B13. Marten Falls First Nation (MFFN)

B13.1 Outgoing Community Specific Correspondence

B13.2 Incoming Community Specific Correspondence

B13.3 Draft Aboriginal and / or Treaty Rights and Interests Preliminary Existing Conditions Report

B13.4 Community Specific Meeting Materials

B13.1 Outgoing Community Specific Correspondence

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Wednesday, June 14, 2023 1:45 PM
Subject: We're hiring an in-community Community Coordinator!
Attachments: MFFN-Community Coordinator Job Poster.pdf; Community Coordinator Resume Template.docx

We're hiring a Community Coordinator for Marten Falls First Nation Community Access Road!

Are you a Marten Falls First Nation (MFFN) community member living in MFFN and looking for temporary part-time work? Do you have strong organizational and relationship building skills? Would you like to work with a great team and build experience in environmental management? If so, this could be the role for you!

An overview of the position is below, and a job poster is attached. Reply to this email by July 14, 2023, if you're interested and fill out the attached resume template explaining why you're a good fit for the job, and we'll contact you to chat more!

Responsibilities

- Coordinate between the MFFN Community Access Road Project Team and community members living in / outside of your community as per your local practices and in collaboration with Chief and Council;
- Provide advice and guidance on appropriate ways to engage your community – in-person and virtually;
- Keep informed on Community Access Road Project activities (e.g., timelines, documents, events) and communicate relevant Project information to community members;
- Participate in meetings with the Project Team and other Community Coordinators;
- Provide support for community engagement activities related to the Project including:
  - Coordinate and organize logistics for meetings, workshops, events and / or school visits (e.g., book meeting spaces, order refreshments, help with truck / boat rentals and accommodations)
  - Help identify meeting participants and information providers (e.g., youth and / or elders);
  - Assist with meeting facilitation, note taking and meeting minute preparation, and coordinate translation services, if needed; and
  - Organize distributing Project advertisements and notices in your community; either online (e.g., Facebook or posting in community);
- Assist in collecting data / information in your community (e.g., Indigenous Knowledge, community information and socio-economic information);
- Assist in reviewing draft documents, questionnaires or Project updates / information sheets.

Next Steps

This position will receive $25 per hour and is expected to be approximately 16 hours per week for up to 3 years. If you would like to learn more, contact: Jennifer Bruin or Kathryn Ross at info@martenfallsaccessroad.ca or 1-800-764-9114. You can also reply directly to this email explaining why you're interested and fill out the resume template attached.

--
MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

MARTEN FALLS FIRST NATION
ALL SEASON COMMUNITY ACCESS ROAD

We're Hiring a Community Coordinator!

Issued: June 2023

Do you live in Marten Falls First Nation? Do you have strong organizational and relationship building skills? Would you like to work with a great project team and build experience - in environmental management?

If so, this could be the role for you!

The Community Coordinator will be a primary point of contact between your community and the MFFN Community Access Road Project Team. We will work closely with you as you help to involve your community in the environmental as-sessment processes.

Apply by July 14, 2023!

This position will receive $25 per hour and is expected to be approximately 16 hours per week for up to 3 years. If you would like to learn more, contact: Jennifer Bruin or Kathryn Ross at info@martenfallsaccessroad.ca or 1-800-764-9114.

Contact Us

Tel: 1-800-764-9114
Email: info@martenfallsaccessroad.ca
Web: www.martenfallsaccessroad.ca
Facebook: [redacted]

Resume, Community Coordinator

for the Marten Falls First Nation Community Access Road

Contact Information

[Name]

[Phone Number]

[Email Address]

[Do you live in-community?]

Why are you interested in the Community Coordinator Position?

Work Experience

Dates	Job Title	Organization	Job Description

Volunteer Experience

Dates	Volunteer Title	Organization	Volunteer Description

Education

Dates	Program

References

[Name and phone number / email]

From: Nokleby, Andrea <[redacted]
Sent: June 19, 2023 7:00 AM
To: Bruce Achneepineskum; [redacted]; Maria Baxter; [redacted]; corrina baxter
Cc: Bob Baxter; Qasim Saddique; Lawrence Baxter; Ross, Kathryn
Subject: Re: Follow-up Re: MFFN CAR IK Program Key Dates

This Message Is From an External Sender

This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Good Morning,

I hope this email finds you and your community well. We just wanted to follow up with you on the email below and the June 30, 2023 milestone for sharing Indigenous Knowledge (IK) and information on Indigenous land and resource use. Please note, that we will continue to work with you following this date to share information for subsequent phases of the assessment processes.

If you would like to meet to further discuss the IK Program, please do not hesitate to let me know.

Have a wonderful week ahead,

Andrea

DILLON CONSULTING

Andrea Nokleby
Partner
Dillon Consulting Limited
[redacted]
www.dillon.ca

Inclusiveness: Enabling belonging to draw strength from our differences.

staketracker@martenfallsaccessroad.ca

From: Price, Katelyn <[redacted]
Sent: Thursday, June 22, 2023 4:30 PM
To: Bruce Achneepineskum
Cc: Deveaux, Leah; Trimble, Ingrid; Ross, Kathryn; [redacted] jennifer bruin; Qasim Saddique; Anderson, Victoria
Subject: RE: Marten Falls Cultural Heritage Field Program Participation

Hi Chief Bruce,

As mentioned on the phone we are rebooking our Cultural Heritage and Socio-Economic Programs. I have added the dates and details below. Please let me know if you are interested in joining for one or both of the days.

July 18 - Cultural Heritage Program

- Cultural Heritage Team leave from Thunder Bay on charter plane in the morning into community.
- Complete interviews with Elders in the morning and drop-in session at the gym 12-2pm. Finish off interviews in the afternoon.
- Cultural Heritage Team to return to Thunder Bay on charter in late afternoon. Bob and Rowena to stay overnight in community to assist on July 19.

July 19 AM – Socio Ec Program

- Socio-Economic Team to leave Thunder Bay in the morning, arrive in community.
- Socio-Economic and Human Health Surveys in the gym
- Return to Thunder Bay on charter in late afternoon.

We are having to cancel the flyover in the helicopter at this time unfortunately due to helicopter availability because of wildfires but as outlined above we are still doing in-person data collection through interviews, conversations with community members and surveys.

Let me know if you have any questions and are interested in attending.

Thank you,

Katelyn Price
Environmental Planner

[redacted]

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Thursday, July 6, 2023 12:28 PM
Subject: Cultural Heritage and Socio-Economic Field Program Update
Attachments: 2023-04-21-2023 Spring Field Notice.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

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Hello,

Further to the Spring 2023 field study update for the Marten Falls First Nation (MFFN) Community Access Road issued on April 21, the Cultural Heritage and Socio-Economic Field Programs have been scheduled from July 18-July 20, 2023.

The cultural heritage and socio-economic and human health teams will run programs in-person with conversations and focus groups in Marten Falls First Nation and Thunder Bay with Marten Falls First Nation members. Please note that the aerial surveys for the cultural heritage field program have been cancelled due to the increasing risks from forest fire activity in the area.

MFFN Community Interviews, Focus Groups and Survey Schedule

Tuesday July 18 – In-Community interviews with the Cultural Heritage team
Conversations with Elders will be conducted at the Elder Complex in the morning.
Drop-In hours to discuss cultural heritage will be held at the Gym from 12:00 – 2:00 p.m.

Wednesday July 19 – In-Community Surveys with Socio-Economic team
Socio-economic and Human Health Surveys will be available to fill out in person and online.*
Drop-In hours will be held at the Gym from 12:00 – 2:00 p.m.

** The online survey will be available from July 17 – July 30. A separate email with a link to the survey will be sent out on July 17.*

Thursday July 20 – Youth Focus Group in Thunder Bay
Youth focus group, spaces are limited, and recruiting is being done through the Choose Life Program

Food and gift cards for door prizes will be available at all sessions!

The 2023 Spring Field Notice is attached (and on our website) with more information.

If you have any questions or comments about the program, please reply to this email or give us a call at 1-800-764-9114.

Sincerely,
Marten Falls First Nation Community Access Road Project Team

--
MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

Field Notice

Spring 2023 Field Notice

Vegetation and Peatlands, Cultural Heritage, Ungulate Remote Camera, Groundwater and Geochemistry, Wolverine Hair Snag, Socio-Economics and Human Health

Issued: April 2023

What's Happening?

The following field programs are continuing for the provincial Environmental Assessment (EA) and the federal Impact Assessment (IA) for Marten Falls First Nation's proposed Community Access Road:

Vegetation and Peatlands

To better understand potential effects that the proposed Community Access Road may have on plants, such as reindeer lichen (wabakamik), goose berry (oshabomin) and speckled alder (wadopatik), and peatlands in the area, field crews will be visually observing and documenting plant communities and wetland areas throughout the study area. Field crews will observe areas from the air in helicopters and on the ground. Field surveys will be non-invasive with equipment limited to hand-operated soil augers or peat probes. Vegetation studies will focus on areas associated with potential aggregate resources and access roads. These are a continuation of field studies that took place in 2019, 2021 and 2022.

The vegetation and peatlands programs are expected to begin in June 2023.

Cultural Heritage

The cultural heritage field program will include surveys from the air of built heritage and cultural heritage resources in the study area. Field surveys will be non-invasive and will consist of photographic and written documentation, and community-based interviews. Field crews will be in the Marten Falls First Nation community for the first part of this field program and will stage out of Geraldton for the second portion.

The cultural heritage program is expected to begin in May 2023.

Field Notice

Ungulate Remote Camera

Remote cameras for the ungulate remote camera program will be retrieved from the field this spring. Cameras have been in the field for two years documenting presence, distribution and seasonal patterns of wolves (maihganang), moose (moozoog) and other wildlife.

The ungulate remote camera program is expected to begin in May 2023.

Groundwater and Geochemistry

The groundwater and geochemistry program is continuing. Drilling of sites not completed in 2022 will continue in spring 2023. Monitoring wells will be sampled three times a year until they are decommissioned in spring 2024.

- Groundwater drilling started on April 10 and are anticipated to be completed by April 30.
- Due to the presence of wolverine in the study area, a second round of groundwater drilling will be completed outside of the wolverine denning period. This second round is required for two sites, and is planned to start in early June.
- A groundwater sampling program is also expected to start in late May / early June.

Wolverine (wishkobishag) Hair Snag

The wolverine (wishkobishag) hair snag program is continuing, hair snag traps will continue to be baited monthly and traps will be retrieved from the field in late spring.

The wolverine hair snag program will continue to rebait traps monthly until decommissioning in June 2023.

Field crews will include Marten Falls First Nation community member Field Assistants or Community Member Advisors.

MARTEN FALLS FIRST NATION
COMMUNITY ACCESS ROAD

Field Notice

Socio-Economic and Human Health

The socio-economic and human health team will be conducting interviews and focus groups in Marten Falls First Nation and Thunder Bay with Marten Falls First Nation members in May and June 2023.

To learn more about vegetation, peatlands, cultural heritage, groundwater, ungulates and furbearers including wolverine, view **webinars recordings** and **educational videos** on our website.

An update will be provided once dates are confirmed or if scheduling changes due to weather or other conditions. The field crews will be accessing sites across the study area by helicopter, you may see helicopters in the area.

Where?

See the next page for a map.

Contact Information

You are welcome to contact the Project Team at any time with questions or comments:

Bob Baxter
Senior Community Member Advisor Marten Falls First Nation
1-800-764-9114 | info@martenfallsaccessroad.ca
www.martenfallsaccessroad.ca

ALTERNATIVE 1

LOCAL STUDY AREA (LSA)

ALTERNATIVE 4

MARTEN FALLS FIRST NATION

MARTEN FALLS FIRST NATION WINTER ROAD

ANACONDA RD

PAINTER LAKE RD

STORM RD

ALBANY RIVER PROVINCIAL PARK

OGOKI RIVER PROVINCIAL PARK (WATERWAY CLASS)

LITTLE CURRENT RIVER PROVINCIAL PARK

Albany River

Stonebasket Island

Wabimeig Lake

Gourlie Creek

Dusey Lake

Makokibatan Lake

Patience Lake

Harrogate Lake

Kayedon Lake

Ogoki Lake

Painter Lake

Colpitts Creek

Calbert Creek

Ruby Creek

La Rose Creek

Little Current River

Percy Lake

Kenogamisis Lake

Lansdowne House

Eabametoong First Nation

Marten Falls First Nation

Armstrong

Aroland First Nation

Nakina

Lake Nipigon

Geraldton

Hearst

Manitouwadge

Homepayne

Thunder Bay

Lake Superior

Map Location

Legend

Local Study Area (LSA)

Route Alternatives

Alternative 1

Alternative 4

General Features

Local Road

Resource / Recreation Road

MFFN Existing Winter Access Road

Watercourse

Waterbody

Far North Boundary

First Nation Reserve

District Municipal Boundary

Provinicial Park

Notes:

None

Data Source:

Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Spring 2023 Field Programs

0 5 10 20

Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Apr, 2023

1:450,000

* when printed 11"x17"

Rev:00

Figure 1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be 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 express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: \\na.aecomnet.com\LFS\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Field Notice Maps\MXD_Fig1_SpringFieldProgram_60593122.mxd
Date Saved: 4/13/2023 7:06:59 AM User Name: Stephanie.Clark

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Monday, July 17, 2023 2:36 PM
Subject: Reminder: Cultural Heritage and Socio-Economic Field Program

Follow Up Flag: Flag for follow up
Flag Status: Flagged

This Message Is From an External Sender

Report Suspicious

This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

The Cultural Heritage and Socio-Economic Field Programs have been scheduled for this week, from July 18 to July 20, 2023!

The cultural heritage and socio-economic and human health teams will run programs in-person in Marten Falls First Nation and Thunder Bay with Marten Falls First Nation members.

Where and When:

Tuesday July 18 – In-Community interviews with the Cultural Heritage team

Conversations with Elders will be conducted at the Elder Complex in the morning.
Drop-In hours to discuss cultural heritage will be held at the Gym from 12:00 – 2:00 p.m.

- Food and door prizes will be available to participants.

Wednesday July 19 – In-Community Surveys with Socio-Economic team

The Socio-Economic team is gathering input related to socio-economic studies for MFFN community members who live on and off reserve and a health survey for MFFN members who live on reserve.
Drop-In hours will be held at the Gym from 12:00 – 2:00 p.m. to fill out the surveys in person

- Food and door prizes will be available to participants (the prize will be drawn after the online survey has closed).

You can also complete the surveys online:

- Socio-Ec On Reserve: [redacted]
- Socio-Ec Off Reserve: [redacted]
- Health Survey: [redacted]

The surveys will be open from now until July 31.

Thursday July 20 – Youth Focus Group in Thunder Bay

From 5:00 – 6:45 p.m. in the Tamarack Room, Days Inn and Suites, 645 Sibley Drive, Thunder Bay
$50 Amazon Gift Card provided to participants
Pizza and refreshments will be available.

If any Elders are interested in speaking to our Cultural Heritage Team or filling out the Socio-Economic surveys, please contact Rowena Moonias at [redacted]

Any Youth in Thunder Bay interested in participating in the Focus Group please contact Rowena Moonias at [redacted]

Visit our website for more information on field programs in and around the community.

Sincerely,

Marten Falls First Nation Community Access Road Project Team

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MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Tuesday, July 25, 2023 12:34 PM
Subject: Complete the Socio-Economic and Health Survey!

This Message Is From an External Sender

Report Suspicious

This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

The in-person Cultural Heritage and Socio-Economic Field Programs concluded last week, and we thank all those who were able to participate.

For those who were not able to take part in person, we still want to hear from you!

The Socio-Economic team is gathering input related to socio-economic studies for MFFN community members who live on and off reserve and a health survey for MFFN members who live on reserve.

You can also complete the surveys online using the following links:

Socio-Ec On Reserve: [redacted]
Socio-Ec Off Reserve: [redacted]
Health Survey: [redacted]

The surveys will be open until July 31! Those who complete the surveys will be entered to win $250 or $500 Visa Gift Cards!

If you have any questions about the surveys or the recent field programs, please do not hesitate to contact us.

Sincerely,
Marten Falls First Nation Community Access Road Project Team

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MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Thursday, July 27, 2023 10:16 AM
To: undisclosed-recipients:
Subject: Join the Community Coordinator Program!

MARTEN FALLS FIRST NATION

ALL SEASON COMMUNITY ACCESS ROAD

Community Coordinator Program

Since March 2022, the Marten Falls First Nation (MFFN) Community Access Road Project Team has shared on-going communications about providing funding for a Community Coordinator from your community.

We believe a Community Coordinator will strengthen our collective efforts on the Community Access Road, while keeping your community up-to-date and involved.

Responsibilities

- Coordinate between the MFFN Community Access Road Project Team and community members living in / outside of your community as per your local practices and in collaboration with Chief and Council;
- Provide advice and guidance on appropriate ways to engage your community – in-person and virtually;
- Keep informed on Community Access Road Project activities (e.g., timelines, documents, events) and communicate relevant Project information to community members;
- Participate in meetings with the Project Team and other Community Coordinators;
- Provide support for community engagement activities related to the Project including:
  - Coordinate and organize logistics for meetings, workshops, events and / or school visits (e.g., book meeting spaces, order refreshments, help with truck / boat rentals and accommodations)
  - Help identify meeting participants and information providers (e.g., youth and / or elders);
  - Assist with meeting facilitation, note taking and meeting minute preparation, and coordinate translation services, if needed; and
  - Organize distributing Project advertisements and notices in your community; either online (e.g., Facebook) or posting in community;
- Assist in collecting data / information in your community (e.g., Indigenous Knowledge, community information and socio-economic information);
  - Assist in reviewing draft documents, questionnaires or Project updates / information sheets.

How much funding is available?

The funding available for a Community Coordinator is $25/hour for 16 hours per week. Communities can choose to go with milestone-based payments where the First Nation distributes funding directly to the Community Coordinator or direct payments from the Project to the Community Coordinator—the choice is up to your community!

How many months will the funding be available for?

Funding is available as soon as you agree to start and the hiring process is completed, until the Final Environmental Assessment / Impact Statement is issued. Our current schedule for issuing this document is July 2025.

Next Steps

If you would like to learn more, contact Jennifer Bruin or Demetri Poulakas at info@martenfallsaccessroad.ca or 1-800-764-9114.

© 2023 Marten Falls First Nation Community Access Road

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Friday, August 18, 2023 1:20 PM
Subject: Complete the Socio-Economic and Health Survey and enter to win a $250 Visa Gift Card!

Follow Up Flag: Follow up
Flag Status: Flagged

This Message Is From an External Sender

This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Hello,

The Socio-Economic team for the MFFN Community Access Road is gathering input related to socio-economic studies for MFFN community members who live on and off reserve and a health survey for MFFN members who live on reserve.

You can complete the surveys online using the following links:

Socio-Ec On Reserve: [redacted]
Socio-Ec Off Reserve: [redacted]
Health Survey: [redacted]

The surveys will be open until August 25! Those who complete the surveys will be entered to win $250 or $500 Visa Gift Cards!

If you have any questions or need help completing the surveys, please do not hesitate to contact us.

Sincerely,
Marten Falls First Nation Community Access Road Project Team

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MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Friday, August 25, 2023 3:35 PM
To: Bruce Achneepineskum
Subject: Re: Complete the Socio-Economic and Health Survey and enter to win a $250 Visa Gift Card!

Good afternoon Chief Bruce,

Thank you for your email and interest in the Socio-Economic and Health Surveys that our Team is conducting with Martin Falls First Nation members.

Please note, that the original survey took place in-community on July 19, 2023 with assistance from Rowena Moonias, Community Coordinator.

The online survey has remained open and we have been reaching out to Marten Falls members as follows:

- Posts on the private Facebook Group;
- Regular reminder emails to community members to fill out the survey; and
- Posters advertising the survey with links and QR codes posted in-community.

We are now reaching out to specific individuals including Elders and youth to complete the surveys. Rowena will identify and reach out to each member directly. This added effort is to collect an adequate number of responses for the study and to reach a diversity of respondents.

Please note that if a high enough response rate is not achieved in this round of engagement, the Team would likely administer the survey in-community again in October 2023.

Please let us know if you have any additional questions.

Sincerely,
The Marten Falls Community Access Road Project Team

MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

From: Poulakas, Demetri
Sent: October 5, 2023 5:24 PM
To: [redacted]
Subject: Marten Falls First Nation Community Access Road Update

Good afternoon Chief Bruce Achneepineskum,

Hope this email finds you well. Firstly, I would like to take the opportunity to congratulate you and Council on the recent election results. I would also like to provide you with an update of the upcoming activities that will be occurring regarding the Community Access Road.

Public Information Centre #5

PIC #5 will be held in Thunder Bay on October 23 and Marten Falls on October 24, for Marten Falls First Nation community members. PIC #5 for the public and other interested Indigenous Communities, will be held on October 25 in Thunder Bay, and Geraldton on October 26. Dates and a formal notice will be shared soon.

During PIC #5, please join us for updates and information on the following:

- Update on what we heard at the first Aboriginal and Treaty Rights and Interests (ATRI) forum and plans for the next forum;
- Update on existing conditions results for completed studies;
- How Indigenous Knowledge is being used for the Project and how it informs the process;
- Existing conditions results for completed studies;
- How route alternatives will be assessed, recommended and a preferred route chosen;
- Cumulative Effects Assessment and why it is important; and
- Next steps and future opportunities to get involved.

At PIC #5, we will also be inviting both on and off-reserve Marten Falls community members to complete Socio-Economic and health study surveys for the Community Access Road. The responses to these surveys are important and will help to understand, predict, and manage potential socio-economic or health effects from the Community Access Road. These surveys will be available to fill out during the Marten Falls First Nation specific PIC events on October 23 and 24 in both Marten Falls and Thunder Bay. Prizes will be given out for filling out a survey! Rowena Moonias is available if you have any questions about the surveys at [redacted]

Aboriginal and Treaty Rights and Interests Forum

There will be upcoming Forum on Aboriginal and Treaty Rights and Interests November 21-23 in Thunder Bay, where cumulative effects will also be presented.

Climate Change Workshop

Workshop to be held in Q1 2024 with interested Indigenous Communities.

Community Coordinators

Have had interest from multiple Marten Falls First Nation Community members for the in-community position. Names to be shared with Chief and Council for approval.
Thank you and have a great long weekend,

Demetri Poulakas

On behalf of the MFFN CAR Project Team

Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]
aecom.com

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From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Friday, October 6, 2023 1:34 PM
To: undisclosed-recipients:
Subject: Public Information Centre #5 – Upcoming meetings for Marten Falls Community Members
Attachments: MFFN Member PIC5-Poster.pdf

Good afternoon,

You're invited to attend the Marten Falls First Nation All-Season Community Access Road Meeting for the Existing Conditions Report and Route Selection Milestone (related to Public Information Centre #5).

There are two opportunities to participate:

Thunder Bay, Ontario	Marten Falls First Nation
Date: Monday, October 23, 2023 Time: 5:00 p.m. to 8:00 p.m. Location: Best Western Nor'Wester 2080 Highway #61 Thunder Bay, Ontario *Dinner served at 6:00 p.m. ** Complimentary shuttle transportation to and from the meeting is available.	Date: Tuesday, October 24, 2023 Time: 11:00 a.m. to 3:00 p.m. Location: MFFN School Gymnasium *Lunch served at 11:30 a.m.

Join us for a presentation, Q&A session and an open house period, where you will be able to view maps and share your feedback with team members. This meeting is a chance for the MFFN community to review materials in advance of the Public Information Centre #5.

Everyone is welcome! Food, refreshments, and PRIZES will be provided, along with family friendly activities for all ages.

Please feel welcome to share this email and attached poster with family and friends.

Public Information Centre #5
In addition to the MFFN community members meetings, you're also welcome to attend the public sessions on Wednesday, October 25 in Thunder Bay and Thursday, October 26 in Geraldton. A separate notice with details for these meetings will be sent out shortly.

Please reach out if you have any questions. We look forward to meeting with you!

Meegwetch,
Marten Falls First Nation Community Access Road Project Team

--
MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

MARTEN FALLS FIRST NATION
ALL- SEASON COMMUNITY ACCESS ROAD
PUBLIC INFORMATION CENTRE #5

Join us for the Marten Falls First Nation (MFFN) All-Season Community Access Road Public Information Centre: Existing Conditions Report and Route Selection Milestone (Public Information Centre #5)

MFFN Members Only

There are two opportunities to participate:

Monday, October 23, 2023
Best Western Plus Nor'Wester Hotel
2080 Hwy 61
Thunder Bay, Ontario
5:00 p.m. to 8:00 p.m.
Buffet dinner served at 6:00 p.m.

Tuesday, October 24, 2023
MFFN School Gymnasium
11:00 a.m. to 3:00 p.m.
Lunch served at 11:30 a.m.

Featuring:

- Presentation, Q&A, and maps.
- Door prizes for kids and adults!
- Complimentary shuttle service to and from meeting in Thunder Bay upon request.

Have your say. Share your comments, ideas and community values with the Project Team. We look forward to seeing you!

Open to all Indigenous community members and the public

When and Where?

Wednesday, October 25, 2023
Best Western Plus Nor'Wester Hotel & Conference Centre
2080 Hwy 61
Thunder Bay, Ontario
5:00* to 8:00 p.m.

Thursday, October 26, 2023
Geraldton Community Centre
200 Wardrope Avenue
Geraldton, Ontario
4:00* to 7:00 p.m.

*The first hour of each meeting is reserved for Indigenous community members only. The public, including Indigenous communities, are invited to join one hour following the start time.

Phone: 1-800-764-9114 **Email:** info@martenfallsaccessroad.ca **Web:** http://www.martenfallsaccessroad.ca/

Follow us on Facebook: facebook.com/MFFNCommunityAccessRoadProject

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Tuesday, October 17, 2023 3:44 PM
To: [redacted]
Subject: Invitation - ATRI Forum Nov 21 - 23, 2023
Attachments: Invitation ATRI Second Forum - October 2023.pdf

Hello,

On behalf of the Marten Falls First Nation and Webequie First Nation Project Teams, please find attached an invitation to attend the Second Aboriginal and / or Treaty Rights Forum related to the following projects:

Webequie Supply Road (WSR)
Marten Falls Community Access Road (MFCAR)
Northern Road Link (NRL)

Building on the first Forum held in February 2023, this follow-up Forum provides an opportunity to identify and discuss potential impacts to northern Indigenous communities' Aboriginal and/or Treaty Rights and interests as they relate to the above Projects.

If you have any questions regarding the Forum or need additional information to engage your community please do not hesitate to reach out to us using the following contact information:

WSR: Michael Fox: [redacted]
MFCAR: Andrea Nokleby: [redacted]
NRL: Mishal Naseer: [redacted]

We look forward to seeing you there.

Marten Falls First Nation Community Access Road Project Team

--
MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

ABORIGINAL AND / OR TREATY RIGHTS AND INTERESTS

WEBEQUIE SUPPLY ROAD (WSR) • **MARTEN FALLS COMMUNITY ACCESS ROAD** (MFCAR) • **NORTHERN ROAD LINK** (NRL)

YOU ARE INVITED!

ABORIGINAL AND / OR TREATY RIGHTS AND INTERESTS FORUM
Led by Webequie First Nation and Marten Falls First Nation
Funded by Ontario, our Treaty partner

Thunder Bay
Valhalla Inn, 1 Valhalla Inn Rd

November 21 - 23, 2023

Building on the momentum of the first Aboriginal and / or Treaty Rights and Interests Forum in February 2023, Webequie First Nation and Marten Falls First Nation encourage you to participate in a follow-up Forum to discuss potential impacts to northern Indigenous communities' Aboriginal and / or Treaty Rights and Interests as they relate to the following Projects:

Webequie Supply Road (WSR) • **Northern Road Link** (NRL) • **Marten Falls Community Access Road** (MFCAR)

Participant Funding

The Province of Ontario will fund up to 3 representatives from your community to attend the Forum, including travel, accommodation and meals. All questions about funding or the coordination of funding should be directed to the Province of Ontario at [redacted].

Additional community representatives are welcome to attend.

Purpose

The Purpose of this Forum is to create a respectful, culturally-sensitive, and collaborative space to develop and/or confirm our understanding of the Project areas (WSR, MFCAR, and NRL) as your Aboriginal and / or Treaty Rights and Interests may be impacted by these Projects. *Please note the purpose of this event is to discuss Aboriginal and / or Treaty Rights and Interests and not to collect Indigenous Knowledge.*

Who Should Attend from your Community

Representatives who are knowledgeable about and comfortable speaking to the Rights and Interests of your community in any of the Project areas. Representatives who can continue this dialogue with their community to better understand and share Rights and Interests in any of the Project areas are also encouraged to attend.

On Day 3 of the Forum, we will be hosting a half-day discussion on Cumulative Effects as they relate to the Projects.

RSVP to [redacted] by October 23rd, 2023 to reserve your room at the Valhalla Inn. *(Later RSVP for Forum attendance is OK!)*

WSR WEBEQUIE SUPPLY ROAD

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

NRL Northern Road Link

Ontario

From: Andrea Nokleby
Sent: Tuesday, October 17, 2023 9:00 AM
To: [redacted]
Cc: Bob Baxter; Qasim Saddique; Lawrence Baxter; McEwen, Kate; Poulakas, Demetri
Subject: Invitation - ATRI Forum Nov 21 - 23, 2023
Attachments: Invitation ATRI Second Forum - October 2023.pdf

This Message Is From an External Sender

This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Good Morning Chief Bruce,

On behalf of the Marten Falls First Nation and Webequie First Nation Project Teams, please find attached an invitation to attend the Second Aboriginal and / or Treaty Rights Forum related to the following projects:

- Webequie Supply Road (WSR)
- Marten Falls Community Access Road (MFCAR)
- Northern Road Link (NRL)

Building on the first Forum held in February 2023, this follow-up Forum provides an opportunity to identify and discuss potential impacts to northern Indigenous communities' Aboriginal and/or Treaty Rights and interests as they relate to the above Projects.

Day 1 and 2 of the Forum will focus on Aboriginal and / or Treaty Rights and Interests. On Day 3, we will be hosting a half-day discussion on Cumulative Effects as they relate to the Projects.

If you have any questions regarding the Forum or need additional information to engage your community please do not hesitate to reach out to us using the following contact information:

WSR: Michael Fox: [redacted]
MFCAR: Andrea Nokleby [redacted]
NRL: Mishal Naseer: [redacted]

We look forward to seeing you there.

Have a great day,

Andrea

DILLON CONSULTING

BEST MANAGED COMPANIES
Platinum member

Andrea Nokleby
Partner
Dillon Consulting Limited
[redacted]
www.dillon.ca

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

ABORIGINAL AND / OR TREATY RIGHTS AND INTERESTS

WEBEQUIE SUPPLY ROAD (WSR) • **MARTEN FALLS COMMUNITY ACCESS ROAD** (MFCAR) • **NORTHERN ROAD LINK** (NRL)

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WSR WEBEQUIE SUPPLY ROAD
MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD
NRL Northern Road Link
Ontario

From: MFFN Community Access Road Project Team <info@martenfallsaccessroad.ca>
Sent: Thursday, October 19, 2023 4:15 PM
To: undisclosed-recipients:
Subject: Reminder! Community Meetings & Public Information Centre #5
Attachments: PIC5-MFFN-Community-Access-Road Notice.pdf; MFFN Member PIC5-Poster.pdf

Good morning,

This is a reminder we have four meetings next week for Marten Falls First Nation community members about the Community Access Road, and we hope to see you there! A poster with meeting details is attached.

Two opportunities for Marten Falls First Nation community members only

Thunder Bay: Monday, October 23, 2023
Best Western Plus Nor'Wester Hotel & Conference Centre
Room: Amethyst Room
2080 Hwy 61
Thunder Bay, ON P7J 1B8
5:00 p.m. to 8:00 p.m.

- Presentation, Q&A and maps
- A buffet dinner starting at 6 p.m.
- Door prizes include VISA gift cards
- Complimentary shuttle transportation to and from the meeting is available

Marten Falls First Nation: Tuesday, October 24, 2023
Henry Coaster Memorial School
Room: Gymnasium
11:00 a.m. to 3:00 p.m.

- Presentation, Q&A and maps
- Lunch served at 11:30 a.m.
- Door prizes include VISA gift cards

The timing of this meeting may change based on weather conditions. In the event this meeting is rescheduled a notice will be issued via email and listed on the Marten Falls Community Access Road Facebook page.

Public Information Centre #5
You're also invited to join the public at Public Information Centre #5 October 25 and October 26. The first hour of each meeting is reserved for Indigenous community members only. This event is for the Existing Conditions Report and Route Selection Milestone! Please join us to learn the latest updates on the Community Access Road and share your feedback with team members. The notice is attached and details can be found on our website.

When and Where:

Wednesday, October 25, 2023
Best Western Plus Nor'Wester Hotel & Conference Centre
Room: Amethyst Room
2080 Hwy 61
Thunder Bay, Ontario
5:00 p.m.-6:00 pm – Indigenous Members Session
6:00 p.m. - 8:00 p.m. - Public Session.

Thursday, October 26, 2023
Geraldton Community Centre
200 Wardrope Avenue
Geraldton, Ontario
4:00 p.m. – 5:00 p.m. – Indigenous Members Session
5:00 p.m. - 7:00 p.m. - Public Session

Shuttle Service
Complimentary shuttle transportation will be provided to Marten Falls First Nation community members for all meetings in Thunder Bay and Geraldton upon request. If you are interested in a ride, please call or text Rowena [redacted] to schedule a pick-up.

We look forward to meeting with you!

Meegwetch,

Marten Falls First Nation Community Access Road Project Team

--
MFFN Community Access Road Project Team
Visit our website: http://www.martenfallsaccessroad.ca/
Follow us on Facebook: https://www.facebook.com/MFFNCommunityAccessRoadProject/
Call us: 1 800-764-9114
Email us: info@martenfallsaccessroad.ca

MARTEN FALLS FIRST NATION
ALL- SEASON COMMUNITY ACCESS ROAD
PUBLIC INFORMATION CENTRE #5

Join us for the Marten Falls First Nation (MFFN) All-Season Community Access Road Public Information Centre: Existing Conditions Report and Route Selection Milestone (Public Information Centre #5)

MFFN Members Only

There are two opportunities to participate:

Monday, October 23, 2023
Best Western Plus Nor'Wester Hotel
2080 Hwy 61
Thunder Bay, Ontario
5:00 p.m. to 8:00 p.m.
Buffet dinner served at 6:00 p.m.

Tuesday, October 24, 2023
MFFN School Gymnasium
11:00 a.m. to 3:00 p.m.
Lunch served at 11:30 a.m.

Featuring:

- Presentation, Q&A, and maps.
- Door prizes for kids and adults!
- Complimentary shuttle service to and from meeting in Thunder Bay upon request.

Have your say. Share your comments, ideas and community values with the Project Team. We look forward to seeing you!

Open to all Indigenous community members and the public

When and Where?

Wednesday, October 25, 2023
Best Western Plus Nor'Wester Hotel & Conference Centre
2080 Hwy 61
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5:00* to 8:00 p.m.

Thursday, October 26, 2023
Geraldton Community Centre
200 Wardrope Avenue
Geraldton, Ontario
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*The first hour of each meeting is reserved for Indigenous community members only. The public, including Indigenous communities, are invited to join one hour following the start time.

Phone: 1-800-764-9114 **Email:** info@martenfallsaccessroad.ca **Web:** http://www.martenfallsaccessroad.ca/

Follow us on Facebook: facebook.com/MFFNCommunityAccessRoadProject

MARTEN FALLS FIRST NATION
ALL - SEASON COMMUNITY ACCESS ROAD

Join us for the Marten Falls First Nation (MFFN) All-Season Community Access Road Public Information Centre #5: Existing Conditions Report and Route Selection Milestone

Join us to learn about and provide feedback on:

- Updates since Public Information Centre #4, including what we've heard and how feedback is being considered;
- Update on what we heard at the Aboriginal and Treaty Rights and Interests (ATRI) Forum and plans for the next forum;
- Update on existing conditions results for completed studies;
- How Indigenous Knowledge is used and how it informs the process;
- Achieving the next major milestone: Identifying the preferred route and how route alternatives will be assessed, recommended and a preferred route chosen;
- Cumulative effects assessment and why it is important; and
- Next steps and future opportunities to get involved.

Join us and share your feedback, ideas and values related to the proposed all-season access road.

About the Project

MFFN is a remote First Nation community in northern Ontario, located at the junction of the Albany and Ogoki rivers, approximately 170 km northeast of Nakina, Ontario.

MFFN Community Access Road is a proposed all-season road that will connect MFFN to Ontario's provincial highway network in the south, increasing access and helping foster economic development and improve quality of life for community members. The Environmental Assessment / Impact Assessment will assess the potential impacts and benefits related to the proposed Community Access Road.

When and Where?

Wednesday, October 25, 2023

Best Western Nor'Wester
2080 Highway #61
Thunder Bay, Ontario

Indigenous Members Session:
5:00 p.m.- 6:00 pm.

Public Session:
6:00 p.m. - 8:00 p.m.

Thursday, October 26, 2023

Geraldton Community Centre
200 Wardrope Avenue
Geraldton, Ontario

Indigenous Members Session:
4:00 p.m. - 5:00 p.m.

Public Session:
5:00 p.m. - 7:00 p.m.

*Light refreshments will be served.

Information panels will be available for review, along with maps, fact sheets and feedback forms. Project Team members will be available to answer questions and receive comments.

If you cannot make the in-person session, you can find the information posted on our website (www.martenfallsaccessroad.ca). Public Information Centres are wheelchair accessible; contact us if you require other accessibility accommodations.

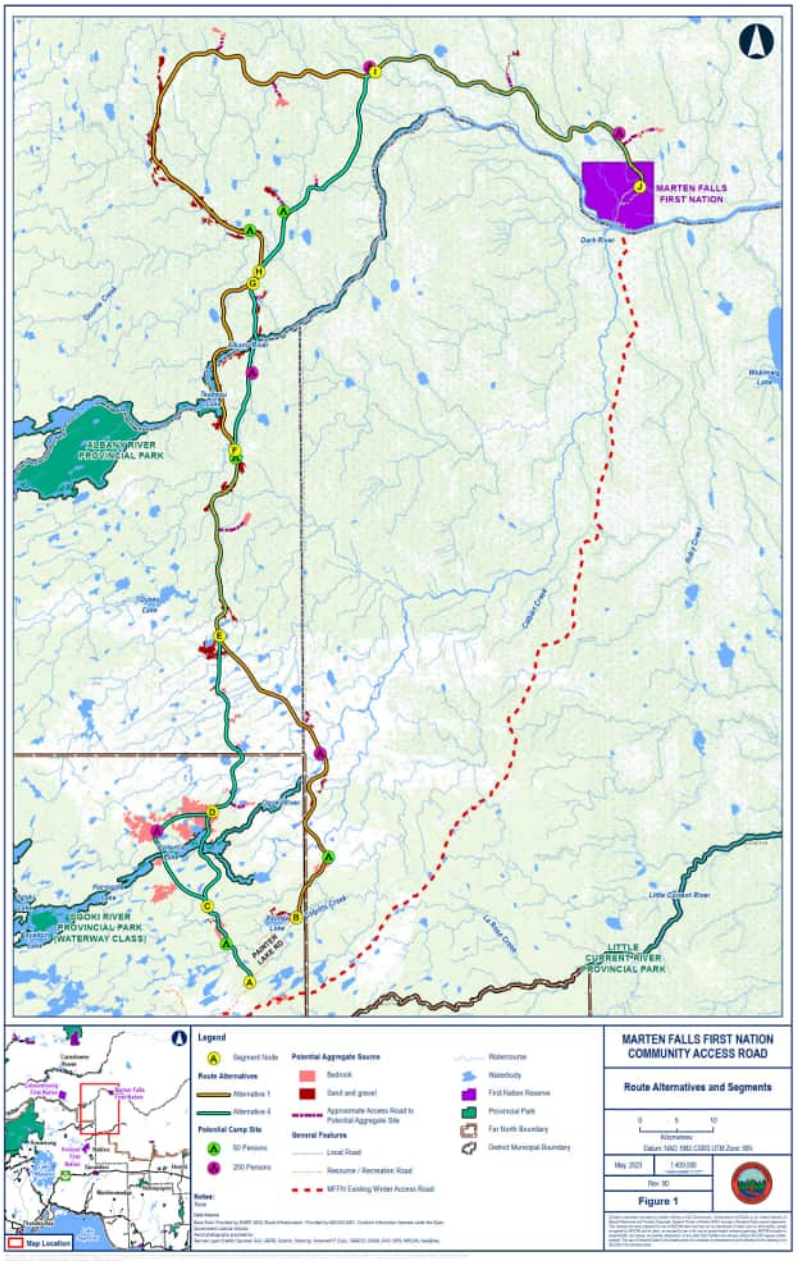
MARTEN FALLS FIRST NATION

ALL - SEASON COMMUNITY ACCESS ROAD

Understanding the Road's Potential Impacts

MFFN is preparing an Individual Environmental Assessment / Impact Statement for the proposed Community Access Road. On October 8, 2021, the Ministry of the Environment, Conservation and Parks (MECP) approved the Terms of Reference (ToR) with amendments.

The federal Tailored Impact Statement Guidelines were issued on February 24, 2020 and the federal government granted an extension on January 13, 2023. This will be the fifth Public Information Centre held to support the identification of the preferred route milestone of the Impact Assessment and Environmental Assessment processes.



Contact

For information on the Environmental Assessment / Impact Assessment processes and progress related to this Project, please visit

https://www.martenfallsaccessroad.ca

If you are unable to attend the event, or have any comments or questions regarding the Project, you are welcome to contact the Project Team at any time during the process at 1-800-764-9114 or info@martenfallsaccessroad.ca

Thank you for your participation.

Personal information submitted (e.g., name, address and phone number) is collected, maintained and disclosed under the authority of the Environmental Assessment Act and the Municipal Freedom of Information and Protection of Privacy Act for transparency and consultation purposes. Personal information you submit will become part of a public record that is available to the general public, unless you request your personal information remain confidential.

From: Poulakas, Demetri
Sent: October 31, 2023 12:32 PM
To: [redacted]
Cc: Qasim Saddique; Jennifer Bruin; lawrencebax; Trimble, Ingrid; Danny Kuenstler; Wang, Joanne
Subject: Preliminary Technically Preferred Route Recommendation for the CAR
Attachments: MFFN Chief and Council Meeting_Preliminary_Route Selection.zip

Good afternoon Chief Bruce Achneepineskum and Council Members,
Hope this email finds you well. I am following up on the meeting that was held on Monday October 23 where the Community Access Road Team presented the preliminary technically preferred route recommendation to members of Marten Falls First Nation Chief and Council. Attached please find the associated memo and presentation for your review.
Please note that this memo is preliminary and will be updated based on your feedback and the feedback of Marten Falls First Nation members that was received last week, as well as the anticipated Indigenous Knowledge report. As discussed last week; next steps include the Team finalizing the route recommendation and presenting it to Chief and Council during the last week of November, with a Band Council Resolution being obtained during the week of December 4.
Thank you and please let me know if you require any further information,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]
aecom.com

Delivering a better world
LinkedIn | Twitter | Facebook | Instagram

AECOM Canada Ltd.
[redacted]
www.aecom.com

To: Marten Falls First Nation Chief and Council

Date: October 17, 2023
Project #: 60593122
From: Ingrid Trimble

Memorandum

Subject: **Preliminary Route Selection Technical Recommendation**

1. Introduction

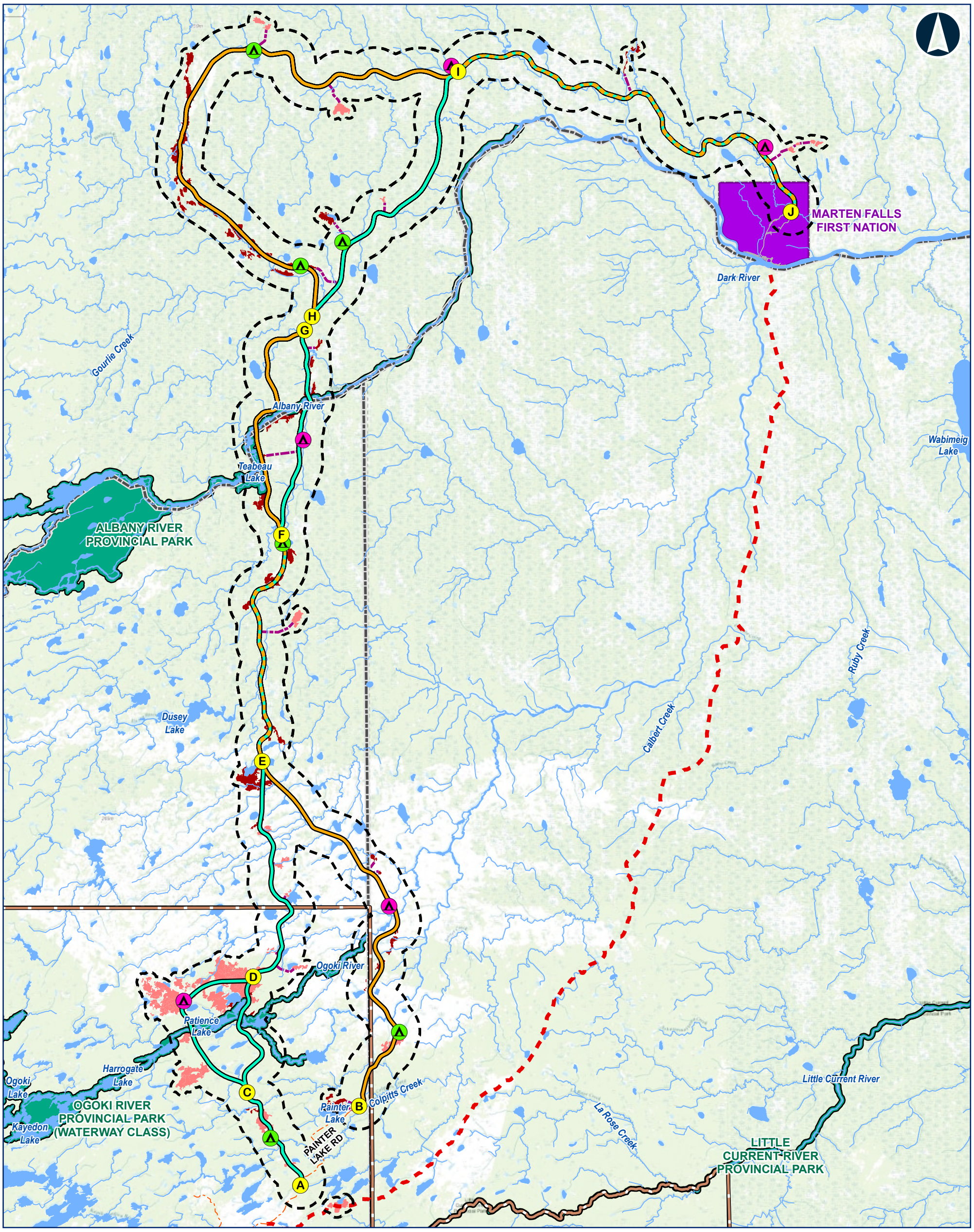
Marten Falls First Nation (MFFN) is a remote First Nation community in northern Ontario located at the confluence of the Albany and Ogoki rivers. The MFFN community is proposing an all-season Community Access Road (Community Access Road) that will connect the MFFN community to the Ontario provincial highway network. The Community Access Road includes construction of a multi-purpose all-season road consisting of:

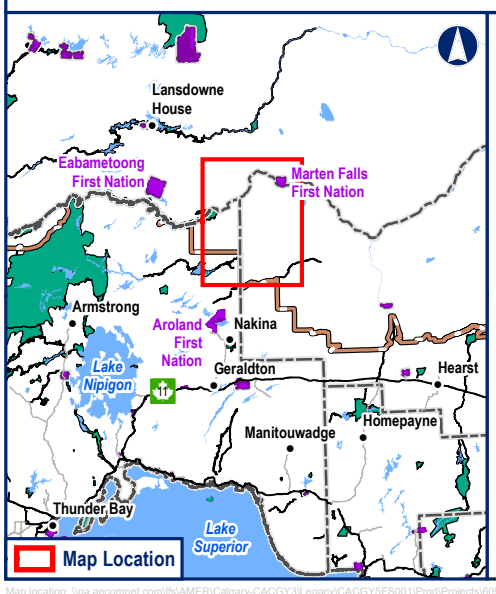
- approximately 190 km to 230 km of two-lane gravel all-season road on a new right-of-way (ROW);
- approximately 100 metre (m) wide ROW cleared to a width of 60 m; and,
- proposed posted speed limit of 80 km / hr.

As shown on **Figure 1-1**, there are currently two alternatives being considered (Alternative 1 and Alternative 4). Each alternative starts at Painter Lake Road and runs north approximately 130 km before turning eastward toward MFFN roughly following the west / north side of the Albany River.

The purpose of this memo is to document and share the initial results of the route selection analysis performed in order to support MFFN Chief and Council in determining a Final Preferred Alternative Route for the Community Access Road. This memo provides a preliminary technically preferred route recommendation, which was developed using Western Science, focusing on the available natural science, engineering and social science information. This technically preferred route recommendation will be the basis for discussions with MFFN Community members in order to include Indigenous and Community Perspective into the analysis. During those discussions we will validate this information and ensure that the Community's input and opinions are factored into the deciding on a Final Preferred Alternative Route. Following the validation of this information with MFFN Chief and Council, MFFN community members and presentation of the methods to the general public, we will present a Final Recommended Preferred Route Alternative to MFFN Chief and Council for their consideration.

The Community Access Road has to comply with regulated timelines. These require the draft provincial Environmental Assessment and federal Impact Statement to be submitted no later than July 2024. In order for this timeline to be met, a Band Council Resolution from the MFFN Chief and Council on the Final Preferred Alternative Route is needed by the first week of December 2023.





Legend

- Segment Node
- Study Area

Route Alternatives
- Alternative 1
- Alternative 4

Potential Camp Site
- 50 Persons
- 200 Persons

Potential Aggregate Source
- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features
- Local Road
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- First Nation Reserve
- Provincial Park
- Far North Boundary
- District Municipal Boundary

Notes:
None

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase,

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls Community Access Road

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

Oct, 2023 | 1:400,000 * when printed 11"x17"

Rev: 00

Figure 1-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be 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 express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

Map location: \\na.aecomnet.com\ifs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Route Selection\MXD_Fig1-1_RouteAlternatives_60593122.mxd
Date Saved: 10/12/2023 3:56:51 PM User Name: paige.crossman

2. Background

The MFFN community is currently accessible year-round by air transportation out of Thunder Bay and Nakina and by a winter access road constructed on an annual basis, if conditions permit. The interests and concerns of the MFFN community have identified a desire for improved all-season community access to the provincial highway network in the south, near Painter Lake. The provincial government has provided funding for permitting and approval of an all-season Community Access Road. This decision was made in discussion with MFFN, which led to the identification of the community's preference for an all-season road. A Community Access Road would be the only viable option that could provide 24-hour access to the provincial highway network since no alternative to a road can provide the same level of freedom of movement for community members to travel outside of the community. Therefore, a range of alternatives to the Community Access Road were previously determined as less preferable than an all-season road based on the needs and preference of MFFN. Detailed information on the development and further refinement of the Route Alternatives can be found in the attached "*Supporting Document – Alternatives Development: Community Access Road"* (AECOM 2020) (Appendix A).

On July 31, 2019, MFFN signed a Band Council Resolution to only consider Alternative 1 and Alternative 4 moving forward per the following statements:

- The Eastern corridors to the community are only considered viable if built as dedicated community access corridors, which is not the scope of the current Community Access Road.
- Marten Falls has agreed to lead the development of an environmental assessment for a multi-purpose road built to industrial use specifications, as the community access road could possibly link to a supply road in the future.

Therefore, through the July 31, 2019 Band Council Resolution, Alternative 2 and Alternative 3 were not found to be reasonable alternative routes for the Community Access Road.

In February 2020, IAAC posted a *Notice of Commencement* under the Impact Assessment Act to complete a Federal Impact Assessment. Shortly after, in October 2020, the Community Access Road filed a *Notice of Commencement of Terms of Reference*, under the Ontario Environmental Assessment Act to complete an Individual Environmental Assessment which will consider the two route alternatives identified in **Figure 1-1.** As a component of the Environmental Assessment Process, a preferred route must be identified in advance of developing the Impact Assessment portion of the Environmental Assessment. This is a critical step in ensuring we are able to meet our legislated timeline to post the Combined Draft Environmental Assessment / Impact Statement to the public in July 2024.

3. Methodology Overview

Alternative 1 and Alternative 4 parallel, overlap and cross each other at multiple locations. In order to simplify the evaluation of the alternatives, the alternatives were divided into three separate segments based on their geographical locations (**Figure 3-1**). These include:

- Segment 1 – Ogoki Crossing (**Figure 3-2**)
- Segment 2 – Albany Crossing (**Figure 3-3**)
- Segment 3 – North of the Albany (**Figure 3-4**)

Each of these segments are stand alone, which allow them to 'plug-in' to the next segment. This permits increased flexibility and ability to avoid impacts as much as possible where the terrain and location changes. In order to evaluate the alternatives and support Chief and Council with the eventual determination of a Final Preferred Alternative Route, the technical disciplines were asked to identify key metrics that would help them rank one route over the other. The key inputs identified for consideration include:

- MFFN community feedback
- Indigenous Knowledge which considers: Aboriginal Treaty Rights and Interests
- Water which includes: fish, groundwater, peatlands, surface water
- Land which includes: soils, ungulates, wildlife, vegetation, birds
- People which includes: acoustic, air, cultural heritage, archaeology, visual, human health, social, land and resource use, safety, climate change
- Engineering and costs

An evaluation was conducted by each category for each of the three segments. A more detailed explanation of the route selection methodology is included in **Appendix B**.

3.1 Aggregate Resource Considerations

The construction of each route alternative will require local extraction of sand, gravel and bedrock to support its construction. Some of these materials are readily available along the route alternatives and in other cases temporary access roads will be constructed to support aggregate extraction. Therefore, each route alternative being evaluated also included the necessary sand, gravel and bedrock, and associated temporary infrastructure required to complete construction. The figures showing these areas are included in **Appendix C.**

MARTEN FALLS FIRST NATION

Dark River

Gourlie Creek

Albany River

Teabeau Lake

ALBANY RIVER PROVINCIAL PARK

Wabimeig Lake

Ruby Creek

Dusey Lake

Calbert Creek

Ogoki River

Patience Lake

Harrogate Lake

Ogoki Lake

OGOKI RIVER PROVINCIAL PARK (WATERWAY CLASS)

Kayedon Lake

Painter Lake

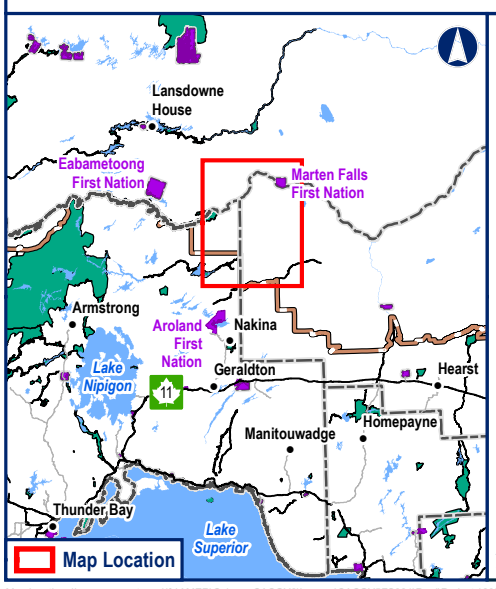
Colpitts Creek

PAINTER LAKE RD

La Rose Creek

Little Current River

LITTLE CURRENT RIVER PROVINCIAL PARK



Legend

- Segment Node (A)
- Study Area
- Route Alternatives
  - Alternative 1
  - Alternative 4
  - Segment 1
  - Segment 2
  - Segment 3
- Potential Camp Site
  - 50 Persons
  - 200 Persons
- Potential Aggregate Source
  - Bedrock
  - Sand and gravel
  - Approximate Access Road to Potential Aggregate Site
- General Features
  - Local Road
  - Resource / Recreation Road
  - MFFN Existing Winter Access Road
  - Watercourse
  - Waterbody
  - First Nation Reserve
  - Provincial Park
  - Far North Boundary
  - District Municipal Boundary

Data Source:

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Route Alternatives and Segments

0 5 10
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-1

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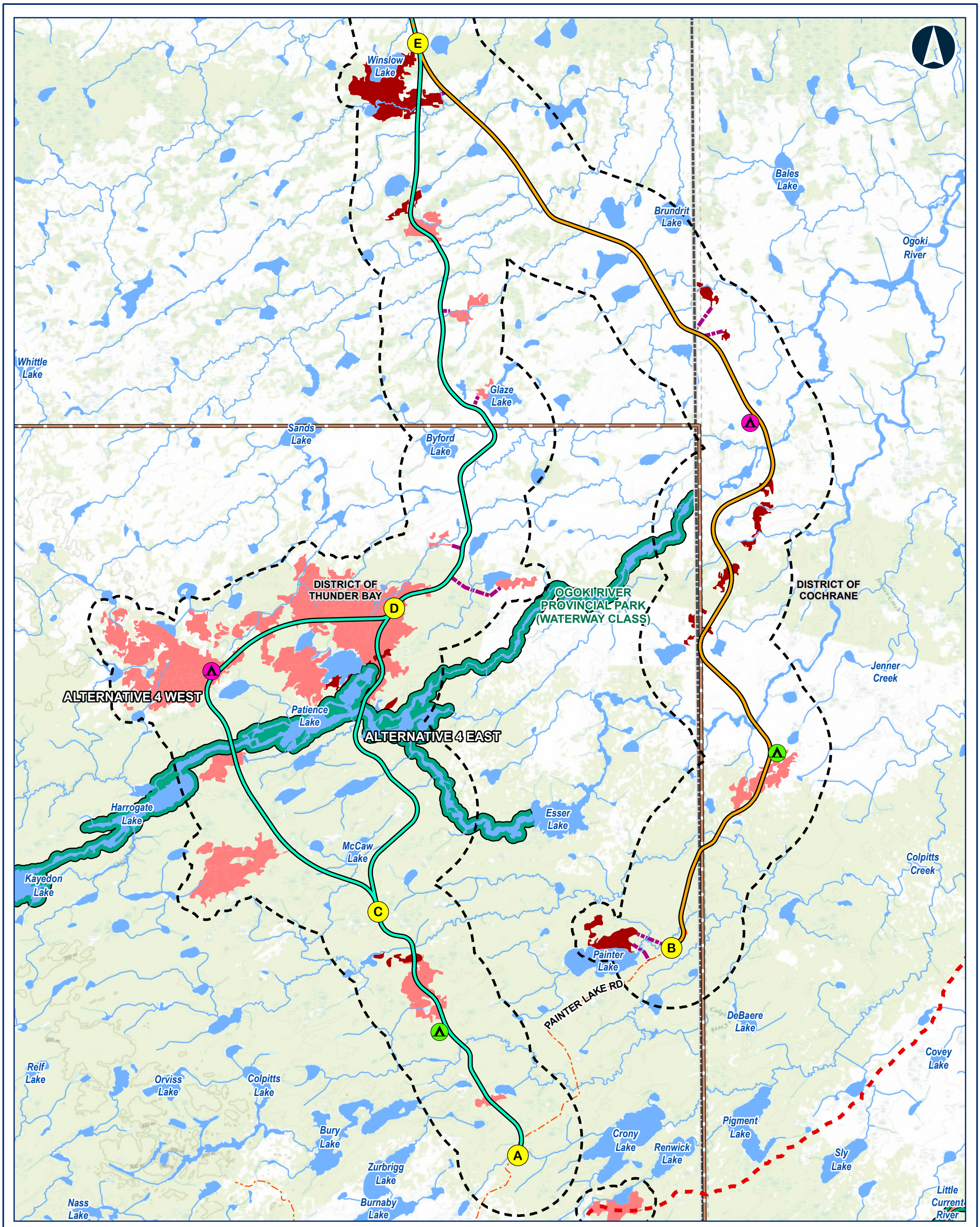

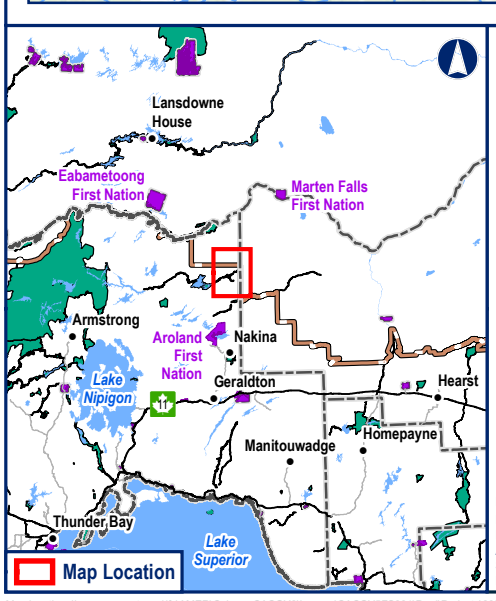

Legend

- Segment Node
- Study Area

Route Alternatives
- Alternative 1
- Alternative 4

Potential Camp Site
- 50 Persons
- 200 Persons

Potential Aggregate Source
- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features
- Resource / Recreation
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 1 – Ogoki Crossing

0 3 6
Kilometres
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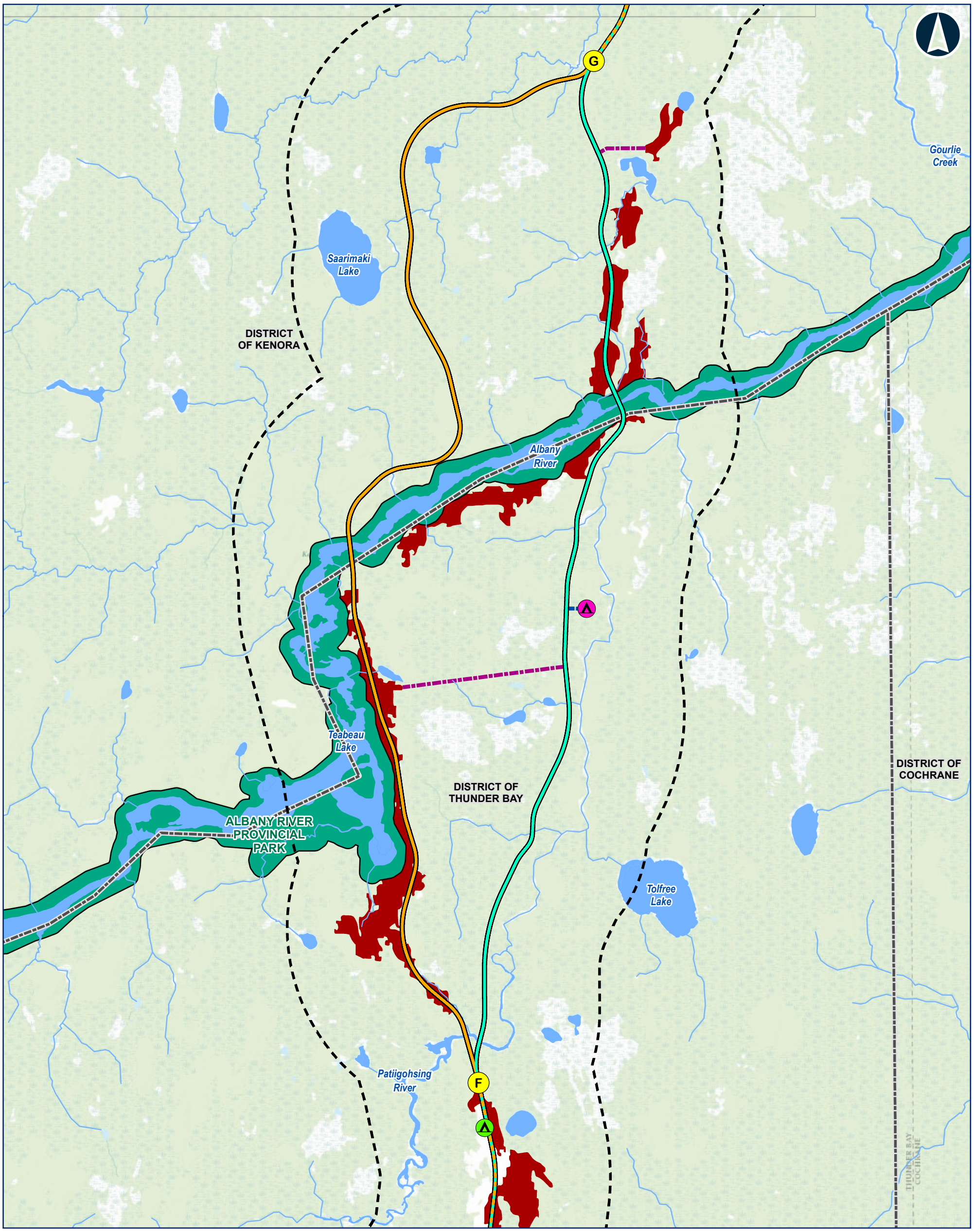

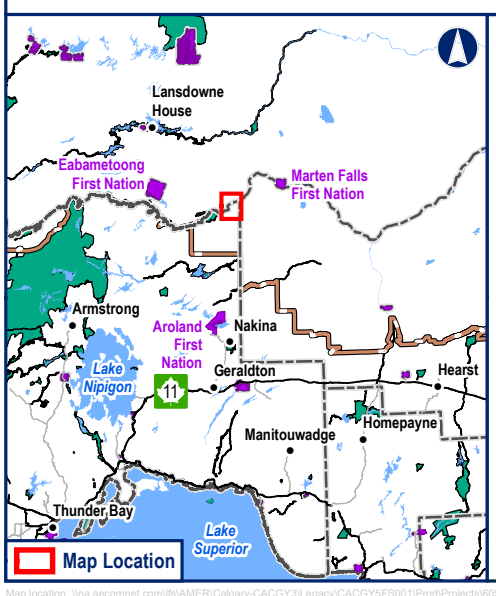

Legend

- Segment Node
- Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 2 – Albany Crossing

0 2 4
Kilometres
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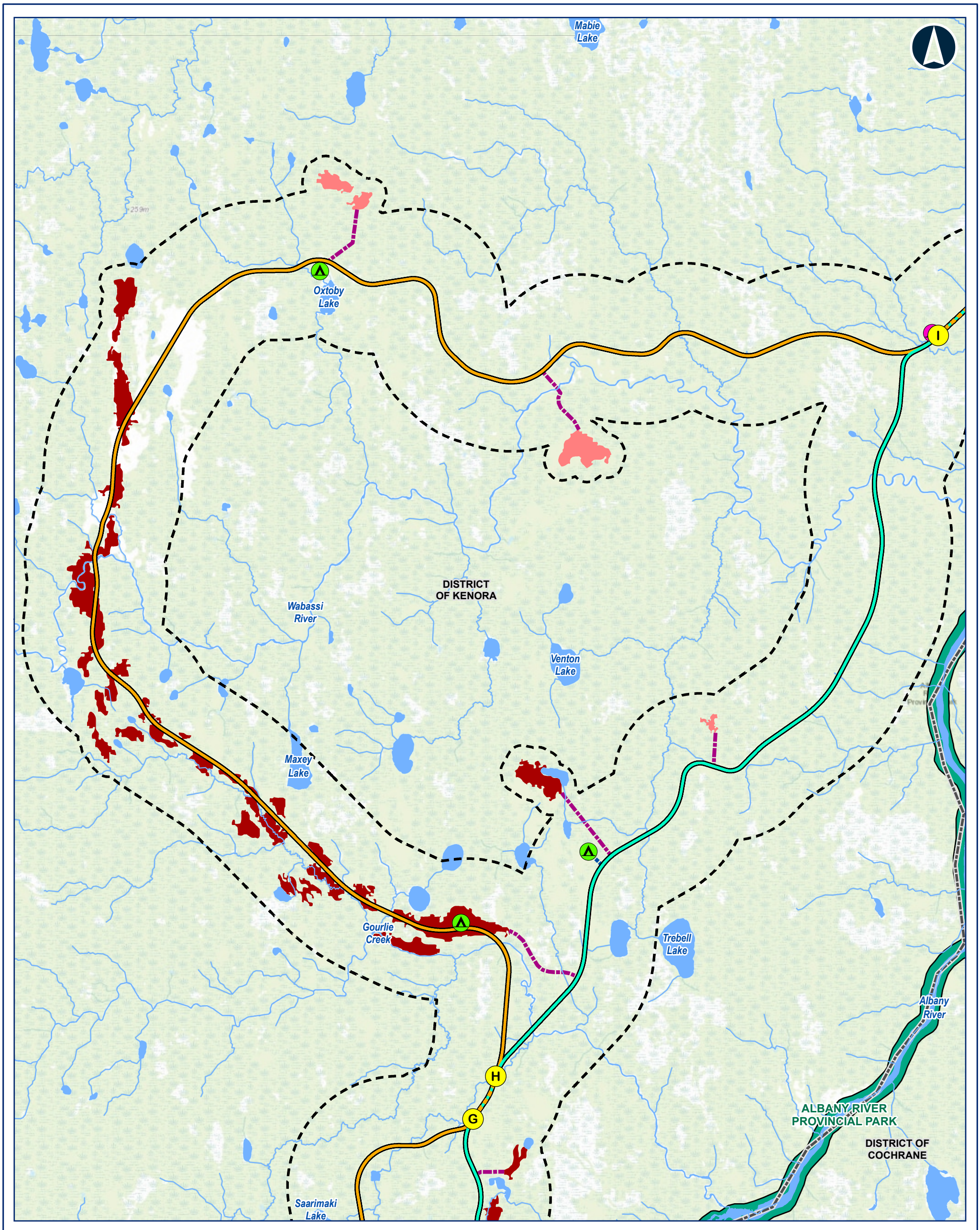

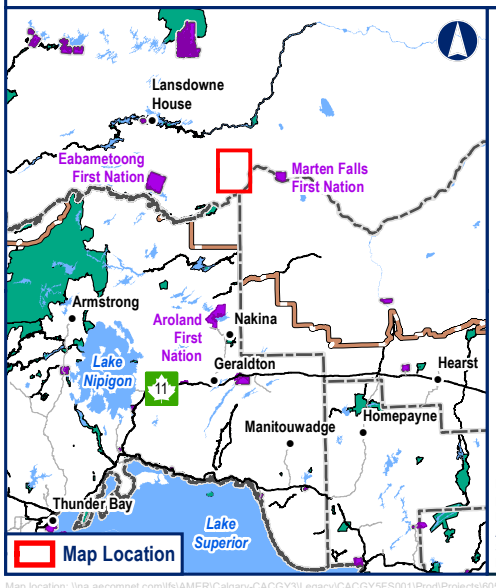

Legend

- Segment Node (A)
- Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 3 – North of the Albany

0 3 6
Kilometres
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4. Consideration of Community Feedback

To facilitate the Community Access Road route selection process, the community of Marten Falls as well as interested and potentially affected groups have been given the opportunity via Public Information Centres (PICs) to provide input to be considered in the route selection (**Tables 4-1**).

At the time of preparing this memo no other Indigenous community has shared feedback on the route alternatives.

Table 4-1: Consultation to Date

Date	Event	Materials	Comments
November 2, 2022	■ In-Community PIC #4 at Marten Falls	■ PowerPoint slides and display boards on criteria for alternative evaluation and route selection ■ Presentation handouts ■ Overview and small-scale maps of route with IK and general feedback ■ Feedback form at the PIC as well as on the Community Access Road website seeking input from the public / communities on the criteria	■ The community shared feedback on preferred route alternatives ■ No comments on the criteria for alternative evaluation and route selection received at this PIC
December 6, 2022	■ MFFN members only PIC #4 held in Thunder Bay	■ PowerPoint slides and display boards on criteria for alternative evaluation and route selection ■ Presentation handouts ■ Overview and small-scale maps of route with IK and general feedback ■ Feedback form at the PIC as well as on the Community Access Road website seeking input from the public / communities on the criteria	■ No comments on the criteria for alternative evaluation and route selection received at this PIC
December 7, 2022	■ PIC #4 held in Thunder Bay	■ Presentation handouts with information on criteria for alternative evaluation and route selection ■ Display boards on criteria for route selection ■ Supporting documents at the PIC that included a Q&A on how the two route alternatives were selected and how they were going to be evaluated. ■ Overview and small-scale maps of route ■ Feedback form at the PIC as well as on the Community Access Road website seeking input from the public / communities on the criteria	■ No comments on the criteria for alternative evaluation and route selection received at this PIC
December 8, 2022	■ PIC #4 held in Geraldton	■ Presentation handouts with information on criteria for alternative evaluation and route selection ■ Overview and small-scale maps of route ■ Display boards on criteria for route selection ■ Supporting documents at the PIC that included a Q&A on how the two route alternatives were selected and how they were going to be evaluated ■ Feedback form at the PIC as well as on the Community Access Road website seeking input from the public / communities on the criteria	■ No comments on the criteria for alternative evaluation and route selection received at this PIC

5. Initial Results

Each technical discipline completed their high-level, comparative analysis of the potential net effects between all the route segments. This analysis was completed using the reasoned argument method to determine a technically preferred route recommendation. The assessment matrices for each Valued Component (VC) and engineering are included in **Appendix D,** The initial results are included in **Sections 5.1** to **5.3**.

5.1 Segment 1 – Ogoki Crossing

The overall technically preferred alternative for Segment 1 is Alternative 1 (**Table 5-1** and **Figure 5-1)**. The main reasons include:

- Smaller footprint and shorter road length than the other options.
- Least disturbance of accessible habitats for Traditional Use Plants.
- Least loss of peatland area and impacts to fewest peatland types.
- Least disturbance of significant landforms, soil, wildlife, wetlands, riparian ecosystems, upland ecosystems, birds, and caribou.
- Neither the most preferred nor the least preferred alternative for moose.
- Cross over the least amount of area of coarse-grained and bedrock surficial materials.
- Least disturbed area of carbon sinks.
- Least number of waterbody crossing locations.

The main reasons why Alternative 1 is the least preferred alternative from an engineering point of view include:

- Fewer bedrock quarry opportunities – requires longer hauls, increases cost.
- Complex constructability – majority of the route traverses poor substrates.
- High schedule implications. Road construction with poor substrates, terrain and high cost to haul aggregates. No means of access without significant upgrades to the Painter Lake Road section.
- High maintenance/operational costs given poor ground terrain compared with other alternatives and gravel haul costs.

For the purposes of route selection it was assumed that all upgrades to Painter Lake Road required to construct and operate the Segment 1 Route Alternatives will be completed in advance.

Table 5-1: Segment 1 – Ogoki Crossing Initial Results

Category	Alternative 1	Alternative 4 East	Alternative 4 West
MFFN community feedback			
Indigenous Knowledge	Community Input Required	Community Input Required	Community Input Required
Water			
Land			
People			
Engineering, Costs			

Legend: *Green = most preferred*
Yellow = moderately preferred
Red = least preferred

5.2 Segment 2 – Albany Crossing

The overall technically preferred alternative for Segment 2 is Alternative 1 (**Table 5-2** and **Figure 5-2**). The main reasons include:

- Smaller footprint and shorter road length than the other option.
- Smaller direct loss of highly accessible habitats for Traditional Use Plants.
- Smaller direct loss of peatland area.
- Disturbance of fewer significant landforms, surficial materials and soils.
- Crosses over the least area of coarse-grained and bedrock surficial materials.
- Least number of sensitive receptors.
- Lower net effects on wildlife, birds and caribou.
- No discernible difference between alternatives for moose.
- Least number of waterbody crossing locations.
- Smaller direct loss of wetland and riparian ecosystems, disturbance of fewer upland ecosite types and smaller direct loss of highly suitable.
- Constructability of roadway and water crossings.

Table 5-2: Segment 2 – Albany Crossing Initial Results

Category	Alternative 1	Alternative 4
MFFN community feedback		
Indigenous Knowledge	Community Input Required	Community Input Required
Water		
Land		
People		
Engineering, costs		

Legend: Green = most preferred / Red = least preferred

5.3 Segment 3 – North of the Albany

The overall technically preferred alternative for Segment 3 is Alternative 4 (**Table 5-3** and **Figure 5-3**). The main reasons include:

- Smaller footprint and shorter road length than the other option.
- Smaller direct loss of highly accessible habitats for Traditional Use Plants.
- Smaller direct loss of peatland area.
- Disturbance of fewer significant landforms, surficial materials and soils.
- Crosses over the least area of coarse-grained and bedrock surficial materials.
- Least number of sensitive receptors.
- Lower net effects on wildlife, birds, moose and caribou.
- Least number of waterbody crossing locations.
- Smaller direct loss of wetland and riparian ecosystems, disturbance of fewer upland ecosite types and smaller direct loss of highly suitable.

The main reason why Alternative 1 is the most preferred alternative from an engineering point of view is:

- Constructability of roadway and cost.
- Good access to aggregates

Table 5-3: Segment 3 North Albany Crossing Initial Results

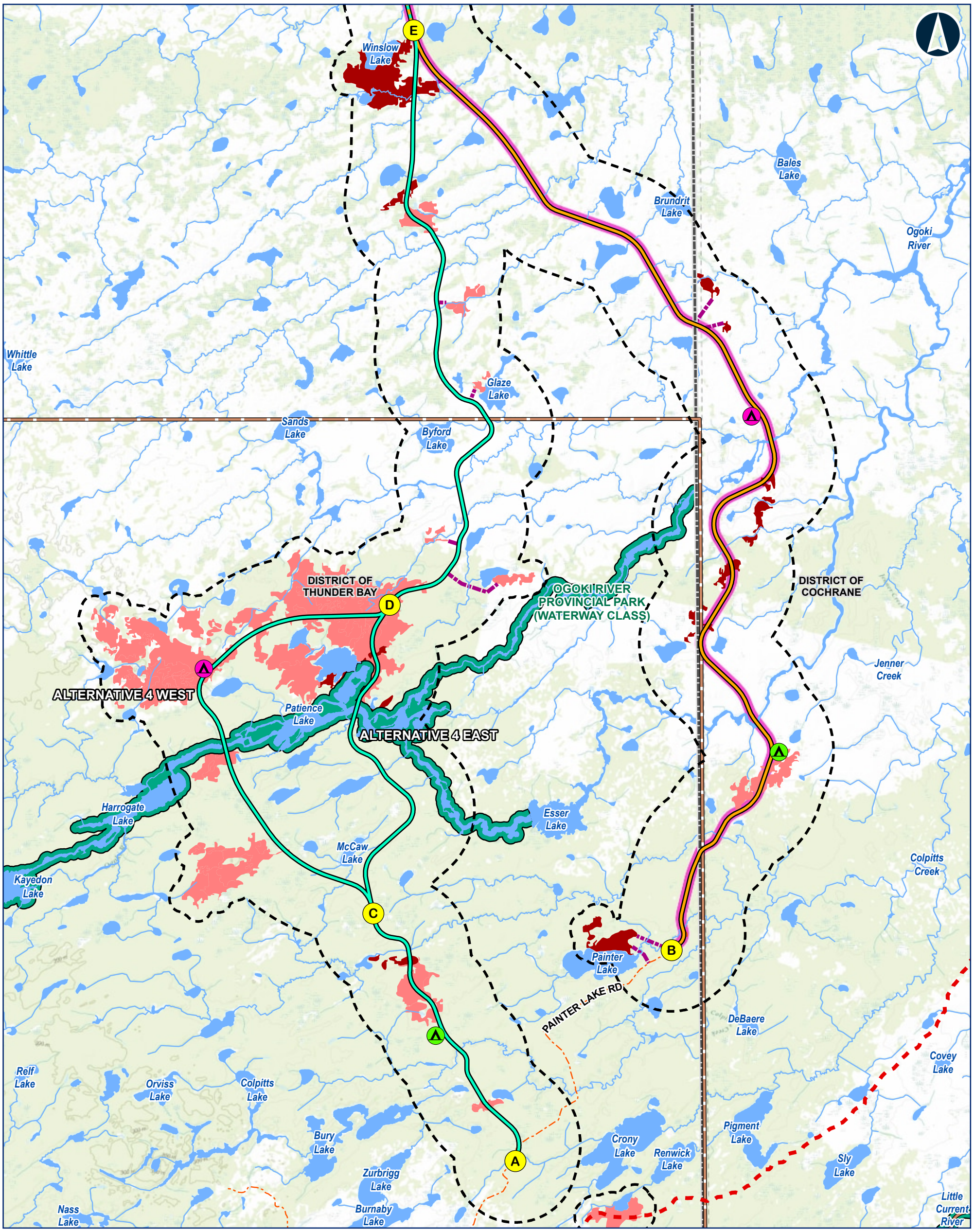
Category	Alternative 1	Alternative 4
MFFN community feedback	🔴	🟢
Indigenous Knowledge	Community Input Required	Community Input Required
Water	🔴	🟢
Land	🔴	🟢
People	🔴	🟢
Engineering, costs	🟢	🔴

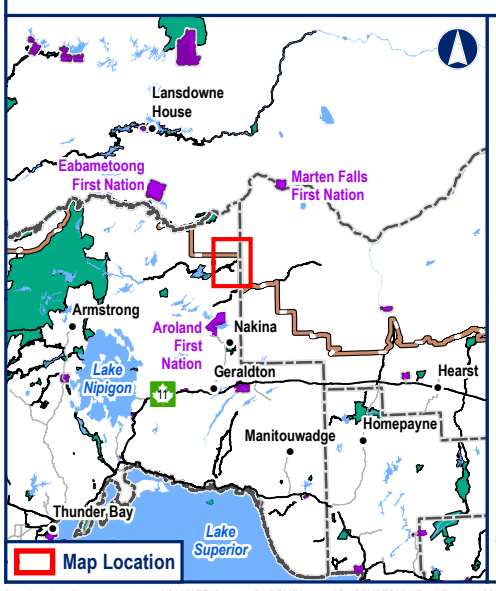
Legend: Green = most preferred / Red = least preferred

5.4 Indigenous Knowledge

It is assumed that the most relevant information on Indigenous Knowledge to be considered in the route selection will be provided by MFFN and Aroland First Nation given their proximity to the Community Access Road footprint. At the time of preparing this memo the Indigenous Knowledge reports from either community had not been received.

Any inputs received prior to the preparation of the Final Recommended Route Alternative will be shared with Chief and Council to inform their decision making on the final route.





Legend

- Segment Node
- Study Area

Route Alternatives

- Alternative 1
- Alternative 4
- Technical Preferred Route

Potential Camp Site

- 50 Persons
- 200 Persons

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Resource / Recreation
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 1 – Ogoki Crossing Technically Preferred Alternative

0 3 6
Kilometres
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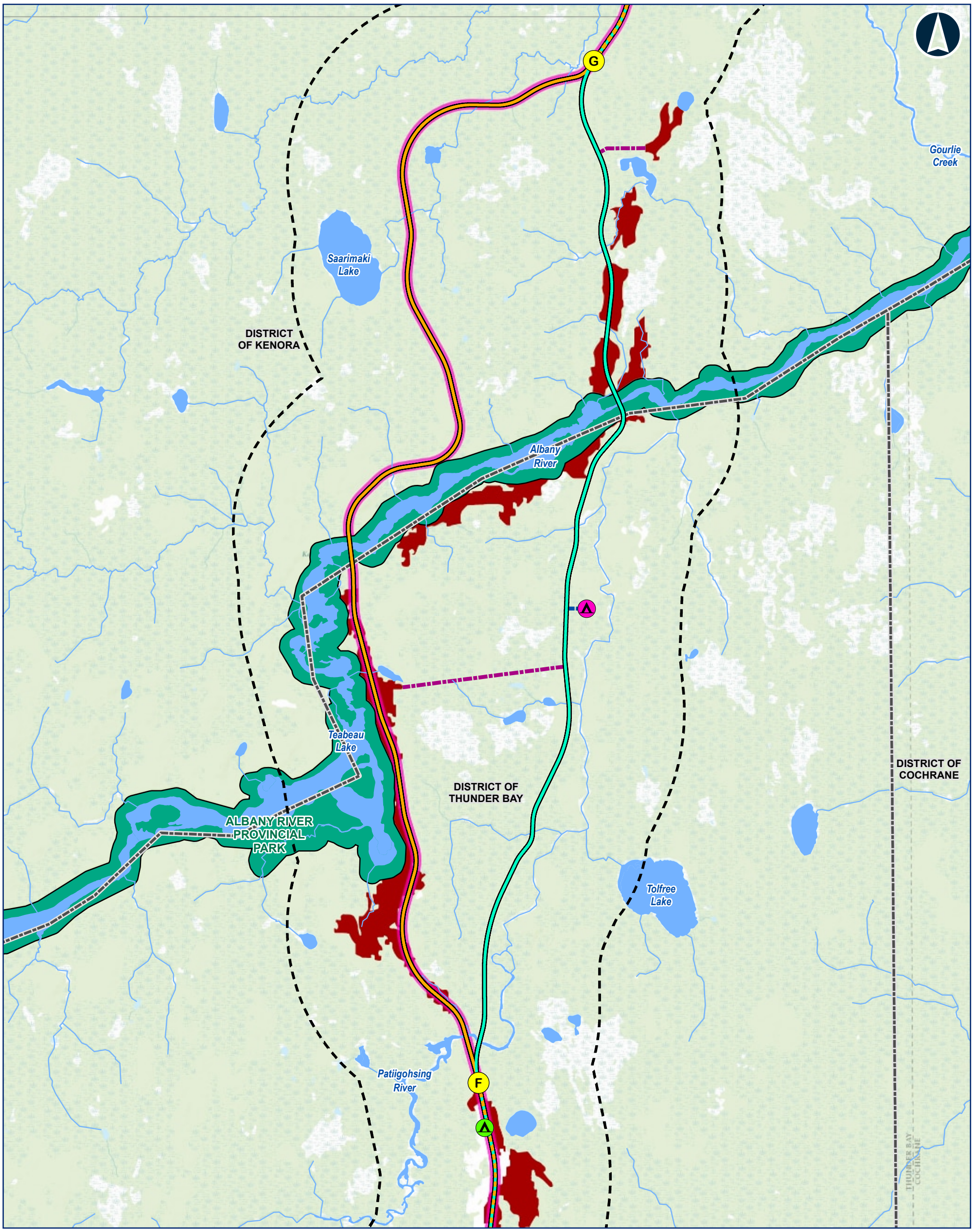

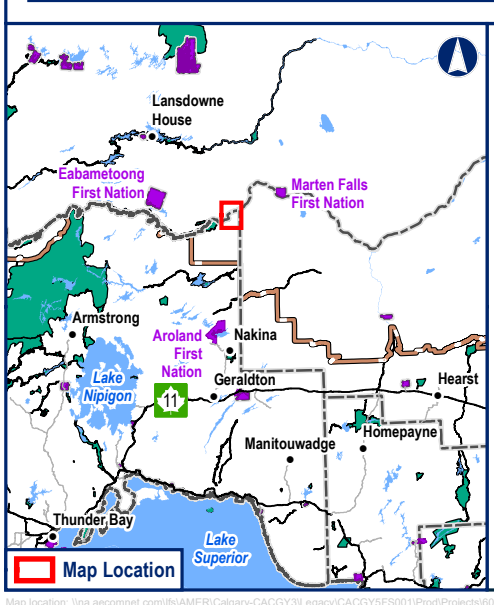

Legend

- Segment Node
- Study Area

Route Alternatives

- Alternative 1
- Alternative 4
- Technical Preferred Route

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 2 – Albany Crossing Technically Preferred Alternative

0 2 4
Kilometres
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Figure 5-2

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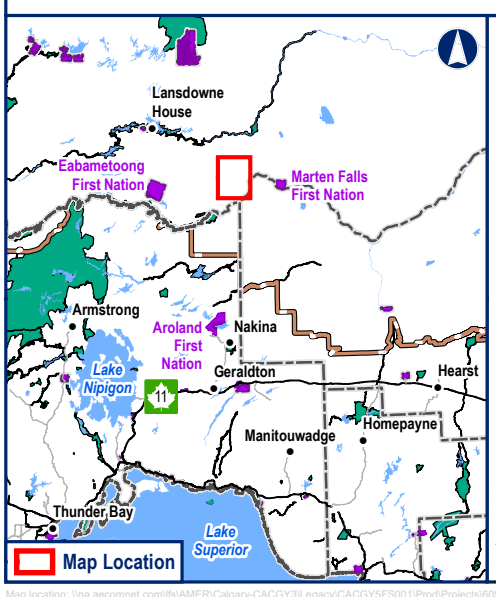
Mabie Lake
259m
Oxtoby Lake
Wabassi River
DISTRICT OF KENORA
Venton Lake
DISTRICT OF COCHRANE
Maxey Lake
Trebell Lake
Gourlie Creek
Albany River
ALBANY RIVER PROVINCIAL PARK
DISTRICT OF COCHRANE
I
H
G



Legend

- A — Segment Node
- Study Area

Route Alternatives

- Alternative 1
- Alternative 4
- Technical Preferred Route

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 3 – North of the Albany Technically Preferred Alternative

0 3 6
Kilometres

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Figure 5-3

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6. Next Steps

Our proposed next steps are included in **Table 6-1**.

Table 6-1: Next steps and timelines

Date	Event
October 2023	Virtual meeting with MFFN Chief and Council to present this memorandum and gather initial feedback.
October 23, 2023	Sharing and validating the technically preferred route recommendations with MFFN community members and gathering their feedback. Meeting to be held in Thunder Bay.
October 24, 2023	In-person meeting with MFFN Chief and Council in-community to present this memorandum and any applicable updates. Sharing and validating the technically preferred route recommendation with MFFN community members and gathering their feedback. Meeting to be held in Marten Falls.
October 25 and 26, 2023	PIC #5 sharing route recommendation with the public in Thunder Bay and Geraldton, as well as potentially with Aroland First Nation.
November 2023	Virtual meeting with MFFN Chief and Council to present feedback received from community in October and request for a Band Council Resolution to approve Final Preferred Alternative Route.
December 1, 2023	Band Council Resolution and Final Preferred Alternative Route confirmation.

7. Other Cost Considerations

Engineering costs prepared for the comparative analysis of each alternative (**Appendix D**) did not include the costs to construct overlapping segments (**Figure 1-1**). A summary of estimated costs to construct these segments is included below **(Table 7-1)** to ensure a full understanding of the Community Access Road.

As indicated in **Section 5.1**, for the purposes of route selection it was assumed that all upgrades to Painter Lake Road required to construct and operate the Segment 1 Route Alternatives will be completed in advance, and the costs are the responsibility of that separate project.

Cost estimates in **Table 7-1** are based on 2023 unit prices developed through discussions with northern Contractors and best practices. Value of construction includes a 20% contingency factor and climate change impacts that are assumed to be 35-40% of the structures base prices.

Table 7-1: Overlapping Segments Estimates

Segment	Estimate		
	Bridges	Road	Total
Segment E-F	$63.1 million	$100 million	$163.1 million
Segment G-H	$12.7 million	$7.7 million	$20.4 million
Segment I-J	$112.7 million	$198.9 million	$311.6 million

8. Closure

We hope this memo meets your current requirements. We look forward to further discussing the information with the MFFN Chief and Council and with the MFFN community to eventually decide on the Final Preferred Alternative Route.

As mentioned in Section 1, the Community Access Road has to comply with regulated timelines. In order meet these, a Band Council Resolution from the MFFN Chief and Council on the Final Preferred Alternative Route is needed by the first week of December 2023.

Appendix A. Supporting Document – Alternatives Development: Community Access Road

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Marten Falls First Nation

Supporting Document – Alternatives Development

Community Access Road

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Prepared by:

AECOM Canada Ltd.

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Date: September 2020

Project #: 60593122

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Attachment 1: Consultation Activities Prior to Initiation of the Terms of Reference

List of Acronyms and Abbreviations

CAR ..... Community Access Road
CBLUP ..... Community Based Land Use Plan
EA ..... Environmental Assessment
EAA ..... *Environmental Assessment Act*
ENDM ..... Ministry of Energy, Northern Development and Mines
FMU ..... Forest Management Units
km ..... kilometre
m ..... metre
MECP ..... Ministry of the Environment, Conservation and Parks
MFFN ..... Marten Falls First Nation
MTO ..... Ministry of Transportation
OGS ..... Ontario Geological Society
MNRF ..... Ministry of Natural Resources and Forestry
SAR ..... Species at Risk
The Agency ..... Impact Assessment Agency of Canada
ToR ..... Terms of Reference

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1. Introduction

Marten Falls First Nation (MFFN) is proposing an all-season Community Access Road (CAR) that will connect the MFFN community to Ontario's provincial highway network (the Project). The Project consists of a new all-season road from Painter Lake Road located approximately 57 km north of Nakina, Ontario to the community of MFFN, a remote First Nation community in northern Ontario located at the junction of the Albany and Ogoki rivers. The CAR will serve community access and industrial supply needs for both the community (e.g., fuel, construction supplies, water treatment supplies) and industrial proponents (e.g., mining, forestry), thereby minimizing infrastructure corridors in the Far North. Therefore, the Project will be for a multi-purpose road built to meet industrial use specifications.

Winter roads and air transportation are vital to remote communities located in northern Ontario for obtaining fuel, food, basic amenities and access to education, health and emergency services (MOI and MNDMF 2011). *Ontario's Long-term Infrastructure Plan, 2017* (Infrastructure Plan; MOI 2018) acknowledges that the communities and urban centres in Northern Ontario are in need of a multimodal transportation system since the North is especially vulnerable to the effects of climate change, particularly in communities that rely on seasonal winter roads. The Project is listed in the Infrastructure Plan, which states that the Province is working with MFFN to plan and construct an all-season access road. Building the Project is part of the government's commitment to create jobs, provide long-term benefits and improve the quality of life for people in the region.

In April 2018, MFFN signed an agreement with the Ministry of the Environment, Conservation and Parks (MECP) to prepare an environmental assessment (EA) under the Ontario *Environmental Assessment Act, 1990* (EAA) for the design, construction and operation / maintenance of the Project. A study under the EAA was formally initiated by MFFN in March 2019 when the Notice of Commencement for a Terms of Reference (ToR) for the Project was published. This report outlines the development of the reasonable range of alternative methods identified for consideration in the EA process. The report includes an overview of the historical evolution of the alternative routes, which occurred over more than ten years, starting with the Winter Road Alignment study in 2007 and progressing through the early stages of the EA process in 2019.

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2. Historical Development of Alternatives

2.1 Community Access Road Development

For the Project, the alternative methods of carrying out the undertaking are different alignment options of a CAR, which are referred to herein as “alternative routes”. MFFN has identified two alternative routes to be considered in the EA process. The development of these alternative routes has evolved through previously completed studies and ongoing processes, including the following:

- 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 Project (KBM Resources Group n.d.);
- 2011 – 2013 Industrial North-South Proposed Road Corridor, Cliffs Chromite Project EA, Technical Supporting Document, Project Alternatives Assessment (Cliffs Natural Resources 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);
- August 2017 funding announcement (Government of Ontario 2017);
- 2019 Band Council Resolution to support proceeding with the alternative routes of the western corridors in the EA process; and
- Ongoing consultation and studies in support of the Project.

2.1.1 Winter Road Realignment Study

Since the mid-1990s, MFFN has received annual funding from the Ministry of Energy, Northern Development and Mines (ENDM) and Indigenous and Northern Affairs Canada (now Indigenous Services Canada and Crown-Indigenous Relations and Northern Affairs Canada) to maintain 140 km of winter road to the community (MFFN 2017). From 2007 to 2009, the Matawa First Nations Tribal Council, on behalf of MFFN, investigated opportunities to realign and improve the winter road used at that time. The study focused on the safety, environmental and operational deficiencies of the winter road identified by members of the community. The major deficiencies and constraints identified were:

- Majority of the winter road is through wetland / bog / swamp;
- Only suitable for sled-trains due to terrain;
- There have been many years when the road has not opened;
- Approximately 800 m crossing of the Albany River and
- Narrow, with areas of deficient horizontal and vertical alignment.

The results of the study concluded that the winter road should be realigned to higher ground for future potential upgrade for all-season use. Focusing on areas east of the Ogoki River, it was suggested that the southern portion be realigned to correspond with a proposed forestry road in the Ogoki Forest Management Plan north of Painter

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Lake Road and for the northern portion to be realigned to follow higher ground along the east side of the Ogoki River from north of Colpitts Creek (**Figure 1**). A bridge crossing of the Albany River was noted to be too costly to construct (Neegan Burnside Ltd. 2009); therefore, the winter road would stop at the Albany River and crossing would occur by barge. The proposed realignment was based on the need to go around major lake crossings and wetland areas, required improvements to the operating conditions (e.g., slopes, rocks, road widths), consultation with agencies (i.e., Ministry of Natural Resources and Forestry [MNRF], Indigenous Services Canada [formerly Indigenous and Northern Affairs Canada], ENDM, Fisheries and Oceans Canada, Ontario Parks), discussions with representatives of MFFN, feedback on materials distributed to the community and the need for an eventual upgrade to an all-season road. Other considerations were for travel time, ability to accommodate non-MFFN community users, cost and environmental features. Upgrading the winter road to all-season was identified in the report as a long-term (>10 years) priority project for the community.

2.1.2 The 2011 Bill Lees Report

In 2009 MFFN secured funding from various sources, including the Northern Ontario Heritage Fund Corporation to complete the Bill Lees Report (MFFN 2017). The Northern Ontario Heritage Fund Corporation is part of Ontario's Northern Prosperity Plan for targeted initiatives to stimulate economic growth, job creation and a better quality of life for northerners. The Northern Ontario Heritage Fund Corporation supports critical infrastructure and community development projects, which includes the building and upgrading of winter roads (Neegan Burnside Ltd. 2009). The other funding partners for the study were the Municipality of Greenstone, MFFN, Noront Resources Ltd. and Marten Falls Logistics-LP (W.L. Lees & Associates ltd. and Marten Falls Logistics-LP 2011).

The purpose of the study was to assess the feasibility of a winter road realignment and / or construction of a new all-weather access road to MFFN and to maximize economic development and job creation opportunities for the community in road construction and maintenance, as well as for future development tied to all-weather access including mineral exploration and Ring of Fire development. The study built upon the findings of the Winter Road Realignment Study to help identify a location for an all-weather road that could provide multi-function use for community access (e.g., industry and recreation). The result of this study was a more detailed routing of the 2009 Neegan Burnside proposed winter road realignment. The refined realignment would be for a winter road with eventual upgrade to an all-season road. Helicopter reconnaissance, aerial photogrammetry and satellite imaging was used to examine route alternatives along the proposed realignment. The study also considered the feasibility and preliminary estimate of the capital cost to construct the road based on a two phased project implementation strategy.

2.1.3 2011 – 2012 Winter Road Realignment Project

In 2010, the Chief and Council of MFFN approved improvements to the winter road. The approval was based on a letter from KBM Resources Group to the Chief of MFFN, referred to as the 2011 – 2012 Winter Road Realignment document. The letter suggested that an improved winter road would be considered a high-quality winter road with the likely benefit of providing improved access to the community and ability to present the community as a cost-effective staging area during mineral exploration and Ring of Fire development. An improved winter road was also noted as being integral to development of winter road access from the community north to the Ring of Fire (KBM Resources Group n.d.). KBM Resources Group's recommendation considered the proposed winter road realignment of the Bill Lees Report (2011) but concluded that the construction would be difficult due to the location immediately adjacent to the Ogoki River (KBM Resources Group n.d.).

The improvements occurred in 2011 and 2012 and were minor upgrades to the winter road consisting of straightening of corners and realignments to reduce the effect from snow drifting and thawing in the spring (KBM Resources Group n.d.). The improvements are shown on **Figure 2**.

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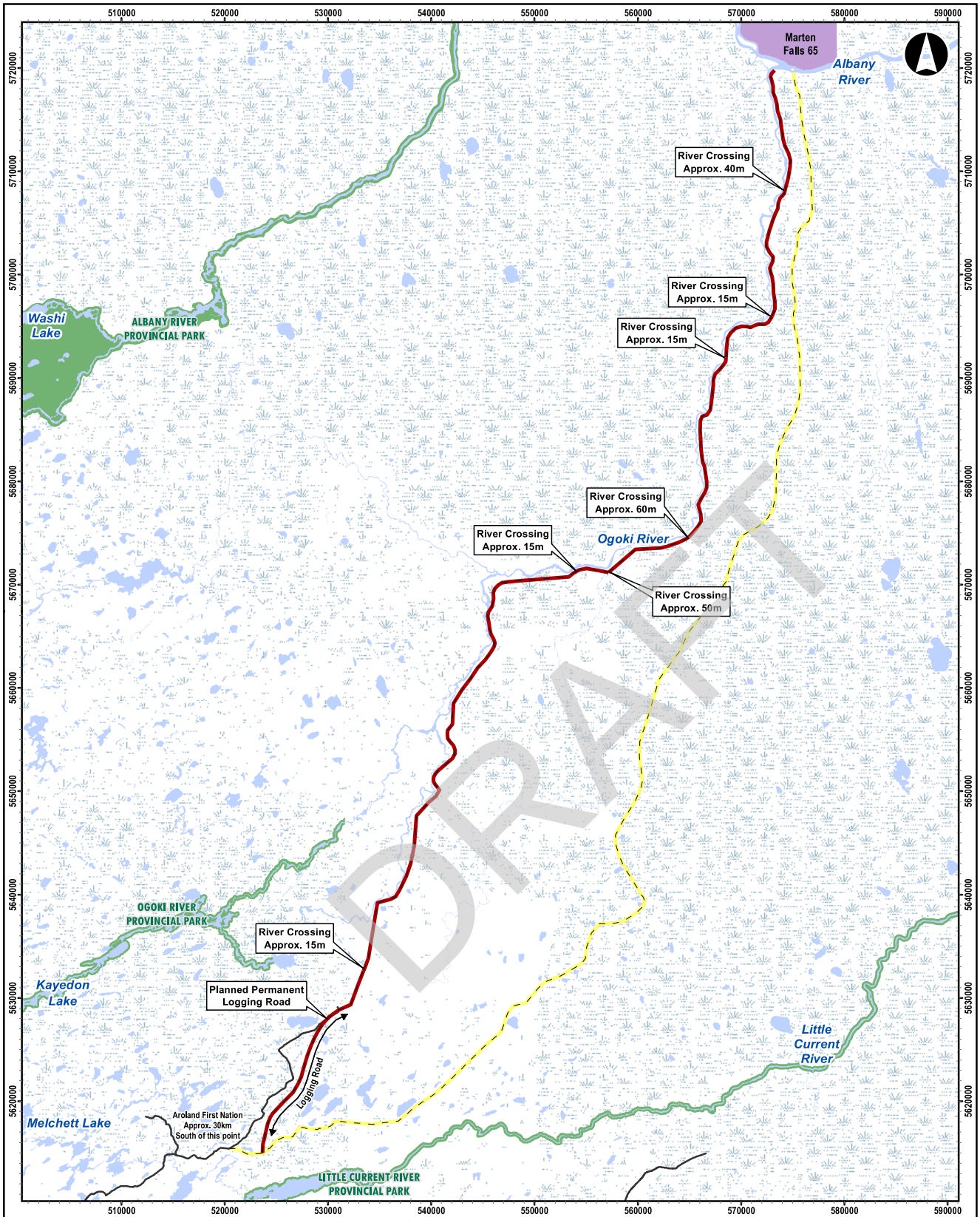

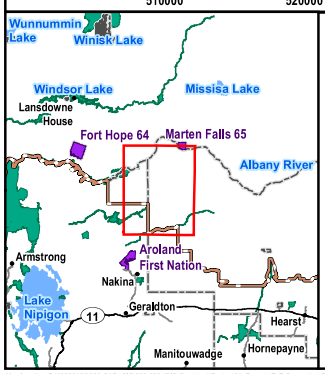

Legend

- Winter Road: Preferred Realignment
- Existing Winter Access Road
- Permanent Road
- Waterbody
- Wetlands
- First Nation Reserve
- Provincial Park

Marten Falls First Nation
All Season Community Access Road

2009 Winter Road Realignment

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

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Figure 1

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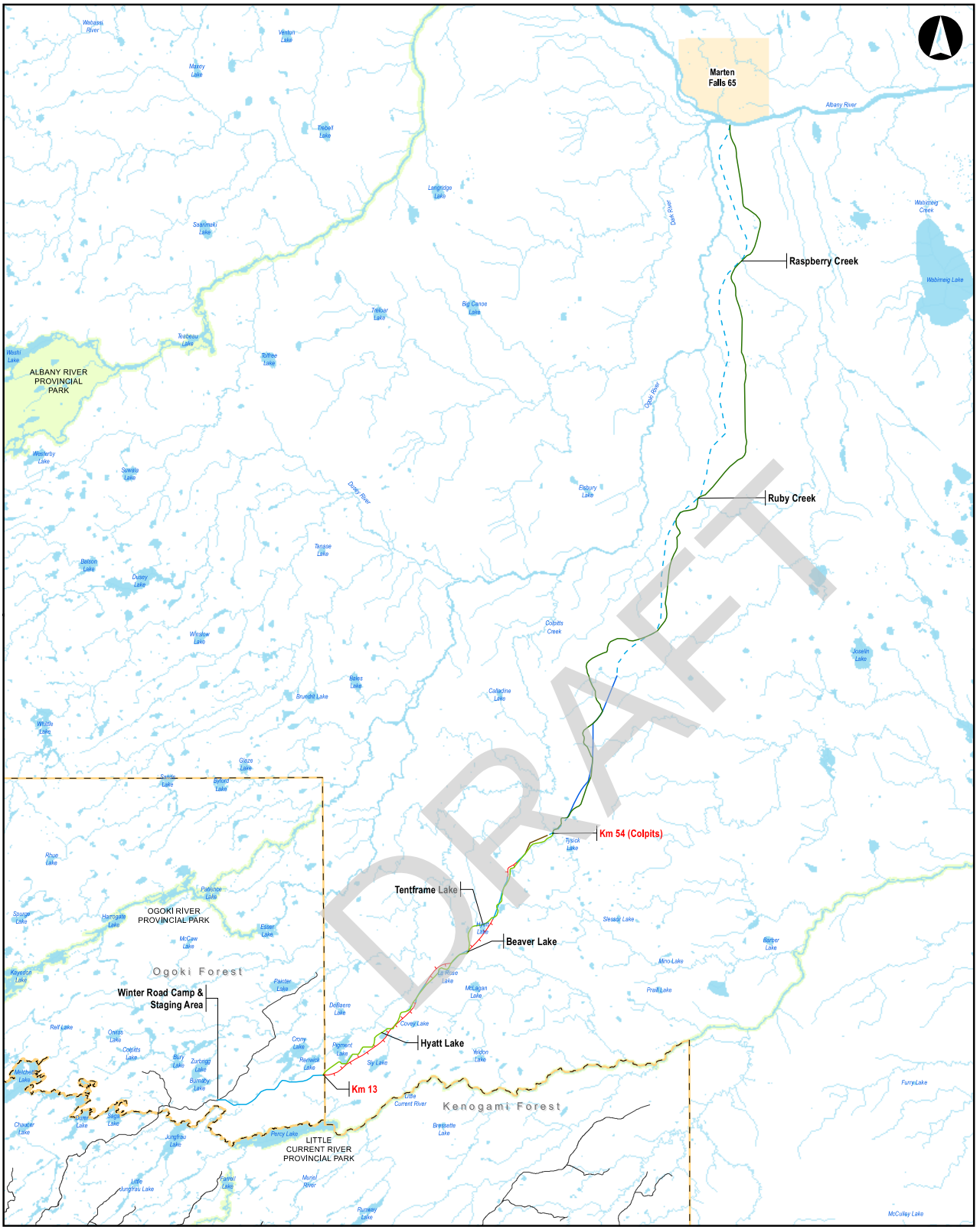

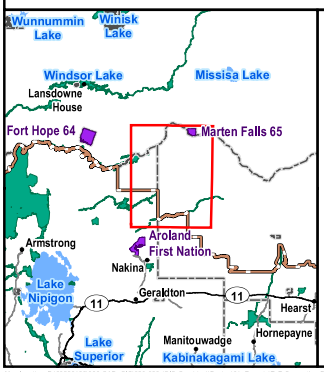

Legend

Winter Road Progress

- Existing Winter Road - Driveable
- Existing Winter Road - Snowmobile
- Realignment (Cleared/Stumped)
- Realignment (Cleared/not stumped)
- Realignment (Dozer Initial Opening)
- Realignment (To be Done)
- Complete
- Provincial Park
- First Nation Reserve
- Existing Roads
- Forest Management Unit
- Watercourse
- Waterbody

Marten Falls First Nation
All Season Community Access Road

2011-2012 Winter Road Realignment

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

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2.1.4 Cliffs Chromite Project

Cliffs Natural Resources was studying the development of a chromite deposit in the Ring of Fire between 2009 and 2013, which included the construction and operation of a mine, ore processing facility and Integrated Transportation System. A key component of the Integrated Transportation System was an all-season access road within a north-south transportation corridor to the west of MFFN from Painter Lake Road to the Ring of Fire for the purpose of moving people, supplies and extracted resources between the proposed mine and provincial road network. It was intended that Indigenous communities and other natural resource companies would be permitted users of the all-season access road. Cliffs Natural Resources also investigated the availability of aggregate within proximity to the north-south transportation corridor for use in road construction in 2009 and 2010 and had submitted applications to the MNRF for aggregate permits under the *Aggregate Resources Act*.

The identification of the north-south corridor by Cliffs Natural Resources considered a range of alternative methods for an all-season access road. Input received during consultation activities for the project was also used to identify the location of the corridor and alignments within the corridor documented in a Terms of Reference provided to MFFN for review and comment. Cliffs Natural Resources met with MFFN in September 2011 and fall 2012 to discuss their proposed project. Additional discussions with MFFN on winter roads and all-season road options in the region occurred through regular email and phone contact.

Cliffs Natural Resources suspended capital spending on the chromite project in 2014 and terminated its federal EA in January 2015 (Northern Ontario Business 2015). Noront Resources acquired the Cliffs Natural Resources chromite properties in 2015 and has worked collaboratively with MFFN, sharing the results of previous studies undertaken for the north-south transportation corridor by Cliffs Natural Resources.

2.1.5 Community Based Land Use Planning

Much of the Project area is expected to occur on lands regulated under the *Far North Act (2011).* 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 community-based land use planning in the Far North of Ontario. MFFN started CBLUP process in 2010, including collection of Anishinabek Knowledge within their planning area of interest. In December 2013, MFFN and the MNRF approved a Terms of Reference for a CBLUP to identify and plan socio-economic development strategies in response to the growing economic and resource development activities on MFFN's historical traditional lands and waterways.

Previous studies for the winter and all-season road to MFFN and the Ring of Fire fall within the area covered by the MFFN CBLUP, which has not yet been finalized. The expected outcome of the CBLUP is documentation of Anishinabek Knowledge and other environmental information to support planning, designation of land use areas (e.g., dedicated protected areas, general use areas and enhanced management areas) and corresponding permitted activities.

2.1.6 2017 MFFN All-Season Community Access Road – Project Proposal

In the spring of 2016, MFFN secured provincial funding to research and explore options for connecting the community to the existing provincial transportation network, including permitting and approval support (MFFN 2017). The community proceeded with an initiative for an all-season road with an intended use for community access only. The initiative was documented in the 2017 MFFN All-Season Community Access Road Project Proposal (MFFN 2017). Per direction of MFFN Chief and Council, a project team retained by MFFN would identify potential routes for the CAR based on the findings of previous studies for winter road realignment and proposals by others for road corridors in the Far North.

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The Project Proposal report is a precursor to initiation of the Project as a study under the EAA. MFFN recognized the need for an EA and other permits and approvals to construct and operate an all-season CAR. Therefore, a range of potential routes were selected and an initial evaluation to identify a preliminary preferred route for the CAR was undertaken. The identification of a preliminary preferred route was based on the understanding that the CAR would be for community access only (i.e., a separate and distinct road from any road to the Ring of Fire). The three routes shown on **Figure 3** were presented in January and March 2017 to the community and were based on road alignments identified in previous studies:

Western Route: This route starts at Painter Lake Road and runs north before turning eastward toward MFFN roughly following the west side of the Albany River. The Western Route includes: 1) the western alternative route from Painter Lake Road to avoid the Ogoki Provincial Park; and 2) the western alternative route at the crossing of the Albany River to avoid Anishinabek Knowledge values. The route was based generally on the proposed north-south corridor by Cliffs Natural Resources for an all-season access road from Painter Lake Road to the Ring of Fire.

Central Route: This route begins at Painter Lake Road and runs along the east side of the Ogoki River to MFFN. The route reflects the winter road realignment that was investigated in the Bill Lees Report with the addition of a crossing of the Albany River to connect the CAR directly to MFFN.

Eastern Route: This route starts at Anaconda Road and uses the existing upgraded section of winter road until approximately 5 km north of Tysick Lake. The road connects northwest to the Central Route near the entry of Colpitts Creek to the Ogoki River. This route was based generally on the 2011 – 2012 improved winter road alignment with the addition of a crossing of the Albany River to connect the CAR directly to MFFN.

The Western, Central and Eastern routes are modified routes of previously identified alignments. The bridge crossing of the Albany River was added to the Central and Eastern routes because water levels may not be sufficiently high year-round to allow barge crossing of the river. The routes were influenced by information received through the CBLUP process related to areas to avoid (e.g., of community interest and / or being considered for protection) as well as modifications based on the following siting criteria developed by MFFN:

- 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; and
- Shortest length to the community.

Each route is sited within a 5 km-wide corridor based on desktop information. The Project Proposal report noted the need for detailed investigation of the corridors to determine the best location of a CAR that could be constructed once a preferred route is selected. A review of surficial geology, land cover, watercourse crossings, values mapping and available Anishinabek Knowledge and results of consultation with the community resulted in selection of the Central Route as the preliminary preferred route for a dedicated all-season CAR. The Central Route was the shortest and most direct route with the least organic material to cross (MFFN 2017). It was also found that this route would have the least potential for effects to the natural environment due in part through locating the road along previously disturbed areas. It was identified as having the least effect to Indigenous value sites out of the three routes based on the information that was available at the time.

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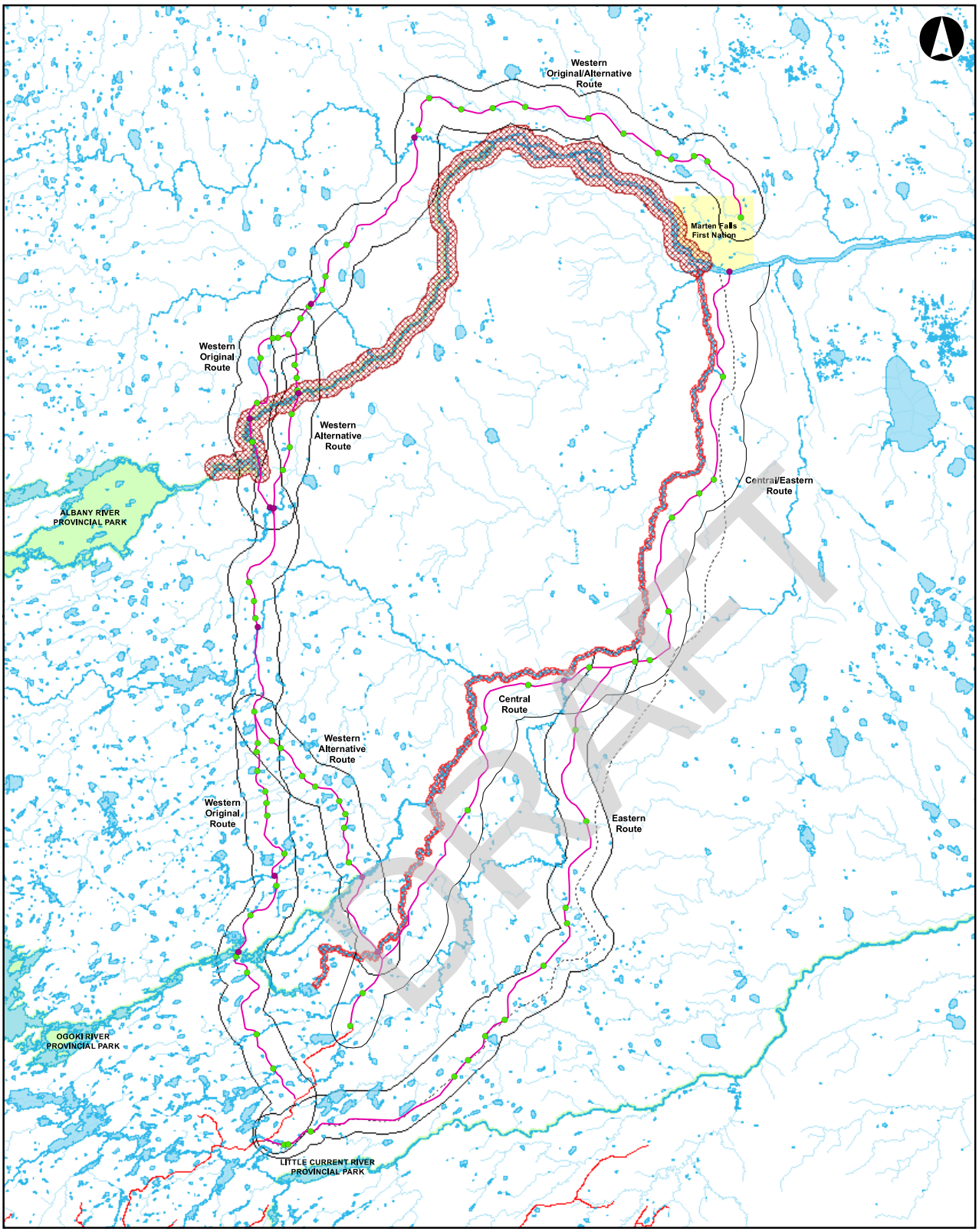

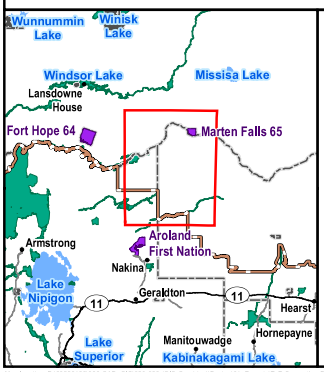

Legend

- Minor Stream Crossing
- Significant River Crossing
- Marten Falls Proposed Roadline
- Existing Winter Access Road
- Existing Roads
- Ogoki River 200m Reserve
- Albany River 1km Reserve
- Road Options Corridor
- Waterbody
- Watercourse
- First Nation Reserve
- Provincial Park

Marten Falls First Nation
All Season Community Access Road

MFFN 2017 Project Proposal Routes

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

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The Project Proposal report was submitted to MECP, ENDM, MNRF and the Ministry of Transportation (MTO) in spring 2017. The intent of the submission was to determine next steps and the EA process to be undertaken. Following review of the report, the Province entered discussions with MFFN about funding an EA process, during which the Province disclosed that funding would only be available for a single multi-purpose all-weather access road.

2.1.7 Multi-purpose Use Road

In August 2017, Ontario announced that the province would provide funding to plan all-season road access to the Ring of Fire and that as part of this plan they would work with Indigenous communities, including MFFN, to build all-season access roads to communities. Following the announcement, a meeting was held with the community of MFFN to introduce the idea that the road would need to be a multi-purpose road to obtain provincial funding. Also, in August 2017, a two-day community meeting was 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. This allowed community members to obtain information about what development may happen in the future and therefore what multi-use of the road may be. MFFN also held meetings with Aroland First Nation, Eabametoong First Nation and Webequie First Nation between August and November 2017 to inform them of the change to a multi-purpose road and discuss next steps for the Project (**Table 1**).

Table 1: Summary of Consultation with Indigenous Communities and Groups in 2017

Community / Date	Description
Aroland First Nation	
August 1, 2017	▪ Meeting in Geraldton to discuss update on north-south corridor, relationship and agreement with mining companies.
August 8, 2017	▪ Meeting in Thunder Bay to provide an update on the all-season road development planning and current status of negotiations with the Province.
Eabametoong First Nation	
November 13, 2017	▪ 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 Eabametoong again early in the new year.
Webequie First Nation	
November 14, 2017	▪ Discussion on moving forward with all development, roads and mining and possible ways of collaboration.
December 12, 2017	▪ Discussed principals of cooperation, update on road development and discussion on next steps.

The community of MFFN was not initially receptive to changing the intended use of the Project to a multi-purpose road; however, over time the community accepted the change in direction as a necessity to access provincial funding and recognized the potential economic benefits a multi-purpose road could provide. Thus, the community shares this provincial interest. The announcement by the province and events occurring in the community since 2017, brought forward new considerations with respect to identifying potential alternative routes to be considered in the EA, including:

- MFFN raised health and safety concerns regarding industrial use and associated mining-related traffic (e.g., heavy equipment, trucks), passing through the community;
- The community voiced concerns around controlling community access and the possible implications on health and safety and overall community well-being, including potential for the introduction of illicit substances and other contentious items entering the community, undesirables freely entering the community and human trafficking;
- There was great concern about children playing on and potentially jumping off a high span bridge located close to the community;

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- The CBLUP team noted the presence of Indigenous value sites located close to the Ogoki River along the Central and Eastern routes and in many cases linked to potential direct or indirect effects on fish, fish habitat (spawning areas) and tributaries that feed the Ogoki River;
- Locating a road adjacent to the Ogoki River takes advantage of the high ground associated with the riverbank but is within areas of Indigenous value sites;
- A CAR routed east of the Ogoki River would avoid the Indigenous valued sites but would have little rock available to support construction and maintenance activities;
- Change of road use to multi-purpose would potentially provide greater economic benefit to MFFN through, for example, job opportunities in road maintenance, mining, forestry and recreation and types of materials and supplies that can be transported to the community; and
- MFFN's position is that no chromite should travel east to west, but instead should travel north to south to support MFFN's economic interest in Ring of Fire development.

The considerations above led to a greater focus on the 2017 Project Proposal Western Route and Western Route alternatives as detailed in **Section 2.1.8**.

2.1.8 Identifying Potential Alternative Routes (2018 – 2019)

In April 2018, MFFN signed an agreement with the MECP, thereby confirming the environmental planning process to be undertaken for the Project. The agreement with the Province was to prepare an Individual EA under the EAA and preliminary design of a CAR built to meet industrial use specification to accommodate multi-purpose use by MFFN community and industrial proponents.

Ongoing investigations were undertaken during the 2018 field season to characterize the existing environment in the areas of the Western, Central and Eastern routes, as well as a review of the routes via fly over with ENDM and the MTO. Consultation also occurred to obtain input on values and features of importance to the community and feedback related to the change of the road use to multi-purpose. Interagency meetings, with representatives from ENDM, MECP, MNRF and the Canadian Environmental Assessment Agency (now the Impact Assessment Agency of Canada [the Agency]), were also initiated for the Project and are ongoing.

Based on the additional community consultation and outreach efforts following the 2017 Project Proposal (as detailed in **Section 2.1.9** and **Attachment 1**), modifications to the Western, Central and Eastern routes resulted in the development of the following four potential alternatives (**Figure 4**):

Alternative 1: .....This alternative is comprised of a modified Western Route. It is based on the alignment of the western alternative route from Painter Lake Road and western original route at the crossing of the Albany River and a newly proposed alignment west to higher ground and sources of aggregate around an area with a large amount of mineral claims before connecting east-west to MFFN. This new portion of the route was added based on recommendations developed from borehole data collected by KWG Resources. Portions of Alternative 1 overlap with Alternative 4. A corridor approximately 10 m to 20 m wide along a majority of the north-south portion of the alternative has limited vegetative growth from historical clearing that had been undertaken to facilitate geotechnical work in the region (Canada Chrome Corporation 2010).

Alternative 2: .....This alternative consists of an updated Central Route from Painter Lake Road to approximately Colpitts Creek where the route generally follows the winter road realignment of the Bill Lees Report along the eastern ridge (riverbank) of the Ogoki River.

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Alternative 3: .....This alternative is primarily the existing upgraded winter road alignment with a small section of the Eastern Route along the middle portion of the proposed route.

Alternative 4: .....This alternative is comprised of a modified Western Route. It is based on the alignment of the western original route from Painter Lake Road and the western alternative route at the crossing of the Albany River. Portions of Alternative 4 overlap with Alternative 1.

The routes described above and shown in **Figure 4** were included in the August 2018 Request for Proposal for Environmental Assessment and Preliminary Design Services for Marten Falls Community Access Road. Following release of the Request for Proposal, the routes were further refined to the alignments shown on **Figure 5**. Portions were realigned to avoid valued / sensitive features and in some cases, sections were removed from consideration. The updates were primarily due to the availability of Anishinabek Knowledge arising from the CBLUP process and to align with the draft CBLUP underway (e.g., adjustments to Alternative 1 and Alternative 4 at the crossing of the Albany River). Revisions were also made based on input received during November 2018 consultation events in Marten Falls and Thunder Bay to provide an update on ongoing studies and review the route mapping with existing Anishinabek Knowledge. A detailed review of the alignment of each route against aerial imagery also resulted in minor modifications to avoid large lake and wetland crossings. Two larger changes that were made to improve construction feasibility (realignments to avoid organic areas) were:

- Realignment of the northern portion of Alternative 3 towards the Ogoki River north of Colpitts Creek along the alignment of Alternative 2; and
- Realignment of the west – east portion of Alternative 4 to follow the same alignment as Alternative 1 along the north side of the Albany River.

MFFN initiated the EA process for the Project in March 2019 when the Notice of Commencement of ToR was published. This notice included two broad corridor alternatives, the West Corridor Alternative and the East Corridor Alternative, for the CAR. Alternative 1 and Alternative 4 are referred to as the western routes located within the West Corridor Alternative, while Alternative 2 and Alternative 3 are referred to as the eastern routes located within the East Corridor Alternative. During early stages of the EA process, these four routes were shared through consultation as potential alternatives that would be reviewed to confirm the reasonable range of alternative methods for assessment and evaluation in the EA. Feedback received during winter and spring 2019 consultations determined Alternative 2 and Alternative 3 are not considered to be reasonable alternatives for the Project based on the following concerns raised by MFFN community members and Chief and Council:

- Health, safety and well-being of the MFFN community;
- Anishinabek Knowledge and valued sites;
- Environmental considerations;
- Economic development opportunities; and
- Constructability, including feasibility, cost and sequencing.

Further information on each of the above listed concerns is detailed in the following sections. The concerns were reviewed by the Project Team and MFFN Chief and Council to verify whether each route is a reasonable alternative for the Project.

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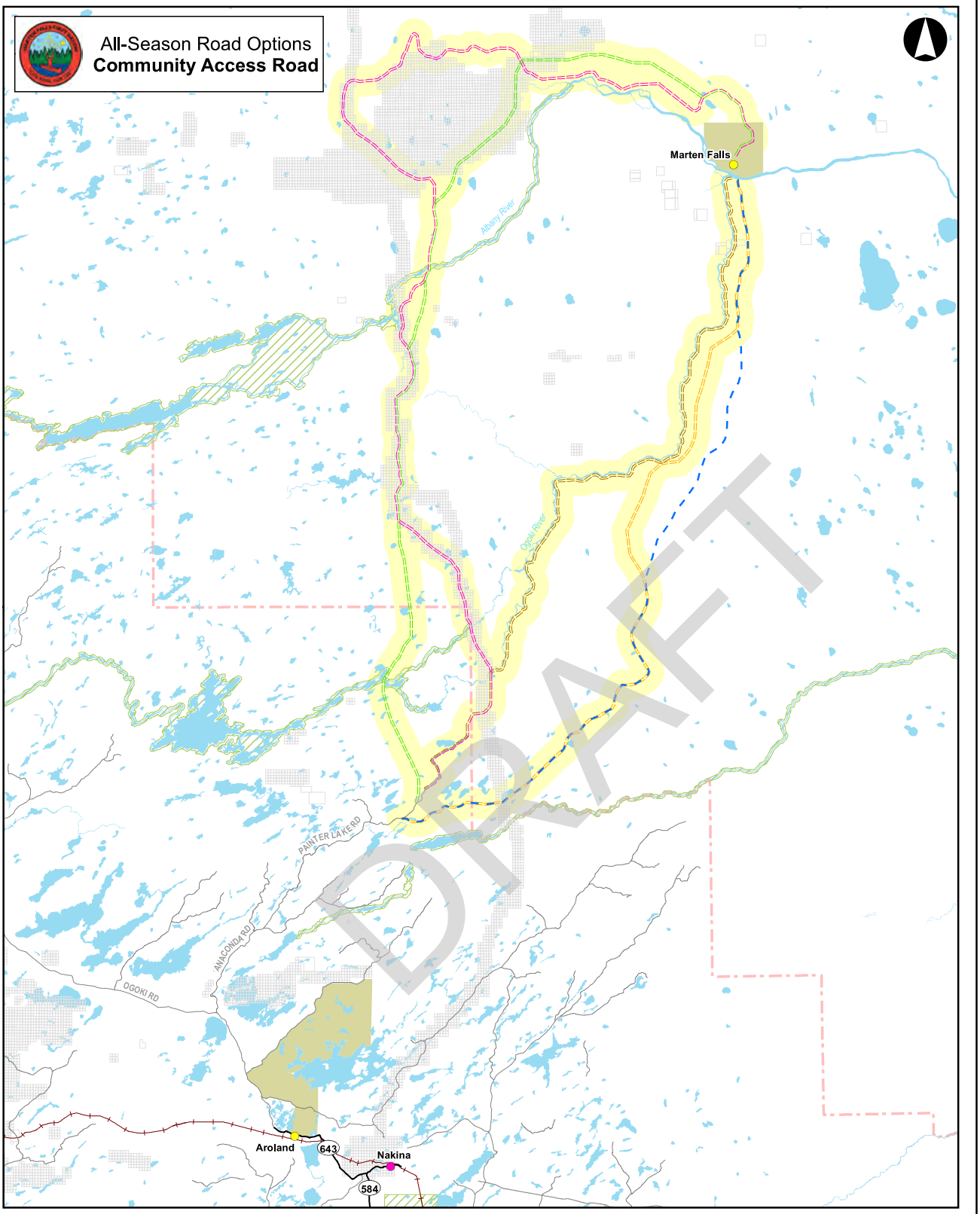

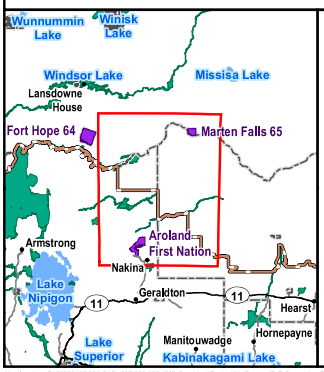

Legend

- Alternative 1 (231 km)
- Alternative 2 (138 km)
- Alternative 3 (174 km)
- Alternative 4 (217 km)
- Primary Highways
- Secondary Highways
- Roads
- Existing Winter Access Road
- Railway
- Mining Claims (May 24, 2019)
- Far North Boundary
- Waterbody
- First Nation Reserve
- Provincial Park
- Study Area Corridor (5km)

Marten Falls First Nation
All Season Community Access Road

2018 Request for Proposal Routes

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

Jul, 2020	1:600,000 * when printed 11"x17"	Data Sources: Derived by KBM Resources Group n.d. MNRF, MMAH, NRCAN, MLAS. Contains information licensed under the Open Government Licence Ontario.
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Figure 4

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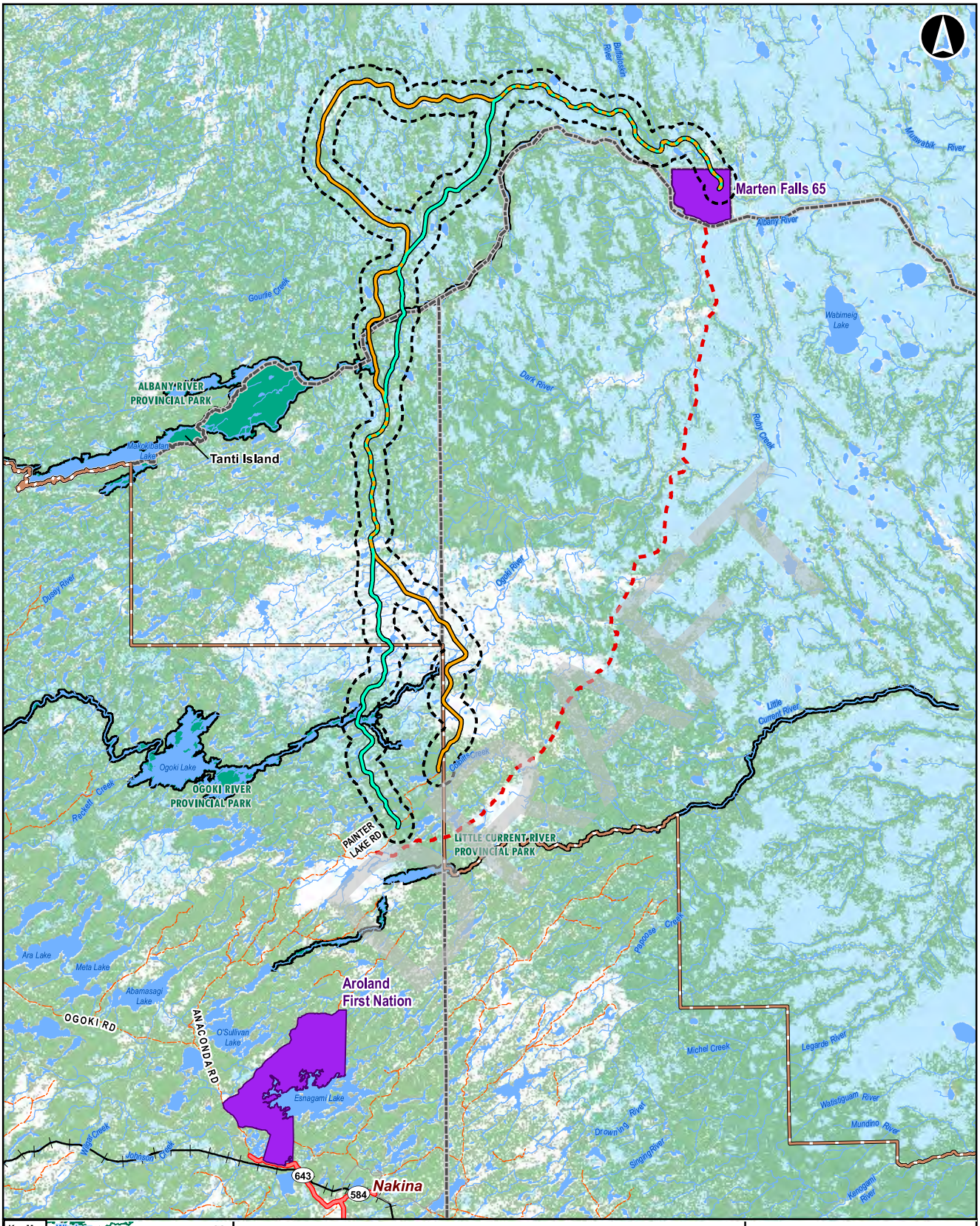

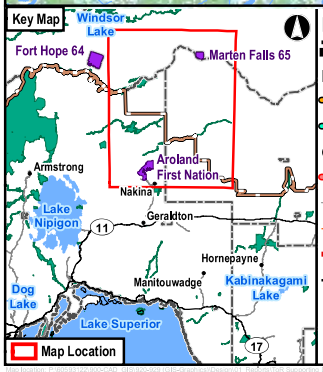

Legend

- Study Area

Route Alternatives

- Alternative 1
- Alternative 4

General Features

- Highway
- Local Road
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Railway
- Provincial Park
- Woodlands
- Waterbody
- Wetlands
- Far North Boundary
- First Nation Reserve
- District Municipal Boundary

Marten Falls First Nation
All Season Community Access Road

Potential Alternative Routes for the EA

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

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Map Number: P:\60593122\800_GIS\810_Maps\812_Figures\Report\Figure 5 - Potential Alternative Routes for the EA.mxd
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2.1.8.1 Health, Safety and Community Well-Being

The community raised concerns for health and safety related to multi-purpose use of the CAR. Although the Project is for a road providing community access, there is the potential for access to be constructed from the CAR to surrounding mineral claims, including the Ring of Fire. Residents of MFFN raised concerns regarding traffic safety (e.g., vehicle-pedestrian collisions) and pollution associated with industrial traffic through the community. Community members also identified a desire to control access to the community to prevent illicit substances, other contentious items and undesirables coming into the community and human trafficking.

Alternative 2 and Alternative 3 connect to MFFN on the southern side of the community. A possible connection point of access to mineral claims north of the community would be on the north side of MFFN, therefore resulting in mining-related traffic through the community. The ability to put access controls in place would be limited should mining-related traffic pass through the community.

Alternative 2 and Alternative 3 would require a high and long bridge crossing of the Albany River close to the community. MFFN identified health and safety concerns of a large span river crossing so close to the community and how it may affect community well-being.

2.1.8.2 Indigenous Knowledge

The potential alternative routes are located in a vast region characterized by forest, treed bogs and fens, other wetlands, rivers and lakes. The land and associated habitat have supported Indigenous' people's hunter-gather way of life and current subsistence uses. Throughout the region, there are documented and undocumented Indigenous Knowledge values including travel routes (e.g., canoe, portages), cabins, village sites, spiritual and cultural locations, grave sites, birthing places and harvesting areas (e.g., big game, fish, birds, fur bearers, berries and plants).

The MFFN CBLUP Team has articulated that the entire area of the Project includes important Anishinabek[1] Knowledge values to MFFN. The CBLUP Team further expressed that there are areas of shared territory where Indigenous Knowledge values of importance to other potentially affected Indigenous communities may be present. Conversations are ongoing to solicit and collect existing and new Indigenous Knowledge data from other potentially affected communities.

The MFFN CBLUP Team has indicated that the Ogoki River holds significant cultural and traditional land use values and a route that parallels this feature may significantly affect these values. Alternative 2 and Alternative 3 parallel the Ogoki River and each route has been aligned to follow the higher ground of the riverbank to avoid areas of muskeg and bog deposits. However, if the route separation distance from the bank of the Ogoki River increases to avoid cultural and traditional land use values associated with the river, muskeg is encountered with little aggregate or rocky outcrop areas available to take advantage of. The community is aware that this could add to construction challenges and increased cost.

2.1.8.3 Environmental Considerations

In the EAA, environment is broadly defined to include the natural, social, economic, cultural and built environments. The Project has the potential to result in effects to the social, cultural, economic, built and natural environments during construction and operation of a CAR. The social and cultural environments are addressed in **Section 2.1.8.1** and **Section 2.1.8.2**, respectively and the economic environment is discussed in **Section 2.1.8.4** and **Section 2.1.8.5**. This section focusses on the natural environment within a 5 km corridor of the routes (herein "corridor").

1. In this document, the term Anishinabek Knowledge is used to describe Indigenous Knowledge associated specifically with Anishinabek communities including MFFN, while the term Indigenous Knowledge is used when referring to knowledge from Indigenous communities that may include non-Anishinabek communities.

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Although the preliminary evaluation undertaken by MFFN in 2017 concluded that a previous iteration of Alternative 2 would best avoid environmental effects, this was largely based upon Alternative 2 having the shortest route length. The following sections discuss the atmospheric, acoustic, aquatic and terrestrial environments based on information obtained through continued data collection.

Atmospheric and Acoustic Environment

Air emissions during construction and operation of the CAR are a function of anticipated traffic volumes and distance of travel. Total air emissions will increase with increase in CAR route length because equipment and vehicles would have to travel greater distances to construct the CAR and travel between the community and provincial highway network. A longer routed CAR is also expected to take longer to construct and / or have more construction personnel working at one time, which is also expected to result in higher total air emissions, including fugitive dust.

Project activities during construction and operation have the potential to result in noise and vibrations at sensitive receptors in proximity to the CAR. Noise and vibrations generated during construction are not anticipated to be long-term due to the temporary nature of construction activities; however, transportation of people and supplies during operation of the CAR may cause a perceptible change in the acoustic environment. Given the remote location of the Project, few human receptors are anticipated to be located along the routes, except for the community of MFFN. The end point of Alternative 2 and Alternative 3 is located close to the community's village centre; therefore, the community may experience noise and vibration effects and / or perceive noise and vibrations as a nuisance. Further, should access to mineral claims be built in the future, the connection to a CAR routed along Alternative 2 or Alternative 3 may result in mining-related traffic through the community, which would likely result in changes to air, noise and vibrations directly within the community.

Aquatic Environment

Numerous streams, rivers, lakes, ponds and wetlands that provide habitat for a variety of fish are prevalent along the routes including but not limited to the Albany River, Ogoki River, Calbert Creek, Colpitts Creek, Dusey River, Gourlie Creek, Wabassi River, Buffaloskin River and their tributaries (NRCAN 2019). 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 fish-bearing waterbodies.

A review of available wetland data and aerial mapping shows that wetland areas are concentrated within the northern portion of Alternative 2 and Alternative 3. Concentrated areas of wetlands require larger crossings of wetland areas because there are fewer areas of other vegetation community types or rocks dispersed throughout (**Figure 5**). Water management in the design of the CAR and during construction is expected to be challenging where the road is more densely surrounded by waterbodies as is the case for the northern portions of Alternative 2 and Alternative 3.

In addition, the CAR will provide year-round access to the Far North, which is likely to increase access to waterbodies for recreational use. Improved access to watercourses may result in increased angling pressure, introduction of invasive aquatic species, parasites and disease, habitat alteration, disruption or destruction and the accidental release of contaminants during operations of a CAR.

Protected Areas and Terrestrial Environment

The Project spans Ecoregion 2W (Big Trout Lake Ecoregion) within the Ontario Shield Ecozone and Ecoregion 2E (James Bay Ecoregion) within the Hudson Bay Lowlands Ecozone. The land cover crossed by the potential alternative routes largely consists of forest (coniferous, deciduous and mixed wood) and wetlands (bogs, fens, swamps and marshes), with lesser amounts of rock and sparsely vegetated upland vegetation communities.

In terms of constructability, rock barren and other sparsely vegetated upland communities are generally preferred; however, these areas are limited throughout the landscape and considering the abundance of wetlands, these

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areas will be valued by wildlife and likely used as animal movement corridors (OMNR 2000). Rock barren and other sparsely vegetated upland communities are also important for wildlife as they provide mammals with forage opportunities for berries and where flat rocks are present, these habitats also provide important cover and foraging habitat for snakes (OMNR 2000). Similarly limited in comparison to the abundance of wetlands in the area of the routes, are forest vegetation communities. These communities are more likely to provide suitable trees for bat maternity roosting and Species at Risk (SAR) bat roosts. Aspen trees, primarily an upland species, are considered important bat roosting habitat in the boreal forest (MNRF 2017).

All land covered by the routes 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. The various vegetation communities found within the area are likely to provide habitat to mammal species such as bats, black bear (*Ursus americanus*), moose (*Alces alces*), woodland caribou (*Rangifer tarandus caribou*), wolf (*Canis lupus*), wolverine (*Gulo gulo*), lynx *(Lynx canadensis*), marten (*Martes americana*), fisher (*Pekania pennant*), muskrat (*Ondatra zibethicus*), skunk (*Mephitis),* groundhog (*Marmota monax*), snowshoe hare (*Lepus americanus*), otter (*Lontra canadensis*) and fox (*Vulpes vulpes*) among others. Herptile species known to occur in the area of the Project include eastern American toad (*Anaxyrus americanus*), eastern garter snake (*Thamnophis sirtalis sirtalis)*, wood frog (*Lithobates sylvaticus*), red-sided garter snake (*Thamnophis sirtalis parietalis*) and leopard frog (*Lithobates pipiens*). Ecoregions 2W and 2E are also home to hundreds of migratory bird species, several of which are considered SAR in Ontario.

The corridor of each route has the potential to provide habitat for SAR. Species listed as threatened or endangered under the *Endangered Species Act* likely to occur across all routes include: woodland caribou (*Rangifer tarandus caribou*), little brown myotis (*Myotis lucifugus*), northern myotis (*Myotis septentrionalis*), wolverine (*Gulo gulo*), bank swallow (*Riparia riparia*) and barn swallow (*Hirundo rustica*). Special concern SAR with the potential to occur include: bald eagle (*Haliaeetus leucocephalus*), yellow rail (*Coturnicops noveboracensis)*, black tern (*Chlidonias niger*), common nighthawk (*Chordeiles minor*), eastern wood pewee (*Contopus virens*), olive-sided flycatcher (*Contopus cooperi*) and Canada warbler (*Cardellina canadensis*).

The habitat of the Missisa and Nipigon ranges fall within the corridor of the routes. The Nipigon Range has a minimum of 172 caribou based on the minimum animal count with a range size of 38,600 km^2 (MNRF 2014a). The Missisa Range has a minimum of 745 caribou based on the minimum animal count with a range size of almost 70,000 km^2 (MNRF 2014b). Even though the Missisa Range is larger, it has a considerably higher density of caribou compared to the Nipigon Range. The short-term population trend for the Missisa Range suggests a declining population with the amount of disturbance on the range sitting at 14.4% (MNRF 2014b). The short-term population trend for the Nipigon range is close to being stable with the range being 38.4% disturbed (MNRF 2014a). The risk to caribou is based on the population of caribou, population trend, the likelihood of a stable or increasing population growth and the level of landscape disturbance (MNRF 2014a, 2014b). The risk to caribou in both the Nipigon Range and Missisa Range is considered intermediate; meaning it is uncertain whether the range condition is sufficient to sustain caribou (MNRF 2014a, 2014b). Reviewing the range and area of critical habitat as defined under the *Species at Risk Act* within the corridor of each route does not consider the individual habitat features within the range such as nursery, winter use areas and travel corridors. Potential effects to these features would have a greater effect on caribou than overall range level effects.

2.1.8.4 Economic Development Opportunities

Economic development in the area of the Project is undertaken predominantly by MFFN in partnerships with adjacent First Nations and industry. The primary economic activities in the region include mining, forestry and resource-based tourism. A prohibitive factor to large development projects in the Far North is transportation costs and infrastructure access. Therefore, a multi-purpose CAR may affect economic opportunities, including in the three sectors listed above as well as other commercial and industrial sectors.

The CAR is anticipated to provide opportunities for employment during road construction and maintenance during operations, as well as improved access to jobs as a result of reliable all-season access. Road access may also

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alter transportation costs, which may affect economic development opportunities for other commercial activities. It is anticipated opportunities would be driven by access to the community, as opposed to the specific route location.

Improved access is also expected to open existing and new areas, which may influence resource-based opportunities including tourism. Proximity to anthropogenic disturbances such as roads, vehicles or people may negatively affect existing tourism operations that rely on remote wilderness character for their business. Additionally, access may make the area surrounding the road less attractive for destination-based tourism operators as recreationalists will be able to access the area without procuring transport through a tourism provider. However, road access may reduce costs and provide new opportunities for new tourism providers to establish businesses. It is noted that access control restrictions[2], put in place under the *Public Lands Act*, currently exist on some forestry roads in the region to protect remote tourism operators. It is unknown at this time if any type of access control would exist on the CAR.

Mining

MFFN has considerable interest in economic opportunities related to the mining industry including the Ring of Fire development, such as employment, procurement and maintenance of any future road to mineral claims. To support future economic opportunities for the community, MFFN's position is for chromite to travel north to south rather than east to west.

Existing and potential mineral developments, including the Ring of Fire, are located north and west of MFFN. Currently, no all-season ground access exists; therefore, an access road may be constructed from a point along the CAR to the Ring of Fire in the future. Opportunities of the CAR to support the mining industry south of the Ring of Fire exist and should also be considered. A review of the ENDM CLAIMaps was completed to identify the location of mineral claims in the Far North. Mapping shows a number of mineral claims within and in the vicinity of Alternative 1 and Alternative 4, including a large cluster of claims in the northwest portion between these alternative routes (MFFN 2017).

Forestry

Forest Management Units (FMU) are the geographic planning areas of Ontario's Crown forests. Forest management within each FMU is under Sustainable Forest Licenses provided to industrial companies that undertake forestry operations following approved forest management plans. There are no FMU identified north of the Far North boundary and, therefore, there are no commercial forestry or large industrial activities within much of the area surrounding the alternative routes. The exception are active commercial forestry operations within the Ogoki and Kenogami FMUs located west and south of the alternative routes.

The portion of each route within the Ogoki FMU is shown on **Figure 6**. A CAR routed along Alternative 1 or Alternative 4 is expected to provide economic development opportunity to the Ogoki FMU because the FMU is located primarily to the west of the routes. Alternative 3 is also expected to provide economic development opportunity within the Ogoki FMU and Kenogami FMU as the southern portion of the route is located approximately 2.5 km to 5 km from the Ogoki FMU-Kenogami FMU boundary to the south.

Potential forestry opportunities within the Far North are unknown. Data from Forest Resources Inventory provides information about tree species composition, range, age and distribution, as well as forest, ecological and land use conditions for part of central and northern Ontario and the southern portion of the Far North. The Forest Resources Inventory within the Far North focuses on a relatively small area immediately north of the Ogoki and Kenogami FMUs near Painter Lake Road (MOEE 2019). Therefore, forestry information for much of the alternative routes is unknown. In addition, business process factors including economic environment and process costs may influence the viability of forestry in these FMUs. However, improved access may improve the viability of a forestry operation assuming the disturbance does not negatively affect habitat thresholds for caribou.

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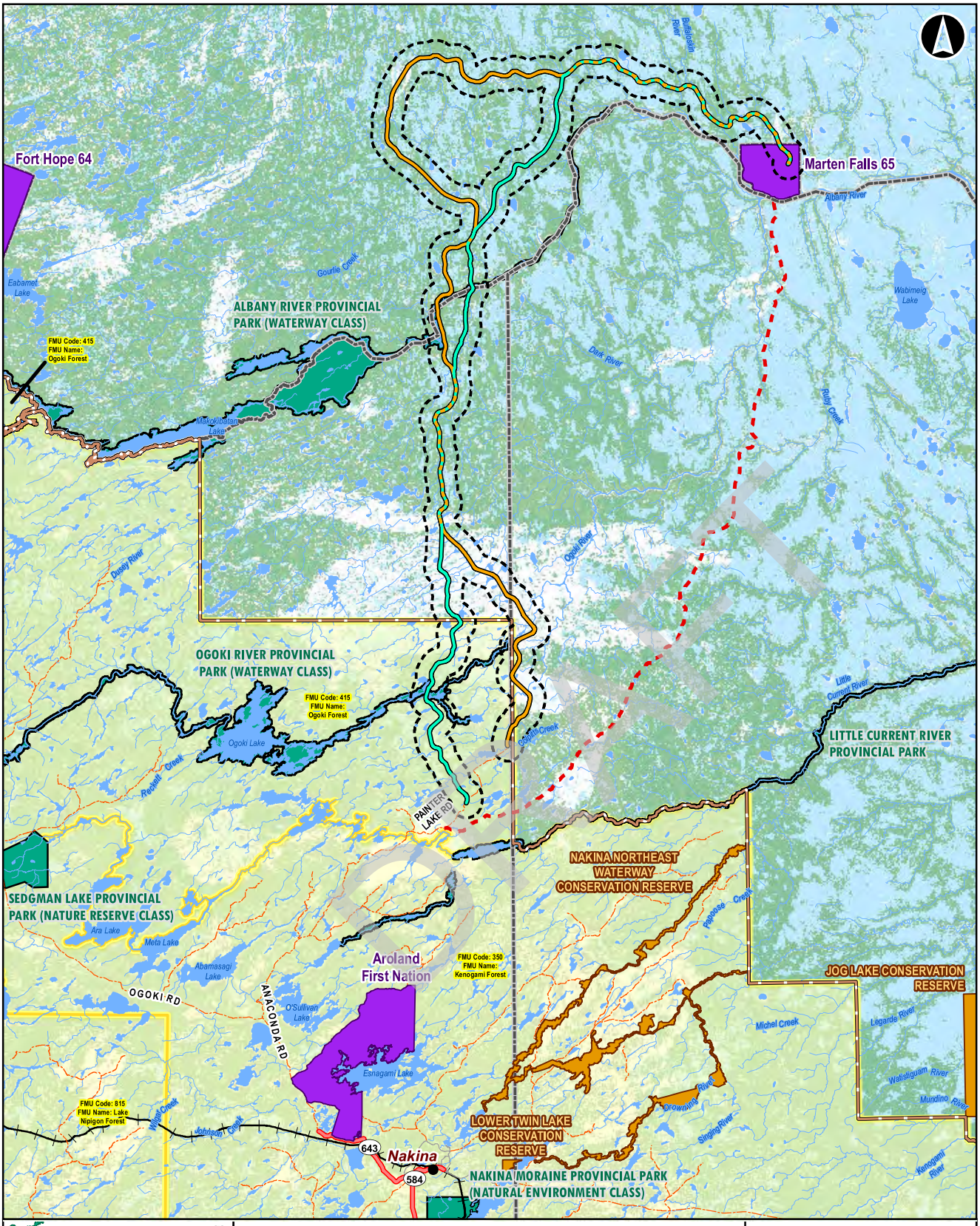
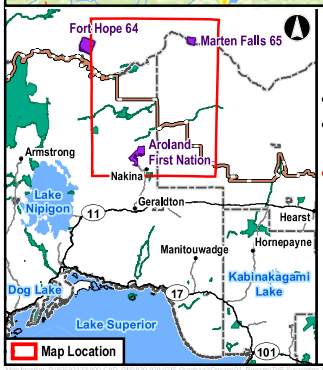
2. Access control restrictions referenced here apply to the non-Indigenous public only.





Legend

- Study Area

Route Alternatives

- Alternative 1
- Alternative 4

General Features

- Highway
- Local Road
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Railway
- Conservation Reserve
- Forest Management Unit
- Provincial Park
- Woodlands
- Waterbody
- Wetlands
- Far North Boundary
- First Nation Reserve
- District Municipal Boundary

Marten Falls First Nation
All Season Community Access Road Project

Forest Management Units

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

Aug, 2020	1:600,000 * when printed 11"x17"	Data Sources: MFFN, MNRF, NRCAN
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Figure 6

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2.1.8.5 Constructability

An initial analysis of constructability is provided in the following sections and is based on a review of available information including, but not limited to, previous investigations completed in the Project area in 2009 and 2010 in support of the Cliffs Chromite Project, previous work in support of the MFFN 2017 Project Proposal and limited helicopter reconnaissance undertaken in 2019.

Watercourse Crossings

Road crossings of watercourses and waterbodies requires construction and installation of culverts and / or bridges. Therefore, the greater the number of potential watercourse crossings, the greater the cost of structures needed to construct the CAR. The cost to construct a watercourse crossing is also dependent on the width of the water crossing with bridges and long-span bridges being more expensive and complex to design and build compared to culverts and small span bridges.

Potential watercourse crossings have been identified through background review, helicopter reconnaissance and review of aerial imagery and are shown in **Figure 7**. Approximately 15 to 20 watercourse crossings have been identified on Alternative 2 and Alternatives 3, which includes one major crossing (e.g., long-span bridge). This major crossing is of the Albany River and is approximately 350 m wide at the proposed crossing point and located in close proximity to the community of MFFN. Further, wetland areas in the vicinity of Alternative 2 and Alternative 3 are concentrated within the northern portion of the alternatives and water management during construction would be challenging as a result of being densely surrounded by these waterbodies. Along Alternative 1 and Alternative 4 approximately 45 watercourse crossing locations have been identified, three of which are considered major crossings that are <300 m wide at the proposed crossing points.

Preliminary Geotechnical Investigations

A helicopter reconnaissance of all alternative routes was undertaken between June 17 and 19, 2019 (KGS 2019). The reconnaissance activities included capturing aerial video recordings of the route options and completing limited ground truthing at pre-selected locations along each alignment. The majority of reconnaissance work was completed from the helicopter, as accessibility to ground landing sites was often limited due to vegetation cover. Areas of potential aggregate sources, or other points of interest, were observed and marked using a hand-held Global Positioning System unit. Where landing was possible (e.g., in areas of extensive organics and on the existing winter road right-of-way), some limited soil investigation (peat probing or hand augers) was conducted.

Desktop studies indicate that the eastern portion of Alternative 2 and Alternative 3 shift off of the Canadian Shield and into the James Bay lowlands, which is poor ground to construct a road on. This suggests that approximately 125 km of poor ground conditions would be built upon for both Alternative 2 and Alternative 3, which would require additional raft thickness. Throughout poor terrain, a ‘raft’ layer commonly constructed of quarried rock is needed to bear the weight of the road. Therefore, the need for raft increases not only the amount of materials needed to construct the CAR but also influences haulage requirements for the Project. Desktop studies did not identify these issues within Alternative 1 and Alternative 4.

Table 2 provides a high-level summary of the terrain and aggregate source potential of the alternative routes based on observations made. Potential aggregate sources are shown on **Figure 7**.

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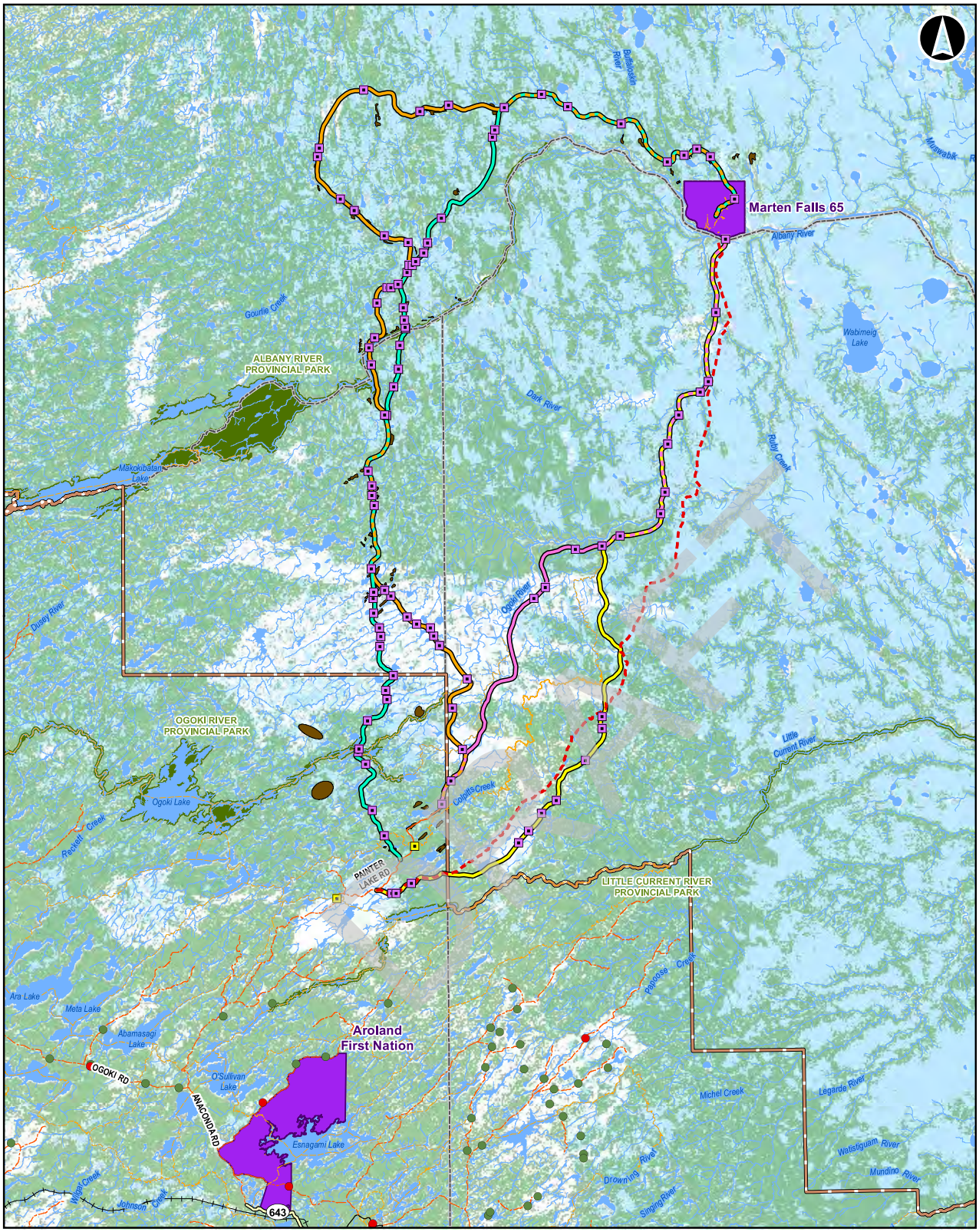

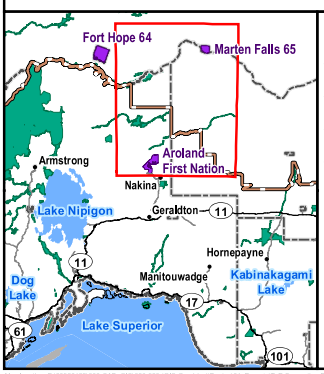

Legend

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4

General Features

- Highway
- Collector Road
- Residential Road
- Resource Road
- Railway
- Trail
- MFFN Existing Winter Access Road
- Watercourse
- First Nation Reserve
- Far North Boundary
- District Municipality
- Provincial Park
- Woodlands
- Waterbody
- Wetlands
- Potential Aggregate Sources *
- Proposed Water Crossing
- Existing Water Crossing
- Existing Aggregate Pit (Active)
- Existing Aggregate Pit (Inactive)

Note:
*Aggregate sources used for the CAR will be a minimum of 100 metres from waterbodies.

Marten Falls First Nation
All Season Community Access Road

Potential Aggregate Sources and Water Crossings

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

Aug, 2020	1:600,000 *when printed 11"x17"	Data Sources: Derived by KBM Resources Group n,d, MNRF, MMAH, NRCAN, MLAS, KGS
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Figure 7

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Table 2: Preliminary Terrain and Aggregate Source Potential

Route(s)	Terrain and Aggregate Source Potential
Alternative 2 and Alternative 3	▪ Fifteen (15) potential aggregate sources (granular and bedrock) were identified using the Ontario Geological Survey (OGS) maps of the area and observations made during the June 2019 reconnaissance flight. ▪ The aggregate sources are primarily located in the southern most third of the routes, with the northern two thirds of the routes traversing predominantly low-lying wet organic terrain with no apparent aggregate sources. ▪ Development of CAR would require aggregate to be hauled significant distances to construct the northern portions of the routes.
Alternative 1 and Alternative 4	▪ Twenty-seven (27) potential aggregate sources (granular and bedrock) were identified using the OGS maps of the area and observations made during the June 2019 reconnaissance flight. ▪ Aggregate sources are in relative proximity to the routes up to the crossing of the Albany River. ▪ The terrain along the east-west portion of the route's traverses predominantly organic terrain, with some till. Bedrock is also sparse in this region, with only three potential bedrock sources identified using the OGS maps and observations during the June 2019 reconnaissance.

In addition, the terrain and geology along portions of the routes have been investigated extensively by others. Investigations completed in 2009 in support of the Cliffs Chromite Project included preparation of logs and classification of soils for a series of 188 hand auger boreholes. In 2010, a geotechnical investigation was conducted that included the drilling of approximately 800 boreholes, many of which were completed on or near the north-south portions of Alternative 1 and Alternative 4. There were nearly 6,000 soil samples collected and select samples were submitted for laboratory analysis, which included Atterberg limit tests, sieve analysis, hydrometer tests and soil classification. The results of these investigation are available and can be used to inform Project design, construction methods and to identify the need for and availability of aggregate. There is limited and less extensive site-specific information available on the existing geotechnical conditions of Alternative 2 and Alternative 3.

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2.1.9 Consultation

MFFN has been actively engaging with MFFN community members and interested persons on the CAR since 2017, with much of it focused on the possible routes for the CAR. Consultation efforts that took place prior to commencement of the ToR in March 2019 are documented in **Attachment 1**. A summary of these consultations, as well as consultation activities during the early stages of the EA process are provided below where applicable to the identification of the reasonable range of alternative routes for the EA.

2.1.9.1 MFFN Community Members

In support of the Project, MFFN has led engagement activities with MFFN community members in a variety of settings. Consultation events have been held in MFFN and in Geraldton and Thunder Bay for those community members who do not live in Marten Falls. Specific sessions have also been held with Elders and Youth to obtain their perspective on the proposed access road. The focus of engagement during these events was to provide details on the proposed Project and to gather initial feedback from MFFN community members.

Table 3 provides a brief summary of consultation events held in 2018 with MFFN community members:

Table 3: Summary of Marten Falls First Nation Community Consultation in 2018

Date*	Description
February 28, 2018	▪ Discuss environmental baseline studies, seek feedback on valued ecosystem components and potential route options
March 1, 2018 **March 22, 2018**	▪ Discuss and plan provincial EA and baseline areas of interest
June 18, 2018 **June 19, 2018 (Thunder Bay)**	▪ Review history of the CAR, present team structure, Project scope, outline deliverables and timelines and discuss community interests
September 11, 2018 **September 20, 2018**	▪ 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
November 12, 2018 **November 13, 2018 (Thunder Bay)**	▪ Update on ongoing studies, review of mapping alternatives with existing Anishinabek Knowledge

Note: Unless otherwise noted, all meetings occurred in Marten Falls First Nation.

The following is a high-level overview of the key comments expressed by attendees of MFFN community engagement activities in 2018. 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 access to the region by non-community members;
- Queries on how the Project will and could connect with other access roads;
- Interest in seeing the Project built as the current winter access road is not sufficient;
- Queries on how the Project will affect future generations;
- Queries on how mining development would be affected by the CAR;
- Potential effects 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; and
- Queries on how MFFN community members living outside of MFFN may have opportunities for business.

On March 20 and 21, 2019 MFFN community member meetings were held in Thunder Bay and MFFN to introduce the Project and discuss the EA process. Between May 6 and 8, 2019 MFFN community member meetings were held in Thunder Bay, MFFN and Geraldton that focused on the four possible routes.

The MFFN community, being the community that is most involved in and potentially affected by the Project, given that the CAR is being developed to provide access specifically to their community, has specific feedback related to the Project that is unique to their community. The following is a summary of the key issues and concerns regarding the Project received from MFFN community at the first two community meetings held in March and May 2019.

- Changes to water quality and flows;
- Waterway navigability;
- Potential effects on wildlife habitat;
- Potential effects on MFFN community and environmental health, particularly related to the possibility of industrial traffic passing through the community (noise and effects on sleeping);
- Socio-economic changes to MFFN community (positive and negative);
- Potential effects on culturally significant sites;
- Potential effects of new public access into MFFN territory (e.g., increased hunting pressure);
- Potential for increased drugs in the community; and
- Visual / landscape changes.

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The focus of the May 2019 meetings was to receive feedback on a proposed focusing of routes for the EA. At this meeting, the key attributes, both positive and negative, of the four routes were presented. While community members did indicate a preference for a CAR with shorter road lengths, community members were generally supportive of the proposal to focus the EA on Alternative 1 and Alternative 4 considering the key benefits of these routes.

Community meetings were also held on June 24 and June 25, 2019 in Thunder Bay and MFFN, respectively. The purpose of this meeting was to share an initial draft of the ToR with MFFN community members prior to releasing the document for comment by neighbouring Indigenous communities, government agencies and other interested persons. The initial draft ToR included all four routes but had recommended that the EA only consider and assess Alternative 1 and Alternative 4 based on MFFN health, safety and well-being, environmental considerations, economic development opportunities and constructability community members were generally supportive of the proposal to remove Alternative 2 and Alternative 3 from consideration and did not raise concerns regarding release of the ToR more broadly.

The key comments brought forward in MFFN community consultation in 2018 and 2019 align with the information described in the subsections of **Section 2.1.8**.

2.1.9.2 Neighbouring Indigenous Communities

Consultation undertaken with neighbouring Indigenous communities in 2017 related to the alternative route development and the change of the intended use of the Project to a multi-purpose road, is summarized in **Section 2.1.7**. Further historic consultation with neighbouring Indigenous communities that was not specific to alternative route development that occurred prior to the Notice of Commencement of a ToR is summarized in **Attachment 1**. Consultation with neighbouring Indigenous communities following the Notice of Commencement of ToR up until mid-August 2019 is summarized in **Table 4**. These consultation activities represent meetings where four possible routes were shared prior to the formal decision and communication that the two reasonable alternative routes for the EA had been determined through the MFFN Band Council Resolution in July 2019 (Section 2.1.9).

A presentation was made to the nine Matawa First Nations members, including the Matawa First Nations Management Inc. representatives on three occasions between June 2019 and July 2019. Attendees at these meetings were provided with a copy of the presentation, contact postcard, business card and newsletters. A full record of consultation with Indigenous communities and other interested persons since the Notice of Commencement of ToR is provided under separate cover as an appendix to the ToR.

None of the below communities posed preference for any one alternative route.

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Table 4: Consultation with Neighbouring Indigenous Communities (2019)

Community / Date*	Description	Key Comments and / or Issues Raised	Response
Aroland First Nation **May 23, 2019**	▪ A meeting was held with the Aroland First Nation Chief and Council and the community to introduce the Project and ToR process. The community meeting provided an update on the Project, including a look at potential routes and outlining items to be presented in the ToR. Preceding the community meeting was a meeting with Aroland Chief and Council.	▪ Indigenous communities need to be included and benefit from any development that happens as a result of the road (e.g., mining forestry, tourism). ▪ The environment needs to be protected / managed responsibly (for seven generations). ▪ There is interest in future community meetings regarding the MFFN impact assessment and regulatory review process.	▪ Future Project planning will consider and examine opportunities for Project benefits to Indigenous communities. MFFN is committed to local benefits as a result of the Project, including Indigenous community members and businesses ▪ Future Project planning and design will endeavour to consider and minimize effects on the environment. ▪ MFFN intends to hold future engagement sessions / community meetings with Aroland First Nation to provide Project information and receive feedback from community members.
Fort Albany First Nation **August 2, 2019**	▪ A meeting was held in Thunder Bay with Chief Metatawabin and a community advisor. The purpose of the meeting was to provide an update on the MFFN Community Access Road, including the provincial Project review process and content, alternative routes and to understand the potential interest that Fort Albany First Nation may have in the Project.	▪ Interest was expressed on how MFFN might control access and the flow of people and goods into the Community. ▪ MFFN was encouraged to prepare an economic development plan in association with the Project. ▪ Fort Albany First Nation is hoping that a relationship with Marten Falls First Nation continues considering that the two communities are on the same river system. The alignment of the two communities is important.	▪ MFFN will consider the need and viability to control public access on the roadway as part of future planning and design activities ▪ MFFN will examine changes to their economy including future development opportunities as a result of the Project. ▪ MFFN is interested in maintaining a relationship with Fort Albany First Nation and looks forward to future discussions.
Webequie First Nation **August 9, 2019**	▪ A meeting was held with members of Council to provide an update on the Project, including discuss specifics regarding the provincial Project review process and content including alternative routes and to understand the potential interest that Webequie First Nation may have in the Project.	▪ Interest was expressed on having regular calls to update each community on the MFFN and Webequie road impact assessment and regulatory review process. ▪ The two communities are to explore a future meeting regarding the sharing of Indigenous Knowledge.	▪ MFFN will continue to explore opportunities with Webequie First Nation on sharing of baseline information and Indigenous Knowledge to support each other road projects. ▪ The potential to hold regular update calls during the EA will be explored with Webequie First Nation.
Attawapiskat First Nation **August 13, 2019**	▪ A meeting was held with a representative of the Attawapiskat First Nation to provide an update on the MFFN Community Access Road Environmental Assessment.	▪ The possibility of a Memorandum of Understanding was discussed to guide Attawapiskat First Nation involvement during the MFFN impact assessment process. ▪ It was also asked if participant funding would be available. ▪ There is interest in receiving future Project documents and the potential for future meetings will be determined as the assessment progresses.	▪ The potential for a Memorandum of Understanding on the Project will be discussed as the interests of Attawapiskat First Nation are better understood by MFFN. ▪ MFFN will continue to provide notices regarding the availability of Project documents for review and commenting.

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2.1.9.3 Government Agencies

The ENDM has been involved with Project planning for many years given their role with Project funding. Since 2018, 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 the Agency (formerly the Canadian Environmental Assessment Agency) are all participants in these regular interagency meetings.

Route options were frequently discussed at meetings with agencies, as detailed in **Attachment 1**, including a fly over of the proposed corridors by ENDM, MTO and MFFN in 2018. In 2017, MFFN received feedback from various provincial agencies who had reviewed the 2017 Project Proposal report. Comments received through the EA process will be considered.

2.1.10 Band Council Resolution

Prior to the August 2017 announcement that the Province would provide funding for a multi-purpose road, MFFN had been investigating an all-season road for dedicated community access. The idea that the Project would be for a multi-purpose road brought forward the new considerations (**Section 2.1.7**) and concerns (**Section 2.1.8**) with respect to identifying alternative routes for the EA. Feedback received suggested Alternative 2 and Alternative 3 may not be reasonable alternatives for the Project. Therefore, the Project Team and MFFN Chief and Council reviewed the concerns raised to verify whether each route is a reasonable alternative for the Project.

Based on the concerns raised, MFFN Chief and Council decided to support the community's preference to avoid routes that have the potential of industrial traffic passing through MFFN. Therefore, on July 31, 2019, MFFN signed a Band Council Resolution to only consider Alternative 1 and Alternative 4 moving forward in the EA process per the following statements of the Band Council Resolution:

- *The Eastern corridors to the community are only considered viable if built as dedicated community access corridors, which is not the scope of the current Project.*
- *Marten Falls has agreed to lead the development of an EA for a multi-purpose road built to industrial use specifications, as the community access road could possibly link to a supply road in the future.*

Therefore, through the July 31, 2019 Band Council Resolution, Alternative 2 and Alternative 3 were not found to be reasonable alternative routes for the Project.

2.1.11 Identifying Potential Alternative Routes (2020)

While investigating construction feasibility of the alternative routes in June 2020, a newly identified potential crossing location of the Ogoki River for Alternative 4 was identified to the west as shown on **Figure 8**. This western crossing option of the Ogoki River presents numerous benefits including, but not limited to, the following.

- **Shorter Span Crossing of the Ogoki River**: Alternative 4 requires a large-span crossing of the Ogoki River. The constructability of large-span crossings is more challenging than shorter span crossings; therefore, the location selected to cross a large waterbody has technical and cost implications. The constructability of the western crossing option of the Ogoki River is improved because the span length is approximately 200 m shorter. This would allow for the installation of a single span bridge of the Ogoki River rather than a multi-span bridge. It is also anticipated that a reduced span length may result in fewer effects to the environment.

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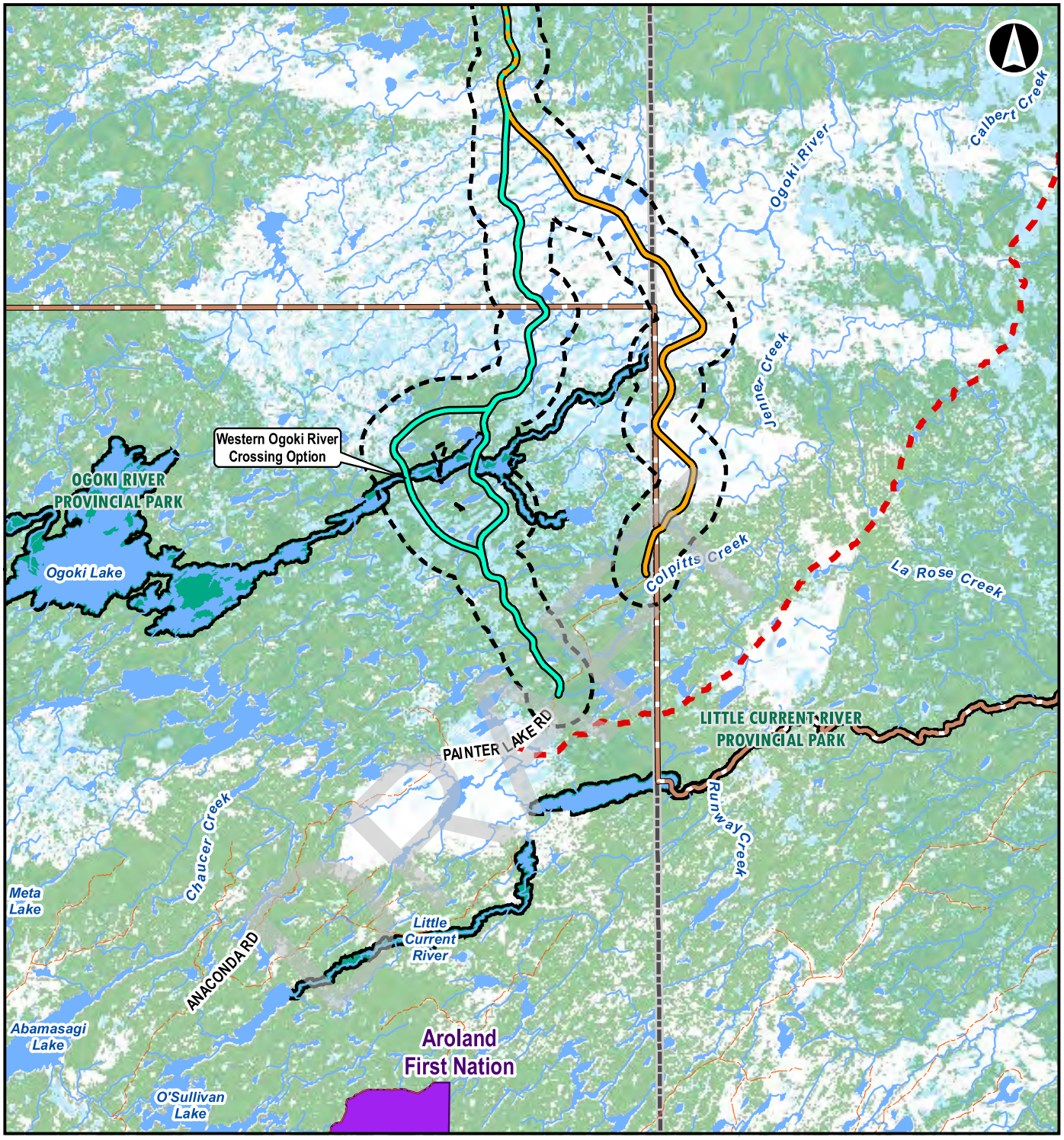

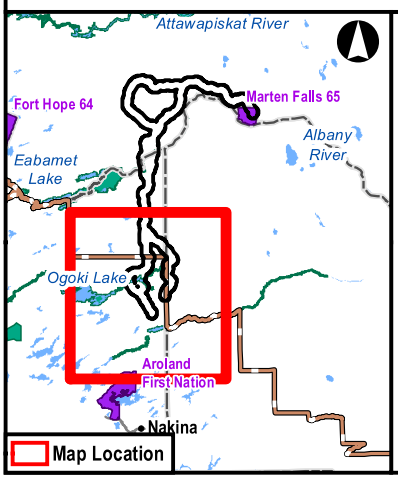

Legend

- Study Area
- **Route Alternatives**
  - Alternative 1
  - Alternative 4
- **General Features**
  - Resource / Recreation Road
  - MFFN Existing Winter Access Road
  - Provincial Park
  - Woodlands
  - Wetlands
  - Far North Boundary
- First Nation Reserve
- District Municipal Boundary

Marten Falls First Nation
All Season Community Access Road

Ogoki River Crossing Alternatives

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

Aug, 2020	1:450,000 * when printed 8.5"x11"	Data Sources: MNRF, MMAH, NRCAN
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Figure 8

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- **Availability of Road Material**: Quarries, borrow areas and aggregate source areas are needed to construct the Project. Most of the rock required for construction is expected to come from sources adjacent to the CAR; however, depending on resource availability, some sources may need to be developed further away. There is a potentially substantial aggregate source located west of Alternative 4 near the western Ogoki River crossing option that could be a potential source of construction materials for the Project. A CAR routed along this western alignment would reduce the length and / or remove the need for a haul route to access the aggregate should it be developed for the Project. A CAR routed further east would require the construction of a temporary haul road to obtain access to this potential source, which would have additional environmental effects and cost.
- **Schedule and Cost Implications**: The above listed factors would lead to considerable reductions in terms of Project construction timeline and Project cost. A shorter-span crossing of the Ogoki River and easier access to construction material would reduce both the length of time required to construct the Project and the cost of construction.

The western Ogoki River crossing option of Alternative 4 offers benefits that warrant further investigation. Therefore, MFFN determined that this option should be considered further in the EA as an Ogoki River crossing option of Alternative 4.

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3. Alternative Routes for the EA

MFFN must identify and describe a reasonable range of alternative methods for the Project. The alternative methods of carrying out the undertaking for this Project are different alignment options of a CAR. **Section 2.1.1** to **Section 2.1.7** of this report provides an overview of the historical evolution of possible route options for the Project that resulted in the identification of four potential routes in the August 2018 Request for Proposal for Environmental Assessment and Preliminary Design Services for Marten Falls Community Access Road. A detailed review of these routes, documented in **Section 2.1.8**, was undertaken by the Project Team and MFFN Chief and Council based on issues and concerns raised by the community that influenced what is considered a reasonable alternative for the Project. Based on the review a Band Council Resolution was signed July 31, 2019 which confirmed Alternative 2 and Alternative 3 are not reasonable alternative routes for the Project. Therefore, Alternative 1 and Alternative 4, including the Ogoki River crossing options detailed in **Section 2.1.11**, are considered a reasonable range of alternative routes for the EA.

To confirm the decision-making process followed by MFFN resulting in identification of Alternative 1 and Alternative 4 as alternative routes for the Project, a review of each alternative against the suggested questions to consider when determining the range of alternatives for the EA listed in the Code of Practice (MECP 2019) was undertaken. The Code of Practice (2019) states that when determining the reasonable range of alternatives to be considered in the EA, the Proponent should, at a minimum, consider the following:

- Do they provide a viable solution to the problem or opportunity to be addressed?
- Are they proven technologies?
- Are they technically feasible?
- Are they consistent with other relevant planning objectives, policies and decisions?
- Are they consistent with provincial government priority initiatives?
- Could they affect any sensitive environmental features?
- Are they practical, financially realistic and economically viable?
- Are they within the ability of the Proponent to implement?
- Can they be implemented within the defined study area?
- Are they appropriate to the Proponent doing the study?
- Are they able to meet the purpose of the *Environmental Assessment Act*?

Based on the Code of Practice questions, Alternative 2 and Alternative 3 are not appropriate to the Proponent doing the study because they do not address MFFN concerns posed by a large bridge crossing located close to the community, or the health and safety concerns related to mining-related traffic through the community. Additionally, Alternative 2 and Alternative 3 are not consistent with other relevant planning decisions and therefore not within the ability of the Proponent to implement. Specifically, MFFN signed a Band Council Resolution confirming that Alternative 2 and Alternative 3 are only considered viable if built as a dedicated CAR. Since the Project is being built to meet industrial use specifications to accommodate multi-purpose use, Alternative 2 and Alternative 3 do not meet the intent of the Band Council Resolution or this Code of Practice question.

Although Alternative 2 and Alternative 3 are considered technically feasible using proven technology, a majority of the land in proximity to Alternative 2 and Alternative 3 consists of wetlands and fens with limited higher ground and aggregate sources available for construction. The availability of borrow sources is an important factor to consider when determining if the alternative is financially realistic and economically viable. Further, wetland areas in the vicinity of Alternative 2 and Alternative 3 are concentrated within the northern portion of the alternatives and water management during construction would be challenging as a result of being densely surrounded by these waterbodies.

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All four routes have the potential to affect sensitive environmental features, as further elaborated on in **Section 2.1.8.3**. While current information suggests each alternative route is likely to cause environmental effects, each route offers the same ability to avoid and mitigate potential effects through route refinements (within the 5 km corridor being assessed) during detailed design and through the implementation of impact management measures. However, Alternative 2 and Alternative 3 are routed along the high ground of the Ogoki River. The MFFN CBLUP Team indicated that the Ogoki River holds significant cultural and traditional land use values, and a route that parallels this feature may significantly affect these values associated with this environmental feature.

3.1 Conclusion

The results of the above analysis, MFFN community discussions and MFFN direction indicate that Alternative 1 and Alternative 4 are feasible for assessment and evaluation in the EA. These alternative routes provide a viable solution to the problem when considering the social, cultural, economic, built and natural environment as they:

- Address MFFN concerns posed by a large bridge crossing located close to the community and health and safety concerns related to potential for mining-related traffic through the community;
- Although Alternative 4 crosses the Ogoki River, neither Alternative 1 or Alternative 4 parallel the Ogoki River and therefore both largely avoid potential effects on the Indigenous value sites associated with this major waterway;
- Enable economic development opportunities in the region as they provide direct access to areas used by mining and forestry industry, including potential areas of interest for future development;
- Are located on higher ground and located closer to aggregate sources required for construction; and
- Do not represent a difference in concerns from other communities or the public (e.g., comments received from neighbouring Indigenous communities are not specific to a preferred alternative).

Therefore, Alternative 1 and Alternative 4 are identified as the reasonable alternative methods for the Project that should be considered for assessment and evaluation in the EA (**Figure 9**).

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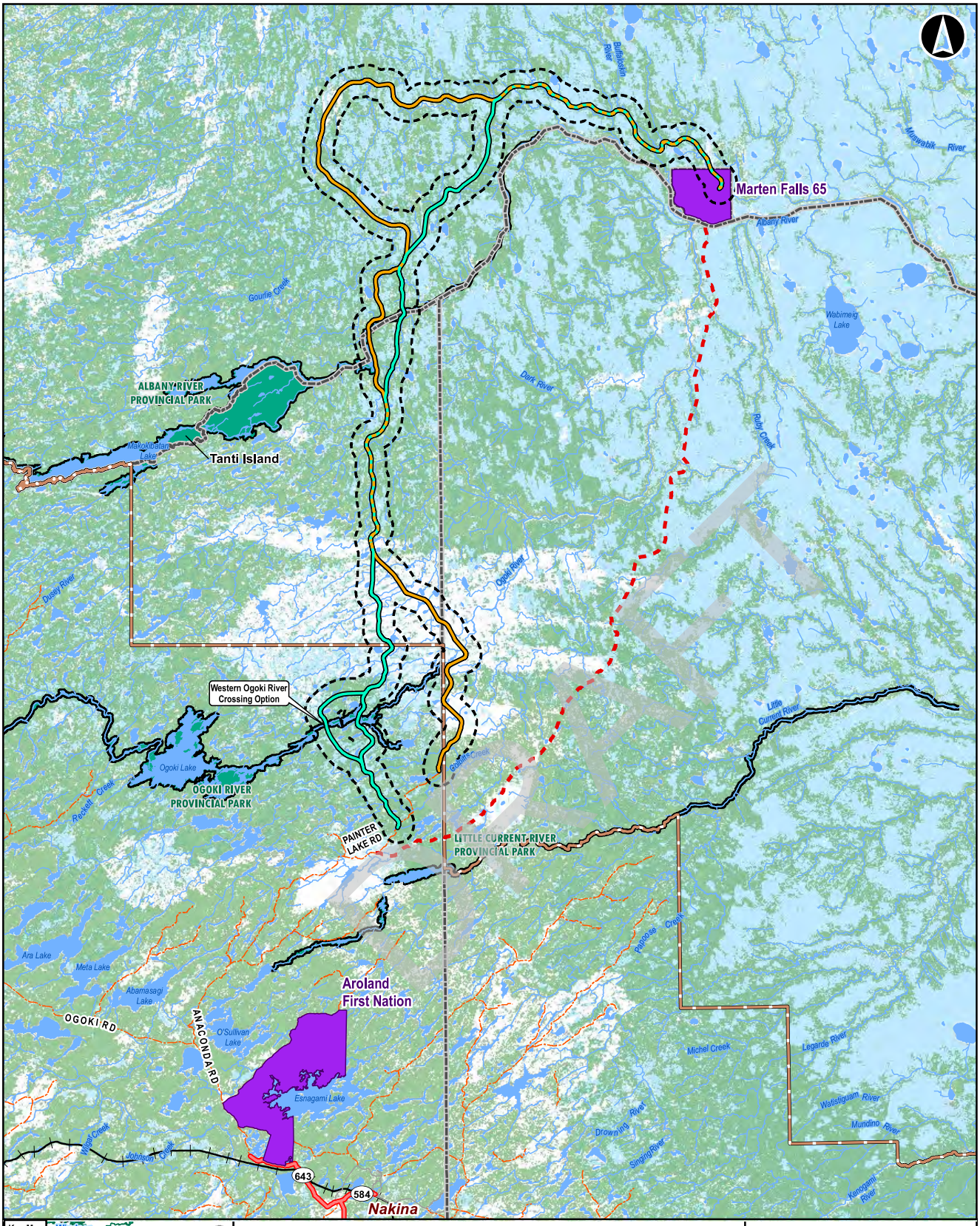

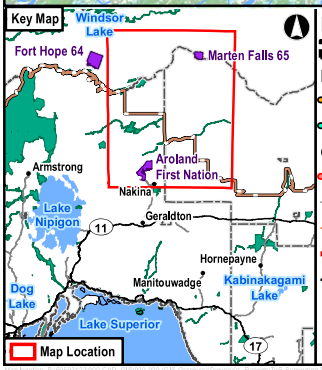

Legend

- Study Area

Route Alternatives

- Alternative 1
- Alternative 4

General Features

- Highway
- Local Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Provincial Park
- Woodlands
- Waterbody
- Wetlands
- Far North Boundary
- First Nation Reserve
- District Municipal Boundary

Marten Falls First Nation
All Season Community Access Road

Alternative Routes for the EA

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

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Figure 9

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Attachment 1

Consultation Activities Prior to Initiation of the Terms of Reference

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1. Introduction

Marten Falls First Nation (MFFN) is a remote First Nation community in northern Ontario, approximately 430 kilometres (km) from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. The community is proposing an all-season Community Access Road (CAR; the Project) that will connect the community to the Ontario provincial highway network. The proposed Project includes construction, operation and maintenance of an all-season CAR.

MFFN has been actively engaging with MFFN community members and interested persons on the CAR since 2017. These consultation efforts took place prior to commencement of the ToR in March 2019, and are documented herein. The summary of consultation activities is organized by group: Indigenous communities, public and other interested stakeholders and government agencies.

2. Consultation Activities Prior to the Terms of Reference

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2.1 Indigenous Communities

2.1.1 MFFN Community Members

In support of the Project, MFFN has led engagement activities with MFFN community members in a variety of settings. Consultation events have been held in MFFN, and in Geraldton and Thunder Bay for those community members who do not live in Marten Falls. Specific sessions have also been held with Elders and Youth to obtain their perspective on the proposed access road. The focus of engagement during these events was to provide details on the proposed Project and to gather initial feedback from MFFN community members.

Below is a brief recap of consultation events held between January 2017 and March 2019 with MFFN community members:

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 environmental assessment (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 Environmental Assessment Technical Lead, discuss the EA process and provide an update on Project activities (MFFN and Thunder Bay).

- Members of the Community Based Land Use Plan 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; and
  - Thunder Bay, Ontario – Prince Arthur, March 30, 2017.

2018

- **February:** Discuss environmental baseline studies, seek feedback on valued ecosystem components and potential route options.
  - Marten Falls – February 28, 2018
- **March:** Discuss and plan provincial EA and baseline areas of interest.
  - Marten Falls – March 1, 2018
  - Marten Falls – March 22, 2018
- **June:** Review history of the CAR, present team structure, Project scope, outline deliverables and timelines, and discuss community interests.
  - Marten Falls – 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.
  - Marten Falls – September 11 and 20, 2018
- **November:** Update on ongoing studies, review of mapping alternatives with existing Indigenous Traditional Knowledge.
  - Marten Falls – November 12, 2018
  - Thunder Bay – November 13, 2018

2019 (Prior to March)

- **January:** Discuss environmental baseline.
  - Marten Falls – January 14, 2019
  - Thunder Bay – January 16, 2019
- **February:** Update on Project activities.
  - Thunder Bay – February 14, 2019

2.1.2 Neighbouring Indigenous Communities

MFFN has engaged with neighbouring Indigenous communities about the Project through a variety of means including in-person meetings, emails, letters and phone calls. These exchanges were preliminary in nature but provided an opportunity for MFFN to discuss the Project at a high-level and to determine the potential interest of neighbouring communities in the Project. Details have been provided in **Table 2-1**.

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Table 2-1: Summary of Consultation with Indigenous Communities and Groups Prior to the ToR

Community / Date	Description
Aroland First Nation	
August 1, 2017	■ Meeting in Geraldton to discuss update on north-south corridor, relationship and agreement with mining companies.
August 8, 2017	■ 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	■ Letter regarding baseline studies ■ Updated notice for bird surveys on May 14 2018
March 7, 2018	■ Meeting to provide a Project update and discussion of how the two First Nations can work together.
March 10, 2018	■ Letter from community to MECP regarding concerns on the CAR
April 19, 2018	■ Letter to community regarding MFFN discussions with ENDM and support for community to lead Painter Lake to Highway 643 EA and planning process
November 7, 2018	■ 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	■ 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	■ Letter from community to MFFN detailing concerns and requesting government to government meetings
Attawapiskat First Nation	
May 2018	■ Notice for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Constance Lake First Nation	
May 2018	■ Notice for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Eabametoong First Nation	
November 13, 2017	■ 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	■ Letter regarding baseline studies
February 26, 2018	■ Correspondence letter outlining concerns
February 27, 2018	■ Correspondence letter outlining concerns
Fort Albany First Nation	
May 2018	■ Notice for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Ginnogaming First Nation	
May 2018	■ Notification letter for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Kashechewan First Nation	
May 2018	■ Notice for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Long Lake 58 First Nation	
May 2018	■ Notice for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Matawa First Nations Management	
March 13, 2018	■ Letter to community requesting EA conference internal report

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Table 2-1: Summary of Consultation with Indigenous Communities and Groups Prior to the ToR

Community / Date	Description
Neskatanga First Nation	
January 24, 2018	■ Letter to the community regarding baseline studies
May 3, 2018	■ Follow-up letter to community regarding baseline studies ■ Response letter received May 5, 2018 outlining concerns with EA and open dialogue with community
May 14, 2018	■ Updated notice for avian surveys ■ May 15, 2018 response letter received to suspend studies and open dialogue with community
June 7, 2018	■ Request for a meeting to discuss CAR ■ June 19, 2018 acceptance for June 28, 2018 meeting
September 25, 2018	■ Response letter to community's request to review archaeological information
November 9, 2018	■ MFFN response to community accepting their request to delay meeting and attempt to secure funding for community involvement in the EA
Nibinamik First Nation	
May 2018	■ Notice for avian surveys ■ Notification for re-scheduled avian surveys ■ Letter to community regarding the EA process for CAR
Webequie First Nation	
November 14, 2017	■ Discussion on moving forward with all development, roads and mining, and possible ways of collaboration
December 12, 2017	■ Discussed principals of cooperation, update on road development and discussion on next steps
January 2018	■ Letter to community regarding baseline studies
March 5, 2018	■ 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 3, 2018	■ Notification letter for avian surveys ■ Notification for re-scheduled avian surveys

2.1.3 Key Comments

The following is a high-level overview of the key comments expressed by attendees of past MFFN community engagement activities. 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 access to the region by 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 would be affected by the CAR;
- Potential effects 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; and
- Queries on how MFFN community members living outside of MFFN may have opportunities for business.

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2.2 Public and Other Interested Stakeholders

MFFN has been collecting feedback on the proposed Project for several years. MFFN has led engagement activities with members of the public and interested persons through a variety of events. The focus of engagement to date has been to provide details on the proposed Project and EA process, and to gather initial feedback from members of the public and other interested persons. **Table 2-2** provides an overview of consultation activities that occurred prior to initiation of the ToR.

Table 2-2: Summary of Consultation with the Public and Other Interested Stakeholders Prior to the ToR

Date	Activity Description
August 2018	Presentation at the Northern Ontario Expo by MFFN Chief
December 2018	Presentations given at the Mining Symposium

In August 2018 at the Northern Ontario Expo there was limited time for participant questions, however one comment that was noted is included below.

- Question on why the road was planned to be gravel rather than paved, which would reduce dust.

MFFN utilized the Ring of Fire Symposium in December 2018 to introduce its hired prime consultant AECOM and provide a status update on the project to membership and industry representatives. AECOM provided a presentation on behalf of MFFN which outlined what an environmental assessment is, what it takes into account and the road construction process from the start of the environmental assessment through to construction. AECOM clarified that the scope of the current project included the environmental assessment and preliminary design only. Maps showing the alternative corridors for the road were made available for community member review.

There was limited feedback provided at the symposium, however, a couple of comments made by MFFN membership are included below.

- Significant comments were made regarding access to the area known as the Ring of Fire and a potential railway connection.
- In general, the MFFN community did not like the idea of a railway connection noting that the resulting spill from a train crash could potentially be much larger and more difficult to clean up than one from a truck crash.

2.3 Government Agencies

The Ministry of Energy, Northern Development and Mines (ENDM) has been involved with Project planning for many years given their role with Project funding. Since 2018, 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, the Ministry of the Environment, Conservation and Parks (MECP), the Ministry of Natural Resources and Forestry (MNRF) and Canadian Environmental Agency are all participants in these regular meetings. **Table 2-3** highlights early engagement with these regulatory agencies.

Table 2-3: Summary of Consultation with Regulatory Authorities Prior to the ToR

Date	Activity Description
2017	▪ Alternative routes ▪ ToR process ▪ Aboriginal Engagement Plan

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Table 2-3: Summary of Consultation with Regulatory Authorities Prior to the ToR

Date	Activity Description
January – March 2018	▪ Voluntary agreement for a provincial EA and Application Order Under the *Far North Act* ▪ Federal / provincial EA Coordination and requirements – 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 ▪ Duty to Consult
April - June 2018	▪ Voluntary provincial EA Agreement update ▪ Data Sharing Agreement update ▪ Comments on Project Summary ▪ Federal-provincial EA Alignment / Coordination – Project Description clarification – EA process and potential new legislation ▪ Update on Baseline Studies – Update on winter field surveys ▪ Training / monitor programs for communities' members ▪ Consultation – EA Participation Funding
August - October 2018	▪ 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	▪ 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, Notice of Commencement for ToR, and Project Description

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In 2017, MFFN received feedback from various provincial agencies who had reviewed the initial route constraint assessments and baseline environmental review. Comments received will be considered through the EA process.

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Appendix B. Route Selection Methodology

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B.1 Approach and Rationale for Route Selection

As stated in the Proposed Terms of reference (TOR) (September 2020), Alternative 1 and Alternative 4 parallel, overlap and cross each other at multiple locations. In order to simplify the evaluation of the alternatives, the alternatives were divided into three separate segments based on their geographical locations (as described in **Section B.2**). The segments were also determined so that any alternative route in one segment could connect with any alternative route in the next segment, allowing for decisions to be made based on the environment in each segment, and not based on the whole. A separate evaluation was conducted for each of the three segments to determine a preferred route in each segment, and then the preferred routes in each segment was combined to create the overall preferred route. With this segmented approach, the selection of the preferred route in each segment is independent from the other segments.

This makes the evaluation more manageable to allow MFFN Chief and Council to focus on the local conditions and decision-relevant factors/indicators in each segment. Further, if all route alternatives in the different segments were combined with one another into all possible combinations, this would result in an excessively long list of route alternatives which would result in a more complex evaluation process with no benefit to decision making. This approach also considers the variable environmental conditions within the project area, allowing for flexibility to avoid sensitive natural features encountered within the Community Access Road disturbance area for each segment instead of requiring MFFN Chief and Council to balance trade offs of one long route versus the other (i.e., all of Alternative 1 vs all of Alternative 4, when segment 1 within Alternative 4 may be more desirable, but segment 2 within Alternative 4 is the least desirable).

The route selection process met the TOR requirements by:

- Undertaking consultation on route selection criteria;
- Determining/documenting applicable mitigation measures;
- Providing a description of net effects considering the quantity and sensitivity of features and the proposed mitigation. Effects were quantified where possible (e.g., length, number, area, etc.);
- Documenting preference for alternatives based on each Valued Component (VC)*, considering the relative importance of the factors within each VC and considering external input;
- Determining the preferred alternative for each segment;
- Documenting the consultation undertaken on the selection of the final route;
- Complete net effects assessment on the preferred route considering all VCs and more detailed mitigation; and
- Comparing advantages / disadvantages to the “do nothing” option.

*Note: * Valued components are important components of the natural and human environment that could be impacted by a proposed project or activity.*

B.2 Alternative Segments and Routes Within Each Segment

As noted above, the route alternatives have been grouped into three different segments. These are described in more detail below and are shown in **Figure 3-1**. Segments EF, GH and IJ correspond to the segments of Alternative 1 and Alternative 4 that overlap. The net effects of these segments were assessed in the environmental assessment and are anticipated to become part of the preferred alternative.

Segment 1 – Ogoki Crossing

This segment is located at the south end of the proposed road. There are two major route options: A-E and B-E, both of which start at the existing Painter Lake Road. Option A-E includes two sub routing options: A-C-D (west) and A-C-D (east). Each of these sub-routes cross the Ogoki River at a different location. As a result, there are three different route options to be assessed and evaluated in this group (see **Figure 3-2**): B-E, A-C-D (west) and A-C-D (east).

Segment 2 – Albany Crossing

Segment 2 includes two different route options crossing the Albany River at different locations (see **Figure 3-3**). These include route options FG1 and FG4.

Segment 3 – North of the Albany

Segment 3 is located north of the Albany River and includes two route options HI1 (west) and HI4 (east) (see **Figure 3-4**).

B.2.1 Footprint Considerations

The construction of each route option will require sand, gravel and bedrock to support its construction. Some of these materials are readily available along the route options and in other cases temporary access roads would have to be constructed. Therefore, each route option being evaluated also included the necessary sand, gravel and bedrock sites, and associated temporary infrastructure. For ease of review, **Figures C-1** to **C-6** show each route option and infrastructure required to support its construction, which were the basis for the evaluation of each technical discipline of net positive or negative effects.

B.3 Methodology for the Evaluation of Route Alternatives

The selection of the preferred route within each segment involved a thorough analysis of technical, economic, natural, social and cultural factors which were first presented in the Terms of Reference. The route alternative evaluation took into account the potential impacts and mitigation to determine the net positive or negative effects of each alternative, and was done using the reasoned argument (trade-off) method. The reasoned argument method qualitatively (with words) compares the advantages and disadvantages of each alternative including the relative significance of the potential net effects. The reasoned argument method presents a clear and thorough evaluation of the trade-offs between various factor groups, factors, and indicators, and the reasons why one alternative is preferred over another. The ranking of alternatives within each factor group was determined by each discipline. How the preferences of the various disciplines are considered / combined was considered with input from Marten Falls First Nation.

The general steps of the route evaluation and selection include:

- **Step 1:** Identify the potential transportation benefits, costs and environmental/social/cultural effects of each alternative segment;
- **Step 2:** Develop and apply general avoidance, mitigation, compensation and enhancement measures to address the effects;
- **Step 3:** Determine the net effects (i.e., no, lower, moderate or higher net effects);
- **Step 4:** Complete a high level comparative analysis of the potential net effects between the options within each of the 3 segments; and
- **Step 5:** Review the evaluation tables, comparative analysis and net effects to determine and rationalize the preferred route in each segment.

B.4 Categories, Factors, Indicators, and Measures for Route Evaluation

The evaluation of the alternative routes was structured on the basis of categories, factors, indicators and measures as outlined in the assessment matrices, and as defined below. The factors and indicators for the route selection are rooted in the draft factors presented in the TOR and in the VC as identified in the IAAC Study Plans. Route selection indicators were selected by subject matter experts considering their value/ability to discern meaningful differences between the route alternatives for each segment and enable comparison and route selection decisions.

It is important to note that the factors and indicators for the route selection are distinct from the VC's and indicators to be used in the effects assessment of the Community Access Road once defined. Although they are rooted in one another, they are tailored for two different processes / outcomes.

- Factors and indicators are used to comparatively evaluate the route alternatives. They consider their value/ability to discern meaningful differences between the route options for each segment and enable comparison and route selection decisions.
- VCs and their associated indicators were used for the effects assessment of the preferred route and other key project components. They determined the overall project level effects, which can be compared to a "no project" scenario or "do nothing" as well as to aid in the development of mitigation/impact management recommendations.

B.4.1 Categories

Categories are the broad categories of environmental (i.e., natural/physical, socio-economic and cultural) and technical/cost aspects that were considered in the route selection. Categories are formed by grouping together similar VC and applicable technical, engineering, and cost (feasibility) related factors.

B.4.2 Factors

Within each Category there are several Factors which are derived from the VCs and represent specific aspects of the environment deemed significant or important, and technical and cost considerations.

B.4.3 Indicators

Indicators detail what is being measured for each Factor. Similar indicators are to be used in the assessment of effects and also include Indicators related to technical and economic feasibility (e.g., construction complexity and cost), operational performance (e.g., long term maintenance), and safety.

B.4.4 Measures

A measure is used to define the magnitude of change in the Indicator and is generally expressed in terms of impact (low to high impact). In some cases, measures are expressed using areas (ha), number (e.g., number of water crossings), and time (e.g., months or minutes). For the technical, engineering and cost category, measures are expressed in terms of complexity (e.g., low to high complexity).

B.5 Consideration of Community Feedback

To facilitate the Community Access Road route selection process, interested and potentially affected groups have been given the opportunity via Public Information Centres (PICs) to provide input to be considered in the route selection. Engagement and consultation with Indigenous communities will be documented in the EA / IS.

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Presentation materials and display boards shared during the fourth PIC that was held in Thunder Bay on December 7, 2022 and in Geraldton on December 8, 2022 included information on criteria for alternative evaluation and route selection. The four figures included in this memorandum as well as zoomed-in small-scale maps of the alternative routes were also shared at the PIC. Small scale maps allowed participants to better understand and visualize the location of the alternatives and segments; as well as provide valuable feedback to be considered in the route selection. This included opinions on preferred routes. Feedback forms seeking input from the public / communities on the criteria were made available at the PIC and on the Community Access Road website. Additional supporting documents including a Q&A on how Alternative 1 and Alternative 4 were selected and how they will be evaluated were made available at the PIC.

B.6 Route Selection

The completion of Steps 1 – 3 described in **Section B.3** above will provide the information required to complete the high level comparative analysis of the potential net effects between all the options. This analysis will be completed using the reasoned argument method to determine a preferred route recommendation, which will be presented to the Project Team and the proponent Marten Falls First Nation for review and comment. Following confirmation of the preferred route by Marten Falls First Nation and the Project Team, the preferred route will be presented to Indigenous Communities as described in **Section B.5** above. It is possible that based on the comments received that some adjustments to the route alignment may be made, which will occur on a case by case basis.

B.7 Preferred Route Effects Assessment

Once the preferred route has been selected and the other associated key project components determined, the route selection has concluded. A detailed effects assessment will be completed on the preferred route. In addition to the avoidance, mitigation and compensation measures applied during the route alternatives evaluation, more site-specific, technically and economically feasible mitigation measures will be developed and applied to the project to determine residual/net effects and cumulative effects. Localized revisions may be considered to the preferred route to accommodate the avoidance, mitigation and compensation measures, where applicable.

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Appendix C. Aggregate Resource Figures

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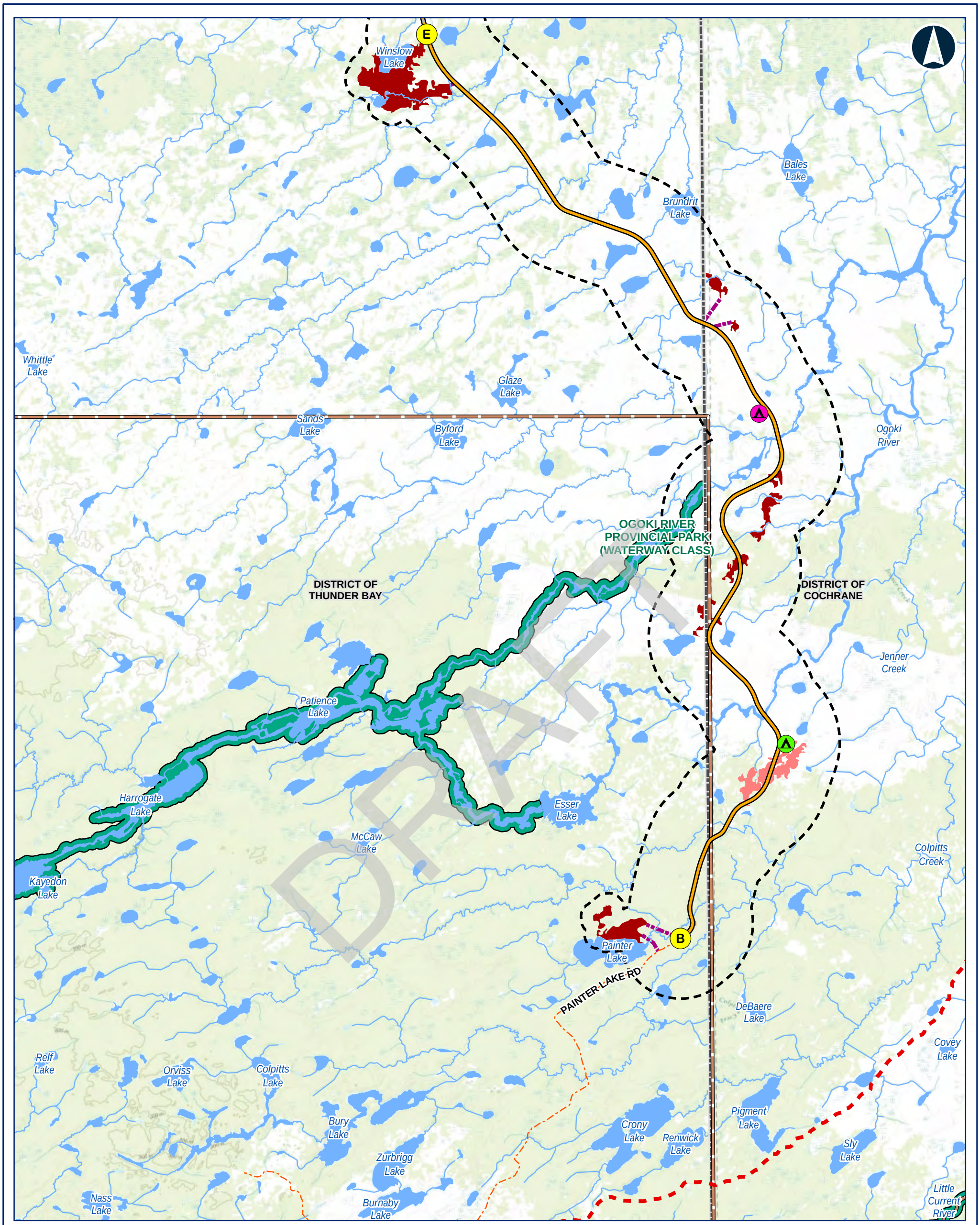

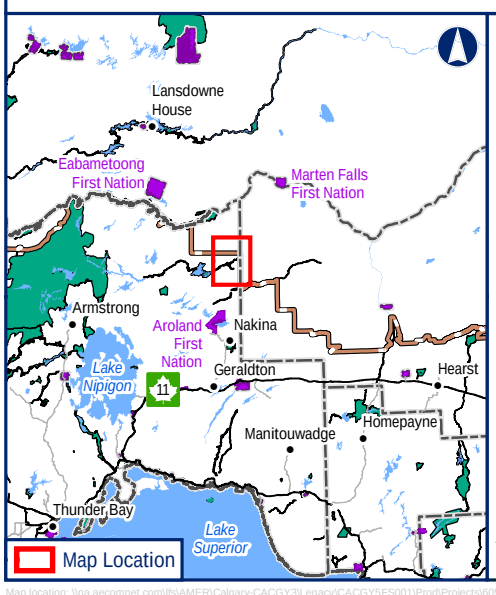

Legend

- Segment Node
- Study Area

Route Alternatives

- Alternative 1

Potential Camp Site

- 50 Persons
- 200 Persons

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Resource / Recreation
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.
Aerial photography provided by:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 1 – Alternative 1 with Supporting Infrastructure

0 3 6
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Oct, 2023	1:150,000 * when printed 11"x17"
Rev: 00	

Figure C-1

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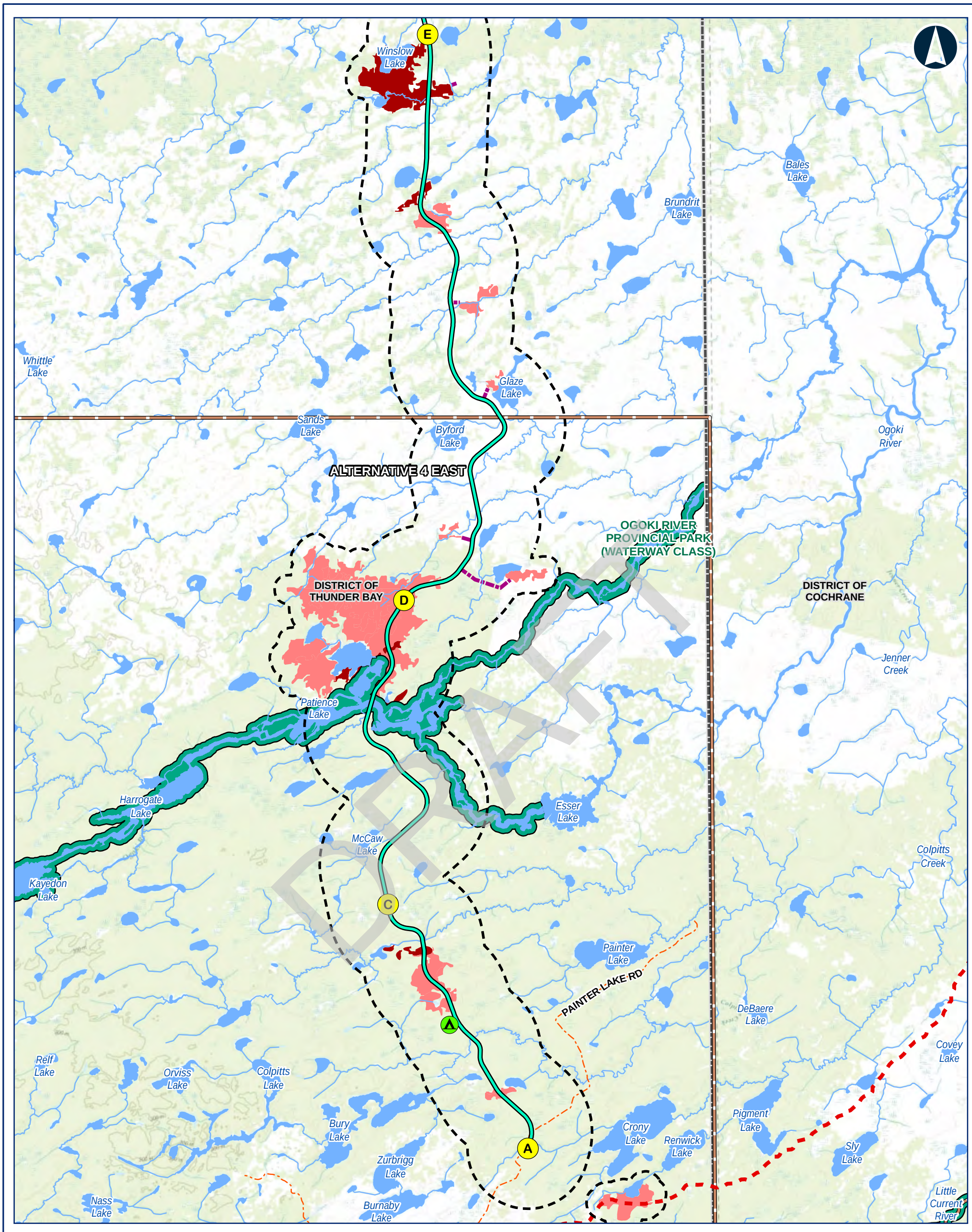

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 1 – Alternative 4 East with Supporting Infrastructure

0 3 6
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

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Figure C-2

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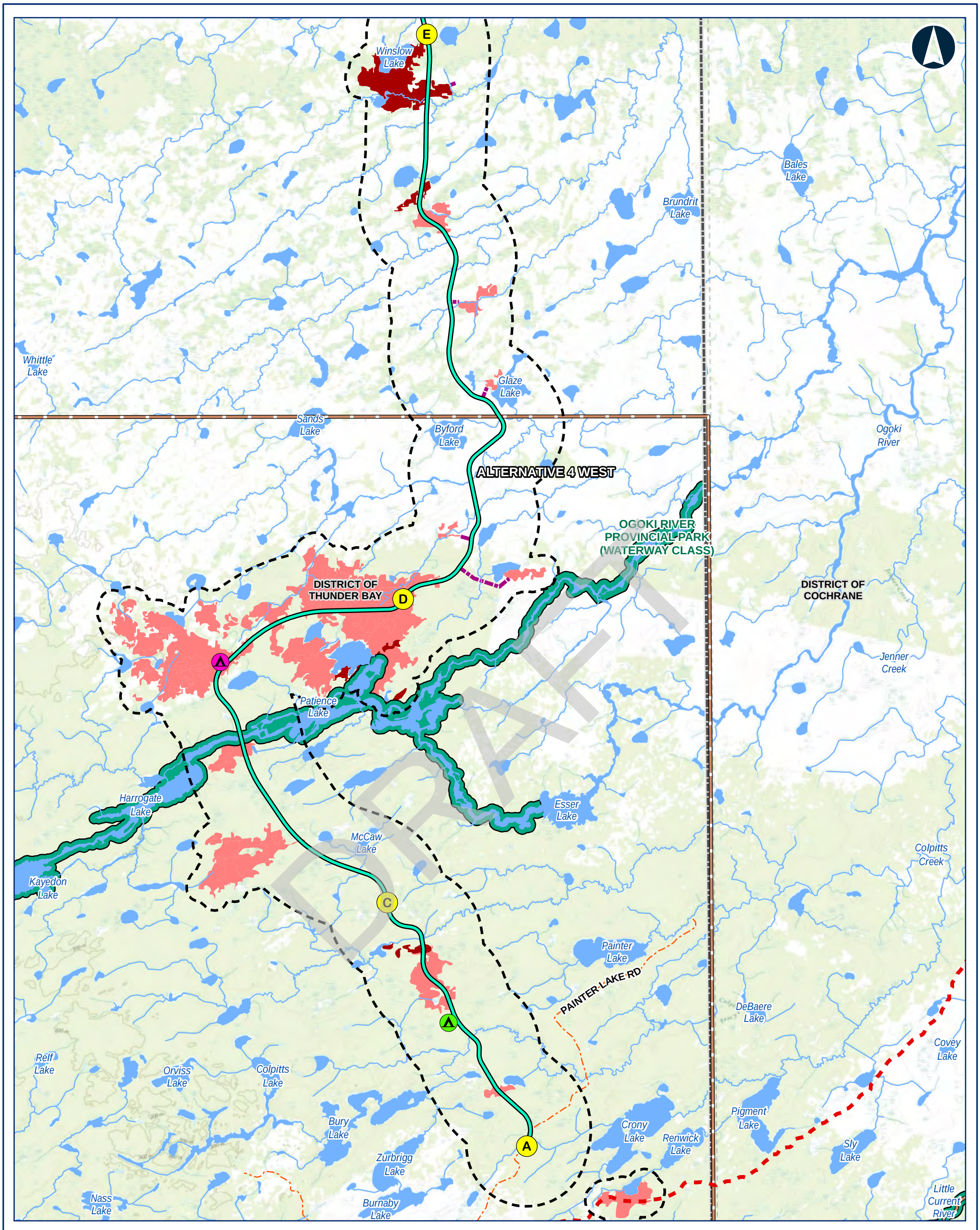

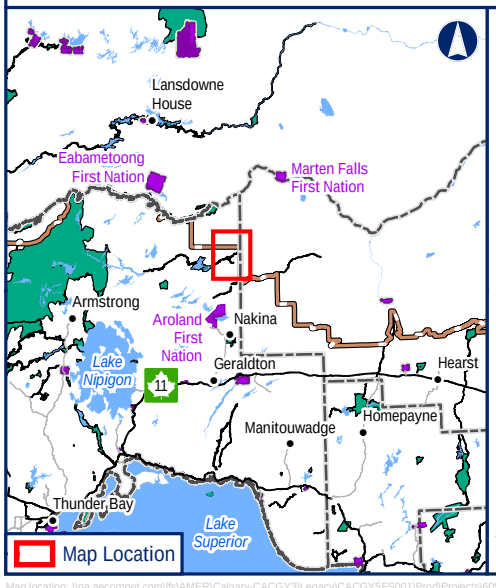

Legend

- Segment Node (A)
- Study Area
- Route Alternatives
  - Alternative 4
- Potential Camp Site
  - 50 Persons
  - 200 Persons
- Potential Aggregate Source
  - Bedrock
  - Sand and gravel
- Approximate Access Road to Potential Aggregate Site
- General Features
  - Resource / Recreation
  - MFFN Existing Winter Access Road
- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 1 – Alternative 4 West with Supporting Infrastructure

0 3 6
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure C-3

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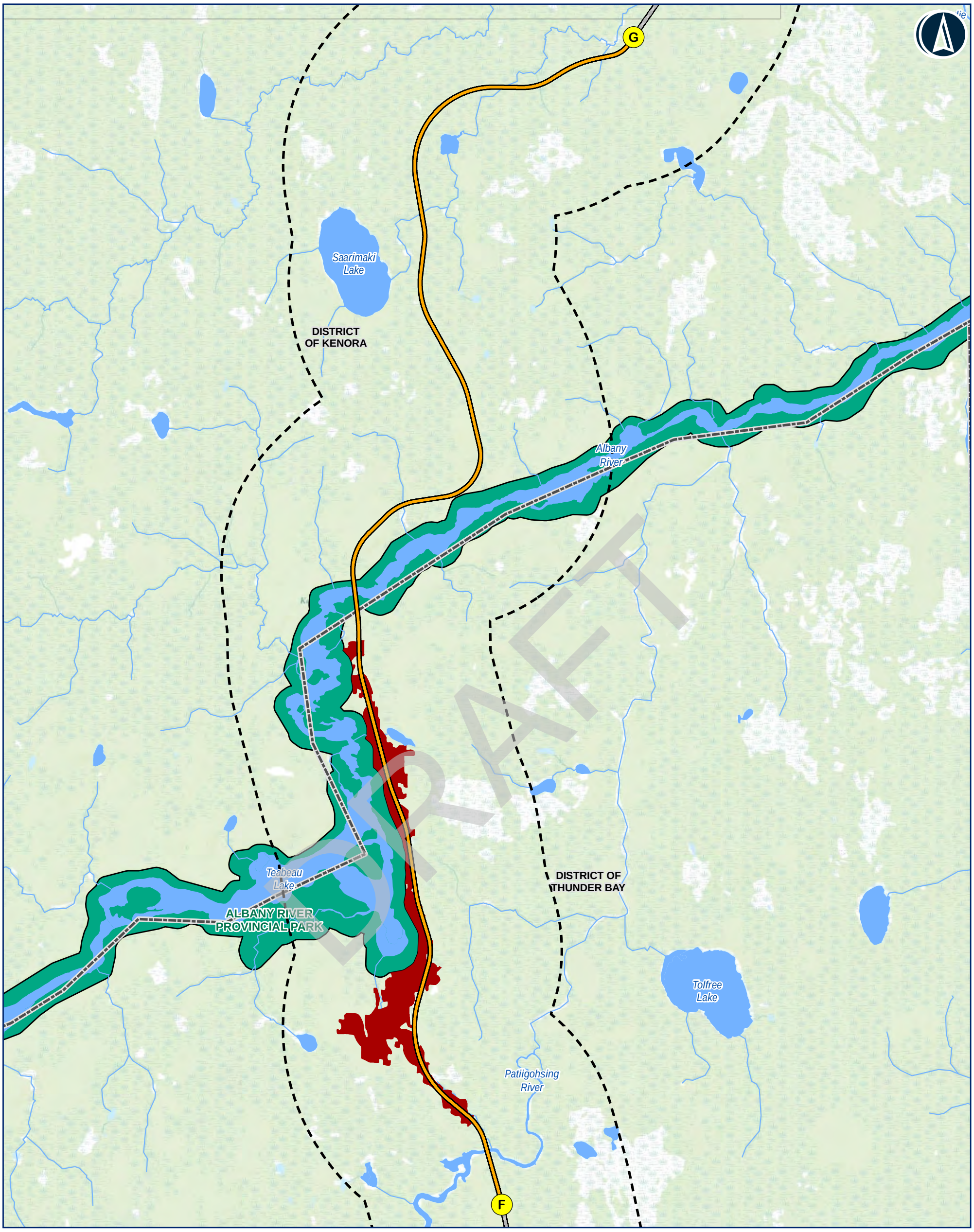

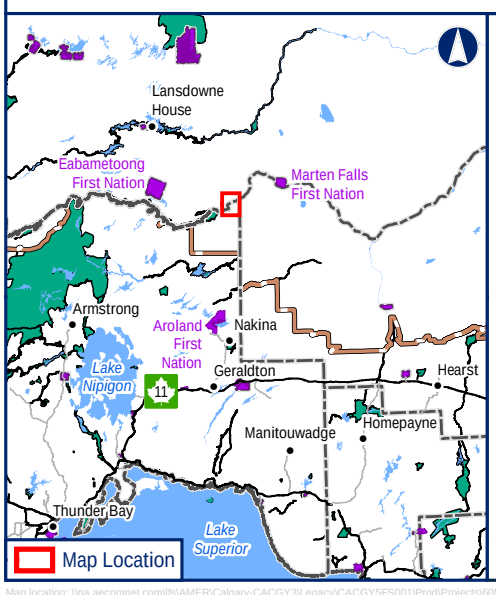

Legend

- Segment Node (A)
- Study Area
- Route Alternatives
  - Alternative 1
- Potential Camp Site
  - 50 Persons
  - 200 Persons
- Approximate Access Road to Potential Construction Camp
- Potential Aggregate Source
  - Bedrock
  - Sand and gravel
- Approximate Access Road to Potential Aggregate Site
- General Features
  - Watercourse
  - Waterbody
  - District Municipal Boundary
  - Provincial Park

Data Source:

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 2 – Alternative 1 with Supporting Infrastructure

0 1.25 2.5

Kilometres

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Figure C-4

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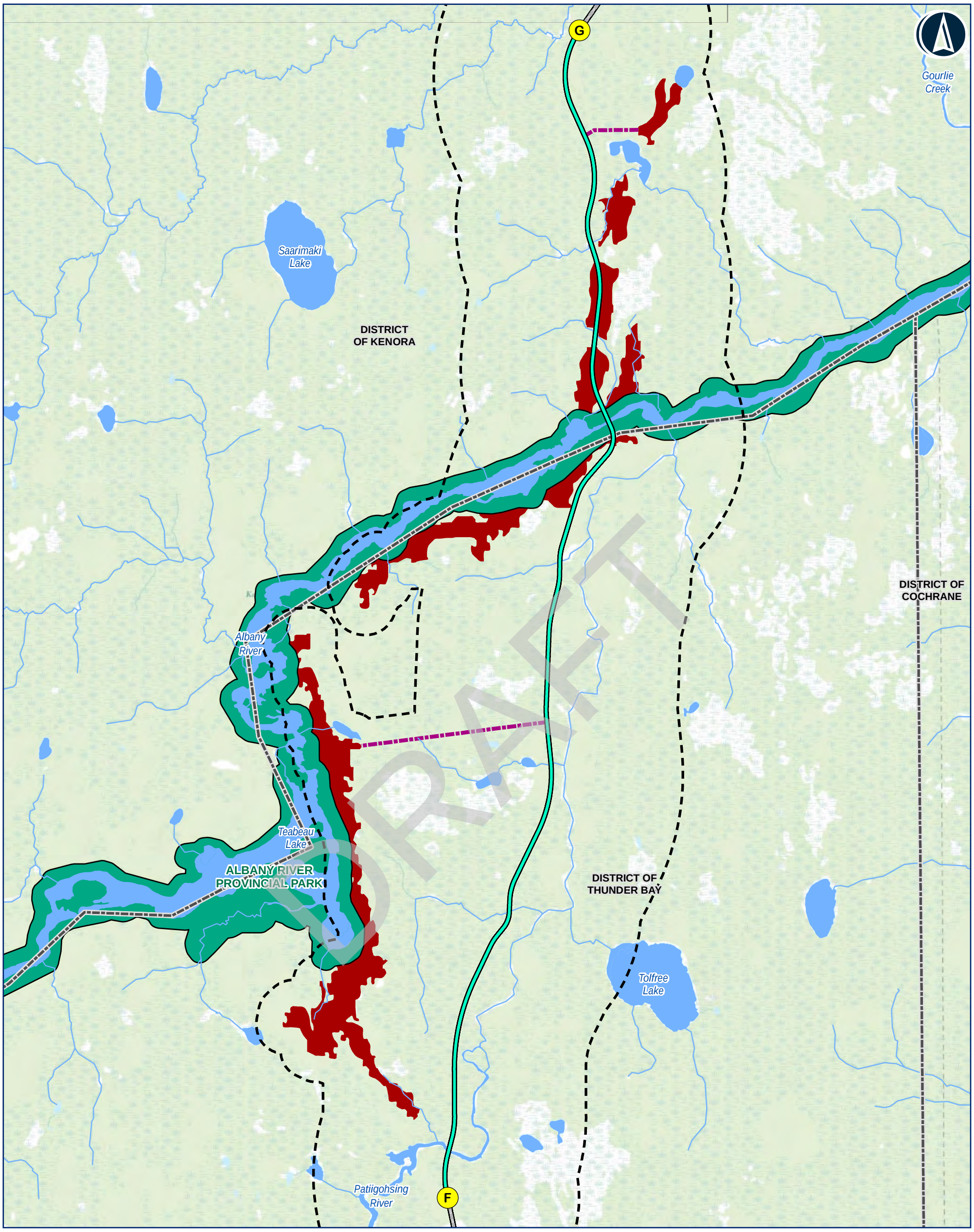

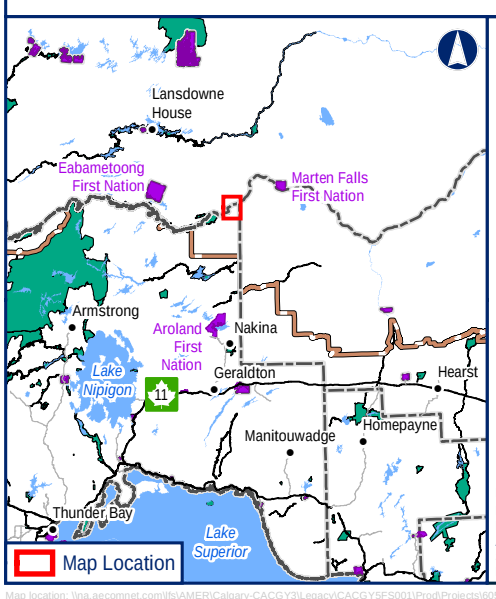

Legend

- Segment Node (A)
- Study Area
- Route Alternatives
  - Alternative 4
- Potential Camp Site
  - 50 Persons
  - 200 Persons
  - Approximate Access Road to Potential Construction Camp
- Potential Aggregate Source
  - Bedrock
  - Sand and gravel
  - Approximate Access Road to Potential Aggregate Site
- General Features
  - Watercourse
  - Waterbody
  - District Municipal Boundary
  - Provincial Park

Data Source:

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 2 – Alternative 4 with Supporting Infrastructure

0 1.25 2.5

Kilometres

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Figure C-5

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Tillett Lake
Mabie Lake
259m
Oxtoby Lake
I
Wabassi River
DISTRICT OF KENORA
Venton Lake
DISTRICT OF COCHRANE
Maxey Lake
Gourlie Creek
Trebell Lake
H
G
ALBANY RIVER PROVINCIAL PARK
Albany River
DISTRICT OF COCHRANE
DRAFT

Lansdowne House
Eabametoong First Nation
Marten Falls First Nation
Armstrong
Aroland First Nation
Nakina
Lake Nipigon
Geraldton
Hearst
11
Homepayne
Manitouwadge
Thunder Bay
Lake Superior
Map Location

Legend

- Segment Node (A)
- Study Area
- Route Alternatives
  - Alternative 1
- Potential Camp Site
  - 50 Persons
- Potential Aggregate Source
  - Bedrock
  - Sand and gravel
  - Approximate Access Road to Potential Aggregate Site

General Features
- Watercourse
- Waterbody
- Far North Boundary
- District Municipal Boundary
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 3 – Alternative 1 with Supporting Infrastructure

0 3 6
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure C-6

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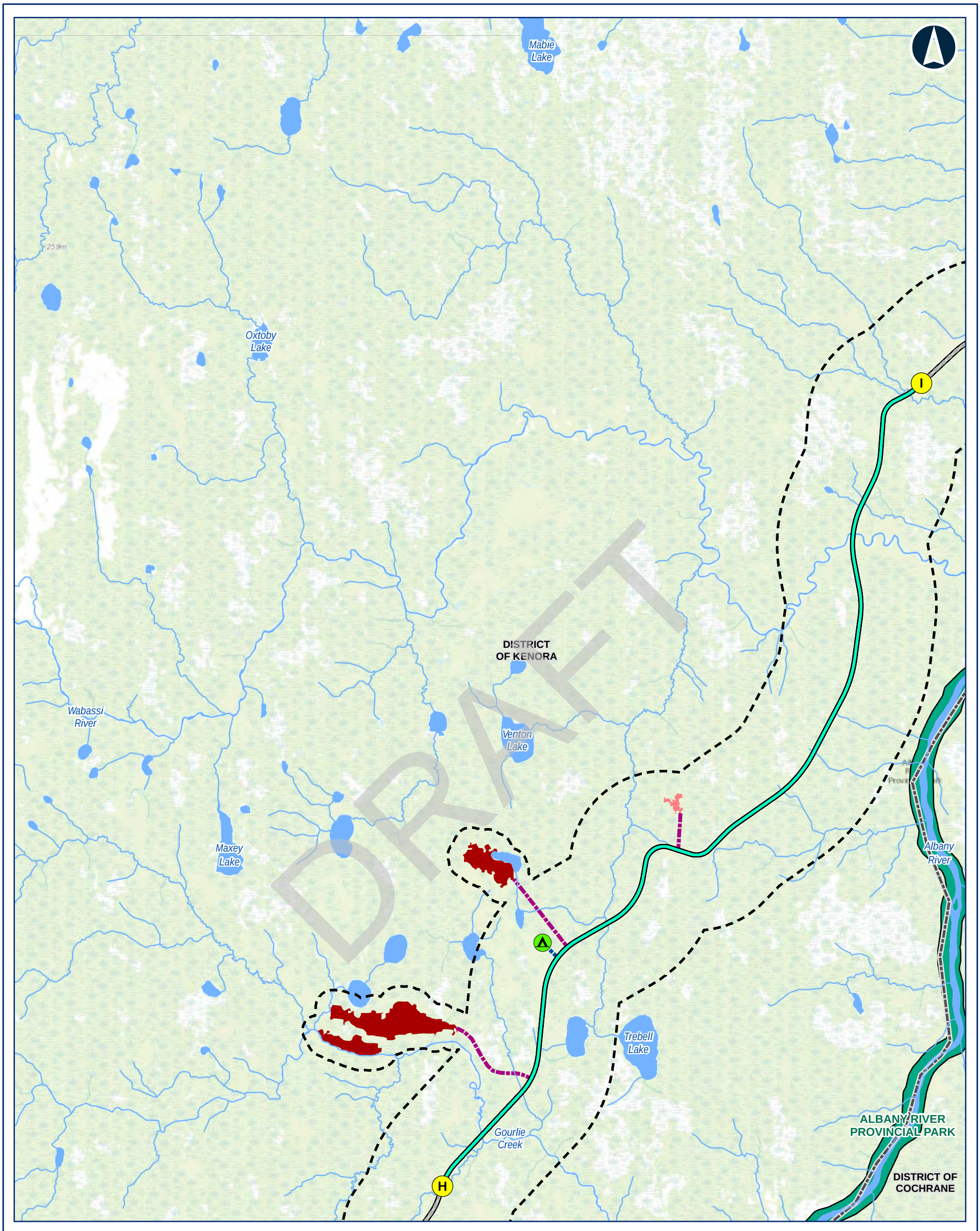

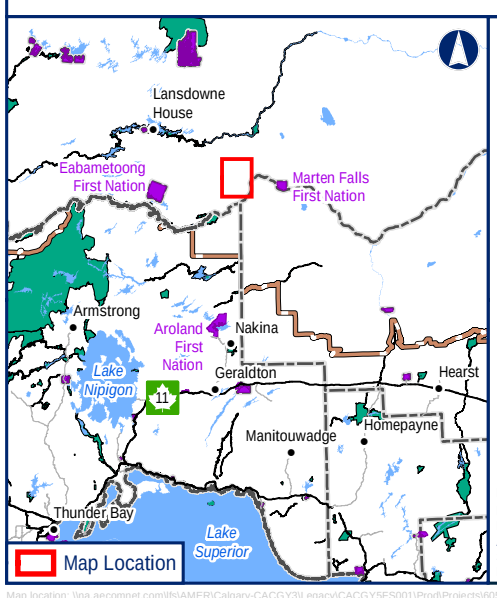

Legend

- Segment Node (A)
- Study Area
- Route Alternatives
  - Alternative 4
- Potential Camp Site
  - 50 Persons
  - Approximate Access Road to Potential Construction Camp
- Potential Aggregate Source
  - Bedrock
  - Sand and gravel
  - Approximate Access Road to Potential Aggregate Site
- General Features
  - Watercourse
  - Waterbody
  - Far North Boundary
  - District Municipal Boundary
  - Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Segment 3 – Alternative 4 with Supporting Infrastructure

0 — 2.75 — 5.5
Kilometres

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Appendix D. Assessment Matrices

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
PEATLANDS						
Peatland Ecosystems	• Availability (decrease / increase of overall amount of peatland area) • Distribution (changes to the arrangement and connectivity of peatlands) • Function and Composition (change in plant species composition or ecological function)	• Peatland area (hectares) disturbed per alternative • Number of peatlands type fragmented	• Minimize vegetation clearing to only what is required for construction and staging. • Avoid using peatlands for staging, where possible. • Incorporate standard tree protection and Erosion and Sediment Control (ESC) measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for peatlands protection and mitigation.	This alternative is anticipated to disturb 541.59 ha of peatland and 14 peatland ecosite types.	This alternative is anticipated to disturb 1,126.20 ha of peatland and 15 peatland ecosite types.	This alternative is anticipated to disturb 1,735.73 ha of peatland and 18 peatland ecosite types.
Summary of Peatlands: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of peatlands** as it results in the least loss of peatland area and impacts the fewest peatland types. **Peatland Area** • Alternative 1 is the most preferred as it results in the least direct loss of peatland area. • Alternative 4 West is the least preferred as it results in the greatest loss of peatland area. **Number of Peatland Types Fragmented** • Alternative 1 is the most preferred as it impacts the fewest number of peatland types. • Alternative 4 West is the least preferred as it impacts the greatest number of peatland types. **Net Effects** Alternative 1 results in lower net effects than Alternative 4 East and Alternative 4 West, as Alternative 1 is anticipated to disturb a smaller area of peatlands and fewer peatland ecosite types than Alternative 4 West and Alternative 4 East. Alternative 4 West results in comparatively higher net effects, as it is anticipated to disturb a larger area of peatlands and more peatland ecosite types than Alternative 4 East and Alternative 1. Alternative 4 East results in comparatively moderate net effects. This comparative analysis evaluated three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to the peatlands valued component at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation or design elements to maintain peatland function (e.g., hydrology) that may be applied at a later stage of project design. The comprehensive assessment of net effects to the peatlands valued component will be completed on the preferred route selected and may result in a different determination of predicted net effects to the valued component. ***Notes:*** 1. Note that for the purposes of the alternatives assessment, only the availability (area) of peatlands disturbed and the number of peatland types fragmented were used because these measures can be quantified and are unbiased. Loss of peatlands also reduces their overall function and ability to store carbon, so those indicators are indirectly being assessed by determining the area of peatlands lost and fragmented. 2. This analysis is based on mapping that doesn't incorporate data collected during the 2023 field programs. This 2023 field information may refine the peatlands mapping that will be included in final reporting.						
PHYSIOGRAPHY, TERRAIN AND SOILS						
Physiography, Terrain and Soils	• Quantity and distribution of terrain units	• Area of surficial materials disturbed per alternative • Area of potential land with permafrost processes intersected per alternative	• Minimize areas of vegetation clearing and soil disturbance. • Implement progressive reclamation and revegetation of disturbed areas	This alternative is anticipated to: • Disturb 1,509 ha of surficial materials.	This alternative is anticipated to: • Disturb 3,754 ha of surficial materials.	This alternative is anticipated to: • Disturb 5,509 ha of surficial materials.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
		• Area of surficial materials disturbed per alternative • Area of class IV and V terrain stability per alternative • Number of significant landforms[2] disturbed per alternative	no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	• Intersect 0 ha of potential land with permafrost • Intersect 0 ha of Class IV and 1.3 ha (<0.1% of alternative footprint) of Class V terrain • Disturb 8 significant landforms	• Intersect 0 ha of potential land with permafrost • Intersect 0.5 ha of Class IV (<0.1% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 10 significant landforms	• Intersect 0 ha of potential land with permafrost • Intersect 0.5 ha of Class IV (<0.1% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 10 significant landforms
	• Quantity and distribution of soil map units	• Area of soil disturbed (excludes non-soils such as bedrock and water) per alternative	• Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, temporary construction camps, laydown areas). • Minimize areas of vegetation clearing and soil disturbance. • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for soil erosion, salvage, and handling.	This alternative is anticipated to disturb 1,490 ha of soil (99% of the alternative footprint).	This alternative is anticipated to disturb 3,574 ha of soil (91% of the alternative footprint).	This alternative is anticipated to disturb 4,525 ha of soil (82% of the alternative footprint).
	• Soil Quality / Productivity	• Area of high-water erosion risk disturbed per alternative • Area of high wind erosion risk disturbed per alternative • Amount of soil that is considered suitable for reclamation[3] • Area of high compaction risk disturbed per alternative	• Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Use clearing equipment that minimizes surface disturbance, soil compaction and topsoil loss (e.g., equipment with low ground pressure tracks or tires, blade shoes, and brushes), where feasible. • Where soils are prone to wind erosion, tackify, cover, seed, and/or apply water during periods of high erosion potential (e.g., summer and fall). • To the extent practical, work in areas of high-water erosion would be scheduled to avoid periods that may result in high flow volumes and/or increase erosion and sedimentation (e.g., spring freshet). • Minimize soil disturbance by building on bedrock, where feasible. • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management	This alternative is anticipated to: • Disturb 0.2 ha (<0.1% of alternative footprint) of area with high water erosion risk • Disturb 134 ha (9% of alternative footprint) of area with high wind erosion risk • Disturb 815 ha (54% of alternative footprint) of soil that is considered suitable for reclamation • Intersect 100 ha (7% of alternative footprint) of area with high compaction risk	This alternative is anticipated to: • Disturb 1.5 ha (<0.1% of alternative footprint) of area with high water erosion risk • Disturb 358 ha (10% of alternative footprint) of area with high wind erosion risk • Disturb 1,758 ha (49% of alternative footprint) of soil that is considered suitable for reclamation • Intersect 206 ha (6% of alternative footprint) of area with high compaction risk	This alternative is anticipated to: • Disturb 1.2 ha (<0.1% of alternative footprint) of area with high water erosion risk • Disturb 449 ha (8% of alternative footprint) of area with high wind erosion risk • Disturb 2,506 ha (46% of alternative footprint) of soil that is considered suitable for reclamation • Intersect 501 ha (6% of alternative footprint) of area with high compaction risk

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
			practices for soil erosion, salvage, and handling. • Construct in winter to avoid compaction, where feasible.			

Summary of Physiography, Terrain and Soils:

Overall

- **Alternative 1 is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of physiography, terrain and soils as** this alternative is anticipated to disturb fewer significant landforms and a smaller area of surficial materials, soil, areas of high water and wind erosion risk, soil suitable for reclamation and soil with high risk of compaction than Alternative 4 East and Alternative 4 West.
- Alternative 4 West is the least preferred route alternative for Segment 1 – Ogoki Crossing the perspective of physiography, terrain and soils as this alternative will disturb more or similar significant landforms and a larger area of surficial materials, soil, areas of high wind erosion risk, soil suitable for reclamation and soil with high risk of compaction than Alternative 1 and Alternative 4 East.
- Alternative 4 East is the moderately preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of physiography, terrain and soils as this alternative will disturb more significant landforms and a larger area of surficial materials, soil, areas of high wind erosion risk, soil suitable for reclamation and soil with high risk of compaction than Alternative 1, but the same number of significant landforms and a smaller area of surficial materials, soil, areas of high wind erosion risk, soil suitable for reclamation and soil with high risk of compaction than Alternative 4 West.

- No permafrost processes were identified to intersect with any of the three alternatives.
- Alternative 4 West would remove the largest area of surficial materials.
- Although Alternative 4 West would potentially have the lowest percentage of soil disturbance based on the area of non soils (water, bedrock, anthropogenic areas), it has the largest footprint and still would potentially affect the most area of soil.
- All three options have low percentages of soil potentially at risk for water erosion (<0.1%), however Alternative 4 West would disturb the most as it has the largest footprint.
- Although Alternative 4 East would disturb the highest percentage of soil having a high wind erosion risk (10%), Alternative 4 West would disturb the most area of soil at a high risk of wind erosion as it has the largest footprint.
- Nearly half (49%) of the soil in the Alternative 4 East area is rated as being of suitable quality for reclamation (i.e., soil used to reclaim temporarily disturbed areas following construction), however Alternative 4 West has the largest footprint, and therefore will affect more soil that is potentially suitable for reclamation.
- Alternative 4 West has the largest percentage (9%) and area (501 ha) of soils that are potentially at risk of compaction.

Net Effects

Alternative 1 results in comparatively lower net effects than Alternative 4 West and Alternative 4 East. Alternative 4 West results in higher net effects relative to the other alternatives, and Alternative 4 East results in moderate net effects relative to the other alternatives. This comparative analysis evaluated three route alternatives based on the interaction of their project development areas and the representative indicator measures, and did not consider the effects to physiography, terrain and soil

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
valued component at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to the physiography, terrain and soils valued component, will be completed on the preferred route selected, and may result in a different determination of predicted net effects. ***Notes:*** 1. Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. 2. The number of significant landforms noted is subjective and may be a conservative value. This measure will be re-evaluated with Indigenous knowledge input, and information from the wildlife and vegetation disciplines. As a result, the data presented here may differ from the final effects analysis. 3. Soil with a rating of Good, Fair or Poor were considered suitable for reclamation.						
GROUNDWATER AND GEOCHEMISTRY						
Groundwater	• Groundwater Quality: Degradation of physical and chemical characteristics of groundwater • Groundwater Quantity: Change in groundwater levels	• Areas of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination (hectares)	• Design stormwater management features to contain runoff and allow it to infiltrate locally. • Restore land cover on unused parts of road construction footprint (construction camps, aggregate pits). • Implement spill prevention, monitoring, control and response programs for road construction and operation.. • Minimize or avoid using salt solutions for dust/ice control.	This alternative will intersect 1,315 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination.	This alternative will intersect 3,529 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination.	This alternative will intersect 5,430 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination.
Summary of Groundwater and Geochemistry: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of groundwater and geochemistry** in terms of reducing potential for impacting areas likely to have higher rates of groundwater recharge (infiltration) and highest vulnerability to contamination relative to the other alternatives. • Alternative 4 West is the least preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of groundwater and geochemistry in terms of reducing potential for impacting areas likely to have higher rates of groundwater recharge (infiltration) and highest vulnerability to contamination relative to the other alternatives. • Alternative 4 East is the moderately preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of groundwater and geochemistry in terms of reducing potential for impacting areas likely to have higher rates of groundwater recharge (infiltration) and highest vulnerability to contamination. • Alternative 1 crosses over the least amount of area of coarse-grained and bedrock surficial materials. • Alternative 4 West crosses over the greatest amount of area of coarse-grained and bedrock surficial materials. • Alternative 4 East crosses over the second largest amount of area of coarse-grained and bedrock surficial materials. **Net Effects** Alternative 1 results in lower net effects than Alternative 4 West and Alternative 4 East. Alternative 4 West results in higher net effects relative to the other alternatives, and Alternative 4 East results in moderate net effects relative to the other alternatives. This comparative analysis evaluated three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to the groundwater and geochemistry valued component at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to the groundwater and geochemistry valued component will be completed on the preferred route selected and may result in a different determination of predicted net effects to the valued component.						
SURFACE WATER						
Surface Water	• Surface Water Quantity • Surface Water Quality	• Total number of waterbody crossings • Number of waterbodies targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features (e.g., sensitive fish communities, areas of known channel instability, etc.)	Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: • Development and implementation of a Construction Environmental	This alternative is anticipated to: • Cross 17 waterbodies, all of which are inferred as permanent • Intersect 31,182 m^2 of wetted area within the proposed corridor • Cross 12 waterbodies (with 25,091 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work	This alternative is anticipated to: • Cross 18 waterbodies, all of which are inferred as permanent • Intersect 46,575 m^2 of wetted area within the proposed corridor • Cross 9 waterbodies (with 31,945 $m^2$of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work	This alternative is anticipated to: • Cross 18 waterbodies, all of which are inferred as permanent • Intersect 22,945 m^2 of wetted area within the proposed corridor • Cross 11 waterbodies (with 11,045 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
			Management Plan (CEMP) by the Contractor. • Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright, Hopky, 1998). • Measures to avoid unnecessary vehicle and machine idling to minimize emissions and greenhouse gasses. • Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. • Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. • Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies. • Wash water from vehicles and equipment will not be allowed to enter a waterbody and will be conveyed to areas for infiltration, treated prior to discharge to the receiving environment, or hauled off site.	• Cross 6 waterbodies (with 22,927 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	• Cross 3 waterbodies (with 30,810 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	• Cross 5 waterbodies (with 9,010 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features

Summary of Surface Water:

Overall

- **Alternative 4 West is the preferred alternative for Segment 1 – Ogoki Crossing from the perspective of surface water,** albeit by a small margin.
  - Alternative 4 West includes one more crossing than Alternative 1 but it carries a total wetted area that is roughly one third less than Alternative 1 and roughly half of Alternative 4 East. Similarly, even though Alternative 4 West includes two more crossings with heightened relevance or sensitivity than Alternative 4 East, the total wetted area for crossings with heightened relevance or sensitivity for Alternative 4 West is less than half of the total wetted area for Alternative 4 East. Alternative 4 West also includes one less crossing with heightened relevance or sensitivity than Alternative 1, and it carries a total wetted area for crossings with heightened relevance or sensitivity that is roughly half of Alternative 1..
- Alternative 1 is the least alternative for Segment 1 – Ogoki Crossing from the perspective of surface water, albeit by a small margin.
  - Alternative 1 has one less crossing than both Alternative 4 East and Alternative 4 West, but it carries a total wetted area that is greater than Alternative 4 West and smaller than Alternative 4 East, and includes more crossings with heightened relevance or sensitivity to effects than the other two alternatives (one more than Alternative 4 West and three more than Alternative 4 East).
- Alternative 4 East is the moderately preferred alternative for Segment 1 – Ogoki Crossing from the perspective of surface water, albeit by a small margin.
  - Alternative 4 East has one more crossing than Alternative 1 and the same number of crossings as Alternative 4 West, carries a total wetted area that is greater than both Alternative 1 and Alternative 4 West, and includes the least amount of crossings with heightened relevance or sensitivity to effects than the other two alternatives (three less than Alternative 1 and two less than Alternative 4 West).

Net Effects

The predicted net effect for each of the alternatives was evaluated as equivalent relative to each other, based on the understanding that, with the implementation of the recommended avoidance, mitigation, compensation, and enhancement measures (including properly sized and designed water crossing structures, installation and maintenance of appropriate erosion and sediment controls, and implementation of construction best management practices), the potential effects on surface water receivers are expected to be limited.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
***Note:** The requirement for in-water determined as follows: • For waterbody crossings with bankfull widths less than 5 m, it is assumed that culverts would be used (requiring in-water work) • For waterbody crossings with bankfull widths greater than or equal to 5 m and less than 25 m, it is assumed that clear span bridges would be used (no in-water work) • For waterbody crossings greater than or equal to 25 m, it is assumed that bridges with piers and abutments would be used (requiring in-water work) • For waterbody crossings in flooded/impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it is assumed that in-water work would be required.						
VISUAL						
Visual	• Change in landscape character	• Visibility of project from identified valued/ sensitive receptor locations (Ogoki River).	• Minimize disturbance to the surrounding landscape including; Peatland. Vegetation. Terrain and Surface Water. • Minimize the creation on open vistas to reduce visibility of proposed community access road/ • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction	Crosses at a narrow portion of the Ogoki River (2x 70m Crossings) See below anticipated impacts to changes in landscape character	Traverses Ogoki River (1x 300m Crossing) See below anticipated impacts to changes in landscape character	Traverses Ogoki River (1x 120m Crossing) See below anticipated impacts to changes in landscape character
	• Proximity to and number of sensitive sites	• Alteration / change in or loss of culturally important sites and areas (e.g., ceremonial sites, place names, teaching sites, archaeological sites • Visibility of Cultural, Spiritual, and Sacred Areas (MFFN)	• Avoid and/or screen sensitive sites and features • Minimize disturbance and proximity of road to sensitive receptors including known cultural and spiritual significant places	*Requires IK Team Input and Cultural Heritage Team Input*	*Requires IK Team Input and Cultural Heritage Team Input*	*Requires IK Team Input and Cultural Heritage Team Input*
	• Degree of Visual Contrast	• Amount of visual disturbance	• Minimize disturbance and extent of infrastructure	*Requires visibility mapping/modeling*	*Requires visibility mapping/modeling*	*Requires visibility mapping/modeling*
	• Change in Landscape Character: Physiography, Terrain and Soils	• Area of surficial materials disturbed per alternative • Number of Surface features disturbed per alternative	• Minimize areas of vegetation clearing and soil disturbance. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	This alternative is anticipated to: • Disturb 1,509 ha of surficial materials. • Intersect 0 ha of potential land with permafrost • Intersect 0 ha of Class IV and 1.3 ha (<0.1% of alternative footprint) of Class V terrain • Disturb 8 significant landforms	This alternative is anticipated to: • Disturb 3,754 ha of surficial materials. • Intersect 0 ha of potential land with permafrost • Intersect 0.5 ha of Class IV (<0.1% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 10 significant landforms	This alternative is anticipated to: • Disturb 5,509 ha of surficial materials. • Intersect 0 ha of potential land with permafrost • Intersect 0.5 ha of Class IV (<0.1% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 10 significant landforms
	• Change in Landscape Character: Surface Water Features	• Total number of waterbody crossings • Number of waterbodies targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features (e.g., traditional landuses)	• Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: • Proper water crossing structure design and installation to	This alternative is anticipated to: • Cross 16 waterbodies, all of which are inferred as permanent • Intersect 31,182 m^2 of wetted area within the proposed corridor • Cross 12 waterbodies (25,091 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work	This alternative is anticipated to: • Cross 18 waterbodies, all of which are inferred as permanent • Intersect 46,575 m^2 of wetted area within the proposed corridor • Cross 9 waterbodies (31,945 $m^2$of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work	This alternative is anticipated to: • Cross 18 waterbodies, all of which are inferred as permanent • Intersect 22,945 m^2 of wetted area within the proposed corridor • Cross 11 waterbodies (11,045 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
			accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. • Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies.	• Cross 6 waterbodies (22,927 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	• Cross 3 waterbodies (30,810 $m^2$of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	• Cross 5 waterbodies (9,010 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features
	• Change in Landscape Character: Vegetation and Ecosystems	• Area (hectares) of wetland, riparian and upland ecosystems disturbed per alternative[1] • Peatland area (hectares) disturbed per alternative • Number of peatlands type fragmented	• Minimize vegetation clearing to only what is required for construction and staging. • Avoid using wetland and riparian areas for staging, where possible. • Incorporate standard tree protection and ESC measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	• This alternative is anticipated to disturb 21 upland ecosite types • This alternative is anticipated to disturb 598.72 ha of wetland and riparian ecosystems • This alternative is anticipated to disturb 541.59 ha of peatland and 14 peatland ecosite types.	• This alternative is anticipated to disturb 27 upland ecosite types • This alternative is anticipated to disturb 1,372.56 ha of wetland and riparian ecosystems • This alternative is anticipated to disturb 1,126.20 ha of peatland and 15 peatland ecosite types.	• This alternative is anticipated to disturb 31 upland ecosite types • This alternative is anticipated to disturb 2,253.64 ha of wetland and riparian ecosystems • This alternative is anticipated to disturb 1,735.73 ha of peatland and 18 peatland ecosite types.

Summary of Visual:

Overall

- **Alternative 1 is the most preferred alternative for Segment 1 – Ogoki Crossing from the perspective of visual.**
  - Alternative 1 crosses the Ogoki River at two locations but they are both narrow at 70m, thus having a lower visual impact.
  - Alternative 1 demonstrates a moderately higher concentration of significant Indigenous locations compared to Alternative 4.
- Alternative 4 East is the least preferred alternative for Segment 1 – Ogoki Crossing from the perspective of visual.
  - Both Alternative 4 East and 4 West traverse the significant Ogoki River at wider sections (120m and 300m), resulting in a higher impact on the visual environment.
  - Alternative 4 and 4W would need a bridge to span a longer distance creating a higher visual impact.
- Alternative 4 West is the moderately preferred alternative for Segment 1 – Ogoki Crossing from the perspective of visual.
  - Alternative 4 West is shown to be located on more favourable terrain (Sand and Gravel), having a lower impact to the overall environment, but is also the longest route.
  - The difference between alternative routes 4 East and 4 West is negligible.
- Any segments with more wooded terrain have fewer visual impacts.

Net Effect

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
ACOUSTIC AND VIBRATION ENVIRONMENT						

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Segment 1 – Ogoki Crossing

Acoustic and Vibration Environment	• Change to noise and vibration	• Project Development Area (PDA) footprint area • \# of sensitive points of reception (PORs) within 500 m of the roadway • Total road length	• Comply with local municipal noise by-laws and the MECP Model Municipal Noise Control Bylaw (i.e., NPC-115). • Generally limit construction activities to the daytime period (i.e., 07:00 to 19:00) where possible. If nighttime construction activities are required, a review of whether additional mitigation measures are needed should be carried out. • Maintain equipment and machinery used on site in good working conditions through regular maintenance and inspection. • Design access roads to minimize reversing, which is expected to minimize use of backup beepers, where possible. • Locate and operate construction equipment as far as possible from PORs. • Notify Indigenous communities, landowners, and relevant stakeholders of the planned construction schedule before the start of construction and prior to specific activities that may be impacted by noise or generate vibration. • Investigate noise or vibration concerns as they arise through a complaint resolution mechanism whereby persons can contact the proponent if there are perceived noise or vibration issues. • Operate vehicles and equipment such that impulsive noise is minimized, where possible. • Develop a construction vibration workplan prior to the start of construction describing the construction schedule, list of construction equipment, list of POR locations, applicable guidance documents including criteria and municipal by-laws (i.e., residential, heritage structures and utilities) and control measures. • Avoid operating equipment expected to be a significant source of vibration simultaneously. Vibration levels could be less when operating separately.	The project development area for this alternative is 1,509 ha, with a total road length of 48.1 km. There are 16 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.	The project development area for this alternative is 3,574 ha, with a total road length of 54.9 km. There are 7 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.	The project development area for this alternative is 5,509 ha, with a total road length of 62.3 km. There are 7 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.

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Segment 1 – Ogoki Crossing

			• Construction blasting will be carried out in compliance with OPSS 120 and NPC-119. All blasts which might impact local structures or disrupt humans should be monitored for ground and air vibrations. • Aggregate pit blasting will be carried out to comply with the conditions provided in the license or aggregate permit. • Blasting delays and blast mats will be used, as appropriate, to control vibration and fly rock as required.			
Summary of Acoustic Environment:						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
Overall • **Alternative 1 is the most preferred alternative for Segment 1 – Ogoki Crossing from the perspective of the acoustic and vibration environment** as it has the smallest PDA footprint and shortest road length. • Alternative 4 West is the least preferred for alternative of Segment 1 – Ogoki Crossing from the perspective of the acoustic and vibration environment as it has the largest PDA footprint and longest road length. • Alternative 4 East is the moderately preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of the acoustic and vibration environment as it has a smaller PDA footprint and shorter road length compared to Alternative 4 West but is larger and longer when compared to Alternative 1. • In general, the larger the PDA footprint, the higher the likelihood of a larger number of potential PORs located in the acoustic environment study areas. • In general, the longer the road, the higher the likelihood of a larger number of potential PORs exposed to noise from Project operations (i.e., a longer-term effect). • In general, the more potential PORs within 500 m of the roadway, the higher the likelihood of a larger number of potential PORs exposed to noise from the Project. Note that the POR counts above are based on a preliminary review and the specific land uses have not been confirmed to be noise or vibration sensitive. • Alternative 1 has the smallest PDA footprint and shortest road length. It has a slightly higher number of potential PORs within 500 m of the roadway but due to the low number of identified potential PORs for all alternatives, the PDA footprint and road length were considered for ranking the alternatives. **Net Effect** The predicted net effect for each of the alternatives were evaluated as equivalent, based on the understanding that each of the route alternatives would be designed such that the outcome of the acoustic and vibration environment assessment of net effects would be comparatively equal. This comparative analysis evaluated the route alternatives based on the PDAs, road length, and a preliminary analysis of the number of potential PORs within 500 m of the roadway and did not consider the expected Project noise and vibration levels in the LSA or the proximity of potential PORs to the Project. The comprehensive review of potential PORs and assessment of net effects for the acoustic and vibration environment will be completed on the preferred route selected and may result in different determination of predicted net effects.						
ATMOSPHERIC AND GHG						
Air Quality and GHG	• # of sensitive receptors within 500 m of the roadway	• #	**Air Quality Mitigation Options:** • Maintain and keep equipment in proper working order • Use fuel efficient equipment where possible • Avoid idling where possible and develop an anti idling policy • Optimize material selection, procurement and shipping • Implement fugitive dust controls such as scheduled road watering, stockpile watering or covering erodible surfaces where appropriate • Implement proper storage and handling procedures of fuel • Optimize blasting and land clearing activities to reduce overall fuel and explosive usage • Where possible reuse or salvage wood materials to prevent burning activities for disposal **GHG Mitigation Options:** • Maintain and keep equipment in proper working order • Use fuel efficient equipment where possible	16	7	7
	• Land use type which is disturbed based on route selection (i.e., wetland, forest type, peatlands, etc.)	• Bedrock (Ha)		-	15	16
		• Treed (Ha)		1,171	2211	3,362
		• Water (Ha)		26	80	97
		• Wetland (Ha)		313	1,268	2,035
	• Operating equipment needed for each route selection (if one route selection requires increased construction efforts)	• Length of Road (km)		48.10	54.87	61.21
	• Overall road/clearing area of each route selection	• Area (Ha)		1,509.01	3,574.21	5,508.94

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – PHYSICAL ENVIRONMENT						
			• Avoid idling where possible and develop an anti-idling policy • Optimize material selection, procurement and shipping • Consider carbon offsets through reforestation • Where possible reduce the amount of land clearing or disturbance activities • Strategically develop construction and equipment usage schedules to reduce overall fuel consumption			

Summary of Atmospheric and GHG:

Overall

- **Alternative 4 East 1 is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of Atmospheric and** GHG based on number of sensitive receptors.
- Alternative 1 is preferred over Alternative 4 East and West in terms of having the least amount of overall clearing.
- Total number of receptors which may be impacted by air quality emissions from the project is lowest for Alternative 4 East and Alternative 4 West. It should be noted that receptor location may influence the magnitude of effects experienced at each receptor.
- At this time, the potential impacts that carbon sinks and sequestrations will have on overall GHG emissions due to land classification changes is unknown. Based on the data currently available Alternative 1 has the least disturbed area of carbon sinks. Magnitude of loss of carbon sinks will vary based on the specifics of each land use characteristics.
- Length of road segment is lower for Alternative 1. This may result in a decrease in air quality and GHG emissions during construction phases. Total road length may or may not influence operating equipment duration based on route specific construction requirements.
- Total area required to be cleared is lowest for Alternative 1. This may result in a temporary decrease in air quality and GHG emissions during construction phases.

Net Effects

Net effects on the atmospheric and GHG valued component were predicted to be equivalent for all three alternatives. Net effect rating is subject to change pending on detailed modelling/calculations as well as implementation of additional mitigation. This comparative analysis evaluated three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to the air quality and GHG valued component at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to the air quality and GHG valued component will be completed on the preferred route selected and may result in a different determination of predicted net effects to the valued component.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
WILDLIFE						
Bats *(including SAR – Little Brown Myotis, Northern Myotis, Tri-colored Bat)*	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally) including critical habitat for SAR	• Area (hectares) of moderate to high suitability bat maternity roost habitat disturbed per alternative. • Area (hectares) of foraging habitat (open wetlands and waterbodies adjacent to roosting habitat).	• Avoid clearing of suitable maternity roost habitat during the bat active season. • Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations. • Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb: • 133.71 ha of moderate to high suitability bat maternity roost habitat • 60.72 ha of foraging habitat	This alternative is anticipated to disturb: • 418.38 ha of moderate to high suitability bat maternity roost habitat • 1,449.06 ha of foraging habitat	This alternative is anticipated to disturb: • 430.26 ha of moderate to high suitability bat maternity roost habitat • 2,480.5 ha of foraging habitat
Fur Bearers *(American Marten)*	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally) including critical habitat for SAR	• Relative abundance of furbearers (American Marten)[2] • Area (hectares) of moderate/high quality American Marten habitat disturbed per alternative.	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative has a relative abundance of 1.47 American Marten and is anticipated to disturb 1300.13 ha of moderate/high quality American Marten habitat	This alternative has a relative abundance of 2.81 American Marten and is anticipated to disturb 3233.57 ha of moderate/high quality American Marten habitat	This alternative has a relative abundance of 2.69 American Marten and is anticipated to disturb 4763.27 ha of moderate/high quality American Marten habitat
Fur Bearers *(SAR Wolverine)*		• Presence/relative abundance of wolverine females and individuals of unknown sex per alternative. Presence of observed denning areas (from field observations).[1] • Relative abundance of wolverine.[2]	• If a denning area is identified, avoid construction activities within 4 km during the wolverine denning season. • Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative has a relative abundance of 0.29 wolverine, the presence or abundance of 0 female wolverine and 2 wolverine individuals of unknown sex	This alternative has a relative abundance of 0.50 wolverine, the presence or abundance of 1 female wolverine and 2 wolverine individuals of unknown sex	This alternative has a relative abundance of 0.50 wolverine, the presence or abundance of 1 female wolverine and 3 wolverine individuals of unknown sex
Amphibians and Reptiles	• Species presence • Relative abundance (if possible both spatially and temporally) • Habitat availability and distribution (spatially and temporally)	• Area (hectares) of high suitability breeding ecosites per alternatives (amphibians).	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb 577.49 ha of high suitability breeding ecosites	This alternative is anticipated to disturb 1306.22 ha of high suitability breeding ecosites	This alternative is anticipated to disturb 2,175 ha of high suitability breeding ecosites
Summary of Wildlife:						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
Overall • **Alternative 1 is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of wildlife**, as it is anticipated that it would result in the least impacts on bats, American marten, wolverine, and amphibians**.** • Alternative 4 East is the moderately preferred route alternative for Segment 1 – Ogoki Crossing, as it would results in more impacts on bats, American marten, wolverine, and amphibians compared to Alternative 1, but less impact than Alternative 4 West. • Alternative 4 West is the least preferred for alternative of Segment 1 – Ogoki Crossing for wildlife as it is anticipated that it would result in the greatest negative impacts on bats, American marten, wolverine, and amphibians. **Bats** • Alternative 1 is the most preferred for Bats, as it results in the least direct loss of both suitable bat maternity roost habitat and bat foraging habitat. • Alternative 4 West is the least preferred for Bats, as it results in the greatest direct loss of both suitable bat maternity roost habitat and bat foraging habitat. **Furbearers (American Marten)** • Alternative 1 is the most preferred for American Marten, as it results in the least direct loss of moderate/high quality American marten habitat. • Alternative 4 West is the least preferred for American Marten, as it results in the greatest direct loss of moderate/high quality American marten habitat. **Furbearers (Wolverine)** • Alternative 1 is the most preferred for Wolverine, as it has the lowest wolverine relative abundance and has the fewest number of observations of female wolverine and wolverines of unknown sex. • Alternative 4 West is the least preferred for Wolverine, as it the highest wolverine relative abundance and has the largest number of observations of female wolverine and wolverines of unknown sex. **Amphibians and Reptiles** • Alternative 1 is the most preferred for Amphibians and Reptiles, as it results in the least direct loss of suitable amphibian breeding habitat. • Alternative 4 West is the least preferred for Amphibians and Reptiles, as it results in the greatest direct loss of suitable amphibian breeding habitat. **Net Effects** Predicted net effects were considered comparatively higher for Alternative 4 West, moderate for Alternative 4 East, and lower for Alternative 1. This comparative analysis evaluated three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to the wildlife valued component at the local or regional scale (i.e., local study area or regional study area). Therefore, as the project development area for each alternative is anticipated to permanently remove or disturb measures of the proposed indicators. Predicted net effects have not considered all potential mitigation that may be applied at a later stage of project design. The comprehensive assessment of net effects to the wildlife valued component will be completed on the preferred route selected and may result in a different determination of predicted net effects to the valued component. ***Notes:*** ***1.*** Female observations are split into the total number of known female animals observed per route segment. Wolverines of unknown sex are the sum of the total known animals with unknown sex and unidentifiable individuals. Unidentifiable individuals are assumed to be unique individuals. *2.* Relative abundance metrics are calculated as the average number of sightings (wolverine) or tracks (American marten) per station for stations that overlap route alternatives. *3.* It is important to note that all route segments that bisect wolverine habitat have a direct effect as this species utilizes large home ranges and they rely on intact areas of wilderness directly or indirectly for life processes. Indirect effects of habitat removal for this species at risk, including sensory disturbance and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment.						
FISH, FISH HABITAT						
Fish and fish habitat valued components (VC): • **Lake Sturgeon** • **Walleye** • **Brook Trout** • **Northern Pike** • **Lake Whitefish** • **Burbot**	• Habitat Quantity and Quality • Distribution and connectivity to habitat and migration • Survival and reproduction	• Total number of water body crossings • Number of crossings requiring in-water work (e.g., culverts, bridge piers or abutments below the high-water mark)	Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: • Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. • Adherence to in-water work timing windows. • Adherence to blasting measures in accordance with the Guidelines for the	This alternative is anticipated to: • Cross 17 waterbodies • Cross 12 waterbodies requiring in-water work • Cross 3 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)	This alternative is anticipated to: • Cross 18 waterbodies • Cross 9 waterbodies requiring in-water work • Cross 3 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)	This alternative is anticipated to: • Cross 18 waterbodies • Cross 11 waterbodies requiring in-water work • Cross 5 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
			Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). • Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). • Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). • Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. • Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. • Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. • Measures to limit the spread and / or introduction of invasive species.			
Summary of Fish, Fish Habitat: **Overall** • **Alternative 1 and Alternative 4 East are the most preferred alternatives for Segment 1 – Ogoki Crossing from the perspective of fish and fish habitat.** o The routes have the least number of waterbody crossing locations where instream work would be required in areas with potential habitat for sensitive fish communities/coldwater VC fish species (Brook Trout, Lake Whitefish, Burbot) or Lake Sturgeon. • Alternative 4 West is the least preferred alternative for Segment 1 – Ogoki Crossing from the perspective of fish and fish habitat, because it has the greatest number of waterbody crossing locations where instream work would be required in areas with potential habitat for sensitive fish communities/coldwater VC fish species (Brook Trout, Lake Whitefish, Burbot) or Lake Sturgeon. • There is a negligible difference between the alternatives. **Net Effects** The predicted net effect for each of the alternatives were evaluated as equivalent relative to each other, based on the understanding that, with the implementation of the recommended avoidance, mitigation, compensation, and enhancement measures, minor change to baseline habitat and conditions, without loss of function or individuals are predicted. This comparative analysis evaluated three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to the fish and fish habitat valued component at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied at a later stage of project design. The comprehensive assessment of net effects to the fish and fish habitat valued component will be completed on the preferred route selected and may result in a different determination of predicted net effects to the valued component. ***Notes:*** The requirement for in-water works were determined as follows: • For waterbody crossings with bankfull widths less than 5 m, it is assumed that culverts would be used (requiring in-water work) • For waterbody crossings with bankfull widths greater than or equal to 5 m and less than 25 m, it is assumed that clear span bridges would be used (no in-water work) • For waterbody crossings greater than or equal to 25 m, it is assumed that bridges with piers and abutments would be used (requiring in-water work) • For waterbody crossings in flooded/impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it is assumed that in-water work would be required.					
VEGETATION						
Wetland and Riparian Ecosystems	• Availability (abundance spatially and temporally) • Distribution	• Area (hectares) of wetland and riparian ecosystems	• Minimize vegetation clearing to only what is required for construction and staging. • Avoid using wetland and riparian areas for staging, where possible.	This alternative is anticipated to disturb 598.72 ha of wetland and riparian ecosystems	This alternative is anticipated to disturb 1,372.56 ha of wetland and riparian ecosystems	This alternative is anticipated to disturb 2,253.64 ha of wetland and riparian ecosystems

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
	• Function and Composition	disturbed per alternative[1]	• Incorporate standard tree protection and ESC measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation and wetland protection and mitigation.			
Upland Ecosystems	• Availability (abundance spatially and temporally) • Distribution • Function and Composition	• Number of upland ecosite types disturbed per alternative[2]	• Minimize vegetation clearing to only what is required for construction and staging. • Incorporate standard tree protection and ESC measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.	This alternative is anticipated to disturb 21 upland ecosite types	This alternative is anticipated to disturb 27 upland ecosite types	This alternative is anticipated to disturb 31 upland ecosite types
Traditional Use Plants and SAR Plant Populations *(Including species with special conservation status or rarity in the province)*	• Species presence • Accessibility to traditional use of plants • Accessibility to traditional use of plants	• Area (hectares) of highly suitable and highly accessible (High = score of 1.5 – 2.0) habitat for Traditional Use Plants disturbed per alternative. • Area (hectares) of suitable habitat for SAR/SCC Plants (Black Ash, Northern Marsh Violet) disturbed per alternative.	• Minimize vegetation clearing to only what is required for construction and staging. • Incorporate standard tree protection and ESC measures. • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.	This alternative is anticipated to disturb 245.74 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 1,512.58 ha of suitable SAR/SCC habitat	This alternative is anticipated to disturb 1,712.91 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 3,596.44 ha of suitable SAR/SCC habitat	This alternative is anticipated to disturb 2,244.53 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 5,536.38 ha of suitable SAR/SCC habitat
Summary of Vegetation: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 1 - Ogoki Crossing from the perspective of vegetation**, as it has lower net effects than the other alternatives due to **a** smaller direct loss of wetland and riparian ecosystems, disturbance of fewer upland ecosite types, smaller direct loss of highly suitable and highly accessible habitats for Traditional Use Plants, and it has the least impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet).						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
• Alternative 4 West is the least preferred route alternative for Segment 1 - Ogoki Crossing from the perspective of vegetation. • Alternative 4 East is the moderately preferred route alternative for Segment 1 - Ogoki Crossing from the perspective of vegetation. **Wetlands and Riparian Ecosystems** • Alternative 1 is the most preferred route alternative for wetlands and riparian ecosystems as it results in the least direct loss of wetland and riparian ecosystems. • Alternative 4 West is the least preferred route alternative for wetlands and riparian ecosystems as it results in the greatest direct loss of wetland and riparian ecosystems. • Alternative 4 East is the moderately preferred route alternative for wetlands and riparian ecosystems as it results in a smaller loss of wetland riparian ecosystems compared to Alternative 4 West but a greater loss of wetland and riparian ecosystems compared to Alternative 1. **Upland Ecosystems** • Alternative 1 is the most preferred route alternative for upland ecosystems as it disturbs the fewest upland ecosite types. • Alternative 4 West is the least preferred route alternative for upland ecosystems as it disturbs the greatest number of ecosite types. • Alternative 4 East is the moderately preferred route alternative for upland ecosystems as it disturbs fewer upland ecosite types than Alternative 4 West but a greatest number of ecosite types than Alternative 1. **Traditional Use Plants and SAR/SCC Plant Populations** • Alternative 1 is the most preferred route alternative for traditional use plants as it results in the least direct loss of highly suitable and highly accessible habitats for Traditional Use Plants. • Alternative 4 West is the least preferred route alternative for traditional use plants as it results in the greatest direct loss of highly suitable and highly accessible habitats for Traditional Use Plants. • Alternative 4 East is the moderately preferred route alternative for traditional use plants as it disturbs fewer upland ecosite types than Alternative 4 West but a greatest number of ecosite types than Alternative 1. • Alternative 1 is the most preferred route alternative for SAR/SCC Plant Populations as it has the least impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet). • Alternative 4 West is the least preferred route alternative for SAR/SCC Plant Populations as it has the greatest impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet). • Alternative 4 East is the moderately preferred route alternative for SAR/SCC Plant Populations as it has a smaller impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet) than Alternative 4 West, but a greater impact than Alternative 1. **Net Effects** Predicted net effects were considered higher for Alternative 4 West and 4 East, and lower for Alternative 1. This comparative analysis evaluated the three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to vegetation valued components at the local or regional scale (i.e., local study area or regional study area). The predicted relative net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the vegetation valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects to these individual valued components. ***Notes:*** 1. Note that for the purposes of the alternatives assessment, only the availability of wetland and riparian ecosystems indicator was included. Area of loss as a metric was used because the area of direct impact would be the most important on the ecosystem. The more area that is removed, the less likely the ecosystem would be able to maintain it's functions. The Distribution, Function and Composition Indicators will be addressed for the preferred alternative in the EA/IA Document. 2. Number of upland ecosite types as a metric is proposed because this provides a measure of impact on forest biodiversity rather than just area, which could be attributed to the overall length of the route alternative rather than where the alternative is specifically located. 3. A preliminary conservative approach has been taken to classifying SAR and SCC habitats and the mapping is based on a limited amount of field information. The mapping that informed this evaluation is expected to be refined for final reporting. 4. This analysis is based on mapping that doesn't incorporate data collected during the 2023 field programs. Additional field data from the summer 2023 field season will be incorporated into the dataset and considered in the assessment of Project and cumulative effects from the preferred alternative. 5. Although impacts to Provincial Parks were not included as a measure in the vegetation alternatives analysis, it is also noteworthy that Alternative 1 avoids direct impact to the Ogoki River Provincial Park.						
BIRDS						
Species at risk forest and wetland birds **(e.g., Canada warbler, chimney swift, eastern whip-poor-will, eastern wood-pewee, evening grosbeak, olive-sided flycatcher, bank swallow, barn swallow, black tern, rusty blackbird, yellow rail).**	• Species presence • Relative abundance (spatially and temporally) of species at risk • Habitat availability and distribution (spatially and temporally) including critical habitat (where	• Area (hectares) of moderate to high suitability bird species at risk habitat disturbed in the PDA • Area of known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds	• Avoid clearing of suitable bird nesting habitat during the breeding bird period. • Limit the Project footprint to the extent feasible. • Minimize disturbances during the breeding bird period. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: • Canada warbler: 699.2 ha • Chimney swift: 1.8 ha • Common nighthawk: 868.5 ha • Eastern whip-poor-will: 25.0 ha • Eastern wood-pewee: 138.6 ha • Evening grosbeak: 896.0 ha • Lesser yellowlegs: 872.5 ha • Olive-sided flycatcher: 15.9 ha • Bald eagle: 134.9 ha	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: • Canada warbler: 1,699.8 ha • Chimney swift: 0.1 ha • Common nighthawk: 1,456.9 ha • Eastern whip-poor-will: 51.9 ha • Eastern wood-pewee: 421.4 ha	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: • Canada warbler: 2,576.3 ha • Chimney swift: 0.1 ha • Common nighthawk: 2,971.5 ha • Eastern whip-poor-will: 60.8 ha • Eastern wood-pewee: 433.6 ha

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
	known), were defined for SAR			• Peregrine falcon: 0.0 ha • Short-eared owl: 29.6 ha • Bank swallow: 1.8 ha • Barn swallow: 1.8 ha • Black tern: 55.2 ha • Rusty blackbird: 557.8 ha • Yellow rail: 64.2 ha This alternative is also anticipated to disturb 7.1 ha of known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds	• Evening grosbeak: 2,228.4 ha • Lesser yellowlegs: 1,815.4 ha • Olive-sided flycatcher: 125.0 ha • Bald eagle: 106.6 ha • Peregrine falcon: 20.2 ha • Short-eared owl: 97.6 ha • Bank swallow: 0.1 ha • Barn swallow: 0.1 ha • Black tern: 89.3 ha • Rusty blackbird: 1,329.0 ha • Yellow rail: 110.8 ha This alternative is not anticipated to disturb any known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds.	• Evening grosbeak: 3,295.7 ha • Lesser yellowlegs: 3,189.6 ha • Olive-sided flycatcher: 474.6 ha • Bald eagle: 183.1 ha • Peregrine falcon: 20.2 ha • Short-eared owl: 118.4 ha • Bank swallow: 0.1 ha • Barn swallow: 0.1 ha • Black tern: 93.7 ha • Rusty blackbird: 2,202.9 ha • Yellow rail: 131.3 ha This alternative is not anticipated to disturb any known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds.
Raptors (e.g., bald eagle)	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally)	• Number of habitat features and area (hectares) disturbed: o Raptor nest locations • Stopover sites (if present)[2]	• Limit the Project footprint to the extent feasible. • Avoid sensory disturbances within 800 m of known bald eagle nests. • Minimize risk of mortality during construction and operations.	The alternative is anticipated to disturb 4 stopover sites (2.5 ha). No known raptor nets are anticipated to be disturbed.	The alternative is anticipated to disturb 4 stopover sites (0.06 ha) and one bald eagle nest (2.9 ha).	The alternative is anticipated to disturb 4 stopover sites (0.06 ha) and one bald eagle nest (2.9 ha).
Shorebirds	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally)	• Number and area of confirmed and suitable habitat features disturbed (e.g., stopover sites)[3,4,5]	• Avoid clearing of suitable bird nesting habitat during the breeding bird period. • Avoid clearing within 100 m of suitable stopover sites during the spring and fall bird migration period. • Limit the Project footprint to the extent feasible. • Minimize disturbances during the breeding bird, spring and fall bird migration periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb 5 suitable habitat features (18.0 ha).	This alternative is anticipated to disturb 4 suitable habitat features (34.6 ha).	This alternative is anticipated to disturb 4 suitable habitat features (33.5 ha).
Waterfowl	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally)	• Number and area of confirmed and suitable habitat features disturbed (e.g., stopover sites)[3,4,5]	• Avoid clearing of suitable bird nesting habitat during the breeding bird period. • Avoid clearing within 100 m of suitable stopover sites during the spring and fall bird migration period. • Limit the Project footprint to the extent feasible.	This alternative is anticipated to disturb 5 suitable habitat features (60.7 ha).	This alternative is anticipated to disturb 4 suitable habitat features (137.3 ha).	This alternative is anticipated to disturb 4 suitable habitat features (141.1 ha).

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
			• Minimize disturbances during the breeding bird, spring and fall bird migration periods. • Minimize risk of mortality during construction and operations.			

Summary of Birds:

Overall
- **Alternative 1 is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of birds**, as it is anticipated that it would result in the lower net effects on bird species at risk, shorebirds, and waterfowl and possibly raptors relative to the other two alternatives.
- Alternative 4 East is the moderately preferred route alternative for Segment 1 – Ogoki Crossing, as it would result in higher net effects on species at risk, Raptors, shorebirds, and waterfowl compared to Alternative 1, but fewer net effects than Alternative 4 West on Species at Risk, and Waterfowl.
- Alternative 4 West is the least preferred route alternative for Segment 1 – Ogoki Crossing, as it would result the greatest net effects on species at risk, raptors, and waterfowl relative to the other two alternatives.

Species at Risk
- Alternative 1 is the most preferred for Species at Risk, as it results in the least direct loss of moderate to high suitability habitat for bird species at risk.
- Alternative 4 West is the least preferred for Species at Risk, as it results in the greatest direct loss of moderate to high suitability habitat for bird species at risk.
- Alternative 4 East is the moderately preferred route alternative, as it results in the moderate direct loss of moderate to high suitability habitat for bird species at risk.
- Alternatives 4 East and 4 West both avoid the direct loss of any provincial ESA regulated habitat or federal SARA critical habitat for species at risk birds.
- Alternative 1 results in the direct loss of 7.1 ha of known potential Category 3 eastern-whip-poor-will habitat defined by the Eastern Whip-poor-will General Habitat Description as the area of suitable habitat between 170 m and 500 m of the nest or centre of approximated defended territory (MNRF 2019)[1].
- Alternative 1 minimizes the amount of moderate to high suitability bird species at risk habitat that will be removed (avoidance measure).

Raptors
- Alternative 1 is the most preferred for Raptors, as it results in no direct loss of raptor nest locations and their associated buffers.
- Alternative 4 East and 4 West are the least preferred for Raptors, as they result in the greatest direct loss of raptor nest locations and their associated buffers.
- While Alternative 1 results in a slightly greater direct loss of suitable stopover sites for raptors, alternative suitable stopover habitat is expected to be readily available for raptors in the local study area.
- Alternative 1 avoids the removal of known raptor nests.
- Alternatives 4 East and 4 West minimize the area of stopover sites that will be removed (avoidance measure)[2].

Shorebirds
- Alternative 1 is the most preferred for Shorebirds, as it results in the least direct loss of suitable habitat features for shorebirds (e.g., stopover sites).
- Alternative 4 East is the least preferred for Shorebirds, as it results in the greatest direct loss of suitable habitat features for shorebirds.
- Alternative 4 West is the moderately preferred route alternative for Shorebirds, as it results in the moderate direct loss of suitable habitat features for shorebirds.
- Alternative 1 minimizes the amount of suitable habitat features that will be removed (avoidance measure) [3,4,5].

Waterfowl
- Alternative 1 is the most preferred for Waterfowl, as it results in the least direct loss of suitable habitat features for waterfowl (e.g., stopover sites).
- Alternative 4 West is the least preferred for Waterfowl, as it results in the greatest direct loss of suitable habitat features for waterfowl[4].
- Alternative 4 East is the moderately preferred route alternative for Waterfowl, as it results in the moderate direct loss of suitable habitat features for waterfowl.
- Alternative 1 minimizes the amount of suitable habitat features that will be removed (avoidance measure) [3,4,5].

Net Effect
Alternative 1 results in lower net effects relative to Alternative 4 East and Alternative 4 West. Comparatively, Alternative 4 East results in moderate net effects and Alternative 4 West results in higher net effects. This comparative analysis evaluated the three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to bird valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the bird valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects to these individual valued components.

Notes:

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
1. Category 3 eastern whip-poor-will habitat is defined by the Eastern Whip-poor-will General Habitat Description as the area of suitable habitat between 170 m and 500 m of the nest or centre of approximated defended territory (MNRF 2019). Confirmed observations of eastern whip-poor-will during the breeding season were considered defended territories. 2. Stopover sites for raptors were defined as waterbodies and watercourses surveyed during baseline field surveys with greater than 2 observations of raptors. 3. The Natural Heritage Information Centre (NHIC) was searched for known provincial waterfowl and shorebird staging areas. No data were found for these measures. 4. Suitable habitat features for shorebirds and waterfowl were defined as waterbodies and watercourses surveyed during baseline field surveys. 5. Confirmed habitat features for shorebirds and waterfowl were defined as waterbodies and watercourses surveyed during baseline field surveys plus a 100 m buffer where shorebirds or waterfowl were observed during baseline field surveys.						
UNGULATES						
Moose	• Habitat availability • Habitat distribution	• Area of high suitability habitat disturbed per segment alternative • Number of suitable habitat features disturbed per segment (e.g., number of suitable moose aquatic feedings areas, calving sites, known mineral licks).	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations. • Alternative 4 East minimizes the amount of high suitability that will be removed (avoidance measure).	This alternative is anticipated to disturb 503 ha of high suitability habitat within the PDA, 2,993 ha of high suitability habitat within the PDA including a 500-meter buffer[1] and is not anticipated to disturb any suitable habitat features.	This alternative is anticipated to disturb 410 ha of high suitability habitat within the PDA, 2,263 ha of high suitability habitat within the PDA including a 500-meter buffer and is not anticipated to disturb any suitable habitat features.	This alternative is anticipated to disturb 820 ha of high suitability habitat within the PDA, 3,259 ha of high suitability habitat within the PDA including a 500-meter buffer and is not anticipated to disturb any suitable habitat features.
Caribou	• Habitat availability • Habitat distribution – includes spatial extent and distribution of GHD Category 1, 2, and 3 habitats (MNR 2013d) and availability and distribution of habitat which contain biophysical attributes necessary for caribou seasonal and life stage activities (ECCC 2019).	• Area (hectares) of known and potential Category 1 General Habitat Description **WINTER USE AREAS** that would be impacted per segment alternative. • Area (hectares) of known and potential Category 1 General Habitat Description **NURSERY AREAS** that would be impacted per segment alternative. • Area (hectares) of known and potential Category 1 General Habitat Description **TRAVEL CORRIDOR AREAS** that would	• Limit the Project footprint to the extent feasible. • Avoid sensory disturbances within 10 km of known high-use areas during sensitive periods. • Minimize risk of mortality during construction and operations. • Alternative 1 avoids removing known and potential winter use and nursery areas in the caribou range but will result in loss of habitat in the range of a threatened species (avoidance measure).	This alternative is not anticipated to disturb any known and potential Category 1 General Habitat Description winter use areas, nursery areas or travel corridors	This alternative is not anticipated to disturb any known and potential Category 1 General Habitat travel corridors, however it is anticipated to disturb the following known and potential Category 1 General Habitat Description winter use areas and nursery areas: • **Winter Use Areas:** 215 ha within the PDA, 1,857 ha within the PDA including a 500-meter buffer[1] • **Nursery Areas:** 21 ha within the PDA, 227 ha within the PDA including a 500-meter buffer[1]	This alternative is anticipated to disturb the following known and potential Category 1 General Habitat Description winter use areas, nursery areas and travel corridors: • **Winter Use Areas:** 815 ha within the PDA, 3,341 ha within the PDA including a 500-meter buffer[1] • **Nursery Areas:** 204 ha within the PDA, 1,005 ha within the PDA including a 500-meter buffer[1] • **Travel Corridors:** 739 ha within the PDA, 1,324 ha within the PDA including a 500-meter buffer[1]

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
		be impacted per segment alternative.				

Summary of Ungulates:

Overall

- **Alternative 1 is the most preferred route alternative from the perspective of Ungulates for Segment 1 – Ogoki Crossing**, as it is anticipated that it would result in lower net effects on caribou relative to the other two alternatives.
- Alternative 4 East is the moderately preferred route alternative for Segment 1 – Ogoki Crossing, as it would results in higher net effects on caribou compared to Alternative 1, but lower net effects than Alternative 4 West.
- Alternative 4 West is the least preferred route alternative from the perspective of Ungulates for Segment 1 – Ogoki Crossing as it is anticipated that it would result in the highest net effects on moose and caribou.

All Alternatives avoid known (mapped) moose aquatic feeding areas, calving sites and mineral licks. Alternative 1 removes 503 ha of high suitability moose habitat, Alternative 4 East removes 410 ha of high suitability moose habitat, and Alternative 4 West removes 820 ha of high suitability habitat.

Although Alternative 1 removes 503 ha of high suitability moose habitat, this segment avoids removing known and potential Category 1 habitat for caribou (i.e., areas within the range that have lowest tolerance to alteration before their function in supporting caribou is compromised; MNR 2013). However, it is important to note that this route (as well as Alternative 4 East and Alternative 4 West) will still remove caribou habitat (direct effect), which may be depended on directly or indirectly for life processes, even if it is not considered Category 1. Indirect effects of habitat removal for this species at risk, including sensory disturbance, increased mobility for predators and hunters, and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment.

Net Effects

Indirect effects of habitat removal for moose and caribou, including sensory disturbance, increased mobility for predators and hunters, and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment. As a result, all alternative routes for Ogoki Crossing are assessed as having equivalent net effects for moose and caribou. This comparative analysis evaluated the three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to ungulate valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the ungulate valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects to these individual valued components.

***Notes**

1. A 500 m buffer is used to capture indirect disturbances to habitat features such as noise and dust.
2. Known Category 1 areas are derived from Ontario Government Caribou General Habitat Description for Forest-dwelling caribou (MNRF 2019). The identification of “potential new” Category 1 winter use areas and nursery areas is based on 50% Kernel Density Estimation (KDE) polygons derived from MFFN and MNRF collar data between 2020 to 2023. The 50% KDE represents the core area used during the date periods identified by Ontario for the current GHD Category 1 areas. “Potential new” travel corridors are derived from 95% KDE derived from MFFN and MNRF collar data between 2020 and 2023. The 95% KDE was used for the travel corridors because travel corridors are more linear in extent and do not have core areas relative to winter use and nursery areas. In areas where travel corridors overlap winter use or nursery areas, they are not double counted in the calculation of habitat removed.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – NATURAL ENVIRONMENT						
3. Known Moose Aquatic Feeding Areas, Mineral Licks and moose calving sites are derived from Ontario Government. *4.* This information may be re-evaluated with Indigenous knowledge input and/or additional collar data, when available. As a result, the data presented here may differ from the final effects analysis.						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT						
ABORIGINAL AND TREATY RIGHTS AND INTERESTS						
Indigenous Current Use of Lands and Resources for Traditional Purposes	• Alteration / change in or loss of sites and areas used for traditional activities (e.g., hunting, trapping, fishing, gathering).	• High Impacts to Low Impacts	• Develop an Indigenous-led environmental monitoring program during the construction and operation of the road. • Secure funding for Indigenous community-based (MFFN) training program for local youth to be educated and hired as environmental monitors. • Work with Indigenous communities (MFFN) to establish a set of benchmarks or Indigenous Environmental Standards for reclamation (e.g., specific diversity, vegetation) to monitor and measure construction and operation activities and reclamation success. • Avoid, where possible, preferred hunting/fishing/harvesting areas identified by communities. • Route the all-season road to avoid areas of high- quality habitat where feasible. • Following construction, make use of native vegetation/ re-vegetation during site rehabilitation. • Maintain vegetative buffer zones between the all-season road and lakes or ponds along the right-of-way. • Maintain water (i.e., river/lake/etc.) access during design, construction and operation. • Engage with Indigenous communities regarding watercourse crossing design to facilitate navigation and fish passage. • Watercourse crossings to be designed for boat passage or to include portages. • Utilize signage (Indigenous and English language) to identify trapping areas. • Implement programs to encourage and help finance trapping as a livelihood. • Provide appropriate compensation to trappers who use the area(s) along the road.	• Fish and Wildlife Use Areas *(along Ogoki River)* • Animal Harvest Area(s) *(within Study area and LSA, Alternative transects the area)* • Fishing Location (*Participant accessed one time in the Study Area near the river crossing and did not plan to return*) • Fishing Camp *(within the Study area)* • All segments result in the alteration / change in or loss of areas that may be used for traditional activities. • Requires input from IK/ILRU Studies from additional communities (e.g., Aroland First Nation) No discernable difference between alternatives	• Fish and Wildlife Use Areas *(along Ogoki River)* • Animal Harvest Area(s) *(within Study area and LSA,* Alternative *transects the area)* • Sensitive Fish Habitat *(Sturgeon – within Study area at the Ogoki River crossing)* • 2 Fishing Area(s) *(within the Study area and in the vicinity of the river crossing)* • All segments result in the alteration / change in or loss of areas that may be used for traditional activities. • Requires input from IK/ILRU Studies from additional communities (e.g., Aroland First Nation) No discernable difference between alternatives	• Fish and Wildlife Use Areas *(along Ogoki River)* • Animal Harvest Area(s) *(within Study area and LSA, Alternative transects the area)* • Sensitive Fish Habitat *(Sturgeon – within the Study Area, near Ogoki River crossing)* • Fishing Area *(within the Study area and in the vicinity of the river crossing)* • All segments result in the alteration / change in or loss of areas that may be used for traditional activities. • Requires input from IK/ILRU Studies from additional communities (e.g., Aroland First Nation) No discernable difference between alternatives
	• Changes in the availability or quantity of resources (e.g., wildlife, fish, vegetation) for traditional activities (e.g., harvesting and gathering).	• High Impacts to Low Impacts	• Work with other governing bodies to develop hunting and trapping regulations that minimize non-local Indigenous access to and harvesting pressure on local animal populations. • Work with other governing bodies to develop fishing restrictions to minimize non-Indigenous access to and pressure on fish populations.	• Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date	• Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date	• Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
			• Work with other governing bodies to develop regulations for wood harvesting along the road. • Implement an Indigenous-led environmental monitoring program (construction and post-construction) utilizing Indigenous knowledge to continue to assess changes in availability or quantity of resources so that mitigation measure can be employed more effectively and in "real time". • Avoid, where possible, preferred hunting/fishing/harvesting areas identified by communities. • Maintain water (i.e., river/lake/etc.) access during design, construction and operation. • Engage with Indigenous communities regarding watercourse crossing design to facilitate navigation and fish passage. • Watercourse crossings to be designed for boat passage or to include portages. • Design and route the all-season road to avoid areas of high-quality habitat where feasible. • Develop a response plan in case of spills or other environmental emergencies along the road. • Collaborate with Indigenous communities to identify areas for future cultural use and support grant applications to develop cultural camps that support on-the-land learning and use. • Following construction, make use of native vegetation/ re-vegetation with a focus on valued species during site rehabilitation.			
	• Changes in access to sites and areas used for traditional activities.	• High Impacts to Low Impacts	• Involve local Indigenous communities (MFFN) in the development of access management measures or plans. Access should prioritize Indigenous communities' ability to harvest resources over non-Indigenous land users. • Use Indigenous (MFFN) land users (e.g., hunters and trappers) to monitor the Project area to support the enforcement of access management measure. • Provide access ramps to traditional travel routes bisected by the all-season road. • Create temporary detours for snowmobiles and ATVs during construction. • Identify and sign detour routes and portages (in Indigenous and English languages). • Construction contract provision requiring key travel routes be maintained	• 8 Campgrounds/Sites *(eastern extent/edge of Study area and LSA boundaries)* • Walking/Trapping Trail *(Crosses route alignment)* • Animal Harvest Area(s) *(within Study area and LSA, Alternative transects the area)* • Fishing Location (*Participant accessed one time in the Study Area near the river crossing and did not plan to return*) • Fishing Camp *(within the Study area)* • All Alternatives provide greater access to lands for harvesting purposes – this can be viewed as both a *positive* and a negative effect.	• 3 Campgrounds/Sites *(within Study area boundary)* • Animal Harvest Area(s) *(within Study area and LSA, Alternative transects the area)* • Sensitive Fish Habitat *(Sturgeon – within Study area at the Ogoki River crossing)* • 2 Fishing Area(s) *(within the Study area and in the vicinity of the river crossing)* • All Alternatives provide greater access to lands for *harvesting* purposes – this can be viewed as both a positive and a negative effect.	• 3 Campgrounds/Sites *(within Study area boundary)* • Animal Harvest Area(s) *(within Study area and LSA, Alternative transects the area)* • Sensitive Fish Habitat *(Sturgeon – within the Study Area, near Ogoki River crossing)* • Fishing Area *(within the Study area and in the vicinity of the river crossing)* • All Alternatives provide greater access to lands for *harvesting* purposes – this can be viewed as both a positive and a negative effect.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
			• Engage with Indigenous communities on construction schedule to identify key hunting/fishing/harvesting times and areas that should be avoided. • Provide community updates regarding location and timing of construction activities. • Time construction activities to avoid key traditional use windows (e.g., moose hunting season, gees hunting season) • Restrict/limit non-Indigenous hunting/fishing/harvesting in the area. • Blocking and re-vegetating temporary access routes and other disturbed areas immediately after construction using native vegetation.	No discernable difference between alternatives	No discernable difference between alternatives	No discernable difference between alternatives
Cultural Continuity and Wellbeing (ability to practice and transmit cultural traditions)	• Alteration / change in or loss of culturally important sites and areas (e.g., ceremonial sites, place names, teaching sites, archaeological sites).	• High Impacts to Low Impacts	• Conduct HRIAs to identify archaeological and heritage sites. • Engage with Indigenous communities to identify undocumented culturally important sites. • Design and align the all-season road to avoid known cultural, heritage and archaeological sites and objects. • Flag construction exclusion areas around discovered/previously unknown cultural, heritage and archaeological sites. • Relocate heritage resources that would be destroyed by construction activities (only with consent from Indigenous communities and Archaeology Branch) • Consult with the local Indigenous communities (MFFN) on culturally appropriate measures if archaeological sites or objects are exposed during construction (i.e., co-develop Chance Find Procedures). • Provide instructions to contractors on procedures if archaeological sites or objects are exposed during construction. • Support Indigenous communities in developing on the land programming for Youth and Members to increase opportunities for cultural continuity and well-being. • Support the facilitation of Indigenous youth (MFFN) travelling to other First Nations/Thunder Bay/etc. in the region to learn about cultural and traditional land and resource use activities. • Develop all road signs in local Indigenous language(s).	• Big Gathering Place (*edge of the Study Area and within the LSA)* • Burial Site *(edge of the Study Area and within LSA)* • Village Site *(along Ogoki River between Alternative 1 and 4 within the Study area)* • 8 Campgrounds/Sites *(eastern extent of Study Area and LSA boundaries)* • 2 Points of Interest *(within the Study area – Rapids/Falls)* • 2 Points of Interest *(within the LSA – Rapids/Falls)* • Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. • Requires input from MFFN and IK/ILRU Studies from additional communities (e.g., Aroland First Nation) Insufficient data – to be determined at a future date	• Burial Site *(between 4 East and 4 West within Study area)* • Burial Site *(Crossing Alignment)* • Village Site *(Edge of the Study Area boundary near Patience Lake)* • Village Site *(along Ogoki River between Alternative 1 and 4 within the Study area)* • 3 Campgrounds/Sites *(within Study Area boundary)* • Place Name *(at Patience Lake between 4 East and 4 West)* • 2 Points of Interest *(within the Study area – Rapids/Falls)* • 2 Points of Interest *(within the LSA – Rapids/Falls)* • Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. • Requires input from MFFN and IK/ILRU Studies from additional communities (e.g., Aroland First Nation) Insufficient data – to be determined at a future date	• Burial Site *(between 4 East and 4 West within Study area)* • Cabin *(Commercial Use – Guiding)* • Village Site *(along Ogoki River between Alternative 1 and 4 within the Study area)* • 3 Campgrounds/Sites *(within Study Area boundary)* • Place Name (at *Patience Lake between 4 East and 4 West)* • 2 Points of Interest *(within the Study area – Rapids/Falls)* • 2 Points of Interest *(within the LSA – Rapids/Falls)* • Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. • Requires input from MFFN and IK/ILRU Studies from additional communities (e.g., Aroland First Nation) Insufficient data – to be determined at a future date
Summary of Aboriginal and Treaty Rights and Interests:						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
There is little IK/ILRU data available for much of Segment 1. MFFN has provided some IK/ILRU for the northern extent of Segment 1 but there is limited to no information in the southern extent. It is anticipated that Aroland First Nation (and other Indigenous Communities) may have IK/ILRU related to the southern extent that would be advantageous in assessing route alternatives, provided this is shared.						
ECONOMIC						
Regional Economy	• Traditional Economies	• Change in Ability to Undertake Traditional Economic Activities	• Communicate information on planned and active construction activities to facilitate local planning of traditional economies such as trapping. • In selection of final road alignment as part of road design development, where possible, avoid high-quality fur-bearer habitat.	• The development of the road has the potential to result in *net* effects to traditional economies such as trapping. • Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping *activity* has declined significantly throughout Canada due to low fur prices. Anecdotal input suggests that trapping activity in the LSA has also declined and is no longer an important economic activity. • The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite *trappers* being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. • See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline *area* covered and furbearer habitat impacted. • It is also possible that some fishing occurs in local rivers for commercial purposes but we have *no* specific information to support this. No discernable difference between alternatives	• The development of the road has the potential to *result* in net effects to traditional economies such as trapping. • Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping activity has declined significantly throughout Canada due to low fur prices. *Anecdotal* input suggests that trapping activity in the LSA has also declined and is no longer an important economic activity. • The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite trappers being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. • See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline area covered and furbearer habitat impacted. • It is also possible that some fishing occurs in local *rivers* for commercial purposes but we have no specific information to support this. No discernable difference between alternatives	• The development of the road has the potential to *result* in net effects to traditional economies such as trapping. • Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping activity has declined significantly throughout Canada due to low fur prices. Anecdotal input suggests that trapping activity in the LSA has also *declined* and is no longer an important economic activity. • The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite trappers being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. • See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline area covered and furbearer habitat impacted. • It is also possible that some fishing occurs in local rivers for commercial purposes but we have no specific information to support this. No discernable difference between alternatives
Summary of Economic: **Overall** • **All route alternatives are ranked equal for Segment 1 – Ogoki Crossing from an economic perspective.** The difference between all three alternatives is negligible. • All route segments will provide connection to the Marten Falls community and provide the same expected net economic benefit to the community including, for example, an expected decrease in the price of goods. • Similarly, all route segments are expected to provide similar employment opportunities and would have similar impact on government expenditure and taxation. • There are no specific economic features (e.g. businesses) identified in the PDA of the alternative route segments. • The opportunities for economic development including resource extraction activities such as mining are also identified to be similar amongst the alternative routes (see Land and Resource Use) and mineral claim holders indicated that all route options provide them greater access to their site of future potential for extraction and that all routes would benefit their economic potential.						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
• Since no information from trappers is available at the time of this evaluation regarding the level of trapping activity along the route segments, the routes are identified to be similar with respect to impact on traditional economies. **Net Effect** The predicted net effects of the three alternatives were evaluated as equivalent.						
HUMAN HEALTH						
Public Safety	• Road Use Accident	• Potential for roadway related accidents as a result of the road project including vehicles and pedestrians.	• "Post "no entry", warning signs and barricades (e.g., gates, fences), where necessary, around active construction sites; warning signs and reduced speed limits to be established at known wildlife crossing locations; warning signs and lights to be displayed for road maintenance equipment and trail crossings. • Provide for safe access for trappers and other traditional users.	• The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives	• The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives	• The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives
Environmental Factors Influencing Human Health	• Country Foods	• Potential for change in the quality and quantity (abundance) of country foods.	• Reclaim and rehabilitate areas disturbed by construction to encourage natural regeneration/regrowth of vegetation and habitat restoration. • Community input into alignment routing, component siting and road design avoid important areas of botanical and wildlife resources that serve as country foods to the extent feasible.	• The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. • Moose is understood to be an important species that is harvested by First Nations. The PDA for this segment contains 503 ha of high suitability moose habitat. Impacts to this habitat could impact area moose populations. • It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. • All route segments cross a similar number of water courses involving in-water works and is expected to have similar impact on fish that may be harvested. • Information on how the quality of harvested species could be affected by the road is not known at this time and will be assessed as part of the project impact assessment. Most Preferred	• The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. • Moose is understood to be an important species that is harvested by First Nations. The PDA for this segment contains 410 ha of high suitability moose habitat. Impacts to this habitat could impact area moose populations. • It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. • All route segments cross a similar number of water courses involving in-water works and is expected to have similar impact on fish that may be harvested. • Information on how the quality of harvested species could be affected by the road is not known at this time and will be assessed as part of the project impact assessment. Most Preferred	• The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. • Moose is understood to be an important species that is harvested by First Nations. The PDA for this segment contains 820 ha of high suitability moose habitat. Impacts to this habitat could impact area moose populations. • It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. • All route segments cross a similar number of water courses involving in-water works and is expected to have similar impact on fish that may be harvested. • Information on how the quality of harvested species could be affected by the road is not known at this time and will be assessed as part of the project impact assessment. Moderately Preferred
Summary of Human Health: **Overall** • **Alternatives 1 and 4 East are the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of human health.** • Alternatives 1 and 4 East result in less impacts to moose habitat, and moose is an important country food source for local Indigenous communities. • All route segments will provide connection to the Marten Falls community and result in the same health impacts to the community including for example access to health services, changes to social and economic structures, mental well-being, etc.						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
• Generally, potential effects to the human health at the local or regional scale is considered similar for all the alternative routes. • Only two human health indicators were considered to have relevance considering the character of the study area and data availability: country foods and road use accidents. • All route segments are considered equal with respect to impacts on Indigenous women including human trafficking. • There are no permanent places of residences in proximity to the route segments that could be impacted in noise and air quality changes that might result in health impacts. **Net Effects:** Alternative 4 West results in higher net effects to country food availability due to greater moose habitat effects than Alternative 1 and 4 East. No information is currently available regarding the potential impact on the quality of harvested species. This will be considered in the assessment of impacts of the project. A comprehensive assessment of net effects to human health will be completed on the preferred route and may result in a different determination of predicted net effects to the valued component.						
LAND AND RESOURCE USE						
Land Use Compatibility	• Binary alignment with established planning policy requirements	• Description of applicable land use policies/designations	• No applicable measures due to absence of land use designations.	• The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives	• The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives	• The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives
Parks and Protected Areas	• Number and area of parks and protected areas impacted	• Number and area of Park and Protected area with natural, cultural or recreation values impacted	• Limit clearing and use of land within parks and protected lands as much as possible. Temporary work areas such as staging areas should be located outside of parks and protected areas.	• The development and operation of the road could result in net effects including the loss of *designated* parkland area and disturb use of adjacent parkland. • This segment crosses near the eastern end of Ogoki River *Provincial* park. As such it is considered to have the lowest impact on parks and protected areas among the alternatives. Most Preferred	• The development and operation of the road could result in net effects including the loss of designated parkland area and disturb use of adjacent parkland. • This segment crosses into the Ogoki River Provincial Park and impacts 135.31 hectares of park *land*. • Lower impact *on* parks and protected areas. Moderately Preferred	• The development and operation of the road could result in *net* effects including the loss of designated parkland area and disturb use of adjacent parkland. • This segment *crosses* into Ogoki River Provincial Park and impacts 141.1 hectares of park land. • Greatest relative impact on *parks* and protected areas. Least Preferred
	• Accessibility to parks and protected areas	• Extent to which access to parks and protected areas is increased.	• Monitor and limit the development of any side trails/roads that might extend into parks and protected areas. • Work with Ontario Parks regarding any measures to control access into parks and protected areas as applicable.	• The development of the road could have net effects that change access levels to existing parks. The net effects of this are dependent on the proximity of the road to the park and nature of the park. • This segment would provide less new access to Ogoki River Provincial Park which is a remote waterway park, as it passes just to the east of the park. Most Preferred	• The development of the road could have net effects that change access levels to existing parks. *The* net effects of this are dependent on the proximity of the road to the park and nature of the park. • This segment would provide new access to Ogoki River Provincial Park which is a remote waterway park. Road access would contribute to a change in the character of this park. Moderately Preferred	• The development of the road could have net effects that change access levels to existing parks. The net effects of this are dependent *on* the proximity of the road to the park and nature of the park. • This segment would provide new access to Ogoki River *Provincial* Park which is a remote waterway park. Road access would contribute to a change in the character of this park. Moderately Preferred
Recreation and Tourism	• Accessibility to lands and waterways used for recreation and tourism	• Change to access to land utilized for recreation and/or tourism	• Develop a land/waterbody access plan to determine need for any access restrictions and/or access enhancements to promote recreation and tourism in the area.	• The development of the road could improve access levels to current remote lands and water resources that could provide new recreation *and* tourism opportunities. • All segments provide greater access to lands that are currently inaccessible and which could be used for recreation purposes. Lands associated with this	• The development of the *road* could improve access levels to current remote lands and water resources that could provide new recreation and tourism opportunities. • All segments provide greater access to lands that are currently inaccessible and which could be used for recreation purposes. Lands associated with this	• The development of the road could improve access levels to current remote lands and water *resources* that could provide new recreation and tourism opportunities. • All segments provide greater access to lands that are currently inaccessible and which could be used for recreation purposes. Lands

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
				route segment are not considered to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. • Recreational users (e.g. snowmobilers, hunters, canoe/kayak *users*, etc.) would benefit from greater access to previously inaccessible lands. No discernable difference between alternatives	route segment are not *considered* to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. • Recreational users (e.g. snowmobilers, hunters, canoe/*kayak* users, etc.) would benefit from greater access to previously inaccessible lands. No discernable difference between alternatives	associated with this route segment are *not* considered to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. • Recreational users (e.g. snowmobilers, hunters, canoe/kayak users, etc.) would benefit from greater access to previously *inaccessible* lands. No discernable difference between alternatives
		• Change in waterway navigability including for recreation and tourism	• Navigable waterway crossings will be designed to not inhibit navigation • Navigation to be maintained during construction	• The development of bridges over watercourses could *negatively* affect navigation. • All segments cross a similar number of water bodies (*17*-18). No discernable difference between alternatives	• The development of bridges over *watercourses* could negatively affect navigation. • All segments *cross* a similar number of water bodies (17-18). No discernable difference between alternatives	• The development of bridges over watercourses could *negatively* affect navigation. • All segments cross a similar number of water bodies (17-18). No discernable difference between alternatives

	• Environmental conditions	• Change in environmental conditions that could change attractiveness of the area for tourism and recreation.	• Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include:
			  o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor.
			  o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright, Hopky, 1998).
			  o Measures to avoid unnecessary vehicle and machine idling to minimize emissions and greenhouse gasses.
			  o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan.
			  o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate.
				• The road development and its operation could result in *disturbance* net effects such as runoff that could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation.
				• All segments are expected to result in similar change to *environmental* conditions that could result in effects to lands used for recreation.
				
				No discernable difference between alternatives
					• The road development and its operation could *result* in disturbance net effects such as runoff that could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation.
					• All segments are expected to result in similar change to environmental conditions that could *result* in effects to lands used for recreation.
					
					No discernable difference between alternatives
						• The road development and its operation could result in disturbance net effects such as runoff *that* could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation.
						• All segments are expected to result in similar *change* to environmental conditions that could result in effects to lands used for recreation.
						
						No discernable difference between alternatives

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
			o Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies. o Wash water from vehicles and equipment will not be allowed to enter a waterbody and will be conveyed to areas for infiltration, treated prior to discharge to the receiving environment, or hauled off site. o Minimize vegetation clearing to only what is required for construction and staging. o Incorporate standard tree protection and ESC measures. o Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). o Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.			
	• Availability of species (fish and wildlife) harvested for recreation purposes	• Change to target species populations harvested for recreation purposes.	• Design mitigation measures for habitat and safety will be applied. • Setback of all-season road from rivers. • Limiting construction to work areas. • Measures to protect wildlife will minimize adverse effects to hunting success. Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to in-water work timing windows.	• The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. • The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below	• The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. • The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below	• The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. • The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
			o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). o Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). o Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. o Measures to limit the spread and / or introduction of invasive species. • Develop a land / waterbody access plan to determine need for any access restrictions			
	• Change to the habitat for these target species	• Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to in-water work timing windows. o Adherence to blasting measures in accordance with	• The development and operation of the road could remove habitat of key valued species could reduce the abundance of these species for recreation harvesting. • Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains 503 ha of high suitability moose habitat. Impacts to this habitat could impact area moose populations. • All route segments cross a similar number of water crossings involving in-water works and is expected to have similar impact on fish that may be harvested.	• The development and operation of the road could remove habitat of key valued species could reduce the abundance of these species for recreation harvesting. • Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains 410 ha of high suitability moose habitat. Impacts to this habitat could impact area moose populations. • All route segments cross a similar number of water crossings involving in-water works and is expected to have similar impact on fish that may be harvested.	• The development and operation of the road could remove habitat of key valued species could reduce the abundance of these species for recreation harvesting. • Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains 820 ha of high suitability moose habitat. Impacts to this habitat could impact area moose populations. • All route segments crossing a similar number of water crossings involving in-water works and is expected to have similar impact on fish that may be harvested.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
			the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). o Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). o Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. o Measures to limit the spread and / or introduction of invasive species. • Develop a land / waterbody access plan to determine need for any access restrictions	• Higher net effects (due to moose habitat effects). Moderately Preferred	• Lowest net effects (due to moose habitat effects). Most Preferred	• Highest net effects (due to moose habitat effects). Least Preferred
Extractive Industry	• Removal of lands with potential for mineral extraction	• Area of land under mineral claim that the road segments pass through	• Engage with land claim holders in the road design stage to determine how impacts to mineral deposits can be minimized and/or access to mineral areas enhanced.	• The development of the road could remove mineral resource areas from being extracted in the future. • This segment: • Has 572.5 hectares of operational claims within the PDA. • Has 117.21 hectares of aggregate sites within the PDA. • The extent of the removal of mining claims area from road development will be less than the above noted and determined when the road alignment is confirmed.	• The development of the road could remove mineral resource areas from being extracted in the future. • This segment: • Has 119.51 hectares of operational claims within the PDA. • Has 69.60 hectares of aggregate sites within the PDA. • The extent of the removal of mining claims area from road development will be less than the above noted and determined when the road alignment is confirmed.	• The development of the road could remove mineral resource areas from being extracted in the future. • This segment: • Has 119.51 hectares of operational claims within the PDA. • Has 69.60 hectares of aggregate sites within the PDA. • The extent of the removal of mining claims area from road development will be less than the above noted and determined when the road alignment is confirmed. Most Preferred

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
				Least Preferred	Most Preferred	
	• Proximity to and access to lands with future potential for mining development	• Change to access to lands with future potential for mineral extraction	• Engage with land claim holders in the road design stage to determine how impacts to mineral deposits can be minimized and/or access to mineral areas enhanced.	• The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities. • This route segment's alignment provides 1.28 kilometres of access into potential future aggregate sites. Moderate change in access to lands with future potential for mineral extraction. Moderately Preferred	• The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities. • This route segment's alignment provides 3.16 kilometres of access into potential future aggregate sites. Greatest change in access to lands with future potential for mineral extraction. Most Preferred	• The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities. • This route segment's alignment provides 3.16 kilometres of access into potential future aggregate sites. Lowest change in access to lands with future potential for mineral extraction. Moderately Preferred
Forestry Industry	• Removal of commercial forestry lands	• Area of commercial forestry land that the road segments pass through	• No measures because there are no impacts to commercial forestry lands.	• The development of the road could result in the removal of forested lands that are commercially harvested. • This segment impacts no area of commercial forestry land. All route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives	• The development of the road could result in the removal of forested lands that are commercially harvested. • This segment impacts no area of commercial forestry land. All route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives	• The development of the road could result in the removal of forested lands that are commercially harvested. • This segment impacts no area of commercial forestry land. All route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives
	• Proximity to and access to lands with potential for forest harvesting	• Change to access to forestry lands	• Engage with forestry companies during road design stage regarding access to potential new forestry lands	• The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. • This segment impacts no area of commercial forestry land. However, this segment runs through an area to the west of the Ogoki Forest FMP not currently associated with any Forestry Management Unit, providing access to potential new forestry lands. Most Preferred	• The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. • This segment impacts no area of commercial forestry land. However, this segment has moderate proximity to the Ogoki Forest FMP area, and could be utilized for access at a future date. Moderately Preferred	• The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. • This segment impacts no area of commercial forestry land. However, this segment is greatest in proximity to the Ogoki Forest FMP area, and could be utilized for access at a future date. Moderately Preferred

Remote Outfitters	• Change to operations of remote outfitters in vicinity of road routes	• Number and proximity of remote outfitters to the alternatives
		• Potential for impact to the outfitters from the alternatives
			• During final road alignment selection and road design phase consider proximity of remote tourism outfitters to maximize separation distance
			  • Engage with tourism outfitters during road design phase
			  • If applicable, provide compensation to any outfitters displaced or who can no longer operate because of the road
			  • Develop a land/waterbody access plan to determine need for any access restrictions and/or access enhancements to protect remote tourism operations
				• The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations.
				• This segment may result in increased access to one (1) remote tourism outfitter camp location that is located within 5 km of the PDA centreline. Increased levels of access to camp locations could have a negative effect as tourism operators could see decreased value from these camp
					• The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations.
					• This segment may result in increased access to two (2) remote tourism camp outfitter locations that are located within 5 km of the PDA centreline. One of the camp locations is within three (3) kilometres of the route. Increased levels of access to camp locations could have a negative effect as
						• The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations.
						• This segment may result in increased access to two (2) remote tourism camp outfitter locations that are located within 5 km of the PDA centreline. Increased levels of access to camp locations could have a negative effect as tourism operators could see a decreased value from

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
				locations and may experience a decrease in species populations recreationally hunted and fished for. • These camp locations could also experience noise effects from road construction and operations which could detract from the user experience and make these cams less attractive to the outfitter. Most Preferred	tourism operators could see decreased value from these camp locations and may experience a decrease in species populations recreationally hunted and fished for. • These camp locations could also experience noise effects from road construction and operations which could detract from the user experience and make these cams less attractive to the outfitter. Least Preferred	these camp locations and may experience a decrease in species populations recreationally hunted and fished for. • These camp locations could also experience noise effects from road construction and operations which could detract from the user experience and make these cams less attractive to the outfitter. Moderately Preferred

Trapping	• Change to trapping activity in vicinity of alternatives	• Length of route passing through trap lines/# of trap lines affected	• Provide community updates regarding the location and timing of Construction noise activities	• The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively, the road could improve access to lands that trappers could take advantage of.
				• This segment:
				  • Has a length of 48.10 kilometres passing through trapline areas.
				  • Intersects three (3) trapline areas.
				  • Has 1,509.01 hectares of trapline area within the PDA.
				• Would result in the least impact on American marten and wolverine habitat.
				• All route segments provide increased access to trapline areas.
				• Route passes through the greatest amount of trap line area but passes through the least amount of important furbearer habitat and is therefore ranked preferred.
				
				Most Preferred
					• The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively, the road could improve access to lands that trappers could take advantage of.
					• This segment:
					  • Has a length of 39.87 kilometres passing through trapline areas.
					  • Intersects three (3) trapline areas.
					  • Has 2,847.74 hectares of trapline area within the PDA.
					• Would result in a moderate impact on American marten and wolverine habitat.
					• All route segments provide increased access to trapline areas.
					• Route passes through a moderate amount of trap line area and passes through a moderate amount of important furbearer habitat and is therefore ranked second preferred.
					
					Moderately Preferred
						• The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively, the road could improve access to lands that trappers could take advantage of.
						• This segment:
						  • Has a length of 27.50 kilometres passing through trapline areas.
						  • Intersects two (2) trapline areas.
						  • Has 150.0 hectares of trapline area within the PDA.
						• Would result in the relative highest impact on American marten and wolverine habitat.
						• All route segments provide increased access to trapline areas.
						• While the route passes through the least length of trapline areas, it passes through the greatest amount of important furbearer habitat and is therefore ranked third.
						
						Least Preferred

		• Potential for change in populations of harvested fur bearing species.	• In selection of final road alignment and road design development, where possible, avoid high quality fur-bearing species habitat			
		• Change in access to lands for trapping.	• Engage with trappers regarding need for access related mitigation and or enhancements to improve access for trappers.			

Summary of Land and Resource Use:

Overall

- **Alternative 1 is the most preferred route for Segment 1 – Ogoki Crossing from the perspective of land and resource use**, as it has the lowest potential for impacts on Parks, remote outfitters and trapping and provides the best improved access to future forestry lands. Its only notable disadvantage is that it crosses the greatest amount of mineral resource area although it is expected that this can be mitigated through final alignment planning and working with mineral claim holders.
- Alternatives 4 East and 4 West are less preferred routes for Segment 1 – Ogoki Crossing from the perspective of land and resource use and are considered generally similar. The differences between Alternative 4 East and 4 West are negligible.

Net Effect

- The predicted net effect for each of the alternatives was evaluated as equivalent relative to each other regarding land use compatibility as there are no land use compatibility policies for the affected lands.
- Alternative 1 results in the lowest net effect on access to Ogoki River Provincial Park, while Alternative 4 East has the highest net effect.
- All three alternatives would have similar impact with regards to recreation and tourism as every route alternative could provide increased access to areas that were previously inaccessible and remote.
- Alternative 4 East results in the smallest area of moose habitat, an important species for hunting in the region.
- Alternatives 1 and 4 East are most preferred with regards to extractive industries as they will not remove lands currently used for operations and would provide greater access to lands with potential for future extraction activities.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
• The opportunities for new forestry activities are highest with Alternative 1, due to the segment running through land not currently associated with a forestry management plan, and Alternative 4 East and 4 West both run through the Ogoki FMP area. • Remote tourism operators and trappers would be least affected by Alternative 1 as it is within close proximity of the lowest number of outfitter camps and affects the lowest area of furbearer habitat.						
SOCIAL						
Summary of Social: • **All route alternatives for Segment 1 – Ogoki Crossing are considered equal from a Social-Community perspective.** The difference between all three alternatives is negligible. • All route segments will provide connection to the Marten Falls community and provide the same expected net social impact to the community. • Social-community impacts from the MFCAR are anticipated to be focused on the communities located with the LSA including Marten Falls First Nation, Aroland First Nation, and Greenstone. • The potential for social impacts (e.g. change in housing demand/supply, community well-being etc. is expected to be the same in all the LSA communities for all route alternatives. • No specific social-community features (e.g. permanent dwellings) were identified in proximity to the alternative route segments that could be impacted. • See ATRI for identification of features identified through the Indigenous Knowledge collection program.						
CLIMATE ADAPTATION AND RESILIENCY						
Summary of Climate Adaptation and Resiliency: • **There is no preferred alternative for Segment 1 – Ogoki Crossing from the perspective of climate adaptation and resiliency** • There exists significant data gaps and uncertainty in the generation of climate projections that have the appropriate level of granularity to differentiate between alternative routes. • As such, at this time, there is no discernible difference for the alternatives from a Climate Adaptation and Resiliency perspective.						

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – CULTURAL ENVIRONMENT						
CULTURAL HERITAGE						
Archaeological Sites and Resources	• Previously identified archaeological sites	• The net effects to archaeological resources will be evaluated. OR • Number of previously identified archaeological sites • Areas of cultural significance raised by local Indigenous Nations • Number of resources identified.	• Complete all outstanding archaeological assessments.	No registered archaeological sites, however archaeological potential is present within much of the alternative. No discernable difference between alternatives	No registered archaeological sites, however archaeological potential is present within much of the alternative. No discernable difference between alternatives	No registered archaeological sites, however archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Areas of cultural significance raised by local Indigenous Nations		• Complete all outstanding archaeological assessments. • Incorporate information received by Indigenous Nations in reporting. • Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous communities will be initiated in the event that archaeological resources or human remains are discovered.	Area has raised cultural significance by local Indigenous Nations. No discernable difference between alternatives	Area has raised cultural significance by local Indigenous Nations. No discernable difference between alternatives	Area has raised cultural significance by local Indigenous Nations. No discernable difference between alternatives
	• Proximity to water		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Soil texture and drainage		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Glacial geomorphology, elevated topography		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Resource areas including food or medicinal plants, scarce raw materials		• Complete all outstanding archaeological assessments.	Area has food or medicinal plant resources. No discernable difference between alternatives	Area has food or medicinal plant resources. No discernable difference between alternatives	Area has food or medicinal plant resources. No discernable difference between alternatives
	• Areas of early 19th century settlement and transportation routes		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative, Ogoki River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Ogoki River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Ogoki River is a significant potable water source. No discernable difference between alternatives
	• Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative, Ogoki River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Ogoki River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Ogoki River is a significant potable water source. No discernable difference between alternatives
Built Heritage Resources/Cul	• Animal, Fish, and Plant Harvest Areas (MFFN)	• The net effects to built heritage resources and	• Where possible, avoid direct adverse impacts to Animal, Fish and Plant Harvest Areas.	Net effects for this alternative include the potential disturbance of up to twenty-five	Net effects for this alternative include the potential disturbance of up to fifteen (15)	Net effects for this alternative include the potential disturbance of up to fifteen (15)

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCE MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
tural Heritage Landscapes		cultural heritage landscapes will be evaluated in the Cultural Heritage Report. • Number of resources identified.	• If direct adverse impacts are anticipated to an Animal, Fish, and Plant Harvest Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Hertiage Impact Assessment)	(25) identified Animal, Fish, and Plant Harvest Areas. Least Preferred	identified Animal, Fish, and Plant Harvest Areas. Most Preferred	identified Animal, Fish, and Plant Harvest Areas. Most Preferred
	• Cultural, Spiritual, and Sacred Areas (MFFN)		• Where possible, avoid direct adverse impacts to Cultural, Spiritual, and Sacred Areas. • If direct adverse impacts are anticipated to a Cultural, Spiritual, and Sacred Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Hertiage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to five (5) identified Cultural, Spiritual, and Sacred Areas. Least Preferred	This alternative is not anticipated to impact any identified Cultural, Spiritual, or Sacred Areas. Most Preferred	Net effects for this alternative include the potential disturbance of up to five (5) identified Cultural, Spiritual, and Sacred Areas. Least Preferred
	• Habitation Areas (MFFN)		• Where possible, avoid direct adverse impacts to Habitation Areas. • If direct adverse impacts are anticipated to a Habitation Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to ten (10) identified Habitation Areas. Most Preferred	Net effects for this alternative include the potential disturbance of up to fifteen (15) identified Habitation Areas. Least Preferred	Net effects for this alternative include the potential disturbance of up to fifteen (15) identified Habitation Areas. Least Preferred
	• Travel (MFFN and Historical Maps)		• Where possible, avoid direct adverse impacts to Travel Areas. • If direct adverse impacts are anticipated to a Travel Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Heritage Impact Assessment)	This alternative is not anticipated to impact any identified Historical Indigenous Trails or Portage Routes No discernable difference between alternatives	This alternative is not anticipated to impact any identified Historical Indigenous Trails or Portage Routes No discernable difference between alternatives	This alternative is not anticipated to impact any identified Historical Indigenous Trails or Portage Routes No discernable difference between alternatives

Summary of Cultural Heritage:

Overall
Alternative 4 East is the most preferred route alternative for Segment 1 – Ogoki Crossing from the perspective of cultural heritage due to its lower net effect on identified cultural heritage resources.

- All alternatives have the potential to impact identified cultural heritage resources.
- The difference between the alternative routes is negligible.
- For consistency the Cultural Heritage indicators have been revised from those presented in the Study Plan to be consistent with the IK data points used to develop the cultural heritage themes for the Cultural Heritage Report.

Net Effects
The predicted net effects were evaluated as equivalent for all three alternatives due to their effects on areas of raised cultural significance by local Indigenous nations, archaeological potential present, food/medicinal plant resources, Ogoki River as a potable water source, disturbance of Harvest Areas, and disturbance of Habitation Areas. The predicted net effects have not considered all potential mitigation that may be applied. Net effect assessment is subject to change based on the implementation of additional mitigation. This comparative analysis evaluated three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to the cultural heritage valued component at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to the cultural heritage valued component will be completed on the preferred route selected and may result in a different determination of predicted net effects to the valued component.

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Segment 1 – Ogoki Crossing

FACTOR	INDICATOR	MEASURES	ALTERNATIVE 1	ALTERNATIVE 4 EAST	ALTERNATIVE 4 WEST
CATEGORY – TECHNICAL, ENGINEERING AND COST					
Design	• Roadway Alignment Length	• Km	48.1 km	54.9 km	60.93 km
	• Number of Water Crossings	• #	12	16	17
	• Length of Water Crossings	• Km	380 m	740 m	540 m
Construction Complexity	• Access to Roadway Material	• Description	- Higher haul costs than Alternative 4 as there are fewer bedrock quarry opportunities increasing the hauling costs.	Savings on haul costs compared to Alternative 1 due to more bedrock quarry opportunities along the Alignment.	Lowest haul cost option as this segment travels west and goes through bed rock substrates significantly reducing hauling distances.
	• Constructability of Roadway	• High to Low	Higher complexity – majority of the route traverses poor substrates.	Medium complexity – there is a balance of the route that traverses both good and bad terrain.	Lower-Medium complexity – the route path is more heavily weighted towards good terrain.
	• Constructability of Water Crossing	• High to Low	Lower – though narrower crossing of Ogoki (70m) it crosses it twice (both 70m)	Higher – the longest crossing of Ogoki (300m) option	Moderate – single 120m long crossing of Ogoki
Miscellaneous	• Schedule Implications	• Description	Higher – Road construction with poor substrates, terrain and high cost to haul aggregates; no means of access without significant upgrades to the Painter Lake road section	Medium - Given the haul factor for road construction	Lower - Proximity to aggregate materials with good terrain
Operations	• Long Term Maintenance	• Description	Higher – Given poorer ground terrain compared with other alternatives and gravel hauling costs	Medium – Given better access to aggregate resource than Alt 1 and better ground conditions	Lower – Given proximity to aggregate materials and best ground conditions
Cost	• Value of construction	• $ CAD	Roads $198M Bridges $115M Total $313M	Roads $209M Bridges $230M Total $439M	Roads $214M Bridges $183M Total $397M

Summary of Technical, Engineering and Cost:

Overall

- **Alternative 4 West is the most preferred route for segment 1 – Ogoki Crossing from the perspective of technical, engineering and cost** for the following reasons:
  - roadway alignment lengths are mutually equal and not a factor when 13km is added to the southern segment of Alternative 1 to connect with the Anaconda road
  - has the lowest access to roadway material (haul cost factor is optimized)
  - least amount of schedule restrictions
  - lowest longer term operations and maintenance roadway costs
  - substantially cheaper than alternative 4 east in cost and marginally higher than alternative 1 when factoring in alternative 1 gap and construction logistics with painter lake road
- *ALTERNATIVE 1 does NOT include the southern 13km to link up with the southern node which would account for $7.2M in structures (one bridge), $67.2M in roads or $74.4M in capital costs (incorporated haul costs for this 13km segment are $11.6M)*
- Long Term Maintenance inputs are attributed to both the stockpiling and annual hauling (gravelling) of the road, terrain type and potential for repairs.
- Value of Construction includes both a 20% contingency factor and for the structures climate change impact is accounted for and assumed to be 35-40% of the bridge base price
- Future Economic Development; early on in the route analysis the project team mentioned the opportunity for the timber industry northwest of the Ogoki would be realized if the Alternative 4 network segments were selected.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
PEATLANDS					
Peatland Ecosystems	• Availability (decrease / increase of overall amount of peatland area) • Distribution (changes to the arrangement and connectivity of Peatlands) • Function and Composition (change in plant species composition or ecological function).	• Peatland area (hectares) disturbed per alternative • Number of peatlands type fragmented	• Minimize vegetation clearing to only what is required for construction and staging. • Avoid using peatlands for staging, where possible. • Incorporate standard tree protection and ESC measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for peatlands protection and mitigation.	This alternative is anticipated to disturb 344.85 ha of peatland and 10 peatland ecosite types.	This alternative is anticipated to disturb 487.81 ha of peatland and 10 peatland ecosite types.
Summary of Peatlands: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of peatlands** as it results in the lower net effects relative to Alternative 4 through smaller direct loss of peatland area. **Peatland Area** • Alternative 1 is the most preferred as it results in the least direct loss of peatland area. • Alternative 4 is the least preferred as it results in the greatest loss of peatland area. **Number of Peatland Types Fragmented** • Alternative 1 and 4 are equally preferred as they result in an equal number of peatland types impacted. **Net Effects** Alternative 4 results in higher net effects than Alternative 1 due to direct loss of peatland area. This comparative analysis evaluated the route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to peatland valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation or design elements to maintain peatland function (e.g., hydrology) that may be applied at a later stage of project design. The comprehensive assessment of net effects to the peatland valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects. ***Notes:*** 1. Note that for the purposes of the alternatives assessment, only the availability (area) of peatlands disturbed and the number of peatland types fragmented were used because these measures can be quantified and are unbiased. Loss of peatlands also reduces their overall function and ability to store carbon, so those indicators are indirectly being assessed by determining the area of peatlands lost and fragmented. 2. This analysis is based on mapping that does not incorporate data collected during the 2023 field programs. This 2023 field information may refine the peatlands mapping that will be included in final reporting.					
PHYSIOGRAPHY, TERRAIN AND SOILS					
Physiography, Terrain and Soils	• Quantity and distribution of terrain units	• Area of surficial materials disturbed per alternative • Area of potential land with permafrost processes • Area of class IV and V terrain stability per alternative • Number of significant landforms[2] disturbed per alternative	• Minimize areas of vegetation clearing and soil disturbance. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	This alternative is anticipated to: • Disturb 676 ha of surficial materials • Intersect 0 ha of potential land with permafrost • Intersect 0.2 ha of Class IV (<0.1% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 2 significant landforms	This alternative is anticipated to: • Disturb 1,228 ha of surficial materials • Intersect 0 ha of potential land with permafrost • Intersect 3 ha of Class IV (0.2% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 4 significant landforms
	• Quantity and distribution of soil map units	• Area of soil disturbed (excludes non-soils such as bedrock and water) per alternative	• Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, temporary construction camps, laydown areas). • Minimize areas of vegetation clearing and soil disturbance. • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for soil erosion, salvage and handling.	672 ha (99% of alternative footprint)	1,220 ha (99% of alternative footprint)

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
	• Soil Quality / Productivity	• Area of high water erosion risk disturbed per alternative • Area of high wind erosion risk disturbed per alternative • Amount of soil that is considered suitable for reclamation[3] • Area of high compaction risk disturbed per alternative	• Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Use clearing equipment that minimizes surface disturbance, soil compaction and topsoil loss (e.g., equipment with low ground pressure tracks or tires, blade shoes, and brushes), where feasible. • Where soils are prone to wind erosion, tackify, cover, seed, and/or apply water during periods of high erosion potential (e.g., summer and fall). • Minimize soil disturbance by building on bedrock, where feasible . • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for soil erosion, salvage and handling. • Construct in winter to avoid compaction, where feasible.	This alternative is anticipated to: • Disturb 0 ha of area with high water erosion risk • Disturb 0 ha of area with high wind erosion risk • Disturb 471 ha (70% of alternative footprint) of soil that is considered suitable for reclamation • Intersect 48 ha (7% of alternative footprint) of area with high compaction risk	This alternative is anticipated to: • Disturb 0 ha of area with high water erosion risk • Disturb 296 ha of area with high wind erosion risk • Disturb 605 ha (49% of alternative footprint) of soil that is considered suitable for reclamation • Intersect 70 ha (6% of alternative footprint) of area with high compaction risk
Summary of Physiography, Terrain and Soils: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of physiography, terrain and soils** as this alternative is anticipated to disturb fewer significant landforms and a smaller area of surficial materials, soil, areas of high water and wind erosion risk and soil with high risk of compaction than Alternative 4. • Alternative 4 would remove the largest area of surficial materials. • Alternative 4 would impact the largest area of potentially unstable ground with 3 ha (0.2%) of the Alternative 4 area. • No permafrost processes were identified to intersect with either of the two alternatives. • Alternative 1 would affect two fewer significant landforms than Alternative 4. • Alternative 1 and Alternative 4 have the same percentage of soil that would potentially be affected (99%), however Alternative 4 is significantly larger in area, and therefore would disturb more soil. • Neither alternative has areas identified as being at a potentially high risk for water erosion. • Alternative 1 has no area identified as being potentially at high risk for wind erosion, however nearly a quarter (24%) of Alternative 4 has soils at a high risk of wind erosion identified. • A large percentage (70%) of the soil in the Alternative 1 area is rated as being suitable for reclamation (i.e., soil used to reclaim temporarily disturbed areas following construction), and only 49% of Alternative 4 is suitable for reclamation. • Alternative 1 and Alternative 4 have similar percentages of soil that are potentially at risk of compaction (7% and 6%, respectively), however Alternative 4 is larger in size, and therefore will affect more potentially compactable soils. **Net Effects** Alternative 4 results in higher net effects than Alternative 1. This comparative analysis evaluated two route alternatives based on the interaction of their project development areas and the representative indicator measures, and did not consider the effects to physiography, terrain and soil valued component at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to the physiography, terrain and soils valued component, will be completed on the preferred route selected, and may result in different determination of predicted net effects. ***Notes:*** 1. Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. 2. The number of significant landforms noted is subjective and may be a conservative value. This measure will be re-evaluated with Indigenous knowledge input, and information from the wildlife and vegetation disciplines. As a result, the data presented here may differ from the final effects analysis. 3. Soil with a rating of Good, Fair or Poor were considered suitable for reclamation.				
GROUNDWATER AND GEOCHEMISTRY					
Groundwater	• Groundwater Quality: Degradation of physical and chemical characteristics of groundwater • Groundwater Quantity: Change in groundwater levels	• Areas of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination. (hectares)	• Design stormwater management features to contain runoff and allow it to infiltrate locally • Restore land cover on unused parts of road construction footprint (construction camps, aggregate pits) • Implement spill prevention, monitoring, control and response programs for road construction and operation • Minimize or avoid using salt solutions for dust/ice control	This alternative will intersect 485 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination.	This alternative will intersect 1,018 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge and have elevated vulnerability to groundwater contamination.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
Summary of Groundwater and Geochemistry: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of groundwater and geochemistry as it crosses over the least area of coarse-grained and bedrock surficial materials.** • Alternative 1 crosses over the least amount of area of coarse-grained and bedrock surficial materials. • Alternative 4 crosses over the greatest amount of area of coarse-grained and bedrock surficial materials. **Net Effects** Alternative 4 results in higher net effects than Alternative 1 due to its intersection with coarse-grained surficial deposits and bedrock. This comparative analysis evaluated two route alternatives based on the interaction of their project development areas and the representative indicator measures and did not consider the effects to groundwater at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to the groundwater valued component, will be completed on the preferred route selected, and may result in a different determination of predicted net effects. area or regional study area). The comprehensive assessment of net effects to the groundwater valued component, will be completed on the preferred route selected, and may result in a different determination of predicted net effects.					
SURFACE WATER					
Surface Water	• Surface Water Quantity • Surface Water Quality	• Total number of waterbody crossings • Flow regime (permanent vs. intermittent or ephemeral) • Channel length and/or width or wetted area within the proposed corridor (to be tallied as a total for all the crossing locations within a given segment) • Number of waterbodies targeted for crossing structure installation /maintenance and associated in-water work with potential effects to flow conveyance and erosion and sedimentation processes • Number of waterbodies targeted for crossing structure installation/maintenance and associated in-water work with potential effects to sensitive receptors or features (e.g., sensitive fish communities, areas of known channel instability, etc.).	Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: • Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. • Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright, Hopky, 1998). • Measures to avoid unnecessary vehicle and machine idling to minimize emissions and greenhouse gasses. • Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. • Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. • Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies. • Wash water from vehicles and equipment will not be allowed to enter a waterbody and will be conveyed to areas for infiltration, treated prior to discharge to the receiving environment, or hauled off site.	This alternative is anticipated to: • Cross 7 waterbodies, all of which are inferred as permanent • Intersect 29,112 m^2 of wetted area within the proposed corridor • Cross 5 waterbodies (27,332 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work • Cross 3 waterbodies (26,800 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	This alternative is anticipated to: • Cross 8 waterbodies, all of which are inferred as permanent • Intersect 14,125 m^2 of wetted area within the proposed corridor • Cross 6 waterbodies (12,580 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work • Cross 3 waterbodies (12,050 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features
Summary of Surface Water: **Overall** • **Alternative 4 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of surface water.** Although Alternative 4 includes one more crossing than Alternative 1, it carries a total wetted area that is roughly half of the associated conditions at Alternative 1 and includes the same number of crossings with heightened relevance or sensitivity to effects. **Net Effects** The predicted net effects for both alternatives are predicted to be equivalent, based on the understanding that, with the implementation of the recommended avoidance, mitigation, compensation, and enhancement measures (including properly sized and designed water crossing structures, installation and maintenance of appropriate erosion and sediment controls, and implementation of construction best management practices), the potential effects on surface water receivers are expected to be limited. As such, there is a negligible net effect differences between the alternatives from the perspective of surface water. ***Notes:*** The requirement for in-water determined as follows: • For waterbody crossings with bankfull widths less than 5 m, it is assumed that culverts would be used (requiring in-water work)					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
• For waterbody crossings with bankfull widths greater than or equal to 5 m and less than 25 m, it is assumed that clear span bridges would be used (no in-water work) • For waterbody crossings greater than or equal to 25 m, it is assumed that bridges with piers and abutments would be used (requiring in-water work) • For waterbody crossings in flooded/impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it is assumed that in-water work would be required.					
VISUAL					
Visual	• Change in landscape character	• Visibility of project from identified valued/sensitive receptor locations (Albany River).	▪ Minimize disturbance to the surrounding landscape including; Peatland, Vegetation, Terrain, and Surface Water. ▪ Minimize the creation on open vistas to reduce visibility of proposed community access road. ▪ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction.	▪ Proximity to Albany River has potential for great visual impact ▪ Least preferred ▪ See below anticipated impacts to changes in landscape character	▪ Most Preferred ▪ See below anticipated impacts to changes in landscape character
	• Proximity to and number of sensitive sites	• Alteration / change in or loss of culturally important sites and areas (e.g., ceremonial sites, place names, teaching sites, archaeological sites • Visibility of Cultural, Spiritual, and Sacred Areas (MFFN)	▪ Avoid and/or screen sensitive sites and features ▪ Minimize disturbance and proximity of road to sensitive receptors including known cultural and spiritual significant places	▪ Avoid and/or screen sensitive sites and features	▪ Avoid and/or screen sensitive sites and features
	• Degree of Visual Contrast	• Amount of Visual Disturbance	▪ Minimize disturbance and extent of infrastructure	▪ Requires visibility mapping/modeling	▪ Requires visibility mapping/modeling
	• Change in Landscape Character: Physiography, Terrain and Soils	• Area of surficial materials disturbed per alternative • Number of Surface features disturbed per alternative	▪ Minimize areas of vegetation clearing and soil disturbance. ▪ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	This alternative is anticipated to: • Disturb 676 ha of surficial materials • Intersect 0 ha of potential land with permafrost • Intersect 0.2 ha of Class IV (<0.1% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 2 significant landforms	This alternative is anticipated to: • Disturb 1,228 ha of surficial materials • Intersect 0 ha of potential land with permafrost • Intersect 3 ha of Class IV (0.2% of alternative footprint) and 0.0 ha of Class V terrain • Disturb 4 significant landforms
	• Change in Landscape Character: Surface Water Features	• Total number of waterbody crossings • Number of waterbodies targeted for crossing structure installation/maintenance and associated in-water work with potential effects to sensitive receptors or features (e.g., traditional land-uses)	▪ Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: ▪ Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. ▪ Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies.	This alternative is anticipated to: • Cross 7 waterbodies, all of which are inferred as permanent • Intersect 29,112 m^2 of wetted area within the proposed corridor • Cross 5 waterbodies (27,332 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work • Cross 3 waterbodies (26,800 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	This alternative is anticipated to: • Cross 8 waterbodies, all of which are inferred as permanent • Intersect 14,125 m^2 of wetted area within the proposed corridor • Cross 6 waterbodies (12,580 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work • Cross 3 waterbodies (12,050 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features
	• Change in Landscape Character: Vegetation and Ecosystems	• Area (hectares) of wetland, riparian and upland ecosystems disturbed per alternative1 • Peatland area (hectares) disturbed per alternative • Number of peatlands type fragmented	▪ Minimize vegetation clearing to only what is required for construction and staging. ▪ Avoid using wetland and riparian areas for staging, where possible. ▪ Incorporate standard tree protection and ESC measures. ▪ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	▪ This alternative is anticipated to disturb 347.08 ha of wetland and riparian ecosystems. ▪ This alternative is anticipated to disturb 4 upland ecosite types. ▪ This alternative is anticipated to disturb 344.85 ha of peatland and 10 peatland ecosite types.	▪ This alternative is anticipated to disturb 347.08 ha of wetland and riparian ecosystems. ▪ This alternative is anticipated to disturb 10 upland ecosite types. ▪ This alternative is anticipated to disturb 487.81 ha of peatland and 10 peatland ecosite types.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					

Summary of Visual:
 	
Overall
• **Alternative 4 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of visual** as it results in less visual impact than Alternative 1.
  • Alternative 1 and 4 have a similar amount of potential water crossings.
  • Alternative 1 is adjacent the Albany River and has to potential to create a higher visual impact.
  • Alternative 1 is shown to have higher visual impact to Traditional Indigenous land uses and significant locations.
  • Alternative is shown to have a higher composition of forest resulting in a reduced visual impact.
 	
Net Effects					

ACOUSTIC AND VIBRATION ENVIRONMENT					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
Acoustic and Vibration Environment	Change to noise and vibration	• Project Development Area (PDA) footprint area • Total road length • # of sensitive points of reception (PORs) within 500 m of the roadway	• Comply with local municipal noise by-laws and the MECP Model Municipal Noise Control Bylaw (i.e., NPC-115). • Generally limit construction activities to the daytime period (i.e., 07:00 to 19:00) where possible. If nighttime construction activities are required, a review of whether additional mitigation measures are needed should be carried out. • Maintain equipment and machinery used on site in good working conditions through regular maintenance and inspection. • Design access roads to minimize reversing, which is expected to minimize use of backup beepers, where possible. • Locate and operate construction equipment as far as possible from points of reception (PORs). • Notify Indigenous communities, landowners, and relevant stakeholders of the planned construction schedule before the start of construction and prior to specific activities that may be noisy or generate vibration. • Investigate noise or vibration concerns as they arise through a complaint resolution mechanism whereby persons can contact the proponent if there are perceived noise or vibration issues. • Operate vehicles and equipment such that impulsive noise is minimized, where possible. • Develop a construction vibration workplan prior to the start of construction describing the construction schedule, list of construction equipment, list of POR locations, applicable guidance documents including criteria and municipal by-laws (i.e., residential, heritage structures and utilities) and control measures. • Avoid operating equipment expected to be a significant source of vibration simultaneously. Vibration levels could be less when operating separately. • Construction blasting will be carried out in compliance with OPSS 120 and NPC-119. All blasts which might impact local structures or disrupt humans should be monitored for ground and air vibrations. • Aggregate pit blasting will be carried out to comply with the conditions provided in the license or aggregate permit. • Blasting delays and blast mats will be used, as appropriate, to control vibration and fly rock as required.	The project development area for this alternative is 676 ha, with a total road length of 27.5 km. There are 105 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.	The project development area for this alternative is 1,228 ha, with a total road length of 23.2 km. There are 170 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.
Summary of Acoustic and Vibration Environment: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of acoustic and vibration environment** as it has the smallest PDA footprint, shortest road length, and smallest number of potential PORs within 500 m of the roadway.					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
• **Alternative 4 is the least preferred route alternative for Segment 2 – Albany Crossing from the perspective of acoustic and vibration environment** as it has the largest PDA footprint, longest road length, and largest number of potential PORs within 500 m of the roadway. • In general, the larger the PDA footprint, the higher the likelihood of a larger number of potential PORs located in the acoustic environment study areas. • In general, the longer the road, the higher the likelihood of a larger number of potential PORs exposed to noise from Project operations (i.e., a longer-term effect). • In general, the more potential PORs within 500 m of the roadway, the higher the likelihood of a larger number of potential PORs exposed to noise from the Project. Note that the POR counts above are based on a preliminary review and the specific land uses have not been confirmed to be noise or vibration sensitive. **Net Effects** It is expected that each of the route alternatives can be designed such that the outcome of the acoustic and vibration environment assessment of net effects would be equal. As such, net effects from each alternative are predicted to be equivalent. This comparative analysis evaluated the route alternatives based on the PDAs, road length, and a preliminary analysis of the number of potential PORs within 500 m of the roadway and did not consider the expected Project noise and vibration levels in the LSA or the proximity of potential PORs to the Project. The comprehensive review of potential PORs and assessment of net effects for the acoustic and vibration environment will be completed on the preferred route selected and may result in a different determination of predicted net effects.					
ATMOSPHERIC AND GHG					
Air Quality and GHG	• # of sensitive receptors within 500 m of the roadway	• #	**Air Quality Mitigation Options:** ▪ Maintain and keep equipment in proper working order ▪ Use fuel efficient equipment where possible ▪ Avoid idling where possible and develop an anti idling policy ▪ Optimize material selection, procurement and shipping ▪ Implement fugitive dust controls such as scheduled road watering, stockpile watering or covering erodible surfaces where appropriate ▪ Implement proper storage and handling procedures of fuel ▪ Optimize blasting and land clearing activities to reduce overall fuel and explosive usage ▪ Where possible reuse or salvage wood materials to prevent burning activities for disposal **GHG Mitigation Options:** ▪ Maintain and keep equipment in proper working order ▪ Use fuel efficient equipment where possible ▪ Avoid idling where possible and develop an anti-idling policy ▪ Optimize material selection, procurement and shipping ▪ Consider carbon offsets through reforestation ▪ Where possible reduce the amount of land clearing or disturbance activities ▪ Strategically develop construction and equipment usage schedules to reduce overall fuel consumption	105	170
	• Land use type which is disturbed based on route selection (i.e., wetland, forest type, peatlands, etc.)	• Bedrock (Ha)		-	-
		• Treed (Ha)		423	866
		• Water (Ha)		13	26
		• Wetland (Ha)		241	337
	• Operating equipment needed for each route selection (if one route selection requires increased construction efforts)	• Length of Road (km)		27.48	23.23
	• Overall road/clearing area of each route selection	• Area (Ha)		676.45	1,228.57

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
Summary of Atmospheric and GHG: **Overall** **Alternative 1 is the most preferred route alternative – this is based on Alternative 1 having the least number of sensitive receptors and least amount of project area disturbed.** • Total number of receptors which may be impacted by air quality emissions from the project is lowest for Alternative 1. It should be noted that receptor location may influence the magnitude of effects experienced at each receptor. • At this time, it is unknown based on land classification changes the potential impacts that carbon sinks and sequestrations will have on overall GHG emissions. Based on data available at this time, Alternative 1 has the least disturbed area of carbon sinks. The magnitude of loss of carbon sinks will vary based on the specifics of each land use characteristics. • The length of road segment is lower for Alternative 4, and this may result in a decrease in air quality and GHG emissions during construction phases. The total road length may or may not influence operating equipment duration based on route specific construction requirements. • The total area required to be cleared is lowest for Alternative 1, and this may result in a decrease in air quality and GHG emissions during the construction phase. **Net Effects** The predicted net effects for each alternative were evaluated as equivalent relative to each other. The net effect rating is subject to change pending on detailed modelling/calculations as well as implementation of additional mitigation.					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
WILDLIFE					
Bats *(including SAR – Little Brown Myotis, Northern Myotis, Tri-colored Bat)*	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally) including critical habitat for SAR	• Area (hectares) of moderate to high suitability bat maternity roost habitat disturbed per alternative. • Area (hectares) of foraging habitat (open wetlands and waterbodies adjacent to roosting habitat).	• Avoid clearing of suitable maternity roost habitat during the bat active season. • Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb: • 185.61 ha of moderate to high suitability bat maternity roost habitat • 142.08 ha of foraging habitat	This alternative is anticipated to disturb: • 260.01 ha of moderate to high suitability bat maternity roost habitat • 104.48 ha of foraging habitat
Fur Bearers *(American Marten)*	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally) including critical habitat for SAR	• Relative abundance of furbearers (American Marten)[2] • Area (hectares) of moderate/high quality American Marten habitat disturbed per alternative.	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative has a relative abundance of 2.75 American Marten and is anticipated to disturb 634.47 ha of moderate/high quality American Marten habitat.	This alternative has a relative abundance of 1.4 American Marten and is anticipated to disturb 1,127.3 ha of moderate/high quality American Marten habitat.
Fur Bearers *(SAR Wolverine)*		• Presence/relative abundance of wolverine females and individuals of unknown sex per alternative. Presence of observed denning areas (from field observations).[1] • Relative abundance of wolverine.[2]	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative has a relative abundance of 0.67 wolverine, the presence or abundance of 0 female wolverine and 1 wolverine individuals of unknown sex.	This alternative has a relative abundance of 0.75 wolverine, the presence or abundance of 0 female wolverine and 1 wolverine individuals of unknown sex.
Amphibians and Reptiles	• Species presence • Relative abundance (if possible both spatially and temporally) • Habitat availability and distribution (spatially and temporally)	• Area (hectares) of high suitability breeding ecosites per alternatives (amphibians).	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb 339.71 ha of high suitability breeding ecosites	This alternative is anticipated to disturb 484.66 ha of high suitability breeding ecosites

Summary of Wildlife:

Overall

- **Alternative 1 is the most preferred alternative for Segment 2 – Albany Crossing from the perspective of wildlife,** as it is anticipated that it would result in lower net effects on bats, amphibians, American marten, and potentially wolverine.
- Alternative 4 is the least preferred for alternative of Segment 2 – Albany Crossing, as it is anticipated that it would result in the higher net effects on bats, American marten, amphibians, and potentially wolverine.

Bats

- Alternative 1 is the most preferred for Bats, as it results in the least direct loss of both suitable bat maternity roost habitat and combined bat foraging and maternity roost habitat.
- Alternative 4 is the least preferred for Bats, as it results in the greatest direct loss of both suitable bat maternity roost habitat and combined bat foraging and maternity roost habitat.

Furbearers (American Marten)

- Alternative 1 is the most preferred for American Marten, as it results in the least direct loss of moderate/high quality American marten habitat.
- Alternative 4 is the least preferred for American Marten, as it results in the greatest direct loss of moderate/high quality American marten habitat.

Furbearers (Wolverine)

- It is anticipated that Alternative 1 and Alternative 4 would have similar impacts on Wolverine. Both alternatives had the same number of observations of female wolverine and wolverines of unknown sex. Alternative 4 has a slightly higher relative abundance of wolverine.

Amphibians and Reptiles

- Alternative 1 is the most preferred for Amphibians and Reptiles, as it results in the least direct loss of suitable amphibian breeding habitat.
- Alternative 4 is the least preferred for Amphibians and Reptiles, as it results in the greatest direct loss of suitable amphibian breeding habitat.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
Net Effects Alternative 4 results in higher net effects than Alternative 1, due to its higher predicted effects on bats, American Marten, and amphibians/reptiles. The predicted net effects have not considered all potential mitigation that may be applied. It is important to note that all route segments that bisect wolverine habitat have a direct effect as this species utilizes large home ranges and they rely on intact areas of wilderness directly or indirectly for life processes. Indirect effects of habitat removal for this species at risk, including sensory disturbance and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment. As such, both alternatives may have a high potential net effect for wildlife. Net effect assessment is subject to change based on the implementation of additional mitigation. The comprehensive review of net effects for wildlife and wildlife habitat will be completed on the preferred route selected and may result in different determination of predicted net effects. ***Notes:*** *1.* Female observations are split into the total number of known female animals observed per route segment. Wolverines of unknown sex are the sum of the total known animals with unknown sex and unidentifiable individuals. Unidentifiable individuals are assumed to be unique individuals. *2.* Relative abundance metrics are calculated as the average number of sightings (wolverine) or tracks (American marten) per station for stations that overlap route alternatives.					
FISH, FISH HABITAT					
Fish and fish habitat valued components (VC): • **Lake Sturgeon** • **Walleye** • **Brook Trout** • **Northern Pike** • **Lake Whitefish** • **Burbot**	• Habitat Quantity and Quality • Distribution and connectivity to habitat and migration • Survival and reproduction	• Total number of waterbody crossings • Number of crossings requiring in-water work (e.g., culverts, bridge piers or abutments below the high-water mark) • Number of crossings requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)	Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: • Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. • Adherence to in-water work timing windows. • Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). • Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). • Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). • Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. • Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. • Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. • Measures to limit the spread and / or introduction of invasive species.	This alternative is anticipated to: • Cross 7 waterbodies • Cross 5 waterbodies requiring in-water work • Cross 2 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)	This alternative is anticipated to: • Cross 8 waterbodies • Cross 6 waterbodies requiring in-water work • Cross 3 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)
Summary of Fish, Fish Habitat: **Overall** • **Alternative 1 is the most preferred alternative for Segment 2 – Albany Crossing from the perspective of fish and fish habitat.** o The route has the least number of waterbody crossing locations where instream work would be required in areas with potential habitat for sensitive fish communities/coldwater VC fish species (Brook Trout, Lake Whitefish, Burbot) or Lake Sturgeon.					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
• Alternative 4 is the least preferred (moderately) alternative of Segment 2 – Albany Crossing from the perspective of fish and fish habitat, because it has the greatest number of waterbody crossing locations where instream work would be required in areas with potential habitat for sensitive fish communities/coldwater VC fish species (Brook Trout, Lake Whitefish, Burbot) or Lake Sturgeon. • There is a negligible difference between the alternatives. **Net Effects** The net effect for each of the alternatives were predicted to be equivalent, based on the understanding that, with the implementation of the recommended avoidance, mitigation, compensation, and enhancement measures, minor change to baseline habitat and conditions, without loss of function or individuals are predicted. The comprehensive review of fish and fish habitat and assessment of net effects will be completed on the preferred route selected and may result in different determination of predicted net effects. ***Notes:*** The requirement for in-water works are determined as follows: • For waterbody crossings with bankfull widths less than 5 m, it is assumed that culverts would be used (requiring in-water work) • For waterbody crossings with bankfull widths greater than or equal to 5 m and less than 25 m, it is assumed that clear span bridges would be used (no in-water work) • For waterbody crossings greater than or equal to 25 m, it is assumed that bridges with piers and abutments would be used (requiring in-water work) • For waterbody crossings in flooded/impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it is assumed that in-water work would be required.					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
VEGETATION					
Wetland and Riparian Ecosystems	• Availability (abundance spatially and temporally) • Distribution • Function and Composition	• Area (hectares) of wetland and riparian ecosystems disturbed per alternative[1]	• Minimize vegetation clearing to only what is required for construction and staging. • Avoid using wetland and riparian areas for staging, where possible. • Incorporate standard tree protection and ESC measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation and wetland protection and mitigation.	This alternative is anticipated to disturb 347.08 ha of wetland and riparian ecosystems.	This alternative is anticipated to disturb 512 ha of wetland and riparian ecosystems.
Upland Ecosystems	• Availability (abundance spatially and temporally) • Distribution • Function and Composition	• Number of upland ecosite types disturbed per alternative[2]	• Minimize vegetation clearing to only what is required for construction and staging. • Incorporate standard tree protection and ESC measures. • Minimize vegetation clearing to only what is required for construction and staging. • Incorporate standard tree protection and ESC measures. • Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.	This alternative is anticipated to disturb 4 upland ecosite types.	This alternative is anticipated to disturb 10 upland ecosite types.
Traditional Use Plants and SAR Plant Populations *(Including species with special conservation status or rarity in the province)*	• Species presence • Accessibility to traditional use of plants • Accessibility to traditional use of plants	• Area (hectares) of highly suitable and highly accessible (High = score of 1.5 – 2.0) habitat for Traditional Use Plants disturbed per alternative. • Area (hectares) of suitable habitat for SAR/SCC Plants (Black Ash, Northern Marsh Violet) disturbed per alternative.	• Minimize vegetation clearing to only what is required for construction and staging. • Incorporate standard tree protection and ESC measures. • Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.	This alternative is anticipated to disturb 482.45 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 676.45 ha of suitable SAR/SCC habitat.	This alternative is anticipated to disturb 735.28 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 1,228.57 ha of suitable SAR/SCC habitat.
Summary of Vegetation: **Overall**					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					

- **Alternative 1 is the most preferred route alternative for Segment 2 - Albany Crossing from the perspective of vegetation** as it has lower net effects through a smaller direct loss of wetland and riparian ecosystems, disturbance of fewer upland ecosite types, smaller direct loss of highly suitable and highly accessible habitats for Traditional Use Plants, and it has the least impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet).

Wetlands and Riparian Ecosystems

- Alternative 1 is the most preferred as it results in the least direct loss of wetland and riparian ecosystems.
- Alternative 4 is the least preferred as it results in the greatest direct loss of wetland and riparian ecosystems.

Upland Ecosystems

- Alternative 1 is the most preferred as it disturbs the fewest upland ecosite types.
- Alternative 4 is the least preferred as it disturbs the greatest number of ecosite types.

Traditional Use Plants and SAR/SCC Plant Populations

- Alternative 1 is the most preferred as it results in the least direct loss of highly suitable and highly accessible habitats for Traditional Use Plants.
- Alternative 4 is the least preferred as it results in the greatest direct loss of highly suitable and highly accessible habitats for Traditional Use Plants
- Alternative 1 is the most preferred for SAR/SCC Plant Populations as it has the least impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet)
- Alternative 4 is the least preferred SAR/SCC Plant Populations as it has the greatest impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet)

Net Effects

Alternative 4 results in higher net effects than Alternative 1. This comparative analysis evaluated the two route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to vegetation valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the vegetation valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects to these individual valued components.

***Notes:**

1. Note that for the purposes of the alternatives assessment, only the availability of wetland and riparian ecosystems indicator was included. Area of loss as a metric was used because the area of direct impact would be the most important on the ecosystem. The more area that is removed, the less likely the ecosystem would be able to maintain it's functions. The Distribution, Function and Composition Indicators will be addressed for the preferred alternative in the EA/IA Document.
2. Number of ecosite types as a metric is proposed because this provides a measure of impact on forest biodiversity rather than just area which could be attributed to the overall length of the route alternative rather than where the alternative is specifically located.
3. We have taken a preliminary conservative approach to classifying SAR and SCC habitats and the mapping is based on a limited amount of field information. The mapping that informed this evaluation is expected to be refined for final reporting.
4. This analysis is based on mapping that doesn't incorporate data collected during the 2023 field programs. This 2023 field information may refine the vegetation mapping that will be included in final reporting.

BIRDS					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
Species at risk forest and wetland birds (e.g., Canada warbler, chimney swift, eastern whip-poor-will, eastern wood-pewee, evening grosbeak, olive-sided flycatcher, bank swallow, barn swallow, black tern, rusty blackbird, yellow rail).	• Species presence • Relative abundance (spatially and temporally) of species at risk • Habitat availability and distribution (spatially and temporally) including critical habitat (where known), where defined for SAR	• Area (hectares) of moderate to high suitability bird species at risk habitat disturbed in the PDA • Area of provincial ESA regulated habitat or federal SARA critical habitat for SAR birds	• Avoid clearing of suitable bird nesting habitat during the breeding bird period. • Limit the Project footprint to the extent feasible. • Minimize disturbances during the breeding bird period. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: ▪ Canada warbler: 527.5 ha ▪ Chimney swift: 0.0 ha ▪ Common nighthawk: 87.4 ha ▪ Eastern whip-poor-will: 9.0 ha ▪ Eastern wood-pewee: 185.6 ha ▪ Evening grosbeak: 332.5 ha ▪ Lesser yellowlegs: 322.0 ha ▪ Olive-sided flycatcher: 83.4 ha ▪ Bald eagle: 139.0 ha ▪ Peregrine falcon: 0.0 ha ▪ Short-eared owl: 4.1 ha ▪ Bank swallow: 0.0 ha ▪ Barn swallow: 0.0 ha ▪ Black tern: 1.7 ha ▪ Rusty blackbird: 349.6 ha ▪ Yellow rail: 4.1 ha This alternative is not anticipated to disturb any known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds.	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: ▪ Canada warbler: 759.1 ha ▪ Chimney swift: 0.0 ha ▪ Common nighthawk: 128.9 ha ▪ Eastern whip-poor-will: 29.0 ha ▪ Eastern wood-pewee: 250.0 ha ▪ Evening grosbeak: 730.4 ha ▪ Lesser yellowlegs: 752.8 ha ▪ Olive-sided flycatcher: 99.9 ha ▪ Bald eagle: 431.3 ha ▪ Peregrine falcon: 0.0 ha ▪ Short-eared owl: 8.8 ha ▪ Bank swallow: 0.0 ha ▪ Barn swallow: 0.0 ha ▪ Black tern: 6.9 ha ▪ Rusty blackbird: 533.4 ha ▪ Yellow rail: 8.8 ha This alternative is not anticipated to disturb any known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds.
Raptors (e.g., bald eagle)	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally)	• Number of habitat features and area (hectares) disturbed: ▪ Raptor nest locations ▪ Stopover sites (if present)1	• Limit the Project footprint to the extent feasible. • Avoid sensory disturbances within 800 m of known bald eagle nests. • Minimize risk of mortality during construction and operations.	The alternative is not anticipated to disturb known raptor nests or stopover sites.	The alternative is not anticipated to disturb any stopover sites, but is anticipated to disturb 3 bald eagle nests (99.6 ha).
Shorebirds	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally)	Number and area of confirmed and suitable habitat features disturbed (e.g., stopover sites)[2,3,4]	• Avoid clearing of suitable bird nesting habitat during the breeding bird period. • Avoid clearing within 100 m of suitable stopover sites during the spring and fall bird migration period. • Limit the Project footprint to the extent feasible. • Minimize disturbances during the breeding bird, spring and fall bird migration periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb 1 suitable habitat features (45.8 ha).	This alternative is anticipated to disturb 1 suitable habitat features (105.7 ha).
Waterfowl	• Species presence • Relative abundance (spatially and temporally) • Habitat availability and distribution (spatially and temporally)	Number and area of confirmed and suitable habitat features disturbed (e.g., stopover sites) [2,3,4]	• Avoid clearing of suitable bird nesting habitat during the breeding bird period. • Avoid clearing within 100 m of suitable stopover sites during the spring and fall bird migration period. • Limit the Project footprint to the extent feasible. • Minimize disturbances during the breeding bird, spring and fall bird migration periods. • Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb 1 suitable habitat feature (92.7 ha).	This alternative is anticipated to disturb 1 suitable habitat feature (201 ha).

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					

Summary of Birds:

Overall

- **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing, as it is anticipated that it would result in the lowest net effects on bird species at risk, raptors, shorebirds, and waterfowl.**

Species at Risk

- Alternative 1 is the most preferred for Species at Risk, as it results in the least direct loss of moderate to high suitability habitat for bird species at risk.
- Alternative 4 is the least preferred for Species at Risk, as it results in the greatest direct loss of moderate to high suitability habitat for bird species at risk.
- Alternatives 1 and 4 both avoid the direct loss of any provincial ESA regulated habitat or federal SARA critical habitat for species at risk birds.
- Alternative 1 minimizes the amount of moderate to high suitability bird species at risk habitat that will be removed (avoidance measure).

Raptors

- Alternative 1 is the most preferred for Raptors, as it results in no direct loss of habitat features for raptors (i.e., raptor nest locations and their associated buffers, stopover sites).
- Alternative 4 is the least preferred for Raptors, as it results in the greatest direct loss of habitat features for raptors.
- Alternative 1 avoids the removal of known raptor nests.
- Alternatives 1 and 4 avoid the removal of potential stopover sites[1].

Shorebirds

- Alternative 1 is the most preferred for Shorebirds, as it results in the least direct loss of suitable habitat features for shorebirds (e.g., stopover sites).
- Alternative 4 is the least preferred for Shorebirds, as it results in the greatest direct loss of suitable habitat features for shorebirds.
- Alternative 1 minimizes the amount of suitable habitat features that will be removed (avoidance measure) [2,3,4].

Waterfowl

- Alternative 1 is the most preferred for Waterfowl, as it results in the least direct loss of suitable habitat features for waterfowl (e.g., stopover sites).
- Alternative 4 is the least preferred for Waterfowl, as it results in the greatest direct loss of suitable habitat features for waterfowl.
- Alternative 1 minimizes the amount of suitable habitat features that will be removed (avoidance measure)[2,3,4].

Net Effects

Alternative 4 results in higher net effects than Alternative 1. This comparative analysis evaluated the two route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to bird valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the bird valued components will be completed on the preferred route.

Notes:

1. Stopover sites for raptors were defined as waterbodies and watercourses surveyed during baseline field surveys with greater than 2 observations of raptors.
2. The Natural Heritage Information Centre (NHIC) was searched for known provincial waterfowl and shorebird staging areas. No data were found for these measures.
3. Suitable habitat features for shorebirds and waterfowl were defined as waterbodies and watercourses surveyed during baseline field surveys.
4. Confirmed habitat features for shorebirds and waterfowl were defined as waterbodies and watercourses surveyed during baseline field surveys plus a 100 m buffer where shorebirds or waterfowl were observed during baseline field surveys.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
UNGULATES					
Moose	• Habitat availability • Habitat distribution	• Amount of high suitability moose habitat that would be impacted per segment alternative. • Number and area of confirmed and suitable habitat features (i.e., suitable moose aquatic feedings areas, known mineral licks) that would be impacted per segment alternative.	• Limit the Project footprint to the extent feasible. • Minimize disturbances during sensitive periods. • Minimize risk of mortality during construction and operations. • Alternative 1 minimizes the amount of high suitability that will be removed.	This alternative is not anticipated to disturb any high suitability habitat within the PDA, 0.2 ha of high suitability habitat within the PDA including a 500-meter buffer[1] and is not anticipated to disturb any suitable habitat features.	This alternative is not anticipated to disturb any high suitability habitat within the PDA, 0.2 ha of high suitability habitat within the PDA including a 500-meter buffer[1] and is not anticipated to disturb any suitable habitat features.
Caribou	• Habitat availability • Habitat distribution – includes spatial extent and distribution of GHD Category 1, 2, and 3 habitats (MNR 2013d) and availability and distribution of habitat which contain biophysical attributes necessary for caribou seasonal and life stage activities (ECCC 2019).	• Area (hectares) of known and potential Category 1 General Habitat Description **WINTER USE AREAS** that would be impacted per segment alternative. • Area (hectares) of known and potential Category 1 General Habitat Description **NURSERY AREAS** that would be impacted per segment alternative. • Area (hectares) of known and potential Category 1 General Habitat Description **TRAVEL CORRIDOR AREAS** that would be impacted per segment alternative.	• Limit the Project footprint to the extent feasible. • Avoid sensory disturbances within 10 km of known high-use areas during sensitive periods. • Minimize risk of mortality during construction and operations. • Alternative 1 minimizes the amount of winter use habitat that will be removed. • Alternative 4 avoids the core areas (50% KDE) of known or potential nursery areas.	This alternative is not anticipated to disturb any known and potential Category 1 General Habitat travel corridors, however it is anticipated to disturb the following known and potential Category 1 General Habitat Description winter use areas and nursery areas: • Winter Use Areas: 612 ha within the PDA, 3,019 ha within the PDA including a 500-meter buffer[1] • Nursery Areas**:** 17 ha within the PDA, 134 ha within the PDA including a 500-meter buffer[1]	This alternative is not anticipated to disturb any known and potential Category 1 General Habitat nursery areas or travel corridors, however it is anticipated to disturb the following known and potential Category 1 General Habitat Description winter use areas: • Winter Use Areas: 912 ha within the PDA, 4,277 ha within the PDA including a 500-meter buffer[1]

Summary of Ungulates:

Overall

- **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of ungulates,** as it is anticipated to remove an equivalent amount of high suitability moose habitat as Alternative 4, 300 ha less winter use habitat than Alternative 4, and approximately 17 ha of additional nursery area habitat.
- Alternative 4 is the least preferred route alternative from the perspective of Ungulates for Segment 2 – Albany Crossing.
- Both alternatives avoid high suitability moose habitat and known important habitat features.
- Both alternatives remove Category 1 caribou habitat, which are areas within the range which have lowest tolerance to alteration before their function in supporting caribou is compromised (MNR 2013).
- Alternative 1 removes approximately 300 ha less winter use habitat than Alternative 4 (612 ha compared to 912 ha, respectively)
- Alternative 1 removes approximately 17 ha more nursery use habitat than Alternative 4 (17 ha compared to zero, respectively).
- Of note, when the 95% Kernel Density Estimation (KDE) polygons of nursery areas are evaluated, there is habitat impacted on Alternative 4, but still less than the amount of the 95% KDE polygons on Alternative 1

Net Effects

Both route alternatives are predicted to result in equivalent net effects for moose. Alternative 4 results in higher predicted net effects than Alternative 1 for caribou. It is important to note that both alternative segments for the Albany Crossing will remove caribou habitat, which may be depended on directly or indirectly for life processes, even if it is not considered Category 1. Indirect effects of habitat removal, including sensory disturbance, increased mobility for predators and hunters, and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment. This comparative analysis evaluated the two route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to moose or caribou at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the ungulates will be completed on the preferred route selected and may result in a different determination of predicted net effects.

Notes:

1. A 500 m buffer is used to capture indirect disturbances to habitat features such as noise and dust.
2. Known Category 1 areas are derived from Ontario Government Caribou General Habitat Description for Forest-dwelling caribou (MNRF 2019). The identification of "potential new" Category 1 winter use areas and nursery areas is based on 50% KDE polygons derived from MFFN and MNRF collar data between 2020 to 2023. The 50% KDE represents the core area used during the date periods identified by Ontario for the current GHD Category 1 areas. "Potential new" travel corridors are derived from 95% KDE derived from MFFN and MNRF collar data between 2020 and 2023. The 95% KDE was used for the travel corridors because travel corridors are more linear in extent and do not have core areas relative to winter use and nursery areas. In areas where travel corridors overlap winter use or nursery areas, they are not double counted in the calculation of habitat removed.
3. This information may be re-evaluated with Indigenous knowledge input and/or additional collar data, when available. As a result, the data presented here may differ from the final effects analysis.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
ABORIGINAL AND TREATY RIGHTS AND INTERESTS					
Indigenous Current Use of Lands and Resources for Traditional Purposes	• Alteration / change in or loss of sites and areas used for traditional activities (e.g., hunting, trapping, fishing, gathering). ***IK Maps available to assist with review – need a secure folder to upload to*** *IK data locations referenced in this table are not exact and have not been ground-truthed.* *Study Area refers to the general Project Study Area.* *LSA refers to the ATRI LSA.*	• High Impacts to Low Impacts	• Develop an Indigenous-led environmental monitoring program during the construction and operation of the road. • Secure funding for Indigenous community-based (MFFN) training program for local youth to be educated and hired as environmental monitors. • Work with Indigenous communities (MFFN) to establish a set of benchmarks or Indigenous Environmental Standards for reclamation (e.g., specific diversity, vegetation) to monitor and measure construction and operation activities and reclamation success. • Avoid, where possible, preferred hunting/fishing/harvesting areas identified by communities. • Route the all-season road to avoid areas of high-quality habitat where feasible. • Following construction, make use of native vegetation/ re-vegetation during site rehabilitation. • Maintain vegetative buffer zones between the all-season road and lakes or ponds along the right-of-way. • Maintain water (i.e., river/lake/etc.) access during design, construction, and operation. • Engage with Indigenous communities regarding watercourse crossing design to facilitate navigation and fish passage. • Watercourse crossings to be designed for boat passage or to include portages. • Utilize signage (Indigenous and English language) to identify trapping areas. • Implement programs to encourage and help finance trapping as a livelihood. • Provide appropriate compensation to trappers who use the area(s) along the road.	• Animal Harvest throughout the entire route alignment *(within Study area)* • Fishing Area *(within the Study along the entire Albany River and it's tributaries and lakes)* • Large Plant Harvesting area *(within Study area, overlapping a section of the route alignment by Teabeau lake)* • Large traditional use areas – Spawning Areas (Sturgeon, Walleye) *(within Study area, overlapping the route alignment and along the waterways in the area)* • Large traditional use areas – Denning Areas, Moose Area, Moss, Other Plants, Birds, etc. *(within Study area, overlapping the route alignment)* • Various water features (rivers, creeks, lakes) identified as Cultural, Spiritual, and Sacred Value Areas • Large Fish and Wildlife Use Areas – Nesting, Denning, Spawning, Calving, etc. *(overlapping large sections of the route alignment).* All segments result in the alteration / change in or loss of areas that may be used for traditional activities. Least Preferred Currently there is more traditional use information recorded in Alternative 1. Ranking is based off of limited IK/ILRU inputs and should be confirmed with MFFN and through consultation with other Indigenous Communities.	• Animal Harvest throughout the entire route alignment *(within Study area)* • Fishing Area *(within the Study along the entire Albany River and it's tributaries and lakes)* • Plant Harvesting area *(at the Albany River crossing)* • Traditional use areas – Fish: Pike, Walleye *(overlapping the route alignment and along the waterways in the area)* • Medicinal Plants *(within the Study area, overlapping the route alignment and along the waterways in the area)* • Various water features (rivers, creeks, lakes) identified as Cultural, Spiritual, and Sacred Value Areas • Fish and Wildlife Use Area – Nesting, Denning, Spawning, Calving, etc. *(overlapping two sections of the route alignment).* All segments result in the alteration / change in or loss of areas that may be used for traditional activities. Most Preferred Currently there is more traditional use information recorded in Alternative 1. Ranking is based off of limited IK/ILRU inputs and should be confirmed with MFFN and through consultation with other Indigenous Communities.
	• Changes in the availability or quantity of resources (e.g., wildlife, fish, vegetation) for traditional activities (e.g., harvesting and gathering). List of key species to be provided to Nat Sci Team.	• High Impacts to Low Impacts	• Work with other governing bodies to develop hunting and trapping regulations that minimize non-local Indigenous access to and harvesting pressure on local animal populations. • Work with other governing bodies to develop fishing restrictions to minimize non-Indigenous access to and pressure on fish populations. • Work with other governing bodies to develop regulations for wood harvesting along the road. • Implement an Indigenous-led environmental monitoring program (construction and post-construction) utilizing Indigenous knowledge to continue to assess changes in availability or quantity of resources so that mitigation measure can be employed more effectively and in "real time".	Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date	Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			• Avoid, where possible, preferred hunting/fishing/harvesting areas identified by communities. • Maintain water (i.e., river/lake/etc.) access during design, construction and operation. • Engage with Indigenous communities regarding watercourse crossing design to facilitate navigation and fish passage. • Watercourse crossings to be designed for boat passage or to include portages. • Design and route the all-season road to avoid areas of high-quality habitat where feasible. • Develop a response plan in case of spills or other environmental emergencies along the road. • Collaborate with Indigenous communities to identify areas for future cultural use and support grant applications to develop cultural camps that support on-the-land learning and use • Following construction, make use of native vegetation/ re-vegetation with a focus on valued species during site rehabilitation.		
	• Changes in access to sites and areas used for traditional activities.	• High Impacts to Low Impacts	• Involve local Indigenous communities (MFFN) in the development of access management measures or plans. Access should prioritize Indigenous communities' ability to harvest resources over non-Indigenous land users. • Use Indigenous (MFFN) land users (e.g., hunters and trappers) to monitor the Project area to support the enforcement of access management measure. • Provide access ramps to traditional travel routes bisected by the all-season road. • Create temporary detours for snowmobiles and ATVs during construction. • Identify and sign detour routes and portages (in Indigenous and English languages). • Construction contract provision requiring key travel routes be maintained • Engage with Indigenous communities on construction schedule to identify key hunting/fishing/harvesting times and areas that should be avoided. • Provide community updates regarding location and timing of construction activities. • Time construction activities to avoid key traditional use windows (e.g., moose hunting season, gees hunting season) • Restrict/limit non-Indigenous hunting/fishing/harvesting in the area. • Blocking and re-vegetating temporary access routes and other disturbed areas immediately after construction using native vegetation. •	Both Alternatives provide greater access to lands for harvesting purposes – this can be viewed as both a positive and a negative effect. No discernable difference between alternatives	Both Alternatives provide greater access to lands for harvesting purposes – this can be viewed as both a positive and a negative effect. No discernable difference between alternatives
Cultural Continuity and Wellbeing (ability to practice and	• Alteration / change in or loss of culturally important sites and areas (e.g.,	• High Impacts to Low Impacts	• Conduct HRIAs to identify archaeological and heritage sites.	• Gathering Place (*edge of the Study Area)* • Burial Ground *(within the LSA)*	• Cultural Significant Historic Campsite (*within the Study area and within the area of the route alignment)*

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
transmit cultural traditions)	ceremonial sites, place names, teaching sites, archaeological sites).		• Engage with Indigenous communities to identify undocumented culturally important sites. • Design and align the all-season road to avoid known cultural, heritage and archaeological sites and objects. • Flag construction exclusion areas around discovered/previously unknown cultural, heritage and archaeological sites. • Relocate heritage resources that would be destroyed by construction activities (only with consent from Indigenous communities and Archaeology Branch) • Consult with the local Indigenous communities (MFFN) on culturally appropriate measures if archaeological sites or objects are exposed during construction (i.e., co-develop Chance Find Procedures). • Provide instructions to contractors on procedures if archaeological sites or objects are exposed during construction. • Support Indigenous communities in developing on the land programming for Youth and Members to increase opportunities for cultural continuity and well-being. • Support the facilitation of Indigenous youth (MFFN) travelling to other First Nations/Thunder Bay/etc. in the region to learn about cultural and traditional land and resource use activities. • Develop all road signs in local Indigenous language(s).	• 2 Burial Sites *(within the Study Area and LSA)* • Meeting Place *(within the Study Area)* • Bigfoot Area *(within the Study Area)* • Large Cultural, Spiritual, Sacred Value Area(s) – Burial Ground, Traditional Gathering Area, Cabin, Winter Trail *(overlapping the route alignment)* • Cultural, Spiritual, Sacred Value Area – Meeting Place, Walking Path *(overlapping the route alignment)* • Various water features (rivers, creeks, lakes) identified as Cultural, Spiritual, and Sacred Value Areas • 2 Camp Sites (*one in clos proximity to the route alignment area and one on the other side of the Albany River)* • 2 Cabins (*within the Project Area and the LSA)* • 2 Cabins *(between the two alignments)* • 2 Place Names - Kagiami , Kakike'amii wih bowtik *(in close proximity to the route alignment)* • Albany River, tributaries and lakes are identified as “Points of Interest” • Albany River is identified as a travel route • Winter and Supply Trails identified throughout and cross sections of the route • Historical Trail between Marten Falls and Beteau lake and Pym’s Island (50 – 60 miles in length) Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. Both Alternatives have large Cultural, Spiritual, Sacred Value Areas covering portions of the route alignments. Requires input from MFFN (and potentially other Indigenous Communities)	• Large Cultural, Spiritual, Sacred Value Area – Historical Trails, Sites, Cabin, Teepee, Place of Story *(within the Study area and overlapping the route alignment)* • Large Cultural, Spiritual, Sacred Value Area – village, graveyards, sacred sites *(overlapping the eastern extent of the LSA)* • Various water features (rivers, creeks, lakes) identified as Cultural, Spiritual, and Sacred Value Areas • 2 Camp Sites (*within the Project Area)* • 2 Cabins *(between the two alignments)* • Historical Family or Village Site *(in the LSA)* • 2 Place Names – Cavier Kawakanabikak, Batikos *(to the east of the alignment within the Project area)* • Marten Falls Fort *(within the LSA)* • Albany River, tributaries and lakes are identified as “Points of Interest” • Albany River is identified as a travel route • Winter and Supply Trails identified throughout and cross sections of the route • Historical Trail between Marten Falls and Beteau lake and Pym’s Island (50 – 60 miles in length) Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. Both Alternatives have large Cultural, Spiritual, Sacred Value Areas covering portions of the route alignments. Requires input from MFFN (and potentially other Indigenous Communities)
Summary of Aboriginal and Treaty Rights and Interests: There is more data for Segment 2 than the other Segments. MFFN will need to be further engaged to interpret this data to provide more direction on ranking of the two Alternatives. In addition, it is anticipated that Eabametoong First Nation (and other Indigenous Communities) may have IK/ILRU related to the southern extent that would be advantageous in assessing route alternatives, provided this is shared. Requires input from Natural Science team regarding potential for impact on animal, plant, and bird species (e.g., harvesting and gathering).					
ECONOMIC					
Regional Economy	• Traditional Economies	• Change in Ability to Undertake Traditional Economic Activities	• Communicate information on planned and active construction activities to facilitate local planning of traditional economies such as trapping. • In selection of final road alignment as part of road design development, where possible, avoid high-quality fur-bearer habitat.	The development of the road has the potential to result in net effects to traditional economies such as trapping. Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping activity has declined significantly throughout Canada due to low fur prices. Anecdotal input	The development of the road has the potential to result in net effects to traditional economies such as trapping. Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping activity has declined significantly throughout Canada due to low fur prices. Anecdotal input suggests that trapping

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				suggests that trapping activity in the LSA has also declined and is no longer an important economic activity. The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite trappers being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline area covered and furbearer habitat impacted. It is also possible that some fishing occurs in local rivers for commercial purposes, but we have no specific information to support this. No discernable difference between alternatives	activity in the LSA has also declined and is no longer an important economic activity. The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite trappers being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline area covered and furbearer habitat impacted. It is also possible that some fishing occurs in local rivers for commercial purposes, but we have no specific information to support this. No discernable difference between alternatives
Summary of Economic: **Overall** • **There is no preferred alternative for Segment 2 – Albany from the perspective of the economic valued component.** • There is a negligible difference between the two route alternatives. • All route segments will provide connection to the Marten Falls community and provided the same expected economic benefit to the community including, for example, a decrease in the price of goods. • Similarly, all route segments are expected to provide similar employment opportunities and would have similar impact on government expenditure and taxation. • There are no specific economic features (e.g. businesses, resource extraction operations) identified in the PDA of the alternative route segments. • The opportunities for economic development including resource extraction activities such as mining are also identified to be similar amongst the alternative routes (see Land and Resource Use). As no information from trappers is available regarding the level of trapping activity along the route segments, the routes are identified to be similar with respect to impact on traditional economies. **Net Effects** The predicted net effects from both alternatives are equivalent due to their similar predicted decrease in price of goods, employment opportunities, government expenditures, and opportunities for economic development.					
HUMAN HEALTH					
Public Safety	• Road Use Accident	• Potential for roadway related accidents as a result of the road project including vehicles and pedestrians.	• "Post "no entry", warning signs and barricades (e.g., gates, fences), where necessary, around active construction sites, warning signs and reduced speed limits to be established at known wildlife crossing locations; warning signs and lights to be displayed for road maintenance equipment and trail crossings. • Provide for safe access for trappers and other traditional users	The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives	The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives
Environmental Factors Influencing Human Health	• Country Foods	• Potential for change in the quality and quantity (abundance) of country foods.	• Reclaim and rehabilitate areas disturbed by construction to encourage natural regeneration/regrowth of vegetation and habitat restoration. • Community input into alignment routing, component siting and road design avoid important areas of botanical and wildlife resources that serve as country foods to the extent feasible.	The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. Moose is understood to be an important species that is harvested by First Nations. The PDA for this	The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. Moose is understood to be an important species that is harvested by First Nations. The PDA for this segment contains only 0.2 ha of high suitability moose habitat.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				segment contains only 0.2 ha of high suitability moose habitat. It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. All route segments cross the same number of water courses (6) involving in-water works and would have similar impact on fish that may be harvested. Information on how the quality of harvested species could be affected by the road is not known at this time and will be assessed as part of the project impact assessment. No discernable difference between alternatives	It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. All route segments cross the same number of water courses (6) involving in-water works and would have similar impact on fish that may be harvested. Information on how the quality of harvested species could be affected by the road is not known at this time and will be assessed as part of the project impact assessment. No discernable difference between alternatives
Summary of Human Health: **Overall** • **There is no preferred alternative for Segment 2 – Albany from the perspective of human health.** • All route segments will provide connection to the Marten Falls community and result in the same health impacts to the community including for example access to health services, changed to social and economic structures, mental well-being, etc. • Generally, potential effects to the human health at the local or regional scale is considered similar for all the alternative routes. • Only two human health indicators were considered to have relevance considering the character of the study area and data availability: road use accidents and country food availability. • There is a negligible difference between the two route alternatives considering public safety and changes to country food availability. • All route segments are considered equal with respect to impacts on Indigenous women including human trafficking. • There are no permanent places of residence in proximity to the route segments that could be impacted in noise and air quality changes that might result in health impacts. • Alternatives are equally ranked as both contain very limited area of moose habitat within the PDA, therefore having minimal moose habitat effects. Moose is an important country food source for local Indigenous communities. • Similarly, both routes impact same/similar amount of fish habitat and are expected to have similar impact on country food availability. **Net Effects** Both route alternatives were evaluated as having equivalent net effects. A comprehensive assessment of net effects to human health will be completed on the preferred route and may result in a different determination of predicted net effects to the valued component.					
LAND AND RESOURCE USE					
Land Use Compatibility	• Binary alignment with established planning policy requirements	• Description	• No applicable measures due to absence of land use designations.	The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives	The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives
Parks and Protected Areas	• Number and area of parks and protected areas impacted	• Number and area of Park and Protected area with natural, cultural or recreation values impacted	• Limit clearing and use of land within parks and protected lands as much as possible. Temporary work areas such as staging areas should be located outside of parks and protected areas	The development and operation of the road could result in net effects including the loss of designated parkland area and disturb use of adjacent parkland. This segment crosses into the Albany River Provincial Park and contains 109.24 hectares of park land within the PDA. Lowest relative impact on parks and protected areas. Most preferred.	The development and operation of the road could result in net effects including the loss of designated parkland area and disturb use of adjacent parkland. This segment crosses into the Albany River Provincial Park and contains 238.91 hectares of park land within the PDA. Greatest relative impact on parks and protected areas. Least preferred.
	• Accessibility to parks and protected areas	• Extent to which access to parks and protected areas is increased.	• Monitor and limit the development of any side trails/roads that might extend into parks and protected areas	The development of the road could have net effects that change access levels to existing parks. The net effects of this are dependent on the proximity of the road to the park and nature of the park.	The development of the road could have net effects that change access levels to existing parks. The net effects of this are dependent on the proximity of the road to the park and nature of the park.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			• Work with Ontario Parks regarding any measures to control access into parks and protected areas as applicable	This segment would provide 0.56 km of new access to Albany River Provincial Park which is a remote waterway park. Road access would contribute to a change in the character of this park. No discernable difference between alternatives	This segment would provide 0.57 km of new access to Albany River Provincial Park which is a remote waterway park. Road access would contribute to a change in the character of this park. No discernable difference between alternatives
Recreation and Tourism	• Accessibility to lands and waterways used for recreation and tourism	• Change to access to land utilized for recreation and/or tourism	• Develop a land/waterbody access plan to determine need for any access restrictions and/or access enhancements to promote recreation and tourism in the area	The development of the road could improve access levels to current remote lands and water resources that could provide new recreation and tourism opportunities. All segments provide greater access to lands that are currently inaccessible, and which could be used for recreation purposes. Lands associated with this route segment are not considered to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. Recreational users (e.g. snowmobilers, hikers, canoe/kayak users, etc.) would benefit from greater access to previously inaccessible lands. No discernable difference between alternatives	The development of the road could improve access levels to current remote lands and water resources that could provide new recreation and tourism opportunities. All segments provide greater access to lands that are currently inaccessible, and which could be used for recreation purposes. Lands associated with this route segment are not considered to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. Recreational users (e.g. snowmobilers, hikers, canoe/kayak users, etc.) would benefit from greater access to previously inaccessible lands. No discernable difference between alternatives
		• Change in waterway navigability including for recreation and tourism	• Navigable waterway crossings will be designed to not inhibit navigation • Navigation to be maintained during construction	The development of bridges over watercourses could negatively affect navigation. Both segments cross a similar number of water bodies (7-8). Net effects to navigation are expected to be minimal. No discernable difference between alternatives	The development of bridges over watercourses could negatively affect navigation. All segments cross a similar number of water bodies (7-8). Net effects to navigation are expected to be minimal. No discernable difference between alternatives
	• Environmental conditions	• Change in environmental conditions that could change attractiveness of the area for tourism and recreation.	• Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Measures to avoid unnecessary vehicle and machine idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate.	The road development and its operation could result in disturbance net effects such as runoff that could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation. All segments are expected to result in similar change to environmental conditions that could result in effects to lands used for recreation. No discernable difference between alternatives	The road development and its operation could result in disturbance net effects such as runoff that could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation. All segments are expected to result in similar change to environmental conditions that could result in effects to lands used for recreation. No discernable difference between alternatives

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			o Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies. o Wash water from vehicles and equipment will not be allowed to enter a waterbody and will be conveyed to areas for infiltration, treated prior to discharge to the receiving environment, or hauled off site. o Minimize vegetation clearing to only what is required for construction and staging. o Incorporate standard tree protection and ESC measures. o Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). o Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.		
	• Availability of species harvested for recreation purposes	• Change to target species populations harvested for recreation purposes.	• Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to in-water work timing windows. o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). o Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). o Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate.	The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below.	The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			o Measures to limit the spread and / or introduction of invasive species. • Develop a land / waterbody access plan to determine need for any access restrictions		
		• Change to the habitat for these target species	• Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to in-water work timing windows. o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). o Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). o Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. o Measures to limit the spread and / or introduction of invasive species. • Develop a land / waterbody access plan to determine need for any access restrictions	The development and operation of the road could remove habitat of key valued species could reduce the abundance of these species for recreation harvesting. Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains minimal area of high suitability moose habitat. Impacts to this habitat could impact area moose populations. All route segments cross a similar number of water courses involving in-water works and is expected to have similar impact on fish that may be harvested. No discernable difference between alternatives	The development and operation of the road could remove habitat of key valued species could reduce the abundance of these species for recreation harvesting. Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains minimal area of high suitability moose habitat. Impacts to this habitat could impact area moose populations. All route segments cross a similar number of water courses involving in-water works and is expected to have similar impact on fish that may be harvested. No discernable difference between alternatives
Extractive Industry	• Removal of lands with potential for mineral extraction	• Area of land under mineral claim that the road segments pass through	• Engage with land claim holders in the road design stage to determine how impacts to mineral deposits can be minimized and/or access to mineral areas enhanced.	The development of the road could remove mineral resource areas from being extracted in the future. This segment: • Has 608.39 hectares of operational claims within the PDA. • Has 172.98 hectares of aggregate sites within the PDA. Least Preferred	The development of the road could remove mineral resource areas from being extracted in the future. This segment: • Has 492.32 hectares of operational claims within the PDA. • Has 311.51 hectares of aggregate sites within the PDA. Most Preferred
	• Proximity to and access to lands with future potential for mining development	• Change to access to lands with future potential for mineral extraction	• Engage with land claim holders in the road design stage to determine how impacts to mineral deposits can be minimized and/or access to mineral areas enhanced.	The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities.	The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				This route segment's alignment provides 4.60 kilometres of access into potential future aggregate sites. Greater improved access to lands with future potential for mineral extraction. Most Preferred	This route segment's alignment provides 2.04 kilometres of access into potential future aggregate sites. Less improved access to lands with future potential for mineral extraction. Least Preferred
Forestry Industry	• Removal of commercial forestry lands	• Area of commercial forestry land that the road segments pass through	• No measures because there are no impacts to commercial forestry lands.	The development of the road could result in the removal of forested lands that are commercially harvested. This segment impacts no area of commercial forestry land. Both route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives	The development of the road could result in the removal of forested lands that are commercially harvested. This segment impacts no area of commercial forestry land. Both route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives
	• Proximity to and access to lands with potential for forest harvesting	• Change to access to forestry lands	• Engage with forestry companies during road design stage regarding access to potential new forestry lands	The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. This segment impacts no area of commercial forestry land. Both route segments have no impact on access to commercial forestry lands. No discernable difference between alternatives	The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. This segment impacts no area of commercial forestry land. Both route segments have no impact on access to commercial forestry lands. No discernable difference between alternatives
Remote Outfitters	• Change to operations of remote outfitters in vicinity of road routes	• Number and proximity of remote outfitters to the alternatives • Potential for impact to the outfitters from the alternatives	• During final road alignment selection and road design phase consider proximity of remote tourism outfitters to maximize separation distance • Engage with tourism outfitters during road design phase • If applicable, provide compensation to any outfitters displaced or who can no longer operate because of the road • Develop a land/waterbody access plan to determine need for any access restrictions and/or access enhancements to protect remote tourism operations	The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations. This segment may increase access to two (2) remote tourism camp outfitter locations, both within 2.0 kilometres of the PDA centreline. Increased levels of access to camp locations could have a negative effect as tourism operators could see decreased value from these camp locations and may experience a decrease in species populations recreationally hunted and fished for. These camp locations could also experience noise effects from road construction and operations which could detractor from the user experience and make these cams less attractive to the outfitter. Least Preferred	The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations. This segment may increase access to one (1) remote tourism outfitter camp location, within 2.0 kilometres of the PDA centreline. Increased levels of access to camp locations could have a negative effect as tourism operators could see decreased value from these camp locations and may experience a decrease in species populations recreationally hunted and fished for. These camp locations could also experience noise effects from road construction and operations which could detractor from the user experience and make these cams less attractive to the outfitter. Most Preferred
Trapping	• Change to trapping activity in vicinity of alternatives	• Length of route passing through trap lines/# of trap lines affected • Potential for change in populations of	• Provide community updates regarding the location and timing of Construction noise activities • I In selection of final road alignment and road design development, where possible, avoid high quality fur-bearing species habitat	The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively, the road could improve access to lands that trappers could take advantage of. This segment:	The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively, the road could improve access to lands that trappers could take advantage of. This segment:

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
		harvested fur bearing species.		• Has a length of 27.48 kilometres passing through trapline areas. • Intersects two (2) trapline areas. • Has 676.45 hectares of trapline area within the PDA. Would result in the least impact on American marten and wolverine habitat. All route segments provide increased access to trapline areas. Route passes through the lowest amount of trap line area and passes through the least amount of important furbearer habitat and is therefore ranked preferred.	• Has a length of 23.23 kilometres passing through trapline areas. • Intersects two (2) trapline areas. • Has 1,228.57 hectares of trapline area within the PDA. Would result in the highest impact on American marten and wolverine habitat. All route segments provide increased access to trapline areas. Route passes through the greatest amount of trap line area and passes through the highest amount of important furbearer habitat and is therefore ranked least preferred.
		• Change in access to lands for trapping.	• Engage with trappers regarding need for access related mitigation and or enhancements to improve access for trappers.		
Summary of Land and Resource Use: **Overall** • **Alternative 1 is the preferred route alternative for Segment 2 – Albany from the perspective of Land and Resource Use,** as it is preferred with respect to potential impacts on parks, and trapping and provides the best access to potential mineral lands. Its only disadvantage is that it is in proximity to slightly more remote tourism outfitters than Alternative 4 (2 vs 1). Roadway alignment work during the design phase may be able to mitigate this potential for greater impact to remote outfitters. **Net Effects** • Both route alternatives were evaluated as having equivalent net effects regarding land use compatibility as there are no land use compatibility policies for the affected lands. • Alternative 1 is preferred with regards to parks and protected areas as it has the lowest net effect on access to Albany River Provincial Park. • The two alternatives are considered to have similar impact with regards to recreation and tourism as both routes could provide increased access to areas that were previously inaccessible and remote. • The PDAs for both routes contain minimal area of high suitability moose habitat, a valued recreational hunting species. • Alternative 1 passes through more lands under operational mineral claim. This could result in higher impacts to mineral resource areas and/or provide greater access to future mineral extraction lands. • This segment impacts no area of commercial forestry land. Both route segments have no impact on access to commercial forestry lands. • Alternative 4 is in proximity to 1 tourism outfitter and is preferred to Alternative 1 which is in proximity to 2 tourism outfitters. • Alternative 1 passes through the lowest amount of trap line area and passes through the least amount of important furbearer habitat.					
SOCIAL					
Summary of Social: **Overall** • **There is a negligible difference between the alternative routes and are both ranked equal from a social-community perspective.** • All route segments will provide connection to the Marten Falls community and provide the same expected net social impact to the community. • Social-community impacts from the MFCAR are anticipated to be focused on the communities located with the LSA including Marten Falls First Nation, Aroland First Nation, and Greenstone. • The potential for social impacts (e.g. change in housing demand/supply, community well-being, etc.) is expected to be the same in all the LSA communities for all route alternatives. • No specific social-community features were identified in proximity to the alternative route segments that could be impacted. • See ATRI for identification of features identified through the Indigenous Knowledge collection program.					
CLIMATE ADAPTATION AND RESILIENCY					
Summary of Climate Adaptation and Resiliency: **Overall** • There is no discernible difference between the alternatives from a Climate Adaptation and Resiliency perspective. • There exists significant data gaps and uncertainty in the generation of climate projections that have the appropriate level of granularity to differentiate between alternative routes.					

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – CULTURAL ENVIRONMENT					
CULTURAL HERITAGE					

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
Archaeological Sites and Resources	• Previously identified archaeological sites	• The net effects to archaeological resources will be evaluated OR	• Complete all outstanding archaeological assessments.	No registered archaeological sites, however archaeological potential is present within much of the alternative. Most Preferred	Registered archaeological site nearby. Least Preferred
	• Areas of cultural significance raised by local Indigenous Nations	• Number of previously identified archaeological sites • Areas of cultural significance raised by local Indigenous Nations • Number of resources identified	• Complete all outstanding archaeological assessments. • Incorporate information received by Indigenous Nations in reporting. • Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous communities will be initiated in the event that archaeological resources or human remains are discovered.	Area has raised cultural significance by local Indigenous Nations. No discernable difference between alternatives	Area has raised cultural significance by local Indigenous Nations. No discernable difference between alternatives
	• Proximity to water		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Soil texture and drainage		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Glacial geomorphology, elevated topography		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	• Resource areas including food or medicinal plants, scarce raw materials		• Complete all outstanding archaeological assessments.	Area has food or medicinal plant resources. No discernable difference between alternatives	Area has food or medicinal plant resources. No discernable difference between alternatives
	• Areas of early 19th century settlement and transportation routes		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives
	• Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants		• Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
Built Heritage Resources/Cultural Heritage Landscapes	• Animal, Fish, and Plant Harvest Areas (MFFN)	• The net effects to built heritage resources and cultural heritage landscapes will be evaluated in the Cultural Heritage Report. • Number of resources identified.	• Where possible, avoid direct adverse impacts to Animal, Fish and Plant Harvest Areas. • If direct adverse impacts are anticipated to an Animal, Fish, and Plant Harvest Area, then complete further mitigation (i.e., Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to twenty (20) identified Animal, Fish, and Plant Harvest Areas. Most Preferred	Net effects for this alternative include the potential disturbance of up to twenty-five (25) identified Animal, Fish, and Plant Harvest Areas. Least Preferred
	• Cultural, Spiritual, and Sacred Areas (MFFN)		• Where possible, avoid direct adverse impacts to Cultural, Spiritual, and Sacred Areas. • If direct adverse impacts are anticipated to a Cultural, Spiritual, and Sacred Area, then complete further mitigation (i.e., Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to ten (10) identified Cultural, Spiritual, and Sacred Areas. Least Preferred	Net effects for this alternative include the potential disturbance of up to five (5) identified Cultural, Spiritual, and Sacred Areas Most Preferred
	• Habitation Areas (MFFN)		• Where possible, avoid direct adverse impacts to Habitation Areas. • If direct adverse impacts are anticipated to a Habitation Area, then complete further mitigation (i.e., Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to ten (10) identified Habitation Areas Least preferred	Net effects for this alternative include the potential disturbance of up to five (5) identified Habitation Areas Most Preferred
	• Travel (MFFN and Historical Maps)		• Where possible, avoid direct adverse impacts to Travel Areas. • If direct adverse impacts are anticipated to a Travel Area, then complete further mitigation (i.e., Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of one identified historical Indigenous Trail and one historical portage route. No discernable difference between alternatives	Net effects for this alternative include the potential disturbance of one identified historical Indigenous Trail and one historical portage route. No discernable difference between alternatives

Summary of Cultural Heritage:

Overall

- **Alternative 4 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of cultural heritage.**
- There is a negligible difference between the alternatives.

Archaeological Sites and Resources

- No discernible difference between the alternatives is present, as the alternatives retain much archaeological potential that must be mitigated prior to ground disturbance.
- One registered archaeological site nearby Alternative 4, and no registered archaeological sites nearby Alternative 1. **Despite this indicator, archaeological potential within much of both alternatives remains to be mitigated, and as such they are equally ranked.**

Built Heritage Resources/Cultural Heritage Landscapes

- Although both alternatives have the potential to impact identified cultural heritage resources, Alternative 4 is preferred due to its lower net effects to cultural heritage resources.
- Alternative 1 has the potential to disturb more identified Cultural, Spiritual, and Sacred Areas and more Habitation Areas than Alternative 4.

Net Effects

The predicted net effects were evaluated as equivalent for both alternatives due to their effects on areas of raised cultural significance by local Indigenous nations, archaeological potential present, food/medicinal plant resources, Albany River as a potable water source, and disturbance of Harvest Areas. The predicted net effects have not considered all potential mitigation that may be applied. Net effect assessment is subject to change based on the implementation of additional mitigation. There is a negligible difference between the alternatives in terms of the cultural heritage valued component because archaeological potential is present within much of the alternatives.

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Segment 2 – Albany Crossing

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
***Notes:** **1.** For consistency, Cultural Heritage indicators have been revised from those presented in the Study Plan to be consistent with the IK data points used to develop the cultural heritage themes for the Cultural Heritage Report.					

FACTOR	INDICATOR	MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – TECHNICAL, ENGINEERING AND COST				
Design	• Roadway Alignment Length	• Km	27.48 km	23.23 km
	• Number of Water Crossings	• #	4	3
	• Length of Water Crossings	• Km	Total 412m	Total 214m
Construction Complexity	• Access to Roadway Material	• Description	Most Preferred	Least Preferred
	• Constructability of Roadway	• High to Low	Most Preferred	Least Preferred
	• Constructability of Water Crossing	• High to Low	Most Preferred	Least Preferred
Miscellaneous	• Schedule Implications	• Description	Medium impact due to slightly longer road length to construct	Lower impact due to shorter road length to construct
Operations	• Long Term Maintenance	• Description	Most Preferred	Least Preferred
Cost	• Value of construction	• $ CAD	Bridges: $133.2M Roads: $99.7878M Total: $232.98M	Bridges: $89.5M Roads: $82.1M Total: $171.6M
Summary of Technical, Engineering and Cost: **Overall** • **Alternative 1 is the most preferred route alternative for Segment 2 – Albany Crossing from the perspective of technical, engineering and cost.** • Cost estimates are based on 2023 unit prices developed through discussions with northern Contractors and best practices. • Value of Construction includes a 20% contingency factor and climate change impacts that are assumed to be 35-40% of the structures' base prices.				

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
PEATLANDS					
Peatland Ecosystems	■ Availability (decrease / increase of overall amount of peatland area) ■ Distribution (changes to the arrangement and connectivity of Peatlands) ■ Function and Composition (change in plant species composition or ecological function).	■ Peatland area (hectares) disturbed per alternative ■ Number of peatlands type fragmented	■ Minimize vegetation clearing to only what is required for construction and staging. ■ Avoid using peatlands for staging, where possible. ■ Incorporate standard tree protection and ESC measures. ■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). ■ Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for peatlands protection and mitigation.	This alternative is anticipated to disturb 1046.00 ha of peatland and 17 peatland ecosite types.	This alternative is anticipated to disturb 433.27 ha of peatland and 10 peatland ecosite types.
Summary of Peatlands: **Overall** • **Alternative 4 is the most preferred route alternative for Segment 3 – North of the Albany Crossing from the perspective of peatlands** as it results in smaller direct loss of peatland area and disturbance to a fewer number of peatland types. **Peatland Area** • Alternative 4 is the most preferred as it results in the least direct loss of peatland area. • Alternative 1 is the least preferred as it results in the greatest loss of peatland area. **Number of Peatland Types Fragmented** • Alternative 4 is the most preferred as it impacts the fewest number of peatland types. • Alternative 1 is the least preferred as it impacts the greatest number of peatland types. **Net Effects** Alternative 1 results in higher net effects than Alternative 4. This comparative analysis evaluated the three route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to peatland valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation or design elements to maintain peatland function (e.g., hydrology) that may be applied at a later stage of project design. The comprehensive assessment of net effects to the peatland valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects. ***Notes:*** 1. Note that for the purposes of the alternatives assessment, only the availability (area) of peatlands disturbed and the number of peatland types fragmented were used because these measures can be quantified and are unbiased. Loss of peatlands also reduces their overall function and ability to store carbon, so those indicators are indirectly being assessed by determining the area of peatlands lost and fragmented. 2. This analysis is based on mapping that doesn't incorporate data collected during the 2023 field programs. This 2023 field information may refine the peatlands mapping that will be included in final reporting.					
PHYSIOGRAPHY, TERRAIN AND SOILS					
Physiography, Terrain and Soils	■ Quantity and distribution of terrain units	■ Area of surficial materials disturbed per alternative ■ Area of potential land with permafrost processes ■ Area of class IV and V terrain stability per alternative ■ Number of significant landforms[2] disturbed per alternative	■ Minimize areas of vegetation clearing and soil disturbance. ■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	This alternative is anticipated to: ■ Disturb 2,427 ha of surficial materials ■ Intersect 0 ha of potential land with permafrost ■ Intersect 23 ha of Class IV (1% of alternative footprint) and 18 ha (1% of alternative footprint) of Class V terrain ■ Disturb 9 significant landforms	This alternative is anticipated to: ■ Disturb 825 ha of surficial materials ■ Intersect 0 ha of potential land with permafrost ■ Intersect 16 ha of Class IV (2% of alternative footprint) and 18 ha (2% of alternative footprint) of Class V terrain ■ Disturb 2 significant landforms
	■ Quantity and distribution of soil map units	■ Area of soil disturbed (excludes non-soils such	■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, temporary construction camps, laydown areas).	This alternative is anticipated to disturb 2,330 ha of soil (96% of the alternative footprint).	This alternative is anticipated to disturb 823 ha of soil (100% of the alternative footprint).

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
		as bedrock and water) per alternative	■ Minimize areas of vegetation clearing and soil disturbance. ■ Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for soil erosion, salvage and handling.		
	■ Soil Quality / Productivity	■ Area of high water erosion risk disturbed per alternative ■ Area of high wind erosion risk disturbed per alternative ■ Amount of soil that is considered suitable for reclamation[3] ■ Area of high compaction risk disturbed per alternative	■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). ■ Use clearing equipment that minimizes surface disturbance, soil compaction and topsoil loss (e.g., equipment with low ground pressure tracks or tires, blade shoes, and brushes), where feasible. ■ Where soils are prone to wind erosion, tackify, cover, seed, and/or apply water during periods of high erosion potential (e.g., summer and fall). ■ Minimize soil disturbance by building on bedrock, where feasible . ■ Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for soil erosion, salvage and handling. ■ Construct in winter to avoid compaction, where feasible.	This alternative is anticipated to: ■ Disturb 0 ha of area with high water erosion risk ■ Disturb 355 ha (15% of alternative footprint) of area with high wind erosion risk ■ Disturb 917 ha (38% of alternative footprint) of soil that is considered suitable for reclamation ■ Intersect 161 ha (7% of alternative footprint) of area with high compaction risk	This alternative is anticipated to: ■ Disturb 0 ha of area with high water erosion risk ■ Disturb 270 ha (34% of alternative footprint) of area with high wind erosion risk ■ Disturb 124 ha (15% of alternative footprint) of soil that is considered suitable for reclamation ■ Intersect 34 ha (4% of alternative footprint) of area with high compaction risk
Summary of Physiography, Terrain and Soils: **Overall** • **Alternative 4 is the most preferred route alternative for Segment 3 – North of the Albany Crossing from the perspective of physiography, terrain and soils,** as this alternative will have lower net effects as it is anticipated to disturb fewer significant landforms and a smaller area of surficial materials, soil, areas of wind erosion risk, soil suitable for reclamation and soil with high risk of compaction than Alternative 1. o Alternative 1 would remove the largest area of surficial materials. o Although Alternative 4 would affect a larger percentage (4%) of potentially unstable ground (35 ha total), Alternative 1 is significantly larger in area and would affect a larger area of potentially unstable ground with 42 ha (2%). o No permafrost processes were identified in either of the two alternatives. o Alternative 4 would affect seven fewer significant landforms than Alternative 1. o Alternative 1 would affect a lower percentage of soil (96%), however Alternative 1 is significantly larger in area and would disturb more soil. o Neither alternative has areas identified as being at a potentially high risk for water erosion. o Although a higher percentage of Alternative 4 intersects areas of high wind erosion risk (34%. 270 ha), Alternative 1 would affect a larger area (15%, 355 ha). o Alternative 1 would affect a higher percentage of soils rated as being suitable for reclamation, and a larger area than Alternative 4. o Alternative 1 would affect a higher percentage of soils rated as having a high risk for compaction, and a larger area than Alternative 4. **Net Effects** Alternative 1 results in higher net effects than those of Alternative 4 due to higher disturbance of soil and terrain and effects on soil quality. This comparative analysis evaluated three route alternatives based on the interaction of their project development areas and the representative indicator measures, and did not consider the effects to physiography, terrain and soil valued component at the local or regional scale (i.e., local study area or regional study area). Therefore, as the project development area for each alternative is anticipated to permanently remove or disturb measures of the proposed indicators, net effects may be high for both alternatives The comprehensive assessment of net effects to the physiography, terrain and soils valued component, will be completed on the preferred route selected, and may result in a different determination of predicted net effects. ***Notes:*** 1. Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. 2. The number of significant landforms noted is subjective and may be a conservative value. This measure will be re-evaluated with indigenous knowledge input, and information from the wildlife and vegetation disciplines. As a result, the data presented here may differ from the final effects analysis. 3. Soil with a rating of Good, Fair or Poor were considered suitable for reclamation.				
GROUNDWATER AND GEOCHEMISTRY					
Groundwater	■ Groundwater Quality: Degradation of physical and chemical characteristics of groundwater	■ Areas of coarse-grained surficial deposits and bedrock that are potentially important for	■ Design stormwater management features to contain runoff and allow it to infiltrate locally ■ Restore land cover on unused parts of road construction footprint (construction camps, aggregate pits)	This alternative will intersect 1,888 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge	This alternative will intersect 485 ha of coarse-grained surficial deposits and bedrock that are potentially important for groundwater recharge

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
	■ Groundwater Quantity: Change in groundwater levels	groundwater recharge and have elevated vulnerability to groundwater contamination. (hectares)	■ Implement spill prevention, monitoring, control and response programs for road construction and operation ■ Minimize or avoid using salt solutions for dust/ice control	and have elevated vulnerability to groundwater contamination.	and have elevated vulnerability to groundwater contamination.
Summary of Groundwater and Geochemistry: **Overall** • **Alternative 4 is the preferred route for Segment 3– North of the Albany from the perspective of groundwater and geochemistry** in terms of reducing potential for impacting areas likely to have higher rates of groundwater recharge (infiltration) and highest vulnerability to contamination. • Alternative 4 crosses over the least amount of area of coarse-grained and bedrock surficial materials. • Alternative 1 crosses over the greatest amount of area of coarse-grained and bedrock surficial materials. **Net Effects** Alternative 1 results in higher net effect than Alternative 4 due to its intersection with a higher area of coarse-grained and bedrock surficial materials. This comparative analysis evaluated two route alternatives based on the interaction of their project development areas and the representative indicator measures and did not consider the effects to groundwater and geochemistry at the local or regional scale (i.e., local study area or regional study area). The comprehensive assessment of net effects to groundwater will be completed on the preferred route selected and may result in a different determination of predicted net effects.					
SURFACE WATER					
Surface Water	■ Surface Water Quantity ■ Surface Water Quality	■ Total number of waterbody crossings ■ Flow regime (permanent vs. intermittent or ephemeral) ■ Channel length and/or width or wetted area within the proposed corridor (to be tallied as a total for all of the crossing locations within a given segment) ■ Number of waterbodies targeted for crossing structure installation /maintenance and associated in-water work with potential effects to flow conveyance and erosion and sedimentation processes ■ Number of waterbodies targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features (e.g., sensitive fish communities, areas of known channel instability, etc.)	Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: ■ Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. ■ Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright, Hopky, 1998). ■ Measures to avoid unnecessary vehicle and machine idling to minimize emissions and greenhouse gasses. ■ Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. ■ Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. ■ Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies. ■ Wash water from vehicles and equipment will not be allowed to enter a waterbody and will be conveyed to areas for infiltration, treated prior to discharge to the receiving environment, or hauled off site.	This alternative is anticipated to: ■ Cross 18 waterbodies, all of which are inferred as permanent ■ Intersect 22,804 m^2 of wetted area within the proposed corridor ■ Cross 12 waterbodies (10,634 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work ■ Cross 3 waterbodies (9,191 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	This alternative is anticipated to: ■ Cross 9 waterbodies, all of which are inferred as permanent ■ Intersect 12,185 m^2 of wetted area within the proposed corridor ■ Cross 5 waterbodies (8,502 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work ■ Cross 3 waterbodies (8,302 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
Summary of Surface Water: **Overall** • **Alternative 4 is the preferred alternative for Segment 3 – North of Albany Crossing for surface water quality and quantity,** given that Alternative 4 includes nine less crossings than Alternative 1 and includes seven less crossings targeted for crossing structure installation / maintenance and associated in-water work. **Net Effects** The predicted net effect for each of the alternatives were evaluated to be equivalent, based on the understanding that, with the implementation of the recommended avoidance, mitigation, compensation, and enhancement measures (including properly sized and designed water crossing structures, installation and maintenance of appropriate erosion and sediment controls, and implementation of construction best management practices), the potential effects on surface water receivers are expected to be limited. As such, there is a negligible difference between the alternatives from the perspective of surface water. ***Notes:*** The requirement for in-water determined as follows: • For waterbody crossings with bankfull widths less than 5 m, it is assumed that culverts would be used (requiring in-water work) • For waterbody crossings with bankfull widths greater than or equal to 5 m and less than 25 m, it is assumed that clear span bridges would be used (no in-water work) • For waterbody crossings greater than or equal to 25 m, it is assumed that bridges with piers and abutments would be used (requiring in-water work) • For waterbody crossings in flooded/impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it is assumed that in-water work would be required.				
VISUAL					
Visual	■ Change in landscape character	■ Visibility of project from identified valued/sensitive receptor locations.	■ Minimize disturbance to the surrounding landscape including; Peatland. Vegetation. Terrain and Surface Water. ■ Minimize the creation on open vistas to reduce visibility of proposed community access road/ ■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction	Greater number of River crossings has potential for greater visual impact Least Preferred See below anticipated impacts to changes in landscape character	Fewer number of River crossings has potential for less visual impact Most Preferred See below anticipated impacts to changes in landscape character
	■ Proximity to and number of sensitive receptors	■ Alteration / change in or loss of culturally important sites and areas (e.g., ceremonial sites, place names, teaching sites, archaeological sites ■ Visibility of Cultural, Spiritual, and Sacred Areas (MFFN)	■ Avoid and/or screen sensitive sites and features ■ Minimize disturbance and proximity of road to sensitive receptors including known cultural and spiritual significant places	Requires IK Team Input and Cultural Heritage Team Input	Requires IK Team Input and Cultural Heritage Team Input
	■ Degree of Visual Contrast	■ Amount of visual disturbance	■ Minimize disturbance and extent of infrastructure	Requires visibility mapping/modeling	Requires visibility mapping/modeling
	■ Change in Landscape Character: Physiography, Terrain and Soils	■ Area of surficial materials disturbed per alternative ■ Number of Surface features disturbed per alternative	■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	This alternative is anticipated to: ■ Disturb 2,427 ha of surficial materials. ■ Intersect 0 ha of potential land with permafrost ■ Intersect 23 ha of Class IV (1% of alternative footprint) and 18 ha (1% of alternative footprint) of Class V terrain ■ Disturb 9 significant landforms	This alternative is anticipated to: ■ Disturb 825 ha of surficial materials. ■ Intersect 0 ha of potential land with permafrost ■ Intersect 16 ha of Class IV (2% of alternative footprint) and 18 ha (2% of alternative footprint) of Class V terrain ■ Disturb 2 significant landforms
	■ Change in Landscape Character: Surface Water Features	■ Total number of waterbody crossings ■ Number of waterbodies targeted for crossing structure installation /maintenance and	■ Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include:	This alternative is anticipated to: ■ Cross 18 waterbodies, all of which are inferred as permanent ■ Intersect 22,804 m^2 of wetted area within the proposed corridor	his alternative is anticipated to: ■ Cross 9 waterbodies, all of which are inferred as permanent ■ Intersect 12,185 m^2 of wetted area within the proposed corridor

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
		associated in-water work with potential effects to sensitive receptors or features (e.g., traditional landuses)	■ Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. ■ Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies.	■ Cross 12 waterbodies (10,634 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work ■ Cross 3 waterbodies (9,191 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features	■ Cross 5 waterbodies (8,502 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work ■ Cross 3 waterbodies (8,302 m^2 of wetted area) that are targeted for crossing structure installation /maintenance and associated in-water work with potential effects to sensitive receptors or features
	■ Change in Landscape Character: Vegetation and Ecosystems	■ Area (hectares) of wetland, riparian and upland ecosystems disturbed per alternative1 ■ Peatland area (hectares) disturbed per alternative ■ Number of peatlands type fragmented	■ Minimize vegetation clearing to only what is required for construction and staging. ■ Avoid using wetland and riparian areas for staging, where possible. ■ Incorporate standard tree protection and ESC measures. ■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas).	This alternative is anticipated to disturb 1178.96 ha of wetland and riparian ecosystems This alternative is anticipated to disturb 16 upland ecosite types This alternative is anticipated to disturb 1046.00 ha of peatland and 17 peatland ecosite types.	This alternative is anticipated to disturb 430.45 ha of wetland and riparian ecosystems This alternative is anticipated to disturb 12 upland ecosite types This alternative is anticipated to disturb 433.27 ha of peatland and 10 peatland ecosite types.
Summary of Visual: **Overall** • **Alternative 4 is the preferred alternative for Segment 3 – North of Albany Crossing from the perspective of visual** as it is a shorter route with lower impact to surrounding sensitive receptors. • Alternative 4 has a lower number of significant water crossing reducing visual impact. • The landscape terrain for both Alternative 1 and 4 is similar, characterized by fen and marsh conditions. However, Alternative 1 exhibits a geological composition with a higher proportion of sand and gravel, thereby reducing the construction impact compared to wetlands and consequently resulting in a more moderately reduced visual impact. • Alternative 1 is depicted as being in closer proximity to and intersecting with a greater number of traditional Indigenous pathways, which would have a more significant and higher impact on traditional land uses. **Net Effects** Alternative 1 is predicted to result in higher net effects than Alternative 4 from the perspective of the visual valued component.					
ACOUSTIC AND VIBRATION ENVIRONMENT					

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
Acoustic and Vibration Environment	■ Change to noise and vibration	■ Project Development Area (PDA) footprint area ■ Total road length ■ # of sensitive points of reception (PORs) within 500 m of the roadway	■ Comply with local municipal noise by-laws and the MECP Model Municipal Noise Control Bylaw (i.e., NPC-115). ■ Generally limit construction activities to the daytime period (i.e., 07:00 to 19:00) where possible. If nighttime construction activities are required, a review of whether additional mitigation measures are needed should be carried out. ■ Maintain equipment and machinery used on site in good working conditions through regular maintenance and inspection. ■ Design access roads to minimize reversing, which is expected to minimize use of backup beepers, where possible. ■ Locate and operate construction equipment as far as possible from points of reception (PORs). ■ Notify Indigenous communities, landowners, and relevant stakeholders of the planned construction schedule before the start of construction and prior to specific activities that may be noisy or generate vibration. ■ Investigate noise or vibration concerns as they arise through a complaint resolution mechanism whereby persons can contact the proponent if there are perceived noise or vibration issues. ■ Operate vehicles and equipment such that impulsive noise is minimized, where possible. ■ Develop a construction vibration workplan prior to the start of construction describing the construction schedule, list of construction equipment, list of POR locations, applicable guidance documents including criteria and municipal by-laws (i.e., residential, heritage structures and utilities) and control measures. ■ Avoid operating equipment expected to be a significant source of vibration simultaneously. Vibration levels could be less when operating separately. ■ Construction blasting will be carried out in compliance with OPSS 120 and NPC-119. All blasts which might impact local structures or disrupt humans should be monitored for ground and air vibrations. ■ Aggregate pit blasting will be carried out to comply with the conditions provided in the license or aggregate permit. ■ Blasting delays and blast mats will be used, as appropriate, to control vibration and fly rock as required.	The project development area for this alternative is 2,427 ha, with a total road length of 67.5 km. There are 77 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.	The project development area for this alternative is 825 ha, with a total road length of 34 km. There are 57 potential PORs within 500 m of the roadway that could be impacted by noise and vibration.

Summary of Acoustic and Vibration Environment:

Overall

- **Alternative 4 is the most preferred route alternative from the perspective of the acoustic and vibration environment for Segment 3 – North of the Albany** as it has the smallest PDA footprint, shortest road length and smallest number of potential PORs within 500 m of the roadway.
- Alternative 1 is the least preferred route alternative for Segment 3 – North of the Albany from the perspective of acoustic and vibration environment as it has the largest PDA footprint, longest road length, and largest number of potential PORs within 500 m of the roadway.
- In general, the larger the PDA footprint, the higher the likelihood of a larger number of potential PORs located in the acoustic environment study areas.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
• In general, the longer the road, the higher the likelihood of a larger number of potential PORs exposed to noise from Project operations (i.e., a longer-term effect). • In general, the more potential PORs within 500 m of the roadway, the higher the likelihood of a larger number of potential PORs exposed to noise from the Project. Note that the POR counts above are based on a preliminary review and the specific land uses have not been confirmed to be noise or vibration sensitive. **Net Effects** It is expected that each of the route alternatives can be designed such that the outcome of the acoustic and vibration environment assessment of net effects would be equal. As such, net effects from each alternative to the noise and vibration environment are predicted to be equivalent. This comparative analysis evaluated the route alternatives based on the PDAs, road length, and a preliminary analysis of the number of potential PORs within 500 m of the roadway and did not consider the expected Project noise and vibration levels in the LSA or the proximity of potential PORs to the Project. The comprehensive review of potential PORs and assessment of net effects for the acoustic and vibration environment will be completed on the preferred route selected and may result in a different determination of predicted net effects.					
ATMOSPHERIC AND GHG					
Air Quality and GHG	■ # of sensitive receptors within 500 m of the roadway	■ #	**Air Quality Mitigation Options:** ■ Maintain and keep equipment in proper working order ■ Use fuel efficient equipment where possible ■ Avoid idling where possible and develop an anti idling policy ■ Optimize material selection, procurement and shipping ■ Implement fugitive dust controls such as scheduled road watering, stockpile watering or covering erodible surfaces where appropriate ■ Implement proper storage and handling procedures of fuel ■ Optimize blasting and land clearing activities to reduce overall fuel and explosive usage ■ Where possible reuse or salvage wood materials to prevent burning activities for disposal **GHG Mitigation Options:** ■ Maintain and keep equipment in proper working order ■ Use fuel efficient equipment where possible ■ Avoid idling where possible and develop an anti-idling policy ■ Optimize material selection, procurement and shipping ■ Consider carbon offsets through reforestation ■ Where possible reduce the amount of land clearing or disturbance activities ■ Strategically develop construction and equipment usage schedules to reduce overall fuel consumption	77	57
	■ Land use type which is disturbed based on route selection (i.e., wetland, forest type, peatlands, etc.)	■ Bedrock (Ha)		-	-
		■ Treed (Ha)		1,547	405
		■ Water (Ha)		38	7
		■ Wetland (Ha)		842	414
	■ Operating equipment needed for each route selection (if one route selection requires increased construction efforts)	■ Length of Road (km)		67.69	34.17
	■ Overall road/clearing area of each route selection	■ Area (Ha)		2,426.60	824.99
Summary of Atmospheric and GHG: **Overall** • **Alternative 4 is the most preferred route alternative – this is based on Alternative 4 having the least number of sensitive receptors and least amount of project area disturbed.** • The total number of receptors which may be impacted by air quality emissions from the project is lowest for Alternative 4. It should be noted that receptor location may influence the magnitude of effects experienced at each receptor. • At this time, it is unknown based on land classification changes the potential impacts that carbon sinks and sequestrations will have on overall GHG emissions. Based on data available at this time, Alternative 4 has the least disturbed area of carbon sinks. The magnitude of loss of carbon sinks will vary based on the specifics of each land use characteristics. • The length of road segment is lower for Alternative 4, this may result in a decrease in air quality and GHG emissions during construction phases. Total road length may or may not influence operating equipment duration based on route specific construction requirements. • Total area required to be cleared is lowest for Alternative 4, and this may result in a decrease in air quality and GHG emissions during the construction phase. **Net Effects**					

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – PHYSICAL ENVIRONMENT					
The net effects on the atmospheric and GHG valued component were predicted to be equivalent for both alternatives. Detailed modelling is required to determine potential net effects. At this time, emission rates for both air quality pollutants and GHGs are not estimated due to uncertainty in equipment usage and land cover changes. It should be noted that sensitive receptor location and meteorological data inputs may influence the severity of net effects. The net effect rating is subject to change pending on detailed modelling/calculations as well as implementation of additional mitigation.					

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
WILDLIFE					
Bats *(including SAR – Little Brown Myotis, Northern Myotis, Tri-colored Bat)*	■ Species presence ■ Relative abundance (spatially and temporally) ■ Habitat availability and distribution (spatially and temporally) including critical habitat for SAR	■ Area (hectares) of moderate to high suitability bat maternity roost habitat disturbed per alternative. ■ Area (hectares) of foraging habitat (open wetlands and waterbodies adjacent to roosting habitat).	■ Avoid clearing of suitable maternity roost habitat during the bat active season. ■ Limit the Project footprint to the extent feasible. ■ Minimize disturbances during sensitive periods. ■ Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb: • 146.06 ha of moderate to high suitability bat maternity roost habitat • 259.32 ha of foraging habitat	This alternative is anticipated to disturb: • 230.42 ha of moderate to high suitability bat maternity roost habitat • 110 ha of foraging habitat
Fur Bearers *(American Marten)*	■ Species presence ■ Relative abundance (spatially and temporally) ■ Habitat availability and distribution (spatially and temporally) including critical habitat for SAR	■ Relative abundance of furbearers (American Marten)[2] ■ Area (hectares) of moderate/high quality American Marten habitat disturbed per alternative.	■ Limit the Project footprint to the extent feasible. ■ Minimize disturbances during sensitive periods. ■ Minimize risk of mortality during construction and operations.	This alternative has a relative abundance of 0.74 American Marten and is anticipated to disturb 1,926.47 ha of moderate/high quality American Marten habitat	This alternative has a relative abundance of 1.49 American Marten and is anticipated to disturb 620.8 ha of moderate/high quality American Marten habitat
Fur Bearers *(SAR Wolverine)*		■ Presence/relative abundance of wolverine females and individuals of unknown sex per alternative. Presence of observed denning areas (from field observations).[1] ■ Relative abundance of wolverine.[2]	■ If a denning area is identified, avoid construction activities within 4 km during the wolverine denning season. ■ Limit the Project footprint to the extent feasible. ■ Minimize disturbances during sensitive periods. ■ Minimize risk of mortality during construction and operations.	This alternative has a relative abundance of 1.33 wolverine, the presence or abundance of 1 female wolverine and 10 wolverine individuals of unknown sex	This alternative has a relative abundance of 0.83 wolverine, the presence or abundance of 1 female wolverine and 5 wolverine individuals of unknown sex
Amphibians and Reptiles	■ Species presence ■ Relative abundance (if possible both spatially and temporally) ■ Habitat availability and distribution (spatially and temporally)	■ Area (hectares) of high suitability breeding ecosites per alternatives (amphibians).	■ Limit the Project footprint to the extent feasible. ■ Minimize disturbances during sensitive periods. ■ Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb 1,158.83 ha of high suitability breeding ecosites	This alternative is anticipated to disturb 423.19 ha of high suitability breeding ecosites

Summary of Wildlife:

Overall

- **Alternative 4 is the most preferred alternative for Segment 3 – North of the Albany, as it is anticipated that it would result in lower effects on American marten, wolverine, and amphibians.**
- Alternative 1 is the least preferred for alternative of Segment 3 – North of Albany, as it is anticipated that it would result in higher net effects on American marten, wolverine, and amphibians.

Bats

- It is anticipated that Alternative 1 and Alternative 4 would have similar net effects on Bats. Alternative 1 would result in a lower direct loss of bat maternity roost habitat, and Alternative 4 would result in a lower direct loss of bat foraging habitat.

Furbearers (American Marten)

- Alternative 4 is the most preferred for American Marten, as it results in the least direct loss of moderate/high quality American marten habitat.
- Alternative 1 West is the least preferred for American Marten, as it results in the greatest direct loss of moderate/high quality American marten habitat.

Furbearers (Wolverine)

- Alternative 4 is the most preferred for Wolverine, as it has the lowest wolverine relative abundance and has the fewest number of observations of female wolverine and wolverines of unknown sex.
- Alternative 1 West is the least preferred for Wolverine, as it the highest wolverine relative abundance and has the largest number of observations of female wolverine and wolverines of unknown sex.

Amphibians and Reptiles

- Alternative 4 is the most preferred for Amphibians and Reptiles, as it results in the least direct loss of suitable amphibian breeding habitat.
- Alternative 1 West is the least preferred for Amphibians and Reptiles, as it results in the greatest direct loss of suitable amphibian breeding habitat.

Net Effects

Alternative 1 is predicted to result in higher net effects than Alternative 4 due to its effects on American marten, wolverine, and amphibians/reptiles. The predicted net effects have not considered all potential mitigation that may be applied. It is important to note that all route segments that bisect wolverine habitat have a direct effect as this species utilizes large home ranges and they rely on intact areas of wilderness directly or indirectly for life processes. Indirect effects of habitat removal for this species at risk, including sensory disturbance and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment. Until the mitigation measures are confirmed, and the design of the project is further determined, all alternative routes are

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
assessed as having potentially high net effects for wildlife. Net effect assessment is subject to change based on the implementation of additional mitigation. The comprehensive review of net effects for wildlife and wildlife habitat will be completed on the preferred route selected and may result in a different determination of predicted net effects. ***Notes:*** *1.* Female observations are split into the total number of known female animals observed per route segment. Wolverines of unknown sex are the sum of the total known animals with unknown sex and unidentifiable individuals. Unidentifiable individuals are assumed to be unique individuals. *2.* Relative abundance metrics are calculated as the average number of sightings (wolverine) or tracks (American marten) per station for stations that overlap route alternatives.					
FISH, FISH HABITAT					
Fish and fish habitat valued components (VC): • Lake Sturgeon • Walleye • Brook Trout • Northern Pike • Lake Whitefish Burbot	■ Habitat Quantity and Quality ■ Distribution and connectivity to habitat and migration ■ Survival and reproduction	■ Total number of waterbody crossings ■ Number of crossings requiring in-water work (e.g., culverts, bridge piers or abutments below the high-water mark) ■ Number of crossings requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon	Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: ■ Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. ■ Adherence to in-water work timing windows. ■ Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). ■ Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). ■ Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). ■ Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. ■ Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. ■ Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. ■ Measures to limit the spread and / or introduction of invasive species.	This alternative is anticipated to: ■ Cross 18 waterbodies ■ Cross 14 waterbodies requiring in-water work ■ Cross 3 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)	This alternative is anticipated to: ■ Cross 9 waterbodies ■ Cross 5 waterbodies requiring in-water work ■ Cross 2 waterbodies requiring in-water work below the high-water mark with potential for sensitive fish communities (i.e., coldwater species or Lake Sturgeon)
Summary of Fish, Fish Habitat: **Overall:** • **Alternative 4 is the most preferred alternative for Segment 3 – North of Albany** from the perspective of fish and fish habitat. o The route has the least number of waterbody crossing locations where instream work would be required in areas with potential habitat for sensitive fish communities/coldwater VC fish species (Brook Trout, Lake Whitefish, Burbot) or Lake Sturgeon. • Alternative 1 is the least preferred (moderately) alternative of Segment 3 – North of Albany from the perspective of fish and fish habitat, because it has the greatest number of waterbody crossing locations where instream work would be required in areas with potential habitat for sensitive fish communities/coldwater VC fish species (Brook Trout, Lake Whitefish, Burbot) or Lake Sturgeon. • There is a negligible difference between the alternatives. **Net Effects** The predicted net effect for each of the alternatives were evaluated to be equivalent, based on the understanding that, with the implementation of the recommended avoidance, mitigation, compensation, and enhancement measures, minor change to baseline habitat and conditions, without loss of function or individuals are predicted. The comprehensive review of fish and fish habitat and assessment of net effects will be completed on the preferred route selected and may result in different determination of predicted net effects. ***Notes:***					

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
The requirement for in-water works were determined as follows: • For waterbody crossings with bankfull widths less than 5 m, it is assumed that culverts would be used (requiring in-water work) • For waterbody crossings with bankfull widths greater than or equal to 5 m and less than 25 m, it is assumed that clear span bridges would be used (no in-water work) • For waterbody crossings greater than or equal to 25 m, it is assumed that bridges with piers and abutments would be used (requiring in-water work) For waterbody crossings in flooded/impounded wetlands where wetted widths were greater than bankfull width at the time of the assessment, it is assumed that in-water work would be required.					

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
VEGETATION					
Wetland and Riparian Ecosystems	■ Availability (abundance spatially and temporally) ■ Distribution ■ Function and Composition	■ Area (hectares) of wetland and riparian ecosystems disturbed per alternative[1]	■ Minimize vegetation clearing to only what is required for construction and staging. ■ Avoid using wetland and riparian areas for staging, where possible. ■ Incorporate standard tree protection and ESC measures. ■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). ■ Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation and wetland protection and mitigation.	This alternative is anticipated to disturb 1178.96 ha of wetland and riparian ecosystems	This alternative is anticipated to disturb 430.45 ha of wetland and riparian ecosystems
Upland Ecosystems	■ Availability (abundance spatially and temporally) ■ Distribution ■ Function and Composition	■ Number of upland ecosite types disturbed per alternative2	■ Minimize vegetation clearing to only what is required for construction and staging. ■ Incorporate standard tree protection and ESC measures. ■ Minimize vegetation clearing to only what is required for construction and staging. ■ Incorporate standard tree protection and ESC measures. ■ Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). ■ Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.	This alternative is anticipated to disturb 16 upland ecosite types	This alternative is anticipated to disturb 12 upland ecosite types
Traditional Use Plants and SAR Plant Populations *(Including species with special conservation status or rarity in the province)*	■ Species presence ■ Accessibility to traditional use of plants ■ Accessibility to traditional use of plants	■ Area (hectares) of highly suitable and highly accessible (High = score of 1.5 – 2.0) habitat for Traditional Use Plants disturbed per alternative. ■ Area (hectares) of suitable habitat for SAR/SCC Plants (Black Ash, Northern Marsh Violet) disturbed per alternative.	■ Minimize vegetation clearing to only what is required for construction and staging. ■ Incorporate standard tree protection and ESC measures. ■ Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.	This alternative is anticipated to disturb 735.81 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 2431.46 ha of suitable SAR/SCC habitat	This alternative is anticipated to disturb 269.91 ha of highly suitable and highly accessible habitats for Traditional Use Plants and 828.26 ha of suitable SAR/SCC habitat

Summary of Vegetation:

Overall

- **Alternative 4 is the most preferred route alternative for Segment 3 – North of the Albany Crossing from the perspective of vegetation** as it has lower net effects through a smaller direct loss of wetland and riparian ecosystems, disturbance of fewer upland ecosite types, smaller direct loss of highly suitable and highly accessible habitats for Traditional Use Plants, and it has the least impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet).

Wetlands and Riparian Ecosystems

- Alternative 4 is the most preferred as it results in the least direct loss of wetland and riparian ecosystems.
- Alternative 1 is the least preferred as it results in the greatest direct loss of wetland and riparian ecosystems.

Upland Ecosystems

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
• **Alternative 4 is the most preferred** as it disturbs the fewest upland ecosite types. • Alternative 1 is the least preferred as it disturbs the greatest number of ecosite types. **Traditional Use Plants and SAR/SCC Plant Populations** • Alternative 4 is the most preferred as it results in the least direct loss of highly suitable and highly accessible habitats for Traditional Use Plants. • Alternative 1 is the least preferred as it results in the greatest direct loss of highly suitable and highly accessible habitats for Traditional Use Plants. • Alternative 4 is the most preferred for SAR/SCC Plant Populations as it has the least impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet). • Alternative 1 is the least preferred SAR/SCC Plant Populations as it has the greatest impact on areas of suitable habitat for these species (i.e., Black Ash and Northern Marsh Violet). **Net Effects** Alternative 1 results in higher net effects than Alternative 4. This comparative analysis evaluated the two route alternatives based on the interaction of their project development areas and the representative indicator measures and did not consider the effects to vegetation valued components at the local or regional scale (i.e., local study area or regional study area). Therefore, as the project development area for each alternative is anticipated to permanently remove or disturb wetland, riparian and upland ecosystems, as well as highly suitable and highly accessible habitats for Traditional Use Plants and suitable habitat for SAR/SCC, net effects of both alternatives may be high. The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the vegetation valued components will be completed on the preferred route selected and may result in a different determination of predicted net effects to these individual valued components. ***Notes:*** 1. Note that for the purposes of the alternatives assessment, only the availability of wetland and riparian ecosystems indicator was included. Area of loss as a metric was used because the area of direct impact would be the most important on the ecosystem. The more area that is removed, the less likely the ecosystem would be able to maintain it's functions. The Distribution, Function and Composition Indicators will be addressed for the preferred alternative in the EA/IA Document. 2. Number of ecosite types as a metric is proposed because this provides a measure of impact on forest biodiversity rather than just area which could be attributed to the overall length of the route alternative rather than where the alternative is specifically located**.** 3. We have taken a preliminary conservative approach to classifying SAR and SCC habitats and the mapping is based on a limited amount of field information. The mapping that informed this evaluation is expected to be refined for final reporting. 4. This analysis is based on mapping that doesn't incorporate data collected during the 2023 field programs. This 2023 field information may refine the vegetation mapping that will be included in final reporting.					
BIRDS					
Species at risk forest and wetland birds **(e.g., Canada warbler, chimney swift, eastern whip-poor-will, eastern wood-pewee, evening grosbeak, olive-sided flycatcher, bank swallow, barn swallow, black tern, rusty blackbird, yellow rail).**	■ Species presence ■ Relative abundance (spatially and temporally) of species at risk ■ Habitat availability and distribution (spatially and temporally) including critical habitat (where known), were defined for SAR	■ Area (hectares) of moderate to high suitability bird species at risk habitat disturbed in the PDA ■ Area of provincial ESA regulated habitat or federal SARA critical habitat for SAR birds	■ Avoid clearing of suitable bird nesting habitat during the breeding bird period. ■ Limit the Project footprint to the extent feasible. ■ Minimize disturbances during the breeding bird period. ■ Minimize risk of mortality during construction and operations.	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: • Canada warbler: 1,296.8 ha • Chimney swift: 0.0 ha • Common nighthawk: 866.4 ha • Eastern whip-poor-will: 12.1 ha • Eastern wood-pewee: 138.7 ha • Evening grosbeak: 1,265.5 ha • Lesser yellowlegs: 1,567.4 ha • Olive-sided flycatcher: 1,531.3 ha • Bald eagle: 474.8 ha • Peregrine falcon: 0.0 ha • Short-eared owl: 13.6 ha • Bank swallow: 0.0 ha • Barn swallow: 0.0 ha • Black tern: 3.5 ha • Rusty blackbird: 1,213.5 ha • Yellow rail: 13.6 ha This alternative is not anticipated to disturb any known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds.	This alternative is anticipated to disturb the moderate to high suitability habitat of the following bird species at risk: • Canada warbler: 655.1 ha • Chimney swift: 0.0 ha • Common nighthawk: 267.3 ha • Eastern whip-poor-will: 11.2 ha • Eastern wood-pewee: 231.8 ha • Evening grosbeak: 399.7 ha • Lesser yellowlegs: 449.6 ha • Olive-sided flycatcher: 263.1 ha • Bald eagle: 251.8 ha • Peregrine falcon: 0.0 ha • Short-eared owl: 5.5 ha • Bank swallow: 0.0 ha • Barn swallow: 0.0 ha • Black tern: 1.5 ha • Rusty blackbird: 433.9 ha • Yellow rail: 2.3 ha This alternative is not anticipated to disturb any known provincial ESA regulated habitat[1] or federal SARA critical habitat for SAR birds.
Raptors (e.g., bald eagle)	■ Species presence	■ Number of habitat features and area (hectares) disturbed:	■ Limit the Project footprint to the extent feasible.	The alternative is not anticipated to disturb any stopover sites, but is	The alternative is not anticipated to disturb known raptor nests or stopover sites.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
	■ Relative abundance (spatially and temporally) ■ Habitat availability and distribution (spatially and temporally)	• Raptor nest locations • Stopover sites (if present)	■ Avoid sensory disturbances within 800 m of known bald eagle nests. ■ Minimize risk of mortality during construction and operations.	anticipated to disturb 1 bald eagle nests (10.6 ha)	
Shorebirds	■ Species presence ■ Relative abundance (spatially and temporally) ■ Habitat availability and distribution (spatially and temporally)	■ Number and area of confirmed and suitable habitat features disturbed (e.g., stopover sites)[2,3,4]	N/A	The alternative is not anticipated to disturb confirmed or suitable shorebird habitat features	The alternative is not anticipated to disturb confirmed or suitable shorebird habitat features
Waterfowl	■ Species presence ■ Relative abundance (spatially and temporally) ■ Habitat availability and distribution (spatially and temporally)	■ Number and area of confirmed and suitable habitat features disturbed (e.g., stopover sites) [2,3,4]	N/A	The alternative is not anticipated to disturb confirmed or suitable waterfowl habitat features	The alternative is not anticipated to disturb confirmed or suitable waterfowl habitat features

Summary of Birds:

Overall

- **Alternative 4 is the most preferred alternative for Segment 3 – North of the Albany,** as it is anticipated that it would result in the lowest net effect on bird species at risk and raptors. No difference in potential effects to shorebirds or waterfowl based on Alternatives was found with the selected measures.

Species at Risk

- Alternative 4 is the most preferred for Species at Risk, as it results in the least direct loss of moderate to high suitability habitat for bird species at risk.
- Alternative 1 is the least preferred for Species at Risk, as it results in the greatest direct loss of moderate to high suitability habitat for bird species at risk.
- Alternatives 1 and 4 both avoid the direct loss of any provincial ESA regulated habitat or federal SARA critical habitat for species at risk birds.
- Alternative 4 minimizes the amount of moderate to high suitability bird species at risk habitat that will be removed (avoidance measure).

Raptors

- Alternative 4 is the most preferred for Raptors, as it results in no direct loss of habitat features for raptors (i.e., raptor nest locations and their associated buffers, stopover sites).
- Alternative 1 is the least preferred for Raptors, as it results in the greatest direct loss of habitat features for raptors.
- Alternative 4 avoids the removal of known raptor nests.
- Alternatives 1 and 4 avoid the removal of potential stopover sites[1].

Shorebirds

- Both Alternative 1 and Alternative 4 avoid removing suitable habitat features for Shorebirds (e.g., stopover sites)[2,3,4].

Waterfowl

- Both Alternative 1 and Alternative 4 avoid removing suitable habitat features for Waterfowl (e.g., stopover sites) [2,3,4].

Net Effects

Alternative 1 results in higher net effects than Alternative 4 due to its effects on bird species at risk and raptors. This comparative analysis evaluated the two route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to bird valued components at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the bird valued components will be completed on the preferred route.

Notes:

1. Stopover sites for raptors were defined as waterbodies and watercourses surveyed during baseline field surveys with greater than 2 observations of raptors.
2. The Natural Heritage Information Centre (NHIC) was searched for known provincial waterfowl and shorebird staging areas. No data were found for these measures.
3. Suitable habitat features for shorebirds and waterfowl were defined as waterbodies and watercourses surveyed during baseline field surveys.
4. Confirmed habitat features for shorebirds and waterfowl were defined as waterbodies and watercourses surveyed during baseline field surveys plus a 100 m buffer where shorebirds or waterfowl were observed during baseline field surveys.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
UNGULATES					
Moose	■ Habitat availability ■ Habitat distribution	■ Number and area of confirmed and suitable habitat features disturbed per segment alternative (e.g., area of high suitability habitat, number of suitable moose aquatic feedings areas, known mineral licks).	■ Limit the Project footprint to the extent feasible. ■ Minimize disturbances during sensitive periods. ■ Minimize risk of mortality during construction and operations. ■ Alternative 4 minimizes the amount of high suitability that will be removed.	This alternative is anticipated to disturb 85 ha of high suitability habitat within the PDA, 911 ha of high suitability habitat within the PDA including a 500-meter buffer[1] and is not anticipated to disturb any suitable habitat features.	This alternative is anticipated to disturb 5 ha of high suitability habitat within the PDA, 45 ha of high suitability habitat within the PDA including a 500-meter buffer[1] and is not anticipated to disturb any suitable habitat features.
Caribou	■ Habitat availability ■ Habitat distribution – includes spatial extent and distribution of GHD Category 1, 2, and 3 habitats (MNR 2013d) and availability and distribution of habitat which contain biophysical attributes necessary for caribou seasonal and life stage activities (ECCC 2019).	■ Area (hectares) of known and potential Category 1 General Habitat Description **WINTER USE AREAS** that would be impacted per segment alternative. ■ Area (hectares) of known and potential Category 1 General Habitat Description **NURSERY AREAS** that would be impacted per segment alternative. ■ Area (hectares) of known and potential Category 1 General Habitat Description **TRAVEL CORRIDOR AREAS** that would be impacted per segment alternative.	■ Limit the Project footprint to the extent feasible. ■ Avoid sensory disturbances within 10 km of known high-use areas during sensitive periods. ■ Minimize risk of mortality during construction and operations. ■ Alternative 4 minimizes the amount of winter use habitat that will be removed. ■ Alternative 4 avoids the core areas (50% KDE) of known or potential nursery areas.	This alternative is anticipated to disturb the following known and potential Category 1 General Habitat Description winter use areas, nursery areas and travel corridors: • **Winter Use Areas:** 820 ha within the PDA, 5,315 ha within the PDA including a 500-meter buffer[1] • **Nursery Areas:** 0 ha within the PDA, 6 ha within the PDA including a 500-meter buffer[1] • **Travel Corridors:** 95 ha within the PDA, 1203 ha within the PDA including a 500-meter buffer[1]	This alternative is not anticipated to disturb any known and potential Category 1 General Habitat nursery areas or travel corridors, however it is anticipated to disturb the following known and potential Category 1 General Habitat Description winter use areas: • **Winter Use Areas:** 228 ha within the PDA, 1,932 ha within the PDA including a 500-meter buffer[1]

Summary of Ungulates:

Overall

- **Alternative 4 is the most preferred route alternative from the perspective of Ungulates for Segment 3 – North of the Albany Crossing**, as it is predicted to have higher net effects through the anticipated removal of a larger area of high suitability moose and caribou habitat compared to Alternative 1.
- Both alternatives have the potential to affect ungulate habitat, including removal of sensitive areas and reducing connectivity.
- Alternative 1 will directly remove more moose high suitability habitat than Alternative 4 (85 ha compared to 5 ha).
- Alternative 1 will remove more caribou winter use areas than Alternative 4 (820 ha compared to 228 ha direct habitat loss).
- Alternative 1 will remove more travel corridors than Alternative 4 (95 ha direct habitat loss compared to zero).
- When the 95% Kernel Density Estimation (KDE) polygons are evaluated, Alternative 1 removes substantially more Category 1 areas than Alternative 4), which are areas within the range which have lowest tolerance to alteration before their function in supporting caribou is compromised (MNR 2013).

Net Effects

Alternative 1 results in higher net effects for ungulates, both moose and caribou. It is important to note that both alternative segments will remove caribou habitat, which may be depended on directly or indirectly for life processes, even if it is not considered Category 1. Indirect effects of habitat removal, including sensory disturbance, increased mobility for predators and hunters, and increased vehicle traffic, cannot be fully mitigated regardless of the Alternative segment. As a result, both alternative routes for the North of Albany Crossing may potentially have high net effects for caribou. This comparative analysis evaluated the two route alternatives based on the direct interaction of their project development areas and the representative indicator measures and did not consider the effects to moose or caribou at the local or regional scale (i.e., local study area or regional study area). The predicted net effects have not considered all potential mitigation that may be applied. The comprehensive assessment of net effects to the ungulates will be completed on the preferred route selected and may result in a different determination of predicted net effects.

Notes:

1. A 500 m buffer is used to capture indirect disturbances to habitat features such as noise and dust.
2. Known Category 1 areas are derived from Ontario Government Caribou General Habitat Description for Forest-dwelling caribou (MNRF 2019). The identification of "potential new" Category 1 winter use areas and nursery areas is based on 50% KDE polygons derived from MFFN and MNRF collar data between 2020 to 2023. The 50% KDE represents the core area used during the date periods identified by Ontario for the current GHD Category 1 areas. "Potential new" travel corridors are derived

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – NATURAL ENVIRONMENT					
from 95% KDE derived from MFFN and MNRF collar data between 2020 and 2023. The 95% KDE was used for the travel corridors because travel corridors are more linear in extent and do not have core areas relative to winter use and nursery areas. In areas where travel corridors overlap winter use or nursery areas, they are not double counted in the calculation of habitat removed. *3.* This information may be re-evaluated with Indigenous knowledge input and/or additional collar data, when available. As a result, the data presented here may differ from the final effects analysis.					

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
ABORIGINAL AND TREATY RIGHTS AND INTERESTS					
Indigenous Current Use of Lands and Resources for Traditional Purposes	■ Alteration / change in or loss of sites and areas used for traditional activities (e.g., hunting, trapping, fishing, gathering). ***IK Maps available to assist with review – need a secure folder to upload to*** *IK data locations referenced in this table are not exact and have not been ground-truthed.* *Study Area refers to the general Project Study Area.* *LSA refers to the ATRI LSA.*	■ High Impacts to Low Impacts	■ Develop an Indigenous-led environmental monitoring program during the construction and operation of the road. ■ Secure funding for Indigenous community-based (MFFN) training program for local youth to be educated and hired as environmental monitors. ■ Work with Indigenous communities (MFFN) to establish a set of benchmarks or Indigenous Environmental Standards for reclamation (e.g., specific diversity, vegetation) to monitor and measure construction and operation activities and reclamation success. ■ Avoid, where possible, preferred hunting/fishing/harvesting areas identified by communities. ■ Route the all-season road to avoid areas of high-quality habitat where feasible. ■ Following construction, make use of native vegetation/ re-vegetation during site rehabilitation. ■ Maintain vegetative buffer zones between the all-season road and lakes or ponds along the right-of-way. ■ Maintain water (i.e., river/lake/etc.) access during design, construction and operation. ■ Engage with Indigenous communities regarding watercourse crossing design to facilitate navigation and fish passage. ■ Watercourse crossings to be designed for boat passage or to include portages. ■ Utilize signage (Indigenous and English language) to identify trapping areas. ■ Implement programs to encourage and help finance trapping as a livelihood. ■ Provide appropriate compensation to trappers who use the area(s) along the road.	■ Animal Harvesting throughout the Alternative, particularly in the southern half (within the Study area and overlapping the Alternative) ■ Fishing sites (within the Study area and LSA – Participant felt that with appropriate mitigation the values in the area could be protected) ■ Plant Harvesting areas (within the Study area and throughout southern extent of the Alterative) ■ Fish Netting Site (within Study area but closer to Alternative 4) ■ Commercial Trapping Area *(within Study area and overlaps with sections of the Alternative)* Requires further input from MFFN and IK/ILRU Studies from additional communities. No discernable difference between alternatives	■ Animal Harvesting throughout the Alternative, particularly in the southern half (within the Study area and overlapping the Alternative) ■ Fish Netting Site (within Study area, in proximity to the route alignment) ■ Plant Harvesting areas (within the Study area and throughout southern extent of the Alterative) ■ Commercial Trapping Area *(within Study area and overlaps with sections of the Alternative)* Requires further input from MFFN and IK/ILRU Studies from additional communities. No discernable difference between alternatives
	■ Changes in the availability or quantity of resources (e.g., wildlife, fish, vegetation) for traditional activities (e.g., harvesting and gathering). List of key species to be provided to Nat Sci Team.	■ High Impacts to Low Impacts	■ Work with other governing bodies to develop hunting and trapping regulations that minimize non-local Indigenous access to and harvesting pressure on local animal populations. ■ Work with other governing bodies to develop fishing restrictions to minimize non-Indigenous access to and pressure on fish populations. ■ Work with other governing bodies to develop regulations for wood harvesting along the road. ■ Implement an Indigenous-led environmental monitoring program (construction and post-construction) utilizing Indigenous knowledge to continue to assess changes in availability or quantity of resources so that mitigation measure can be employed more effectively and in “real time”. ■ Avoid, where possible, preferred hunting/fishing/harvesting areas identified by communities. ■ Maintain water (i.e., river/lake/etc.) access during design, construction and operation.	Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date	Requires input from Nat Sci team regarding potential for impact on culturally significant animal, plant and bird species. No data – to be determined at a future date

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			■ Engage with Indigenous communities regarding watercourse crossing design to facilitate navigation and fish passage. ■ Watercourse crossings to be designed for boat passage or to include portages. ■ Design and route the all-season road to avoid areas of high-quality habitat where feasible. ■ Develop a response plan in case of spills or other environmental emergencies along the road. ■ Collaborate with Indigenous communities to identify areas for future cultural use and support grant applications to develop cultural camps that support on-the-land learning and use ■ Following construction, make use of native vegetation/ re-vegetation with a focus on valued species during site rehabilitation.		
	■ Changes in access to sites and areas used for traditional activities.	■ High Impacts to Low Impacts	■ Involve local Indigenous communities (MFFN) in the development of access management measures or plans. Access should prioritize Indigenous communities' ability to harvest resources over non-Indigenous land users. ■ Use Indigenous (MFFN) land users (e.g., hunters and trappers) to monitor the Project area to support the enforcement of access management measure. ■ Provide access ramps to traditional travel routes bisected by the all-season road. ■ Create temporary detours for snowmobiles and ATVs during construction. ■ Identify and sign detour routes and portages (in Indigenous and English languages). ■ Construction contract provision requiring key travel routes be maintained ■ Engage with Indigenous communities on construction schedule to identify key hunting/fishing/harvesting times and areas that should be avoided. ■ Provide community updates regarding location and timing of construction activities. ■ Time construction activities to avoid key traditional use windows (e.g., moose hunting season, gees hunting season) ■ Restrict/limit non-Indigenous hunting/fishing/harvesting in the area. ■ Blocking and re-vegetating temporary access routes and other disturbed areas immediately after construction using native vegetation.	All Alternatives provide greater access to lands for harvesting purposes – this can be viewed as both a positive and a negative effect. No discernable difference between alternatives	All Alternatives provide greater access to lands for harvesting purposes – this can be viewed as both a positive and a negative effect. No discernable difference between alternatives
Cultural Continuity and Wellbeing (ability to practice and transmit cultural traditions)	■ Alteration / change in or loss of culturally important sites and areas (e.g., ceremonial sites, place names, teaching sites, archaeological sites).	■ High Impacts to Low Impacts	■ Conduct HRIAs to identify archaeological and heritage sites. ■ Engage with Indigenous communities to identify undocumented culturally important sites. ■ Design and align the all-season road to avoid known cultural, heritage and archaeological sites and objects. ■ Flag construction exclusion areas around discovered/previously unknown cultural, heritage and archaeological sites.	■ 2 Traditional Gathering Areas (along the east and west side Study Area boundaries) ■ Burial Site (within Study area and in proximity to the route alignment) ■ Traditional Gathering Site (within Study area) ■ Birth Site (within Study area) ■ 2 Hunting Camps (within the Study area) ■ Multiple camps (some may not be for traditional use) around Venton Lake between the two Alternatives ■ Several lakes (e.g., Maxey Lake) and numerous tributaries are identified as "Points of Interest"	■ 3 Camps (within the LSA) ■ Multiple camps (some may not be for traditional use) around Venton Lake between the two Alternatives ■ Many cabins and camps located along the Albany River to the east of the route alignment ■ Venton Lake has several "Points of Interest" (between the two Alternatives) ■ There is the potential for a Historical Tail to transect Alternative 4 at the south ■ Multiple trails transect Alternative 4 ■ 2 Portage sites (within the Study area and LSA)

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			■ Relocate heritage resources that would be destroyed by construction activities (only with consent from Indigenous communities and Archaeology Branch) ■ Consult with the local Indigenous communities (MFFN) on culturally appropriate measures if archaeological sites or objects are exposed during construction (i.e., co-develop Chance Find Procedures). ■ Provide instructions to contractors on procedures if archaeological sites or objects are exposed during construction. ■ Support Indigenous communities in developing on the land programming for Youth and Members to increase opportunities for cultural continuity and well-being. ■ Support the facilitation of Indigenous youth (MFFN) travelling to other First Nations/Thunder Bay/etc. in the region to learn about cultural and traditional land and resource use activities. ■ Develop all road signs in local Indigenous language(s).	■ Venton Lake has several "Points of Interest" (between the two Alternatives) ■ Canoe Route area (within Study area and overlaps a portion of the route alignment) ■ There is the potential for a Historical Tail to transect Alternative 1 at the north and comes close again at the south ■ Multiple trails transect Alternative 1 ■ Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. ■ Alternative 1 includes more Points of Interests, and Cultural, Spiritual, Sacred Value Area(s). ■ Requires input from MFFN and IK/ILRU Studies from additional communities (e.g., Eabametoong First Nation) ■ Insufficient data – to be determined at a future date	■ Cultural Heritage Team has noted that the area has raised cultural significance by Indigenous Communities. ■ Requires input from MFFN and IK/ILRU Studies from additional communities (e.g., Eabametoong First Nation) ■ Insufficient data – to be determined at a future date
Summary of Aboriginal and Treaty Rights and Interests: There is little IK/ILRU data available for much of Segment 3. MFFN has provided some IK/ILRU for the northern extent of Segment 3 but there is limited to no information in the southern extent. It is anticipated that Eabametoong First Nation (and other Indigenous Communities) may have IK/ILRU related to the southern extent that would be advantageous in assessing route alternatives, provided this is shared. Requires input from Natural Science team regarding potential for impact on animal, plant and bird species (e.g., harvesting and gathering).					
ECONOMIC					
Regional Economy	■ Traditional Economies	■ Change in Ability to Undertake Traditional Economic Activities	■ Communicate information on planned and active construction activities to facilitate local planning of traditional economies such as trapping. ■ In selection of final road alignment as part of road design development, where possible, avoid high-quality fur-bearer habitat.	The development of the road has the potential to result in net effects to traditional economies such as trapping. Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping activity has declined significantly throughout Canada due to low fur prices. Anecdotal input suggests that trapping activity in the LSA has also declined and is no longer an important economic activity. The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite trappers being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline area covered and furbearer habitat impacted.	The development of the road has the potential to result in net effects to traditional economies such as trapping. Trapping is the only identified traditional economic activity that may be occurring in the study area. Trapping activity has declined significantly throughout Canada due to low fur prices. Anecdotal input suggests that trapping activity in the LSA has also declined and is no longer an important economic activity. The development of the road may support trapping activity through providing better access to lands used for trapping or result in negative impacts by loss of habitat for targeted species. Despite trappers being requested for information, at this time, we have no input from the trappers on the level of activity in the intersected traplines or their opinions regarding potential impact from this route segment or road development in general. See Trapping indicator under Land and Resource Use for ranking of routes in regards to trapline area covered and furbearer habitat impacted.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				It is also possible that some fishing occurs in local rivers for commercial purposes but we have no specific information to support this. No discernable difference between alternatives	It is also possible that some fishing occurs in local rivers for commercial purposes but we have no specific information to support this. No discernable difference between alternatives
Summary of Economic: **Overall** • **There is no preferred alternative for Segment 3 – North of Albany crossing from the perspective of the economic valued component.** • There is a negligible difference between the two route alternatives. • All route segments will provide connection to the Marten Falls community and provide the same expected economic benefit to the community including, for example, a decrease in the price of goods. • Similarly, all route segments are expected to provide similar employment opportunities and would have similar impact on government expenditure and taxation. • There are no specific economic features (e.g. businesses) identified in the PDA of the alternative route segments. • The opportunities for economic development including resource extraction activities such as mining are also identified to be similar amongst the alternative routes (see Land and Resource Use) and mineral claim holders indicated that all route options provide them greater access to their site of future potential for extraction and that all routes would benefit their economic potential. • As no information from trappers is available regarding the level of trapping activity along the route segments, the routes are identified to be similar with respect to impact on traditional economies. **Net Effects** The predicted net effects from both alternatives are equivalent due to their similar predicted decrease in price of goods, employment opportunities, government expenditures, and opportunities for economic development.					
HUMAN HEALTH					
Public Safety	■ Road Use Accident	■ Potential for roadway related accidents as a result of the road project including vehicles and pedestrians.	• "Post "no entry", warning signs and barricades (e.g., gates, fences), where necessary, around active construction sites; warning signs and reduced speed limits to be established at known wildlife crossing locations; warning signs and lights to be displayed for road maintenance equipment and trail crossings. • Provide for safe access for trappers and other traditional users.	The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives	The development and use of the road has the potential to result in net effects to public safety including road related accidents. All route segments are considered to have relatively equal potential for accidents. No discernable difference between alternatives
Environmental Factors Influencing Human Health	■ Country Foods	■ Potential for change in the quality and quantity (abundance) of country foods.	• Reclaim and rehabilitate areas disturbed by construction to encourage natural regeneration/regrowth of vegetation and habitat restoration. • Community input into alignment routing, component siting and road design avoid important areas of botanical and wildlife resources that serve as country foods to the extent feasible.	The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. Moose is understood to be an important species that is harvested by First Nations. The PDA for this segment contains no area of high suitability moose habitat. Impacts to this habitat could impact area moose populations. It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. This alternative would result in the crossing of a greater number of watercourses requiring in-water works (16) and therefore has a greater potential for impact to fish species that may be harvested for country foods. No IK information has been provided regarding the actual uses of these watercourses for fish harvesting. Information on how the quality of harvested species could be affected by the road is not known at this time	The development and operation of the road has the potential to result in net effects to the abundance of harvested species which could impact country food consumption by Indigenous communities. Moose is understood to be an important species that is harvested by First Nations. The PDA for this segment contains no area of high suitability moose habitat. Impacts to this habitat could impact area moose populations. It is unknown if Caribou is currently harvested in the LSA and therefore is not considered in this evaluation in regards to country foods. This alternative would result in the crossing of a lower number of watercourses requiring in-water works (7) and therefore has a lower potential for impact to fish species that may be harvested for country foods. No IK information has been provided regarding the actual uses of these watercourses for fish harvesting. Information on how the quality of harvested species could be affected by the road is not known at this time and will be assessed as part of the project impact assessment.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				and will be assessed as part of the project impact assessment. Higher potential for net effects (due to fish habitat effects). Least Preferred	 Lower potential for net effects (due to fish habitat effects). Most Preferred
Summary of Human Health: **Overall** • **Alternative 4 is the preferred route alternative for Segment 3- North of Albany from the perspective of human health.** • Alternative 4 results in less impact to fish habitat, and fish is an important country food source for local Indigenous communities. • All route segments will provide connection to the Marten Falls community and result in the same health impacts to the community including for example access to health services, changed to social and economic structures, mental well-being, etc. • Generally, potential effects to the human health at the local or regional scale is considered similar for all the alternative routes. • Only two human health indicators were considered to have relevance considering the character of the study area and data availability: road use accidents and availability of country foods. • All route segments are considered equal with respect to impacts on Indigenous women including human trafficking. • Further, there are no permanent places of residences in proximity to the route segments that could be impacted in noise and air quality changes that might result in health impacts. **Net Effects** Alternative 4 results in lower net effects than Alternative 1 due to impacts on fish and fish habitat. Although, to date, no IK information has been provided regarding the actual uses of these watercourses for fish harvesting. A comprehensive assessment of net effects to human health will be completed on the preferred route and may result in a different determination of predicted net effects to the valued component.					
LAND AND RESOURCE USE					
Land Use Compatibility	■ Binary alignment with established planning policy requirements	■ Description	■ No applicable measures due to absence of land use designations.	The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives	The alternative route segments do not pass through any lands with land use designations. All route segments are on crown owned lands and are subject to the same provincial policies. No discernable difference between alternatives
Parks and Protected Areas	■ Number and area of parks and protected areas impacted	■ Number and area of Park and Protected area with natural, cultural or recreation values impacted	■ Limit clearing and use of land within parks and protected lands as much as possible. Temporary work areas such as staging areas should be located outside of parks and protected areas	The development and operation of the road could result in net effects including the loss of designated parkland area and disturb use of adjacent parkland. The alternative route segments do not pass through parks or protected areas. No discernable difference between alternatives	The development and operation of the road could result in net effects including the loss of designated parkland area and disturb use of adjacent parkland. The alternative route segments do not pass through parks or protected areas. No discernable difference between alternatives
	■ Accessibility to parks and protected areas	■ Extent to which access to parks and protected areas is increased.	■ Monitor and limit the development of any side trails/roads that might extend into parks and protected areas ■ Work with Ontario Parks regarding any measures to control access into parks and protected areas as applicable	The development of the road could have net effects that change access levels to existing parks. The net effects of this are dependent on the proximity of the road to the park and nature of the park. The alternative route segments do not pass through parks or protected areas. Accessibility to parks and protected areas is not affected. No discernable difference between alternatives	The development of the road could have net effects that change access levels to existing parks. The net effects of this are dependent on the proximity of the road to the park and nature of the park. The alternative route segments do not pass through parks or protected areas. Accessibility to parks and protected areas is not affected. No discernable difference between alternatives
Recreation and Tourism	■ Accessibility to lands and waterways used for recreation and tourism	■ Change to access to land utilized for recreation and/or tourism	■ Develop a land/waterbody access plan to determine need for any access restrictions and/or access enhancements to promote recreation and tourism in the area	The development of the road could improve access levels to current remote lands and water resources that could provide new recreation and tourism opportunities. All segments provide greater access to lands that are currently inaccessible.	The development of the road could improve access levels to current remote lands and water resources that could provide new recreation and tourism opportunities. All segments provide greater access to lands that are currently inaccessible.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				All segments provide greater access to lands that are currently inaccessible and which could be used for recreation purposes. Lands associated with this route segment are not considered to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. Recreational users (e.g. snowmobilers, hikers, canoe/kayak users, etc.) would benefit from greater access to previously inaccessible lands. No discernable difference between alternatives	All segments provide greater access to lands that are currently inaccessible and which could be used for recreation purposes. Lands associated with this route segment are not considered to have more recreation value than other route segments. No information has been shared by stakeholders to suggest otherwise. Recreational users (e.g. snowmobilers, hikers, canoe/kayak users, etc.) would benefit from greater access to previously inaccessible lands. No discernable difference between alternatives
		■ Change in waterway navigability including for recreation and tourism	■ Navigable waterway crossings will be designed to not inhibit navigation ■ Navigation to be maintained during construction	The development of bridges over watercourses could negatively affect navigation. Route alternative to cross 18 waterbodies. Net effects to navigation are expected to be minimal. Least Preferred	The development of bridges over watercourses could negatively affect navigation. Route alternative to cross 9 waterbodies. Net effects to navigation are expected to be minimal. Most Preferred
	■ Environmental conditions	■ Change in environmental conditions that could change attractiveness of the area for tourism and recreation.	■ Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Measures to avoid unnecessary vehicle and machine idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. o Refuelling, service, and maintenance of vehicles and equipment will generally be carried out in designated areas at temporary construction camps and temporary laydown areas a minimum of 30 m from waterbodies. o Wash water from vehicles and equipment will not be allowed to enter a waterbody and will be conveyed to areas for infiltration, treated prior to discharge to	The road development and its operation could result in disturbance net effects such as runoff that could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation. All segments are expected to result in similar change to environmental conditions that could result in effects to lands used for recreation. No discernable difference between alternatives	The road development and its operation could result in disturbance net effects such as runoff that could negatively affect the quality of the adjacent environment and affect its attractiveness for recreation. All segments are expected to result in similar change to environmental conditions that could result in effects to lands used for recreation. No discernable difference between alternatives

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			the receiving environment, or hauled off site. o Minimize vegetation clearing to only what is required for construction and staging. o Incorporate standard tree protection and ESC measures. o Implement progressive reclamation and revegetation of disturbed areas no longer required following construction (e.g., temporary access roads, construction camps, and laydown areas). o Marten Falls First Nation will develop and implement an Environmental Protection Plan, which will include best management practices for vegetation protection and mitigation.		
	■ Availability of species harvested for recreation purposes	■ Change to target species populations harvested for recreation purposes.	■ Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to in-water work timing windows. o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). o Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). o Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate.	The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below.	The development and operation of the road could have net effects that change the abundance of species that are harvested for recreation. The natural science team is not able to provide an estimation regarding the extent to which the populations of species harvested might change. Change to their habitat is used as a surrogate measurement – see indicator below.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
			o Measures to limit the spread and / or introduction of invasive species. ■ Develop a land / waterbody access plan to determine need for any access restrictions		
		■ Change to the habitat for these target species	■ Typical mitigation and avoidance measures such as standard practices for construction, road, and water crossing construction and maintenance will be applied to both construction and operation phases of the Project. Such measures include: o Development and implementation of a Construction Environmental Management Plan (CEMP) by the Contractor. o Adherence to in-water work timing windows. o Adherence to blasting measures in accordance with the Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright, Hopky, 1998). o Adherence to DFO's Measures to Protect Fish and Fish Habitat (DFO 2023). o Adherence to DFO's Interim Codes of Practice (temporary cofferdams, stream crossings, fish screens, culvert maintenance [for operations]). o Measures to avoid unnecessary idling to minimize emissions and greenhouse gasses. o Development and implementation of a Spill Management Plan and Sediment and Erosion Control Plan. o Proper water crossing structure design and installation to accommodate flow and drainage as well as fish passage in fish habitat, where appropriate. o Measures to limit the spread and / or introduction of invasive species. ■ Develop a land / waterbody access plan to determine need for any access restrictions	The development and operation of the road could remove habitat of key valued species and could reduce the abundance of these species for recreation harvesting. Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains no area of high suitability moose habitat. Impacts to this habitat could impact area moose populations. This route segment to cross a higher number of water courses involving in-water works (16) and has greater potential for impact to fish habitat. Least Preferred	The development and operation of the road could remove habitat of key valued species and could reduce the abundance of these species for recreation harvesting. Moose is a key wildlife species that is recreationally hunted. The PDA for this segment contains no area of high suitability moose habitat. Impacts to this habitat could impact area moose populations. This route segment to cross a lower number of water crossings involving in-water works (7) and has lower potential for impact of fish habitat. Most Preferred
Extractive Industry	■ Removal of lands with potential for mineral extraction	■ Area of land under mineral claim that the road segments pass through	■ Engage with land claim holders in the road design stage to determine how impacts to mineral deposits can be minimized and/or access to mineral areas enhanced.	The development of the road could remove mineral resource areas from being extracted in the future. This segment: • Has 2,154.36 hectares of operational claims within the PDA. • Has 907.05 hectares of aggregate sites within the PDA. Least Preferred	The development of the road could remove mineral resource areas from being extracted in the future. This segment: • Has 779.48 hectares of operational claims within the PDA. • Has 366.08 hectares of aggregate sites within the PDA. Most Preferred

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
	■ Proximity to and access to lands with future potential for mining development	■ Change to access to lands with future potential for mineral extraction	■ Engage with land claim holders in the road design stage to determine how impacts to mineral deposits can be minimized and/or access to mineral areas enhanced.	The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities. This route segment's alignment provides 5.22 kilometres of access into potential future aggregate sites. Greatest change in access to lands with future potential for mineral extraction. Most Preferred	The development of the road could improve access to mineral resource areas and thus potentially resulting in their development for economic benefit to the region and local communities. This segment provides no additional access to potential future aggregate sites. Lowest change in access to lands with future potential for mineral extraction. Least Preferred
Forestry Industry	■ Removal of commercial forestry lands	■ Area of commercial forestry land that the road segments pass through	■ No measures because there are no impacts to commercial forestry lands.	The development of the road could result in the removal of forested lands that are commercially harvested. This segment impacts no area of commercial forestry land. Both route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives	The development of the road could result in the removal of forested lands that are commercially harvested. This segment impacts no area of commercial forestry land. Both route segments have no impact on removal of commercial forestry lands. No discernable difference between alternatives
	■ Proximity to and access to lands with potential for forest harvesting	■ Change to access to forestry lands	■ Engage with forestry companies during road design stage regarding access to potential new forestry lands	The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. This segment impacts no area of commercial forestry land. Both route segments have no impact on access to commercial forestry lands. No discernable difference between alternatives	The development of the road could provide access to lands with timber that could be harvested for economic benefit to the region and local communities. This segment impacts no area of commercial forestry land. Both route segments have no impact on access to commercial forestry lands. No discernable difference between alternatives
Remote Outfitters	■ Change to operations of remote outfitters in vicinity of road routes	■ Number and proximity of remote outfitters to the alternatives ■ Potential for impact to the outfitters from the alternatives	■ During final road alignment selection and road design phase consider proximity of remote tourism outfitters to maximize separation distance ■ Engage with tourism outfitters during road design phase ■ If applicable, provide compensation to any outfitters displaced or who can no longer operate because of the road ■ Develop a land/waterbody access plan to determine need for any access restrictions and/or access enhancements to protect remote tourism operations	The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations. This segment provides increased access to zero (0) remote tourism camp outfitter locations. There is no potential for impact to outfitters from this route alternative. No discernable difference between alternatives	The development of the road could mean that lands and waterbodies are more accessible to the public and decrease the attractiveness of the area for remote tourism operations. This segment provides increased access to zero (0) remote tourism camp outfitter locations. There is no potential for impact to outfitters from this route alternative. No discernable difference between alternatives
Trapping	■ Change to trapping activity in vicinity of alternatives	■ Length of route passing through trap lines/# of trap lines affected ■ Potential for change in populations of harvested fur bearing species. ■ Change in access to lands for trapping.	■ Provide community updates regarding the location and timing of Construction noise activities. ■ In selection of final road alignment and road design development, where possible, avoid high quality fur-bearing species habitat ■ Engage with trappers regarding need for access related mitigation and or enhancements to improve access for trappers.	The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively the road could improve access to lands that trappers could take advantage of. This segment: • Has a length of 67.69 kilometres passing through trapline areas. • Intersects five (5) traplines. • Has a total of 2,426.60 hectares of trapline area land within the PDA. Would result in the greatest impact on American marten and wolverine habitat.	The development of the road could result in the loss of furbearer habitat thus decreasing the populations of these species for harvesting. Alternatively the road could improve access to lands that trappers could take advantage of. This segment: • Has a length of 34.0 kilometres passing through trapline areas. • Intersects four (4) traplines. • Has a total of 824.99 hectares of trapline area land within the PDA. Would result in the lowest impact on American marten and wolverine habitat.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – SOCIO-ECONOMIC ENVIRONMENT					
				All route segments provide increased access to trapline areas. Route passes through the greatest amount of trap line area and passes through the highest amount of important furbearer habitat and is therefore ranked least preferred. Least Preferred	All route segments provide increased access to trapline areas. Route passes through the lowest amount of trap line area and passes through the least amount of important furbearer habitat and is therefore ranked preferred. Most Preferred
Summary of Land and Resource Use: **Overall** **Alternative 4 is the slightly preferred route alternative for Segment 3 – North of Albany Crossing** from the perspective of Land and Resource Use due to less potential impact on fishing (from fewer water crossings and fish habitat impacts), less potential for impact on navigation, less potential for direct effects on mineral/aggregate resources, and less potential for impact to trapping activity. **Net Effects** • The predicted net effects from both alternatives are equivalent with regard to land use compatibility. • Neither alternative intersects with any parks nor protected areas. • Both alternatives would have similar impact with regards to recreation and tourism as both route alternatives would provide increased access to areas that are inaccessible and remote. • Alternative 1 slightly preferred with regards to extractive industries as it would provide greater access to lands with potential for future mineral extraction activities. • There is no intersect of either alternative with forestry activity. • There are no remote tourism operators in the vicinity of either alternative. • Trappers would be least affected by Alternative 4 as it and affects the lowest area of high value furbearer habitat.					
SOCIAL					
Summary of Social: **Overall** • All route segments will provide connection to the Marten Falls community and provide the same expected net social impact to the community. • Social-community impacts from the MFCAR are anticipated to be focused on the communities located with the LSA including Marten Falls First Nation, Aroland First Nation and Greenstone. • The potential for social impacts (e.g. change in housing demand/supply, community well-being, etc.) is expected to be the same in all the LSA communities for all route alternatives. • No specific social-community features were identified in proximity to the alternative route segments that could be impacted. • As such, both alternatives are equally preferred from a social-community perspective.					
CLIMATE ADAPTATION AND RESILIENCY					
Summary of Climate Adaptation and Resiliency: **Overall** • As outlined in the Climate Overview Report, there exists significant data gaps and uncertainty in the generation of climate projections that have the appropriate level of granularity to differentiate between alternative routes. • As such, currently, there is no discernible difference for the alternatives from a Climate Adaptation and Resiliency perspective.					

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – CULTURAL ENVIRONMENT					
CULTURAL HERITAGE					
Archaeological Sites and Resources	■ Previously identified archaeological sites	■ The net effects to archaeological resources will be evaluated. OR ■ Number of previously identified archaeological sites	Complete all outstanding archaeological assessments.	No registered archaeological sites, however archaeological potential is present within much of the alternative. No discernable difference between alternatives	No registered archaeological sites, however archaeological potential is present within much of the alternative. No discernable difference between alternatives
	■ Areas of cultural significance raised by local Indigenous Nations		Complete all outstanding archaeological assessments.	Area has raised cultural significance by local Indigenous Nations.	Area has raised cultural significance by local Indigenous Nations.

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
		■ Areas of cultural significance raised by local Indigenous Nations ■ Number of resources identified.	■ Incorporate information received by Indigenous Nations in reporting. ■ Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous communities will be initiated in the event that archaeological resources or human remains are discovered.	No discernable difference between alternatives	No discernable difference between alternatives
	■ Proximity to water		■ Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	■ Soil texture and drainage		■ Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	■ Glacial geomorphology, elevated topography		■ Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative. No discernable difference between alternatives	Archaeological potential is present within much of the alternative. No discernable difference between alternatives
	■ Resource areas including food or medicinal plants, scarce raw materials		■ Complete all outstanding archaeological assessments.	Area has food or medicinal plant resources. No discernable difference between alternatives	Area has food or medicinal plant resources. No discernable difference between alternatives
	■ Areas of early 19th century settlement and transportation routes		■ Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives
	■ Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants		■ Complete all outstanding archaeological assessments.	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives	Archaeological potential is present within much of the alternative, Albany River is a significant potable water source. No discernable difference between alternatives
Built Heritage Resources/Cultural Heritage Landscapes	■ Animal, Fish, and Plant Harvest Areas (MFFN)	■ The net effects to built heritage resources and cultural heritage resources will be evaluated in the Cultural Heritage Report. ■ Number of resources identified.	■ Where possible, avoid direct adverse impacts to Animal, Fish and Plant Harvest Areas. ■ If direct adverse impacts are anticipated to an Animal, Fish, and Plant Harvest Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to fifty-five (55) identified Animal, Fish, and Plant Harvest Areas. Least Preferred	Net effects for this alternative include the potential disturbance of up to thirty (30) identified Animal, Fish, and Plant Harvest Areas. Most Preferred

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	AVOIDANCE / MITIGATION / COMPENSATION / ENHANCEMENT MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
	■ Cultural, Spiritual, and Sacred Areas (MFFN)		■ Where possible, avoid direct adverse impacts to Cultural, Spiritual, and Sacred Areas. ■ If direct adverse impacts are anticipated to a Cultural, Spiritual, and Sacred Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to fifteen (15) identified Cultural, Spiritual, and Sacred Areas. Least Preferred	This alternative is not anticipated to impact any identified Cultural, Spiritual, or Sacred Areas. Most Preferred
	■ Habitation Areas (MFFN)		■ Where possible, avoid direct adverse impacts to Habitation Areas. ■ If direct adverse impacts are anticipated to a Habitation Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of up to ten (10) Habitation Areas. Least Preferred	Net effects for this alternative include the potential disturbance of up to five (5) Habitation Areas. Most Preferred
	■ Travel (MFFN and Historical Maps)		■ Where possible, avoid direct adverse impacts to Travel Areas. ■ If direct adverse impacts are anticipated to a Travel Area, then complete further mitigation (i.e, Cultural Heritage Evaluation Report or Heritage Impact Assessment)	Net effects for this alternative include the potential disturbance of two Historical Indigenous Trails. No discernable difference between alternatives	Net effects for this alternative include the potential disturbance of two Historical Indigenous Trails. No discernable difference between alternatives

Summary of Cultural Heritage:

Overall

Alternative 4 is the most preferred alternative from the perspective of cultural heritage for Segment 3 – North of the Albany Crossing due to its overall lower Net Effects to cultural heritage resources.

- There is a negligible difference between the alternatives

Archaeological Sites and Resources

- No discernible difference between the alternatives is present, as the alternatives retain much archaeological potential that must be mitigated prior to ground disturbance.

Built Heritage Resources/ Cultural Heritage Resources

- Although both alternatives have the potential to impact identified cultural heritage resources, Alternative 4 is preferred due to its overall lower Net Effects to cultural heritage resources.
- Alternative 1 has the potential to disturb more identified Cultural, Spiritual, and Sacred Areas, more Harvest Areas, and more Habitation Areas than Alternative 4.

Net Effects

The predicted net effects are evaluated as equivalent for both alternatives due to their effects on areas of raised cultural significance by local Indigenous nations, archaeological potential present, food/medicinal plant resources, Albany River as a potable water source, and disturbance of Harvest Areas. The predicted net effects have not considered all potential mitigation that may be applied. Net effect assessment is subject to change based on the implementation of additional mitigation. There is a negligible difference between the alternatives in terms of the cultural heritage valued component because archaeological potential is present within much of the alternatives.

Notes:

1. For consistency, Cultural Heritage indicators have been revised from those presented in the Study Plan to be consistent with the IK data points used to develop the cultural heritage themes for the Cultural Heritage Report.

FACTOR	INDICATOR	MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
CATEGORY – TECHNICAL, ENGINEERING AND COST				

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Segment 3 – North of the Albany

FACTOR	INDICATOR	MEASURES	ALTERNATIVE 1	ALTERNATIVE 4
Design	■ Roadway Alignment Length	■ Km	67.69 km	34.17 km
	■ Number of Water Crossings	■ #	8	5
	■ Length of Water Crossings	■ Km	Total 425m	Total 467m
Construction Complexity	■ Access to Roadway Material	■ Description	Most preferred	Least preferred
	■ Constructability of Roadway	■ High to Low	Most preferred	Least preferred
	■ Constructability of Water Crossing	■ High to Low	Most preferred	Least preferred
Miscellaneous	■ Schedule Implications	■ Description	Medium impact due to longer road to construct and more water crossings than Alternative 4 but with good access to aggregate sources	High impact due to longer road to construct and less water crossings than Alt 1 but less access to aggregate resources and longer haul distances
Operations	■ Long Term Maintenance	■ Description	Most preferred due to access to aggregate and good substrate	Least preferred due to longer haul, less access to aggregate and poorer substrates
Cost	■ Value of construction	■ $ CAD	Bridges:$153.8M Roads: $242.02M Total: $395.82M	Bridges:$182.8M Roads: $276.9M Total: $459.7M

Summary of Technical, Engineering and Cost:

Overall

- **Alternative 1 is the most preferred route alternative from the perspective of technical, engineering and cost for Segment 3 – North of the Albany Crossing.**
- Alternative 4 is the least preferred.
- Cost estimates are based on 2023 unit prices developed through discussions with northern Contractors and best practices
- Value of Construction includes a 20% contingency factor and climate change impacts that are assumed to be 35-40% of the structures' base prices.
- Alternative 4 includes costs to construct the N/S west segment that is part of the NRL

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Marten Falls First Nation Community Access Road Update

Poulakas, Demetri [redacted]

Wed 2023-11-08 1:43 PM

To: [redacted]

1 attachments (4 MB)

Invitation ATRI Second Forum - November 2023.pdf;

Good afternoon Chief Bruce Achneepineskum and Council Members,
Hope this email finds you well. I would like to provide you with an update of the upcoming activities that will be occurring regarding the Community Access Road.

Route Selection Webinar

- You are invited to join us for a webinar on Route Selection, that will take place Thursday, November 16, 2023, at 4:00 p.m. EST.
- Please Register HERE.

ATRI Forum #2

- The ATRI Forum #2 will be held at the Valhalla Inn, in Thunder Bay from November 21 - 23. (Invitation attached)
- Building on the first Forum held in February 2023, this follow-up Forum provides an opportunity to identify and discuss potential impacts to northern Indigenous communities' Aboriginal and/or Treaty Rights and interests as they relate to the above Projects.
- Day 1 and 2 of the Forum will focus on Aboriginal and / or Treaty Rights and Interests. On Day 3, we will be hosting a half-day discussion on Cumulative Effects as they relate to the Projects.
- In addition, join us Tuesday Nov 21 at 7:00 at the Valhalla Inn for the movie screening of Bridges to the North - a story about Webequie and Marten Falls First Nation. Check out the Movie Trailer here: https://www.youtube.com/watch?v=TDk14SrDdgo

Climate Change Workshop

- Workshop on Climate Change to be held in Q1 2024 with interested Indigenous Communities. Dates and a more formal notice will be shared soon.

Thank you and please let me know if you have any questions,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]

From: **Nokleby, Andrea** [redacted]
Date: Wed, Nov 29, 2023, 7:50 a.m.
Subject: For Review - Draft Preliminary Aboriginal and / or Treaty Rights and Interests Existing Conditions Report
To: [redacted] Maria Baxter [redacted] corrina baxter [redacted] Bob Baxter [redacted]
Cc: Bob Baxter [redacted], Lawrence Baxter [redacted] Qasim Saddique [redacted] Jennifer Bruin [redacted], McEwen, Kate [redacted]

Booshoo / Wachea,

The Project Team has prepared the attached ***Draft Preliminary Aboriginal and / or Treaty Rights and Interests Existing Conditions Report***, which describes our current understanding of your Marten Falls First Nations Aboriginal and / or Treaty Rights and Interests as they relate to the proposed Project. ***Information received from your community was included in this report and some of it is confidential.***

This report is important because it will be used for the future impact / environmental assessment (i.e., this report is not the assessment). In order to do a meaningful impact assessment in the future, the Project Team really needs to understand your community's rights and / or interests with respect to the proposed Project.

The Report has been prepared based on any information provided directly to Marten Falls FIrst Nation and publicly available sources of information.

We want to work with you to update the Draft Preliminary Existing Conditions Report with information your community chooses to share with Marten Falls First Nation. Important dates to note:

- We are asking for communities to provide input on the draft report by **January 19, 2024**, where possible, so it can be woven into the Draft Impact Statement / Environmental Assessment Report (2024).
- Additional information, feedback, comments and edits can be shared after this date. This Draft Preliminary Existing Conditions Report will not be finalized until later in 2024.
- Information **received after January 19, 2024** will be woven into the next phases of the assessment processes including the Final Environmental Assessment / Impact Statement Report (2025).

We would be more than happy to meet with you to:

- Hear your feedback - what did we miss, what did we get wrong, what is correct?
- Discuss the best way to update the report; and
- Review and discuss the Project schedule and next steps.

It is important to note that this is an iterative process, and we will continue to update our understanding of your rights and / or interests as we work towards completing the Impact Statement / Environmental Assessment.

We hope all is well with you and your community.

Andrea

Andrea Nokleby
Partner
Dillon Consulting Limited
[redacted]
www.dillon.ca

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

From: Poulakas, Demetri
Sent: December 7, 2023 2:49 PM
To: [redacted]
Cc: Trimble, Ingrid; Haalboom, Bethany; Fisken, Avril; McKinnon, Don; Qasim Saddique; Jennifer Bruin; lawrencebax
Subject: MFFN CAR Socio-Economic Interests Letter
Attachments: Marten Falls First Nation Socio-econ IC interest check letter - Dec 7.pdf

Dear Chief Bruce Achneepineskum,

As we continue the provincial Environmental Assessment (EA) and Federal Impact Assessment (IA) for the proposed Marten Falls Community Access Road (MFCAR) Project, we are looking to identify if Marten Falls First Nations has any additional interests or concerns regarding possible social-community and/or economic impacts as a result of the MFCAR project. Please also note that this request is different from other requests sent to your community regarding the collection of Indigenous Knowledge and information pertaining to the assessment of impacts to Indigenous rights.

Should Marten Falls First Nation have socio-economic interests or concerns related to the MFCAR project we would like to hear from you by December 30, 2023.

thank you,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]

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December 7, 2023

Chief Bruce Achneepineskum
Marten Falls First Nation
[redacted]

Marten Falls First Nation Community Access Road Project – Socio-economic Assessment Interest

Dear Chief Achneepineskum:

Marten Falls First Nation (MFFN) is continuing the provincial Environmental Assessment (EA) and Federal Impact Assessment (IA) for the proposed Marten Falls First Nation Community Access Road (MFFN CAR) Project that is to provide all season access to the community. As per previous correspondence sent to your community, the Project is currently in the process of assessing alternative routes for the proposed access road. Most recently, Public Information Centres and webinars have been held to present information related to alternative route assessment. A preferred route is to be confirmed in early 2024.

Once the preferred route is selected, an assessment of possible Project impacts is to be undertaken. This impact assessment is to be completed in spring 2024 and a draft EA Report / IA Statement is to be completed and released in summer 2024.

The purpose of this letter is to again request **if your community has any interests or concerns regarding possible social-community and / or economic impacts as a result of the MFFN CAR project.** The construction of the Community Access Road has the potential to result in various social and economic effects, particularly for those communities that would be connected to or have access to the proposed road. This could include both potential positive and negative effects. Attached to this letter are a list of the possible social and economic effects of the Project that are to be assessed.

To meet the requirements of the federal IA process, we are required to assess potential social and economic effects of the MFFN CAR project on all communities that have been identified for engagement. If your community has interests or concerns regarding possible social and/or economic effects from the MFFN CAR Project then we would like to hear from you. We would like to understand your concerns and explore related information collection that might include interviews with community representatives and / or community surveys.

Please also note that this request is different than other requests sent to your community regarding the collection of Indigenous Knowledge and information pertaining to the assessment of impacts to Indigenous rights.

Please get in touch with Demetri Poulakas at [redacted] should you have interest in and or would like to talk about concerns related to potential social and/or economic impacts of the MFFN CAR project.

Yours truly

[redacted]

Lawrence Baxter
MFFN CAR Project Team Member/MFFN Community Member

What Are the Possible Social and Economic Effects of the Marten Falls First Nation Community Access Road Project?

Social:

- Community populations.
- Supply and demand for housing and community services like education and childcare.
- Change in volume of traffic on existing roads that would connect with the Marten Falls Community Access Road.
- Change in local air quality and noise levels that could result in nuisance effects.
- Changes to community wellbeing.

Economic:

- New business opportunities.
- Change in regional economic activity.
- Project procurement opportunities (goods and services required for the project).
- Changes to the price of goods in local communities, traditional economies, job opportunities and training opportunities.
- Government expenditures and tax revenue.
- Regional economy, including changes to: prices for goods and services.
- Impact to local business operations, the labour market including employment and training, and public finances.

On Thu, Dec 7, 2023 at 4:18 PM Poulakas, Demetri <[redacted]> wrote:

Dear Councillor Moonias,
Thank you for your response regarding the Socio-Economic interest letter for the MFFN CAR. To date, we have administered Socio-Economic surveys to MFFN community members in person in July 2023, as well as at the most recent PIC in October 2023. In addition, Socio-Economic surveys were made available online to MFFN community members to complete from July 17 to October 31, 2023. Socio-economic interviews have also been conducted with community members. Community interests and concerns about the potential Socio-Economic impacts of the MFFN CAR are being included in the EA. The purpose of the Socio-Economic interest letter was to make sure that MFFN Chief and Council do not have any additional Socio-Economic interests and concerns they wished to share with the Project Consultants at this stage for inclusion in the EA. I apologize for any confusion this may have caused, and please let us know if you'd like to discuss.

Regards,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]
[redacted]
aecom.com

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On Fri, 8 Dec 2023 at 16:29, Poulakas, Demetri [redacted] wrote:

Dear Councillor Moonias,

Thank you for your thoughts on a report that could be presented to MFFN Chief and Council, and community members from the survey results and interviews that were undertaken regarding the MFFN CAR EA. We would look forward to speaking with Chief and Council in the new year regarding what this report could look like and how to best present it.

Please let us know what dates might be suitable to discuss this with Chief and Council in the new year.

Meegwetch,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]
aecom.com

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From: Poulakas, Demetri
Sent: December 11, 2023 1:19 PM
To: [redacted]
Cc: Qasim Saddique; Jennifer Bruin
Subject: Marten Falls First Nation Community Access Road Update

Dear Chief Bruce Achneepineskum and Council,
Hope this email finds you well. I would like to provide you with an update of the upcoming activities that will be occurring regarding the Community Access Road.

- Route Selection Webinar
  - The webinar on Route Selection took place Thursday, November 16, 2023, at 4:00 p.m. EST.
  - Recording of the Webinar can be accessed HERE.
- ATRI Forum #2.
  - The ATRI Forum #2 was held at the Valhalla Inn, in Thunder Bay on November 21 - 23.
  - During the forum we heard from various Indigenous communities' on their Aboriginal and/or Treaty Rights and interests as they relate to the Project.
- Milestone #2 Progress Report
  - An updated link to your Milestone #2 Progress Report was shared with you on 29 November, 2023.
  - The Milestone #2 Progress Report covers all consultation with Marten Falls First Nation from July 1, 2022, to May 31, 2023.
  - We welcome any edits or comments to your community-specific section by February 15, 2024, before the reports are finalized and shared publicly with the Draft Environmental Assessment Report / Impact Statement.
  - If you have any questions or would like to schedule a meeting to discuss the reports and timeline, please let me know, or reply to the email you received on 29 November, 2023.
- Webinar Series
  - Webinars regarding Climate Change, Engineering and Cumulative Effects will be held in Q1 2024 with interested Indigenous Communities. Dates and a more formal notice will be shared soon.
- Community Coordinators
  - Candidates regarding the Community Coordinator Program in community have been interviewed. Information will be shared with Chief and Council in order to determine who to hire.

thank you and I wish you all happy holidays!

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]
[redacted]
aecom.com

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From: Poulakas, Demetri
Sent: January 11, 2024 1:07 PM
To: [redacted]Yvonne Baxter
Cc: qsaddique; jennifer
Subject: Marten Falls First Nation CAR - Report Comments

Good afternoon Chief Bruce Achneepineskum and Council,

I hope this email finds you well.

I'm sending you a quick email to follow up on two reports sent to Marten Falls First Nation before the holidays.

Milestone #2 Progress Report

On November 27, 2023, we sent the Milestone #2 Progress Report for the Marten Falls First Nation Community Access Road (MFFN CAR Project), with an updated link to Marten Falls First Nation's community-specific report on November 29, 2023, for your review.

The Milestone #2 Progress Report covers engagement that occurred for the MFFN CAR Project between July 1, 2022, to May 31, 2023.

We welcome any edits or comments to the report by February 15, 2024.

ATRI Existing Conditions Report

On November 29, 2023, Andrea Nokleby sent the draft ATRI Existing Conditions Report to Marten Falls First Nation. The ATRI Existing Conditions Report describes our current understanding of Marten Falls First Nation's Aboriginal and/or Treaty Rights and Interests, as they relate to the proposed Project.

We are asking for communities to provide input on the draft report by January 19, 2024, where possible, so it can be included into the draft Impact Statement / Environmental Assessment Report.

If you have any questions or would like to schedule a meeting to discuss the reports and/or timelines, please let me know. I will reach out to you next week to discuss the reports as well as provide Project updates.

Thank you,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]

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From: Poulakas, Demetri
Sent: Monday, January 15, 2024 12:56 PM
To: Rob Moonias [redacted]
Cc: Bethany Haalboom <[redacted]; Bob Baxter <[redacted]; Fisken, Avril <[redacted]; Jennifer Bruin <[redacted]; Maria Baxter <[redacted]; McKinnon, Don <[redacted]; Qasim Saddique <[redacted]; Robert Moonias <[redacted]>; Trimble, Ingrid <[redacted]>; Yvonne Baxter <[redacted]>; [redacted]; lawrencebax <[redacted]>; [redacted]
Subject: RE: MFFN CAR Socio-Economic Interests Letter

Dear Councillor Moonias,

Thank you for providing dates where we could discuss the Socio-Economic survey results and interviews with Chief and Council. The team that is reviewing this Socio-Economic information collected to date, has indicated that they would be able to report and share their findings later in 2024 (May/June). Due to this, the MFFN CAR Project Team propose meeting closer to this date, so we can ensure we maximize Chief and Councils time and can present how we can share this information to Chief and Council effectively.

Please let me know if you have any questions.

Meegwetch,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]

[redacted]
aecom.com

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Sent: Thursday, January 25, 2024 12:25 PM
To: b[redacted]
Subject: Marten Falls First Nation Community Access Road Update

Good afternoon Chief Bruce Achneepineskum and Council,
Hope this email finds you well. I would like to provide you with an update of the upcoming activities that will be occurring regarding the Community Access Road.

- Climate Change Adaptation Webinar and Webinar Series
  - The Community Access Road webinar series is back. Our next webinar is on Climate Change Adaptation and the Community Access Road. The Climate Change Adaptation and Resiliency Study looks at the future climate to ensure the Community Access Road is prepared for and can withstand the future climate. We are also eager to hear about changes you have observed or experienced on the land over time.
  - Join us for the Climate Change Adaptation Webinar on Thursday, February 8 from 4:00 p.m. to 5:00 p.m. EST.
  - You can register for the webinar at this link: https://us06web.zoom.us/webinar/register/WN_ze04DSZmSqSZS8c5kI9vRQ
  - If there is someone else at Marten Falls First Nation who may be interested in this topic, please forward this information to them, or let me know and I can reach out to them.
  - Webinars regarding Engineering and Cumulative Effects will be held in Q1 2024 with interested Indigenous Communities. Dates and a more formal notice will be shared soon.

- Milestone #2 Progress Report
  - An updated link to your Milestone #2 Progress Report was shared with you on 29 November, 2023.
  - The Milestone #2 Progress Report covers all consultation with Marten Falls First Nation from July 1, 2022, to May 31, 2023.
  - We welcome any edits or comments to your community-specific section by February 15, 2024, before the reports are finalized and shared publicly with the Draft Environmental Assessment Report / Impact Statement.
  - If you have any questions or would like to schedule a meeting to discuss the reports and timeline, please let me know, or reply to the email you received on 29 November, 2023.

thank you,

Demetri Poulakas
Senior Indigenous Engagement Specialist, Communication and Community Engagement
[redacted]
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DILLON CONSULTING

Zielbauer, Kyla < [redacted]

Aroland First Nation review of Draft Preliminary Aboriginal and/or Treaty Rights and Interests Preliminary Existing Conditions Report

Zielbauer, Kyla < [redacted]

Hi Andrew,

Thank you for the letter.

We appreciate Aroland First Nation taking the time to provide their feedback. We will review the letter and provide a response shortly.

Sincerely,
Kyla
On behalf of the MFFN CAR Project Team

Kyla Zielbauer
Dillon Consulting Limited
[redacted]
www.dillon.ca

DILLON CONSULTING

BEST MANAGED COMPANIES
Platinum member

[Quoted text hidden]

From: Angelis, Niki <[redacted]
Sent: Wednesday, 21 February 2024 00:07
To: [redacted]
Subject: MFFN CAR: Community Coordinator Role - Chief and Council Approval
Attachments: MFCAR Community Coordinator Interview - Savannah Baxter.docx; MFCAR Community Coordinator Interview - Kayla Loon.docx

Good afternoon Chief Bruce Achneepineskum and Council members,

I hope this email finds you well. My name is Niki Angelis and I am a Project Team consultant for the Community Access Road and involved in the Community Coordinator Program for the project. This email is a request to fill the vacant position of Community Coordinator in Ogoki.

Over the past few months we collected emails from various MFFN Community members who are interested in position. We had interest from the following seven MFFN Community members:

Kayla Loon (Resume Received and interviewed)
P. Marilyn Wenjack
Shania Dawn
Greg Achneepineskum
Sara Achneepineskum (Resume Received)
Sandra Achneepineskum
Savannah Baxter (Resume Received and interviewed)

Resumes were requested from all interested MFFN Community members, and three were received (indicated in list above). Various emails were sent in order to obtain resumes from all, however additional resumes were not received from the remaining MFFN Community members. Those interested, who also provided resumes had interviews arranged. (NOTE: an interview was scheduled with Sara Achneepineskum however she did not attend).

The summaries of the interviews are attached. We hope that Chief and Council will consider the candidates and put forth a decision to hire a candidate to fill the role of Community Coordinator.

Sincerely
Niki Angelis

Niki Angelis
Communication and Community Engagement
[redacted]
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Community Coordinator Interview

Marten Falls First Nation

Candidate Name: Savannah Baxter

Overview:

- Introductions
- Overview of the position
- Questions
- Opportunity for interviewee to ask questions

Position:

- $25/hour about 16 hours / week for up to 3 years
- Community Coordinator: We need someone to help with engagement with Marten Falls. Working closely with us and community members throughout the process.
    - Share advice on ways to engage in-person and virtually
    - Help keep community members up to date on activities (events, documents to look at, ways to share feedback) – knocking on doors, sharing Facebook posts
    - Join meetings, help with note taking
    - Help with events (logistics like booking meeting spaces, help with accommodations, arranging transportation and food)
    - Ways to engage with youth, elders or other groups that can share information

Questions:

D. Do you live in-community?

Yes I live in community. Looking for work. Only for appointments. Dad has given me apartment in community.

a. If no, where do you live? How often are you in-community?
b. And if no, do you have a place to stay in the community when visiting?

J. Tell us about yourself and your background.

D. What languages do you speak?

Only speak English. Some words in Ojibway.

J. How fa.miliar are you with the Community Access Road project?

I started looking into it and learning about it.

D. Why are you interested in the Community Coordinator position?

I would like to learn more about the road. Curious about it especially as its my community. Wanting to learn more about it. Its going right outside my grand parents house.

J. Have you been to any in-person or virtual community meetings about the Community Access Road project?

I attended one during the time I worked as a homemaker.

D. Do you have any experience working with Chief and Council?

No experience directly. But spoke to them as part of family

a. If no, how do you feel about helping with C&C meetings and speaking to Council members?

I would like to try.

J. How familiar are you with other MFFN community members/families? Would in-community members generally know who you are?

Im pretty close with atleast half. Most community members know me.

a. Would you be comfortable engaging with community members / families to share information / updates on the CAR (e.g. via door-knocking, attending community events etc.)?

Yes. Comfortable.

D. Do you have experience participating in / organizing small group discussions?

No experience in this. Helping kids with their work.

a. Have you helped arrange transportation in the community before?

Know how to do this and help people.

J. Are you comfortable using a computer, have an internet connection and have basic computer skills?

Yes. My computer is older. Internet coming through Star link.

E. This position is part time (16 hours per week for up to three years). What is your availability like?

I have full availability as not working.

a. For Consideration: Public Information Centres and other engagement activities might take place during the day or in the evenings, would you be able to assist in this situation?

Yes, and able to attend all events.

J. What would you describe as the most important issue for Marten Falls right now?

Recently got the store which is exciting. Use of the store has been great.

D. What is the most important issue/ thoughts regarding the CAR?

I think it would be good as we can go into town. Used to have to vehicle and would get one.

Community Coordinator Interview

Marten Falls First Nation

Candidate Name: Kayla Loon

Overview:

- Introductions
- Overview of the position
- Questions
- Opportunity for interviewee to ask questions

Position:

- $25/hour about 16 hours / week for up to 3 years
- Community Coordinator: We need someone to help with engagement with Marten Falls. Working closely with us and community members throughout the process.
    - Share advice on ways to engage in-person and virtually
    - Help keep community members up to date on activities (events, documents to look at, ways to share feedback) – knocking on doors, sharing Facebook posts
    - Join meetings, help with note taking
    - Help with events (logistics like booking meeting spaces, help with accommodations, arranging transportation and food)
    - Ways to engage with youth, elders or other groups that can share information

Questions:

1. Do you live in-community?
    a. If no, where do you live? How often are you in-community?
    Yes, Full Time
    b. And if no, do you have a place to stay in the community when visiting?
2. Tell us about yourself and your background.
    Grew up In MFFN. Lived in thunder bay and went to school. Went back to raise her family.
3. What languages do you speak?
    English and understand Ojibway.
4. How familiar are you with the Community Access Road project?
    Attended most of the meeting they have in Ogoki. Have been following from day 1. Have not looked at website.
5. Why are you interested in the Community Coordinator position?
    Want to engage in my community more and find the position interesting. Want to educate myself and also assist in working and coordinating with community members.
6. Have you been to any in-person or virtual community meetings about the Community Access Road project?
    Yes, have attended in person.
7. Do you have any experience working with Chief and Council?
    Yes. Worked as a student with the Band. Did not attend in person meeting.
    a. If no, how do you feel about helping with C&C meetings and speaking to Council members?
8. How familiar are you with other MFFN community members/families? Would in-community members generally know who you are?

Very familiar with a lot of people. Comfortable with walking around and talking to everyone. Worked as an attendance monitor for schools and went around talking to everyone.

   a. Would you be comfortable engaging with community members / families to share information / updates on the CAR (e.g. via door-knocking, attending community events etc.)?

      Yes. Comfortable with sharing all types of information.

9. Do you have experience participating in / organizing small group discussions?
   a. Have you helped arrange transportation in the community before?

   Have helped many people in community arrange transportation.

10. Are you comfortable using a computer, have an internet connection and have basic computer skills?

    Fairly comfortable with computers. Have access to steady internet connection. Don't have a computer but was going to get one.

11. This position is part time (16 hours per week for up to three years). What is your availability like?

    Available for all days and times. Able to attend PIC events.

    a. For Consideration: Public Information Centres and other engagement activities might take place during the day or in the evenings, would you be able to assist in this situation?

       Yes can attend all day.

12. What would you describe as the most important issue for Marten Falls right now?

    The lack of services and access to services for people.

13. What is the most important issue/ thoughts regarding the CAR?

    Would benefit the community greatly. Don't have any concerns.

From: Cugnet, Jaimie <[redacted]
Sent: Friday, 28 June 2024 19:20
To: [redacted]
Cc: Angelis, Niki
Subject: Marten Falls First Nation Community Access Road (MFFN CAR) - June Update

Dear Chief Bruce Achneepineskum,

I hope this finds you well.

My name is Jaimie Cugnet, and I am a consultant with MFFN CAR Project. Niki Angelis is currently out of office, and I am sending the June 2024 update on her behalf.

Please find an update of the upcoming activities occurring regarding the Community Access Road below:

Three Road Projects Gathering & Expo
Thank you for attending the Three Road Project Gathering & Expo from June 11 – 13, 2024. If you have any questions or feedback, please feel welcome to respond to this email directly.

Stage 1 Archaeological Assessment Report

The Stage 1 Archaeological Assessment Report documents the archaeological and land use history, to determine whether there is potential for archaeological sites in the additional areas required for aggregate impacts. It incorporates a review of recent mapping, previous archaeological reports, and incorporation of any information collected from Indigenous communities.

The Stage 1 Archaeology Assessment Report was sent out to communities on June 3, 2024. The reports are available for download here: Draft Stage 1 Archaeological Assessment_May 2024 – Google Drive

Feedback and comments on the report is requested by August 2, 2024.

To support your review, we encourage setting up a meeting with our team to help walk you through the reports, answer any questions you may have or as an opportunity to provide feedback.

Please let me know if you have any questions, and I will be happy to assist.

Warm regards,

Jaimie Cugnet

Communication & Community Engagement Specialist, Environment
[redacted]

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My work day may look different than your work day. There is no need to read, act on or respond to my e-mail outside of your normal working hours.

B13.2 Incoming Community Specific Correspondence

From: Bruce Achneepineskum [redacted]
Sent: August 18, 2023 1:31 PM
To: MFFN Community Access Road Project Team
Subject: Re: Complete the Socio-Economic and Health Survey and enter to win a $250 Visa Gift Card!

Good day how is this engagement being done ?

From: Rob Moonias <[redacted]
Sent: Thursday, December 7, 2023 3:07 PM
To: Poulakas, Demetri[redacted]
Cc: Bethany Haalboom <[redacted] Bob Baxter <[redacted] Fisken, Avril <[redacted]>; Jennifer Bruin <[redacted] Maria Baxter <[redacted]>; McKinnon, Don <[redacted]>; Qasim Saddique <[redacted]>; Robert Moonias <[redacted] Trimble, Ingrid <[redacted]>; Yvonne Baxter [redacted]>; [redacted]
Subject: Re: MFFN CAR Socio-Economic Interests Letter

Hello good afternoon thank you for the letter, well first of the bullet points you stated are very true, MFFN will definitely feel the impacts that you mentioned in the letter. This would require additional meeting and discussion. I dont want to leave it as is and carrying on business. Please provide time for discussion with council and community to continue to identify additional impacts as mentioned

Thanks

Robert Moonias
Marten Falls First Nation

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From: Rob Moonias <
Sent: Thursday, December 7, 2023 4:22 PM
To: Poulakas, Demetri <
Cc: Bethany Haalboom Bob Baxter < Fisken, Avril < Jennifer Bruin Maria Baxter
McKinnon, Don < Qasim Saddique < Robert Moonias Trimble, Ingrid
Yvonne Baxter
Subject: Re: MFFN CAR Socio-Economic Interests Letter

Thank you for that perhaps a detailed report on findings on the surveys and reports that you can present to chief and council and community members in marten falls and with our members in greenstone and thunder bay. Thank you
If this can be done in the new year that would be great. As you our schedules get filled up pretty quick and suggest start looking at dates in feb or middle jan 2024

Robert Moonias
Marten Falls First Nation

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From: Rob Moonias [redacted]
Sent: December 11, 2023 10:55 AM
To: Poulakas, Demetri
Cc: Bethany Haalboom; Bob Baxter; Fisken, Avril; Jennifer Bruin; Maria Baxter; McKinnon, Don; Qasim Saddique; Robert Moonias; Trimble, Ingrid; Yvonne Baxter; [redacted] lawrencebax; [redacted]
Subject: Re: MFFN CAR Socio-Economic Interests Letter

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Report Suspicious

possblie dates on week of Jan 16-19 2024

B13.3 Draft Aboriginal and / or Treaty Rights and Interests Preliminary Existing Conditions Report

Marten Falls First Nation

Marten Falls First Nation

Aboriginal and / or Treaty Rights and Interests:

Preliminary Existing Conditions Report

Marten Falls First Nation Community
Access Road Project

WORKING DOCUMENT

Contacts

Bob Baxter, MFFN Community Advisor
Email: [redacted]
Phone: [redacted]
Website: martenfallsaccessroad.ca

Andrea Nokleby, Project Consultant
Email: [redacted]
Phone: [redacted]

November 29, 2023

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Introduction

Marten Falls First Nation is the Proponent of a proposed all-season Community Access Road (the Project). The Project would connect the community to the Ontario provincial highway network (**Figure 1-1**). The Project is subject to the federal *Impact Assessment Act* and the *Ontario Environmental Assessment Act* and associated regulatory processes. As part of these regulatory processes, the Proponent is required to assess the potential impacts of the Project on the rights and interests of Indigenous peoples, including on Aboriginal and / or Treaty Rights which are recognized and affirmed in Section 35 of the *Constitution Act, 1982.* The Project Team is currently consulting with 23 Indigenous communities, including Marten Falls First Nation, who may have Aboriginal and / or Treaty Rights and Interests that have the potential to be adversely impacted by the Project. As a First Nation Proponent, constitutionally protected rights are of the upmost importance and significance to Marten Falls First Nation.

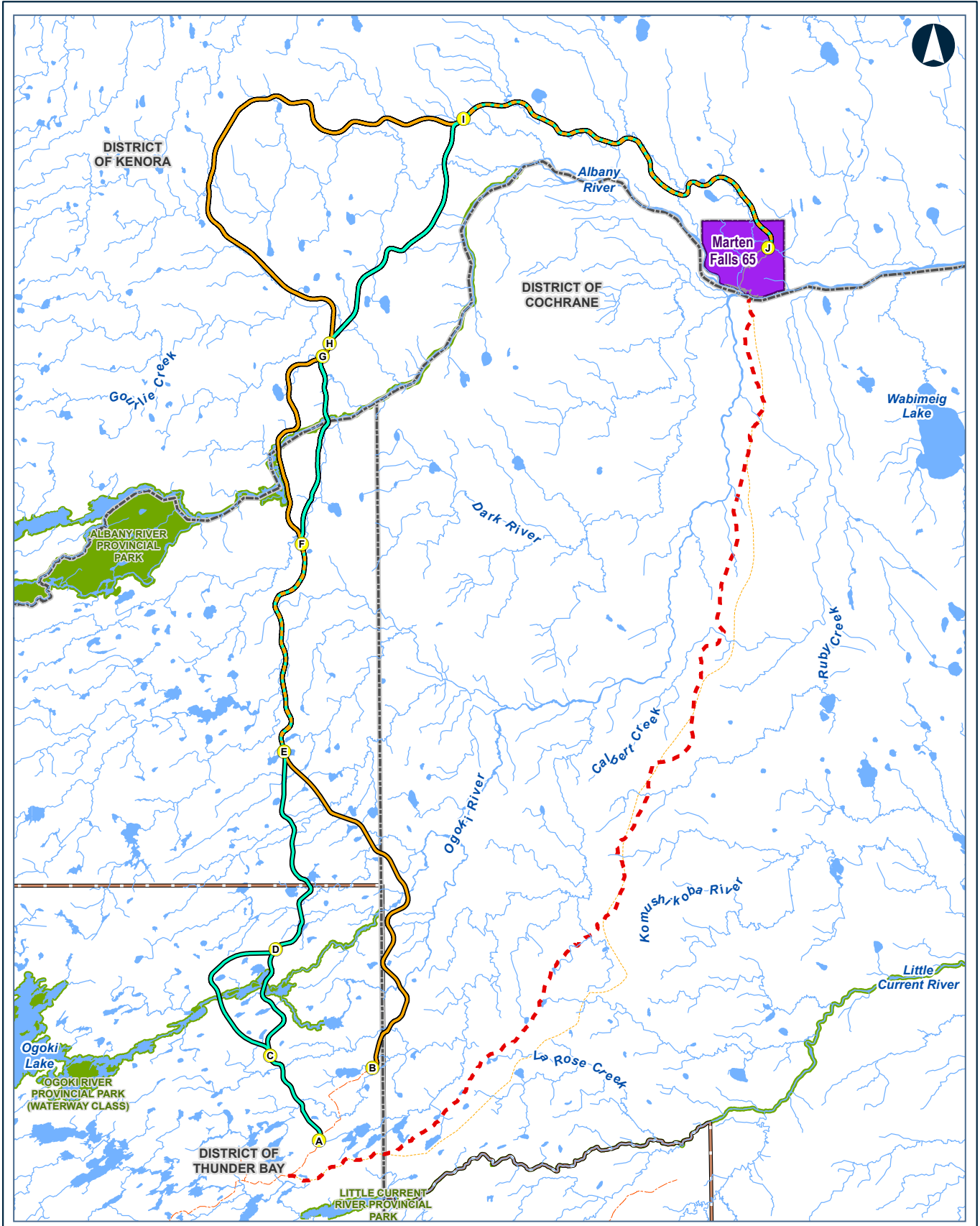
The purpose of this *Preliminary Aboriginal and / or Treaty Rights and Interests Existing Conditions Report* is to:

Share our current understanding of rights and interests within the Project area specific to each Indigenous community;

Provide our understanding of how rights are currently being exercised within the Project area; and

Seek your review and feedback on our current understanding.

The report begins with background information about the proposed Project and Aboriginal and / or Treaty Rights and Interests, and why it is so important to have a strong understanding of rights and interests relevant to the proposed Project (**Section 1**). This is followed by our understanding of the historical and regional context with respect to Aboriginal and / or Treaty Rights and Interests and how they have been cumulatively impacted to date (**Section 2**). The next section includes our understanding of your community today, including Aboriginal and / or Treaty Rights and Interests that have the potential to be impacted by the proposed Project (**Section 3**). The report concludes with an overview of the next steps in the regulatory processes and how Marten Falls First Nation will continue to work with Indigenous communities on assessing the potential impacts of the Project on the Aboriginal and / or Treaty Rights and Interests of Indigenous peoples (**Section 4**).



Legend

- Route Alternative Node
- Route Label
  - Alternative 1
  - Alternative 4
  - Alternative 1 and Alternative 4
- General Features
  - Local Road
  - Winter Road
  - Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- Far North Boundary
- District Municipal Boundary
- Waterbody
- Provincial Park

DRAFT

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Project Overview

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

Sep, 2023 | 1:430,000 * when printed 11"x17"
Rev:00

Figure 1-1

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be 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 express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

1.1 Imagining Access – Why the Project?

The Project will offer Marten Falls First Nation the opportunity to grow as a community but also be part of the social and economic fabric of the region and country. The Community Access Road will reduce transportation costs for goods and services, making food, gas, and other supplies cheaper. It will help families be together in the community and increase social interactions with other communities. It will also provide a vital connection to emergency, health, and social services.

The development of the Community Access Road will mean that Marten Falls First Nation can begin to forge partnerships with businesses and governments to grow social and economic development opportunities. Opportunities will mean more training and jobs for youth in the region. In the near future, Marten Falls First Nation members will be able to work from their home community and spend or save their hard-earned money at the nearest urban centres. The road will also allow for the continuation of Marten Falls First Nation people on the land because community members will be able to access the lands and waters at a fraction of the price it is now for transportation.

Presently, many Marten Falls First Nation members, especially the youth, have migrated to the cities and towns in search of a better life. It only makes sense that they get a chance at a better life right in their own territory. The Community Access Road will support Marten Falls First Nation in repatriating their members and youth, and in continuing to honour their role as stewards of the lands, waters, and resources as their ancestors did.

1.2 Aboriginal and Treaty Rights and Interests Overview

For the purpose of this report, Aboriginal and Treaty Rights and Interests are defined as follows.

Aboriginal Rights refer to the collective rights to practice traditions and customs that distinguish the unique culture of Indigenous groups and societies, which have been practiced since prior to European contact. These rights are grounded in the recognition of the status of Indigenous groups and societies as the original peoples of Canada, and their continued use and occupation of the land since before European contact; these rights flow to the descendants of Indigenous groups and societies on this basis. Aboriginal rights are not specifically defined under Section 35 as they can vary from group to group depending on the customs, practices and traditions that have formed part of their distinctive cultures, but they may include (CIRNAC, 2023):

- Indigenous title or ownership rights to land;
- Right to occupy and use lands and resources, such as hunting and fishing rights;
- Self-determination and self-government rights; and
- Cultural and social rights.

Treaty Rights are rights that are set out in historic and modern treaty agreements, including Treaty 9 and the Robinson-Superior Treaty, where the proposed Project is located. Treaties define specific rights, benefits, and obligations for the signatories of them, and vary depending on the time and circumstances in which they were negotiated (CIRNAC, 2023).

Aboriginal Interests refer to all requirements relating to Indigenous peoples required by both the federal *Impact Assessment Act* and the *Ontario Environmental Assessment Act*. In addition to an assessment on potential impacts to Section 35 Aboriginal and Treaty Rights, Interests also include impacts under federal jurisdiction with respect to Indigenous peoples, including impacts on (i) physical and cultural heritage, (ii) current use of land and resources for traditional purposes, (iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, and any change occurring in Canada to the health, social or economic conditions of Indigenous peoples in Canada (IAAC & BCEAO, 2022). Therefore, Interests include those identified by Indigenous groups with respect to potential economic, social, health, heritage, or environmental effects of the proposed Project, which may or may not be directly related to specific Aboriginal and / or Treaty Rights.

Note: Interests related to Aboriginal and / or Treaty Rights only are presented in this **Preliminary Existing Conditions Report**. Interests that are not specifically related to Aboriginal and / or Treaty Rights are presented in the existing conditions reports prepared by other disciplines (e.g., Socio-Economic, Land and Resource Use). Relevant information prepared by other disciplines will be used to inform the assessment on Aboriginal and / or Treaty Rights and Interests.

1.2.1 What is the Aboriginal and / or Treaty Rights and Interests Assessment Process?

The assessment of the potential impacts of the proposed Project on Aboriginal and / or Treaty Rights and Interests is intended to be flexible and adaptable. The impact assessment process is generally undertaken as a series of seven steps (IAAC, 2022), as shown in **Figure 1-2**. Steps may need to be revisited and revised based on inputs from, and the specific context of, potentially affected Indigenous communities.

Dialogue (and ideally collaboration) with Indigenous communities throughout the process enables modifications to the process, if and as needed, and promotes a holistic understanding and consideration of Indigenous community needs, protocols, rights, and interests.

It important to note that the steps of the Aboriginal and / or Treaty Rights and Interests impact assessment are not completed in isolation of each other (i.e., step 1 does not need to be fully completed before moving onto the next step). This is because of the interconnectedness of the steps, the iterative nature of the process, the volume of information that is collected during the process, and the dialogue with Indigenous communities throughout the process.

Figure 1-2: Aboriginal and / or Treaty Rights and Interests Impact Assessment Process

The Marten Falls First Nation Project Team is currently working through Steps 1 to 3. This **Preliminary Existing Conditions Report** is a working document that has been developed based on dialogue with and inputs received from Indigenous communities to date and an extensive literature review of publicly available documents. By sharing this Preliminary Existing Conditions Report, we are wanting to work with Indigenous communities to validate, build on and / or revise our understanding of:

- Aboriginal and / or Treaty Rights and Interests relevant to the proposed Project (Step 1);
- The context in which impacts on these rights and interests have already occurred, and how the proposed Project may further impact rights and interests (Step 2); and
- The guiding values and topics associated with community well-being, cultural expression, and the preferred means of exercising rights (Step 3).

The next steps in the Aboriginal and / or Treaty Rights and Interests Impact Assessment process is to collaborate with Indigenous communities to grow the Proponent's understanding of:

- Pathways of potential impacts from the proposed Project (Step 4);
- Anticipated levels of impact that the Project may have (Step 5); and
- Measures and / or actions that can be taken to address potential impacts including the associated pathways (Step 6).
- The final step (Step 7) is to engage with communities to validate the outcomes of the Aboriginal and / or Treaty Rights and Interests Impact Assessment.

1.2.2 Proposed Study Areas for the Aboriginal and / or Treaty Rights and Interests Assessment

Study areas identify the geographic areas within which potential effects of the Project may occur. These study areas are used to guide the data collection and assessment processes.

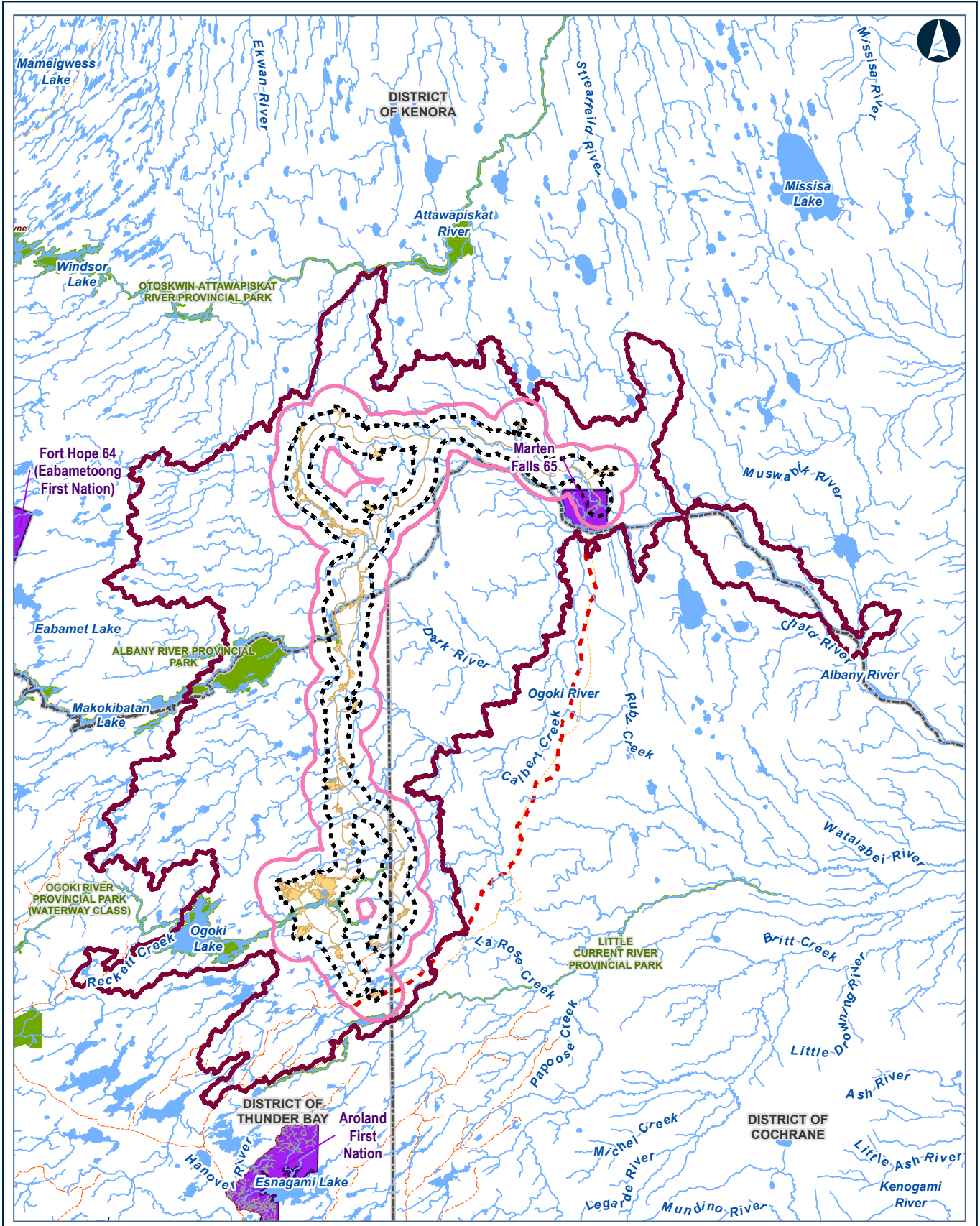
The Project has both a general Study Area and a Project Development Area which are defined as follows:

- Project Study Area- includes the area within 2.5 km of each side of the centreline of each alternative route (resulting in a 5 km wide Study Area). The preliminary Study Area generally allows for the documentation of existing conditions and prediction of potential effects for the Project. A 5 km wide Study Area provides flexibility for route refinements that may arise during the Environmental Assessment process through advancement of design (e.g., adjustment of the road alignment to avoid features). The specific location of Project components, including the roadway, quarries, borrow areas, aggregate source areas and temporary infrastructure, are not yet known and will be determined in the Environmental Assessment.
- Project Development Area – encompasses the 100-metre-wide Community Access Road right-of-way, temporary construction access roads, work areas, worker camps, and pits, quarries and associated access roads.

In addition to the Project Study Area and the Project Development Area, study areas have been identified for the Aboriginal and / or Treaty Rights and Interests assessment. Information on the proposed study areas for the Aboriginal and / or Treaty Rights and Interests impact assessment and associated requests for input have been previously shared with all potentially affected Indigenous communities, as follows:

- **August 2020:** The Project Team shared the Preliminary Aboriginal and / or Treaty Rights and Interests Study Areas Memo with Indigenous communities for review and comment.
- **September 2020:** The Project Team received valuable feedback from Indigenous communities on the preliminary study areas.
- **January 2021:** The Project Team revised the proposed study areas for the assessment based on feedback received and distributed an Update on the Proposed Aboriginal and / or Treaty Rights and Interests Study Areas Memo outlining the changes and requesting any feedback.
- **August 2022:** The Project Team revised the proposed study areas based on changes to the proposed Project Development Area for the Project. Changes to the Project Development Area resulted to changes in the proposed Local Study Area for the Aboriginal and / or Treaty Rights and Interests assessment only; there were no changes to the proposed Regional Study Area for the assessment. An Update on the Proposed Aboriginal and / or Treaty Rights and Interests Study Areas Memo, outlining the changes and requesting any feedback, was distributed to Indigenous communities.

The current study areas for the Aboriginal and Treaty Rights and / or Interests assessment (as of September 2023) are shown in **Figure 1-3**.



Legend

- Project Study Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

General Features

- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- District Municipal Boundary
- Waterbody
- Provincial Park

Notes:
1. Local and Regional Study Areas are Preliminary.

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.

DRAFT

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas for the Aboriginal and Treaty Rights and Interests Impact Assessment

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

Nov, 2023	1:800,000 * when printed 11"x17"
Rev:00	

Figure 1-3

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be 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 express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

1.3 A Shared Understanding – Working Together

Marten Falls First Nation is committed to developing a shared understanding of Aboriginal and / or Treaty Rights and Interests within the assessment study areas. The Project Team recognizes that there are things that may have been missed or misunderstood with respect to community Aboriginal and / or Treaty Rights and Interests, and the intent in preparing and sharing this **preliminary report** is to encourage the community to validate, build-on, and /or correct any misunderstandings.

This report sets the stage for the Project Team's understanding of community Aboriginal and / or Treaty Rights and Interests and will be foundational to the impact assessment that will be completed in the future. By understanding the Aboriginal and / or Treaty Rights and Interests of communities in relation to the proposed Project, the Project Team will be better positioned to have informed conversations with potentially impacted Indigenous communities and their members.

It is the objective of the Project Team to avoid, mitigate or reduce potential negative impacts associated with the proposed Project while enhancing potential positive impacts related to Aboriginal and / or Treaty Rights and Interests.

02

Historical and Regional Context

The culture, knowledge, and history of Indigenous peoples is passed down through oral stories and accounts from generation to generation. The following chapter presents an historical and regional overview of the Indigenous peoples in the region. The information presented below was collected from written academic articles, journals, and other publicly available documents, many of which were informed by oral history. Indigenous authors and publishers were sought where possible to capture a more authentic understanding of the history, culture, rights, and interests of Indigenous peoples, both pre- and post-contact, and how Indigenous peoples and their rights and interests have been cumulatively impacted to date.

Note: the term "Indian", which is the historical term used by the Crown for First Nations peoples in Canada, is used throughout **Section 2** when referencing historical documents and associated content.

2.1 Pre-Contact Context

Section 2.1.1 to **2.1.6** describe aspects of the societies of Indigenous peoples of the region prior to more consistent contact with Europeans (pre-contact), which occurred in the mid- to late-17th century.

The Indigenous peoples of what is now known as northern Ontario primarily consisted of the Anishinaabeg (which translates to 'Original People') and the Cree peoples (The Canadian Encyclopedia, 2023).

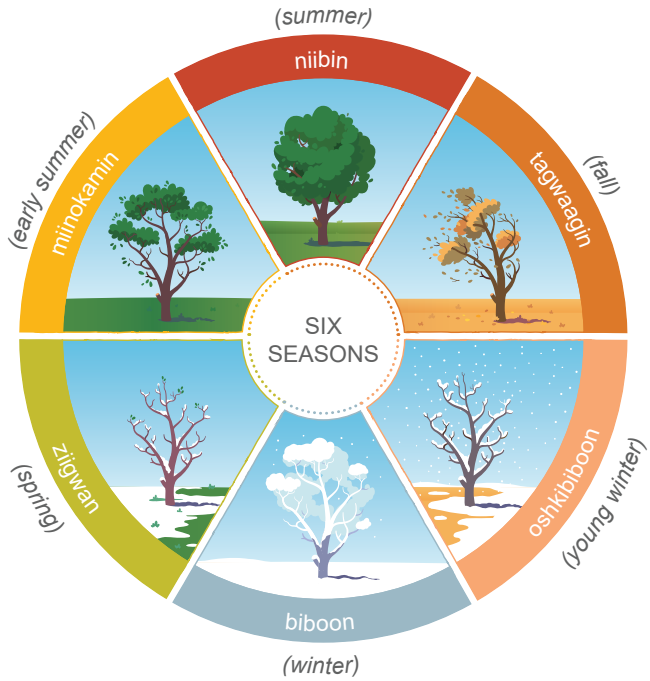
The Anishinaabeg in this region of Ontario have been referred to as the Northern Ojibwa. The Cree people of this region are known as the Omushkegowuk ('People of the Muskeg'). Throughout **Section 2.1.1** to **2.1.6**, 'Indigenous peoples' refers to the Anishinaabeg and the Omushkegowuk peoples of the region specifically, unless otherwise stated. Information on the community as it is today – is provided in **Section 3**.

2.1.1 Seasonal Lifeways

Indigenous lifeways are typically shared and nurtured through culture, language, stories, and ceremony, and rooted in place and scared relationship with the Earth, sky, sun, plants, animals, and water (Robertson, 2023). Prior to contact, Indigenous peoples lived their lives following the animals they hunted and according to the seasons. As noted by Davidson-Hunt and Berkes (2003), the Anishinaabeg have six seasons:

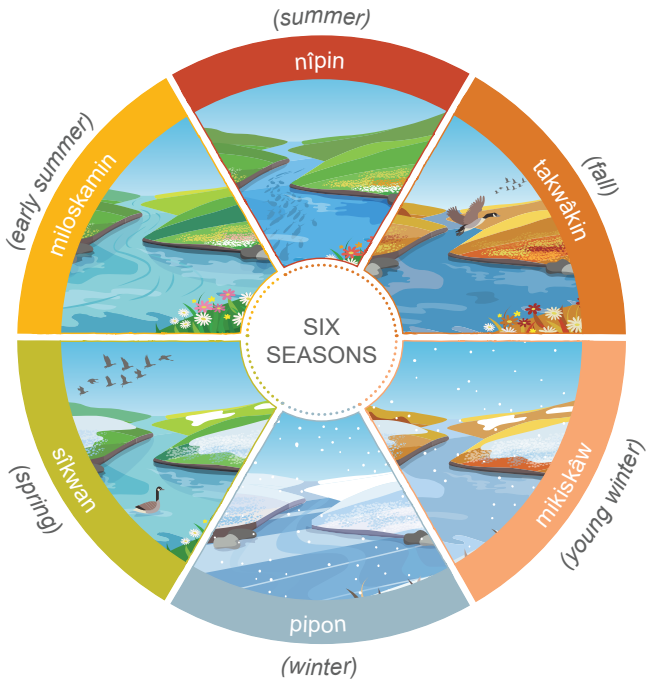
- *Ziigwan* (spring);
- *Miinokamin* (early summer);
- *Niibin* (summer);
- *Tagwaagin* (fall);
- *Oshkibiboon* (young winter); and
- *Biboon* (winter).

The seasons were denoted according to changes in the landscape. For example, *tagwaagin* begins when the leaves start to change colour and fall from the trees and turns into *oshkibiboon* when all the leaves have fallen off the trees and the first snows have fallen, while *biboon* turns to *ziigwan* when the ice on the lakes begin to melt and break up (Davidson-Hunt and Berkes, 2003).



The Omushkegowuk have described six seasons with several seasons reflecting the yearly melting and freezing of the waterways given their reliance on lakes and rivers for their livelihoods (Honigmann, 1948; Six Seasons of the Asiniskaw Ithiniwak, n.d.):

- *Sîkwan* (breakup, translates to "rattling feathers" because the geese fly in and it sounds like rattling);
- *Miloskamin* (spring, translates to "good moving water");
- *Nîpin* (summer, translates to "gifts from the water" because of the fish that are offered);
- *Takwâkin* (fall, translates to "gathering up" becaus e this is the season in which birds and people prepare for the coming winter);
- *Mikiskâw* (freeze-up, translates to "plenty of beads" because of the forming frost); and
- *Pipon* (winter).



Both the Anishinaabeg and the Omushkegowuk used the moon cycles to mark temporal dynamics of seasonal change, and to provide a more standardized way to note the passage of time during the year (Davidson-Hunt and Berkes, 2003; Six Seasons of the Asiniskaw Ithiniwak, n.d.).

Indigenous peoples of the region were hunters and gatherers who travelled seasonally, following the important resources that sustained them in each season. They used birch bark canoes, rafts, snowshoes, and toboggans for easier travel depending on the season (Long, 2010). A rich variety of foods were available, including birds (e.g., duck, goose, and partridge), big game (e.g., bear, deer, moose, and caribou), furbearers (e.g., beaver, muskrat, marten, and wolverine), and fish (e.g., whitefish, pickerel, pike, trout and sturgeon) (Dawson, 1976; Long, 2011; Long *et al*., 2017). Indigenous peoples also gathered berries, plants, medicines, and fuels (Long, 2011). *Manoomin* (wild rice) was an important staple food among the Anishinaabeg in the Great Lakes region (Desmarais, 2019). Kuhnlein and Turner (1991) noted that plants used in the Hudson Bay Lowlands, further north, included: the roots and sweet sap of large tamarack trees; rock tripe lichen; angelica (wild celery); wapato (arrowhead); the shoots, roots, and stems of fireweed; cattails; wild onions; and, the buds of juniper and spruce trees. Early accounts indicate that the Omushkegowuk spent much of the year pursuing game over large areas in the north, while areas to the south provided food the Anishinaabeg were able to harvest in large quantities including fish, deer, moose, and caribou, requiring less travel (Bishop & Smith, 1975).

The division of labour was based on gender. The men were hunters and trappers (and butchers prior to returning to the group), and makers of toboggans, sleds and snowshoe and wigwam frames. The women fished and hunted and trapped small game, gathered plant foods and medicines, collected firewood, prepared meals, and created material goods for family and trade, in addition to their child caregiver duties (McMillan and Yellowhorn, 2004, as cited in Soloway, 2015). The role of women in preparing geese for future use by drying and smoking, and in preparing feathers and quills for sale, was especially important among the Omushkegowuk, (Lytwyn, 2002).

Indigenous lifeways were intimately tied to the family (Long, 2010). The social organization consisted of community groups composed of immediate and extended families, which may have inhabited single or several drainage basins. Settlements consisted of small habitation sites and associated hunting camps (Dawson, 1987). Up to ten families lived and shared together, typically a group of brothers and their wives and children (Bohaker, 2020), depending on the season and circumstances (Long, 2011). Families resided in cone-shaped wigwams made of wood and moss, covered in moose or caribou hides (MFFN & OMNRF, 2020).

When studying traditional Omushkegowuk (Attawapiskat) land tenure, Cummins (1992) reported that two to five Omushkegowuk families lived and travelled together as a 'microband', and up to 15 families connected as a 'macroband'. The macrobands in the region were aware of each other as they completed their seasonal rounds (Cummins, 1992).

Communities would come together in the summer, usually at a lake or shore within the territory where food was abundant; these areas were occupied annually for extended periods by clustered groups (Dawson, 1987). Summer gatherings were the largest, and hundreds of people (sometimes over a thousand) from several 'bands' would assemble for visiting, trade, marriage negotiations and to discuss issues of common concern (Leacock, 1981; Bohaker, 2020).

Small camps used on a temporary basis by community members to harvest resources in both summer and winter were also present around the larger summer gathering sites. Groups would disperse in the winter to their hunting areas (Dawson, 1987), and each family had a hunting territory (Oldmixon, 1931, as cited in Long *et al*., 2017). According to anthropologist Edward Rogers (1963), hunting ranges (territories) were loosely managed and hunting groups returned to the same general area each year. Trapping was done mostly for subsistence as the hunter-gatherer lifestyle required seasonal movement to avoid resource depletion (Rogers, 1963).

Indigenous land use, cultural practices, and settlement systems were shaped primarily by the seasonal cycles of the region. During the summer, time was spent fish harvesting and drying, berry picking and drying, and collecting materials for building homes and utility items including wigwams, snowshoes and fish baskets (MFFN & OMNRF, 2020). Furbearer snaring and small bird hunting was also common (Long *et al*., 2017). Summer was also a time for traditional gatherings for ceremonies including marriages, feasts, new friendships, naming ceremonies, and celebrations for community members who passed away (MFFN & OMNRF, 2020).

Fall was spent preparing for the winter hunting camps and season. This involved preserving food and preparing hides, making any utility items needed (e.g., moccasins and snowshoes), and making sure the dogs were fattened up for the coming winter sledding when it was time to move to the winter

areas (Omushkego Education & OCCC, 2006; MFFN & OMNRF, 2020). Fish were an important source of food during this time (Omushkego Education & OCCC, 2006), as were a variety of birds including waterfowl, grouse, and ptarmigan (Omushkego Education & OCCC, 2006; Long *et al*., 2017). Caribou and moose provided additional sources of food during this time (Omushkego Education & OCCC, 2006).

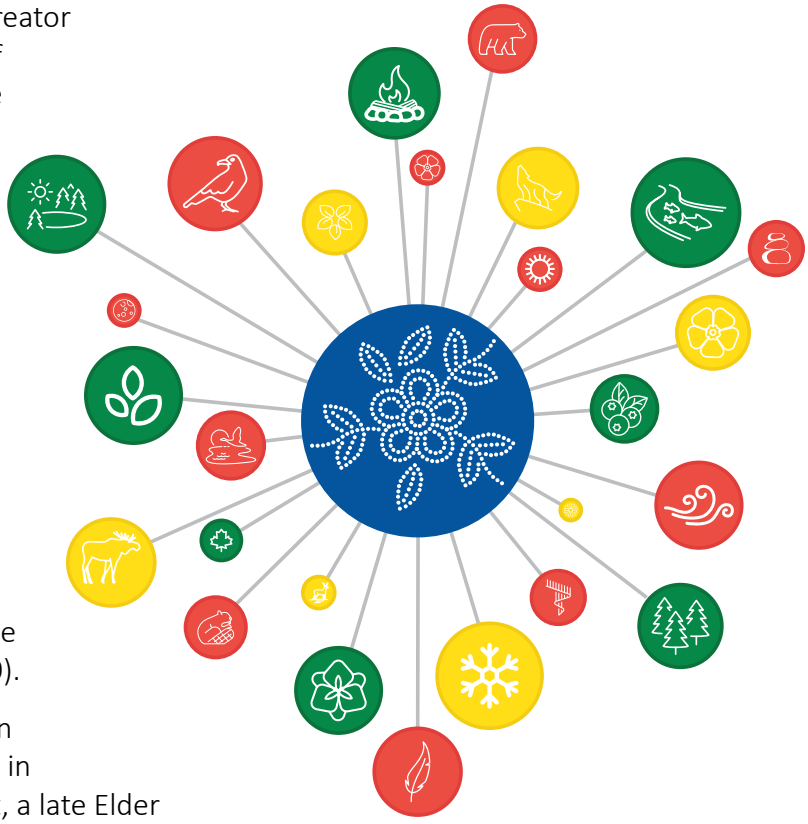
During the early winter or freeze up, travel was limited until the rivers and streams were frozen and fishing and trapping were important for sustenance (Omushkego Education and OCCC, 2006). Winter was a prime time for hunting caribou and trapping furbearers (Long *et al*., 2017). Winter gave people freedom as they could travel all over the land, and not worry about food spoiling (MFFN and OMNRF, 2020).

Breakup and spring (early summer) brought warmth. Areas for new shelters away from winter homes were scouted to prepare for the spring hunt (MFFN and OMNRF, 2020). Among the lowland Omushkegowuk, the spring harvesting of goose and duck was significant and was seen as a celebration for the survival of the family through the harsh winter conditions (Cummins, 1992). Canoes were used as a mode of travel as the waters of the rivers and streams started to flow again (Omushkego Education & OCCC, 2006). After the ice breakup was a time for fish harvesting and drying, and muskrat hunting and trapping (MFFN & OMNRF, 2020).

2.1.2 Culture and Worldview

Indigenous peoples of the region practiced a cultural way of living. The culture was, and continues to be, grounded in relationships with and knowledge of the environment, and shared through oral stories and practices (MFFN & OMNRF, 2020). When Europeans started to travel into the region, many viewed the land as something to be explored, owned, developed, and used for profit – this view was in contrast to the Indigenous' world view that the land and its resources is something to be shared, cared for, and honoured (Tsuji & Tsuji, 2021). From an Indigenous way of life, Indigenous peoples did not own the land; they were connected to it and depended on its generation and empowerment of all life, including the intangible aspects like culture, language, and dream (Tsuji & Tsuji, 2021). Indigenous worldview and identity were, and continue to be, grounded in intimate relationships with the land and the natural world, and the principles of kinship, respect, reciprocity, and responsibility (Bell, 2013; Guido, 2021).

The perspectives of many Indigenous peoples were, and continue to be, rooted in a recognition of the inter-relation of all of creation – everything is considered to be connected, like the strands of a spider's web (Bell, 2013). Moreover, many Indigenous peoples' beliefs on the origin of humankind framed their perspectives on relationships between humans and other beings: plants and animals inhabited the land before humankind and assisted humans when they arrived on earth (Johnston, 2005; Luby *et al*., 2021); and, all things in the natural world are valuable and equal (Simpson, 2000a).



According to the Anishinaabe origin story, the Creator envisioned humankind in response to feelings of loneliness. However, the Creator did not provide humankind dominion over Creation, and instructed that humankind was to take care of Mother Earth (Luby *et al*., 2021). The order of creation in the Anishinaabe creation story places humans last, as well as least in the order of dependence, and weakest in terms of bodily powers (Johnston, 1976). In addition, for the Anishinaabeg, all living beings were understood to have souls (and not just humans), and therefore personhood. Understanding the natural world and its inhabitants as kin, as brothers and sisters, was a critical piece of Anishinaabe culture and law; this is reflected in their presence in almost all Anishinaabe stories (Fontaine, 2020).

The important relationships and kinship between humans and the natural world are also reflected in Omushkego oral history. As told by Simeon Scott, a late Elder from Fort Albany First Nation, the first people were living in *the land above* when an unseen voice asked a man and a woman if they would like to go down and see *the land below*. They went to go see *the great net-maker*, a spider, to lower them down onto the land now called northern Ontario, but they did not heed his warnings that only one person may look down from the spider's line – they both looked down and fell. They were rescued from the eagle's nest in which they had landed by a bear and a wolverine. The first peoples then followed the bear, who taught them everything they needed to know to survive in their new home (Ellis, 1995).

The oral histories of Indigenous peoples of the region speak to the importance of respect, reciprocity, and responsibility.

- Among the Anishinaabeg, respect entails "a reverence for the diversity of life and peoples, for different ways of knowing, and for different ways of being" (Simpson in Bell *et al.,* 2010, p. 14). A deep respect for the natural world and the balance of all components of it underpins the worldview of Cree peoples (Preston, 2002), including the Omushkegowuk. The land and its resources had to be respected and sustainably utilized for the benefit of all, including ancestors and future generations (Honor the Earth, 2017).
- Indigenous peoples' relations with the land were primarily reciprocal in nature as this was considered critical to establishing and maintaining healthy relationships with the natural environment (Preston, 2002; Bell, 2013; Honour the Earth, 2017, Tsuji & Tsuji, 2021). If something

was taken or received, something had to be given back to give thanks. Gifts were offered for successful hunts and harvests; these included specific offerings that were often very private to the individual or group but they also entailed actions to sustain the life of a moose or caribou population from which they hunted (Tapestry Institute, n.d.).

- Indigenous stories also indicate important responsibilities to ensure healthy and balanced relationships with Creation. Anishinaabe teachings describe the gifts that each person is born with and responsibility of each person to "use their gifts to the best of their ability for the good of the community, and for the good of creation" (Bell, 2013, p. 103).

The perception of environments as social-ecological systems is an underpinning of an Indigenous worldview, and the spatial and temporal dynamics of the land were included in both memory and language (Davidson-Hunt & Berkes, 2003). As noted by Davidson-Hunt and Berkes (2003), Anishinaabe ways of remembering can be described as an experience of journeying within the land that is situated in both space and time: the journey is structured temporally according to the practices, seasons, moons, and ceremonies that mark of the passing of time and life stages, and spatially based on what is encountered and observed. This is evident in Indigenous place names, which provide a mental image of how a particular place in the landscape looks, how it relates to other places, and what occurred or might be found at the place (e.g., *Aagimakobawatig* describes a place where black ash grows beside a rapid). As noted by Berkes et al. (1998), the Anishinaabe notion of "land" is more akin to the concept of "ecosystem" but with the added dimensions of peoples, their culture and their history.

In addition to providing sustenance, the lands, waters, and their resources provided, and continue to provide, spiritual connection and well-being. Everything could be considered alive – both animate and inanimate objects were believed to have a spirit life (Simpson, 2000a). Many Anishinaabeg understood the world to be inhabited by spiritual beings known as *manidoos*, and these were known to be associated with places and seasons (Johnston, 2005). Moreover, the spiritual world was believed to exist as parallel world or plane of existence that could be accessed through prayer

or ceremony or that could manifest when it decided to do so (Honour the Earth, 2017). These beliefs remain an important part of Anishinaabe culture today.

In Anishinaabe culture, Johnston (2005, p. 17) describes that "there is an ongoing relationship between the Dead and the Living; between Ancestors and Descendent." It was considered the obligation of the living to bury their relatives in a proper manner (in marked graves with commemorative and symbolic items placed on them) and in a proper place (in their place of origin and/or near their ancestors), and to protect them from disturbance or desecration; failure to do so was thought to harm both the dead and the living (Johnston, 2005). Many Anishinaabe believed that bodies have several souls: one of them remains in the bones after death and only leaves when it is "recycled" into a descendant; the other leaves the body after death and travels to rejoin other relatives who have died (Johnston, 2003, as cited in Bohaker, 2020). Feasting to celebrate the dead (Feast of the Dead) was important for the care and protection of deceased souls (Johnston, 2005). The feasts also had a function of perpetuating alliances among kin and initiating alliances with outsiders (Bishop, 1976). Based on available records, the Jesuit missionaries were "mystified by the care and attention that Aboriginal people showed toward their dead" (Johnston, 2005, p. 8).

Prior to contact, Indigenous lifeways were based on a deep connection with the lands and all its inhabitants. As noted by Cajete (2000), "Native people expressed a relationship with the natural world that could only be called ensoulment" (p. 186). They spent so much time on the land, interacting with the natural world, that "their landscapes became reflections of their very souls" (Cajete, 2000, p. 187). The mutual relationships between, and the value of, all things in the natural world (including celestial bodies, spirits, and natural forces), as well as the need for balance among them, were recognized and honoured (Honor the Earth, 2017).

2.1.3 Language

Indigenous culture is rooted in language (Wastesicoot, 2015). Both the Anishinaabeg and Omushkegowuk are Algonquian in terms of their language group, one of the most populous and widespread Indigenous linguistic and cultural groups in North America. *Anishinaabemowin* (Ojibwe) was the language of the Anishinaabeg, while the Omushkegowuk spoke *Inilîmowin* (Swampy Cree).

Both languages are considered polysynthetic, which means that they have long, compound words to express complex meanings that would require many words, or even an entire sentence, in other languages (Oxford, 2019). A typical word is made up of several, or many small parts, with a variety of combinations that mean different things. For example:

- *Boozhoo* ("hello") in *Anishinaabemowin* acknowledges the original spirit of *Nanaboozhoo*, and also conveys the process of using the breath of life ("*boo*") to express the feeling of life ("*zhoo*") (Horton, 2021); and,
- The *Inilîmowin* word *niwanahikân* means "I am setting my traps" (Omushkego Education, 2016).

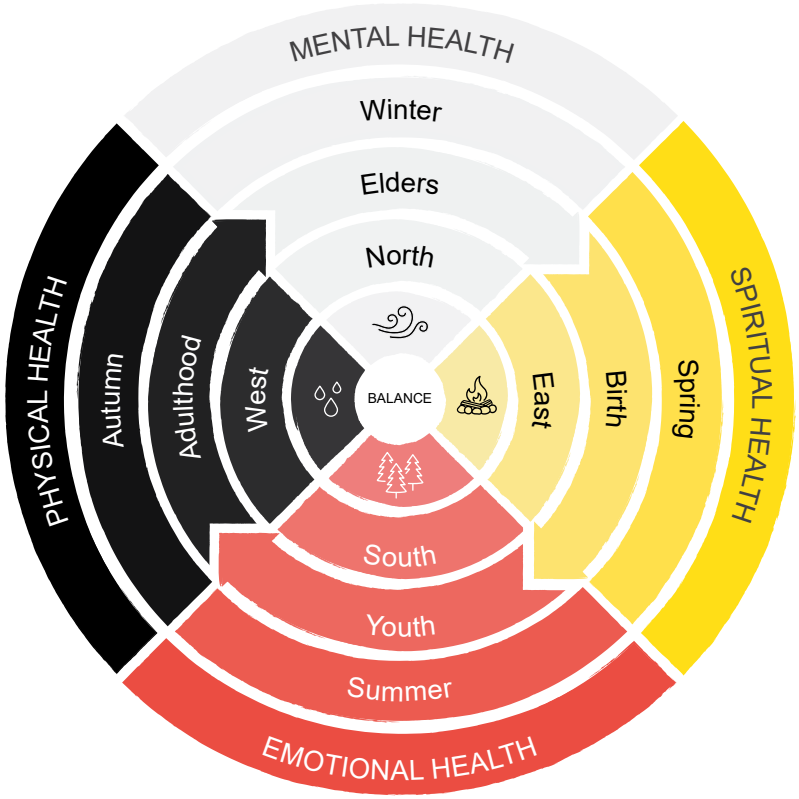
Both *Anishinaabemowin* and *Inilîmowin* also organize their nouns according to animacy: whether the noun is referring to a living thing like a human or animal (animate) or an object (inanimate); this is analogous to the use of masculine and feminine nouns in French, just on a different axis. However, some non-living objects, like drum and tobacco, are treated as animate, and this may have to do with the spiritual significance of these objects (Oxford, 2019).

There was no written form for the Ojibway and Cree languages prior to contact, though European missionaries later created a system of writing (OCCC, 1986). By the early 1800s, European traders noted that a mixed Cree-Ojibway dialect was spoken by Indigenous people who lived in territories shared by the Lowland Cree and Northern Ojibway, where mixing and intermarriage was common (Lytwyn, 2002); this became what is today referred to as *Anishininiimowin* (Oji-Cree).

2.1.4 Learning and Knowledge Building

Indigenous educational traditions have been described as holistic whereby the learning process had to address the whole person, including the intellectual, spiritual, emotional, and physical dimensions (RCAP, 1996a). The process of learning and knowledge building among Indigenous people was considered a life-long process rooted in personal experience, ceremony, reflection and sharing (Simpson, 2000b), and recognition and honouring of the relationships with and within the natural world (McGregor, 2013).

Rituals, storytelling, and harvesting and gathering practices out on the land were foundational for conveying worldviews and handing down instructions for maintaining balance in the natural and spiritual worlds through the generations (Honor the Earth, 2017). As described by Johnston et al. (2018), Indigenous knowledge "originates in oral sources (conversations, stories, traditional teachings) in the day-to-day practices of Indigenous peoples according to Indigenous worldviews and including insights from the spirit world" (p. 4). The knowledge-transfer activities of rituals, ceremonies, storytelling and practices on the land were often directly tied to the place the knowledge relates to (Honor the Earth, 2017); that is, Indigenous knowledge sharing was not only relational in nature but also place-based.



Leanne Simpson (2000b) explored Anishinaabe ways of learning and identified a variety of important learning modalities, including dreaming, ceremonies, learning by doing (experiential learning), and storytelling. Dreaming, visioning, and ceremonies were considered important paths for knowledge transmission from the spiritual world to humans (Simpson, 2000b). Being on the land was considered critical for experiential learning, and young people learned how to participate by practicing the tasks and skills they would need to perform as adults (Antoine *et al*., 2018). Learning by observation was an important component of experiential learning. The Anishinaabeg often relied on plants, animals, and spiritual entities as teachers, each offering gifts and lessons of caring and sharing that were accessed through careful observation (Simpson, 2000b). For example, plants and animals could offer lessons based on where and when they grow, how they multiply, how they provide food for others, and who they prefer the company of, and who they avoid (Raven at el., 1998, as cited in Simpson, 2000b).

Storytelling was an important way to teach principles and values. There were various forms of stories, including stories of origin, sacred stories, stories of personal experience, and stories that convey laws, responsibilities, morals, values and life lessons, all of which were grounded in one's intimate relationship with the land (Fontaine, 2020). In oral tradition, storytellers may impart their own life and experience when telling stories, and the listeners filtered stories through their own experiences and reflective thinking to make them relevant to their own lives (Peltier, 2021). The meaning that was drawn from a story may depend on who was telling it, and the circumstances in which it was told in terms of time, place, and situation of the telling. Storytelling tradition is non-linear and cyclical in perspective. Time can be represented in different ways; while stories find their origins in the past, they can also speak to the present (RCAP, 1996b).

As described by Anishinaabe educator David Anderson (2002), traditionally children were often raised by their immediate and extended families, and taught the "big story" and the abstract messages of Anishinaabe being from infancy. Generally, children learned to listen and observe, and they watched as the community worked together to ensure the survival of all; role modelling was an important aspect of teaching (Bell, 2013). Children were expected to take the abstract concepts, morals, and values they were exposed to through storytelling, and develop them into their own meaningful relationships with all elements of the natural and spiritual world (Anderson, 200 2; Bell, 2013).

2.1.5 Governance and Legal Principles

Both the Anishinaabeg and the Omushkegowuk had their own forms of governance in place prior to contact with Europeans. As noted by Anishinaabe legal scholar John Borrows (2002), Indigenous peoples developed spiritual, political, and social conventions to guide relationships with each other and the natural environment, and "these customs and conventions became the foundations of many complex systems of government and law" (p. 47). Leadership among the Indigenous peoples in the region was observed to be markedly different from European societies, and European observers were "impressed by the lack of rigid, hierarchical political order among the Indians" (Lytwyn, 2002, p. 20).

The Anishinaabeg were traditionally governed by a hereditary clan system, the *Doodemaag*. Early accounts from the late 17th century indicate that the Anishinaabeg constituted their governments as *doodem* (clan) beings who met in council, and specific *doodem* beings took on responsibility for roles and places (Bohaker, 2020). *Doodems* were most often animals, but they could also be a tree or a *Manitou* (e.g., thunderbirds, mermen, underwater *manidoos*), and they tied people to specific places those *doodems* inhabited (Corbiere, 2019). Anishinaabe historian William Warren noted that Northern Ojibway *doodems* included Sucker, Goose, Beaver, Sturgeon, Gull, hawk, Cormorant, and Whitefish (Lytwyn, 2002). Each animal symbolized an ideal to be sought (Johnston, 1987). For example, "the leadership role in councils that was undertaken by members of the Loon *doodem* was visually reinforced by the fact that the common markings of loons has markings around its neck, resembling the wampum shell collars that leaders wore to indicate their status and political role" (Warren & Neill, 1885, as cited in Bohaker, 2020, p. 61).

The *doodem* was the foundation of Anishinaabe identity, exemplified by the fact that Anishinaabe leaders meeting in council signed colonial documents with imaged representing their *doodem* identities (Bohaker, 2020). Individuals were born into their *doodem*, which came from the father's side of the family (Bohaker, 2020). However, people could be adopted into a willing clan when seasonal cycles led to movements inland or upriver that led to a summer identity and a winter identity (Witgen, 2013, as cited in Corbiere, 2019). Marriages often functioned as micro-alliances that brought different *doodemag* together, sometimes from considerable distances away, for important social and political connections.

Given the role marriage had as an alliance-making institution, it was reinforced by a taboo against marrying someone from within the same *doodem* (Bohaker, 2020).

Each *doodem* had its own leadership system (common council), which may have involved an *ogimaa* (chief), an *aanikeogimaa* (second chief, deputy), and *gichi-Anishinabek* (elders, councillors), all of whom were leaders of their own *indinaakonigewin* (those whom one overwintered with, a group of usually 20-40 people) (Miller, 2010). In addition to these leaders, women's councils and warrior councils served to advise and significantly influence decisions. Each of these councils also had leaders (Bohaker, 2020). According to Miller (2010), women's councils were a central component of Anishinaabe governance, and women had defined political roles. One woman, an *ogimaakwe* or chief woman, would present the results of the women's council findings to the men during gatherings (Miller, 2010). Women could also hold the role of the *ogimaa* (Bohaker, 2020). Warrior councils had a responsibility to protect their people (Bohaker, 2020).

Historically, common councils met regularly and were responsible for local affairs, including where and what to hunt, where family groups reside through the seasons, settling conflicts and disputes in the community, and family alliances (Bohaker, 2020). Both women's and warrior councils provided common councils with advice on these matters (Bohaker, 2020). General councils between common councils occurred at least annually if not semi-annually, as part of the seasonal round. General councils were places at which alliances between common councils were established and renewed (Bohaker, 2020).

As noted by Bohaker (2020), leaders were expected to be generous with their wealth and "good leaders accumulated wealth in order to give it away" (p. 139). Their intended role was as "stewards" who took care of the people and the land. Leadership was not absolutely hierarchical and individuals could hold several leadership roles, with their status depending on their own personal gifts, expertise, and their *doodem* (Bohaker, 2020). Governance practices were primarily consensus-based through councils and alliances (Bohaker, 2020); this is reflected in Anishinaabe oral histories that demonstrate consultative and consensus-based leadership models through story (Borrows, 2010). Common practice was for leaders to exercise their authority *with* their community, not *over* them (Mills, 2019). *Doodem* kin ties could create and sustain lateral connections between different councils, and reinforce the political principle of interdependence through alliance (Bohaker, 2020).

Anishinaabe *aadizookaanag* (sacred stories) explain the origins of the *doodem* tradition: human beings are descended from, and therefore kin to, the other-than-human beings who are their *doodem*. To share a *doodem* was to be immediate kin. Indigenous worldview on kinship may be reflective of the idea of shared souls rather than shared blood, and "understanding this distinction is critical for understanding the concept of personhood in Anishinaabe law" (Bohaker, 2020, p. 53).

The governance structure of the Anishinaabe people was formalized through the *Niswi-mishkodewinan* (Three Fires Confederacy) of the Ojibway (Chippewas), Odaawa and Potawatomi Nations. The three groups shared similar languages and territories, and met for military and political purposes. Each group had a distinct role in the confederacy: the Ojibway were the providers and knowledge keepers of medicine and faith, the Odaawa were the warriors and keepers of trade, and the Potawatomi were the firekeepers who took care of the three fires (nations) and made sure they were strong. The fire was central to the governance structure, and continues to be so to this day (Anishinabek Nation, 2023a; Anishinabek Nation, 2023b).

While the Omushkegowuk did not have a clan system like that of the Anishinaabeg, they did have a kinship system where the family was the major self-governing unit, and extended family were involved to support each member in living up to their responsibilities (RCAP, 1996c; Wastesicoot, 2015). Elders served various functions based on their skills, including as storytelling historians, advisors, and counsellors to young people and others (Wastesicoot, 2015).

The Omushkegowuk had a leadership structure with *okimâw* (leaders) who were respected for their ability to make good decisions with respect to hunting practices and rules (Lytwyn, 2002). The *okimâw* were not intended to rule with force or dictate the lives of those who followed them, but rather, they were expected to display leadership based on their life skills, experience, and wisdom (Lytwyn, 2002), and their exemplary connection with the land, knowledge of the animals (Preston, 1990, as cited in Brekes *et al*., 1991). They did not have the right to impose decisions on others – leadership was meant to be consultative (Lytwyn, 2002), and decisions were accepted by consensus (Preston, 1990, as cited in Brekes *et al*., 1991). Similarly to the *ogimaa* of the Anishinaabeg, generosity, compassion, and a strong capacity to care for others were important attributes of *okimâw* (Wastesicoot, 2015). Heredity was noted to be an important factor, with leadership observed to be passed down from fathers to sons (Lytwyn, 2002). However, leadership roles were not necessarily inherited, and the *okimâw* remained as leader as long as they were able to maintain the respect of community members; if they lost this, the next person with high standing could assume the leadership role (Mandelbaum, 1979, as cited in Wastesicoot, 2015).

Women played an important role in the kinship system and decision-making processes of the Omushkegowuk (Walker, 2021). Historically, women in Cree society were the keepers of all stories and laws. McAdams (2015) notes that within Cree culture existed the clan mothers or warrior women whose role was to provide the legal "system" of the Cree people, and they were respected for their ability to show compassion and care for the people. Women were highly respected for their sacred role as bearers and teachers of future generations, and they were not only in charge of the 'household', but also the well-being of the community (Hookimaw-Witt, 2006). The knowledge of men and women was often considered complementary, and both were important for leadership. As noted by Hookimaw-Witt (2006), in Cree society, while the men had more knowledge about resources in the hunting territory, women had more knowledge about the resources they harvested and managed (small mammals, fish, and plants). Thus, in the realm of Cree politics, both genders had decision-making powers in their own domains, and through interactions with the other gender's decisions (Hookimaw-Witt, 2006). In addition, in both Anishinaabe and Mushkegowuk cultures it was women who were historically the voice for water, as both hold the important role of giver of life (Chief of Ontario, 2008; Chiblow, 2020).

Borrows (2002) suggests that "Indigenous laws originated in the political, economic, spiritual and social values expressed through the teachings and behaviour of knowledgeable and respected individuals and elders" (p. 13), and their principles are expressed through the stories, ceremonies, and traditions of Indigenous peoples across the country (Borrows, 2002). The instructions, laws, and ethics conveyed in Indigenous stories guided people on how to conduct themselves (McGregor, 2013). As noted by Borrows (2002), oral histories may inherently express Indigenous laws as they represent the accumulated wisdom and experiences of Indigenous peoples' conflict resolution. They record patterns of past disputes and their solutions while allowing for re-creation to meet emerging needs more easily, and do not depend on finding the first telling of the event, as common law does (Borrows, 2002).

The requirements for maintaining harmonious relationships among all beings have been referred to as Indigenous 'natural law' (McGregor, 2013). Among the Anishinaabeg, understanding the natural world as kin, as brothers and sisters, was a critical piece to Anishinaabe law (Fontaine, 2020). This is reflected in the sacred law of *Nda-Nwendaaganag* (all my relations), which acknowledges that all things in the universe are gifts from the Creator and have meaning and purpose. Further, all things are interconnected and important to one another, and respect is afforded to all of Creation (Anishinabek Nation Legal Department, 2018).

According to oral history, it is said that sacred or natural law was given to the Anishinaabeg by the Creator through their *Mino-Bimaadiziwin* (way of living the good life), language, philosophies, and ceremonies (Watts, 2010). *Mino-Bimaadiziwin* is representative of the relationship that the Anishinaabeg have with everything around them, and the understanding that everything is alive, and everything is related (Bell, 2013). It is a traditional legal principle rooted in all Anishinaabeg (Anishinabek Nation Legal Department, 2018). *Mino-Bimaadiziwin* was expected to be lived according seven original (ancestral) teachings that provide guiding principles for the way in which individuals are to treat each other and the natural environment (Bell, 2013; Seven Generations Education Institute, 2021):

Debwewin (truth) – To speak only to the extent we have lived or experienced. Represented by the turtle as the turtle was here during the creation of Earth and carries the teachings of life on his back.

Dabasendiziwin (humility) – To think lower of oneself in relation to all that sustains us. Represented by the wolf, who lives for his pack and the ultimate shame is to be an outcast.

Manaaji'idiwin (respect) – To go easy on one another and all of Creation. Represented by the buffalo as the buffalo gives every part of his being to sustain the human way of living, and respects the balance and needs of others.

Zaagi'idiwin (love) – Unconditional love between one another including all of Creation, humans and non-humans. The eagle represents love because he has the strength to carry all of the teachings.

Gwayakwaadiziwin (honesty) – To live correctly and with virtue. Represented by either the raven or the sabe (sasquatch) as they both understand who they are and how to walk in their life.

Zoongide'ewin (courage) – To live with a solid, strong heart. Represented by the bear. The mother bear has the courage and strength to face her fears and challenges while protecting her young. To face life with courage is bravery.

Nibwaakaawin (wisdom) – To live with vision. The beaver represents wisdom because he uses his natural gift by altering the environment for his family's survival.

The Omushkegowuk shared similar natural law and legal principles. *Wahkotowin* (having relations to all) was a central aspect of Cree natural law, and speaks to the interconnectedness of all things (Cardinal, 2007). According to the late Cree scholar and lawyer Harold Cardinal (2007), *Wahkotowin* is one of the most comprehensive doctrines of law among Cree people, and it contains a subset of laws (values) that establish principles that govern the conduct and behaviour of individuals within the family environment, within their communities, and with others outside the community. These principles are enshrined in the seven sacred teachings, or the seven scared laws (Wastesicoot, 2015):

Pakwaynamatowin (sharing);

Sahkiwewin (love);

Kistenchikewin (respect;

Kiskentamowin (wisdom);

Tapatenimowin (humility);

Tapwewin (honesty); and,

Sokenimowin (courage).

Similar to the Anishinaabe concept of *Mino-Bimaadiziwin*, the Cree concept of *Mino-Pimatisiwin* represents the cyclical nature of life and provides guidance on how to live in a good way with oneself, their community, and the natural world (Gaudet & Chilton, 2018). Connection to the land is central to the concept of *Mino-Pimatisiwin* (Gaudet & Chilton, 2018), as is respecting natural law.

2.1.6 Resource Management and Stewardship

Communal management of resources was a common feature of many Indigenous resource-use systems (Berkes, 1989, as cited in Berkes *et al*., 1991). Resources were considered the property and responsibility of all, and those that utilized them in an area were considered "stewards" who oversaw community norms and rules about their use, which were often comprehensive (Berkes *et al*., 1991). Collective, consensus-based decision making and enforcement of agreed-upon rules among group members was often the norm (Feit, 1986, as cited in Berkes *et al*., 1991).

Feit (2004) suggests that some form of hunting territories likely existed among Algonquian hunters in the northern Boreal areas. This would have enabled them to respond to disruptions caused by larger-scale forest fires, and / or resource depletions where groups displaced by these disturbances would have sought to resettle on lands used by adjacent groups of hunters and their families. In his study of hunting territories among the Northern Ojibwa, Bishop (1970) suggests that prior to settlement of interior northern Ontario by traders in the 1770s, hunting groups remained large throughout the year and moved *en masse* within a roughly defined region. Available records indicate a gradual stabilization of hunting groups in certain regions around major lakes and waterways following settlement in the region. By the late 1850s, there were fully developed hunting territories in the upper Albany River drainage area (Bishop, 1970). Leacock (1954, as cited in Bishop, 1970) suggests that the emergence of defined hunting areas held by family units after contact was driven by:

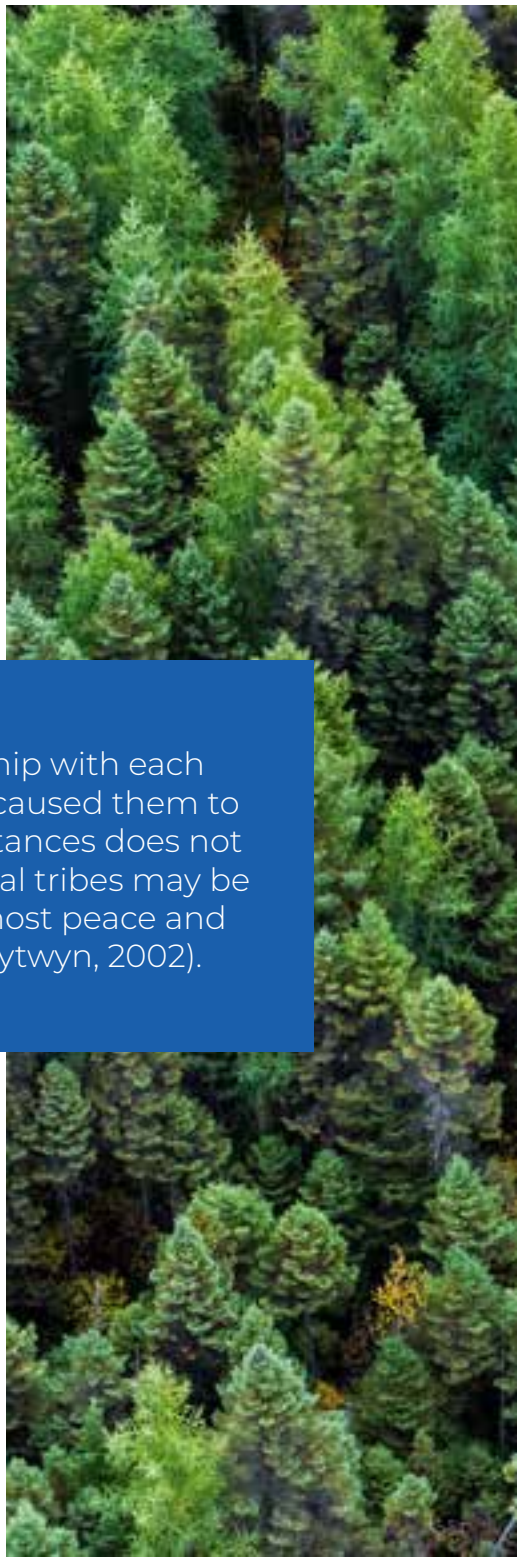
- Increasing scarcity in resources due to overharvesting, forcing bands to split into family units;
- Increasing access to store foods, enabling family units to be more self-sufficient;
- Weakened cooperative bonds among band members as economic ties were transferred from within the group to the trader;
- Non-migratory furbearers could be efficiently exploited by small family units;
- Preference among traders for dealing with individuals rather than groups; and,
- Hindered mobility with increasing dependence on single trading posts.

Within the literature, most available information on pre-contact land and resource management among the Indigenous peoples of northern Ontario pertains to the James Bay Cree, as these were among the first Indigenous peoples in northwestern North America to come in contact with Europeans. Comparatively, there is little information available on the social and economic life among the Ojibway north of Lake Superior in the early stages of contact because there were few literate traders in the area to describe it (Bishop, 1976) and few Europeans ventured inland from the coast until long after the trading posts had been settled (Lytwyn, 2002).

Lytwyn (2002) studied archived fur trade records of the Hudson Bay Company and reported that prior to contact, specific groups the Lowland Cree (Omushkegowuk) were usually named after prominent physiographic features, especially river basins. These basins were often used by winter hunting groups comprised of several related families (as described in **Section 2.1.1**), and led by a hunter or elder who was respected for their ability to make good decisions regarding hunting practices and rules (Preston, 1990, as cited in Berkes *et al.*, 1991). Within the hunting ranges, a smaller (core) area could be used

more intensively as a base camp from which hunters ventured over larger areas in search of big game (Preston, n.d., as cited in Tsuji *et al.*, 2011). The transmission of family-based hunting ranges was typically from father to son, but exceptions were documented (Cummins, 1992).

Based on the research of Lytwyn (2002), hunting groups did not have exclusive rights to their basins (hunting ranges), and there was considerable movement between the river-basin hunting groups. Early traders reported many examples of people moving back and forth between river basins, and commented on the freedom of Lowland Cree people (Omushkegowuk) to hunt and travel without restriction; this pattern of land use was also observed inland among the Upland Cree and Northern Ojibway (Lytwyn, 2002). As recorded by a trader named George Holdsworth in 1815:



> "the tribes generally live in peace and friendship with each other, and altho the necessity of migration has caused them to encroach on each others territories the circumstances does not appear to have given rise to jealousies, and several tribes may be seen occupying the track of country in the utmost peace and harmony" (HBCA, B.135/e/1, fo. 4d, as cited in Lytwyn, 2002).

As cited in Tsuji et al. (2011), Honigmann (1956) contends that "the notion of territorial [i.e., circumscribed, rigid boundaries] ownership by families did not appear until after the arrival of the Hudson's Bay Company" (p. 64); prior to this, boundaries were fluid.

The recognition of the inter-relation of all of creation, the dependence of humankind on other beings for survival, and the principles of respect, reciprocity, and responsibility (as described in **Section 2.1.2**) serve as underpinnings of Indigenous land stewardship –

something that was considered a sacred responsibility bestowed upon them by the Creator (Davidson-Hunt *et al*., 2005; Tsuji & Tsuji, 2021). There was an understanding that without balanced relationships with the environment, their own generation as well as those in the future were at risk. As noted by Luby et al. (2021), "Anishinaabe Elders teach youth to live with humility and recognize that nonhuman lifeforms can survive without human intervention, but humankind depends on plants and animals for subsistence" (p. 5). According to the Anishinaabeg worldview, in return for the gifts provided to humankind, the Creator placed a moral, custodial responsibility on them referred to as the principle of *gimiinigoowizimin gaaganawendang*, which means 'keeper of the gifts' (Davidson-Hunt *et al*., 2005). Among the Anishinaabeg, feasts were held to respect the beings who made life possible during the past season, and for the beings that were to sustain people in the coming season (Davidson-Hunt & Berkes, 2003).

The responsibility to be stewards of the lands was also prominent among the Omushkegowuk. Berkes et al. (1991) contend that "the core of Cree culture is traditionally based on land stewardship activities, skills, and ethics" (p. 15). As told by Fort Albany First Nation elders (see Tsuji & Nieboer, 1999), each season corresponded to a period of time when one or a group of species were abundant and accessible, and just enough animals of a particular species would be harvested for subsistence and sharing. As other species became more plentiful or accessible, harvesting of the next species would begin. This switching of harvesting pressures was intended to prevent overharvesting in one season, which could have negative consequences on that species and thus the community.

Stewardship responsibilities were often conveyed through stories. For example, as told by Geniusz (2015), the Anishinaabe story "The Year the Roses Died" teaches that the gift of Creation requires careful stewardship. Rabbit was blamed by a council of animals for eating all the roses. A *Manitou* (spirit) appears and tells the council (p. 14): "Killing the *Waabooz* [rabbit] will not bring back the roses. You all noticed that the roses were in trouble, and you all decided to take your own shares even if it meant killing the roses forever. There is no honor in this. This is not keeping creation in balance as you were told to do in the Beginning Time." The story describes how the animals failed in the responsibility to consider the needs of others, and highlights the importance of relationality for stewardship (Campeau, 2019).

2.2 Post-Contact Context

Indigenous peoples interacted with European explorers as early as 1000 AD, but it was not until permanent settlements were established in the 17th and 18th centuries when prolonged contact occurred (CIRNAC, 2017). Soon after the establishment of British and French colonies in what is now eastern Canada, alliances with Indigenous peoples were established to support various interests, including the commercial interests of the newcomers. Utilizing existing Indigenous trade routes, a vast trade network focused on beaver pelts was established between the English and the French and their Indigenous allies. Trade spurred new exploration through the Great Lakes basin, and further east and south (CIRNAC, 2017). Explorers and trappers also became interested in the rich trapping grounds north of Lake Superior and beyond, but the overland journeys from the Great Lakes were challenging. As a result, French explorers sailed through the Hudson Bay in 1668 to establish trade relations and access the heart of fur country (McIntosh & Smith, 2022). This expedition led to the establishment of the Hudson's Bay Company in 1670 (Finch, 2013).

The profitability of the fur trade led to significant competition, and various European and Indigenous interests often clashed violently, with various Indigenous groups displaced from their territories as a result. In 1701, France and the 40 Indigenous groups around the Great Lakes basin entered the Great Peace Treaty to end the violence. Indigenous groups formed both military and commercial (trade) alliances with groups from England and France as power struggles between the two countries intensified (CIRNAC, 2017).

The fall of Montreal in 1760 put an end to French colonial efforts in what would become Canada. To establish peaceful relations with the Indigenous allies of France, the British undertook a series of "Peace and Friendship" treaties. In 1763, France officially ceded its colonial territories with the Treaty of Paris and ended over 150 years of European competition and conflict. That same year, King George III issued a Royal Proclamation, which specified how the British colonies were to be administered and established a framework for the British Crown to acquire Indigenous interests in land through treaties. The Proclamation also established strict protocols for dealing with Indians, including that only the Crown could purchase land from them. Thus, the Proclamation was the first public recognition of First Nations' rights to lands and title (CIRNAC, 2017).

For the next 120 years, the relationship between First Nations and the British Crown transformed from one of allyship to wardship, driven by the influx of newcomers following the American war of Independence (1775-1783) and the War of 1812 (1812-1815), greater demand for land by settlers as a result, increasing costs of supplying gifts to First Nations groups to ensure their loyalty, and declines in the fur trade (Pettit, 2016; CIRNAC, 2017). With a need for more land and military threats fading, the relationship between Indigenous peoples and settlers shifted from one where Indigenous peoples could be considered necessary allies, to one where they could be considered obstacles to growth. What followed was a series of treaties and legislative developments that increased Crown authority over First Nations and lands reserved for them (CIRNAC, 2017).

Section 2.1.1 to **2.2.10** describe the post-contact context, including: the fur trade; early legislation and policy and associated impacts on Indigenous peoples; the numbered treaties established in the region; perspectives on Aboriginal and Métis Rights; and legislative developments that have governed natural resource and land use.

2.2.1 Fur Trade and the Hudson's Bay Company

The Hudson's Bay Company was established by the King of England with a royal charter in 1670, recognizing the economic importance of the fur trade. The charter granted special powers to a corporation of established and wealthy gentlemen, who formed the Hudson's Bay Company. These special powers included exclusive rights to trade, mineral claims, and governance over the entire Hudson Bay drainage area (OCCC, 1986), which makes up a third of what is known today as Canada. However, the charter created no political or legal rights over Indigenous peoples living in the vast territory (Archives of Ontario, n.d.). The Charter named the vast area "Rupert's Land" after the King's cousin and the Hudson's Bay Company's first governor, Prince Rupert.

French fur trappers had already visited the region, but the Hudson's Bay Company was the first to establish permanent trading posts and presence in the region in 1679, with a trading post at Fort Albany on James Bay. The French-British competition for furs eventually led the Hudson's Bay Company to move inland to establish trading posts nearer to the Indigenous hunters who were supplying it furs, and settlements sprang up around the posts (CIRNAC, 2017). In 1743, the Hudson's Bay Company established the first inland trading post, the Henley House, on the north shore of the Albany River. It was moved further south in 1796 and remained operation until 1857. A trading post was first established at Martin's (Marten) Falls on the Albany River in 1794, although it was closed five years later in 1799. In 1818, the Hudson's Bay Company founded a new post at Marten Falls to take the place of Gloucester House, another nearby trading post which was established in 1774. This new post remained operational until 1924. Following the closure of the post, the Marten Falls First Nation community was relocated to the present-day community location of Ogoki Post, approximately 64 km downriver and east (Handfield, 2020). By 1870, the Hudson's Bay Company had 97 trading posts in Rupert's Land (Archives of Ontario, n.d.). A post was established at Fort Hope (present day Eabametoong First Nation) in 1894, and a post at Lansdowne House (present day Neskantaga First Nation) was established in 1900.

The trading posts became a centre for trade relationships and social gatherings during summertime. Pacts between Indigenous peoples living in the region and the Hudson's Bay Company made commerce possible (Archives of Ontario, n.d.). The early trading posts, including Fort Albany, became the base for an extensive trade alliance with the Cree, who became a sort of intermediary between the company and interior Indigenous groups (CIRNAC, 2017). The Albany River became a major east-west trading route as it linked James Bay with the Winnipeg River (Morse, 1968). The Hudson's Bay Company relied on Indigenous knowledge of the area, the animals, and the tools needed for travel and survival, as well as Indigenous trappers to supply valuable furs (OCCC, 1986).

For over 200 years, furs, meat, feathers and handmade objects were bartered at trading posts or factories set up at strategic locations, where dozens of families could gather for a few weeks in the summer to socialize and make collective decisions, including with respect to land use (Long, 2011). During this time, Indigenous peoples became increasingly more dependent on the fur trade, and supplies and items that were previously considered luxuries were now considered necessities; many aspects of Indigenous lifeways were changed by European products (OCCC, 1986). As a result, the traditional economies of Indigenous peoples, including the Anishinaabeg and the Omushkegowuk, began to change. With the introduction of money and European goods, Indigenous men began finding seasonal employment on the York boats (boats used by the Hudson's Bay Company for trade and the transport of goods) and steamboats on the Albany and Attawapiskat Rivers, or building Hudson's Bay Company forts. Some Indigenous people were taught how to keep stores (MFFN & OMNRF, 2020).

As the fur trade became more profitable, some free traders organized themselves to form the Northwest Company, which grew rapidly and became the Hudson's Bay Company's major rival, with open conflicts arising. The fur trade war intensified until 1821, when the Hudson's Bay Company merged with the Northwest Company (OCCC, 1986), extending the Hudson's Bay Company's fur trade monopoly to the Pacific Ocean (Archives of Ontario, n.d.). Without the competition that made them necessary, some trading posts were closed, and trading options for Indigenous peoples became fewer (Finch, 2013). The

Hudson's Bay Company monopoly lasted until 1869, when the company transferred its deed for the area to the English Crown (Canada) for $1.5 million to enable westward expansion and settlement. In the transfer, Canada had agreed to a "Protection Pledge" that ensured it would protect the interests of Indigenous peoples living in the territory. The transfer took place without consultation with the Anishinaabeg or Omushkegowuk, who didn't believed that the Hudson's Bay Company or the Crown had sovereignty over the land in the first place (Archives of Ontario, n.d.).

The presence of the Hudson's Bay Company had profound effects on Indigenous peoples across Canada, including the Anishinaabeg and Omushkegowuk. In addition to the lifestyle changes associated with the economic transition, many Indigenous peoples of the region faced starvation in the 19th century, especially between 1820 and 1880. Animals important for both food and the fur trade became scarce because of natural population cycles, over-harvesting, and overhunting. The Hudson's Bay Company reduced trapping operations in areas where beaver populations were exhausted. Moose almost entirely disappeared from what is now northern Ontario in the period from 1780 to 1930, shifting pressures to smaller game and fish and increasing reliance on foods purchased from trading posts (OCCC, 1986). Caribou also became increasingly rare. The disappearance of these animals meant leather and cloth had to be purchased to avoid cutting up pelts. The transition to small game and fish also led to more time spent settled in areas where these resources are found rather than out in the hunting territory (Bishop, 1970).

The influx of traders and settlers also brought new diseases such as measles, smallpox, whooping cough, influenza, and tuberculosis, all previously unknown to Indigenous peoples. This led to many deaths, especially among elders (OCCC, 1986). Alcohol was also introduced, with devastating effects on Indigenous populations (CIRNAC, 2017).

With the rapid spread of trade came missionaries dedicated to spreading and promoting their faith. Two religions were introduced to the Anishinaabeg and Omushkegowuk: Anglican by the English and Catholicism by the French. Much like how the English and French had competed in the fur trade, the two religions competed for the conversion of Indigenous peoples into their respective churches. This led to severe restrictions on Indigenous beliefs, ceremonies, and practices, such as drumming and dancing, as they were considered pagan and devil worship. Christian ceremonies replaced Indigenous ones, and missionaries encouraged the use of biblical or European names (OCCC, 1986).

2.2.2 Métis Peoples

Decades of intermarriage between English and French traders and explorers with First Nation women created new and distinct communities along waterways and trade posts and routes around the Great Lakes in what is present day Ontario (MNO, 2023a). These communities were historically referred to as "half-breed" or "Métis", a word used to describe individuals with mixed Indigenous and European ancestry. The term half-breed was more commonly applied to English-speaking descendants of English or Scottish traders and explorers, who were often of the Anglican denomination, while the term Métis was more commonly applied to French-speaking descendants of French traders and explorers, who were often of the Catholic denomination (Foster, 1978). However, the term half-breed fell out of use as it became derogatory (racist) in nature and Métis is now used for people of both French- and English-speaking heritage (Gaudry, 2009).

The Cree had two names for the Métis: *âpihtawikosisân* meaning 'half people' and *otipêyimisowak* meaning the 'independent ones'. The Ojibway referred to the Métis as *wisahkotewan niniwak* meaning 'men partially burned' (Teillet, 2013).

The origins of Métis peoples and communities are closely tied to the emergence of the fur trade in North America. The arrival of European explorers in eastern Canada in the 1600s led to unions with Indigenous communities through marriage (Dumont, 2017). As the fur trade and competition among the French, English, and Indigenous groups intensified through the 17th century, French traders were encouraged to seek marriage alliances with Indigenous peoples to establish the kinship basis for trade and military activities (Foster, 1978). These strategic alliances continued until French colonial efforts officially ended in 1763 with the ceding of New France to Britain (see **Section 2.2**), upon which time Indigenous peoples in the Great Lakes region rebelled against British rule. With increased hostility between Indigenous peoples and the British in the last few decades of the 18th century, the French practice of establishing alliances with Indigenous peoples through marriage and peace and friendship treaties was adopted (Surtees, 1975, as cited in Foster, 1978).

Initially, children of mixed European and Indigenous ancestry were classified as either Indian or European based on their way of life rather than race. The socio-cultural identity of children was primarily associated with that of their mother: if she remained with her Indian band, then the child was considered an Indian, but if she resided in a trading post for an extended period, the child was considered European (Brown, 1978, as cited in Foster, 1978). However, distinct Métis settlements began to emerge as the Métis population increased, and Métis people began to identify as a separate group rather than simply extensions of their maternal (First Nations) or paternal (European) relations (MNO, 2023a).

As the fur trade expanded north and westward, new trade routes were established, leading to new Métis communities along them (Dumont, 2017). Métis settlements emerged along waterways and watersheds in Ontario as an outgrowth of the fur trade. These settlements were part of larger regional communities, interconnected by (MNO, 2023b):

- The highly mobile lifestyle of the Métis;
- The fur trade network;
- Seasonal rounds;
- Extensive kinship connections; and,
- A shared collective history and identity.

Peterson (1985) described the Great Lakes Métis during the 18th century as “people in the process of becoming” given that although they may not have been self-consciously Métis before 1815, “their distinctiveness was fully apparent to outsiders, if not to themselves” (p. 39). By the early 19th century, there was a historically significant population of Métis descendants in the Great Lakes region of Ontario who had developed a network of trading villages and towns long the shorelines of rivers and lakes (Peterson, 1978, 1985). The Métis settlement at Fort Williams (in present-day Thunder Bay, historically known as Port Arthur) is recognized as one of the two first Métis settlements in Canada (Tronrud & Epps, 1995, as cited in Gale, 1998). According to Peterson (1978), this network of marital and fur-trade alliances among the Great Lakes Métis communities suggested that a larger regional Métis identity had developed.

The Red River Métis Settlement has been regarded as the site of the culmination of Métis political consciousness. Canada's purchase of Rupert's Land from the Hudson's Bay Company in 1869 was undertaken without consultation of the Métis residing there. In response, and given concerns about Métis rights, a National Committee of Métis (effectively a provisional government) was established, with Louis Riel as the leader, to stop the land transfer until Métis rights and title were recognized. This action and events that followed became known as the Red River Rebellion and led to the establishment of the Province of Manitoba (Ouellet & Hanson, 2009). Further discussion of Métis rights is provided in **Section 2.2.10.1**.

Dickason (1985) contends that the Métis ethnic consciousness was crystalized in the new Far Northwest (present-day prairies region of Canada) where the pressures of settlement were much lower, Métis communities were far more isolated, and the fur-trade continued to flourish. Many French speaking Métis from the Upper Great Lakes region migrated north and west to the Red River Settlement (in present-day Manitoba) through the early- to mid-19th century. This migration was a result of increasing settlement in the Upper Great Lakes region, significant depletions in fur-bearing animals (Peterson, 1978), and a preference to continue fur-trade practices rather than adopt agricultural ones (Ens, 1996). The Métis of Red River and the Great Lakes Métis were often connected through marriage and kinship practices (Gaudry, 2009). By the mid-19th century, descendants with mixed ancestry were no longer being persuaded to make a choice between Indigenous and European identities, and a distinct and unified sense of Métis identity had emerged (Brown, 1985).

The early ethnic identity among Métis was based on a strong association with and reliance on the fur trade, an independent lifestyle, a lack of agricultural development, subsistence practices to provide clothing and tools, and a lack of established land rights (Peterson, 1978). Both Indigenous and European cultural traditions were adapted and merged into the clothing, food, medical practices, languages, beliefs, and customs of Métis communities (Peterson, 1978). Many First Nations women who were part of

Métis families maintained close ties with their ancestral communities, and many of their traditional lifeways and cultural practices were preserved in Métis communities. For example, Ojibway and/or Cree languages were spoken in many Métis communities in the Great Lakes (Foster, 1985). In addition, many Indigenous groups (including the Anishinaabe and Cree) had close relations with the Métis and shared the land and ways of life on it, as well as aspects of culture and language. Prior to the establishment of First Nation reserves (see **Section 2.2.6**), First Nations and Métis shared territory, usually peacefully (Teillet, 2013). It was also common for First Nations and Métis families to travel on hunting expeditions together (Chartrand, 2007).

According to Chartrand (2017), while the identity boundaries between First Nations and Métis were porous and there was a lot of transfer between them, the core identity distinctions were present. An important distinction with respect to legal traditions related to land was that the Métis did recognize individual title and ownership (unlike the collective ownership perspectives of First Nations), which was part of their European heritage understanding (Chartrand, 2017).

Many Métis families flourished and spread further west and north with the expansion of the fur trade. The genetic diversity of Métis peoples enabled them to be more resilient to European diseases, and the Métis also had many allied First Nations families. In addition, the Métis were able to serve as intermediaries between European and First Nations cultures, enabling them to work as guides, interpreters, fur traders, and suppliers of goods to new forts and trading companies. As a result, the Métis became the largest Indigenous merchant family in North America, and strong competition against less acclimatized Europeans (Carrière, 2017). The transportation of goods and the development of many settlements could be attributed to the hard work of the Métis (Redbird, 1980, as cited in Peressini, 2000).

Prior to the 1800s, the British government was largely unaware of the existence of the Métis (Hayter, 2017). In 1810, the Royal Society reported the successes of the Métis to the British Crown, which set the stage for the primary policy of the British to remove the Métis as a threat to settlement (Carrière, 2017).

By the mid-19th century, British authorities had developed a policy of Métis collective non-recognition. In addition to the perceived threat that the Métis posed to colonial expansion, the Métis also posed a potential threat to colonial aspirations for civilization. To acknowledge the Métis as a distinct group could have been likened to acknowledging the failures of colonial policy to assimilate and "civilize" First Nation peoples, which would be inconsistent with colonial objectives of progress (Chartrand, 2017).

In 1884, in the face of increasing settlement in the west following Canada's purchase of Rupert's Land, and in defense of Métis ancestral rights, the leader of the National Commission of Métis (Louis Riel) organized a petition to the Government of Canada. The petition requested (Ouellet and Hanson, 2009):

- Title to the lands already occupied by Métis families;
- Provincial status for Saskatchewan, Alberta and Red River; and,
- Better treatment of all Indigenous peoples.

An unsatisfactory response from the government led to the Northwest Rebellion or Riel Rebellion of 1885, leading to hundreds of deaths and defeat by federal troops. For their roles, Riel and other Métis and First Nations leaders were arrested, and Riel was subsequently hung as a message to the Métis who challenged Canada's western expansion goals (MNO, 2023a). Following the rebellion, the first Prime Minister of Canada, Sir John A. McDonald, in effect denied the existence of the Métis as a distinct group when he stated that they must consider themselves either Indian or white (Sealey, 1980, as cited in Peressini, 2000). In response to the public backlash from these events, many Métis in Ontario were disinclined to self-identify and covertly continued to practice their culture and lifeways (MNO, 2023a).

Today, the Historic Métis Nation refers to itself and is referred to by others as the Métis Nation. According to the Métis Nation of Ontario Registry Policy (June 2023 Version) (2023c), "Métis means a person who self-identifies as Métis, is of historic Métis Nation Ancestry, is distinct from other Aboriginal Peoples and is accepted by the Métis Nation" (p. 2). To apply for citizenship within the Métis Nation of Ontario, individuals must meet and follow the requirements of the Métis Nation of Ontario Registry Policy which includes key measures related to self-identification, proving historic Métis Nation history, community acceptance, and provides provisions for appeals and the Harvesters Registry (MNO, 2023c).

2.2.3 Early Legislation and Policy

As the British need for the military allyship of Indigenous peoples waned, an emerging perspective from the British reflected a belief that British society and culture were superior. As a result, the Indian Department of the colonies of Upper and Lower Canada was tasked with a plan of "civilization", and Indian agents began encouraging Indigenous peoples to abandon their traditional lifeways and beliefs and adopt more agricultural and settled ways of life. Legislation was also introduced in support of the "civilization" program, starting with the *Crown Lands Protection Act* of 1839. The Act made the British government the guardian of all Crown lands, including Indian Reserve lands; this statute was the first to classify Indian lands as Crown lands to be protected by the Crown (CIRNAC, 2017).

As noted by Parrott (2022), the 1850 *Act for the better protection of the Lands and Property of the Indians in Lower Canada* was one of the first pieces of legislation that included a set of requirements, based on blood, for a person to be considered a legal Indian — a precursor to the concept of "status." These requirements essentially said that people were considered Indian if they were of "Indian blood" and were members of a "Body or Tribe of Indians." Descendants of such people were Indian, as were non-Indians who "intermarried with such Indians," people whose parents (one or both) would have been considered Indians, and "all persons adopted in infancy by any such Indians" (Parrott, 2022). Thus, early definitions of "Indian" were inclusive of Métis people.

Enfranchisement refers to the process that resulted in a person becoming of "citizen" of the country and no longer being considered an "Indian" under legislation, thus losing all benefits associated with that status. Enfranchisement was not abolished until the Indian Act was amended in 1985 through Bill C-31.

The British government introduced the *Gradual Civilization Act* in 1857, which offered 50 acres of land and monetary incentives to literate and debt-free Indians provided they abandoned their traditional way of life and adopted a civilized life as a "citizen". The Act had as its premise "that by eventually removing all legal distinctions between Indians and non-Indians through the process of enfranchisement, it would be possible in time to absorb Indian people fully into colonial society" (RCAP, 1996b, p. 249). This was followed by the *Management of Indian Lands and Property Act (Indian Land Act)* in 1860, which transferred exclusive authority for Indians, lands reserved for Indians, and Indian affairs from the Crown to the colonies, and then the new Dominion of Canada under the 1867 *Constitution Act* (*British North America Act*).

Assimilation became the fundamental principle of federal policy through the *Gradual Enfranchisement Act* in 1869, which aimed to remove any special distinction or rights of First Nations people to assimilate them into settler society. This marked the beginning of federal government efforts to legislate and regulate First Nations' identity (APPA, 2019). Between 1869 and 1985, an Indian woman marrying a non-Indian man would be enfranchised (AFN, 2020a).

2.2.4 The *Indian Act*

The *Indian Act* was introduced in 1876 to consolidate all previous regulations pertaining to Indians and provide greater authority to the Department of Indian Affairs. The Act enabled the Department to (CIRNAC, 2017):

- Intervene in a wide variety of band issues including governance structure;
- Make sweeping policy decisions, including who was considered to be a "Status Indian";
- Manage Indian lands (see **Section 2.2.6**), resources, and moneys;
- Control access to intoxicants, including alcohol; and,
- Take measures to promote "civilization", including mandating Indigenous children into government-sanctioned schools (see **Section 2.2.7**).

The *Indian Act* was based on the premise that it was the Crown's responsibility to protect Indian interests and thus the Crown would act as a "guardian" until such time that Indians could fully integrate into society (CIRNAC, 2017).

The Act has largely excluded Métis individuals since its enactment. The 1876 *Indian Act* simplified and further restricted the definition of "Indian" compared to definitions in earlier legislation (see **Section 2.2.3**). It excluded Métis who had received "half breed scrip" (individual land grants to Métis on the prairies beginning in the 1870s). It also excluded the children of Indian women who married non-Indian men (including Métis men). These exclusions effectively served to reduce the size of the category of Indian while increasing the size of the non-Indian category, which, in turn, reduced the amount of land necessary for Indians and enabled increasing settlement by Euro-Canadians (Hayter, 2017). Amendments to the Act beginning in 1879 increasingly excluded Métis people, with far reaching exclusions added through amendments up to and including 1951 (Teillet, 2013). While the result has been that Métis people have been largely excluded from the Act, many individuals who self-identify as Métis are today registered as Indians under the *Indian Act.*

According to Hanson (2009a) and CIRNAC (2017), throughout its history, the *Indian Act* has been highly invasive and paternalistic, and increasingly restrictive, imposing ever-greater controls on First Nations peoples. Between 1876 and 1920, individuals were automatically enfranchised and removed from their band lists if they (AFN, 2020a):

- Got a university degree and joined the medical or legal professions;
- Got any university degree and met the "fit" or "civilized" enfranchisement requirements; or,
- Became a priest or minister.

An amendment to the Act in 1880 marked the beginning of gender-based restrictions to First Nations status – women lost their Indian status if they married and non-Indian man (Hanson, 2009a). In the 1880s, a new system of band councils and governance was imposed, with the final authority resting with Indian agents. Outright bans on spiritual and cultural ceremonies were also imposed.

An amendment in 1927 forbid fundraising by First Nations for the purpose of pursuing a land claim without the permission of the Department of Indian Affairs, preventing First Nations from pursuing land claims of any kind (CIRNAC, 2017). It was not until significant amendments in 1951, as Canadian society became more aware of the concept of human rights following World War II, that (Hanson, 2009a):

- It was no longer illegal to practice Indigenous customs and culture;
- First Nations people were allowed to enter pool halls, gamble, appear off-reserve in ceremonial dress, and organize and hire legal counsel; and,
- First Nations women were allowed to vote in band councils.

Gender-based restrictions in the Act were in place until amendments were undertaken in 1985 to align with the equality rights guaranteed by Section 15 of the *Charter of Rights and Freedoms* (Bill C-31). The amendments enabled women who had previously lost their Indian status as a result of marriage to a non-Indian to regain it, as well as their children's status, and prevented a person's marriage from affecting their receipt or loss of status. However, the amendments created new forms of discrimination with the introduction of a "second-generation cut-off". Several cases were brought to court and as a result, Bill C-3 was passed in 2011 to address these issues and enable Indian status to grandchildren of women who regained status in 1985 (AFN, 2020b). Enfranchisement was also not abolished until the 1985 amendments.

2.2.5 Treaties

Canada undertook a series of treaties with First Nations with the aim of extinguishing title to large swaths of Indigenous land to enable settlement and resource development in western and northern Canada (Archives of Ontario, n.d.), and to reduce possible conflicts between First Nations and settlers (CIRNAC, 2017). When the Dominion of Canada was created in 1867, the Province of Ontario was a fraction of the size of the present-day province, and both legislation and the signing of treaties with Indigenous groups served to incrementally increase the landmass of Ontario (CIRNAC, 2021, as cited in Tsuji & Tsuji, 2021).

The Anishinaabeg and Omushkegowuk of the region are signatories to the Robinson-Superior Treaty (1850) and James Bay Treaty Number 9 (1905).

Although the Project is wholly contained in James Bay Treaty 9 boundaries, information on the Robinson-Superior Treaty is included in **Section 2.2.5.1.** as some of the Indigenous communities that are part of the Project Consultation and Engagement Program are signatories to the Robinson-Superior Treaty. While most Indigenous communities and groups in the area of the proposed Project are signatories to James Bay Treaty Number 9, an overview of the Robinson-Superior Treaty is presented first, in line with the chronological order of the treaties.

2.2.5.1 Robinson-Superior Treaty

Anishinaabeg requests for a treaty began in the 1840s when copper and iron deposits were discovered on the south and north shores of Lake Superior and the government started to issue mining leases; by 1846, 64 mineral licenses had been issued on the south shore of the lake, and surveying of the north shore had begun. In response, the Anishinaabeg and Métis seized the Montreal Mining Company site at Mica Bay, Lake Superior in 1849, forcing the government to negotiate treaties (Hele, 2020).

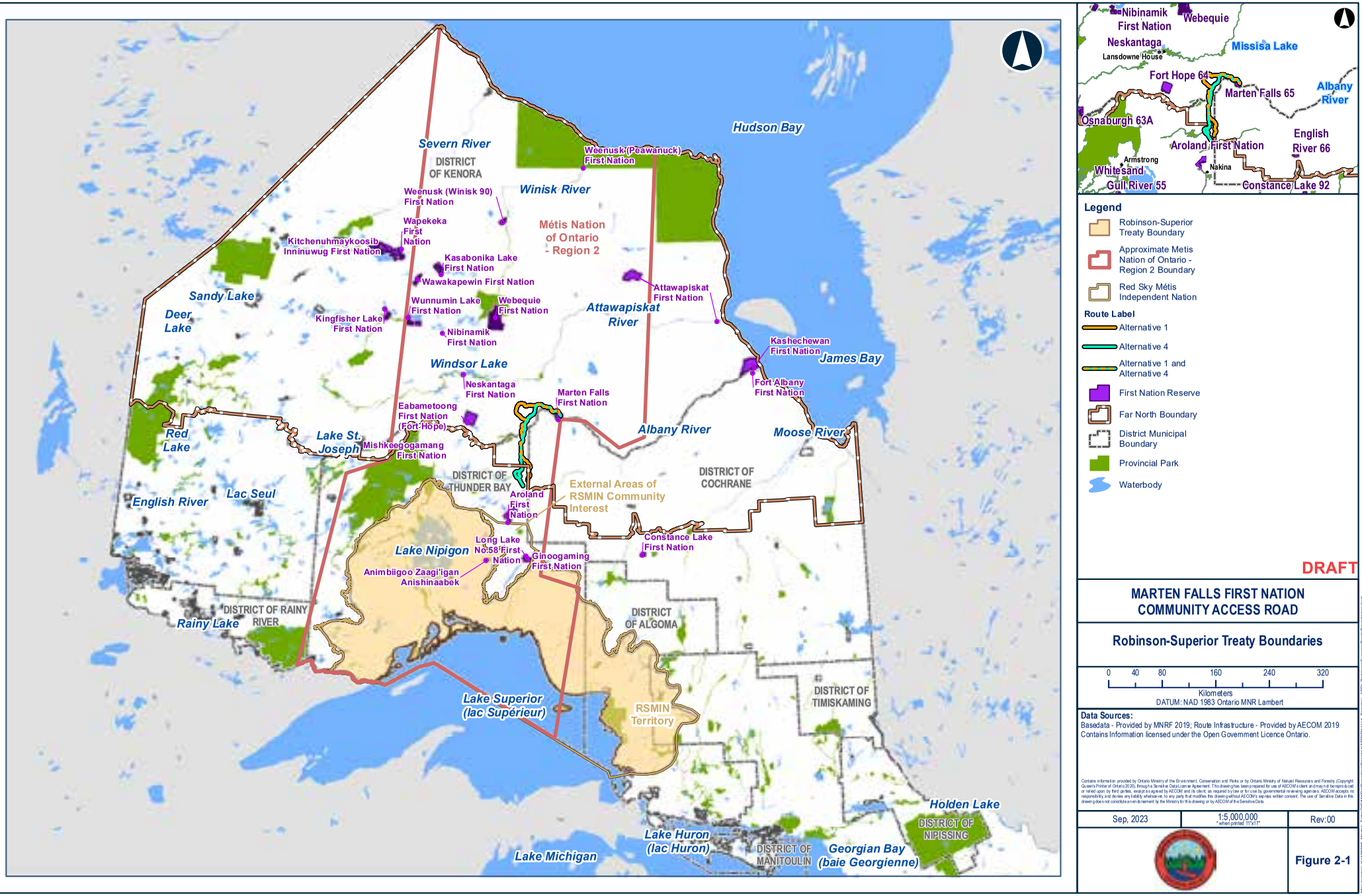
As of May 2023, there is an ongoing Ontario Superior Court trial related to the Robinson-Superior Treaty and the escalator clause for annuities. Communities associated with the treaty are seeking compensation for nearly 150 years of annuities without any increase in payments (Hopkins, 2023).

In September 1850, the Anishinaabeg of the Upper Great Lakes signed two separate but interconnected treaties: the Robinson-Superior Treaty, and the Robinson-Huron Treaty. These treaties provided Canada East and Canada West (the future Quebec and Ontario, respectively) with access to the north shores of Lake Huron and Lake Superior for settlement and mineral extraction. In exchange, the Anishinaabeg gained recognition of hunting and fishing rights, a one-time payment of £2000, an annual payment or annuity of £500 and £600 (respectively), and large reserves set aside specifically for First Nations from the surrender of specific lands for each signatory community. The treaties also contained an "escalator clause" for the annuity, which meant that the Crown would increase the annuity as revenues from lands increased (Hele, 2020).

While the recognition of the Métis in the Robinson-Superior Treaty was urged by the Indians (Gale, 1998), they were omitted as the treaty commissioner had no mandate to deal with the Métis (MNO, 2023a). The treaty commissioners informed the Métis that they were not empowered to deal with them as collective, and they could only choose to identify as either Indian or white for the purposes of the treaty (Teillet, 2013). The Hudson's Bay Company did pay some "half breeds" annuities under the treaty between 1851 and 1875, as recorded in treaty annuity lists for the Lake Superior region (MNO, 2023a). However, all Métis were later excluded from the annuity lists when the Government of Ontario argued an error had been made when some Métis were included as beneficiaries in the treaty (McNab, 1985, cited in Peressini, 2000). As noted by Peressini (2000), this action established a precedent for the exclusion of the Métis from Aboriginal rights in Ontario.

The Robinson-Superior Treaty covers the north shore of Lake Superior from Batchewana Bay to Pigeon River at the western end of the lake, and the lands to the north up to the Hudson Bay watershed (**Figure 2-1**). Indigenous peoples residing in the area covered by the treaty at the time of signing include ancestors of the Animibiigoo Zaagi Igan Anishinaabek First Nation, Long Lake #58 First Nation, and the Red Sky Métis Independent Nation.

The Robinson treaties were the first to lead to the surrender of huge tracts of land with different and disparate Indigenous groups; previous treaties in Upper Canada negotiated for relatively small and compact parcels of land. They also established payments to individual band members instead of yearly lump sums paid to the band, formalized the setting aside of reserve lands for each individual signing group, and acknowledged ongoing rights to hunt and fish throughout traditional territories including a provision that lands could be "taken up" by the Crown for settlement, mining, lumbering, trading, or other purposes (referred to as the Taken Up Clause). These treaties became the model for subsequent treaties (CIRNAC, 2013), including the James Bay Treaty Number 9.



Legend

- Robinson-Superior Treaty Boundary
- Approximate Metis Nation of Ontario - Region 2 Boundary
- Red Sky Métis Independent Nation

Route Label

- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4
- First Nation Reserve
- Far North Boundary
- District Municipal Boundary
- Provincial Park
- Waterbody

DRAFT

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Robinson-Superior Treaty Boundaries

0 40 80 160 240 320
Kilometers
DATUM: NAD 1983 Ontario MNR Lambert

Data Sources:
Basedata - Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019
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Figure 2-1

Map location: K:\18888 Marten Falls\GIS\MXDs\Reporting\Baseline\ATR\Phase1_Baseline_ATR_RobinsonSuperiorTreatyBoundaries.mxd
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2.2.5.2 James Bay Treaty Number 9

By the late 1800s, many Indigenous peoples, including the Anishinaabeg and Omushkegowuk of the region, were facing significant challenges including:

- Declining animal resources;
- Starvation;
- Illnesses brought by Europeans; and
- Unwelcome poachers and mining prospectors with the newly established railroads.

With problems worsening, some Indigenous peoples of the region began to press Canada to enter a treaty, with an aim of ensuring protection and economic security as settlement and development intensified. While initial requests for a treaty were not supported by Canada, the discovery of minerals in the region, combined with interests in further expansion of the railway network, timber development, and hydro-electric production, led to negotiations of the James Bay Treaty Number 9 (Treaty 9) (Archives of Ontario, n.d.).

Similar to the Robinson-Superior Treaty, Treaty 9 set aside reserve lands for First Nations and granted them annuities and the continued right to hunt and fish on unoccupied Crown lands in exchange for Aboriginal title (CIRNAC, 2017), and the surrender of over 230,000 km^2 of territory (OCCC, 1986). In addition, the treaty included: schools and teachers to educate First Nations children on reserve; and ceremonial and symbolic items such as medals, flags, and clothing. During negotiations, First Nations were encouraged to settle on reserve lands, take up agriculture, and receive an education (CIRNAC, 2017).

Treaty 9 was unique among the numbered treaties in that there was a requirement for the concurrence of the Province of Ontario given extended boundaries of the province west and north to the Albany River. However, based on oral history and available written records, the Indigenous signatories were not informed of the negotiations between Canada and Ontario with respect to the treaty (Armstrong, 2008, as cited in Tsuji & Tsuji, 2021). The terms of the treaty were finalized in advance by the Dominion of Canada and the Province of Ontario, and presented to Indigenous leaders; government representatives were not permitted to change the terms during the treaty expedition. The Ontario government had a series of demands, including that one of the three commissioners would represent the province, and that no Indigenous reserves in the treaty territory would be located in areas with hydro-electricity development potential greater than 500 horsepower (Archives of Ontario, n.d.).

Treaty 9 was the first major treaty in Ontario in which treaty signing took place in many locations rather than one (Archives of Ontario, n.d.). During the treaty expedition in 1905 and 1906, treaty commissioners travelled to trading posts along the rivers in what is now northern Ontario and met with Cree and Ojibway peoples. While the Indigenous people encountered at the trading posts at the time of the expedition were not necessarily part of a “band”, they were designated as such for administrative convenience. Each trading post was to give advance warning as to when the treaty party would arrive, but as it turned out, many Indigenous people were not present upon their arrival (OCCC, 1986).

The intent of the commissioners was to describe the contents of the treaty, establish reserves and associated boundaries, and obtain the signatures of Indigenous leaders. At each stop, the commissioners requested the community to select representatives who heard the treaty explained to them by interpreters (generally Hudson's Bay Company employees or clergy), as the document was provided in English only. Most community members received an $8 gift and the promise of a $4 annuity in perpetuity. It was noted in the Treaty 9 Commissioners' official report that the reserves were generally selected by the commissioners after conference with Indigenous people (Tsuji & Tsuji, 2021), but very little was actually described within the report (Morrison, 1986). Commissioners neither provided a full version of the treaty translated into the languages of the local Indigenous peoples, nor did they leave the document or a copy for review (Archives of Ontario, n.d.).

Treaty 9 covers most of present-day Ontario north of the height of land dividing the Great Lakes watershed from the Hudson and James Bay drainage basins (**Figure 2-2**). Signatories to Treaty 9 between 1905 and 1930 included the following:

- Marten Falls Band of Oji-Cree (Marten Falls First Nation);
- Osnaburgh Band of Ojibway (Mishkeegogamang First Nation);
- Fort Hope Band of Oji-Cree (Eabametoong First Nation, Neskantaga First Nation, Nibinamik First Nation, and Webequie First Nation);
- English River Band of Oji-Cree (Constance Lake First Nation);
- Fort Albany Band of Cree (Fort Albany First Nation, Kashechewan First Nation, Aroland First Nation);
- Long Lake Band of Ojibway (Ginoogaming First Nation);
- Big Trout Lake Band of Oji-Cree (Kasabonika Lake First Nation, Kingfisher First Nation, Kitchenuhmaykoosib Inninuwug First Nation, Wapekeka First Nation, Wawakapewin First Nation, and Wunnumin Lake First Nation);
- Winisk Band of Cree (Weenusk First Nation); and,
- Attawapiskat Band of Cree (Attawapiskat First Nation).

Ontario's northern border was extended from the Albany River to its present day location in 1912, leading Indigenous peoples in the newly acquired areas to petition the government for a treaty. Formal adhesions to Treaty 9 were made in 1929-1930 as a result (Archives of Ontario, n.d.).

Treaty 9 was considered to be one of the least generous of the numbered treaties: the monetary gifts and annuities were much lower than Treaty 8 or Treaty 10, and there was to be no distribution

of ammunition or net twine, no farm implements or cattle, no carpentry tools, and no salaries of clothing for the chiefs and councillors (Ry, Miller, & Touch, 2000, as cited in Long, 2011). In addition, as noted by Long (2010), Treaty 9 historians contend that the treaty was flawed due to the lack of oversight by the people who drafted it, and it may have been the first of the numbered treaties that lacked the oversight of the Colonial Office in Great Britain. The conditions and factors present when the treaty was signed were also problematic (Archives of Ontario, n.d.; OCCC, 1986):

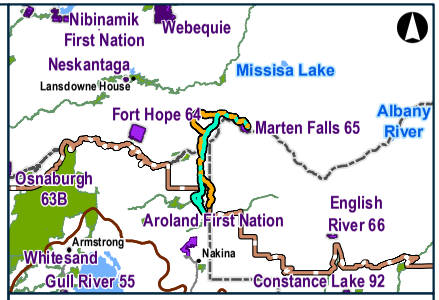
- The treaty commissioners could not speak any of the local Indigenous languages;
- Many Indigenous signatories didn't speak, read or write English so interpreters selected by the commissioners were used;
- Indigenous peoples lacked an understanding of the Canadian legal system and were not provided with lawyers to advise them; and,
- The worldviews, culture, history, and ways of knowing land ownership of Indigenous signatories and the commissioners were very different.

Long (2006) contends that there were two treaties: the official written version, and the one that was orally described to Indigenous peoples. This has been substantiated by Indigenous oral history and the Treaty 9 commissioners' own writings, which indicate that the commissioners told the Elders two key things:

- The treaty would last as long as the sun shines, the grass grows, and the winds blow; and,
- Traditional and cultural activities of Anishinaabe and Mushkegowuk signatory communities would be protected.

The Indigenous signatories understood, through oral promises, that the treaty would help them achieve *Mino-Bimaadiziwin* and *Mino-Pimatisiwin* (Archives of Ontario, n.d.).

Archival records also suggest that the commissioners did not explain the "Taken Up Clause" (see **Section 2.2.5.1**) – if they had, it is possible that Indigenous representatives would never have signed the document (Archives of Ontario, n.d.).



Legend

- Treaty 9
- Robinson-Superior Treaty Boundary
- Approximate Metis Nation of Ontario - Region 2 Boundary
- Red Sky Métis Independent Nation

Route Label

- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4
- First Nation Reserve
- Far North Boundary
- District Municipal Boundary
- Provincial Park
- Waterbody

DRAFT

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Treaty 9 Boundaries

0 40 80 160 240 320
Kilometers
DATUM: NAD 1983 Ontario MNR Lambert

Data Sources:
Basedata - Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019
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Figure 2-2

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2.2.6 Damming and Diversion

Today, not all of the water that would normally flow to Hudson's Bay remains within the watershed. The damming and diverting of waterways in the area has occurred at various scales over time. Demand for water in the Great Lakes region for shipping and hydropower has led to diversion from the Albany River watershed to the Great Lakes in the form of three key projects: one from the Kengami River; one from Lake St. Joseph; and one from the Ogoki River (Garrick, 2020). The Long Lake Diversion Project included the construction of the Kenogami Lake Dam and the Long Lake Diversion Dam, undertaken in 1937. The Ogoki Diversion Project, in the early 1940s included the construction of the Waboose and Summit Dams to divert water to Lake Superior through Lake Nipigon. The Lake St. Joseph Diversion Project was built to divert water from Lake St. Joseph to Lac Seul in the late 1950s (Garrick 2020; Creger, 2018). In discussion about the potential development of more waterway diversion projects in the 1960s, Marten Falls First Nation Councillor Sam Achneepineskum commented "Our community would have been a lake where it is now… I think that is part of the reason why Nishnawbe Aski Nation came to be, all the chiefs got together and they started to push back on trying to kill the project. It was called Damn the Dams" (Garrick, 2020, p. 15).

2.2.7 The Reserve System

The reserve system concept evolved from the early settlements created by missionaries. As more newcomers were arriving, they began occupying the traditional territories of Indigenous peoples in increasing numbers, and reserves were initially considered a pragmatic solution to land disputes and conflicts between Indigenous peoples and settlers. As treaties began to be reached with Indigenous peoples, provisions were included for the creation of reserves. The reserve system was formalized under the *Indian Act*, which permitted the government to determine the land base of First Nations in the forms of reserves set aside for their exclusive use (Hanson, 2009b).

While Treaty 9 specified that First Nations would choose the location of their reserves, the Ontario Order-in-Council later changed the terms – the commissioners would now decide, and one of the three treaty commissioners would be appointed by the Government of Ontario (Matheson, 1905a, as cited in Tsuji & Tsuji, 2021). The size of the reserves was based on the number of people in the band; however, the population data at the time for these communities could not be considered accurate and many people were not at the trading post during treaty deliberations because of the late start to the treaty expedition (Tsuji & Tsuji, 2021). This led to many reserve locations and sizes being determined based on local settler demand. Even in areas covered by the numbered treaties, reserve size was calculated differentially, ranging between 160 and 640 acres per family of five (Smith, 2009, as cited in Smith, 2016).

As noted by Smith (2016), even as the land base of First Nations was reduced though the reserve system, reserves were still vulnerable to surrounding land uses. Demands for mineral, forest, and agricultural lands; the construction of transportation routes or military sites; and other purposes that arose, often led to the alienation of reserve lands under the jurisdiction of the Canadian Government.

While consent from First Nations was often sought, this consent was regularly acquired under what could be considered questionable circumstances. The sale of reserve lands was consistently presented as being in the long-term interest of the First Nation community, yet railway and corporate executives, and other members of the settler elite (including Indian Affairs Department staff and other public officials), often gained possession of alienated reserve lands (Smith, 2016).

The creation of the reserve system had far-reaching implications for Indigenous peoples, including the Anishinaabeg and the Omushkegowuk. As noted previously, the land base of First Nations was significantly reduced: the reserve system dispossessed the Anishinaabeg of all but one percent of their traditional territory (Pitawanikwat, 2009). Under the reserve system, which provided First Nations with fragments of their ancestral territory, Indigenous residents held the right to occupancy only, which ownership and title remained in the hands of the Crown (Smith, 2016).

As noted by Hanson (2009b), the reserve system was essentially a government-sanctioned displacement of First Nations people, with reserves dividing up not only lands but also peoples and communities that had existed for hundreds, if not thousands, of years. Many families and clans that had hunted, gathered, and celebrated together for generations were abruptly and arbitrarily joined with other families and clans, disrupting long-established social networks and kinship systems that determined who could hunt, fish, and gather in particular areas (Hanson, 2009b).

Amendments to the *Indian Act* led to a requirement for First Nation reserve residents to secure a permit before selling or giving away any goods located or produced on reserves or by reserve residents (Smith, 2016), further restricting the lives of Indigenous peoples. This disruption of traditional networks and the significant changes to Indigenous traditional lifeways contributed to disproportionate levels poverty on many reserves; however, leaving reserves often meant facing discrimination, relinquishing one's First Nations status, and / or losing or jeopardizing connections to family and territory (Hanson, 2009b).

2.2.8 Residential School System

One of the most infamous consequences of the *Indian Act* was the promotion of the residential school system for Indigenous children. This was an extensive school system set up by the Canadian government and administered by churches, with intent to: indoctrinate Indigenous children into Euro-Canadian and Christian ways of living; and assimilate them into mainstream Canadian society (Hanson *et al.*, 2020). Duncan Campbell Scott, Head of Indian Affairs from 1913 to 1932, famously said in 1920 that "the goal of the Indian Residential School is to kill the Indian in the child" (Wilson & Hodgson, 2018).

The system originated from the mission system in the 1600s, when missionaries made plans to establish schools and farming settlements to try to educate, change, and settle Indigenous peoples. However, managing the schools and associated supplies proved challenging for the missionaries to carry out alone (OCCC, 1986). Following confederation, Canada's first Prime Minister, John A. Macdonald, commissioned a study of industrial schools established for Indigenous children in the United States, and a recommendation to follow their approach to "aggressive civilization" led to the creation and funding of the residential school system (Hanson *et al.*, 2020), although some schools were funded by provincial governments or by the various religious orders (Union of Ontario Indians, 2013). An amendment to the *Indian Act* in 1894 made it mandatory for Indigenous children to attend school (TRC, 2015a). Further amendments to the *Indian Act* in 1920 and 1933 reinforced the requirement for every Indian child between the ages of 7-16 to attend a residential school, and led to the legal guardianship of Indian children attending a school being assumed by their principals upon the often forcible surrender of legal custody by their parents (Union of Ontario Indians, 2013).

The residential school system was primarily located off-reserve (and often far from Indigenous communities), and children generally attended for 10 months of year, although some children lived at the school year round (Union of Ontario Indians, 2013). A primary purpose of the schools was to systematically dissolve all aspects of Indigenous cultures and languages. English, and in some cases French, were the only languages allowed. Indigenous languages and practices were forbidden, with punishments – often severe ones – for children who broke these rules (TRC, 2015a). Students had their long hair cut short as a way to strip away their personal and cultural identities, and they were stripped of their clothing and dressed in uniforms (Hanson *et al.*, 2020). Their days were long and strictly regimented between academic learning, religious prayer, and manual labour and tasks (Union of Ontario Indians, 2013). Boys and girls were kept separate, and as a result, siblings rarely interacted, further weakening family ties (Hanson *et al.*, 2020).

It is estimated that over 150,000 Indigenous children attended one of the almost 140 residential schools established by Canada and the Catholic, United, Anglican, and Presbyterian churches across the country between 1857 and 1996 (CIRNAC, 2017); 16 of these schools operated in Ontario (Auger, 2005). Some Métis children also attended residential schools (APPA, 2019). Children living in the Treaty 9 area attended residential schools at Moose Factory, Chapleau, Pelican Lake, and Fort Albany (Archives of Ontario, n.d.). The St. Anne's Residential School in Fort Albany ran from 1910 to 1963, and was attended by children from the Fort Albany, Weenisk, Attawapiskat, Fort Hope, and Ogoki (Marten Falls First Nation) communities. It is estimated that by 1945, approximately 170 children attended the school, with half of their days spent doing schoolwork and the other half spent on manual labour and domestic tasks (Auger, 2005).

The residential school system struggled with funding, often resulting in poor and unsuitable nutrition, unsanitary conditions, and inadequate medical care. With crowded dormitories, infectious diseases like tuberculosis were rampant, often leading to death. The education received was generally insufficient as many teachers assumed that Indigenous children were unfit for anything more than a basic education which focused on practical skills and religious training.

Messages of the inferiority of Indigenous peoples, their culture, and lifeways were commonplace (TRC, 2015a). Emotional and psychological abuse was commonplace, physical abuse was considered standard punishment, and sexual abuse was common (Hanson *et al.*, 2020). Survivors of the school at St. Anne's in Fort Albany have described serious physical and sexual abuse at the hands of school staff (Roman, 2013), leading to criminal charges of former school staff in the 1990s. The abuses combined with the poor living conditions resulted in an extremely high death toll. In 1907, government medical inspector P.H. Bryce reported that 24 percent of previously healthy Indigenous children across Canada were dying in residential schools, and this figure did not include children who died at home where they were frequently sent when critically ill (Hanson *et al.*, 2020).

2.2.9 The Sixties Scoop

The Sixties Scoop refers to the mass removal of Indigenous children, including Métis children, from their families into the child welfare system, without the consent of families or communities in most cases. As the government began phasing out compulsory residential school education in the 1950s and 1960s, residential schools persisted as a boarding school, primarily for children whose families were deemed unsuitable to care for them. An amendment to the *Indian Act* in 1951 enabled the province to provide services to Indigenous peoples that were not available federally, including child protection (Hanson, 2009c).

Provincial social workers assigned to reserves often assessed child safety and welfare by mainstream cultural standards, without adequate education and training to recognize the problems rooted in generations of trauma related to residential schools. As a result, thousands of Indigenous children were removed from their homes and placed into the child welfare system starting in the 1960s and continuing up to 1990 (TRC, 2015a). By the 1970s, roughly one third of all children in care were Indigenous (Johnston, 1983, as cited in Hanson, 2009c). Many children lived in institutionalized care, or floated between foster homes, where incidences of physical and sexual abuse were not uncommon but often covered up (Fournier & Crey, 1997, as cited in Hanson, 2009c). Similar to the impacts of residential school, the ensuing cultural suppression (denial of their Indigenous identity) and abuse among Indigenous children in the welfare system led to significant impacts on psychological and emotional health (Hanson, 2009c).

2.2.10 The *Constitution Act, 1982* and Aboriginal Rights

Between 1977 and 1981, the federal government entered into discussions with the provinces to reform and take authority of the Constitution from the British government. Aboriginal political organizations were unsuccessful in getting a seat at the negotiations table, and the first proposal for the Constitution put forward in 1981 excluded Aboriginal and Treaty Rights. However, several months of lobbying by First Nations, Inuit, and Métis organizations led to the inclusion of two clauses in Section 35 of the Constitution: recognition of “existing Aboriginal and Treaty Rights”; and, definition of Aboriginal peoples that included all three groups (CIRNAC, 2017). The presence of the word “existing” means that section 35 only applies to Aboriginal and Treaty Rights that were not extinguished when the *Constitution Act, 1982* came into effect. Therefore, if a right was previously extinguished (e.g., through surrender to the Crown), it is not revived by Section 35 (Centre for Constitutional Studies, 2021).

While attempts were made to define existing Aboriginal Rights between 1983 and 1987, they remained undefined because of disagreements between Canada, Indigenous groups, and the provinces. As a result, responsibility to define the extent and scope of Aboriginal Rights, and to direct government policies and programs so that they respect these rights and prevent infringement on them, has fallen to the courts (CIRNAC, 2017).

Several Supreme Court cases have reaffirmed Indigenous rights to harvesting activities. The *R. v. Sparrow* (1990) was a precedent-setting case and the first decision by the Supreme Court to interpret Section 35. In 1984, Ronald Sparrow from the Musqueam Indian Band was arrested for fishing with a net longer than was permitted by his food fishing license. The Supreme Court of Canada ruled that Musqueam's Aboriginal Right to fish had not been extinguished and was an existing right. The court also ruled that the government cannot override or infringe on these rights without justification. This ruling led to what is now known as the "*Sparrow* Test", which sets out a list of criteria that determines whether a right is existing, and if so, how a government may be justified to infringe on it (Salomons & Hanson, 2009).

The *R. v. Van der Peet* (1996) case was pivotal in further defining Aboriginal Rights under Section 35. Dorothy Van der Peet, a member of the Stó:lō Nation, was charged with selling salmon that had been caught under a food-fishing license. The court ruled that fishing constitutes an Aboriginal Right, but the sale of the fish does not. The ruling led to what is now known as the "*Van der Peet* Test" or the "Integral to a Distinctive Culture Test", which establishes ten criteria that must be met for a practice to be affirmed and protected as an Aboriginal Right (Hanson & Salomon, 2009):

1. The perspective of Aboriginal peoples themselves.
2. The precise nature of the claim (what is being claimed as a right).
3. The practice, custom, or tradition must be of central significance to the society in question.
4. The Aboriginal Right must have continuity with the practices, customs and traditions that existed prior to contact.
5. Courts must take challenges with evidence into account (e.g., oral history of Indigenous peoples rather than written records).
6. Claims must be specific and not general.
7. The practice, custom, or tradition must be of independent significance to the group (i.e. central to the group's identity).
8. The practice, custom, or tradition be distinctive (i.e., characteristic part of the culture).
9. European influence is only relevant if the practice, custom, or tradition is integral to the Indigenous society because of that influence.
10. Courts must take into account both the relationship of Aboriginal peoples to the land and their cultures.

Critics of the *Van der Peet* Test point out that the test situates Aboriginal cultural practices in the past and ignores the dynamic, adaptive nature of culture by treating Aboriginal cultures and traditions as static and unchanging (Hanson & Salomon, 2009).

2.2.10.1 Métis Rights

The rights of Métis communities and individuals were historically excluded or simply ignored by the government, contributing to vulnerabilities and marginalization (Teillet, 2013). Miner (2022) notes that Métis providing for their families and communities were often charged with poaching and illegal fishing throughout the 20th century. The rights of the Métis were not formally recognized until Section 35 of the *Constitution Act, 1982.*

Since the early 2000s, two major Supreme Court of Canada decisions have initiated the long process of defining Métis rights, as well as highlighted the complexities associated with defining Métis identity in

the context of these rights. The first was *R. v. Powley* (2003), which forever transformed Métis harvesting rights. Two Métis hunters, Steve Powley and his son were charged with hunting a moose near Sault Ste. Marie without a license under the Ontario *Game and Fish Act*. They pleaded not guilty and asserted their Aboriginal Right to hunt. After a decade of court proceedings and a series of appeals by the Crown, the Supreme Court confirmed that as Métis people and members of a Métis community, the Powleys' right to hunt in the area was protected by Section 35 (Teillet, 2013). The evidence in the *Powley* case also showed that after the economic migration of Métis from the Great Lakes to the prairies in the early 19th century, a significant Métis population remained in the Great Lakes-Boundary Waters regions of Ontario (Teillet, 2013).

During the *Powley* case, the Supreme Court determined that the appropriate way to define Section 35 Métis rights is to modify the test used to define the Aboriginal Rights of First Nations, as determined *R. v. Van der Peet* (1996). The test to define Métis rights is now called the Powley Test and it includes ten components (Teillet, 2013):

1. The characterization of the right, including reason for harvesting (e.g., for food, for ceremonial purposes, etc.), the location of harvesting and other contextual information.
2. Verification of membership in the contemporary Métis community.
3. Identification of the historic rights-bearing Métis community with a distinctive collective identity that existed prior to when Euro-Canadians effectively established political and legal control in that area.
4. Identification of the contemporary rights-bearing community that is a continuation of the historic community.
5. The historical timeframe for the practice, which must have been undertaken post-contact but before Euro-Canadian political and legal control.
6. Whether the practice was integral to the claimant's distinctive culture.
7. Whether the practice is continue by the Métis community.
8. Whether the right was extinguished by the Crown by constitutional enactments, federal legislation, or by agreement with the Aboriginal people.
9. Whether the right was infringed upon for any reasons.
10. If the right was infringed upon, whether the infringement was justified.

In 2016, following a 17-year court battle, the Supreme Court of Canada ruled in the *Daniels v. Canada* case that Métis and Non-Status Indian are considered "Indians" under Section 91(24) of the *Constitution Act, 1867* (Gaudry, 2009). This interpretation means that the federal government holds the legal responsibility to legislate on issues related to Métis and Non-Status Indians rather than provincial governments. The case ended a long standing situation of legal uncertainty where neither levels of government took responsibility for the Métis and Non-Status Indians (Roy, 2021). The Supreme Court commented that Métis and Non-Status peoples had been essentially in a "jurisdictional wasteland with significant and obvious disadvantaging consequences" (Daniels v. Canada, 2016, para. 14). While the ruling does not grant Indian Status, as defined by the *Indian Act*, to Métis and Non-Status peoples, the ruling has resulted in new discussions and negotiations with the federal government over land claims, rights, self-governance, and access to education, health programs, and other government services (Roy, 2021).

Canadian legal definitions of Métis have further complicated the situation with respect to Métis Rights. The *Powley* case established who can legally qualify for Métis Rights and specific criteria to be considered Métis: the individual must self-identify as Métis, have an ancestral connection to a Métis community, and be accepted by that community as a member. However, in the *Daniels* case the Federal Court defined Métis as "a group of native people who maintained a strong affinity for their Indian heritage without possessing Indian status" (cited in Teillet, 2013). As noted by Teillet (2013), this definition separated individuals from Aboriginal collectives and held that there is no need for any ancestral connection to a Métis group and no need for community acceptance, and ultimately eliminated the Métis as a separate Aboriginal people. Regardless, the criteria of the *Powley* decision still define which Métis communities have Aboriginal Rights.

The Powley Test has been identified as problematic in that the criteria for being Métis is exclusionary to urban Métis families who may have lived in the city for generations, as well as people who have mixed Aboriginal and non-Aboriginal ancestry yet are not connected to a contemporary Métis society. This has contributed to tensions between different Métis groups (Ouellet & Hanson, 2009), and heated debate among many Métis people in Canada (Gaudry, 2009). As noted by Ouellet and Hanson (2009), it is expected that "the issue of Métis identity will continue to be the topic of much debate and discussion since Métis Rights depend on identifying the people who are entitled to such rights, and then specifying what those rights are" (para. 6).

2.2.11 Legislative Developments

In the period following the signing of Treaty 9, further British and later Canadian Governments laws, regulations, and policies on northern Ontario, contributed to growing intervention and regulation of Indigenous peoples by both the federal and provincial governments. This section reflects on some of the key legislative developments that have governed natural resource and land use, and the associated effects on the rights of Indigenous peoples in the region. It is important to note that this section is not exhaustive nor reflective of all legislation that may have impacted Indigenous peoples in the region.

2.2.11.1 Fish & Game Regulations

At the time of the Robinson treaties (1850), there was very little, if any, competition for fish resources from European fisherman, particularly in Lake Superior and areas to the north. There was also no comprehensive legislation pertaining to fish in place at the time. For varying periods of time, and depending on the location, the government generally did not restrict the full and free privilege to fish provided for by the Robinson treaties. However, changes occurred with the passage of comprehensive fisheries legislation and the drafting of subsequent treaties, including Treaty 9 (Hansen, 1991).

The first passage of comprehensive fisheries legislation came in 1857 with the *Fisheries Act*, under which the Department of Crown Lands became responsible for fisheries in Upper and Lower Canada. The Act did not contain any specific references to Indigenous people. An amendment in 1859 provided for the first time for special fishing

Treaty 9 was negotiated between Canada and Ontario at a time when federal-provincial jurisdiction over fisheries was well established. One of the treaty's provisions full reflected the state of fisheries legislation, in that the right to hunt, trap and fish is subject to regulations that may be made by "the government of the country".

licenses and leases on lands belonging to the Crown, with no specific reference to Indigenous people. Shortly after this, an agreement between the Department of Crown Lands and the Indian Department "for the protection of the interest of native tribes" was reached (as cited in Hansen, 1991, pg. 6). The agreement suggested that Indigenous people were considered subject to the regulations of the Act since they were exempt from paying fees for fishery leases anyways. However, they were exempt in cases of fishing for domestic consumption only, and they were subject to the regulations otherwise (i.e., when fishing commercially or for trade). Thus, fishing rights were being interpreted as domestic consumption fishing rights only (Hansen, 1991).

Amendments to the *Fisheries Act* in 1865 provided a regulation with respect to Indigenous fisheries for the first time. The regulation specifically referred to the allowance of 'certain Indians' to fish for their own use as food, reinforcing the interpretation of Indigenous fishing rights as rights related to domestic fishing purposes only. It also added a new component – an open season – which reflected developing conservation principles (Hansen, 1991). After confederation, Canada implemented the first federal *Fisheries Act* in 1868. The Act maintained the provisions of the preceding acts, including the licensing of Indians to fish for their own use. In addition, Indian fishermen were considered to be subject to all regulations (Hansen, 1991).

The government of Ontario was not involved in the legislative aspects of resource management until 1885 with the passage of the *Ontario Fisheries Act*. It contained several provisions from the federal act, and like his federal counterpart, the Ontario Commissioner of Crown Lands was authorized to establish licensing (Hansen, 1991). In 1890, a royal commission on game and fish was appointed to make recommendations with respect to these resources in the province.

The overlapping jurisdictional issues with respect to federal and provincial fisheries legislation were eventually resolved through the courts, where it was ruled that Canada had the authority to enact legislation for inland fisheries and Ontario had proprietary interests in fisheries and the authority to issue licenses for fisheries in the province (Hansen, 1991).

The expansion of the railway network led to new settlement in the region, which in turn led to an increase in the number of sportsman and tourists visiting the region and increased pressures on fish and wildlife. Upon recommendation by the commission, Ontario created the *Game and Fisheries Act* in 1892, replacing the previous fisheries legislation. In turn, the Act intensified enforcement for First Nations in Ontario (Calverley, 2009).

Under the new legislation, a series of law changes were enacted to address declining game populations, including: a new range of closed seasons for some of the most desirable species, such as deer, moose, and elk; new seasons for game birds; and complete hunting bans on certain species. In addition, new license requirements were introduced for non-residents and system of game overseers were established to enforce game laws and penalties (Calverley, 1999). Regardless of these efforts, wildlife populations continue to decline (Bate, 2023).

Initially, the *Game and Fisheries Act* contained a clause exempting treaty Indian hunters from the legislation based on their Treaty Rights. However, the clause referencing Treaty Rights was eventually removed from the Act in 1914 and by 1927, all hunting exemptions for First Nation hunters had been removed from the Act – all "persons" affected by the Act were now defined to include "Indians". By this time, game laws in Ontario included complete hunting bans on moose and deer, bag limits, quotas, required licensing, and hunting seasons (Bate, 2023). As a result of the hunting regulations, Indigenous hunters' control over resources, secured through treaty, was restricted, impacting their cultural lifeways.

A jurisdictional challenge arose with the application of the provincial Act to Indigenous peoples with Treaty Rights, which were under federal jurisdiction. Indian Affairs began to take increased interest in securing Indigenous peoples harvesting rights, as Indian Agents increasingly became allies to communities in the north.

As noted by Calverley (1999), after almost three decades of complaints, letters and petitions from the Anishinaabeg, some Indian Agents came to understand Indigenous perspectives on the application of provincial legislation; in part, the Act was taking food out of the mouths of Indigenous people. In terms of game depletion, the agents generally believed the increase in settler hunter and sportsman were the main conservation threat. Indian Affairs generally adopted a more proactive approach in relation to Indigenous hunting and trapping rights for a period. However, Indian Affairs was not completely opposed to regulating Indigenous hunting, and they would not openly challenge the Ontario government over treaty rights (Calverley, 1999).

In response to the *Sparrow* ruling (see **Section 2.2.9**), the Ontario Ministry of Natural Resources issued an *Interim Enforcement Policy on Aboriginal Hunting and Fishing* in 1991 that states Aboriginal people harvesting game or fish for personal consumption or social or ceremonial purposes in their treaty areas or traditional lands will generally not be prosecuted. However, this policy was meant to be an interim measure and when the province enacted a new *Fish and Wildlife Conservation Act* in 1997, neither it, nor the detailed regulations under it, make any reference to Treaty or Aboriginal Rights to harvest.

2.2.11.2 The Registered Trapline System

In response to declining populations of fur-bearing species, and complaints from Indigenous trappers about other trappers encroaching into their territories, the government of Ontario issued new game regulations under the *Game and Fisheries Act* of 1946 that included the creation of the Registered Trapline System (Finch, 2020; Sutherland, 2020). While it was first implemented in southern Ontario, by 1948 the regulations applied to the north. Traplines established in the north were based on watersheds rather than the township system used in the south, as directed by the Department of Indian Affairs (Finch, 2020).

In the years following the introduction of the system, Indigenous trapping was impacted by several key factors such as new wildlife laws, changing lifeways, increased wage labour opportunities, increasing government aid, and multiple outbreaks of tularaemia, an infectious disease that affects beaver and muskrat (Finch, 2020). Input from Indigenous communities, including concerns that the established

trapping seasons did not work in the north because of the different climate in the James Bay region, were not reflected in trapping regulations (Sutherland, 2020). In addition, the Registered Trapline System involved licenses, registration, and quotas, all of which was foreign to Indigenous trappers (AMEC, 2004b, as cited in Tsuji *et al*., 2011).

2.2.11.3 Ontario *Far North Act*

In response to the need to balance development potential with conservation in the north, the provincial government launched the *Far North Planning Initiative* in 2008 (Bowie, 2017). The purpose of the initiative was to direct economic development, support conservation, and address Aboriginal and Treaty Rights through the development of community-based land use plans for the Far North region – an area that represents over forty percent of the province (MNR, 2011, as cited in Bowie, 2017).

The purpose of the 2010 *Far North Act* is to provide community-based land use planning in the Far North region that (*Far North Act*, 2010, s.1):

- Sets out a joint planning process between First Nations and Ontario;
- Supports the environmental, social and economic objectives for land use planning for the peoples of Ontario; and,
- Is done in a manner that is consistent with the recognition and affirmation of existing Aboriginal and treaty rights.

The land use planning process established under the Act entails the development of a terms of reference by a First Nations community interested in participating, which must then be approved by the Minister of Natural Resources, who then designates a planning area for the Community Based Land Use Plans (*Far North Act*, 2010, s. 9). The plans are intended to include maps that show historical and contemporary Indigenous use in the area. Communities can designate areas of significant cultural value such as burial sites, waterways and travel routes to be protected, caribou migration routes and areas to be considered open for or closed to mineral exploration. At least one protected area must be identified through the planning process (*Far North Act*, s. 9(9)(c)(d)). However, the plans must be jointly approved by the First Nation and the Ministry,

and once the final plan is approved, all decisions to authorize land use activities must be consistent with the land-use designations in the plan. For First Nations communities in the Far North, community-based land use plans signify inherent jurisdiction over lands and the authority to make decisions on contested land uses (Scott *et al*., 2018).

The legislation has been contested by First Nations and their regional organizations based on the level of and approach to consultation undertaken by the province, and concerns about how the recommendations provided by First Nations were incorporated. While amendments were made, including the addition of "joint bodies" that could be established with interested First Nations, the province retains ultimate decision-making powers related to amendments, policy documents, and exemption orders related to land use strategies (Gardner *et al*., 2012).

The Act was recently amended in December 2021, following the recommendations identified in a joint process with Nishnawbe Aski Nation and the Ministry of Northern Development, Mines, Natural Resources and Forestry, and in consultation with First Nations and stakeholders in the region. Amendments were made to "encourage collaboration between Ontario and First Nations on land use planning and foster economic growth in the region while maintaining critical cultural and environmental protections" (Environmental Registry of Ontario, 2021).

2.3 Cumulative Effects to Aboriginal and Treaty Rights and Interests

For roughly seven generations nearly every Indigenous child in Canada was sent to a residential school. They were taken from their families, tribes and communities, and forced to live in those institutions of assimilation. The results while unintended have been devastating. We witness it first in the loss of Indigenous languages and traditional beliefs. We see it more tragically in the loss of parenting skills, and, ironically, in unacceptably poor education results. We see the despair that results in runaway rates of suicide, family violence, substance abuse, high rates of incarceration, street gang influence, child welfare apprehensions, homelessness, poverty, and family breakdowns. Yet while the government achieved such unintended devastation, it failed in its intended result. Indians never assimilated.

– Honourable Justice Murray Sinclair speech to the United Nations, 2010

The long history of colonialism in Canada and associated actions, legislation, and policy has involved both recognition of, and infringement on, the Aboriginal and / or treaty rights of Indigenous peoples in the region and across the country. This history has also been described as constituting cultural genocide (TRC, 2015b). The traditional lifeways, culture, and language of Indigenous peoples, including the Anishinaabeg, Omushkegowuk, and Métis of the region, have been forever transformed, in part because of centuries of displacement from their traditional land bases and use of resources. When combined with ongoing colonial structures and approaches that continue to overlap with the Aboriginal and Treaty Rights and Interests of Indigenous peoples, these changes impact cultural continuity and well-being as the ability of Indigenous peoples to transmit Indigenous knowledge, culture, and lifeways out on the land is increasingly challenged.

Colonial systems of governance and justice that have superseded and / or failed to respect the inherent jurisdiction of Indigenous peoples, and the spirit and intent of the treaties with the Crown, have been imposed on Indigenous peoples in the region for centuries (Anishinabek Nation Legal Department, 2018). Moreover, attention to Indigenous men rather than women and the application of patriarchal assumptions and approaches by European traders, missionaries, and political leaders have exacerbated violations to Indigenous governance by overlooking a segment of the population (i.e., women) that prior to contact, held important roles in leadership.

The impacts go well beyond Aboriginal and / or Treaty Rights and Interests. While Canada has become a member of the world's leading nations, Indigenous peoples, including the Anishinaabeg and Omushkegowuk, continue to experience disproportionate inequities to the general Canadian population (OCCC, 1986). As noted by Matheson *et al*. (2022), the ongoing implications of various systemic structures experienced by Indigenous peoples has resulted in poor housing conditions, food insecurity, and the absence of potable water on some reserves. Many Indigenous people continue to experience the long term and often debilitating impacts of residential schools, and those that survived were often unprepared to succeed in the market economy or to pursue traditional activities such as hunting and fishing. In many cases, family connections were permanently broken. The overall suicide rate among First Nations communities is about twice that of the total Canadian population (TRC, 2015a). Indigenous peoples face higher rates of infant mortality, a greater burden of disease, and reduced life expectancy (Smylie & Firestone, 2016). In addition, Indigenous peoples are significantly overrepresented in the Canadian criminal justice system (RCAP, 1996, as cited in Government of Canada, 2023). Despite all of these atrocities and outcomes, Indigenous peoples are reclaiming their rights and reconnecting to their cultural roots.

2.4 Reconciliation and Looking to the Future

In more recent decades, there is increased awareness about colonization and its ongoing effects on Indigenous peoples. These efforts began with the establishment of the Royal Commission on Aboriginal Peoples in 1990, whose mandate was to study the evolution of the relationship between Indigenous peoples, the government of Canada, and Canadian society as a whole (Doerr, 2006). The Commission released a five-volume report in 1996 that ultimately noted that a complete restructuring of the relationship between Indigenous peoples and non-Indigenous peoples in Canada is needed (Doerr, 2006); the findings of the Commission's report have informed this one.

In 2008, the Truth and Reconciliation Commission was established as part of the Indian Residential School Settlement Agreement. The Commission was established to guide Canadians through the difficult facts of the residential school system, and to "lay the foundation for lasting reconciliation across Canada" (Moran, 2015, para. 1). The Commission conducted community hearings across the country to hear from Indigenous peoples directly. A six-volume final report documents the experiences of Indigenous peoples and identifies 94 Calls to Action to advance the process of reconciliation was released in 2015; the findings of the Commission's report have also informed this one. .

While there has been a recent focus, including efforts and actions on reconciliation with Indigenous peoples, many Indigenous communities, including Marten Falls First Nation, continue to experience day-to-day challenges with access to basic human rights including health services, education, personal and community safety, food security, and more. For Marten Falls First Nation, the development of the Community Access Road is an act of reconciliation – it helps to address access to basic rights while providing an opportunity to support Marten Falls First Nation's self-determination and their ability to pursue economic prosperity, social and community well-being and cultural continuity.

03

Marten Falls First Nation

The information presented in this section of the report is based on the Proponent's current understanding of Marten Falls First Nation's rights and interests in relation to the study areas for the Aboriginal and / or Treaty Rights and Interests impact assessment. The information in this section of the report has been sourced from information, inputs, and materials provided directly by Marten Falls First Nation through the Project's Indigenous Knowledge Program and Consultation Program, and publicly available source information where appropriate.

The objective of the Proponent is to share this information with Marten Falls First Nation early in the Impact Assessment / Environmental Assessment to enable collaboration and discussion. The overarching goal is to enhance the Proponent's understanding of Marten Falls First Nation's Aboriginal and / or Treaty Rights and Interests in relation to the proposed Project.

Imagining Access – Why the Project?

The Project will offer Marten Falls First Nation the opportunity to grow as a community but also be part of the social and economic fabric of the region and country. The Community Access Road will reduce transportation costs for goods and services, making food, gas, and other supplies cheaper. It will help families be together in the community and increase social interactions with other communities. It will also provide a vital connection to emergency, health, and social services.

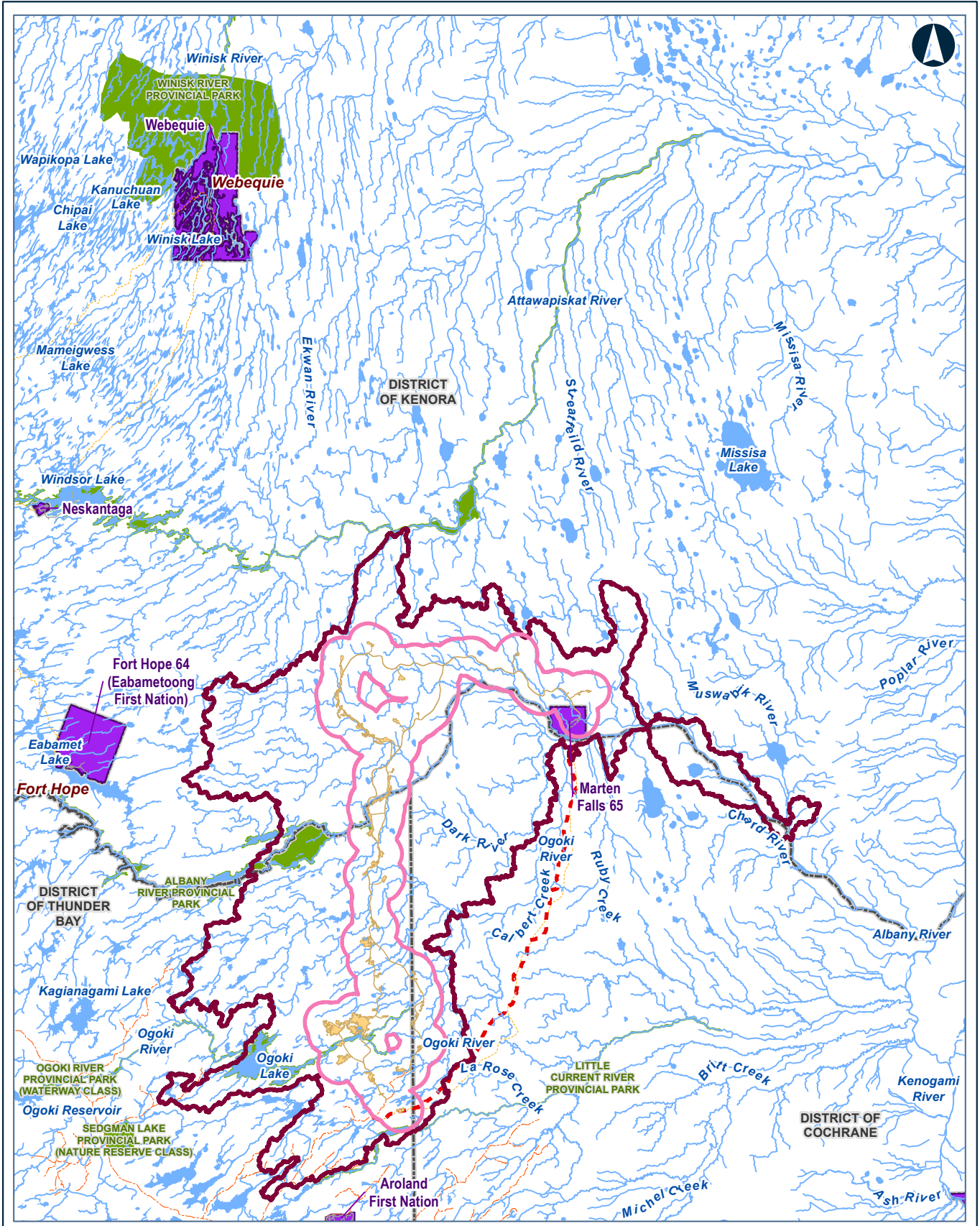
3.1 Community Profile

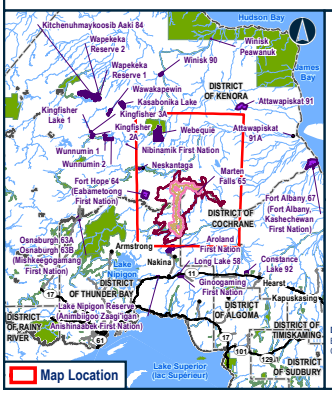
Marten Falls First Nation is a remote Anishinaabe community located in the Hudson Bay Lowlands, about 160 km northeast of Nakina at the junction of the Albany and Ogoki Rivers, in the Far North region of Ontario (**Figure 3-1**). As of July 2023, Marten Falls First Nation has 870 registered members. Of these, 357 members (41%) live on reserve in the community, and the remaining 513 members (59%) live elsewhere (Government of Canada, 2023a), including in the Thunder Bay and Geraldton areas (Stantec, 2017).

The community is currently accessible by air transportation out of Thunder Bay and Nakina, or by winter road, when conditions permit (AECOM, 2020). When possible, residents build and maintain the winter road annually between January and March for freight, commercial, and community use (MFFN & OMNRF, 2020; Teach for Canada, 2022). The winter road connects Marten Falls First Nation to Nakina, the closest township to the south with year-long road access, for six to eight weeks in the winter; the trip takes five hours (Teach for Canada, 2022). The remote nature of the community means that the cost of living and goods, and air travel outside of the community to access services, can be very high.

Marten Falls First Nation is a proud community that has retained important customs and cultural teachings that are linked to the lands and river ways that form their way of life (MFFN & OMNRF, 2020).

Sections 3.1.1 to **3.1.5** provide information about Marten Falls First Nation's pre- and post-contact history, reserve lands, language, and governance.





Legend

- First Nation Reserve
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

General Features

- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Watercourse
- District Municipal Boundary
- Waterbody
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.

DRAFT

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

General Location of Marten Falls First Nation

0 5 10 20 30 40
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Nov, 2023	1:1,000,000 * when printed 11"x17"
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Figure 3-1

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3.1.1 Pre-Contact History

Before contact with Europeans, Marten Falls First Nation people had a thriving culture and self-sufficient way of life. Everything they had came from the land, water, and sky. They lived their lives according to the seasons, following the resources for food and to make important materials like clothing, bedding, shelter, and travel items like canoes and snowshoes (MFFN & OMNRF, 2020).

The early spring brought needed warmth after the cold months, and preparations were made for the spring hunt, trapping, and fishing season. Big game and waterfowl were hunted in the early spring, and furbearing animals like muskrat were hunted and trapped in the later spring after ice breakup. Fish nets were also set and fish was dried in the late spring (MFFN & OMNRF, 2020).

Summer was a time for fishing, berry picking, and drying of foods for the coming seasons. It was also an important time for making items used throughout the seasons, including: fish baskets; canoes, teepees, and wigwams from wood, moss, and birch bark; snowshoes from wood and bedding from goose feathers for the upcoming winter. Summer was also a time for gatherings and traditional ceremonies at spiritual sites (MFFN & OMNRF, 2020).

Planning and preparations had to be done before the winter, including decisions on where families would go for the winter hunting season. Moccasins and snowshoes had to be made for all family members, and sled dogs were fattened up to move families to their winter hunting grounds. Rabbit furs and caribou hides were prepared to make clothing, blankets, moccasins, and winter wigwam covers. Meat was smoked and animal bones were turned into lard to provide important winter food, which was needed as people traveled all over the land in search of large game to hunt (MFFN & OMNRF, 2020).

A more comprehensive overview of the pre-contact context of the Anishinaabeg of northern Ontario, including seasonal lifeways, culture and worldview, learning and knowledge building, governance and legal principles, and resource management and stewardship, is provided in **Section 2.1**.

3.1.2 Post-Contact History

Marten Falls First Nation people were closely tied to the fur trade by the late 1600s, and the traditional economy of the community began to change by the 1700s as a result. Indigenous men started to work on boats on the Albany and Attawapiskat Rivers. A fur trading post and valuable supply trade depot was established in 1794 at Marten Falls on the Albany River. People gathered at the post to trade and rest during their travels to Lake Nipigon or other southern destinations. Canoes and boats were also built at this site, and the community served as a valuable supply depot for the region (MFFN & OMNRF, 2020).

The traditional lifeways of Marten Falls First Nation people began to change with the introduction and use of guns, metal traps, Hudson Bay Company blankets, and new foods. The bow and arrow, wooden traps, and rabbit fur blankets all but disappeared. Moose became more abundant, and the dependence on caribou lessened. Beaver populations were wiped out from trapping pressure, leading to starvation among communities in the north, including Marten Falls First Nation. Beaver had to be re-introduced in the early 1900s. Snowmobiles eventually replaced sled dogs. The community experienced constant change as a result, and these changes have continued up to present day, with electronic technology now becoming a standard part of life for almost all Marten Falls First Nation people (MFFN & OMNRF, 2020).

The original community settlement was located about 64 km upstream from its present location, along the Albany River where the Marten Falls are located. The traditional name for the original community site is *Wegwajihwanang*, which translates to “The Falls End” (MFFN & OMNRF, 2020). The community was relocated to the present-day settlement in 1924 when the original Marten Falls trading post was closed and moved to the Ogoki Post because of danger of the rapids at Marten Falls (Teach for Canada, 2022). Marten Falls First Nation is also referred to as Ogoki Post because of this history (MFFN & OMNRF, 2020).

In more recent times, the Marten Falls First Nation community has faced several important challenges:

Drinking water issues: The community was on a boil water advisory starting in 2005, affecting 91 homes and six community buildings (ISC, 2021). While a new water treatment system was built in 2019 (ISC, 2021), the community declared a state of emergency in 2021 when the treatment plant failed due to insufficient operation and maintenance funding, and sewage started to back up (Matawa First Nations, 2021). The costs of flying in bottled water put a significant strain on the community's limited financial resources (Northern Ontario Business, 2021).

Housing shortage: A housing shortage has led to overcrowding, with two to three generations per household, and homelessness (Northern Ontario Business, 2021). The housing shortage is compounded by the fact that there is no firefighting equipment in the community for fire suppression, and there have been numerous house fires, which also poses a risk to the safety and health of members (Northern Ontario Business, 2021). The community declared a state of emergency in early 2022 due to a lack of housing for teachers in the community, and emergency modular housing was sent into the community by the federal government as a result. The previous teacher residences were decommissioned in 1999 after they fell into disrepair. More recently, teachers have been housed in extra suites in a seniors' complex (CBC News, 2022). The federal government is supporting a new housing complex (CBC News, 2022), but additional housing will require upgrades to community water and sewer services (Gemmill, 2023).

Food security: Food security is also a major challenge as the community does not currently have a store for in-person shopping. Community members must rely on air transportation for all food items, which are subject to increasing costs of shipping (Law, 2023).

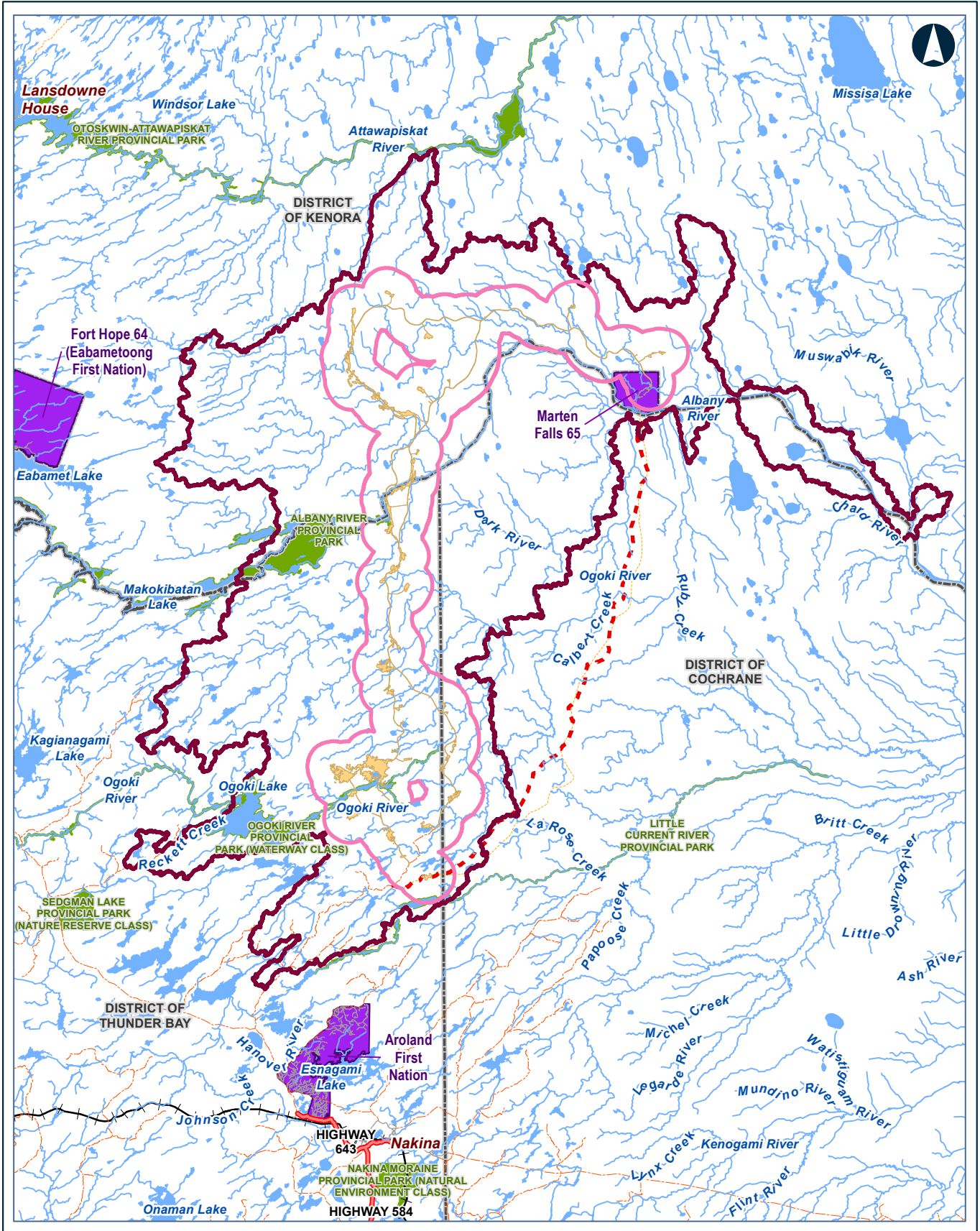
Despite these challenges, the community continues to persevere. For example, the community signed a memorandum of understanding for a solar power pilot project to help reduce dependency on non-renewable energy in 2019 (Northern Ontario Business, 2019), has signed forest tenure agreements (Northern Ontario Business, 2015), and has advocated for investment in community infrastructure including upgrades to the water treatment system in 2016 (Colliers 2023).

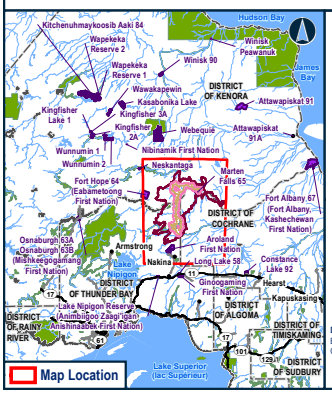
A more comprehensive overview of the post-contact context, including the fur trade, early legislation and policy and associated impacts on Indigenous peoples, the numbered treaties established in the region, perspectives on Aboriginal Rights, and legislative developments that have governed natural resource and land use, is provided in **Section 2.2**.

3.1.3 Reserve Lands

Marten Falls First Nation has one reserve, Marten Falls Reserve 65, on the north shore of the Albany River where it intersects with the Ogoki River (**Figure 3-2**). The reserve is 7770.1 ha in size.

The original reserve was located opposite the historic trading post at Marten Falls, about 64 km upstream from the present-day location of the community (see **Section 3.1**). This original location is described in the *Schedule of Reserves* contained in the James Bay Treaty Number 9 (Treaty 9) of 1905 as "on the Albany River, beginning at a point one-quarter of a mile below the foot of the rapid known as Marten Falls down stream a distance of six miles and of sufficient depth to give an area of thirty square miles" (CIRNAC, 2013, para. 3).





Legend

- First Nation Reserve
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

General Features

- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- District Municipal Boundary
- Waterbody
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation Reserve Lands

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-2

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3.1.4 Language

The people of Marten Falls First Nation speak dialects of Ojibwe and Oji-Cree (also known as Severn Ojibwe), both belonging within the Algonquian language group (MFFN & OMNRF, 2020). According to the 2016 Census, among the on-reserve population (CIRNAC, 2021):

- About 30% reported knowledge of Indigenous languages;
- About 24% reported Ojibwe or Oji-Cree as their mother tongue (the first language they learned and still know); and
- About 22% speak Indigenous languages in the home.
- Some Marten Falls First Nation people still use and understand the syllabics writing system, along with Roman orthography (MFFN & OMNRF, 2020).

3.1.5 Governance

Marten Falls First Nation is a signatory to Treaty 9. In 1905, Treaty 9 was signed by Chief William Whitehead and Councillors William Coaster and Long Tom Ostamus at the historical Marten Falls trading post (MFFN & OMNRF, 2020). See **Section 2.2.5.2** for more information on Treaty 9.

Marten Falls First Nation has an *Indian Act* Electoral System with a two-year cycle. Leadership includes a Chief and seven Councillors (Government of Canada, 2023b). Chief and Council are accountable to members. Council quorum is necessary for council meetings and decisions require a minimum of four councillors (MFFN & OMNRF, 2020).

Marten Falls First Nation is affiliated with tribal organizations in the Treaty 9 area that provide advocacy, support and other services, including Matawa First Nations and Nishnawbe Aski Nation (MFFN & OMNRF, 2020).

3.2 Understanding of Rights and Interests in Relation to the Project

Sections 3.2.1 and **3.2.2** describe the current understanding of Marten Fall First Nation's Aboriginal and / or Treaty Rights and Interests in relation to the proposed Project. As noted in **Section 3.0**, this understanding was developed based on information provided by Marten Falls First Nation through the Project's Indigenous Knowledge and Consultation programs, as well as publicly available source information.

3.2.1 Aboriginal and / or Treaty Rights Relevant to the Project

It is anticipated that Marten Falls First Nation asserts Treaty 9 and Section 35 rights. According to the Declaration of the Nishnawbe-Aski Nation, the rights of Nishnawbe-Aski Nation people include (NAN, 1977):

- The right to receive compensation for exploited natural resources;
- The right to receive compensation for the destruction and abrogation of hunting, fishing, and gathering rights;
- The right to renegotiate the Treaty as understood by Nishnawbe-Aki Nation people; and
- The right to approach other world nations to further the aims of the Cree and Ojibway Nations of Treaty 9.

The *Mamow-Wecheekapawetahteewiin* (Unity Declaration) of the Matawa Chiefs Council notes the inherent right to self-determination as an important right recognized and affirmed under Section 35 (Matawa First Nations, 2011). As a member of Nishnawbe-Aski Nation and Matawa First Nations, it is likely that these rights may also be declared by Marten Falls First Nation.

At a minimum, it is assumed that Marten Falls First Nation's Aboriginal and / or Treaty rights in relation to the proposed Project include the right to hunt, trap, fish, and gather materials that are of importance to Marten Falls First Nation's cultural traditions and lifeways, as well as the right to cultural continuity and wellbeing (ability to practice and transmit cultural traditions). These rights are considered Valued

Components, which means that they are important elements of Aboriginal and / or Treaty Rights that have the potential to be affected by the proposed Project. The potential impacts of the proposed Project on these Valued Components / rights will be assessed in the future.

General information on Marten Falls First Nation's use of lands, waters, and resource for traditional purposes is presented in **Section 3.4**. Information on the Project Team's understanding of Marten Falls First Nation's use of lands, waters, and resources for traditional purposes in relation to the proposed Project is presented in **Section 3.5**.

General perspectives on the cultural continuity and wellbeing of Marten Falls First Nation are presented in **Section 3.6**. Information on the Project Team's understanding of what is important for Marten Falls First Nation cultural continuity and wellbeing is presented in **Section 3.7**.

3.2.2 Interests Related to the Project

The information on potential interests of Marten Falls First Nation with respect to the proposed Project is based the following sources of information (although other supporting sources have been used and referenced throughout):

- The *Marten Falls First Nation Record of Consultation Report, March 2019 to July 2020* (AECOM, 2020);
- Additional information collected through the Project Consultation Program, including the following events:
  - Consultation for the Project field programs (July and August 2021);
  - Public Information Centres #3 (held June 2022) and #4 (held November and December 2022);
  - The Aboriginal and Treaty Rights and Interests Forum (held in February 2023);
- Preliminary Indigenous Knowledge data from the forthcoming Project-specific Indigenous Knowledge and Indigenous Land and Resource Use Report (MFFN, 2023);
- The *Assessment of Potential Environmental Effects on Traditional Land and Resource Use* for the Hardrock Project (Stantec, 2017);
- The *Marten Falls First Nation Community Based Land Use Plan Terms of Reference* (MFFN & OMNR, 2013); and
- The *Wegwajihwana Ininiwag (Marten Falls First Nation) Draft Community Based Land Use Plan, Part 1* (MFFN & OMNRF, 2020).

It is anticipated that Marten Falls First Nation's interests in the proposed Project may include:

- Concerns about potential impacts to fish and fish spawning areas, moose, beaver, waterfowl, other birds, frogs, turtles, bugs, trees, berries, and medicinal plants (AECOM, 2020; MFFN, 2023);
- Concerns about potential impacts to water quality (AECOM, 2020);
- Preservation of sturgeon and its habitat (AECOM, 2020);
- Protection of wildlife habitat during construction (MFFN, 2023);
- Information on the expected level of traffic / volume of vehicles expected to use the Community Access Road, and associated concern with noise and impacts on animals and Indigenous land use (AECOM, 2020; MFFN, 2023);
- Concerns about animal collisions, especially with moose and caribou (Stantec, 2017; AECOM, 2020);
- Protection of culverts from beaver use (AECOM, 2020);
- Avoid cutting through Saskatoon berry and highbush cranberry areas (consultation for the Vegetation Field Program in 2021);
- Dust mitigation measures to protect tress and waters (AECOM, 2020);
- Need to understand if the road will cross traplines to allow easier access to trappers (AECOM, 2020);
- Concerns about hunters and fishers coming into pristine areas that are valued by community members for their cultural significance, and potential for overharvesting (AECOM, 2020; MFFN, 2023);
- Greater regulation of non-Indigenous hunting in the region (MFFN, 2023);
- Protection of areas valued by the community (MFFN & OMNR, 2013);
- Combining western science hydrology with Indigenous knowledge (AECOM, 2020);
- Concerns about bridges and potential for water, habitat, and visual impacts (MFFN, 2023);
- Understanding the potential for a protection of burial sites along riverbanks and in higher ground areas (AECOM, 2020);

- Sharing community history and stories with upcoming generations of youth (Garrick, 2020);
- Community economic development and business opportunities (Stantec, 2017; AECOM, 2020) while protecting traditional culture and heritage, through innovation (MFFN & OMNRF, 2020); and
- A cumulative effects assessment (AECOM, 2020).

These interests will inform the overall Impact Assessment / Environmental Assessment, including the assessment on Marten Falls First Nation Aboriginal and / or Treaty Rights and Interests.

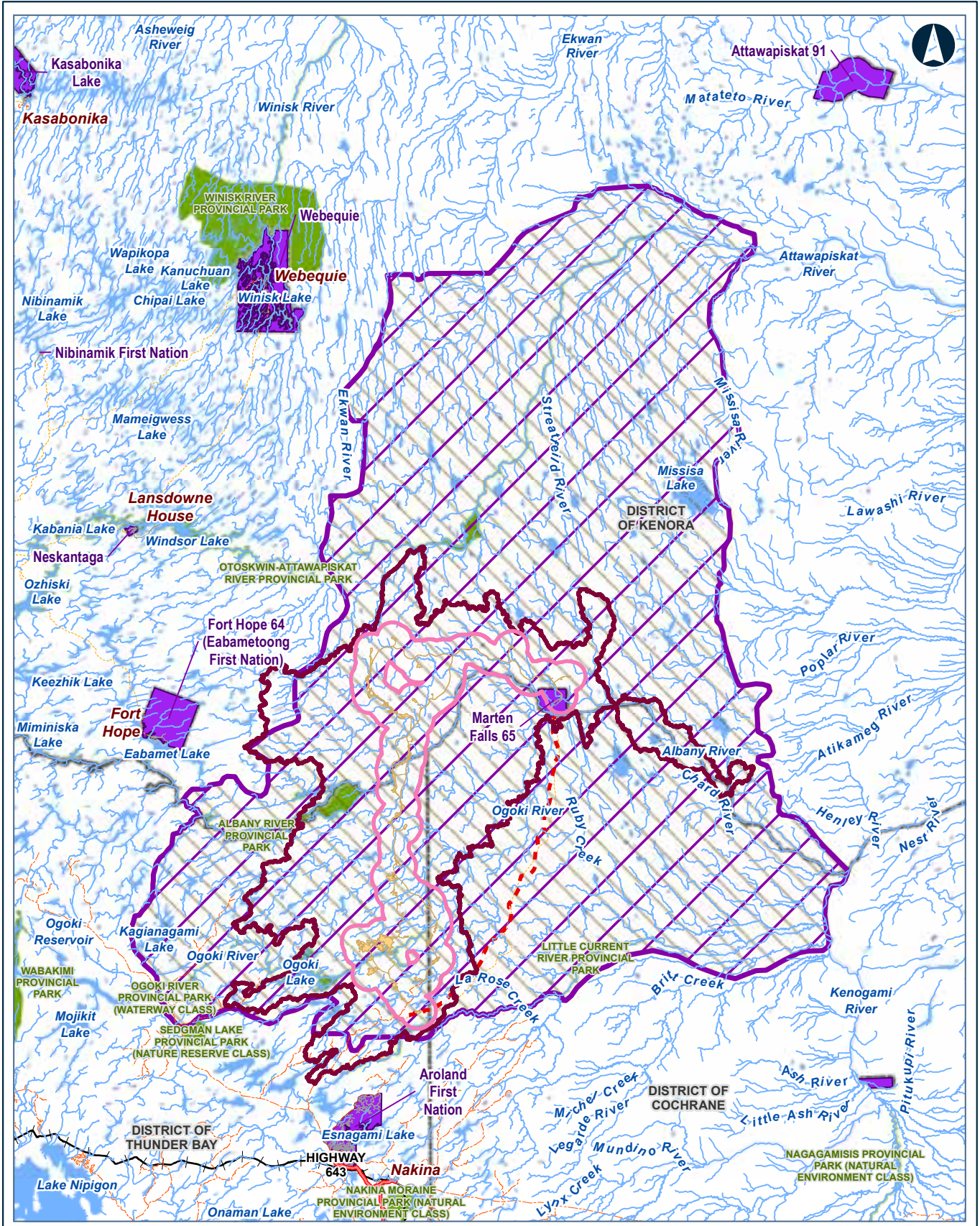
3.3 Area of Interest

A preliminary Area of Interest has been identified for Marten Falls First Nation, as shown in **Figure 3-2**. The preliminary Area of Interest is intended to identify where Marten Falls First Nation may exercise / hold Aboriginal and / or Treaty Rights and Interests that are relevant to the proposed Project.

The preliminary Area of Interest is based on the proposed Planning Area in the Draft Community Based Land Use Plan developed in 2020 under the *Far North Act*. However, the proposed Planning Area stops at the Far North boundary given that the scope of the land use plan is north of this boundary only, as per the *Far North Act*. In another figure prepared for Marten Falls First Nation (KBM Resources Group, 2013), an Area of Interest outside (south) of the Far North boundary is depicted. This area south of the Far North boundary has been incorporated into the preliminary Area of Interest for the proposed Project's Impact Assessment / Environmental Assessment.

The preliminary Area of Interest contains the entirety of the Project Development Area and the Local Study Area, and almost the entirety of Regional Study Areas for the assessment except for a small portion east of Eabametoong First Nation, as shown in **Figure 3-3**.

The Impact Assessment Agency of Canada (2023) notes that an Indigenous community's "long-standing connection to, use of, or occupation of an area is indicative of a community's rights". It is the Proponent's understanding that an Indigenous community can assert an area of interest or traditional territory and that these assertions may consider many factors including, but not limited to, hunting and trapping areas, wildlife migration patterns, travel routes, watersheds, etc. However, these assertions "may not be well understood by all parties, they may raise uncertainty as they lack information, or there may be differing interpretations" (IAAC, 2023). Therefore, it is important to note that for the purposes of identifying a preliminary Area of Interest for the proposed Project, Marten Falls First Nation is strictly presenting information that has been provided by an Indigenous community or has been identified in publicly available data sources. By presenting this information, Marten Falls First Nation is neither validating nor confirming information regarding the assertion of areas of interest or traditional territories.



Legend

- Preliminary Area of Interest for the Proposed Project
- First Nation Reserve
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area
- Marten Falls First Nation Area of Interest for Planning (Community Based Land Use Plan, December 2013)

General Features

- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- District Municipal Boundary
- Waterbody
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019; Area of Interest for Planning - Provided by Marten Falls First Nation and the Ontario Ministry of Natural Resources and Forestry (2013). Contains Information licensed under the Open Government Licence Ontario.

DRAFT PRELIMINARY DOCUMENT

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation
Area of Interest

0 5 10 20 30 40
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Nov, 2023	1:1,250,000 * when printed 11"x17"
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Figure 3-3

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3.4 Use of Lands, Waters, and Resources for Traditional Purposes

Available information on Marten Falls First Nation land, water, and resource use is presented in **Sections 3.4.1** to **3.4.5**. The information presented in these sections is general to Marten Fall First Nation. Information on Marten Falls First Nation's land, water, and resource use for traditional purposes specifically in relation to the proposed Project is provided in **Section 3.5**.

The information presented is largely based on the following sources of information (although several other supporting sources have been used and referenced throughout):

- Marten Falls First Nation Indigenous knowledge and land, water, and resource use information collected as part of the Community-based Land Use Plan development process and provided to the Project Team (MFFN, 2019);
- Information collected through the Project Consultation Program, including the following events:
  - Consultation for the Project field programs (July and August 2021);
  - Public Information Centres #3 (June 2022) and #4 (November and December 2022);
  - The Aboriginal and Treaty Rights and Interests Forum (February 2023); and
- Preliminary information from the forthcoming Marten Falls First Nation Indigenous Knowledge and Use Study (MFFN, 2023) that was undertaken for the proposed Project and shared with the Project Team.

It is important to note the following about the information available on Marten Falls First Nation's land, water, and resource use for traditional purposes:

- The information collected as part of the community-based planning process and provided to the Project Team (MFFN, 2019) does not specify if the information refers to past or

present use, and is limited to a 15 km buffer on the proposed route alternatives. For the purposes of the future impact assessment, and for a conservative approach to the future Impact Assessment / Environmental Assessment, it is assumed that the information refers to recent or present-day use.

- The land, water, and resource use information provided to the Project Team in 2023 by Marten Falls First Nation specifies if use is recent (within the last 10 years) or not (more than 10 years ago), and generally specifies whether participants continued their noted use. This information is reflected in the following sections. However, the information provided is limited to a 20 km buffer on the proposed route alternatives.
- Information on the role of members within the community (e.g., women, men, Elders, youth, people with disabilities) is limited or absent altogether. To date, demographic information (e.g., age, gender, if person has a disability) has not been provided for the Indigenous knowledge and use information provided by Marten Falls First Nation.
- Information on the quality and quantity of resources (including volumes harvested) and the frequency, duration, and / or timing of traditional practices is limited or absent.
- Information on resource thresholds that the community requires to exercise their rights is limited or absent.

Based on information provided through the Indigenous Knowledge Program (MFFN, 2019; MFFN & OMNRF, 2020; MFFN, 2023) and the Consultation Program for the Project, Marten Falls First Nation's use of lands, waters, and resources for traditional purposes has changed over time as a result of:

- The introduction of European goods and modern technology (e.g., guns, snowmobiles, mobile phones, etc.);
- Changes in animal populations, including severe declines and losses; and
- Damming of rivers and associated impacts on established travel routes.

Sections 2.2 and **2.3** provide additional information on the cumulative effects that have already interfered with the ability of Marten Falls First Nation people to use their lands and resources for traditional purposes. Community members have also noted (through the Project's Consultation Program) that climate change is leading to further changes in wildlife (e.g., geese used to be plentiful in April and now they are being observed in June, seeing birds they have not seen in the region previously). Despite these changes, the Marten Falls First Nation community continues to use the lands, waters, and resources for traditional purposes.

3.4.1 Hunting and Trapping

Moose is highly valued in the community (AECOM, 2020a), and most parts of the moose (if not all) are used, including the head, eyes, brain, and nose (MFFN, 2023). Based on information provided through the Indigenous Knowledge and Use Study (MFFN, 2023) and the Consultation Program for the Project, moose are usually hunted in the fall (September until mid-October) and winter, but hunting may occur in other seasons. While caribou used to be hunted regularly, caribou hunting is now rare since there are so few caribou (AECOM, 2020a). The tradition of tanning hide is still practiced in the community (MFFN & OMNRF, 2020). It is common for partridge to be hunted or snared when encountered near the community or when out on the land (MFFN, 2023).

The spring migration of geese and ducks is an important cultural time for Marten Falls First Nation people, and involves waterfowl hunting for food and feathers, as well as cultural celebrations. A cultural week break is taken each year, usually at the end of the April, by children and most community members for these activities and celebrations (MFFN & OMNRF, 2020).

While trapping is less common than it once was, some community members continue to trap for personal and commercial purposes, and trapping continues to provide economic opportunity, depending on fur markets (MFFN & OMNRF, 2020). Trapping also contributes to economic benefits from the sale of crafts such as hats, mitts, moccasins, and snowshoes (MFFN & OMNRF, 2020).

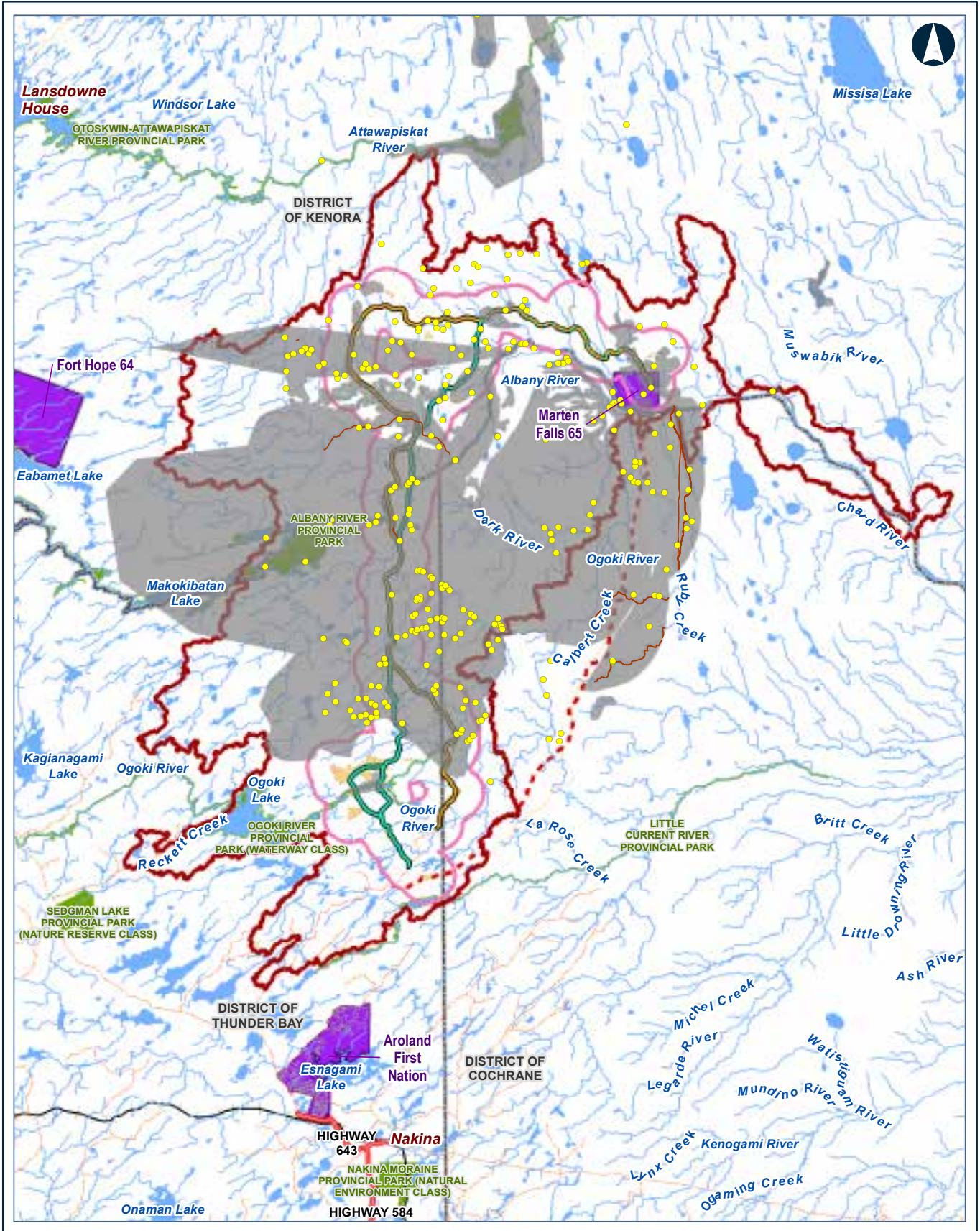
Trapping generally takes place in the fall and winter, and sometimes spring months. Beaver, marten, and muskrat were noted be the most commonly trapped and in the largest numbers. Trappers interviewed for the Indigenous Knowledge and Use Study undertaken for the Project noted it was common to harvest 50 to 100 beaver and muskrat, and 80 to more than 100 marten each year (MFFN, 2023); however, information on the time period for these harvest amount has not been provided so it is not known if these are related to past or more recent trapping activities. Trappers interviewed also reported trapping mink, rabbit, fox, otter, lynx, wolf, weasel, squirrel, fisher, porcupine, and skunk, in much smaller numbers (less than 20 each) (MFFN, 2023). Some community members have also worked as moose hunting guides for economic support (MFFN, 2023).

Information on sites and areas used for personal hunting and trapping is provided in **Section 3.4.1.1**. Information on areas used for commercial trapping and guiding is provided in **Section 3.4.1.2**. The areas and sites are shown in **Figure 3-4**. As shown, many of the hunting and trapping sites and areas that have been identified are located in proximity to waterways and waterbodies (e.g., the Albany, Ogoki, Dark, Dusey, and Wabassi Rivers), and / or are associated with registered trapline areas.

A summary of wildlife of potential importance to Marten Falls First Nation for hunting and trapping based on information provided by the community is provided in **Table 3-1**.

Table 3-1: Wildlife of potential importance to Marten Falls First Nation

Common Name	Oji-Cree Translation	Ojibwe Translation
BIG GAME AND FURBEARERS		
Moose	*mooz*	
Caribou (woodland)	*atik*	
Bear (black)	*makwa*	
Wolf	*maihgan*	
Lynx	*mizhih'bizhiw*	
Beaver	*amik*	
Otter	*nigig*	
Muskrat	*wajaashk*	
Fox	*waakosh*	
Marten	*wabizheshih, wabashtan*	
Fisher	*ojiig*	
Rabbit (snowshoe hare)	*wabooze*	
Squirrel	*ajidamo*	
Weasel	*zikosih*	
Mink	*shakweshi*	
Porcupine	*kaag*	
Skunk	*shikaag*	
BIRDS		
Goose	*nikah*	
Duck	*shesheeb*	
Partridge (ruffed grouse)	*papashki*	
Swan	*waabihssi*	



Legend

- Hunting and Trapping Value Location
- Hunting and Trapping Value Line
- Hunting and Trapping Value Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

Route Label

- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4

General Features

- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- District Municipal Boundary
- Waterbody
- Provincial Park

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Data Source:

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation Hunting and Trapping Sites and Areas

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-4

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3.4.1.1 Personal Hunting and Trapping Sites and Areas

Some general hunting areas were identified by community members (MFFN, 2019); however, information on the resources hunted was not provided. For the purpose of this existing conditions report, it is assumed that big game (moose and caribou), waterfowl (geese and ducks), and / or small game (beaver, muskrat, partridge, etc.) encountered in these areas may be hunted.

Within the community area, the northeast portion of the reserve and areas around *jiigaakodigweyaa* ("the river that runs along the Albany River"), and the southern portion of the reserve are general hunting areas (MFFN, 2019).

North of the reserve, the areas around *jiigaakodigweyaa* and its tributaries and associated waterbodies are general hunting areas (MFFN, 2019). Northwest of the reserve, many of the waterways and waterbodies north of the Albany and Wabassi Rivers are used for goose and duck hunting, including Gittins (Muskeg) Lake, Sebert Lake, and Gurden Lake (MFFN, 2019). Moose, caribou, and geese are also hunted in the areas around the northern tributaries of the Albany River and associated waterbodies, north of the Wabassi River (MFFN, 2019).

East of the reserve, areas along *jiigaakodigweyaa* and the Albany River, including near the mouth of Ruby Creek, are general hunting areas (MFFN, 2019). Further to the east, a community member noted that they hunted moose along the Albany River, near the Gander River, in the past (MFFN, 2023).

South of the reserve, areas along Ruby Creek, Calbert Creek, and the existing winter access road alignment, east of the Ogoki River, are used for moose, caribou, goose, and duck hunting (MFFN, 2019). Trapping also occurs along Ruby Creek; however, information on the species trapped has not been provided (MFFN, 2019). Areas along and in between the Ogoki and Dark Rivers are used for moose and beaver hunting, and marten and otter trapping (MFFN, 2019).

Directly southwest and west of the reserve and the Albany River, the areas around Squirrel Creek and its tributaries are general hunting areas (MFFN, 2019). Further west and southwest, areas along the Albany River from *kiniigo yahway minis* (Long Neck Island) to Makokibatan Lake are used for moose hunting and small game trapping and snaring:

- An area called *miskawbimahgichiwan,* directly upstream and southwest of *Wegwajihwanang* (the historic community location), is an important area for hunting and trapping (MFFN, 2019);
- Several community members noted that they hunted moose along the Albany River, near Kagiami Falls and south of Washi Lake, within the last 10 years (MFFN, 2023);
- The areas surrounding Teabeau Lake and the Albany River, downstream of Washi Lake, are important for hunting (moose), trapping, and snaring (MFFN, 2019); and
- Moose, goose, duck, and beaver are hunted along the northern and southern banks and tributaries of the Albany River and associated waterbodies in the areas east and south of Washi Lake, including Gourlie and Caviar Creeks, and Saarimaki, Treeloar, Tolfree, Suwala, Balson, Dusey, and Winslow Lakes (MFFN, 2019).

West of the reserve, the areas around the Wabassi River and its tributaries and associated waterbodies (west and north of the Albany River) are used for hunting, including (MFFN, 2019):

- Moose and caribou hunting along the Wabassi River, from its confluence with the Albany River westward toward Duns Lake;
- Goose hunting in the areas around the northern tributaries and associated waterbodies of the Wabassi River;
- Moose, caribou, goose, duck, and beaver hunting along southern tributaries and associated waterbodies of the Wabassi River (including Venton Lake);
- Beaver hunting along the Wabassi River, west of Duns Lake; and
- Caribou hunting in areas south and north of the Wabassi River.

3.4.1.2 Commercial Trapping and Guiding Areas

Commercial trapping is generally undertaken south and west of the reserve. Southeast of the reserve, it was noted that marten and beaver are trapped along Ruby Creek (MFFN, 2019). It is likely that these are commercial trapping activities associated with registered trapline G158.

Southwest of the reserve, there is an active trapline (registered trapline GE157) on the west side of the Ogoki River that is held by a community member and used for beaver trapping; this was noted during a Marten Falls First Nation community meeting in Thunder Bay in December 2022. Information collected from the community-based land use planning process (MFFN, 2019) and the December 2022 community meeting suggests that the following areas are used for trapping on this trapline:

- Areas between the Dusey River and Dusey Lake;
- Areas around the northern tributaries of the Ogoki River; and
- Areas along the various waterways and waterbodies north of Sands Lake, at the southern end of the trapline.

North of registered trapline GE157, the areas around Saarimaki, Teabeau, Washi, and Makokibatan Lakes, and along Gourlie Creek, were noted to be important commercial trapping areas for several generations of Marten Falls First Nation people (MFFN, 2023). It is likely these areas and trapping activities are associated with registered trapline GE153, and potentially GE210 as well. Participants of the Indigenous Knowledge and Use Study undertaken for the Project indicated that they no longer trap in these areas (MFFN, 2023). However, given that these traplines areas have remained in families for generations, and the generally high level of use for traditional activities recorded for this area, it is likely that commercial trapping by community members still occurs in these areas.

West of the reserve, there is a trapline along the Wabassi River (likely to be registered trapline G154) that was used for commercial trapping and snaring for about 40 years by one of the participants in the Indigenous Knowledge and Use Study undertaken for the Project; however, the participant no longer uses the trapline (MFFN, 2023). Based on information collected during consultation for the field programs in July and August 2021, this trapline continues to be used by community members. Within this trapline area, there is a shared trapping area around an unnamed lake, directly south of Venton Lake, which is used by community members (MFFN, 2019).

There is potential that commercial trapping activities are taking place in other areas, and that areas and sites identified as being used for personal trapping (as described in **Section 3.4.1.1**) may also be used for commercial purposes. However, at the time of writing, this information was not provided or available.

Several community members noted that they were moose guiding in the past in areas along the Albany River upriver from the community and around Washi Lake, and northeast of the community in the area of the Attawapiskat River (MFFN, 2023). Based on available information, it is not known if there are community members that continue to work as hunting guides in these areas.

3.4.2 Fishing

Fish have been utilized for cultural practices and as a subsistence food source for generations (MFFN & OMNRF, 2020). Historically, the Marten Falls fur trading post relied heavily on the use of seine nets to harvest whitefish, mostly by Indigenous fishers who were hired on contract. While whitefish and suckers dominated the trade, sturgeon was also important. Most of the fish that were brought in for trade were hung (dried and / or lightly smoked). Indigenous men and women who fished on contract also sold fish in the off season. The Marten Falls trading post also supplied other Indigenous fishers with nets, kegs, canoes, salt, and tents (Ray, 2010).

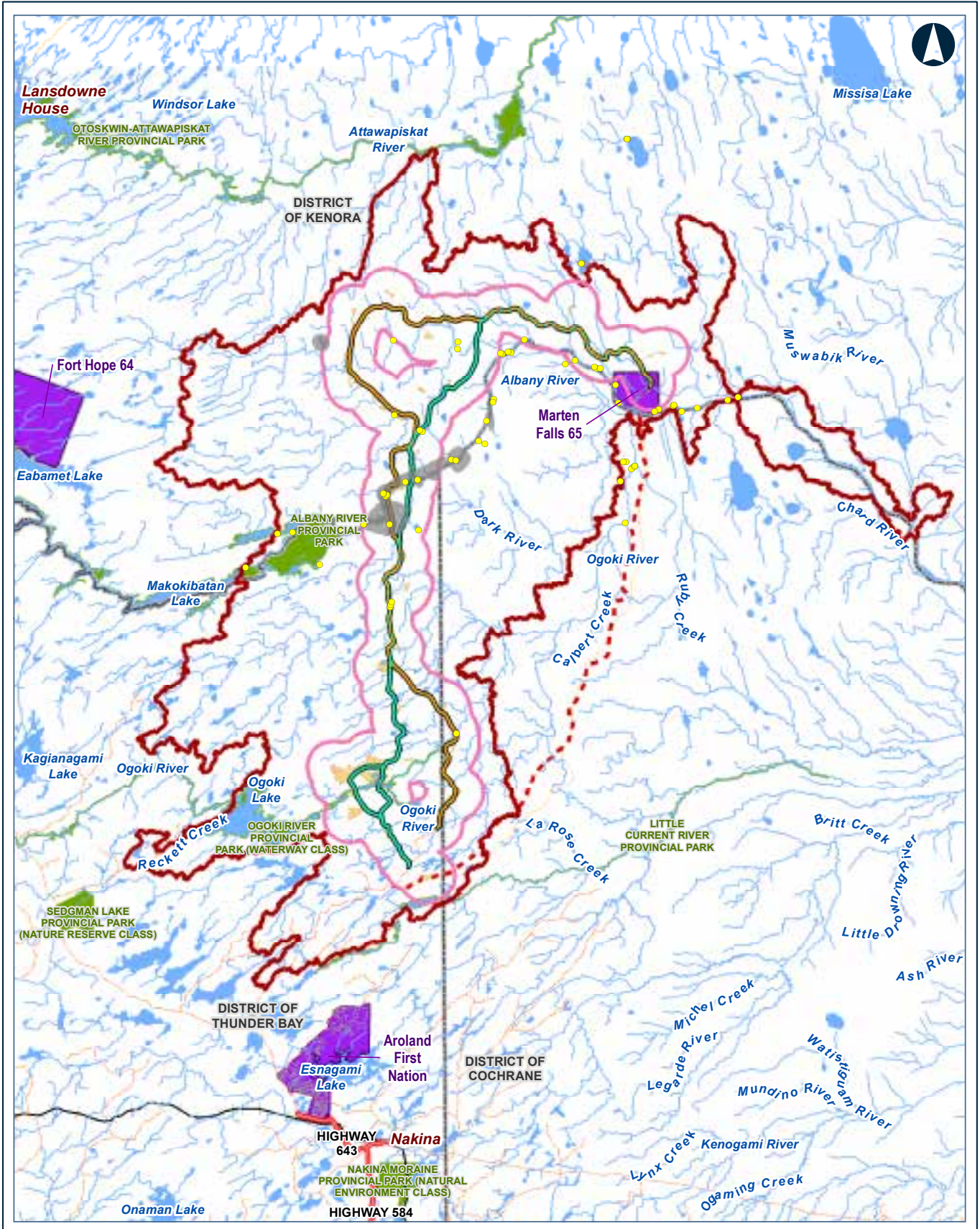
Fishing continues to be an important harvesting practice among Marten Falls First Nation people today, especially in the spring as the waters warm and the ice melts, and in the summer (MFFN & OMNRF, 2020). As part of the summer celebrations and on long weekends, parents take their children along the Albany River to fish. Community members also icefish (fish in the winter), and hold fish derbies in the winter months (MFFN & OMNRF, 2020). Most parts of the fish are used, except for the guts (MFFN, 2023).

Information on sites and areas used for personal fishing is provided in **Section 3.4.2.1**. Information on sites and areas used for commercial fishing is provided in **Section 3.4.2.2**. The sites and areas are shown in **Figure 3-5**. As shown, fishing sites and areas that have been identified are largely associated with the Albany, Ogoki, and Wabassi Rivers, as well as the lakes northwest of the reserve.

A summary of fisheries of potential importance to Marten Falls First Nation is provided in **Table 3-2**. It was noted during consultation on the Fish and Fish Habitat Field Program that sturgeon is particularly important to Marten Falls First Nation.

Table 3-2: Fisheries of potential importance to Marten Falls First Nation

Common Name	Oji-Cree Translation	Ojibwe Translation
Walleye (pickerel)	*okaas*	
Trout (speckled or brook)	*masamekos*	
Pike or jackfish (northern pike)	*ginozhe, najwabe*	
Whitefish	*atikameg*	
Sturgeon	*nameh*	
Ling	*mihzhash*	
Sucker	*namebin*	



Legend

- Fishing Value Location
- Fishing Value Line
- Fishing Value Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

Route Label

- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4

General Features

- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- District Municipal Boundary
- Waterbody
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation
Fishing Sites and Areas

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-5

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3.4.2.1 Personal Fishing Sites and Areas

Pike, walleye, and sturgeon are fished from the Albany River at the southeastern area of the reserve, as well as east of the reserve near the confluence with Ruby Creek (MFFN, 2019). Trout has also been fished from the Albany River, east of the reserve, in the past (MFFN, 2023).

Sturgeon is fished from the Albany River along the northwestern portion of the reserve (MFFN, 2019). Northwest of the reserve, Gurden and Sebert Lakes are used for ice fishing (MFFN, 2019); however, information on the species harvested was not available.

Southeast of the reserve, Ruby Creek was indicated as an areas where fish are harvested when out on the trapline (MFFN, 2019); however, information on the species harvested was not available. Directly south of the reserve, and just south of First Island, a fishing site was noted (MFFN, 2019). While information on the species harvested was not available, it is likely that sturgeon, pike, and / or walleye may be harvested here. The Ogoki River is also used for sturgeon, pike, and walleye fishing (MFFN, 2019), especially in the summer months but also in the spring and fall (MFFN, 2023). One community member noted they use nets on the river in the spring to harvest pike, and they have fished here all their lives (MFFN, 2023).

Directly west of the reserve, sturgeon and walleye are fished from the Albany River (MFFN, 2019). Further west and upstream along the Albany River, sturgeon, pike, and trout are fished, south of the confluence with the Wabassi River (MFFN, 2019). Walleye and trout is also fished further upstream on the Albany River, south of *kiniigo yahway minis* (Long Neck Island) (MFFN, 2019).

Further to the west, pike and walleye are fished in the Wabassi River, and in Sherlock Lake, just north of the Wabassi River (MFFN, 2019). During consultation on the Fish and Fish Habitat Field Program in 2021, it was noted that the Wabassi River has lots of pike, walleye, and trout.

Based on available information, the Albany River and its tributaries southwest of the reserve provide important areas used for fishing:

- Walleye, sturgeon, and trout is fished from the Albany River and its tributaries in the area of *Wegwajihwanang*, the historic community location (MFFN, 2019);

- Trout and walleye are fished from Gourlie Creek (MFFN, 2019; MFFN, 2023), and fish nets are set in the creek, directly southwest of Trebell Lake (MFFN, 2019);
- Trout is fished in the tributaries on the north side of the Albany River between Kagiami Falls and *Wegwajihwanang* (MFFN, 2019);
- An area called *miskawbimahgichiwan,* directly upstream and southwest of *Wegwajihwanang*, was noted to be an important area for fishing for pickerel, pike, and sucker (MFFN, 2019);
- Further upstream, walleye and sucker are fished from the Albany River and its tributaries in the area, directly east of *kiinaybik pahwiitik* (Snake Rapids) (MFFN, 2019);
- The *kiinaybik pahwiitik* area has been used for walleye and trout fishing in the spring, summer, and / or fall by some community members for their entire lives (MFFN, 2023); and
- Further upstream and west of Kagiami Falls, the Albany River and its tributaries to the north are used for walleye, sturgeon, and trout fishing (MFFN, 2019; MFFN, 2023), especially in the summer months (MFFN, 2023), and some community members noted they have been fishing here their entire lives (MFFN, 2023).

The areas surrounding Teabeau Lake and the Albany River, downstream of Washi Lake, are considered to be important fishing areas for walleye, pike, sucker, ling, trout, and sturgeon (MFFN, 2019). This was confirmed during consultation for the field programs in July and August, 2021. Washi Lake was fished regularly in the past, in all seasons, for walleye and trout (MFFN, 2023); it is not known if fishing still occurs here but it is likely given the importance of this area. Walleye has been, and continues to be, fished from Makokibatan Lake in the summer, and the area was noted as a multi-generational fishing location (MFFN, 2023). Whitefish and pike are also harvested in Tolfree Lake to the east (MFFN, 2019).

Further to the south, one community member noted that they used to fish for walleye and trout in the Dusey River, northeast of Dusey Lake, in the spring and fall in the 1970s; however, they stopped about 20 years ago when a forest fire resulted in much fewer fish in the area (MFFN, 2023). Based on information provided during a Marten Falls First Nation community meeting in Thunder Bay in December 2022, this area is used for fishing and also provides spawning habitat for trout.

Much further southwest of the reserve, the Ogoki River and Patience Lake are used for sturgeon fishing based on information collected during consultation for the field programs in July and August, 2021. It was also noted during consultation that the Ogoki River is very shallow between the Albany River and Patience Lake, and has a lot of fish. One community member noted that they fished for walleye in the Ogoki River, upstream from Patience Lake, once in the summer of 2022 but it is not a regular fishing location for them (MFFN, 2023).

3.4.2.2 Commercial Fishing and Guiding Areas

The only area that has been identified as being used for commercial fishing is along the Albany River from *kiniigo yahway minis* (Long Neck Island) to Makokibatan Lake, which was noted to be used for commercial sturgeon fishing (MFFN, 2019). Information on whether that is referring to past or present-day use is not available. One community member noted that they used to be a fishing guide for trout in the Albany River and Washi Lake (MFFN, 2023).

There is potential that commercial fishing and guiding activities are taking place in other areas, and that areas and sites identified as being used for personal fishing (as described in **Section 3.4.2.1**) may also be used for commercial purposes. However, at the time of writing, this information was not provided or available.

3.4.3 Berry and Plant Gathering

Berries and plants have been, and continue to be, harvested for food and utility purposes. On long weekends in the summer, parents take children out to take part in berry harvesting (MFFN & OMNRF, 2020). Spring is also a time to plant gardens (MFFN & OMNRF, 2020).

Berries are eaten fresh, made into jam, and used to make berry bannock (MFFN, 2023). Some community members noted they harvest berries anywhere from once to several times per year (e.g., four times throughout the year), and generally return to the same areas they have been using for long periods of time (MFFN, 2023). Berries will also be eaten whenever encountered on the land (MFFN, 2019).

Cedar is used to make snowshoes and dry pelts, and also provides medicine (MFFN, 2023). It is often harvested in the summer or on warmer winter days (MFFN, 2023).

Based on information provided through the Project Indigenous Knowledge Program (MFFN, 2023) and the Consultation Program (specifically consultation on the Vegetation Field Program), medicinal uses of trees and plants include:

- Poplar and spruce are harvested year-round, as needed. Poplar is used to purify the blood, and spruce gum is an important medicine that can be used to heal cuts. Tamarack is also a special medicine for cuts.
- Red willow can be used to treat headaches.
- *Wiikenh* (muskrat root) is used as a medicine in tea. It can also be ground into a powder and put onto your tongue for headaches. The powder is also used in ceremonies. *Wiikenh* is found in the water of swampy areas.
- Labrador tea is used as medicine in tea, and can be mixed with other medicines for drinking.

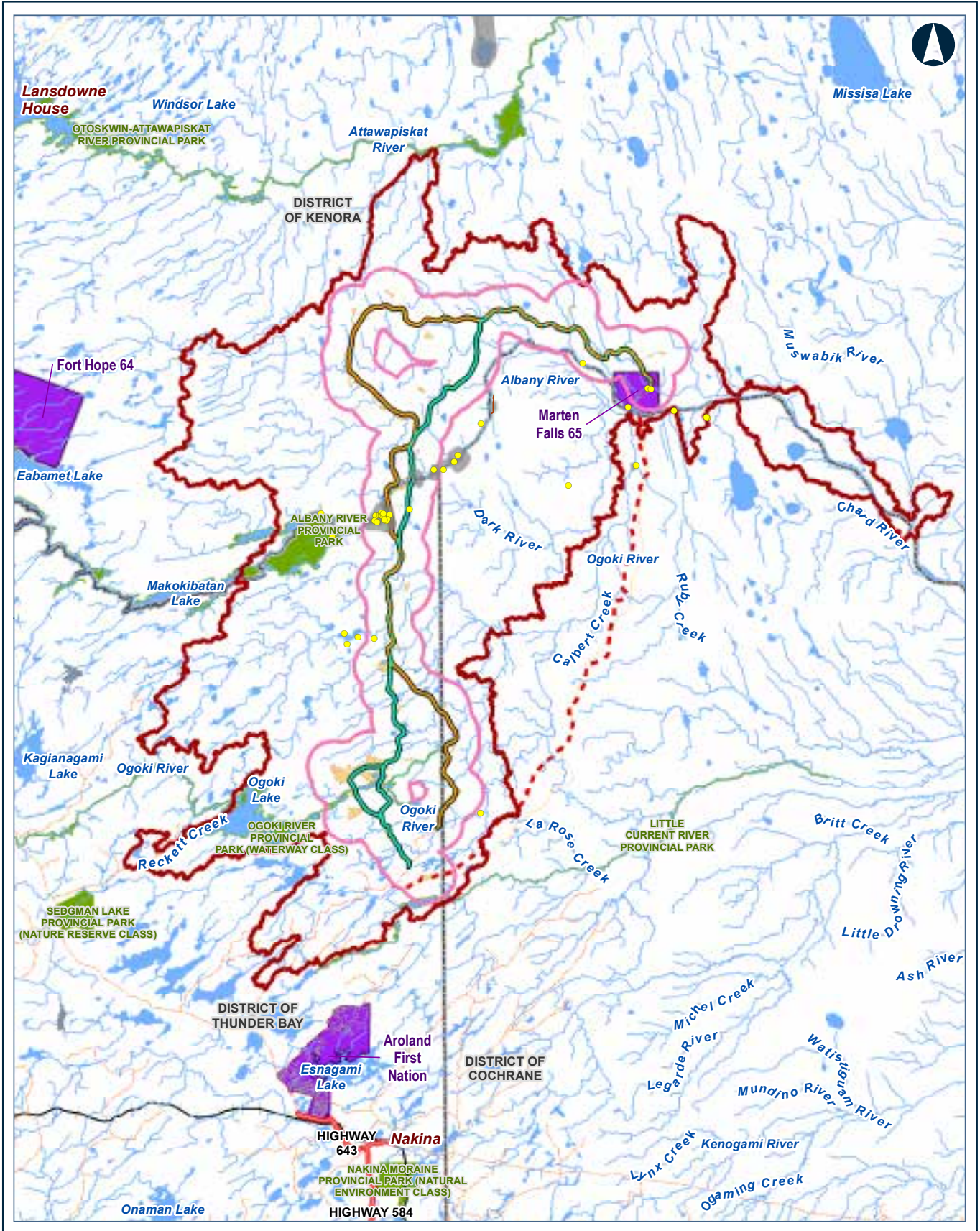
In the past, mosses were collected, cleaned, dried, and used in diapers or for cleaning dishes (MFFN & OMNRF, 2020). Some participants of the Indigenous Knowledge and Use Study undertaken for the Project (MFFN, 2023) noted areas where they used to collect mosses.

Section 3.4.3.1 describes the sites and areas used for berry and plant gathering by Marten Falls First Nation, based on information at the time of writing. The sites and areas are shown in **Figure 3-6**. As shown, gathering sites and areas that have been identified are largely associated with the Albany and Ogoki Rivers, and the Teabeau, Washi, and Dusey Lakes areas.

A summary of berries and plants of potential importance to Marten Falls First Nation is provided in **Table 3-3**.

Table 3-3: Berries and plants of potential importance to Marten Falls First Nation

Common Name	Oji-Cree Translation	Ojibwe Translation
BERRIES, EDIBLE, AND MEDICINAL PLANTS		
Gooseberry		
Saskatoon berry		
Cranberry (highbush and lowbush)		
Blueberry		
Raspberry		
Wild rice	*manoomin*	
Sweet grass		
Rosehip		
Labrador tea		
Muskrat root (sweet flag)	*wiikenh*	
TREES AND UTILITY PLANTS		
Poplar (balsam)	*maan azaadii*	
Cedar (white)	*kiishikatik*	
Birch (white)	*wigwaasatik*	
Tamarack	*maaskigwatik/wakinagan*	
Willow (including red)	*wiisihkobihmagoon*	
Aspen (trembling)	*apijih pakoosh*	
Jack pine	*okikatik*	
Spruce (black, white)	*Shikobaatik, mihnaihk*	
Moss		



Legend

- Berry and Plant Gathering Value Location
- Berry and Plant Gathering Value Line
- Berry and Plant Gathering Value Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

Route Label
- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4

General Features
- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
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- Railway
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- First Nation Reserve
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation
Gathering Sites and Areas

0 5 10 20 30
Kilometres

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Figure 3-6

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3.4.3.1 Gathering Sites and Areas

Within the area of the reserve, cedar and *wiikenh* (muskrat root) is harvested on or along the southernmost portion of the reserve, and one community member noted they had been doing so in these locations their entire life (MFFN, 2023). Wild strawberries are also gathered on the south side of the reserve, along the Albany River and east of the boat dock based on information provided during the Aboriginal and / or Treaty Rights and Interests Forum in 2023. It was also noted during the forum that there is an abundance of wild rose plants neat the cemetery, and rosehips may be harvested here.

East of the reserve, a medicinal plant gathering spot located on the east side of Ruby Creek that contains sacred medicine was identified during the Aboriginal and Treaty Rights and Interests Forum in 2023. Blueberry gathering sites are located further east and south of the Albany River, in the area of Wabimeig Creek (MFFN, 2019).

Directly south of the reserve, Labrador tea is harvested along and south of the Albany River, and east of the Ogoki River (MFFN, 2023). Further south, blueberries are harvested in an area along the Ogoki River (MFFN, 2019). An area used for tamarack and moss harvesting is located to the west of the Dark River (MFFN, 2019).

A sweet grass harvesting area on the north shore of the Albany River, northwest of the reserve, was identified during the Aboriginal and / or Treaty Rights and Interests Forum in 2023. Further west of the reserve, spruce is harvested in area east of and along the Albany River, directly south of *kiniigo yahway minis* (Long Neck Island) (MFFN, 2019). Poplar and aspen are harvested further upstream (south) and on the west side of the Albany River (MFFN, 2019).

Southwest of the reserve, many berry and plant gathering sites and areas have been noted:

- The area around *Wegwajihwanang* (the historic location of the community) is a traditional gathering area where cedar, poplar, and birch are harvested (MFFN, 2019);
- A medicine area is located north of the Albany River and east of Gourlie Creek, in the area *Wegwajihwanang* (MFFN, 2019);

- An area called *miskawbimahgichiwan,* southwest of *Wegwajihwanang*, is an important area for cedar and birch harvesting, and gathering of blueberries, Saskatoon berries, and raspberries (MFFN, 2019);
- Spruce is harvested along the north side of the Albany River, between *Wegwajihwanang* and *miskawbimahgichiwan* (MFFN, 2019);
- Further upstream, mosses and medicinal plants are harvested in areas around the Albany River and its tributaries, directly east of *kiinaybik pahwiitik* (Snake Rapids) (MFFN, 2019);
- Poplar is harvested on the north side of the Albany River, directly north of *kiinaybik pahwiitik* (Snake Rapids) (MFFN, 2019); and
- Spruce is harvested on the north side of the Albany River, directly north of a location referred to as *kahwaagonahbikag* and east of Kagiami Falls (MFFN, 2019).

Further southwest, the areas surrounding Teabeau Lake and the Albany River are considered to be important for berry and medicinal and utility plant gathering, including gooseberries, blueberries, wild rice, birch, cedar, and mosses (MFFN, 2019). A community member noted they used this area for gooseberry harvesting in the summer for almost 40 years (MFFN, 2023). Other plants were also noted to be harvested here (MFFN, 2019), but no specifics were provided. Spruce and poplar are harvested in an area north of Teabeau Lake and directly west of *kahkahshahbigag* (sharp rock) (MFFN, 2019).

Further upstream, there is a traditional gathering area located east of Washi Lake where cedar, birch, poplar, jack pine, black spruce, and mosses are harvested (MFFN, 2019). Several harvesting areas that were used annually (once per year) by a community member in the past for poplar, spruce gum, moss, blueberry, and Saskatoon berry harvesting were identified on the north side of Washi Lake (MFFN, 2023).

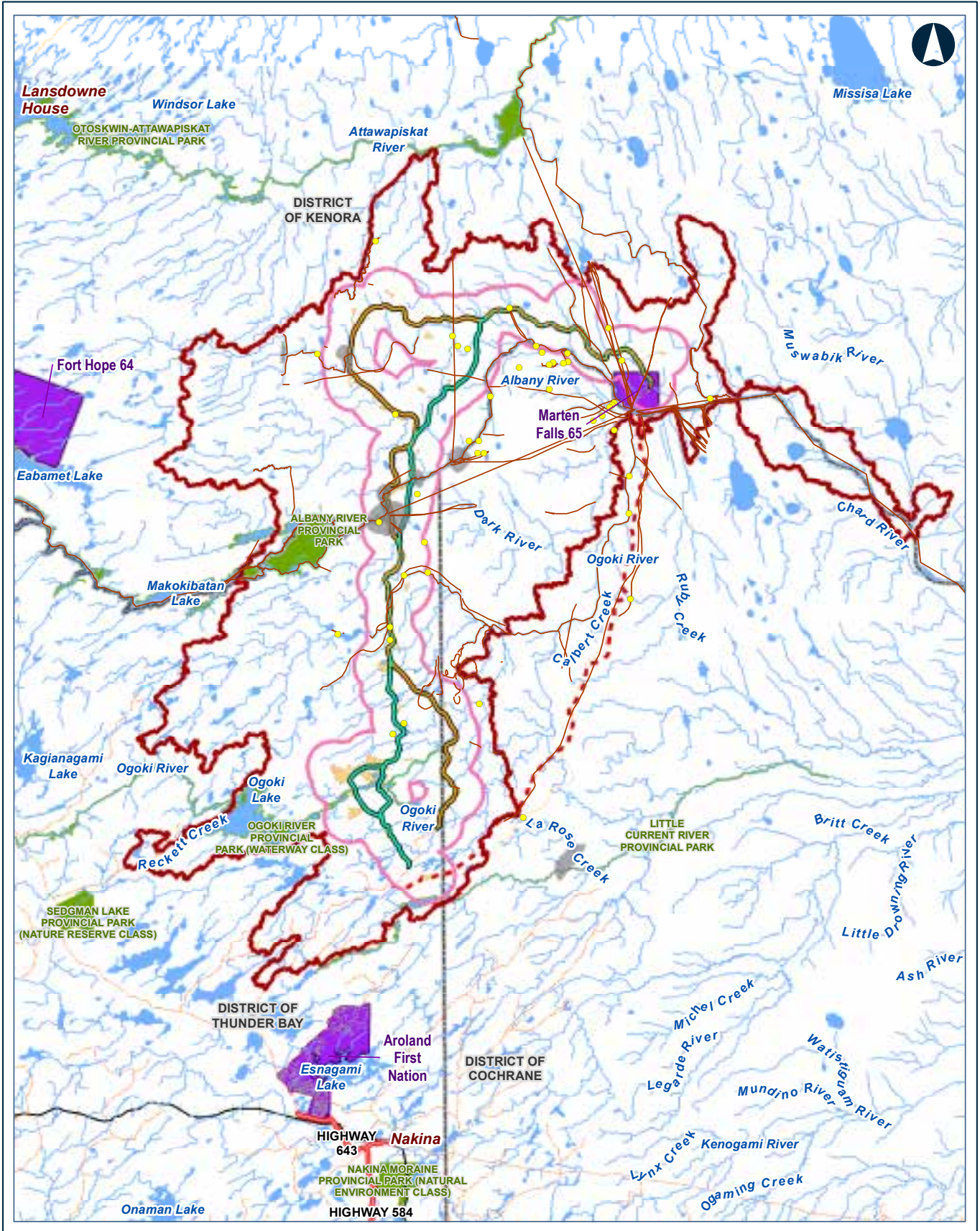
3.4.4 Travel

During the fur trade, river travel was a critical aspect of the economy during the summers, and the Albany River was an important fur trade route. People would travel up and down the Albany River accessing the Hudson Bay Company posts, forts, and houses of Fort Albany on the coast, Ghost River Post, Henley House at the Albany Forks, Marten Falls House, Gloucester House at Washi Lake, and Fort Hope (MFFN & OMNRF, 2020).

Canoes made from birch bark were used to navigate the many rivers and lakes (MFFN & OMNRF, 2020), and portaging was common to avoid difficult areas of rivers, including waterfalls and rapids (MFFN, 2023). Some rivers required many portages (MFFN, 2023). In the winter, dog sleds and snowshoes were used to travel the land (MFFN & OMNRF, 2020). These traditional forms of travel required lots of planning and preparation, and plenty of time to reach destinations (MFFN & OMRNF, 2020).

As noted in **Section 3.1.2**, transportation methods have changed over time, with dog sleds and canoes being replaced by snowmobiles and boats with motors, and reducing the time required for travel (MFFN & OMNRF, 2020). A Marten Falls First Nation field monitor who participated in the Project field program noted that the Albany and Ogoki River systems have been altered by hydroelectric development, resulting in fluctuating water levels and the alteration of shorelines, and disrupting important historical travel routes. However, it is likely that many waterways and tributaries of the Albany, Ogoki, and Wabassi Rivers continue to provide Marten Falls First Nation people with access to areas for hunting and trapping (MFFN, 2019; MFFN, 2023).

Section 3.4.1.1 describes trails, trail areas, water routes, and portages used by Marten Falls First Nation for travel and to access areas for rights-based (traditional) uses, based on information at the time of writing. The sites and areas are shown in **Figure 3-7**. As shown, water routes and portages that have been identified are largely associated with the Albany, Ogoki, Wabassi, and Dusey Rivers and their tributaries. Trails that have been identified are largely concentrated between the historic and present-day location of the community and areas used for traditional land uses (hunting, trapping, fishing, and gathering).



Legend

- Travel Routes Value Location
- Travel Routes Value Line
- Travel Routes Value Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

Route Label

- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4

General Features

- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- District Municipal Boundary
- Waterbody
- Provincial Park

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Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation
Travel and Access Routes

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Nov, 2023	1:800,000 * when printed 11"x17"
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Figure 3-7

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3.4.4.1 Travel and Access Routes

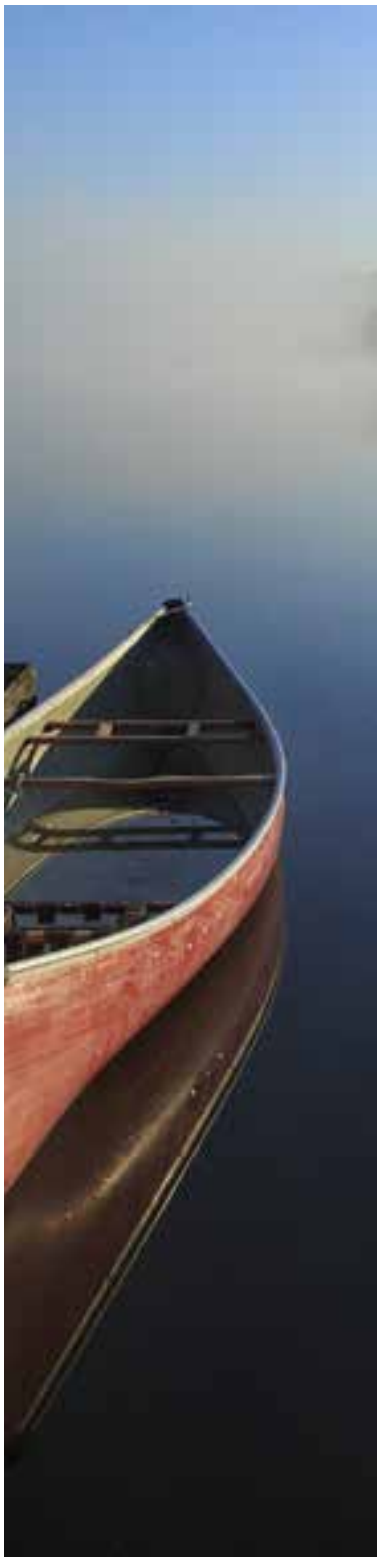
The Albany River has been, and continues to be, an important travel route. A community member noted that the Albany River has been used as a travel route for hundreds of years, connecting Marten Falls First Nation people with other communities in the region (MFFN, 2023).

Various travel routes that run from the reserve have been identified, including:

- A historical winter trail from the community north to Sebert Lake and further north that has been used for generations to access trapping areas north of the community (MFFN, 2019);
- A winter trail that goes northeast towards Tiffin Lake (MFFN, 2019);
- A portage route that runs east from the southern side of the reserve, on the north side of the Albany River, towards Stonebasket Island (MFFN, 2019);
- A canoe route along the Albany River between the community and Stonebasket Island to the east (MFFN, 2019);
- The existing winter road that connects to Nakina in the south, on the east side of the Ogoki River (MFFN, 2019);
- A winter trail that runs from the Ogoki River, westward to the Albany River, to just north of *kiniigo yahway minis* (Long Neck Island) (MFFN, 2019);
- A winter trail from the reserve area to *Wegwajihwanang* (the historic location of the community) and has been used by a family for generations (MFFN, 2019, MFFN, 2023); and
- A historical trail from the community, southwest to the Teabeau Lake area, which used to take two to three days of travel using a dog team and snowshoes (MFFN, 2023).

There are many trails, portages, and canoe routes, east of the reserve, including:

- Several trails / portages that runs from the Albany River north to *jiigaakodigweyaa* ("the river that runs along the Albany River"), including several in the area of Ruby Creek and several further to the east towards Stonebasket Island (MFFN, 2019);



- A canoe route on the northern tributary of the *jiigaakodigweyaa*, from the Albany River to the north, towards Tiffin Lake (MFFN, 2019);
- A historical trail along *jiigaakodigweyaa* to the north that was used by generations to access a trapline over a four day trip (MFFN, 2023);
- Several winter trails, trapline trails, and portages on the south side of the Albany River, from Ruby Creek southeast toward Wabimeig Lake (MFFN, 2019); and
- Several winter trails on the south side of the Albany River, from the river southeast toward Wabimeig Creek and Wabimeig Lake (MFFN, 2019).

South of the reserve, there is a winter trail that runs from the Ogoki River southeast to Ruby Creek, and another winter trail further south from the Ogoki River east to the Dark River (MFFN, 2019). There is also a trail (referred to as a supply trail) that runs eastward from the Dark River, in the direction of Big Canoe Lake (MFFN, 2019). Much further to the south, several winter trails and portages between the Ogoki River and adjacent areas and waterways have been identified (MFFN, 2019). An area of historical trails has also been identified in the area of La Rose Creek and the Little Current River (MFFN, 2019).

West of the reserve, the Buffaloskin River is a travel route to areas further north (MFFN, 2019).

Northwest, west, and southwest of the reserve there are trapping and hunting trails in the areas around Squirrel Creek, Dark River, and their tributaries (MFFN, 2019). It is likely that these trails are associated with the registered traplines in the areas (i.e., GE157 and GE164). There is also a portage route on the south side of the Albany River near the limestone rapids (MFFN, 2019). Further northwest, there is a winter trail that runs from the Albany River northwest to several small lakes, west of Gittins Lake (MFFN, 2019).

Further west of the reserve, the Wabassi River has served as an important canoe route to access areas to the west, near Sherlock and Duns Lakes, where there are many canoe routes and skidoo trails (MFFN, 2019). Several portage locations have been identified along the river, northeast of Trebell Lake and south of Sherlock Lake (MFFN, 2019). There is also a waterway that connects the Wabassi River to the Attawapiskat River to the north that is used as a canoe route (MFFN, 2019). South of the Wabassi River, there is a trail (referred to as a supply road) that runs from Albany River west to Venton Lake (MFFN, 2019). It is likely this is a winter trail used to access the lake. A winter trail is also noted to be present near Gourlie Creek, west of Trebell Lake (MFFN, 2019); however, it has not been delineated.

Southwest of the reserve, various trails are located around *Wegwajihwanang* (the historic location of the community), including a trail that runs to the east towards Langridge Lake, and a trail that runs directly north to the Mable and Dainty Lakes area (MFFN, 2019). There is also a portage trail that runs along the south side of the Albany River, used to portage around the Marten Falls (MFFN, 2019; MFFN, 2023).

Further southwest, there are historical trails and portage routes around *kiinaybik pahwiitik* (Snake Rapids), and sea planes also land here (MFFN, 2019; MFFN, 2023). It is likely that the seaplanes are associated with guiding and outfitting operations in the area. It was also noted that there are snowmobile and ATV trails south of *kiinaybik pahwiitik* (MFFN, 2019). North of *kiinaybik pahwiitik*, a winter trail runs southwest to where the Albany River turns to the south (MFFN, 2019).

The areas around the Albany River between Kagiami Falls and Teabeau Lake were noted to have walking trails, winter trails, and portage routes, and there are possible portage routes further to the west towards Washi Lake (MFFN, 2019; MFFN, 2023). A portage trail that connects Teabeau Lake with a waterway to the south was noted to be used in the past to avoid the six rapids on the Albany River downstream from the lake (MFFN, 2023). It is not known if this trail continues to be used today by others in the community. There is also a trail (referred to as a supply trail) between the Teabeau Lake area and Treloar Lake to the east (MFFN, 2019). Seaplanes were noted to land on Teabeau Lake (MFFN, 2019); it is likely these are

associated with guiding and outfitting operations in the area. Several historical water trails and portage routes that have been used to access hunting and fishing grounds and cabins in the Washi Lake area for generations were noted to the west of Teabeau Lake (MFFN, 2023).

Further to the south, a winter trail was noted, along or associated with the Dusey River and that leads to Whittle Lake (MFFN, 2019). A community member noted that they used the Dusey River as a canoe route from Dusey Lake to the Marten Falls First Nation community regularly in the past, and the trip took a few days (MFFN, 2023). Many portages were required on this trip given that there are 29 rapids along this route (MFFN, 2023). It is not known if the Dusey River and associated portages continue to be used today. Seaplanes were also noted to land on Dusey Lake (MFFN, 2019); it is likely these are associated with guiding and outfitting operations in the area. A portage route was also noted between Dusey and Balson Lakes (MFFN, 2019).

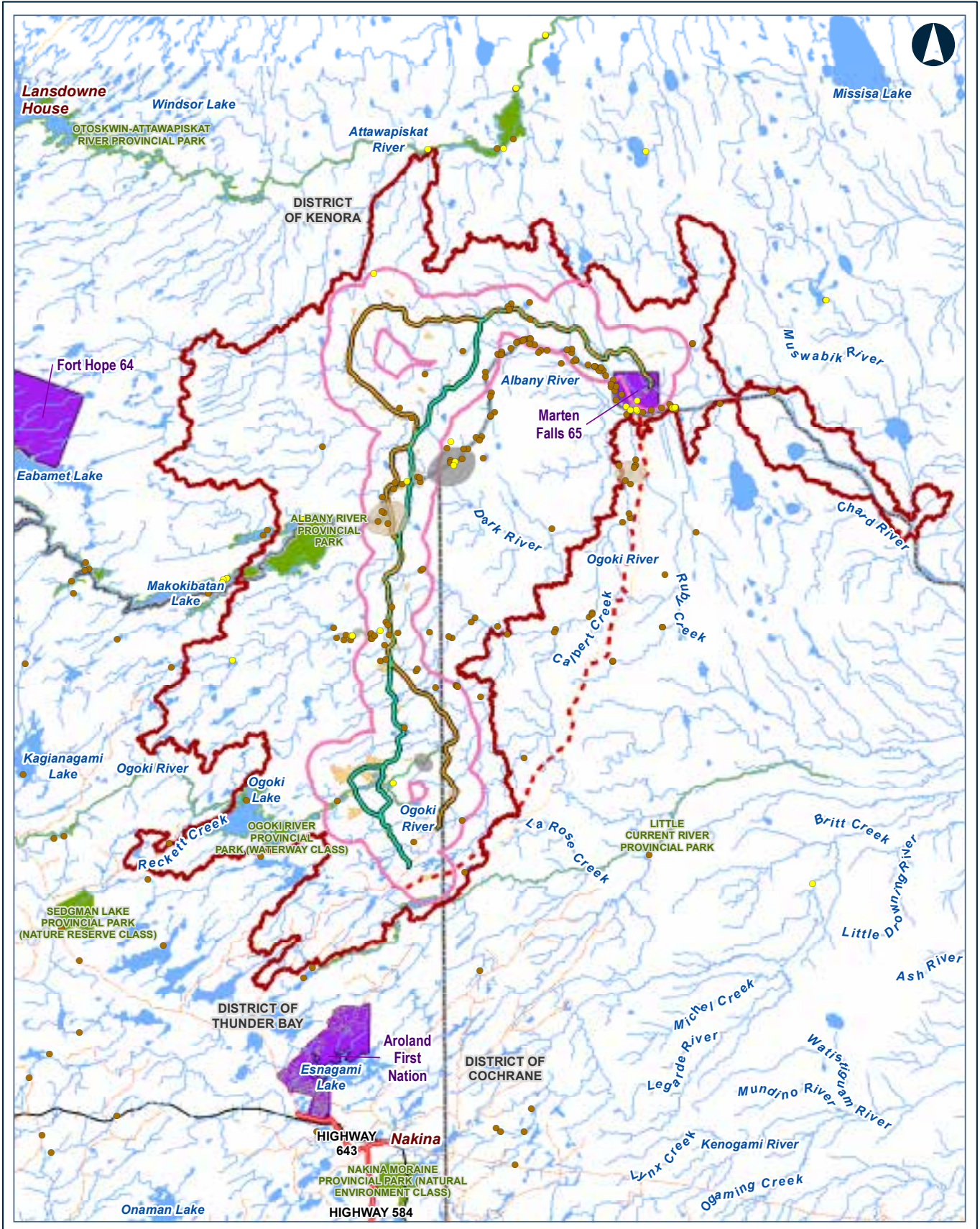
Various trapping and hunting trails were noted in the areas around Brundrit and Bales Lakes and associated waterways to the southwest and northwest, toward the Dusey River (MFFN, 2019). It is likely that these trails are associated with registered trapline GE157.

3.4.5 Habitation

As noted in **Section 3.1.2**, the original community settlement *Wegwajihwanang* was located about 64 km upstream from its present location, along the Albany River where the Marten Falls are located. The community was relocated to its present location in 1924. Given this history, there are many habitation values present in the area around *Wegwajihwanang*, and between the historic and present-day locations of the community, especially along the Albany River given its function as an important travel route (MFFN, 2019, MFFN, 2023). Some community members have noted that they were born and spent their childhood in the Washi Lake area (MFFN, 2023).

Many habitation sites and areas are also associated with sites and areas that have been used for hunting, trapping, fishing, and gathering given that people are often out on the land for periods of time when pursuing these activities (MFFN, 2019; MFN, 2023). Based on available information, it was common for temporary structures to be used in the same areas each year, but not necessarily the exact same locations, as people moved around the land in search of animals to harvest (MFFN, 2023).

Information on historical family or village sites and areas is provided in **Section 3.4.5.1**. Information on cabins and camp sites and areas is provided in **Section 3.4.5.2**. The areas and sites are shown in **Figure 3-8**.



Legend

- Historical Family or Village Site Value Location
- Cabins and Campsites and Areas Value Location
- Historical Family or Village Site Value Area
- Cabins and Campsites and Areas Value Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

Route Label
- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4

General Features
- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- District Municipal Boundary
- Waterbody
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation
Habitation Sites and Areas

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Nov, 2023	1:800,000 * when printed 11"x17"
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Figure 3-8

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3.4.5.1 Historical Family or Village Sites and Areas

East of the reserve, a village site was noted on the south side of the Albany River, directly east of Ruby Creek (MFFN, 2019). It is likely a historic village site.

Wegwajihwanang (the historic location of the community) is an area of historical significance that has been referred to as the village of the Ogoki Lake people (MFFN, 2019).

Southwest along the Albany River, an area west of *kiinaybik pahwiitik* (Snake Rapids) was identified as an historical family site used for generations. There was once a tourist camp here, and men from the family guided during the summer and fall (MFFN, 2023).

The Washi Lake area is an historical family site that has been used for generations (MFFN, 2023). To the south, the Dusey Lake area is also an historical family site used for generations (MFFN, 2023).

Further south, an area along the Ogoki River (northeast of Patience Lake) was noted as a village site (MFFN, 2019). It is likely this referring to a historic village site.

3.4.5.2 Cabins and Camps Sites and Areas

Within the community area, there are several camping areas on the southern and western portions of the reserve, and on the islands in the Albany River south of the reserve (MFFN, 2019). Northeast of the reserve, there is a campsite along the northern tributary of the *jiigaakodigweyaa*, which served as a canoe route (MFFN, 2019).

There are camping areas along and north of the Albany River, and across the river near Ruby Creek, east of the reserve (MFFN, 2019. Further to the east, there is a trapper cabin on the south side of the Albany River, near Stonebasket Island (MFFN, 2019), and a cabin that has been used by a community members since 1974 near the Gander River.

South of the reserve, there is a camp site near the confluence of Squirrel Creek with the Ogoki River (MFFN, 2019). Further to the south, there is a historic camp area and teepee area along the Ogoki River (MFFN, 2019). Continuing south, there are several camp sites along the Ogoki and Dark Rivers, and a trapper's cabin southeast of Elsbury Lake (MFFN, 2019).

West of the reserve, there are various campsites along the Albany River to *Wegwajihwanang* (the historic location of the community). There are also several cabins along the way, including several cabins near the Wabassi River (one of which is known to be in use), and a cabin and camp site near *kiniigo yahway minis* (Long Neck Island) (MFFN, 2019; MFFN, 2023). North of the Albany and Wabassi Rivers, several camp sites, including a goose camp and a historical camp, were noted near Gittins Lake and the unnamed waterbodies to the west (MFFN, 2019). Further to the west, several camp sites were noted near the Wabassi River and Venton Lake (MFFN, 2019).

Various campsites and a cabin have been noted in the area of *Wegwajihwanang* (the historic location of the community), as well as several camps (including a goose camp) along Gourlie Creek and associated waterbodies to the north (MFFN, 2019).

Various campsites have been noted upstream and along on the Albany River, in the areas of *kiinaybik pahwiitik* (Snake Rapids) and Kagiami Falls (MFFN, 2019). Several cabins have also been noted in the area of Kagiami Falls, one of which was noted to be used in all seasons (MFFN, 2023).

Several camp sites and cabins have also been noted in the Teabeau Lake and Washi Lake areas, and along the Albany River in between them (MFFN, 2019; MFFN, 2023). A community member noted that they use their cabin in the Washi Lake area during the summer and winter, and they remember camping in the area in the 1940s when they were a child (MFFN, 2023).

Further to the south, seasonal camps have been noted in various areas along the Dusey River and its tributaries and associated waterbodies, including Balson Lake, Dusey Lake, Winslow Lake, Brundrit Lake, Bales Lake, and Glaze Lake (MFFN, 2019; MFFN, 2023). It is likely that these seasonal camps are associated with registered trapline GE157. An historical cabin in the Dusey Lake area that was used for generations was rebuilt within the last five years (MFFN, 2023).

Further south, an area along the Ogoki River (northeast of Patience Lake) that contains a historic village site has been noted (MFFN, 2019). Several trapper cabins have also been noted in the Harrogate Lake and Ogoki Lake areas, southwest of Patience Lake (MFFN, 2019). A community member noted that they stayed in a trailer southwest of Painter Lake in recent years to hunt moose in the fall and winter, and while working on the winter road (MFFN, 2023).

3.5 Understanding of Land, Water, and Resource Use for Traditional Purposes in Relation to the Project

Based on available information at the time of writing, Marten Falls First Nation has identified XX locations of land, water, and resource use for traditional purposes within the Project Development Area, Local Study Area, and Regional Study Area. **Sections 3.5.1** to **3.5.5** describe the current understanding of Marten Fall First Nation's land, water, and resource use for traditional purposes within each of these areas.

It is important to note that the purpose of this preliminary existing conditions report is to develop an understanding of where Marten Falls First Nation is using the lands, waters, and resources for traditional purposes. This is not an assessment of potential impacts to Aboriginal and / or Treaty Rights. The assessment of potential impacts will be completed in future stages of the Impact Assessment / Environmental Assessment.

The assessment of potential impacts on the use of lands, waters, and resources for traditional purposes will also be informed by the results of other relevant Valued Component assessments (e.g., wildlife, vegetation, fish and fish habitat, etc.). It will also be informed by additional inputs from the Project's Indigenous Knowledge Program and / or Consultation Program.

The Proponent recognizes that the proposed Project has the potential to influence the exercise of Aboriginal and / or Treaty Rights outside of the Regional Study Area. This is particularly relevant in the case of wildlife and water valued components given the movement of these important resources. This lens will be applied in the future stages of the Impact Assessment / Environmental Assessment.

3.5.1 Hunting and Trapping

3.5.1.1 Project Development Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.1** and shown in **Figure 3-4**), hunting and trapping for personal and commercial purposes occurs within the Project Development Area.

A total of X hunting and trapping sites and areas are located within the Project Development Area. Hunting areas that intersect with the Project Development Area include, but are not limited to, areas along the Albany River and Gourlie Creek and their tributaries for moose and goose hunting. Trapping areas that intersect with the Project Development Area include, but are not limited to, registered traplines GE153, GE157, and GE154 (**Figure 3-4**).

3.5.1.2 Local Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.1** and shown in **Figure 3-4**), hunting and trapping for personal and commercial purposes occurs within the Local Study Area.

A total of X hunting and trapping sites and areas are located within the Local Study Area. Moose, caribou, and goose hunting occurs in areas associated with the watercourses in the Local Study Area, including (but not limited to) those mentioned in **Section 3.5.1.1**, the Teabeau Lake area, and the Wabassi River and its tributaries (**Figure 3-4**).

3.5.1.3 Regional Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.1** and shown in **Figure 3-4**), hunting and trapping for personal and commercial purposes occurs within the Regional Study Area.

A total of X hunting and trapping sites and areas are located within the Regional Study Area. In addition to the sites and areas used for hunting that intersect with the Project Development Area and the Local Study Area, caribou and moose hunting occurs in the northern portion of the Regional Study Area, and directly southwest of the reserve. There is a lot of documented use of trapping within the Regional Study Area, including in (but not limited to) the areas of Washi Lake, the Wabassi River, the Dusey River and its tributaries, Dusey Lake, and Dark River to the east (**Figure 3-4**).

3.5.2 Fishing

3.5.2.1 Project Development Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.2** and shown in **Figure 3-5**), fishing for personal purposes occurs within the Project Development Area. As noted in **Section 3.4.2.2**, there is potential that fishing for commercial purposes may also occur within the Project Development.

A total of X fishing sites and areas are located within the Project Development Area. These are primarily associated with (but not limited to) the Albany, Dusey, and Ogoki Rivers, and Gourlie Creek (**Figure 3-5**).

3.5.2.2 Local Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.2** and shown in **Figure 3-5**), fishing for personal purposes occurs within the Local Study Area. There is potential that fishing for commercial purposes may also occur within the Local Study Area.

A total of X fishing sites and areas are located within the Local Study Area. These are primarily associated with (but not limited to) the Albany, Dusey, and Ogoki Rivers and Gourlie Creek, as well as several lakes in the Local Study Area, including Teabeau Lake (**Figure 3-5**).

3.5.2.3 Regional Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.2** and shown in **Figure 3-5**), fishing for personal purposes occurs within the Regional Study Area. There is potential that fishing for commercial purposes may also occur within the Regional Study Area.

A total of X fishing sites and areas are located within the Regional Study Area. In addition to the sites and areas used for fishing that intersect with the Project Development Area and the Local Study Area, fishing may also occur in the Dark River, south of the reserve, in the Regional Study Area (**Figure 3-5**).

3.5.3 Berry and Plant Gathering.

3.5.3.1 Project Development Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.3** and shown in **Figure 3-5**), berry and plant gathering occurs in the Project Development Area.

A total of X berry and plant gathering sites and areas are located within the Project Development Area. These are primarily associated with (but not limited to) the Albany River and area surrounding Teabeau Lake (**Figure 3-6**).

3.5.3.2 Local Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.3** and shown in **Figure 3-5**), berry and plant gathering occurs in the Local Study Area.

A total of X berry and plant gathering sites and areas are located within the Local Study Area. These are primarily associated with (but not limited to) the Albany River and area surrounding Teabeau Lake (**Figure 3-6**).

3.5.3.3 Regional Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in**Section 3.4.3** and shown in **Figure 3-5**), berry and plant gathering occurs in the Regional Study Area.

A total of X berry and plant gathering sites and areas are located within the Regional Study Area. In addition to the sites and areas used for berry and plant gathering that intersect with the Project Development Area and the Local Study Area, there are berry and plant gathering sites in (but not limited to) the areas of Washi and Dusey Lakes in the Regional Study Area (**Figure 3-6**).

3.5.4 Travel

3.5.4.1 Project Development Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.4** and shown in **Figure 3-7**), trails, trail areas, water routes, and / or portages are present in the Project Development Area.

A total of X trails, trail areas, water routes, and / or portages are located within the Project Development Area. These are primarily associated with (but not limited to) the Albany, Wabassi Rivers, and Dusey Rivers, as well as trails to the areas north of the reserve (**Figure 3-7**).

3.5.4.2 Local Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.4** and shown in **Figure 3-7**), trails, trail areas, water routes, and / or portages are present in the Local Study Area.

A total of X trails, trail areas, water routes, and / or portages are located within the Local Study Area. These are primarily associated with (but not limited to) the sites and areas noted in **Section 3.5.4.1**, as well as the Wabassi River, trapping trails associated with traplines, and trails from the Albany River to other areas for traditional purposes (**Figure 3-7**).

3.5.4.3 Regional Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.4** and shown in **Figure 3-7**), trails, trail areas, water routes, and / or portages are present in the Regional Study Area.

A total of X trails, trail areas, water routes, and / or portages are located within the Regional Study Area. In addition to the travel routes that intersect with the Project Development Area and the Local Study Area, travel routes have been identified (but are not limited to) between the reserve and *Wegwajihwanang* (the historic community location) and associated with trapline areas in the Regional Study Area (**Figure 3-7**).

3.5.5 Habitation – Village, Camps, and Cabins

3.5.5.1 Project Development Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.5** and shown in **Figure 3-8**), historical family or village sites, cabins, and / or camp sites are present in the Project Development Area.

A total of X historical family or village sites, cabins, and / or camp sites are located within the Project Development Area. These are primarily associated with (but not limited to) the Albany and Dusey Rivers and Gourlie Creek (**Figure 3-8**).

3.5.5.2 Local Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.5** and shown in **Figure 3-8**), historical family or village sites, cabins, and / or camp sites are present in the Local Study Area.

A total of X historical family or village sites, cabins, and / or camp sites are located within the Local Study Area. These are primarily associated (but not limited to) the Albany and Dusey Rivers, Gourlie Creek, Teabeau Lake, an area surrounding the Ogoki River in the southern portion of the Project, and waterbodies in the Local Study Area used for traditional purposes (**Figure 3-8**).

3.5.5.3 Regional Study Area

Based on available information on sites and areas used by Marten Falls First Nation members (as described in **Section 3.4.5** and shown in **Figure 3-8**), historical family or village sites, cabins, and / or camp sites are present in the Regional Study Area.

A total of X historical family or village sites, cabins, and / or camp sites are located within the Regional Study Area. In addition to the habitation sites and areas that intersect with the Project Development Area and the Local Study Area, there are various camp sites associated with (but not limited to) Dusey Lake and along Dusey River in the Regional Study Area (**Figure 3-8**).

3.6 Understanding of Perspectives on Cultural Continuity and Wellbeing

Sections 3.6.1 to **3.6.4** describe the available information on Marten Falls First Nation and / or Anishinaabe perspectives on cultural continuity and wellbeing. The information is general to Marten Falls First Nation and / or the Anishinaabeg. Information on Marten Falls First Nation and / or Anishinaabe perspectives on cultural continuity and wellbeing in relation to the proposed Project is provided in **Section 3.7**.

The information presented is largely based on the following sources of information (although several other supporting sources have been used and referenced throughout):

- Marten Falls First Nation Indigenous knowledge and land, water, and resource use information collected as part of the Community-based Land Use Plan development process and provided to the Project Team (MFFN, 2019);
- Information collected through the Project Consultation Program, including the following events:
  - Consultation for the Project field programs in July and August, 2021;
  - Public Information Centres #3, #4, and #5 held in June 2022, November and December 2022, and October 2023 respectively;
  - The Aboriginal and Treaty Rights and Interests Forum held in February 2023; and
- Preliminary information from the forthcoming Marten Falls First Nation Indigenous Knowledge and Use Study (MFFN, 2023) that was undertaken for the proposed Project and shared with the Project Team.

It is assumed that cultural continuity and wellbeing is dependent on several factors that are interrelated:

- **The protection of cultural, spiritual, and sacred sites and areas of importance:** Loss of or changes to cultural sites and areas of importance to Marten Falls First Nation have the potential to impact the ability of community members to continue their cultural traditions, and their cultural continuity and wellbeing as a result;
- **The ability for continued experiences on the land:** Changes to the ability of Marten Falls First Nation community members to continue their experiences on the land, and the many benefits these experiences provide, have the potential to impact cultural continuity and wellbeing;
- **A sufficient level of lands, waters, and resources for traditional use:** The continuation and wellbeing of Marten Falls First Nation culture requires a sufficient level of, and access to, lands, water, and resources; and
- **The ability to practice and pass on language and cultural traditions:** Cultural continuity and wellbeing requires that Marten Falls First Nation community members not only practice their language and cultural traditions, but that they are able to and pass them on to the next generation.

These important factors set the stage for the structure of this section of the report.

3.6.1 Protection of Cultural, Spiritual, and / or Sacred Sites and Areas

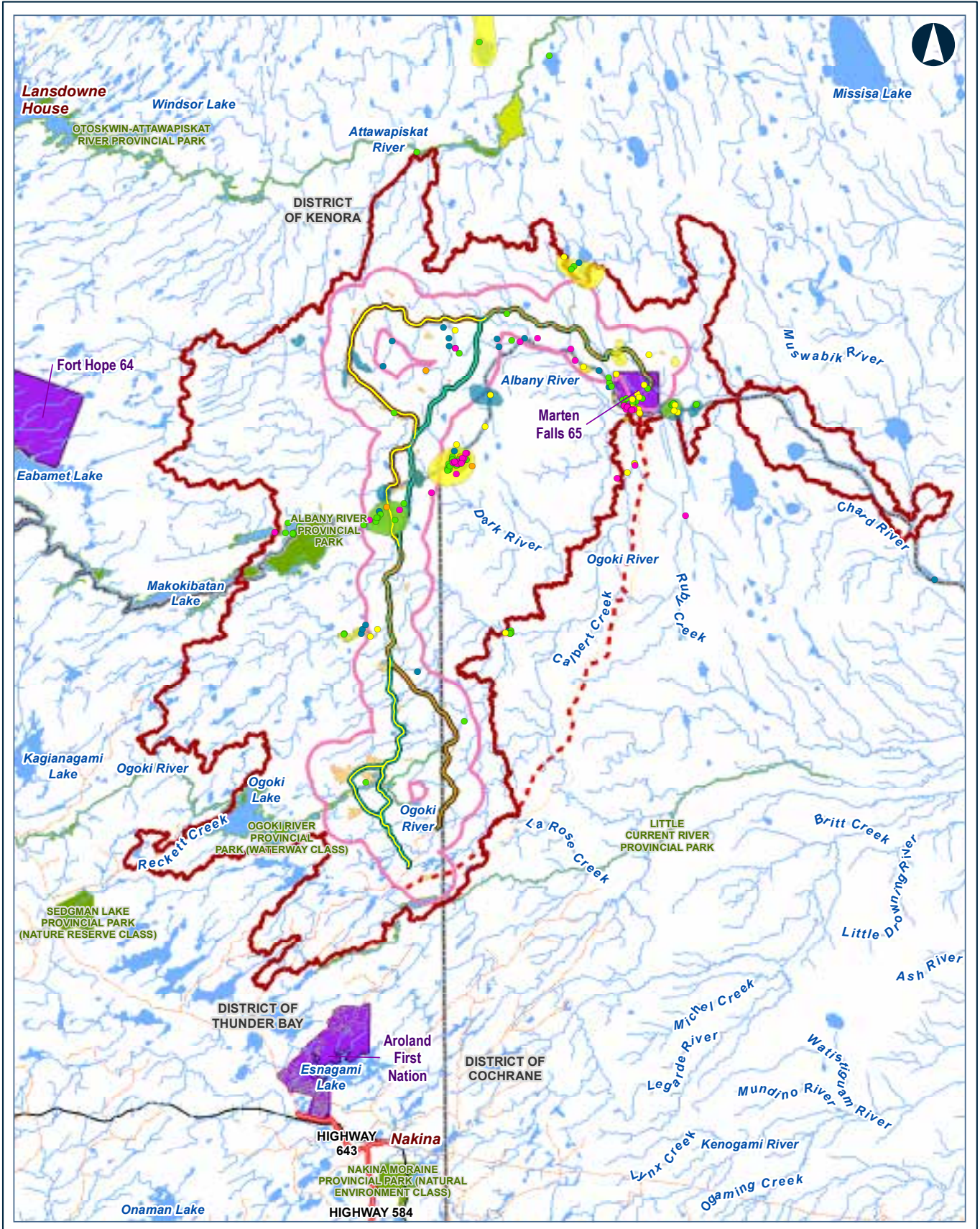
Sections 3.6.1.1 to **3.6.1.5** describe cultural, spiritual and / or sacred sites and areas, including:

- Historically significant sites and areas;
- Sacred and spiritual sites and areas;
- Burial sites;
- Traditional gathering sites and areas and meeting places; and
- Place name and legend (story) sites and areas.

These sites and areas are shown in **Figure 3-9**. As shown, most of these sites and areas are located along the Albany, Ogoki, and Wabassi Rivers, and in the following areas:

- The present-day community location and surrounding areas;
- Areas associated with water bodies, northwest of the reserve;
- *Wegwajihwanang* (the historic location of the community), Gourlie Creek, and areas west to Kagiami Falls;
- Teabeau Lake area; and
- Dusey Lake area.

In addition, it is understood that the various rivers, streams, and lakes, including the Albany and Ogoki Rivers and Teabeau and Dusey Lakes, are also important cultural areas for the subsistence and travel values they have provided for generations. It is also recognized that Marten Falls First Nation community members, as Anishinaabeg, have their own intimate relationships with the water, and women are the keepers of the water (Chiefs of Ontario, 2008).



Legend

- Historically Significant Site Value Location
- Spiritual and Sacred Site and Area Value Location
- Burial Site and Area Value Location
- Traditional Gathering Site and Area and Meeting Places Value Location
- Traditional Place Names and Legend Site and Area Value Location
- Spiritual and Sacred Site and Area Value Line
- Historically Significant Site Value Area
- Spiritual and Sacred Site and Area Value Area
- Burial Site and Area Value
- Traditional Gathering Site and Area and Meeting Places Area
- Traditional Place Names and Legend Site and Area Value Area
- ATRI Local Study Area
- ATRI Regional Study Area
- Project Development Area

Route Label
- Alternative 1
- Alternative 4
- Alternative 1 and Alternative 4

General Features
- Highway
- Local Road
- Winter Road
- Resource / Recreation Road
- Existing Winter Access Road
- Railway
- Watercourse
- First Nation Reserve
- District Municipal Boundary
- Waterbody
- Provincial Park

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Notes:
Please note that IK dataset is incomplete and not all IK recorded on paper maps has been digitized yet.
Disclaimer: This data is for discussion purposes only. Matawa First Nations Management and Four Rivers Inc. make no guarantees on the accuracy of the information displayed and are not responsible for any decisions made on the basis of this data.

Data Source:
Base Data: Provided by MNRF 2019; Route Infrastructure - Provided by AECOM 2019. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Marten Falls First Nation
Cultural, Spiritual, and/or Sacred Sites and Areas

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Nov, 2023	1:800,000 * when printed 11"x17"
Rev:00	

Figure 3-9

Contains information provided by Ontario Ministry of the Environment, Conservation and Parks or by Ontario Ministry of Natural Resources and Forestry (Copyright: Queen's Printer of Ontario 2020), through a Sensitive Data License Agreement. This drawing has been prepared for use of AECOM client and may not be 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 express written consent. The use of Sensitive Data in this drawing does not constitute an endorsement by the Ministry for this drawing or by AECOM of the Sensitive Data.

3.6.1.1 Historically Significant Sites and Areas

The Hudson's Bay Company's former Ogoki trading post is located on the south bank of the Albany River, across from the reserve (MFFN, 2019). South of the reserve, several historical sites have been noted along the Ogoki River and Ruby Creek (MFFN, 2019).

West of the reserve and along the Albany River, several historical sites have been noted, including in the area of limestone rapids and near the confluence with the Wabassi River (MFFN, 2019).

Wegwajihwanang (the historic location of the community) is an area of historical significance that has been referred to as the village of the Ogoki Lake people (MFFN, 2019). There was once a Hudson's Bay Company trading post here dating back to the late 1700s, as well as a French trading post and an Anglican Church (MFFN, 2019). It is also where the original Marten Falls First Nation reserve was located.

Further to the west, the remains of a historic outpost of the North West Company are located in the area of Washi Lake (MFFN, 2023).

3.6.1.2 Spiritual and Sacred Sites and Areas

Within the community, various scared and spiritual sites and areas have been noted on the southern portion of the reserve and along the Albany River (MFFN, 2019). Based on information provided through the Public Information Centre held in July 2022, there is a sweat lodge area north of the airport.

The areas associated with the waterbodies directly north of the reserve are considered sacred (MFFN, 2019). Northwest of the reserve, the areas around Gurden, Sebert, and Acton Lakes are culturally sensitive and spiritual areas. South of the reserve, the area around the confluence of the Ogoki and Dark Rivers is a culturally-sensitive area (MFFN, 2019). Further south, there are several sacred sites along the Ogoki River (MFFN, 2019).

West of the reserve and along the Albany River, towards the limestone rapids, is a spiritual and scared place associated with a legend (see **Section**) (MFFN, 2019). Further upstream (southwest) on the Albany River, *Wegwajihwanang* (the historic location of the community) is an area of cultural and spiritual significance that contains sacred sites (MFFN, 2019). A spiritual and ceremonial area where generations have gathered and danced has been identified east of *Wegwajihwanang* (MFFN, 2023).

Based on information provided curing consultation on the Wolverine Field Program in December 2022, Dusey Lake is noted to be a sensitive area given the presence of burial grounds, camp sites, and areas of spiritual significance.

3.6.1.3 Burial Sites and Areas

Within the community area, there are various burial sites and a burial area noted on the southern portion of the reserve, as well as a cemetery referred to as Rabbit Hill in the central east portion of the reserve (MFFN, 2019).

Burial sites have been noted along the Albany River, from the area of Buffaloskin River on the west side of the reserve to the Ruby Creek area to the east (MFFN, 2019).

There are various burials sites and a graveyard in the area of *Wegwajihwanang*, the historic location of the community (MFFN, 2019; MFFN, 2023). Northwest of this, a burial site has been noted along Gourlie Creek (MFFN, 2019). Several burial sites have also been noted in the Teabeau Lake area and further west along the Albany River (MFFN, 2019), as well as in the area of Washi Lake (MFFN, 2023).

Further to the south, burial sites and graves have been noted in the area of Dusey Lake, to the east at the confluence of the Ogoki and Dusey Rivers, and further upstream (southwest) along the Ogoki River (MFFN, 2019; MFFN, 2023).

3.6.1.4 Traditional Gathering Sites and Areas and Meeting Places

There are several traditional gathering areas to the east of the reserve, in the area of Ruby Creek (MFFN, 2019). West of the reserve and along the Albany River, several traditional gathering areas have been identified in the area of the Wabassi River (MFFN, 2019). Traditional gathering sites and areas and a meeting place have also been noted west along the Wabassi River and around several associated waterbodies (MFFN, 2019).

A spiritual and ceremonial area where generations have gathered and danced has been identified east of *Wegwajihwanang* (MFFN, 2023). Various traditional gathering sites and areas and meeting places have been identified further upstream (south and west) along the Albany River, including:

- A traditional meeting place in the area *kiniigo yahway minis* (Long Neck Island) (MFFN, 2019);
- A ceremonial area where generations have gathered and danced, east of *Wegwajihwanang* (MFFN, 2023);
- Several traditional gathering areas and meeting places in the area of *Wegwajihwanang*, the historic location of the community (MFFN, 2019);
- A traditional meeting place in the area (east) of *kiinaybik pahwiitik* (Snake Rapids) (MFFN, 2019);
- A traditional meeting place in the area west of Kagiami Falls (MFFN, 2019); and
- A traditional meeting place and gathering areas in the area around Teabeau Lake (MFFN, 2019).

To the south, the Dusey Lake area is identified as a big gathering place (MFFN, 2019). To the southeast, another big gathering place is identified near a waterbody associated with a tributary of the Dusey River (MFFN, 2019).

3.6.1.5 Traditional Place Names and Legend Sites and Areas

Many of the place names are the traditional names used by Marten Falls First Nation people for the various waterways and waterbodies, including (MFFN, 2019):

- *Keshijih'wano Wih Ziibih* (Albany River), which means ‘Fast Current River’;
- *Zakamosgwanih' Ziibih* (Ogoki River), which means ‘River that Connects’;
- *Ajidamo Wi Ziibih* (Dark River), which means ‘Squirrel River’;
- *Majih Waayaan ih Ziibih* (Buffaloskin River), which means ‘bad skin river’;

- *Wabihzii Wih Ziibih* (Wabassi River), which means 'Swan River';
- *Onagwa'ihgan Ziibih* (Gourlie Creek), which means 'river where you hunt in the evening';
- *Atikameko Zakaihkan* (Dusey Lake), which means 'Whitefish Gizzard Lake'; and
- *Bakihda'hawgan* (Patience Lake), which means 'place where you set nets (likely sturgeon)'.

In the area of the community, there are place names along the Albany River, south of the reserve. There is also a legend about a giant beaver and its den associated with the Albany River in this area (MFFN, 2019). South of the reserve, place names have been identified along the Dark and Ogoki Rivers, and Ruby Creek to the east (MFFN, 2019). There are also various place names associated with waterways and waterbodies east and north of the reserve (MFFN, 2019).

West of the reserve, a spiritual and sacred place with a legend about a great lynx den was identified along the Albany River in the area of the limestone rapids (MFFN, 2019). Further west, many place names have been identified along the Albany River and its tributaries and associated waterbodies to the north and south, including the Wabassi River, Muskeg (Gittins) Lake, and the lake to the west ('Long way travel surrounded by spruce lake') (MFFN, 2019). Several of the unnamed tributaries on the north and south side of the Albany River have traditional names, including:

- *Biitakweya Wih Ziibi*, which means 'lined with trees on both sides for a long time (mostly Spruce) long (distance) muskeg- don't see the end of the muskeg for a long time';
- *Wadobii Wih Ziibih*, which means 'Alder River'; and
- *Mooz "O" Ziibih*, which means 'Moose River'.

The area of *Wegwajihwanang* (the historic location of the community) is associated with a *windigo* (supernatural and cannibalistic monster) legend (MFFN, 2019). There may be other locations associated with a legend in this area given the history in this location (MFFN, 2019). Further upstream (southwest) on the Albany River, the area east of *kiinaybik pahwiitik* (Snake Rapids) is associated with a story / legend (MFFN, 2019). Based on information provided during the Marten Falls First Nation community meeting in December 2022, the area northeast of Teabeau Lake is a bigfoot area.

3.6.2 Continued Experiences on the Land

At the time of writing, there is no information available specific to Marten Falls First Nation in terms of the experiences of community members on the land. However, information available on the Anishinaabeg has been used to form a preliminary understanding of potential considerations with respect to the experiences of Marten Falls First Nation community members when out on the land.

The Anishinaabe worldview is grounded in spirituality, and among the Anishinaabeg, a good life is transmitted spiritually (Gonzalez et al., 2023). This is accomplished by following Anishinaabe ways, including spending time on the land to hunt, fish, and gather (Gonzalez et al., 2023). Spending time on the land to observe and listen is also an important part of reciprocity, and how knowledge is acquired (Gonzalez et al., 2023). In addition, creating space for quiet within nature is an important pathway to Anishinaabe wellbeing (Gonzalez et al., 2023), and being out on the land allows people to find solace (Tsuji et al., 2023).

Being out on the land also:

- Promotes community belonging and strong, healthy relationships (Gonzalez et al., 2023);
- Allows Indigenous people to feel connected with their ancestors, and reinforces the spiritual and community connectedness (Robbins & Dewar, 2011, as cited in Nightingale & Richmond, 2022); and
- Supports physical and mental health (Gonzalez et al., 2023).

3.6.3 Sufficiency of Lands, Waters, and Resources

At the time of writing, there is no information available specific to Marten Falls First Nation in terms of any thresholds that, if exceeded, impair the ability of community members to exercise their rights, including maintaining their culture and cultural wellbeing. However, it is recognized that as Anishinaabeg, balance of and respect for all living creatures is considered integral to the circle of life and the environment that Marten Falls First Nation depends on (MFFN & OMNRF, 2020).

There is also no information available specific to Marten Falls First Nation in terms of traditional laws that guide their land use patterns and resource management and to enable a sufficient level of lands, waters, and resources for traditional use. However, it is recognized that as Anishinaabeg, Marten Falls First Nation holds important stewardship

responsibilities. As noted in the Draft Community-based Land Use Plan (MFFN & OMNRF, 2020), the Creator put the Anishinaabeg on their lands as stewards, to take care of the lands and use the lands and their resources indefinitely. The only conditions were to adhere to the natural and traditional teachings of the elders. Being able to go out on the land allows for laws and customs related to protecting the lands and this important stewardship responsibility to be transmitted across and between generations (Tsuji et al., 2023). Further information on traditional legal principles and stewardship responsibilities of the Anishinaabeg is provided in **Sections 2.1.5** and **2.1.6**, respectively.

3.6.4 Ability to Practice and Transmit Cultural Traditions

Among the Anishinaabeg, continuing and transmitting cultural traditions to the next generation is important for cultural wellbeing and healing (Gonzalez et al., 2023). Being able to go out on the land allows for cultural traditions, stories, and language to be transmitted across and between generations (Tsuji et al., 2023). Elders play an important role in transferring knowledge and sharing oral history and stories that provide teachings on how to live a good life, and how to live in a good way (Gonzalez et al., 2023).

Efforts to revitalize and transmit Marten Falls First Nation culture include the revival of traditional ceremonies. For example, summer celebrations include a Traditional Gathering where families and communities nearby gather, and the *Wabanowin* Ceremony in August (MFFN & OMNRF, 2020). Efforts have also been made to revitalize and transmit cultural traditions:

- Cultural weeks are held in October for hunting and winter preparations, and in April for goose and duck hunting. During these weeks, elders teach youth skills like how to clean game and keep it fresh, how to dry and preserve meat, and how to live off the land. Parents are encouraged to take their children hunting and fishing each spring and fall (MFFN & OMNR, 2020).
- As part of the summer celebrations and on long weekends, parents take their children along the river to fish, swim, and expose children to the traditional way of life undertaken when the ice melts (MFFN & OMNRF, 2020).
- A youth retreat is held each July where traditional activities and way of life are introduced and practiced on the land with young people (MFFN & OMNRF, 2020).

Anishinaabe knowledge and teachings are also contained within traditional language. Historically, it was through traditional language that children were taught to have respect for the earth and other beings on it (Gonzalez et al., 2023). Traditional language is also an important aspect of Anishinaabe identity (Gonzalez et al., 2023). There is great concern among the Marten Falls First Nation community that traditional languages (Ojibwe and Oji-Cree), which are a significant part of the culture, have faded over time (MFFN & OMNRF, 2020). Until more recently, Marten Falls First Nation elders spoke their traditional language and little to no English; however, English taught in residential schools was brought back to the community, leading to fewer community members with knowledge of their traditional language (MFFN & OMNRF, 2020).

Various efforts to retain and revitalize the traditional languages, including incorporating traditional language into the community-based land use planning process through the use of place names, a traditional language glossary, and promoting the use of syllabics (MFFN & OMNRF, 2020). Based on the work of a number of Indigenous scholars, the re-establishment of place names is an important part of language and cultural revitalization (Gray & Rück, 2019).

3.7 Understanding of Cultural Continuity and Wellbeing in Relation to the Project Area

Sections 3.7.1 to **3.7.4** describe the current understanding of Marten Falls First Nation cultural continuity and wellbeing factors in relation to the proposed Project. It is expected that these factors will form the foundation for the assessment on Marten Falls First Nation's cultural continuity and wellbeing.

It is recognized that Marten Falls First Nation's cultural continuity and wellbeing is closely related to land, water, and resource use for traditional purposes. As described in **Section 3.5**, Marten Falls First Nation's land, water, and resource use for traditional purposes occurs within the Project Development Area and the Local and Regional Study Areas.

It is important to note that the purpose of this preliminary existing conditions report is to develop an understanding of what is important for Marten Falls First Nation cultural continuity and wellbeing. This is not an assessment of potential impacts to Aboriginal and /or Treaty Rights. The assessment on potential impacts will be completed in future stages of the Impact Assessment / Environmental Assessment.

The assessment of potential impacts on cultural continuity and wellbeing will also be informed by the results of other relevant Valued Component assessments (e.g., visual, noise, air etc.). It will also be informed by additional inputs from the Project's Indigenous Knowledge Program and / or Consultation Program.

3.7.1 Protection of Cultural, Spiritual, and / or Sacred Sites and Areas

Sections 3.7.1.1 to **3.7.1.3** provide an overview of cultural, spiritual, and / or sacred sites and areas in relation to the Project Development Area and the Local and Regional Study Areas.

It is also likely that the protection of waterways, including the Albany River, is important to Marten Falls First Nation for the protection of cultural areas, and for cultural continuity and wellbeing. This lens will be applied to the assessment on Marten Falls First Nation's cultural continuity and wellbeing.

3.7.1.1 Project Development Area

Based on available information on cultural, spiritual, and / or sacred sites and areas used by Marten Falls First Nation members (as described in **Section 3.6.1** and shown in **Figure 3-9**), cultural, spiritual, and / or sacred sites and areas are present in the Project Development Area.

A total of X cultural, spiritual, and / or sacred sites and areas are located within the Project Development Area. These are primarily associated with (but not limited to) the Albany River (**Figure 3-9**).

3.7.1.2 Local Study Area

Based on available information on cultural, spiritual, and / or sacred sites and areas used by Marten Falls First Nation members (as described in **Section 3.6.1** and shown in **Figure 3-9**), cultural, spiritual, and / or sacred sites and areas are present in the Local Study Area.

A total of X cultural, spiritual, and / or sacred sites and areas are located within the Local Study Area. These are primarily associated with (but not limited to) the Albany, Wabassi, and Dusey Rivers, the Teabeau Lake area, and the waterbodies north of the reserve (**Figure 3-9**).

3.7.1.3 Regional Study Area

Based on available information on cultural, spiritual, and / or sacred sites and areas used by Marten Falls First Nation members (as described in **Section 3.6.1** and shown in **Figure 3-9**), cultural, spiritual, and / or sacred sites and areas are present in the Regional Study Area.

A total of X cultural, spiritual, and / or sacred sites and areas are located within the Regional Study Area. In addition to the cultural, spiritual, and / or sacred sites and areas that intersect with the Project Development Area and the Local Study Area, Dusey and Gurden Lakes are culturally sensitive areas, and several cultural, spiritual, and / or sacred sites and areas are associated with (but not limited to) waterbodies and waterways in the Regional Study Area, including east of the reserve (**Figure 3-9**).

3.7.2 Continued Experiences on the Land

Based on the information available and presented in **Section 3.6.2**, it is likely that the following is important to Marten Falls First Nation for the continued experiences on the land, and for cultural continuity and wellbeing:

- Access to quiet and undisturbed areas of solitude for peaceful experiences on the land;
- Connection to the landscape, ancestors, and community members by being able to access preferred and ancestral sites and areas for cultural practices, including traditional gathering sites and areas and meeting places, and historical family or village sites and areas;
- Being able to maintain community and kinship ties and values through community social traditions like the spring and fall hunts.

This lens will be applied to the assessment on Marten Fall First Nation's cultural continuity and wellbeing.

3.7.3 Sufficiency of Lands, Waters, and Resources

Based on the information available and presented in **Section 3.6.3**, it is likely that the following is important to Marten Falls First Nation and for cultural continuity and wellbeing, and for the ability of Marten Falls First Nation community members to honour their role as stewards of their lands:

- A sufficient level and quality of lands, waters, and resources, as well as access to these resources; and,
- Being able to practice traditional land governance.

This lens will be applied to the assessment on Marten Falls First Nation's cultural continuity and wellbeing.

3.7.4 Ability to Practice and Transmit Cultural Traditions

Based on the information available and presented in **Section 3.6.4**, it is likely that the following is important to Marten Falls First Nation for the continued practice and transmission of cultural traditions:

- Being able to have intergenerational experiences on the land to practice language and traditions;
- Being able to practice cultural traditions in the preferred way (i.e., preferred resources and methods in the preferred times of year); and
- Being able to have continued access to and use of important teaching sites and areas, including place names and sites and areas of importance based on oral history / stories / legends.

This lens will be applied to the assessment on Marten Falls First Nation's cultural continuity and wellbeing.

04

Next Steps

The Marten Falls First Nation Project Team invites you to share your feedback and comments on the information contained in this preliminary draft report. We welcome any additional information you would like to share with us. If there are additional sources of information you would like us to include for this report, we welcome you sending us this information. We are available to meet at your earliest convenience to further discuss the information found in this report. To arrange a time to meet and/or to provide comments or share additional information, please contact:

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05

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B13.4 Community Specific Meeting Materials

Hello! Boozhoo!

Marten Falls First Nation Community Access Road

Marten Falls First Nation Chief & Council Meeting
Route Selection

Monday, October 23, 2023

MFFN CAR Project Team

Bob Baxter
Councillor MFFN and Senior Community Member Advisor

Lawrence Baxter
Senior Community Member Advisor

Qasim Saddique
Project Director

Jennifer Bruin
Technical Advisor

MFFN CAR Consultants

Ingrid Trimble
Environmental Assessment

Dan Kuenstler
Engineering

Rowena Moonias
MFFN Community Coordinator

Niki Angelis
Consultation

What we will discuss today

- Introductions and Opening Remarks
- Building the Community Access Road
- Route Selection Milestone – Presenting the technically preferred route
- Next Steps

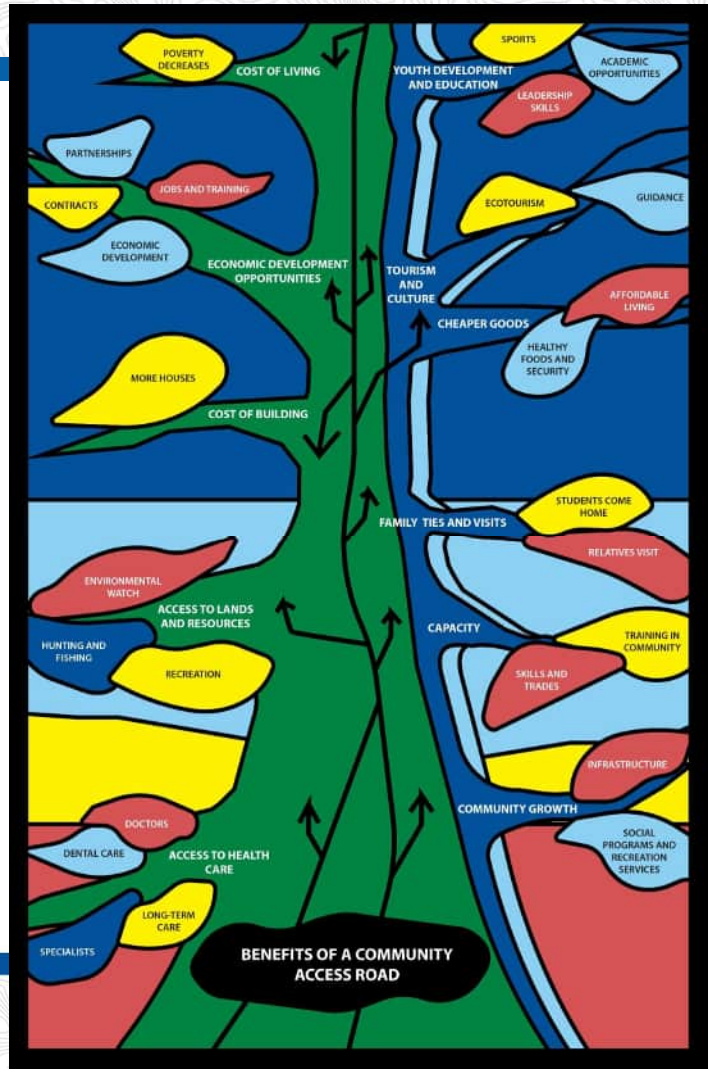
Building the Community Access Road

MFFN Community Access Road is a proposed all-season road that will connect MFFN to Ontario's provincial highway network in the south.

The road is needed to improve the well-being of the community by reducing transportation costs for goods and services, increasing access, helping foster economic development and improve quality of life for community members.

> *"For as long as I can remember, Marten Falls First Nation (MFFN) has had a strong desire to develop a road that would connect our remote northern community to the Ontario provincial highway network and advance our vision of building a sustainable and thriving community in the North."*
>
> *-Chief Bruce Achneepineskum*

COMMUNITY ACCESS ROAD



Building the Community Access Road

Planning for the Community Access Road is ongoing. The proposed access road will be multipurpose in use to support both community needs and current and future industry.

The access road is anticipated to include the following features:

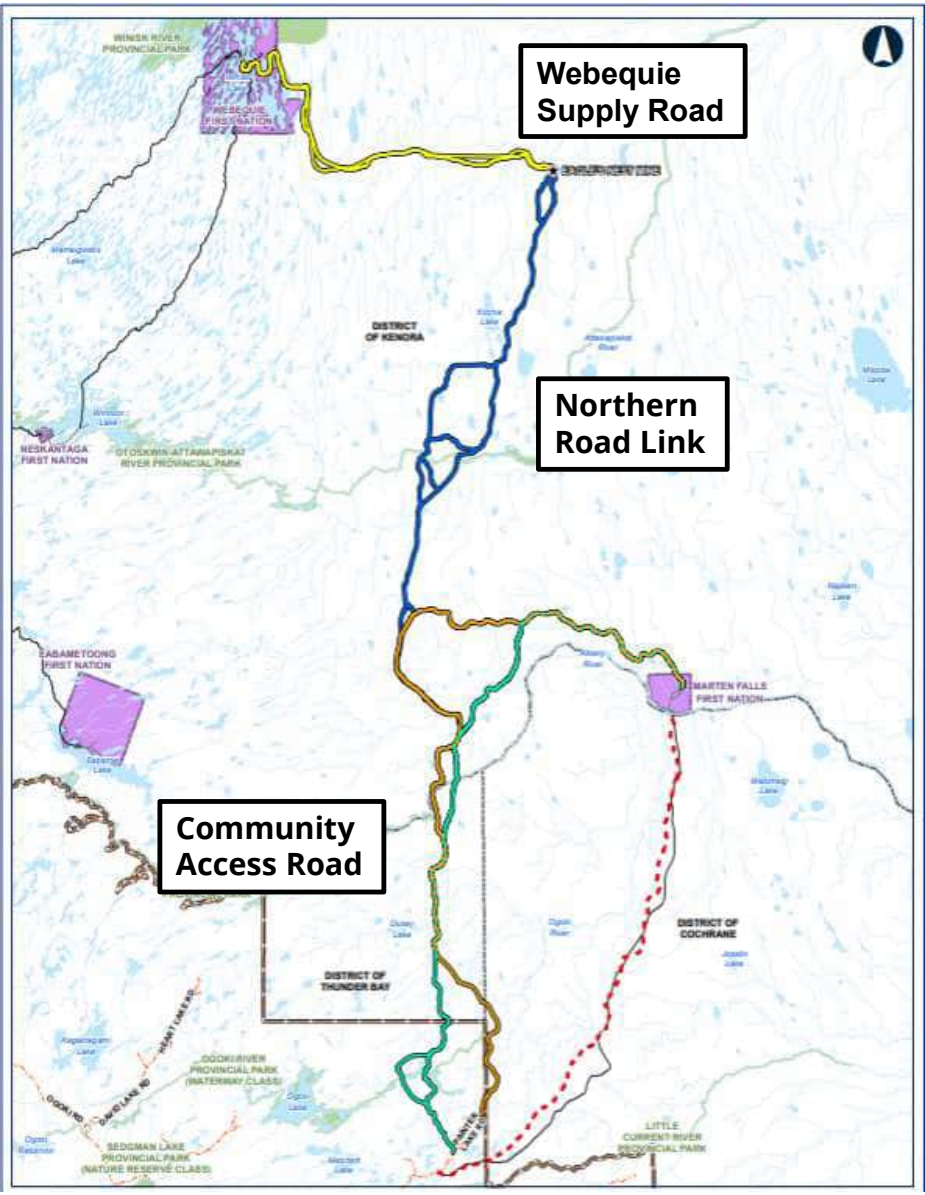
- 190 km to 230 km of two-lane gravel road;
- Quarries, borrow areas and aggregate sources;
- Bridges for river and stream crossings; and
- Temporary construction access roads, work areas and camps.

MARTEN FALLS FIRST NATION

Road Projects Near MFFN

The Community Access Road Project is a separate project from both the Northern Road Link and Webequie Supply Road projects.

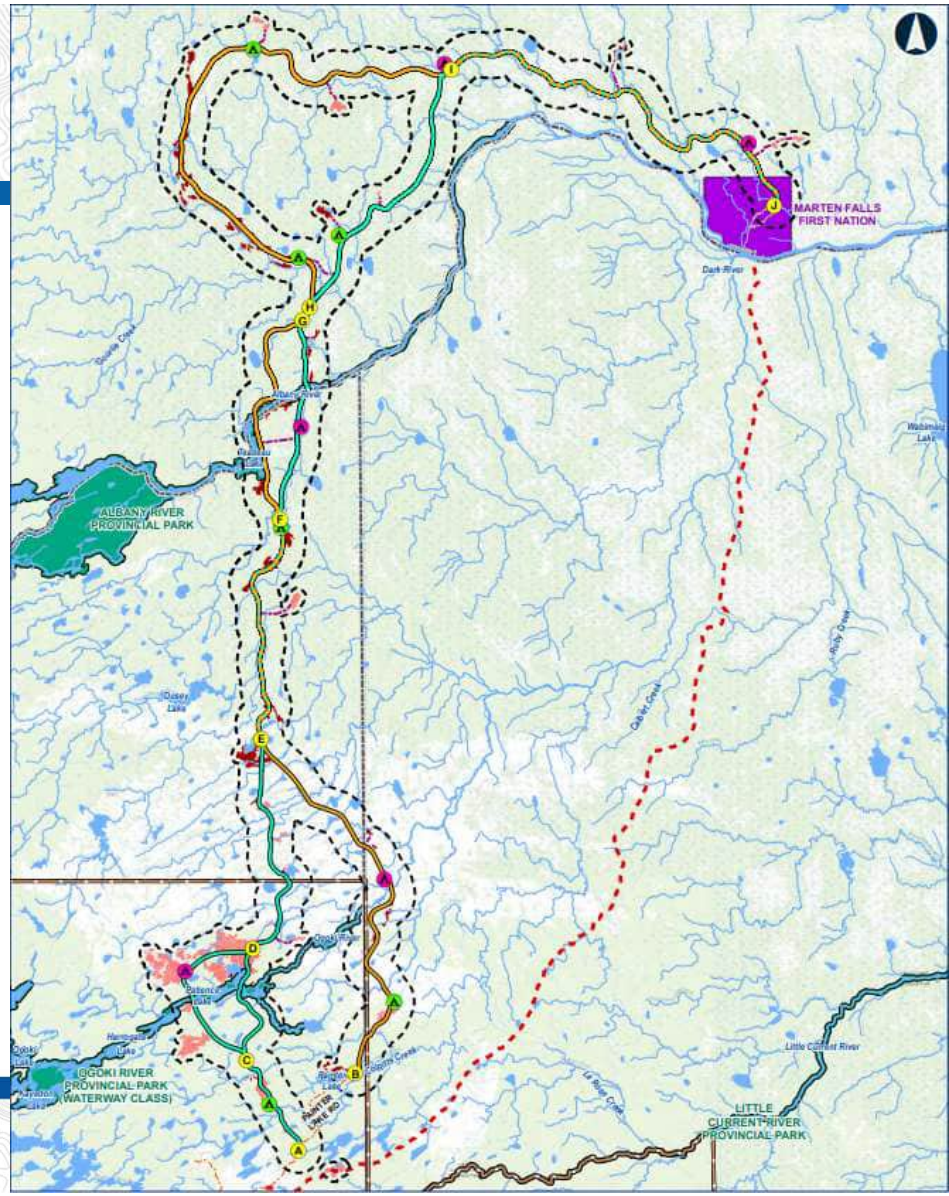
All three projects have a different primary purpose; the primary purpose of the Community Access Road is to connect Marten Falls to the provincial highway network.



Where are we now?

We are in the process of a coordinated provincial Environmental Assessment (EA) and federal Impact Assessment (IA).

The next major milestone for this process is the selection of the preferred route.



Environmental Assessment / Impact Assessment Process

EA / IA Process & Design

Construction

Operation & Maintenance

2023

2024 - 2025

Step 4: Identification of Preferred Alternatives

Select the preferred route and related infrastructure

WE ARE HERE

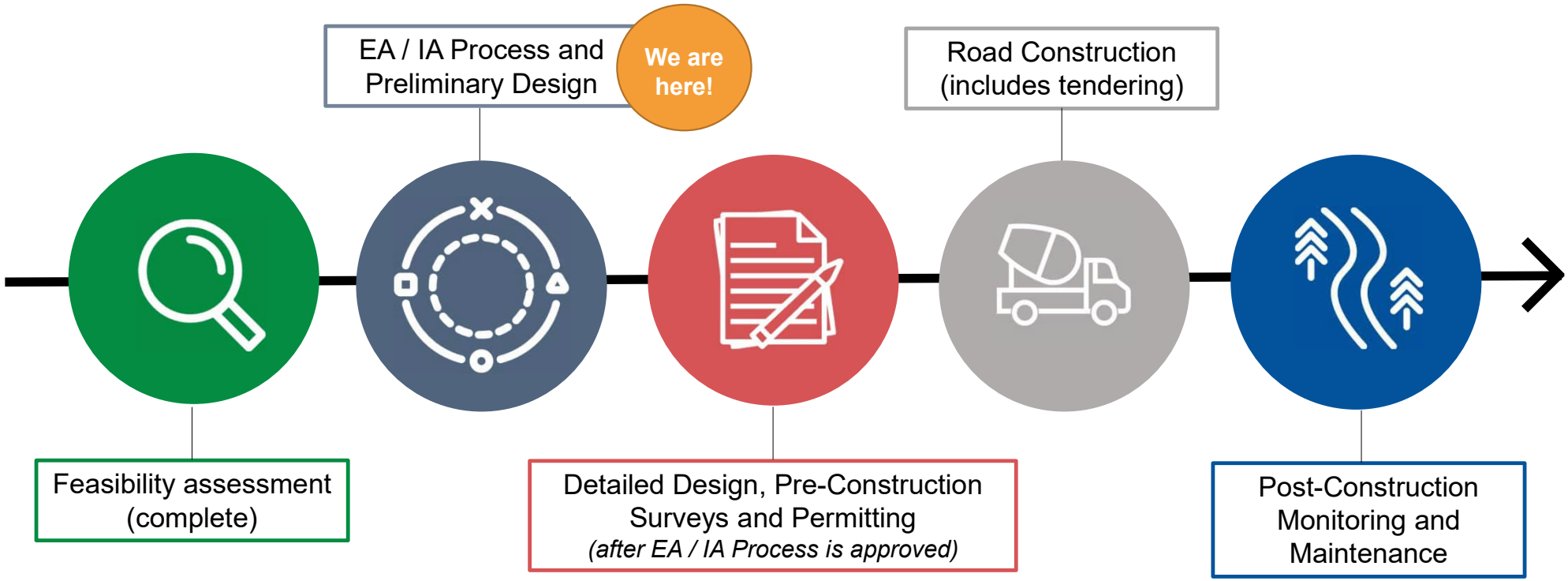
Step 5: Review of draft and final EA / IS update

Submit the combined draft (2024) and final (2025) EA Report and the Federal Impact Statement (IS)

Timeline for detail design and construction will be available after the conclusion of the EA process

Federal and provincial decisions will be made to approve or not approve the road. If approved, Project moves forward…

Steps to Road Construction



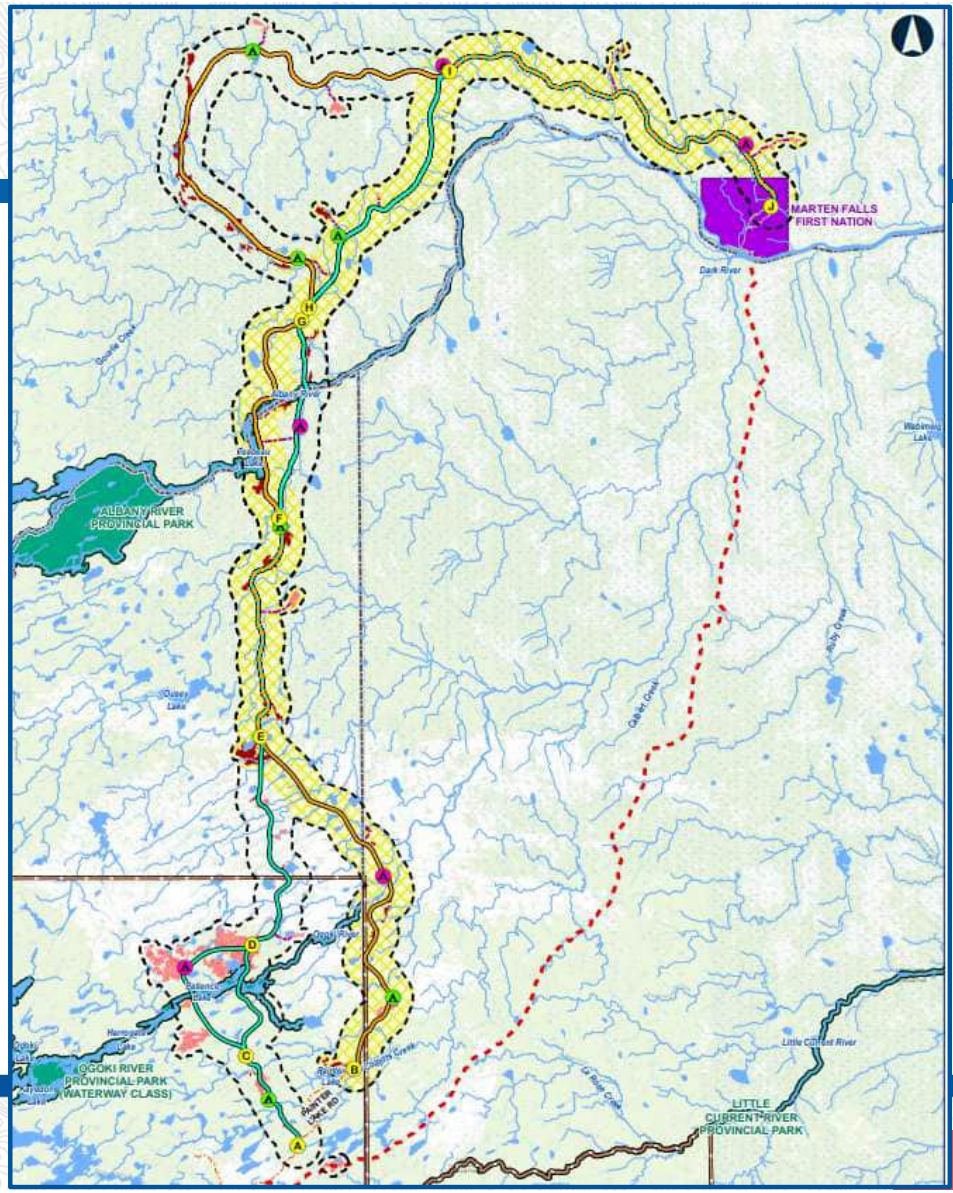
ROUTE SELECTION

Technically Preferred Route Recommendation

There are currently two alternatives being considered (**Alternative 1** and **Alternative 4**). Each alternative starts at Painter Lake Road and runs north before turning eastward toward MFFN roughly following the west / north side of the Albany River.

Alternative 1 and Alternative 4 parallel, overlap and cross each other at multiple locations. These are set or confirmed but there are others that have options to choose from.

The technically preferred route recommendation will be further informed through consideration of Indigenous Knowledge when available.



Selecting the Preferred Route

Where there are options to choose between, evaluation criteria will be used to determine the best option for each segment.

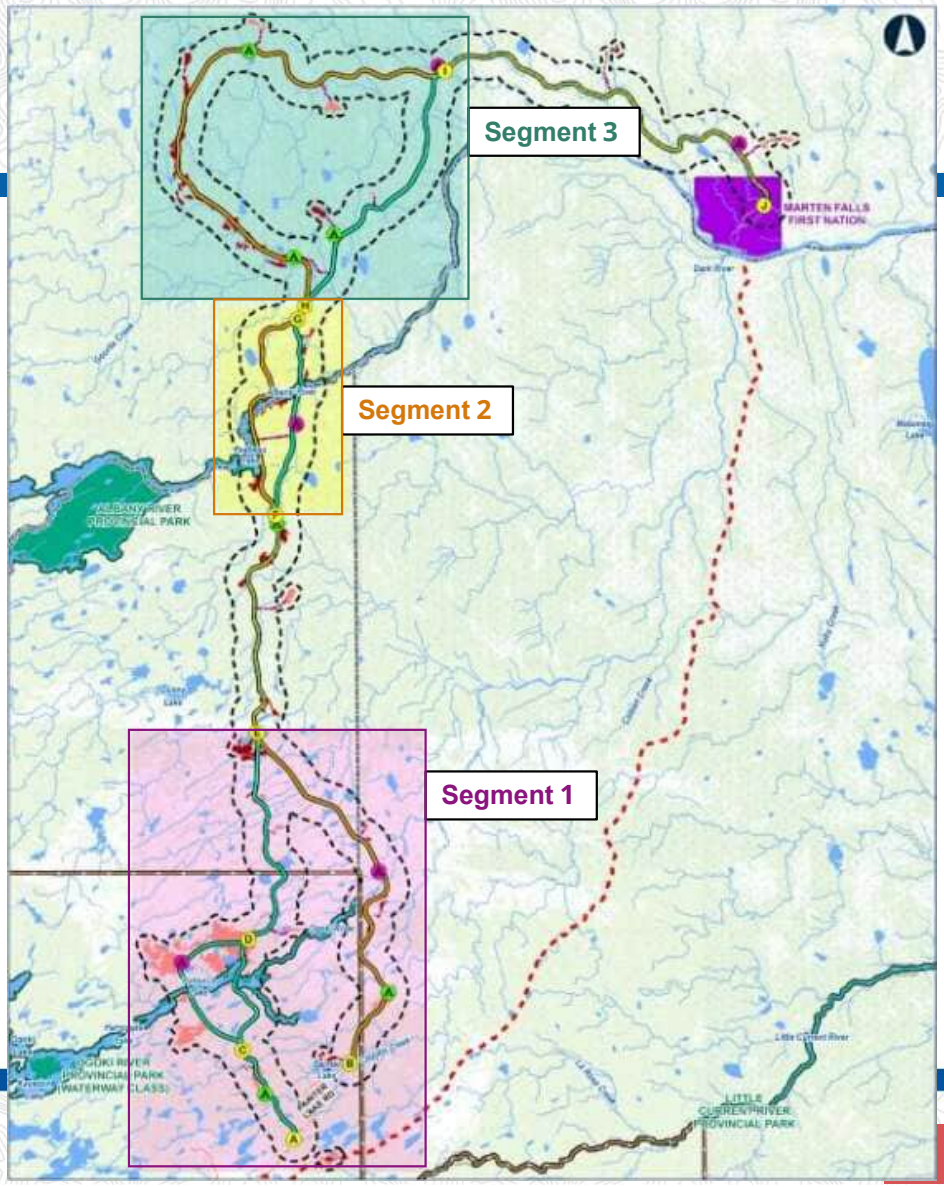
Alternative 1 and Alternative 4 were divided into three separate segments based on their geographical locations.

These segments are:

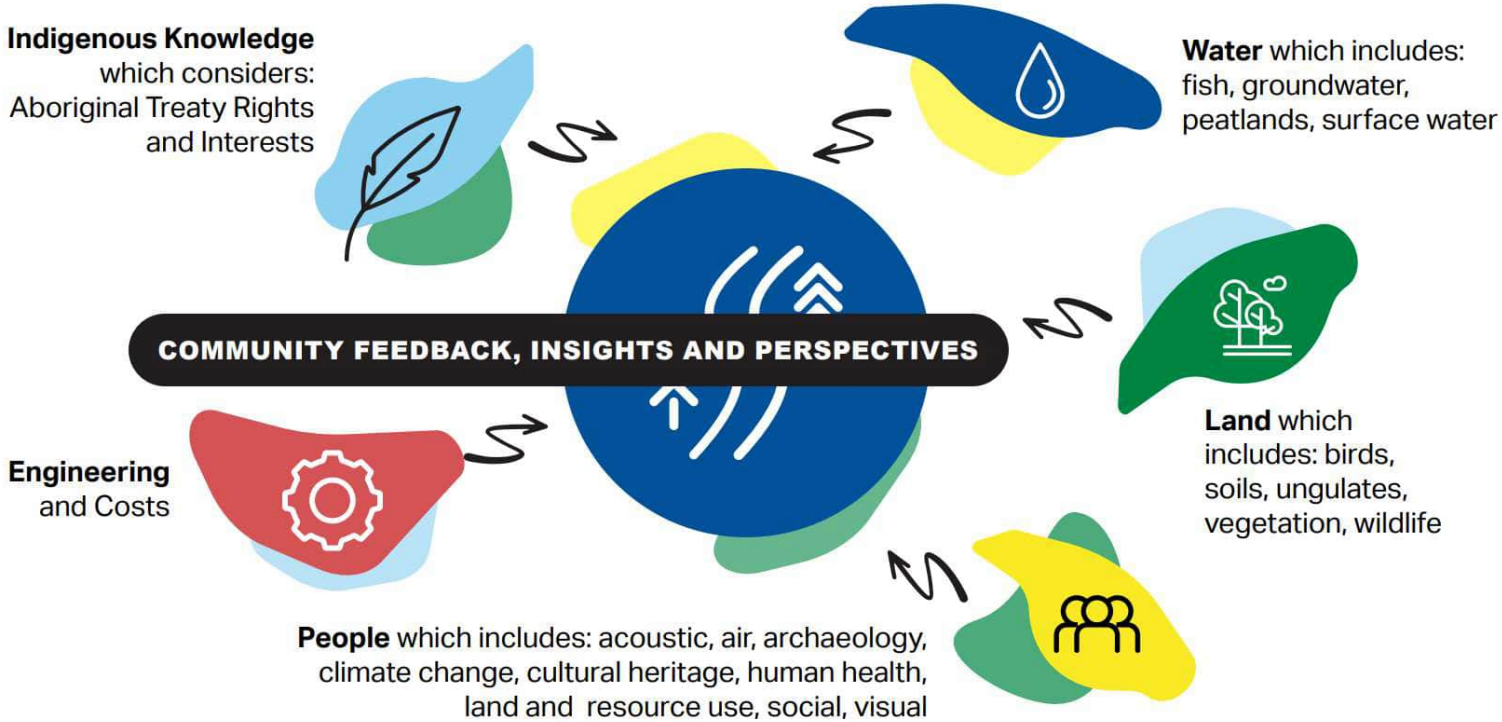
Segment 1 – Ogoki Crossing

Segment 2 – Albany Crossing

Segment 3 – North of Albany



What we considered when evaluating the route options:

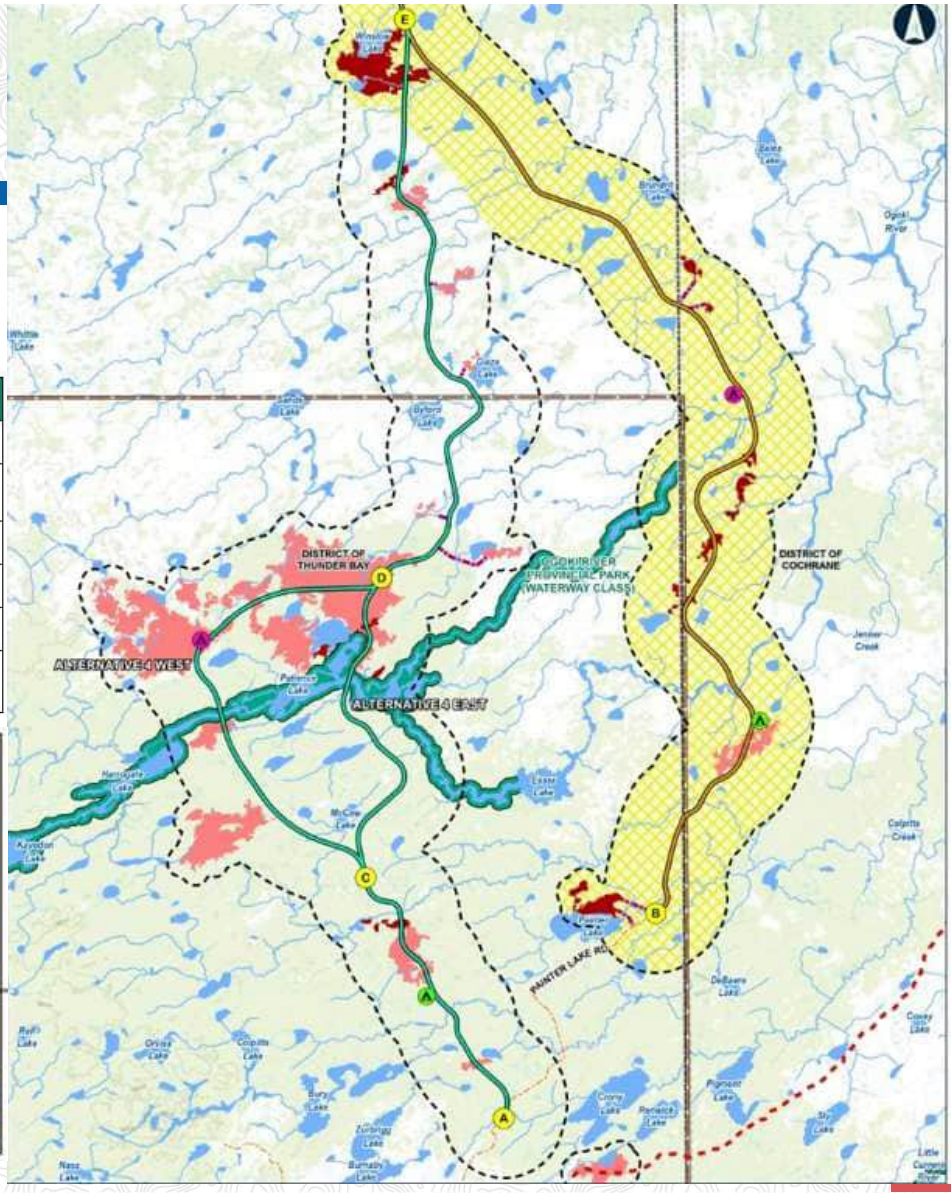


MARTEN FALLS FIRST NATION

Technically Preferred Route Segment 1 – Ogoki Crossing

Category	Alternative 1	Alternative 4 East	Alternative 4 West
MFFN community feedback	🟢	🔴	🟡
Indigenous Knowledge	Community Input Required	Community Input Required	Community Input Required
Water	🟢	🟡	🟡
Land	🟢	🟡	🟡
People	🟢	🟡	🟡
Engineering, Costs	🟡 $313 M	🟡 $439 M	🟢 $397 M

Legend: *Green = most preferred*
Yellow = moderately preferred
Red = least preferred

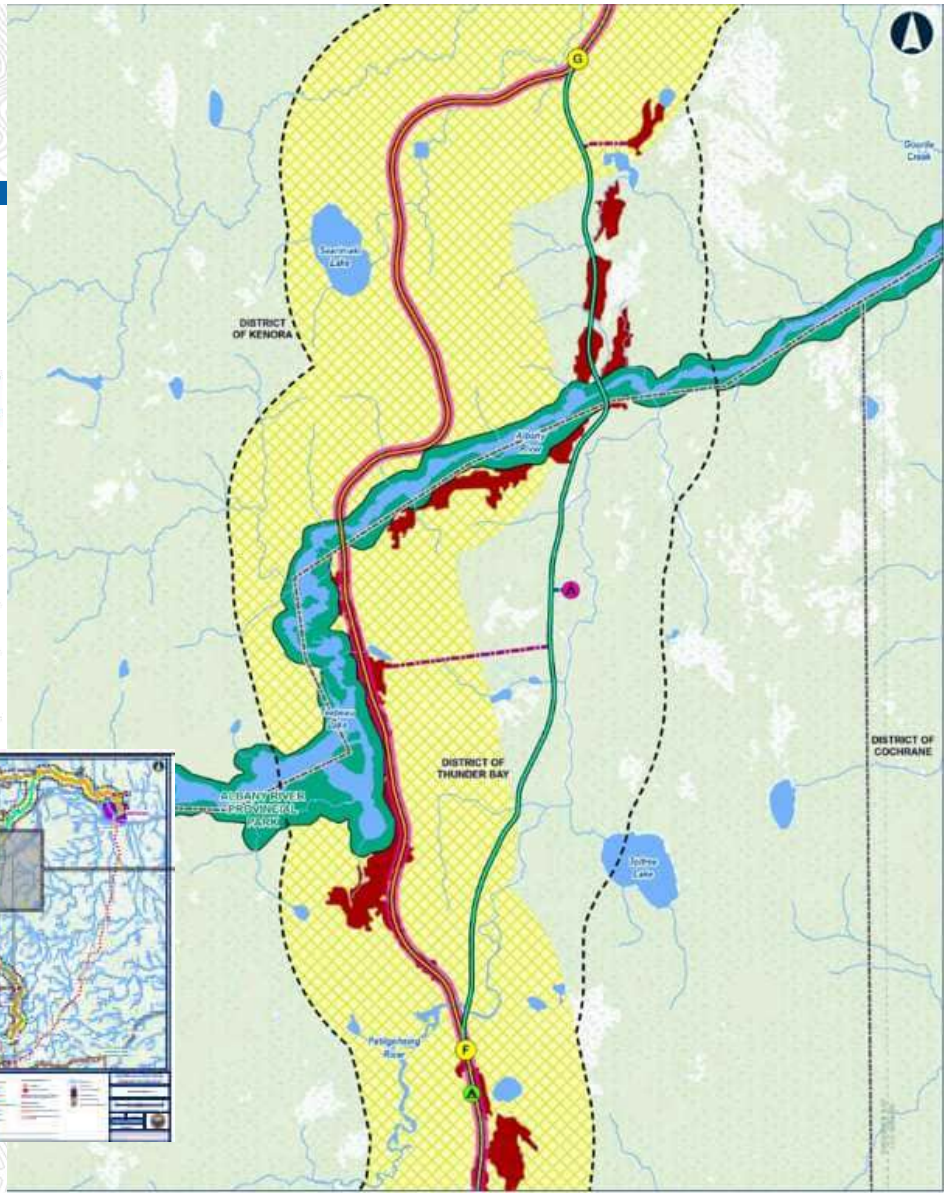


MARTEN FALLS FIRST NATION

Technically Preferred Route Segment 2 – Albany Crossing

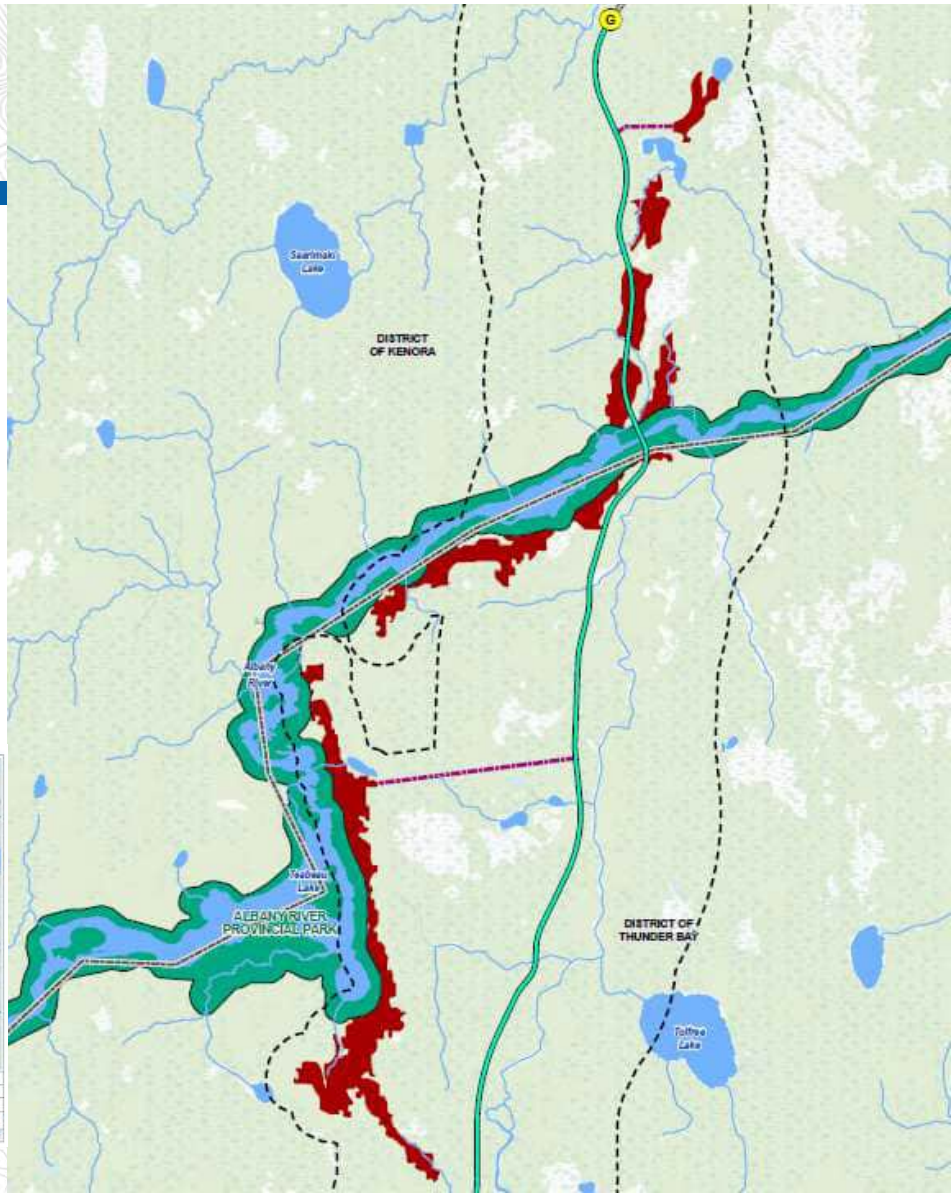
Category	Alternative 1	Alternative 4
MFFN community feedback	🔴	🟢
Indigenous Knowledge	Community Input Required	Community Input Required
Water	🟢	🔴
Land	🟢	🔴
People	🟢	🔴
Engineering, costs	🟢 $233 M	🔴 $172 M

Legend: Green = most preferred / Red = least preferred



Segment 2 – Albany Crossing

- Aggregate sites needed to support Alternative 1
- Additional access roads required to access aggregate

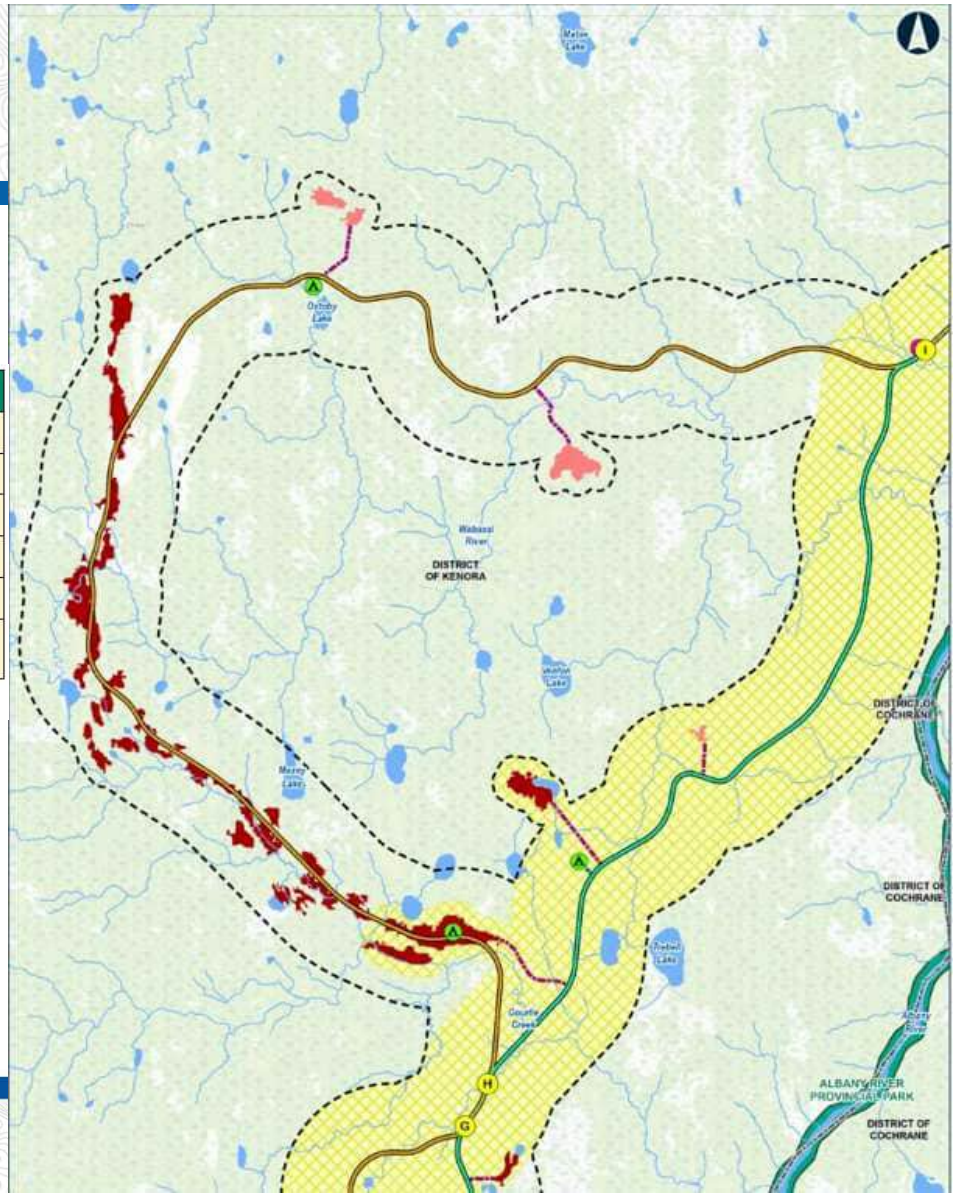


MARTEN FALLS FIRST NATION

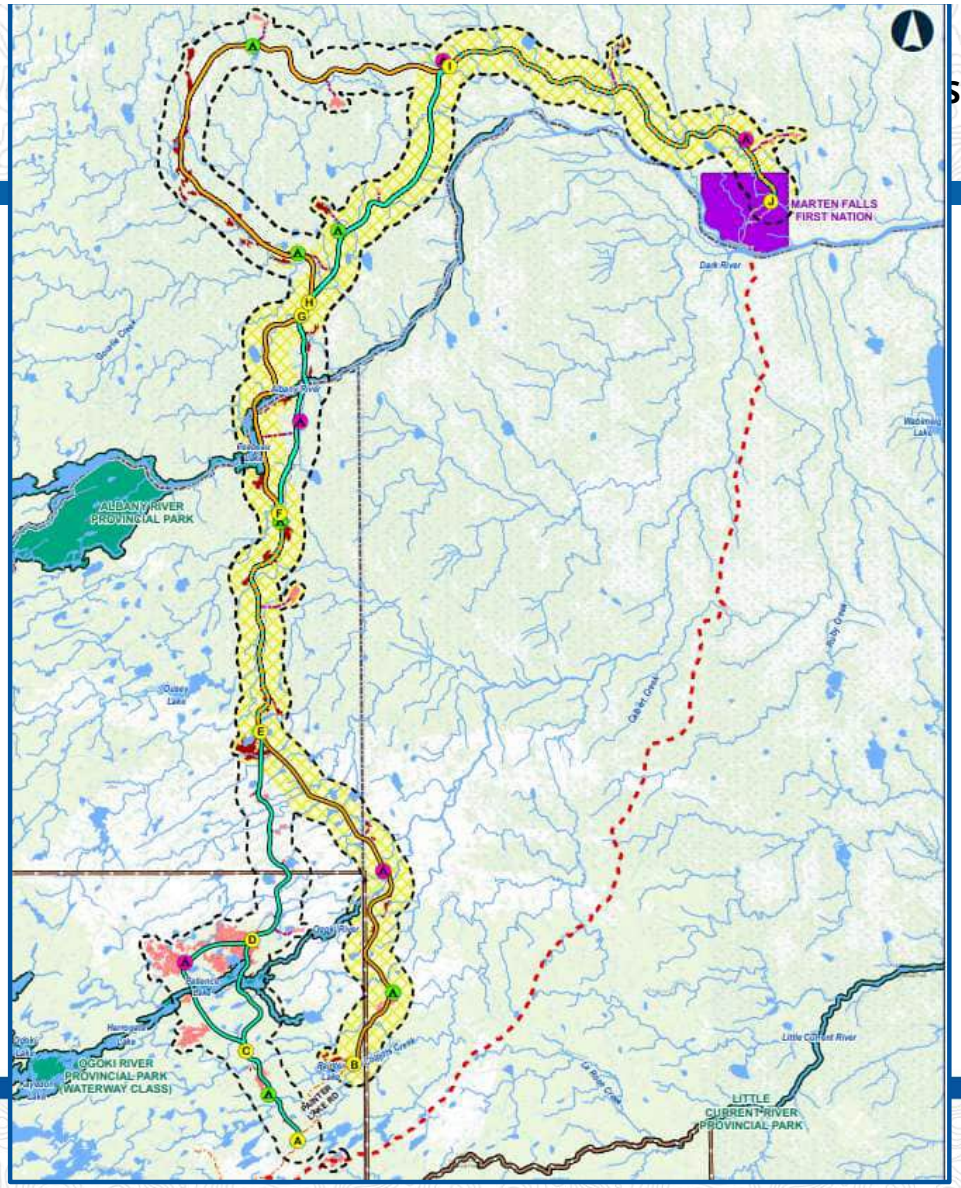
Technically Preferred Route Segment 3– North of the Albany

Category	Alternative 1	Alternative 4
MFFN community feedback	🔴	🟢
Indigenous Knowledge	Community Input Required	Community Input Required
Water	🔴	🟢
Land	🔴	🟢
People	🔴	🟢
Engineering, costs	🟢 $396 M	🔴 $460 M

Legend: Green = most preferred / Red = least preferred



Technically Preferred Route Recommendation



Route Selection – Next Steps

October 23 & 24, 2023

In-person meeting with MFFN Chief and Council in-community to validate preliminary presentation.

October 25 & 26, 2023

Share with the public at PIC #5

November 2023

Route Selection Webinar

November 29, 2023

Virtual meeting with MFFN Chief and Council to respond to questions about technically preferred route

December 1, 2023

Band Council resolution and Final Preferred Alternative Route confirmation.

Thank you! Meegwetch!