

Marten Falls First Nation

Project Description

Marten Falls All-Season Community Access Road

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Rev #	Date	Revised By:	Revision Description

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List of Acronyms and Abbreviations

CAR	Community Access Road
CEA Agency	Canadian Environmental Assessment Agency
CBLUP	Community Based Land Use Plan
CO ₂ e	Carbon dioxide equivalent
dBA	A-weighted decibels
EA	Environmental Assessment
ENDM	Ministry of Energy, Northern Development and Mines
ESA	<i>Endangered Species Act</i>
GHG	greenhouse gases
km	Kilometres
m	Metres
mm	Millimetres
MBCA	<i>Migratory Bird Convention Act, 1994</i>
MECP	Ministry of Environment, Conservation and Parks
MFFN	Marten Falls First Nation
MNRF	Ministry of Natural Resources and Forestry
MTCS	Ministry of Tourism, Culture and Sport
MTO	Ministry of Transportation
NoC	Notice of Commencement
NPA	<i>Navigation Protection Act</i>
ROW	right-of-way
SAR	Species at Risk
SARA	<i>Species at Risk Act</i>
ToR	Terms of Reference

1. General Information and Contacts

1.1 Project and Proposed Location

Marten Falls First Nation (MFFN; the Community) is a remote First Nation community in northern Ontario located at the junction of the Albany and Ogoki Rivers, approximately 430 kilometers (km) from Thunder Bay, Ontario. The Community is proposing an all-season Community Access Road (CAR; the Project) that will connect the Community to the Ontario's provincial highway network (Highway 643) to the south via the existing Painter Lake Road, which is maintained by Aroland First Nation. Four alternate routes are currently being considered in determining the most suitable location of the CAR and their connection to Painter Lake Road varies depending on their proposed alignment (**Figure 1-1**). Details regarding the alternative routes are provided in **Section 2.0**.

The community previously secured provincial funding to complete the 2011 MFFN Winter Road Realignment / All Weather Road Project, Feasibility Analysis and Business Plan Report (the "2011 Bill Lee's Report"). This report was used by MFFN to guide discussions with government and industry on community access. In 2016 the Ministry of Northern Development and Mines (now the Ministry of Energy, Northern Development and Mines (ENDM)) informed MFFN of their intention to support community research on options for connecting MFFN to the provincial transportation network through the development of an all-season CAR.

The Project has been a desire of the community for many years. The road construction and subsequent annual maintenance will provide reliable access, increase travel safety, reduce the price of food, fuel and supplies, and provide the community with future economic development opportunities.

The proposed Project includes construction, operation and maintenance of an all-season CAR consisting of:

- Approximately 140 to 250 km of two-lane gravel all-season road on a new right-of-way (ROW)
- Approximately 100 metres (m) wide of ROW cleared to a width of 60 m
- Proposed designed speed limit of 80 km/hour

1.2 Proponent Information

1.2.1 *Name of the Project*

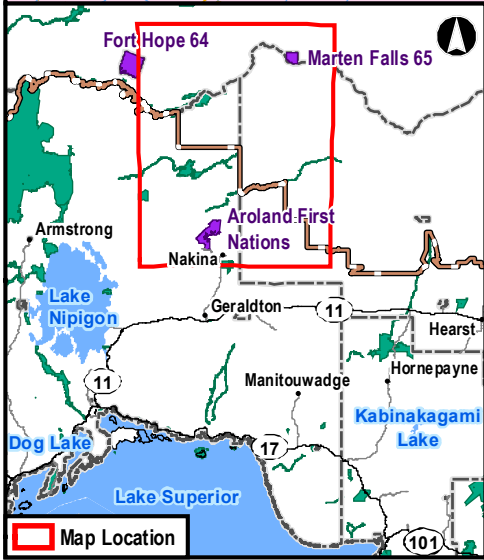
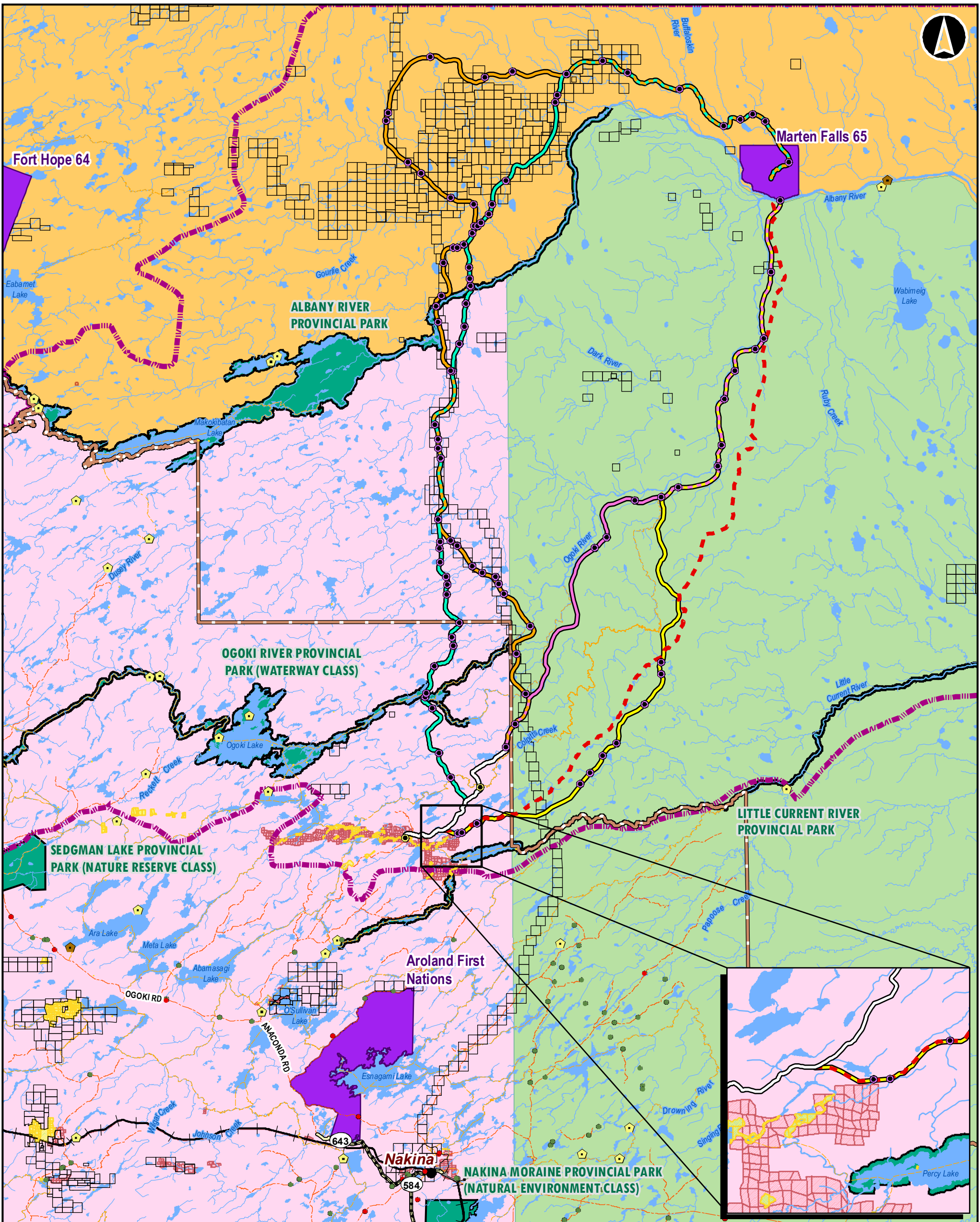
Marten Falls First Nation All-Season Community Access Road.

1.2.2 *Name of the Proponent*

Marten Falls First Nation, as represented by Chief and Council.

1.2.3 *Address of the Proponent*

General Delivery
Ogoki Post
Ontario, P0T 2L0



Legend

Route Alternatives	Existing Winter Access Road	Work Camp
Alternative 1	Painter Lake Road	Trapper Cabin
Alternative 2	Watercourse	Existing Aggregate Pit (Active)
Alternative 3	Far North Boundary	Existing Aggregate Pit (Inactive)
Alternative 4	Community Based Land Use Plan Area	Socio-economic Features
General Features	First Nation Reserve	District of Cochrane
Highway	Provincial Park	District of Kenora
Collector Road	Waterbody	District of Thunder Bay
Residential Road	Mining Claim	Patent Land
Resource Road	Non Freehold Disposition	Private
Trail	Proposed Water Crossing	Municipal Government
Railway	Existing Water Crossing	Other Provincial Government Agency
Hydro Line		

**Marten Falls First Nation
All Season Community Access Road
Project**

**Route Alternatives and Existing
Conditions**

0 5 10 20 30
Kilometres

Datum: NAD 1983 UTM Zone 16N

Jul, 2019	1:600,000 <small>*when printed 11"x17"</small>	Data Sources: MFFN, MNRF, NRCAN
P#: 60593122	Rev: 00	

AECOM **Figure 1-1**

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1.2.4 Principal Contact Person

Community Access Road main contact:

Qasim Saddique
 Project Director
 c/o Marten Falls First Nation
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 Email: info@martenfallsaccessroad.ca

1.3 Consultation

The Project concept has been under consideration and discussion within the Community and with provincial and federal agencies for several years. Since the mid 1990's, MFFN has received annual funding from the ENDM and Indigenous and Northern Affairs Canada to construct and maintain the existing winter road to MFFN. Through assistance from ENDM, MFFN began scoping and engagement sessions with other regulatory agencies (i.e. Ministry of Natural Resources and Forestry (MNR)), other Indigenous communities and stakeholders to explore options to connect the community of MFFN to the provincial transportation system (MFFN, 2017). ENDM also initiated regular inter-agency meetings to provide a venue for coordination between the agencies and MFFN. MFFN led early consultation efforts with a number of Indigenous communities and stakeholders including but not limited to: meetings with MFFN community members, industry, and with neighbouring Indigenous communities that may share traditional territories. Some of this early consultation was done through the planning activities related to the MFFN Community Based Land Use Plan (CBLUP) under the *Far North Act* on how areas under the *Act* might be developed.

In October 2018, MFFN requested advice from the Canadian Environmental Assessment Agency (CEA Agency) on which Indigenous communities they should engage in relation to the Project. On November 13, 2018, the CEA Agency recommended to MFFN, based on the best available information during early engagement and planning efforts, including information available from the Aboriginal and Treaty Rights Information System, that they undertake early engagement with the following communities (at minimum):

- Marten Falls First Nation
- Aroland First Nation
- Attawapiskat First Nation
- Constance Lake First Nation
- Eabametoong First Nation
- Fort Albany First Nation
- Ginoogaming First Nation
- Kashechewan First Nation
- Long Lake #58 First Nation
- Neskantaga First Nation
- Nibinamik First Nation
- Métis Nation of Ontario, Region 2
- Webequie First Nation
- Animbiigoo Zaagi'igan Anishinaabek

In 2018, meetings with some adjacent Indigenous communities were held to discuss the Project and how to work together. The adjacent Indigenous communities that have been met with include Aroland First Nation Chief, Staff and Advisors; Eabametoong First Nation Councillors and representatives, and Webequie First Nation representatives.

Additional information regarding consultation efforts undertaken to date and planned for future months are summarized in **Section 6** and **7** of this report.

MFFN has entered into a voluntary agreement with the Province of Ontario to prepare an Individual Environmental Assessment (EA) under the Ontario *Environmental Assessment Act*. The first step of the Individual EA process is to

prepare a Terms of Reference (ToR). A Consultation Plan has been developed to guide consultation with neighbouring Indigenous communities and other interested persons for the Project as a whole, including preparation of the ToR. MFFN is a community led by an elected Chief and Council. Chief and Council seek to carry out a “community-led” EA, and associated consultation process, meaning the community of MFFN will make decisions on the CAR under the leadership of MFFN Community Member Advisors, MFFN Chief and Council, and with support of technical advisors.

The community has formed a Project Team consisting of MFFN Members and Advisors to guide the Project through the EA process. The Project Team will act on behalf of the MFFN community based on guidance, direction and input from MFFN Chief and Council, MFFN Community Member Advisers and community members. The Project Team envisions two distinct roles for MFFN community members: 1) involvement in the community-led process as a proponent of the Project; and 2) an Indigenous community potentially affected by the Project. This community-led EA process will involve frequent and meaningful engagement of MFFN community members in decision-making, and will consider MFFN traditions, traditional knowledge and land use in a culturally appropriate manner throughout the development of the EA study. In planning for the proposed CAR, the consulting team will take guidance from, and work closely with, MFFN Community Advisers and MFFN Chief & Council, as well as the community in general.

The Consultation Plan for the Project has been prepared based on the following objectives:

- Encourage MFFN community members to attend community information sessions about the project to provide input and guidance on the proposed road.
- Comments, concerns and issues raised will be noted and addressed to integrate participation and feedback into the decision-making process.
- With leadership from MFFN, provide neighbouring Indigenous communities and interested persons with opportunities to learn about and understand the proposed Project, and identify potential effects.
- Review and gather feedback on the following:
 - Draft provincial ToR and federal Project Description
 - Feedback on alternatives and evaluation criteria
 - Key environmental components, study areas and environmental indicators to be considered in the assessment of mitigation and net effects for the Project solution
 - Consultation Plan for the future provincial EA study
 - Incorporation of Indigenous Knowledge in Project considerations
- Deliver Project updates in a timely and effective manner to interested persons and groups.
- Facilitate an understanding of both Indigenous Knowledge and Western science and engineering principles that form the basis of the EA process.
- Describe technical information in plain language and in a culturally sensitive manner.
- Encourage information sharing, the expression of concerns, and identification of potential effects early in the planning process.
- Facilitate opportunities for dialogue and conversations about the Project.
- Encourage participation of all age groups, from youth to Elders.
- Collaborate with Indigenous communities to customize communication plans to meet community needs as identified.

- Provide potentially affected Indigenous communities and stakeholders the opportunity to record their concerns, questions and opinions on potential effects and mitigation strategies, and their knowledge of the local environment.
- Demonstrate how feedback was considered and/or incorporated into decision making.

Various tools will be used as part of the consultation planning including, but not limited to, publications in local newspapers, newsletters, direct emails, and a Project website.

MFFN is committed to creating and sustaining constructive dialogue and relationships through consultation with neighbouring Indigenous communities, government agencies and regulators, the public, industry, non-government organizations, and local and regional stakeholders (herein collectively referred to as Indigenous communities and stakeholders) to support the environmental, social, and economic sustainability of the Project.

Stakeholders (public and agencies) potentially interested in or impacted by the Project (both directly and indirectly) will also be consulted. An initial stakeholder list has been prepared which will be updated and added to as the Project moves forward. It is anticipated that stakeholders may include individuals or groups that have an interest in the Project including but not limited to residents (e.g., residents of local communities); recreational users or those with recreational interest (e.g., hikers, campers, hunters, and environmental groups); and those with commercial interests (e.g., forestry, trappers, outfitters, other mineral tenure holders in the area). The general public will also be consulted through the website, advertised open houses, and publications with opportunities to provide feedback.

Further details on Project consultation are included in **Section 6** and **Section 7**.

1.4 Regulatory Requirements

1.4.1 Federal

The Project is listed as a designated project under the *Regulations Designating Physical Activities, SOR/2012-147, Canadian Environmental Assessment Act 2012, S.C. 2012, c. 19. s. 52* (CEAA 2012) as per:

- s. 25** *The construction, operation, decommissioning and abandonment of a new*
(c) all-season public highway that requires a total of 50 km or more of new right of way

This Project is completing a provincial EA as further discussed below in **Section 1.4.2**. At the time of this Project Description's submission to the CEA Agency, only the provincial EA process has formally commenced; therefore, reference to completion of activities under an EA described herein focus primarily on the activities being driven by the provincial process, but would be relevant to Federal interests in terms of potential effects, feedback from consultation and effects assessment methodology. Efforts pertaining to the federal EA process are specifically referenced.

1.4.2 Provincial

The Project is subject to review under the Ontario *Environmental Assessment Act*. On April 25 2018, MFFN signed an agreement with the Ministry of Environment, Conservation and Parks (MECP), thereby confirming an agreement to complete an Individual EA. The first step of an Individual EA process is to prepare a ToR. The ToR sets out the framework MFFN must follow during preparation of the Individual EA. The Draft ToR is planned to be submitted by MFFN to the MECP in summer 2019.

The provincial EA being prepared will include an evaluation of the four access road route alternatives and a comprehensive and cumulative impact assessment of the preferred route and design for the Project that addresses natural environment, cultural, socio-economic and technical considerations. The EA will be supported by field

studies and the engagement of Indigenous communities, the public, interest groups and government agencies. **Section 5.0** describes the effects assessment work that will be undertaken in the provincial EA to address the potential effects of the Project.

Should a federal EA be required for the Project, under the Canada-Ontario Agreement on Environmental Assessment Cooperation, projects that require review under both federal and provincial EA legislation may undergo a single, cooperative assessment, meeting the legal requirements of both federal and provincial governments. Sections 4(1)(c) and Section 86(1)(d) of *Canadian Environmental Assessment Act 2012* include provisions for cooperation and coordinated action between federal and provincial governments, with the goal of having one coordinated project review. The Minister may also establish additional conditions as a prerequisite to the approval of the coordinated EA process (Government of Canada 2018a).

1.4.3 Additional Regulatory Requirements

A preliminary list of federal and provincial legislation, and other jurisdictional permits and/or approvals applicable or potentially applicable to the Project are detailed in **Table 1-1** below.

Table 1-1. Applicable Federal, Provincial and Other Jurisdiction Legislation

Approval Authority	Permit / Approval / Authorization	Applicability to the Project
Provincial		
Ministry of Natural Resources and Forestry	Work Permit	<ul style="list-style-type: none"> ▪ Work Permit under the Public Lands Act, 1990 to authorize works on public lands and/or shore lands. Examples of works include geotechnical investigations, construction of roads and trails, and culverts/bridges. ▪ Consolidated Work Permit under the Lakes and Rivers Improvement Act, 1990, for work planned on shore land and within water bodies including work and burn authorization for clearing and burning of cleared vegetation.
	Land Use Permit	Land Use Permit under the <i>Public Lands Act, 1990</i> , for rights to Crown land for construction of the CAR, and for construction access, temporary laydown and spoil areas.
	Forest Resource Licence (Cutting Permit)	Forest Resource License (Cutting Permit) under the <i>Crown Forest Sustainability Act, 1994</i> to harvest and/or cut timber on Crown lands.
	Burning Permit (only required if a restricted fire zone is in place)	Burning Permit under the <i>Forest Fires Prevention Act, 1990</i> , to enable burning of materials from forest clearing, if required.
	Aggregate Permit	Aggregate Permit under the <i>Aggregate Resources Act, 1990</i> , to extract aggregate on all Crown Land and also on private land in areas the province designated (identified) in the regulations.
	CBLUP Approvals	A ToR for MFFN to prepare a CBLUP has been approved. The CBLUP is under development.
	Letter of Advice or Permit	Letter of Advice or Permit under <i>Endangered Species Act, 2007</i> (S.O. 2007, c.6) (ESA), if the Project affects a species that is listed on the Species at Risk (SAR) in Ontario List as an extirpated, endangered or threatened species.

Table 1-1. Applicable Federal, Provincial and Other Jurisdiction Legislation

Approval Authority	Permit / Approval / Authorization	Applicability to the Project
	Licence to Collect Fish for Scientific Purposes	Licence to Collect Fish for Scientific Purposes under the <i>Fish and Wildlife Conservation Act, 1997</i> , to facilitate capture and transfer of fish during in-water works, such as cofferdam construction or dewatering.
	Wildlife Scientific Collectors Permit	Wildlife Scientific Collectors Permit under the <i>Fish and Wildlife Conservation Act, 1997</i> , to facilitate capture and transfer of wildlife from one site to another.
	Approval under the <i>Fish and Wildlife Conservation Act, 1997</i>	Approval under the <i>Fish and Wildlife Conservation Act, 1997</i> will likely be required as it is expected that project activities such as clearing, grubbing, blasting, dewatering, and damming will result in the destruction of beaver dams, furbearer dens, black bear dens and/or bird nests and eggs.
	Permit/approval under the <i>Far North Act, 2010</i>	A significant portion of the proposed Project is located in Far North Ontario. Permits/approvals under the <i>Far North Act, 2010</i> may be required depending on the type of development and stage of completion of the CBLUP.
	Approval under <i>Lakes and Rivers Improvement Act, 1990</i>	Approval for water crossings, bridges, culverts and causeways.
	Approval and amendment under the <i>Provincial Parks and Conservation Reserves Act, 2006</i>	<ul style="list-style-type: none"> ▪ Approval to cross Provincial Parks as per the <i>Provincial Parks and Conservation Reserves Act, 2006</i>. ▪ Amendment to management direction for Provincial Parks and nature reserves under the <i>Provincial Parks and Conservation Reserves Act, 2006</i>. ▪ Authorization to conduct research in Ontario protected areas for works required within a Provincial Park from the Park Superintendent.
Ministry of the Environment, Conservation and Parks	Approval	Approval of this ToR and subsequent Individual EA under the <i>Ontario Environmental Assessment Act</i> .
	Environmental Compliance Approvals for wastewater, waste, air and noise (if temporary camps are required)	<p>Environmental Compliance Approvals under the <i>Environmental Protection Act, 1990</i>, for the following activities:</p> <ul style="list-style-type: none"> ▪ to transport waste by haulers from the Project work site; ▪ to enable emissions (e.g., air or noise) from on-site equipment; ▪ to facilitate stormwater management; and ▪ to facilitate temporary on-site sewage and water treatment facilities.
	Environmental Activity and Sector Registry or Permit to Take Water	<ul style="list-style-type: none"> ▪ Permit to Take Water under the <i>Ontario Water Resources Act, 1990</i>, if the construction of the proposed Project requires taking greater than 400,000 litres of water in a day from a lake, stream, river or groundwater source (e.g., dewatering); or ▪ Registration of the water taking activity in the Environmental Activity and Sector Registry, if the water taking is less than 400,000 litres and greater than 50,000 litres in a day from the sources identified above.

Table 1-1. Applicable Federal, Provincial and Other Jurisdiction Legislation

Approval Authority	Permit / Approval / Authorization	Applicability to the Project
	Approval	Approval under the <i>Health Protection and Promotion Act, 1990</i> , to facilitate provision of potable water, and on-site sewage treatment and disposal systems at temporary construction camp(s).
	Generator Registration	Generator Registration under <i>Ontario Regulation 347 of the Environmental Protection Act, 1990</i> , in the event Hazardous and Liquid Industrial Wastes are generated during the construction of the proposed Project.
	Permit, Letter of Advice or Project Registration	The <i>ESA, 2007</i> prohibits killing, harming, harassment, capture or taking a live member of a species that is Extirpated, Endangered, or Threatened in Ontario. This Act also requires that habitat be protected. Regulatory review or registration of the Project may be required where species with the above-noted designations occur.
Ministry of Transportation	Various Permits	Following permits may be required as per the <i>Public Transportation and Highway Improvement Act, 1990</i> : <ul style="list-style-type: none"> ▪ An Entrance Permit for proposed entrances onto provincial highways; ▪ An Encroachment Permit for any work within, under, or over a provincial highway ROW; ▪ A Sign Permit for all signage erected within 400 m of the limit of a provincial highway; and, ▪ A Land Use and Building Permit for construction occurring: <ul style="list-style-type: none"> ▪ within 45 m of the ROW limit of any provincial highway; ▪ within 180 m of the intersection of a side road and a "King's" highway; or ▪ within 395 m of a controlled access highway.
Ministry of Northern Development and Mines	Approval	Potential for the proposed Project to obtain Minister approval under the <i>Mining Act, 1990</i> for the withdraw from prospecting, mining claim registration, sale and lease of lands, mining rights or surface rights that are the property of the Crown.
Ministry of Tourism, Culture and Sport	Archaeological and Cultural Heritage Clearances	Archaeological Assessment(s) to be completed as part of the EA under the <i>Ontario Heritage Act, 1990</i> , and submitted to the Ontario Public Register of Archaeological Reports. Built Heritage and Cultural Heritage Landscape screening and, Heritage Impact Assessments, where required, submitted to the Ministry of Tourism Culture and Sport for review under the <i>Environmental Assessment Act</i> .
Ministry of Municipal Affairs and Housing	Letters of Conformity or Zoning Conformity Permits	Potential for the proposed Project to be located in unorganized territory. Letters of Conformity or Zoning Conformity Permits required for areas located in unorganized territories.
Ministry of Labour	Notice of Project	Filing of a notice of Project prior to construction under <i>Occupational Health and Safety At, 1990</i> .
Federal		
Canadian Environmental	Determination	CEA Agency to determine if the proposed Project will

Table 1-1. Applicable Federal, Provincial and Other Jurisdiction Legislation

Approval Authority	Permit / Approval / Authorization	Applicability to the Project
Assessment Agency (CEA Agency)		require a Federal EA under the <i>Canadian Environmental Assessment Act, 2012</i> since the CAR is a designated project under the Act.
Transport Canada	Authorization	The transportation of dangerous goods (as defined by the <i>Transportation of Dangerous Goods Act</i>). Regulations mandated to promote public safety when dangerous goods are being handled, offered for transport or transported by road, rail, air, or water. Currently not anticipated for the Project given the nature of the CAR's design and construction.
	Notice of Works / Approval	The <i>Navigation Protection Act (NPA)</i> protects the public right to navigation and requires approval by the Navigation Protection Program and the Minister for works that will substantially interfere with navigation. Work in a waterbody listed in Schedule 1 of the NPA requires submission of a Notice of Works for review. No waterbodies within the Study Area are listed in Schedule 1 of the NPA.
	Opt-in / Opt-out Request	Where there is proposed work in a waterbody that is not listed in Schedule 1 of the NPA, Projects that may interfere with navigation may submit a Notice of Works for Navigation Protection Program review for assurance that the Project is not likely to contravene the NPA. Certain minor or low-risk activities on non-scheduled waterbodies are pre-determined to be opted-out from Navigation Protection Program review.
Environment and Climate Change Canada	Permit	Permit under <i>Species at Risk Act (SARA), 2002</i> , if the proposed Project activities will occur on federal lands (including First Nations Reserve lands) and will destroy or remove a SAR listed under the <i>SARA, 2002</i> or its habitat.
Environment and Climate Change Canada – Canadian Wildlife Service	N/A	Canada's <i>Migratory Birds Convention Act, 1994 (MBCA)</i> is intended to protect migratory birds, their eggs and their nests. The MBCA prohibits the possession, destruction and harm of migratory birds and / or their nests and prohibits the release of harmful substances in waters or areas frequented by migratory birds. The MBCA does not provide an avenue for a permit or authorization to contravene the Act (i.e., harm or destruction of an individual or active nest) for purposes other than human health and safety. However, technical guidance and direction is available and should be implemented to avoid harm or destruction of individuals and nests protected under the MBCA.
Fisheries and Oceans Canada	Authorization	Authorization under Section 35 of the <i>Fisheries Act, 1985</i> for any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support

Table 1-1. Applicable Federal, Provincial and Other Jurisdiction Legislation

Approval Authority	Permit / Approval / Authorization	Applicability to the Project
		such a fishery. Serious harm to fish is the death of fish or any permanent alteration to, or destruction of, fish habitat.
	Permit or Letter of Advice	Permit or Letter of Advice under the <i>SARA, 2002</i> , to authorize an activity affecting a species listed under Schedule 1 of the <i>SARA</i> , if it is on federal lands or if an activity is not on federal lands and will affect an aquatic species listed under Schedule 1 of the <i>SARA, 2002</i> .
	Leases or crossing agreements	Leases or crossing agreements for roads, railways, or canals under the <i>Federal Real Property and Federal Immovables Act, 1991</i> .
Indigenous and Northern Affairs Canada	Land Use Permit	Land use permit or equivalent under Section 28(2) of the <i>Indian Act, 1985</i> to use federal lands (i.e., to allow the crossing of First Nation reserves).
Natural Resources Canada	Permit	Permit under the <i>Explosives Act, 1985</i> for the use, storage or transportation of explosives.
Other		
Hydro One Networks Inc.	Permit to cross Hydro One transmission lines	Permit to cross existing transmission lines, if required.
Local Municipalities	Various Permits	<ul style="list-style-type: none"> ▪ Building Permit per the <i>Building Code Act, 1992</i>. ▪ Permit to Injure or Remove Trees (woodlands/woodlots), as applicable based on municipal bylaws. ▪ Noise Bylaw exemptions, as applicable, based on proposed work and municipal bylaws. ▪ Conformance with local land use policy and zoning (e.g., Official Plan amendments and Site Plan Control Approval in accordance with the <i>Planning Act, 1990</i>). ▪ Permits for open-air burning and fires, as applicable.
Canadian National (CN) Railway	Clearance Letter	Clearance Letter for crossing of CN rail line, if required.
Mining Claim and Crown Interest Holders	Consent	Consent from existing claim holders under the <i>Mining Act, 1990</i> .
Thunder Bay District Health Unit	Notice of Camp Opening under the <i>Health and Promotion Act, 1990</i>	Notice of Camp Opening under the <i>Health and Promotion Act, 1990</i>
	Permit for sewage holding tank under the <i>Building Code Act, 1992</i> .	Permit for sewage holding tank at construction camps under the <i>Building Code Act, 1992</i> .
Other Utility Companies	Permit to cross other utilities	Permit to cross other utilities (e.g., existing pipelines, fibre optics).

1.5 Environmental Studies and Regional Planning

No regional studies (cumulative effects studies at a regional scale), as defined under Section 74 of *Canadian Environmental Assessment Act 2012*, have been or are currently being conducted in the Project area.

The following past studies were completed and have been considered as part of this Project's development:

- Winter Road Realignment Study (Neegan Burnside Ltd. 2009)
- 2011 MFFN Winter Road Realignment/All Weather Road Project, Feasibility Analysis and Business Plan Report (W. L. Lees & Associates Ltd. and Marten Falls Logistics-LP. 2011), commonly referred to as the *2011 Bill Lees Report*
- 2011-2012 MFFN Winter Road Realignment (KBM Resources Group n.d.)
- 2011-2013 Industrial North-South Proposed Road Corridor, Cliffs Chromite Project EA, Technical Supporting Document, Project Alternatives Assessment (Cliffs 2013)
- MFFN Community Based Land Use Plan (CBLUP) Terms of Reference (MFFN and MNR 2013) and ongoing planning
- 2017 MFFN All-Season Community Access Road – Project Proposal (MFFN 2017)

These reports have provided historical Project development information, a general understanding of the Project region and a basis for many of the sections within this document. No other federal EA reports were used by the Project team other than the Cliffs Chromite Project EA; information was used in the preparation of this Project Description.

Much of the Project is expected to occur on lands regulated under the *Far North Act, 2010, S.O. 2010, c. 18*. The *Far North Act* is the legislative foundation of land use planning in the Far North of Ontario (Government of Ontario 2014). The purpose of the Act is to provide for CBLUPs in the Far North. The entire length of the road corridor is expected to occur in an area covered by the Marten Falls CBLUP which has not yet been finalized. Portions of the CBLUP may consider areas set aside for protection and other areas for economic development opportunities. The CBLUP team is in support of the Project (MFFN 2017).

In preparation for the provincial EA to be prepared for the Project, a number of environmental baseline and effects assessments have commenced and are outlined in **Section 5**.

2. Project Information

2.1 Project Overview

The proposed Project includes the construction, operation and maintenance of a two-lane gravel all-season CAR. The MFFN community is currently accessible year-round by air and a seasonal winter road. The MFFN community typically receives between 2.5 and 3.0 tonnes of supplies per capita annually. The winter road system provides for vehicular access to the community but it has been determined to be insufficient for community and other transportation needs primarily due to the limited reliability of open winter road access. In addition, MFFN must establish the winter road each year and the yearly establishment of the winter road requires authorizations and permits from the MNRF.

Since the mid-1990s, MFFN has received provincial and federal funding to maintain 140 km of winter road to MFFN. The period of useful and safe availability of a winter road system is dependent on weather. The winter road system to the MFFN community is typically operational about six to eight weeks annually between the months of February and March. With winters increasingly becoming warmer, the use of the winter roads has reduced the period of safe travel, including restrictions at night.

In 2011, MNRF approved the construction of an upgraded winter road from Nakina to Marten Falls to provide more reliable access, reduce the cost of transporting supplies, increase safety of winter road travel and to provide the community with economic opportunities associated with the Ring of Fire. The Ring of Fire is a remote area of northwestern Ontario, which is considered to be an area of significant mineralization and potential large mineral reserve in Ontario (KBM Resources Group 2014). The development of these deposits could offer considerable employment opportunities and other benefits to MFFN and neighbouring Indigenous communities, including those that are part of the Matawa First Nation communities (W. L. Lees & Associates Ltd, & Campbell 2011). Currently, no all-season ground access exists to these claims or claims of interest north of the CAR study corridors. Should a future road project connect the CAR to the Ring of Fire, the CAR could also be used as an industry supply road.

The use of a winter road system has led to a number of travel and environmental concerns:

- Operational issues associated with terrain constraints (i.e., land that is rocky, uneven, steep, muskeg, temporary watercourse crossings) and a short period for safe operational use.
- Potential for environmental impacts due to, but not limited to, fuel spills, equipment use in challenging conditions and watercourse crossings.
- Speed and safety concerns associated with narrow, winding roads with sharp curves and watercourse crossings.

As a result of a shortened winter season, the community has had to become more reliant on air transportation of the goods needed to sustain community life. This has led to an increase in cost to ship goods and materials, food and fuel to the community. Interests and concerns of the community have identified a strong desire for improved all-season community access. The Project is community-driven and this has been a vision and a desire of the community for many years.

The Project will provide reliable all-season road access between the MFFN community and the provincial highway network in the south, near Painter Lake. Alternative routes are currently being considered in determining the location of the all-season road. The routes vary between 140 km and 250 km in length, with each route encompassing a 5 km wide corridor in which a specific alignment will be developed. Improvements to Painter Lake

Road, south of the CAR and connecting to the provincial highway network (Highway 643) are being undertaken by Aroland First Nation. Improvements to Painter Lake Road are not required for the proposed CAR to be constructed. To MFFN's knowledge, Aroland are in the early planning discussions with the Province with respect to funding improvements and the required Provincial EA process for their initiatives.

MFFN is overseeing the planning and implementation of the undertaking to provide reliable access, increase travel safety, reduce the price of food, fuel and supplies, and provide the community with future economic development opportunities. The construction and subsequent annual maintenance will also provide opportunities for MFFN to develop equipment, operations and project management skills that would be transferable to other community and industrial projects in the region.

2.2 Project Components

The Project is independent and not a component of a larger project.

Project engineering is currently at the conceptual level. Project components are anticipated to include:

- Between 140 and 250 km of all-season gravel road, depending on preferred route
- Approximately 15 to 50 bridge installations for river and stream crossings
- Culverts for water flow connectivity and balance levels
- Borrow areas
- Temporary access roads and construction of temporary crossings
- Temporary work areas and camps

Project component details will be revised based on the results of the ongoing engineering design, environmental studies, and consultation. The MNRF has provided recommended practices for the construction of access roads on Crown Land in their publication *Environmental Guidelines for Access Roads and Water Crossings*.

The following sections provide additional information on the main Project components.

Road:

The CAR will be built within a 100 m ROW cleared to a width of 60 m. Vehicles anticipated to use the CAR include personal vehicles (e.g., cars, vans, small trucks, motorcycles), and commercial vehicles including larger trucks up to the CAR's legal limits on weight and size. Vehicle size dimensions and classifications can vary on type; however, the Transportation Association of Canada (TAC 2017) provides guidelines and vehicle manufacturers are subject to provincial, national and international regulations. Vehicle weights are regulated by the Province of Ontario (*Ontario Highway Traffic Act* 1990). The number of anticipated vehicles to use the CAR is not known at this time. The CAR will be designed using an Annual Average Daily Traffic amount of less than 300 and in accordance with the Ministry of Transportation's (MTO's) Highway Classification, Design Speed, Geometric Design Standards Manual for Ontario Highways (MTO 1985) and the Canadian Highway Bridge Design Codes (Canadian Standards Association 2014). The primary use of the CAR is to service the community of MFFN. The predominate building materials will be blasted rockfill and composite excavation material capped with granular surface material. The majority of blasted rockfill will be obtained from rock outcrops within and/or adjacent to the ROW. The road will be designed and built to approximately 1 m to 1.5 m above the original ground elevation. The cross section will have a 10 m top width and recoverable side slopes of 4:1.

Borrow Areas:

Rock quarries and borrow areas will be developed to provide crushed rock and granular materials for the construction of the road and temporary access roads. Rock required for the construction of the CAR, temporary roads, and staging areas is expected to come from quarry sites adjacent to the proposed CAR's four alternative routes (Refer to **Figure 1-1** and **Figure 3-1**). Temporary access roads will be established to connect the various Project components as required, and will be limited in length to the extent feasible. The total area for quarries and borrow materials will be contingent upon the final route selection and quality of quarries and borrow areas identified; however, given the existing resources available, none of the borrow areas are anticipated to be of size and volume thresholds regulated by Section 16 (g) and Section 17 (g) of the federal *Regulations Designating Physical Activities* (CEAA, 2012). Final route selection and associated borrow materials required will be determined during the EA process, including potential effects evaluation and consultation.

Bridges and Culverts

Bridges will be required over the various waterways to provide grade separation with sizes ranging from single span to multi-span bridges. Crossing structures will range from one metre in diameter (small culverts) up to 350 m for longer, multi-span bridges (refer to **Figure 1-1** for proposed and existing crossings). They will be designed to carry two lanes of traffic with appropriate shoulder widths. The foundation support for the bridge abutments are expected to consist of steel H-piles with concrete cast-in-place caps driven to refusal.

Equalization culverts will be installed at locations where it is determined that spring-melt or storm run-off needs to pass from one side of the CAR to the other to prevent flooding and/or erosion damage. The purpose of equalization culverts is to maintain the existing surface water drainage patterns in the area. Culverts will be put in place as construction progresses along the alignment.

Culverts will range from small diameter corrugated steel pipes for overland water drainage to large concrete box or steel arch culverts for smaller waterways.

Ancillary Infrastructure:

Temporary access roads may be required to access the road ROW. Their location and size will be verified upon further site analysis and road engineering design. The purpose of the temporary access roads would be to facilitate emergency access to the site, provide access for equipment and personnel, and provide access from the quarries and borrow sites to the construction site of the road itself. These roads will be developed within the CAR ROW, with the exception of those required for access to the quarries and borrow sites.

The temporary access roads will be cleared, but not grubbed, and will be approximately 10 m wide, to accommodate equipment movement.

Specific mitigation measures, such as erosion protection and sediment control, will be incorporated into the Contractor's tender documents to minimize long-term disturbances to any areas outside of the ROW.

Upon completion of the construction of the CAR, the temporary access roads will either be decommissioned or blocked.

Temporary construction staging areas will be established at various locations along the proposed ROW to support crews, to park construction vehicles, and to store equipment, construction materials and supplies.

The specific mitigation measures set out in the EA will be incorporated into the Contractor's tender documents to minimize long-term disturbances to any areas outside of the ROW.

2.3 Project Activities

The proposed Project will be executed in three main stages. Their estimated schedule, subject to pending regulatory approval, is provided:

1. Planning and Design (2018-2021)
2. Construction (2021-2031)
3. Operation and Maintenance (2031+)

Currently, there are no plans for decommissioning the CAR should it be constructed. Decommissioning of temporary components that are no longer required, once construction of the CAR is complete, will occur as a part of the construction phase of the Project. These temporary components include: access roads, quarries, borrow areas, and construction staging areas not required to maintain the CAR once it is built.

Should decommissioning activities eventually be considered for some or all Project components, decommissioning will be planned and conducted in accordance with the relevant standards and regulatory requirements in effect at that time. If decommissioning activities are required, a detailed review of the potential environmental effects and mitigation measures will be conducted.

Portions and components of the existing winter road that are already in place may be incorporated into the CAR. It is expected that the existing winter road will no longer be maintained once the CAR is commissioned and it will be allowed to revegetate naturally.

2.3.1 Planning and Design

Planning and design of the proposed CAR has involved identifying four alternative route options. Alternative route options are being examined (initial screening) as part of the early Project engagement activities with federal and provincial regulators, neighbouring Indigenous communities and the EA process. A preliminary road design is to be developed. A formal detailed design process is expected to begin once the Project has received regulatory approval and additional funding has been secured.

The planning process includes the development of a Consultation Plan with a MFFN community-led approach in mind, and to allow specifically for communication and consultation with neighbouring communities. Feedback from members of MFFN, neighboring communities, other stakeholders and the public will be gathered and incorporated through a variety of methods, including the federal EA process and publication of this Project Description. The preliminary design process is occurring concurrently with the EA process and is to include surveying, and geotechnical investigations and baseline environmental investigations.

Commencing in 2018, it is anticipated that this phase of the Project will be approximately three to five years.

2.3.2 Construction

A detailed construction schedule will be prepared as part of the Project application process and will take into consideration potential environmental constraints including work to avoid sensitive timing windows and minimize Project effects on breeding birds, including migratory birds, and other wildlife species.

Although construction activity details will be developed as part of Project feasibility study, the establishment of quarries and borrow areas, temporary access roads and temporary construction staging areas will be required during the construction stage. All construction supplies will be transported to the Project site along the temporary

access roads and stored at the temporary construction staging areas. Once these preliminary site preparation activities have been completed, the proposed CAR, bridges and culvert crossings will then be constructed.

It is anticipated that the construction will be undertaken in several phases starting from the south near Painter Lake and working northward towards Marten Falls. Key construction activities will include: clearing and grubbing, construction of temporary roads and staging areas, erection of construction work camps, development of quarries and borrow areas, construction of the CAR, bridges and culverts, decommissioning of temporary works and demobilization activities once construction is complete.

It is anticipated that this phase of the Project will be approximately five to ten years. Variability of timing is to accommodate a variety of construction methods that could be employed dependant on weather conditions, the routing circumstances and funding. Construction will partially overlap with Planning and Design. The majority of construction activities will occur during non-frozen conditions.

Clearing and Grubbing

Clearing and grubbing involves removing and disposing of trees, shrubs, fallen timber and other surface refuse. Vegetation clearing will be required for both temporary and permanent Project components. Clearing will be undertaken by local clearing crews using hydro-axes, dozers and power saws where required. Merchantable timber will be stacked along the ROW and made available for the communities and/or piled/burned and buried within the ROW. Organic materials stripped from the surface will be stockpiled and/or graded on the backslopes within the ROW. Where required, stumps and roots will be grubbed out and separated from the soil and buried. Non-salvageable material such as brush, roots, and limbs will be piled and burned or buried.

After clearing and grubbing of the ROW is complete, the subgrade will be graded and prepared for the road embankment which will be predominately comprised of rock fill or composite material. Ditching and drainage excavation will be undertaken using best practices for fire mitigation and erosion control measures.

To minimize environmental effects as a result of accidental spills or leaks from clearing equipment, petroleum products to be used at the site will be stored in double-walled tanks in accordance with the National Fire Code of Canada, Storage and Handling of Petroleum Products and Allied Products Regulation. Sanitary and solid waste will be collected and transported to licensed or approved waste disposal and treatment facilities.

Constructing the CAR and Ancillary Components

Construction activities will begin with the clearing and grubbing of temporary construction staging areas including construction work camps. Temporary access roads will be built to access borrow and quarry sites. The rock quarries will be cleared, grubbed, drilled and blasted. The actual locations of the borrow and quarry areas are being developed as a stand-alone aggregate report under the preliminary engineering scope of the Project.

The CAR ROW will be cleared, grubbed and rock outcrops will be blasted as required. Organic materials will be stripped, stockpiled and used along the road back slopes. Materials, including rock fill, aggregate and composite material will be loaded, hauled, dumped, spread, graded, compacted, trimmed, and shaped before final surfacing with gravel. A geotextile fabric will be placed in wet areas to improve the integrity of the CAR. Roadway signs will be installed, sedimentation control measures will be implemented, and disturbed areas will be prepared for re-vegetation or will be seeded, as required. If drill cuttings are produced, they will be captured, treated and disposed of in an environmentally responsible manner as per **Table 1-1** regulations.

The subgrade for culvert foundations will be excavated, prepared, and compacted to design grade-line. Given the nature of the terrain and high potential to encounter wetlands, dewatering may be required as part of construction activities. If required, dewatering activities will adhere to applicable regulations, as outlined in **Table 1-1**. Any dewatering activities and discharge will be captured, treated and disposed of in an environmentally responsible manner. A geotextile will be installed and a suitable bedding material (sand or culvert gravel), will be placed and

compacted to provide uniform support prior to installing the culverts. The culverts will be assembled, placed to the design grade and alignment and backfilled in compacted lifts. Culverts will be designed in accordance with provincial standards and federal fish passage requirements.

It is anticipated that embankment construction activities will be undertaken for most of the year including during the winter.

During construction, the Contractor will be responsible for maintaining the temporary access roads, quarries and other related elements of construction activities.

Decommissioning and Demobilizing from the Project Site

Construction equipment and vehicles will be demobilized once construction is complete. Work areas including temporary access roads, staging areas and construction work camps that are no longer required, will be decommissioned. The quarry and borrow areas used during construction will be reclaimed if they are deemed to be completed. Some rock quarries and borrow areas may remain for future use in maintenance. The temporary access roads will be levelled and trimmed. Aggregate materials from these access roads will be salvaged and stockpiled in the appropriate areas for further crushing, if needed, and re-used as future maintenance material. Borrow pits will be excavated as uniformly as possible and will be levelled and trimmed when excavation is complete. Disturbed areas will be restored by spreading stockpiled topsoil and seeding and/or planting as required.

2.3.3 Operation and Maintenance

Maintenance activities will occur throughout operation of the CAR. These include: routine grading; topping the road with additional gravel; managing vegetation; and cleaning out culverts, when required. In winter, snow clearing activities will be carried out using ploughs, graders, loaders, and dump trucks. Dust suppression will be applied to road surfaces during the summer months, if required. Dust suppression activities and materials will be in accordance with provincial standards. Materials used will be applied as specified by the manufacturer, and only where necessary. Aggregate materials will be sourced from the existing borrow areas and rock quarries previously developed during construction, or new aggregate sources will be located on provincial Crown Land. Aggregate materials will be deposited on the road surface using dump trucks, dozers, and graders.

2.4 Construction Vehicles and Equipment

It is expected that the following pieces of equipment will be used on site during construction:

- Crushing Spreads
- Hauling Trucks
- Excavators
- Loaders
- Dozers
- Graders
- Packers
- Water Trucks
- Backhoes
- Half Tons
- Fuel tanks

2.5 Emissions, Discharges and Wastes

2.5.1 Atmospheric Contaminant Emissions

During construction activities, atmospheric emissions including greenhouse gases (GHG) will be created and released into the surrounding environment from on-site construction vehicles, equipment, machinery and activities

to be used in the proposed Project. These contaminants will include sulphur dioxide, nitrous oxides, carbon dioxide, particulate matter and volatile organic compounds.

Fugitive dust emissions can result from movement of construction equipment and transport of materials to and from the construction site. Fugitive dust can be a problem during non-winter months when dry, windy conditions occur during construction activities.

Construction activities that may impact local air quality include, but are not limited to:

- Clearing and grubbing
- Potential burning brush piles from clearing of ROW
- Grading and rock blasting
- Road surfacing with gravel
- Storage of granular material
- Increased activity at local pits and quarries to provide construction material
- Mobile on-site equipment

Temporary construction camps will likely be established to provide dormitories, washroom facilities and mess hall access for workers during the construction phase. Generators will be required for electricity and their operation will result in the creation of combustion emissions which will temporarily impact air quality in the local area.

During the operation phase, an increase in vehicular traffic would be expected to impact local air quality due to the year-round access to the MFFN community. The impact would be due to increased vehicle traffic and associated emissions, elevated road dust generation and from road maintenance activities. However, emissions related to air traffic are expected to decrease with the implementation of the CAR.

2.5.2 Liquid Discharges

The Project will not involve processing streams or liquid discharges. During construction, there is the possibility of accidental leaks or spills from construction equipment. In preparation for construction, a Spill Management Plan will be developed to mitigate and manage accidental releases.

2.5.3 Waste Management and Disposal

Waste management and disposal for the Project will be done in accordance with Ontario's *Environmental Protection Act, 1990*.

The Project's ROW clearing will involve removal of timber and grubbing. Usable timber will be segregated and collected for reuse. Unusable timber and material will be collected and burned at designated sites.

Domestic waste generated during construction will be collected in appropriate on-site containment material and disposed of at approved waste facilities. The closest waste management site to the Project is to the immediate southwest of the intersection of Anaconda and Ogoki Road, approximately 11 km northwest of Aroland First Nation.

Petroleum wastes produced during construction (e.g., oils, greases) will be properly collected, stored, managed and disposed or recycled at an approved licensed disposal facility. General Registration under *Ontario Regulation 347* of the *Environmental Act, 1990* will be adhered to with respect to hazardous waste and liquid waste management.

3. Project Location

3.1 Location Description

MFFN is currently assessing alternative routes for the Project. The community of MFFN proposed these routes based on years of studies and consultation (refer to **Section 1.5** for the list of reports). The routes lie primarily above the Far North Boundary and to the south of MFFN. The *Far North Act* is the legislative foundation of land use planning in the Far North of Ontario. Far North land use planning is about working with Indigenous communities to identify where development can occur and where land is dedicated to protection in the Far North, which covers 42% of Ontario's land mass (Government of Ontario 2012). The Project is located about 430 km to the northeast of Thunder Bay, Ontario. The Project is located to the east of Eabametoong and to the north of Aroland First Nation reserves.

Alternative routes were previously identified by MFFN in consultation with provincial and federal agencies and documented in the 2017 *Preferred Route Selection and Preliminary Environmental Work Project Proposal* report (MFFN 2017). Development of these routes considered information from a number of historical studies that included helicopter reconnaissance, aerial photogrammetry and satellite imagery methods (W. L. Lees & Associates, & Campbell 2011), as well as consultation with the MFFN community in March 2017. Using this information, four alternative routes were identified. Each of the proposed four alternative routes is based on desktop information located within a 5 km wide corridor. A detailed investigation of the corridors is ongoing to determine the best location of a CAR that could be constructed once a preferred route is selected. The locations of the alternative routes were identified in consideration of the following criteria:

- Avoid areas of muskeg and bog deposits
- >200 m from the Ogoki River and >1 km from the Albany River, except for watercourse crossing location
- Minimize the number and size of watercourse crossings
- Maximize high ground location
- Shortest length to the community

Additional community consultation and outreach on these four alternatives was undertaken following submission of the 2017 Project Proposal, as described in **Section 6.1**. Field investigations were undertaken to further characterize the existing environment and consultation occurred to seek input on values and features of importance to the community. Routing adjustments were made to the alternative routes identified in the 2017 Project Proposal (MFFN 2017) based on comments received, Indigenous Knowledge of the area, and in consideration of dedicated protected areas identified through CBLUP development. Portions of Alternatives 1 and 4 were re-routed to avoid environmental and socio-economic features, while other portions were removed completely as route options for the Project.

The location of the four alternative routes reflecting consultation done to date are shown on **Figure 1-1**.

3.2 Coordinates

In NAD83 Z16, the northern termini for alternative routes are as follows:

For Alternatives 1 and 4:

- Latitude: 574681.80
- Longitude: 5723215.91

For Alternative 2 and 3:

- Latitude: 576206.39
- Longitude: 5719849.49

The southern termini for the alternative routes are as follows:

For Alternative 1:

- Latitude: 534678.23
- Longitude: 5637105.56

For Alternative 2:

- Latitude: 531015.10
- Longitude: 5629053.78

For Alternative 3:

- Latitude: 520436.89
- Longitude: 5615429.55

For Alternative 4:

- Latitude: 524222.23
- Longitude: 5620309.87

3.3 Site Maps/Plans

The four Project alternative routes, reflecting consultation done to date, are illustrated in **Figure 1-1**. The figures provide an overview of the major water course crossings and waterbodies, existing winter road access, existing aggregates available for use, First Nation reserve lands, federal lands, existing infrastructure (e.g. road and power), land use planning areas, and proximity to any known or publicly available information on seasonal or temporary residences. Temporary access roads will be defined in future months upon further site analysis and detailed engineering design. Site photographs are not available at this time.

3.3.1 Use of Traditional Lands for Development

First Nations Reserves

The four Project's alternative routes occur primarily on provincial Crown land outside of the MFFN boundaries and are part of the ancestral, historical and traditional lands of the First Nations in the area (MFFN 2017). A maximum of 5% of the CAR is to be located on MFFN Reserve land with 47.27 hectares potentially intersected for route Alternatives 1 and 4 or 0.42 hectares potentially intersected for route Alternatives 2 and 3.

Traditional Use Areas

Traditional and cultural understanding among First Nations is that shared land use and wide spread travel by First Nation people was customary. This Project falls within the traditional territory of MFFN. Based on available maps (presented in Community ToRs for the CBLUP activities undertaken outside of this Project) and information provided as a result of Project consultation activities to date, the traditional territory of Aroland First Nation exists to the south of the Project, Eabematoong First Nation (Fort Hope) to the west, and Constance Lake First Nation to the east. Land use, if applicable and as indicated by these high-level public maps will be confirmed with the Indigenous Communities during the EA process.

Traditional lands and potential Project-related impacts to those traditional lands of neighbouring Indigenous communities, including those identified by early engagement activities by both the Province and the CEA Agency (refer to **Section 1.0** and **Section 6.0**), will be confirmed and considered as part of the future EA process. Indigenous communities typically do not publicly publish maps that specifically identify their traditional territory, other than the CBLUP maps noted. Additional details on the Consultation Plan for the Project and incorporation of traditional lands are presented in **Section 6.0**.

Common land use activities include resource harvesting that are protected under Indigenous Rights and Treaty Rights under Section 35 of the *Constitution Act* (Government of Canada, 1982b). Common harvesting activities undertaken by Indigenous communities, based on initial consultation efforts feedback, in the area of the Project include: hunting, fishing, and gathering. Presence and location of known, publicly available trapline areas are presented in **Figure 3-1**. These activities may take place throughout the year and are not bound by the provincial harvest seasons and regulations. Ecologically important areas such as moose calving areas or fish spawning areas are important to traditional land and resource use due their role in producing the harvested resources. These harvested resources are also utilized for cultural practices.

Transportation pathways and features may be utilized to support traditional use of the land. Trails and paths within the area of the Project may be used to access hunting, trapping, fishing and gathering areas by Indigenous community members within and beyond the area of the Project. Trails may be accessed on foot, using all-terrain vehicles, trucks or snowmobiles depending on the physical characteristics of the trail. In addition, waterways are used as linear access features to travel between harvest areas and other communities. The Albany River is an important waterway within the area of the Project due to its frequent use by MFFN.

3.4 Land and Water Use

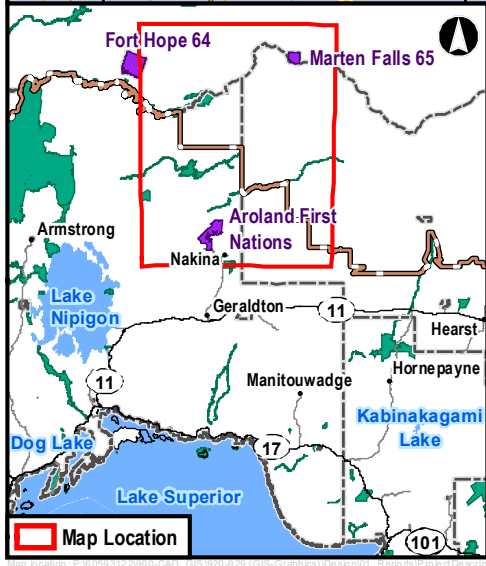
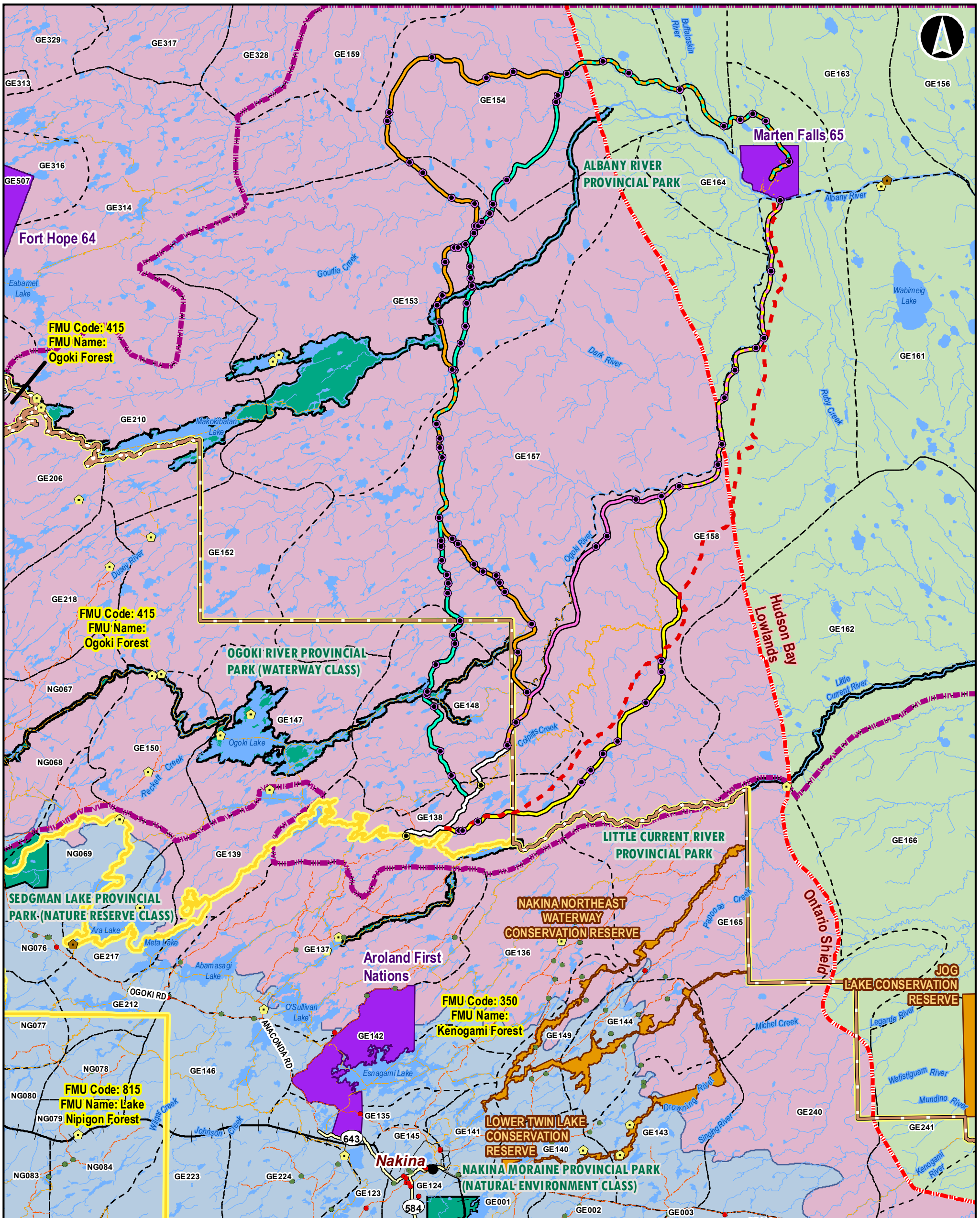
The MNRF Crown Land Use Policy indicates that the western routes are located in Ecoregion 2W and comprised mainly of upland boreal forest as it transitions to Ecoregion 2E towards the eastern routes (see **Figure 3-1**), which is predominantly lowland forest and extensive lowlands (MFFN 2017).

The entire Project lies within unorganized territory of Ontario and within the three districts (**Figure 1-1**) of Cochrane, Kenora and Thunder Bay. The majority of the Project is on Unpatented Crown Land. A small southern portion of route Alternative 3 intersects with private land and Crown Land Non Freehold Disposition (MLO 13448). Mining claims that overlap the Project are identified in **Figure 1-1**. Withdrawal Orders for surface and mining rights,

requested by the MNR, were signed by the Ministry of Northern Development and Mines (now ENDM) in 2012 (to support a transportation corridor) and in 2018 (to support the MFFN CBLUP). These Orders withdraw the land from prospecting, staking out, sale or lease. Where the Project is proposed to cross any mining claims, consent to dispose of the surface rights by the claim holder will be required through submission of the Consent to the Disposition of Surface Rights to Ministry of Northern Development and Mines (now ENDM) for each occurrence.

Within the four Project alternative routes, most land is used for resource harvesting and tourism. Major economic activities near the Project include forestry and mining exploration. The land traversed by the Project routes is largely undisturbed.

The Albany River Provincial Park and Ogoki River Provincial Park are crossed by two of the alternative routes as shown in **Figure 3-1**. Provincial Parks are regulated under the *Provincial Parks and Conservation Reserves Act, 2006, S.O. 2006, c. 12* which provides the framework for the creation, removal and alteration of Provincial Parks. The Albany River Provincial Park is a waterway class park with important fish harvesting and wilderness canoeing operations (Golder Associates Ltd. 2018).



Legend

Route Alternatives

- Alternative 1 (Orange line)
- Alternative 2 (Purple line)
- Alternative 3 (Yellow line)
- Alternative 4 (Green line)

General Features

- Highway
- Collector Road
- Residential Road
- Resource Road
- Trail
- Railway
- Painter Lake Road
- Watercourse
- Trapline Area
- Ecozone Boundary
- Conservation Reserve
- Forest Management Unit
- First Nation Reserve
- Far North Boundary
- Provincial Park
- Waterbody

Proposed Water Crossing

- Proposed Water Crossing (Purple circle with dot)
- Existing Water Crossing (Yellow circle with dot)

Other Features

- Work Camp (Yellow house icon)
- Trapper Cabin (Yellow house icon)
- Existing Aggregate Pit (Active) (Red dot)
- Existing Aggregate Pit (Inactive) (Green dot)

Ecoregion Name

- Big Trout Lake (Pink shape)
- James Bay (Green shape)
- Lake Nipigon (Blue shape)

**Marten Falls First Nation
All Season Community Access Road
Project**

Project Regional Area

0 5 10 20 30
Kilometres

Datum: NAD 1983 UTM Zone 16N

Jul, 2019	1:600,000 *when printed 11"x17"
P#:60593122	Rev:00

AECOM **Figure 3-1**

Contains information licensed under the Open Government Licence Ontario. This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that modifies this drawing without AECOM's express written consent.

The Ontario Parks Planning Management Policies (1992 Update) aims to protect the natural, cultural and recreational values for which provincial parks are regulated (Golder Associates Ltd. 2018). Transection of a provincial park has the potential to alter these values.

Two forestry management units may overlap the Project: Ogoki Forest and Kenogami Forest (see **Figure 3-1**). Forest management units are a geographic planning area setting boundaries for wood harvesting under a Sustainable Forest License (Government of Ontario 2013a).

Resource harvesting is a common practice for Indigenous and non-Indigenous peoples in the region. Common resource harvesting practices in northern Ontario include fishing, gathering, hunting and trapping. Ontario regulates these activities under the *Fish and Wildlife Conservation Act, 1997, S.O. 1997, c. 41*. The Act outlines restrictions on hunting and fishing, presents licensing and safety requirement and defines permitted methods. However, this provincial legislation does not affect Indigenous rights regarding these activities considering the existing aboriginal and treaty rights of the aboriginal peoples of Canada are recognized and affirmed in Section 35 of the *Constitution Act, 1982*. Access for these activities is available through boat launches and float planes access. Recreational fishing and hunting are popular activities in northern Ontario drawing in tourists and local harvesters. Common target species for locals and tourists include moose, deer, black bear, pike, walleye, bass, trout and muskie (Golder Associates Ltd. 2018).

Additional non-consumptive tourism also occurs in the region including hiking, canoeing and snowmobiling. These activities rely on waterways and trails. Formal Ontario Federation of Snowmobile Club snowmobile trails are not within the Project alternative routes but snowmobiling still likely takes place within the region (Ontario Federation of Snowmobile Clubs 2019). The Project likely transects a variety of trails and waterways used for recreation and tourism in the region. The Albany River Provincial Park is also identified as used for recreation activities in the region (Golder Associates Ltd. 2018).

The Project is within Ministry of Tourism, Culture and Sport (MTCS) Tourism Region 13c where \$108 million was spent in 2013 on pleasure tourism (MTCS 2017). Tourism in the region is generally resource based with outfitting as the primary tourism activity with 661,000 tourists identifying participating in an outdoor activity as the main purpose of their trip (MTCS 2017). Most of these tourists come from within Ontario. Outfitting involves hunting, fishing or canoeing in remote locations with or without a guide. These tourist activities rely on remote settings and wilderness settings to attract clients. The Albany River is an important tourism feature in the region with canoeing, hunting and fishing opportunities available through guided outfitting services (KBM Resources Group 2014; Golder Associates Ltd. 2018). Ten tourism operators have been identified as potentially operating within the Project alternative routes.

3.4.1 Designated Protected Areas and Protected Areas Initiative

The closest federal protected area to the Project is the Lake Superior National Marine Conservation Area, located in Nipigon, Ontario. The Lake Superior National Marine Conservation Area is approximately 210 km from route Alternative 3 at its closest point.

Provincial Parks and other conservation and management areas in the Project region are illustrated in **Figure 3-1**. The Albany River Provincial Waterway Park is located to the west of MFFN, along the Albany River, and lies within the Project alternative routes. The Ogoki River Provincial Park is located to the south west of MFFN and lies within the Project alternative routes. The Little Current River Provincial Park is located to the south of the existing winter access road and the proposed Project. The Park is along the Little Current River and Percy Lake, which the winter access road was moved from as the Park was developed (MFFN 2017). Agencies (e.g. MECP) responsible for Provincial parks and other conservation and management areas will be consulted throughout the Project to share ongoing updates and any relevant Project materials for their review.

4. Federal Involvement

4.1 Financial Support

In 2016, both ENDM and Indigenous and Northern Affairs Canada confirmed financial support for the planning and regulatory permitting of the Project (MFFN 2017). There is currently no confirmed Federal financial support for construction of the Project, only provincial funding; however, there is the potential for MFFN to secure federal funding in the future.

4.2 Federal Land

The Project will be located predominantly on provincial Crown land. If a portion(s) of the Project components or activities are required on federal land (e.g., First Nation reserve land), those components and/or activities may be subject to a separate federal environmental review outside of this Project Description and CEA Agency-lead review process that will be verified in discussion with MFFN, and Indigenous and Northern Affairs Canada (now Indigenous Services Canada and Crown Indigenous Relations and Northern Affairs Canada).

For the various alternative routes that are being considered to determine the preferred route, a maximum of 5% of CAR would be required to be located on MFFN Reserve land.

4.3 Regulatory Requirements

The Project will be subject to applicable municipal, provincial and federal requirements as outlined in **Table 1-1**.

5. Environmental Description

5.1 Biophysical Setting

The Project alternative routes span the Big Trout Lake Ecozone within both the Ontario Shield Ecozone and the James Bay Ecozone within the Hudson Bay Lowlands Ecozone. The Ontario Shield Ecozone is characterized largely by forest, followed by treed bogs and fens, open water, and other wetlands. There is an abundance of black spruce and fire plays an important ecological role in the ecozone. In contrast, the Hudson Bay Lowlands Ecozone forms the core of the third largest wetland in the world. This area is characterized largely by treed bogs and fens, followed by forest, other wetlands, and open water. Given the abundance of wet organic substrates and a cool humid climate in this Ecozone, fire plays a less significant role in this area, compared to the other.

The community of MFFN is located in northern temperature zones characterized by short warm summers and long cold winters. Air quality and noise levels are affected primarily by natural sources (such as wind, forest cover and occasional forest fires) and to a much lesser extent, by limited development in the general area.

The general area of the proposed Project route alternatives is dominated by wetlands (i.e., bogs, fens, swamps and marshes) of the Albany River watershed and several of its sub watersheds. Surface water moves generally in a north direction, towards James Bay. The Albany and Ogoki River systems have both been altered from their original state because of hydroelectric development activity in the region between 1943 and 1950 respectively (MFFN 2017).

The fish community composition and use of these waterbodies will vary because of factors such as availability of suitable habitat (spawning, overwintering, rearing, and feeding) and connectivity to other waterbodies. Over 20 species of fish, primarily of cool and cold-water thermal regimes, are known to inhabit the waters in the area and are part of, or support, a commercial, recreational, or Indigenous fishery.

The Project alternative routes provide suitable habitat for a variety of small and large mammals, as well as various amphibians, reptiles, birds and insects that are found in the Boreal Forest. The area is characterized by: i) open and treed wetlands dominated by species such as black spruce, mosses and shrubs and ii) upland terrestrial habitat comprised of mixed forests with species such as jack pine, white spruce, and several poplar species. These areas also host wildlife species of conservation concern.

Common potential effects of the proposed undertaking within federal lands on the natural environment might include disturbance to wildlife, habitat fragmentation or habitat loss, and wildlife-vehicle collisions. The potential effect of the undertaking on the environment will be addressed through a comprehensive and cumulative effects assessment of the preferred alternative route. The EA will be supported by field studies and the engagement of Indigenous communities, the public, interest groups and government agencies. The following sections describe the effects assessment work that will be undertaken in the EA to address the potential effects of the Project.

5.1.1 Atmospheric Environment

For the purpose of this document, atmospheric environment includes climate and air quality.

The community of MFFN is in northern temperature zones characterized by short warm summers and long cold winters, with average temperatures ranging from 16 degrees Celsius during summer to -20 degrees Celsius in winter. Average precipitation in the winter ranges from 200 to 250 millimetres (mm) and 450 mm in the summer

(MFFN n.d.). The nearest Environment Canada weather station is in Geraldton, ON, approximately 200 km away. Climate normals at this station include data from 1981 to 2010. Temperatures ranged from -1.4 degrees Celsius to -25.1 degrees Celsius during the winter with precipitation ranging from 23.8 mm to 38.0 mm (Government of Canada 2018c).

Existing air quality conditions are determined by both regional and local source influences. Regional air quality is affected mainly by a combination of long-range pollutant transport and meteorological conditions. With the exception of emissions related to traffic at MFFN, local air quality influences are similar to regional influences.

Ambient air quality monitoring within the Project alternative routes will provide the concentrations of select air pollutants, with the most accurate results from on-site monitoring.

Provincial MECP air quality standards, Ambient Air Quality Criteria and Canadian Ambient Air Quality Standards provide acceptable values for air pollutants both federally and provincially based on health and other risk assessments. The measured air pollutant levels will be assessed using these values to determine potential existing air quality issues.

The GHG emissions from the Project will be estimated and compared to the provincial, national and industry profile GHG emissions, in accordance with the CEA Agency guidance.

Potential Project Effects on Atmospheric Environment

Construction and operation of the CAR has the potential to affect local air quality. Effects to the atmospheric environment from construction would be temporary and result from emissions of combustion products such as nitrogen oxides and carbon monoxide, and suspended particulate from the operation of machinery and equipment. Emissions from construction would be highly localized to the area of work during the specific time-frames planned for each section of highway development.

Following construction, the operation of the new roadway would contribute to changes in the local air quality from the likely increase in vehicular traffic volume (i.e., all-season availability compared to current use of winter road only) and likely reduction in air traffic volume as a result of the all-season road access. Vehicular exhaust emissions consist primarily of nitrogen oxides, carbon monoxide, sulphur dioxides, suspended particulates, and volatile organic compounds as well as GHG emissions. The regeneration of suspended particulates from vehicle movement along the gravel roadway would also contribute to local air quality. In general, the impacts from vehicular traffic emissions are localized to an approximate 500 m boundary on either side of a roadway.

For the preferred alternative route, the impact of the Project on climate change will be addressed through the quantification of Project GHGs to assess the relative contribution to available provincial and federal GHG emissions inventories. For the construction phase, the primary source of GHG emissions will be construction equipment and for the operations phase the primary source of GHG emissions will be the vehicles travelling on the CAR. The potential for displacement of non-road traffic (e.g., air) will be qualitatively assessed for the operations phase. The potential impact of land use changes on GHG emissions as a result of the Project will be assessed.

An initial high level estimate of GHG emissions from the construction and operation phases of the Project has been completed and assumed the following sources of emissions: loss of ground cover (e.g., wetlands), loss of forest sequestration, vehicular traffic for the operation phase only, and construction and land clearing equipment for the construction phase only. Estimated annual construction emissions are between 20,500 tonnes carbon dioxide equivalent (CO₂e) and 35,500 tonnes CO₂e, based on a minimum road length of 140 km and a maximum road length of 250 km, respectively. The construction of the CAR is estimated to take between five and ten years, and annual construction emissions were conservatively estimated based upon five years of construction. Total annual operation emissions are estimated to be between 2,800 tonnes CO₂e and 5,000 tonnes CO₂e. This high-level assessment of operation emissions was performed with an assumed Annual Average Daily Traffic amount of 300,

which is a design basis for the CAR. The detailed EA GHG assessment will include further refinement of these numbers as well as consideration of additional sources and sinks within the Project boundary.

The EA will also undertake a climate change risk assessment of the preferred route. An EA would consider current and predicted future conditions that will feed into a climate change risk assessment of the preferred route.

5.1.2 Acoustic Environment

Noise sources in the area of the Project are ambient, natural noises of wildlife present in the forest and vegetated areas which surround the Project. A majority of the lands are traditionally used for hunting, fishing, trapping and canoeing. Industrial and transportation noise sources are limited or not located within the Project area. There is no commercial forestry or large industrial activities within much of the area surrounding the Project. The Ogoki and Kenogami forests include active commercial forestry operations, but these activities are located at considerable distance from MFFN. Current access to the area is limited and transportation activities likely have little influence on existing ambient sound levels.

The expected natural baseline ambient sound levels in the regional Project area are not expected to exceed the MECP noise guideline of 40 A-weighted decibels (dBA) sound level limit for outdoor locations in rural areas (Government of Ontario 2013b) or the Alberta Utilities Commission noise guidelines assumed ambient sound level of 35 dBA for rural areas (Alberta Utilities Commission 2017). Based on this information, existing ambient sound levels of 30 to 40 dBA may be expected in the Project area and are mainly due to wildlife and other natural sources (e.g. rustling vegetation).

Potential Project Effects on Acoustic Environment

Project construction activities, including equipment and machinery use, have the potential to cause temporary noise and vibration effects at sensitive receptors. These effects are not anticipated to be long-term due to temporary nature of construction activities. However, once constructed, the CAR will provide a route for the transportation of people and supplies, and potentially industrial, forestry and mining sectors as well. Therefore, the CAR may accommodate a range of heavy and light vehicle types. These types of vehicles do not typically generate significant vibration levels, and it is expected that the CAR has a low potential for producing vibration effects. Given the rural nature of the area surrounding the Project, it is expected that ambient sound levels will be low and that traffic along the CAR has the potential to cause a perceptible change in the acoustic environment at nearby sensitive receptors.

5.1.3 Physiography, Geology, Terrain and Soils

The Project alternative routes lie within the Hudson Bay Lowlands physiographic region, which is characterized by low lying, poorly drained terrain dominated by muskeg and bog. The thickness and distribution of unconsolidated (Quaternary) sediments are the result of extensive glacial activity which took place during the Great Ice Age (Pleistocene Epoch). This period was marked by the advance and retreat of massive, continental ice sheets. During the latter part of the Pleistocene (Late Wisconsinan Substage), the ice mass advanced, depositing till ground moraine. As the ice sheet stagnated, major sand and gravel deposits were laid down, including eskers and ice-contact deposits. Post-glacial erosional and depositional processes have been of relatively minor importance in modifying the physiography of the area (Ontario Geological Survey 1984). Glacial features such as eskers, moraines, drumlins and kame deposits are commonly found along the Project alternative routes.

The community of MFFN is underlain by organic deposits (peat, muck and marl). MECP water well records near the community of MFFN suggest that sand and gravel fluvial deposits range from 6 m to over 40 m in thickness. The surficial overburden geology across northern and eastern portions of the Project alternative routes away from the community of MFFN is mainly comprised of organic deposits (peat, muck and marl) with isolated occurrences of undifferentiated till. The till in the area is characterized as a matrix of sand to silty sand that is commonly high in

clasts and low total matrix carbonate content. Instances of this till material also are identified within the southwest and southern portions of the Project alternative routes.

A second, finer-grained undifferentiated till also is described as occurring along the western and southern portions of the Project alternative routes. This till material is comprised of a matrix of silty clay to silt that is typically clast poor and high in matrix carbonate content. The till occurs as a discontinuous veneer atop the bedrock surface, with instances of exposed rock occurring frequently throughout the area.

East of Albany River Provincial Park limited occurrences of glaciofluvial ice-contact deposits are reported in association with the present-day alignment of the Albany River and its tributary. These deposits are typically coarser-grained, comprising gravel and sand with minor till.

In the southwestern component of the Project alternative routes, instances of glaciolacustrine deposits are noted; being representative of nearshore and beach deposits. Given their higher energy depositional processes, the deposits are coarser-grained, comprising sand, gravelly sand and gravel.

Under the Canadian System of Soil Classification, where topsoil is present, Podzolic and Brunisolic soils are the dominant types within the Project alternative routes. Podzolic soils are acidic with a B horizon containing accumulations of amorphous materials composed of humified organic matter associated with aluminum and iron. They develop most commonly in sandy materials in areas of cold, humid climate under forest or shrub vegetation. Water moving downward through the relatively porous material leaches out basic elements (e.g., calcium), and acidic conditions develop. Soluble organic substances formed by decomposition of the forest litter attack soil minerals in surface horizons, and much of the iron and aluminum released combines with this organic material. Brunisolic soils include soils that do not quite meet the criteria of the other forested soil orders. Brunisolic soils can be viewed as a stage in an evolutionary sequence that begins with an unweathered parent material (Regosolic soils) and ends with development of a mature forested soil of the Podzolic or Luvisolic orders (Agriculture and Agri-Food Canada 1998).

Bedrock geology around the community of MFFN and along the northeastern portion of the Project alternative routes is comprised of Upper Ordovician aged shale, limestone, dolostone and/or siltstone of the Red Head Rapids Formation and Churchill River Group. Comparatively, the central, western and southern portions of the Project alternative routes are underlain by various bedrock types of Proterozoic and Archean age. Rock types within this area include mafic/ultramafic to intermediate metavolcanic rocks, metasedimentary rocks, foliated tonalite, gneissic tonalite, and massive granodiorite to granite. Mafic, ultramafic and related intrusive rocks (diabase dikes) of the Mackenzie swarm, Marathon swarm, Matachewan and Hearst swarms also are reported within the area (ENDM 2017a; ENDM 2017b).

Potential Project Effects on Physiology, Geology, Terrain and Soils

Potential effects of road construction include changes to topography due to cut and fill for grading, blasting of bedrock and removal of overburden needed for the CAR, construction access roads and structures foundations. Aggregate is likely to be sourced locally, which will create pits and quarries (depressions where materials have been extracted) in the area of the Project. Changes to topography as a result of the Project may cause indirect effects, such as changes to surface water drainage and minor alterations of sub-catchment areas.

Blasting may result in areas of slope instability. Where unstable rock structures are encountered, design modifications (e.g., minor refinements to the route) may be implemented to minimize potential effects from erosion, settlement, slope instability, foundation failure or rock fall hazards that could occur as a result of construction. Changes in soil quality and quantity may occur during construction due to increased potential for erosion, sedimentation, mixing and compaction resulting from vegetation clearing, excavation, use of heavy equipment and stockpiling of cleared materials. Changes in soil quality may also occur due to accidental release of contaminants during construction from the use of equipment and machinery (e.g., use of chemicals, explosives and fuel,

equipment washing) and from vehicles during operation of the CAR (e.g., leaks and spills from road users). Maintenance activities during operations of a roadway do not typically involve the use, storage or handling of large quantities of potential contaminants other than equipment fuels/lubricants.

5.1.4 Vegetation

As described in **Section 5.1**, the Project alternative routes span Ecoregion 2W (Big Trout Lake Ecoregion) within the Ontario Shield Ecozone and Ecoregion 2E (James Bay Ecoregion) within the Hudson Bay Lowlands Ecozone.

The Ontario Shield Ecozone largely consists of conifer-dominated boreal forests (Crins *et al.* 2009). Ecoregion 2W is characterized largely by forest (63.6%), followed by treed bogs and fens (14.5%) open water (13%), other wetlands (7.5%) and the remaining 1.3% is classified as other (Watkins 2011). More specifically, within Ecoregion 2W, there is an abundance of black spruce (*Picea mariana*) on both upland and lowland sites. Black spruce is often associated with jack pine (*Pinus banksiana*) and white birch (*Betula papyrifera*) in upland sites. Mixed stands of black spruce, balsam fir (*Abies balsamea*) and poplar (*Populus sp.*) are typically present along the shores of lakes and rivers. In lowland areas, fens and bogs with mosses, shrubs and graminoids are predominant (Crins *et al.* 2009). It should also be noted that fire plays an important role within Ecoregion 2W as large amount of forests in the ecoregion are considered recent burns (Watkins 2011).

The Hudson Bay Lowlands Ecozone is northernmost within Ontario's and forms the core of the third largest wetland in the world (Crins *et al.* 2009). Ecoregion 2E is characterized largely by treed bogs and fens (43.3%), followed by forest (25.5%), other wetlands (25.3%), open water (5.6%) and the remaining 0.4% is classified as other (Watkins 2011). More specifically, Ecoregion 2E is comprised of stands of stunted black spruce and tamarack (*Larix laricina*) along with scattered fens and bogs. On well-drained soils and along the edges of streams and rivers, developed stands of coniferous and mixed wood forests are present (Crins *et al.*, 2009). Given the abundance of wet organic substrates and a cool humid climate, fire plays a less significant role in Ecoregion 2E compared to Ecoregion 2W (Crins *et al.* 2009).

A review of the Natural Heritage Information Centre *Make-a-Map* (MNR 2019) database resulted in the record of one rare plant, the Northern marsh violet (*Viola epipsila*), occurring within the Project alternative routes. No records of provincially or federally-designated terrestrial vegetation SAR occurrences have been identified within the Project area.

Potential Project Effects on Vegetation

Potential effects on vegetation and ecological communities resulting from the construction phase of the Project include changes to community diversity (including community loss), changes to wetland quantity and function, and changes to species diversity.

Activities related to the construction, such as vegetation clearing, stockpiling of materials, laydown areas, and excavation could result in the removal and degradation of vegetation, including forested and wetland areas. Direct (i.e., permanent vegetation removal) and indirect (e.g., changes to vegetation from erosion and sedimentation, surface water, groundwater and accidental release of contaminants) disturbances have the potential to change the form and function of the vegetation communities. This potential for effects as a result of accidental release of contaminants is highest during construction, but remains during the operational phase (e.g. spills from vehicle collisions and rollovers) and maintenance (e.g., application of dust or ice management products). The potential effects resulting from ongoing erosion and sedimentation as noted above may continue through the operational phase and during maintenance activities (i.e. road improvements and repairs as well as winter maintenance / sanding). Fragmentation of vegetation communities may also occur as a result of the construction of temporary and permanent components of the Project.

Dust resulting from construction activities and ongoing vehicle use during operational or maintenance of the gravel CAR may damage plants primarily through physical effects such as cell destruction and blocked stomata (Spellerberg 1998). Dust accumulation on plants may also affect photosynthesis, respiration and transpiration, which are important processes required for plant survival (Farmer 1993).

Spread of invasive plant species could occur because of vegetation clearing and introduction of invasive seeds on equipment during the construction phase as well as equipment required for ongoing maintenance and repairs. Increase in travel and vehicles while the road is operational also may increase the potential for invasive plant species to be introduced.

5.1.5 Groundwater

The exposed bedrock of the Canadian Shield, which extends across much of Central and Northern Ontario, typically is moderately to highly fractured within the upper 10 m to 20 m (Sykes *et al.* 2009), resulting in the bedrock commonly being considered an aquifer unit. Within the Project alternative routes, the pattern of fractures in the bedrock aquifer will allow for the movement of groundwater; however, this secondary permeability generally decreases with depth (Sykes *et al.* 2009).

Within the community of MFFN, sand and gravel fluvial deposits associated with the Albany River locally exceed 40 m in thickness (MECP Water Well Record #16003369) and are targeted for both domestic and public water supplies within the community. Groundwater resources within the upper bedrock, being identified as limestone on local well records, also are targeted by public well supplies within the community.

Topographic lows, such as river valleys, will have local effects on the rate and direction of groundwater movement. Groundwater flowpaths frequently bend into river valleys and isolated topographic depressions, such as the Albany River and Ogoki River, as well as numerous other higher order watercourses, water bodies (i.e. lakes, ponds, etc.), and deeper bedrock hollows and valleys within topographic lowlands. Given its remote location, groundwater use within the Project alternative routes is expected to be minimal.

Potential Project Effects on Groundwater

Construction activities such as dewatering, water use, and the creation of impervious surfaces have the potential to result in effects to groundwater. Where dewatering occurs, there may be a temporary lowering of the local water table. A lowering of the water table may result in changes in groundwater quantity, which could decrease baseflow to watercourses, groundwater discharge to wetlands and groundwater flow patterns. These effects are typically confined to the zone of influence from dewatering activities and are temporary in nature. In addition, any private water wells located within the dewatering zone of influence may be temporarily affected by lower well yields and/or changes in water quality.

Blasting of bedrock that might be required to support construction of the Project also has the potential to change groundwater quantity. In rare cases, vibrations from blasting in bedrock can alter the fracture geometry, open new fractures, change the aperture of existing fractures, or permanently change local groundwater flow patterns. Groundwater quality may also be affected through agitation of subsurface conditions and the potential release of fine particulate and/or soluble substances. In the event a groundwater supply well is located within the area where ground vibration results from blasting activities occurs, groundwater supply wells may become physically damaged and result in a reduction in well yield and/or water quality.

Construction dewatering has the potential to change groundwater quality in areas of substantial groundwater recharge through the release of contaminated construction dewatering discharge. When not mitigated effectively, groundwater discharges may also result in erosion and deposition of soils along the discharge path, elevated suspended solids and potential release of contaminants to receiving waterbodies. Groundwater quality may also be affected by leaks and accidental releases of contaminants during construction and operations.

5.1.6 Surface Water

The Project is located within the Hudson Bay Plains and Boreal Shield Ecozones, including areas of transition between the two (Natural Resources Canada 2019) and the James Bay drainage basin. Surface water moves generally in a north-easterly direction, towards James Bay.

The Project lies within two main watersheds: i) the Upper Albany – Makokibatan and ii) the Lower Ogoki. The primary watercourses within the respective watersheds are the Albany River and the Ogoki River. The confluence of these two rivers is located near the community of MFFN. The Albany River is tied for the longest river in Ontario at 982 km long and ultimately discharges into James Bay. The Albany and Ogoki River systems have both been altered from their original state because of hydroelectric development activity in the region (MFFN 2017). The following table summarizes the approximate number of large (i.e. requiring a bridge construction) and small (i.e. may require a bridge or culvert) crossings (MFFN, 2017). The Project does not intersect any known watercourses or waterbodies regulated under the *NPA*.

Table 5-1. Number of Large and Small Crossings

Description	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Number of large crossings	7	2	1	7
Number of smaller crossings	38	13	19	40
Total approximate number of crossings	45	15	20	47

In addition to the Ogoki and Albany Rivers, numerous streams and rivers of various stream orders, large and small lakes, ponds and wetlands are prevalent throughout the Project alternative routes, notably Calbert Creek, Colpitts Creek, Gourlie Creek, Wabassi River, Buffaloskin River and their tributaries (Natural Resources Canada 2019; **Figure 1-1**). As the land in the area generally falls from west to east there are fewer tributary streams east of the Ogoki River.

The general area of the Project is dominated by wetlands (i.e. bogs, fens, swamps and marshes) of the Albany River watershed and several of its sub-watersheds. The Hudson Bay Lowlands Ecozone is the northernmost ecozone in Ontario and forms the core of the third largest wetland in the world (Crins *et al.* 2009), where over 68% of its land cover consists of fens, bogs or wetlands. Comparatively, approximately 22% of the land cover in the Ontario Shield Ecozone consists of treed bogs and fens and wetlands (Watkins 2011). There are no provincially significant or other designated wetlands within the Project alternative routes. Refer to **Figure 5-1**.

Potential Project Effects on Surface Water

Construction and operation of the Project will require permanent infrastructure crossings of watercourses along the CAR and temporarily crossings along construction access roads. Watercourse crossings may include bridges, culverts, fords, corduroy, swamp mats, ice and snow crossings, which may result in changes to surface water quality and quantity. It is expected that effects to surface water would be primarily related to sediment and erosion, and potential introduction of contaminants from accidental releases. Changes to surface water quality and quantity can cause indirect effects to other environmental components (e.g., fish and fish habitat, wetlands).

Activities during construction, such as vegetation clearing, grading, excavation, equipment and machinery use, and stockpiling of materials may result in sedimentation into nearby waterbodies due to the creation of exposed and unstable soils. Erosion into surface water may result in changes to concentrations of sediment, baseflows and water temperatures. These activities may also affect surface water quality through the introduction of contaminants from blasting activities and equipment used during construction, and from maintenance activities (e.g., salt and sand application) and accidental releases from vehicles during the operation of the CAR.

Placement of stockpiles, soil compaction and impervious surfaces may change surface drainage patterns as well, which may result in effects to surface water quantity and quality. The placement of temporary and permanent structures in watercourses has the potential to change stream dynamics and morphology, and cause erosion and sediment issues.

5.1.7 Fish and Fish Habitat

The general area of the Project includes a multitude of aquatic features throughout a landscape dominated by wetlands (i.e. bogs, fens, swamps and marshes) of the Albany River watershed and several of its sub-watersheds.

Numerous streams and rivers, large and small lakes, ponds and wetlands provide habitat for a variety of fishes and wildlife that are prevalent throughout the study area, notably the Ogoki River, Calbert Creek, Colpitts Creek, Dusey River, Gourlie Creek, Wabassi River, Buffaloskin River and their tributaries (Natural Resources Canada 2019). The fish use of these waterbodies will vary as a result of factors such as availability of suitable habitat (spawning, overwintering, rearing, and feeding) and connectivity to other waterbodies.

Over 20 species of fish, primarily of cool and cold-water thermal regimes, are known to inhabit these waters and are part of, or support, a commercial, recreational, or Aboriginal fishery. Species including Northern Pike (*Esox Lucius*), Walleye (*Sander vitreus*), Lake Whitefish (*Coregonus clupeaformis*), Brook Trout (*Salvelinus fontinalis*), Yellow Perch (*Perca flavescens*), Cisco (*Coregonus artedii*) and Burbot (*Lota lota*) are target species of the communities inhabiting the region and by local and fly-in charter angling and hunting tourist outfitters. In addition to those species listed above, these fishes have the potential to occur within the Project area where suitable habitat is present (Eakins 2018):

- Northern Redbelly Dace (*Chrosomus eos*)
- Finescale Dace (*Chrosomus neogaeus*)
- Lake Chub (*Couesiius plumbeus*)
- Common Shiner (*Luxilus cornutus*)
- Northern Pearl Dace (*Margariscus nachtriebi*)
- Emerald Shiner (*Notropis atherinoides*)
- Blacknose Shiner (*Notropis heterodon*)
- Spottail Shiner (*Notropis hudsonius*)
- Mimic Shiner (*Notropis volucellus*)
- Bluntnose Minnow (*Pimephales notatus*)
- Fathead Minnow (*Pimephales promelas*)
- Longnose Sucker (*Catostomus catostomus*)
- White Sucker (*Catostomus commersonii*)
- Silver Redhorse (*Moxostoma anisurum*)
- Shorthead Redhorse (*Moxostoma macrolepidotum*)
- Trout-perch (*Percopsis omiscomaycus*)
- Brook Stickleback (*Culaea inconstans*)
- Ninespine Stickleback (*Pungitius pungitius*)

- Mottled Sculpin (*Cottus bairdii*)
- Slimy Sculpin (*Cottus cognatus*)
- Iowa Darter (*Etheostoma exile*)
- Johnny Darter (*Etheostoma nigrum*)
- Logperch (*Percina caprodes*)

All are common and widespread throughout Ontario.

The Project falls within the range of the Southern Hudson Bay-James Bay population of Lake Sturgeon (*Acipenser fulvescens*), and Lake Sturgeon is known to occur in the Albany River and its tributaries (Committee on the Status of Endangered Wildlife in Canada 2017). The Southern Hudson Bay-James Bay populations are designated as Special Concern under the provincial ESA and hold no status under Schedule 1 of the Federal SARA. Therefore, despite differing designations and protection requirements of other populations in Ontario, the South Hudson Bay-James Bay populations of Lake Sturgeon are not afforded protection under these Acts.

Potential Project Effects on Fish and Fish Habitat

Project-related effects on surface water quality and quantity may have consequential effects on fish and fish habitat (**Section 5.1.6.1**). Deposition of sediment in a waterbody can result in the loss of or alteration to habitat, alteration to baseflows or water temperatures, disruption of fish life processes or fish and egg mortality. No impacts are anticipated on marine plants, as defined by the *Fisheries Act, 1985*.

The construction of temporary (e.g., temporary bridges, cofferdams fords, corduroy, swamp mats, culverts, ice and snow crossings) and permanent (e.g., bridges, culverts) water crossings and structures, and blasting as required, have the potential to result in adverse effects to both fish and their habitat (i.e. water quality, flow, aquatic vegetation, riparian vegetation, substrate, debris, etc.). The potential effects associated with placement of structures in water includes disruption of life processes such as migration and spawning (fish passage) issues, fish mortality due to equipment and machinery, changes in water quality (e.g., as a result of accidental release of contaminants, loss of vegetation, etc.), and the degradation, alteration or loss of (destruction) fish habitat and function. A negative alteration or degradation is generally considered to be any alteration to fish habitat that diminishes the ability of fish to use such habitat for one or more of their life processes (Fisheries and Oceans Canada 2012). This negative effect could therefore result from a variety of activities and stressors, such as changes to composition and abundance of aquatic vegetation, substrate and cover. The potential for these effects is higher during construction phase but remains during operations, maintenance and repairs as well. Ongoing erosion and sediment deposition and release of contaminants from spills, vehicle collisions, winter maintenance, etc. may negatively alter water quality, or change physical habitat features (such as loss of aquatic vegetation or changes to substrate composition). To mitigate potential adverse effects on fish and fish habitat, waterbody crossings and culvert installations will be designed and installed in accordance with applicable federal and provincial guidelines and standards to avoid serious harm to fish that are part of a commercial, recreational or Indigenous fishery, or to fish that support such a fishery.

Blasting near waterbodies may cause the release of blast residues, particles at high velocity, instant and significant pressure changes and exposed soils. This may result in fish and egg mortality and degradation, alteration or loss of habitat such as loss of aquatic vegetation, alteration to substrate, changes to water quality and flow.

The CAR will provide year-round access to the Far North, which is likely to increase access to waterbodies for recreational use. This has the potential to result in an increase in angling pressure to fish populations, higher risk of the introduction of invasive aquatic species, parasites and disease, and the accidental release of contaminants to waterbodies.

5.1.8 Wildlife

The general area of the Project provides suitable habitat for a variety of small and large mammals, as well as various reptiles, birds and insects that are found in the Boreal Forest. As described in **Section 5.1.4**, the area is characterized by open and treed wetlands dominated by species such as black spruce, sphagnum, mosses and shrubs (MFFN 2017). Upland terrestrial vegetation communities are comprised of mixed forests with species such as jack pine, white spruce, white pine, and poplar species (MFFN 2017). The range of habitats within the Project area support the requirements for a wide range of wildlife species, such as black bear, moose, woodland caribou, wolf, lynx, marten, fisher, muskrat, skunk, groundhog, snowshoe hare, otter, and fox. In addition, hundreds of migratory birds inhabit the Far North region.

The Ontario Reptile and Amphibian Atlas (Ontario Nature 2019) documents records of all reptile and amphibian species across the province. A review of the Ontario Reptile and Amphibian Atlas indicates few records in the vicinity of the Project, including Eastern garter snake (*Thamnophis sirtalis*), American toad (*Anaxyrus americanus*), spring peeper (*Pseudacris crucifer*), boreal chorus frog (*Pseudacris borealis*), northern leopard frog (*Lithobates pipiens*) and wood frog (*Lithobates sylvatica*). These are common and widespread species across northern Ontario. Red-sided garter snake (*Thamnophis sirtalis parietalis*) is also known to occur in the area. This and northern leopard frog are considered regionally significant (MFFN 2017).

Woodland caribou occur extensively in peatland areas, such as black spruce bogs and treed fens, while generally avoiding upland areas throughout the year (Stuart-Smith *et al.* 1997). However their habitat can vary in different landscapes depending on habitat availability (Ferguson and Elkie 2004). Telemetry data showed that in the Missisa and James Bay ranges (which comprise part of the study area) Woodland Caribou were found to occur most frequently in peatlands, followed by coniferous forest, and they avoided deciduous forest (Ferguson and Elkie 2004). The location of winter ranges may be quite variable between years (Ferguson and Elkie 2004). Determining the population size or density of a wide-ranging low-density animal such as Woodland Caribou is often challenging and likely to be inaccurate. Since 2009, several research led studies by independent contractors and the MNRF have investigated Woodland Caribou and their habitat in areas crossed by the Project. The MNRF attached radio collars to a large number of Woodland Caribou across northern Ontario which were tracked by satellite between 2009 and 2014, some of these individuals were found within the Project area (April Mitchell 2019). Study results illustrated that individuals were nomadic and may occupy different areas from one year to another but show stronger fidelity to calving areas. Herd population estimates will be evaluated as part of the EA.

A preliminary review of background information suggests that several species listed as Threatened, Endangered or Special Concern under the provincial ESA or the Federal SARA, 2002 have the potential to occur within the Project alternative routes (Refer to **Figure 5-2**). These species include but are not limited to (MECP 2019):

- Bald Eagle (*Haliaeetus leucocephalus*) [Special Concern under ESA]
- Barn Swallow (*Hirundo rustica*) [Threatened under both ESA and SARA]
- Black Tern (*Chlidonias niger*) [Special Concern under ESA]
- Eastern Whip-poor-will (*Caprimulgus vociferous*) [Threatened under both ESA and SARA]
- Peregrine Falcon (*Falco peregrinus*) [Special Concern under ESA]
- Wolverine (*Gulo gulo*) [Threatened under ESA, Special Concern under SARA]
- Woodland Caribou (*Rangifer tarandus caribou*) [Threatened under both ESA and SARA]
- Little Brown Myotis (*Myotis lucifugus*) [Endangered under both ESA and SARA]
- Northern Myotis (*Myotis septentrionalis*) [Endangered under both ESA and SARA]
- Canada Warbler (*Cardellina canadensis*) [Special Concern under ESA, Threatened under SARA]

- Chimney Swift (*Chaetura pelagica*) [Threatened under both ESA and SARA]
- Common Nighthawk (*Chordeiles minor*) [Special Concern under ESA, Threatened under SARA]
- Olive-sided Flycatcher (*Contopus cooperi*) [Special Concern under ESA, Threatened under SARA]
- Short-eared Owl (*Asio flammeus*) [Special Concern under both ESA and SARA]
- Yellow Rail (*Coturnicops noveboracensis*) [Special Concern under both ESA and SARA]

Potential Project Effects on Wildlife

Potential effects on wildlife, which includes birds under the MBCA, and wildlife habitat during construction and operation of the road include habitat alteration and/or loss, change in wildlife mortality risk and change in wildlife behaviour.

The potential effects to vegetation (**Section 5.1.4.1**) may result in effects to wildlife where vegetation that provides suitable habitat will be lost or altered by the Project. This includes direct habitat loss, habitat degradation, and fragmentation during site preparation (e.g., vegetation clearing and site grading), stockpiling of materials, transportation of equipment and materials, and excavation activities. These activities may negatively affect wildlife habitat through increased erosion and sedimentation, soil removal, disturbance and compaction, and accidental release of contaminants. Wildlife may also be displaced during construction when habitat is removed (e.g., clearing and grubbing). Forested habitats are generally associated with a higher number of bird nests per hectare; therefore, the removal of these habitats would result in the displacement of more breeding pairs per hectare compared to other habitats such as grasslands or agricultural fields (Calvert *et al.* 2013). Also, the effects of dewatering, water-taking or water discharging activities, may negatively affect wildlife and wildlife habitat, particularly for species habitat dependant on surface water or groundwater (e.g., turtle overwintering habitat).

The Project construction and operation phases may result in a higher potential for accidental wildlife mortality through collisions with vehicles, equipment and machinery. Increased mortality risk is of particular concern during sensitive life stages (e.g., nesting season).

Noise, lights, and human presence have the potential to change wildlife behaviour through disturbance of wildlife. Disturbance to wildlife during site preparation (e.g., vegetation clearing) and other construction activities, may result in longer term effects (e.g., a decreased breeding success for nesting birds (Environment Canada 2014)). Operation of the CAR may result in continued disturbance and increased risk of mortality of wildlife species through vehicular collisions.

The CAR will provide year-round access to the Far North, which is likely to increase access for recreational use and resource use. This has the potential to result in an increase in hunting and angling pressure to wildlife populations, higher risk of the introduction of invasive species, parasites and disease, and the accidental release of contaminants to waterbodies.

Impacts to Wildlife SAR or Species of Conservation Concern

Potential SAR habitat and species records exist within the Project limits. Potential effects to SAR include those more broadly applicable to wildlife: increased mortality, harm and/or disturbance, displacement, and alteration or removal of SAR habitat.

5.2 Socio-Economic Setting

5.2.1 Social

The closest populated areas to the Project are the Indigenous communities of MFFN and Aroland First Nation. The Marten Falls Ogoki Post settlement is located in the Project area and inhabited by members of MFFN. MFFN has a population of 794 registered band members with roughly half (325) of community members living in Marten Falls. Additional community members (469) live in urban centres such as Greenstone and Thunder Bay. The population is steadily increasing which is anticipated to continue in the future (MFFN 2014). Languages within the community include English and Ojibway. The designated service centre for the community is Greenstone (MFFN 2014).

MFFN is a member of the Matawa First Nations Management Inc., a regional tribal council consisting of nine Ojibway and Cree First Nation communities in the Nishnawbe Aski Territory of Northern Ontario. The Nishnawbe Aski Territory Political Territorial Organization provides political, social and economic support for all First Nation communities in the Treaty #9 geographic area (MFFN n.d.).

Matawa Tribal Council which includes Aroland First Nation, Constance Lake First Nation, Eabametoong First Nation, Ginoogaming First Nation, Long Lake #58 First Nation, MFFN, Neskantaga First Nation, Nibinamik First Nation and Webequie First Nation provides advisory and/or program services to member First Nations when requested. Marten Falls is governed by a Chief and up to seven councillors with elections held once every two years (MFFN 2014). Under the *Indian Act*, MFFN has the power to establish by-laws governing health, traffic and other areas. Federal statutes apply on reserve land and provincial statutes may apply if there is no existing by-law (MFFN 2014).

The community of MFFN has approximately 65 houses (Statistics Canada 2017a). Most housing is classified as band housing with approximately two-thirds of housing defined as suitable (Statistics Canada 2017a). Housing is predominantly in two subdivisions. One is older along the west shoreline of the Albany River. The second is a newer subdivision built paralleling the older subdivision (MFFN 2014).

MFFN has an airport 5 km from the community, which is maintained by the MTO. The only all-season access to the community is an air service occurring three times per week from an airport operated by Zam Air Service from Nakina Ontario and, by a three times a week air service from Thunder Bay by North Star Air. Both airlines offer passenger and freight services. Seasonal access is also provided by the winter road (MFFN 2014). Electricity is provided to Marten Falls through Ontario Hydro Remote Services (MFFN 2014). Heating primarily occurs through wood burning for homes and oil furnaces for commercial properties. Despite having a water treatment plant, and water and sewer infrastructure, MFFN remains on a boil advisory as the water treatment plant undergoes service (MFFN 2017). The community has a landfill 3.5 km north of the community where residents can deposit solid waste (MFFN 2014). Bell Canada provides telephone service while KNET provides limited broadband internet services. Television is available through satellite. News to the community is provided by Wawatay bi-weekly and the Chronicle Journal daily (MFFN 2014).

5.2.2 Economy

Economic development in the area of the Project is undertaken predominantly by MFFN in partnerships with adjacent Indigenous communities and industry. When requested, Matawa Economic Development Advisory Services will assist member Indigenous communities to promote and foster sustainable economic development through the delivery of quality information products, capacity-building initiatives, and collaborative working projects (Matawa First Nations Management 2019). The closest Indigenous communities to the Project are MFFN and Aroland First Nation. These communities are likely to have the most economic interest in the Project. The

Municipality of Greenstone is also likely to have economic interest in the Project due to its position as the primary service centre for these communities and its population of MFFN community members.

The primary economic activities in the region include mining, forestry and resource-based tourism. Mining exploration and development is expanding. The Agoke Development Corporation includes MFFN, Eabametoong and Aroland and was formed to manage the Ogoki forest management unit. The Agoke Development Corporation Limited has a partnership with Nakina Lumber Incorporated – the Agoke Lumber Limited Partnership. This Partnership and other Matawa communities have pursued the forestry industry, although the forestry industry in this region has been economically limited due to the downturn in the industry (MFFN 2014). A prohibitive factor to large development projects such as mining and forestry is transportation costs and infrastructure access. The lack of electricity and a reliable transportation network increases costs which undermines the feasibility of enterprises.

Economic opportunity is limited within the MFFN. The unemployment rate is high at 18.8% with a low labour participation rate of 50% (Statistics Canada 2017a). Median income is also low at \$14,944, which is well below the provincial average (Statistics Canada 2017a). Within the community there are a number of small private businesses including a convenience store, a grocery store, a fuel supply business and a lodging business. Resource based tourism operations are also operated by community members. The cost of living in the community is high due to the lack of access with high costs for electricity and goods due to the transportation costs of fuel and goods.

Currently, small businesses operate within Aroland including a gas bar, convenience store, taxi company and tourist outfitters (Matawa First Nations Management n.d.). Aroland First Nation has similar labour market conditions to MFFN with low labour participation and high unemployment (Statistics Canada 2017b). Aroland First Nation's primary employment sectors include primary industries, retail, administration, education, health care, recreation, accommodation and food services (Statistics Canada 2017b).

Greenstone has a more diversified economy than MFFN with a greater variety of people employed in different sectors (Municipality of Greenstone 2015). Greenstone has an unemployment rate of 10.6% with a labour force participation rate of 57.4%, both higher than the provincial averages (Statistics Canada 2017c). Forestry, tourism and mining are key components of the Greenstone economy with Long Lake Logging and Premier Gold as major private sector employers (Municipality of Greenstone 2015).

5.2.3 Human Health

Marten Falls is policed by the Nishnawbe-Aski Police Service. Tactical and emergency responses are managed jointly with the Ontario Provincial Police. Provincial court services are operated within the community regularly. Legal representation is provided by Nishnawbe Aski Nation legal services. The MNRF provides forest fire protection services within 16 km of MFFN. No fire trucks are present within the community.

Health Canada funds the Muskeg Thunder Clinic which operates 5 days per week. Health staff provide nursing services, health promotion and community health programs. Emergency medical services are provided in Greenstone with medivac aircraft utilized for transportation. Specialized medical services are provided in Thunder Bay at the Thunder Bay Regional Health Centre. Community health programs focus on mental health, addiction, prenatal and maternal health. Matawa, Nishnawbe Aski Nation and the Ontario government provide family support, prevention and intervention programs within the community. Child welfare and family services programs are provided out of Sioux Lookout, while one person is employed locally in the community.

The diet in the region relies on traditional subsistence harvesting despite access to modern foods (Gamble 2017). The high cost of living and transportation may contribute to this as goods are more expensive.

5.2.4 Visual Aesthetics

The remote wilderness aesthetics are important components of the visual environment in the area of the Project as related to the tourism industry, and residents of the local communities. Visual aesthetics of the Project region are largely influenced by natural processes such as wildfires, and limited human influences such as the existing local communities and winter roads (**Figure 1-1**).

5.2.5 Potential Effects of Changes to the Environment on Indigenous Peoples

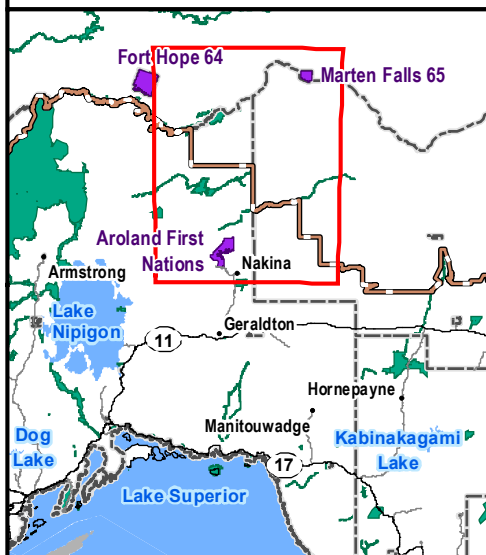
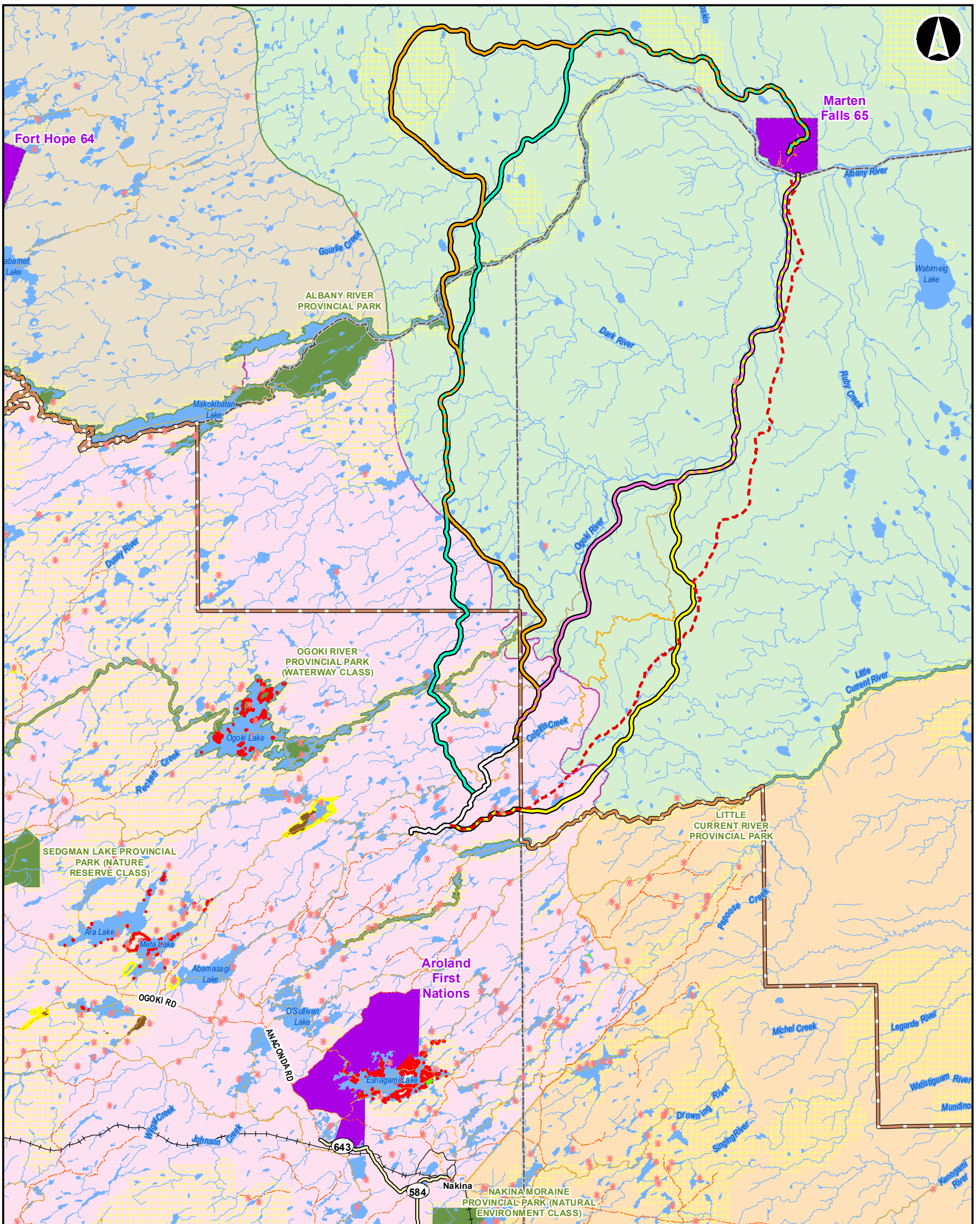
Social, economic and built environment effects are the product of two types of change: changes to the socio-economic environment including human health and changes to the use of land including the visual environment. The Project may alter the demographics, population, regional economy, labour market and public services within communities within or near the Project area. These changes may result in a different socio-economic environment within communities including differing structures based on the construction and operation of the Project. The extent of these changes will be based on the land users in the Project area; the location of members of MFFN; and the Project procurement. While the potential Project effects are dependent on the final preferred route, they are likely to include, but are not limited to:

- Changes to industry and resource extraction activities such as mining, aggregate, forestry, linear infrastructure and energy projects. New access may allow industry opportunities to become more feasible allowing for development.
- Changes to the regional economy including the labour market. Additional access may provide new opportunities for businesses, lower the price of goods and facilitate new development impacting the local economy.
- Changes to the social wellbeing and health of Indigenous people from the potential reduction in the supply of fish and wildlife as a result of the loss and/or degradation of habitat from road construction and operation, and from the potential reduction in abundance of fish and wildlife from increased hunting and fishing activity as a result of new access opportunities, particularly if the CAR is open to public access.
- Potential changes to the community (e.g., easier access to goods) may entice members of MFFN to return to or exit the community. Changes to population may impact the availability of housing for community members. If population increases or demographics change, strain on public safety services may also occur. These changes may also impact the well-being of the community.
- Changes to cultural sites and activities such as ceremonies, practices, access, language and food consumption.
- Changes to diet may also occur if members of MFFN return to live with the Community on the Reserve. Increased population and access to the Far North for recreational activities (e.g., fishing and hunting) may alter the ability of current MFFN community members to access traditional foods.
- The Project may result in effects to human health by altering public safety, public health, diet and mental health. These changes may be facilitated by additional access to and from southern communities year-round.
- Changes to visual aesthetics of the visual landscape through the introduction of a CAR within a primarily undisturbed environment.

The above potential effects will be assessed through the EA.. Analysis and feedback through consultation efforts will be incorporated into the selection of the preferred route and preliminary design of the CAR.

Improved access to MFFN may also provide benefits in the form of skill development, training and job creation. Predicted benefits also include, but are not limited to:

- Reduced cost of living in the community
- Opportunities for employment
- Improved access to goods and services, such as education and training and health services
- Increase of band members living year round in the community
- Access to improved health services



Legend

Route Alternatives

- Alternative 1 (Orange line)
- Alternative 2 (Pink line)
- Alternative 3 (Yellow line)
- Alternative 4 (Cyan line)

General Features

- Highway (Thick grey line)
- Collector Road (Thin grey line)
- Residential Road (Dashed grey line)
- Resource Road (Dotted grey line)
- Trail (Thin black line)
- Railway (Line with cross-ticks)
- MFFN Existing Winter Access Road (Red dashed line)
- Painter Lake Road (Grey line with cross-ticks)
- Watercourse (Blue wavy line)
- Indian Reserve (Purple shaded area)
- Far North Boundary (Brown dashed line)
- District Municipality (Black outline)
- Provincial Park (Green shaded area)
- Waterbody (Blue shaded area)
- Species at Risk Observations (1km grid) (Yellow grid)

Wildlife and Habitat

- Nesting Site (Red asterisk)
- Waterfowl Staging Area (Brown irregular shape)
- Waterfowl Nursery Area (Yellow irregular shape)
- Caribou Calving Site (Red irregular shape)
- Moose Calving Site (Green irregular shape)
- Caribou Range**
 - Missisa (Green irregular shape)
 - Nipigon (Pink irregular shape)
 - Ozhiski (Brown irregular shape)
 - Pagwachuan (Orange irregular shape)

Marten Falls First Nation All Season Community Access

ESA Critical Habitat

0 5 10 20 30
Kilometres
Datum: NAD 1983 UTM Zone 16N

Data Sources:
Derived by KBM Resources Group n.d.
MNRF, MMAH, NRCAN, MLAS

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AECOM **Figure 5-2**

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6. Engagement and Consultation with Indigenous Groups

The following describes engagement activities with Indigenous communities that have occurred prior to the commencement of the provincial EA, those that have occurred to date as part of federal engagement activities with the CEA Agency, the development of the provincial ToR preparation and this Project Description as of June 2019, and planned engagement activities moving forward.

6.1 Previous Engagement Activities with Indigenous Communities

MFFN Chief and Council have been engaging about the Project with their own community members and other Indigenous communities for several years. The following sections describe Project-related engagement activities with Indigenous communities that were undertaken prior to the commencement of the provincial EA ToR in early 2019.

6.1.1 *Previous engagement with MFFN Community Members*

MFFN has led numerous engagement activities with MFFN members, as the most directly impacted community in relation to the Project, in a variety of settings, including within MFFN and in Thunder Bay and Geraldton for those community members who do not live in the community of Marten Falls (Ogoki Post). The intent of these engagements was to provide community members with regular updates on the Project (progress and decisions made) and to gather input at key Project milestones to help guide the Project.

Below is a brief summary of consultation events held between January 2017 and March 2019 with MFFN Community members living in MFFN, Thunder Bay and Geraldton.

2017

- January: Project information and initial feedback from the community
- March: Description of potential routes and initial feedback from the community
- August:
 - Two-day community meeting held in Thunder Bay as an opportunity for MFFN Community members to meet the companies conducting exploration in the undeveloped and remote chromite and nickel belt.
 - Community meeting in Marten Falls to discuss the agreement with the province to conduct an EA related to the CAR and to introduce the idea that the road will be a multi-purpose road and not just for community use.
- November – December: Introduce the EA Technical Lead, discuss the EA process and provide an update on Project activities (MFFN and Thunder Bay).

Members of the CBLUP team were in attendance at several meetings in 2017 following the initial information and gathering sessions:

- MFFN – Henry Coaster Elementary School, January 17, 2017
- MFFN – Henry Coaster Elementary School, March 13, 2017

- MFFN – Henry Coaster Elementary School, March 28, 2017
- Geraldton, Ontario – Hockey Arena, March 29, 2017
- Thunder Bay, Ontario – Prince Arthur, March 30, 2017

2018

- February: Discuss environmental baseline studies, seek feedback on valued ecosystem components and potential route options.
 - MFFN – February 28, 2018
- March: Discuss and plan provincial EA and baseline areas of interest.
 - MFFN – March 1, 2018
 - MFFN – March 22, 2018
- June: Review history of the CAR, present team structure and Project scope, outline deliverables and timelines, and discuss community interests.
 - MFFN – June 18, 2018
 - Thunder Bay – June 19, 2018
- September: Update on Project activities and status of environmental baseline studies, selection of community members to fulfill certain Project roles, consultant introduction, community involvement and training.
 - MFFN – September 11 and 20, 2018
- November: Update on on-going studies, review of mapping of four route alternatives with existing Indigenous Traditional Knowledge.
 - MFFN – November 12, 2018
 - Thunder Bay – November 13, 2018
- December: Strategic planning for the Project planned activities.
 - Thunder Bay – December 11, 2018
 - MFFN – December 12, 2018

2019

- January: Discuss environmental baseline.
 - MFFN – January 14, 2019
 - Thunder Bay – January 16, 2019
- February: Update on Project activities.
 - Thunder Bay – February 14, 2019
- March: Introduce the Project and discussed the provincial and federal EA processes.
 - Thunder Bay – March 20, 2019
 - MFFN – March 21, 2019

6.1.2 Previous Engagement with Neighbouring Indigenous Communities

Project-related information was also provided to neighbouring Indigenous communities in advance of early engagement with the CEA Agency and official commencement of the provincial EA ToR notification. A summary of

engagement activities completed prior to official ToR commencement with neighbouring Indigenous communities is provided in **Table 6-1**.

The list of communities provided by the province, in December 2018, included 22 neighbouring Indigenous communities, comprising all of the original 14 communities previously identified by the CEA Agency (**Section 1.0**), along with eight additional communities to engage in the provincial EA. In addition to the activities outlined in **Table 6-1**, a letter was sent to the 22 neighbouring Indigenous communities from the MFFN Chief and Council in December 2018 to formally introduce the Project (refer to **Section 6.2**).

Table 6-1. Summary of Engagement Program Activities with Indigenous Communities and Groups (pre- Project Description submission)

Community/Date	Description
Aroland First Nation	
August 1, 2017	<ul style="list-style-type: none"> ▪ Meeting in Geraldton to discuss update on north-south corridor, relationship and agreement with mining companies.
August 8, 2017	<ul style="list-style-type: none"> ▪ Meeting in Thunder Bay to provide an update on the all-season road development planning and current status of negotiations with the Province.
January 24, 2018	<ul style="list-style-type: none"> ▪ Letter regarding baseline studies ▪ Updated notice for bird surveys on May 14, 2018
March 7, 2018	<ul style="list-style-type: none"> ▪ Meeting to provide a Project update and discussion of how the two First Nations can work together.
March 10, 2018	<ul style="list-style-type: none"> ▪ Letter from community to MECP regarding concerns on the CAR
April 19, 2018	<ul style="list-style-type: none"> ▪ Letter to community regarding MFFN discussions with ENDM and support for community to lead Painter Lake to Highway 643 EA and planning process. Refer to Section 2.1 for additional details on Painter Lake Road and Aroland's involvement.
May, 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
November 7, 2018	<ul style="list-style-type: none"> ▪ Meeting to exchange information. MFFN providing information on the CAR Project EA and Aroland First Nation discussed its work planning for a project to realign forestry access roads between Painter Land and provincial highway system.
November 30, 2018	<ul style="list-style-type: none"> ▪ Letter to community leadership confirming that a draft agreement to collaborate on the EA is being created. ▪ MFFN will lead the EA.
December 5, 2018	<ul style="list-style-type: none"> ▪ Letter from community to MFFN detailing concerns and requesting government to government meetings.
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal.
March 4, 2019	<ul style="list-style-type: none"> ▪ Aroland First Nation and MFFN met and exchanged Project information.
Attawapiskat First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Constance Lake First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR

Table 6-1. Summary of Engagement Program Activities with Indigenous Communities and Groups (pre- Project Description submission)

Community/Date	Description
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Eabametoong First Nation	
November 13, 2017	<ul style="list-style-type: none"> ▪ Meeting to inform Eabametoong that MFFN is gathering data to decide what the next steps would be for the road plan and will meet with Eeabametoong again early in the new year.
January 24, 2018	<ul style="list-style-type: none"> ▪ Letter regarding baseline studies
February 26, 2018	<ul style="list-style-type: none"> ▪ Correspondence letter outlining concerns
February 27, 2018	<ul style="list-style-type: none"> ▪ Correspondence letter outlining concerns
May, 2018	<ul style="list-style-type: none"> ▪ Notification letter for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Fort Albany First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Ginoogaming First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notification letter for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
January 23, 2019	<ul style="list-style-type: none"> ▪ Response to introduction letter, confirming consultation required
Kashechewan First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Long Lake 58 First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Matawa First Nations Management	
March 13, 2018	<ul style="list-style-type: none"> ▪ Letter to community requesting EA conference internal report
July 31 to August 2, 2018	<ul style="list-style-type: none"> ▪ CAR Fact Sheet provided to all Matawa Chiefs
Neskatanga First Nation	
January 24, 2018	<ul style="list-style-type: none"> ▪ Letter to the community regarding baseline studies
May 3, 2018	<ul style="list-style-type: none"> ▪ Follow up letter to community regarding baseline studies ▪ Response letter received May 5 2018 outlining concerns with EA and open dialogue with community
May 8, 2018	<ul style="list-style-type: none"> ▪ Letter indicating MFFN's voluntary agreement with MECP on an Individual EA

Table 6-1. Summary of Engagement Program Activities with Indigenous Communities and Groups (pre- Project Description submission)

Community/Date	Description
May 14, 2018	<ul style="list-style-type: none"> ▪ Updated notice for avian surveys ▪ May 15 2018 response letter received to suspend studies and open dialogue with community
June 7, 2018	<ul style="list-style-type: none"> ▪ Request for a meeting to discuss CAR ▪ June 19 2018 acceptance for June 28 2018 meeting
September 25, 2018	<ul style="list-style-type: none"> ▪ Response letter to community's request to review archaeological information
November 9, 2018	<ul style="list-style-type: none"> ▪ MFFN response to community accepting their request to delay meeting and attempt to secure funding for community involvement in the EA
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Nibinamik First Nation	
May 2018	<ul style="list-style-type: none"> ▪ Notice for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Webequie First Nation	
November 14, 2017	<ul style="list-style-type: none"> ▪ Discussion on moving forward with all development, roads and mining, and possible ways of collaboration
December 12, 2017	<ul style="list-style-type: none"> ▪ Discussed principals of cooperation, update on road development and discussion on next steps
January 24 2018	<ul style="list-style-type: none"> ▪ Letter to community regarding baseline studies
March 5, 2018	<ul style="list-style-type: none"> ▪ Meeting between Road Study Teams for Webequie First Nation and MFFN. Commitment was made to look for approval from Chief and Councils to share information and collaborate between roads study teams.
May, 2018	<ul style="list-style-type: none"> ▪ Notification letter for avian surveys ▪ Notification for re-scheduled avian surveys ▪ Letter to community regarding the EA process for CAR
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Weenusk First Nation	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Kasabonika Lake First Nation	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Kingfisher Lake First Nation	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Wapekeka First Nation	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Wawakewin First Nation	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Wunnumin Lake First Nation	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Kitchenuhmaykoosib Inninuwug	
December 13, 2018	<ul style="list-style-type: none"> ▪ Letter to introduce the Project proposal
Animbiigoo Zaagi'igan Anishinaabek	

Table 6-1. Summary of Engagement Program Activities with Indigenous Communities and Groups (pre- Project Description submission)

Community/Date	Description
December 13, 2018	▪ Letter to introduce the Project proposal
Red Sky Independent Métis Nation	
December 13, 2018	▪ Letter to introduce the Project proposal
Métis Nation of Ontario, Region 2	
December 13, 2018	▪ Letter to introduce the Project proposal

6.2 Indigenous Community Engagement during Regulatory Processes

MFFN is committed to creating and sustaining constructive dialogue and relationships with MFFN Community members and other interested persons, including neighbouring Indigenous communities, government agencies and regulators, the public, industry, non-government organizations, and local and regional stakeholders, to support the environmental, social, and economic sustainability of the Project.

Through the on-going Project engagement program, MFFN has and will continue to engage, at varying levels, with interested Indigenous community members and other persons (the public) so that feedback is considered in the Project decision-making, design and impact mitigation measures.

This Project Description will be published on the CEA Agency's website for public review and comment for 20 days. The CEA Agency will also formally engage the 14 Indigenous communities as identified in November 2018, requesting comment and feedback on the Project Description. Any feedback collected can be used by the CEA Agency to determine if a federal EA is required.

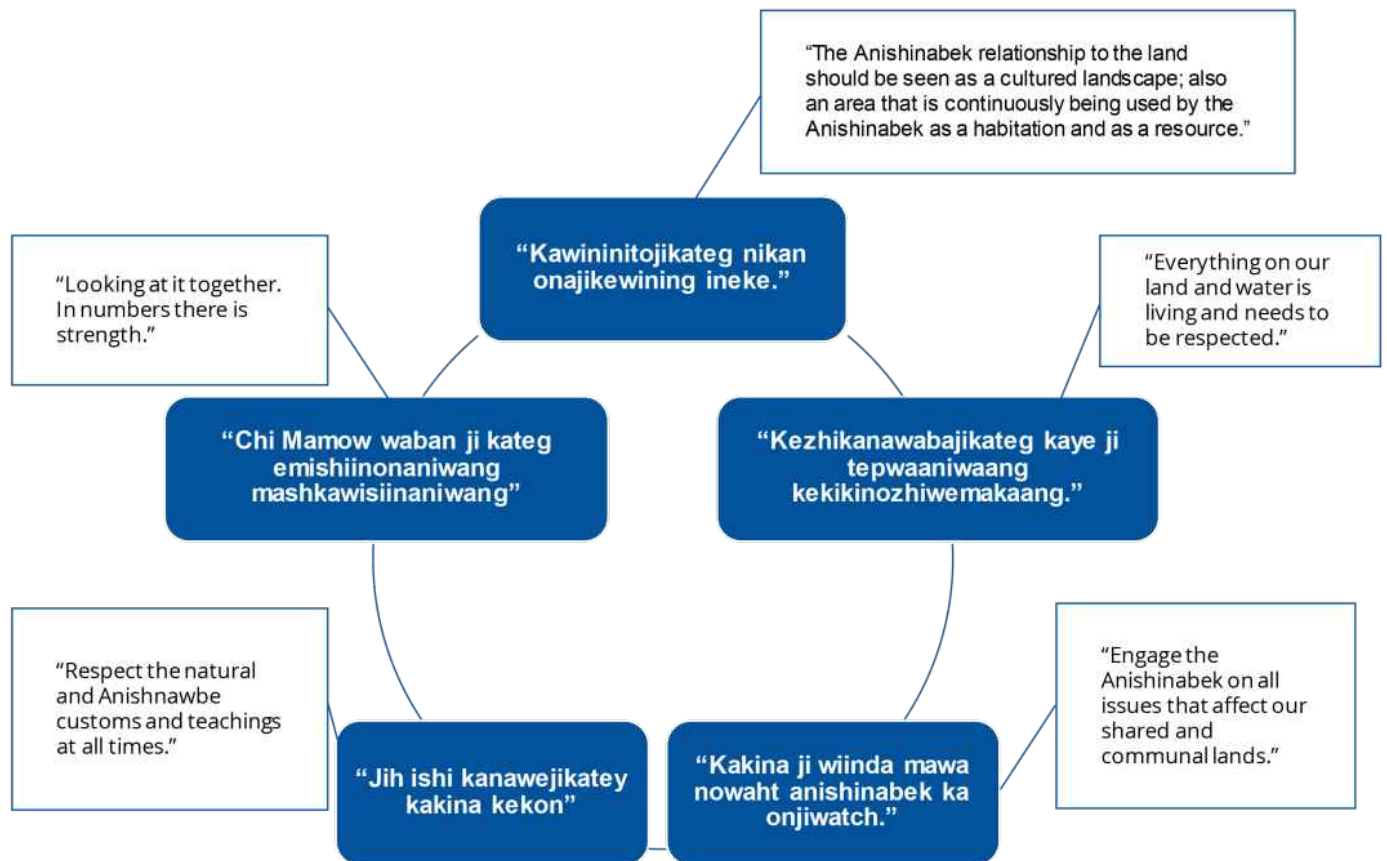
To honour the traditional lands that the Project will be developed on and to respect traditional teachings the [Guiding Principles presented in Guiding Principles of the Marten Falls First Nation Community-Based Land Use Planning Team for Project Planning and Engagement](#) will be followed throughout all Project-related consultation activities and the full EA process. These principles have been endorsed by the MFFN Chief and Council.

In addition to these Guiding Principles, MFFN aims to provide meaningful opportunities for input throughout the EA process by:

- Encouraging information sharing, the expression of concerns, and the identification of potential effects early in the planning process.
- Delivering Project-related information in a timely and culturally sensitive manner; using plain language and visual aids as much as possible.
- Working with Indigenous communities to confirm existence of, align with and respect protocols and policies for Indigenous Knowledge and/ or consultation.
- Providing sensitivity to cultural practices, events and activities of Indigenous communities and considering these when planning and scheduling events.
- Facilitating an understanding of both the Indigenous Knowledge and Western science and engineering principles that form the basis of the EA process.
- Facilitating opportunities for dialogue and conversations about the Project.

- Encouraging participation of all age groups, from Youth to Elders.
- Collaborating with Indigenous communities to customize communication plans to meet community needs as identified.
- Providing interested persons, including potentially affected Indigenous communities, the opportunity to record their concerns, questions and opinions on potential effects and mitigation strategies, and their knowledge of the local environment.
- Demonstrating how feedback was considered and / or incorporated into decision-making.

Figure 6-1: Guiding Principles



Engagement with Indigenous communities, including MFFN Community members, is intended to allow MFFN to identify, consider and respond to potential concerns and issues of interested Indigenous communities, and to provide those communities with an opportunity to receive information and provide meaningful input into the applicable EA process. The following factors have been and will continue to be considered as engagement activities are implemented:

- **The Land:** Where possible, meetings, activities and workshops will be hosted in the community and on the land, providing Elders, Youth, other community members and land users the opportunity to be in-place when discussing the Project and reflecting on Indigenous Knowledge.
- **Translation:** Community engagement sessions, information panels, newsletters and radio shows may be translated (as requested/ required) into the appropriate Indigenous language (e.g., Cree, Ojibway, Oji-Cree) to

show respect to the people of this territory. MFFN will work with communities to identify community members to fulfil the role of a live translator for meetings, if appropriate.

- **Traditional Foods:** Where possible, local caterers will be hired in the communities to make use of traditional foods for community meals.
- **Cross-Cultural Orientation:** If appropriate, MFFN will respectfully ask each Indigenous community to provide the Project Team with a cultural and community orientation. This will be in-person and will provide an opportunity to develop a series of Guiding Principles on how to work together based on respect, trust and mutual-learning.
- **Observe Hunting and Cultural Periods:** MFFN will consult with communities about the timing of engagement events to ensure there are no conflicts with traditional cultural periods.

6.2.1 Engagement Activities and Responses to Date

In December 2018, through consultation with MECP, 22 Indigenous communities (including the 14 previously identified by the CEA Agency in November 2018), comprised of First Nations, Métis and Traditional Land-Based Rights Holders, and who may be interested in the Project, were officially notified of the commencement of the Project's provincial EA:

- | | |
|--------------------------------|------------------------------|
| ▪ Aroland First Nation | ▪ Neskantaga First Nation |
| ▪ Attawapiskat First Nation | ▪ Nibinamik First Nation |
| ▪ Constance Lake First Nation | ▪ Wapekeka First Nation |
| ▪ Eabametoong First Nation | ▪ Wawakapewin First Nation |
| ▪ Fort Albany First Nation | ▪ Weenusk First Nation |
| ▪ Ginoogaming First Nation | ▪ Webequie First Nation |
| ▪ Kasabonika Lake First Nation | ▪ Wunnumin Lake First Nation |
| ▪ Kashechewan First Nation | |
| ▪ Kingfisher Lake First Nation | |
| ▪ Kitchenuhmaykoosib Inninuwug | |
| ▪ Marten Falls First Nation | |

As part of the general consultation program, the following Indigenous Communities were also notified in March 2019 to gauge their interest in participating in the EA Process:

- Animiigoo Zaagi'igan Anishinaabek;
- Métis Nation of Ontario, Region 2;
- Long Lake #58 First Nation; and
- Red Sky Independent Métis Nation.

Further, the following Provincial Territorial Organizations and Tribal Councils were also notified in March 2019:

- | | |
|--------------------------------------|----------------------------|
| ▪ Matawa First Nations Management | ▪ Nishnawbe Aski Nation |
| ▪ Mushkegowuk Council | ▪ Chiefs of Ontario |
| ▪ Shibogama First Nations Council | ▪ Union of Ontario Indians |
| ▪ Independent First Nations Alliance | ▪ Métis Nation of Ontario |

In follow up to the official ToR notification, the listed Indigenous communities and organizations were contacted by phone and email to determine their level of interest in the Project and to establish the appropriate level of engagement during the EA process. This process commenced in April 2019 and remains ongoing.

The following and **Table 6-2** provides a summary of the results of the follow-up activities with the communities up to early June 2019.

- **Twelve (12) communities** have expressed interest in the Project. Meetings have been held with two of these communities (MFFN and Aroland). Attempts to arrange meetings with the other communities are ongoing:
 1. MFFN
 2. Aroland First Nation
 3. Red Sky Independent Métis Nation
 4. Attawapiskat First Nation
 5. Neskantaga First Nation
 6. Eabametoong First Nation (Fort Hope)
 7. Fort Albany First Nation
 8. Ginoogaming First Nation
 9. Animbiigoo Zaagi'igan Anishinaabek
 10. Long Lake #58 First Nation
 11. Constance Lake First Nation
 12. Kashechewan First Nation

- **Eight (8) communities** have expressed interest in receiving Project materials and will contact the Project Team if they would like to meet in the future:
 13. Wunnumin Lake First Nation
 14. Wapekeka First Nation
 15. Wawakapewin First Nation
 16. Nibinamik First Nation
 17. Weenusk First Nation
 18. Kingfisher Lake First Nation
 19. Métis Nation of Ontario, Region 2
 20. Kasabonika Lake First Nation

- **Two (2) communities** have not responded to phone calls, emails, fax and letters. The MFFN Project Team is reaching out on an ongoing basis including a variety of contact means:
 21. Webequie First Nation
 22. Kitchenuhmaykoosib Inninuwug

Table 6-2. Engagement Activities to Date with Neighbouring Indigenous Communities

Indigenous Community	Spoken with someone from the community (e.g. band office / Chief) (Y/N)?	Expressed Interest in Meeting?	Timing for an in-person meeting	Next Steps / Actions
Have expressed interest in the Project				
Marten Falls First Nation	Yes	Yes	3 rd meeting scheduled for June 25-26, 2019	Circulate notices to community members for upcoming meeting.
Aroland First Nation	Yes	Yes	Early July 2019	Work with band office and Shared Value Solutions to organize a follow up in-person meeting with Chief and Council and the broader community.
Red Sky Independent Métis Nation	Yes	Not at this time	To be confirmed with Red Sky Independent Métis Nation, no potential meeting date has been identified.	Invite Red Sky Independent Métis Nation to next open house event.
Attawapiskat First Nation	Yes	Yes	Yes, two potential meetings (one after the draft ToR is circulated and one after the final ToR is circulated). To be confirmed with Attawapiskat First Nation.	Work with band office and Chief's administration to organize an in-person meeting with Chief and Council and the broader community.
Neskantaga First Nation	Yes	Yes	To be determined.	Chief Achneepineskum is working with Chief Moonias to organize an in-person meeting as per Chief Moonias's expressed interest.
Eabametoong First Nation	Yes	Yes	Potentially early July, waiting for Eabametoong First Nation to confirm.	Continue outreach to confirm meeting date.
Fort Albany First Nation	Yes	Yes	Mid-July or early August	Continue outreach with Chief to confirm meeting date.
Animbiigoo Zaagi'igan Anishinaabek	Yes	Yes	To be confirmed with Animbiigoo Zaagi'igan Anishinaabek, no potential meeting date has been identified as of yet.	Work with band office and Chief's administration to organize an in-person meeting.
Long Lake #58 First Nation	Yes	Potentially	To be confirmed with Long Lake #58, no potential meeting dates have been discussed	Work with the band office and Chief's administration to organize an in-person meeting
Ginoogaming First Nation	Yes	Yes	To be confirmed with Ginoogaming First Nation, no potential meeting dates have been discussed	Work with the band office and Chief's administration to organize an in-person meeting.
Constance Lake First Nation	Yes	Yes	To be confirmed with Constance Lake First Nation, no potential meeting date has been identified.	Project Team to provide any updates to Chief Allen with respect to funding / resources for Constance Lake First Nation involvement based on guidance / feedback from ENDM / MECP.
Kashechewan First Nation	Yes	Yes	To be confirmed with Kashechewan First Nation, no potential meeting dates have been discussed	Follow up with Chief Friday to determine timing for a meeting.
Have expressed interest in receiving information on the Project				
Wunnumin Lake First Nation	Yes	No	n/a	Wunnumin Lake First Nation will contact MFFN Chief if there are questions / comments or want to arrange a meeting.
Wapekeka First Nation	Yes	Not at this time	n/a	On-going follow up with the band office and Chief Sainnawap to determine potential interest in the Project.
Wawakapewin First Nation	Yes	Not at this time	n/a	Will contact MFFN if there are questions / comments or want to arrange a meeting
Nibinamik First Nation	Yes	Not at this time	n/a	Nibinamik First Nation will contact MFCAR Project Team if they wish to meet
Weenusk First Nation	Yes	Not at this time	n/a	Will contact MFFN if there are questions / comments or want to arrange a meeting
Kingfisher Lake First Nation	Yes	Not at this time	n/a	On-going follow up with the band office and Chief Mamakwa to determine interest in the Project.
Métis Nation of Ontario, Region 2	Yes	Not at this time	n/a	Métis Nation of Ontario will contact MFFN if there are questions / comments or want to arrange a meeting.
Kasabonika Lake First Nation	Yes	Not at this time	n/a	On-going follow up with the band office and Chief Anderson to determine interest in the Project.
Have not responded to contact				
Kitchenuhmaykoosib Inninuug (KI)	No	Not to date – to be determined	n/a	On-going follow up with the band office and Chief Morris to determine potential interest in the Project.
Webequie First Nation	No	Not to date – to be determined	n/a	MFCAR Project Team to contact Webequie through alternative channels (e.g. through other initiatives they work on) and request they respond to MFCAR's efforts to contact them.

At the time of this Project Description submission, of the 11 communities in addition to MFFN that have expressed an interest in the Project, only meetings with MFFN and Aroland First Nation have occurred since April of 2019.

The following is a high-level overview of the key comments received to date, either through correspondence or at MFFN community meetings. As only one other Indigenous community, Aroland First Nation, has met with MFFN at the time of this Project Description submission, the majority of these comments are from engagement with MFFN. These comments have been generalized to provide an overall synopsis for the type and nature of comments provided.

- Queries on ownership, access to and final location of the CAR
- Queries on future use of road/access to the region from non-community members
- Queries on how the Project will and could connect with other access roads
- Interested in seeing the Project built as the current winter access road is not sufficient
- Queries on how the Project will impact future generations
- Queries on how mining development opportunities could emerge from the CAR
- Potential impacts to fish and fish habitat, water quality and wildlife corridors
- Queries on how MFFN is working with other communities
- Queries on how the community will benefit from the development of the CAR while preserving the environment and Indigenous rights
- Queries on how MFFN community members living outside of MFFN may have opportunities for business development
- Whether provincial funding will be available to other communities to participate in the Project
- Suggestion that other communities should receive benefit from the Project
- That the environment needs to be protected in the development of the CAR
- That community members need to be more involved with study decision making
- Questions around how Indigenous Knowledge will be collected and considered in the EA

Most of the comments are requests for consideration of specific issues as part of the future EA or development of the Project design. As such responses have been that their concerns have been noted and that more specific responses will be provided once the EA has been initiated as that will be when more detailed information will become available. As such, the above comments have been considered in the development of the ToR for the provincial EA.

In addition to the above, it is noted that based on the initial route screening process completed as part of the ToR, the proposal to focus the EA on the two western routes was presented to the MFFN community. To date, community members have not expressed concern with this direction. The preference to focus on the western routes was also presented to Aroland Chief & Council on June 1, 2019. No specific concern was expressed regarding this proposed outcome.

6.2.2 Future Engagement Activities

Listed below are example activities to engage neighbouring Indigenous communities who may have an interest in the Project. The level of engagement is expected to vary by community, and is being confirmed as part of the

ongoing outreach activities with neighbouring Indigenous communities. Determining the appropriate level of engagement may require an initial in-person meeting with communities who indicate a desire to be more involved, and may result in the creation of a community-specific consultation plan. Any such plan will be developed in consideration of the community's consultation and Indigenous Knowledge protocols, if available.

- **Initial Community Outreach** – Following the release of the ToR Notice of Commencement (NoC) and in advance of any in-community meetings, MFFN is following up by phone/ email with communities to confirm their level of interest and to determine the appropriate level of engagement throughout the Project.
- Depending on level of interest, **Chief and Council and Community Meetings with appropriate neighbouring Indigenous communities**, will be held to introduce the Project and gather feedback throughout the EA process.
- **Community Member Discussions**, depending on interest level, may be held with members of neighbouring Indigenous communities (e.g., Leadership, Hunters and Trappers, Youth, Elders) to discuss the Project and obtain input on, for example, routing, Indigenous Knowledge and valued ecosystem components. These discussions will be coordinated with data gathering needs for the EA.
- **Ongoing Notifications and Project Updates** will continue throughout the EA process to ensure communities are up to date on Project progress, regardless of the desired level of engagement expressed by communities.
- **Community Coordinators** may be hired from specific First Nations communities. Their role will be to support the Project on community governance structures, engagement requirements and cultural protocols and to assist in coordinating in community events.

The planned approach to engagement will be fluid to provide flexibility and adaptability to evolving Project needs and based on feedback from the communities. As with any project, it is anticipated that there will be individuals, groups or other interested parties that may require additional consultation not reflected in this current approach. In addition, communication and engagement tools will be regularly evaluated to ensure effectiveness and adjustments will be made as necessary to allow for implementation of a robust and effective engagement program.

7. Consultation with the Public and Other Interested Persons

An initial list of stakeholders has been developed by the Project Team based on discussions prior to the initiation of the provincial EA and during preparation of the ToR. Public stakeholders include individuals or groups that have an interest in the Project including but not limited to residents (e.g., residents of local communities), recreational users or those with recreational interest (e.g., hikers, campers, hunters, and environmental groups), and those with commercial interests (e.g., forestry, trappers, outfitters, other mineral tenure holders in the area). The general public will also be consulted with during preparation of the EA.

In addition, the provision of information to provincial and federal agencies and other public agencies (e.g., Municipality of Greenstone) will provide transparency and accountability throughout the duration of the Project. Key provincial agencies to be engaged during the EA include the MECP, ENDM and MNRF.

7.1 Previous Engagement with Public Stakeholders

7.1.1 Previous Consultation with Public Stakeholders

A variety of communication and engagement tools have been and will continue to be used throughout the EA process to build positive, respectful relationships, share information with interested persons and obtain input on key components of the Project. Input received through consultation activities, and how that input was considered, will continue to be documented along with a description of the consultation activities undertaken.

To date, MFFN has led engagement activities with members of the public and interested persons, including hosting open house events in Geraldton and Thunder Bay (April 2019). The focus of these engagements was to provide information and gather initial feedback from members of the public and other interested persons on the:

- Proposed Project and study area
- Community-led planning process and regulatory EA processes, including federal process requirements and milestones
- Draft Provincial ToR
- Potential routes for the CAR, and the proposed approach for selecting a preferred route
- Future consultation and engagement opportunities process

Table 7-1 provides an overview of consultation activities that have occurred in advance of the Project Description submission.

Table 7-1. Summary of Engagement Program Activities with the Public and Other Interested Stakeholders

Date	Activity Description
August 2018	Presentation at the Northern Ontario Expo by MFFN Chief
December 2018	Presentations given at the Mining Symposium
April 2019	Public Project Open House in Thunder Bay to provide information on the Project and the EA process.
May 2019	Public Project Open House in Geraldton to provide information on the Project and the EA process.

7.1.2 Previous Engagement with Regulatory Authorities

ENDM has been involved with the Project planning for many years given their role with Project funding. Since 2017, MFFN has met on a regular basis with provincial and federal agencies to review the status of the Project and discuss topics associated with major milestones, planning initiatives and Project updates. Representatives from ENDM, MECP, MNRF and CEA Agency are all participants in these regular meetings; they provide information and guidance to MFFN to consider, and will contribute to the review of EA documentation by providing comments from their mandated areas of responsibility.

Table 7-2 highlights early engagement with these regulatory agencies.

Table 7-2. Summary of Engagement Activities with Government Agencies

Date	Activity Description
2017	<ul style="list-style-type: none"> ▪ Alternative routes ▪ ToR process ▪ Aboriginal Engagement Plan
January – March 2018	<ul style="list-style-type: none"> ▪ Voluntary agreement for a provincial EA and Application Order Under the Far North Act ▪ Federal/provincial EA Coordination and requirements <ul style="list-style-type: none"> ▪ Bill C-69 Overview ▪ Permits ▪ Project Description ▪ Feedback from agencies on May 2017 MFFN Project Proposal ▪ Data Sharing Agreement with MNRF ▪ Winter Baseline Data Collection and Alternatives ▪ Availability of historical data relevant to the Project ▪ Designating a planning area ▪ Alternative routes <ul style="list-style-type: none"> ▪ Duty to consult
April - June 2018	<ul style="list-style-type: none"> ▪ Voluntary provincial EA Agreement update ▪ Data Sharing Agreement update ▪ Comments on Project Summary ▪ Federal-provincial EA Alignment/Coordination <ul style="list-style-type: none"> ▪ Project Description clarification ▪ EA process and potential new legislation ▪ Update on Baseline Studies <ul style="list-style-type: none"> ▪ Update on winter field surveys ▪ Training/monitor programs for communities' members ▪ Consultation <ul style="list-style-type: none"> ▪ EA Participation Funding

Table 7-2. Summary of Engagement Activities with Government Agencies

Date	Activity Description
August - October 2018	<ul style="list-style-type: none"> ▪ Request for Proposal for consultant to undertake EA for Project ▪ Preparations for fall Baseline Studies ▪ Consultation update ▪ Coordinated federal-provincial timelines ▪ Data sharing agreement with MNRF ▪ ENDM, MTO and MFFN flight over the various proposed corridors
November 2018	<ul style="list-style-type: none"> ▪ Consultation: Early list of Indigenous communities for Consultation/Engagement Planning and Next Steps ▪ EA Alignment Chart and EA Process Consultation ▪ Upcoming Project Milestones: Initial Notification by Proponent and Crown, NoC for ToR, and Project Description
January 2019	<ul style="list-style-type: none"> ▪ Project Update: Ring of Fire Symposium, notification letters update, website ▪ EA Alignment Chart and EA Process Consultation
February 2019	<ul style="list-style-type: none"> ▪ Project Update: NoC and Consultation plan ▪ Community/Industry engagement <ul style="list-style-type: none"> ▪ Notification letters to Indigenous communities ▪ Consultation workshop with agencies <ul style="list-style-type: none"> ▪ Project Description discussion
April 2019	<ul style="list-style-type: none"> ▪ Presentation to the Municipality of Greenstone's CAO and Mayor in Geraldton

7.1.3 Feedback from Public and Other Parties

MFFN has been collecting feedback on the proposed Project since 2017. In 2017, MFFN formally received feedback from various provincial agencies who reviewed initial route constraints assessments and baseline environmental review. Comments received will be considered through the EA process. The following is a high-level summary of feedback provided by regulatory groups that can be shared publicly and will be taken into consideration for the EA (**Table 7-3**)

Table 7-3. Summary Feedback from Regulatory Groups

Agency	General Description of Comments
ENDM	<ul style="list-style-type: none"> ▪ Consider climate change and SAR when evaluating physical effects
MTO	<ul style="list-style-type: none"> ▪ Include assessment of archaeology/heritage on preferred/final route alternative ▪ Consideration of MTO design criteria for rounding and shoulders and speed
MECP	<ul style="list-style-type: none"> ▪ Include assessment of surface water quantity and quality, changes in land cover, installation of watercourse crossings, groundwater, etc. and other biophysical features ▪ In assessment, include ancillary infrastructure (i.e. construction camps, lay-down areas) ▪ Develop contingency measures and mitigation measures (based on proven and recognized best management practices, standard protocols for stream crossings, land clearing and/or working near water with machinery) as they are well understood for road construction ▪ Assessment of blasting activities, if required ▪ Adherence to provincial regulations, as required, for Project components (as outlined in Table 1-1)
MNRF	<ul style="list-style-type: none"> ▪ In assessment, address impact of hunting, fishing, other recreational activities, food security and provincial parks

Table 7-3. Summary Feedback from Regulatory Groups

Agency	General Description of Comments
	<ul style="list-style-type: none"> ▪ In assessment, address need for type and volume of aggregate resources required ▪ In assessment, address potential introduction and establishment of invasive species ▪ Develop mitigation measures (based on proven and recognized best management practices, standard protocols for stream crossings, land clearing and/or working near water with machinery) as they are well understood

7.2 Ongoing Consultation during Regulatory Processes

In March 2019, the provincial EA officially started through the issuing of the ToR NoC. A consultation schedule for the ToR and Project Description has been developed, and will evolve as the EA progresses, including integration with a federal EA, if one is deemed required. The following were taken into consideration: direction from the MFFN Community, a review of timelines by both provincial and federal agencies, timing windows for field studies, and level of interest and consultation with interested persons including neighbouring Indigenous communities.

This Project Description will be published on the CEA Agency's website for public review and comment for 20 days. Any feedback collected can be used by the CEA Agency to determine if a federal EA is required.

MFFN will continue to engage with interested persons at an appropriate level as determined through discussions with stakeholders including provincial and federal regulatory agencies. To date, there has been interest in being engaged on the Project and continually updated; however, minimal feedback has been received as the Project is still within the early stages of formal engagement.

The intent of consultation is to provide meaningful opportunities for a wide range of input to be received from interested parties. The provision of information to the general public and other interested persons will provide transparency and accountability throughout the EA process for the Project, allowing for concerns to be documented and addressed to the extent possible. MFFN will keep pertinent government agencies up to date regarding consultation efforts through the Record of Consultation and through regularly scheduled meetings. Additionally, relevant Project documents will be available on the Project website.

Consultation activities will be employed that are tailored to the public, interested persons and government agencies whose input is required, with many of the activities running concurrently with those outlined in **Section 6**. A consultation plan for the provincial EA is to be included in the ToR. It is anticipated that this consultation plan will evolve as the provincial EA is undertaken and if a federal EA is required.

Refer to **Table 7-4** of the groups contacted to date:

Table 7-4. Stakeholders and Groups Contacted to Date

Stakeholder Group	Communication Date	Method of Engagement	Summary of Engagement
(NPO) Nonprofit/Not-for-profit organization			
Canadian Parks and Wilderness Society Wildlands League			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Advocacy group			
Greenstone District Trappers Council			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
Ontario Federation of Anglers and Hunters			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Sierra Club of Canada- Ontario Chapter			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Wildlife Conservation Society Canada			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Association/Institute			
Geraldton Chamber of Commerce			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Longlac Chamber of Commerce			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Ontario Forest Industries Association			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
Business/Industry			
Aditya – Birla, Columbia Forest Products			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
Arctic Watershed Outposts			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
Canada Chrome Corporation			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Mining Claim Holders.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Mining Claim Holders.
Debut Diamonds			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Mining Claim Holders.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Mining Claim Holders.
Journey's North Outfitters			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
Leuenberger Air Service Limited			

Table 7-4. Stakeholders and Groups Contacted to Date

Stakeholder Group	Communication Date	Method of Engagement	Summary of Engagement
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
<u>Nakina Air Service Ltd.</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
<u>Northern Ontario Tourist Outfitters</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding updates and NoC sent to Community Interest Groups.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
<u>Northland Outfitters</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
<u>O'Sullivan Lake Outfitters / Rainbow Lodge</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
<u>Timberidge Air & Outpost Camps</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
<u>Twin Lakes Outfitters</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
<u>Wilderness Outfitters</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding NoC and project updates sent to stakeholder representatives with business and tourism interests.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Business and Tourism operators.
Government/Agencies - Federal			
<u>Canada Wildlife Service</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Community and Interest Groups.
<u>Canadian Environmental Assessment Agency</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
<u>Crown-Indigenous Relations and Northern</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 12, 2019	In-person / face-to-face	Not satisfied with the route. Option presented goes through creek. May impact water quality.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
<u>Department of Fisheries and Oceans Canada</u>			
	Mar 06, 2019	Email – incoming	Confirmation of email receipt.
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
	Apr 16, 2019	Email – incoming	Email confirming receipt of submission of email regarding NoC.
<u>Employment and Social Development Canada</u>			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.

Table 7-4. Stakeholders and Groups Contacted to Date

Stakeholder Group	Communication Date	Method of Engagement	Summary of Engagement
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Environment and Climate Change Canada			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 01, 2019	Email – incoming	Environment and Climate Change Canada contacted project email expressing interest in the Project and requesting to be added to the contact list and invited to any agency meetings.
	Apr 02, 2019	Email – incoming	Inquired whether or not there is a deadline to receive scoping comments for the ToR.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
House of Commons			
	Mar 05, 2019	Email – outgoing	Sent NoC to Members of the House of Commons.
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Indigenous Services Canada			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Infrastructure Canada			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Innovation, Science and Economic Development			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Mar 08, 2019	Email – incoming	Receipt of email.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Natural Resources Canada			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Transport Canada			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Treasury Board of Canada Secretariat			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Federal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to relevant representatives of federal agencies.
Government/Agencies - Municipal			
City of Thunder Bay			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Municipal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Notice of invitation for the Open House sent to Municipal Representatives and Agencies.
District of Cochrane			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to unicipal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Notice of invitation for the Open House sent to Municipal Representatives and Agencies.
District of Thunder Bay Social Services			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Municipal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Notice of invitation for the Open House sent to Municipal Representatives and Agencies.
Kenora District Services Board			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Municipal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Notice of invitation for the Open House sent to Municipal Representatives and Agencies.
Municipality of Greenstone			

Table 7-4. Stakeholders and Groups Contacted to Date

Stakeholder Group	Communication Date	Method of Engagement	Summary of Engagement
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Municipal Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Notice of invitation for the Open House sent to Municipal Representatives and Agencies.
Government/Agencies - Provincial			
Conservation Ontario			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Energy, Northern Development and Mines			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Mar 12, 2019	Email – incoming	ENDM requested that 2 individuals from ENDM be added to the contact list.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Hydro One Networks Inc.			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
Indigenous Affairs			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Infrastructure Ontario			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Ministry of Community Safety and Correctional Services			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Ministry of Economic Development, Job Creation and Trade			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
Ministry of Energy, Northern Development & Mines			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 11, 2019	Email – incoming	ENDM confirmed receipt of the NOC and requested to be updated on all noticed related to the process.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
	Apr 29, 2019	Email – incoming	ENDM have sent out the notice of Open House to other members of the MNR in Geraldton.
	May 08, 2019	Email – outgoing	MFFN Project Team, contacted MECP and ENDM confirming that there will be a meeting with Aroland and Greenstone Municipality on May 23, 2019.
	May 05, 2019	Email – incoming	To organize a meeting with Geraldton Area Natural Resources Advisory Committee to discuss the Project. Evan confirmed the meeting will take place and the Project team will be on the agenda.
	May 09, 2019	Email – incoming	Confirmed that the meeting with Geraldton Area Natural Resources Advisory Committee would be taking place on May 22 nd .
	May 31, 2019	Email – incoming	Ask if a copy of the letter sent to First Nation communities could be shared.
Ministry of Finance			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Ministry of Municipal Affairs and Housing			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Ministry of Natural Resources and Forestry			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.

Table 7-4. Stakeholders and Groups Contacted to Date

Stakeholder Group	Communication Date	Method of Engagement	Summary of Engagement
	Apr 11, 2019	Email – incoming	Director at MNRF Far North Branch sent an email stating that the deadline for the Proposal in Support of the Province's Review of the Far North Act, was extended by 29 days.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Ministry of the Environment, Conservation and Parks			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
	May 08, 2019	Email – outgoing	Project Team contacted MECP and ENDM confirming that there will be a meeting with Aroland and Greenstone Municipality on May 23, 2019.
	May 09, 2019	Email – incoming	MECP contacted Qasim Saddique and requested that an agenda be provided to help in preparing for the session.
	May 09, 2019	Email – incoming	MECP requests details and confirmation for a meeting involving the MECP, ENDM, Aroland First Nations and Marten Falls First Nations.
	May 09, 2019	Email – outgoing	Project team responded MECP promising to share the notice and meeting agenda once Aroland FN had reviewed and finalized it.
Ministry of Tourism, Culture & Sport			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 04, 2019	Email – incoming	Ministry of Tourism, Culture and Sport contacted AECOM and sent an acknowledgement letter for the Project.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
	Apr 23, 2019	Email – incoming	Email claiming that attachment was not uploading with the received email. Confirmed receipt.
Ministry of Transportation			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Mar 11, 2019	Email – incoming	Requested to be added to the contact list and requested to speak with Project Team.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Ontario Power Generation			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives.
Indigenous Business /Group			
Greenstone Economic Development			
	Apr 16, 2019	Email and letter – outgoing	Open House invitation sent to Business and Tourism operators.
Law Enforcement/Emergency Services			
Ontario Provincial Police			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Provincial Representatives and Agencies.
	Apr 16, 2019	Email – outgoing	Invitation to Open House sent to Provincial Representatives
Mining Claim Holders			
Golden Share Resource Corporation			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Mining Claim Holders.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Mining Claim Holders.
KWG Resources Inc.			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Mining Claim Holders.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Mining Claim Holders.
Noront Resources			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Mining Claim Holders.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Mining Claim Holders.
Wabassi Resources Inc.			
	Mar 06, 2019	Email and Letter - outgoing	Letter regarding project updates and NoC sent to Mining Claim Holders.
	Apr 10, 2019	Email – incoming	Richard Sutcliffe sends an email in support of Marten Falls Access Road project on behalf of Wabassi Resources.
	Apr 16, 2019	Email – outgoing	Open House invitation sent to Mining Claim Holders.

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7.2.1 Key Communication and Engagement Tools

Key communication and engagement tools to be leveraged during the EA—and available to all stakeholder audiences—include, but are not necessarily limited to:

- **Project Notices** in local newspapers and on radio (e.g., NoC, invitation to public meetings, Notice of Submission).
- **Key Stakeholder/Informant Interviews** will be scheduled with select interested persons/ organizations (e.g., business operators, resource industry representatives, environmental groups, local residents) to gather information regarding key issues and possible concerns. Presentations to key groups will be an important component of soliciting feedback for decision-making.
- **Comment Forms and Questionnaires/ Discussion Guides** will be developed and used to gather feedback at stakeholder and community meetings, and at public information sessions.
- **Project Website** to provide ongoing access to information, employment opportunities and planned engagement activities, and to serve as a method to receive feedback and comments. The website will include published information about the Project and be populated with Project updates at key milestones.
- **Project Hotline and Email:** Contact information (e.g., telephone number and email address) will be included on Project Communication materials so that people know who to contact to solicit information or discuss Project activities and provide feedback.
- **Newsletters** will be provided regularly throughout the EA to keep people informed and up-to-date on Project progress; distribution will be scheduled around the timing of planned public information sessions and community meetings. Newsletters will also be made available on the website.
- **Project Postcards** will be distributed at open houses and Indigenous community meetings to introduce the Project and provide contact information so that people know who to contact to solicit information or discuss Project activities and provide feedback.
- **Public Information Sessions** will be held at key Project milestones in Thunder Bay and in the Municipality of Greenstone (i.e., Geraldton). These events will serve to discuss the Project and obtain input from members of the public and other interested persons. Additionally, invitations will be extended to any interested Indigenous persons who currently reside in Thunder Bay and the Municipality of Greenstone. Public information sessions will be advertised in local papers, and through the Project mailing list and website.
- **Review of EA Documentation:** In addition to the consultation noted above, the public and interested persons will have the opportunity to review and comment on EA documentation.

The planned approach to engage with other potential stakeholders will be fluid to provide flexibility and adaptability to evolving Project needs. As with any project, it is anticipated that there will be individuals, groups or other interested persons that may require additional consultation not reflected in this approach. In addition, communication and engagement tools will be regularly evaluated to ensure effectiveness and adjustments will be made as necessary to allow for implementation of a robust and effective consultation program.

7.3 Project Information Materials

MFFN is committed to providing Project information in a timely and culturally sensitive manner; using plain language and visual aids as much as possible. Clear and concise materials developed for each round of engagement will highlight progress, decisions made, further opportunities to provide feedback and next steps.

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The information provided by the Project Team will also reflect how input was considered and included in the Project outcomes. Materials presented will be tied to the Project phase, and are anticipated to include notifications, PowerPoint presentations, display boards/ posters, plain language Fact Sheets/ Discussion Guides and large scale maps showing the Project details.

To ensure appropriate persons learn of the Project and have an opportunity to input and attend events, notifications will be posted on the Project website (<http://www.martenfallsaccessroad.ca>), and in a variety of media channels that cover the fairly vast and remote study area.

8. References

- April Mitchell, 2019. Terrestrial Ecosystem Science Specialist / Northwest Region / Ministry of Natural Resources and Forestry. Pers. comm. E-mail to James Kamstra (AECOM) May 3, 2019.
- Agriculture and Agri-Food Canada, 1998. The Canadian System of Soil Classification. Agriculture and Agri-Food Canada Publication 1646 (3rd ed.). Ottawa, ON: NRC Research Press. p. 187 pp. ISBN 0-660-17404-9.
- Alberta Utilities Commission, 2017. Rule 012: Noise Control. Available online at: <http://www.auc.ab.ca/Shared%20Documents/Rules/Rule012.pdf>. Accessed March 8, 2019.
- Calvert, A., C. Bishop, R. Elliot, E. Krebs, T. Kydd, C. Machtans and G. Robertson, 2013. A synthesis of human-related avian mortality in Canada. *Avian Conservation and Ecology*, 8(2).
- Canadian Standards Association, 2014. CSA S6 Canadian Highway Bridge Design Code.
- Cliffs Natural Resources (Cliffs), 2013. Amended Terms of Reference for Cliffs Chromite Project Individual Environmental Assessment. Prepared by Golder Associates Ltd.
- Committee on the Status of Endangered Wildlife in Canada, 2017. COSEWIC Assessment and Status Report on the Lake Sturgeon (*Acipenser fulvescens*) Western Hudson Bay Populations, Saskatchewan-Nelson River populations, Southern Hudson Bay-James Bay populations and Great Lakes-Upper St. Lawrence populations in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. <http://publications.gc.ca/site/eng/9.840470/publication.html>
- Crins, William J., Paul A. Gray, Peter W.C. Uhlig, and Monique C. Wester, 2009. The Ecosystems of Ontario, Part I: Ecozones and Ecoregions. Ontario Ministry of Natural Resources, Peterborough Ontario, Inventory, Monitoring and Assessment, SIB TER IMA TR- 01, 71pp.
- Eakins, R.J., 2018. Ontario Freshwater Fishes Life History Database. Version 4.84. Online database www.ontariofishes.ca. Accessed March 11, 2019.
- Environment Canada, 2014. Avoiding harm to migratory birds. Available: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html>.
- Farmer, A.M, 1993. The effects of dust on vegetation – a review. *Environmental Pollution*. 76: 63-75.
- Ferguson, S.H. and P.C. Elkie, 2004. Seasonal movement patterns of woodland caribou (*Rangifer tarandus caribou*). *Journal of Zoology* 262(2):125-134. <https://doi.org/10.1017/S0952836903004552>
- Fisheries and Oceans, 2012. *Fisheries Act* R.Sc., 1985, c. F-14, <https://laws-lois.justice.gc.ca/PDF/F-14.pdf> (accessed June 28, 2019).
- Gamble, Jessica, 2017. What's at Stake in Ontario's Ring of Fire. Text. *Canadian Geographic*. August 23, 2017. <https://www.canadiangeographic.ca/article/whats-stake-ontarios-ring-fire>.

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- Golder Associates Ltd, 2018. Environmental Study Report for the Phase 2 Connecting 17 Remote First Nation Communities Project. Environmental Assessment, 211.
- Government of Canada, 2018a. Basics of Environmental Assessment. Available online at <https://www.canada.ca/en/environmental-assessment-agency/services/environmental-assessments/basics-environmental-assessment.html>. Accessed April 8, 2019.
- Government of Canada, 1982b. Canadian Charter of Rights and Freedoms, s 8, Part 1 of the *Constitution Act, 1982*. Section 35. Schedule B to the *Canada Act 1982* (UK), 1982, c 11.
- Government of Canada, 2018c. Canadian climate normal 1981-2010 station data. Available online at http://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?searchType=stnName&txtStationName=Geraldton&searchMethod=contains&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=4003&dispBack=1. Accessed March 7, 2019.
- Government of Ontario, 2012. Far North of Ontario. Information about the Far North of Ontario and how to view the boundary in detail. <https://www.ontario.ca/rural-and-north/far-north-ontario>
- Government of Ontario, 2013a. Forest Management Unit | Ontario.Ca. 2013. <https://www.ontario.ca/data/forest-management-unit>.
- Government of Ontario, 2013b. Environmental Noise Guideline – Stationary and Transportation Sources – Approval and Planning (NPC-300). Available online at: <https://www.ontario.ca/page/environmental-noise-guideline-stationary-and-transportation-sources-approval-and-planning>. Accessed March 8, 2019.
- Government of Ontario, 2014. The Far North Land Use Planning Initiative. May 30, 2014. <https://www.ontario.ca/page/far-north-land-use-planning-initiative>.
- KBM Resources Group, 2014. Marten Falls First Nation to Muketei Airstrip winter road project description.
- KBM Resources Group, n.d. High Quality winter Road to the Community of Marten Falls. Marten Falls First Nation (MFFN), n.d. *Marten Falls First Nation Community Profile*.
- Marten Falls First Nation and Ministry of Natural Resources (MFFN and MNRF), 2013. Marten Falls First Nation Community Based Land Use Plan Terms of Reference 2013. Accessed from <https://dr6j45jk9xcmk.cloudfront.net/documents/2301/marten-falls-community-based-land-use-plan-terms.pdf>.
- Marten Falls First Nation, 2014. Marten Falls Community Profile.
- Marten Falls First Nation, 2017. Preferred Route Selection and Preliminary Environmental Work Project Proposal.
- Matawa First Nations Management, 2019. Matawa » Economic Development. Accessed March 10, 2019. <http://www.matawa.on.ca/department/economic-development/>.
- Matawa First Nations Management. n.d. Aroland First Nation. <http://community.matawa.on.ca/?matawa-communities=aroland>.
- Ministry of Environment, Conservation, and Parks, 2019. Species at Risk in Ontario. <https://www.ontario.ca/page/species-risk-ontario> . Accessed February 2019.

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- Ministry of Energy, Northern Development and Mines (ENDM), 2017a. Quaternary Geology.
<https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/quaternary-geology>.
- Ministry of Energy, Northern Development and Mines (ENDM), 2017b. Bedrock Geology.
<https://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/bedrock-geology>.
- Municipality of Greenstone, (2015). "Greenstone Community Profile," Available at
<http://www.greenstone.ca/content/community-profile>. Accessed April 30, 2019
- Neegan Burnside Ltd., 2009. Matawa First Nations Tribal Council Winter Road Realignment Study.
- Natural Resources Canada, 2019. The Atlas of Canada – Toporama. Online mapping application. Available at
<http://atlas.gc.ca/toporama/en/index.html>. Accessed March 8, 2019.
- Ontario Federation of Snowmobile Clubs, 2019. Interactive trail guide 2018-2019 season. Available online at
<https://trails.evouala.com/ofsc/#>. Accessed March 7, 2019.
- Ontario Geological Survey, 1984. Aggregate Resources Inventory of the Hearst Area, Cochrane District; Ontario, Geological Survey, Aggregate Resources Inventory Paper 71, 51 p., 6 tables, 6 maps, scale 1:50 000.
- Ontario Highway Traffic Act, R.S.O., 1990, c. H.8., 2019. Ontario Regulation 413/05, Vehicle Weights and Dimensions – For Safe, Productive and Infrastructure-Friendly Vehicles. Available online at
<https://www.ontario.ca/laws/regulation/050413#BK71>.
- Ontario Ministry of Natural Resources and Forestry (MNRF), 2019. Natural Heritage Information Centre *Make-a-Map*. <https://www.ontario.ca/page/get-natural-heritage-information>.
- Ontario Ministry of Tourism, Culture and Sport (MTCSS), 2017. Regional Tourism Profiles. 2017.
<http://www.mtc.gov.on.ca/en/research/rtp/rtp.shtml>.
- Ontario Ministry of Transportation (MTO), 1985. Geometric Design Standards for Ontario Highways. Available at
<https://www.middlesex.ca/sites/default/files/Geometric%20Design%20Manual%20Part%201.pdf>.
- Ontario Nature, 2019. Reptile and Amphibian Atlas. <https://ontarionature.org/oraa/maps/>. Accessed June 2019
- Natural Resources Canada, 2019:
The Atlas of Canada – Toporama. Online mapping application.<http://atlas.gc.ca/toporama/en/index.html>.
- Neegan Burnside Ltd. 2009:
Matawa First Nations Tribal Council Winter Road Realignment Study.
- Spellerberg, I.F., 1998. Ecological effects of roads and traffic: a literature review. *Global Ecology and Biogeography Letters*. 7: 317-333.
- Statistics Canada, 2017a. Census Profile, 2016 Census - Marten Falls 65, Indian Reserve [Census Subdivision], Ontario and Kenora, District [Census Division], Ontario. February 8, 2017.
<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3560052&Geo2=CD&Code2=3560&Data=Count&SearchText=marten%20falls&SearchType=Begins&SearchPR=01&B1=All&TABID=1>.

Marten Falls All-Season Community Access

- Statistics Canada, 2017b. Census Profile, 2016 Census - Aroland 83, Indian Reserve [Census Subdivision], Ontario and Thunder Bay, District [Census Division], Ontario. February 8, 2017.
<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3558076&Geo2=CD&Code2=3558&Data=Count&SearchText=aroland&SearchType=Begins&SearchPR=01&B1=All&TABID=1>.
- Statistics Canada, 2017c. Census Profile, 2016 Census - Greenstone, Municipality [Census Subdivision], Ontario and Thunder Bay, District [Census Division], Ontario. February 8, 2017.
<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=3558075&Geo2=CD&Code2=3558&Data=Count&SearchText=greenstone&SearchType=Begins&SearchPR=01&B1=All&TABID=1>.
- Stuart-Smith, A.K., C.J.A. Bradshaw, S. Boutin, D.M. Hebert, and A.B. Rippin, 1997. Woodland Caribou Relative to Landscape Patterns in Northeastern Alberta. *Journal of Wildlife Management* 61:622-633.
- Sykes, J.F., S.D. Normani, M.R. Jensen and E.A. Sudicky, 2009. An assessment of the groundwater resources of Northern Ontario: Areas draining into Hudson Regional-scale groundwater flow in a Canadian Shield setting. *Canadian Geotechnical Journal*, vol. 46, p. 813-827.
- Transportation Association of Canada (TAC), 2017. *Geometric Design Guide for Canadian Roads*. Chapter 2 – Design Controls, Classification and Consistency.
- Watkins, Larry, 2011. *The Forest Resources of Ontario 2011*. Ontario Ministry of Natural Resources, Sault Ste. Marie Ontario, Forest Evaluation and Standards Section, Forests Branch 307 pp.
- W. L. Lees & Associates Ltd, & Campbell, B., 2011. Marten Falls First Nation – Winter road realignment / all weather road project, feasibility analysis and business plan report.

