

Ignace Area Community Studies: Economics and Finance

Housing Study

July 12, 2022

H A R D Y
S T E V E N S O N
A N D A S S O C I A T E S



Ignace Area Community Studies: Economics and Finance Housing Study

July 2022



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List of Acronyms:

APM	Adaptive Phased Management
CATB	Construction Association of Thunder Bay
CMHC	Canada Mortgage and Housing Corporation
EMSI	Name of data analytics company
FedNor	Federal Economic Development Agency for Northern Ontario
FIR	Financial Information Return
FTE	Full Time Equivalent
HSAL	Hardy Stevenson and Associates Limited
IABA	Ignace and Area Business Association
ICNLC	Ignace Community Nuclear Liaison Committee
KDMA	Kenora District Municipal Association
KDSB	Kenora District Services Board
MLS	Multiple Listing Service
NCIR	Northern Communities Readiness Initiative
NTAB	Northwestern Training and Adjustment Board
NW	North West
NWMO	Nuclear Waste Management Organization
PACE	Patricia Area Community Endeavours
PWG	Partnership Working Group
WLON	Wabigoon Lake Ojibway Nation

1. Introduction

1.1 Background and Context

Since 2010, the Township of Ignace (the Township or Ignace) has been involved in a process of learning about the Nuclear Waste Management Organization's (NWMO) Adaptive Phased Management (APM) Project (the Project) for the long-term management of Canada's used nuclear fuel. The two remaining siting areas in the process are the Ignace Area and the South Bruce Area. The NWMO plans to complete all preliminary assessment work and to select one siting area to host the APM Project by 2023. Preliminary studies suggest that the Project can be implemented safely in the Ignace area for a repository that will contain and isolate used nuclear fuel from people and the environment for the long timeframes required.

Studies have been ongoing since 2010; however, further studies are required to fully assess the potential socio-economic impacts of the APM Project. Building on previous work and engagement completed to date, the NWMO and the Township of Ignace are working together to prepare a suite of community studies that will be shared. The list of socio-economic community studies is included in **Appendix A**. The information acquired through these studies is expected to help the Township of Ignace leadership and residents make informed decisions about whether the Project is a good fit for their community, and if they are willing to consider hosting it and under what circumstances and terms.

Community studies will ultimately inform the Project hosting agreement between the NWMO and the Township of Ignace. As well, they will provide pertinent information for agreements with the City of Dryden and potentially other regional agreements.

Note to Reader

This and other community studies are preliminary and strategic in nature, all intended to identify possible consequences (e.g., to vulnerable populations, to local business opportunities and for local and regional job creation) in the Township of Ignace, and other local and regional communities. Using information about the APM Project known at this point in time, these community studies will describe a range of possible consequences that are the subject of specific and separate studies. For each possible consequence, potential options and strategies will be offered to leverage opportunities and/or mitigate possible negative consequences/effects.

It is important to note that these community studies (developed collaboratively by NWMO and the Township of Ignace) being investigated at this time are not the formal or final baseline or effects studies that will be part of the Impact Assessment as conducted under the regulatory process for the APM Project governed by the Impact Assessment Agreement of Canada. Effects assessment will be undertaken at a later date following the conclusion of the siting process, and the initiation of the formal regulatory process.

Community studies will ultimately inform the APM Project hosting agreement between the NWMO and the Township as Ignace. As well, they will provide pertinent information for agreements with the City of Dryden and potentially other regional agreements. The study will:

- a) Explore in more detail the questions, aspirations and topics of interest expressed by the community through the Township of Ignace project visioning process;
- b) Assist the NWMO and the Township of Ignace in developing and identifying possible programs and commitments that ensure the Project will be implemented in a manner that fosters the well-being of the Township of Ignace and communities in the Ignace Area and the region;
- c) Advance learning and understanding on topics of interest to communities in the Ignace Area and the region; and
- d) Provide the community with information it has requested to help them make an informed decision in the case of the Township of Ignace and continue to inform dialogue with communities in the Ignace Area and region prior to the conclusion of the site selection process in 2023.

The NWMO is committed to working collaboratively to ensure questions, concerns, and aspirations are captured and addressed through continuous engagement and dialogue.

The NWMO will independently engage with Wabigoon Lake Ojibway Nation and other Indigenous communities to understand how they wish to evaluate the potential negative effects and benefits that the Project may bring to their communities.

1.1.1 Land Acknowledgement

It is acknowledged that the lands and communities discussed in this report are primarily situated on the traditional territory of the Anishinaabe people of Treaty 3, and the Métis Nation.

1.2 Scope and Purpose

Should Ignace advance as the community that will host the APM facility, an immediate question will be, where will NWMO employees live? Could they obtain accommodation in Ignace and Local Study Area? Would new housing be required? When? What type of housing? How many housing units would be required? Who would build the homes? What are the implications for housing the current residents of Ignace, particularly for those who are vulnerable?

The Housing Study is one of the community studies focused on the municipalities. Its objective is to evaluate supply and demand for housing, as well as the potential for housing development in Ignace and the Local Study Area. This study characterizes and describes how the Project will impact the housing supply and demand of the Local Study Area, as well as describe options to enhance benefits of the Project and mitigate potential negative impacts on housing.

The specific objectives of this study are to identify:

- Housing that is available in proximity of the Project.
- Serviced and serviceable residential lands in proximity of the Project.
- Potential for expansion of serviced or serviceable lands to enable accommodation of the Project workforce within Ignace.
- Strategies that could be implemented during the Project to influence worker choice to seek accommodation in Ignace.

Ignace's Project Vision (2020)¹ states that the APM Project must foster well-being in areas that are important to the community. Priorities in relation to the Housing Study identified by the community include:

- Enhancement of existing facilities and the development of new infrastructure is important in attracting new residents to the community and retaining current residents.
- This includes consideration of housing, transportation infrastructure, community aesthetics, and recreation facilities.
- Expanding real estate development including upgrading existing housing stock to support managed population growth.

1.3 Spatial Boundaries

The spatial boundary used to frame this study is the Local Study Area.

The Local Study Area is set out in **Figure 1**. It focuses on the communities surrounding the Township of Ignace as well as Ignace itself. The communities within the Local Study Area are all within approximately a one-hour drive of the Project site and persons residing in this area could commute to the Project site on a daily basis. The Local Study Area is comprised of Township of Ignace, City of Dryden, Municipality of

¹ InterGroup Consultants Ltd. (2020). Ignace Project Visioning Community Conversations.

Machin, Municipality of Sioux Lookout, Melgund Local Services Board, and Wabigoon Local Services Board.

Figure 1 Local Study Area



Table 1 outlines the Local Study Area (as defined in the Work Plan and this Housing Study Report) and associated available GeoWarehouse data. Due to data shortages for the Melgund and Wabigoon Local Services Boards, these areas were not included in the Housing Study Report. The areas for GeoWarehouse data have been mapped out manually and therefore may include or exclude some home sales (GeoWarehouse is defined in **Section 2.2**).

Table 1 Local Study Area Data Mapping

Local Study Area (Work Plan)	Local Study Area (Report)	Statistics Canada Census Division/Subdivision	Housing Data	Notes
Ignace	Ignace	Census Subdivision	GeoWarehouse polygon	
Dryden	Dryden	Census Subdivision	GeoWarehouse polygon	
Machin	Machin	Census Subdivision	GeoWarehouse polygon	
Sioux Lookout	Sioux Lookout	Census Subdivision	GeoWarehouse polygon	
Melgund Local Services Board	Melgund Local Services Board		GeoWarehouse polygon	Only Geowarehouse data available
Wabigoon Local Services Board	Wabigoon Local Services Board		GeoWarehouse polygon	Only Geowarehouse data available

1.4 Temporal Boundaries

Three temporal boundaries define the critical horizons of the Project for this study.

- a. Pre-Construction – 2028 to 2032
- b. Construction – 2033 to 2042
- c. Operations – 2043 to 2088

The demand for APM housing will change over time. During the early pre-construction days, the demand for temporary and rental housing will be strong. There will need to be time to construct both rental and permanent owned housing. Employees will need a place to stay while this housing is being built. Developers and contractors will need to come to Ignace early to build the homes. Hotel and motel accommodation will also be required and a construction camp at the Revell site will need to be started.

During the beginning of the construction phase, the Centre of Expertise will be complete and workers will come from across Northern Ontario and places further afield to construct the APM facility. There will be housing associated with the Centre of Expertise and new single-family homes, townhouse units and multi-family housing (both owned and rental) will characterize Ignace’s housing stock. There may

be a private sector interest to build a new hotel type of accommodation. A construction camp will be constructed for construction workers.

In the operations phase, there will be significantly more owned and rental housing in Ignace to accommodate growing numbers of permanent workers and their families. The existing Ignace housing stock – pre-APM decision - is old and in need of renovation. New housing will continue to be constructed over the course of the Project. Workers may also be located within the Local Study area communities. A campus around the Centre of Expertise will also accommodate workers.

Pre-construction will be closely associated with permitting and licensing activities and will involve both on-site and off-site initiatives. An office and Centre of Expertise will be made operational in Ignace by 2028. Site preparation and other Pre-Construction activities will end with the commencement of construction activities.

The Construction phase of the Project will begin in 2033 once permits and licenses have been obtained. This phase will extend for 10 years. Following the completion of construction, site operations will commence in 2043 and will continue through to monitoring.

The quantity, type and timing of labour required for these Project phases will influence the demand for housing. These are described in **Table 2**.

Table 2 Project Labour Requirements by Phase and Labour Type ²

		NWMO Staff	Surface Trades	Underground Trades	Total
On-site	Pre-construction (2028)	20	-	-	20
	Construction (2033)	40	300	130	470
	Operations (2043)	510	10	60	580
Off-site	Pre-construction (2028)	180	-	-	180
	Construction (2033)	170	-	-	170
	Operations (2043)	120	-	-	120
Total	Pre-construction (2028)	200	-	-	200
	Construction (2033)	210	300	130	640
	Operations (2043)	630	10	60	700

While the type and quantity of labour is depicted in **Table 2**, residency scenarios are in **Table 14** and **Table 15**.

² Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

2. Methodology

2.1 General Approach

The general approach for completing the Housing Study can be summarized in the following series of steps:

- a. Review a variety of data sources to assemble housing statistics for the study area.
- b. Study the NWMO project parameter data to determine the Project accommodation requirements across the three Project phases.
- c. Conduct interviews with knowledge holders to understand area housing capacities, trends and issues.
- d. Review available growth strategies for communities within the Local Study Area to gain insight into future population and housing forecasts.
- e. Review baseline housing conditions and Project housing projections to determine the impact of the Project on housing needs.

2.2 Data Collection Information Sources

Data was collected from the following sources:

- Statistics Canada data were used to assemble housing statistics from 2001 to 2016³.
- Manifold Data Mining Inc. (hereafter referred to as Manifold) data were used to construct housing profiles current to 2020 for the Local Study Area. Manifold retrieves their data from Statistics Canada and Numeris⁴.
- Data on the local area housing market were compiled from the Thunder Bay Real Estate Board, GeoWarehouse and Manifold⁵. GeoWarehouse is a centralized property information source that provides detailed reports on property parameters, neighbourhood sales, and demographic reports.
- Growth strategies and Official Plans were consulted to determine housing projections for the Local Study Area communities.
- A variety of published documents from municipal economic development departments, planning departments and housing agencies and area developers were used to understand the workings of the area housing markets (see **Appendix B** for a list of relevant planning documents)⁶.

³ Statistics Canada. (2016). Retrieved online June 6, 2022, from Statistics Canada: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>

⁴ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

⁵ GeoWarehouse. (2022). Property Report. Retrieved February 8, 2022 from <https://www2.geowarehouse.ca/>

⁶ Township of Ignace. (2020). Township of Ignace Official Plan Schedule B, City of Dryden. (2012). Official Plan Schedule A, Municipality of Sioux Lookout. (2018). Municipality of Sioux Lookout Zoning Bylaw.

2.2.1 Knowledge Holder Interviews

Interviews were conducted with economic development organizations, housing contractors, area employers, planning officials, municipal administrators, the regional construction association and local developers to gain insight into housing characteristics and issues in the Local Study Area. The inventory of knowledge holders interviewed is set out in **Appendix C**. The rationale for who was interviewed was in large part based on the authors' professional experience and knowledge of the types of agencies and personnel most likely able to provide insight into the housing characteristics of the Local Study Area.

2.2.2 Ignace and Area Working Group

To support the baseline and community studies work, comments were obtained from the Ignace and Area Working Group (IAWG). The IAWG is made up of the Township of Ignace staff and leaders and a diverse range of staff from municipalities, service providers, businesses, civil society, and other interests - both local and regional. Consultants prepared feedback reports noting the IAWG's input on the housing study baseline and options.

The collection of community knowledge was supported through the IAWG throughout the community studies to ensure local perspectives were considered.

2.3 Assessment

To anticipate housing requirements many factors are in play. Questions to be answered include: can the existing housing supply in Ignace and other communities in the Local Study area accommodate workers? Are there contractors who can build the housing and at what price? What will be the demand for housing from families, who are not associated with the APM?

Accordingly, the framework for this analysis is grounded in housing demand and supply. These two factors interact to determine changes in housing over the time periods. Reviewing both factors together help describe a community's ability to house local residents and workers. The following provides more details on our analysis framework:

1. Housing supply includes factors such as available housing stock, the extent to which land can be used for future housing stock, and the costs of construction.
2. The current and projected housing supply in the Local Study Area was derived from statistical data, documents and insights garnered through interviews.
3. Housing demand is driven by local population growth, economic growth (both with and without the APM Project), prices, household size and wealth, community amenities and other factors.
4. The demand for housing was derived from Project labour force requirements set out by NWMO for each phase of the Project, Project residency assumptions and workforce residency targets developed by the Township of Ignace.

5. Superimposing the Project housing requirements on the housing supply profiles provided the basis for assessing area capabilities to accommodate Project housing requirements.

2.4 Linkages to Other Studies

This study is closely linked with the following Community Studies currently underway:

Study Name	Objective
Community and Culture Study	To develop scenarios and ideas about how the community and its culture might be impacted by the implementation of the APM Project.
Economic Development Study	To determine pre-construction economic development opportunities and extrapolate these opportunities to the construction and operations phases.
Health, Recreation and Social Programs Study	To determine population dynamics, strategies to attract and retain working residents, considerations to protect vulnerable sub-groups, and enhancements required for social services and health care.
Ignace Municipal Finance Study	To determine the likely potential local tax revenue implications and potential increased municipal costs associated with the APM Project.
Infrastructure Study	To collect information related to existing water, sewer, roads, community recreation, social service facilities, capacity, demand, and needs.

This study should be read in conjunction with these other studies to fully appreciate and understand the housing market in the Local Study Area. The findings in this Study will provide insight into the local housing supply and demand markets during the Pre-Construction, Construction and Operations phases of the Project.

3. Existing Conditions

Looking at existing housing conditions is an appropriate starting point. What housing is currently available? What is the condition of the housing, because housing in poor condition will be less satisfactory? How many homes are available for purchase and rental? What housing might be available on a seasonal basis? Are local municipalities prepared to accept new growth in terms of having serviced land available?

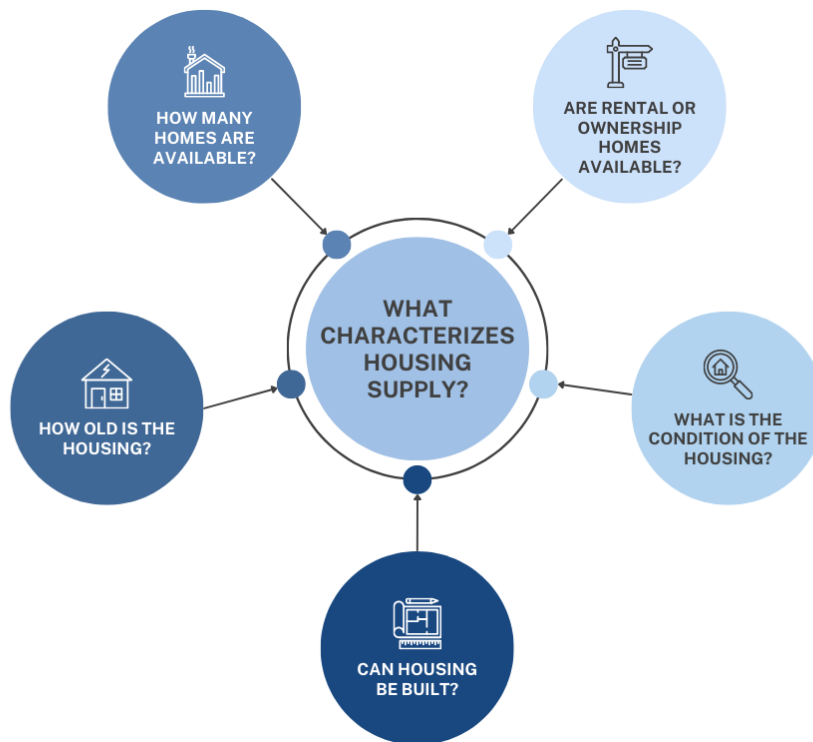
This section summarizes existing housing conditions for the Local Study Area where data and information from the key informant interviews are available. When possible, future projections (in the absence of the APM Project) are also included.

The existing conditions are presented according to the assessment framework of supply and demand. An overall assessment of the key challenges and issues concludes this section.

3.1 Housing Supply

There are not enough homes in Ignace to accommodate NWMO APM workers. Throughout the Local Study Area all the major employers interviewed stated that the lack of housing is a challenge for attracting workers in Northwestern Ontario. Homes are aging and compared to housing across the Province, a higher percentage of homes need repair. Rental housing is limited, particularly in Ignace where most of the homes are single family homes. Some homes are unoccupied as their homeowners may have a second home elsewhere or have a seasonal use for the home. A high percent of residents in the Local Study Area are paying more than they can afford for housing. NWMO and the Township of Ignace will need to pay attention to whether new housing will exacerbate affordability for existing residents. Additional high-end rental properties may result in less accessible housing options for vulnerable people. Dryden and Sioux Lookout have more housing than Ignace although both communities have similar affordability challenges. On a positive note, most municipalities in the Local Study Area have lands available for new housing.

Figure 2 Housing Supply



In 2016 there were a total of 7,110 dwellings, occupied and unoccupied in the Local Study Area. In 2020, there are 6,710 occupied housing units across the Local Study Area, with most of them (70 percent) being owner occupied and the remainder (30 percent) are tenant occupied. The rental units are largely concentrated in Dryden and Sioux Lookout (92 percent), while Ignace accounts for a small proportion (4 percent) of these accommodations.

There are a small number of housing units in Ignace being used for short-term rentals and seasonal housing. These homes could potentially provide short term accommodation for NWMO workers. At the moment, long term rentals are relatively scarce in Ignace, while greater inventories are available in Dryden and Sioux Lookout.

The housing stock in Ignace was mostly constructed during 1961 to 2000, and is predominately composed of single, detached homes. The largest concentration of housing built post 2000 is in Sioux Lookout. Together, Dryden and Sioux Lookout have the largest number and proportion of housing options that are not single detached homes (i.e., the most semis, duplexes, row, apartment, movable, and other dwellings are in these two Municipalities).

A higher proportion of housing stock in the Local Study Area was found to require major repairs (10 percent), compared to the Provincial average (six percent). Many of these homes are located in Dryden

and Sioux Lookout, though proportionally, more of the homes in Machin will require major repairs. Most of the housing in the Local Study Area is deemed suitable for the households residing there.

According to CHMC, affordable housing is defined by the ability to pay and the presence of lower priced housing⁷. In terms of subsidized housing, the highest proportion (total and relative) of subsidized housing is in Dryden and Sioux Lookout. Many households in Ignace (51 percent), Dryden (51 percent), and Machin (49 percent) spend more than 30 percent of their household income on housing (rents or mortgage payments), while only 33 percent of households in Sioux Lookout spend this much.

Among the Local Study Area communities, the largest compliment of new housing is in Sioux Lookout, and the vast majority of the housing and rental housing stock in general is in Dryden and Sioux Lookout. Ignace, in particular, is dominated by owner occupied single dwellings built between 1961 and 2000, with little stock used for long term rentals.

There is potential for new housing to be built on existing municipal lands in the Local Study Area communities, according to key stakeholder interviews and review of their Official Plans. Potential for new construction in Ignace and the Local Study Area is set out in **Section 3.1.5**. The one exception is Machin, which is facing financial constraints and regulations and permitting issues associated with Crown Land. Expansion and growth in Machin will be restrained by requirements for hard and soft infrastructure. The former includes water, sewage, and roads, and the latter includes social infrastructure including health, education, and other services.

Through key stakeholder interviews, developers stated they are wary of investing in new speculative housing (particularly affordable housing) projects in the Local Study Area communities due high risk and high costs, and low profit margins.

Notwithstanding the above the Local Study Area communities have the potential to grow their housing stock and increase the diversity of housing types offered, should permits, partnerships with developers, and hard and soft infrastructure be built and developed.

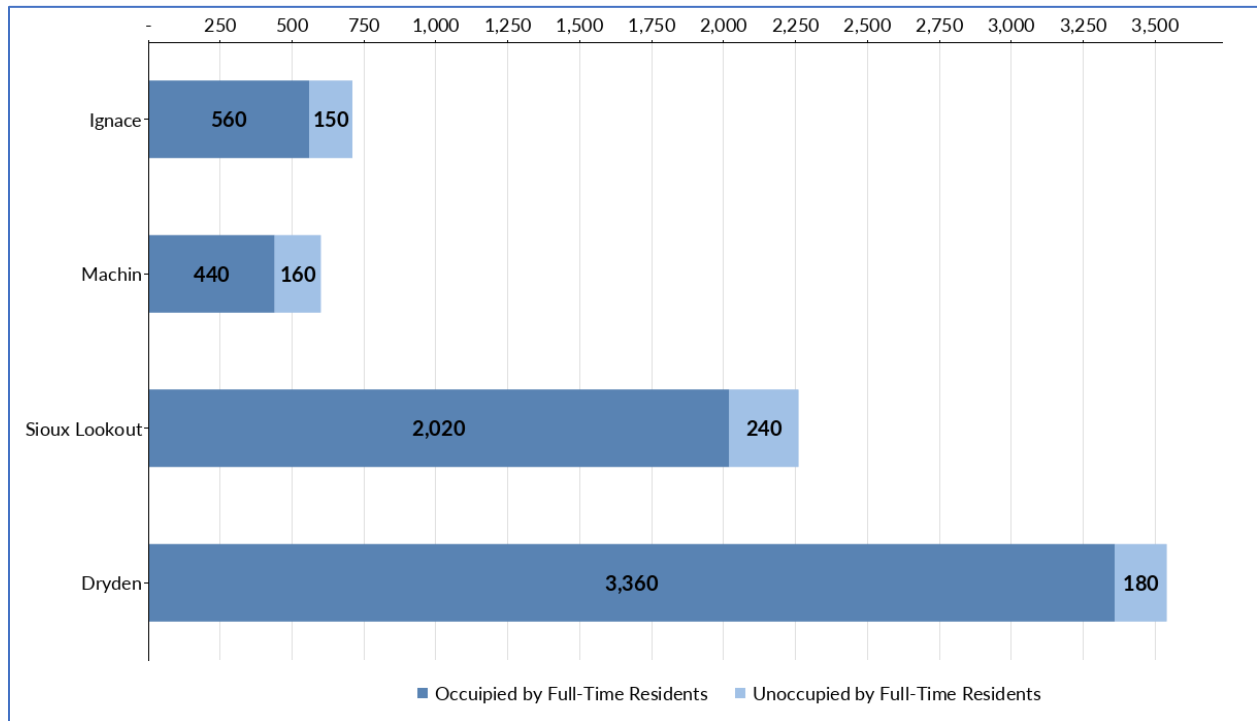
3.1.1 Housing Stock and Rental Supply

Of the 7,110 homes in the Local Study Area in 2016, the majority of these dwellings are concentrated within Sioux Lookout and Dryden (82 percent). The majority of these dwellings are occupied by permanent residents (90 percent). The 10 percent of dwellings unoccupied by usual residents include all-season recreational properties and short-term rentals.

Figure 3 presents the total number of private dwellings, both occupied and unoccupied, within the Local Study Area in 2016.

⁷ CMHC. (2022). About Affordable housing in Canada. Retrieved online June 22, 2022 from <https://www.cmhc-schl.gc.ca/en/professionals/industry-innovation-and-leadership/industry-expertise/affordable-housing/about-affordable-housing/affordable-housing-in-canada> "In Canada, housing is considered "affordable" if it costs less than 30% of a household's before-tax income. Many people think the term "affordable housing" refers only to rental housing that is subsidized by the government. In reality, it's a very broad term that can include housing provided by the private, public and non-profit sectors. It also includes all forms of housing tenure: rental, ownership and co-operative ownership, as well as temporary and permanent housing."

Figure 3 Local Study Area Private Dwellings Occupied and Unoccupied by Full-Time Residents (2016)⁸



A relatively high percentage of the housing stock in Ignace (21 percent) and Machin (27 percent) are not occupied by full-time residents. This suggests a relatively high concentration of short-term rentals and all-season recreational properties. High concentrations of private dwellings unoccupied by full time residents is characteristic of communities that are known for cottages and short-term rentals. Using an example of another seasonal community, in 2016, 69 percent of private dwellings in the Muskoka Lakes census subdivision were not occupied by full-time residents. **Table 3** presents the breakdown of private dwellings that are occupied by full-time residents and those that are not.

⁸ Statistics Canada. (2016). Retrieved online June 6, 2022, from Statistics Canada: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>

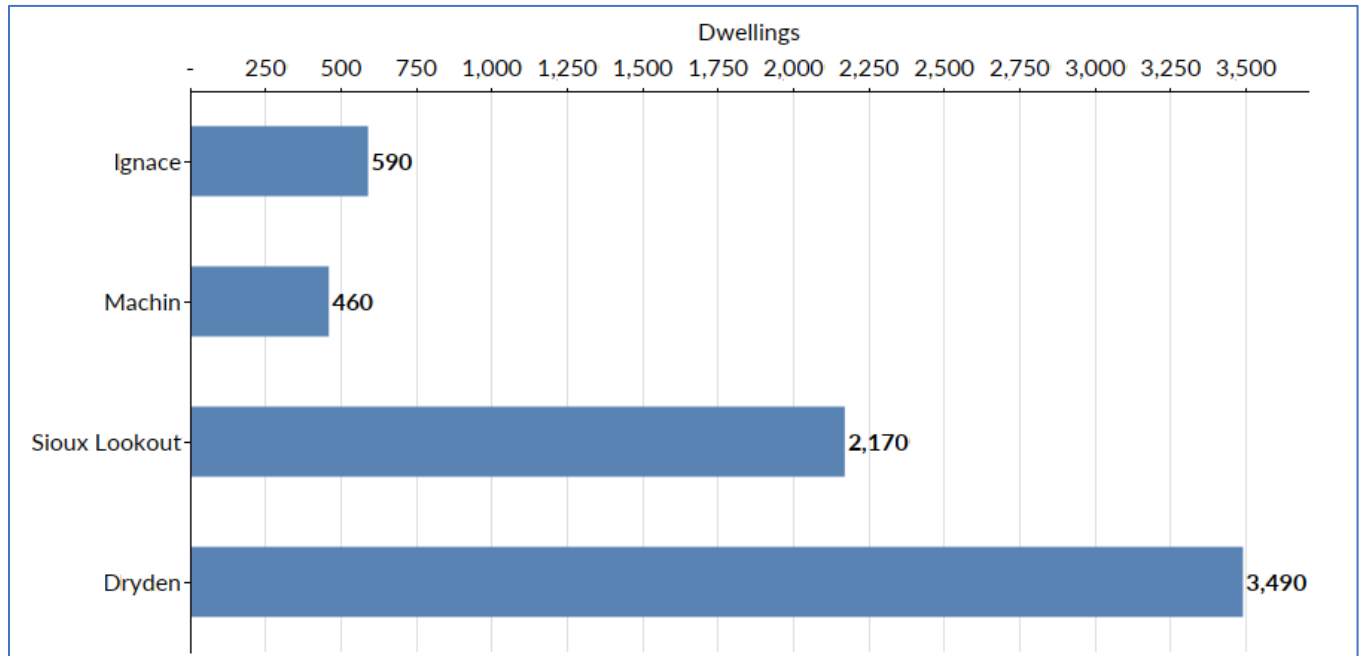
Table 3 Distribution of Private Dwellings Occupied and Unoccupied by Full-Time Residents (2016)⁹

	Total Private Dwellings (Occupied and Unoccupied)	Occupied Private Dwellings by Full-Time Residents	Unoccupied Private Dwellings	% of Private Dwellings not Occupied by Full-Time Residents
Ignace	710	560	150	21%
Machin	600	440	160	27%
Sioux Lookout	2,260	2,020	240	11%
Dryden	3,540	3,360	180	5%
Sum of Local Study Area	7,110	6,380	730	10%

Figure 4 shows the distribution of the 6,710 private dwellings occupied by permanent residents in the Local Study Area in 2020. Dryden accounts for 52 percent of this occupied housing inventory followed by Sioux Lookout (32 percent), Ignace (9 percent), and Machin (7 percent).

⁹ Statistics Canada. (2016). Retrieved online June 6, 2022, from Statistics Canada: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>

Figure 4 Local Study Area Occupied Private Dwellings by Permanent Residents (2020)¹⁰



Of the housing stock occupied by permanent residents’ 70 percent are owner occupied and the remaining 30 percent are tenant occupied. **Figure 5** and **Table 4** show the distribution of owner and tenant occupied private dwellings across the Local Study Area.

¹⁰ Manifold Data Mining Inc., 2022. Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

Figure 5 Local Study Area Owner and Tenant Occupied Housing (2020)¹¹

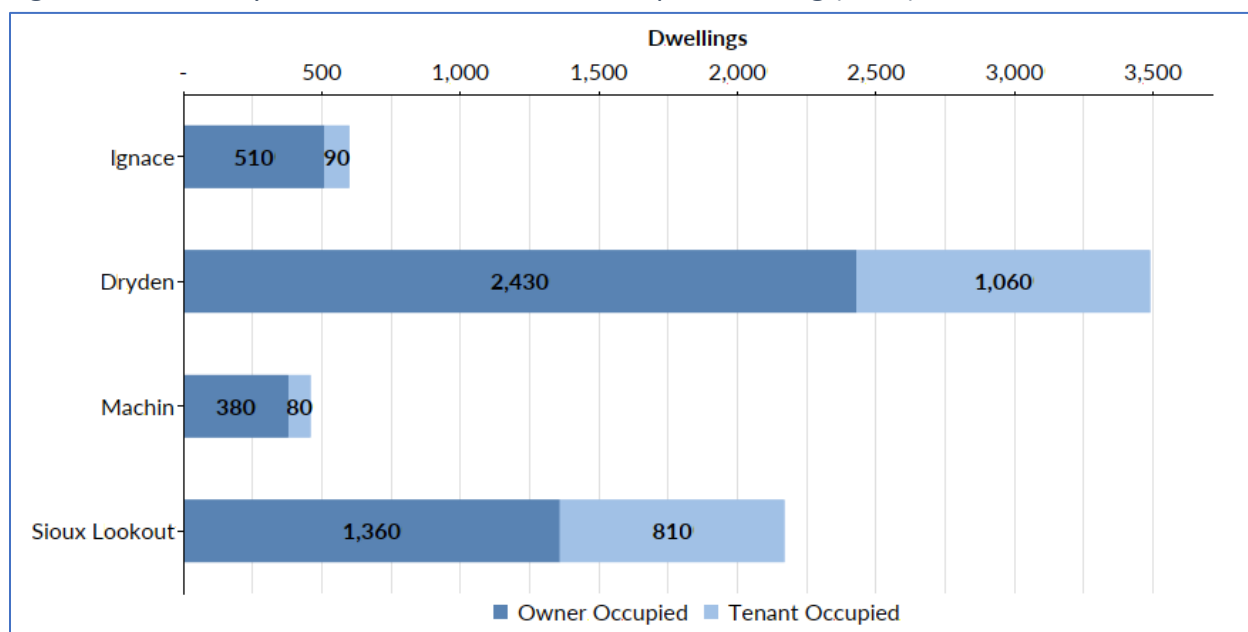


Table 4 Distribution of Owner and Tenant Occupied Private Dwellings (2020)¹²

	Owner Occupied		Tenant Occupied		Total Occupied Dwellings	
	#	%	#	%	#	%
Ignace	510	85%	90	15%	600	100%
Dryden	2,430	70%	1,060	30%	3,490	100%
Machin	380	83%	80	17%	460	100%
Sioux Lookout	1,360	63%	810	37%	2,170	100%
Sum of Local Study Area	4,680	70%	2,040	30%	6,720	100%

Table 5 shows that of the 2040 tenant occupied dwellings in the Local Study Area most are concentrated in Dryden (52 percent, n=1060), followed by Sioux Lookout (40 percent, n=810), Machin (4 percent) and Ignace (4 percent). Municipality of Machin noted in knowledge holder interviews that there are minimal rentals available. Residents often have had to go outside of this community to secure housing¹³. In Ontario, the breakdown is similar as the distribution of owned and rented private dwellings is approximately 70 percent to 30 percent, respectively¹⁴. Ignace and Machin are well below the provincial

¹¹ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

¹² Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

¹³ Municipality of Machin. (2022, January 31). Knowledge Holder Interview. (HSAL, Interviewer)

¹⁴ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

average for rental units. **Table 5** presents the distribution of tenant occupied private dwellings in each of the Local Study Area communities.

Table 5 Rental Units as a Percent of Local Study Area Housing Stock (2020)¹⁵

	Total Tenant Occupied Units	Distribution of Local Study Area Rental Units
Ignace	90	4%
Machin	80	4%
Sioux Lookout	810	40%
Dryden	1,060	52%
Sum of Local Study Area	2,040	100%

3.1.2 Age and Type of Housing Supply

If the housing stock is older and has not had regular maintenance and upgrades, it may not meet the required housing needs of current and future residents. The age distribution of the Local Study Area housing stock is presented in **Table 6**. The oldest concentrations (pre-1960) of housing stock are found in Dryden. The largest concentration of housing stock constructed during the period 1961-2000 is found in Ignace. Most demand for new housing is concentrated in Sioux Lookout with 20 percent of their housing stock being constructed post 2001. Very few homes have been built in Ignace over the past 20 years with only 12 new home builds since 2001.

Table 6 Age Profiles for Housing Stock in Local Study Area Communities (2020)¹⁶

	1960 or Earlier		1961-2000		2001 and Later		Sum of Period	
	#	%	#	%	#	%	#	%
Ignace	38	6%	540	92%	12	2%	590	100%
Dryden	1,016	29%	2,231	64%	245	7%	3,492	100%
Machin	90	20%	325	71%	41	9%	456	100%
Sioux Lookout	501	23%	1,238	57%	431	20%	2,170	100%
Sum of Local Study Area	1,645	25%	4,334	65%	729	11%	6,708	100%

Under ideal circumstances, there would be a range of housing types for both local residents and NWMO workers. In addition, having a range of housing types is important because people experiencing different life cycles and financial circumstances will have varied ability to pay and have different space needs. The structural composition of housing stock in the Local Study Area is presented in **Table 7**. Most

¹⁵ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
¹⁶ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

of the housing stock in the area is made up of single detached homes (75 percent). Apartments account for 12 percent, semis and duplexes account for approximately six percent, and row housing approximately three percent. Apartment counts and proportion of apartments are highest in Dryden.

Table 7 Structure Profiles for Housing Stock in Local Study Area Communities (2020)¹⁷

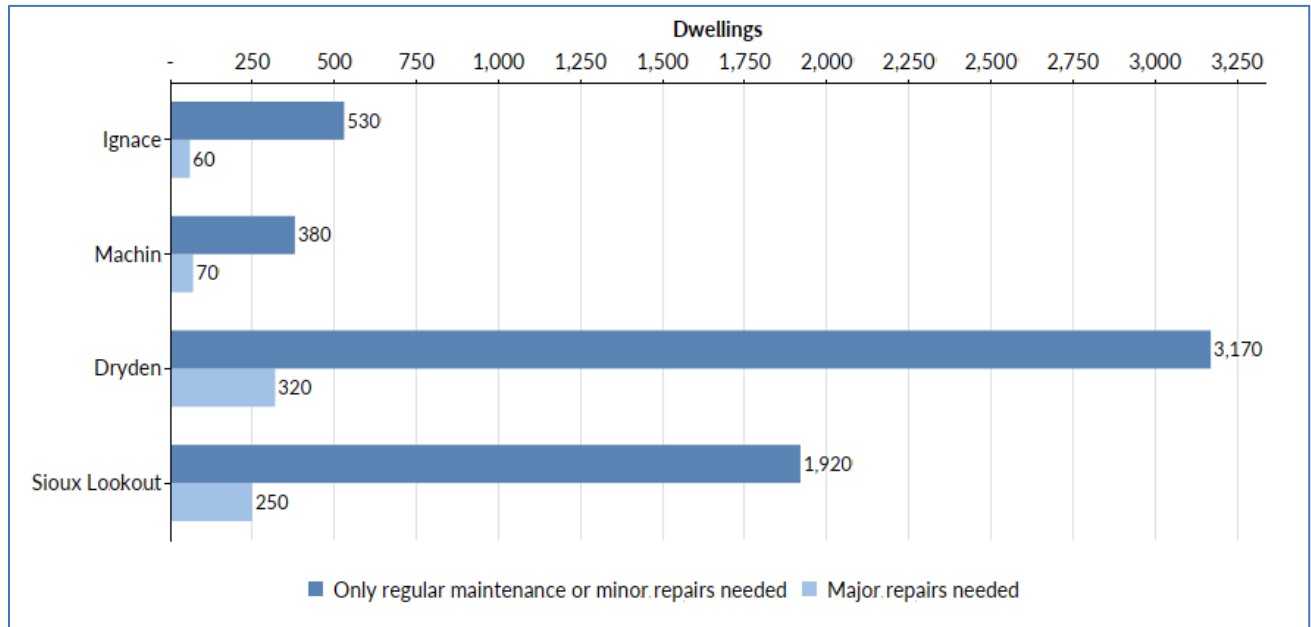
	Ignace		Dryden		Machin		Sioux Lookout		Sum of Local Study Area	
	#	%	#	%	#	%	#	%	#	%
Singles	539	91%	2,570	74%	398	87%	1,548	71%	5,055	75%
Semis and Duplexes	15	3%	175	5%	11	2%	196	9%	397	6%
Row	-	0%	86	2%	-	0%	115	5%	201	3%
Apartments	31	5%	518	15%	16	4%	210	10%	775	12%
Movable	5	1%	124	4%	27	6%	102	5%	258	4%
Other	-	0%	20	1%	5	1%	-	0%	25	0%
Total Units	590	100%	3,493	100%	457	100%	2,171	100%	6,711	100%

3.1.3 Condition of Housing Supply

Although not the cause of a housing shortfall, housing that is not in good repair contributes to the shortfall. **Figure 6** sets out occupied private dwellings by condition for municipalities within the Local Study Area. Amongst the Local Study Area communities, 6,010 (90 percent) of occupied private dwellings only require regular maintenance or minor repairs and 700 (10 percent) private dwellings require major repairs. These proportions are higher in comparison to Ontario, where approximately 6 percent of dwellings require major repairs¹⁸. Within the Local Study Area, Sioux Lookout and Dryden account for the majority of private dwellings requiring major repairs. Regular maintenance and minor repairs refer to dwellings in need of maintenance such as painting, furnace cleaning, missing or loose floor tiles, and defective steps. Major repairs are defined as dwellings with defective plumbing or electrical wiring and dwellings needing structural repairs to walls, floors or ceilings¹⁹.

¹⁷ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
¹⁸ Manifold Data Mining Inc. (2022). Retrieved online May 25, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
¹⁹ Statistics Canada. (2016). Retrieved online June 21, 2022, from Statistics Canada: <https://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=87591&CVD=87591&CLV=0&MLV=1&D=1>

Figure 6 Local Study Area Occupied Private Dwellings by Condition (2020) ²⁰



²⁰ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

Table 8 Distribution of Local Study Area Occupied Private Dwellings Requiring Repairs (2020)²¹

	Only regular maintenance or minor repairs needed		Major repairs needed		Total Occupied Dwellings	
	#	%	#	%	#	%
Ignace	534	90%	57	10%	591	100%
Machin	3,172	91%	322	9%	3,494	100%
Dryden	383	84%	73	16%	456	100%
Sioux Lookout	1,923	89%	248	11%	2,171	100%
Sum of Local Study Area	6,012	90%	700	10%	6,712	100%

Figure 7 sets out private households by housing suitability for municipalities within the Local Study Area. A household is defined as a person or group of persons who occupy the same dwelling and do not have a usual place of residence elsewhere in Canada or abroad²². Housing suitability refers to whether a person living in a private household is living in suitable accommodation according to the National Occupancy Standard (NOS) (i.e., whether the dwelling has enough bedrooms for the size and composition of the household)²³. Among the Local Study Area communities a total of approximately 6,460 (96 percent) private dwellings are considered suitable and 250 (four percent) private dwellings are considered not suitable based on the number of bedrooms relative the number of household residents. Sioux Lookout and Dryden account for about 92 percent of total private dwellings within the Local Study Area that are deemed not suitable.

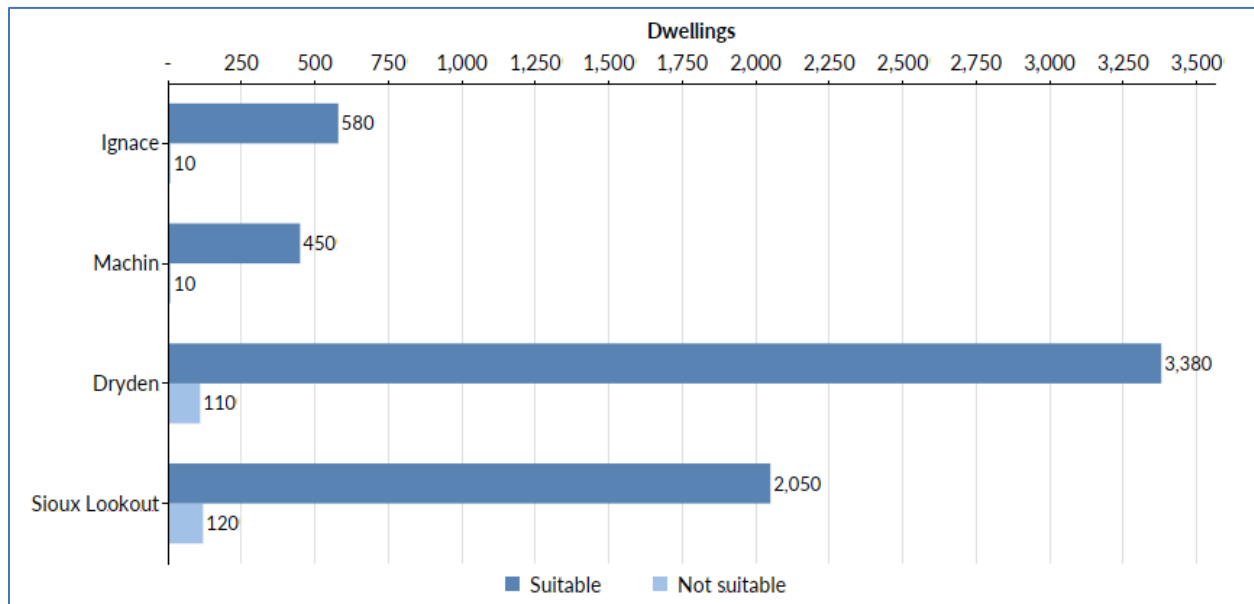
²¹ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

²² Statistics Canada. (2022). *Household*. Retrieved from <https://www23.statcan.gc.ca/imdb/p3Var.pl?Function=Unit&Id=96113>

²³ Statistics Canada. (2016). 2016 Census Profile. Retrieved Online. <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3560001&Geo2=CD&Code2=3560&SearchText=ignace&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0#fnb135>

Figure 7 Local Study Area Private Households by Housing Suitability (2020)²⁴



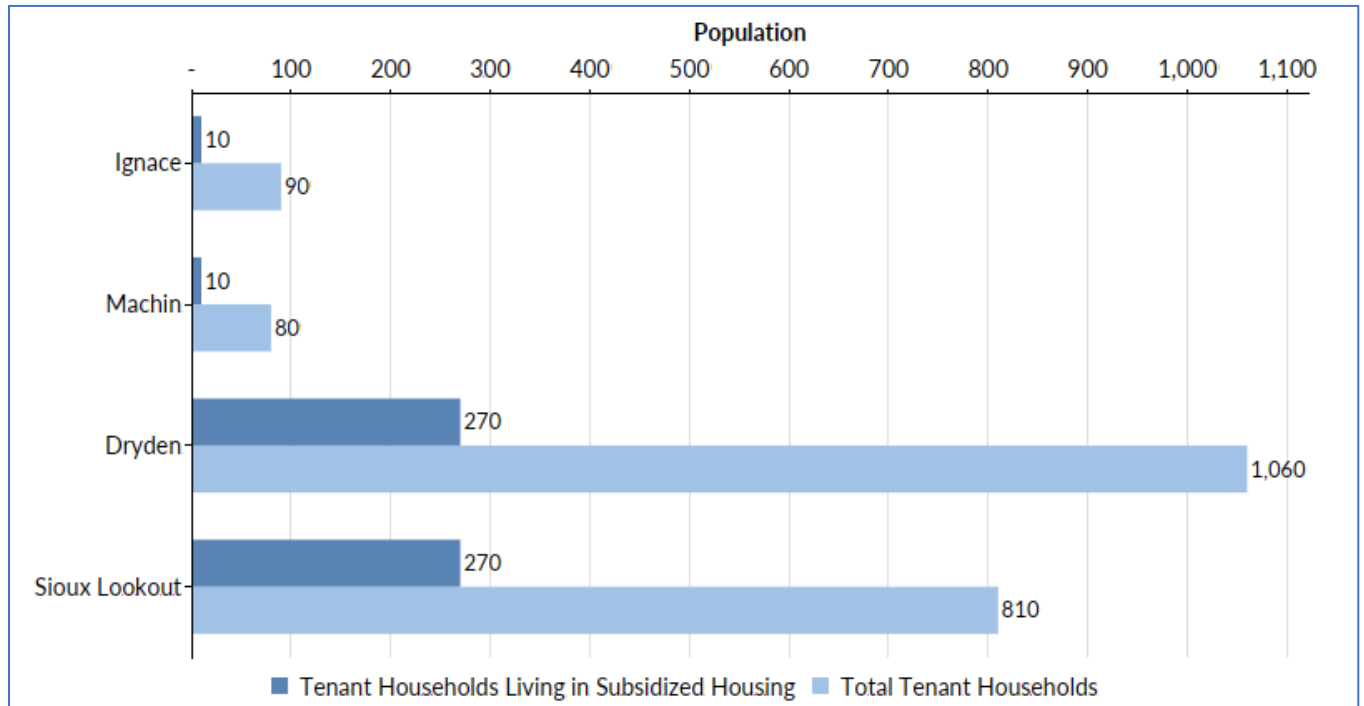
3.1.4 Affordable Housing

Affordable housing is an issue in the Local Study Area, but this situation is not unique. It is an issue that is widely recognized across Ontario and Canada. This can cause challenges for low wage earners or those who live on social assistance to find suitable housing. These households may have to reside in overcrowded housing, pay a higher-than-average proportion of household income on rent or housing debt, or risk homelessness, all of which can precipitate a variety of social and economic issues.

Figure 8 shows the number of households within the Local Study Area living in subsidized housing. Sioux Lookout has the highest percentage of households living in subsidized housing with 33 percent of households followed by Dryden (25 percent), Ignace (13 percent), and Machin (13 percent). There is currently a shortage of subsidized housing across the communities. This concern was identified through key stakeholder interviews and these values likely underestimate the demand for affordable housing within the Local Study Area.

²⁴ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

Figure 8 Number of Tenant Households Living in Subsidized Housing (2020)²⁵



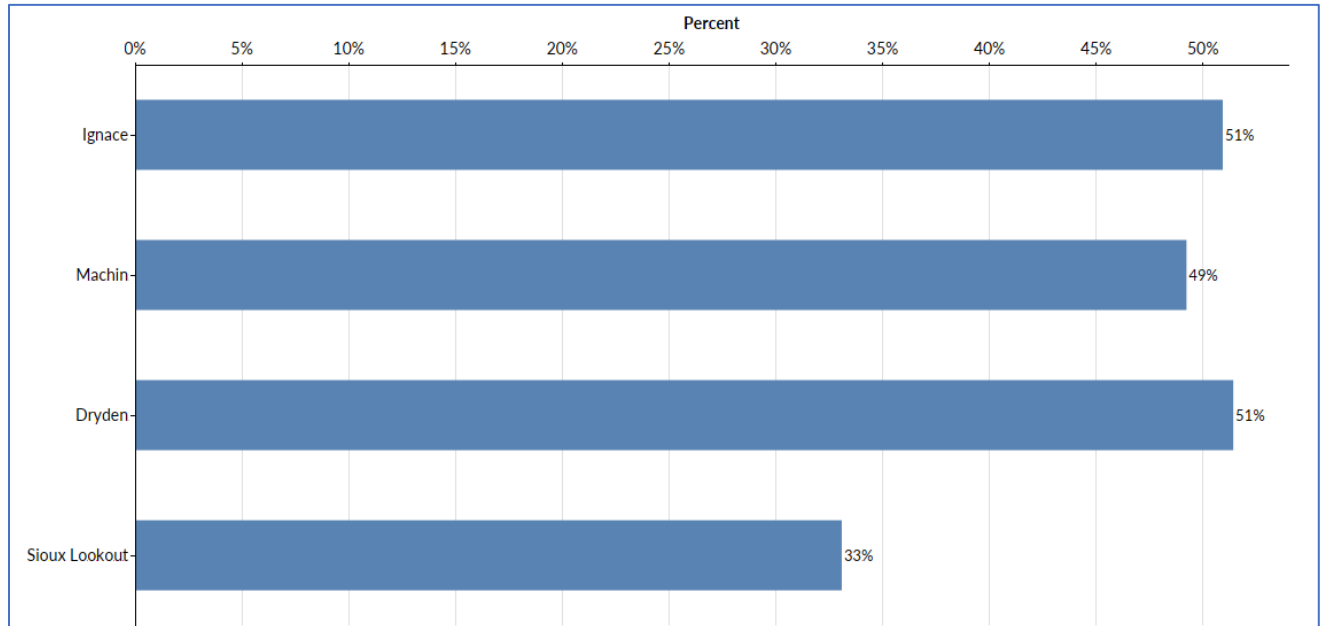
Statistics Canada, CMHC and the Province of Ontario all define affordable housing. Affordable housing in Ontario is defined as shelter that does not exceed 30 percent of gross annual household income²⁶. The percent of households in the Local Study Area exceeding this threshold are presented in **Figure 9**. Approximately half of households in Ignace, Machin, and Dryden are spending over 30 percent of their income on housing and in Sioux Lookout the percentage is 33 percent.

²⁵ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

²⁶ Government of Ontario. (2020). Housing Needs in Ontario. Retrieved from <https://www.ontario.ca/document/community-housing-renewal-ontarios-action-plan-under-national-housing-strategy/housing-needs-ontario>

Figure 9 Percent of Households Spending 30 percent or More of Household Income on Housing (2020)²⁷



Several factors may contribute to the high percentage of households spending more than 30 percent of their income on housing. These may include (but are not limited to): increased costs of living, low household incomes, and a lack of affordable housing. With respect to housing stock in the Local Study Area, there is a gap in the variety and affordability of available housing (i.e., apartments, row houses, rental units, subsidized housing). The scarcity of vacant rental units has led to an increase in rental prices, exacerbating this issue.

Attracting area developers to take on affordable housing projects is difficult. Even with subsidies, profit margins for this type of housing are not as high as those that can be derived through conventional home builds without some form of subsidy that makes such investments equally profitable to developers. Even municipalities with a strong private sector housing developer base will see land and housing projects sit idle if affordable housing is mandated by a municipality.

Finally, in the matter of affordable housing, not all locations are suitable. Affordable housing requires proximity to support services, amenities and employment. For example, the ability to walk to a medical clinic or food store. Only a few communities in the Local Study Area meet these requirements and they tend to be those with larger urban character (i.e., Dryden and Sioux Lookout).

²⁷ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

This is an issue that reaches outside of the Local Study Area and is a priority also at the Provincial and National levels. Many municipalities are looking to address these issues. The City of Dryden is in the process of developing affordable housing geared towards fixed income households²⁸.

3.1.5 Housing Growth Capacity

Within the Local Study Area, all Municipalities have the land capacity to accommodate housing growth. To accommodate growth the Local Study Area communities may have to upgrade their infrastructure, however, all expressed the ability to do so with the exception of Machin. Please see **Appendix B** for the applicable zoning plans.

Ignace

In the 2018-2019 Official Plan and Zoning By-Law Review, the Township of Ignace identified 63.9 hectares of vacant unconstrained residential land²⁹.

In key stakeholder interviews, the Township of Ignace stated that their growth plan for the Project estimates a minimum of 3,500 residents but can support a maximum of 5,000 residents.³⁰ If they are to exceed 2,000 residents they will likely need to increase water and sewage capacities. Further detail can be found in the Infrastructure study³¹.

See **Appendix D** for the Township owned lands and sub-division tracts. In 2022, the plan is to clear the land in the sub-division to assess the infrastructure and organise the lots. There are currently about 160 lots but this number may increase as some lots can be divided or combined based on their sizes³².

Dryden

The City of Dryden stated in their 2012 Official Plan that one of their main housing objectives is to maintain an adequate supply of land for residential development and ensure the availability of water and sewage treatment capacity. The City of Dryden also expressed the capability to accommodate a population of 9,000 and 4,090 households and have designated sufficient land to meet these growth projections³³.

In 2010, The City of Dryden released their Sustainable Waterfront Development Plan which identified 38 acres of development lands adjacent to Wabigoon Lake. These lands consist of 10.31 acres owned by The Corporation of the City of Dryden, 20.63 acres owned by the Ontario Realty Corporation, and the remaining seven acres are privately owned or have existing businesses on them³⁴.

Sioux Lookout

There are two settlement areas in the Municipality of Sioux Lookout: Urban Sioux Lookout and Hudson. In 2011, 540 gross hectares of vacant land were identified in Sioux Lookout with 92 hectares being in

²⁸ City of Dryden. (2022, February 14). Knowledge Holder Interview. (HSAL, Interviewer)

²⁹ Township of Ignace. (2019). Official Plan and Zoning By-Law Review 2018-2019

³⁰ Township of Ignace. (2022, February 28). Knowledge Holder Interview. (HSAL, Interviewer)

³¹ WSP Community Studies: Infrastructure Study

³² Township of Ignace. (2022). Data provided in communication from Township Staff.

³³ The City of Dryden. (2012). City of Dryden Official Plan.

³⁴ The City of Dryden. (2010). City of Dryden Sustainable Waterfront Development Plan.

Urban Sioux Lookout.³⁵ Based on density requirements set out in their 2019 Official Plan, 92 hectares of land in Urban Sioux Lookout has the capacity to accommodate over 1,678 housing units³⁶.

Machin

Machin has the property to accommodate growth but is constrained by regulations and permits due to it being Crown Land. The Municipality of Machin's housing growth capacity is constrained by their sewer and water treatment system. If they were to expand and accommodate more residents, a municipal sewer and water system would need to be installed which is currently not sustainable or cost efficient for the Municipality. Pursuing projects and securing funding is difficult as legislation and policies are better suited for well-resourced and larger municipalities in Southern Ontario making it difficult for Northern Ontario municipalities to grow. Growth is neither sustainable nor cost efficient for the Municipality at this time³⁷.

3.1.5.1 Servicing Capacity

In the housing supply equation, the availability of hard and soft services must be considered. As previously noted, hard services include water, transportation, electricity and other built infrastructure to ensure the housing can be built and maintained. Soft services include supporting infrastructure to support families and individuals, including recreation, education, and health care services. Substantial housing development will require both kinds of services.

The Township of Ignace water treatment plant can currently support 1,500-2,000 residents. If populations are to exceed this, then water and sewage capacities will need to be increased³⁸.

The healthcare system and lack of additional soft service facilities are potential barriers for families to settle in Ignace³⁹. Municipalities that have these services in place with reserve capacity have a strong advantage to take on new growth and development. Conversely for municipalities that have few services or require significant expansions, there are political, technical, regulatory, financial, temporal and operational matters that all need to be taken into account before moving forward. The Ignace Official Plan supports development within the defined settlement boundary.

Please see **Appendix B** for the applicable zoning.

3.2 Housing Demand

Key drivers attracting people to live in Northwest Ontario are the outdoor amenities. The lifestyle, fishing, outdoors, and short commute times are also factors that attract people to live in this area of Ontario⁴⁰. Some building permits are being issued, showing that the housing market is active with Dryden showing more strength than other communities. Larger developers would be needed to build

³⁵ Municipality of Sioux Lookout. (2011). Official Plan.

³⁶ Municipality of Sioux Lookout. (2019). Municipality of Sioux Lookout Official Plan – Adopted November 21, 2018.

³⁷ Municipality of Machin. (2022, January 31). Knowledge Holder Interview. (HSAL, Interviewer)

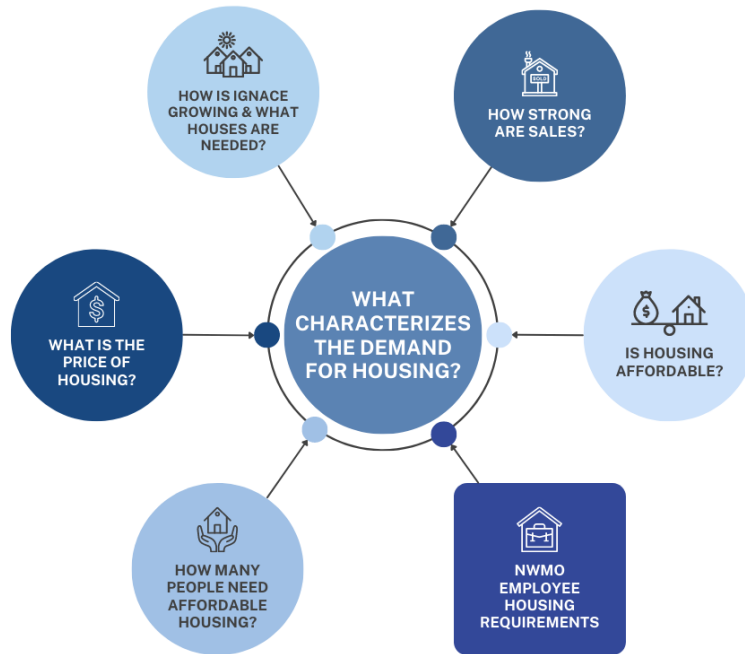
³⁸ Township of Ignace. (2022, February 28). Knowledge Holder Interview. (HSAL, Interviewer)

³⁹ Ricci's Trucking & Raleigh Falls Timber. (2022, February 7). Knowledge Holder Interview. (HSAL, Interviewer)

⁴⁰ Thunder Bay Home Builders Association. (2022, January 28). Knowledge Holder Interview. HSAL, Interviewer

the number of homes required by NWMO workers over the three phases and developers may need incentives as building on speculation has risks.

Figure 10 Housing Demand



Data shows that, under current circumstances, there are not enough homes coming on to the market to accommodate NWMO employees. That said, the price of homes is reasonable, compared to Toronto, Southern Ontario and large urban area prices. The higher priced homes are located in Sioux Lookout. The financial transition to Northwestern Ontario from Toronto and vicinity should be relatively smooth for NWMO workers.

Ignace has many outdoor activities to offer residents including beaches, fishing, hiking trails, snowmobiling, and golfing⁴¹. Dryden is known for its outdoor activities which include parks, hiking trails, sandy beaches, fishing and hunting⁴². Sioux Lookout, in addition to all the latter, has strong health care supports.

Stakeholder interviews indicate that the quality of life is paramount. Local communities have recreational trail systems and groups that plan community events. In some communities, there are waterfront trails for activities including hiking, cycling, cross country skiing and mountain biking. These are highly valued by residents.

⁴¹ Township of Ignace. (2022). Things To Do. Retrieved from <https://www.ignace.ca/visitors/visiting/things-to-do#outdoor-adventures>

⁴² City of Dryden. (2017). *Explore*. Retrieved from <https://www.dryden.ca/en/explore/explore.aspx>

The number of building permits can give an indication of housing demand and increasing supply. As demand increases, more permits are sought or issued with more homes being built. The number of building permits has been rising year over year in Dryden, and appears more stable or progressing with no clear trend in Ignace, Machin, and Sioux Lookout. However, although there is land that can be developed (particularly in Ignace). The Stakeholder interviews suggest that while building permits are not difficult to obtain, developers are hesitant to move forward, due to a perceived risk that there will not be a buyer for the resulting development. Interviews suggest that developers are seeking more secure financial commitments from buyers in order to act on these building opportunities.

Sales for existing homes in the Local Study Area are showing an increase over time, with some variation year over year. Of the total sales, most of the sales occurred in Dryden and Sioux Lookout from 2017 to 2021. 2021 was a strong year for housing sales across the Local Study Area. Dryden is characterized as having the lowest average home value while the highest average is in Sioux Lookout. The high values in Sioux Lookout is in part due to the stronger incomes of health workers. Further details are provided in **Section 3.2.2.**

Projected population growth from 2021 to 2043 is moderate in Ignace. As a whole, the population in the Local Study Area is projected to have a steady increase over the same period. The number of households in the Local Study Area is also projected to increase, and at a faster rate than population growth. Since the number of households is projected to increase at a faster rate than the population, the number of persons per household is projected to decline. Further detail on growth forecasts can be found in the Growing the Population Study.

Data and trends suggest that there is demand for the available housing, although there is still a hesitancy from developers to take on projects. Household characteristics are expected to change by 2043, resulting in households having fewer people.

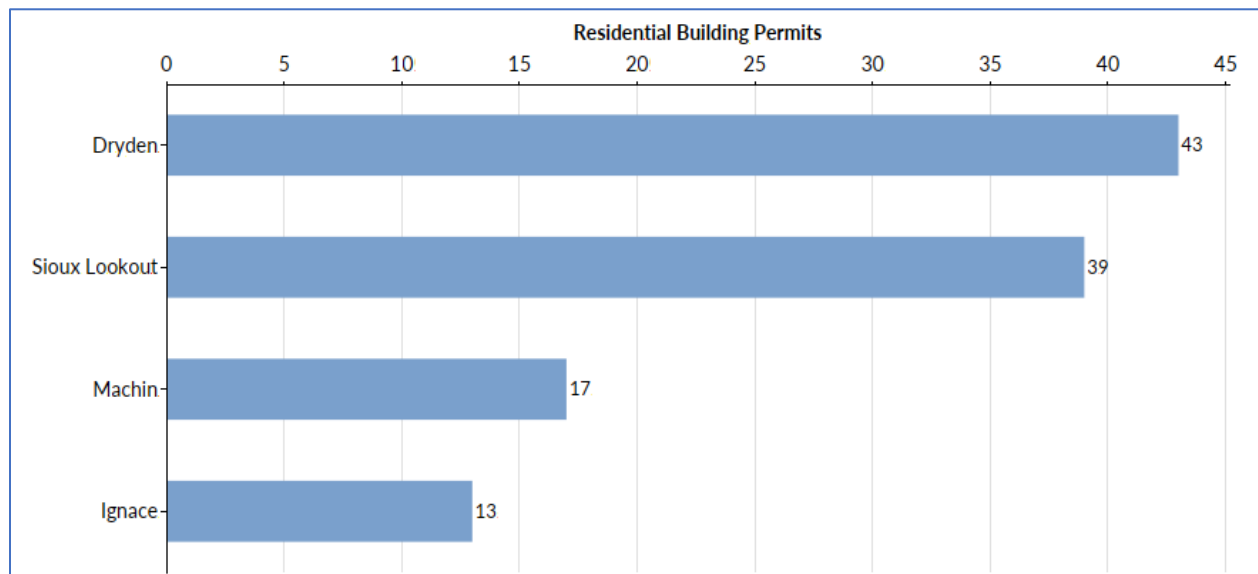
3.2.1 Building Permits

Residential Building permit activity for the Local Study Area communities from 2016 to 2020 is set out in **Table 9. Figure 11** presents the annual average number of permits over the period. In both the table and graph, Dryden and Sioux Lookout demonstrate the highest number of residential building permits. The number of permits issued in Dryden is increasing over time, whereas building permit activity in Ignace, Machin, and Sioux Lookout do not appear to show any clear trend. Through Stakeholder interviews, Machin demonstrated very little residential building permit activity in 2017 due to no serviced land being available. Ignace demonstrated the least residential building activity among the communities in the Local Study Area.

Table 9 Local Study Area Residential Building Permit Activity (2016 – 2020) ^{43 44}

	2016	2017	2018	2019	2020	Average of Years	Sum of Years
Dryden	26	41	33	49	68	43	217
Ignace	5	13	24	11		13	53
Machin	24	3	30	10		17	67
Sioux Lookout	54	46	55	1		39	156

Figure 11 Average Annual Number of Building Permits Issued in Local Study Area for Period 2016 – 2020⁴⁵



The Thunder Bay Home Builders Association stated that acquiring permits is not an issue. Contractors are generally able to readily obtain permits for expansions and new builds⁴⁶. The City of Dryden also expressed that they have building permits on the go to develop market level housing in the community⁴⁷. Municipal Official Plans for Ignace, Dryden, and Sioux Lookout indicate they have the required land to support the building of new homes. Homebuilders stated that even with a stronger economy, the uncertainty of the resource sector characterizing Northwestern Ontario creates risk. For example, developers are concerned that new housing they would construct to meet demand would not

⁴³ Ministry of Municipal Affairs and Housing. (2022). FIR Multi-Year Reports. Retrieved from <https://efis.fma.csc.gov.on.ca/fir/index.php/reports-and-dashboards/fir-multi-year-reports/>

⁴⁴ Note: 2020 Residential building permit activity unavailable for Ignace, Machin, and Sioux Lookout.

⁴⁵ Ministry of Municipal Affairs and Housing. (2022). *FIR Multi-Year Reports*. Retrieved from <https://efis.fma.csc.gov.on.ca/fir/index.php/reports-and-dashboards/fir-multi-year-reports/>

⁴⁶ Thunder Bay Home Builders Association. (2022, January 28). Knowledge Holder Interview. (HSAL, Interviewer)

⁴⁷ City of Dryden. (2022, February 14). Knowledge Holder Interview. (Hardy Stevenson, Interviewer)

be financially sustainable if there was a decline in the mining or forestry sector. In contrast, the NWMO APM project will provide stability and reduce risk.

3.2.2 Sales

Overall, the number of homes coming up for sale in Ignace will not meet NWMO housing needs. An important indicator of a vibrant housing economy is whether the number of houses for sale line up with the needs of buyers. Indicators of a healthy housing market include, new starter homes being available for younger people entering the market, short time periods between homes listed and homes sold, home prices increasing gradually and housing being affordable for medium income families. While Ignace and the Local Study area are seeing a gradual increase in prices and affordability for medium income families, there are shortcomings across other parameters. Among the Local Study Area communities the Sioux Lookout housing market is the best performer.

Using Teranet’s GeoWarehouse, property sales data for the Local Study Area communities were obtained for the period 2017 to 2021. **Table 10** sets out the sales activity in these communities.

Table 10 Property Sales in Local Study Area Communities (2017 – 2021)^{48 49}

	2017	2018	2019	2020	2021	Sum over Period	Average over Period
Ignace	10	19	10	18	40	97	19
Machin	14	13	7	17	23	74	15
Dryden	123	167	133	159	169	751	150
Sioux Lookout	120	129	93	121	137	600	120
Wabigoon	3	3	1	4	2	13	3
Melgund	-	-	-	-	-	-	-
Sum of Municipalities	270	331	244	319	371	1,535	307

Between 2017 and 2021, property sales in the municipalities amounted to approximately 1,535 units. Of this number, Ignace accounted for approximately 97 units which is roughly six percent of the total. The municipalities with the highest sales activity, Dryden and Sioux Lookout respectively accounted for 49 percent and 39 percent of the Local Area sales. 2021 was the year with the highest sales volume. This is consistent with trends in the housing market in Ontario during this time.

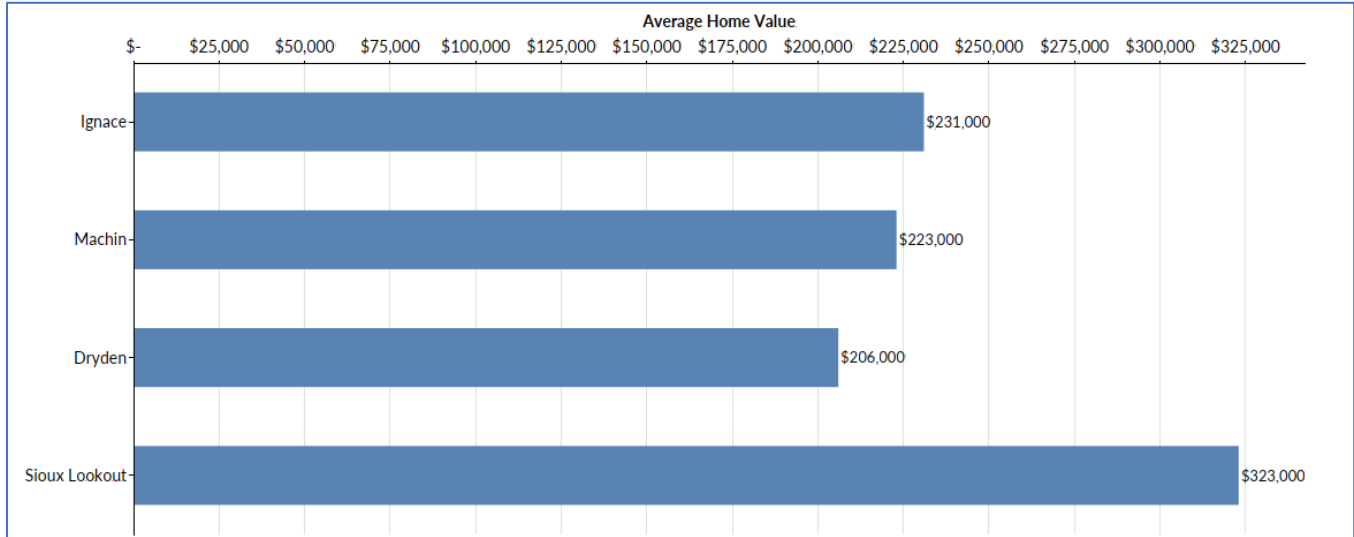
Figure 12 shows the average value of housing in the Local Study Area communities as of 2020. The highest average home values are in Sioux Lookout (\$323,000) which is approximately 40 percent greater

⁴⁸GeoWarehouse. (2022). *Property Report*. Retrieved February 8, 2022 from <https://www2.geowarehouse.ca/>

⁴⁹ Note: Sales under \$100,000 have been excluded from the analysis to ensure land transfers are not captured. This may impact four-season mobile home sales and other smaller property sales. Only freehold properties between 0-10 acres have been included.

than the average home value in Ignace (\$231,000). The lowest average home value is found in Dryden (\$206,000).

Figure 12 Average Home Value Comparison Local Study Area Communities (2020)⁵⁰



3.2.3 Demand for Affordable Housing

The demand for affordable housing in the Local Study Area is well captured in the now Vulnerable Populations Memo⁵¹. In Ignace 13.7 percent of homeowners and 41.2 percent of renters are living in unaffordable housing. In the Local Study Area 11.0 percent of homeowners and 37.4 percent of renters are living in unaffordable housing. In addition, at the time of the 2021 census 77 individuals on the Local Study Area were experiencing homelessness. These statistics indicate that there is a need for more affordable housing in the Local Study Area and in Ignace in particular. Affordable housing is defined as spending 30 percent or less of household income on shelter expenses⁵².

3.2.4 Growth Forecast

3.2.4.1 Population

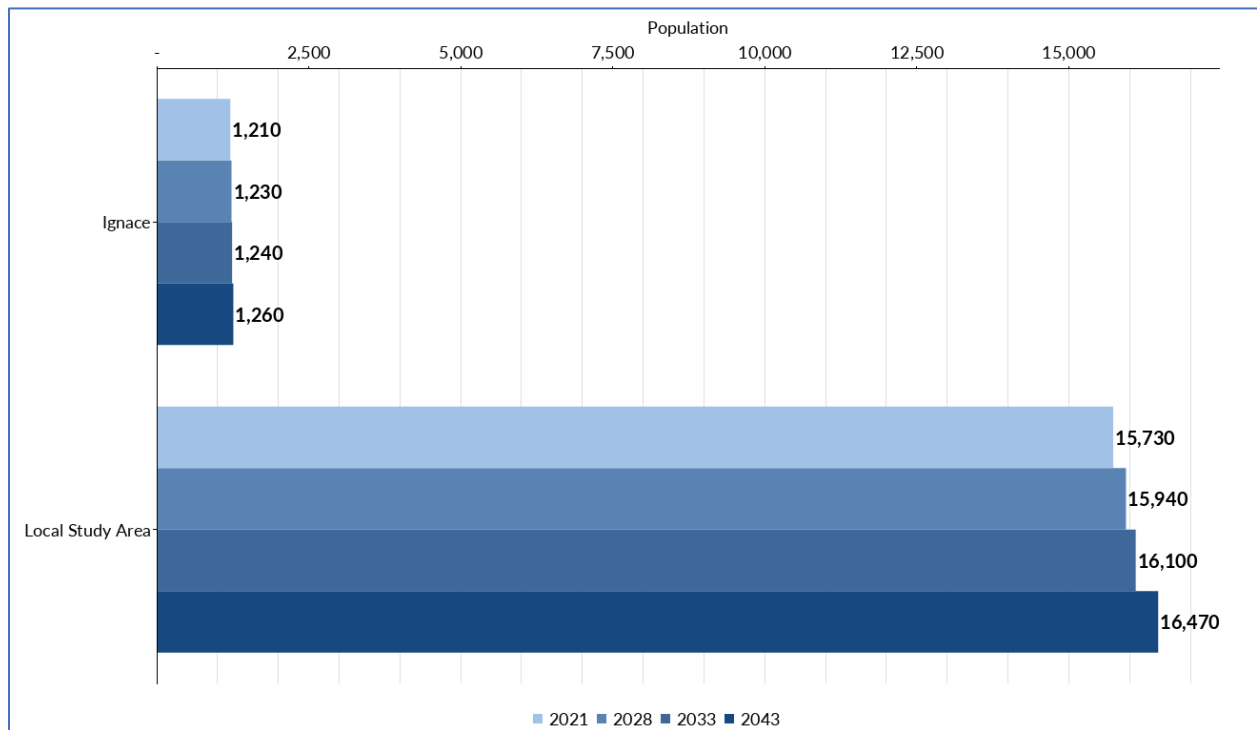
Understanding how and whether the population is growing is important. It lets us know whether there will be a strong or weak parallel local demand for existing and new housing while NWMO workers are seeking housing. The following analysis shows that population growth will be modest and in turn, there will be a modest future demand for housing in Ignace and within the Local Study Area.

⁵⁰ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
⁵¹ Intergroup Consultants Ltd. (2022). NWO Community Studies - Vulnerable Populations 05-02-2022 -see for more details
⁵² Statistics Canada.(2016). Housing Affordability. Retrieved from <https://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=87591&CVD=87591&CLV=0&MLV=1&D=1>

Looking forward, based on Manifold data, the population of the Local Study Area is projected to grow. **Figure 13** sets out the projected population for Ignace and the Local Study Area for years 2021, 2028, 2033 and 2043. The general picture of population growth across the Local Study Area shown in **Figure 13** indicates an overall five percent population increase over the period 2021 to 2043. Over the same period Ignace demonstrates a four percent increase.

Table 11 shows the distribution of projected population growth in Ignace and the Local Study Area from 2021 to 2043 and it also highlights the relative allocation of this growth.

Figure 13 Local Study Area Population (2021, 2028, 2033,2043)^{53 54 55 56}



⁵³ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

⁵⁴Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

⁵⁵ Note: Population projections for the Township of Ignace were provided by the NWMO, the remaining areas were estimated using Manifold data. Population projections were estimated using a compound annual growth rate.

⁵⁶ InterGroup Consultants Ltd (2022). NWO Community Studies Growing the Population Study – see for more detail.

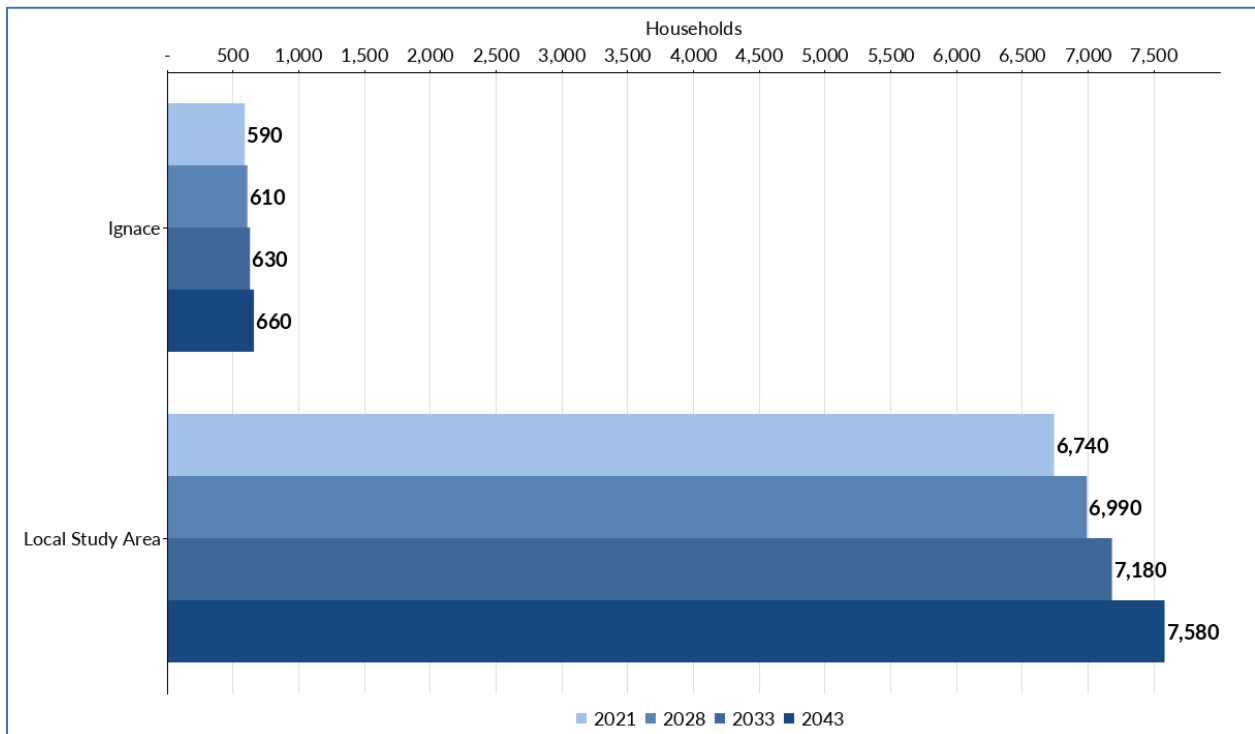
Table 11 Distribution of Local Study Area Projected Population Growth (2021 – 2043)⁵⁷

	Population Growth	% Population Growth	% of Total Local Study Area Growth
Ignace	50	4%	7%
Local Study Area	740	5%	100%

3.2.4.2 Household Projections

Figure 14 Local Study Area Household Projections (2021, 2028, 2033, 2043) sets out projected household growth for years 2021, 2028, 2033 and 2043, and **Table 12** highlights the distribution of this growth.

Figure 14 Local Study Area Household Projections (2021, 2028, 2033, 2043)^{58 59}



The summary picture of household growth over the period 2021 to 2043 shows an overall 12 percent increase in households for the Local Study Area. Over the same period Ignace shows 12 percent growth.

⁵⁷ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
⁵⁸ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
⁵⁹ Note: Household projections were estimated using a compound annual growth rate between 2020 and 2030 projections.

Table 12 Distribution of Local Study Area Projected Household Growth (2021 – 2043)⁶⁰

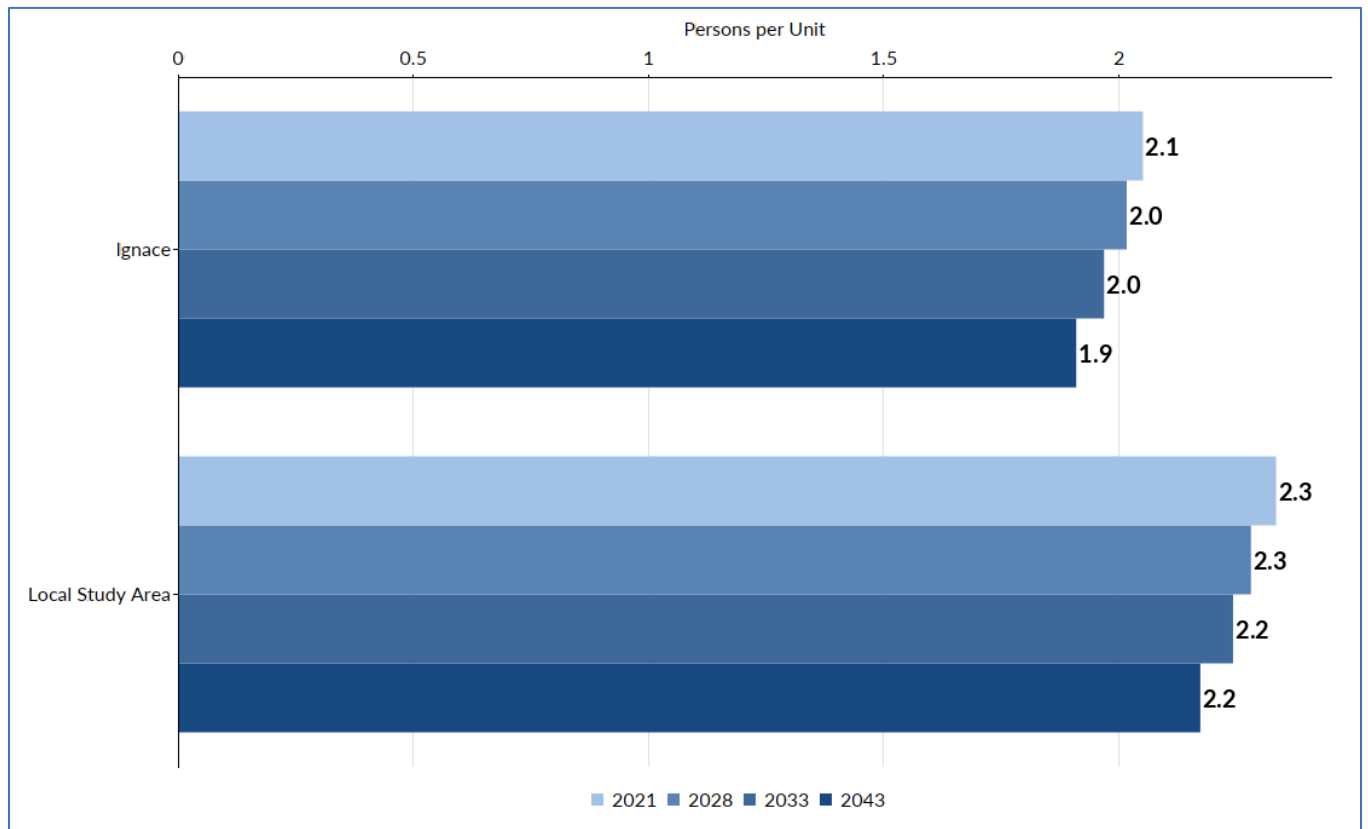
	Household Growth	% Growth within Community	% of Total Local Study Area Growth
Ignace	70	12%	8%
Local Study Area	840	12%	100%

Figure 15 sets out average persons per unit numbers derived from the population and housing growth projections. The decrease in average persons per housing unit can be attributed to several factors. In Ignace specifically, there is an aging population and other segments of the population are involved in seasonal and cyclical work. Mine closures, forestry-sector decline, and residents leaving the community to pursue other employment opportunities also play a role. Additionally, of the residents who leave for education, many do not return due to limited opportunities in the area⁶¹.

⁶⁰ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

⁶¹ InterGroup Consultants Ltd. (2022). NWMO Community Studies: Growing the Population Study

Figure 15 Average Persons per Housing Unit^{62 63}



The decline in average persons per unit within the Local Study Area between 2021 and 2043 helps to inform whether the housing is appropriate to the resident, e.g., are residents managing more home than they need and whether there may be additional rooms that can be rented. **Table 13** provides a summary of these growth rates between 2021 and 2043. When the majority of housing was built in the 1970s, it was to accommodate worker’s families. Typically, those houses occupied families of five and now their children have moved away. One or both remaining occupants transition to senior’s housing or downscale because no other options are available. The quantity of households has not changed just the number of occupants living in them.

⁶² Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold:

https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

⁶³ Note: Average persons per housing unit was estimated using a compound annual growth rate between 2020 and 2030 projections.

Table 13 Population, Household, and Average Persons per Housing Unit Growth Rates (2021-2043)⁶⁴

	Population Growth Rate (2021-2043)	Household Growth Rate (2021-2043)	Persons per Housing Unit Growth Rate (2021-2043)
Ignace	4%	12%	-10%
Local Study Area	5%	12%	-4%

3.3 Trends and Challenges

The following is a summary of trends and challenges discussed above.

To meet Project needs NWMO with the Township of Ignace will have to facilitate the construction of housing in Ignace, build a camp and support housing initiatives in the Local Study Area. There is land available with incentives and developers and contractors can be encouraged to build.

Housing availability helps drive economic vitality, specific to the ability of employers to secure labour across Northwestern Ontario. During interviews almost all employers, public and private, said they could not get workers because the workers could not get housing. However, serviced land is available and there are developers and contractors who are able to build the homes. Larger developers are not interested in building a small number of homes and prefer to build a substantial number of new dwellings to take advantage of economies of scale. Public and private sector employers stated they would welcome ideas and partnerships to help find housing solutions. For example, the KDSB is currently researching housing concepts⁶⁵. As a future employer in the area, NMWO has an opportunity to create housing for future workers while at the same time, work with others to find help resolve accommodation issues.

Specifically, the housing stock availability within the Local Study Area is an area of concern across all communities with the majority of the housing stock concentrated in Sioux Lookout and Dryden. In particular, there is a significant shortage of rental units and affordable housing. Of the approximately 6,710 housing units available in the Local Study Area 30 percent are tenant occupied with only four percent tenant occupied in Ignace. There is a significant gap in the variety of housing available to address the financial needs of low-income earners within the Local Study Area as most of the housing (particularly in Ignace) are single, detached homes. Many households in the Local Study Area are spending more than 30 percent of their household income on housing, which is the threshold of affordability. In addition to a short supply of housing units, the housing stock is aging and will likely require increased repairs in the coming years to remain suitable.

⁶⁴ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list
⁶⁵ KDSB and Ministry of Municipal Affairs and Housing. (2022). Housing Needs in Rural and Northern Municipalities (Kenora District).

Official Plans for Ignace, Dryden, and Sioux Lookout indicate that they have available land suitable for new home development. However, getting builders and contractors to show interest in developing these lands has been a challenge.

Generally, demand for housing is growing modestly, with the exception of Sioux Lookout which has generally the most affordable housing and is also expected to have the highest rate of population growth in the area.

Ignace is characterized by aging housing, focused on single family homes with very few rental units and other accommodations available. Despite available land, developers are hesitant to take on projects in Ignace due to a perceived high risk. There is also a lack of affordable housing in Ignace, and it is likely that even with the moderate population growth housing demand will outstrip available supply, further exacerbating housing affordability. Growth in population supported by growth in housing will improve affordability.

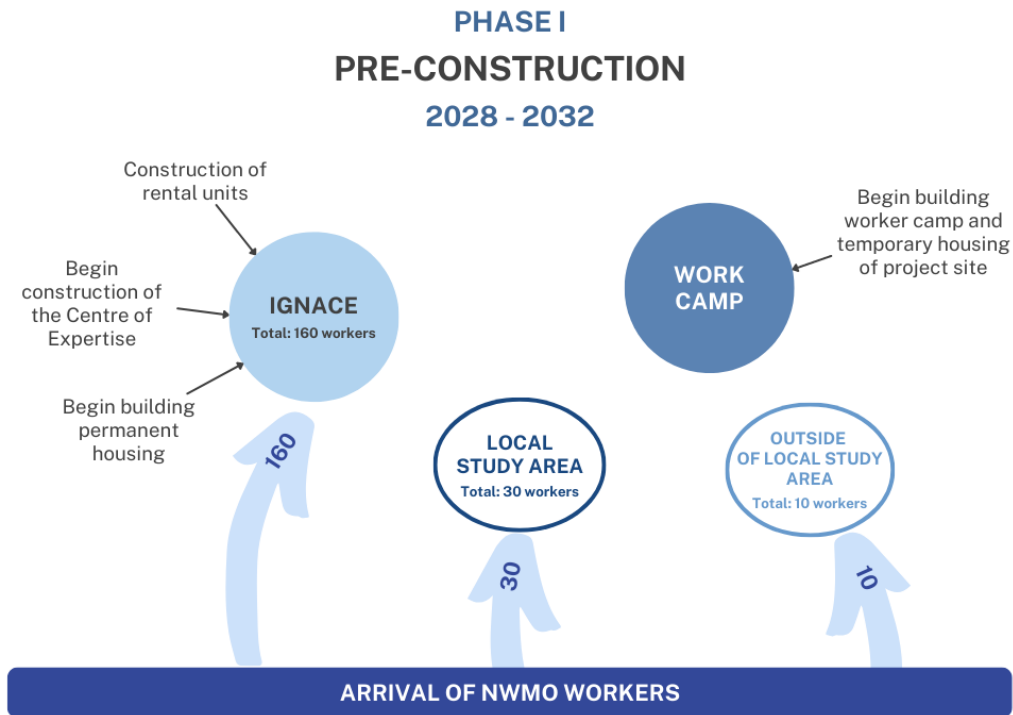
Sioux Lookout is better positioned to take on housing growth and has a greater mix of housing and affordable housing. Indeed, most of the population growth in the Local Study Area is supported by housing availability.

To meet existing and future housing demand, developers will need reassurances that their financial investments will be met with house sales. The Local Study Area communities will need to invest in hard and soft services to facilitate housing growth, attract and retain residents.

4. Change Analysis

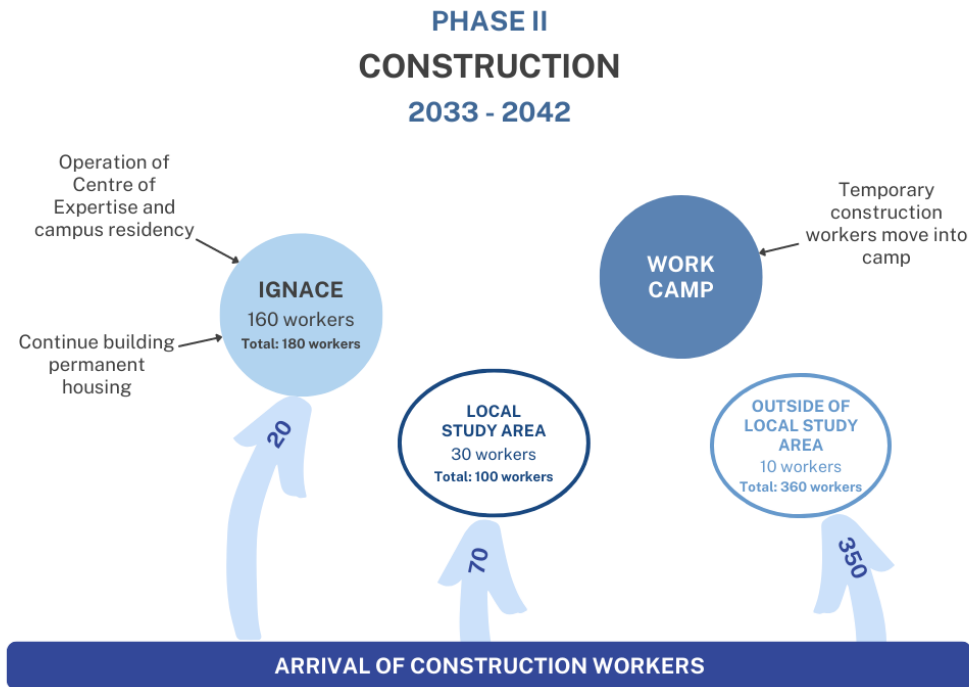
The APM Project will require a variety of workers many of whom will reside within Ignace and other communities in the Local Study Area on either a permanent or temporary basis. Understanding changes associated with the three phases of APM development are important. We have assumed that each worker will need one housing unit, requirements will vary by Phase. In Pre-Construction, there will be a strong demand for rental and temporary housing as permanent homes are being build. This points to the need to construct rental accommodation early. Developers may need to be incentivized to build. Workers will acquire homes as they are completed.

Figure 16 What Happens in Phase 1



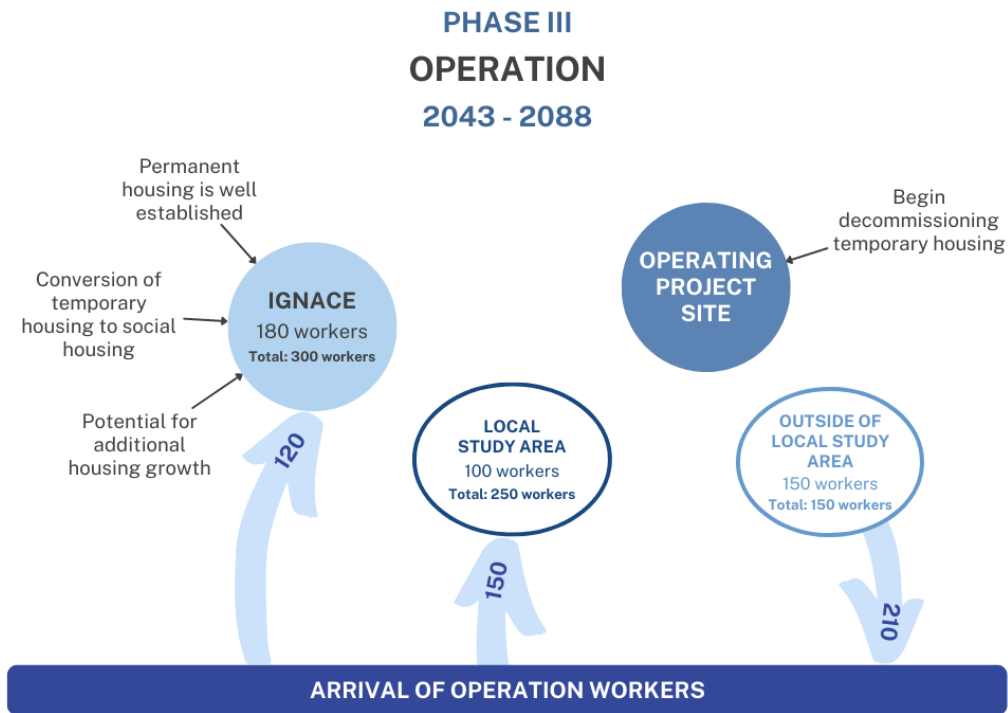
Changes to housing associated with the Construction phase will evolve as continued construction of ownership and rental housing in Ignace. A variety of single-family homes, town homes and small condo/ rental units will be needed. Camp construction will be underway for skilled workers building the APM facility. The construction of accommodation to house labour at the camp will occur. Please note that number of workers in the figures do not include induced or indirect labour.

Figure 17 What Happens in Phase 2



Changes associated with the Operations phase will see the decommissioning of the camp and a significant increase of workers and workers with families living in Ignace and the Local Study Area. A wide variety of ownership and rental housing will be constructed. A campus development that integrates accommodation with the Centre of Expertise would help to house transient workers.

Figure 18 What Happens in Phase 3



The amount of housing required is directly correlated to the number of workers required for the Project on a one-to-one basis. **Table 14** sets out the required workforce by area and phase of the Project. The required labour for “Outside Study Area” is interchangeable with the amount of temporary housing needed to meet the Project needs. The planning assumption is that labour coming from outside the Local Study Area will require temporary housing (e.g. they will be drive in/drive out and fly in/fly out). As these labourers will not be permanent residents of Ignace and the surrounding communities, they will require a temporary work camp so they can fly or drive in/out of the Project site. The permanent residents of Ignace and the other Local Study Area Communities are the sum of the required workforce for “Ignace” and “Other Local Study Area”. These workers will likely be moving with their families and purchasing homes to put down roots within the communities. To accommodate the housing needs there will need to be significant housing development, particular within Ignace and the Local Study Area. Due to the proximity of Ignace and Dryden to the Project site, it is assumed that workers will primarily be inclined to settle down in these two communities.

Table 14 Projected Total Workforce and Residency Assumption for the Project by Phase ⁶⁶

	Ignace	Other Local Study Area	Outside Study Area	Total
Pre-Construction (2028-2032)	160	30	10	200
Construction (2033-2042)	180	100	360	640
Operations (2043-2088)	300	250	150	700

4.1 Anticipated Changes and Impacts from the Project

The preceding sections of this report have provided context for the current housing inventories and the development potential for new housing in the Local Study Area. Focusing on Ignace, the Town has development potential to accommodate 1,163 additional housing units⁶⁷. Although there is space within the Local Study Area to accommodate new housing, there is currently a housing shortage for both permanent and rental housing units and a lack of affordable housing.

Each phase of the Project will mark new workers coming into the Local Study Area who will require accommodation, either permanent or temporary. Housing demand is based on target residency scenarios provided by NWMO, as provided in **Table 14**. Permanent housing may need to accommodate families, where the majority of which will be in Ignace. Temporary housing demand is equated with workers coming from outside of the Local Study Area. For the construction phase, this is addressed by the work camp facility. To accommodate this growth there will need to be significant housing development. The following sections outline the projected housing requirements by phase and the associated impact on the community.

4.1.1 Residency Scenarios

During the Pre-Construction phase, there will be a need for approximately 190 permanent housing units of which 160 are targeted in Ignace and 10 temporary housing units. The Construction phase will require a total of 280 permanent housing units and 360 temporary housing units. It should be noted that the residency projections are the cumulative totals for each phase of the Project. The projected residency scenarios are set out in **Table 15**. Construction will have the highest demand for temporary housing and will be accommodated for the most part at the Project site in the work camp facility. During the Operations phase, 550 permanent housing units will be needed for the Project workers and the need for temporary housing will decrease to 150. Of the permanent housing required, approximately 63 percent is projected to be in Ignace.

⁶⁶ Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

⁶⁷ Township of Ignace, (2019). Official Plan and Zoning By-Law Review 2018-2019.

Table 15 Projected Household Requirements by Project Phase ⁶⁸

	Permanent Housing			Temporary Housing
	Ignace	Other Local Study Area	Total	
Pre-Construction (2028-2032)	160	30	190	10
Construction (2033-2042)	180	100	280	360
Operatons (2043-2088)	300	250	550	150

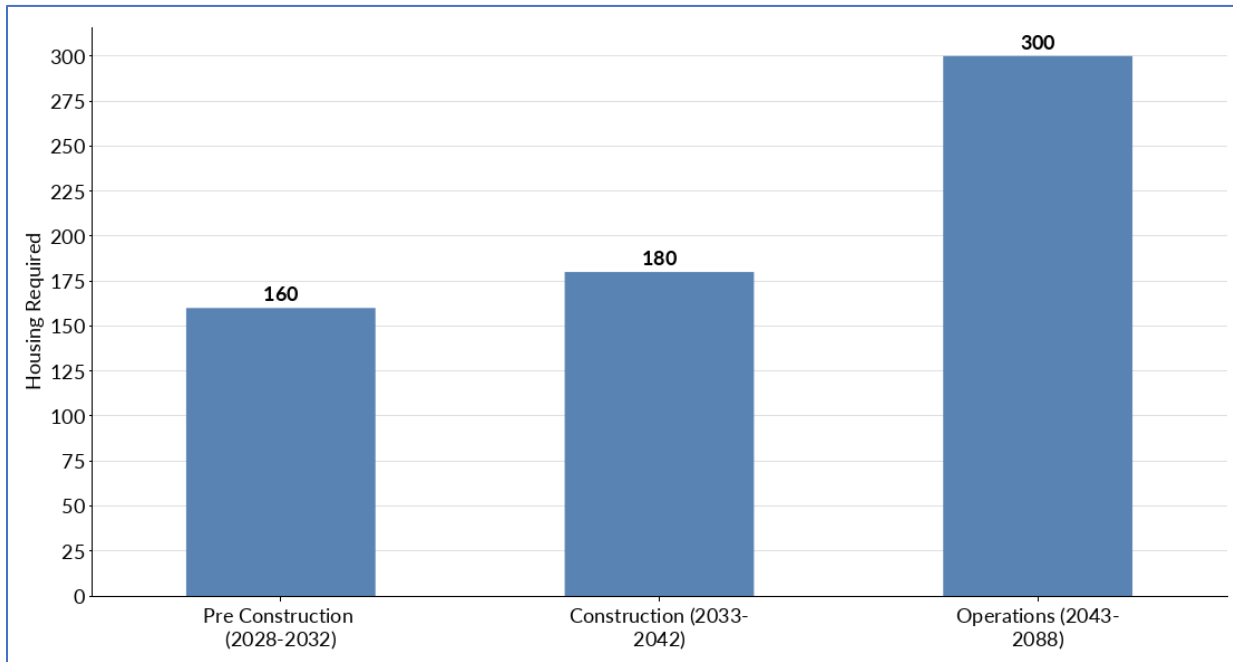
4.1.2 Project Impacts on Permanent Housing in Ignace

The impact of new housing construction in Ignace will be positive, assuming that the housing needs of vulnerable populations are monitored and mitigated. As a result of the APM project a skilled housing construction workforce will be present. Materials and equipment will be more readily available. There will be opportunities to help Ignace achieve its goals.

The Township of Ignace wishes to grow its complement of occupied housing by attracting workers and their families associated with the Project to take up residency in the Town. There will need to be encouragement for NWMO workers to reside in Ignace. During the Pre-Construction phase of the Project there is a forecast need for 160 permanent housing units in Ignace. During the Construction phase this need will increase to a projected 180 permanent housing units and the Operations phase will require 300 permanent housing units. **Figure 19** presents the projected housing requirements during each phase of the Project.

⁶⁸ Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

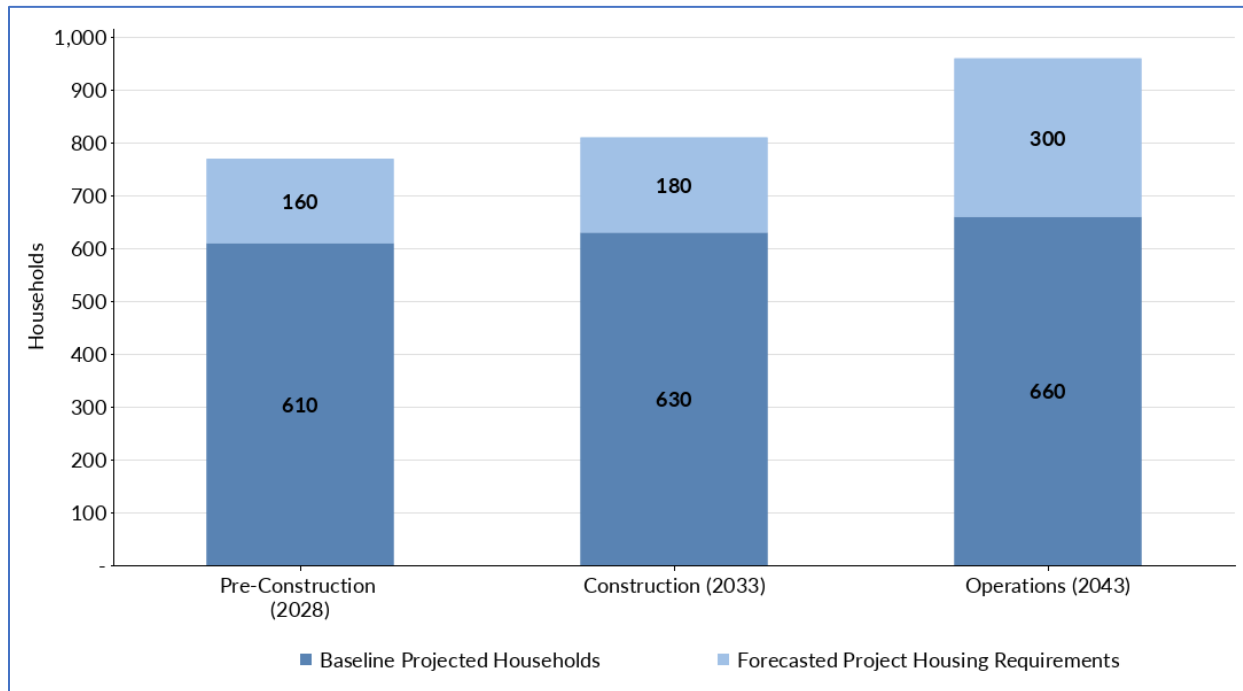
Figure 19 Forecasted Need for Permanent Housing in Ignace ⁶⁹



⁶⁹ Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

Figure 20 compares Ignace’s baseline projected households and the forecasted Project housing requirements by phase. The requirement for new housing is significant and will require substantial housing development. The projected permanent housing requirements of the Project for Ignace will result in a 26 percent increase in housing required during Pre-Construction, a 29 percent increase in housing during Construction compared to the baseline, and finally a 46 percent increase in housing during the operations when compared with the current forecast housing baseline.

Figure 20 Baseline Projected Households and Forecasted Project Housing Requirements at the Beginning of each Project Phase in Ignace ^{70 71}



Based on the unconstrained developable lands outlined in Section 3.1.5, there is capacity to accommodate Project housing requirements in Ignace. Lands are available for development; however, this would need to begin as soon as the siting decision is made due to the number of housing units required.

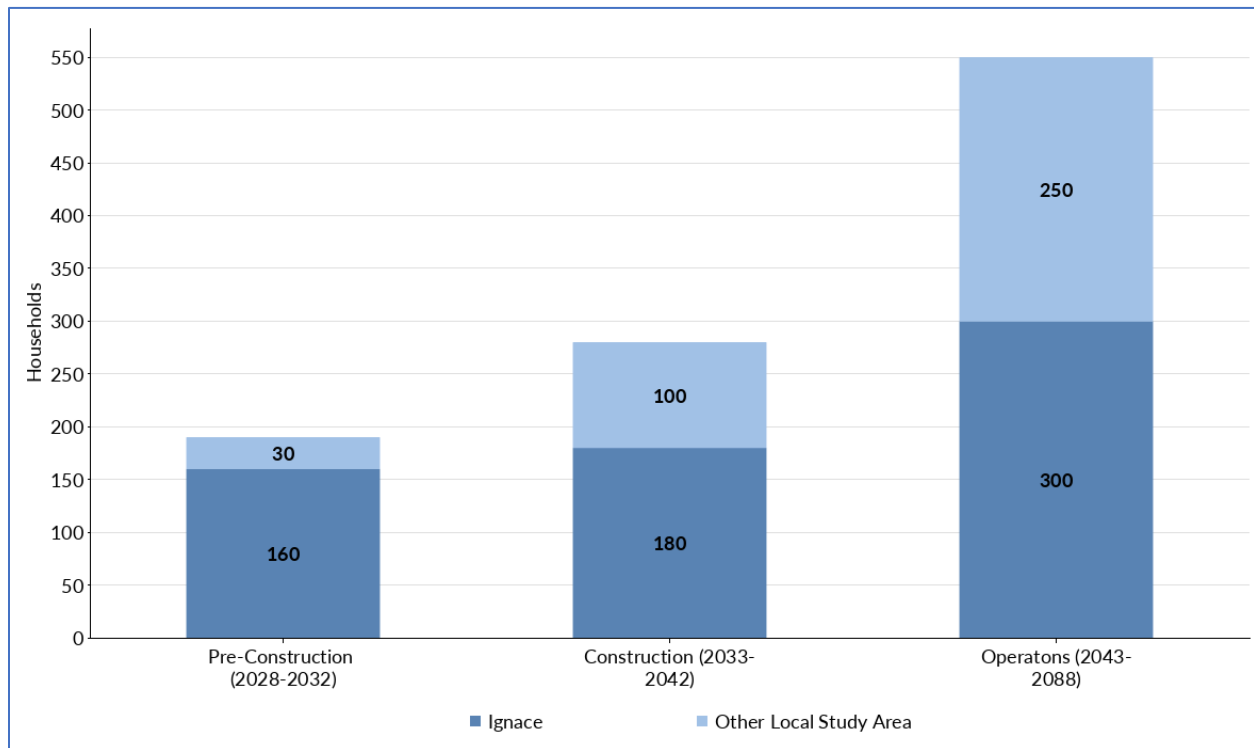
4.1.3 Project Impacts on Permanent Housing in the Local Study Area

The projected permanent housing needs in the Local Study Area are presented in **Figure 21**. The Pre-Construction phase will focus on construction of the Centre of Expertise when most staff are assumed to reside in Ignace. Permanent housing will also be required outside of Ignace but in the Local Study Area during this phase. The Construction and Operations phases, however, will see a larger demand for permanent housing located in and outside of Ignace. The demand for housing outside of Ignace will be spread throughout the Local Study Area communities but it is likely that most of the non-Ignace housing growth will be concentrated in Dryden due to its proximity to the Project and its existing compliment of services and amenities.

⁷⁰ Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

⁷¹ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

Figure 21 Forecast Need for Permanent Housing in the Local Study Area⁷²



Between the Pre-Construction and Operations phases, the demand for permanent housing nearly triples. This will present a challenge for the Local Study Area communities and will require collaboration between the NWMO, communities (particularly the Township of Ignace), and developers to meet the Project housing needs. A range of housing types will be required to accommodate the different living situations of workers. Some workers will be moving their families to the Local Study Area and will be looking to purchase single detached or row homes while other workers may be looking for apartments or rentals. These different needs will need to be considered during the planning stages of housing development.

Figure 22 represents the combination of projected household growth within the Local Study Area and the direct labour housing need associated with the Project. Although the effect is not as significant as Ignace, the required increase in housing attributable to the Project is still material relative to the Local Study Area as a whole. This Project housing demand will again require significant development to accommodate it. The Pre-Construction phase equates to a one percent increase of households in the Local Study Area while Construction sees a two percent increase and Operations a four percent increase.

⁷² Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

Figure 22 Baseline Household Projections and Projected Permanent Project Housing Requirement in the Local Study Area ^{73 74}



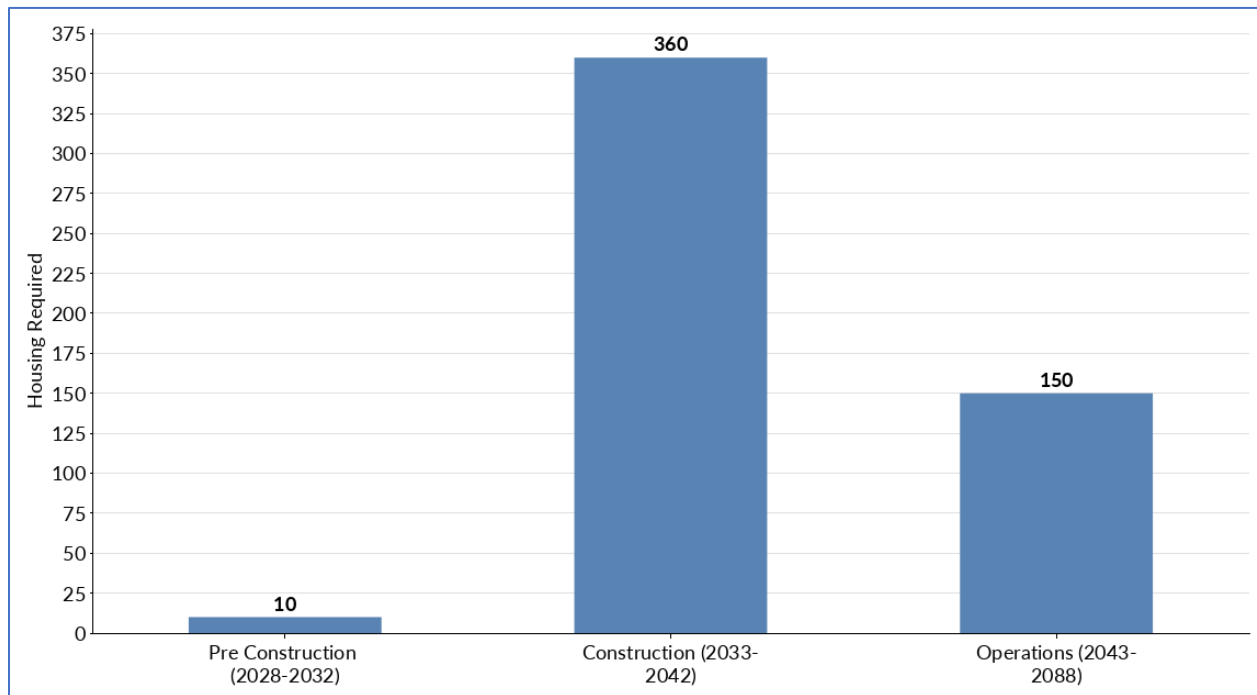
4.1.4 Project Impacts on Temporary Housing

Temporary housing will be required to support the temporary workers associated with the Project. Temporary housing in this analysis means workers from outside the Local Study Area. During the Pre-Construction phase there will be minimal temporary housing required as most of the labour for the Centre of Expertise will be resident in the Local Study Area, particularly Ignace. Note that temporary housing will be required to ease transition of employees to Ignace in the Pre-construction phase. Temporary housing in this case refers to accommodation for permanent residents transitioning to Ignace. Many of the trades related workers will reside in the camp at the Project site during Construction phase. During Operations, temporary labour will still be a material presence, though it will be much less than during the Pre-Construction phase. **Figure 23** describes the projected need for temporary housing during each phase of the Project.

⁷³ Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021.

⁷⁴ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

Figure 23 Projected Need for Temporary Housing ⁷⁵



4.2 Challenges and Opportunities associated with the Project

This section presents the challenges and opportunities associated with the Project. Several are apparent. In terms of opportunities, Ignace has a high likelihood of achieving its vision of returning to a strong vibrant community. Housing for new residents will help to achieve this. Ignace has choices in terms of the type and style of housing being constructed. It has an opportunity to be innovative.

In terms of challenges, there will be a strain on the limited housing resources now available, there may be higher housing costs for vulnerable residents, there may be a shortfall of serviced lands depending on housing density and developers and contractors will need to be incented to build.

4.2.1 Challenges and Opportunities Associated with Permanent Housing

The APM Project will require coordination, investments, and developments in permanent housing across the Local Study Area communities, particularly in Ignace. There will be increased demand for existing affordable housing, single family units, as well as apartment and other dwelling types. Although NWMO workers would not typically be in the demographic requiring affordable housing, it is possible that due to the low housing stock in the Local Study Area that NWMO employees may use this limited housing supply and thus contribute to the already increasing housing cost and availability if no other

⁷⁵ Nuclear Waste Management Organization (NWMO). (2021). Community Studies Planning Assumptions. November 2021. Note - At temporary work camp.

accommodation is available. For example, private road crews are already finding ways to accommodate workers at a reduced weekly rate in motels. A trucking company has moved in trailers to accommodate their workers. Due to the current lack of affordable housing in the Local Study Area it is crucial that the available land is developed to create new housing as to not put a strain on this already limited resource. There is an opportunity for existing residents to rent out rooms and basement apartments.

While the impact of the Project on vulnerable populations is not fully examined in this study, there is concern that vulnerable populations will not be able to participate in the economic benefits of the Project. The increased demands of the Project on housing could increase the cost of housing and reduce the already limited supply of affordable housing. This could negatively impact vulnerable populations. NWMO and Ignace will need to consider how the housing options may affect accommodation for the vulnerable populations that exist and work together to avoid and mitigate potential effects.

There are also challenges associated with new housing developments. In the Township of Ignace's analysis, it was projected that the required land to accommodate baseline projected population growth and the Project needs is 77.94 hectares of land, with a 14-hectare shortfall. However, this projection is based off a population forecast of 4,310 residents, well above baseline projections and Project labour requirements. This projection also assumes that 85 percent of housing development will be low density and accommodate 16 dwelling units per hectare and 15 percent medium to high density which would see 55 dwelling units per net hectare⁷⁶. It is important to recognize that with seniors staying in situ in single family homes due to lack of housing options, the building of a senior's residence will be a priority.

A major challenge will be incenting developers to construct housing on the available lands. There are two to three large developers in Thunder Bay and Sioux Lookout who have the capacity to build the necessary homes to accommodate the Project but they are hesitant due to the associated risk of employees choosing not to settle in the Study Area⁷⁷. There have been issues surrounding financing and securing mortgages in the Local Study Area and across Ontario, which may add to developers' reluctance to proceed. In order to incent development, it is likely that purchase commitments by either NWMO or NWMO staff will need to be made in order to mitigate the financial risk developers would be taking on. Other incentives could include letters of credit from NWMO or loan and purchase guarantees.

To further support new developments, communities in the Local Study Area will need to plan and implement the needed hard and soft service infrastructure to attract new residents. Ignace in particular, should attend to planning and upgrading its soft infrastructure to help attract workers to the community. With a population projected (as presented earlier), there is adequate land available for development.

There are many opportunities for the Local Study Area, associated with the increased demand on housing. The developments will encourage the development of soft infrastructure (educational, health,

⁷⁶ Township of Ignace. (2019). Official Plan and Zoning By-Law Review 2018-2019

⁷⁷ Thunder Bay Home Builders Association. (2022, January 28). Knowledge Holder Interview. HSAL, Interviewer)

business, and retail services), which will benefit existing residents and contribute to socio-economic development, overall. There will also be many economic benefits for local businesses and suppliers, as well as local workers and others who support the construction industry.

The KDMA, KDSB and large employers have expressed the desire to work with NWMO and other major employers to address the area-wide housing challenges. Developers will likely step up if risk is met with appropriate financial offsets.

4.2.2 Challenges and Opportunities associated with Temporary Housing

Assuming that some of the workers will be in local motels, the effect of this form of temporary housing will need to be monitored. The potential effect could be a displacement of tourism as tourists may need to bypass Ignace due to the inability to get motel rooms. The impact of the Project on tourism is not fully examined in this study. However, there is potential that demand for temporary housing and accommodation could consume a large quantity of the commercially available short-term accommodation. This has the potential to crowd out tourism in Ignace and parts of the Local Study Area.

5. Assessment of Options

Note to Reader

This section provides an overview of possible options to mitigate negative consequences or to enhance positive outcomes. They are presented by the authors to foster discussion only. They do not represent commitments or actions for the NWMO, the Township of Ignace, or other parties. The final decisions on actions and commitments will be made at a future date.

Ignace's non-APM housing is projected to grow by 70 units between 2021 and 2043 leaving ample unconstrained space for new housing growth⁷⁸. The municipalities surrounding Ignace are also aware of the Project and some may look to derive benefit from it in terms of housing growth and associated economic development.

The following presents a variety of strategies and options to meet the demands for Project-related housing growth. For this analysis, five options are explored that relate specifically to developing the

⁷⁸ Manifold Data Mining Inc. (2022). Retrieved online January 1, 2022, from Manifold: https://app.polarisintelligence.com/profile/showreport?comparison_session=true&_locale=en&component_name=comparison_list

Local Study Area housing stock and ensuring adequate accommodations are available for all phases of the Project and resulting housing demand and residency scenarios. Due to the immediate need to meet housing requirements for the Project, the timeline for most of the options is during the Pre-Construction phase and within the next five years. Housing initiatives should continue throughout the Construction and Operations phase. These options noted below are not mutually exclusive and several could be concurrently pursued.

The following options to address the housing need in Pre-construction are presented below:

- Option 1: Prepare an Urban Growth Plan-
- Option 2: Incent and attract builders to Ignace, and start building
- Option 3: Create Executive Suites for first wave of Project labour arriving in Ignace
- Option 4: Attract and retain NWMO staff in Ignace
- Option 5: Create a campus surrounding NWMO Centre of Expertise

Several of these options have urgent activities that may best be implemented soon if the options are to be pursued:

- Preparation of urban growth plan
- Excite existing staff about the possibilities of living in Ignace.
- Build executive suites to temporarily accommodate Project labour arriving during Pre-construction.
- Contract with builders to start building permanent houses for permanent residents.
- Develop plans for a campus around the Centre of Expertise.

The options presented are reflective of these potential outcomes, and are then assessed based on four criteria:

- **Ease of implementation:** includes demonstrated success on other projects if known and the degree of complexity required to implement, which may consider number of required partners and current municipal and provincial policies;
- **Degree of effectiveness:** considers the conditions required for effectiveness based on understanding of the community needs and aspiration;
- **Cost, if known:** will document costs for implementation if known; and
- **Ability for the NWMO or the Township of Ignace to implement:** considers if the NWMO or the Township alone or in partnership can implement an option or if another responsible authority needs to be involved.
- **Impact on vulnerable population:** Will the option create challenges for vulnerable residents.

There are housing design options from manufactured homes to well-designed single family and multiple family homes. The Township of Ignace working with NWMO has an opportunity to be innovative in

terms of how it provides housing and how it attracts NWMO and other employers to locate in Ignace. See Appendix E for a list of potential innovations and associated risks.

5.1 Option 1: Prepare an Urban Growth Plan

Having a planning process that addresses growth in a systematic way is a fundamental for addressing housing. Preparing an urban growth plan in anticipation of expanding the housing stock can help manage growth. This type of plan could stage out the development. It could also look at options for housing types and design suitable for the project and Ignace. Further it could look at case studies of build outs similar in nature.

Table 16 Prepare an Urban Growth Plan

Challenge/ Opportunity:	<ul style="list-style-type: none"> • There is a lack of adequate and available housing in Ignace to accommodate the labour in the residency planning projections. • Communities have the developable land available to support housing growth. • Need to have houses available for workers looking to settle in Ignace in the first wave and over time other communities in the Local Study Area. • Need for community enhancement to attract labour to Ignace rather than other communities in the Local Study Area
Description of Option:	<ul style="list-style-type: none"> • Prepare an urban growth plan that stages development, ensures that new housing is reflective of Northern culture, and references case studies of similar project developments. Specifically, the growth plan would: <ul style="list-style-type: none"> ○ Coordinate how infrastructure and soft services are matched to meet the needs of residents. ○ Reduce risk for developers. ○ Allow the municipality to plan for finances and supportive service requirements. ○ Ensure housing is of adequate size, durability, and character to meet future residents and the town’s needs. ○ Link with incentives for development and building provided by the Township of Ignace. ○ Encourage collaboration with local material providers in the area.
Urgent Actions:	<ul style="list-style-type: none"> • Preparation of urban growth plan
Timing:	<ul style="list-style-type: none"> • Pre-construction. • Priority for the next 5-years.
Assessment:	<p>Ease of Implementation:</p> <ul style="list-style-type: none"> • Developing an urban growth plan is a material but predictable effort. • With resources developing a housing plan is relatively easy to implement. <p>Degree of Effectiveness:</p> <ul style="list-style-type: none"> • This option could be very effective in ensuring that housing is developed in a way that meets the needs of new and existing Ignace residents, the Township of Ignace and the housing needs of the Project. <p>Cost:</p> <ul style="list-style-type: none"> • This is a relatively low-cost option to implement, although the community may require resources to implement

	<p>Ability to Implement:</p> <ul style="list-style-type: none"> • The Township of Ignace would be well positioned to develop this Urban Growth Plan <p>Vulnerable populations:</p> <ul style="list-style-type: none"> • The Urban Growth Plan could have a positive effect for vulnerable populations by addressing affordable housing in the plan
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5.2 Option 2: Incent and Attract Builders to Ignace

Housing development will need to meet the need for temporary accommodation in Ignace during pre-construction. In addition, housing development will need to balance the need for temporary housing for Project labour travelling from outside the Local Study Area and permanent housing that would make desirable homes for a resident workforce during construction and operations.

NWMO and the Township of Ignace will need to work together to attract developers and contractors to Ignace. Communities in Northwestern Ontario are also trying to attract companies who are able to put together the financing and skilled contractors. The key for private construction is to minimize the risk and maximize profits. The opportunity to build a modest number of homes each year may not be enough.

Due to the perceived financial risk in developing housing in a traditionally resource-based community like Ignace, as well as the challenges developers may face in accessing financing, incentives or financial commitment from the NWMO may be required to attract developers to Ignace. For example, while dated, mining companies built a range of housing types and tenure opportunities in Elliot Lake to support workers. A Hampton Inn Hotel was built to assist in the transition after the mines closed.

Table 17 Incent and Attract Builders to Ignace

Challenge/ Opportunity:	<ul style="list-style-type: none"> • Developers have the capacity to undertake large scale housing projects but are reluctant to do so in rural and remote communities because of the financial risk involved. There are builders and other housing suppliers in the Region who can meet the needs⁷⁹. • Communities have the developable land available to support housing growth. • Need to have houses available for workers looking to settle in Ignace in the first wave and over time other communities in the Local Study Area.
Description of Option:	<p>Contract with housing developers and builders to coordinate housing for the Project’s labour needs. Leverage these partners to fully understand what a housing plan might look like for Ignace and what incentives would be required to mobilize the creation of new housing.</p> <p>The first wave of resident labour could take accommodation in an executive suite temporary accommodation (see Option 5). Builders could concurrently start building houses to accommodate the permanent residents. Building the houses required by Project labour might be developed over multiple years and project phases. Project labour that started residency in temporary accommodation could transition into owned housing. Built housing should consider several different configurations (detached, semi-detached, apartments). Several different</p>

⁷⁹ See the Economic Development Study.

	<p>ownership options (single family owned, condominium) will be able to meet the preferences and needs of the resident Project labour force.</p> <p>Work with partners to balance housing development with the development of institutional and commercial amenities.</p> <p>Incentives could include:</p> <ul style="list-style-type: none"> • Serviced lands available • Guarantees to financial institutions on developer financing. • Guarantees to financial institutions on residential mortgages • Loan guarantees • Development charge amnesty for new developments • Other municipal incentives aligned with Community Improvement Plans • Direct solicitation for some new housing led by the municipality, NWMO or some other government or institution, rather than fully relying on a more passive approach.
Urgent Actions:	<ul style="list-style-type: none"> • Build executive suites or equivalent to accommodate the first wave of staff at the Centre of Expertise (Option 5). • Contract with builders to start building permanent housing for Project labour arriving in pre-construction.
Timing:	<ul style="list-style-type: none"> • Pre-construction is most critical. • Immediate need to create relationships. • Incentives and attractions would need to be well established over the next 5-years.
Assessment:	<p>Ease of Implementation:</p> <ul style="list-style-type: none"> • Incenting developers would be somewhat difficult to implement since they are likely not aware of NWMO of the Project. Up front work would be required well before the decision was made to locate in Ignace. There would likely need to be liaison with banks and other financial institutions. • Will require NWMO to collaborate with the Township of Ignace and surrounding communities to determine housing requirements and community needs. • Will require NWMO to collaborate with appropriate developers. • Multiple partnerships with different types of organizations would need to be developed in a relatively short time frame. This may be challenging to implement. • Coordination between NWMO, municipalities and others with regards to what incentives are required and who will be responsible for providing them may be difficult to coordinate. • Without available housing it will be difficult to attract the labour required to support the Project particularly during pre-construction. <p>Degree of effectiveness:</p> <ul style="list-style-type: none"> • Some incentive or solicitation will likely be required to meet the housing needs associated with the Project. • Incentives, direct solicitation, or a combination of the two will address the concerns and barriers that have made developers reluctant to create new housing under the current market conditions. • Timeliness is imperative for this option as where the first wave of NWMO staff take up residency during Pre-Construction will likely be where a hub of Project permanent residency form for the duration of the Project. <p>Cost if known:</p> <ul style="list-style-type: none"> • Will require investment from NWMO. If housing construction and sales are successful, the provision of NWMO Letters of Credit (for example) could mean little cash outlay for

	<p>NWMO. There are examples (e.g. Manitouwadge) where companies have done this that could be used to gather cost and funding data.</p> <ul style="list-style-type: none"> • Costs would be dependent on the type of guarantees and incentives provided • Directly soliciting housing rather than incenting development would require more up-front capital. • Given the increased demand for housing in Ignace associated with the Project, Developers would be less likely to default on repayment of financing than they are under the current conditions <p>Ability to implement:</p> <ul style="list-style-type: none"> • This option may be challenging yet important to implement. Implementation requires coordination between many parties • This option requires making fundamental decisions about directly soliciting development or incenting market forces. <p>Vulnerable populations:</p> <ul style="list-style-type: none"> • More housing could relieve burden on vulnerable populations but could possibly add to the cost of housing.
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5.3 Option 3: Create Executive Suites for First Wave of Project Labour Arriving in Ignace



Figure 24 Example of executive suites ⁸⁰

Although the planning projections for the Project assume 160 permanent residents in the Pre-construction phase, not all of these projected residents will take-up permanent residency on Day 1. To

⁸⁰ Taylor Morrison. (2022). Retrieved online June 21, 2022 from Taylor Morrison: https://www.taylormorrison.com/wa/seattle/kenmore/berkeley-trails?utm_medium=newhomefeed&utm_source=zillow%2Fpaid_network&nhf_channel=6&nhf_listing_id=86231&nhf_listing_type=community&utm_term=comm_BerkeleyTrails&utm_campaign=Kenmore%2FWA

allow Project Labour to move to Ignace in advance of taking on a permanent residence, development of executive suites, that allow for longer term temporary accommodation will help attract the first wave of labour.

Table 18 Create Executive Suites for first wave of Project labour arriving in Ignace

Challenge/ Opportunity:	<ul style="list-style-type: none"> • Lack of accommodation for the Project labour arriving in Pre-Construction. • Not all of the Project labour planned to take-up permanent residency in Ignace may be ready to take permanent accommodation on Day 1 of Pre-Construction. • Lack of affordable housing.
Description of Option:	<ul style="list-style-type: none"> • Build executive suites that contain a kitchen, dining/living room, and bedroom that can act as temporary accommodation for Project labour arriving at the start of Pre-Construction. • The facility can be built to a Platinum LEED standard to align with NWMO’s commitment to sustainability. • The executive suites can continue to act as a temporary accommodation for Project labour not housed at the workcamp during Construction, and Operations. • NWMO can contract directly to have the executive suites built. • NWMO can outsource the operations and rental of the executive suite facility. • Once the Project no longer requires the temporary accommodation provided by the executive suites, the facility can be turned over to the municipality or regional partner to provide social housing.
Timing:	<ul style="list-style-type: none"> • Immediate need to start this option so that it is ready to accommodate the first wave of Project labour • Pre-construction • Construction • Operations
Assessment:	<p>Ease of Implementation:</p> <ul style="list-style-type: none"> • Relatively easy for NWMO to build executive suites. • While NWMO may not want to be in the rental accommodation business, there are organizations that can operate the facility as a temporary accommodation facility for NWMO. • Relatively easy to transfer the executive suites facility to a community or institution. <p>Degree of Effectiveness:</p> <ul style="list-style-type: none"> • This approach would meet the need for temporary accommodation during Pre-Construction. • The executive suites could also function as a short-term rental accommodation (tourist resort, efficiency suites, hotel, etc.), and help address the need for temporary accommodation for non-permanent resident workers during the Operations phase of the Project. • This option could help address the community and broader area’s issues around lack of affordable housing once the Project no longer has need for this facility. <p>Cost:</p> <ul style="list-style-type: none"> • The capital cost of building this facility would need to be calculated. It is important to understand the ongoing operations and maintenance costs and projected revenues of the executive suites so whatever organization assumes management of the facility will have a business plan to cover these costs. <p>Ability to Implement:</p>

	<ul style="list-style-type: none"> • This option would be relatively easy to implement. • Through joint planning with the community and other key organizations, this option could be very beneficial for the community in dealing with its affordable housing challenges in the long-term. <p>Vulnerable populations:</p> <ul style="list-style-type: none"> • Very positive effect for vulnerable populations.
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5.4 Option 4: Attract and Retain NWMO Staff in Ignace

Attracting Project labour to Ignace over other Local Study Area communities creates housing demand in Ignace. Innovation and great design will be important. To attract staff working at the Centre of Expertise to reside in Ignace, NWMO might consider incentives for existing and new NWMO staff. It will be important to focus on housing for families. New and existing staff would only be willing to move or stay in Ignace if suitable housing was available. Incentives combined with a revitalization of Ignace’s amenities and retail could prove more effective than incentives and mandates alone.

Incenting employees to relocate could be supported by well designed homes, soft services and excellent schools, recreation, shopping and entertainment services.



Figure 25 Single family homes, townhouses and rental apartments⁸¹

Table 19 Attract and Retain NWMO Staff in Ignace

<p>Challenge/ Opportunity:</p>	<ul style="list-style-type: none"> • There is a lack of adequate and available housing in Ignace to accommodate the labour in the residency planning projections. • Labour supporting the Project may prefer to live in other communities, and therefore demand housing away from Ignace. • Opportunity to leverage the Centre of Expertise’s location in Ignace. Avoiding over an hour commute from surrounding communities is an incentive for Project labour to locate in Ignace. Attracting and retaining NWMO staff in Ignace will help achieve the residency planning projections. • Opportunity to attract the majority of workers during Pre-Construction and catalyze a permanent residency hub of Project labour within Ignace.
<p>Description of Option:</p>	<p>Require NWMO Staff (existing or new hires) to be present at the Centre of Expertise in Ignace (particularly during Pre-Construction and Construction):</p> <ul style="list-style-type: none"> • The Centre of Expertise will be hosted in Ignace and staff are expected to work from this location during Pre-Construction. • Most staff are assumed to take up residency in Ignace by 2028 to reduce commuting time and cost.

⁸¹ Canmore Mountain Living. (2022). Retrieved online June 22, 2022 from https://canmoremountainliving.com/canmore/?center=50.875645258590936_-115.24979285&city=Canmore&zoom=9 Ingrid and Langdon Real Estate

	<p>Incent NWMO staff (existing or new hires) to locate in Ignace:</p> <ul style="list-style-type: none"> • Provide staff with financial incentives and subsidies tied to residency in Ignace. <p>Attract labour to Ignace with enhancements to the community</p> <ul style="list-style-type: none"> • Foster attractive temporary and permanent housing that aligns with the community’s and labour’s desires. This housing would need to be of adequate quality and aligned with homeowners’ preferences to make them permanent homes for labour. • Revitalize Ignace’s household amenities
Urgent Actions:	<ul style="list-style-type: none"> • Introduce existing NWMO staff to Ignace; This could involve ensuring staff have a chance to visit Ignace in person, and potentially subsidizing family trips to Ignace for existing staff. • Engage existing staff in planning and visioning for enhancements to the community.
Timing:	<ul style="list-style-type: none"> • Pre-Construction. • Priority for the next 5-year (build and move people in waves)
Assessment:	<p>Ease of Implementation:</p> <ul style="list-style-type: none"> • NWMO can design and implement incentives and employment contracts aimed at NWMO staff (existing or new hires) that help achieve the goals for housing. There may be challenges in getting existing staff to buy-in and be willing to support this approach. • Revitalizing Ignace’s amenities requires coordination between NWMO, Ignace, other communities in the Local Study Area and private businesses. This revitalization may be complex and multifaceted, and therefore more difficult to implement. <p>Degree of effectiveness:</p> <ul style="list-style-type: none"> • Mandates and incentives can be effective in the short term, but lose efficacy over time as the focus of the project expands from the Center of Expertise to include the Project site construction and operations. • A well-paid workforce may have the financial means to forgo incentives thereby preferring residency in other communities that are more aligned to their preferences. This increases the requirement for community improvements to attract workers to Ignace on a permanent basis. <p>Cost if known:</p> <ul style="list-style-type: none"> • Costs would need to be estimated based on the incentives offered by NWMO • A specific study would be required to determine the nature and costs of revitalizing Ignace’s amenities <p>Ability to implement:</p> <ul style="list-style-type: none"> • NWMO could put in place mandates and incentives that encourage employees to locate in Ignace. • Implementing the revitalization of Ignace amenities requires multi-party collaboration and could be complicated to implement. <p>Impact on vulnerable:</p> <ul style="list-style-type: none"> • Housing for new residents could relieve the pressure and increasing costs for existing residents.

5.5 Option 5: Campus Based Around the Centre of Expertise



Figure 26 Campus housing⁸²

The challenges in attracting Project labour to take up permanent residency in Ignace include a lack of housing and community amenities that require revitalization to meet the potential expectations of new residents in the community. Developing a campus that combines the NWMO Centre of Expertise with housing, training facilities, and commercial partners in a campus complex can address several of these challenges at once, particularly as an early Pre-Construction housing solution. The construction of the facility by NWMO would be part of the solution of having a critical mass of development opportunity to attract developers and contractors.

Table 20 Campus Based Around the Centre of Expertise

Challenge/ Opportunity:	<ul style="list-style-type: none"> • There is a lack of adequate and available housing in Ignace • Need for community enhancement to attract labour to Ignace rather than other communities in the Local Study Area • Opportunity to leverage the Centre of Expertise’s location in Ignace as an attraction to labour, and therefore Ignace based housing development • Opportunity to attract the first wave of workers during Pre-construction and catalyze a permanent residency hub of Project labour • This type of housing would not be suitable for permanent workers with families, and may be better suited to single staff.
Description of Option:	Develop a desirably located project campus that combines: <ul style="list-style-type: none"> ○ Centre of Expertise ○ Temporary Housing ○ Training and education facilities ○ Commercial partners

⁸² Kingbridge Centre (2022). Retrieved online June 22, 2022 from <https://kingbridgecentre.com>

	<p>Training facilities could support training for project related technologies, community aspirations, and/or community needs. The temporary housing could transition into public housing or longer-term rental housing at the end of Construction.</p> <p>Although not an exact comparison an example of this could be the Knightsbridge Centre that was initially developed as a corporate training facility that became an independent conference centre.</p>
Urgent Actions:	<ul style="list-style-type: none"> • Develop plans for developing the Centre of Expertise campus
Timing:	<ul style="list-style-type: none"> • Pre-construction • Urgency around starting this option as it will be an important anchor for NWMO staff arriving in Pre-construction • Priority for the next 5-years
Assessment:	<p>Ease of Implementation:</p> <ul style="list-style-type: none"> • Significant initiative that would need to start soon • A business case would need to be developed to determine the full form of this option and ensure that the operation of the non-Centre of Expertise operations would be financially viable • May over the long-term assist in providing more affordable community housing <p>Degree of Effectiveness:</p> <ul style="list-style-type: none"> • Creates available accommodation for temporary NWMO staff arriving during Pre-construction • Does not prevent other communities from implementing other housing initiatives • Could leverage innovative building technologies • This would not meet the need for permanent housing for permanent resident workers <p>Cost:</p> <ul style="list-style-type: none"> • Costs would need to be determined through the business case. This would be a moderate to larger capital project. It would be important to understand the ongoing operating and maintenance costs as well as the capital costs for this option. <p>Ability to Implement:</p> <ul style="list-style-type: none"> • NWMO and The Township would need to coordinate on the implementation of this option • This option would result in significant capital construction costs, as well as ongoing operations costs which would require a business plan to ensure they could be covered <p>Vulnerable populations:</p> <ul style="list-style-type: none"> • Temporary housing could be transferred for other community needs when no longer required for the Project. This could be used for affordable housing.

6. Conclusions

This study sought to characterize the existing housing supply and demand in the Local Study Area and understand the potential effects of the APM Project on these aspects. Through examining existing studies and feedback from key stakeholder interviews, it is understood that the APM Project will increase housing demand in the Local Study Area, where housing supply and affordability are already constrained. Aging housing stock and a lack of services exacerbate these issues. Existing housing supply, housing affordability, and soft infrastructure exists in the Local Study Area, albeit outside of Ignace. The Project workforce could be drawn to areas with these assets.

Ignace has expressed specific housing objectives associated with the Project. To achieve these objectives and attract permanent workers to live in Ignace (particularly the first wave of incoming workers) Ignace will need to be strategic and proactive, supported by NWMO. There is little temporary housing in Ignace and there are relatively few goods and services to support this type of housing. What is there is frequently filled.

There is sufficient capacity in Ignace and the rest of the Local Study Area to build new housing. The surrounding municipalities within the Local Study Area are also experiencing housing shortages but have more services and soft infrastructure. To attract more residents to Ignace, the development of an Urban Growth Plan may facilitate health, retail, and recreation facilities needed to support incoming families and workers in Ignace. There is considerable potential for innovation in terms of the type of housing constructed.

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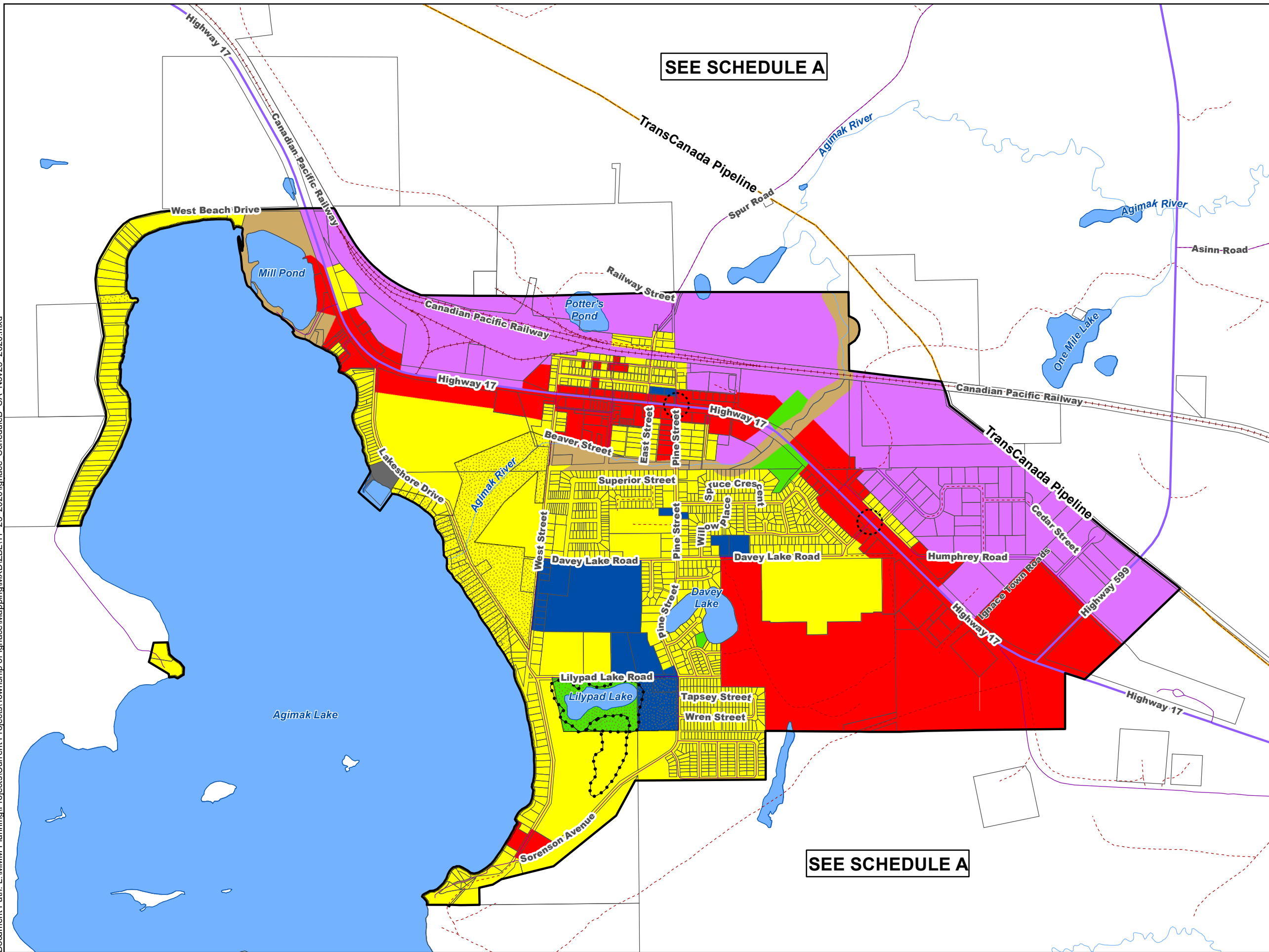
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Appendices

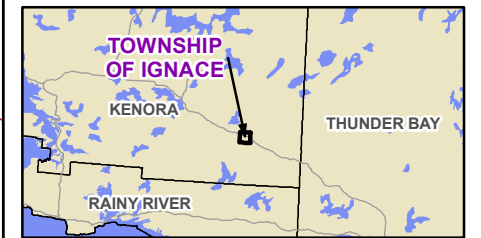
Appendix A - List of Community Studies

Study Name	Study Proponent	Lead Consultant
Community and Culture	NWMO	InterGroup Consultants Ltd and Scatliff+Miller+Murray
Local and Regional Economics and Finance	NWMO	Hardy Stevenson and Associates Limited
People and Health	NWMO	InterGroup Consultants Ltd
Infrastructure	Township of Ignace	WSP
Tourism	Township of Ignace	Urban Systems

Appendix B - Planning Documents



Township of Ignace
Final Official Plan
Schedule B
Land Use Designations
(Settlement Area)



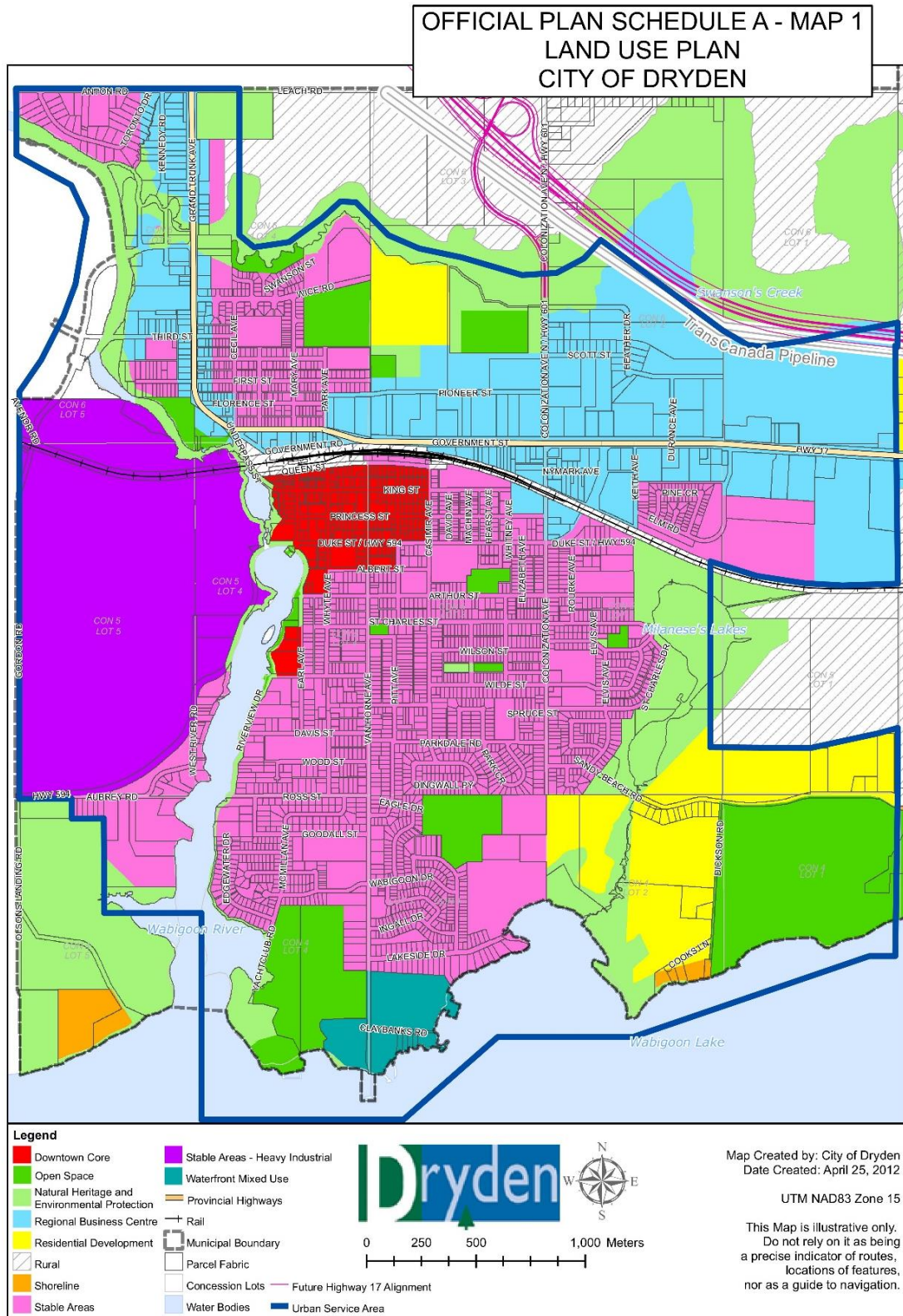
LEGEND

- Settlement Area Boundary
- Highway
- Local Road
- Road Segments
- Railway
- Water
- Watercourse
- Gas Pipeline
- Walking Trails
- Conceptual Pedestrian Crossing (Future)
- Flood Plain Overlay
- Land Use Designations**
- Residential Area
- Commercial Area
- Industrial Area
- Seaplane Operation Area
- Institutional Area
- Flood Plain Area
- Parks and Open Space Area

N 0 0.375 0.75 km

November 2020

Figure 1-2: Dryden Urban Service Area, Schedule A, Map No. 1, Official Plan for the City of Dryden (2012)





MUNICIPALITY OF SIOUX LOOKOUT

ZONING BY-LAW SCHEDULE B - URBAN SIOUX LOOKOUT SETTLEMENT AREA

NOVEMBER 2018

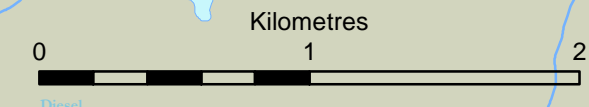
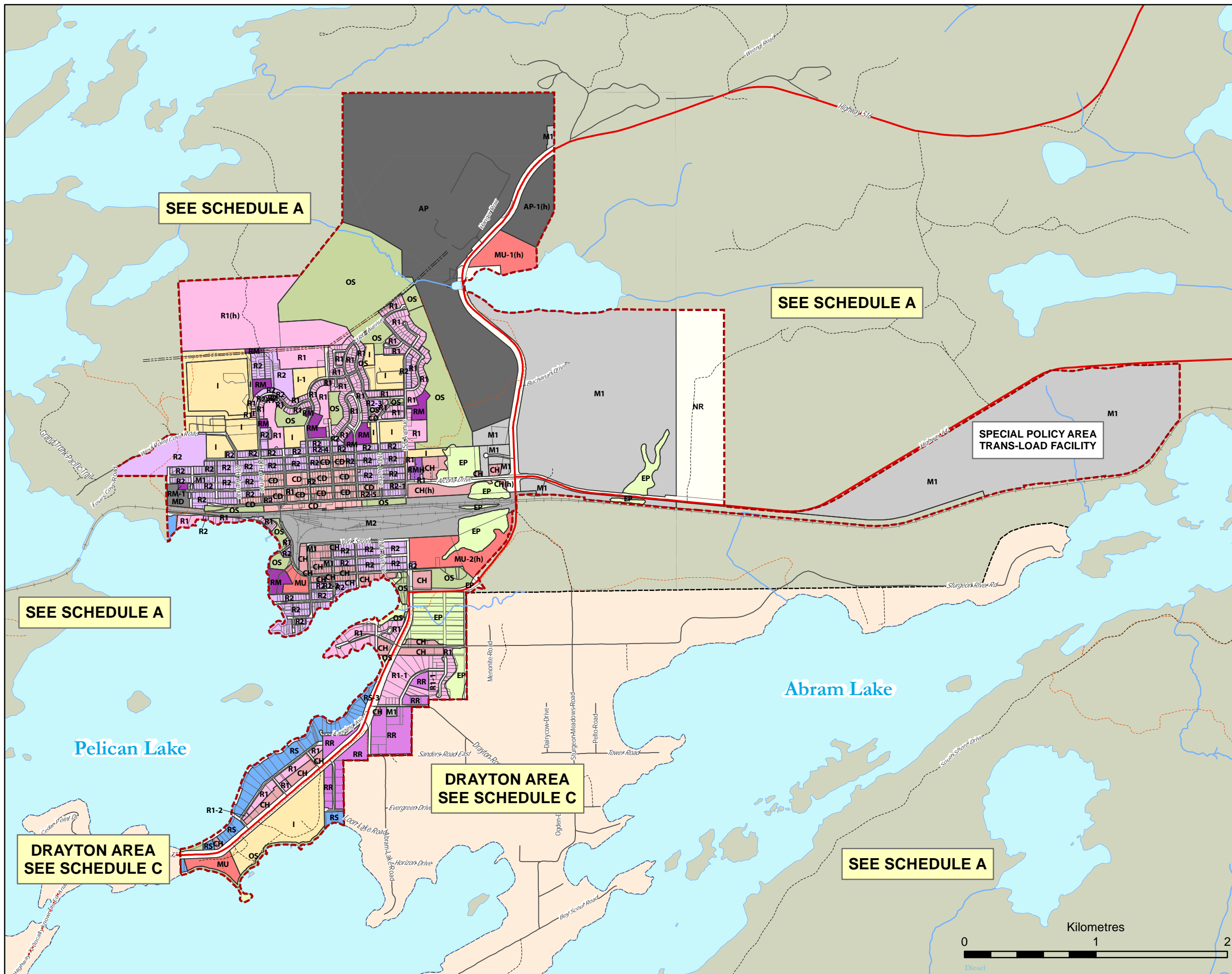


Legend

- Provincial Highway
- Municipality Maintained Road
- Other Road
- Railway Corridor
- Utility Corridor
- Snowmobile Trails
- Watercourse
- Parcel
- Waterbody
- See Schedule A for Rural Area
- Settlement Area
- Drayton Area

Zoning

- (h) Holding
- # Exception
- R1, Residential Type One
- R2, Residential Type Two
- RR, Rural Residential
- RMH, Residential Mobile Home
- RM, Multiple Residential
- RS, Residential Shoreline
- CD, Downtown Commercial
- CH, Highway Commercial
- MU, Mixed Use
- I, Institutional
- M1, Light Industrial
- M2, Heavy Industrial
- MD, Waste Disposal
- AP, Airport Industrial
- MX, Extractive Industrial
- EP, Environmental Protection
- OS, Open Space
- NR, Natural Resource

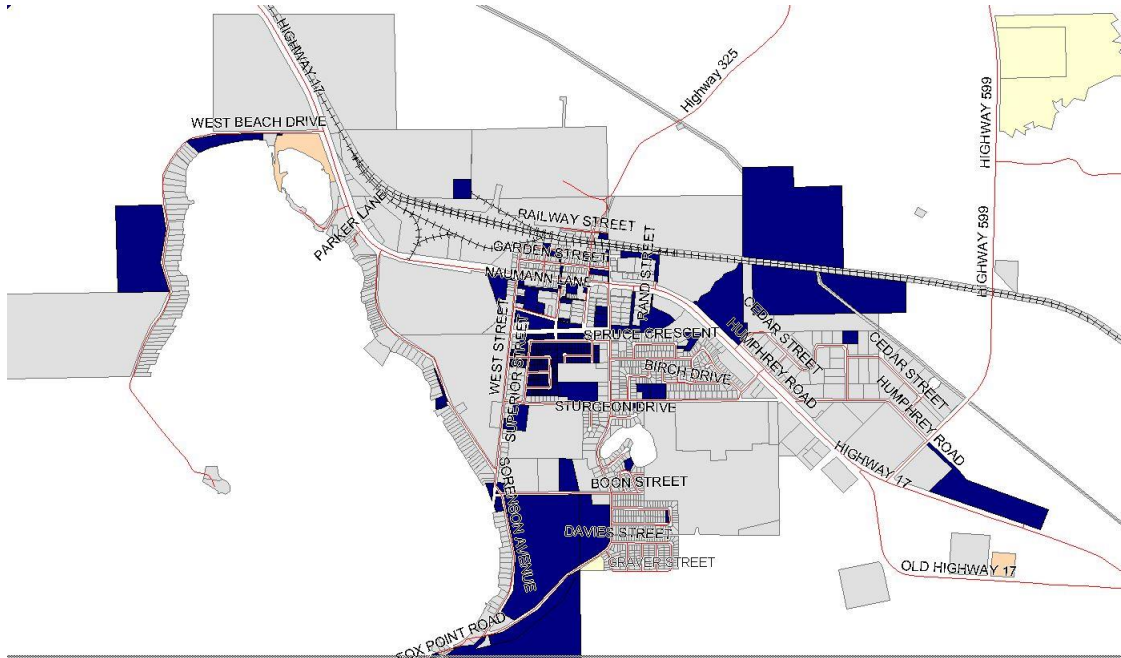


Appendix C - Key Knowledge Holders

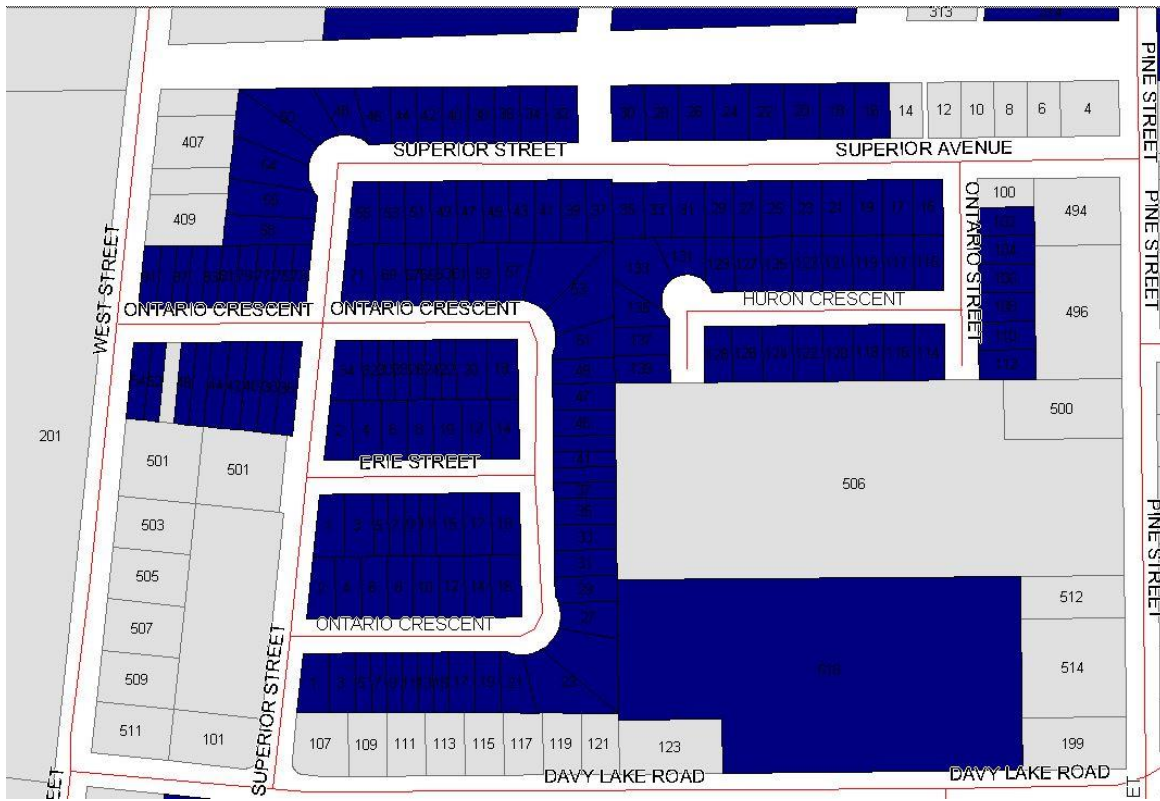
Interviewee	Organization
Executive Director	Northwest Training and Adjustment Board
Manager	Northwest Business Centre
Executive Officer	Thunder Bay Home Builders Association
Northern Development Advisor	Northern Ontario Heritage Fund Corporation
Initiatives Officer	FedNor
Economic Development Officer	Township of Machin
Owner/Operator	Sunset Carpentry
HR	Treasury Metals
Program Manager	Crossroads Employment & Training Centre
Executive Director	Sioux Lookout Mining Centre of Excellence
Owner/Operator	Ricci Trucking/Raleigh Falls Timber
Principal	KPDSB - Ignace/Upsala Schools
Executive Director	Thunder Bay Chamber of Commerce
MGR Planning & Development	Township of Ignace
Mayor and KDMA President	Township of Ear Falls
EDO	City of Dryden
CAO	Township of Sioux Lookout
CAO	Township of Atikokan
Mill Manager	Ignace Sawmill - Resolute
Treasurer	Township of Ignace
IABA	Ignace
Executive Director	PACE - Dryden
Manager	Nexus/Alterna Credit Union - Ignace
Manager	Dryden Regional Airport/Loomex
EDO	City of Kenora
Director	Hoshizaki House Dryden District Crisis Shelter
Regional Public Affairs Manager	Domtar Mill, Dryden
CEO	KDSB - Dryden

Appendix D – Proposed Township of Ignace Subdivision

These are excerpts provided by the Township regarding the owned lands and sub-division. The plan is to clear the land in the sub-division to assess the infrastructure and organise the lots. There are currently about 160 lots but this number may change as some can be divided or combined based on their sizes⁸³.



⁸³ Township of Ignace, 2022. Communication from Township of Ignace Staff.



Appendix E – Innovations and Risks

INNOVATIONS	DESCRIPTION	RISKS
Platinum LEED ⁸⁴ Housing	Build housing to a LEED Platinum Standard. Given that NWMO is part of the energy sector, a high level of energy efficiency and sustainability could be expected for new housing constructed. Homes could be designed as net-zero, passive in terms of emissions and energy use. Future NWMO employees may be attracted to advanced design.	Cost, skills of developers
Complete homes and communities	<p>Homes to be designed to accommodate residents throughout their lifecycle. Play and school spaces for children. Flats and adjoining units for seniors. Workspaces for employees working at home.</p> <p>Multi-family housing would have meeting spaces, tuck shops, entertainment areas, gyms, pools, food shops.</p> <p>Renewed neighbourhoods (based on new NWMO housing) would be complete with gathering spaces, entertainment spaces, presentation spaces, convenience and coffee shops with parks and trails.</p>	Would require Ignace to rethink its Official Plan objectives in terms of housing goals.
Homes that anticipate new technology	MIT ⁸⁵ has projected what the homes of the future may look like based on the full implementation of today's technology and AI. Today, the store comes to the home (Amazon) now with vehicles and in the future with street level drones, autonomous transit vehicles pick up at the homes, smart streets (get rid of the snow as its falling) virus monitors can be installed beside the thermostat or CO2 monitor	Would require a leap in terms of what housing architecture was preferred.

⁸⁴ Canada Green Building Council. (2022). Leadership in Energy and Environmental Design Retrieved online June 22, 2022 from <https://www.cagbc.org/our-work/certification/leed/>

⁸⁵ Institute for New Suburbanism. (2022). Retrieved online June 22, 2022 from www.newsurbanism.ca. See presentation by Dr. Alan Berger.

INNOVATIONS	DESCRIPTION	RISKS
Affordable housing	Multi-family homes that in the distant future could be handed off as affordable housing to seniors.	May require advancing affordable housing projects in the meantime.

Appendix F – Glossary

Term	Definition
Adaptative management	Adaptive management is defined consistent with the CNSC’s definition of adaptive management (REGDOC-3.6): A planned and systematic process for continuously improving management practices (primarily environmental) by learning from their outcomes. For an environmental assessment it involves, among other things, the implementation of new or modified mitigation measures over the life of the Project to address unanticipated environmental effects. Note: the need to implement adaptive management measures may be determined through an effective follow-up program.
Adaptive Phased Management (APM) Project	The Deep Geological Repository and other required infrastructure for the safe, long-term management of Canada's used nuclear fuel.
Community	The use of the term ‘community’ (a group of people living either in the same place or having a particular characteristic in common) will be qualified to specify the specific community of reference.
Community Studies Purpose	Community studies will inform the primary APM Project hosting agreement between the NWMO and the Township of Ignace. In addition, they will provide pertinent information for agreements with the City of Dryden as well as other potential regional agreements.
Ignace Area	Delineates the general area surrounding the potential APM Project location Deep Geological Repository in Northwestern Ontario; mainly comprising of City of Dryden, Machin, the Local Service Board of Wabigoon, the Local Service Board of Melgund (Dyment and Borups Corner), and Sioux Lookout. The area is located in Treaty #3 within the traditional territories of multiple Indigenous and Métis communities.
Ignace and Area Working Group	The Township of Ignace and the NWMO have established a working group inclusive of the Township of Ignace, Wabigoon Lake Ojibway Nation, and other Indigenous and non-Indigenous local and regional community members and observers to collaboratively design and implement baseline and community studies to provide a basis for achieving informed decision making related to the APM Project.

Term	Definition
Local Study Area	<p>The Local Study Area refers to the communities/areas most likely to experience future direct, indirect, and induced impacts of the APM Project - both positive and negative. For the purposes of the baseline studies, the potential “host” community (i.e., Ignace) is considered central to the Local Study Area, while other communities may be included on a topic-by-topic basis relative to potential future impacts and cumulative impacts.</p> <p>The Local Study Area will vary by baseline component/study as well as phase of the Project. For example, for workforce the Local Study Area includes communities that can commute to the Revell Site or the Centre of Expertise within an hour drive. This means that Ignace, Dryden, Sioux Lookout (for the Revell Site) and Machin (for the Revell Site) and unincorporated municipalities constitute the primary Local Study Area (micro labour-shed). This micro labour-shed includes settlement areas (unincorporated communities) between Dryden, Ignace, and Sioux Lookout. The preliminary spatial boundaries are as follows:</p> <ul style="list-style-type: none"> • Ignace; • Dryden; • Machin; • Sioux Lookout; • The Local Service Board of Melgund; and • The Local Service Board of Wabigoon.
Neighboring Community	Communities in Northwestern Ontario surrounding the Project or included in both Local and Regional Study Areas (i.e., Dryden, Sioux Lookout, Machin, and unincorporated municipalities).
Neighboring Community Leadership	For the purpose of engagement on draft materials, neighboring community leadership in this context refers to municipal administrative leadership inclusive of the Local Service Board of Wabigoon, the Local Service Board of Melgund, etc.
Potential Municipal Host Communities	Two municipal siting communities remain in the process. These are the Township of Ignace and the Municipality of South Bruce. Ignace has participated in the NWMO’s site selection process since initiation in 2010.
Project Site	Used to describe the location of the primary APM infrastructure including the Deep Geological Repository, and ancillary infrastructure to support operations.

Term	Definition
Regional Study Area	<p>The Regional Study Area refers to the area used to provide context for each component and may also experience future impacts of the APM Project (both positive and negative). During the future impact assessment, cumulative effects will be considered within the Regional Study Area.</p> <p>The Regional Study Area will also vary by baseline component/study as well as phase of the Project. In some instances, the regional boundaries are either narrowly defined by the area within the Kenora District or more broad in scope such as the labour baseline for example:</p> <ul style="list-style-type: none"> • Atikokan; • Kenora; • Thunder Bay; • Steinbach; and • Winnipeg.
Revell Site	Revell Batholith Temporary Withdrawal Area.
Rights Holders	First Nation and Métis communities who have asserted and or hold recognized treaty and/or Indigenous rights and whose Traditional Territories include the Project site.
Siting Area	In the context of the Community Studies for Northwestern Ontario, 'siting area' refers to the Ignace Siting Area defined above for 'Ignace Area'.
South Bruce Area	Delineates the general area surrounding the potential APM Project location in southwestern Ontario; mainly comprising Bruce County (excluding the South Bruce Peninsula) and northern portions of Huron County, but not extending to the shores of Lake Huron. The area is located in Treaty #45 1/2 in the traditional territory of the Saugeen Ojibway Nation as well as the asserted traditional territories of Métis communities.
Spatial Boundaries as defined in Baseline Design Report	Spatial boundaries vary by topic and will be refined over the course of engagement. It is anticipated spatial boundaries will reflect inputs from local governments, the public, Indigenous communities, federal and provincial government departments and agencies, and other interested parties, consistent with the Tailored Guidelines template. Two general spatial study areas are considered as part of the Community Studies that referred to as the Local Study Area and Regional Study Area.