

# **Final Environmental Study Report for the Phase 2 Connecting 17 Remote First Nation Communities Project**

## **Comparative Analysis of Revised 115 kV Transmission Line Corridors within the Whitefeather Forest and near Sachigo Lake First Nation**



**Report Number: 20138626**



## PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES COMPARATIVE ANALYSIS OF REVISIONS TO 115kV SECTIONS

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## PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES COMPARATIVE ANALYSIS OF REVISIONS TO 115kV SECTIONS

### LIST OF ACRONYMS AND TERMS

Acronym/Term	Definition
AC	Alternating Current
ANSI	Area of Natural and Scientific Interest
CCEG	Central Corridor Energy Group
EA	Environmental Assessment
EAA	<i>Ontario Environmental Assessment Act</i>
EMA	Enhanced Management Area
END	Endangered
ESA	<i>Endangered Species Act</i>
ESR	Environmental Study Report
FNLP	First Nation Limited Partnership
Hydro One Class EA	Hydro One Class Environmental Assessment for Minor Transmission Facilities
MECP	Ministry of the Environment, Conservation and Parks
MNR	Ontario Ministry of Natural Resources and Forestry
MOECC	Ontario Ministry of the Environment and Climate Change
the Project	Connecting 17 Remote First Nation Communities Project
PPCR	Provincial Parks and Conservation Reserves
RFD	Reasonably foreseeable development
ROW	Right-of-Way
RSFD	Resource Stewardship and Facility Development
SS	Switching Station
WFCRMA	Whitefeather Forest Community Resource Management Authority

### LIST OF UNITS

Unit	Definition
ha	Hectare
km	Kilometre
kV	Kilovolt
m	Metre



## PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES COMPARATIVE ANALYSIS OF REVISIONS TO 115 kV SECTIONS

### 1.0 INTRODUCTION

A partnership that has grown to 24 First Nation communities was formed (First Nation Limited Partnership [FNLP], formerly known as the Central Corridor Energy Group [CCEG]) to address the need for sufficient electricity supply for 17 remote First Nation communities. FNLP partnered with Fortis Inc. (Fortis), to establish a licenced transmission company, the Wataynikaneyap Power Limited Partnership (Wataynikaneyap) with a mandate to develop, construct, operate, and own the Wataynikaneyap Transmission Project. The Wataynikaneyap Transmission Project is being developed in two phases. Phase 1, the New Transmission Line to Pickle Lake Project, is an approximately 300-kilometre (km) long, 230-kilovolt (kV) transmission line from the Dinorwic (east of Dryden) / Ignace area to Pickle Lake in northwestern Ontario. Phase 2 Connecting 17 Remote First Nation Communities (the Project) includes approximately 1,630 km of 115-kV, 44-kV, and 25-kV alternating current (AC) transmission lines, and associated infrastructure for subsystems north of Pickle Lake and Red Lake that will connect 17 remote First Nation communities currently powered by diesel generation, to the provincial electrical grid.

A Final Environmental Study Report (ESR) was submitted for the Project, which was subject to the *Ontario Environmental Assessment Act* (EAA) under the following Class Environment Assessment (EA) processes:

- the Ministry of Natural Resources and Forestry (MNRF) Class Environmental Assessment for Resource Stewardship and Facility Developments (MNRF RSFD Class EA; MNR<sup>1</sup> 2003);
- the MNRF Provincial Parks and Conservation Reserves Class EA (MNRF PPCR Class EA; MNR 2005); and
- the Hydro One Class Environmental Assessment for Minor Transmission Facilities (Hydro One Class EA; Ontario Hydro<sup>2</sup> 1992).

The Final ESR was released for public review on November 16, 2018, and underwent a 30-day public review period, ending December 17, 2018. Various ministries and Indigenous communities provided comments on the Final ESR. Wataynikaneyap worked with commenters to respond to and resolve comments following the completion of the review period. Wataynikaneyap posted responses to these comments, along with an updated version of the Final ESR reflecting required edits to their website on July 5, 2019 to mark the completion of this EA process.

<sup>1</sup> The Ministry of Natural Resources and Forestry (MNRF) was formerly known as the Ministry of Natural Resources (MNR) prior to its name change in 2014.

<sup>2</sup> At the time of publication of the Class EA for Minor Transmission Facilities, Hydro One was known as Ontario Hydro prior to its reorganization into five companies in 1999. The company responsible for hydroelectricity became Hydro One.



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## PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES COMPARATIVE ANALYSIS OF REVISIONS TO 115 kV SECTIONS

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In Section 13.0 of the Final ESR, the following commitment was made regarding changes to the Project footprint design:

*Should final Project design results in changes that are outside of the limits of work<sup>3</sup> or changes that are inconsistent with the results of the EA; Wataynikaneyap will engage with the MNRF and the MOECC<sup>4</sup> to discuss potential required procedures. These are discussed in Section 5.8 of the MNRF RSFD Class EA, Section 6.8 of the MNRF PPCR Class EA and Section 3.9 of the Hydro One Class EA.*

On July 10, 2019, Wataynikaneyap filed a Final ESR addendum under the Hydro One Class EA for Minor Transmission. That addendum, herein referred to as the “2019 Addendum” provided a comparative analysis of three changes to the Phase 2 transmission line right-of-way (ROW) alignment that were outside the limits of work of the alignment assessed in the Final ESR. The 2019 Addendum concluded that the changes proposed did not change the results or mitigation presented in the Final ESR. The addendum was released with a 15-day comment period ending July 25, 2019, for targeted review by the First Nations directly affected by the proposed changes as well as agencies and other stakeholder groups who commented on the Final ESR. No comments were received during the review period on the 2019 Addendum, the document was approved on August 2, 2019, and Wataynikaneyap was able to proceed with implementing the proposed changes.

This document, herein referred to as the “2021 Comparative Analysis”, will adhere to the commitments made in Section 13.0 of the Final ESR, following the comparative analysis methodology established in the 2019 Addendum and additional comparative analyses undertaken since the completion of the Final ESR. As outlined in Section 3.9 of the Class EA for Minor Transmission (Ontario Hydro 1992), the purpose of an addendum is to “document the circumstances necessitating the change, the environmental effects caused by the change and what can be done to mitigate any negative impacts”. This 2021 Comparative Analysis achieves these requirements by presenting an overview of the proposed design changes and providing an analysis of the Project footprint changes compared with the Project footprint assessed in the Final ESR and 2019 Addendum, including consideration of relevant mitigation measures, where applicable.

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<sup>3</sup> In the Environmental Study Report (ESR) Wataynikaneyap proposes a limits of work of 200 m on either side of the 40-m-wide transmission line alignment ROW for the environmental assessment (EA) approval and subsequent permitting purposes.

<sup>4</sup> At the time of publication of the Final ESR, the current Ministry of the Environment, Conservation and Parks (MECP) was known as the Ministry of the Environment and Climate Change (MOECC).

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## 1.1 Description of Project Design Refinements

Since the release of the Final ESR and completion of the 2019 Addendum and based on input from First Nations, Wataynikaneyap has recently identified two additional areas to improve the alignment of the 115-kV transmission line, specifically:

- On the Red Lake Subsystem ROW alignment in the Whitefeather Forest area north of Pikangikum and Poplar Hill First Nation (115 kV) – near Critchell Lake and near McInnes Lake; and
- On the Pickle Lake Subsystem ROW alignment at two locations along the connection to Sachigo Lake First Nation (115 kV).

Figures 1 to 4 in Appendix B show the changes in each of the two areas of proposed revisions compared to the current approved alignments, along with a corresponding limits of work defined around the 40-m-wide alignment right-of-way. The limits of work are defined such that if potential further location revisions to the ROW alignment are required to reflect field conditions, these would be limited to the area within this limits of work. As noted in Section 1.0, the limits of work areas are generally defined as 200 m on either side of the 40-m-wide alignment right-of-way, resulting in a total area of design flexibility of 440 m for the environmental assessment (EA) approval and subsequent permitting purposes. Around the proposed revisions within the Whitefeather Forest, the limits of work proposed herein includes 400 m on the eastern side of the revised right-of-way to remain aligned with setback distances from Critchell Lake and McInnes Lake (see Section 3.1.1).

## 2.0 METHOD FOR THE ANALYSIS OF PROJECT REFINEMENTS

The method used for the comparative analysis is consistent with the assessment of corridor alternatives presented in Section 3.10 and Appendix 3.11A of the Final ESR, as well as the 2019 Addendum. The following five key factors were considered in the analysis of the corridors:

- natural environment;
- land use and resource management;
- socio-economic and cultural;
- current traditional land and resource use by Indigenous communities; and
- technical, including constructability and relative cost which is derived primarily from technical constraints. Cost was not considered as the sole or overriding justification.

The complete list of calculated metrics used to support the corridor refinement analysis are presented in Appendix A (including zero values). These represent publicly available datasets and datasets collected for the Project relevant to the study areas for the analysis of these corridors. The Project footprints were evaluated by comparing the presence of features within or where applicable, adjacent to the ROW, and by highlighting discernable differences between them. The summary of metrics in Section 3.0 does not include rows for metrics not affected by the route revision (e.g., areas of natural and scientific interest (ANSI) is not included as a table row as there were no areas overlapped). As any changes to the substations proposed for the Project are not proposed in areas outside of the limits of work and are no closer to receptors than was considered within the EA, no additional assessment of potential noise effects from the Project on points of reception during the operation stage was

undertaken as part of this comparative analysis. Where reference to traditional land and resource use is made, general context on the locations being compared is provided by indicating the relative number of broad types of land uses, respecting the sensitivity of the information. Traditional land and resource use types consider values related to harvesting (e.g., hunting, trapping, fishing, harvest of plants, gardening), travel (e.g., trails, snowmobile routes), habitation (e.g., camping areas), sensitive sites (e.g., cultural, spiritual, archaeological, burial sites), natural features (e.g., rapids, specific wildlife habitat), or any other types of values shared under consent to support the environmental assessment.

Mitigation measures summarized for the Project in Section 9.0 Environmental and Social Management Plan of the Final ESR are applicable in all work areas for the Project and Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project.

### **3.0 PROJECT REFINEMENT COMPARATIVE ANALYSIS RESULTS**

The objectives of this section are to discuss the rationale for the refinement of the 115 kV, 40-m-wide transmission line alignment outside of the limits of work defined in the Final ESR; provide an analysis of environmental metrics for the areas of the Project footprint refinement compared with an equivalent section of the Project footprint within the Final ESR; and characterize any differences in the potential environmental effects of the change compared with the assessment provided in the Final ESR and 2019 Addendum.

This section presents the comparative analysis for the following areas:

Red Lake subsystem, within the area of the Whitefeather Forest:

- ROW alignment crossing at Critchell Lake
- ROW alignment crossing at McInnes Lake

Pickle Lake subsystem:

- ROW alignment at two locations along the connection to Sachigo Lake First Nation.

The amended Project footprint may be further refined to avoid sensitive features, to the extent practical, and/or to use previously disturbed areas during detailed design within the limits of work presented in the Final ESR, the 2019 Addendum and in this 2021 Comparative Analysis (Figures 1-4; Appendix B), or other similar analyses. Efforts will be made to reduce environmental effects associated with the preferred corridor, and Wataynikaneyap with their contractor(s) will commit to implementing mitigation measures identified in Section 9.0 Environmental and Social Management Plan of the Final ESR and adhere to all permits and approvals required for the Project.

### **3.1 Red Lake Subsystem**

#### **3.1.1 Alignment near Critchell Lake and Alignment near McInnes Lake**

The route for the Project segments identified as the *Alignment near Critchell Lake* and *Alignment near McInnes Lake* have been refined based on engagement with Pikangikum First Nation and Whitefeather Forest Community Resource Management Authority (WFCRMA). As noted in the Final ESR, Pikangikum First Nation community members make extensive use of the land, and have taken significant steps toward documenting and protecting this use as part of their land use and forest management planning processes. The community has a decision-making process for land use decisions that includes participation by WFCRMA.



During communications received in June 2020, following EA approval, WFCRMA indicated to Wataynikaneyap that they wished to re-open discussion of alternative options for the transmission line alignment ROW in the vicinity of Critchell Lake and McInnes Lake. Both lakes are located within an area defined as the Enhanced Management Area (EMA) within Keeping the Land: A Land Use Strategy (Pikangikum First Nation and MNRF 2006). The Whitefeather Forest (*Wahbeemeegwan Nohpeemahkahmik*) Management Plan and Keeping the Land: A Land Use Strategy define conditions on use within the EMA. Through ongoing communication and engagement meetings, the proposed line ROW was adjusted to maintain an acceptable buffer between the line and each lake respectively. Through engagement (Table 1) and as confirmed by BCR on December 10, 2020 (Appendix C), the community advised Wataynikaneyap to implement the revised alignments. These revised alignments are presented in Figures 1 and 2 respectively.

A summary of key records of engagement with Pikangikum First Nation and WFCRMA is presented in Table 1.

**Table 1: Key Communication Summary - Alignment in the Whitefeather Forest near Critchell Lake and McInnes Lake**

Date	Method of Communication	Summary
June 24, 2020	Email	WFCRMA requested line routing adjustments near McInnes Lake and Critchell Lake.
October 28, 2020	Email	Wataynikaneyap provided shapefiles to WFCRMA of proposed line re-routes at McInnes Lake and Critchell Lake.
December 10, 2020	Email/BCR	WFCRMA and Pikangikum First Nation Chief and Council provided a signed BCR supporting the re-alignments at McInnes Lake and Critchell Lake.

A high-level baseline characterization for the amended Project footprint with comparison to the Project footprint assessed in the final ESR for the alignment near Critchell Lake is presented in Table 2. The full set of metrics considered is presented in Appendix A.

**Table 2: Corridor Refinement Analysis – Alignment near Critchell Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near Critchell Lake		
	CL1 (Amended ROW)	CL2 (Project ROW Considered in the Final ESR and 2019 Addendum)	
Technical	<b>Size<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ Amended ROW is approximately 5.6 km in length.</li><li>■ Amended ROW has an area of approximately 22.4 ha.</li></ul>	<b>Size</b> <ul style="list-style-type: none"><li>■ ROW is approximately 4.0 km in length.</li><li>■ ROW has an area of approximately 15.7 ha.</li></ul>	■ The Amended footprint for CL1 is longer by 1.7 km and 6.7 ha larger than the footprint for CL2.



**Table 2: Corridor Refinement Analysis – Alignment near Critchell Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near Critchell Lake		
	CL1 (Amended ROW)	CL2 (Project ROW Considered in the Final ESR and 2019 Addendum)	
Natural Environment	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 4.4 ha of mapped, unevaluated wetlands.</li></ul>	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 3.0 ha of mapped, unevaluated wetlands.</li></ul>	■ The CL1 footprint covers a larger area of mapped, unevaluated wetlands than CL2.
	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses one mapped watercourse.</li><li>■ The Project footprint does not cross any mapped waterbody<sup>(c)</sup></li></ul>	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses two mapped watercourses.</li><li>■ The Project footprint crosses one mapped waterbody<sup>(c)</sup></li></ul>	■ The CL1 footprint crosses one fewer mapped watercourse and waterbody than CL2, including shifting further from Critchell Lake, aligned with the conditions within the land use plan, as indicated by WFCRMA.
Natural Environment (cont'd)	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 22.4 ha of natural landcover (terrestrial)</li></ul></li></ul>	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 15.7 ha of natural landcover (terrestrial)</li></ul></li></ul>	■ The footprint of CL1 crosses an area of natural landcover 6.7 ha larger than CL2 in proportion with the additional length and area of CL1.
	<b>Wildlife Habitat <sup>(e)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 9.1 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 0 ha of potential suitable horned grebe habitat.</li><li>■ The Project footprint crosses 2.8 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 13.0 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 12.0 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 2.8 ha of potential suitable olive-sided flycatcher habitat.</li></ul>	<b>Wildlife Habitat</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 7.5 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 0.2 ha of potential suitable horned grebe habitat.</li><li>■ The Project footprint crosses 3.4 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 8.0 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 6.0 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 3.0 ha of potential suitable olive-sided flycatcher habitat.</li></ul>	■ The footprint of CL1 crosses a larger area of moose habitat, and a larger area of Canada warbler and common nighthawk habitat compared with CL2. The footprint of CL1 covers a slightly small footprint of horned grebe, olive-sided flycatcher and bald eagle habitat compared with CL2.

**Table 2: Corridor Refinement Analysis – Alignment near Critchell Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near Critchell Lake		
	CL1 (Amended ROW)	CL2 (Project ROW Considered in the Final ESR and 2019 Addendum)	
Natural Environment (cont'd)	<b>Threatened and endangered species or their habitat (Caribou (Boreal population))</b> ■ The Project footprint crosses 22.4 ha of mapped Category 3 habitat.	<b>Threatened and endangered species or their habitat (Caribou (Boreal population))</b> ■ The Project footprint crosses 15.6 ha of mapped Category 3 habitat.	■ CL1 crosses a larger area of Category 3 habitat compared with CL2. Neither footprint cross areas of Category 1 or 2 habitat.
	<b>Threatened and endangered species or their habitat (Wolverine) <sup>(e)</sup></b> ■ The Project footprint crosses 22.4 ha of potential wolverine habitat.	<b>Threatened and endangered species or their habitat (Wolverine)</b> ■ The Project footprint crosses 15.6 ha of potential wolverine habitat.	■ CL1 crosses a moderately larger area defined as potential wolverine habitat compared with CL2.
	<b>Threatened and endangered species or their habitat (Little brown myotis) <sup>(e)</sup></b> ■ The Project footprint crosses 1.0 ha of potential little brown myotis maternity roost habitat.	<b>Threatened and endangered species or their habitat (Little brown myotis)</b> ■ The Project footprint crosses 2.4 ha of potential little brown myotis maternity roost habitat.	■ CL1 crosses a smaller area of potential little brown myotis maternity roost habitat compared with CL2.
Land Use Resource Management	<b>Land Designations</b> ■ The Project footprint crosses 14.3 ha of the EMA	<b>Land Designations</b> ■ The Project footprint crosses 14.6 ha of the EMA	■ CL1 crosses a slightly smaller portion of the EMA than CL2 and is aligned with the conditions within the land use plan, as indicated by WFCRMA.
Socio-economic and Cultural	<b>Archaeology and Cultural Heritage</b> ■ The Project footprint crosses 0.2 ha of land with archaeological potential.	<b>Archaeology and Cultural Heritage</b> ■ The Project footprint crosses 0.9 ha of land with archaeological potential.	■ The Project footprint for CL1 crosses a slightly smaller area of archaeological potential than the Project footprint of CL2. Areas of archaeological potential crossed by the Project footprint for CL1 will be subject to Stage 2 archaeological assessments (and Stage 3 and Stage 4, as required) prior to Project construction.

**Table 2: Corridor Refinement Analysis – Alignment near Critchell Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near Critchell Lake		
	CL1 (Amended ROW)	CL2 (Project ROW Considered in the Final ESR and 2019 Addendum)	
Traditional Land and Resource Use by Indigenous Communities	<b>Pikangikum First Nation, Poplar Hill First Nation and Deer Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ Three types of identified TLRU values, not classified as 'avoid'.</li></ul>	<b>Pikangikum First Nation, Poplar Hill First Nation and Deer Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ The same three types of identified TLRU values as CL1, not classified as 'avoid'.</li></ul>	<ul style="list-style-type: none"><li>■ CL1 aligns with conditions to maintain distance from identified waterbodies within the EMA defined in land use and forestry planning for the Whitefeather Forest. Both options cross the same types of land uses values.</li></ul>

a) All wetlands are understood to be unevaluated.

b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.

c) Waterbodies not including watercourses.

d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.

e) Based on habitat modelling – see Section 6.3 of the Final ESR.

CL1 has been identified by Whitefeather Forest Community Resource Management Authority (WFCRMA) as the preferred route as it provides a greater setback distance from Critchell Lake. The proposed realignment (CL1) results in a small increase in the length of the ROW (by 1.6 km) and Project footprint area (by 6.7 ha). The Project footprint for CL1 intersect a slightly larger area of wetland and crosses one less watercourse. CL1 crosses a larger area of natural land cover, and potential suitable habitat for moose, bald eagle, Canada warbler, wolverine and a smaller area of maternity roost habitat for little brown myotis, horned grebe, and olive-sided flycatcher. Based on review of aerial imagery, both CL1 and CL2 are located in an area of predominantly sparse forest including rock outcrops. No potential hibernacula were identified within the limits of work around CL2 through studies undertaken to support the EA, and no potential bat hibernacula habitat was identified through review of eFRI/aerial image data by Wataynikaneyap and Valard for the CL1 segment. With respect to caribou (listed as threatened and endangered), CL1 crosses a somewhat larger area of Category 3 habitat. Neither CL1 nor CL2 cross Category 1 or 2 habitat. The Project footprint crosses a slightly smaller area of the EMA, and at a location further removed from Critchell Lake, aligned with the conditions within the land use and forestry plans. CL1 also crossed a smaller area of archaeological potential than CL2.

Construction and operation and maintenance activities for the CL1 Project footprint are predicted to have similar effects and mitigation to those described in Section 10.0 Net Effects Assessment of the Final ESR for the majority of the physical environment, biological environment and socio-economic environment criteria. The one RFD identified in Section 4.0 of the Final ESR that intersects with the alignment around Whitefeather Forest north of Poplar Hill First Nation is the planned and approved Whitefeather Forest all-season road. CL1 maintains alignment with the planned Whitefeather Forest road corridor and is predicted to have similar effects and recommended mitigation to those described in Section 11.0 Cumulative Effects Assessment for the majority of the physical

environment, biological environment and socio-economic environment criteria. As the construction and operation of a new transformer or switching station is not applicable to this segment of the Project, effects and mitigation identified in Section 10.0 in the Final ESR for noise are not applicable.

Although the Project footprint for CL1 does result in small increases to some metrics, the assessment of the potential effects of the Project that includes this route refinement reaches the same conclusions as for the EA criteria in Sections 5.0 to 8.0 of the Final ESR; and in consideration of implementation of the mitigation, commitments and monitoring in Section 12.0 and the Environmental and Social Management Plan in Section 9.0 of the Final ESR. Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project. Therefore, in alignment with community preference, the proposed CL1 Project footprint realignment is preferred for the area near Critchell Lake.

In addition to implementing the revised route, Wataynikaneyap proposes an equivalent amendment to the limits of work area around the 40-m-wide transmission line alignment ROW, except where the right-of-way would be out of compliance with the requested set-backs from Critchell Lake. Figure 1 shows the proposed amended limits of work area as approximately 400 m to the west of the 40-m-wide CL1 alignment right of way. The full set of metrics applied to the route revision comparison has been run against the limits of work area around CL1 and is presented in Appendix A (Table A-3). The limits of work area around CL1 intersects with the same metrics presented in Table 2, including areas of wetland, watercourses and waterbodies, similar wildlife areas, areas of archaeological potential and the EMA. This limits of work area does include areas of waterbodies and accordingly, with areas of horned grebe habitat not crossed by the CL1 alignment. It is not anticipated that these areas of waterbodies would be preferred for placement of the transmission line alignment right-of-way and one of the mitigations in the Final ESR includes minimizing the number of required waterbody crossings and limiting the number of waterbody crossings installed simultaneously on a single waterbody. If additional changes within the Limits of Work would interact with areas of Species at Risk habitat not identified in current permitting, discussion with agencies to confirm amendments to permitting, including that any conditions can be met, would be required to proceed. Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project. Therefore, should Wataynikaneyap require realignment within the limits of work during construction, it is predicted that the potential effects will reach the same conclusions and consider implementation of the same commitments identified above. This includes a commitment for engagement with the WFCRMA and applicable First Nations.

A high-level baseline characterization for the amended Project footprint near McInnes Lake with comparison to the Project footprint assessed in the final ESR and the 2019 Addendum for this segment of the Project is presented in Table 3. The full set of metrics considered is presented in Appendix A.

**Table 3: Corridor Refinement Analysis – Alignment near McInnes Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near McInnes Lake		
	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
Technical	<b>Size<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ Amended ROW is approximately 3.2 km in length.</li><li>■ Amended ROW has an area of approximately 13.0 ha.</li></ul>	<b>Size</b> <ul style="list-style-type: none"><li>■ ROW is approximately 3.3 km in length.</li><li>■ ROW has an area of approximately 13.1 ha.</li></ul>	■ The Amended footprint for ML1 is slightly shorter and 0.1 ha smaller than the footprint for ML2.
Natural Environment	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 3.6 ha of mapped, unevaluated wetlands.</li></ul>	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 2.9 ha of mapped, unevaluated wetlands.</li></ul>	■ ML1 crosses an area of mapped unevaluated wetlands slightly larger than ML2.
	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 2 mapped watercourses.</li><li>■ The Project footprint does not cross a mapped waterbody<sup>(c)</sup>.</li></ul>	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crossed 2 mapped watercourses.</li><li>■ The Project does not cross a mapped waterbody<sup>(c)</sup>.</li></ul>	■ ML1 crosses the same number of mapped watercourses than ML2. ML1 is located further from McInnes Lake aligned with the conditions within the land use plan, as indicated by WFCRMA.
	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 12.6 ha of natural landcover (terrestrial).</li></ul></li></ul>	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 12.8 ha of natural landcover (terrestrial).</li></ul></li></ul>	■ ML1 crosses a slightly smaller area of natural landcover than ML2.

**Table 3: Corridor Refinement Analysis – Alignment near McInnes Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near McInnes Lake		
	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
	<b>Wildlife Habitat <sup>(e)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 7.0 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 6.7 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 5.5 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 5.4 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 6.7 ha of potential suitable olive-sided flycatcher habitat.</li></ul>	<b>Wildlife Habitat</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 8.2 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 7.6 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 5.9 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 4.6 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 7.6 ha of potential suitable olive-sided flycatcher habitat.</li></ul>	<ul style="list-style-type: none"><li>■ ML1 crosses a smaller area of moose bald eagle, Canada warbler, and olive-sided flycatcher habitat than ML2.</li><li>■ ML1 crosses a slightly larger area of suitable area of common nighthawk habitat than ML2.</li></ul>

**Table 3: Corridor Refinement Analysis – Alignment near McInnes Lake**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment near McInnes Lake		
	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
Natural Environment (cont'd)	<b>Threatened and endangered species or their habitat (Caribou (Boreal population))</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 1.6 ha of mapped Category 2 habitat.</li><li>■ The Project footprint crosses 11.4 ha of mapped Category 3 habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Caribou (Boreal population))</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 1.4 ha of mapped Category 2 habitat.</li><li>■ The Project footprint crosses 11.7 ha of mapped Category 3 habitat.</li></ul>	■ ML1 crosses a slightly larger area of Category 2 habitat and a slightly smaller area of Category 3 caribou habitat. It is understood that this change in the area of Category 2 caribou habitat crossed will be discussed further with applicable agencies through permitting and relevant permitting conditions will be followed.
	<b>Threatened and endangered species or their habitat (Wolverine) <sup>(e)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 12.6 ha of potential wolverine habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Wolverine)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 12.8.0 ha of potential wolverine habitat.</li></ul>	ML1 crosses a slightly smaller area defined as potential wolverine habitat than ML2.
	<b>Threatened and endangered species or their habitat (Little brown myotis) <sup>(e)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 0.1 ha of potential little brown myotis maternity roost habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Little brown myotis)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 1.2 ha of potential little brown myotis maternity roost habitat.</li></ul>	■ ML1 crosses a slightly smaller area of potential little brown myotis maternity roost habitat than ML2.
Land Use Resource Management	<b>Land Designations</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 13.0 ha of the EMA.</li></ul>	<b>Land Designations</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 13.1 ha of the EMA.</li></ul>	■ ML1 crosses a slightly smaller area of the EMA than ML2, and is located further from McInnes Lake, aligned with the conditions within the land use plan, as indicated by WFCRMA.
Traditional Land and Resource Use by Indigenous Communities	<b>Pikangikum First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ Two types of identified TLRU values, not classified as ‘avoid’. The features are the same as those overlapped by ML2.</li></ul>	<b>Pikangikum First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ The same two types of identified TLRU values as ML1, not classified as ‘avoid’.</li></ul>	■ ML1 aligns with conditions to maintain distance from identified waterbodies within the EMA defined in land use and forestry planning for the Whitefeather Forest. Both options cross the same land uses values.



- a) All wetlands are understood to be unevaluated.
- b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.
- c) Waterbodies not including watercourses.
- d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class. Other-unknown is not reported.
- e) Based on habitat modelling – see Section 6.3 of the Final ESR.

ML1 has been identified by WFCRMA as the preferred route as it provides a greater setback distance from McInnes Lake. The proposed realignment (ML1) results in a small increase in the length of the ROW (3.2 km) and is a small reduction in the Project footprint (13.0 ha for ML1; 13.1 for ML2). The natural environment metrics presented in Table 3 for the ML1 Project footprint generally result in decreased effects, as the Project footprint for ML1 intersects a smaller area of natural landcover and crosses slightly more wetlands. ML1 decreases the number of watercourse crossings but slightly increases the footprint on a mapped waterbody. With respect to wildlife habitat, the Project footprint for ML1 crosses a decreased area in potential suitable habitat for moose, bald eagle, Canada warbler, and olive-sided flycatcher. ML1 results in a small increase of potential common nighthawk habitat crossed. There is a slight decrease in the Project footprint on potential wolverine and little brown myotis habitat. No potential hibernacula were identified within the limits of work around the ML2 through studies undertaken to support the EA, and no potential bat hibernacula habitat was identified through review of eFRI/aerial image data by Wataynikaneyap and Valard for the ML1 segments. With respect to caribou (Boreal population) there is a slight increase in the footprint on Category 2 habitat and a slight decrease on mapped Category 3 habitat. It is understood that this change in the area of Category 2 caribou habitat crossed will be discussed further with applicable agencies through permitting and relevant permitting conditions will be followed.

Construction and operation and maintenance activities for the ML1 Project footprint are predicted to have similar effects and mitigation to those described in Section 10.0 Net Effects Assessment of the Final ESR for the majority of the physical environment, biological environment and socio-economic environment criteria. The one RFD identified in Section 4.0 of the Final ESR that intersects with the alignment around Whitefeather Forest north of Poplar Hill First Nation is the planned and approved Whitefeather Forest all-season road. The ML1 adjustment is understood to maintain alignment with the planned Whitefeather Forest road and is predicted to have similar effects and recommended mitigation to those described in Section 11.0 Cumulative Effects Assessment for the majority of the physical environment, biological environment and socio-economic environment criteria. As the construction and operation of a new transformer or switching station is not applicable to this segment of the Project, effects and mitigation identified in Section 10.0 in the Final ESR for noise are not applicable.

Although the Project footprint for ML1 does result in small increases to some metrics, the assessment of the potential effects of the Project that includes this route refinement reaches the same conclusions as for the EA criteria in Sections 5.0 to 8.0 of the Final ESR; and in consideration of implementation of the mitigation, commitments and monitoring in Section 12.0 and the Environmental and Social Management Plan in Section 9.0 of the Final ESR. Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project. Therefore, in alignment with community preference, the proposed ML1 Project footprint realignment is preferred for the area near McInnes Lake.

In addition to implementing the revised route, Wataynikaneyap proposes an equivalent amended to the limits of work area to each side of the 40-m-wide transmission line alignment ROW, except where the right-of-way would be closer than 2 km from McInnes Lake. The full set of metrics applied to the route revision comparison has been run against the limits of work area around ML1 and is presented in Appendix A (Table A-3). The limits of work area around ML1 intersects with the same metrics presented in Table 2, including areas of wetland, similar wildlife areas and the EMA. If additional changes within the Limits of Work would interact with areas of Species at Risk habitat not identified in current permitting, discussion with agencies to confirm amendments to permitting, including that any conditions can be met, would be required to proceed. Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project. Therefore, should Wataynikaneyap require realignment within the limits of work during construction, it is predicted that the potential effects will reach the same conclusions and consider implementation of the same commitments identified above. This includes minimizing areas of Category 2 caribou habitat crossed where possible and engagement with the WFCRMA and Pikangikum First Nation.

## **3.2 Pickle Lake Subsystem**

### **3.2.1 Alignment along the connection to Sachigo Lake First Nation (FN)**

The route for the Project segments identified as *Sachigo Lake FN - North* and *Sachigo Lake FN - South* (Appendix B - Figures 3 and 4 respectively) have been refined based on input Wataynikaneyap has received through engagement with Sachigo Lake First Nation.

During a community meeting on January 27, 2020, community direction to Wataynikaneyap was that they wished to re-open discussion of alternative options for the transmission line ROW alignment in area near the community (Sachigo Lake FN - North) and the area southwest of Sachigo Lake (Sachigo Lake FN - South).

The Sachigo Lake FN - North change the area surrounding the road (that the previous route followed) was some of the best high ground in the area and the community's position had shifted after having had a chance to observe construction on the southern portion of the line. As well, within the current limits of work, the substation location is proposed to be relocated to the other side of the road, in order to locate it further from the cemetery. After months of engagement and Sachigo Lake First Nation's own internal deliberation, opinion surveys, and community meetings, Wataynikaneyap was instructed to proceed with the change as presented in this document through the letters included in Appendix D.

The Sachigo Lake FN - South change considered that the recognized family having responsibility for this area was not in favour of the line route due to impacts to their frequently used areas. As well, the planned Sachigo River crossing location was identified as high sensitivity by the community and alternatives to the north of the planned crossing were not acceptable to the community. A specific, acceptable Sachigo River crossing location was identified. Then, following months of engagement and Sachigo Lake First Nation's own internal deliberation, opinion surveys, and community meetings, Wataynikaneyap was instructed to proceed with the change as presented in this document, through the letters attached in Appendix D.

These alignments are presented in Appendix B, Figures 3 and 4 respectively.

A summary of key records of engagement with Sachigo Lake First Nation are presented in **Table 4**.

**Table 4: Key Communication Summary - Alignment Along the Connection to Sachigo Lake First Nation**

Date	Method of Communication	Summary
January 27, 2020	Community Meeting	Sachigo Lake FN made formal request to Wataynikaneyap representatives to re-align portions of the line in the Sachigo North and Sachigo South areas.
November 20, 2020	Teleconference/Videoconference	Wataynikaneyap and Sachigo Lake FN Chief and Council and community liaison discussed line routing solutions to be advanced for detailed review.
November 27, 2020	Teleconference/Videoconference	Wataynikaneyap and Sachigo Lake FN Chief and Council and community liaison finalize line routing solutions to be advanced for EA amendment.
December 14, 2020	Letter	Sachigo Lake FN sends formal letters directing Wataynikaneyap to proceed with the 2 route changes.

A high-level baseline characterization for the amended Project footprint for the Sachigo Lake FN – North with comparison to the Project footprint assessed in the Final ESR for this segment of the Project is presented in Table 5. The full set of metrics considered is presented in Appendix A.

**Table 5: Corridor Refinement Analysis – Alignment along the Connection to Sachigo Lake First Nation-North**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment along the Connection to Sachigo Lake First Nation - North		
	SLN1 (Amended Project Footprint)	SLN2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
Technical	<b>Size</b> <ul style="list-style-type: none"><li>■ ROW is approximately 8.5 km in length.</li><li>■ The Project footprint has an area of approximately 33.9 ha.</li></ul>	<b>Size</b> <ul style="list-style-type: none"><li>■ The ROW length is approximately 11.8 km.</li><li>■ The Project footprint has an area of 47.3 ha.</li></ul>	■ SLN1 has a moderately smaller Project footprint than SLN2.
	<b>Existing Infrastructure</b> <ul style="list-style-type: none"><li>■ The Project footprint does not cross any existing roads.</li><li>■ The Project does not cross any existing linear corridors.</li></ul>	<b>Existing Infrastructure</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses one existing road. The road is crossed once.</li><li>■ The Project does not cross any existing linear corridors.</li></ul>	■ No existing infrastructure is crossed by the Project footprint defined by SLN1, compared to the one existing road crossed by SLN2.
Natural Environment	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 14.1 ha of mapped wetlands.</li></ul>	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 6.6 ha of mapped wetlands.</li></ul>	■ SLN1 crosses a larger area of mapped, unevaluated wetlands than SLN2.

**Table 5: Corridor Refinement Analysis – Alignment along the Connection to Sachigo Lake First Nation- North**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment along the Connection to Sachigo Lake First Nation - North		
	SLN1 (Amended Project Footprint)	SLN2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint does not cross any watercourses.</li><li>■ The Project footprint does not cross any mapped waterbodies.</li></ul>	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint does not cross any watercourses.</li><li>■ The Project footprint does not cross any mapped waterbodies.</li></ul>	<ul style="list-style-type: none"><li>■ Neither Project footprint crosses any watercourses or waterbodies.</li></ul>
	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 29.5 ha of natural landcover (terrestrial); and</li><li>■ 3.8 ha of natural disturbance.</li></ul></li></ul>	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 31.6 ha of natural landcover (terrestrial); and</li><li>■ 8.7 ha of natural disturbance.</li></ul></li></ul>	<ul style="list-style-type: none"><li>■ SLN1 crosses a smaller area of natural landcover and natural disturbance than the larger Project footprint of SLN2.</li></ul>
Natural Environment (cont'd)	<b>Wildlife Habitat</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 14.2 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 0 ha of potential suitable horned grebe habitat.</li><li>■ The Project footprint crosses 7.8 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 20.8 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 11.1 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 15.7 ha of potential suitable olive-sided flycatcher habitat.</li></ul>	<b>Wildlife Habitat</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 28.5 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 0 ha of potential suitable horned grebe habitat.</li><li>■ The Project footprint crosses 7.1 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 8.9 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 10.9 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 7.0 ha of potential suitable olive-sided flycatcher habitat.</li></ul>	<ul style="list-style-type: none"><li>■ SLN1 crosses a smaller area of potential moose habitat while the Project footprint of SLN2 crosses a smaller area of potential bald eagle, Canada warbler, common nighthawk, and olive-sided flycatcher habitat. Neither Project footprints cross potential suitable horned grebe habitat.</li></ul>

**Table 5: Corridor Refinement Analysis – Alignment along the Connection to Sachigo Lake First Nation- North**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment along the Connection to Sachigo Lake First Nation - North		
	SLN1 (Amended Project Footprint)	SLN2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
	<b>Threatened and endangered species or their habitat (Caribou (Boreal population))</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 34.1 ha of mapped Category 3 habitat.</li><li>■ The Project footprint crosses 0 ha of Spring (April) travel corridor.</li><li>■ The Project footprint crosses 0 ha of Fall (November) travel corridor.</li></ul>	<b>Threatened and endangered species or their habitat (Caribou (Boreal population))</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 47.5 ha of mapped Category 3 habitat.</li><li>■ The Project footprint crosses 0 ha of Spring (April) travel corridor.</li><li>■ The Project footprint crosses 0 ha of Fall (November) travel corridor.</li></ul>	
	<b>Threatened and endangered species or their habitat (Wolverine)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 33.3 ha of potential wolverine habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Wolverine)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 40.5 ha of potential wolverine habitat.</li></ul>	■ SLN1 crosses a smaller area of potential wolverine habitat than SLN2.
	<b>Threatened and endangered species or their habitat (Little brown myotis)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 5.8 ha of potentially suitable little brown myotis maternity roost habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Little brown myotis)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 6.9 ha of potentially suitable little brown myotis maternity roost habitat.</li></ul>	■ SLN1 crosses a smaller area of potentially suitable little brown myotis maternity roost habitat than SLN2.
Socio-economic	<b>Archaeology and Cultural Heritage</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 0 ha of land that has archaeological potential.</li></ul>	<b>Archaeology and Cultural Heritage</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 0 ha of land that has archaeological potential.</li></ul>	■ Neither Project footprint crosses areas identified to have archaeological potential.
Traditional Land and Resource Use by Indigenous Communities	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ Two types of identified TLRU values, not classified as 'avoid'.</li></ul>	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ Three types of identified TLRU values, not classified as 'avoid'.</li></ul>	■ SLN1 option aligns with the current community preference for greater distance from use areas adjacent to the current road approaching the community.

a) All wetlands are understood to be unevaluated.

b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.

c) Waterbodies not including watercourses.

d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense

coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.

The proposed realignment (SLN1) was identified by community leadership through engagement following approval of the EA as the preferred route avoiding community high-use and sensitive areas located adjacent to this section of the existing road with which the original alignment has been co-located. The proposed realignment results in a moderate increase in the length of the ROW (8.5 km) and increase in the Project footprint area (13.4 ha). The natural environment metrics presented in Table 4 for the SLN1 Project footprint generally result in no increased effects overall. The Project footprint for SLN1 intersects a larger area of mapped unevaluated wetland. It crosses a smaller area of anthropogenically disturbed area and a smaller area of natural disturbance, as it is no longer closely aligned with this section of the existing road. There are no changes in the number of waterbodies and watercourses crossed. The Project crosses a smaller area of potentially suitable habitat for moose. SLN1 crosses a larger area of potential habitat for bald eagle, Canada warbler, olive-sided flycatcher, and common nighthawk. The Project footprint crosses a smaller area of suitable wolverine and roosting area for little brown myotis. Bat hibernacula were not surveyed, but potential habitat was not identified on the Phase 1 subsystem during surveys supporting the Final ESR. The area of mapped caribou (Boreal population) Category 3 habitat crossed by the project is smaller.

Within the existing limits of work and on the Sachigo Lake First Nation reserve lands, the substation location has also been shifted to locate on the opposite side of the existing road than the location considered in the Final ESR to be located further away from the community cemetery location. No receptor points closer than those considered in the Final ESR relative to the substation were identified, so the assessment presented in the Final ESR is considered to be bounding of the potential effects of noise. Design and permitting for the substation will confirm noise levels are managed to the required limits.

Construction, operation, and maintenance activities for the SLN1 Project footprint are predicted to have similar effects and mitigation to those described in Section 10.0 Net Effects Assessment of the Final ESR for the majority of the physical environment, biological environment, and socio-economic environment criteria. No RFDs are intersected by the proposed alignment within this section of the Project (Section 4.0 of the Final ESR), and therefore, cumulative effects are not anticipated. The assessment of the potential effects of the Project that includes this route refinement reaches the same conclusions as for the EA criteria in Sections 5.0 to 8.0 of the Final ESR; and in consideration of implementation of the mitigation, commitments and monitoring in Section 12.0 and the Environmental and Social Management Plan in Section 9.0 of the Final ESR. Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project. Therefore, in alignment with community preferences, the proposed SLN1 Project footprint realignment is preferred for the area north of Sachigo Lake First Nation.

In addition to implementing the revised route, Wataynikaneyap proposes an equivalent amended to the limits of work area to each side of the 40-m-wide transmission line alignment ROW. The full set of metrics applied to the route revision comparison has been run against the limits of work area around SLN1 and is presented in Appendix A (Table A-3). The limits of work area around SLN1 intersects with the same metrics presented in Table 5, including intersection with areas of wetland, natural landcover areas, and similar wildlife areas. Therefore, should Wataynikaneyap require realignment within the limits of work during construction, it is predicted that the potential effects will reach the same conclusions and consider implementation of the same commitments identified above.



A high-level baseline characterization for the amended Project footprint for the Sachigo Lake FN - South with comparison to the Project footprint assessed in the 2019 Addendum for this segment of the Project is presented in Table 6. The full set of metrics considered is presented in Appendix A.

**Table 6: Corridor Refinement Analysis – Alignment along the Connection to Sachigo Lake First Nation – South**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment along the Connection to Sachigo Lake First Nation - South		
	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
Technical	<b>Size</b> <ul style="list-style-type: none"><li>■ ROW is approximately 22.0 km in length.</li><li>■ The Project footprint has an area of approximately 88.0 ha.</li></ul>	<b>Size</b> <ul style="list-style-type: none"><li>■ The ROW length is approximately 21.2 km in length.</li><li>■ The Project footprint has an area of 84.7 ha.</li></ul>	■ SLS1 has a slightly larger Project footprint than SLS2.
Natural Environment	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 66.1 ha of mapped wetlands.</li></ul>	<b>Wetlands<sup>(a)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 49.0 ha of mapped wetlands.</li></ul>	■ SLS1 crosses a larger area of mapped, unevaluated wetlands than the Project footprint of SLS2.
	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses four mapped watercourses.</li><li>■ The Project footprint crosses one mapped waterbody<sup>(c)</sup> for an area of 0.2 ha.</li></ul>	<b>Waterbodies and Watercourses<sup>(b)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses five mapped watercourses.</li><li>■ The Project footprint crosses one mapped waterbody<sup>(c)</sup> for an area of 0.2 ha.</li></ul>	■ SLS1 crosses less watercourse than SLS2. However, both Project footprints cross the same waterbody once with an area of 0.2 ha.
	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 85.1 ha of natural landcover (terrestrial); and</li><li>■ 0 ha of natural disturbance.</li></ul></li></ul>	<b>Vegetation<sup>(d)</sup></b> <ul style="list-style-type: none"><li>■ The Project footprint crosses:<ul style="list-style-type: none"><li>■ 81.8 ha of natural landcover (terrestrial); and</li><li>■ 0 ha of natural disturbance.</li></ul></li></ul>	■ SLS1 crosses a larger area of natural landcover and same area of natural disturbance than the smaller Project footprint of SLS2.



**Table 7: Corridor Refinement Analysis – Alignment along the Connection to Sachigo Lake First Nation – South (continued)**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment along the Connection to Sachigo Lake First Nation - South		
	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
Natural Environment (cont'd)	<b>Wildlife Habitat</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 30.7 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 1 ha of potential suitable horned grebe habitat.</li><li>■ The Project footprint crosses 33.6 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 74.8 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 20.3 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 60.6 ha of potential suitable olive-sided flycatcher habitat.</li><li>■ 74.1 ha of mapped provincially tracked rare wildlife species.</li></ul>	<b>Wildlife Habitat</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 41.7 ha of potential suitable moose habitat.</li><li>■ The Project footprint crosses 0.4 ha of potential suitable horned grebe habitat.</li><li>■ The Project footprint crosses 43.4 ha of potential suitable bald eagle habitat.</li><li>■ The Project footprint crosses 62.2 ha of potential suitable Canada warbler habitat.</li><li>■ The Project footprint crosses 24.9 ha of potential suitable common nighthawk habitat.</li><li>■ The Project footprint crosses 55.8 ha of potential suitable olive-sided flycatcher habitat.</li><li>■ 54.4 ha of mapped provincially tracked rare wildlife species.</li></ul>	<ul style="list-style-type: none"><li>■ SLS1 crosses a larger area of potential moose, horned grebe, bald eagle, Canada warbler, common nighthawk and olive-sided flycatcher habitat. 19.1 ha of mapped provincially tracked rare wildlife species.</li></ul>

**Table 8: Corridor Refinement Analysis – Alignment along the Connection to Sachigo Lake First Nation – South (continued)**

Key Factors	Corridor Refinements		Corridor Refinement Analysis
	Alignment along the Connection to Sachigo Lake First Nation - South		
	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	
Natural Environment (cont'd)	<b>Threatened and endangered species or their habitat (Wolverine)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 85.1 ha of potential wolverine habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Wolverine)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 81.8 ha of potential wolverine habitat.</li></ul>	■ SLS1 crosses a larger area of potential wolverine habitat.
	<b>Threatened and endangered species or their habitat (Little brown myotis)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 27.6 ha of potentially suitable little brown myotis maternity roost habitat.</li></ul>	<b>Threatened and endangered species or their habitat (Little brown myotis)</b> <ul style="list-style-type: none"><li>■ The Project footprint crosses 23.9 ha of potentially suitable little brown myotis maternity roost habitat.</li></ul>	■ SLS1 crosses a larger area of potentially suitable little brown myotis maternity roost habitat.
Socio-economic	<b>Archaeology and Cultural Heritage</b> <ul style="list-style-type: none"><li>■ The Project footprint 2.5 ha of land that has archaeological potential.</li></ul>	<b>Archaeology and Cultural Heritage</b> <ul style="list-style-type: none"><li>■ The Project footprint 4.7 ha of land that has archaeological potential.</li></ul>	■ SLS1 crosses a smaller area of archaeological potential than the Project footprint for SLS2. Areas of archaeological potential crossed by the Project footprint for SLS1 will be subject to Stage 2 archaeological assessments (and Stage 3 and Stage 4, as required) prior to Project construction.
Traditional Land and Resource Use by Indigenous Communities	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ Three types of identified TLRU values, not classified as 'avoid'.</li></ul>	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"><li>■ Three types of identified TLRU values, not classified as 'avoid'.</li></ul>	■ SLS1 aligns with the current community preference for crossing the Sachigo River and reflecting avoidance of higher use areas by current land users.

a) All wetlands are understood to be unevaluated.

b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.

c) Waterbodies not including watercourses.

d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.

The proposed realignment (SLS1) was identified by Sachigo Lake First Nation community leadership through community engagement following approval of the EA and the 2019 EA Addendum. This revised alignment was identified as the preferred crossing location of the Sachigo River and reflecting avoidance of higher use areas by current land users. The proposed realignment results in a moderate increase in the length of the ROW (22 km) and a slight increase in the Project footprint area (88 ha). The Project footprint for SLS1 intersects larger areas of mapped unevaluated wetland and natural landcover. This alignment does include crossing 46 ha of Category 1 caribou habitat in the Spirit Range avoided by the alignment proposed in the 2019 EA Addendum, but is located at the boundary of the defined Category 1 woodland caribou winter use habitat area within the Spirit Range (Figure 5). The area of Category 1 winter use habitat area crossed represents a very small portion of the area crossed by the routing considered in the Final ESR. No significant adverse effects to caribou within the Spirit Range were identified within the Final ESR.

SLS1 crosses a smaller area of potentially suitable habitat for moose, bald eagle, Canada warbler, common nighthawk, and olive-sided flycatcher habitat compared with SLS2, but crosses a larger area of potential habitat for bald eagle, Canada warbler, olive-sided flycatcher, common nighthawk. The Project footprint crosses a larger area of suitable wolverine and roosting area for little brown myotis. Bat hibernacula were not surveyed along SLS1, but potential habitat was not identified on the Pickle Lake subsystem during surveys supporting the Final ESR.

For areas where the revised Project footprint will interact with areas of Species at Risk habitat not identified in current permitting, discussion with agencies will be undertaken to confirm requirements for amendments where required.

Although additional areas of wildlife habitat compared with the 2019 Addendum are crossed, construction, operation, and maintenance activities for the SLS1 Project footprint are predicted to have similar effects and mitigation to those described in Section 10.0 Net Effects Assessment of the Final ESR for the majority of the physical environment, biological environment, and socio-economic environment criteria. The one RFD that intersects with the alignment south of Sachigo Lake is the Four First Nations Group All-Season Road (Section 4.0 of the Final ESR). This RFD was also intersected by the Project footprint assessed in the Final ESR, but the alignment of the road within the section where this ROW revision is planned is expected to be similarly adjusted. As such, the alignment south of Sachigo Lake is predicted to have similar effects and mitigation to those described in Section 11.0 Cumulative Effects Assessment for the majority of the physical environment, biological environment and socio-economic environment criteria.

The assessment of the potential effects of the Project that includes this route refinement reaches the same conclusions as for the EA criteria in Sections 5.0 to 8.0 of the Final ESR; and in consideration of implementation of the mitigation, commitments and monitoring in Section 12.0 and the environmental and social management plan in Section 9.0 of the Final ESR. Wataynikaneyap with their contractor(s) will adhere to all permits and approvals required for the Project. Therefore, in alignment with community preferences, the proposed SLS1 Project footprint realignment is preferred for the area south of Sachigo Lake First Nation.

In addition to implementing the revised route, Wataynikaneyap proposes an equivalent amended to the limits of work area to each side of the 40-m-wide transmission line alignment ROW. The full set of metrics applied to the route revision comparison has been run against the limits of work area around SLS1 and is presented in Appendix A (Table A-2). The limits of work area around SLS1 intersects with the same metrics presented in Table 5, including intersection with areas of wetland, natural landcover areas, and similar wildlife areas. Should Wataynikaneyap require realignment within the limits of work during construction, it is predicted that the potential



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## PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES COMPARATIVE ANALYSIS OF REVISIONS TO 115 kV SECTIONS

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effects will reach the same conclusions and consider implementation of the same commitments identified above; however, it is recognized that changes to the footprint within the Limits of Work would require additional revisions to applicable permits prior to implementation.

### 4.0 CONCLUSION

Overall, the potential effects and mitigation measures outlined in the Final ESR and through the 2019 Addendum effectively address the proposed design changes to the alignments of the identified segments of the 115-kV transmission line. The updated information presented in this comparative analysis do not change the results and conclusions of the net effects or cumulative effects assessments of the Final ESR. The SLS1 change does increase the area of Category 1 Caribou habitat crossed compared with the findings of the 2019 Addendum, but continues to represent a similar area of disturbance relative to the routing considered in the Final ESR. The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in the Final ESR, as the potential effects of these proposed design changes are expected to be adequately addressed by the proposed mitigation measures described in the Final ESR. The proposed re-alignments reflect the preferences of the Indigenous communities local to the area of each revision, are technically and economically feasible and do not result in changes to the conclusions of the Final ESR.

Accordingly, aligned with community preferences, Wataynikaneyap intends to implement the CL1, ML1, SLN1, and SLS1 route revisions. For areas where the revised Project footprint will interact with areas of Species at Risk habitat not identified in current permitting, discussion with agencies to confirm amendments to permitting, including that any conditions can be met, are required to proceed. This may include Category 1 caribou habitat areas crossed by SLS1, Category 2 caribou habitat areas crossed by ML1, and bat habitat areas.

### 5.0 REFERENCES

- MNR (Ontario Ministry of Natural Resources). 2005. A Class Environmental Assessment for Provincial Parks and Conservation Reserves. December 31, 2004. ISBN: 0-7794-3848-5.
- MNR. 2003. A Class Environmental Assessment for MNR Resource Stewardship and Facilities Development Project. Environmental Assessment Report Series. Queen's Printer for Ontario. Ontario, Canada.
- Ontario Hydro. 1992. Class Environmental Assessment for Minor Transmission Facilities. Pursuant to the Environmental Assessment Act. Revision 6. Report No. 89513.
- Pikangikum First Nation. 2006. Keeping the Land, A Land Use Strategy. June 2006. Prepared in cooperation with the Ontario Ministry of Natural Resources.

# APPENDIX A

## Metrics Tables



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## APPENDIX A - METRICS

### PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation

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## APPENDIX A - METRICS

### PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation

**Table A-1: Corridor Analysis Factors and Metrics**

Factor	Metric Category	Metric
Technical	Size	<ul style="list-style-type: none"> <li>■ Total length of the 115-kV right-of-way (ROW)</li> <li>■ Area of Project footprint (ha)</li> </ul>
	Existing Infrastructure	<ul style="list-style-type: none"> <li>■ Number of existing roads crossed by the Project footprint (number of separately identified roads)</li> <li>■ Number of points where existing roads are crossed by the Project footprint (includes multiple crossings of the same road)</li> <li>■ Number of other existing linear corridors crossed by the Project footprint (e.g., communication lines).</li> </ul>
Natural Environment	Areas of Natural and Scientific Interest	<ul style="list-style-type: none"> <li>■ Area of mapped candidate Areas of Natural and Scientific Interest (ANSI) (Earth Science and Life Science) in the Project footprint (ha)</li> </ul>
	Wetlands <sup>(a)</sup>	<ul style="list-style-type: none"> <li>■ Area of mapped wetlands in the Project footprint (ha)</li> </ul>
	Waterbodies and Watercourses <sup>(b)</sup>	<ul style="list-style-type: none"> <li>■ Number of mapped watercourses crossed by the Project footprint</li> <li>■ Area of mapped waterbodies (not including watercourses) in the Project footprint (ha)</li> <li>■ Number of mapped waterbodies (not including watercourses) crossed by the Project footprint</li> </ul>
	Vegetation	<ul style="list-style-type: none"> <li>■ Area of mapped occurrences of provincially tracked vegetation species in the Project footprint <sup>(c)</sup> (ha)</li> <li>■ Area of Natural Landcover (Terrestrial), Anthropogenic Disturbance, and Natural Disturbance within the Project footprint<sup>(d)</sup></li> </ul>
	Wildlife Habitat	<ul style="list-style-type: none"> <li>■ Area of suitable habitat (see Section 6.3 and Appendix 6.3B of the Final ESR for suitable habitat assumptions) for all wildlife criteria species (not Threatened or Endangered species) in the Project footprint (i.e., moose, horned grebe, bald eagle, Canada warbler, common nighthawk, and olive-sided flycatcher) (ha)</li> <li>■ Area of mapped occurrences of potential habitat supporting provincially tracked wildlife species in the Project footprint <sup>(e)</sup> (ha)</li> <li>■ Number of spawning sites crossed by the Project footprint</li> <li>■ Number of fish and wildlife feeding or staging areas in the Project footprint</li> </ul>
	Nesting Sites	<ul style="list-style-type: none"> <li>■ Number of bald eagle nesting sites crossed by the Project footprint</li> </ul>



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### PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation

**Table A-1: Corridor Analysis Factors and Metrics**

Factor	Metric Category	Metric
Natural Environment (cont'd)	Threatened and Endangered species or their Habitat	<ul style="list-style-type: none"> <li>■ Area of mapped Caribou (boreal population) Category 1 high-use habitat (nursery areas) in the Project footprint (ha)</li> <li>■ Area of mapped Caribou (boreal population) Category 1 high-use habitat (winter use areas) in the Project footprint (ha)</li> <li>■ Area of mapped Caribou (boreal population) Category 1 high-use habitat (nursery and winter use area overlap) in the Project footprint (ha)</li> <li>■ Area of mapped Caribou (boreal population) Category 2 seasonal range habitat in the Project footprint (ha)</li> <li>■ Area of mapped Caribou (boreal population) Category 3 habitat in the Project footprint (ha)</li> <li>■ Area of Caribou (boreal population) travel corridors (Spring; April) crossed by the Project footprint (ha)</li> <li>■ Area of Caribou (boreal population) travel corridors (Fall; November) crossed by the Project footprint (ha)</li> <li>■ Area of potential suitable wolverine habitat in the Project footprint (ha) <sup>(e)</sup></li> <li>■ Area of potential suitable maternity roosting habitat for little brown myotis in the Project footprint (ha) <sup>(e)</sup></li> <li>■ Number of bat hibernacula with confirmed use within 500m of the Project footprint <sup>(f)</sup></li> </ul>
Land Use, Resource Management	Land Designation	<ul style="list-style-type: none"> <li>■ Area of Enhanced Management Areas within the Project footprint (ha)</li> <li>■ Area of active, inactive, or abandoned mines in the Project footprint (ha)</li> <li>■ Number of mining claims crossed by the Project footprint</li> <li>■ Area of active mining claims in the Project footprint (ha)</li> <li>■ Area of aggregate pits in the Project footprint (ha)</li> </ul>
	Trails	<ul style="list-style-type: none"> <li>■ Number of mapped trails (OTN and non-OTN<sup>(g)</sup>) crossed by the Project footprint</li> <li>■ Length of mapped trails (OTN and non-OTN) crossed by the Project footprint (km)</li> </ul>
	Points of Reception	<ul style="list-style-type: none"> <li>■ Number of potential receptor points within 1 km of a Project substation <sup>(h)</sup></li> </ul>
Socio-economic and Cultural	Tourism and Recreation	<ul style="list-style-type: none"> <li>■ Existing buildings including trapper cabins crossed by the Project footprint</li> <li>■ Area of tourism establishment areas crossed by the Project footprint (ha)</li> <li>■ Recreation points crossed by the Project footprint <sup>(i)</sup></li> <li>■ Number of bait harvest areas (BHA) crossed by the Project footprint</li> <li>■ Area of BHA crossed by the Project footprint (ha)</li> </ul>
	Archaeology and Cultural Heritage	<ul style="list-style-type: none"> <li>■ Number of archaeological sites crossed by the Project footprint <sup>(i)</sup></li> <li>■ Area of archaeological potential in the Project footprint (ha)</li> </ul>

## APPENDIX A - METRICS

### PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation

**Table A-1: Corridor Analysis Factors and Metrics**

Factor	Metric Category	Metric
Traditional Land and Resource Use by Indigenous Communities	Traditional Land and Resource Use, including spiritual or cultural sites <sup>(k)</sup>	<ul style="list-style-type: none"> <li>Traditional land and resource use features shared by First Nations communities crossed by the Project footprint, classified as features to be avoided (e.g., burial sites).</li> </ul>

Note:

a) All wetlands are understood to be unevaluated.

b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.

c) Areas are considered based on "element and species occurrence and observation" datasets that record observations for species listed by MNRF as provincially tracked by the Natural Heritage Information Centre.

d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.

e) Based on habitat modelling – see Section 6.3 of the Final ESR.

f) Potential hibernacula were identified within the ROW-limits of work. Three locations with identified use were confirmed through acoustic monitoring, present on the Red Lake subsystem as documented through the Information Gathering Form supporting *Endangered Species Act* permitting.

g) Mapped trails include non-OTN trails available through LIO. No OTN trails were identified as being crossed by the defined corridors.

h) Points of reception were identified considering LIO datasets defining the locations of buildings, as well as locations of structures defined through the traditional and resource use study.

i) Recreation points are defined as access points, beaches, boat caches of all types, boat houses, designated campsites and picnic sites.

j) Archaeological site data may not be released publicly without the express permission of the Ministry of Tourism, Culture, and Sport to protect the integrity of these sites.

k) See Section 8.0 of the Final ESR for further information on traditional land and resource use information collected for the Project.

ROW = right-of-way; km = kilometres; ha = hectares; ANSI = Area of Natural Significance and Interest; OTN = Ontario Trail Network; BHA = bait harvest areas.

**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

**Table A-2: Metrics Considered in the Comparative Analysis**

Factor	Metric Category	Metrics	Red Lake Subsystem				Pickle Lake Subsystem			
			Alignment near Critchell Lake		Alignment near McInnes Lake		Alignment approaching Sachigo Lake First Nation – North		Alignment South of Sachigo Lake First Nation – South	
			CL1 (Amended Project Footprint)	CL2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLN1 (Amended Project Footprint)	SLN 2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)
Technical	Size	Total length of the 115-kV ROW (km)	5.6	3.9	3.2	3.3	8.5	11.8	22.0	21.2
		Area of Project footprint (ha)	22.4	15.7	13.0	13.1	33.9	47.3	88.0	84.7
	Existing Infrastructure	Number of existing roads crossed by the Project footprint	0	0	0	0	0	1	0	0
		Number of points where existing roads are crossed by the Project footprint (includes multiple crossings of the same road)	0	0	0	0	0	1	0	0
		Number of other existing linear corridors crossed by the Project footprint (e.g., communication lines)	0	0	0	0	0	0	0	0
Natural Environment	Areas of Natural and Scientific Interest (ANSI)	Area of mapped candidate ANSI (Earth Science and Life Science) in the Project footprint (ha)	0	0	0	0	0	0	0	0
	Wetlands	Area of mapped wetlands <sup>(a)</sup> in the Project footprint (ha)	4.4	3.0	3.6	2.9	14.1	6.6	66.1	49.0
	Waterbodies and Watercourses <sup>(b)</sup>	Number of mapped watercourses crossed by the Project footprint	1	2	0	2	0	0	4	5
		Area of mapped waterbodies (not including watercourses) in the Project footprint (ha)	0	1	0	0	0	0	0.2	0.2
		Number of mapped waterbodies (not including watercourses) crossed by the Project footprint	0	<0.1	2.0	0.8	0	0	1	1
	Vegetation	Area of mapped occurrences of provincially tracked vegetation species in the Project footprint (ha) <sup>(c)</sup>	0	0	0	0	0	0	0	0
		Area of natural landcover <sup>(d)</sup> (terrestrial) within the Project footprint (ha)	22.4	15.7	12.6	12.8	29.5	31.6	85.1	81.8
		Area of anthropogenic disturbance <sup>(d)</sup> within the Project footprint (ha)	0	0	0	0	<0.1	6.2	0	0
		Area of natural disturbance <sup>(d)</sup> within the Project footprint (ha)	0	0	0	0	3.8	8.7	0	0
	Wildlife Habitat	Area of suitable habitat for moose in the Project footprint (ha)	9.1	7.5	7.0	8.2	14.2	28.5	30.7	41.7
		Area of suitable habitat for horned grebe in the Project footprint (ha)	0	0.2	0	0	0	0	1	0.4
		Area of suitable habitat for bald eagle in the Project footprint (ha)	2.8	3.4	6.7	7.6	7.8	7.1	33.6	43.4
		Area of suitable habitat for Canada warbler in the Project footprint (ha)	13.0	8.0	5.5	5.9	20.8	8.9	74.8	62.2

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**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

Factor	Metric Category	Metrics	Red Lake Subsystem				Pickle Lake Subsystem			
			Alignment near Critchell Lake		Alignment near McInnes Lake		Alignment approaching Sachigo Lake First Nation – North		Alignment South of Sachigo Lake First Nation – South	
			CL1 (Amended Project Footprint)	CL2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLN1 (Amended Project Footprint)	SLN 2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)
Natural Environment (cont'd)	Wildlife Habitat (cont'd)	Area of suitable habitat for common nighthawk in the Project footprint (ha)	12.0	6.0	5.4	4.6	11.1	10.9	20.3	24.9
		Area of suitable habitat for olive-sided flycatcher in the Project footprint (ha)	2.8	3.0	6.7	7.6	15.7	7.0	60.6	55.8
		Number of fish and wildlife feeding or staging areas	0	0	0	0	0	0	0	0
		Area of mapped occurrences of potential habitat supporting provincially tracked wildlife species in the Project footprint (ha) <sup>(c)</sup>	0	0	0	0	0	0	74.1	54.4
		Number of spawning sites crossed by the Project footprint	0	0	0	0	0	0	0	0
	Nesting Sites	Number of bald eagle nesting sites crossed by the Project footprint	0 features in publicly mapped nest sites; not surveyed	0	0 features in publicly mapped nest sites; not surveyed	0	0 features in publicly mapped nest sites; not surveyed	0	0 features in publicly mapped nest sites; not surveyed	0
	Threatened and Endangered species or their Habitat	Area of mapped Caribou (boreal population) Category 1 high-use habitat (nursery areas) in the Project footprint (ha)	0	0	0	0	0	0	0	0
		Area of mapped Caribou (boreal population) Category 1 high-use habitat (winter use areas) in the Project footprint (ha)	0	0	0	0	0	0	46.7	0
		Area of mapped Caribou (boreal population) Category 2 seasonal range habitat in the Project footprint (ha)	0	0	1.6	1.4	0	0	24.0	62.6
		Area of mapped Caribou (boreal population) Category 3 habitat in the Project footprint (ha)	22.4	15.6	11.4	11.7	34.1	47.5	3.7	22.1
		Area of Caribou (boreal population) travel corridors (Spring; April) crossed by the Project footprint (ha)	0	0	0	0	0	0	0	0
		Area of Caribou (boreal population) travel corridors (Fall; November) crossed by the Project footprint (ha)	0	0	0	0	0	0	0	0
		Area of suitable wolverine habitat in the Project footprint (ha) <sup>(e)</sup>	22.4	15.6	12.6	12.8	33.3	40.5	85.1	81.8
		Area of suitable maternity roosting habitat for little brown myotis in the Project footprint (ha) <sup>(e)</sup>	1.0	2.4	0.1	1.2	5.8	6.9	27.6	23.9

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**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

Factor	Metric Category	Metrics	Red Lake Subsystem				Pickle Lake Subsystem			
			Alignment near Critchell Lake		Alignment near McInnes Lake		Alignment approaching Sachigo Lake First Nation – North		Alignment South of Sachigo Lake First Nation – South	
			CL1 (Amended Project Footprint)	CL2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLN1 (Amended Project Footprint)	SLN 2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)
		Number of bat hibernacula confirmed within 500 m of the Project footprint <sup>(f)</sup>	Not surveyed No moderate to high potential areas for bat hibernacula were identified during review of aerial imagery (eFRI data)	0	Not surveyed No moderate to high potential areas for bat hibernacula were identified through review of aerial imagery (eFRI data)	0	Not surveyed No moderate to high potential for bat hibernacula was identified during review of the Final ESR footprint for the Pickle Lake subsystem	0	Not surveyed No moderate to high potential for bat hibernacula was identified during review of the Final ESR footprint for the Pickle Lake subsystem	0
Land Use, Resource Management	Land Designations	Area of Enhanced Management Areas within the Project footprint (ha)	14.3	14.6	13.0	13.1	0	0	0	0
		Area of active, inactive, or abandoned mines in the Project footprint (ha)	0	0	0	0	0	0	0	0
		Number of mining claims crossed by the Project footprint	0	0	0	0	0	0	0	0
		Area of active mining claims in the Project footprint (ha)	0	0	0	0	0	0	0	0
		Area of existing aggregate pits in the Project footprint (ha)	0	0	0	0	0	0	0	0
		Number of mapped trails crossed by the Project footprint <sup>(g)</sup>	0	0	0	0	0	0	0	0
		Length of mapped trails crossed by the Project footprint (km)	0	0	0	0	0	0	0	0
Socio-economic and cultural	Points of Reception	Number of potential receptor points within 1 km of a Project substation <sup>(h)</sup>	No substation within the area of the alignment		No substation within the area of the alignment		No substation within the area of the alignment		No substation within the area of the alignment	
	Tourism and Recreation	Existing buildings including trapper cabins crossed by the Project footprint	0	0	0	0	0	0	0	0
		Area of tourism establishment areas crossed by the Project footprint (ha)	0	0	0	0	0	0	0	0
		Recreation points crossed by the Project footprint <sup>(i)</sup>	0	0	0	0	0	0	0	0
		Number of BHA crossed by the Project footprint	0	0	0	0	0	0	0	0
		Area of BHA crossed by the Project footprint (ha)	0	0	0	0	0	0	0	0
	Archaeology and Cultural Heritage	Number of archaeological sites crossed by the Project footprint <sup>(j)</sup>	0	0	0	0	0	0	0	0
		Area of archaeological potential (ha) within the Project footprint	0.2	0.9	0	0	0	0	2.5	4.7

**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

Factor	Metric Category	Metrics	Red Lake Subsystem				Pickle Lake Subsystem			
			Alignment near Critchell Lake		Alignment near McInnes Lake		Alignment approaching Sachigo Lake First Nation – North		Alignment South of Sachigo Lake First Nation – South	
			CL1 (Amended Project Footprint)	CL2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	ML1 (Amended Project Footprint)	ML2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLN1 (Amended Project Footprint)	SLN 2 (Project Footprint Considered in the Final ESR and 2019 Addendum)	SLS1 (Amended Project Footprint)	SLS2 (Project Footprint Considered in the Final ESR and 2019 Addendum)
Traditional Land and Resource Use by Indigenous Communities	Traditional Land and Resource Use, including spiritual or cultural sites <sup>(k)</sup>	Traditional land and resource use features shared by First Nations communities crossed by the Project footprint, classified as features to be avoided (e.g., burial sites)	<b>Pikangikum First Nation, Poplar Hill First Nation and Deer Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>Three types of identified TLRU values, not classified as 'avoid'.</li> <li>This option aligns with conditions for land use and forestry planning within the Whitefeather Forest</li> </ul>	<b>Pikangikum First Nation, Poplar Hill First Nation and Deer Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>The same three types of identified TLRU values as CL1, not classified as 'avoid'.</li> </ul>	<b>Pikangikum First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>Two types of identified TLRU values, not classified as 'avoid'. The features are the same as those overlapped by ML2</li> <li>This option aligns with conditions for land use and forestry planning within the Whitefeather Forest</li> </ul>	<b>Pikangikum First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>The same two types of identified TLRU values as ML1, not classified as 'avoid'.</li> </ul>	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>Two types of identified TLRU values, not classified as 'avoid'.</li> <li>This option aligns with the current community preference for greater distance from use areas adjacent to the current road approaching the community.</li> </ul>	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>Three types of identified TLRU values, not classified as 'avoid'.</li> </ul>	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>Three types of identified TLRU values, not classified as 'avoid'.</li> <li>This option aligns with the current community preference for crossing the Sachigo River and reflecting avoidance of higher use areas by current land users.</li> </ul>	<b>Sachigo Lake First Nation</b> Project footprint crosses: <ul style="list-style-type: none"> <li>Three types of identified TLRU values, not classified as 'avoid'.</li> </ul>

Note:

a) All wetlands are understood to be unevaluated.

b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.

c) Areas are considered based on "element and species occurrence and observation" datasets that record observations for species listed by MNRF as provincially tracked by the Natural Heritage Information Centre.

d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class. Other-unknown is not reported.

e) Based on habitat modelling – see Section 6.3 of the Final ESR

f) Potential hibernacula were identified within the ROW-limits of work. Three locations with identified use were confirmed through acoustic monitoring, present on the Red Lake subsystem as documented through the Information Gathering Form supporting *Endangered Species Act* permitting.

g) Mapped trails include non-OTN trails available through LIO. No OTN trails were identified as being crossed by the defined corridors.

h) Points of reception were identified considering LIO datasets defining the locations of buildings, as well as locations of structures defined through the traditional and resource use study.

i) Recreation points are defined as access points, beaches, boat caches of all types, boat houses, designated campsites and picnic sites.

j) Archaeological site data may not be released publicly without the express permission of the Ministry of Heritage, Sport, Tourism, and Cultural Industries to protect the integrity of these sites.

k) See Section 8.0 of the Final ESR for further information on traditional land and resource use information collected for the Project.

ROW = right-of-way; km = kilometres; ha = hectares; ANSI = Area of Natural Significance and Interest; OTN = Ontario Trail Network; BHA = bait harvest areas.



**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

**Table A- 3: Limits of Work around Corridor Refinement Comparative Analysis Metrics**

Factor	Metric Category	Metrics	Alignment near Critchell Lake Within the Amended Limits of Work (approx. 400 m on west side of the CL1 40-m wide right-of-way)	Alignment near McInnes Lake Within the Amended Limits of Work (approx. 400 m on west side of the 40-m wide ML1 right-of-way)	Alignment approaching Sachigo Lake First Nation - North Within the Amended Limits of Work (200 m on either side of the 40-m wide SLN1 right-of-way)	Alignment south of Sachigo Lake First Nation - South Within the Amended Limits of Work (200 m on either side of the 40-m wide SLS1 right-of-way)
Technical	Size	Total length of right-of-way (ROW) centreline (km)	5.6	3.2	8.5	22.0
		Area of Limits of Work (ha)	254.3	119.9	373.0	967.2
	Existing Infrastructure	Number of existing roads within the Limits of Work	0	0	1	0
		Number of existing road crossings within the Limits of Work	0	0	1	0
		Number of other existing linear corridors crossed by the Limits of Work (e.g., communication lines)	0	0	0	0
Natural Environment	Areas of Natural and Scientific Interest	Area of mapped candidate Areas of Natural and Scientific Interest (ANSI) in the Limits of Work (ha)	0	0	0	0
	Wetlands <sup>(a)</sup>	Area of mapped wetlands in the Limits of Work (ha)	56.6	25.8	163.5	715.5
	Waterbodies and Watercourses <sup>(b)</sup>	Number of mapped watercourses crossed by the Limits of Work	2	2	0	6
		Number of mapped waterbodies crossed by the Limits of Work	4	0	2	1
		Area of mapped waterbodies (not including watercourses) in the Limits of Work (ha)	21.0	0	1.8	2.3
	Vegetation <sup>(d)</sup>	Area of mapped occurrences of provincially tracked vegetation species in the Limits of Work <sup>(c)</sup> (ha)	0	0	0	0
		Areas of natural landcover (terrestrial) within the Limits of Work (ha)	233.1	105.2	315.4	933.4
		Area of anthropogenic disturbance within the Limits of Work (ha)	0	0	5.9	0
		Area of natural disturbance within the Limits of Work (ha)	0	13.9	45.2	6.3



**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

**Table A- 3: Limits of Work around Corridor Refinement Comparative Analysis Metrics**

Factor	Metric Category	Metrics	Alignment near Critchell Lake Within the Amended Limits of Work (approx. 400 m on west side of the CL1 40-m wide right- of-way)	Alignment near McInnes Lake Within the Amended Limits of Work (approx. 400 m on west side of the 40-m wide ML1 right- of-way)	Alignment approaching Sachigo Lake First Nation - North Within the Amended Limits of Work (200 m on either side of the 40-m wide SLN1 right-of-way)	Alignment south of Sachigo Lake First Nation - South Within the Amended Limits of Work (200 m on either side of the 40-m wide SLS1 right-of-way)
Natural Environment (cont'd.)	Wildlife Habitat	Area of suitable habitat for moose in the Limits of Work (ha)	94.0	56.0	210.6	311.6
		Area of suitable habitat for homed grebe in the Limits of Work (ha)	42.3	0	11.2	10.3
		Area of suitable habitat for bald eagle in the Limits of Work (ha)	36.7	53.8	136.0	331.9
		Area of suitable habitat for Canada warbler in the Limits of Work (ha)	137.2	46.3	195.8	839.5
		Area of suitable habitat for common nighthawk in the Limits of Work (ha)	130.1	52.7	180.7	249.0
		Area of suitable habitat for olive-sided flycatcher in the Limits of Work (ha)	35.9	56.8	130.9	652.4
		Area of mapped occurrences of potential habitat supporting provincially tracked wildlife species in the Limits of Work (ha)	0	0	0	812.2
		Number of spawning sites crossed by the Limits of Work	0	0	0	0
		Number of fish and wildlife feeding or staging areas in the Limits of Work	0	0	0	0
	Nesting Sites	Number of bald eagle nesting sites crossed by the Limits of Work	0 features in publicly mapped nest sites; not surveyed	0 features in publicly mapped nest sites; not surveyed	0 features in publicly mapped nest sites; not surveyed	0 features in publicly mapped nest sites; not surveyed
	Threatened and Endangered species or their Habitat	Area of mapped woodland caribou Category 1 high- use habitat (nursery areas) in the Limits of Work (ha)	0	0	0	0
		Area of mapped woodland caribou Category 1 high- use habitat (winter use areas) in the Limits of Work (ha)	0	0	0	511.7
		Area of mapped woodland caribou Category 2 seasonal range habitat in the Limits of Work (ha)	0	16.7	0	289.0

**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

**Table A- 3: Limits of Work around Corridor Refinement Comparative Analysis Metrics**

Factor	Metric Category	Metrics	Alignment near Critchell Lake Within the Amended Limits of Work (approx. 400 m on west side of the CL1 40-m wide right-of-way)	Alignment near McInnes Lake Within the Amended Limits of Work (approx. 400 m on west side of the 40-m wide ML1 right-of-way)	Alignment approaching Sachigo Lake First Nation - North Within the Amended Limits of Work (200 m on either side of the 40-m wide SLN1 right-of-way)	Alignment south of Sachigo Lake First Nation - South Within the Amended Limits of Work (200 m on either side of the 40-m wide SLS1 right-of-way)
Natural Environment (cont'd.)	Threatened and Endangered species or their Habitat (cont'd)	Area of mapped woodland caribou Category 3 habitat in the Limits of Work (ha)	254.3	103.2	371.2	166.5
		Area of woodland caribou travel corridors (Spring; April) crossed by the Limits of Work (ha)	0	0	0	0
		Area of woodland caribou travel corridors (Fall; November) crossed by the Limits of Work (ha)	0	0	0	0
		Area suitable wolverine habitat in the Limits of Work (ha)	233.1	119.2	408.3	940.3
		Area of suitable maternity roosting habitat for little brown myotis in the Limits of Work (ha)	8.0	4.6	25.4	276.3
		Number of bat hibernacula confirmed within 500 m of the Limits of Work <sup>(f)</sup>	Not surveyed No moderate to high potential areas for bat hibernacula were identified during review of aerial imagery (eFRI data) for proposed ROW within this LOW	Not surveyed No moderate to high potential areas for bat hibernacula were identified during review of aerial imagery (eFRI data) for proposed ROW within this LOW	Not surveyed No moderate to high potential for bat hibernacula was identified during review of the Final ESR footprint for the Pickle Lake subsystem	Not surveyed No moderate to high potential for bat hibernacula was identified during review of the Final ESR footprint for the Pickle Lake subsystem
Land Use, Resource Management Land Use	Land Designation	Area of Enhanced Management within the Limits of Work (ha)	166.9	111.4	0	0
		Area of active, inactive, or abandoned mines in the Limits of Work (ha)	0	0	0	0
		Number of mining claims crossed by the Limits of Work	0	0	0	0
		Area of active mining claims in the Limits of Work (ha)	0	0	0	0
		Area of aggregate pits in the Limits of Work (ha)	0	0	0	0
	Trails	Number of mapped trails crossed by the Limits of Work	0	0	0	0
		Length of mapped trails <sup>(g)</sup> crossed by the Limits of Work (km)	0	0	0	0

**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

**Table A- 3: Limits of Work around Corridor Refinement Comparative Analysis Metrics**

Factor	Metric Category	Metrics	Alignment near Critchell Lake Within the Amended Limits of Work (approx. 400 m on west side of the CL1 40-m wide right-of-way)	Alignment near McInnes Lake Within the Amended Limits of Work (approx. 400 m on west side of the 40-m wide ML1 right-of-way)	Alignment approaching Sachigo Lake First Nation - North Within the Amended Limits of Work (200 m on either side of the 40-m wide SLN1 right-of-way)	Alignment south of Sachigo Lake First Nation - South Within the Amended Limits of Work (200 m on either side of the 40-m wide SLS1 right-of-way)
Socio-economic and Cultural	Points of Reception	Number of potential receptor points within 1 km of a Project substation <sup>(h)</sup>	No substation within the area of the alignment being assessed	No substation within the area of the alignment being assessed	No substation within the area of the alignment being assessed	No substation within the area of the alignment being assessed
	Tourism and Recreation	Existing buildings including trapper cabins crossed by the Limits of Work	0	0	0	0
		Area of tourism establishment areas crossed by the Limits of Work (ha)	0	0	0	0
		Recreation points crossed by the Limits of Work <sup>(i)</sup>	0	0	0	0
		Number of bait harvest areas (BHA) crossed by the Limits of Work	0	0	0	0
		Area of BHA crossed by the Limits of Work (ha)	0	0	0	0
	Archaeology and Cultural Heritage	Number of archaeological sites <sup>(j)</sup> crossed by the Limits of Work	0	0	0	0
		Area of archaeological potential in the Limits of Work (ha)	34.8	0	5.7	28.3
Traditional Land and Resource Use by Indigenous Communities	Traditional Land and Resource Use <sup>(k)</sup> , including spiritual or cultural sites	Traditional land and resource use features shared by First Nation communities crossed by the Limits of Work, classified as features to be avoided (e.g., burial sites).	<b>Pikangikum First Nation, Poplar Hill First Nation and Deer Lake First Nation</b> Limits of work crosses: ■ The same three types of identified TLRU values as the Project footprints	<b>Pikangikum First Nation</b> Limits of work crosses: ■ The same two types of identified TLRU values as the Project footprint	<b>Sachigo Lake First Nation</b> Limits of work crosses: ■ The same two types of identified TLRU values as the Project footprint	<b>Sachigo Lake First Nation</b> Limits of work crosses: ■ The same three types of identified TLRU values as the Project footprint



**APPENDIX A - METRICS**  
**PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES**  
**Comparative Analysis 2021 - Revisions to 115 kV sections within the Whitefeather Forest and near Sachigo Lake First Nation**

- Note:
- a) All wetlands are understood to be unevaluated.
  - b) In employing a conservative approach, this assessment assumes that all waterbodies and watercourses have the potential to support fish and fish habitat.
  - c) Areas are considered based on “element and species occurrence and observation” datasets that record observations for species listed by MNRF as provincially tracked by the Natural Heritage Information Centre.
  - d) Natural landcover (terrestrial) includes the following landcover classes: bog – open, bog – treed, fen – open, fen – treed, forest – dense coniferous, forest – dense deciduous, forest – dense mixed, forest – regenerating depletion and forest – sparse. Anthropogenic disturbance includes the following land cover classes: forest depletion – cuts and settlement/infrastructure. Natural disturbance includes the forest depletion – burns land cover class.
  - e) Based on habitat modelling – see Section 6.3 of the Final ESR
  - f) Potential hibernacula were identified within the ROW-limits of work. Three locations with identified use were confirmed though acoustic monitoring, present on the Red Lake subsystem as documented though the Information Gathering Form supporting Endangered Species Act permitting.
  - g) Mapped trails include non-OTN trails available through LIO. No OTN trails were identified as being crossed by the defined corridors.
  - h) Points of reception were identified considering LIO datasets defining the locations of buildings, as well as locations of structures defined through the traditional and resource use study.
  - i) Recreation points are defined as access points, beaches, boat caches of all types, boat houses, designated campsites and picnic sites.
  - j) Archaeological site data may not be released publicly without the express permission of the Ministry of Heritage, Sport, Tourism, and Cultural Industries to protect the integrity of these sites.
  - k) See Section 8.0 of the Final ESR for further information on traditional land and resource use information collected for the Project.
- ROW = right-of-way; km = kilometres; ha = hectares; ANSI = Area of Natural Significance and Interest; OTN = Ontario Trail Network; BHA = bait harvest areas.

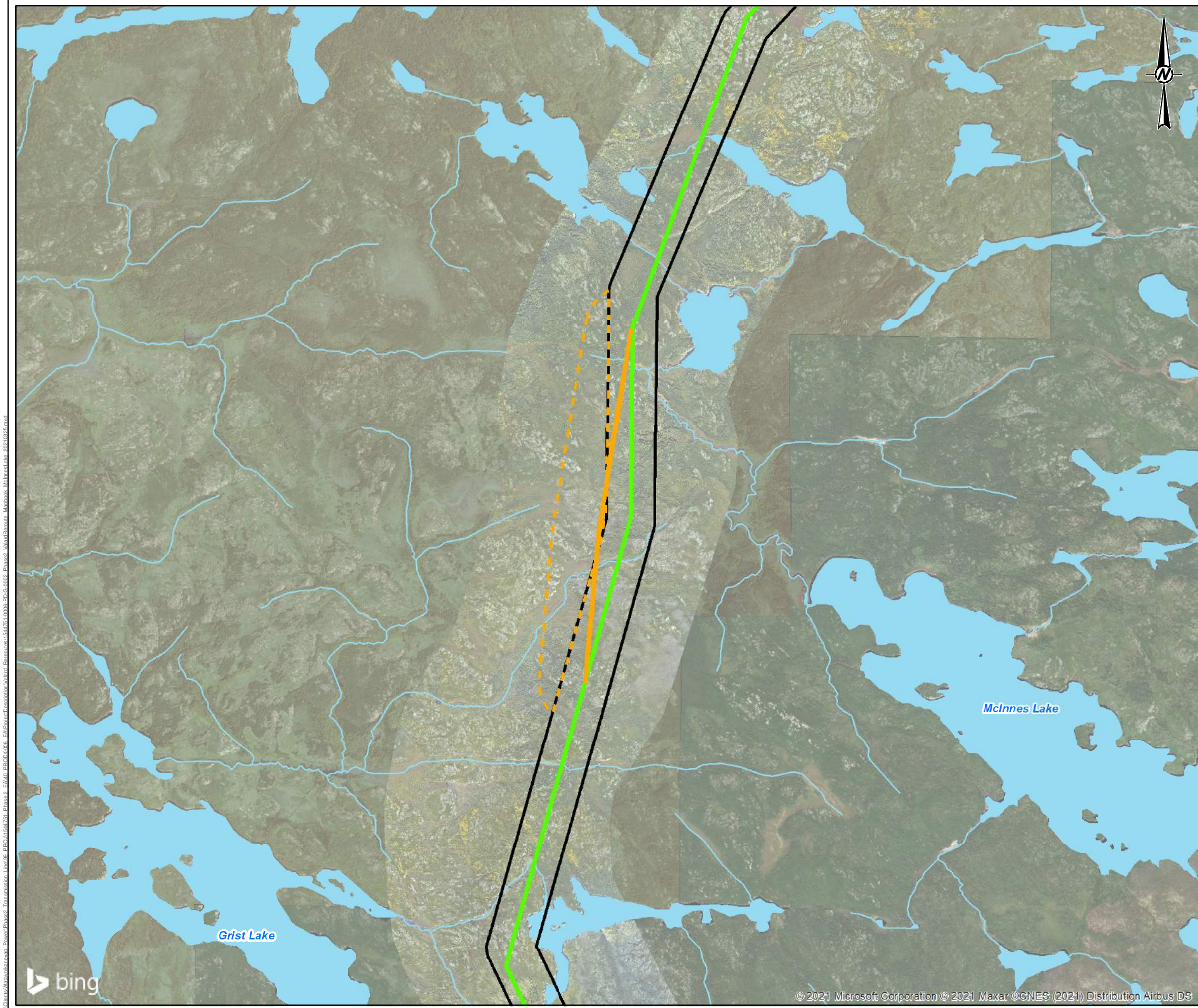
# APPENDIX B

## Corridor Refinement Figures









**LEGEND**

- Re-Route ROW
- Revised Limits of Work Boundary
- Current Project Footprint**
  - 115 kV 40-m-wide Transmission Line Alignment right-of-way (ROW)
  - Limits of Work Boundary
  - Watercourse
  - Waterbody

**KEY MAP**

0 1 2  
1:35,000 Kilometers

**NOTE(S)**

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.  
2. ALL LOCATIONS ARE APPROXIMATE.  
3. NOT FOR ENGINEERING PURPOSES.

**REFERENCE(S)**

1. BASE DATA - MNR LIO, OBTAINED 2016/2017, NTDB  
2. TRANSMISSION ROUTES - PROVIDED BY WATAYNIKANEYAP POWER L.P.  
3. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)  
4. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016  
5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

**CLIENT**

WATAYNIKANEYAP POWER L.P.

**PROJECT**

PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES

**TITLE**

ALIGNMENT NEAR MCINNES LAKE

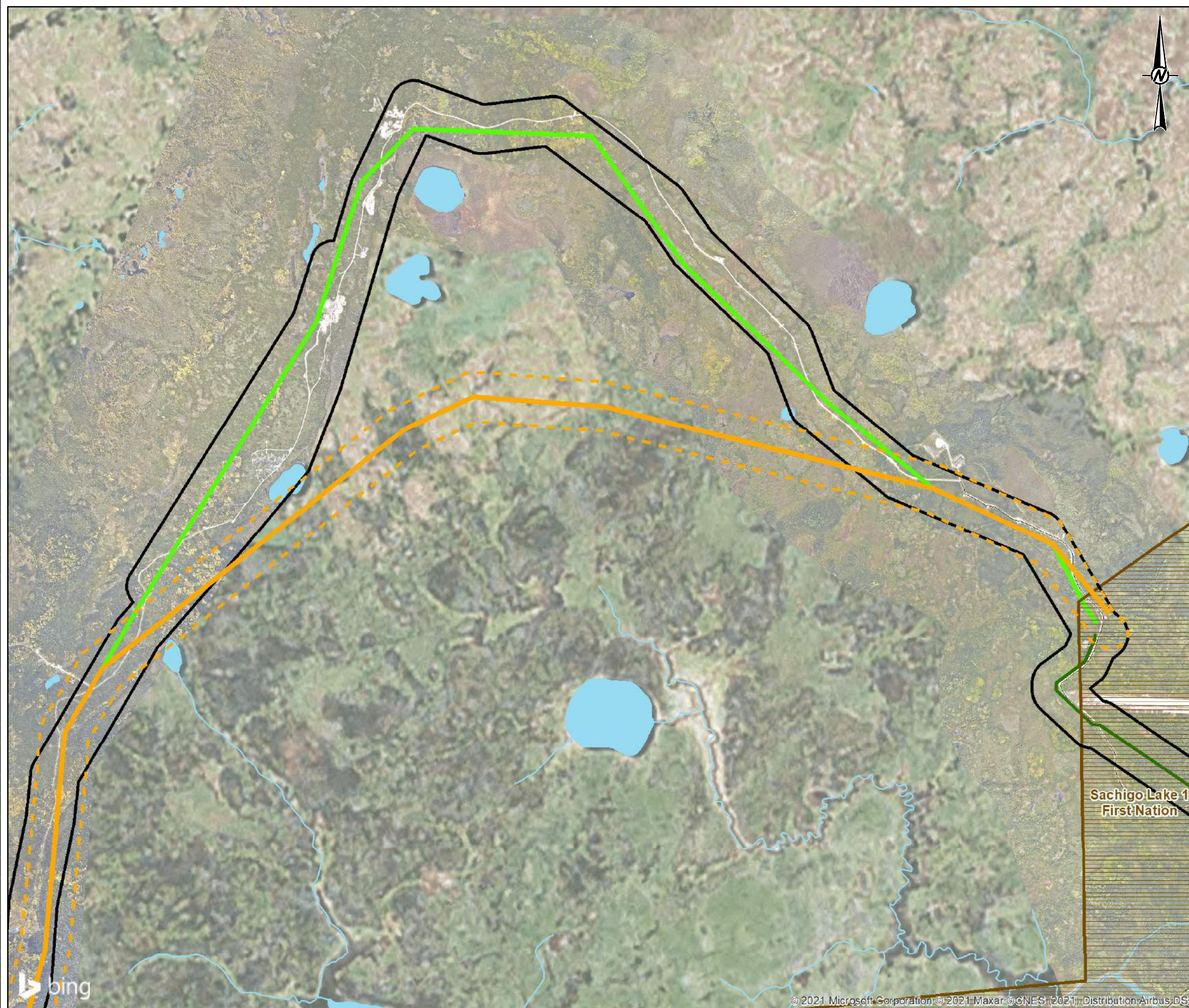
CONSULTANT		YYYY-MM-DD	2021-03-25
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		PREPARED	SO
		REVIEWED	JMC
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PROJECT NO.	CONTROL	REV.	MAP
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm







### LEGEND


- Proposed 115 kV 40-m-wide  
Transmission Line Alignment  
Right-of-Way (ROW)

- 
- Revised Limits of Work Boundary

### Current Project Footprint

-  115 kV 40-m-wide Transmission Line Alignment right-of-way (ROW)  
 Community Distribution 25 kV Line 40-m-wide right-of-way (ROW)


-  Community Distribution 25 kV Line  
40-m-wide right-of-way (ROW)

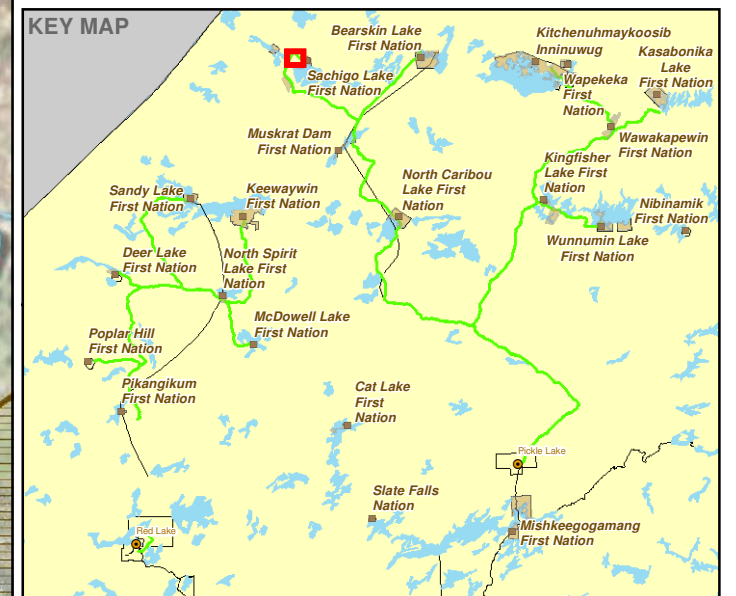
-  Limits of Work Boundary

- Local Roads

- Watercourse

-  Waterbody

- 
- First Nations Reserve



**NOTE(S)**

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.  
2. ALL LOCATIONS ARE APPROXIMATE.  
3. NOT FOR ENGINEERING PURPOSES.

## REFERENCE(S)

1. BASE DATA - MNR LOT, OBTAINED 2016/2017, NTDB
2. TRANSMISSION ROUTES - PROVIDED BY WATAYANIKANEYAP POWER L.P.
3. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)
4. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEEN'S PRINTER 2016
5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

CLIENT

WATAYNIKANEYAP POWER L.P.

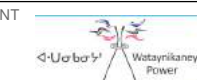
PROJECT

## PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES

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## ALIGNMENT APPROACHING SACHIGO LAKE FIRST NATION

CONSULTANT



YYYY-MM-DD 2021-02-22

DESIGNED	SO
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PREPARED	SO
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REVIEWED	JMC
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APPROVED BT

PROJECT NO.  
1544751

CONTROL

REV.

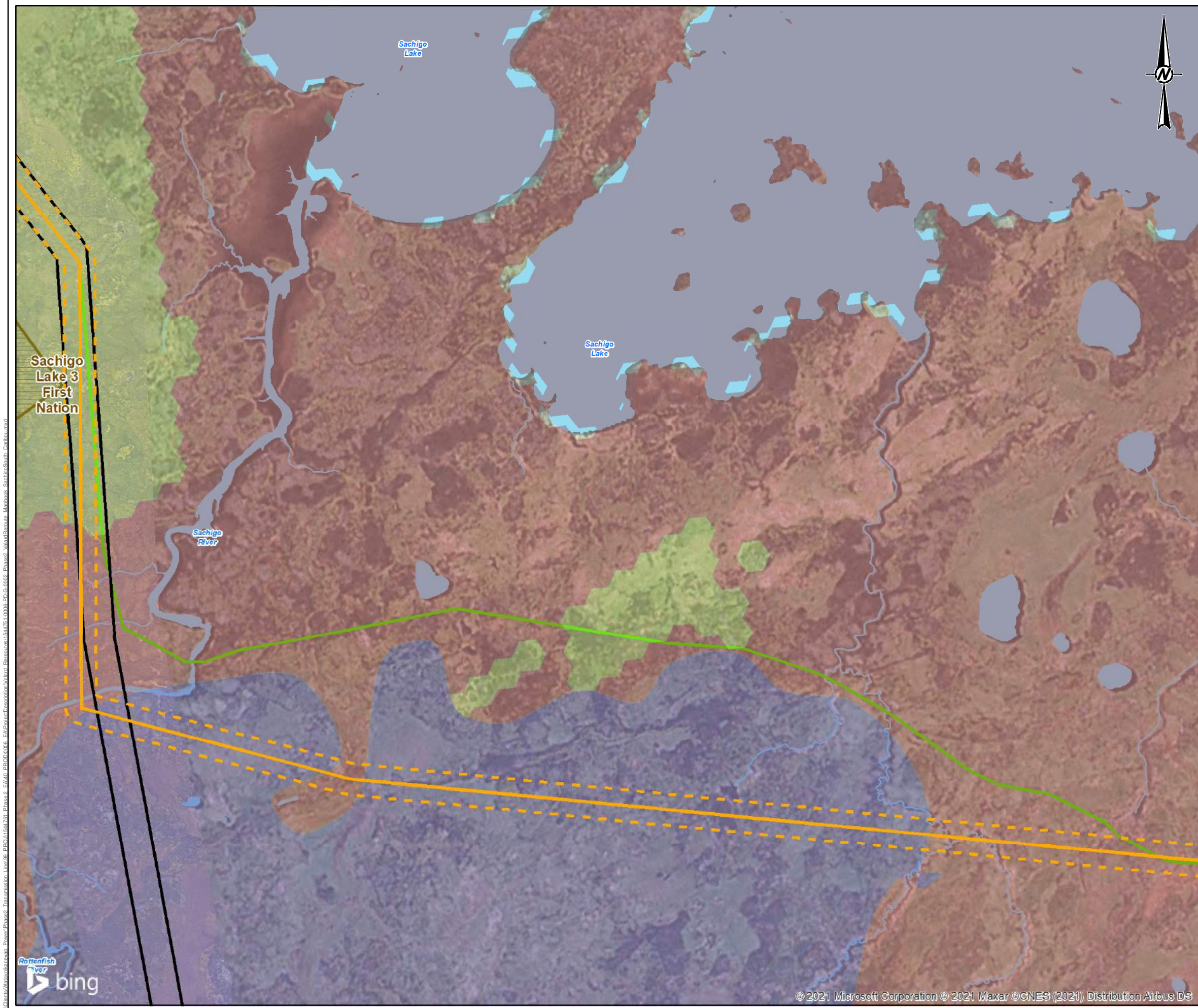
3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 5 mm









**LEGEND**

- Proposed 115 kV 40-m-wide Transmission Line Alignment Right-of-Way (ROW)
- Revised Limits of Work Boundary
- Current Project Footprint**
  - 115 kV 40-m-wide Transmission Line Alignment right-of-way (ROW)
  - Limits of Work Boundary
- Watercourse
- Waterbody
- First Nations Reserve
- Caribou Habitat**
  - Category 1 - High Use Area (Winter Use)
  - Category 2 - Seasonal Range
  - Category 3 - Remaining Areas within the

**KEY MAP**

0 1.5 3  
1:55,000 Kilometers

**NOTE(S)**

1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.  
2. ALL LOCATIONS ARE APPROXIMATE.  
3. NOT FOR ENGINEERING PURPOSES.

**REFERENCE(S)**

1. BASE DATA - MNR LIO, OBTAINED 2016/2017, NTDB  
2. TRANSMISSION ROUTES - PROVIDED BY WATAYNIKANEYAP POWER L.P.  
3. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)  
4. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016  
5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

**CLIENT**

WATAYNIKANEYAP POWER L.P.

**PROJECT**

PHASE 2: CONNECTING 17 REMOTE FIRST NATION COMMUNITIES

**TITLE**

**ALIGNMENT SOUTH OF SACHIGO LAKE FIRST NATION - CARIBOU HABITAT**

CONSULTANT		YYYY-MM-DD	2021-02-25
		DESIGNED	SO
		PREPARED	SO
		REVIEWED	JMC
		APPROVED	BT

PROJECT NO.	CONTROL	REV.	MAP
1544751	-	-	<b>5</b>

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm



# **APPENDIX C**

**Correspondence of Support for Route Revision from Pikangikum  
First Nation**

2020-12-82

**BAND COUNCIL RESOLUTION****Pikangikum First Nation**

Pikangikum, Ontario P0V 2L0

Tel. No.: 807-773-5578 / 773-5523



Chronological No.

	DAY	MONTH	YEAR
DATE	10	12	2020

**WHEREAS** Pikangikum First Nation ("Pikangikum") is an owner in the Wataynikaneyap Power Project, connecting 17 remote First Nations communities to the provincial electrical power grid (the "Project") and Pikangikum First Nation fully supports the Project; and

**WHEREAS** Wataynikaneyap Power LP ("Wataynikaneyap") and/or its contractor Valard Construction Inc ("Valard") (collectively the "Permittees") have applied or will apply to the Ministry of Natural Resources and Forestry ("MNR"), Ministry of the Environment, Conservation, and Parks ("MECP"), and the Ministry of Heritage, Sport, Tourism, and Culture Industries ("MHSTCI") to use, occupy, and/or study a certain portion of the Whitefeather Forest described or to be described in each given permit or approval application; and

**WHEREAS** the Chief and Council of Pikangikum by way of a previous Band Council Resolution, had requested to Ontario Ministries in October 2019 that issuance of further permits or approvals in the Whitefeather Forest be withheld pending further discussion between Wataynikaneyap and Pikangikum, and

**WHEREAS** Wataynikaneyap and Pikangikum, by way of Letter Agreement dated December 1, 2020, have agreed to terms by which the Project may proceed to obtain all necessary permits and approvals in the Whitefeather Forest, and Valard and Pikangikum have reached agreement on access, substations, camps and temporary use locations that allow for the Project to proceed with construction, and

**WHEREAS** the aforementioned December 1, 2020 Letter Agreement states that Pikangikum will support the issuance of necessary permits and approvals by way of new Band Council Resolution(s), and

**WHEREAS** the aforementioned December 1, 2020 Letter Agreement states that certain portions of the transmission corridor in the Whitefeather Forest as conceptually shown in the Existing Sketches be rerouted; and

**WHEREAS** Wataynikaneyap will provide Pikangikum with design drawings from Valard in advance of seeking permits and approvals for the transmission corridor rerouting, and

"WHEREAS Pikangikum's support for the issuance of the necessary permits and approvals is on the basis that neither Pikangikum nor WFCRMA will be exposed to any liabilities by virtue of the issuance of such permits or approvals"


**THEREFORE BE IT RESOLVED:**

1. The Chief and Council of Pikangikum and the Whitefeather Forest Community Resource Management Authority ("WFCRMA") have signed the Letter of Agreement, and through this resolution the Chief and Council affirms and confirms the understandings in the signed Letter of Agreement and authorizes and consents to the issuance of permits and approvals necessary to continue construction and operation of the Project, provided such permit or approval applications (and/or associated mapping) are shared with Pikangikum and/or its representatives in advance of or concurrent to submission. These permits and approval include but may not be limited to:
  - (a) Parks Work Permits (MECP)
  - (b) Parks Research Permits (MECP)
  - (c) Environmental Assessment revision for line reroutes (MECP)
  - (d) Permit to Take Water (MECP)
  - (e) Permit to Remove Forest Resources (MNRF)
  - (f) Environmental Compliance Approval for Sewage Works (MECP)
  - (g) Access to conduct and complete archaeology studies, including consent to proceed under frozen condition provisions (in lieu of Stage 2 assessment) with the permission of the MHSTCI
  - (h) Land Use Permit Issuance by MNRF and/or MECP for the Project footprint
  - (i) Crown Easement for the Transmission Line Right-of-Way
  - (j) Crown Lease for the Substations
2. In the event that the Project is in violation of the community's "Keeping the Land" land use plan, Pikangikum may rescind the consent in this BCR by way of issuing another BCR.

Nothing in this Band Council Resolution shall be so construed as to affect in any way the aboriginal, treaty, or constitutional rights of Pikangikum regardless of whether such rights are recognized, established or defined before or after the execution of this Band Council Resolution.


QUORUM


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Chief


  
Deputy Chief

  
Councillor

  
Councillor

  
Councillor

  
Councillor

  
Councillor

  
Councillor



# **APPENDIX D**

**Correspondence of Support for Route Revision from Sachigo  
Lake First Nation**



## Sachigo Lake First Nation

Administration Office

P.O. Box 51

Sachigo Lake, Ontario

P0V 2P0

Ph. (807) 595-2527 595-2577 595-2528 595-2592

Fax (807) 595-1119

Wednesday, December 9, 2020

Wataynikaneyap Power LP  
300 Anemki Place  
Fort William First Nation, ON P7J 1H9

Dear Margaret Kenequanash – CEO:

### RE: SACHIGO LAKE TRANSMISSION LINE ROUTE

This letter is written confirmation of the direction provided to Wataynikaneyap Power LP (Wataynikaneyap) by Sachigo Lake First Nation (Sachigo) Chief and Council during the November 27, 2020 teleconference.

Sachigo leadership had directed Wataynikaneyap on November 20, 2020 to change the line route near the community to approximately follow the yellow line in the image attached as Schedule A to this letter.

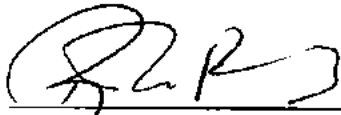
Wataynikaneyap responded on November 25, 2020 by sending mapping that illustrated Valard's proposed design, that was based on the community's yellow route. We are confirming that the green line on the map below represents our desired route change and we are directing Wataynikaneyap to proceed as quickly as possible.



As stated during the meeting, we are thankful that Wataynikaneyap has adapted the project design to one which balances the spectrum of community feedback in Sachigo.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. Beardy', written over a horizontal line.

Chief Robert Beardy, on behalf of Chief and Council

Cc SLFN FILES 20/21  
CL-E FILES 20/21

Schedule A







As stated during the meeting, we are thankful that Wataynikaneyap has adapted the project design to one which balances the spectrum of community feedback in Sachigo.

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to be 'R. Beardy', written over a horizontal line.

Chief Robert Beardy, on behalf of Chief and Council

Cc SLFN FILES 20/21  
CL-E FILES 20/21