

Appendix B.9

Social and Economic Conditions Report

Crawford Nickel Project: Social and Economic Conditions Baseline Report

September 30, 2024

Prepared for:

Canada Nickel Company



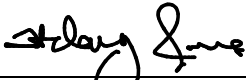
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Acronyms and Abbreviations

ATV	All-terrain Vehicle
BMA	Bear Management Area
BMZ	Bait Management Zone
CNWA	Canadian Navigable Waters Act, 2019
FMP	Forest Management Plan
FMU	Forest Management Unit
FMZ	Fisheries Management Zone
GBA Plus	Gender Based Analysis Plus
IAA	Impact Assessment Act, 2019
IK	Indigenous knowledge
LSA	Local Study Area
MECP	Ministry of the Environment, Conservation and Parks
MINES	Ministry of Mines
MNR	Ministry of Natural Resources (formerly Ministry of Natural Resources and Forestry)
MRCA	Mattagami Region Conservation Authority
MTO	Ministry of Transportation Ontario
NGO	Non-governmental Organization
PA	Project Area
RSA	Regional Study Area
SFL	Sustainable Forest License
TIS Guidelines	Tailored Impact Statement Guidelines

Crawford Nickel Project: Social and Economic Conditions Baseline Report
Acronyms and Abbreviations
September 30, 2024

tpd	tonnes per day
'the Minister'	Minister of Environment and Climate Change
VC	Valued Component
WMU	Wildlife Management Unit

1 Introduction

Canada Nickel Company (Canada Nickel) proposes to develop, operate, and progressively reclaim the Crawford Nickel Project ('the Project'), a new open pit nickel mine and processing facility approximately 42 kilometres (km) north of Timmins, Ontario along Highway 655. The Project is being assessed in accordance with the *Impact Assessment Act, 2019* (Impact Assessment Agency of Canada [IAAC] 2019).

Stantec Consulting Ltd. (Stantec) has been retained by Canada Nickel to conduct an assessment of social conditions and economic conditions for the Project. This Social and Economic Conditions Baseline Report has been completed to inform the Impact Statement. It has been prepared pursuant to the *Impact Assessment Act, 2019* and in consideration of the Tailored Impact Statement Guidelines: Crawford Nickel Project (Impact Assessment Agency of Canada 2023) (TIS Guidelines). As per the TIS Guidelines, the description of existing social conditions is intended to include services and infrastructure, community well-being, and land and resource use. Since community well-being is also a requirement under health conditions in the TIS Guidelines, to avoid duplication of information, baseline information for community well-being is presented in Chapter 21 of the Impact Statement (Assessment of Potential Effects on Health).

Similarly, the detailed descriptions of existing social conditions for potentially affected Indigenous nations in the region (Apitipi Anicinapek Nation, Flying Post First Nation, Matachewan First Nation, Mattagami First Nation, Métis Nation of Ontario - Region 3, and Taykwa Tagamou Nation) are presented in the Assessment of Potential Effects on Indigenous Interests (Chapters 25 to 28 of the Impact Statement). Information on services provided to Indigenous nations living in the main service centres in the region are described in this Social and Economic Conditions Baseline Report.

1.1 Project Location and Setting

The Crawford Nickel Project site is located approximately 42 km north of the City of Timmins, Ontario, in the geographic townships of Crawford, Carnegie, Kidd, Lucas, Beck, Nesbitt, Wark, and Prosser. A small portion of the Project extent within the geographic townships of Kidd and Wark also lies within the municipal boundary of the City of Timmins.

1.2 Project Overview

Canada Nickel proposes to develop, construct, operate, and progressively reclaim a new open pit nickel mine and processing facility, collectively known as the Crawford Nickel Project. The Project includes the development of an Open Pit, Stockpiles, two ore Processing Plants, and other mine related infrastructure, as well as a new rail spur line and the relocation of Highway 655 and an existing 500 kilovolt (kV) transmission line. Ore will be extracted from a single Open Pit that will be divided into an East Zone and Main Zone. The Project has a mineral reserve estimate of 1,715 million tonnes (Mt) and an expected Project life of 41 years.

Based on the current Project design, the maximum rate of ore extraction will be up to 240,000 tonnes per day (tpd) during year 5 of operations and an average rate of 160,000 tpd over the life of mine. The two ore Processing Plants and associated service facilities will process run of mine ore delivered to Primary Crushers to produce nickel concentrate, iron concentrate, and tailings at a rate of approximately 60,000 tpd at the start of mine life, ramping up to a maximum of 120,000 tpd. In addition to nickel and iron, other metals such as cobalt, chromium, palladium and platinum are expected to be recovered from concentrate streams.

Concentrate from the processing plants will be loaded onto rail cars and shipped via the rail spur line for refinement offsite.

1.3 Study Objectives

The objectives of this study are to describe and present available information on the existing social and economic conditions within the study area, using disaggregated data for diverse subgroups where possible. Information is provided to address the baseline conditions information requirements of section 10 (social conditions) and section 11 (economic conditions) of the TIS Guidelines.

The scope of the socio-economic baseline report includes the following:

1. Economic conditions

The description of existing economic conditions includes:

- Demographic employment in the region
- Availability of skilled and unskilled labour in the region
- An overview of factors that influence workforce availability
- An overview of the main economic activities for the local and regional population, and
- An overview of the mining industry domestically and internationally

2. Social conditions

The description of existing social conditions includes:

- Services and infrastructure, including:
 - Housing and temporary accommodations (including core housing need and social housing)
 - Utilities
 - Health services and infrastructure (including addictions and mental health services, elder care, and services for women)
 - Emergency services (including police, fire, and ambulance services)
 - Education and childcare

- Transportation
- Land and resource use, including:
 - Land ownership and development
 - Designated land and protected areas
 - Recreation and tourism (including recreation and parks)
 - Resource use (including current use of lands and waterbodies for agriculture, commercial forestry, mining/aggregate, commercial bait fishing)

The information presented was obtained primarily from secondary sources, including Statistics Canada, municipal websites, provincial agencies, school and health board websites, regional tourism development websites, publicly available information (e.g., maps, reports, studies, public databases, government data), other literature and environmental assessments, and local news outlets. Primary data, including issues and concerns, were collected through conversations with municipal and other local authorities. Stantec also engaged with members of the Project Socio-Economic Committee for feedback on existing social and economic conditions.

2 Regulatory Setting

There are several federal and provincial regulatory requirements that may apply to the Project, including environmental assessment and other environmental permitting obligations.

2.1 Federal Requirements

The Project is being assessed in accordance with the *Impact Assessment Act*, 2019, which requires that the assessment include a description of the baseline for the environmental, health, social and economic conditions related to the Project. The *Impact Assessment Act*, 2019, also requires a consideration of Gender Based Analysis Plus (GBA Plus) through the disaggregation of baseline data where possible.

The requirements to consider potential Project effects on social and economic conditions are described in sections 10 and 11 of the TIS Guidelines for the Project.

2.2 Provincial Requirements

The Project is being assessed in accordance with the Ontario *Environmental Assessment Act*, 1990 via one or more provincial environmental assessment processes. Certain ancillary facilities associated with mining development may be subject to one or more prescribed Class Environmental Assessment (Class EA). Several Project components trigger Class EA requirements, as follows:

- Class EA for Provincial Transportation Facilities and Municipal Expressways (Ministry of Transportation [MTO] Class EA) – Group B (i.e., interim works for Highway 655 and realignment of existing Highway 655).
- Class EA for the Ministry of Natural Resources and Forestry (MNRF) Resource Stewardship and Facility Development Projects Class EA – Category B (tentative) (i.e., *Public Lands Act* authorization for disposition of Crown land and resources, *Public Lands Act* and/or *Lakes and Rivers Improvement Act* authorizations for work on shorelands (e.g., water crossings), Crown Forest Sustainability Act to remove forest resources, *Aggregate Resources Act* for development of a new aggregate pit(s), if needed).
- Class EA for Activities of the Ministry of Northern Development and Mines under the *Mining Act* – Category B (tentative) (i.e., surface rights within Crown reservations from waterbodies, as applicable).
- Class EA for Transmission Facilities – Screening process (i.e., new transmission line internal to site, two transformer stations).

Provincial agencies expected to be involved with approvals for the Project include:

- Hydro One Networks Incorporated, with the responsibility to distribute electricity across Ontario to approximately 1.5 million predominantly rural customers, including those located in Northeastern Ontario.
- Ministry of the Environment, Conservation and Parks (MECP), with the responsibility to protect Ontario's air, land, water, species at risk and their habitats, tackle climate change, enforce compliance with environmental laws, and monitor and report to track environment progress.
- Ministry of Mines (MINES), with the responsibility to ensure the orderly development of mineral resources in Ontario, including responsibility for the disposition of provincial Crown lands for mining, mine closure activities and mining-related dams located on land; as well as, the wise use of Crown resources not otherwise disposed, such as through the Mining Act, including natural heritage features.
- Ministry of Natural Resources (MNR), with responsibility for authorizations related to the disposition of some provincial Crown resources (such as aggregate and timber resources), issuing approval for dam construction and other works within water, activities which may affect aquatic species (such as relocation of fish and diversion of watercourses), and authorization of works occurring on provincial Crown Land.
- Ministry of Transportation (MTO), with the responsibility to be appropriate transit and transportation infrastructure, as well as provide policy pertaining to road safety.

2.3 Regional and Municipal Guidance

Other regional and municipal policies, frameworks, organizations, and boards relevant to social and economic conditions have been considered in the development of the Social and Economic Conditions Baseline Report. These include:

- *Municipal Government Act*
- District and municipal development plans and strategic plans
- Regional land and resource management plans
- Far North East Training Board
- Timmins Economic Development Corporation
- Cochrane District Social Services Administration Board
- North East Health Region and Porcupine Health Unit
- District school boards (District School Board Ontario North East, Northeastern Catholic School Board, Conseil Scolaire Catholique de District des Grandes Rivières, and Conseil Scolaire Public de Nord Est de L'Ontario)

3 GBA Plus Considerations

The Project Guidelines require that baseline information includes information on sub-populations and sub-groups of the Local Study Area (LSA) and Regional Study Area (RSA) population who may experience disproportionate effects from the Project, where such information is available. This baseline information will contribute to an analysis of disproportionate effects through GBA Plus. Sub-populations and sub-groups may include women, Indigenous peoples, visible minorities, persons with disabilities, youth, and older adults, among others, and groups who demonstrate any intersection of those characteristics.

To obtain information regarding the sub-populations and sub-groups that may be disproportionately affected by the Project, results of Project engagement to date and comments from stakeholders on Project documents were reviewed. Concerns and issues brought forward by members of vulnerable groups were documented and have informed the description of existing socio-economic conditions. They will also be carried through the assessment.

Canada Nickel has used engagement methods that are inclusive and will contribute to the analysis of GBA Plus. Canada Nickel has and will continue to identify and engage with organizations that may work with and/or represent under-represented, potentially impacted populations. Examples include organizations that provide supportive housing, shelter, and related services; organizations that represent visible minority groups; and organizations that work with or advocate for the homeless, low-income households, and other vulnerable populations. Canada Nickel has and will continue to share Project information with these organizations and work to identify issues, interests, and concerns with respect to the Project; seek feedback on potential means of limiting adverse effects and enhancing beneficial effects on vulnerable sub-populations; and seek qualitative and quantitative information on vulnerable sub-populations.

With respect to quantitative data, where possible, disaggregated data have been used in to describe baseline conditions for diverse or distinct subgroups to support the GBA Plus analysis of effects, as described in guidance from the Impact Assessment Agency of Canada. Both qualitative and quantitative data have been used to describe baseline conditions across diverse or distinct subgroups, where GBA Plus has the potential to be relevant to the understanding of effects.

4 Economic Conditions

4.1 Study Area

For the purpose of this assessment, the spatial boundaries considered the study areas that have been selected for the potential effects on economic conditions.

4.1.1 Project Area

The **Project Area (PA)** encompasses the Project footprint and is the anticipated area of physical disturbance associated with the construction, operations, and decommissioning and closure of the Project. The PA is shown on Figure A.1 in Appendix A.

4.1.2 Local Study Area

The **Local Study Area (LSA)** encompasses the area in which Project-related effects (direct or indirect) were predicted or measured with a level of confidence appropriate for the assessment and in which there is a reasonable expectation that the potential effects in the LSA are of public interest.

The LSA includes the PA and the Statistics Canada subdivisions for four municipalities: the City of Timmins and the Towns of Cochrane, Iroquois Falls, and Smooth Rock Falls, as well as five First Nation reserves: Taykwa Tagamou First Nation, Flying Post First Nation, Matachewan First Nation, Mattagami First Nation, and Apitipi Anicinapek Nation. The LSA is shown on Figure A.1 in Appendix.

4.1.3 Regional Study Area

The **Regional Study Area (RSA)** includes the area within which cumulative effects on economic conditions are likely to occur, depending on the location of other past, present, or reasonably foreseeable future projects or activities.

The RSA for the economic conditions assessment includes the Cochrane Census Division, the Timiskaming Census Division, and the Mattagami First Nation reserve. The RSA is shown on Figure A.1 in Appendix A.

4.2 Methods

4.2.1 Desktop Review and Data Sources

Secondary sources of information were used to describe existing conditions in the LSA and RSA. Secondary information included government sources (Statistics Canada, Government of Ontario), publicly available data and literature, as well as previously prepared information (e.g., reports, studies) submitted to Canada Nickel by Indigenous nations and local communities.

Much of this report relies on government databases, including Census data from Statistics Canada. Statistics Canada regularly suppresses (e.g., selectively does not disclose) survey information to protect the identity of individuals and to address data quality issues. The 2021 Census of the Population (Census), which is used in this section is subject, in part, to such data suppression.

Results of engagement with stakeholders and Indigenous nations have also been integrated into the description of existing conditions, where applicable.

4.2.2 Primary Research

While baseline data predominantly came from secondary sources, Canada Nickel has formed a Socio-Economic Committee (formerly the Community Contributions and Local Procurement Committee) with social, economic, and municipal representatives from the Project's surrounding communities. The Committee's mandate is to identify and discuss potential social, economic, and health impacts related to the Project in order to jointly define and implement potential solutions. Information provided through the committee meetings were included in this report.

4.3 Existing Conditions

4.3.1 Population

In 2021, the total population of the LSA was 52,710 (evenly split between men+¹ and women+²), a 1.4% decrease since 2016 (Table 4.1) (Statistics Canada 2017, 2022). Of note, all First Nations communities where data was available saw population increases between 2016 and 2021. For the RSA, total population was 109,590 (50.2% women+) in 2021, featuring a decrease of 2.3% over 2016. In comparison, the 2021 provincial population of 14,223,940 (51.0% women+) saw a 5.5% increase since 2016. Approximately 16% of persons within both the LSA (8,410, of which 50.9% are women+) and RSA (17,600, of which 50.3% are women+) identified as Indigenous. The Indigenous population increased from 2016 to 2021 in the province (7.9%), the RSA (11.6%) and the LSA (18.4%). It should be noted that the populations of the First Nations noted below are those that live on-reserve.

¹ This category includes men (and/or boys), as well as some non-binary persons.

² This category includes women (and/or girls), as well as some non-binary persons.

Table 4.1 Population Change – 2016 to 2021

Location	Total	Men+ ¹	Women+ ²	% Change (Total)	% Change (Men+)	% Change (Women+)
Total Population						
Mattagami First Nation (2023)	43	6	37	9.5%	14.3%	4.8%
Matachewan First Nation (2023)	66	33	33	7.7%	14.3%	14.3%
City of Timmins	41,145	20,555	20,590	-1.6%	-0.6%	-2.5%
Town of Iroquois Falls	4420	2210	2210	-2.7%	-1.1%	-4.3%
Apitipi Anicinapek Nation	155	85	70	6.5%	0.0%	14.3%
Town of Cochrane	5395	2695	2700	1.2%	2.6%	0.4%
Town of Smooth Rock Falls	1200	610	590	-10.8%	-11.5%	-10.2%
Flying Post First Nation (2023)	258	x	x	x	x	x
Taykwa Tagamou First Nation	130	70	60	28.0%	28.6%	25.0%
LSA	52,710	26,360	26,360	-1.4%	-0.4%	-2.4%
Timiskaming Census Division	31,420	15,510	15,910	-2.6%	-3.1%	-2.2%
Cochrane Census Division	77,960	38,985	38,975	-2.2%	-1.5%	-2.9%
RSA	109,590	54,600	54,990	-2.3%	-1.9%	-2.7%
Ontario	14,223,940	6,970,855	7,253,085	5.5%	5.9%	5.0%
Indigenous Population³						
Mattagami First Nation (2023)	43	6	37	8.1%	-5.9%	15.0%
Matachewan First Nation	50	25	25	9.1%	0.0%	20.0%
City of Timmins	5995	2955	3,040	21.4%	23.4%	19.4%
Town of Iroquois Falls	570	295	275	3.5%	6.8%	0.0%
Apitipi Anicinapek Nation	140	70	70	0.0%	-14.3%	14.3%
Town of Cochrane	1275	610	670	18.0%	9.8%	26.1%
Town of Smooth Rock Falls	55	20	35	-75.0%	-125.0%	-71.4%
Flying Post First Nation	X	x	x	x	x	x
Taykwa Tagamou First Nation	135	70	65	30.8%	28.6%	30.8%

Location	Total	Men+ ¹	Women+ ²	% Change (Total)	% Change (Men+)	% Change (Women+)
LSA	8410	4130	4280	18.4%	18.2%	18.5%
Timiskaming Census Division	2865	1415	1450	10.8%	9.5%	12.1%
Cochrane Census Division	14,550	7245	7,305	11.8%	12.3%	11.4%
RSA	17,600	8745	8855	11.6%	11.7%	11.5%
Ontario	406,595	195,100	211,495	7.9%	7.8%	8.1%

Notes:

1. This category includes men (and/or boys), as well as some non-binary persons.
2. This category includes women (and/or girls), as well as some non-binary persons.
3. Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size.

x no information available.

2021 'Total Population' and 'Indigenous Population' data from 2021 Census of the Population – Census Profile. Values shown in "Total" columns are the sum of male and female Census Subdivision (CSD) subsets taken from Statistics Canada's 2021 Census Profile (Census of the Population). Due to Statistics Canada rounding (Statistics Canada 2022) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

Source: Statistics Canada 2022

4.3.2 Educational Attainment

Educational attainment levels for residents of the LSA and RSA in 2021 are summarized in Table 4.2. Overall, within the LSA, 48.0% of the total population had completed post-secondary education compared to the RSA average of 47.4% (Statistics Canada 2022). Women+ within both the LSA (60.7%) and RSA (62.3%) accounted for a greater proportion of the total population with a college or university certificate, diploma or degree at bachelor level or above, while men+ accounted for a greater proportion of the population with an apprenticeship or trades certificate or diploma (79.9% in the LSA and 78.1% in the RSA). This trend is also consistent across the Indigenous population, where women+ accounted for a greater proportion of the total population with a college or university certificate, diploma or degree at bachelor level or above (69.6% of the LSA and 76.0% of the RSA), while men+ accounted for a greater proportion of the population with an apprenticeship or trades certificate or diploma (80.9% in the LSA and 77.0% in the RSA).

Table 4.2 Education Attainment in LSA and RSA – 2021

Educational Attainment	LSA				RSA			
	Total	Percent	Men+ ¹ (%)	Women+ ² (%)	Total	Percent	Men+ (%)	Women+ (%)
Total Population								
No certificate, diploma or degree	9625	22.4%	51.5%	48.5%	21,650	24.1%	52.5%	47.5%

Educational Attainment	LSA				RSA			
	Total	Percent	Men+ ¹ (%)	Women+ ² (%)	Total	Percent	Men+ (%)	Women+ (%)
High (secondary) school diploma or equivalency certificate	12,740	29.6%	50.7%	49.6%	25,520	28.5%	50.9%	49.1%
Apprenticeship or trades certificate or diploma	3435	8.0%	79.9%	19.8%	7385	8.2%	78.1%	21.7%
College, CEGEP or other non-university certificate or diploma	11,605	27.0%	44.1%	56.0%	23,850	26.6%	43.3%	56.7%
University certificate or diploma below bachelor level	475	1.1%	43.2%	60.0%	1090	1.2%	36.7%	64.2%
Bachelor's degree or higher	5140	11.9%	38.9%	60.7%	10,200	11.4%	37.5%	62.3%
Indigenous Population³								
No certificate, diploma or degree	1760	27.8%	49.4%	51.4%	4080	31.1%	54.2%	45.7%
High (secondary) school diploma or equivalency certificate	1830	28.9%	49.7%	50.5%	3645	27.8%	50.1%	49.9%
Apprenticeship or trades certificate or diploma	470	7.4%	80.9%	21.3%	980	7.5%	77.0%	23.5%
College, CEGEP or other non-university certificate or diploma	1755	27.7%	43.0%	58.1%	3400	25.9%	41.2%	58.5%
University certificate or diploma below bachelor level	55	0.9%	36.4%	81.8%	195	1.5%	25.6%	79.5%
Bachelor's degree or higher	460	7.3%	26.1%	69.6%	835	6.4%	24.0%	76.0%
Notes: 1. This category includes men (and/or boys), as well as some non-binary persons. 2. This category includes women (and/or girls), as well as some non-binary persons. 3. Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size. 2021 'Total Population' and 'Indigenous Population' data from 2021 Census of the Population – Census Profile. Values shown in "Total" columns are the sum of male and female Census Subdivision (CSD) subsets taken from Statistics Canada's 2021 Census Profile (Census of the Population). Due to Statistics Canada rounding (Statistics Canada 2022) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables. Source: Statistics Canada 2022								

4.3.3 Labour Force

Labour force indicators for the LSA and RSA are summarized in Table 4.3. In 2021, the total size of the LSA labour force was 43,050 (50.1% women+) and the RSA labour force was 89,700 (50.2% women+) (Statistics Canada 2022). When considering the Indigenous population, the total size of the LSA labour force was 6,345 (51.9% women+) and the RSA labour force was 13,120 (50.9% women+) (Statistics Canada 2022). In 2021, the LSA total labour force participation rate³ (60.1%) was lower than the RSA average (58.0%), (Statistics Canada 2022). The participation among the Indigenous population was higher in the LSA and RSA compared to the total population, as was the unemployment rate. There were minor variations in labour force participation rates observed between men+ and women+ within the LSA and RSA and overall men+ had a higher participation rate.

Table 4.3 Labour Force Indicators – 2021

Topic	LSA			RSA		
	Total	Men+ ¹	Women+ ²	Total	Men+	Women+
Total Population						
Population aged 15+	43,050	21,470	21,580	89,700	44,690	45,010
In the labour force	25,865	13,670	12,195	51,985	27,470	24,515
Employed	23,595	12,595	11,000	47,350	25,085	22,265
Unemployed	2270	1080	1190	4635	2395	2,240
Employment rate	54.8%	58.7%	51.0%	52.8%	56.1%	49.5%
Participation rate	60.1%	63.7%	56.5%	58.0%	61.5%	54.5%
Unemployment rate	8.8%	7.9%	9.8%	8.9%	8.7%	9.1%
Indigenous Population³						
Population aged 15+	6345	3055	3290	13,120	6440	6680
In the labour force	3915	1925	1980	7755	3875	3880
Employed	3455	1725	1730	6850	3400	3450
Unemployed	445	195	250	910	485	425
Employment rate	54.6%	56.5%	52.6%	52.2%	52.8%	51.6%
Participation rate	61.7%	63.0%	60.2%	59.2%	60.2%	58.1%
Unemployment rate	11.4%	10.1%	12.6%	11.6%	12.5%	11.0%
Notes:						
1. This category includes men (and/or boys), as well as some non-binary persons.						
2. This category includes women (and/or girls), as well as some non-binary persons.						
3. Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size.						
2021 'Total Population' and 'Indigenous Population' data from 2021 Census of the Population – Census Profile.						

³ The participation rate is the total labour force (employed and unemployed, combined) relative to the working-age population.

Topic	LSA			RSA		
	Total	Men+ ¹	Women+ ²	Total	Men+	Women+
Values shown in "Total" columns are the sum of male and female Census Subdivision (CSD) subsets taken from Statistics Canada's 2021 Census Profile (Census of the Population). Due to Statistics Canada rounding (Statistics Canada 2022) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.						
Source: Statistics Canada 2022						

4.3.4 Employment by Industry

Table 4.4 presents employment by industry in the LSA and RSA. Individuals working in industries that are most likely to provide employment to the Project include mining, quarrying, and oil and gas extraction; construction; manufacturing; transportation and warehousing; and professional, scientific, and technical services. By comparison to the existing top employment sectors in the LSA and RSA, the sectors most likely to supply direct labour to the Project are dominated by men+ in both the total and Indigenous population.

Table 4.4 Employment by Industry – 2021

Employment by Industry	LSA			RSA		
	Total	Men+ ¹ (%)	Women+ ² (%)	Total	Men+ (%)	Women+ (%)
Total Population						
Health care and social assistance	4000	15.6%	85.0%	8370	15.9%	84.2%
Mining, quarrying, and oil and gas extraction	3670	88.7%	10.5%	6250	89.5%	10.6%
Retail trade	2920	45.0%	55.1%	5905	45.9%	54.1%
Educational services	2150	24.2%	76.0%	4385	23.6%	76.3%
Public administration	1860	46.2%	53.5%	3415	45.8%	53.7%
Construction	1690	88.5%	11.5%	3575	88.3%	11.3%
Accommodation and food services	1300	37.7%	61.9%	2460	39.4%	60.8%
Transportation and warehousing	1265	70.8%	29.2%	2510	71.5%	28.3%
Professional, scientific and technical services	1105	52.9%	47.1%	1835	49.3%	51.2%
Other services (except public administration)	1080	57.4%	42.6%	2230	54.9%	45.3%
Administrative and support, waste management and remediation services	920	54.9%	44.0%	1575	54.3%	46.3%
Manufacturing	910	78.0%	21.4%	2835	80.1%	19.9%
Wholesale trade	590	75.4%	23.7%	930	76.3%	24.2%
Finance and insurance	485	25.8%	73.2%	910	24.2%	75.8%
Agriculture, forestry, fishing and hunting	405	75.3%	23.5%	1570	70.4%	29.9%
Utilities	315	84.1%	7.9%	685	89.8%	8.8%
Real estate and rental and leasing	255	56.9%	45.1%	435	57.5%	43.7%
Information and cultural industries	240	58.3%	39.6%	500	54.0%	47.0%

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Employment by Industry	LSA			RSA		
	Total	Men+ ¹ (%)	Women+ ² (%)	Total	Men+ (%)	Women+ (%)
Arts, entertainment and recreation	190	57.9%	44.7%	440	54.5%	45.5%
Management of companies and enterprises	30	33.3%	33.3%	50	20.0%	60.0%
Indigenous Population³						
Health care and social assistance	545	14.7%	85.3%	1390	19.8%	80.2%
Mining, quarrying, and oil and gas extraction	530	80.2%	19.8%	825	85.5%	14.5%
Retail trade	435	48.3%	51.7%	830	47.0%	53.0%
Public administration	390	39.7%	60.3%	770	44.2%	55.8%
Construction	255	86.3%	13.7%	480	90.6%	9.4%
Educational services	220	25.0%	75.0%	650	23.1%	76.9%
Accommodation and food services	215	32.6%	67.4%	350	30.0%	70.0%
Other services (except public administration)	215	44.2%	55.8%	355	45.1%	54.9%
Transportation and warehousing	190	65.8%	34.2%	355	64.8%	35.2%
Administrative and support, waste management and remediation services	160	62.5%	37.5%	260	61.5%	38.5%
Manufacturing	155	67.7%	32.3%	315	76.2%	23.8%
Professional, scientific and technical services	145	44.8%	55.2%	210	38.1%	61.9%
Finance and insurance	80	0.0%	100.0%	120	8.3%	91.7%
Wholesale trade	60	66.7%	33.3%	95	84.2%	15.8%
Utilities	50	50.0%	50.0%	120	83.3%	16.7%
Agriculture, forestry, fishing and hunting	45	88.9%	11.1%	115	82.6%	17.4%
Arts, entertainment and recreation	25	60.0%	40.0%	70	71.4%	28.6%
Information and cultural industries	20	50.0%	50.0%	55	54.5%	45.5%
Real estate and rental and leasing	15	0.0%	100.0%	45	44.4%	55.6%
Management of companies and enterprises	0	0.0%	0.0%	0	0.0%	0.0%
Notes: 1. This category includes men (and/or boys), as well as some non-binary persons. 2. This category includes women (and/or girls), as well as some non-binary persons. 3. Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size. 2021 'Total Population' and 'Indigenous Population' data from 2021 Census of the Population – Census Profile. Values shown in "Total" columns are the sum of male and female Census Subdivision (CSD) subsets taken from Statistics Canada's 2021 Census Profile (Census of the Population). Due to Statistics Canada rounding (Statistics Canada 2022) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables. Source: Statistics Canada 2022						

4.3.5 Employment by Occupation

Table 4.5 provides a summary of LSA and RSA employment (by gender) by occupations. Sales and service occupations make up the highest number of total and Indigenous LSA and RSA labour force workers, which is predominantly worked by women+ (61.0% and 60.9% of total population and 62.9% and 59.6% of Indigenous population, respectively). This is followed by trades, transport and equipment operators (and related) which is predominantly worked by men+ across the LSA and RSA in both the total (90.9% and 91.8%, respectively) and Indigenous (86.4% and 87.8%, respectively) populations.

Table 4.5 Employment by Occupation – 2021

Employment by Occupation	LSA			RSA		
	Total	Men+ ¹ (%)	Women+ ² (%)	Total	Men+ (%)	Women+ (%)
Total Population						
Sales and service occupations	6025	38.9%	61.0%	11,550	39.1%	60.9%
Trades, transport and equipment operators and related occupations	5660	90.9%	8.9%	11,510	91.8%	8.1%
Occupations in education, law and social, community and government services	3575	27.6%	72.9%	6995	25.5%	74.6%
Business, finance and administration occupations	3260	21.2%	78.7%	6560	20.2%	79.8%
Health occupations	2160	15.5%	84.5%	4470	15.8%	84.2%
Natural resources, agriculture and related production occupations	2055	92.2%	8.0%	4210	89.4%	10.3%
Natural and applied sciences and related occupations	1390	78.4%	21.9%	2540	77.2%	23.0%
Occupations in manufacturing and utilities	830	88.0%	13.3%	2055	85.2%	14.6%
Occupations in art, culture, recreation and sport	255	37.3%	64.7%	590	36.4%	64.4%
Legislative and senior management occupations	155	67.7%	32.3%	380	57.9%	42.1%
Indigenous Population³						
Sales and service occupations	985	37.1%	62.9%	1780	40.4%	59.6%
Trades, transport and equipment operators and related occupations	885	86.4%	13.6%	1685	87.8%	12.2%
Business, finance and administration occupations	535	13.1%	86.9%	1080	18.5%	81.5%
Occupations in education, law and social, community and government services	515	29.1%	70.9%	1225	24.5%	75.5%
Natural resources, agriculture and related production occupations	260	96.2%	3.8%	445	95.5%	4.5%
Health occupations	255	7.8%	92.2%	595	15.1%	84.9%

Employment by Occupation	LSA			RSA		
	Total	Men+ ¹ (%)	Women+ ² (%)	Total	Men+ (%)	Women+ (%)
Natural and applied sciences and related occupations	155	80.6%	19.4%	250	80.0%	20.0%
Occupations in manufacturing and utilities	135	88.9%	11.1%	240	87.5%	12.5%
Legislative and senior management occupations	30	33.3%	66.7%	65	53.8%	46.2%
Occupations in art, culture, recreation and sport	15	0.0%	100.0%	60	41.7%	58.3%

Notes:

1. This category includes men (and/or boys), as well as some non-binary persons.
2. This category includes women (and/or girls), as well as some non-binary persons.
3. Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size.

2021 'Total Population' and 'Indigenous Population' data from 2021 Census of the Population – Census Profile. Values shown in "Total" columns are the sum of male and female Census Subdivision (CSD) subsets taken from Statistics Canada's 2021 Census Profile (Census of the Population). Due to Statistics Canada rounding (Statistics Canada 2022) totals may not exactly align with those shown on CSD Census Profiles and may not sum across tables.

Source: Statistics Canada 2022

4.3.6 Labour Capacity

The Far Northeast Training Board (FNETB) encompasses a geographic area similar to the RSA of the Project and has developed sector-specific labour forecasts for Northeastern Ontario to better understand the labour capacity for current and projected mining projects.

Assessing the mining workforce in Northern Ontario in 2017, and accounting for the active, inactive, and prospective projects at the time, it was determined that the mining workforce is expected to expand by 14% by 2027 (FNETB 2018c). However, it is estimated that approximately 30% of the current mining workforce will be retired by 2027, leaving a 44% vacancy rate of positions needing replacements. It is worthy to note that based on the decline of overall population in the LSA and RSA from 2016 to 2021, and the establishment of new projects not initially envisioned when the study was developed, that the vacancy rate will likely be higher than 44% throughout the duration of the Project.

As of 2017, 14% of the mining workforce permanently resided outside of Northeastern Ontario. Predominant occupations of mobile mining workers included professional and physical science occupations, such as metallurgical and materials engineers (39% of the total occupational workforce), geologists, geochemists and geophysicists (26% of the total occupational workforce) and mining engineers (25% of the total occupational workforce), as well as a variety of trades and production occupations such as truck drivers (25% of the total occupational workforce) and drillers and blasters (21% of the total occupational workforce). Table 4.6 provides a breakdown of all out of region workers.

Table 4.6 Mobile Mining Workers, RSA

Occupation	2017 Workforce (#)	Out of Region Workforce (#)	Out of Region Workforce (%)
Trades and Production Occupations			
Underground production and development miners	1358	215	16%
Heavy equipment operations (except crane)	357	61	17%
Heavy-duty equipment mechanics	359	47	13%
Truck drivers	498	126	25%
Welders and related machine operators	250	45	18%
Drillers and blasters – surface mining, quarrying and construction	273	57	21%
Professional And Physical Science Occupations			
Geologist, geochemists and geophysicists	105	27	26%
Mining engineers	83	21	25%
Metallurgical and materials engineers	18	7	39%
Support Workers			
Asset Protection	91	39	43%
Technical Occupations			
Geological and mineral technologists and technicians	136	16	12%
Supervisors, Coordinators, Foremen			
Supervisors, mining and quarrying	212	43	20%
Source: FNETB (2018c)			

Table 4.7 identifies the projected workforce in the mining industry in occupations of interest by 2027. Occupations of interest are occupations that are in high demand, are mining industry specific, or have a high level of impact on the mining industry.

Table 4.7 Occupations of Interest Projections, RSA

Occupation	2017 Workforce	2027 Required Workforce	Net Change 2017-2027	Cumulative Retirements 2017-2027	2027 Workforce Deficit
Trades and Production Occupations					
Underground production and development miners	1358	1486	128	269	(397)
Construction millwrights and industrial mechanics (except textile)	374	727	353	86	(439)
Heavy equipment operations (except crane)	357	376	19	193	(212)
Industrial electricians	169	209	40	58	(98)

Occupation	2017 Workforce	2027 Required Workforce	Net Change 2017-2027	Cumulative Retirements 2017-2027	2027 Workforce Deficit
Central control and process operators, mineral and metal processing	133	129	(4)	25	(21)
Heavy-duty equipment mechanics	359	459	100	129	(229)
Truck drivers	498	655	157	179	(336)
Welders and related machine operators	250	290	40	97	(137)
Drillers and blasters – surface mining, quarrying and construction	273	305	32	66	(98)
Professional And Physical Science Occupations					
Geologist, geochemists and geophysicists	105	132	27	17	(54)
Metallurgical and materials engineers	18	15	(3)	4	(1)
Chemists	5	18	13	1	(14)
Support Workers					
Asset Protection	91	220	129	0	(129)
Supervisors, Coordinators, Foremen					
Supervisors, mineral and metal processing	80	56	(24)	34	(10)
Supervisors, mining and quarrying	212	226	14	88	(102)
Contractors and supervisors, mechanic trades	93	86	(7)	19	(12)
Source: FNETB (2018c)					

Following up to these mining workforce projections, FNETB compiled workforce projects across all sectors by Community Futures Development Corporation (CFDC) area from 2016 to 2036 (FNETB 2018a; 2018b). The geographic area of the Venture Centre CFDC and the North Claybelt CFDC aligns with the LSA of the Project.

A combination of retirement of current workers as well as the outmigration of younger workers and their pursuit of different occupations impacts the capacity of local labour for the Project. Between 47% to 53% of current workers residing within the LSA employed in occupations of interest for the Project will be of retirement age within the next 20 years. In addition, the workforce aged 15-24 and 25-39 are predominantly employed in occupations outside of the mining industry and/or relocating outside the LSA (FNETB 2018a). This reflects a potential shortfall of 23% to 30% vacancy rates in the mining industry within the LSA by 2037.

It should be noted that the FNETB workforce projections were completed in 2017 and may not necessarily address a thorough representation of the labour capacity at the time of the Project. As an example, it did not consider Canada Nickel's Project, nor did it account for mine closures in the RSA that have evolved since 2017. As such, the availability of labour to supply the demands of the Project will differ than what is provided in these reports based on the current mining activity in the LSA and RSA.

While youth outmigration may impact the labour capacity in the region, a recent focused on youth outmigration in Northern Ontario has suggested this trend may change. Survey respondents indicated the value they have on the North, highlighting the nature and nature-based activities in particular. As such, the research suggests that youth outmigration will likely experience a boomerang concept, where youth will move out of their communities after graduating high school for different experiences but have a desire to settle down in Northern Ontario (Ouellet and Lefebvre 2022).

Respecting working conditions in mining in Ontario, the industry predominantly employs males (up to 84%). The average wage of workers in the mining sector was \$42.65 in 2022 compared to the average wage of all industries which was \$27.30. Approximately 9.0% of the total mining workforce identifies as Indigenous, compared 2.3% of individuals that identify as Indigenous across all industries (Government of Canada 2022).

In 2015, the Government of Ontario released a plan to address the health and safety concerns associated with the working conditions in Ontario. This included releasing a risk assessment tool for workers to determine their level of risk on a work site, as well as strategies to mitigate risks, such as enhanced engineering controls, industrial hygiene practices, and investments in personal protective equipment (OMLITSD 2022).

4.3.7 Location Quotient

Location quotients (LQ) provide a measure of the intensity of employment in a given sector in a region (i.e., the LSA or RSA) relative to the level of employment in that sector to a reference region (i.e., the Province), and are commonly used to assess the labour capacity and concentration of economic activities in a smaller area relative to an overarching region. Critical values for the LQ analysis are as follows:

- LQ > 1.0 – the LSA or RSA has a higher intensity of employment in the given sector relative to Ontario.
- LQ = 1.0 – the LSA or RSA has the same intensity of employment in the given sector relative to Ontario.
- LQ < 1.0 – the LSA or RSA has a lower intensity of employment in the given sector relative to Ontario.

Where the LQ is greater than 1.25, the LSA can be considered to have a concentration of economic activity in the specific sector relative to the RSA and may be an indication that the local economy is specialized in this sector and/or has capacity to support development in this sector. Conversely, an LQ of less than 1.0 may suggest that the LSA does not have the capacity to support development in this sector.

Table 4.8 Labour Force Population Aged 15 Years and Over by Sector, Location Quotients, 2021

Sector	Total Population		Indigenous Population	
	LSA	RSA	LSA	RSA
Forestry, fishing, mining, quarrying, oil and gas	43.81	25.89	7.32	5.74
Construction	1.29	0.95	0.75	0.71
Manufacturing	0.57	0.62	0.55	0.56
Transportation and Warehousing	1.37	0.94	1.18	1.11
Professional, scientific and technical services	0.67	0.38	0.81	0.59
Source: Labour information from Statistics Canada 2022				

Table 4.8 provides the LQ for the LSA and RSA for both the total and Indigenous populations relative to Ontario in sectors areas related to the Project (using information provided by Statistics Canada). For the LSA and RSA in both the total and Indigenous populations, there is a much higher proportion of workers employed in the forestry, fishing, mining, quarrying, oil and gas sectors compared to Ontario overall. As discussed in Section 3.5.2.2, Northern Ontario consists of most of the mining activity in the province, and the makeup of the workforce is reflected of the concentration of this sector within these geographies. For the LSA, transportation and warehousing (LQ value of 1.37) and construction (LQ value of 1.29) has a higher-than-average intensity of employment relative to Ontario. In addition, the Indigenous population in the LSA and RSA has a higher intensity of employment in transportation and warehousing, compared to Ontario, with LQ values of 1.18 and 1.11, respectively. In all other sectors in the LSA and RSA for both the total and Indigenous populations, the workforce would not be considered specialized, and that the labour capacity for these sectors would be considered low.

4.3.8 Average Wages for Select Sectors

Table 4.9 provides a summary of average gross hourly wages (2022) for Ontario workers in sectors likely to supply direct labour to the Project. Average annual wages were applied to three scenarios to estimate average annual employment. As calculated, estimated annual wages under scenario one is based on full-time employment and 2,100 person-hours per year (no overtime); scenario two is based on 12-hour workdays and a two-week on / two-week off work schedule (overtime after 40 hours per week); and scenario 3 is based on 10-hour workdays and a three-week on / one-week off work schedule (overtime after 40 hours per week).

Table 4.9 Provincial Wages in Select Sectors, Average – 2022

Industry	Average Hourly Wage	Scenario 1 – Annual Wage (based on 2,100 hrs/year)	Scenario 2 – Annual Wage (based on 12-hour 2x2 work schedule) ¹	Scenario 3 – Annual Wage (based on 10-hour 3x1 work schedule) ¹
Forestry, fishing, mining, quarrying, oil and gas	\$42.65	\$89,565	\$117,866	\$152,893
Construction	\$30.71	\$64,491	\$84,869	\$110,090
Manufacturing	\$28.55	\$59,955	\$78,900	\$102,347
Transportation and Warehousing	\$27.82	\$58,422	\$76,883	\$99,730
Professional, scientific and technical services	\$28.52	\$59,892	\$78,817	\$102,239
Note: 1 Assumes overtime payments beyond 40 hours per week; rounded down to nearest thousand. Source: Statistics Canada 2023				

4.3.9 Individual Income and Income Inequality

Income information for the LSA and RSA is summarized in Table 4.10. Total income is presented for persons aged 15 years and older and is the sum of regular and recurring monetary receipts from part-time and full-time employment income (e.g., wages, tips, and commissions), income from investment sources (e.g., dividends, guaranteed investment certificates, and mutual funds), income from employer and personal pension sources (e.g., private pensions and payments from annuities and registered retirement income funds), other regular cash income (e.g., child support payments and spousal support payments), and income from government sources (e.g., social assistance, Employment Insurance benefits, Old Age Security benefits, and Canada Pension Plan benefits and disability income).

As of 2021, the mean total income in the LSA was \$50,345 (\$36,533 among the Indigenous population) with men+ earning \$59,488 (\$50,800 among Indigenous men+) and women+ \$41,360 (\$28,200 among Indigenous women+). The mean employment income was higher among the total population (\$48,150) and lower among the Indigenous population (\$44,480), with men+ earning \$57,750 (\$52,800 among Indigenous men+) and women+ \$37,550 (\$37,440 among Indigenous women+). For both the total and Indigenous populations (male and female), mean total incomes in the LSA were less than provincial means.

In the RSA, the mean individual income was \$51,115 (\$38,400 among the Indigenous population), with men+ earning \$59,875 (\$43,00 among Indigenous men+) and women+ \$42,420 (\$34,800 among Indigenous women+). The mean employment income was higher among the total population (\$49,380) and lower among the Indigenous population (\$45,760), with men+ earning \$58,225 (\$43,000 among Indigenous men+) and women+ \$39,320 (\$34,800 among Indigenous women+). For the men+ and women+ total and Indigenous populations, mean employment incomes in the RSA were less than provincial means.

In terms of income equity, mean total income and mean employment income in the LSA and RSA are less for Indigenous than non-Indigenous persons and lower for women+ than men+ with Indigenous women+ earning the lowest average income. Disparities in income also exist within each category (total and employment income) among both men+ and women+ as illustrated through differences in mean and median total and employment incomes within the LSA and RSA (Table 4.10). In particular, while the total population overall receives higher income than the Indigenous population, the disparity between men+ and women+ across all categories is more pronounced.

Table 4.10 2021 Individual Income (Annual – Before Tax)

Topic	LSA			RSA		
	Total	Men+ ¹	Women+ ²	Total	Men+	Women+ ²
Total Population						
Weighted median total income (\$) (2021)	41,500	50,200	34,500	40,400	48,200	34,800
Weighted median employment income (\$) (2021)	37,500	49,200	30,500	39,800	50,400	32,100
Mean total income (\$) (2021)	50,345	59,488	41,360	51,115	59,875	42,420
Mean employment income (\$) (2021)	48,150	57,750	37,550	49,380	58,225	39,320
Indigenous Population³						
Topic	LSA			RSA		
	Total	Men+ ¹	Women+ ²	Total	Men+ ¹	Women+ ²
Weighted median total income (\$) (2021)	38,300	48,667	35,050	38,400	39,600	36,800
Weighted median employment income (\$) (2021)	49,145	55,013	43,060	47,320	52,600	42,300
Mean total income (\$) (2021)	36,533	50,800	28,200	38,400	43,000	34,800
Mean employment income (\$) (2021)	44,480	52,800	37,440	45,760	52,700	38,870
Notes:						
1 This category includes men (and/or boys), as well as some non-binary persons.						
2 This category includes women (and/or girls), as well as some non-binary persons.						
3 Indigenous and non-Indigenous totals may not sum to equal total population counts as they are based on a 25% population sample size.						
Total income is presented for persons aged 15 years and older and is the sum of regular and recurring monetary receipts from part-time and full-time employment income (e.g., wages, tips, and commissions), income from investment sources (e.g., dividends, guaranteed investment certificates, and mutual funds), income from employer and personal pension sources (e.g., private pensions and payments from annuities and registered retirement income funds), other regular cash income (e.g., child support payments and spousal support payments), and income from government sources (e.g., social assistance, Employment Insurance benefits, Old Age Security benefits, and Canada Pension Plan benefits and disability income).						
Employment income is the sum of wages, salaries, tips, commissions, and net income from self-employment.						
Values shown in "Total" columns are the sum of male and female census subdivision subsets taken from Statistics Canada's 2021 Census. Due to Statistics Canada rounding (Statistics Canada 2019b) totals may not exactly align with those shown on census subdivision Census Profiles and may not sum across tables.						
Totals may not sum across tables due to Statistics Canada data suppression.						
Source: Statistics Canada 2022						

Total incomes (mean and median) and employment incomes (mean and median) of the LSA were lower than RSA incomes in 2020. In each case (e.g., LSA and RSA averages), total incomes and employment incomes (mean and median) were higher among men+ than women+. Overall, income among the total population is higher than the Indigenous population.

4.3.10 Overview of the Economy

The following section presents an overview of the provincial, regional, and local economies. Further discussion of the main economic activities of Indigenous nations in the study area, any relevant treaty provisions pertaining to economic activities for Indigenous Peoples, and an overview of Indigenous-owned businesses that may provide supplies and services to the Projects is provided in the Assessment of Potential Effects on Indigenous Interests (Chapters 25 to 28 of the Impact Statement).

4.3.10.1 Provincial Economy

The Government of Ontario is focused on enhancing the provincial economy by investing \$184.4 billion over the next 10 years into capital projects in six key categories: highways, transit, health, long-term care, education and postsecondary education, and broadband. \$27.9 billion is focused on enhancing highway infrastructure in areas facing high congestion in Ontario, including Highway 413 and Bradford Bypass in the York Region, twinning the City Skyway Bridge connecting the City of St. Catharines to the Town of Niagara-on-the-Lake, Highway 401 and 3 in Eastern Ontario, and Highway 17 between Thunder Bay and Nipigon – the only highway investment in Northern Ontario. Capital investments in transit is expected to reach \$70.5 billion, which is primarily focused on expanding the GO Transit service from metropolitan Toronto to other suburban areas. \$48 billion will be invested in hospital infrastructure, which includes \$32 billion in hospital capital grants to provide additional capacity to add new hospital beds as well as the construction of two new hospitals. Long-term care will receive \$6.4 billion in capital investments to increase the long-term care capacity in communities across the province by further enhancing the number of beds to assist residents requiring support. \$22 billion will be spent on enhancing education and postsecondary education. These investments include approximately \$15 billion in capital grants to build new elementary schools across the province, including a new elementary school in North Bay in Northern Ontario. \$5.4 billion will be invested to assist with colleges, universities, and Indigenous Institutes to assist with the required infrastructure upgrades in their campuses. Lastly, \$4 billion is earmarked to provide high-speed internet to every community in the province by the end of 2025 (Ontario Ministry of Finance 2023).

In addition to the capital investments led by the province, manufacturing sales growth led the Ontario economy in 2022. As noted in Figure A.2 in Appendix A, manufacturing sales increased 18% in 2022 from 2021, followed by a 14.5% increase in international merchandise exports, 10.8% increase in both wholesale trade and retail trade, and a 4.6% increase in employment. In comparison, home resales experienced a decline from 2021 to 2022, at 32.3% (Ontario Ministry of Finance 2023).

Despite some economic slowdowns in recent years, the Ontario government is projecting gross domestic product (GDP) to increase over the coming years, as outlined in Figure A.3 in Appendix A. The line chart on the left of the figure shows Ontario real GDP in 2021, estimated real GDP in 2022 and the Ontario Ministry of Finance planning projection for real GDP for 2023 to 2026, in billions of 2012 dollars. Separate lines show the levels of real GDP in the Faster Growth and the Slower Growth scenarios for 2023 to 2026. Ontario real GDP was \$806 billion in 2021 \$836 billion in 2022. In the Planning Projection, Ontario real GDP is projected to rise from \$837 billion in 2023 to \$890 billion in 2026. In the Faster Growth scenario, Ontario real GDP is projected to rise from \$846 billion in 2023 to \$912 billion in 2026. In the Slower Growth scenario, Ontario real GDP is projected to rise from \$830 billion in 2023 to \$876 billion in 2026 (Ontario Ministry of Finance 2023).

The line chart on the right shows Ontario nominal GDP in 2021, estimated nominal GDP in 2022 and the Ontario Ministry of Finance planning projection for nominal GDP for 2023 to 2026, in billions of dollars. Separate lines show the levels of nominal GDP in the Faster Growth and the Slower Growth scenarios for 2023 to 2026. Ontario nominal GDP was \$957 billion in 2021 and is estimated to have been \$1,047 billion in 2022. In the Planning Projection, Ontario nominal GDP is projected to rise from \$1,076 billion in 2023 to \$1,219 billion in 2026. In the Faster Growth scenario, Ontario nominal GDP is projected to rise from \$1,110 billion in 2023 to \$1,278 billion in 2026. In the Slower Growth scenario, Ontario nominal GDP is projected to rise from \$1,057 billion in 2023 to \$1,184 billion in 2026 (Ontario Ministry of Finance 2023).

A primary economic driver for the regional economy in Northern Ontario is the mining industry, and the potential of accessing critical minerals that the federal government has highlighted will assist with the transition of a greener economy. This includes potential for chromite, cobalt, nickel, copper, and platinum, which have all been identified as providing a key role in the future of low- and zero-emission vehicles and transportation and is attractive in a global economy. The provincial government and regional stakeholders are working to enhance road access to the north by investing approximately \$1 billion in infrastructure upgrades to allow year-round access to northern communities and mine sites while allowing supply chain connections to other Ontario industries as well as manufacturers located in the south (Ontario Ministry of Finance 2023). The federal and provincial government have identified the value of the mining industry in Ontario through their respective economic planning processes when it comes to critical minerals. Canada's Critical Minerals Strategy identifies actions to move forward in the mining industry by supporting economic growth, promoting climate action, advancing relationships with Indigenous nations, establishing more resilient communities and availing of international markets (Natural Resources Canada 2022). Ontario has since followed suit, where they released their own critical minerals strategy for the next five years, focusing on economic growth by fostering developing in the mining industry in Northern Ontario (OMLITSD 2022).

The provincial government supports the potential of mining develop in the north by covering up to \$200,000 in eligible costs for mineral exploration and development per project. Specific programs that the Project may avail of include Canada Infrastructure Bank, Canada Growth Fund, the Low Carbon Economy Leadership Fund, and the Strategic Innovation Fund, among others. They are also working on updating their regulatory process to reduce the administrative burden with mining and mineral development as a means to enhance the regional economy in Northern Ontario (Ontario Ministry of Finance 2023).

Located in the Cochrane District mining camp, the Project can support these federal and provincial critical mineral initiatives, to be a reliable, leading producer of the critical minerals needed to secure North America's sustainable manufacturing supply chains. The Project is well positioned with an approximate 12-hour drive from Canada's main automotive industry and cross-border location to the United States of America's automotive and stainless-steel industries.

Nickel concentrate that would be produced by the Project is expected to be sold into the North American battery production chain and the magnetite concentrate is expected to be sold to a steel melt shop as a primary feed for steel production in North America. Other markets may be identified as the Project progresses into development and operations.

A more thorough discussion of Ontario's mining industry is provided in Section 4.3.10.

4.3.10.2 Local and Regional Economy

Table 4.4 identifies the primary industries that are present in the LSA and RSA. The top industry in both the LSA and RSA is health care and social assistance, followed by mining, quarrying, and oil and gas extraction. Other notable industries include retail, educational services, public administration, and construction. These industries drive the local and regional primarily through taxation as they are service-oriented roles, with the exception of mining, quarrying, and oil and gas extraction. The natural resources sector relies on capital investment and exporting commodities, which can drive further economic development in the local and regional economy. This aligns with the LQ analysis provided in Table 4.8, where forestry, fishing, mining, quarrying, oil and gas is considered to be a highly specialized sector in both the LSA and RSA, as well as the construction and the transportation and warehousing sectors in the LSA. Notable for this Project is the existing infrastructure in Timmins, predominantly from the presence of Kidd Mine. This operation has an existing rail spur to service the process plant with connection to a section of the Ontario Northland Railway.

Communities in the area are looking to diversify their economies. Given the changing climate, agriculture is emerging as a key economic industry in the Claybelt area as well as other parts of Northern Ontario. The longer summer days is paired with more affordable farmland compared to viable agricultural land in Southern Ontario and aligns with the Ontario Ministry of Food, Agriculture and Rural Affairs Northern Ontario Agricultural Strategy. In addition, communities are pursuing tourism opportunities to help facilitate economic development opportunities, by promoting recreational activities that are only available in Northern Ontario (Town of Iroquois Falls 2017; Town of Smooth Rock Falls 2015).

4.3.11 Nickel Production

4.3.11.1 National and International Context

Canada is ranked sixth in the world for nickel production, with approximately 134,000 tonnes of nickel production in 2021 and exports of nickel and nickel-based products valued at \$4.7 billion during the same period. Stainless steel dominates the global usage of nickel, making up 68% of total use, with 11% of global nickel used for batteries, 7% used for non-ferrous alloys, and 6% used for electroplating (Wood Mackenzie 2021). 42% of Canada’s nickel comes from Quebec, with 36% of coming from Ontario and the remaining 22% is produced in Newfoundland and Labrador. Despite the usage of nickel globally, mine production of nickel in Canada has been decreasing in recent years. The decrease from 2020 can be attributed to different factors, including a labour disruption in Sudbury, Ontario, and mining delays in Labrador (Natural Resources Canada 2023b). Changes in Canadian nickel production is provided in Figure A.4 in Appendix A.

Nickel production continues to grow in other international markets, reaching an estimated global production of 2.8 million tonnes, representing a 10% increase from 2020 to 2021. As identified in Table 4.11, the world’s largest producer of nickel was Indonesia with 1 million tonnes produced in 2021, or 37.0% of global production. This is followed by the Philippines with 370,000 tonnes or 13.7% of global production, and Russia with 250,000 tonnes or 9.3% of global production.

Table 4.11 World Mine Production of Nickel, by Country, 2021 (p)

Ranking	Country	Thousand tonnes	Percentage of total
1	Indonesia	1,000	37.0%
2	Philippines	370	13.7%
3	Russia	250	9.3%
4	New Caledonia	190	7.0%
5	Australia	160	5.9%
6	Canada	134	4.8%
7	China	120	4.4%
8	Brazil	100	3.7%
9	United States	18	0.7%
-	Other Countries	410	15.2%
Total (rounded)		2,750	100.0%
Note: 2021 (p) = predicted			
Source: U.S. Geological Survey, 2022			

In 2021, Canada’s exports of nickel and nickel-based products were valued at \$4.7 billion, with imports valued at \$927.0 million. 99,000 tonnes of the exports were unwrought nickel valued at \$2.3 billion, 43% of which was imported by the United States, 13% to China, 10% to the Netherlands, 9% to Belgium, and the remainder to 20 other countries (Natural Resources Canada 2023b).

4.3.11.2 Ontario Context

The mining industry is an economic contributor to the Province of Ontario, which is predominantly concentrated in Northern Ontario. In 2022, Ontario's mining industry produced approximately \$13.5 billion in minerals, which accounted for 22% of Canada's total production value. Mining in Ontario contributed to an estimated \$8.0 billion in GDP in 2021, \$2.9 billion of which was in wages and salaries. It is estimated that approximately 77% of Ontario's mining GDP contributions stay inside the province. There is approximately 31,000 direct and 47,000 indirect jobs associated with mineral processing and mining supply and services in Ontario (Ontario Mining Association 2022).

Sudbury is a key Canadian player in nickel mining and refining since the early 1900s. Vale (previously Inco) and Glencore (previously Falconbridge) became two of the city's major employers and two of the world's leading producers of nickel. In addition, there are over 345 mining supply and service companies located in Sudbury, ranging from companies developing new mining technologies to the provision of occupational health and safety equipment (DeStefano 2006).

There are 35 total active mines in Ontario; 27 metal mines and 8 other major industrial operations. Metal mine operations include gold, iron, platinum, as well as other base metals, with the major industrial operations focusing on commodities such as salt, talc and gypsum. Ten of the active mines are located within or near the RSA (nine metal mines and one major industrial operation) (Ontario Mining Association, 2023). A map of these mines in relation to proximity to the Project is provided in Figure A.5 in Appendix A.

In addition to active mines near the Project, mineral exploration continues to occur in Ontario. Mineral exploration is a key indicator of the long-term viability of the mining industry as it may lead to the discovery and subsequent development of mineral deposits (DNR 2022a). In general, mineral exploration is highly dependent on commodity prices (DNR 2022b). This relationship is illustrated in Figure A.6 in Appendix A, where a positive correlation is observed between mineral and metal commodity prices and expenditures on mineral exploration in ON between 2018 and 2022. There is a trend that as the price of the commodity increases, the exploration and deposit appraisals have increased, reaching an all-time high in 2022 valued at \$989 million, which is nearly double the value in 2019 which was \$523 million (BOC 2022; Natural Resources Canada 2023a).

The Government of Canada and Government of Ontario continues to provide investment to mineral manufacturing facilities in which nickel will be refined to enhance the green economy. Examples of such investments include \$551.3 million from the Government of Canada and \$424.6 million from the Government of Ontario for a rechargeable battery plant in Loyalist Township. This plant is the first of its kind of North America and it will contribute to battery producers in Canada and the United States (Government of Canada 2023).

4.4 Discussion

Both the LSA and the RSA experienced a total population decline between 2016 and 2021 with a 1.4% and 2.3% decrease, respectively, while the total provincial population increased 5.5%. In comparison, the Indigenous population increased in the LSA (18.4%), RSA (11.6%) and province (7.9%) from 2016 to 2021. Levels of educational attainment were similar in both the RSA and LSA.

Compared to the RSA, the LSA has a higher rate of labour force participation in both the total and Indigenous populations. Occupations that account for the greatest proportion of employment in the LSA include sales and service (predominantly employed by women+) followed by trades, transport and equipment operators and related occupations (predominantly employed by men+). This trend was consistent across both the total and Indigenous populations. Individuals working in industries that are most likely to provide employment to the Project include mining, quarrying, and oil and gas extraction; construction; manufacturing; transportation and warehousing; and professional, scientific, and technical services. Generally, employment income and total income levels in the LSA are lower compared to the RSA in both the total and Indigenous populations, which is consistent across both men+ and women+.

Men+ account for the greatest proportion of the population with an apprenticeship or trades certificate or diploma (see Section 4.3.2), and occupations that are likely to provide the majority of goods, services, and labour to the Project (see Section 4.3.5). Average employment income (both mean and median) earned by men+ is greater than that earned by women+ within the LSA and RSA and is greater among the non-Indigenous population than the Indigenous population. Disaggregated labour force information is not available for population subgroups, including youth, 'older adults', visible minorities, or for persons or household falling below low-income thresholds.

The Government of Ontario is focused on enhancing the provincial economy by investing in capital projects in six broad categories, including highways, transit, health, long-term care, education and postsecondary education, and broadband, equating to \$184.4 billion over the next 10 years. With respect to operations, manufacturing continues to lead economic growth in the Ontario economy in 2022, with an 18% increase in manufacturing sales in 2022 over 2021. Ontario nominal GDP was \$957 billion in 2021 and is projected to grow to \$1,184 billion by 2026. Regional and local economies continue to maximize the benefits from the active mining industry in the region, while pursuing sector diversification opportunities in areas such as agriculture and tourism.

Globally, supply and demand for nickel continues to evolve, and Canada remains competitive, ranking the sixth highest producing of nickel in the world. Several of these active nickel mines are located in Northeastern Ontario, with the proposed Project expanding the potential exports to the United States and other international markets.

5 Services and Infrastructure

5.1 Study Area

For the purpose of this assessment, the spatial boundaries considered the study areas that have been selected for the potential effects on socio-economic conditions, including community infrastructure and services.

5.1.1 Project Area (PA)

The Project Area (PA) encompasses the project footprint and is the anticipated area of physical disturbance associated with the construction, operations, and decommissioning and closure of the Project. The PA is shown on Figure A.7 in Appendix A.

5.1.2 Local Study Area (LSA) and Regional Study Area (RSA)

The LSA encompasses the area in which Project-related effects (direct or indirect) were predicted or measured with a level of confidence appropriate for the assessment and in which there is a reasonable expectation that the potential effects in the LSA are of public interest. The LSA includes communities with the greatest potential to experience effects (positive or adverse) of direct Project demand for services and infrastructure effects of Project-related changes in population. As such, effects on services and infrastructure are most likely to occur within those communities where Project workers reside and/or use community services and infrastructure.

The LSA includes the PA and the Statistics Canada subdivisions for five municipalities: the City of Timmins and the Towns of Cochrane, Iroquois Falls, and Smooth Rock Falls.

The RSA includes the area within which cumulative effects on services and infrastructure are likely to occur, depending on the location of other past, present or reasonably foreseeable future projects or activities. For services and infrastructure, the LSA and RSA are the same because the LSA encompasses a sufficiently broad area for assessing cumulative effects.

The LSA/RSA for services and infrastructure is shown on Figure A.7 in Appendix A.

5.2 Methods

5.2.1 Desktop Review and Data Sources

The existing socio-economic conditions of the LSA and RSA were established to provide an understanding of the communities most likely to be affected by the Project and to support the assessment of potential Project effects on services and infrastructure.

This section of the baseline report examines services and infrastructure (housing and temporary accommodations, utilities, health services and infrastructures, emergency services, education and childcare services and infrastructure, and transportation services and infrastructure) with an emphasis on those services and infrastructure that could come under pressure from the Project.

The data collection focused on information that will facilitate the assessment of the positive and adverse effects of the Project, and which make a meaningful contribution to the assessment. For example, information on existing conditions includes descriptive information on both services and infrastructure, and the capacity and ability to absorb additional demand. Baseline data collection focused on the compilation of information required to describe current and anticipated social conditions within communities near the Project.

The main sources considered of information for the services and infrastructure baseline are:

- The most recently published statistical information from the Statistics Canada Census of the Population and the Canada Mortgage and Housing Corporation (CMHC)
- Secondary studies, plans, and documentation relevant to one or more of the socio-economic topics discussed
- Information obtained through discussions with municipal authorities
- Local media (news articles and websites).

5.2.2 Primary Research

Baseline data came primarily from secondary sources. As required, telephone and email correspondence were conducted with key informants from local service agencies to confirm secondary data and collect primary data. The Project's Socio-Economic Committee, described in Section 3.2.2, also provided information with respect to services and infrastructure and Project-related concerns.

5.3 Existing Conditions

5.3.1 Housing and Temporary Accommodations

5.3.1.1 Housing Availability

In 2021, there were 23,839 occupied private dwellings in the LSA/RSA (Table 5.1) (Statistics Canada 2022). The majority (75.0%) of occupied private dwellings were located in Timmins. Most (74.8%) homes in the LSA were owned in 2021, rather than rented, and the majority (67.0%) of homes were single detached houses (Statistics Canada 2022).

In Timmins, the number of housing starts decreased from 36 in 2020 to 13 in 2022. According to a report from the Canadian Mortgage and Housing Corporation (CMHC), high construction costs attributed partly to the cost of transporting materials and a shortage of trained tradespeople, have resulted in Northern Ontario having a limited supply of new housing (CMHC 2021). The construction costs for northern urban centres and remote communities can be between 33% and 230% higher than in Southern Ontario, respectively. Within the last 10 years, the cost to build a housing unit in Northern Ontario increased from \$250,000 to \$325,000 (CMHC 2021).

For the Timmins, Cochrane, and Timiskaming Districts, new 2023 listings were in line with the five-year average and 7.1% below the 10-year average for October. Active residential listings numbered 389 units for the Timmins, Cochrane, and Timiskaming Districts at the end of October. This was an increase of 23.9% over the end of October 2022 but was 15.3% below the five-year average and 44.8% below the 10-year average for October. Months of inventory, or the number of months it would take to sell current inventories at the current rate of sales activity, numbered 3.3 at the end of October 2023. This was up from the 2.5 months recorded at the end of October 2022 and below the long-run average of 6.2 months for this time of year (CREA 2023).

Housing sales have also been decreasing across Northeastern Ontario, with the biggest decline happening in Timmins. The number of homes sold through the Multiple Listings Service system of the Timmins, Cochrane, and Timiskaming Districts Association of Realtors totaled 119 units in October 2023. This was down by 4.8% (six sales) from October 2022. Home sales for the region in October 2023 were 16.7% below the five-year average and 4.3% below the 10-year average for October. On a year-to-date basis, home sales totaled 1,053 units during the first 10 months of the year, representing a decrease of 26.5% from the same period in 2022 (CREA 2023).

Results of a housing needs assessment indicate that there is sufficient supply of home ownership housing (as opposed to rentals) in the District of Cochrane (Housing Services Corporation and CDSSAB 2019). Single detached homes made up the largest share of the current housing supply in the District in 2019 and new housing stock that is built is primarily single-detached housing. The need for this type of housing seems to be decreasing in the region as the population ages and household size is generally decreasing to one- or two-person households. As a result, the housing stock in the LSA/RSA is not considered diversified and there is a lack of smaller housing options, for which demand is increasing (Housing Services Corporation and CDSSAB 2019).

The housing needs assessment also concluded that there is an inadequate supply of housing for individuals with physical disabilities and those with mental health concerns. As a result, members of these populations in the District of Cochrane are increasingly challenged to find and maintain appropriate housing without the specialized supports they require (Housing Services Corporation and CDSSAB 2019). In summary, the District sees a need for a greater supply of affordable housing options, including transitional housing, supportive housing, social housing units, and affordable private rental and homeownership accommodation.

Recognizing the District of Cochrane's housing challenges, municipalities are taking steps to increase the supply of appropriate housing. For instance, the Town of Smooth Rock Falls is encouraging lot development through its Municipal Property Acquisition and Sale Program, which reimburses purchasers by up to 90% below market value after the home is built. In addition, the Town's Waterfront 20-year Master Plan highlights the development of 140 acres of waterfront land through the construction of 435 residential units. Some lots will begin to be serviced in 2024 (Town of Smooth Rock Falls and JLR 2022).

The City of Timmins is exploring the cost of expanding two existing subdivisions, which could generate up to 150 new homes. The City has also been increasing land for new residential development through the demolition of derelict properties (City of Timmins 2024). In addition, as part of its strategy to expand the community, the Town of Cochrane is working on a plan to sell residential lots for as low as \$10 (Lentz-McGrath 2024a). Municipal authorities state that the Town has a surplus of lots available that can be easily serviced, and they are hoping the plan will encourage regional employers to relocate their workforces to the Town of Cochrane (Lentz-McGrath 2024a).

5.3.1.2 Housing Affordability

A report produced by The Advocacy Centre for Tenants Ontario and Advocacy North indicates that home ownership remains relatively affordable in Northern Ontario, including Timmins, compared to the rest of the province (The Advocacy Centre for Tenants Ontario and Advocacy North 2021).

In 2021, the average price of a home in the LSA/RSA, according to Statistics Canada, was \$195,775 (Table 5.1). This is up from an average price of \$165,955 in 2016 (Statistics Canada 2022). Within the LSA/RSA, the greatest price jump between 2016 and 2021 was seen in Smooth Rock Falls, at a rate of 31.6%. The smallest increase in housing price occurred in Timmins at 10.7% (Statistics Canada 2022).

In October 2023, the average price of homes sold in Timmins, Cochrane, and Timiskaming Districts in October 2023 was \$279,517, a gain of 8.8% over October 2022. The year-to-date average price for the Districts was \$262,537, down 0.9% from the first 10 months of 2022 (CREA 2023).

5.3.1.3 Rental Market

As was the case for the average value of dwellings, average rents in Northern Ontario urban centres are lower than average for the province (The Advocacy Centre for Tenants Ontario and Advocacy North 2021). In 2021, the average rent for a rental unit in the LSA/RSA was \$821, an increase of 4.6% from \$785 in 2016 (Statistics Canada 2022).

Between October 2020 and October 2022, the total number of rental units (bachelor to three-bedroom) in Timmins increased from 1,630 to 1,678. The vacancy rate in Timmins decreased from 5.5% in October 2020 to 3.9% in October 2022 (CMHC 2023). Cochrane saw the greatest increase in average rent (11.7%) while the average rent in Iroquois Falls decreased by nearly 6.0% between 2016 and 2021 (Statistics Canada 2022).

While rent in the LSA/RSA may be relatively low, the percentage of households paying unaffordable rents is not necessarily lower than in the rest of the province. As is the case in the rest of Ontario, the Northern region has a low supply of new rental housing, and in particular multi-residential rentals. Cities in Northern Ontario have a relatively high percentage of tenants living in subsidized housing: over 20% of renters in Timmins live in subsidized rentals, which is higher than the provincial average of 15% (Advocacy Centre for Tenants Ontario and Advocacy North 2021).

Migration from smaller communities to urban centres, as well as the increase in the student population of the LSA/RSA, have increased demand for affordable rental housing. The availability of such housing in Northern Ontario has been identified as a top challenge for service providers in the North at Home Report by The Advocacy Centre for Tenants Ontario and Advocacy North (2021).

Table 5.1 Housing Characteristics, LSA/RSA, 2016 and 2021

	Timmins			Cochrane			Iroquois Falls			Smooth Rock Falls		
	2016	2021	% change	2016	2021	% change	2016	2021	% change	2016	2021	% change
Total private dwellings	19,317	19,390	0.38	2,510	2,540	1.20	2,245	2,153	-4.10	693	650	-6.20
Occupied private dwellings	17,740	17,886	0.82	2,272	2,316	1.94	2,029	1,977	-2.56	624	582	-6.73
Single detached houses (%)	60.44	60.08	-0.59	61.95	60.63	-2.13	69.49	69.67	0.26	89.47	76.92	-14.02
Semi-detached houses (%)	5.95	6.11	2.66	7.17	7.56	5.37	6.24	6.50	4.27	5.77	6.15	6.62
Owner (%)	68	67	-1.69	69.10	71.30	3.18	75.65	74.90	-1.00	80.93	78.60	-2.88
Renter (%)	32	33	3.93	30.81	28.70	-6.85	24.40	25.10	2.88	19.23	19.70	2.44
Band Housing	0	0	0.00	0	0	0	0	0	0	0	0	0
Average value of owned dwelling	227,577	252,000	10.73	186,809	217,000	16.16	148,001	180,600	22.03	101,431	133,500	31.62
Average rent	886	940	6.1	815	910	11.7	748	704	-5.9	692	730	5.5

Source: Statistics Canada 2022

5.3.1.4 Core Housing Need

Core housing need refers to whether a private household's housing falls below at least one of the indicator thresholds for housing adequacy, affordability, or suitability, and would have to spend 30% or more of its total before-tax income to pay the median rent of alternative local housing that is acceptable (attains all three housing indicator thresholds) (Statistics Canada 2021). Table 5.2 presents the core housing characteristics for communities in the LSA/RSA.

Within the LSA/RSA, Timmins had the highest instance of core housing need at 7.7%, although this represents a decrease of 37.4% from 2016. In Ontario, the core housing need rate in 2021 was 12.1%, down from 15.3% in 2016. All communities in the LSA/RSA had lower instances of core housing need than the provincial average (Statistics Canada 2022).

Table 5.2 Core Housing Need (%) in the LSA/RSA, 2021

	Timmins			Cochrane			Iroquois Falls		Smooth Rock Falls
	2021	% change from 2016	2021	% change from 2016	2021	% change from 2016	2021	% change from 2016	
Households in core housing need	7.7	-37.4	4.6	43.8	4.9	-44.9	4.9	-44.9	
Unaffordable ¹ (%)	16.1	-26.5	14.3	-25.5	11.2	-30.4	10.3	-24.3	
Unsuitable ² (%)	3.4	25.9	3.7	54.2	1.8	20.0	-	-	
Inadequate ³ (%)	8.1	-4.7	10.2	-11.3	10.1	-1.9	10.3	-28.5	
Source: Statistics Canada 2022									

In the LSA/RSA, the main reason for core housing need is affordability, followed by adequacy or condition of accommodations, and then by suitability or overcrowding (Statistics Canada 2022).

As mentioned, lack of affordable rental housing in Northern Ontario is caused partly by an influx of students to cities with educational institutions. Workers who seek employment opportunities in communities with booming mining industry are also known to place pressure on the existing supply of affordable housing (Advocacy Centre for Tenants Ontario and Advocacy North 2021).

Inadequate housing, or housing that requires major repairs, is also an issue in Northern Ontario. Compared to other more densely populated areas in Canada, Northern Ontario has a higher percentage of older housing, built with less strict building codes and standards. In many Northern Ontario locations, including Timmins, older housing accounts for more than 70% of the stock (Advocacy Centre for Tenants Ontario and Advocacy North 2021). For seniors, it becomes more difficult to remain in their own home due to mobility and health challenges, and many units are not designed to accommodate the needs of seniors and tenants with mobility issues.

Recognizing the need for more affordable housing in Timmins, the City Council created a Housing Task Force in 2022 to be led by the Timmins Economic Development Corporation (TEDC). The Task Force includes representatives from the Cochrane District Social Services Administration Board (CDSSAB), the mining industry, the City of Timmins, private developers, realtors, Indigenous organizations, the Chamber, the two colleges, the hospital, and Université de Hearst (Grech 2023a). The purpose of the Task Force is to identify challenges to affordable housing and to explore and develop strategies to address the City's current and future housing needs. Through the activities of the Housing Task Force and the CDSSAB's multi-year housing plan, the CDSSAB is taking steps to eliminate homelessness by 2025, which includes increasing the availability of transitional housing (City of Timmins 2023).

In July 2023, the Government of Canada and the Province of Ontario announced an investment of nearly \$2 million to help create six supportive housing units that will support youth aged 16 to 21 in Timmins. An old school was acquired by the North Eastern Ontario Family and Children's Services to be transformed into four one-bedroom apartments, a barrier-free/accessible one-bedroom apartment and a three-bedroom unit. This project will provide supportive housing, on-site services, and to help teens successfully transition to independent living in their home community. The facility will provide medical services and supervised access for youth on weeknights and weekends (North Eastern Ontario Family and Children's Services 2023).

5.3.1.5 Indigenous Housing

Ontario Aboriginal Housing Services (OAHS) is a corporation with a mandate to provide safe and affordable housing to urban and rural First Nation, Inuit and Métis people living off-Reserve in Ontario. OAHS provides a variety of housing options along the housing continuum starting at rent geared-to-income units and currently ending with assisted homeownership and home repair assistance. Rents are set at rates ranging from 25 percent of gross income (core need) to 80 percent of market (affordable) (OAHS 2021). OAHS is the largest Indigenous non-profit housing provider in Ontario with 2,700 homes throughout the province (Grech 2023b). In 2020, CDSSAB and OAHS established a partnership to reduce homelessness, increase options for housing of the Indigenous population, and reduce housing waitlist managed by CDSSAB (CDSSAB 2021a).

In September 2023, the Timmins City Council donated 2.9 hectares (ha) of City-owned land to OHAS so it can build two three-storey 62-unit affordable housing complexes. Construction on the housing complexes is expected to begin in July 2026 (Grech 2023b).

The Timmins Native Non-Profit Housing Corporation aims to provide quality affordable housing to Indigenous families in Timmins. It is overseen by a volunteer Board of Directors and managed by two staff: an Operations Coordinator and an Administrative Clerk. The Timmins Native Non-Profit Housing Corporation is funded by the Government of Canada through the CMHC. It manages 36 housing units made up of two-, three- and four-bedroom units. There are 20 individual and semi-detached units and 16 row housing units in Timmins (Timmins Native Non-Profit Housing Corporation 2015).

Through Indigenous Services Canada, the Government of Canada provides funding to First Nations for housing in their communities. A description of on-reserve housing in each community is provided in the Assessment of Potential Effects on Indigenous Interests (Chapters 25 to 28 of the Impact Statement).

5.3.1.6 Temporary Accommodations

As of October 2023, there are 30 hotels, motels, bed and breakfasts, and inns in the LSA/RSA with a total of 1,418 rooms (Table 5.3) (TripAdvisor 2023). There are also a number of outfitters, campgrounds, and RV parks (Tourism Timmins 2023; Town of Cochrane 2024). The communities of Timmins and Cochrane have the highest number of temporary accommodations (15 and 12, respectively), with limited options in Iroquois Falls and Smooth Rock Falls.

The communities in the LSA/RSA belong to the Northeastern Ontario Tourism Region, which had a temporary accommodation occupancy rate of 59.5% from January to July 2023. This is a 1.5% decrease from the same period in 2022, which had an occupancy rate of 58.0% (CBRE Ltd. 2023).

Table 5.3 Temporary Accommodations, LSA/RSA, 2023

Community	Hotel	# Rooms
Cochrane	Best Western Swan Castle Inn	42
	Betty's Bed and Breakfast	3
	Chez Michelangelo Bed & Breakfast	2
	Chimo Motel	34
	Commando Motel	7
	Econo Lodge	18
	Kesagami Wilderness Lodge	19
	North Adventure Inn	28
	The Station Inn	23
	Thriftlodge Cochrane South	40
	Travelodge by Wyndham Cochrane South	11
	Westway Motel	42
Timmins	Balsam Suites Boutique Inn & Residence	10
	Best Western Premier Northwood Hotel	98
	Bon Air Motel	104
	Cedar Meadows Resort & Spa	54
	Comfort Inn Timmins	89
	Hampton Inn by Hilton Timmins	115
	Holiday Inn Express & Suites Timmins	108
	Microtel Inn & Suites by Wyndham Timmins	91
	Ramada by Wyndham	105

Community	Hotel	# Rooms
	Regal Motel	13
	Super 8 by Wyndham	73
	The Senator Hotel	145
	Timmins Hotel	26
	Travelodge by Wyndham Timmins	91
	WildExodus	12
Iroquois Falls	Ansonville Inn	*
	Auberge MacDonald Guest Inn	15
Smooth Rock Falls	Moose Motel	*
Note: * = number unavailable Source: TripAdvisor 2023		

5.3.1.7 Social Housing

Homelessness has existed in the District of Cochrane for many years. It was exacerbated by the Covid-19 pandemic and is currently at critical levels (CDSSAB 2021a). According to a point-in-time count (a tool used to count the number of people experiencing homelessness on a given day/night) of homeless people in the Cochrane District completed in June 2023 indicated that of the 276 people counted as homeless, 100 were chronically homeless. This refers to those who have been without a home for six months out of the past year. A count completed in April 2021 found that 142 (62%) of the 242 people counted were experiencing chronic homelessness (CDSSAB 2021b).

There is evidence that homelessness in the District of Cochrane is likely to be experienced by members of vulnerable groups, such as youth, seniors, Indigenous peoples, visible minorities, persons with disabilities, and low-income families, more often than other members of the population (Housing Services Corporation and CDSSAB 2019; CDSSAB 2021a, b). The problem of access to the limited affordable housing supply is exacerbated by stigmatization and discrimination of low-income and special needs groups. There have been reports of landlords declining tenancy applications from tenants of certain race/ethnicity, with certain disability characteristics, or with income from social assistance (Advocacy Centre for Tenants Ontario and Advocacy North 2021).

A disproportionate number of youth and Indigenous peoples in the District are experiencing, or are at risk, of homelessness. It has been suggested that this is part of the legacy of residential school abuses and the discrimination encountered when seeking rental housing. According to the results of a survey completed during the April 2021 point-in-time count of homelessness, people of Indigenous ancestry are over-represented amongst the population of residents with no home (CDSSAB 2021b).

The Cochrane District Social Services Administration Board (CDSSAB) is responsible for the administration and funding of social housing and homelessness programs in the District of Cochrane (CDSSAB 2022). CDSSAB is responsible for the oversight of 2,428 housing units. Eligible applicants are

placed on a chronological centralized waitlist with special priority status assigned based on eligibility criteria set out in the Housing Services Act, 2011 and CDSSAB Local Rules (CDSSAB 2022).

CDSSAB acknowledges that the supply of subsidized and/or financially assisted housing in the District of Cochrane is not keeping up with the demand. The number of individuals and families on the waitlist for subsidized housing units demonstrates the need for more affordable housing options (Housing Services Corporation and CDSSAB 2019).

There is a limited supply of supportive and transitional housing in the District of Cochrane and the number of people accessing these supports is increasing (Housing Services Corporation and CDSSAB 2019). Results from a housing needs assessment for the District indicate that additional emergency shelter beds or transitional housing units are needed. In addition to this requirement, there is an insufficient supply of emergency housing for men, youth, and victims of family violence (Housing Services Corporation and CDSSAB 2019). Existing supportive and transitional housing options in the LSA/RSA are:

- Living Space Emergency Shelter in Timmins was founded to address homelessness and to coordinate services to prevent and end homelessness. It provides 24/7/365 services for co-ed adults who are experiencing or who are at risk of experiencing homelessness. Clients accessing services are required to develop and work through plans aimed at transitioning them from homelessness to stabilized housing. Living Space is a first-come, first-serve emergency overnight drop-in shelter with 63 beds (Living Space 2023).
- Musk Quat Transition House in Timmins has six units which provide housing for up to one year to women fleeing violence.
- H.E.R Place Women's Shelter is a 10-bed emergency shelter for women and their children who are fleeing violence and/or abuse.
- Habitat Interlude (Emergency Shelter) provides emergency shelter for women and children in crisis. The organization predominately services the needs of the Indigenous community.

A new multi-family affordable housing complex is under construction in Iroquois Falls that will feature about 150 mixed-use units, public recreation green space and a playground, an early childhood education space and an Indigenous culture centre. In addition, a modular housing factory is under development in Iroquois Falls, which will have the capacity to build up to 300 modular homes each year. As part of this plan, the operating company, Due North Homes, will build a subdivision with 150 new homes (CBC News 2022).

5.3.2 Utilities

5.3.2.1 Water and Sewer

Water distribution and treatment services in the LSA/RSA, including sewage treatment, are provided by the towns and communities of Cochrane, Timmins, Iroquois Falls, and Smooth Rock Falls.

A summary of water and sewage infrastructure is provided in Table 5.4 All of the facilities are operating below their capacity, with the exception of the Whitney and Tisdale Wastewater Treatment Plant, which is operating slightly beyond its capacity of 20,457 m³/day.

Table 5.4 Water and Wastewater Treatment Facilities in the LSA/RSA

Community	Infrastructure	Capacity (m ³ /day)	Average Maximum Usage (m ³ /day)
Cochrane ¹	Cochrane Water Treatment Plant	8,000	1,493
	Cochrane Wastewater Treatment Plant	5,600	1,925
Timmins ^{2,3}	Timmins Water Filtration plant	54,500	*
	Mattagami River Wastewater Treatment Plant	81,800	57,010
	Whitney and Tisdale Wastewater Treatment Plant	20,457	20,463
Iroquois Falls ^{4,5}	Iroquois Falls Water System	5,227	2,072
	Iroquois Falls Sewage Treatment Plant	4,090	2,683
Smooth Rock Falls ^{6,7}	Water Treatment Plant	3,897	1,298
	Sewer Treatment Plant	3,274	1,267
Notes: * = information not available 1. Cochrane 2022 2. City of Timmins 2018 3. Tam, pers. comm. 4. Iroquois Falls 2022 5. Mineault, pers. comm. 6. Marchand, pers. comm. 7. OCWA 2022			

There are reports that the water and sewer systems in some Indigenous communities are operating beyond their capacity (MCFN 2022). All First Nations communities near the LSA/RSA are partnered with the Ontario Clean Water Agency (OCWA n.d.).

5.3.2.2 Landfill

The Deloro Landfill Site is located in Deloro Township, within the limits of the City of Timmins, Ontario. The Site is approved for the use and operation of a 40 ha landfill site within a total area of 375.2 ha.

The Fournier Landfill is owned and operated by the Town of Cochrane. In 2015, a provincial environmental impact assessment was registered for the proposed expansion of the existing Fournier Landfill to meet the solid waste disposal needs of the Town of Cochrane and the townships of Fournier, Driftwood, Hanna, Glackmeyer, and Lamarche for years 2016-2044 (Ontario 2023a).

The Nellie Lake Landfill is operated by the Town of Iroquois Falls. It was developed with a proposed capacity of 315,000 m³ (Ontario 2021a).

The Smooth Rock Falls landfill was recently proposed to be expanded to 172,500 m³ (Smooth Rock Falls 2018).

5.3.3 Health Services and Infrastructure

5.3.3.1 Health Facilities

Ontario Health has six health regions to lead the local health systems, fund health care providers, and monitor health care performance. The LSA/RSA falls within the North East Region, which oversees the care of 557,000 people, mostly living in rural communities. In 2023, the North East Region operated 24 public hospitals, seven community health centres, and 37 long-term care homes (Ontario Health 2023).

Data for the North East Region indicate that in 2022, it had 723 family medicine physicians, up 1.1% from 2018 when it had 715. In 2022, the North East Region had 124 physicians per 100,000 population compared to 115 physicians per 100,000 population in the province (CIHI 2022). There were 455 specialists in the North East Region in 2022, an increase of 1.8% from 2018. In 2022, there were 78 specialists per 100,000 population in the North East Region versus 118 per 100,000 population in the province (CIHI 2022).

However, despite these data, there appears to be a shortage of family doctors in the Cochrane District. Between 2020 and 2022, ten family doctors in Timmins closed their practices due to retirement, overwhelming caseloads, or because of a change of practice focus, such as addiction medicine or administration (The Daily Press 2022). While three new family practices opened in that time, the Northern Ontario School of Medicine has suggested that the city will need to recruit 17 new physicians to replace the larger practices that closed (The Daily Press 2022).

Some recent initiatives have been established to recruit doctors to Northern Ontario communities, including Frontier Spirit Physician Recruitment, a not-for-profit corporation created by the municipalities of Cochrane, Iroquois Falls, and Matheson. It consists of representatives from each of the three municipalities, a representative from two family health teams, as well as three skills-based individuals (Lentz-McGrath 2024b).

The Porcupine Health Unit (PHU) is a public health unit serving Cochrane District. Its head office is located in Timmins, and it has a staff of 120 in nine offices throughout the region (PHU 2023). The Province of Ontario has 34 boards of health, one for each health unit. The Porcupine Health Unit's Board of Health is made up of members from each of our communities. Most of them are elected members from municipal councils. These municipal governments, along with a variety of federal and provincial ministries, provide the funding for the health unit's activities.

The Timmins and District Hospital is located within Timmins and serves the Cochrane District, as well as the Temiskaming, Sudbury, and Algoma Districts (TADH 2022). The 184-bed hospital has 850 staff and 74 physicians and offers services ranging from medical, surgical, critical care, maternity, newborn, pediatric, long-term care, and mental health services.

The Lady Minto Hospital in Cochrane provides in-patient, complex ongoing care, emergency, outpatient, ambulatory care, general surgery, and long-term care. It has 25 acute, eight continuing care, and 37 long term care beds. The PCU provides Cochrane with regularly scheduled clinics for immunization, sexual health, and dental services. According to the Town of Cochrane's 2018 Final Community Improvement Plan, their growth strategy prioritizes human, economic, and environmental health, focusing on the improvement of socially responsible infrastructure, such as active transportation, which have direct implications on community health and well-being. Cochrane and Iroquois Falls are also members of the Matheson, Iroquois Falls, and Cochrane Groups network of hospitals, consisting of both emergency and long-term care services. The Group's three hospitals, each in their respective regions, provide a variety of services to the region including, but not limited to emergency; laboratory; diagnostic imaging; clinical nutrition; specialist clinics; physiotherapy; general surgery; and oncology.

The Anson General Hospital in Iroquois Falls is a 34-bed hospital: 19 acute and 15 continuing care. Visiting speciality clinics provided for: general surgery, internal medicine, urology, gynecology, neurology. Through the PHU, Iroquois Falls is also provided with regularly scheduled clinical appointments which offer the same range of routine and emergency care services. The Ministry of Health has also made investments in Iroquois Falls, supporting programs provided by the Family Health Team. This group is comprised of physicians, nurse practitioners, registered and practical nurses, and mental health workers offering general care services and specialized programs designed for women's wellness, mobility clinics, infant care, and dietary/nutritional counselling. Iroquois Falls has more than 20 health-related organizations ranging from emergency care services, such as the Anson General Hospital, to smaller private practices such as the Atlas Chiropractic Clinic (MICS Group of Health Services 2021).

Smooth Rock Falls Hospital has one full-time physician and three part-time physicians. Emergency services are available 24-hours per day, including patient medical, palliative care, chronic care, long-term care, laboratory, and radiology services (Town of Smooth Rock Falls 2022). The Falls Medical Clinic focuses on family and community health by appointment only and provides care for minor illnesses and injuries. There is a full-time nurse on staff at the Smooth Rock Falls PHU.

5.3.3.2 Mental Health and Addictions Services and Infrastructure

The Canadian Mental Health Association Cochrane-Timiskaming (CMHA-CT) branch provides supports and services to people dealing with mental health challenges. It provides addictions services, including individualized assessment and treatment planning, referral to in-patient substance abuse programs, family support and education, among other services. CMHA-CT provides a range of support services to people dealing with mental illness, including but not limited to: behavioural supports for older adults with complex behaviour related to dementia, mental illness and neurological conditions; skill building for adults and youth with low mood, mild to moderate depression and anxiety, stress or worry; and workshops and presentations to the public as a way to educate communities on mental health and mental illnesses. The Timmins CMHA-CT branch location offers walk-in/call-in mental health and addictions clinics (CMHA-CT 2023).

The Timmins and District Hospital provides a number of addictions services, including the Addiction Medicine Consult Service and the Community Withdrawal Management Service to provide treatment for substance and/or opioid use disorders and for acute withdrawal. The Timmins and District Hospital has two inpatient acute withdrawal management beds, providing a location where people can safely withdraw, with medical support, from substances (TADH 2023).

Safe Health Site Timmins (SHST) is a supervised-consumption site or overdose-prevention site. SHST is a controlled space where people can consume their own pre-obtained drugs under supervision of trained staff who can respond if a medical emergency (overdose) occurs. People who use the service can access basic medical care, referrals to treatment services, withdrawal beds, and other health and social services (TADH 2023).

The Cochrane District Detox Centre in Smooth Rock Falls opened in 1989 and provides detoxification services, as well as physical and psychological stabilization to individuals struggling with substance abuse. It offers initial assessment and case management services for persons involved with law and/or with concurrent disorders, as well as referral services. The Centre is housed in the Mattagami Centre and has 27 beds, six of which are designated for women only (HSRFH 2021).

In 2021, the Ontario government pledged \$18.5 million over three years to support victims of domestic violence and human trafficking through improving access to affordable shelter, employment assistance, and childcare through the Transitional and Housing Support Program. This investment was also pledged to improve access to five Indigenous shelter and family healing programs across the province (Ontario 2021b).

Women and children seeking aid from domestic violence and abuse can access provincial aid, including emergency shelter, by calling the provincial Crisis Line, Assaulted Women's Hotline, Victim Support Line, or Fem'Aide (francophone) telephone numbers (MCCSS 2023). The Ontario Network of Sexual Assault/Domestic Violence Treatment Centres (ONSA/DVTC) operates 37 facilities within the province, though none within the RSA. The nearest ONSA/DVTC facility to the RSA is in North Bay, 373 km south of Cochrane.

The Timmins & Area Women in Crisis centre assists women experiencing violence and abuse, and also offers services for Indigenous women (TAWC 2018).

5.3.3.3 Indigenous Health

Community-led health programs and services for First Nations, Inuit, and Métis communities in Ontario include Aboriginal Health Access Centres, which are Indigenous community-led, primary health care organizations. They provide a combination of traditional healing, primary care, cultural programs, health promotion programs, community development initiatives, and social support services to First Nations, Métis and Inuit communities in both rural, northern and urban locations (NorthEast Healthline 2023).

Within the LSA/RSA, there are six Aboriginal Health Access Centres:

- Misiway Milopemahtesewin Community Health Centre (Timmins)
- Timmins Native Friendship Centre (Timmins)
- Aboriginal Peoples' Alliance Northern Ontario (Cochrane)
- Métis Nation of Ontario - Healing and Wellness (Cochrane)
- Sweetgrass Health Centre (Cochrane)
- Taykwa Tagamou First Nation - Health Centre (Cochrane) (NorthEast Healthline 2023).

The CMHA-CT has an Indigenous Committee that acts as an advisory body to ensure the needs of Indigenous Peoples are considered in CMHA-CT decision making and to improve the health outcomes for Indigenous residents in the area.

Indigenous women facing domestic or family abuse in Ontario can seek counselling and assistance through several help lines, including Talk4Healing and Hope for Wellness 24/7 Help Line.

The Ontario Native Women's Association (ONWA) operates a facility in Timmins which offers services for Indigenous women, including trauma-informed care, family violence services, and community health outreach (ONWA n.d.).

More detail on health services and infrastructure in Indigenous nations can be found in the Assessment of Potential Effects on Indigenous Interests (Chapters 25 to 28 of the Impact Statement).

5.3.3.4 Senior Services and Long-term Care Homes

Services for seniors within the LSA/RSA can be sought online through Home and Community Care Support Services North East (Ontario 2023c). There are five provincially listed long-term care homes within the LSA/RSA; two in Timmins, and one each in Cochrane, Smooth Rock Falls, and Iroquois Falls (Table 5.5) (Ontario 2023d). There are an additional two private long-term care homes in Timmins (Autumnwood 2023; Chartwell 2023).

Table 5.5 Long-term Care Homes in the LSA/RSA

Community	Facility	Number of Beds
Timmins	Golden Manor Home	177
	Extendicare Timmins	180
	St. Mary's Gardens ¹	*
	Chartwell ²	*
Cochrane	Villa Minto	37
Iroquois Falls	South Centennial Manor	69
Smooth Rock Falls	Smooth Rock Falls Hospital	20
Notes: *= information not available Sources: Ontario 2023d 1. Autumnwood 2023 2. Chartwell 2023		

Golden Manor in Timmins is currently being redeveloped to replace the existing 177-bed long-term care facility. The new building will have 192 beds and will be more accessible. It is expected to be complete in May 2026 (Timmins 2023).

There are also plans to build a six-storey long-term care home in the Town of Cochrane. The facility would have approximately 270 beds and would include a medical clinic, diagnostics centre, pharmacy, and retail stores. Construction is expected to start in 2024 and be complete in 2026 (Arangio 2023).

5.3.4 Emergency Services

5.3.4.1 Firefighters

The City of Timmins is served by the Timmins Fire Department, which includes one primary fire station and six volunteer fire stations throughout the community. This department employs 28 full-time firefighters and provides service to several surrounding areas (Timmins 2018a).

The Cochrane Volunteer Fire Department provides emergency services to Cochrane and includes 38 trained members. Iroquois Falls is served by one volunteer fire department. The Smooth Rock Falls Fire Department is staffed by volunteer firefighters and has a fleet consisting of two pumper trucks, a rescue van, a side-by-side ATV, and a pickup truck.

5.3.4.2 Police

All communities in the LSA/RSA are within the Ontario Provincial Police (OPP) Force – North East Region.

Timmins is the only community within the LSA/RSA with its own municipal police force. The Timmins Police Service (TPS) is composed of 146 staff members, divided between 82 sworn police officers and 61

civilian staff members/auxiliaries (TPS n.d.). The TPS is approved for 96 officers but at its peak, it had 88 officers (Hoggitt 2023).

In 2021, there were 805 criminal charges laid for serious crimes and 568 charges related to drug enforcement (TPS 2021). Motor vehicle collisions decreased 26.3% from 2020, to a total of 806 in 2021. Crime severity index (CSI) is a measure of the level of crime severity in Canada and includes all Criminal Code violations, including traffic and drug violations. More serious crimes have a greater impact on changes in the index (Statistics Canada 2023b). The CSI for Timmins decreased by 8.4% in 2022 (e.g., the most recently available data) to 148.5, from 162.1 in 2021, which recorded the highest CSI from 2018-2022 (Statistics Canada 2023b).

Cochrane, Iroquois Falls, and Smooth Rock Falls are part of the James Bay Detachment of the OPP, which includes a number of other towns and communities. In 2021 (e.g., the most recently available data; OPP 2023), the total number of violent crimes in the James Bay detachment was 707, an increase of 13.1% from 2020. Other crime statistics within the James Bay detachment are divided between property crime, other criminal code offences, drug offences, federal statutes offences, and cybercrime, with an average change of 7.9% from 2020 to 2021. The categories with the greatest change were federal statute offenses (change of 50.00%), cybercrime (change of 26.1%), and drug offences (change of -31.3%). There are no recently available CSI data for Cochrane, Iroquois Falls, or Smooth Rock Falls (Statistics Canada 2023b).

The Nishnawbe Aski Police Service (NAPS) is the largest Indigenous police service in Canada and provides service to more than 60% of Ontario through its Northeast Region, Northwest Region, and Central Region (NAPS 2023). Its Northeast Regional Office is located in Cochrane, with detachments in numerous surrounding Indigenous communities. The Northeast Region is overseen by a Regional Commander, under whom is a Staff Sergeant responsible for up to 13 sergeants, 49 constables, and numerous administrative staff. In 2022, approximately 14 of the officer positions were vacant due to staff shortages, and an additional 13 were vacant due to leave. From March 2021 to March 2022, there were 11,863 calls for service and 4,419 charges laid. Statistics of mental health related calls, child welfare, domestic related calls, and property damage reports in 2022 increased from previous numbers (NAPS 2023).

5.3.4.3 Ambulances

The District of Cochrane provides direct delivery of 20 ambulances across the communities of Cochrane, Iroquois Falls, Smooth Rock Falls, and Black River-Matheson through Cochrane District Social Services Administration Board (CDSSAB; CDSSAB 2022a). There are 92 full-, part-time, and contracted paramedics employed by CDSSAB, divided between the following communities:

- Timmins: 20 full-time staff, 30 part-time staff
- Cochrane: 4 full-time staff
- Iroquois Falls: 6 full-time staff
- Smooth Rock Falls: 4 full-time staff

In 2021, there were 20,403 calls for ambulance service across the District of Cochrane, which includes Timmins, Cochrane, Iroquois Falls, Smooth Rock Falls as well as 11 other communities (TPS 2021). The average response time in 2021 was seven minutes and 8 seconds, which increased in 2022 (e.g., the most recently available data) to 7 minutes and 27 seconds (MOH 2022).

The District of Cochrane has seen a progressive increase in total ambulance call numbers from 2018 to 2022 (e.g., the most recently available data; CDSSAB 2022b), shown below per community (Table 5.6).

Table 5.6 Emergency/Ambulance Calls Received in the District of Cochrane 2018 and 2022

Community	Emergency Calls in 2018	Emergency Calls in 2022	Percent Change (%)
Timmins	5580	6609	+18
Cochrane	600	858	+43
Iroquois Falls	512	566	+11
Smooth Rock Falls	237	203	-14

Smooth Rock Falls is the only community within the LSA/RSA that has experienced a decrease (-14%) in ambulance calls from 2018 to 2022. Cochrane is the community with the largest change in the number of calls (+43%).

5.3.5 Education and Childcare

5.3.5.1 Primary and Secondary

There are four school boards which administer education across the LSA/RSA communities: District School Board Ontario North East (DSB1), Northeastern Catholic School Board, Conseil Scolaire Catholique de District des Grandes Rivières, and Conseil Scolaire Public de Nord Est de L'Ontario. The school boards are generally divided between English education and French-Catholic education.

Table 5.7 lists the schools in each LSA/RSA community.

Table 5.7 Schools and Enrolment in the LSA/RSA, 2021-22

Municipality	School	Type	Enrolment 2021-22
Cochrane	Aileen Wright English Catholic School	Elementary	105
	Bishop Belleau School	Elementary	75
	Cochrane Public School	Elementary	365
	École catholique Nouveau Regard – Pavillon St-Joseph	Elementary/ Secondary	265
	École catholique Nouveau Regard	Secondary	95
	École Secondaire Cochrane High School	Secondary	200
	Ministik Public School	Elementary	295

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Municipality	School	Type	Enrolment 2021-22
Timmins	École catholique Don-Bosco	Elementary	255
	Bertha Shaw Public School	Elementary	225
	École catholique Anicet-Morin	4-8	265
	École catholique Jacques-Cartier - Timmins	Elementary	145
	École catholique Louis-Rhéaume	Elementary	80
	École catholique Sacré-Coeur (Timmins)	5-8	285
	École catholique St-Dominique	Elementary	235
	École catholique St-Gérard	Elementary	130
	École publique Lionel-Gauthier	Elementary	260
	École publique Pavillon Renaissance	7-8	*
	École secondaire catholique Thériault	Secondary	680
	École secondaire Renaissance	Secondary	85
	Golden Avenue Public School	Elementary	160
	O'Gorman High School	Secondary	345
	O'Gorman Intermediate Catholic School	Intermediate	215
	PACE	Secondary	*
	Pincrest Public School	Elementary	185
	Pope Francis Elementary School	Elementary	305
	R Ross Beattie Senior Public School	Secondary	280
	Roland Michener Secondary School	Secondary	285
	Schumacher Public School	Elementary	160
	St Martin of Tours Catholic School	Elementary /Secondary	*
	St. Joseph School	Elementary	115
Timmins Centennial Public School	Elementary	430	
Timmins High and Vocational School	Secondary	630	
W Earle Miller Public School	Elementary	365	
Iroquois Falls	Iroquois Falls Public School	Elementary	135
	Iroquois Falls Secondary School (Elementary)	Elementary	70
	St. Anne English Catholic School	Elementary	160
	École catholique Sts-Martyrs-Canadiens	Elementary	105
	École publique Étoile du Nord	Elementary	60
	Iroquois Falls Secondary School	Secondary	145
	École secondaire catholique L'Alliance	Secondary	*
	École secondaire l'Alliance	Secondary	*

Municipality	School	Type	Enrolment 2021-22
Smooth Rock Falls	Smooth Rock Falls Public School	Elementary	*
	École catholique Georges-Vanier	Elementary	55
	École secondaire catholique Georges-Vanier	Secondary	*
Note: * = enrolment not available Source: Ontario Ministry of Education			

For decades, Northern Ontario schools have been experiencing a decline in student enrolment (White 2023). However, some northern school districts are now experiencing modest increases in the student population as a result of newcomers to Canada who are settling in the region. This has created a need for more teachers and renovations to some schools (White 2023).

Between the 2017-2018 and 2021-2022 academic years, the total enrolment in the four school districts in the LSA/RSA increased 6.6%, from 16,947 to 18,060. All of the school districts, with the exception of the Conseil Scolaire Catholique de District des Grandes Rivieres, saw increases in the student population. Between 2017-2018 and 2021-2022, student enrolment in the Conseil Scolaire Catholique de District des Grandes Rivieres decreased by 5.1% (Government of Ontario 2023a).

5.3.5.2 Post-Secondary

There are two adult based education centres in the District of Cochrane which provide literacy, numeracy, and essential skills for further adult education and training; Adult Learning Centre and Centre D'alphabetisation au Pied de la Lettre.

There are 44 universities and colleges across Northern Ontario (NOL 2023), with several located within the LSA/RSA (Table 5.8).

Table 5.8 Universities and Colleges within the LSA/RSA

Municipality	School Name
Cochrane	Northern College
	Contact North/Contact Nord
Timmins	Northern College
	College Boreal
	Algoma University
	Universite de Hearst
	College Universitaire
Iroquois Falls	Contact North/Contact Nord
Source: NOL 2023	

5.3.5.3 Childcare

The CDSSAB manages the funding for numerous programs under the *Child Care and Early Years Act* (CDSSAB 2022c). The CDSSAB has service agreements with 23 agencies across the District of Cochrane which provide a number of services, including licensed and private home childcare, special needs resourcing, before/after school recreational programs, and family resource centre programs (CDSSAB 2022c).

There are eight childcare centres in Timmins:

- Centre Educatif Rayon de Soleil Ecole
- Friends Forever Childcare Centre (former Bambi's Castle)
- La Mosaic Montessori Centre
- Little Saplings
- Oppekehawaso Wekamik Centre
- Precious Children Day Care
- Stork's Early Years Childcare Centre
- Timmins Family Y.M.C.A.

There are two childcare centres in Cochrane: Cochrane Child Care Centre and Garde D'Enfants de Cochrane. Additionally, Northern Treasures Licensed Home Child Care services the District of Cochrane.

There are three childcare centres in Iroquois Falls; Centre Educatif Rayon de Soleil Etoile de Nord Site, Garderie Clin D'oeil, Ecole Sts-Martyrs-Canadiens Site, and Iroquois Falls Before and After School Program – St. Anne's. Smooth Rock Falls has one EarlyOn Child and Family Centre and according to the CDSSAB, there is a plan to acquire additional licensed childcare spaces in that community (Lentz-McGrath 2024b).

In addition to private childcare centres, some of the school districts in the District of Cochrane have partnered with licensed childcare operators to provide before and after school care and early learning school readiness programs at several schools throughout the District (DSBONE n.d.).

The Timmins Native Friendship Centre has been operating the Oppekehawaso Wekamik program since 2005, which offers childcare for children 0-12 years of age. It is staffed by Registered Early Childhood Educators (ECEs), Early Childhood Education Assistants, and a Resource Teacher. Funding for the program is provided through the province's Best Start Initiative. The infant classroom is licensed for 10 children, aged 0 to 18 months old. The toddler classroom is licensed for 15 children, aged 18 months to 2.5 years. The preschool classroom is licensed for 24 children, aged 2.5 to 6 years. The school-age classroom is licensed for 27 children, age 4 to 12 years of age (Timmins Native Friendship Centre 2023).

In 2023, the Mayor of Timmins spoke on childcare during the 2023 State of the City Address (Timmins 2023). They indicated that there is a shortage of ECEs in the region, with an estimated 80 ECEs required to meet the present demand. The mayor discussed the need for provincial recruitment and retention strategies for ECEs, as well as the possibility of developing region-specific strategies. According to the

Director of Children's Services for the CDSSAB, as of July 2023, 96% of available childcare spaces in the District had been filled and some spaces had been closed due to a lack of early childhood educators (S. Costello, pers. comm., 2023).

In October 2023, the Ontario Minister of Education announced that 189 new licensed childcare spaces will be created in the District of Cochrane. These additional spaces would represent an increase of 11.7% in the number available within the District of Cochrane (Ontario 2023b). There are staffing concerns associated with this increase, however; the current capacity of childcare centres in the CDSSAB requires 110 educators, and the additional 189 childcare spaces opening in the District of Cochrane will require an additional 56 educators (CTV News 2023d).

5.3.6 Transportation

5.3.6.1 Airports

The Victor M. Power Airport, located 11 km north of Timmins, is the largest municipal airport in the RSA. It is owned and operated by the City of Timmins and serves more than 200,000 passengers annually (Timmins 2018b). Following a period of decreased activity during the COVID-19 pandemic, the airport is seeing an increase in the number of people travelling. Between 2020 and 2022, aircraft movements at the Timmins airport increased from 13,866 to 16,863 (Statistics Canada 2023). There is speculation that the airport terminal may need to be expanded if there is an increase in the movement of mine workers in and out of the area (Stoffman 2023). A Master Plan is being developed for the airport that will act as a blueprint for future airport operations and development. The plan will address airport infrastructure needs, identify economic opportunities, and provide guidelines for development in the short (5 years), medium (10 years) and long (20 years) term (TEDC 2021).

The airport has two runways and operates a 24-hour weather reporting station, fuel station, and flight service station. Additionally, the Victor M. Power Airport is the aircraft maintenance and emergency medical transportation hub for the area, and the Ministry of Natural Resources and Forestry uses the airport as a district base for forest fire operations (Timmins 2018b). The airport is the site of the Timmins Stratospheric Balloon Base, a joint venture between the Canadian and French space agencies that invites scientists from around the world to put experiments into the stratosphere with balloons the height of the Eiffel Tower (Stoffman 2023).

The Cochrane Airport is located 5 km north of Cochrane and has one runway. It serves private charters, air cargo, and medevac flights (CYCN 2023).

The Iroquois Falls Airport is a small aerodrome located 9 km west of Iroquois Falls. It is in the process of being renovated, including development of a new industrial park (Iroquois Falls 2023c).

There do not appear to be airports located in Smooth Rock Falls nor Black River-Matheson. The nearest airports to these towns are the Cochrane Airport and Iroquois Falls Airport, respectively.

The nearest international airports to the RSA are Toronto Pearson International Airport, located 547 km south of Timmins, and Montreal-Pierre Elliott Trudeau International Airport, located 64 km southeast of Timmins.

5.3.6.2 Rail

Ontario Northland Transportation Commission (ONTC) is a provincial agency operating bus and railway services in northern Ontario. There are ONTC stations in Timmins, Cochrane, Iroquois Falls, and Smooth Rock Falls. However, only the Cochrane Railway Station is connected to the passenger railway system; the other stations are only serviced by ONTC bus service. The Cochrane Railway Station is also the southernmost stop of the Polar Bear Express, a passenger train operated by ONTC in Northern Ontario.

The ONTC is presently working on increasing passenger rail service in Northern Ontario with the Northlander Passenger Train, which will connect Toronto to several Northern Ontario communities, including Timmins, before terminating in Cochrane, where it will connect to the Polar Bear Express line.

The ONTC also operates a freight rail system in Northern Ontario, including providing service to Timmins, Iroquois Falls, and Cochrane. An existing ONTC line is located to the south of the PA connecting the Kidd Mine west of Highway 655 to the Kidd Metallurgical Site along Highway 101 in Timmins.

5.3.6.3 Roads and Highways

The Project is located 42 km north of Timmins, Ontario. The PA is highly accessible to the regional infrastructure network, and is bisected by Highway 655, a paved secondary highway offering year-round accessibility. Access to the property is by a network of local bush roads accessed from Highway 655. Highway 655 runs north south through the Project Area connecting to Highway 11, the Trans-Canada Highway located north of the site, to Highway 101 located south of the Project Area. The Project Area is readily accessible from both Timmins and South Porcupine from the south, as well as the communities of Smooth Rock Falls and Cochrane, Ontario to the north on Highway 11.

Highway 655 is a two-lane highway with a design speed of 110 km/hr and is posted with a regulatory speed limit of 90 km/hr. The Annual Average Daily Traffic (AADT) for Highway 655, North of Kidd Creek Mine Road for 54 km is 1,200. Forecast AADT for 2030 is 1,300. The Level of Service (LOS), which a qualitative measure used to describe operational conditions within a traffic stream, dependent on vehicle throughput and based on volume capacity ratio and also generally reflecting such factors as speed, travel time, delay, and freedom to maneuver, for Highway 655 is A (the highest LOS).

5.4 Discussion

Throughout the LSA/RSA, new home construction has slowed recently due to high construction costs and a shortage of trained tradespeople (CMHC 2021). Housing sales have also been decreasing across northeastern Ontario, with the biggest decline happening in Timmins. Results of a housing needs assessment indicate that there is sufficient supply of permanent or home ownership housing in the District of Cochrane but a low supply of new rental housing, and in particular multi-residential rentals. The

LSA/RSA also has a high percentage of tenants living in subsidized housing; over 20% of renters in Timmins live in subsidized rentals, which is higher than the provincial average of 15% (Advocacy Centre for Tenants Ontario and Advocacy North 2021).

The LSA/RSA falls within the North East Region, which operates 24 public hospitals, seven community health centres, and 37 long-term care homes (Ontario Health 2023). There are four hospitals in the LSA/RSA. In 2022, the North East Region had 124 family medicine physicians per 100,000 population, an increase of 1.1% from 2018. The number of specialists increased 1.9% between 2018 and 22 to 78 physicians per 100,000 population (CIHI 2022).

Police services in the LSA/RSA are provided by the TPS, the James Bay Detachment of the OPP, and the Nishnawbe Aski Police Service. The CSI for Timmins decreased -8.4% in 2022 (e.g., the most recently available data) to 148.5, from 162.1 in 2021, which recorded the highest CSI from 2018-2022 (Statistics Canada 2023b). The Timmins Fire Department has a primary fire station and six volunteer fire stations throughout the City. There are also volunteer fire departments in the other LSA/RSA communities. Ambulance service is provided to the LSA/RSA communities by CDSSAB. The District of Cochrane has seen a progressive increase in total ambulance call numbers from 2018 to 2022 (CDSSAB 2022b).

After years of declining enrolment, some Northern Ontario districts saw an increase in the student population as a result of newcomers to Canada who are settling in the region. This has created a need for more teachers and renovations to some schools (White 2023). Between the 2017-2018 and 2021-2022 academic years, the total enrolment in the four school districts in the LSA/RSA increased 6.6% from 16,947 to 18,060 (Government of Ontario 2023a). Childcare options in the LSA/RSA are limited and there is a shortage of shortage of ECEs in the region, with an estimated 80 ECEs required to meet the present demand. The Timmins mayor has discussed the need for provincial recruitment and retention strategies for ECEs, as well as the possibility of developing regions-specific strategies.

With respect to vulnerable populations, the baseline information indicates that homelessness is experienced in the LSA/RSA more often by members of vulnerable groups, such as youth, seniors, Indigenous peoples, visible minorities, person with disabilities, and low-income families (Housing Services Corporation and CDSSAB 2019; CDSSAB 2021a, b). There have been reports of landlords declining tenancy applications from tenants of certain race/ethnicity, with certain disability characteristics, or with income from social assistance (Advocacy Centre for Tenants Ontario and Advocacy North 2021). Results of a survey of homelessness in the District of Cochrane indicate that Indigenous peoples are over-represented amongst the population of residents who are unhoused (CDSSAB 2021b).

There is also a recognized need for additional emergency and transitional housing in the LSA/RSA. In particular, there is an insufficient supply of emergency housing for men, youth, and victims of family violence (Housing Services Corporation and CDSSAB 2019).

6 Land and Resource Use

The following sections describe land and resource use including land ownership, land use planning and development, designated lands and protected areas, First Nation lands and provincial parks and conservation reserves, recreation and tourism, navigation use, and resource use (e.g., agricultural areas, mineral claims and aggregates, forestry, hunting, outfitting, and trapping, and commercial bait fishing).

6.1 Study Area

For the purpose of this assessment, the spatial boundaries considered the study areas that have been selected for the potential effects on land and resource use.

6.1.1 Project Area

The PA encompasses the Project footprint and is the anticipated area of physical disturbance associated with the construction, operations, and decommissioning and closure of the Project. The PA is shown on Figure A.8 in Appendix A.

6.1.2 Local Study Area

The LSA encompasses the area in which Project-related effects (direct or indirect) were predicted or measured with a level of confidence appropriate for the assessment and in which there is a reasonable expectation that the potential effects in the LSA are of public interest.

For land and resource use, the LSA includes the PA and a 1.5 km buffer around the PDA, along Highway 655, encompassing Big Water Lake, and along a rail spur line down to the Kidd concentrator, within the geographic townships of Beck, Crawford, Carnegie, Kidd, Lucas, Nesbitt, Prosser, and Wark. A small portion of the Project extent lies within the municipal boundary of the City of Timmins. The LSA for land and resource use includes the area where effects (e.g., noise and dust) on land and resource use are likely to be most prevalent. The LSA is shown on Figure A.8 in Appendix A.

6.1.3 Regional Study Area

The RSA includes the area within which cumulative effects are likely to occur, depending on the location of other past, present, or reasonably foreseeable future projects or activities.

For land and resource use, the RSA corresponds to an area within the Cochrane District in northeastern Ontario, and encompasses the administrative boundaries established by those municipalities expected to have an interest in the Project, namely – the City of Timmins, and the Towns of Smooth Rock Falls, Cochrane, and Iroquois Falls. The RSA encompasses a broader area beyond the Project property to provide additional context for land and resource use activities. The RSA is shown on Figure A.9 in Appendix A.

6.2 Methodology

6.2.1 Desktop Review and Data Sources

Development of a land and resource use baseline dataset requires the description of baseline conditions of land and resource use activities, including land ownership and development controls (development plans, zoning by-laws), designated lands and protected areas, recreation/tourism, and resource use (e.g., agriculture, mining claims/aggregates, commercial forestry, hunting, outfitting, and trapping, commercial fishing, and navigation use).

Data collection focused on providing an accurate description of existing land and resource use conditions in support of the environmental assessment. The desktop baseline analysis for land and resource use consisted of secondary research, which involved a review of existing publicly available information (e.g., maps, reports studies, public databases, government data), on-line sources and GIS data warehouses, other literature, and environmental assessments.

Topics addressed in establishing the land and resource use baseline included development plans/zoning by-laws, parks and protected areas, recreation/tourism, agriculture, forestry, mining claims/aggregates, hunting, outfitting, and trapping, fishing (commercial and sport), and navigation use. Information gathered and data collected were mapped, where applicable, and characterized.

First Nation Traditional Knowledge and Use Studies were reviewed and incorporated into the discussion of existing conditions to provide additional context to the baseline with respect to traditional land and resource use activities.

6.2.2 Primary Research

Baseline data came primarily from secondary sources. Engagement with government representatives and stakeholders was undertaken as part of Stakeholder Consultation for the Project that contributed to the further understanding of land and resource use activities.

6.3 Existing Conditions

6.3.1 Land Ownership and Development Controls

6.3.1.1 Property Ownership (Patented, Crown)

The Project RSA consists of lands made up of Patented lands⁴ (privately owned), provincial parks, conservation reserves, and First Nation Reserves, totaling 312,327 ha. Assumed unpatented Crown land in the RSA totals 688,253 ha⁵. These lands are located within surveyed municipal boundaries and unorganized areas in the Cochrane District community planning area of northeastern Ontario (Figure A.10 in Appendix A). The land use pattern is based on the township survey system comprising 640 acre and 1,800-acre sections of land (Ontario Ministry of Natural Resources 2000). Crown land is managed under the *Public Lands Act* which includes shore lands and the beds of most lakes and rivers. Crown and public land in the Project Region include publicly owned parcels set aside as provincial parks and conservation reserves (MNR 2023a). Designated lands (e.g., Provincial Parks, Conservation Reserves) are administered under applicable statutory authority (e.g., *Provincial Parks and Conservation Reserves Act, 2006*).

The Project Area consists primarily of patented mining claims with surface and/or mining rights, mineral leases with surface and mining rights, and unpatented mining claims with mining rights only. Most of the Project mining facilities are planned to be placed on patent mining lands, although some infrastructures may be located on unpatented lands (provincial Crown lands).

The Project is not located near any federal lands. The closest lands under federal jurisdiction are the Taykwa Tagamou Nation Reserve lands located approximately 45 km away (straight line) from the Project site (14 km southeast of Cochrane). The New Post 69A Reserve totals 116 ha in the RSA.

There is one residential and four camp/cottage properties near the area to be developed by the Project.

6.3.1.2 Provincial Land Use Planning

The Ontario Provincial Policy Statement 2020, issued under section 3 of the *Planning Act* sets out the rules for land use planning in Ontario. It covers policies about managing growth, using, and managing natural resources, protecting the environment, and public health and safety (Ministry of Municipal Affairs and Housing 2021). Municipalities are the primary decision-makers for local communities which implement provincial policies through municipal official plans and planning-related decisions. The Provincial Policy Statement provides for appropriate development while protecting resources of public interest, public health and safety, and the quality of the natural and built environment. Section 2.4 Minerals and Petroleum speaks to minerals and petroleum resources protection for long-term use and resource supply. Protection of mineral aggregate resources for long-term use and resource supply is

⁴ Patented land from mining land tenure and non-mining tenure was used as a proxy approximation for private land.

⁵ Assumed unpatented Crown land refers to what is left over after removing patent land, First Nation Reserve, provincial parks, and conservation reserves. It is an estimate only as a separate Crown land data set is not available.

covered under Section 2.5 Mineral Aggregate Resources (Ministry of Municipal Affairs and Housing 2020).

Crown land use planning is carried out under the authority of the *Public Lands Act*. It applies to land use planning south of the Far North boundary in Ontario and includes the Project Area. Land use designations for Crown land are established by the Crown Land Use Policy Atlas (MNRF 2023a). The Land and Resource Use LSA falls under a General Use designation, specially G1823, G1822 and G1745. Mineral exploration and development activities are encouraged in these areas. Crown land recreation, hunting, sport fishing and road use activities in these areas are also permitted and managed by the MNRF.

The Project Area encompasses the three watersheds – Jocko Creek, the North Driftwood River, and the West Buskegau River. The Jocko Creek and West Buskegau River watersheds extend partly into the City of Timmins. The Mattagami Region Conservation Authority (MRCA) has a watershed area covering over 11,000 square kilometres, consisting of the entire Upper Mattagami River watershed and a portion of the Abitibi River watershed. The Conservation Authority addresses issues related to water management, land management, recreation, and conservation education (Mattagami Region Conservation Authority 2023). There are properties within the City of Timmins boundary that are MRCA Regulated Properties under Ontario Regulation 165/06 which empowers the MRCA to prevent or restrict development in regulated areas (Mattagami Region Conservation Authority 2023).

6.3.1.3 Municipal Official Plans and Zoning By-laws

The Project site is in the geographic townships of Beck, Crawford, Carnegie, Kidd, Lucas, Nesbitt, Prosser, and Wark within the Cochrane District in northeastern Ontario. The Project is anticipated to be of interest to the following municipalities: City of Timmins; Town of Cochrane; Town of Iroquois Falls; and Town of Smooth Rock Falls (Figure A.11 in Appendix A).

A small portion of the Project footprint is located within Kidd Township and within the municipal boundary of the City of Timmins. Project components within this area include portions of the Highway 655 realignment and the rail spur line.

The following municipal Official Plans (OCPs) and Zoning By-laws apply to the Project:

- Town of Cochrane Official Plan By-Law Number 984-2013 – Cochrane and Suburban Planning Area – Outside the urban area of the Town of Cochrane, a large portion of the Planning Area (Schedule B) is designated as Rural Area, in which the predominant use of the land is for agriculture, forestry, mining, recreation and other resource development activities. Other designations in the rural portion of the Planning Area include Agricultural Area, Hamlet Area, Shoreline Development Area, Aggregate Extraction Area, and Airport (Town of Cochrane 2014a).
- Town of Cochrane Zoning By-Law Number 986-2013 – Cochrane and Suburban Planning Area – Outside of the urban area of the Town of Cochrane, most of the rural portion of the Planning Area (Schedule B) is zoned “RU – Rural”. Other zones in the rural portion of the Planning Area include “AG – Agricultural”, “SD – Shoreline Development”, “MX – Mineral Extraction”, “HT – Hamlet

Community”, “AC – Airport Commercial”, “C3 - Linear Mixed Commercial”, and “SEN – Sensitive Area” (Town of Cochrane 2014b).

- Town of Iroquois Falls Official Plan 1984 – Iroquois Falls Planning Area – the rural portion of the Planning Area is designated as “Rural” (Schedule A). Remaining designations include Urban Area, Village Community, Hazard Land, Aggregate Resource Area, and Industrial. Areas designated for Rural Area uses are to be used for agricultural, forestry, and conservation uses. Industrial uses, such as pits and quarries, are permitted uses in Rural Area. The Town of Iroquois Falls is in the process of updating its Official Plan (2022).
- Town of Iroquois Falls Zoning By-law No. 2869/04 – Outside of the urban area, the lands are zoned primarily as “A2 Rural, General”, with several small lots of “A1 Rural, Restricted”. The Town of Iroquois Falls is in the process of updating its Zoning By-law (2022).
- Smooth Rock Falls Planning Area Official Plan 2013-14 – Outside the townsite of Smooth Rock Falls, lands are earmarked primarily as Crown Land. Other designations include “Rural”, “Environmental Protection”, “Employment”, and “Waste Management” (Schedule A). Mineral exploration and mining are approved activities on Crown Lands.
- Town of Smooth Rock Falls Zoning By-law No. 2016-04 – Outside the urban area of Smooth Rock Falls, lands are zoned primarily as “RU – Rural” and “EP – Environmental Protection (Flood Plain)”.
- City of Timmins Official Plan By-law No. 2009-6755 – Along with the urban area of Timmins, lands within the Planning Area are designated as “Employment Area”, “Gold Fields”, and “Neighbourhood Area” under Schedule A – Land Use Plan. Schedule B – Provincial and Resource Interests designates the Planning Area as “Aggregate Reserve”, “Airport”, “ANSI”, “Cold Water Fishery”, “Conservation Reserve”, “Conservation Reserve Recommended”, “Intake Protection Zone 1”, “Intake Protection Zone 2”, “Mineral Extraction Zone”, “Mineral Development”, “Moose Feeding”, “Nesting Site”, “Pit or Quarry”, “Spawning Area”, “Wetlands Other”, and “Wildlife Corridor”. Schedule C – Natural and Human-made Hazards includes “AMIS – Mine Hazard”, “AMIS – Mine Hazard 1 km Buffer”, “Fill Line”, “Floodway”, “Mine Tailing Hazard Land”, and “Regulatory Flood Line”. Schedule D – Transportation and Infrastructure includes “Recreational Trails – Non-Motorized”, “Waste Management Site”, and “Waste Management Site – 500 m Influence Area”.
- City of Timmins Zoning By-law No. 2011-7100 – Outside of the urban portion of Timmins, lands are zoned primarily as “RD-RU Rural”. Scattered blocks of land are zoned as “EA-IAP – Industrial Airpark”, EA-IM – Mining (Class III), “RD-MX – Mineral Extraction”, and “RD-HAZ-MIN – Hazard Lands-Mine Tailings”. Numerous Crown Land Parcels are included in the municipal boundary.

6.3.2 Designated Lands and Protected Areas

6.3.2.1 First Nation Lands

The Project site is located within the Treaty No. 9, 1905-1906 lands. The closest Indigenous nation to the Project site is Taykwa Tagamou Nation. Taykwa Tagamou Nation, a Mushkegowuk Cree Nation, signed Treaty No. 9, also known as the James Bay Treaty, in 1905 and 1906. The primary Reserve lands of the Taykwa Tagamou Nation are the 166.8 ha New Post 69A Reserve located 14 km southeast of Cochrane and 68 km northeast of Timmins.

There are no First Nation Reserve lands proximal to the site, although the Project site is anticipated to be within the Traditional or operating region of several Indigenous nations:

- Taykwa Tagamou Nation
- Flying Post First Nation
- Matachewan First Nation
- Mattagami First Nation
- Apitipi Anicinapek Nation
- Métis Nation of Ontario – Region

6.3.2.2 Provincial Parks and Conservation Reserves

There are five Provincial Parks in the Project RSA – Dana-Jowsey Lakes Provincial Park, Greenwater Provincial Park, Kettle Lakes Provincial Park, Shallow River Provincial Park, and Frederick House Lake Provincial Park (Figure A.12 in Appendix A). Dana-Jowsey Provincial Park (8,794 ha) and Greenwater Provincial Park (8,504 ha) are both classified as Natural Environment. Dana-Jowsey Lakes offers fishing, swimming, boating, and hiking. There are no visitor facilities in either Dana-Jowsey or Greenwater provincial parks. Hickes-Oke Bog Provincial Park (5,880 ha) is classified as Nature Reserve and is a large peatland area containing significant organic deposits (Ontario GeoHub 2023a). Kettle Lakes Provincial Park (1,261 ha) is classified as Recreational and includes a campground, lakes stocked with rainbow and brook trout, and 14 km of biking trails (Ontario Parks 2023). Frederick House (13 ha), and Shallow River (2 ha) are all classified as Nature Reserves (Ontario GeoHub 2023a).

There are five Conservation Reserves in the Project RSA (Figure A.12 in Appendix A), Geary Township Shoreline Bluff (610 ha); Mahaffy Township Ground Moraine (640 ha); Nahma Bog and Poor Fens (3,606 ha); Nighthawk Lake Shoreline Bluffs (893 ha); and Tatachikapika River Plain (3,384 ha). All are in the Cochrane District (Ontario GeoHub 2023b).

Five Areas of Natural Scientific Interest (ANSI) occur within the RSA, comprising a total of 377 ha – Barlow-Ojibway Form, Pamour Striations, Hwy 101 Conglomerate, Kettle Lake Erratic, and Nahma Bog (candidate site). ANSI sites represent lands and waters containing natural landscapes or features that are important for natural heritage, protection, appreciation, scientific study, or education (Ontario GeoHub 2022). These ANSI sites are noted for their earth science and/or life science interest.

There are six provincially significant wetlands in the RSA, encompassing 4,071 ha; one provincially significant wetland is in the LSA – Kraft Creek/Murphy Creek (55 ha).

6.3.3 Recreation and Tourism

6.3.3.1 Outdoor Recreation

Outdoor recreational activities in Northeastern Ontario includes paddling, fishing, camping, hiking and biking trails, golfing, all-terrain vehicle (ATV) trails, outfitters, outdoor experiences, tours, provincial parks, and other resource-based tourism activities (Figure A.13 in Appendix A). Winter activities include snowmobiling, Nordic skiing, and snowshoeing (The Seven Northeastern Ontario Canada n.d.).

Three trails cross through the PA, associated with the Arctic Riders and Timmins Snowmobile Clubs, and Trail 'A'. The total intersect length is approximately 10 km. Five trails cross through the LSA for a total intersect length of approximately 45 km, including the three aforementioned trails plus the OSFC official trail and Polar Bear Riders Snowmobile Club; an additional 36 trails (e.g., canoe, hiking, cross-country ski, ATV) cross through the RSA totalling a linear distance of approximately 1,460 km.

Smooth Rock Falls is a four-season recreation destination. It is home to 220 km of trails, groomed and maintained by the Arctic Riders Snowmobile Club. The Smooth Rock Powerline Run, connects Smooth Rock Falls down to Iroquois Falls and to Timmins and other points north, east and west (to Quebec). Portions of this snowmobile route are also part of the Northern Corridor Adventure snowmobile trail, a 1,645 km long trek (Adventure North Ontario 2023a). While the main trail (Trail 'A') from Timmins to Cochrane runs along the eastern boundary of the PA, a leg of this snowmobile trail crosses through the Project PA heading towards Smooth Rock Falls. A warming hut operated by one of the local snowmobile clubs is located at the junction of these trails east of the PA.

Smooth Rock Falls is located by the Mattagami River, offering fishing and water sport activities (Town of Smooth Rock Falls 2023a). The Mattagami Cross-Country Ski Club offers 18 km of groomed cross-country ski trails and 3 km of snowshoe trails (Town of Smooth Rock Falls 2023b). Smooth Rock Falls offers fishing, boating and hunting experiences on the many lakes and rivers in the area (e.g., Mattagami River). Hunters can access multiple big and small game species, including moose, bear, partridge, and geese (Town of Smooth Rock Falls 2023c).

ATV trails in the RSA includes of an ATV trail emanating from and returning to Cochrane via a loop, on the Gateway to the North ATV route (Adventure North Ontario 2023b). The Town of Cochrane offers a gateway to Greenwater Provincial Park. Abitibi Campground offers campsites along the Abitibi River. Good Time Outfitters offers a drive-in and fly-in hunting and fishing destination at their lodge on Silver Queen Lake (Tourism Cochrane 2023).

There are ample recreational opportunities in and around the Town of Iroquois Falls, such as golfing, swimming, fishing, camping, and snowmobiling (Iroquois Falls 2023a). A snowmobile trail connects the Town of Iroquois Falls to Cochrane to the north and to Timmins to the southwest. The Jackpine Snowmobile Club Trail System consists of a series of trunk, connector, and local trails (Iroquois Falls 2023b).

The Timmins area offers numerous recreational areas from provincial parks to private campgrounds and Recreational Vehicle sites. Boating, canoeing, kayaking, and fishing are available on the many lakes and rivers in the area. Golfers can access courses in the area at Spruce Needles, Hollinger, and Sandy Falls. Kettle Lake and Ivanhoe Provincial Parks are popular destinations for summer activities such as camping, canoeing, kayaking, fishing, hiking and mountain biking. Trails in the City of Timmins include Bridge to Bridge Main Trail; Waterfront Main Trail; Lake Promenade Main Trail; Scout Rock; Golden Springs Main Trail; Lions Trail; Rotary Trail; Loppet Trail; Olympic Trail; and Bart Thomson Main Trail (Ontario GeoHub 2023c). Outdoor winter activities include snowmobiling, cross-country skiing, snowshoeing, downhill skiing, snowboarding, ice fishing, dog sledding, and horse drawn sleigh rides. Porcupine Ski Runners and Mount Jamieson Resort offer winter outdoor recreational opportunities (Tourism Timmins 2023).

The Groundhog River is an important waterbody to Flying Post First Nation members for recreation purposes (e.g., swimming) (Taggart, Firelight Research Inc, Flying Post First Nation 2023).

Big Water Campgrounds is located east of Highway 655 north of Timmins. The seasonal campground, open from May 15th to October 15th, offers 300 campsites, with both serviced and unserviced lots. Additional amenities include walking and running trails, ATV trails, two beaches, two boat launches, and opportunities for fishing, canoeing and kayaking on Big Water Lake (Big Water Campgrounds Inc. 2023).

There are four Conservation Areas within the Mattagami Region Conservation Authority (Conservation Ontario Website 2023). All are concentrated in and around the City of Timmins:

- Gillies Lake Conservation Area – comprising a large urban lake, parkland, trails, beach and marshlands located within the City of Timmins proper that includes the Gillies Lake Promenade, a 2.5 km trail that connects to Scout Rock, Golden Springs, and Lion’s Walk recreational trails. The facility offers a beach for swimming, water sports, boating/sailing, cycling, hiking, and birdwatching.
- Hersey Lake Conservation Area – comprised of kettle lakes, sandy uplands, bog ecosystems, beach and an extensive trail system located just north of the City of Timmins proper. It is a year-round recreational facility situated in jack pine forests offering a variety of outdoor activities consisting of a large beach (unsupervised), trails, and picnicking facilities. The Hersey Lake trails connect to the larger Timmins Recreational Trail network, a 55 km non-motorized trail stretching across the community. Scenic lookouts include Grouse Point, Jack Pine Lake, and Rainbow Lake.
- Mountjoy Historical Conservation Area – comprised of river views, parkland, and trails located alongside the Mattagami River providing greenspace for walking, picnicking, canoe/kayaking. The park forms part of the Timmins Recreational Trail Network.
- White Waterfront Conservation Area – comprising lake access, extensive marshlands, and parkland situated at the west end of Porcupine Lake featuring a boat launch, picnicking facilities, and wildlife viewing.

Trails in Kettle Lakes Provincial Park in the District of Cochrane includes Kettle Trail and Kettle Bike Trail. Greenwater Provincial Park trails include Kidney Lake Trail, Sunset Trail, and Greenwater Hiking Trail (Ontario GeoHub 2023c).

6.3.3.2 Recreational Fishing

The Project RSA encompasses Fisheries Management Zone (FMZ) 8 (MNR 2023b). Zone wide seasons and limits apply to all waters in FMZ 8. Fish species found in FMZ 8 that have seasons and limits include trout and salmon combined (including splake), brook trout, lake sturgeon, lake trout, lake whitefish, largemouth and smallmouth bass (combined), northern pike, rainbow trout, sunfish, and walleye and sauger or any combination, and yellow perch (Government of Ontario 2023c). Six spawning areas have been identified in the RSA, including the Mattagami River, for brook trout, lake trout, lake whitefish, smallmouth bass, walleye, and white sucker; one spawning area occurs within the LSA near Big Water Lake, for brook trout. There are some 300 stocked lakes within FMZ 8 which includes areas encompassing the District of Cochrane, Town of Iroquois Falls, and City of Timmins (see Figure A.13 in Appendix A). Fish species that are stocked in FMZ 8 waterbodies consist of aurora trout, brook trout, lake trout, rainbow trout, and splake (MNR 2023c).

The fish communities in the North Driftwood River, West Buskegau River, and Mattagami River watersheds are represented by a mix of cool and cold-water fish species typical of northeastern Ontario. They include a variety of small-bodied (e.g., minnows) and large-bodied (e.g., northern pike) species. Large-bodied fish species in the Mattagami River included burbot, lake sturgeon, longnose sucker, northern pike, rock bass, walleye, white sucker, and yellow perch. White sucker were the only large-bodied fish species captured in Jocko Creek. Historical records indicated the presence of brook trout in Jocko Creek. Northern pike, white sucker, and yellow perch were the large-bodied fish species captured in the North Driftwood River watershed. Creek chubs were only captured in the North Driftwood River watershed. Burbot, northern pike, and white suckers were the large-bodied fish species captured in the West Buskegau River watershed (Appendix B.7.4 of the Impact Statement [2023 Terrestrial Ecology Baseline Study]).

Indigenous Fishing

Apitipi Anicinapek Nation members noted several important fishing locations, notably Sturgeon fishing on the Mattagami River. Extensive fishing also occurs in the Buskegau River system, including at the confluence with Frederick House River (Apitipi Anicinapek Nation, Tamarack Environmental Associates Inc. 2024).

Flying Post First Nation members report harvesting a variety of fish species including walleye, pickerel, northern pike, perch, sturgeon, and bass from lakes and rivers systems in the Study Area. Bromley Lake was identified as an important sturgeon spawning area. Unidentified lakes off Highway 655 have been fished in the Study Area. Other fishing areas include Ivanhoe Lake near Foleyet (Taggart, Firelight Research Inc, Flying Post First Nation 2023).

Matachewan First Nation members fish for a diversity of species within and beyond the Study Area. This includes pickerel/walleye, sauger, pike, whitefish, lingcod, perch, sturgeon, minnow, bass, speckled trout, and lake trout. Walleye/pickerel are highly sought after which are found at Three Nations Lake. Other fishing locations in the Study Area include Forsythe Lake, Pickeral Lake, Big Water Lake, Sandy Falls, the Mattagami River, and along Highway 655 (Taggart, Firelight Research Inc, Matachewan First Nation 2023).

Mattagami First Nation members fish a wide variety of species, such as pickerel, walleye, northern pike, whitefish, suckers, and perch. Fishing areas in the Study Area include Kamiskotia Lake, Sandy Falls, and Tatchikapika River. Other fishing places associated with cabins and campsites include Prosser Lake, Big Water Lake, and Night Hawk Lake. Mattagami River, between Twenty-three Mile Creek and Sandy Falls, is also a noted fishing area (Taggart, Firelight Research Inc, Mattagami First Nation 2023).

Taykwa Tagamou Nation members identified the Lower Sturgeon Dam Road as a location within 5 km of the Project site that is returned to regularly for fishing at the Mattagami River for pickerel and northern pike (Shared Value Solutions 2023). Between 5 and 10 km from the Project site, a fishing location was identified at Big Water Lake on western side of Highway 655. Downstream of the Project site along the Mattagami River, north of the Lower Sturgeon Dam, numerous fishing locations were identified between the area surrounding the Loon Rapids to areas just south of Smooth Rock Falls. A number of fishing and access route locations were identified along the North Driftwood River and West Buskegau River (Shared Value Solutions 2023).

6.3.3.3 Tourism

Tourism opportunities in Northeastern Ontario (Tourism Region 13a) are numerous and diverse. Existing tourism operators include licensed guide-outfitters, licensed fishing guides, cabins, lodges, resorts, scenic touring, and cultural/historic attractions and sites. In 2021, Northeastern Ontario received 1.3 million overnight visitors and \$474 million in related spending. Same day visitors numbered some 1.4 million generating \$180 million in related spending. Visitors to Northeastern Ontario participated in numerous outdoor activities, including boating/canoeing, golfing, fishing, hunting, skiing/snowboarding, snowmobiling, cross-country skiing, ATV, cycling, hiking, camping, visiting beaches, and wildlife/bird watching (Ministry Tourism, Culture and Sport 2021).

6.3.3.4 Navigation Use

There are no waterbodies or waterways in the Project RSA that are listed under the *Canadian Navigable Waters Act* (CNWA) Schedule of Navigable Waters, Part 1 and Part 2. The CNWA also provides protection for non-scheduled waters (e.g., the right to use navigable waters) where navigation is possible. Based on a preliminary review of Google Earth™ imagery, permanent waterways where recreational navigation could be possible (e.g., canoe/kayak) in the vicinity of the Project include – Mattagami River (designated canoe route), North Driftwood River, West Buskegau River, Trappers Creek, Jocko Creek, and Prosser Creek. Several lakes (i.e., Martin Lake, Gerry Lake, Jack Lake, Davis Lake, and Zed Lake) within the LSA are connected by tributaries of Jocko Creek which are overlapped by the PA (Appendix C.9 of the Impact Statement [Navigable Waters Assessment]). First Nation Traditional Knowledge and

Use Studies were also reviewed to identify reports of navigation of watercourses in the PA, LSA and RSA.

Preliminary evaluation of the potential for navigable watercourses within the PA, LSA and RSA has been conducted. Although navigation has not been observed as part of desktop studies, navigation is likely and possible with obstacles on the following watercourses/waterbodies:

- Mattagami River – navigable throughout the entire open water season (upstream and downstream of Lower Sturgeon Dam).
- Trapper's Creek – only navigable throughout the high-water season; creek is very shallow and narrow during summer months.
- Jocko Creek – navigable throughout the open water season; lots of portages required during periods of low flow due shallow water, fallen trees, and dead heads.
- Esker Lakes path – navigable throughout the entire open water season with a few portages along the way.
- North Driftwood River – likely navigable throughout the entire open water season with some fallen trees and beaver dams.
- Six tributaries (influences) to the North Driftwood River – not navigable due to low water levels, flooded areas, and small stream width.
- Prosser Creek/Prosser Lake – possibly navigable throughout the open water season.
- West Buskegau River – likely navigable throughout the open water season; some log jams and beaver dams throughout.
- WBR-P Watercourse – not navigable as creek is too shallow and narrow.
- WBR tributary (influence) – not navigable due to shallow, narrow creek.
- Numerous other wetlands in the vicinity with no access were deemed as not navigable.

Further desktop study was undertaken to understand the potential navigability of various waterbodies in the PA (Appendix C.9 of the Impact Statement [Navigable Waters Assessment]). The linear distance for each watercourse and waterbody overlapped by the PA, relative to navigation likelihood were determined. In general, reaches of the North Driftwood River and Jocko Creek are likely navigable given their size and lack of obstructions. The West Buskegau River generally flows along the east side of the PA and is only overlapped in four locations where water from wet ponds or non-contact water will be discharged, which isn't anticipated to affect navigation. However, tributaries to the Buskegau River, which are considered possible for navigation, are overlapped by the PA. Watercourses identified as likely navigable have evidence of the physical capacity to convey a vessel and are accessible by water or land. Several lakes (i.e., Martin Lake, Gerry Lake, Jack Lake, Davis Lake, and Zed Lake) are not within the PA; however, the PA will overlap tributaries of Jocko Creek which connect the lakes to flowing waters. The length of likely and uncertain navigable watercourses in the PA are approximately 4.85 km (Jocko Creek), 27.86 km (North Driftwood River), and 7.83 km (West Buskegau River).

In terms of Indigenous land use activities, a review of the Traditional Land Use information from Indigenous nations confirmed that members of the Mattagami First Nation navigate rivers and lakes in the region by boat (Mattagami First Nation 2023). The “Driftwood” was identified as a place for smelt fishing that could be navigated by a small vessel. One historical Mattagami First Nation canoe route used for commuting from Mattagami First Nation to Timmins was noted (specific waterbody is unknown), but is outside the PA. However, traditional use was not identified within the PA or LSA.

6.3.4 Resource Use

6.3.4.1 Agricultural Areas

The Cochrane District, as of 2021, had 41,194 acres of farmland, with 141 farms having an average size of 292 acres. Soils are primarily Gray-Luvisol, Gleysol and Mesisol featuring deep soils with a mix of well and poorly drained clays covering organic deposits. The LSA incorporates 5.6 ha of agricultural land, but no agricultural properties are within the PA (Figure A.14 in Appendix A). The majority of Class 2 to 4 soils in the RSA are located in and around communities that lie along the Claybelt, including Timmins, Cochrane, and Iroquois Falls (FarmNorth 2023). Agricultural lands comprise 13,878 ha of the RSA. The knob and kettle topography of moraines east of Cochrane and around Smooth Rock Falls provides good surface drainage for clay soils in the area. The best soils in the area for agriculture are imperfectly drained clays and well-drained clays rated as Class 3. The cold, moist climate limits the range of crops that can be grown and reduces the harvest. Agriculture is concentrated in three townships around Cochrane and in places close to Highway 11 (Canada Land Inventory 1972). Crops grown in the District consist of canola and hay, along with some dairy production (FarmNorth 2023).

6.3.4.2 Surface and Groundwater Resources

Municipal drinking water sources throughout Ontario are protected to ensure the quality, quantity, and sustainability of municipal drinking water supplies. Assessment Reports and Source Protection Plans are the primary instruments to achieve these goals under Ontario’s *Clean Water Act, 2006*. The Project RSA overlaps with one Source Protection Area (SPA), the Mattagami Region SPA (337,332 ha). The LSA overlaps 16,179 ha. This SPA applies to the City of Timmins sole municipal drinking water source, the Mattagami River. The SPA applies to the portion of the Mattagami River upstream of the Timmins Water Filtration Plant intake. Residents in areas without access to the municipal drinking water supply obtain drinking water by other means, such as private wells. Vulnerable areas in the Mattagami Region Source Protection Area include highly vulnerable aquifers, significant groundwater recharge areas, and intake protection zones (The Mattagami Region Source Protection Committee 2014). Intake protection zones have been identified to the south of the Timmins Water Filtration Plant situated across the larger part of the upstream watershed (see Figure A.14 in Appendix A).

Under the *Ontario Water Resources Act*, permits are required to take 50,000+ litres of water in a day from the environment, including from lakes, streams, rivers, ponds, and groundwater (MECP 2023a). Permits are not required if the water taking is less than 50,000 litres per day, if taking for livestock, poultry, domestic purposes, firefighting or other emergency purposes, wetland conservation, weir, passive/active in-stream diversions for construction, or constructing/operating a dam for production of electricity. Three

categories of permits have been established, from lower risk to the highest risk potential for causing unacceptable environmental interference (MECP 2023a). There are 47 active permits to take water for industrial purposes, water supply, and dewatering in the Project LSA and numerous active permits for water supply, industrial, commercial, agricultural, remediation, and dewatering in the RSA (Figure A.14 in Appendix A). Most of the permits to take water are in the Mattagami Region Source Protection Area (around the City of Timmins) with a smaller cluster in the vicinity of Iroquois Falls (MECP 2023b).

Indigenous Water Use

Flying Post First Nation members reported that there are surface waters in the Study Area that are of importance to them (e.g., ceremonial). The Mattagami River is a ceremonial focal point for FPFN members in Timmins. The Groundhog River is of importance to members for its clean water for drinking (Taggart, Firelight Research Inc, Flying Post First Nation 2023).

A location for accessing drinking water by Matachewan First Nation members includes Spring Lake in the Study Area (Taggart, Firelight Research Inc, Matachewan First Nation 2023).

A waterway in the Study Area along Highway 655 was identified by a Mattagami First Nation member as a drinking water source (Taggart, Firelight Research Inc, Mattagami First Nation 2023).

Within 50 km of the Project site, Taykwa Tagamou Nation members identified spring water locations to the north and east of the Project site (Shared Value Solutions 2023).

Waterbodies of importance to Métis Nation of Ontario - Region 3 members include the Jocko Creek Watershed for cultural continuity and Smooth Rock Falls as an important water source Métis Nation of Ontario - Region 3 2024).

6.3.4.3 Mineral Claims and Aggregates

The *Mining Act* governs and regulates prospecting, mineral exploration, and mine development and rehabilitation in Ontario. Mining claims means a parcel of land, including land under water, on which a mining claim is registered under the *Mining Act*. A patent refers to a grant from the Crown in fee simple. Mining rights means the right to minerals on, in or under any land, whereas surface rights mean every right in land other than the mining rights. Lease refers to a leasehold patent (Mining Act, R.S.O 1990).

The Project RSA falls within the Porcupine and Larder Lake Mining Divisions in Northeastern Ontario. The Cochrane District contains numerous mining claims and patent claims with surface and mining rights, patent claims with surface rights only, and patent claims with mining rights only (MINES 2022). Lease lands total 35,005 ha within the RSA; patent lands total 98,851 ha, while mining Licence of Occupation totals 776 ha. The LSA encompasses 2,352 ha of lease land and 15,522 ha of patent land. Active Operational claims in the PA consist of 2,780 ha; the LSA contains 9,803 ha. The RSA encompasses 404,169 ha of these claims.

The Project property consists primarily of patented mining claims with surface and mining rights, mineral leases with surface and mining rights, and unpatented mining claims with mining rights only (Figure A.15

in Appendix A). The PA encompasses 24 ha of lease land and 8,002 ha of patent land. Most of the Project mining facilities will be placed on patent mining lands, although some infrastructure may be located on unpatented lands (e.g., provincial Crown lands).

There is one active mine in the LSA, the Hoyle Pond Mine (e.g., gold). Five other base metal and gold mines are in the RSA – Kidd Creek Mine, Bell Creek Mine, Hollinger Mine, Hoyle Pond Mine, and Timmins West Mine.

The *Aggregate Resources Act*, R.S.O. 1990, c. A.8 provides for the management of aggregate resources in Ontario. The Ontario Geological Survey has undertaken a series of aggregate resource inventories for the purposes of inventory and evaluation of sand and gravel as well as bedrock resources in parts of the District of Cochrane, particularly in the Smooth Rock Falls Area, and Central and Eastern parts of the City of Timmins (Figure A.15 in Appendix A). In the Smooth Rock Falls Area, five areas with substantial amount of sand and gravel were identified, of which three represent the most important natural aggregate deposits in the area (Ontario Geological Survey 1984). In the central part of the City of Timmins, five areas with substantial sand and gravel were identified. One area, an esker deposit located along Highway 655 in the center of Murphy Township represents the most important natural aggregate deposit in this central area (Ontario Geological Survey 1983a). Four areas with substantial sand and gravel were noted in the eastern part of the City of Timmins. An area comprising an esker deposit located along Gibson Lake Road in the Macklem Township was flagged as the most important natural aggregated deposit in the eastern area (Ontario Geological Survey 1983b). All these resource areas represent areas where major resources are known to exist which may be reserved wholly or partially for extractive development and/or resource protection (Ontario Geological Survey 1983a, b; 1984).

There is one active aggregate pit operating in the PA, the Carnegie Pit, owned by Villeneuve Construction (Villeneuve Construction n.d.). Within the broader Cochrane District (unorganized), there are some 333 authorized aggregate sites, consisting of pits and quarries, with Class A and Class B licences, or an aggregate permit, wayside permit, or Ministry of Transportation, Ontario (MTO) permit (Figure A.15 in Appendix A). There are 57 active aggregate sites in the RSA (1,862 ha); one active aggregate site is in the LSA (65 ha). There are some 33 inactive pits (revoked and surrendered) in the RSA. A Class A licence allows for the removal of more than 20,000 tonnes annually; a Class B licence allows for the removal of 20,000 tonnes or less annually (Ontario Ministry of Natural Resources and Forestry 2021). Near the Project Area, there is one aggregate site (65 ha) along Highway 655 in the Carnegie Township. The Labelle Pit operates under an aggregate permit with a maximum annual tonnage of 50,000 (Ontario Ministry of Natural Resources and Forestry 2022).

6.3.4.4 Commercial Forestry

For the purposes of forest management in Ontario, Crown Forest is divided into management units for which forest management plans are prepared. Portions of three Forest Management Units (FMUs) encompass the Project RSA in the Cochrane District – Abitibi River Forest (FMU 110), Romeo Malette Forest (FMU 930), and Timiskaming Forest (FMU 280) (Figure A.16 in Appendix A).

Most of the RSA is located within the Abitibi River Forest (FMU 110). The FMU area within the PA, LSA and RSA totals 11,785 ha, 34,162 ha and 807,326 ha respectively. The current Forest Management Plan (FMP) for this FMU covers the 2022-2032 period (Ontario Ministry of Natural Resources and Forestry 2023). The current licensee is Abitibi River Forest Management Inc., held under the Abitibi River Forest Sustainable Forest License (SFL) No. 551832 in FMU 110 (Ontario GeoHub 2023d; Abitibi River Forest Management Inc. 2022).

Crown managed productive forest in FMU 110 constitutes 69% or 2.1 million hectares (ha) of the land area in the Abitibi River Forest. Non-productive Crown Forest consists of approximately 275,925 ha. A substantial part of the forest is comprised of private land which is not managed under the FMP. Crown timber on private land is managed by MNRF Districts under the Management of Crown Trees on Patent Land program and is excluded from the FMP. Currently there are 4,575 ha of Crown timber on patent land, of which only 824 ha is forested. Timber from the Abitibi River Forest is processed primarily by the GreenFirst lumber mill in Cochrane (Abitibi River Forest Management Inc. 2022). The long-term supply of wood for the Abitibi River Forest is 1.3 million cubic metres.

The current available volume of Spruce-Pine-Fir is lower than the provincial benchmark and historic utilization has been generally lower for all species than the current available harvest volume. For all species but poplar, there is a forecast increase in annual harvest volumes between 2012-2022 and 2022-2032, representing an increase of only 0.7%, one believed to be not large enough to affect stakeholder communities of the Abitibi River Forest. There are several proposed FMP harvesting areas, consisting of regular and bridging blocks, located in the Kidd and Carnegie Townships west of Highway 655, all situated on Patent Land (Abitibi River Forest Management Inc. 2022).

Abitibi River Forest Management Inc. current plan shows no proposed forest harvest areas within the PA in FMU 110 (Figure A.17 in Appendix A). Blocks of proposed harvest areas are situated in the LSA south and southeast of the Project, east of Highway 655 and along the existing railway line from Kidd Creek. Additional areas identified as Forecast Depletion (Harvest) Areas (areas not yet harvested under the previous plan) occur within the LSA southeast of Big Water Lake along the existing railway line from Kidd Creek. Most of the proposed harvest areas within FMU 110 are situated east of the PA in the RSA. Segments of existing roads that may be used for forestry exist in the PA west of existing Highway 655 and in the LSA at Kidd Creek (Figure A.17 in Appendix A).

A portion of the Romeo Malette Forest (FMU 930) encompasses the area west of Timmins in the Project RSA (Figure A.16 in Appendix A). Approximately 175,276 ha of this Forest is encompassed within the RSA. The current Forest Management Plan for this area covers the 2019-2029 period. The current licensee is GreenFirst Forest Products (QC) Inc., held under SFL No. 550398 in FMU 930 (Ontario GeoHub 2023d; RYAM Forest Management 2018).

Crown managed productive forest in FMU 930 consists of 498,526 ha or 93% of the land area in the Romeo Malette Forest; non-productive forest constitutes approximately 35,531 ha. Patent land (3%) is largely made up of mining claims and is concentrated to the east of the Romeo Malette Forest along highways (e.g., Highway 655). Commercial harvest of timber (e.g., roundwood) is provided to various Northeastern Ontario mills, including in Cochrane, Chapleau, and Timmins (RYAM Forest Management

2018). The available Spruce-Pine-Fir harvest volume is relatively consistent over a 100-year planning period, ranging from 336,930 million cubic metres to 344,252 million cubic metres, which is higher than the provincial benchmark but only represents a 2% change (RYAM Forest Management 2018). There is also an increase in the poplar volume but is less gradual than that for Spruce-Pine-Fir. Proposed harvesting areas are concentrated west of private lands and Highway 655 in the Romeo Malette Forest. No harvesting areas are proposed on private lands along Highway 655 (RYAM Forest Management 2018).

A portion of the Timiskaming Forest (FMU 280) encompasses the area east of Timmins in the Project RSA (Figure A.16 in Appendix A). The area within the RSA totals 51,136 ha. The current Forest Management Plan for this area covers the 2021-2031 period. The current licensee is Timiskaming Forest Alliance Inc., held under SFL No. 542247 in FMU 280 (Ontario GeoHub 2023e; Timiskaming Forest Alliance Inc. 2021).

The total managed Crown productive forest land area on the Timiskaming Forest (FMU 280) is approximately 1.0 million ha or 85% of the land area; non-productive forest constitutes 74,456 ha. Commercial harvest of timber (e.g., roundwood) is provided to various mills within and surrounding the Timiskaming Forest (Timiskaming Forest Alliance Inc. 2021). The 10-year total planned harvest area is 102,275 ha. A total combined conifer and hardwood volume of 9.6 million cubic metres is forecast for the 10-year period. There is very little variation in the total annual average harvest volumes and by species groups (e.g., softwoods and hardwoods). Bridging harvesting blocks constitute 19,402 ha within the FMP. No salvage operations are currently planned for the period of the FMP (Timiskaming Forest Alliance Inc. 2021).

6.3.4.5 Hunting, Outfitting, and Trapping

6.3.4.5.1 Wildlife Management Units

In Ontario, a licence is required to hunt big game (e.g., white-tailed deer, moose, elk, black bear, wolf/coyote, wild turkey), small game and furbearers (e.g., cottontail and European hare, snowshoe hare, gray [black] and fox squirrels, arctic fox, raccoon and opossum, red fox and skunk, weasel, and bullfrogs), and game birds (e.g., grouse, ptarmigan, ring-necked pheasant, gray partridge, double-crested cormorant). To hunt migratory game birds (e.g., waterfowl, common snipe, woodcock, and mourning dove), a federal Migratory Game Bird Hunting Permit as well as an Outdoors Card and a Small Game Licence are required. Hunting opportunities are available across millions of hectares of Crown land (Government of Ontario 2023b). The regulated hunting season generally begins in early September, though specific hunting seasons vary by species and Wildlife Management Units (WMUs). Methods of hunting (e.g., rifles and bows) also vary depending on game hunted and season (Government of Ontario 2023b).

WMUs are used for several wildlife management purposes, including indicating areas in Ontario where open hunting seasons and harvest quotas apply. WMU boundaries are regulated under the *Fish and Wildlife Conservation Act* – Ontario Regulation (O.Reg.) 663/98 (Government of Ontario 2023b). The Project RSA encompasses portions of seven WMUs in Northeastern Ontario – #24, #26, #27, #28, #29,

#30, and #31 (Figure A.18 in Appendix A). The LSA encompasses two WMUs – #29 and #30; the PA includes one WMU – #30.

Moose populations are generally managed at the WMU level to achieve management goals and objectives set out by Cervid Ecological Zones under Ontario’s Moose Management Policy (Ontario Ministry of Natural Resources 2009). Licensed moose hunter reporting is a requirement in the province on hunter activity and harvest. WMUs #24, #26 and #27 fall within Cervid Ecological Zone A (with woodland caribou and low densities of moose and white-tailed deer). The goal for moose and white-tailed deer in this zone, is to maintain low densities of both animals through population and habitat management. Cervid Ecological Zone B, encompassing WMU #30 (with moose, white-tailed deer and woodland caribou), seeks to maintain a low to moderate density population for moose. WMUs #28, #29 and #31 fall within Cervid Ecological Zone C2 (moose and white-tailed deer are the main species), where the goal is to maintain a moderate to high density population for moose (MNRF 2023d).

Table 6.1 provides information provided by the Ontario Ministry of Natural Resources (MNRF) on hunting seasons and quotas/tags for big game species by WMUs. There are no seasons for hunting elk or wild turkey within WMUs #24 to #31.

Table 6.1 Big Game Hunting Licences and Seasons, WMUs

Wildlife Management Unit	Season		Quota/Tags (Bow only*)	
	Resident	Non-Resident		
White-tailed Deer – Rifles, Shotguns, Muzzle-loading Guns and Bows			Antlerless	
24	October 7 to November 15	October 9 to November 15	50	
26	September 16 to October 31	September 18 to October 31	50	
27	October 7 to November 15	October 9 to November 15	50	
28	November 6 to November 19	November 6 to November 19	100	
29	November 6 to November 19	November 6 to November 19	50	
30	October 7 to November 15	October 9 to November 15	50	
31	November 6 to November 19	November 6 to November 19	50	
Moose – Rifles, Shotguns, Muzzle-loading Guns and Bows*			Bull/*	Cow-Calf/*
24	October 7 to November 15	October 9 to November 15	155/74*	131/64*
26	September 16 to October 31	September 18 to October 31	10/-*	43/-*
27	October 7 to November 15	October 9 to November 15	104/12*	133/33*
28	October 14 to November 15	October 14 to November 15	156/24*	114/42*
29	October 14 to November 15	October 16 to November 15	18/17*	27/85*
30	October 14 to November 15	October 16 to November 15	12/2*	7/2*
31	October 14 to November 15	October 16 to November 15	64/9*	46/16*

Black Bear – Rifles, Shotguns, Muzzle-loading Guns and Bows			
24-31	May 1 to June 15 (Spring) August 15 to October 31 (Fall)	May 1 to June 15 (Spring) August 15 to October 31 (Fall)	2 tags/hunter/year
Wolf and Coyote – Rifles, Shotguns, Muzzle-loading Guns and Bows			
24-31	September 15 to March 31	September 15 to March 31	2 tags/hunter/year
Note: * Bows only Source: Government of Ontario 2023b			

Table 6.2 provides information on hunting seasons and limits for small game and furbearers and game birds by WMUs. There are no seasons for cottontail and European hare and gray (Hungarian) partridge.

Table 6.2 Small Game and Furbearers and Game Birds Seasons, WMUs

Species – Wildlife Management Unit	Resident and Non-Resident	Limits
Snowshoe Hare – All	September 15 to March 31	5 (daily)/15 (possession)
Gray (Black) and Fox Squirrels – All	September 15 to December 31	5 (daily)/15 (possession)
Arctic Fox – 24-27	October 25 to March 31	n/a
Raccoon and Opossum - All	October 5 to January 31	n/a
Red Fox and Skunk – All	September 15 to end of February	n/a
Weasel – All	October 25 to end of February	n/a
Ruffed and Spruce Grouse – 24-27; 28-31*	September 15 to March 31 September 15 to December 31*	5 (daily)/15 (possession) 5 (daily)/15 (possession)
Sharp-tailed Grouse – 24-27; 28-31*	September 15 to March 31 September 15 to December 31*	5 (daily)/15 (possession) 5 (daily)/15 (possession)
Ptarmigan – 24-27	September 15 to March 31	5 (daily)/15 (possession)
Ring-necked Pheasant – 24-27; 28-31*	September 15 to March 31 September 15 to December 31*	10 (daily)/10 (possession) 10 (daily)/10 (possession)
Double-crested Cormorant - All	September 15 to December 31	15 (daily)/none (possession)
Bullfrog – All	July 15 to October 15	10
Note: * Denotes alignment of Wildlife Management Units to applicable seasons, where information is provided for multiple Wildlife Management Units. Source: Government of Ontario 2023b		

Table 6.3 provides information collected from the Ontario MNR on moose and white-tailed deer hunting activity and harvests in the province. Moose hunting activity and harvest data is broken down into bull moose, cow moose, calf moose and total harvest numbers by WMU and year (MNR 2023e). White-tailed deer hunting activity and harvest data is broken down into estimated hunters, antlered, antlerless, and total harvest numbers by WMU and year (MNR 2023f).

Table 6.3 Moose and White-tailed Deer Harvest and Activity by WMUs, 2022

Moose 2022

WMU	Active Hunters	Bull Harvest	Cow Harvest	Calf Harvest	Total Harvest
24	1,472	92	39	23	154
26	315	1	9	2	12
27	1,194	31	36	22	89
28	2,224	89	55	38	182
29	767	18	21	7	46
30	265	13	4	5	22
31	936	38	21	16	75

White-tailed Deer 2022

WMU	Active Hunters	Antlered	Antlerless	Total Harvest
24	15	0	0	0
26	10	0	0	0
27	15	1	0	1
28	89	6	0	6
29	12	1	0	1
30	15	0	0	0
31	18	1	0	1

Source: MNRF 2023e; MNRF 2023f

Table 6.4 provides information on black bear and wolf and coyote hunting activity and harvests across WMUs #27-31 (MNRF 2023g, h).

Table 6.4 Black Bear and Wolf and Coyote Harvest and Activity by WMUs, 2022

WMU	Active Hunters		Harvest	
	Black Bear	Wolf/Coyote	Black Bear	Wolf/Coyote
24	280	121	31	6
26	159	30	30	1
27	308	95	27	3
28	1,121	178	169	9
29	573	115	105	3
30	266	74	46	1
31	390	95	70	0

Source: MNRF 2023g, h

Hunting of migratory game birds in Ontario is managed through Environment and Climate Change Canada's (ECCC) Summary of Migratory Birds Hunting Regulations (ECCC 2023). The Project Region and applicable WMUs are in the Northern District. Open season and daily bag and possession limits for migratory game birds in Ontario for the Northern District is presented in Table 6.5.

Table 6.5 Open Seasons and Daily Bag and Possession Limits for Migratory Game Birds in the Northern District of Ontario

Species	Open Season	Daily Bag Limit	Possession Limit
Ducks (other than Harlequin Ducks), combined	September 10 to December 25	6 (one 1 Barrow's Goldeneye, 4 American Black Ducks)	18 (not more than 1 Barrow's Goldeneye)
Canada Geese and Cackling Geese, combined	September 1 to September 9 September 10 to December 16	5 5	No limit
Snow Geese and Ross's Geese, combined	September 1 to December 16	20	No limit
Geese (other than above), combined	September 1 to December 16	5	15
Rails (other than Yellow Rails and King Rails), Coots and Gallinules, combined	September 10 to December 25	10 (not more than 8 Coots and not more than 4 Gallinules)	30
Woodcock	September 15 to December 16	8	24
Snipe	September 10 to December 25	10	30
Mourning Dove	No open season	n/a	n/a
Source: ECCC 2023			

6.3.4.5.2 Operators and Outfitters

Tourist operators that offer black bear hunting services to non-Ontario residents must be licensed by the MNR under the Ontario Moose-Bear Tourism Industry Program. Operators wishing to provide black bear hunting services to resident or non-resident clients in a Bear Management Area (BMA) must be licensed for that BMA (MNR 2022). There are 43 BMAs in the Project RSA; three in the LSA (see Figure A.18 in Appendix A). Two BMAs (e.g., CC-30-015, TI-30-048) are within the PA (Ontario GeoHub 2023f). There is one tourist operator business in the RSA, Good Time Outfitters, operating out of Cochrane, Ontario. This operator offers hunting services in two BMAs and has four camps, all of which are located to the north of the RSA (Northern Ontario Tourist Outfitters Association 2024).

Similarly, a moose tourist outfitter must be authorized or licensed by the MNR under the Ontario Moose-Bear Tourism Industry Program to provide moose hunting services to residents and non-residents. An eligible moose outfitter must acquire moose tag shares. Acquiring tags is not guaranteed as it depends the number of other outfitters operating in a WMU and harvest opportunities available to outfitters based on what moose populations in an area can sustain (MNR 2023i).

6.3.4.5.3 Trapping

Trapping activities in Ontario are governed under the *Fish and Wildlife Conservation Act, 1997* and regulations. New trapping licences are authorized by the ministry and registered traplines are allocated to licensed trappers as vacancies arise and according to set policy. Trappers can also apply for authorization to trap on private land under a Registered or Landowner licence. The regulated trapping season generally begins in early October though specific trapping seasons vary by furbearer species and WMUs (Government of Ontario 2023e). Trapping occurs within WMUs #24, #26, #27, #28, #29, #30, and #31 (see Figure A.18 in Appendix A). Furbearer species trapped include beaver, otter, bobcat/lynx, mink, muskrat, fisher and marten, coloured fox, opossum and racoon, arctic fox, red squirrel, weasel, and skunk. Wolf and coyote can also be trapped (Government of Ontario 2023e). There are 90 traplines (all or partial) within the Project RSA; nine within the LSA (Ontario GeoHub 2023g). Five trapping areas encompass the PA. Trapping harvest activity of furbearers is not broken down by WMUs. The three most prevalent trapped species in 2021 by provincially licensed trappers in Ontario were beaver, muskrat, and marten. The previous five years of record (2016 to 2020) showed similar results in terms of trapped species (MNRF 2023j).

Indigenous Hunting and Trapping

Apitipi Anicinapek Nation members noted the area around the Project is frequently hunted for moose and other mammals (partridge, rabbit) and north of the Project along Highway 655. Gathering (blueberries), snaring and trapping were also reported across the Study Area. Members report that Indigenous Ecological Knowledge (IEK) sites are concentrated along the length of Highway 655 through the Study Area (e.g., mammal habitat for moose, black bear, fox, lynx, beaver, coyote, rabbit, Timber wolf, and bird habitat for partridge, eagle, and osprey). Apitipi Anicinapek Nation members also report they still have cabins, other overnight structures, and trails in the Study Area which are used for hunting and trapping (Apitipi Anicinapek Nation, Tamarack Environmental Associates Inc. 2024).

Flying Post First Nation members reported harvesting a variety of large and small game, including moose, ruffed grouse (partridge), and rabbit. Hunting has occurred in the Study Area along backroads connecting Highway 655 to Jocko Creek, Mattagami River, and Lower Sturgeon. Other key hunting areas include Oates, Malette, and Nova Roads along the Groundhog and Ivanhoe rivers, and at Oswald Lake. Areas used for trapping include the Nat, Groundhog, Ivanhoe, and Lower Sturgeon rivers, and at Bromley and Horwood lakes (Taggart, Firelight Research Inc, Flying Post First Nation 2023).

Matachewan First Nation members pursue hunting and trapping in many different areas across the Study Area. Hunting and trapping occur in several areas, such as Timmins, Hall Lake, Driftwood, Hunta, Forsythe Lake, Kamiskotia Lake, and along Highway 655. Species hunted and trapped in the Study Area include moose, bear, duck, rabbit, partridge, and beaver. Backroads and logging roads are used by Matachewan First Nation hunters to access good moose habitat (Taggart, Firelight Research Inc, Matachewan First Nation 2023).

Mattagami First Nation members harvest a variety of large and small game, including moose, bear, beaver, spruce and ruffed grouse (partridge), ducks, and rabbit. There are several productive hunting grounds, including along Kenogamissi Falls Road, Highways 655, 101, and 576. Mattagami River is used for hunting moose and Kamiskotia Lake for birds. Hunting is reported along Highway 655 for moose and grouse (Taggart, Firelight Research Inc. Mattagami First Nation 2023).

Taykwa Tagamou Nation members identified harvesting locations for hunting and gathering along Highway 655, between Driftwood and the Kidd Creek mine, as well as many small roads off the highway that are being used extensively. The network of small resource roads off the Highway are used to hunt for moose or partridge (within 5 km of the Project site). The Lower Sturgeon Dam Road is reportedly a location that is returned to regularly (Shared Value Solutions 2023). Taykwa Tagamou Nation members identified hunting locations north of the Project site along Highway 655 and areas to the west. Moose was reported to be harvested along Camp 40 Road and several logging roads near the North Driftwood River (Shared Value Solutions 2023). Within 50 km of the Project site, Taykwa Tagamou Nation members engage in harvesting at numerous hunting, trapping and snaring locations. Areas where some of these sites are concentrated include along Highway 655 north to Driftwood, the Reaume Esker road to the west of the Project site, and areas to the south near Timmins. Many moose hunting sites were identified in the forest and wetlands north and west of the Project site. Several hunting and access route locations were identified along the North Driftwood River and West Buskegau River (Shared Value Solutions 2023).

Métis Nation of Ontario (Region 3) members reported hunting and/or trapping marten, beaver, fisher, mink, fox, grey fox, muskrat, squirrel, otter, weasel, rabbit, wolf, coyote, lynx, wolverine, black bear, cougar, moose, boreal caribou, deer, white-tailed deer, geese, duck, grouse/ partridge, and crane (Métis Nation of Ontario 2024).

6.3.4.5.4 Commercial Fishing

Commercial bait fishing is managed through bait licences under *Ontario Fishery Regulations, 2007* and Ontario's *Fish and Wildlife Conservation Act*. Ontario's commercial bait industry issues approximately 1,100 licenses annually, with an estimated retail value at \$23 million (2005). The industry additionally supports multi-million-dollar fishing and tourism industries (Government of Ontario 2020). FMZ 8 is part of the Northeast Bait Management Zone (BMZ). The BMZs affect the movement, possession and use of baitfish and leeches. Baitfish or leeches, whether live or dead, cannot be transported into or out of a BMZ, with some limited exceptions. Bait resources are assigned to harvesters using a block system (e.g., one harvester per bait harvest area).

The Project RSA is divided up into 148 bait harvest block areas; the LSA includes 16 bait harvest block areas (Figure A.19 in Appendix A; Ontario GeoHub 2023h). Nine bait harvest block areas fall within the PA. Anglers using or possessing baitfish or leeches must obtain them from a commercial licence holder. In addition, anglers are only permitted to personally harvest baitfish and leeches in the BMZ where their primary residence is located. Permitted baitfish species include darters and Log-perch, minnows, sculpins, sticklebacks, suckers, Central Mudminnow, Lake Herring (Cisco), and Trout Perch. Crayfish, subject to certain restrictions, and northern leopard frogs may be captured and used as bait (Government of Ontario 2023d). During fish surveys conducted in 2021, 2022, and 2023, fourteen baitfish species were

recorded in the PA and LSA: Blacknose Shiner, Brook Stickleback, Fathead Minnow, Finescale Dace, Iowa Darter, Johnny Darter, Northern Redbelly Dace, Pearl Dace, Trout Perch, White Sucker, Yellow Perch, Common Shiner, Emerald Shiner, and Golden Shiner (Appendix B.7.4 of the Impact Statement [2023 Terrestrial Ecology Baseline Study]). Watercourses and waterbodies where baitfish species were found include an unnamed pond, unnamed streams and tributaries to the North Driftwood River, North Driftwood River, Gerry Lake, an unnamed stream and tributary to the West Buskegau River, and West Buskegau River (Wood Canada Limited 2022). There are no other commercial fisheries (e.g., lakes) in the Project RSA.

Indigenous Fishing

Métis Nation of Ontario - Region 3 members reported fishing for bait fish including dace, shiners, and minnows (Métis Nation of Ontario - Region 3 2024).

6.4 Discussion

Key findings regarding land and resource use that may have implications for the assessment are as follows:

- The physical landscape of the RSA is a mixture of upland terrain, boreal forest, mineral-rich areas, and countless lakes and rivers within the Canadian Shield geographic region. Land use in the RSA reflects both natural resource development and conservation characteristics.
- The major drivers that are of social and environmental importance to the RSA relate to opportunities provided by mining/aggregates, forestry, agriculture (lesser extent), resource harvesting activities, and recreation and tourism activities.
- Provincial Crown land parcels encompass substantial portion of the land base within the RSA with the remainder consisting of federal government, municipal government, Indigenous nations, and private land parcels. The PA and LSA predominantly consist of patent lands.
- The City of Timmins serves as a regional service and distribution centre for natural resource extraction and industries in Northeastern Ontario related to lumbering, and mining focusing on gold, zinc, copper, nickel, and silver.
- Hunting, outfitting, and trapping occur within the regional wildlife management units with opportunities (e.g., bear management areas, trapping areas) available across the RSA.
- Recreation and tourism are an important industry in the region focused on the natural environment. Opportunities relate to various attractions, provincial parks and natural areas, recreation and scenic values, heritage sites, outdoor trails (e.g., hiking, snowmobile, ATV), recreational fishing, and potential recreational navigation use. Three snowmobile trails run across and adjacent to the PA. Camping opportunities occur throughout the RSA at public and private campgrounds, with Big Water Campgrounds located closest to the PA.

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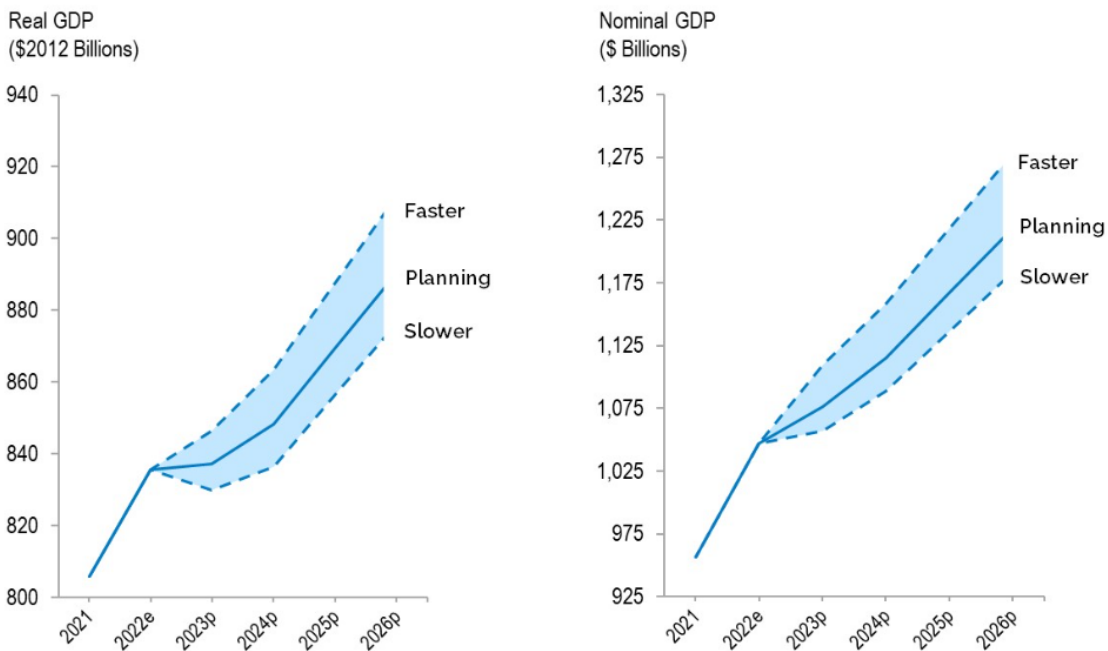
Appendices

Appendix A Figures

Figure A.2 Changes in Key Economic Indicators in 2022

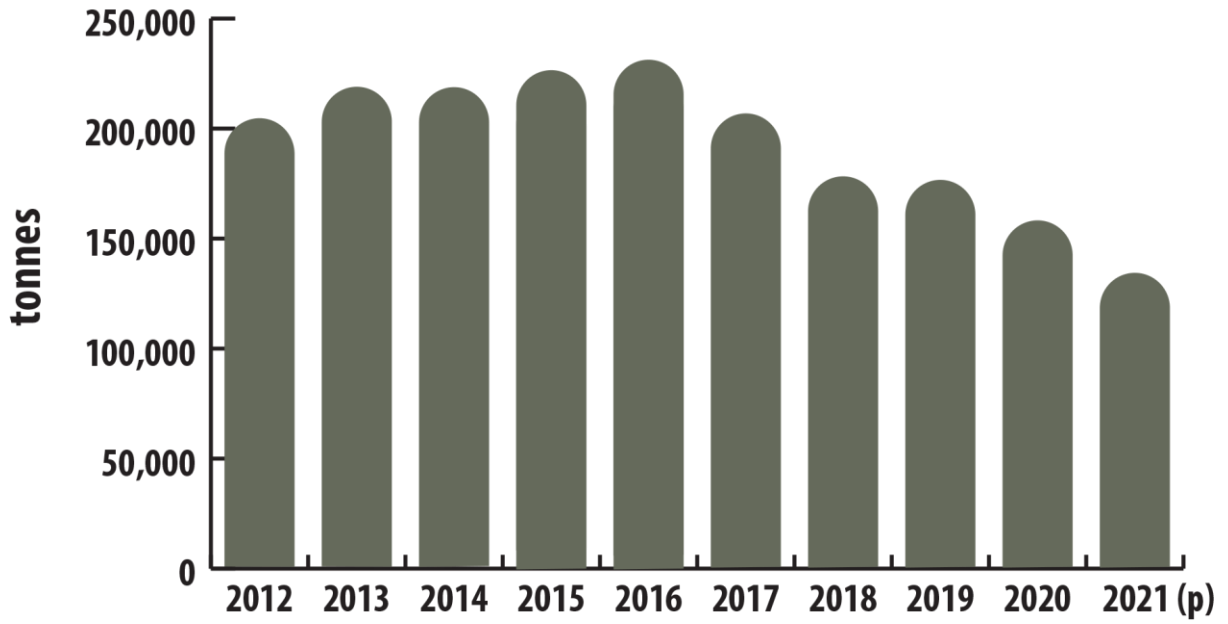


Figure A.3 Range of Ontario GDP Scenario Forecasts



e = estimate.
 p = Ontario Ministry of Finance planning projection based on external sources and alternative scenarios.

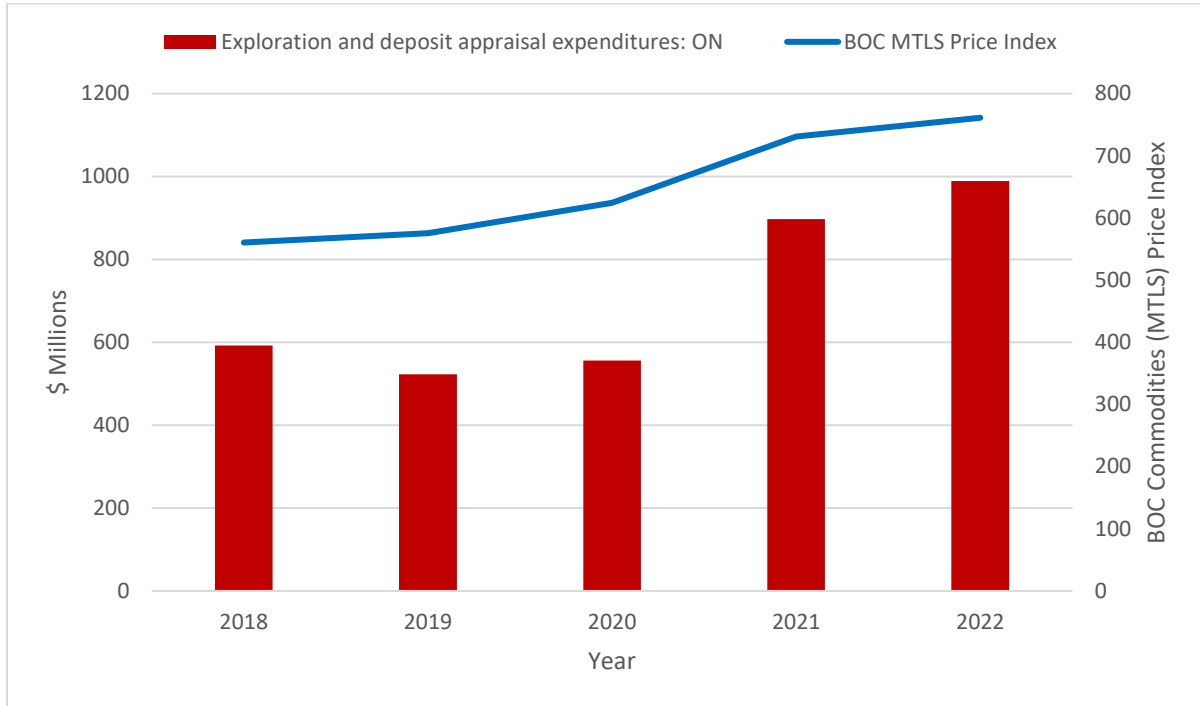
Figure A.4 Canadian mine production of nickel, 2012 – 2021 (p)

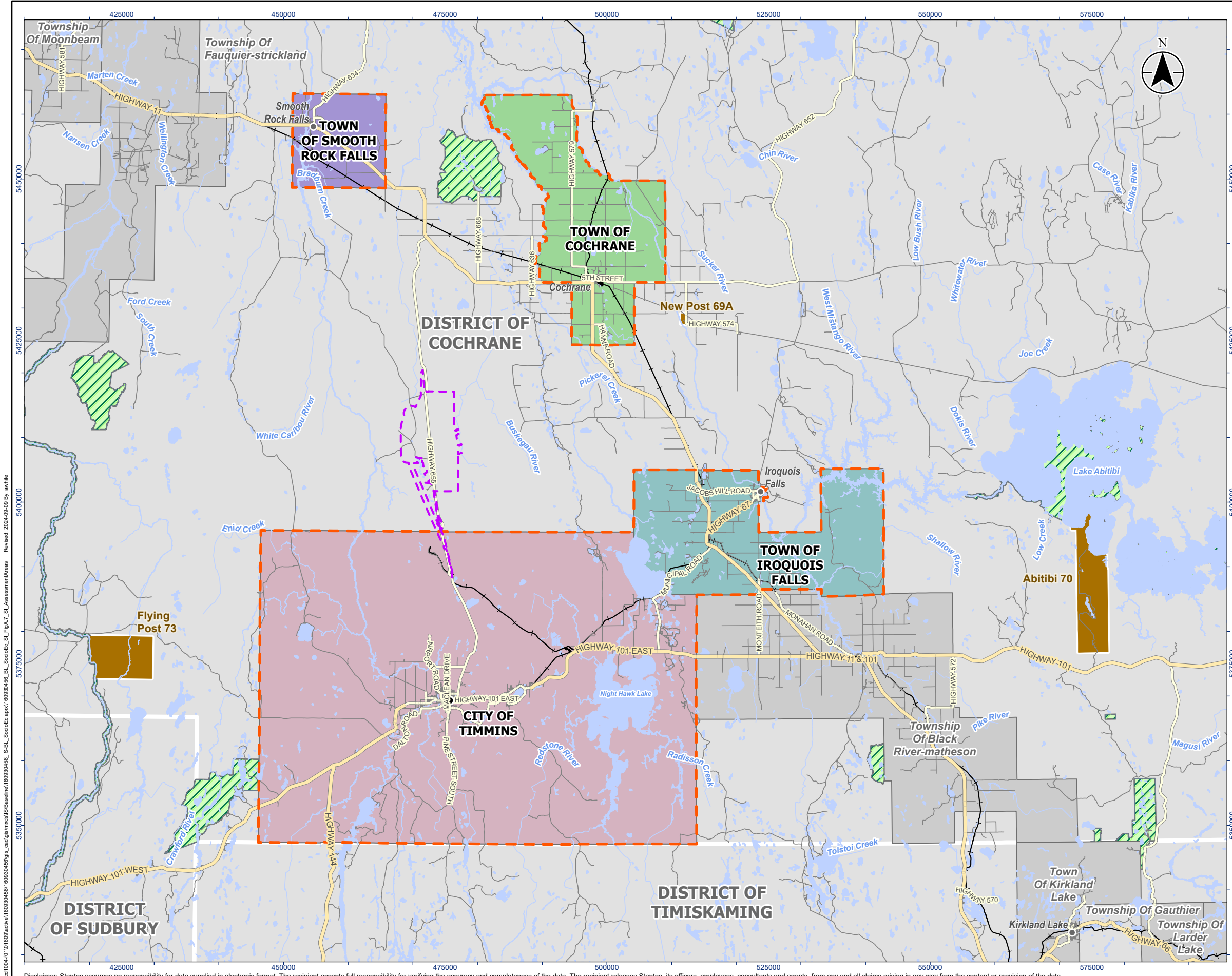


Notes: 2021 (p) = predicted.

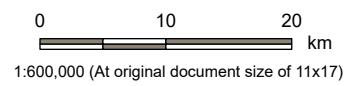
Source: Natural Resources Canada, 2023b

Figure A.6 ON Mineral Exploration and Deposit Appraisal Expenditures and Bank of Canada (BOC) Metals Commodity Price





- Legend**
- Project Area
 - Local/Regional Study Area
 - Railway
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - First Nation Reserve
 - Provincial Park
 - Waterbody



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.



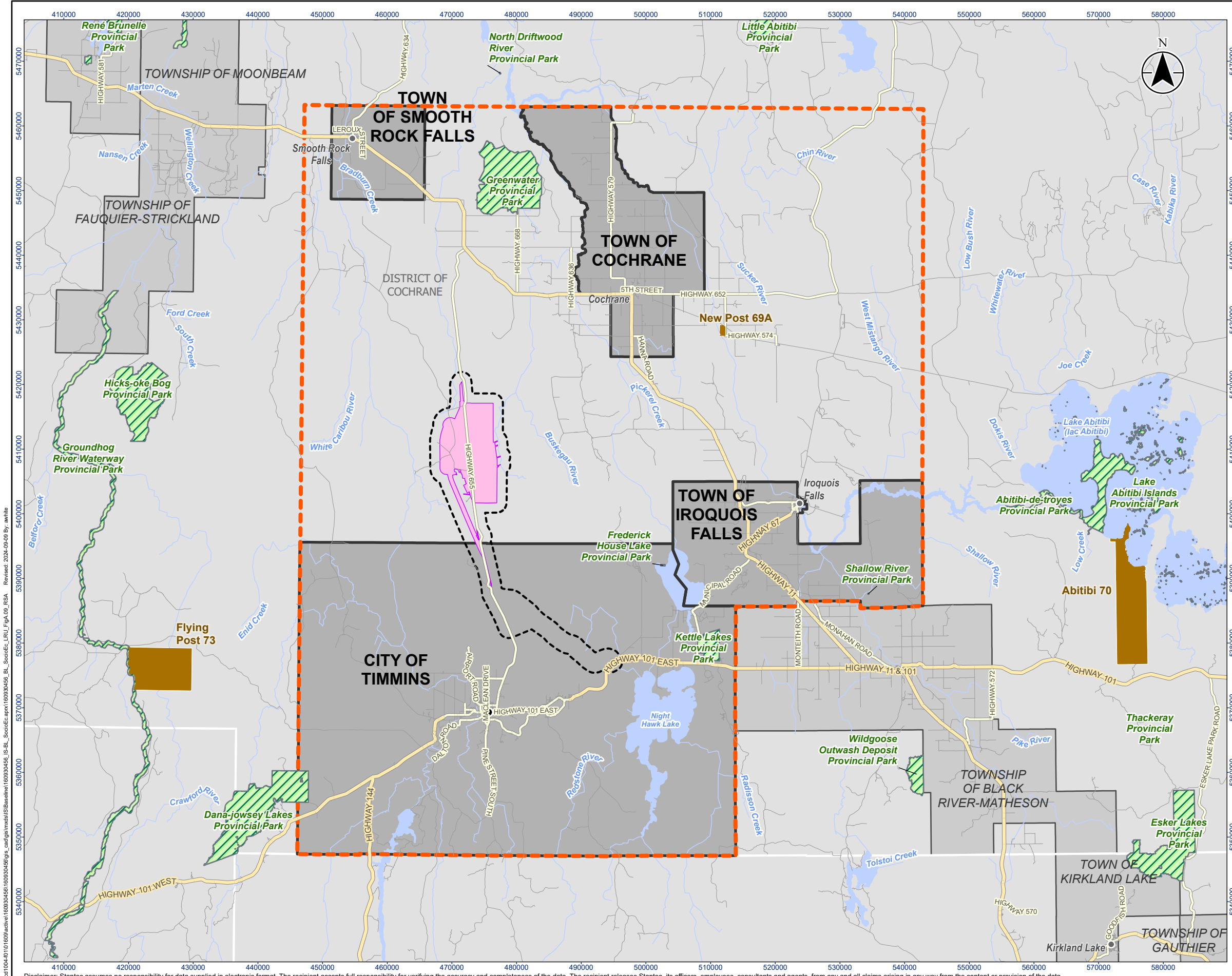
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 160930456 REVA
 Prepared by awhite on 2024-09-09

Client/Project:
 Canada Nickel Company (CNC)
 Crawford Nickel Project

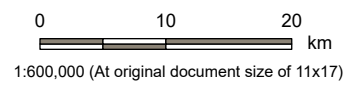
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A.7
 Title
**Services and Infrastructure
 Local/Regional Study Area**

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- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - First Nation Reserve
 - Municipality - Lower and Single Tier Within RSA
 - Municipality - Lower and Single Tier Outside RSA
 - Provincial Park
 - Waterbody



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.



Project Location
Timmins, Ontario

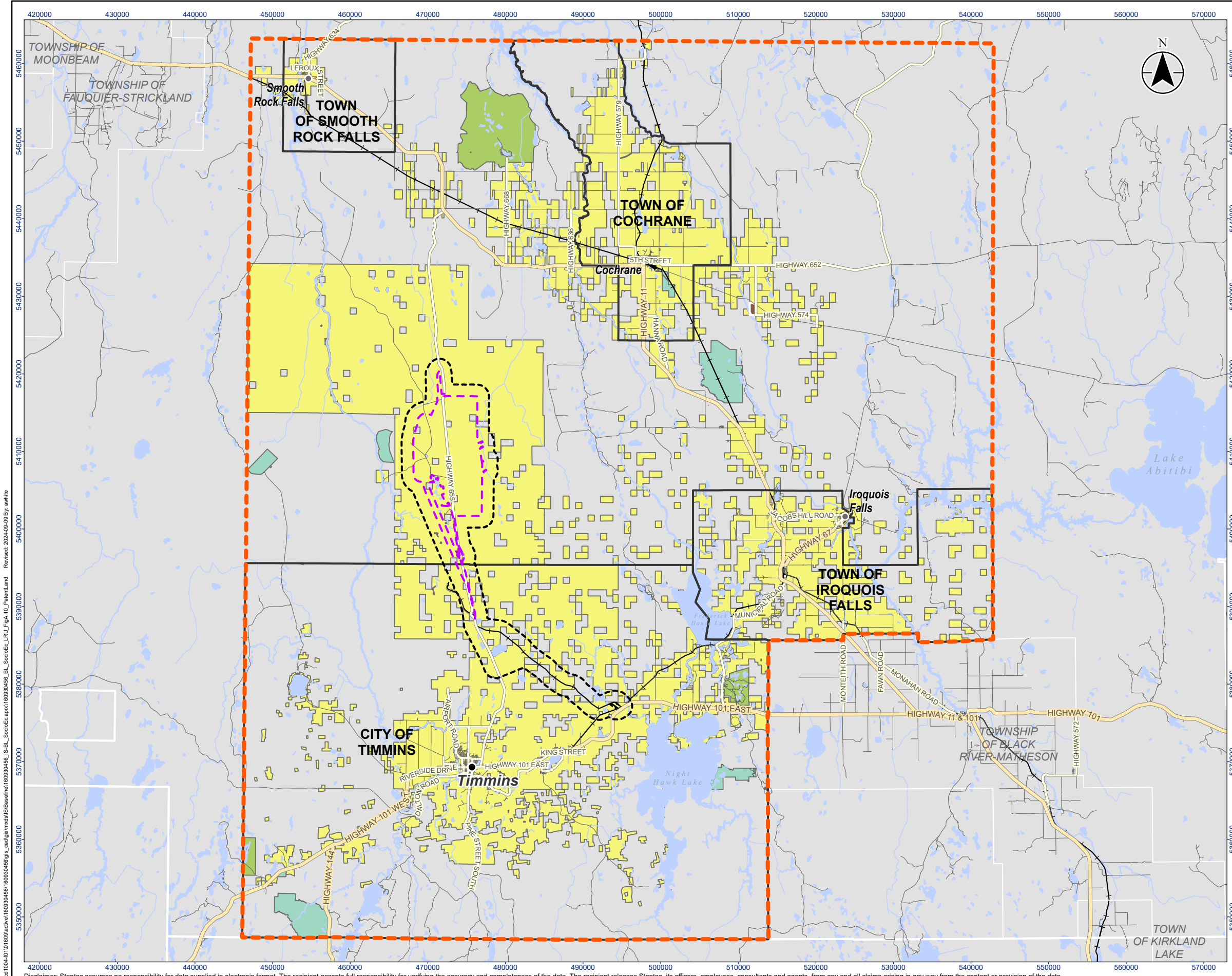
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Client/Project
Canada Nickel Company (CNC)
Crawford Nickel Project

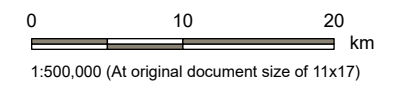
Figure No.
A.9

Title
Land and Resource Use Regional Study Area

V:\1004-101\160930456\160930456\gms_cad\gis\mxd\160930456\160930456_BL_SocioE_LRU_FGA_09_RSA_Revisee_2024-09-09_By_ahwhite
 V:\1004-101\160930456\160930456\gms_cad\gis\mxd\160930456\160930456_BL_SocioE_LRU_FGA_09_RSA



- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
- Land Ownership (Generalized)**
- Patented Land (MNDM)
 - First Nation Reserve
 - Conservation Reserve
 - Provincial Park
- Railway
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - Waterbody
 - Municipality - Lower and Single Tier within RSA



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.
 3. Patented Land derived from MNDM Mining Land Tenure and Non-mining Land Tenure patented lands. For general cartographic purposes only.

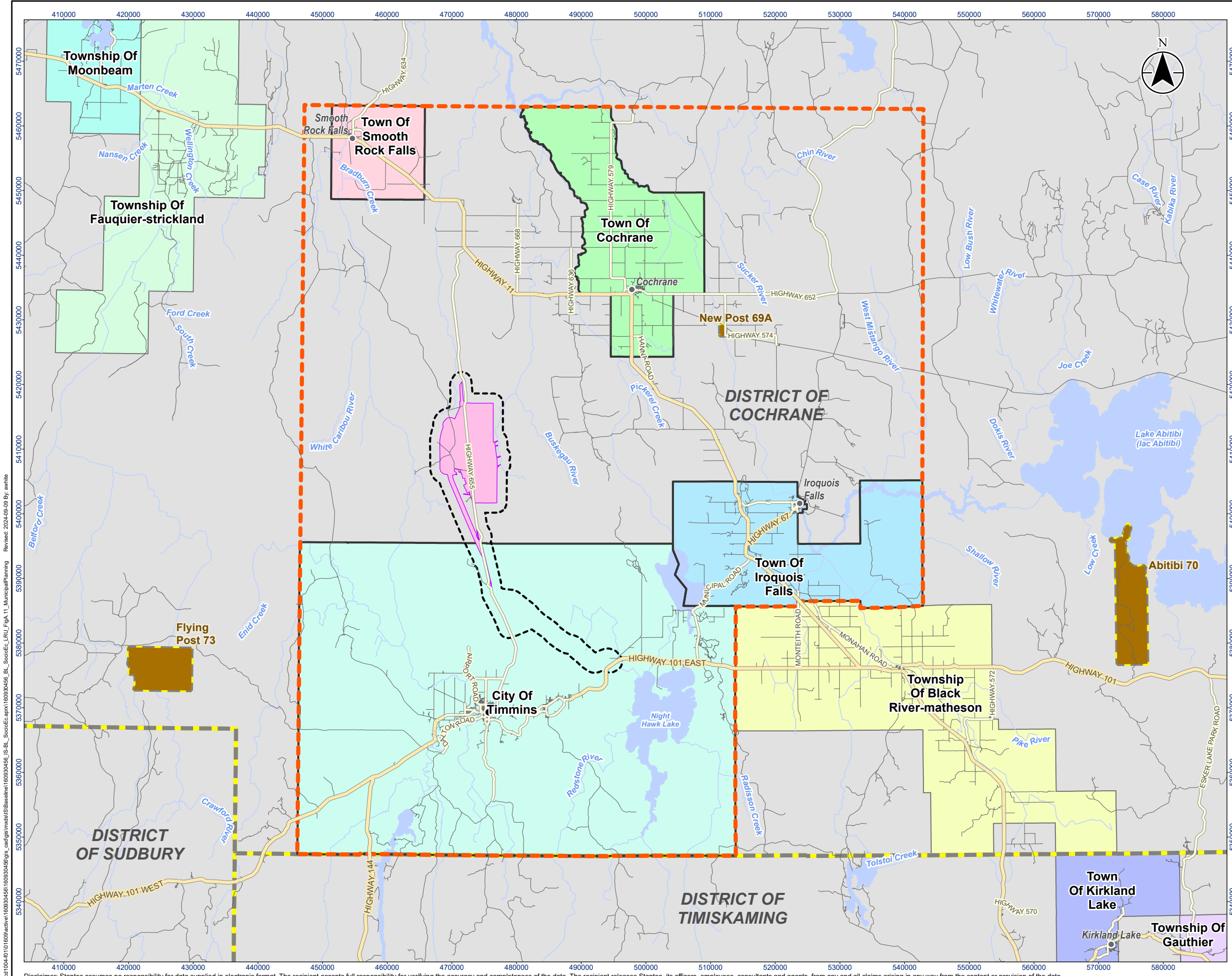


Project Location: Timmins, Ontario
 160930456 REV B
 Prepared by awhite on 2024-09-09

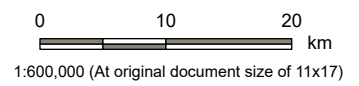
Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.10**
 Title: **Patent Land**

\s1004-1010\09\active\160930456\gis_cad\gis\mxd\160930456_BL_SocioE_LRU_FGA_10_PatentLand
 Revised: 2024-09-09 By: awhite



- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
 - Municipal Boundary - Upper Tier and District
- Lower and Single Tier Municipalities**
- City of Timmins
 - Town of Cochrane
 - Town of Iroquois Falls
 - Town of Kirkland Lake
 - Town of Smooth Rock Falls
 - Township of Black River-Matheson
 - Township of Fauquier-Strickland
 - Township of Gauthier
 - Township of Moonbeam
- Infrastructure**
- Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - First Nation Reserve
 - Waterbody



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.

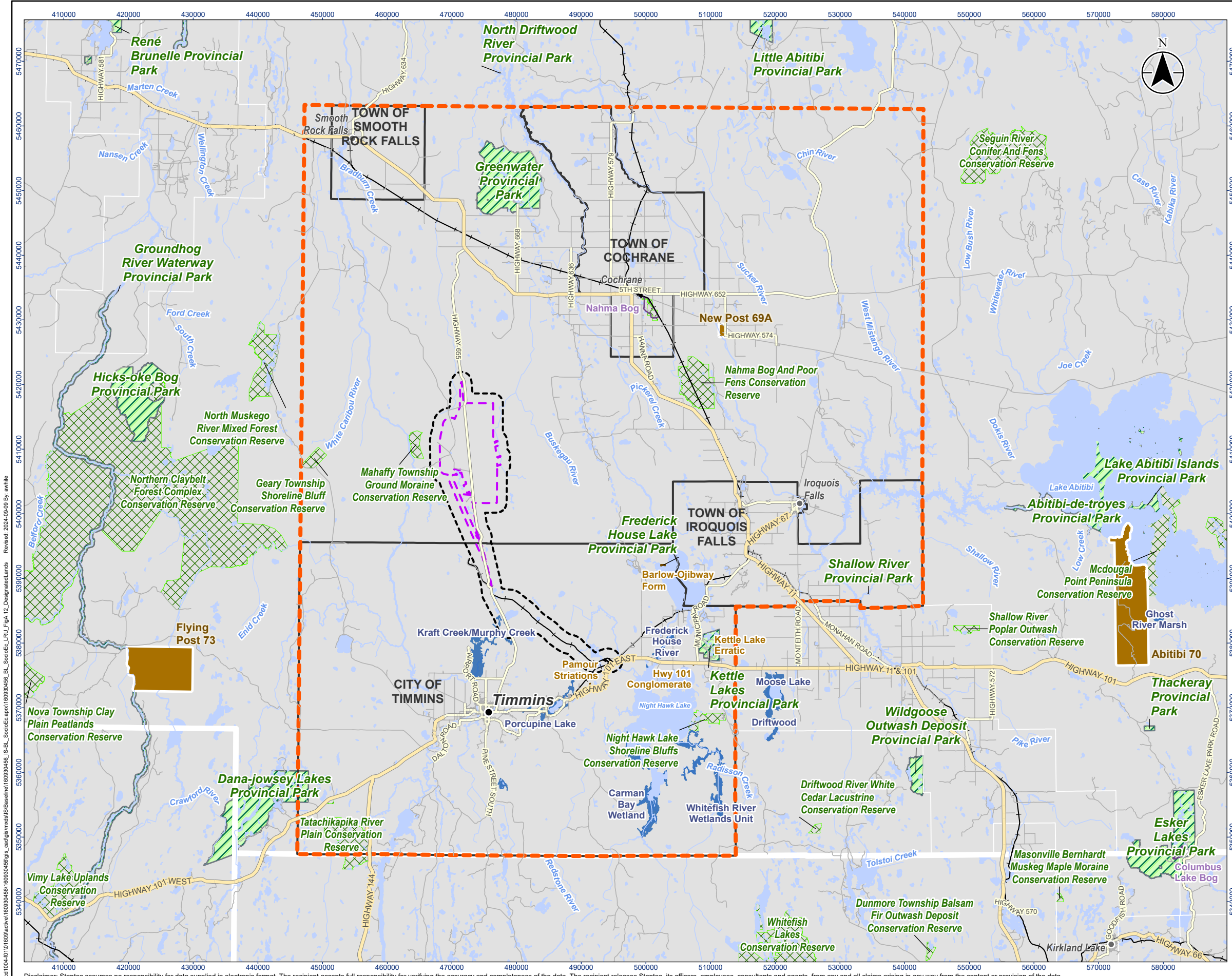


Project Location: Timmins, Ontario
 Prepared by: awhite on 2024-09-09
 160930456 REV B

Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.11**
 Title: **Municipal Planning**

V:\1004-101\160930456\160930456\gis_cad\gis\mxd\160930456\160930456_BL_SocioE_LRU_Fig.11_MunicipalPlanning_Revise1_2024-09-09_By: awhite



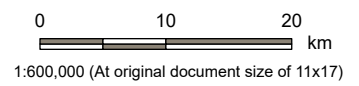
Legend

- Project Area
- Local Study Area
- Regional Study Area

Area of Natural Scientific Interest

- ANSI, Earth Science
- Candidate ANSI, Earth Science
- Candidate ANSI, Life Science
- Conservation Reserve (Regulated)
- First Nation Reserve
- Provincial Park
- Wetland, Provincially Significant

- Railway
- Expressway / Highway
- Major Road
- Minor Road
- Watercourse
- Municipality - Lower and Single Tier within RSA
- Waterbody



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.

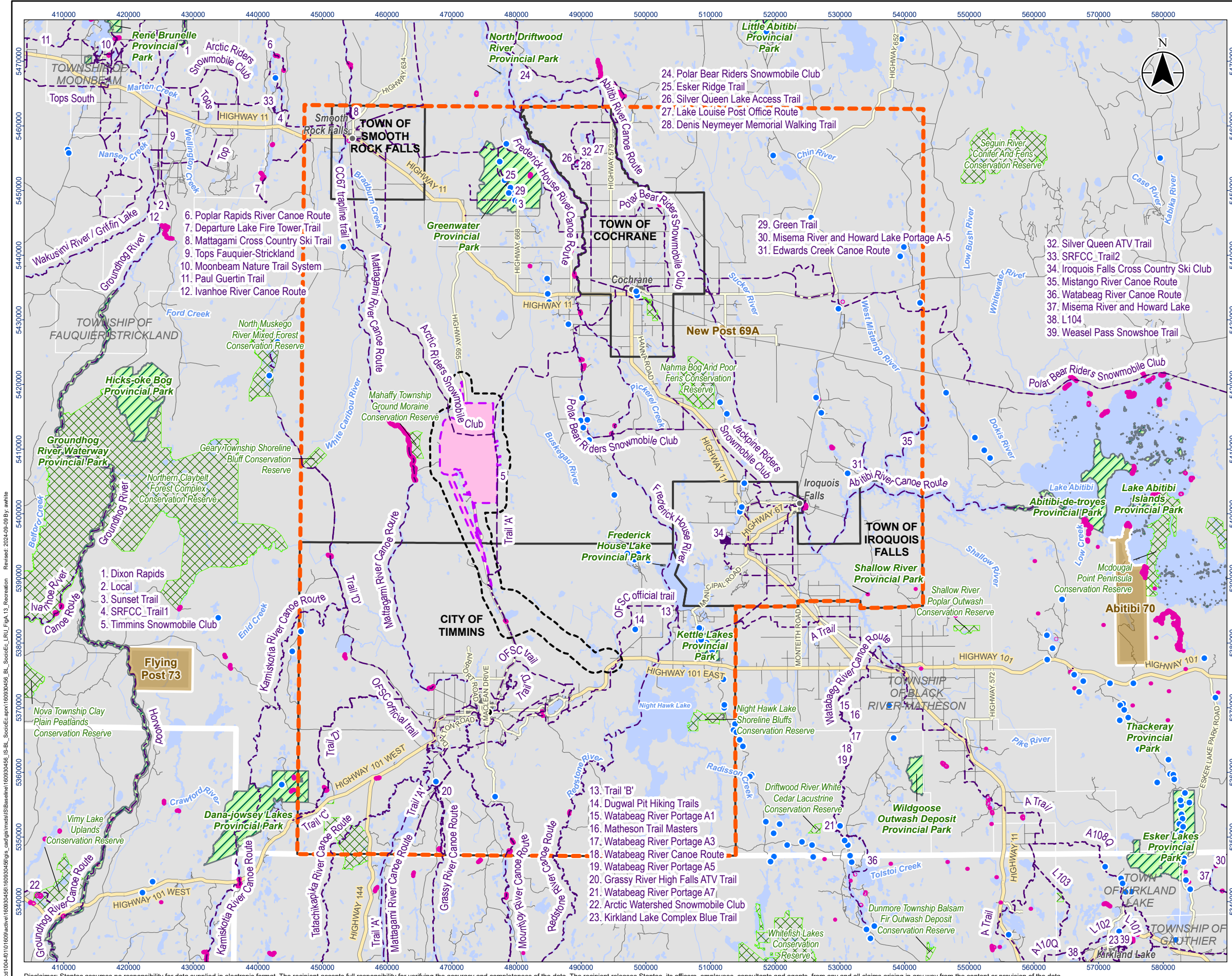


Project Location: Timmins, Ontario
 Prepared by: awhite on 2024-09-09

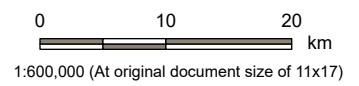
Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No. **A.12**
 Title **Designated Lands and Protected Areas**

V:\1004-101\1009\active\160930456\160930456\gis_cad\gis\mxd\160930456\160930456_BL_SocioE_LRU_FGA_12_DesignatedLands_Reviewed: 2024-09-09 By: awhite



- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
 - Fish Stocking, Recreational
 - Trail
 - Fish Spawning Area
 - Conservation Reserve (Regulated)
 - Provincial Park
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - First Nation Reserve
 - Waterbody
 - Municipality - Lower and Single Tier within RSA



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.



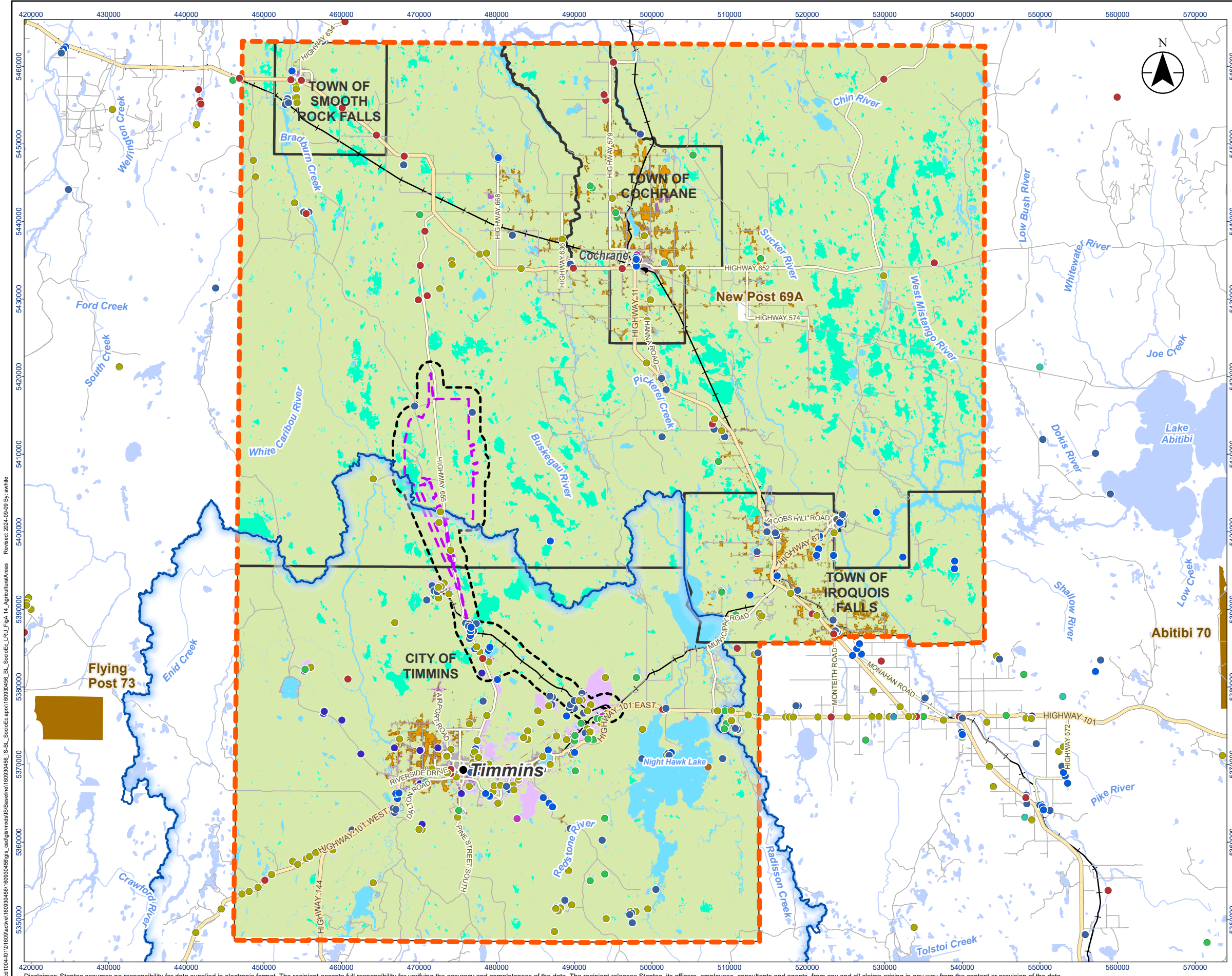
Project Location: Timmins, Ontario
 Prepared by: awhite on 2024-09-09

Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.13**

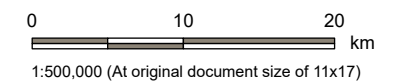
Title: **Fishing and Recreation**

\srt1004-101009\active\160930456\160930456\gis_cad\gis\mxd\160930456\BL_Soodec_LRU_Fig_13_Recreation_2024-09-09_By: awhite
 Revised: 2024-09-09 By: awhite



- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
 - Source Protection Area (Generalized)
- Permit to Take Water >= 50,000 L/Day (MOE)**
- Agriculture
 - Commercial
 - Construction
 - Dewatering
 - Industrial
 - Miscellaneous
 - Recreational
 - Remediation
 - Water Supply
 - Other

- Land Classification (AAFC)**
- Agricultural Land
 - Exposed Land/Barren
 - Shrubland/Wooded Area
 - Urban/Developed
 - Water
 - Wetland
- Infrastructure**
- Railway
 - Expressway / Highway
 - Major Road
 - Minor Road
 - First Nation Reserve
 - Municipality - Lower and Single Tier within RSA



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.
 3. Land Classification derived from Agriculture and Agri-Food Canada's Crop Inventory, 2022. Some classes combined.
 4. Permit to Take Water data from the Ontario Ministry of the Environment, last updated April 2022.

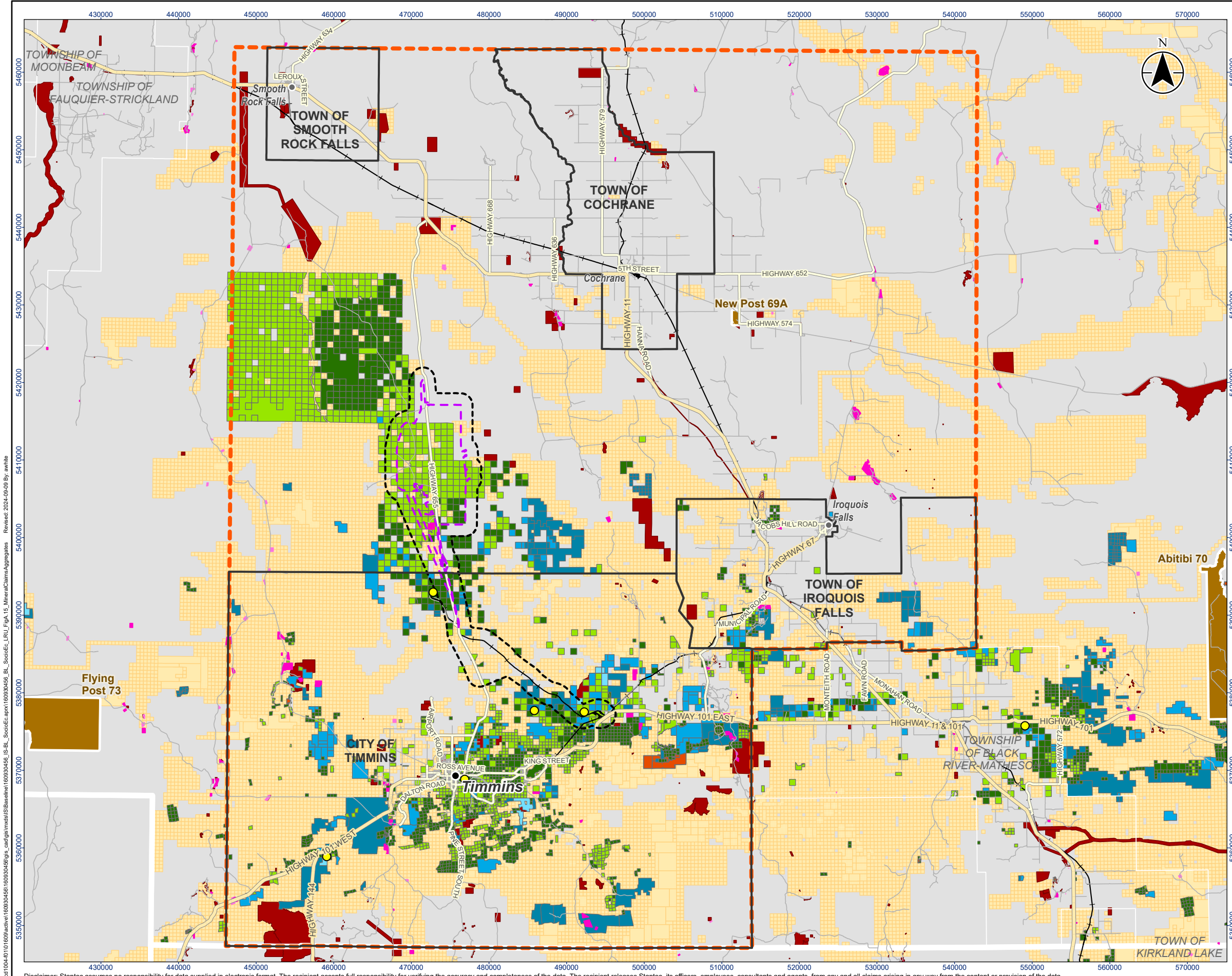


Project Location: Timmins, Ontario
 160930456 REV B
 Prepared by awhite on 2024-09-09

Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No. **A.14**
 Title: **Agricultural Areas, Permits to Take Water, and Source Protection Area**

V:\0104-1010\01040561\160930456\gis_cad\gis\mxd\160930456_BL_Soiled_LRU_LRU_Fig_14_AgricultureAreas_RevB.mxd
 Revised: 2024-09-09 By: awhite



Legend

- Project Area
- Local Study Area
- Regional Study Area
- Operating Mine
- Aggregate Site, Authorized (Active)
- Aggregate Site, Authorized (Inactive)

Mining Land Tenure (MNDM)

- Lease, Mining and Surface Rights
- Lease, Mining Rights only
- Lease, Surface Rights only
- Mining Licence of Occupation, Mining Rights only
- Patent, Mining and Surface Rights
- Patent, Mining Rights only

- Operational Alienations
- Operational Cell Claim
- Expressway / Highway
- Major Road
- Minor Road
- Railway
- First Nation Reserve
- Municipality - Lower and Single Tier within RSA

0 10 20 km
1:500,000 (At original document size of 11x17)

Notes

- Coordinate System: NAD 1983 UTM Zone 17N
- Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.

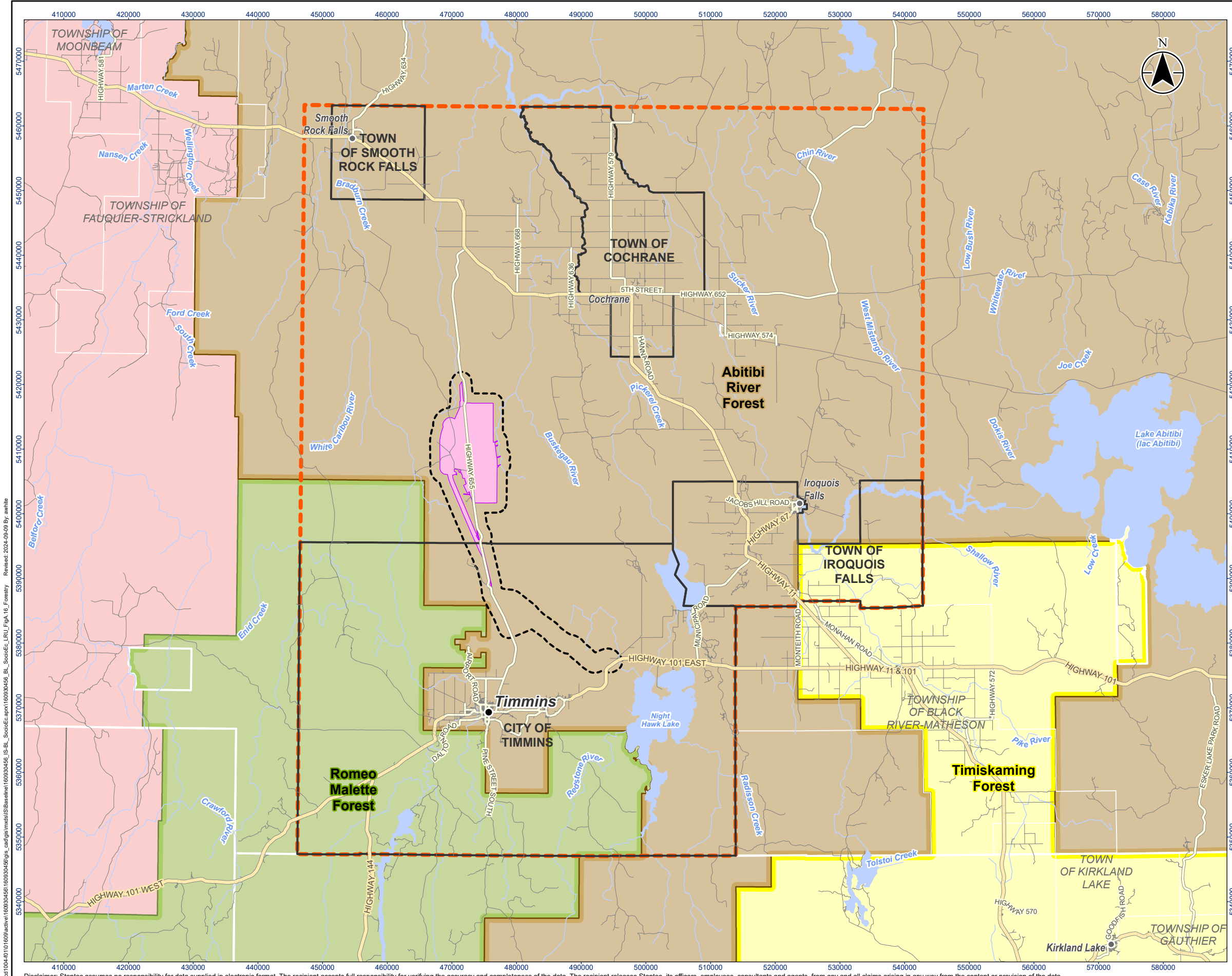


Project Location
Timmins, Ontario
160930456 REV B
Prepared by awhite on 2024-09-09

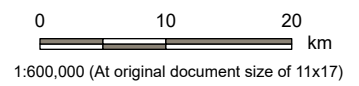
Client/Project
Canada Nickel Company (CNC)
Crawford Nickel Project

Figure No.
A.15
Title
Mineral Claims and Aggregates

V:\1004-10-10\1009\active\160930456\160930456\gis_cad\gis_mxd\160930456_BL_SocioE_LRLU_FGA_15_MineralClaimsAggregates
 Revised: 2024-09-09 By: awhite



- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
 - Abitibi River Forest
 - Romeo Malette Forest
 - Timiskaming Forest
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - Waterbody
 - Municipality - Lower and Single Tier within RSA



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.

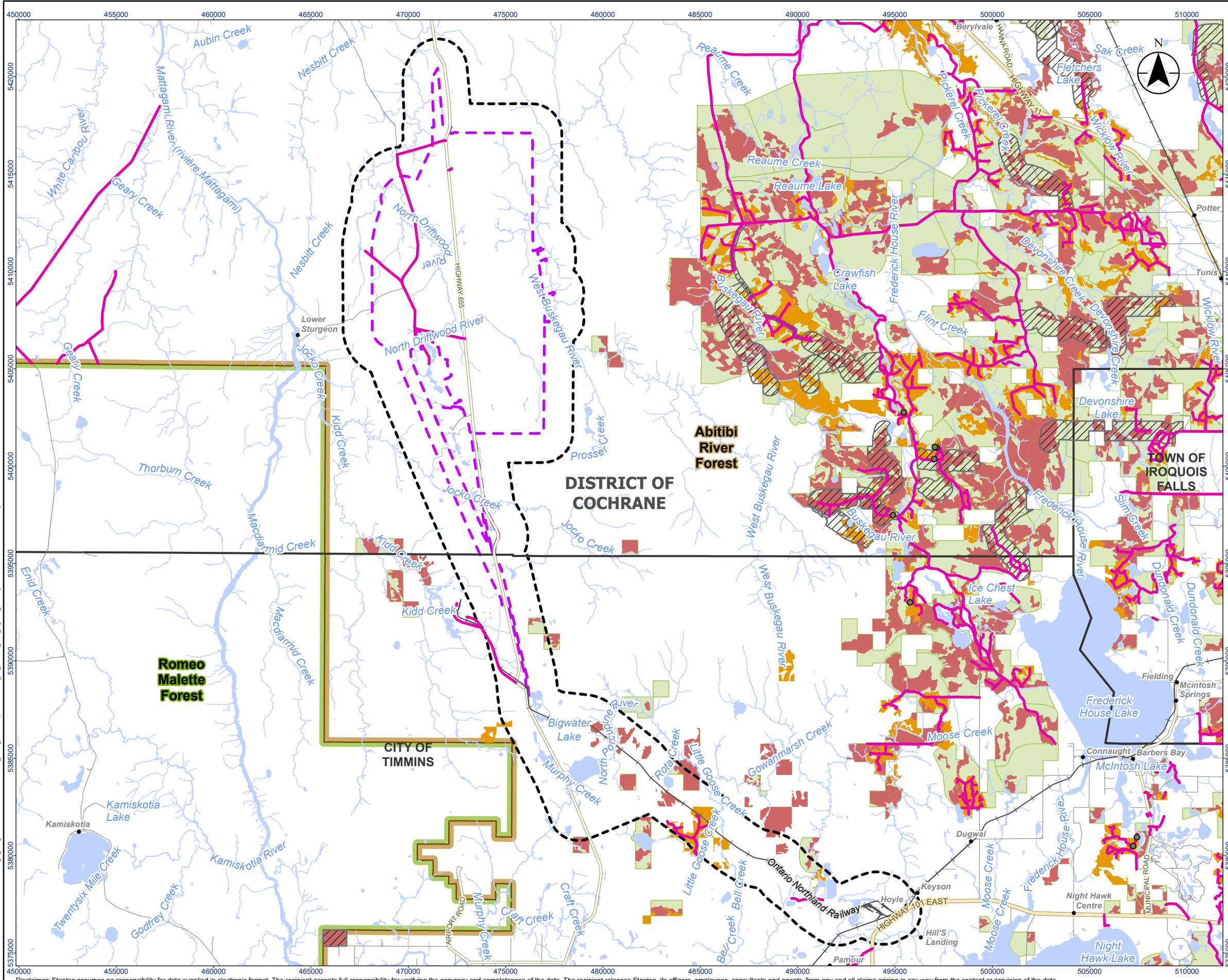


Project Location: Timmins, Ontario
 Prepared by: awhite on 2024-09-09

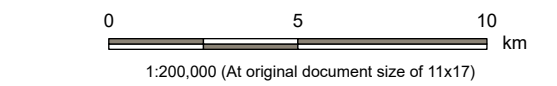
Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.16**
 Title: **Forest Management Units**

\s1004-1010\09\active\160930456\160930456\gis_cad\gis\mxd\160930456_BL_SocdeC_LRU_FGA_16_Forestry_Reviewed_2024-09-09_By_awhite



- Legend**
- Project Area
 - Local Study Area
 - Abitibi River Forest
 - Romeo Malette Forest
 - Existing Aggregate Pits that may be used
 - Proposed Harvest Areas
 - Existing Roads that may be used for Forestry
 - Forecast Depletion (Harvest) Areas (from the previous plan that were not harvested at the time of preparing the new plan, but were expected to be harvested by April 1, 2022).
 - Operational Road Boundaries
 - Proposed Corridors for Primary or Branch Roads
 - Railway
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - Municipality - Lower and Single Tier
 - Waterbody



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.

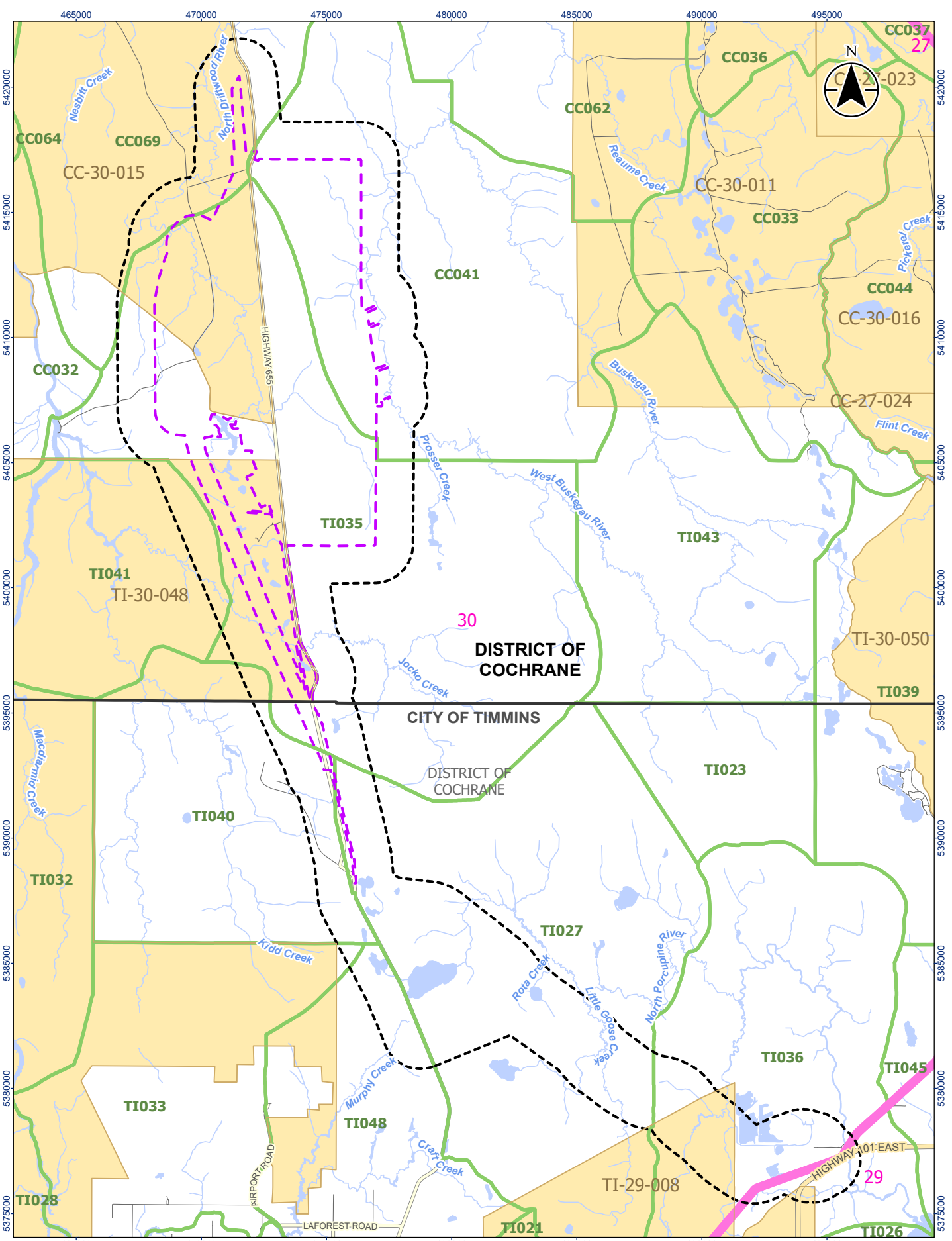
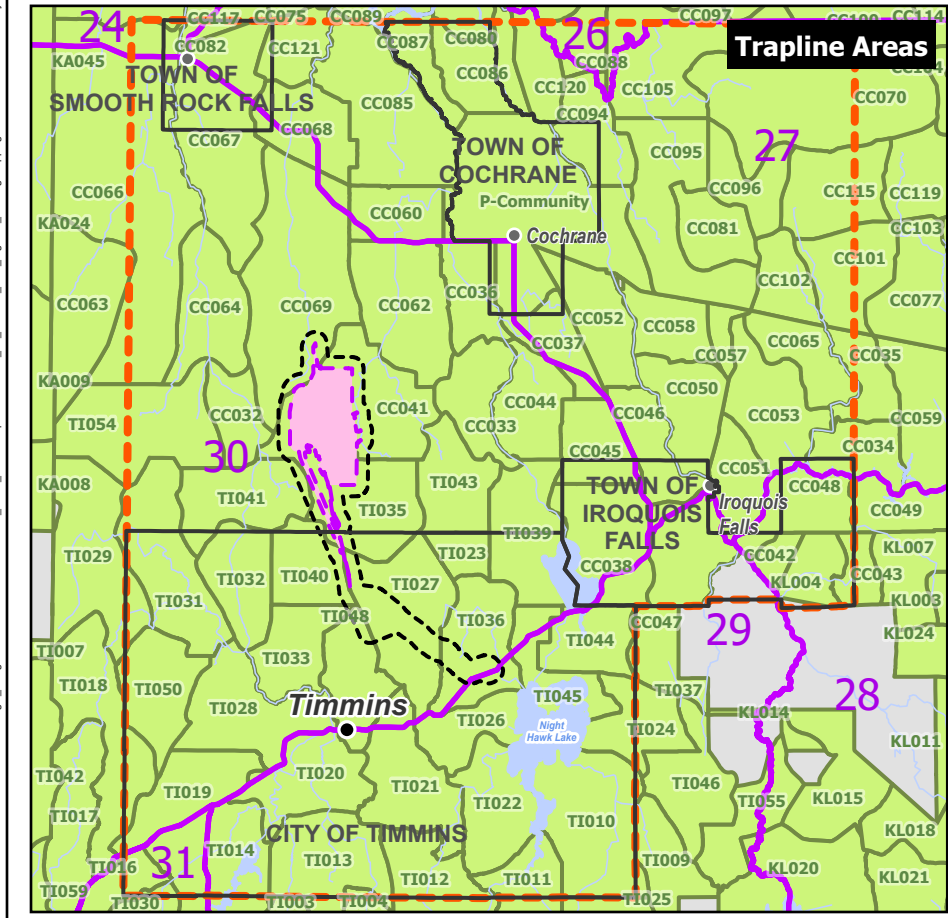
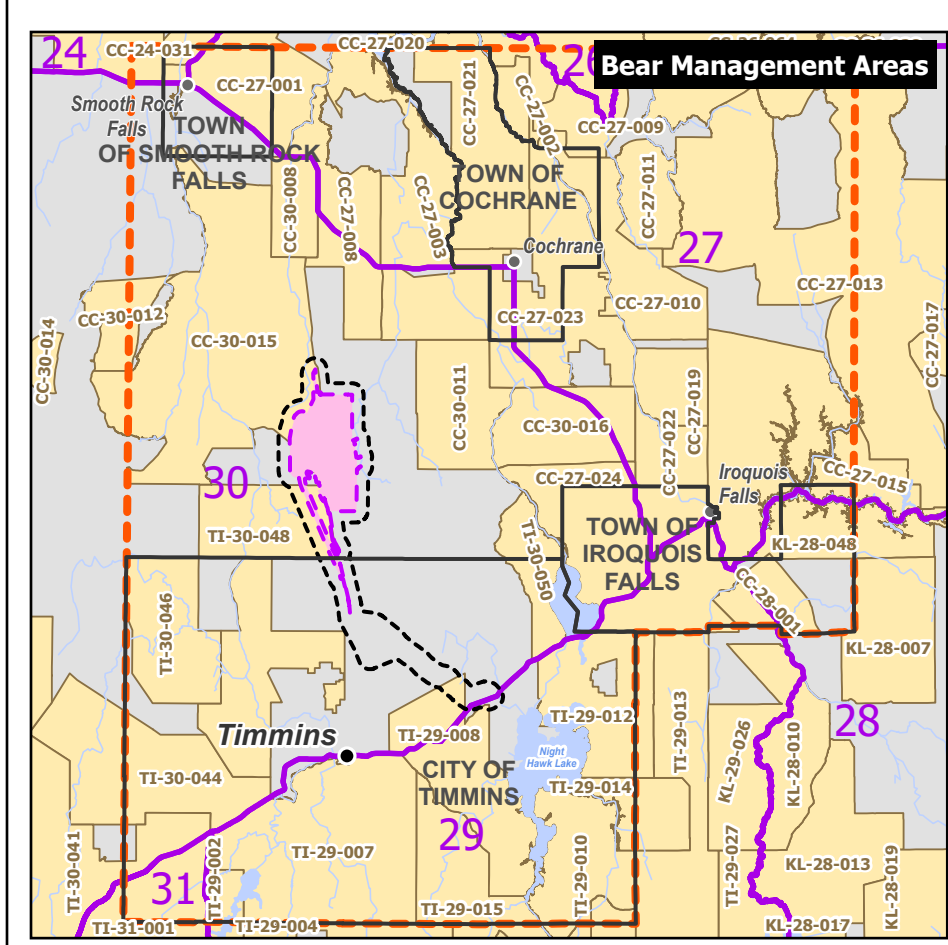


Project Location: Timmins, Ontario
 Prepared by: awhite on 2024-09-09

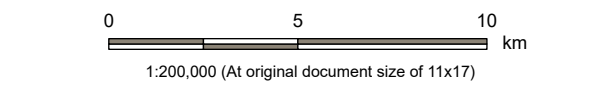
Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.17**
 Title: **Forestry Management Plans**

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- Legend**
- Project Area
 - Local Study Area
 - Regional Study Area
 - Bear Management Area
 - Trapline Area
 - Wildlife Management Unit
 - Expressway / Highway
 - Major Road
 - Minor Road
 - Watercourse
 - Waterbody
 - Municipality - Lower and Single Tier within RSA



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.

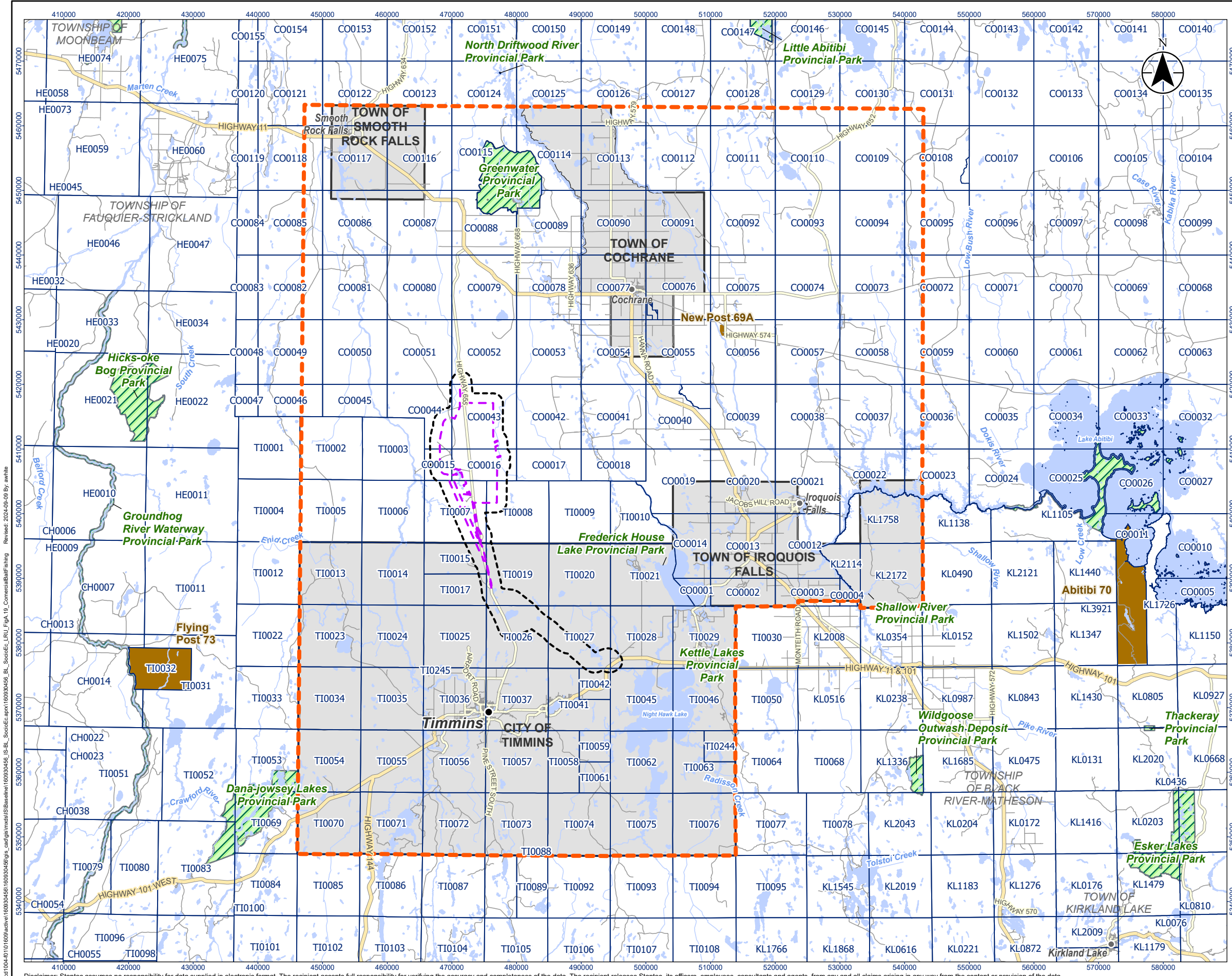













Project Location: Timmins, Ontario
 160930456 REVA
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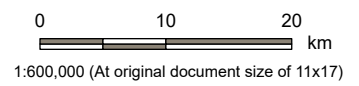
Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.18**
 Title: **Hunting/Outfitting and Trapping Areas**

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 Revised: 2024-09-09 By: awhite



- Legend**
-  Project Area
 -  Local Study Area
 -  Regional Study Area
 -  Bait Harvest Area
 -  Expressway / Highway
 -  Major Road
 -  Minor Road
 -  Watercourse
 -  First Nation Reserve
 -  Provincial Park
 -  Waterbody



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © King's Printer for Ontario, 2023.



Project Location: Timmins, Ontario
 Prepared by: awhite on 2024-09-09
 160930456 REVA

Client/Project: Canada Nickel Company (CNC)
 Crawford Nickel Project

Figure No.: **A.19**

Title: **Commercial Bait Fishing**

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 Revised: 2024-09-09 By: awhite