		
					--	M.LUCAS		
					PROJECT:	DRAWN BY:		DISCIPLINE:
					PROPOSED RESIDENTIAL DEVELOPMENT PHASING	R.COPPENS		CIVIL
						CHECKED BY:		ISSUE:
						D.SPACEK		FINAL REPORT
						DRAWING NO:	SCALE:	DATE OF: DEC.18,2017
						C1.0	1:7,500	RV.#
								0

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SECTION 6

NEXT STEPS

IDEA

INTEGRATED DESIGN
ENGINEERING + ARCHITECTURE

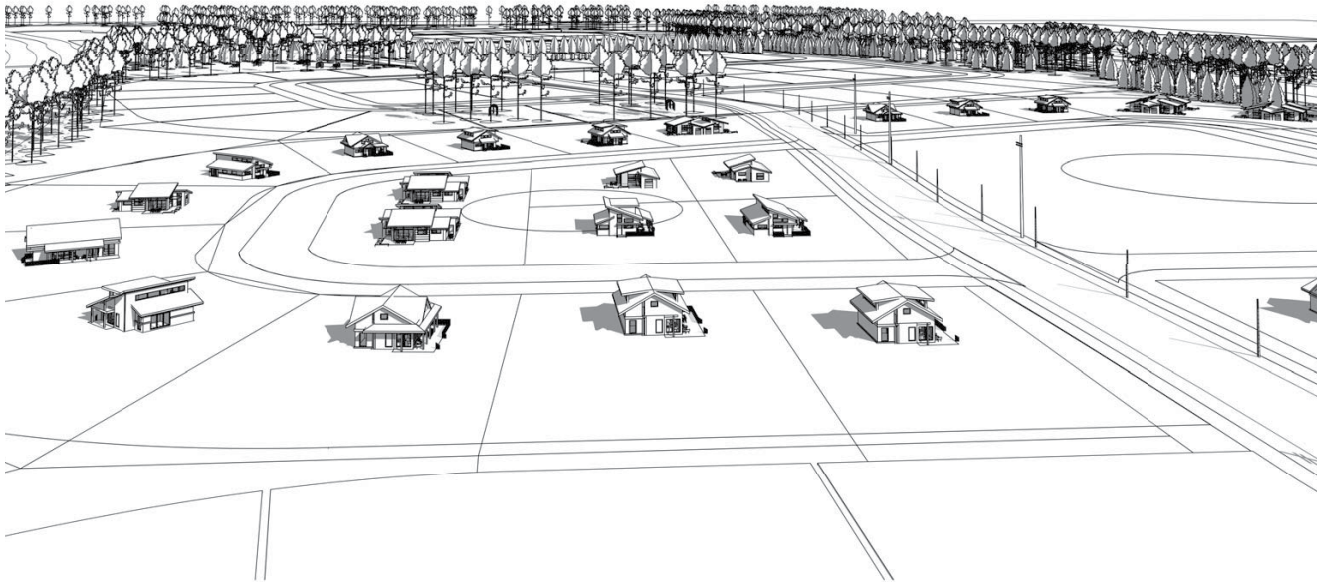
SECTION

6.0

NEXT STEPS: MOVING FORWARD

6.1.1 NEXT STEPS

The next steps will be to secure and commit to project funding for the first phase of implementation. Following this Project Scoping Report, and upon approval to proceed, the project should move into a formal design process that comprises of preparing design and construction documentation for site development, civil infrastructure, architectural, mechanical and electrical design. Throughout these design stages, the proposed design will be carefully reviewed with Garden River First Nation, as well as relevant stakeholders for input in order to better inform the scope of the project in question.



Appendix B - Capital Budget

Garden River First Nation - 10 Year Housing Plan
Capital Budget/Program - Scenario 1 - \$150 per square foot housing construction costs (2018 \$'s)*
Based on Management Estimates

(Unaudited - see Notice to Reader and Significant Assumptions and Accounting Policies)

For the year ended March 31,	Notes	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Lots/Units</i>	1, 2			19	5/0/3	4/1/2	31	5/0/3	4/1/2	5/0/3	13	
Capital Investment												
Offsite - Infrastructure	3	?	\$ 859,775									
Phase 1 - Infrastructure+Power				2,002,075								
Phase 1&2 - Housing					1,386,000	1,618,500						
Phase 1&2 - Housing Purchased					501,750	334,500						
Phase 2 - Infrastructure+Power							3,503,700					
Phase 3&4 - Housing								1,386,000	1,618,500			
Phase 3&4 - Housing Purchased								167,250	334,500			
Phase 3 - Infrastructure+Power	4										982,400	
Phase 3&4 - Housing										1,386,000		
Phase 3&4 - Housing Purchased										501,750		
		?	859,775	2,002,075	1,887,750	1,953,000	3,503,700	1,553,250	1,953,000	1,887,750	982,400	-
Funding/Financing - Confirmed												
Canada/CMHC					900,000	1,282,000		900,000	1,282,000	900,000		
Purchased					501,750	334,500		167,250	334,500	501,750		
Bank												
Funding/Financing - Opportunities												
Public Works												
GRFN												
Other (e.g. INAC)												
		?	-	-	1,401,750	1,616,500	-	1,067,250	1,616,500	1,401,750	-	-
Infrastructure Funding Gap/Surplus/(deficit)		?	859,775	2,002,075			3,503,700				982,400	
Housing Funding Gap/Surplus/(deficit)					486,000	336,500		486,000	336,500	486,000		

Rent @\$150 sq ft construction costs	5
2 bedroom	\$ 559
3 bedroom	\$ 709
4 bedroom	\$ 801
M/U (4 unit average)	\$ 447

Y/E	Financed								Purchased						
	# of Bedrooms								# of Bedrooms						
	2	\$	3	\$	4	\$	M/U (4 plex)	\$	Total \$	1	2	3	\$	4	Total \$
2018-2019	I/S														
2021	2	264000	2	334500	1	189000			1386000			3	167250	501750	
2022	2	264000	2	334500			1	421500	1618500			2	167250	334500	
2023	I/S														
2024	2	264000	2	334500	1	189000			1386000			1	167250	167250	
2025	2	264000	2	334500			1	421500	1618500			2	167250	334500	
2026	2	264000	2	334500	1	189000			1386000			3	167250	501750	

Notes

- 1 Infrastructure # - lots to be developed
 - 2 Housing # - single family/multi-unit/purchased - see Note 5 below for build out schedule
 - 3 Water system distribution analysis to be completed prior. The purpose of the study would be to provide guidance to the community on recommended distribution system upgrades in order to accommodate future growth.
 - 4 If necessary
- *2018 \$'s - inflation not factored as construction cost inflation can vary greatly from CPI - GRFN to revisit during budget process each year

Garden River First Nation - 10 Year Housing Plan
Capital Budget/Program - Scenario 2 - \$200 per square foot housing construction costs (2018 \$'s)*
Based on Management Estimates

(Unaudited - see Notice to Reader and Significant Assumptions and Accounting Policies)

For the year ended March 31,	Notes	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<i>Lots/Units</i>	1,2			19	5/0/3	4/1/2	31	5/0/3	4/1/2	5/0/3	13	
Capital Investment												
Offsite - Infrastructure	3	?	\$ 859,775									
Phase 1 - Infrastructure+Power				2,002,075								
Phase 1&2 - Housing					1,848,000	2,158,000						
Phase 1&2 - Housing Purchased					669,000	446,000						
Phase 2 - Infrastructure+Power							3,503,700					
Phase 3&4 - Housing								1,848,000	2,158,000			
Phase 3&4 - Housing Purchased								223,000	446,000			
Phase 3 - Infrastructure+Power	4										982,400	
Phase 3&4 - Housing										1,848,000		
Phase 3&4 - Housing Purchased										669,000		
		?	859,775	2,002,075	2,517,000	2,604,000	3,503,700	2,071,000	2,604,000	2,517,000	982,400	-
Funding/Financing - Confirmed												
Canada/CMHC					900,000	1,462,000		900,000	1,462,000	900,000		
Purchased					669,000	446,000		223,000	446,000	669,000		
Bank												
Funding/Financing - Opportunities												
Public Works												
GRFN												
Other (e.g. INAC)												
		-	-	-	1,569,000	1,908,000	-	1,123,000	1,908,000	1,569,000	-	-
Infrastructure Funding Gap/Surplus/(deficit)		?	859,775	2,002,075			3,503,700				982,400	
Housing Funding Gap/Surplus/(deficit)					948,000	696,000		948,000	696,000	948,000		

Rent @\$200 sq ft construction costs	5
2 bedroom	\$ 746
3 bedroom	\$ 945
4 bedroom	\$ 1,068
M/U (4 unit average)	\$ 596

Y/E	Financed						Purchased								
	# of Bedrooms						# of Bedrooms								
	2	\$	3	\$	4	\$	M/U (4 plex)	\$	Total \$	1	2	3	\$	4	Total \$
2018-2019	I/S														
2021	2	352000	2	446000	1	252000			1848000			3	223000		669000
2022	2	352000	2	446000			1	562000	2158000			2	223000		446000
2023	I/S														
2024	2	352000	2	446000	1	252000			1848000			1	223000		223000
2025	2	352000	2	446000			1	562000	2158000			2	223000		446000
2026	2	352000	2	446000	1	252000			1848000			3	223000		669000

Notes

- 1 Infrastructure # - lots to be developed
- 2 Housing # - single family/multi-unit/purchased - see Note 5 below for build out schedule
- 3 Water system distribution analysis to be completed prior. The purpose of the study would be to provide guidance to the community on recommended distribution system upgrades in order to accommodate future growth.
- 4 If necessary
 - *2018 \$'s - inflation not factored as construction cost inflation can vary greatly from CPI - GRFN to revisit during budget process each year