WAASIGAN
TRANSMISSION LINE

FINAL ENVIRONMENTAL ASSESSMENT

Section 2.0 Evaluation of Alternatives

November 2023

Acknowledgements

We wish to acknowledge that the Waasigan Transmission Line Project is located within lands that represent the traditional territories and homelands of the Robinson-Superior Treaty (1850) and Treaty #3 (1873) First Nations, and traverse the Red Sky Métis Independent Nation, Northwestern Ontario Métis Community and Northern Lake Superior Métis Community.

Hydro One also wishes to acknowledge Indigenous artist, Storm Angeconeb, for developing the covering page and wildlife designs throughout the Final Environmental Assessment. Storm is a highly recognized visual artist from Lac Seul First Nation in Treaty #3 and currently resides in Red Lake. Many of her works include animals and birds as representations of herself or those close to her. The artist's description of the covering page is presented below.

Hydro One Environmental Study Art:

What stands out in this art piece is the symbolic representation of solar rays as "Bringing Power"; we can see the environment represented through the wildlife and Ojibwe floral visuals. This artwork is an excellent representation of Hope, Life, and Opportunity, visually portrayed through the Black Bear and her two cubs. The colour theme of this artwork comes from the Waasigan Transmission Line Project brand identity.

Artist: Storm Angeconeb

Table of Contents

Tables

Figures

Appendices

2.0 Evaluation of Alternatives

Waa-izhichigeng

This section of the environmental assessment (EA) Report considers a reasonable range of alternatives for the Waasigan Transmission Line Project (the Project).

Section 6.1(2) of the Ontario *Environmental Assessment Act*, R.S.O. 1990 (EAA; Government of Ontario 2003) states that proponents are to consider alternatives in the EA of an undertaking. There are two types of alternatives: alternatives to the undertaking, and alternative methods of carrying out the undertaking.

Section 6.0 of the Waasigan Transmission Line Project Environmental Assessment Terms of Reference (ToR) – Amended (Hydro One 2021) indicated that the approach for the Project will be a focused EA in accordance with subsections 6(2)(c) and 6.1(3) of the EAA (Government of Ontario 2003). Therefore, the evaluation of alternatives meets the requirements of subsection 6.1(2) and includes an assessment of the "alternative methods" and the "do nothing" alternative, but does not include an assessment of other "alternatives to" the project or re-examine the "purpose of the undertaking" as the province (Ministry of Energy and Independent Electricity System Operator [IESO]) established the need and justification for the Project as previously discussed in Section 1.0 of the EA. This EA will not re-examine the past planning processes and decisions of the Ministry of Energy and IESO, but will include an assessment and evaluation of the "do nothing" alternative compared against the recommended undertaking of the Project only.

2.1 Alternatives to the Project

"Alternatives to" the Project are the "functionally different ways of approaching and dealing with a problem or opportunity" (MECP 2014). Given that the provincial government has already analyzed and justified the need for additional supply of electricity to meet the future demand in northwestern Ontario, and in accordance with the approved Amended ToR, this section compares the "do nothing" alternative, against the recommended undertaking of the Project only.

2.1.1 Proceed with the Project

Proceeding with the Project would entail construction, operation and maintenance of the transmission line and associated infrastructure according to the preferred alternative methods identified in Section 2.2 of the EA Report, which collectively form the preferred undertaking (or Project) for which Hydro One is seeking EA approval. A more detailed description of the Project is presented in Section 3 of the EA Report.

Proceeding with the Project would have potential natural, socio-economic, and technical adverse effects and benefits. Potential adverse effects would be physical and biological (natural

environment) and restricted to areas in the Project footprint (i.e., areas of direct disturbance) or immediately adjacent to the Project footprint, while the considerable potential socio-economic benefits would likely extend to a provincial scale.

Potential adverse effects of proceeding with the Project include landscape alteration, soil compaction, clearing of vegetation in the Project footprint, and nuisance effects such as increased dust, noise, and vibration from vehicular traffic during the construction and operation phases. These potential effects are addressed in more detail in Sections 6 through 9 of the EA. Mitigation measures are also considered to address these potential effects during applicable Project phases (i.e., construction and operation). The socio-economic benefits of proceeding with the Project, summarized in Section 8, are expected to outweigh potential adverse environmental effects.

2.1.2 Do Nothing

The “do nothing” alternative serves as a benchmark against which the consequences of proceeding with the Project can be compared with to determine, amongst other things, whether the anticipated benefits of the Project outweigh its predicted adverse environmental effects. Evaluation of the do nothing alternative “identifies the implications of doing nothing to address the problem or opportunity that has been identified” (MECP 2014). It also serves to highlight the advantages of proceeding with the Project.

If the do nothing alternative was selected, the Project would not be carried out and transmission capacity in northwestern Ontario would not be increased. As such, none of the potential effects of the Project would take place and the existing environmental conditions (natural, social, economic, cultural, and built) would remain unchanged.

2.1.3 Advantages and Disadvantages of Alternatives to the Project

According to the *Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario* (MECP 2014), an EA should describe the process for evaluating alternatives and then choosing a preferred alternative, which will become the undertaking for which approval is sought. The evaluation is a trade-off process in which the advantages and disadvantages to the environment of the alternative courses of action are weighted in terms of their effects, both positive and negative, on the environment. This follows from the determination of net effects (MECP 2014).

In the case of this Project, the approved Amended ToR indicates that the EA will not include an assessment of “alternatives to” with the exception of the “do nothing” alternative. The rationale for proceeding in this manner was that a previous planning process has already been undertaken which led to the identification and justification for the Project. In accordance with the *EAA*, the EA includes an assessment and evaluation of the advantages and disadvantages of proceeding with the undertaking (the Project) against the “do nothing” or null alternatives.

Proceeding with the Project will have net effects. Based on the Project Description (Section 3.0) prepared at the time of submission of this report, the existing environment, and taking into account the implementation of the mitigation measures described in Sections 6.0 and 7.0, the net effects associated with the Project can be effectively mitigated by standard and site-specific environmental protection measures, such that no significant effects are predicted. The Project is expected to provide the following net benefits:

- Increase in labour demand from direct employment, indirect employment, and induced employment.
- Contracting opportunities and spending by local and regional consumers and service-oriented businesses of wages and income from the Project will support economic development.
- Positive contribution to government net revenues through income and other taxes.

The *EAA* does not differentiate between the importance of the different environments (that is, natural, social, economic cultural, built); however, the Code of Practice acknowledges that the effects to one environment may be greater than the effects to another (MECP 2014). In the case of the Project, there are disadvantages to the natural environment as a result of the construction of the Project, but the need for the Project and the socio-economic benefits to the region outweigh the advantages of not undertaking the Project.

Given the purpose of the Project to meet Ontario's current and future electricity delivery needs, the relative socio-economic advantages (e.g., to maintain a reliable and cost-effective long-term electricity supply to the northwest Ontario) offset the relative disadvantages. The selection of the Project as the preferred alternative is supported by the identification of the Project as a priority project for the province in the 2013 Long Term Energy Plan. Table 2.1-1 summarizes the relative advantages and disadvantages of the Project compared to the "do nothing" alternative.

Table 2.1-1: Advantages and Disadvantages of Alternatives to the Project

Alternative	Advantages	Disadvantages
Proceed with the Project	• Meets the need to make sure of the long-term reliability of the electrical supply in northwestern Ontario • Economic benefits in the form of employment, contracts, business opportunities, or the procurement of goods and services • Promotion of economic growth in northwestern Ontario • Long term economic enhancement at a local levelConsistent with provincial priority initiatives	• Potential effects on the environment including permanent landscape alteration, soil erosion and soil compaction, loss of vegetation and wildlife habitat in the Project footprint, and nuisance effects such as increased dust, noise, vibration, and vehicle emissions • Potential effects on land (including private land), resources, traditional activities, or other interests of local and Indigenous communities

Alternative	Advantages	Disadvantages
Do nothing	• No potential effect on the environment • No potential effect on land, resources, traditional activities, or other interests of local and Indigenous communities	• Does not meet the need to make sure of the long- term reliability of the electrical supply for northwestern Ontario • No economic benefits in the form of employment, contracts, business opportunities or the procurement of goods and services for local and Indigenous communities • No economic growth in northwestern Ontario • No long term economic enhancement at a local level • Not consistent with provincial priority initiatives

2.2 Alternative Methods of Carrying Out the Project

As noted in the Amended ToR, “alternative methods” of carrying out the Project are to be considered as part of the EA. Alternative methods are “different ways of doing the same activity” (MECP, 2014). These methods may include alternative route segments, local route refinements, and alternative locations and alternative designs of the components required to support the construction and operation of the Project. Through an analysis of the route refinements and Project components, alternatives have been evaluated with the goal to assist in selecting the preferred alternative.

Alternative methods were identified and considered to address specific concerns identified by Indigenous communities and stakeholders, such as property owners and municipalities, in order to avoid or minimize Project effects on a natural or socio-economic feature (i.e., as a mitigation measure).

The following alternative methods are evaluated in this Final EA Report:

- Alternative route evaluation (Section2.2.1);
- Separation of circuits F25A and D26A west out of Mackenzie TS (Section 2.2.2);
- Alternative route segments through provincial parks and conservation reserves (Section 2.2.3); and
- Preliminary Preferred Route and Local Route Refinements (Section 2.2.4).

2.2.1 Alternative Route Evaluation

The alternative route assessment is focussed on the evaluation of alternative routes that was undertaken to determine the preferred route. This alternative route assessment used the criteria and indicators provided in the approved Amended ToR to identify the alternative that is preferred from Indigenous, natural, socio-economic and technical perspectives.

The alternative route evaluation documented in this report considers the following “alternative methods”:

- Alternative routes between Thunder Bay and Atikokan;
- Alternative routes in the Atikokan area;
- Alternative routes north of Atikokan to Wabigoon Lake; and
- Alternative routes between Wabigoon Lake and Dryden.

2.2.1.1 Identification of Alternative Route Routes

Alternative routes for the proposed transmission line were identified as part of the ToR. Feedback received during the development of the ToR was incorporated into the identification of the siting criteria and indicators, and the identification of the alternative routes for the proposed transmission line. Additional details on the process completed to develop the alternative routes are provided in the ToR.

The alternative routes included in the approved Amended ToR (Hydro One, 2021) were discrete route segments without common start and end points. In order to effectively compare the alternative routes on a quantitative basis in the alternative route evaluation, the routes were re-numbered into four groupings with common start and end points, and some routes now share common sections. No new routes have been added and no routes were removed from those that were previously included in the ToR. The alternative route groupings and revised route numbers are listed in Table 2.2-1.

Table 2.2-1: Revised Alternative Route Numbers and Groupings

Section	Alternative Routes
Thunder Bay (Lakehead TS to Node 1)	• Alternative Route 1 • Alternative Route 1A • Alternative Route 1B-1 • Alternative Route 1B-2
Thunder Bay to Atikokan (Node 1 to Node 3)	• Alternative Route 1 • Alternative Route 1C

Section	Alternative Routes
Atikokan (Node 3 to Node 5)	• Alternative Route 2A • Alternative Route 2B • Alternative Route 2C
Atikokan to Dryden (Node 5 to Dryden TS)	• Alternative Route 3A • Alternative Route 3B • Alternative Route 3C

2.2.1.2 *Identification of Alternative Route Preliminary Footprint*

The Amended ToR noted that a preferred route would be selected based on the comparison of 150 m wide corridors for the alternative routes identified in the ToR. A preliminary Project footprint would then be developed for the preferred route and assessed in more detail in the EA. Feedback was received during the ToR and EA process that the alternative routes should be compared using a Project footprint that includes associated infrastructure (e.g., access roads) instead of a corridor. As such, Hydro One developed a preliminary Project footprint for each alternative route so they could be compared to select a preferred Project footprint for further analysis in the EA. The preliminary Project footprint for each alternative route includes the following components:

- Transmission line right-of-way (ROW);
- Access roads;
- Equipment and material laydown areas, as well as fly yards and helicopter pads, construction/stringing pads and staging areas;
- Temporary construction camps including construction offices;
- New aggregate pits, if required; and
- Upgrades to existing transformer stations, including an expansion of the fenced-in area of Lakehead TS, Mackenzie TS, and Dryden TS.

Section 2.2.1.2.1 to Section 2.2.1.2.7 outlines the process completed to develop the Project footprint. This Project footprint was included in the Draft EA Report and provided to Indigenous communities, government officials and agencies, and interested persons and organizations for review and comment. Refinements to the Project footprint were made between the Draft EA Report and the Final EA Report based on this feedback and are described in Section 2.2.5 to Section 2.2.8.

2.2.1.2.1 Development of Transmission Line Right-of-Way

The alternative routes identified in the Amended ToR were used as the baseline to begin developing and refining viable preliminary footprints of the alternatives. Development of

preliminary transmission line ROWs commenced with a high-level assessment of each alternative route including assessing the viability and/or efficacy of each route option included in the Amended ToR. Areas of concern and recommendations for how to address and resolve potential routing constraints were developed and incorporated into the design.

Standard transmission line routing principles were used to refine the alternative routes to define the most favourable Project footprint that would have the least overall impacts based on available information:

- Follow existing linear features to minimize new disturbance and vegetation clearing;
- Minimize length of the transmission line through sensitive natural environmental areas, such as watercourses, recreation areas, parks, and sensitive wildlife habitat;
- Minimize potential effects on established land uses, such as residences, agricultural operations, built-up areas, industrial facilities, airstrips, etc.;
- Use of existing roads (where practicable) for improved access, to reduce new vegetation clearing, and to avoid impacts to the environment;
- Follow property and land use boundaries to minimize potential effects on private landowners and existing land uses;
- Minimize crossing existing transmission infrastructure;
- Minimize length of the transmission line through wet areas and steep slopes for better access and to reduce environmental effects;
- Keep routes as straight as reasonably possible, to reduce length of the transmission line, workspace requirements, and the number of deflection structures; and
- Ensure all electrical system constraints and considerations are respected.

The general methodology for the route assessment was to input the alternative routes into a geographic information system (GIS) and examine them at a high level to identify key areas of concern (constraints), opportunities for optimization, and to identify refinements (e.g., on which side of an existing linear feature the ROW should be located, minor variations to avoid constraints, etc.).

Once preliminary ROWs and access plans for the alternative routes were developed, a field reconnaissance program was completed to validate desktop features, verify constructability, and identify new constraints. Information gathered from the field reconnaissance was used to refine the alternative route ROWs and access plan. A multi-disciplinary review of the updated alternative routes was completed to confirm engineering, construction, environment, and other considerations. Preliminary transmission line design engineering was completed to spot

structures in consideration of terrain, ground types, deflections, road or other third-party crossings, and other technical characteristics, as appropriate.

A minimum ROW width is required to allow for conductor swing under heavy winds while maintaining a safe distance between the conductor and adjacent trees and structures, and to provide adequate space for construction and maintenance access. The typical minimum ROW widths required to provide sufficient space for structure placements and construction and maintenance access is 46 m.

In addition to the minimum ROW width indicated, additional area may be required as follows for which private land rights and occupational authority on Crown land will be obtained as necessary (collectively referred to as the Project footprint):

- Where longer spans are required, such as at valleys and waterbody crossings.
- Where wetlands, steep slopes or other barriers prevent travel along the ROW, off-ROW access may be required to bypass these areas.
- Temporary workspace located outside the transmission line ROW is required for tower erection and at corners.
- To enable access to areas where there is no existing access adjacent to or crossing the ROW.
- Temporary laydown yards will be required to manage and store material, tools and equipment and will be located on previously disturbed lands wherever possible.
- Additional areas may be required for tree clearing where there is a present or future risk of adjacent trees falling onto the transmission line.

2.2.1.2.2 Siting of Transmission Structures

Structure siting refers to the engineering selection of tower locations along a transmission line considering public safety, potential environmental effects, transmission system reliability, and technical considerations, such as cost. Structure siting is affected by several factors such as terrain, environmental and permitting restrictions, design limitations of supporting structures, and the location of existing infrastructure such as roads, railways, pipelines, and other transmission lines. For the Project, transmission structures can be sited so that the conductors span sensitive areas; therefore, structures have been proposed considering the location of wetlands, water bodies, and other features and paralleling existing transmission lines, where practicable. The distance between transmission structures has been increased where a longer than typical span is required to span a sensitive area.

Hydro One will attempt to accommodate the preferences of Indigenous communities and stakeholders regarding positioning of structures, to the extent reasonably practicable. Additional

site-specific siting of transmission structures will be determined during detailed design in response to feedback and to meet design requirements as appropriate.

The final design may require that structures are shifted along the length of the proposed centreline to meet specific objectives. Where shifts in structure locations are necessary, the final placement will be determined in consideration of final survey results, feedback, EA results and detailed geotechnical information. Where adjustments are proposed, Hydro One will work with directly affected landowners regarding the final location of Project footprint components.

2.2.1.2.3 Siting of Laydown Areas and Construction Camps

The laydown areas and construction camps to support the Project were sited to avoid federal lands, provincial parks and conservation reserves. As well, site-specific alternative locations were selected that may be used as appropriate.

2.2.1.2.4 Alternative Transmission Structure Types

Hydro One has identified different structure types to be used for the Project in consideration of the Project area and design specifications. Detail about the transmission structure types anticipated to be used for the Project are provided in Section 3.3.1. Where it is practicable to install, guyed structures are the typical structure type used and are characterized by, smaller surface disturbance, and lower overall cost.

The use of non-typical structures is only expected for crossings under or over existing lines (e.g., steel monopole, steel mast, etc.), or to meet other unique engineering objectives.

The final site-specific selection of structure types will be made during detailed engineering design.

2.2.1.2.5 Alternative Access and Construction Plan

Construction requires the ability to access each tower with heavy equipment, set up sufficient laydown yards and storage yards to stage construction materials to keep pace with construction, and identify construction camp locations with the required amenities. Hydro One has reviewed and considered different construction and access plan alternatives to meet the following goals:

- Refining the access roads to avoid additional private landowner parcels or Crown interest holders for new access road easements;
- Refining the access roads, laydown yards and storage yards, to avoid sensitive features;
- Planning the smallest construction and access footprint possible to reduce environmental effects and cost while maintaining a conservative Project footprint for the EA Report so there is flexibility and room within the Project footprint for additional optimization during detailed design and continued construction planning;

- Sufficient laydown yards for construction using either helicopter or ground equipment; and
- Sufficient access roads to each of the towers during either snow-free or winter construction.

The development of temporary and permanent roads are required for the construction and maintenance of the Project. Hydro One's access plan was developed to use existing roads as much as practicable, and limit the construction of new access roads to areas where required.

2.2.1.2.6 Helicopter Pads

Ground access for materials, equipment, and personnel distribution may be supplemented by helicopter transport using small helicopter pads adjacent to the ROW. The use of helicopters to bring equipment, materials and labour into protected areas for construction was considered as an alternative to the construction of access roads. Helicopters may be useful for air lifting materials into challenging terrains, and help to avoid terrestrial disturbances created by upgrading or construction of access roads. Ground-based activities such as clearing, grading and excavations will be required for the ROW and the footings for the structures as there are not acceptable alternative aerial methods.

2.2.1.2.7 Aggregate Sites

Aggregate material is anticipated to be required to support various aspects of construction, including development/maintenance of access roads, work pads (at structure locations to support specialized equipment), foundation works, and at camp/laydown areas. Existing aggregate pits will be used where reasonably possible.

Additionally, new aggregate pit locations in proximity to the transmission line have been identified as potential sources of aggregate. These locations were determined through desktop analysis using aerial imagery and surficial geological mapping and topographic mapping. Pit locations are subject change based on confirmed field investigation.

2.2.1.3 Alternative Route Evaluation Methodology

The alternative route evaluation provided a transparent and multi-criteria option analysis approach to support the identification of a preferred route for the Project. The alternative route analysis leveraged the criteria and indicators provided in the approved Amended ToR to identify the route that is most preferred from the perspectives of four criteria categories:

- Indigenous culture, values, and land use;
- Natural environment;
- Socio-economic environment; and
- Technical and cost.

The alternative routes were geographically divided into four sections with common start and end points to allow for comparison, and the route alternatives within the four sections were compared using the Golder Sustainability Evaluation Option Analysis Web Tool (GoldSET™) to assess the advantages and disadvantages of each alternative. The four sections and their associated alternative routes that were evaluated are provided in Table 2.2-2.

Table 2.2-2: Alternative Route Sections, Groupings and Numbers

Section	Alternative Routes
Section 1: Thunder Bay Area	• Alternative Route 1 • Alternative Route 1A • Alternative Route 1B-1 • Alternative Route 1B-2
Section 2: Thunder Bay to Atikokan	• Alternative Route 1 • Alternative Route 1C
Section 3: Atikokan Area	• Alternative Route 2A • Alternative Route 2B • Alternative Route 2C
Section 4: Atikokan to Dryden	• Alternative Route 3A • Alternative Route 3B • Alternative Route 3C

The GoldSET™ alternative route analysis process is based on a simplified multi-criteria analysis, which is widely used to combine often diverse regulatory, Indigenous and stakeholder goals with project performance criteria. The alternative route evaluation comprised of three general steps, listed below, on Figure 2.2-1 and described in more detail in Appendix 2.0-A (Section 2.3.1 to 2.3.3):

- Data Acquisition and Processing: This stage includes the development of a list of data relevant to the Project's four criteria categories (Indigenous culture, values and land use (ICO); natural environment (NEN); socio-economic environment (SEE); and technical and cost (TEC)), screening of data for geographic relevancy, and performing any data processing to prepare the data for the next stage. Field work for surface water, fish and fish habitat, vegetation and wetlands and wildlife and wildlife habitat was completed to support the alternative route evaluation.
- Criteria and Indicator Assessment: This stage includes the selection of the criteria and indicators used to compare Project options. Criteria and indicators are categorized into detractors (disadvantages) or attractors (opportunities) and are given weights based on their relative importance across the four criteria categories. Overall, 34 individual criteria and 103 indicators were used to compare the alternative routes (see Table 2.2-3 for

overall criteria categories and criteria and Attachment 2.0-A-1 for full list of criteria categories and the criteria and indicators for each).

Table 2.2-3: Criteria Categories and Criteria

Criteria Categories	Criteria

Natural Environment	• Physiography, Geology, Surficial Geology and Soils
	• Provincial Parks, Conservation Reserves and Areas of Natural and Scientific Interest
	• Surface Water
	• Groundwater
	• Vegetation and Wetlands
	• Species at Risk
	  ◦ Little Brown Myotis and Northern Myotis (*Myotis lucifugus*)
	  ◦ Eastern whip-poor-will (*Antrostomus vociferus*), Barn Swallow (*Hirundo rustica*), Bank Swallow (*Riparia riparia*), Bobolink (*Dolichonyx oryzivorus*), Chimney swift (*Chaetura pelagica*), American white pelican (*Pelecanus erythrorhynchos*), Least Bittern (*Ixobrychus exilis*)
	  ◦ American Badger (*Taxidea taxus*), Gray Fox (*Urocyon cinereoargenteus*)
	  ◦ Lake sturgeon (*Acipenser fulvescens*) (Great Lakes - Upper St. Lawrence population), Lake sturgeon (Saskatchewan - Nelson River population), American eel (*Anguilla rostrata*)
	• Wildlife and Wildlife Habitat
	• Fish and Fish Habitat

Socio-Economic Environment	• Land Use (including residences) • Infrastructure and Community Services • Recreation and Tourism • Visual Landscape • Archaeology • Built Heritage Resources and Cultural Heritage Landscapes
Technical and Cost	• Project Size • Existing Community Infrastructure • Constructability • Existing Right-of-Ways • Cost

Criteria Categories	Criteria
Indigenous Culture, Values and Land Use	• Indigenous Community Rights/Interests and Use of Land and Resources for Traditional Purposes • Cultural and Spiritual Areas and Sites • Other Applicable Criteria/Indicators Identified by Communities

- Option Analysis: This stage includes the interpretation and decision-making process, where results are reviewed. Alternatives are compared and for each criteria category, the combined score ranges from 0% to 100%, with the higher the score being the better result.

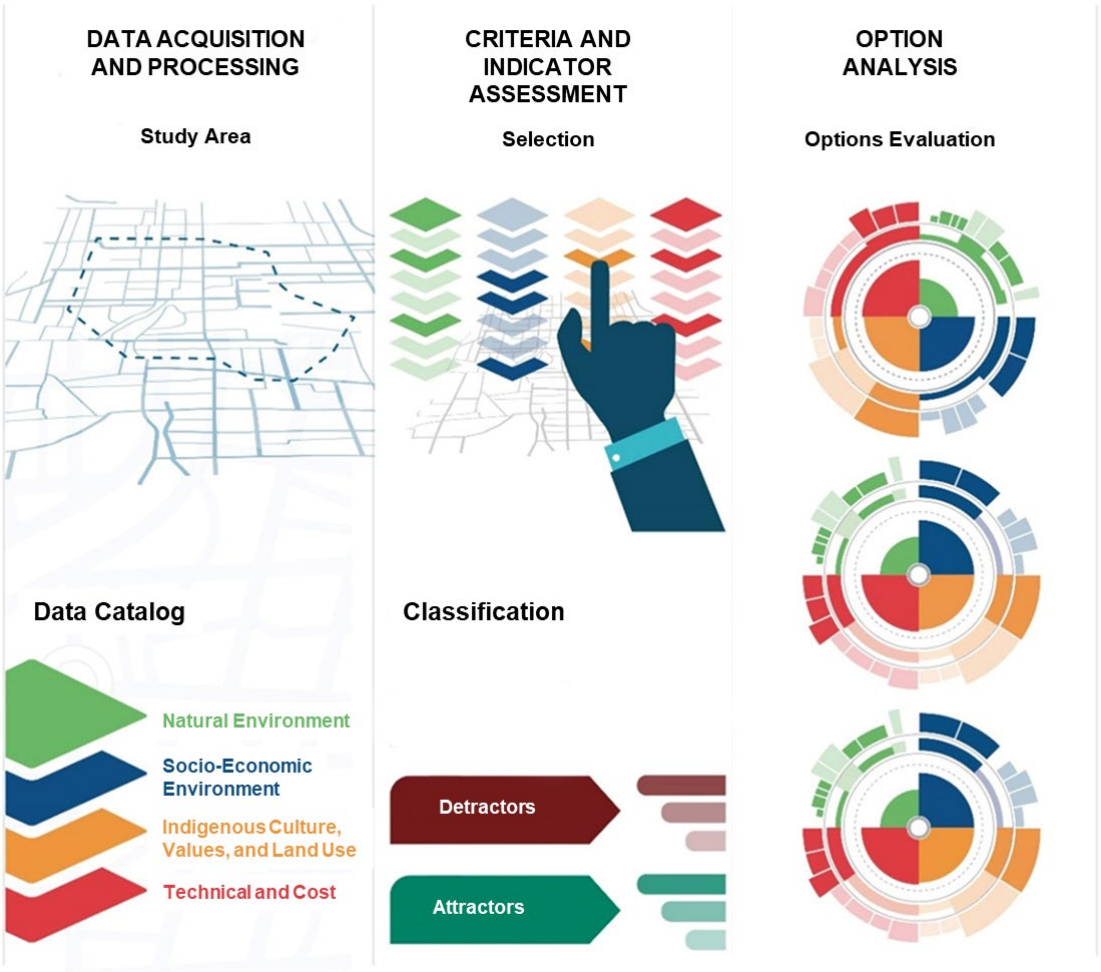

Figure 2.2-1: GoldSET™ Alternative Route Evaluation Process

2.2.1.4 Alternative Route Evaluation Results

This section provides the results of the alternative route analysis. The outcome of the GoldSET™ analysis revealed that, within each section, there was an overall more favourable alternative route (i.e., preferred). Table 2.2-4 below provides a summary of the result from the assessment of the four sections and corresponding alternative routes, indicating which overall route in each section best met the criteria identified in Appendix 2.0-A, Attachment 2.0-A-1, and has the most advantages.

Table 2.2-4: Summary of Preferred Alternative Route by Section

Section	Preferred Alternative Route
Section 1 - Thunder Bay Area	Alternative Route 1
Section 2 - Thunder Bay to Atikokan	Alternative Route 1
Section 3 - Atikokan Area	Alternative Route 2A
Section 4 -. Atikokan to Dryden	Alternative Route 3A

Together, these four preferred routes create one overall preferred route, approximately 360 km, from Lakehead Transformer Station (TS) in the Municipality of Shuniah to Dryden TS in the City of Dryden. Overall, the preferred route best balances the four criteria categories that were considered. When put together as one overall preferred route for the Project from Shuniah to Dryden, the preferred route provides a viable solution using proven technologies, is technically feasible, and consistent with provincial government priorities and direction. Overall, the preferred route is also favourable from an Indigenous, natural environment, and socio-economic environment perspective. It is also within the ability of Hydro One to implement in the context of the study area. Additional details on the results of the alternative route evaluation, including the advantages and disadvantages of each section, are provided in Appendix 2.0-A.

Figure 2.2-2 to Figure 2.2-5 provides the preferred route for each of the sections identified in Table 2.2-4. Figure 2.2-6 provides an overview of the preferred route identified as a result of the alternative route evaluation.

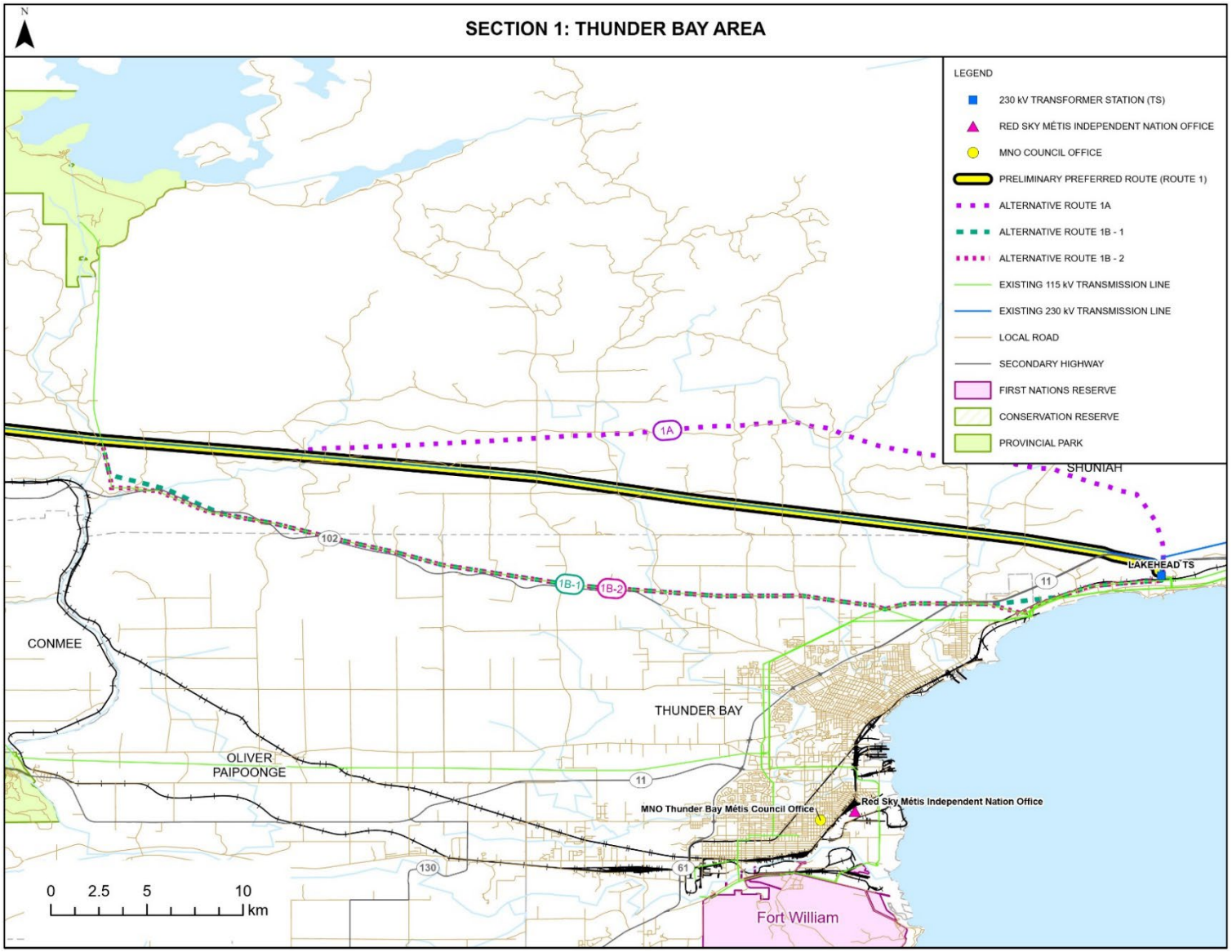

Figure 2.2-2: Section 1 - Thunder Bay Area

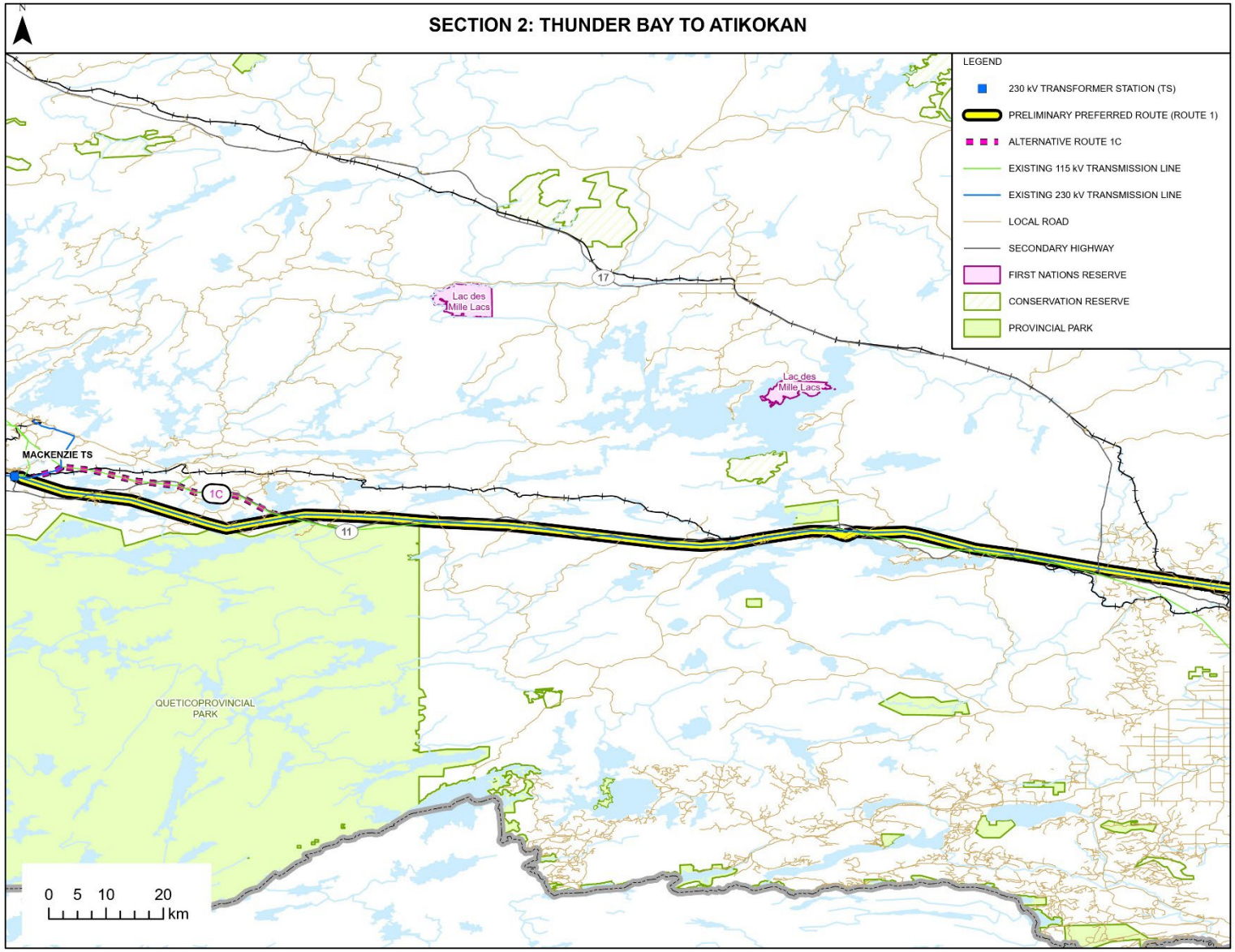

Figure 2.2-3: Section 2 - Thunder Bay to Atikokan

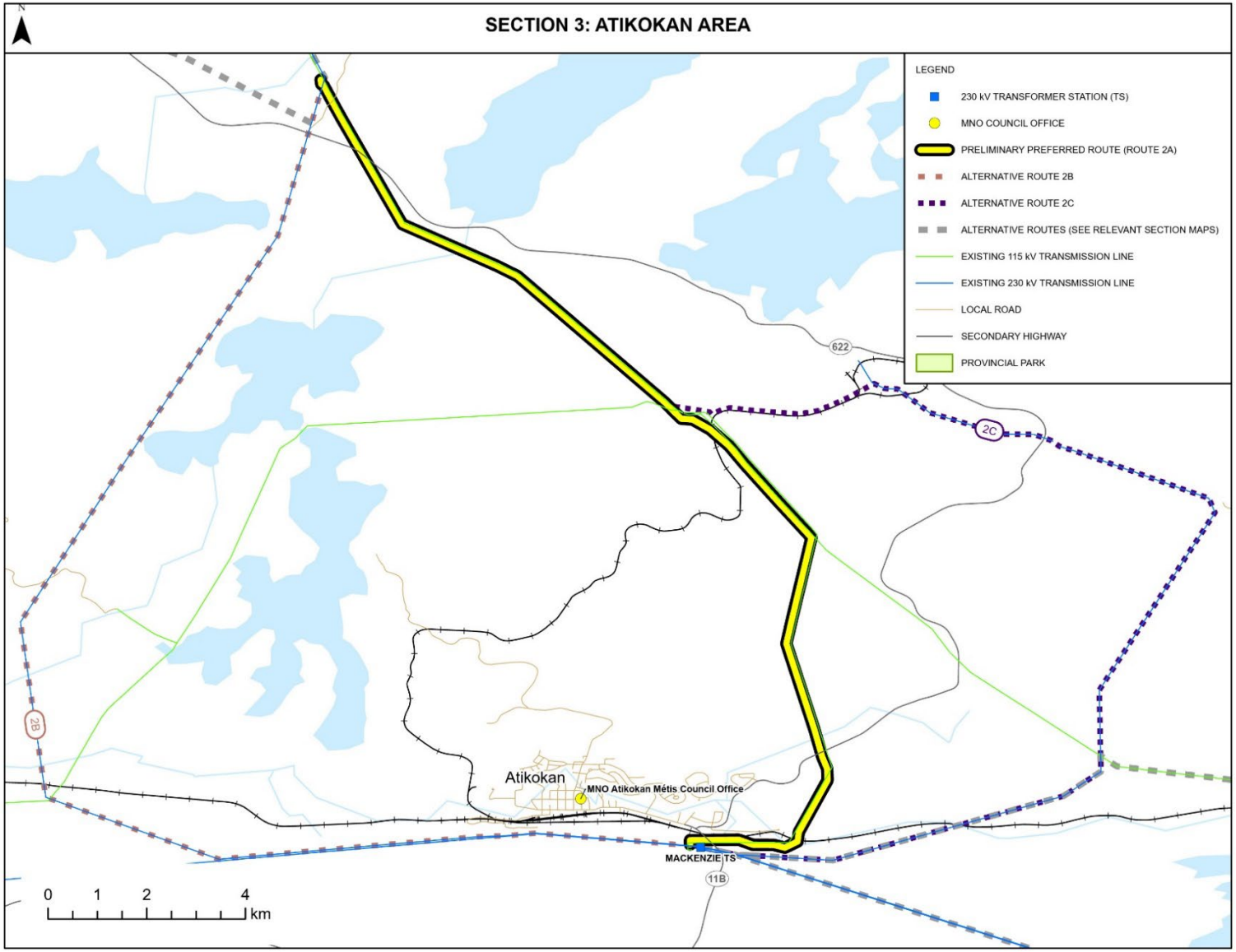

Figure 2.2-4: Section 3 – Atikokan Area

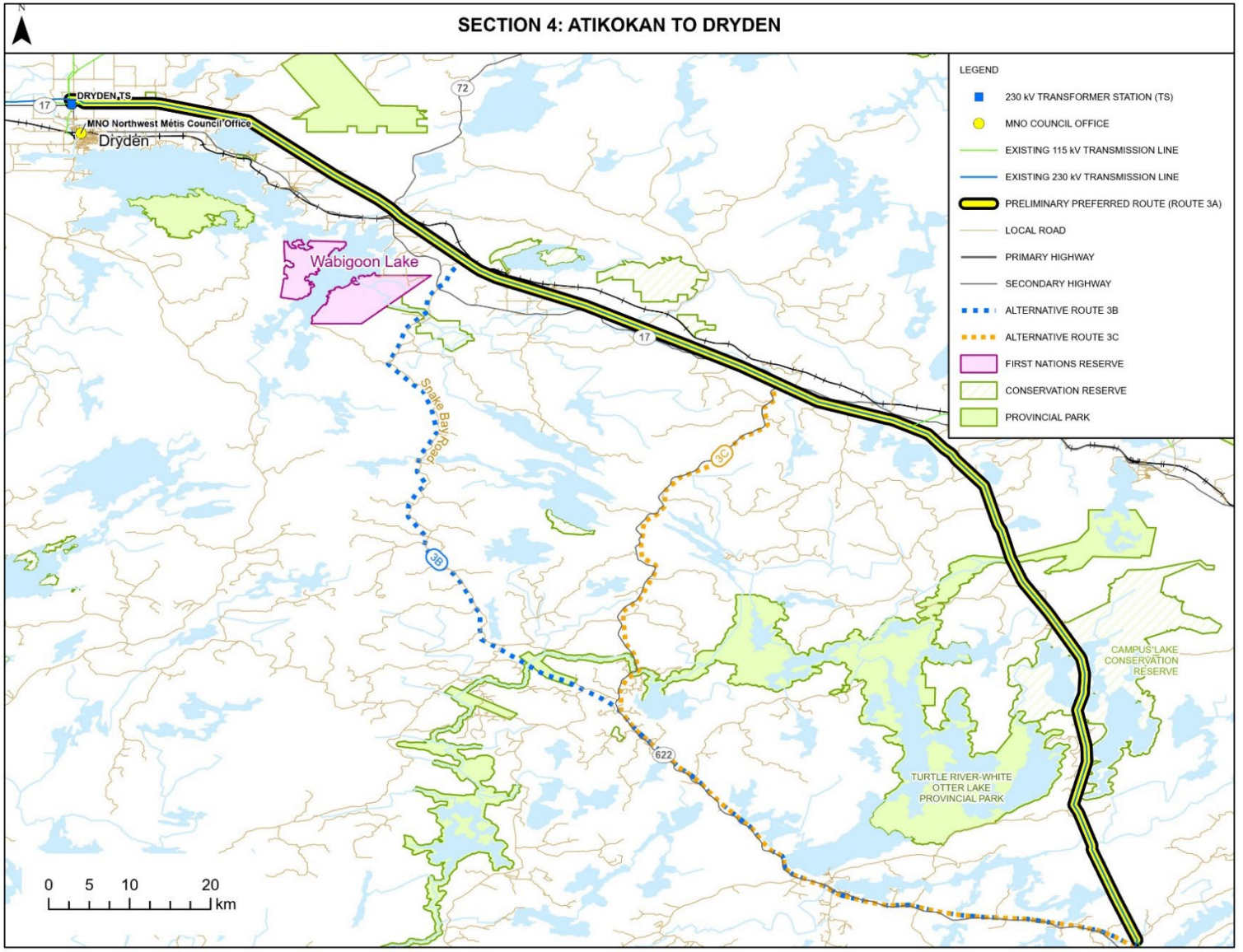

Figure 2.2-5: Section 4 - Atikokan to Dryden

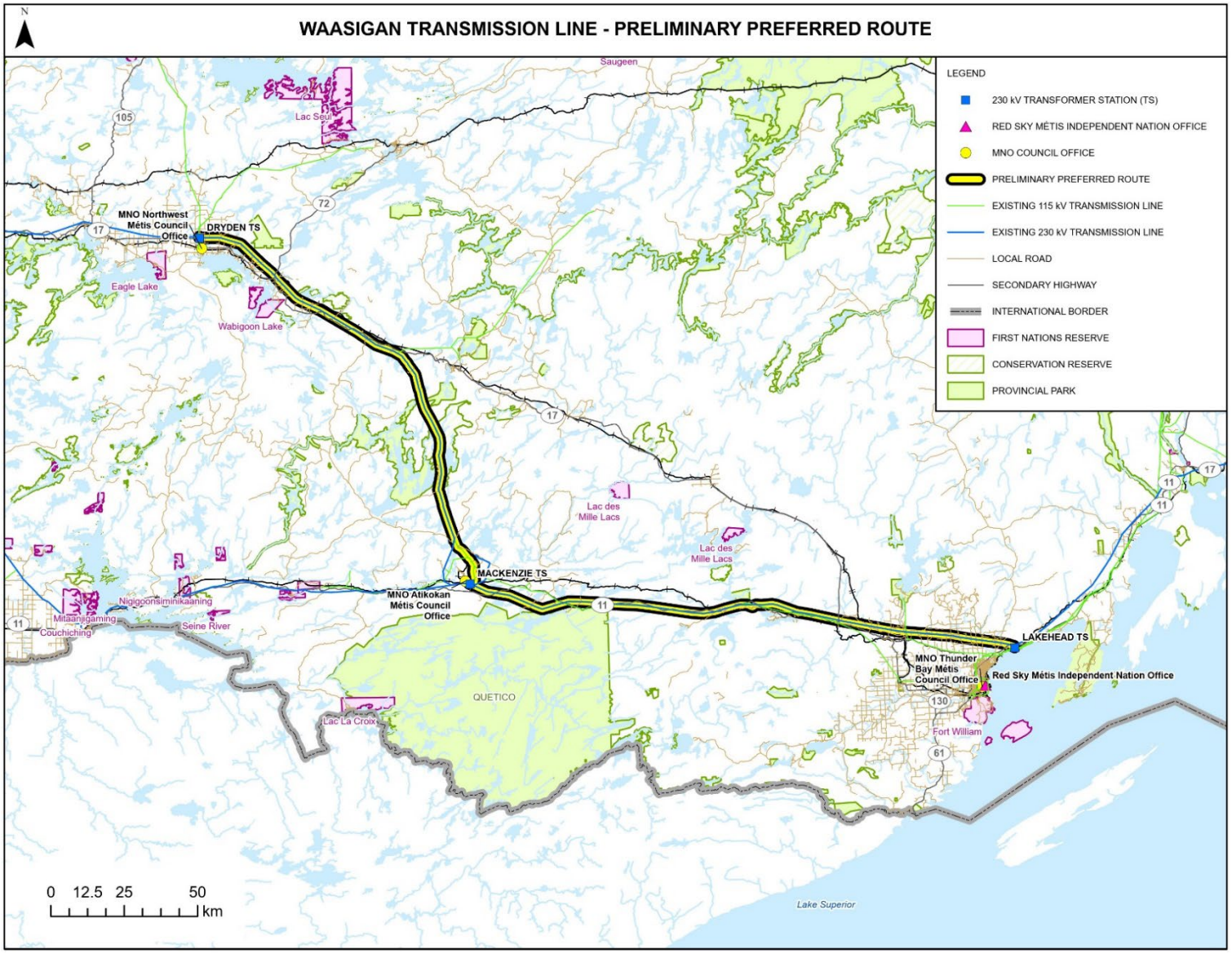

Figure 2.2-6: Preferred Route

2.2.2 Separation of Circuits F25A and D26A

Hydro One was directed by the Independent Electrical System Operator (IESO) to include the separation of two existing 230 kV transmission circuits out of Mackenzie TS in Atikokan (circuits F25A and D26A). Approximately 1 kilometre (km) of this double-circuit section of transmission line needs to be separated into two single-circuit sections (without sharing structures), as required by the North American Electric Reliability Corporation (NERC) transmission planning standard.

Separation of this double-circuit section of transmission line into two single-circuit sections would involve installing a new set of structures to accommodate the separated single-circuit line. Alternatives considered for the separation of the existing 230 kilovolt (kV) transmission circuits included developing a new ROW not paralleling the existing transmission line or expanding the existing ROW to the north or south side of the existing transmission line ROW.

Considerations for whether to develop a new ROW not paralleling the existing ROW or to expand the ROW to the north or south include:

- Effects to the natural environment, such as amount of vegetation clearing;
- Technical design considerations, such as terrain; and
- Constraints of existing transmission lines and the required connection location of the new transmission line at Mackenzie TS.

When considering the alternative of creating a new ROW not paralleling the existing line, the disadvantages included increased habitat fragmentation on the landscape, increase overall Project footprint (i.e., longer ROW), and increased construction impacts (i.e., increased requirement for new access). It was determined that the preferred alternative was to expand the existing ROW to minimize adverse effects on the environment.

When considering whether to expand to the north or the south of the existing transmission line, it was determined that the preferred alternative would be to relocate circuit F25A to the south side of the existing transmission line. This was determined to be preferred as relocating D26A to the north of the existing transmission line would involve relocation of distribution assets from Atikokan Hydro, requiring additional cost and construction impacts. In addition, constructability is more favourable on the south side (i.e., less tree clearing and more favourable soil conditions). Therefore, due to the south side having more advantages from a natural environment and technical and cost perspective, to accommodate this separation the ROW will be expanded to the south.

2.2.3 Alternative Route Segments Through Provincial Parks, Conservation Reserves and Protected Areas

The Project is proposing to cross Turtle River-White Otter Provincial Park, Campus Lake Conservation Reserve and Quetico Provincial Park (access road use only). During Project planning, each protected area was reviewed individually to determine the appropriate and feasible mitigation measures that could be implemented to decrease potential adverse effects on the environment. The lowest cost was not the overriding justification for selection of the Project footprint within the two provincial parks and one conservation reserve crossed. During construction of the Project, mitigation measures will be implemented to minimize environmental effects and protect ecological integrity, as outlined in the EA. Project engineering and mitigation measures will be further refined through engagement with regulatory agencies during the permitting and detailed planning stage of the Project.

The evaluation of the alternative route segments through provincial parks and conservation reserves is provided in Appendix 2.0-B. In this evaluation, alternatives were identified and assessed, and the preferred alternatives to cross the protected areas have been identified. The Project is designed to follow existing transmission lines to minimize adverse effects on the environment. While Hydro One has prioritized the minimization of negative effects of the Project on the environment for the entirety of the Project, Hydro One recognizes the importance of maintaining ecological integrity, cultural values, and recreation opportunities, particularly within protected areas. This has led to the identification of site-specific design changes and mitigation measures to limit adverse effects in the provincial parks and conservation reserve including:

- Construction camps, laydown areas and fly yards will not be located within provincial parks and conservation reserves.
- Hydro One is currently considering site-specific traffic related mitigation measures for the use of existing roads near and through Quetico Provincial Park. Mitigation measures under consideration at this location include:
  - Construction vehicles will not use Ontario Parks parking lots;
  - Modification of speed limits for construction vehicles; and
  - Warning signage.
- The Project footprint initially included two structures located within Turtle River-White Otter Lake Provincial Park. Hydro One is investigating the feasibility of moving the northern most structure farther north to be located outside the provincial park boundary. The location of this structure will be finalized during detailed design.
- A Métis citizen, and the Ministry of Natural Resources and Forestry noted sensitivities associated with the location between Mabel Lake and Elsie Lake in the Campus Lake Conservation Reserve. The access plan between Mabel Lake and Elsie Lake was simplified to show a single preferred access road crossing.

- Ontario Parks noted the proximity of the Project footprint to the Quetico Provincial Park boundary and how a small portion of an access road crossed the park boundary. Hydro One updated the access plan in that area so that the new access road proposed follows the proposed ROW and no longer crosses Quetico Provincial Park.
- Hydro One will plant seedlings along new off-RoW access roads within provincial parks and conservation reserves. This is limited to roads that require new clearing and new construction. Where existing roads and trails are used, these areas will be reclaimed to their pre-existing condition to the extent practicable. New, on-RoW trails will be reclaimed, and topsoil will be rolled back over the reclaimed road. Areas that are subject to erosion, and waterbody crossing locations that have been removed after construction will all be seeded with an approved forestry seed mix. The reclaimed on-RoW access road will be allowed to revegetate naturally along with the remainder of the ROW and will be managed to support vegetation that is compatible with the safe operation of the transmission line.
- Based on feedback from Ontario Parks regarding the need to minimize disturbance where possible, only one helicopter pad will be used within the Campus Lake Conservation Reserve. Two potential locations are included in the Project footprint and the final location will be determined during detailed design. Hydro One will plant seedlings in the one temporary helicopter pad within the Campus Lake Conservation Reserve following construction.

Overall, the Project footprint associated with the preferred route through Quetico Provincial Park, Turtle River-White Otter Lake Provincial Park and Campus Lake Conservation Reserve have more advantages than disadvantages than the alternatives described in this assessment. The crossing of the preferred route through provincial parks and protected areas is assessed in Section 7.1.9.1.

2.2.4 Preliminary Preferred Route Feedback

Hydro One publicly released the results of the alternatives evaluation in January 2023, including a preliminary preferred route and overall Project footprint. Since that time, Hydro One has engaged with Indigenous communities, landowners and stakeholders on the proposed Project footprint. The following describes feedback on the preliminary preferred route prior to the release of the Draft EA Report. One local route refinement was incorporated into the Project footprint prior to the release of the Draft EA Report and it is described in Section 2.2.5.1.

Neighbours on the Line

The Neighbours on the Line (NOTL), a community group made up of members of the Kaministiquia community, expressed concerns about the preliminary preferred route identified by Hydro One in January 2023. NOTL requested that Hydro One evaluate a new alternative route proposed by the group for the Phase 1 (Shuniah to Atikokan) portion of the Project. Hydro One committed to reviewing this route and began meeting with members of NOTL on March 15,

2023 to discuss the NOTL route concept, and understand how the route was developed and what constraints were considered. NOTL identified the criteria that was most important in the development of its route and provided the following ranking (Hydro One 2023):

1) Avoiding homes

2) Avoiding private land and maximizing routing on Crown land

3) Maximizing existing access.

As described in Section 2.2.1.3, the alternative routes identified in the Amended ToR were compared using four main criteria categories: natural environment, socio-economic environment, Indigenous community culture, values and land use and technical and cost. Criteria were developed for each of these criteria categories. These same criteria categories and their respective criteria were used to assess the NOTL route. All four criteria categories were given equal weight, which is consistent with the approach used in the alternative route evaluation for the selection of the preferred route as well as consistent across Hydro One projects. In addition, the criteria weights used for the NOTL evaluation are consistent with those used for the evaluation of the ToR alternative routes.

The evaluation of the NOTL route is provided in Appendix 2.0-C. The results indicated that the preferred route is considered preferred in the natural environment, Indigenous culture, values and land use, and technical and cost criteria categories. The NOTL route is considered preferred in the socio-economic criteria category, particularly with respect to decreased impacts on residences, private land and recreational features. The evaluation concluded the NOTL route, on balance, had more disadvantages than the preferred route. The greenfield nature of the route and the larger overall footprint (i.e., longer ROW, more off-ROW access roads and greater number of corners requiring pull sites) would result in more adverse effects to Indigenous interests, archaeology, surface water, fish and fish habitat, vegetation, wildlife and wildlife habitat, some species at risk criteria and technical and cost considerations.

On April 20, 2023, NOTL submitted a second alternative route to Hydro One. While this route does avoid landowners in the Kaministiquia community, it involves new private properties outside of the study area. Also, the proposed NOTL route has additional length when compared to the preferred route and does not parallel existing linear disturbances which results in the potential for larger impact on the natural environment and increasing wildlife habitat fragmentation. As such, similar to the first NOTL route proposed, this would contemplate introducing limited benefits to one criteria category at the expense of the other three, which would experience additional impacts.

Hydro One understands that NOTL may continue to have concerns with the preferred route, which was selected following a robust process set out in Ontario's *Environmental Assessment Act*. Hydro One is committed to working with the community and impacted landowners in a meaningful and collaborative way. Hydro One has committed to adjusting the preferred route to ensure that those who want to stay in their homes are not displaced, reducing the effects from a

socio-economic perspective. To achieve this, Hydro One investigated local route refinements and talked to individual landowners about site-specific mitigation measures to limit adverse effects to landowners, to the extent possible (Section 2.2.5). Hydro One will continue to discuss mitigation options as the Project progresses.

Northwestern Ontario Métis Community and Region 2

The Northwestern Ontario Métis Community (NWOMC) and Region 2 expressed concern with the preliminary preferred route, in particular the section between Atikokan and Dryden, noting their use of this area, limited previous disturbance and the presence of culturally sensitive features. The NWOMC and Region 2 also expressed concern regarding the engagement completed on the selection of the preferred route. Further detail on specific comments and responses are included in Appendix 4.0-A with comments and responses shared on the Draft EA. Further discussion on engagement is also reported in Section 4.0.

The ToR set out the draft criteria and indicators to be used in the alternative route evaluation process (ToR Appendix C) which took into account information provided by NWOMC and Region 2. For criteria proposed to consider Indigenous culture, values and land use, areas of use from Indigenous Knowledge studies, such as “number of plant harvesting sites” crossed, were identified as inputs to be used where data were available. Reflecting the process for Indigenous communities in completion of Indigenous knowledge studies, revisions to criteria were recommended. Revised criteria shared in October 2022 considered direction from NWOMC and Region 2 and their advisors that the indicator of “Area (ha) of Crown land crossed by the alternative route preliminary footprint” (where a smaller area crossed is preferred) should be added. Based on 2019 routing workshops and indications of avoidance of use in proximity of transmission lines from Baseline Data Survey Results reporting shared by NWOMC and Region 2 (March 2021), “Length (km) of alternative route preliminary footprint located parallel to existing linear infrastructure” was included an indicator for Indigenous culture, values and land use. As well, input to indicators within the natural and socio-economic environment categories based on values of importance (shared through discussion during Project meetings, open houses, and early routing workshop reports from 2019), such as seeking to minimize overlap with waterbodies/watercourses/water crossings, wildlife habitat and vegetation, archaeological and cultural heritage features, were noted.

Section 2.2.1.3 confirms the Indigenous culture, values, and land use included in the evaluation methodology. Recognition that elements of Indigenous community concerns related to routing, such as alignment with existing linear features, minimizing crossing of natural areas and minimizing overlap with water crossings are included in the list of routing principles in Section 2.2.1.2.1 of the Final EA. Appendix 2.0-A also includes details of the alternative route evaluation process and outcomes.

Hydro One has committed to continuing to engage with the NWOMC and Region 2 on the Project footprint and incorporation of site-specific mitigation in order to avoid or minimize impacts to NWOMC and Region 2. Hydro One is also committed to working with NWOMC and

Region 2 to develop a community-based monitoring program in areas of high interest to NWOMC and Region 2.

2.2.5 Local Route Refinements

As described in the Amended ToR, local route refinements requested by Indigenous communities, landowners or stakeholders would be reviewed on a case-by-case basis. Hydro One remains committed to continuing to engage with Indigenous communities and stakeholders, including affected landowners, to discuss local route refinements. This section describes the local route refinements considered for the Project.

Hydro One will continue to refine the final ROW location as Project development continues and will continue to engage with Indigenous communities and stakeholders. Section 11.3.1 outlines the limits of work approach where minor design refinements can be made after EA approval.

2.2.5.1 Amp Lake

Community members in the Shebandowan area expressed concern with the preliminary Project footprint where it crossed Amp Lake and noted the disadvantage that it did not follow the existing transmission lines through this area. The preliminary Project footprint was initially considered in this location due to technical constraints associated with crossing the lake. Hydro One reviewed the design in this area and identified a refinement to the Project footprint that would follow the existing transmission line across the lake. The advantages of this refinement include that it parallels an existing transmission line, is shorter, reduces the adverse visual effects in the area, and responds to stakeholder concerns. The revised Project footprint was included in the Draft EA Report and is maintained in the Final EA Report as shown on Figure 21 of Appendix 3.0-B.

2.2.5.2 Private Land

Hydro One is committed to working with private landowners to ensure no one who chooses to stay in their home is displaced. Since the Draft EA Report, Hydro One engaged with applicable landowners and provided design options for consideration. Three local route refinements were accepted by landowners where the Project footprint crossed their residence, and the updated Project footprint is included in the Final EA Report. The locations include:

- Nym Lake Road and Hwy 11 (Figure 39 of Appendix 3.0-B);
- Airport Road (Figure 91 of Appendix 3.0-B); and
- McGogy Road (Figure 93 of Appendix 3.0-B).

The Nym Lake Road and Hwy 11 refinement and the Airport Road refinements increase the length of the ROW by approximately 100 m, while the McGogy Road refinement reduces the length of the ROW by approximately 100 m. The local route refinements do not parallel the existing transmission line to the same extent as the original alignment so that they can avoid the

residences. This can result in increased effects related to the natural environment, such as wildlife habitat fragmentation. However, disadvantages of these small local route refinements are offset by the advantage of allowing a landowner to stay in their home compared to the original alignment that crossed their residence and would have required removal.

2.2.5.3 Other Refinements Considered

2.2.5.3.1 Mud Lake Area

Landowners in the Mud Lake area requested Hydro One to consider a potential route refinement where the transmission line would shift to the north of the existing corridor to an area of a formerly decommissioned transmission line and cross the transmission line near Mud Lake. Hydro One investigated the suggested refinements and determined that these refinements would introduce greater technical, cost and socioeconomic disadvantages compared to the preferred route. The disadvantages of the proposed route refinement include:

- **Limited space available to construct a 230 kV line:** The decommissioned corridor previously located north of the existing transmission line was built to accommodate a lower voltage, 115 kV line, and is approximately 30 m wide. The proposed Waasigan line will be built to operate at 230 kV requiring a 46-metre-wide corridor. There is not an adequate amount of space available on the corridor as it exists today, and an additional 16 m of land would need to be available to construct the line.
- **Physical constraints on the north side:** As the line moves westward on the northern side of the existing corridor, there were a number of physical constraints identified that would both restrict building a corridor to the 46 m width required and would also impact existing infrastructure and facilities. This included Highway 11, Mud Lake, gravel pits and an existing campground in Kashabowie.
- **Technical and cost constraints with crossing line back to south:** Given the impact to the above physical constraints, it was determined that the line would need to cross back to the south side of the corridor. However, a viable crossing was not identified given the existing corridor also contains both operating 115 kV and 230 kV transmission lines. Minimizing the number of transmission line crossings limits the reliability concerns as set by the IESO. Crossing options would require more technically complex and costly configurations than the preferred route.

Overall, the refinements proposed introduce greater disadvantages to the areas outlined above and the preferred route has more advantages compared to the proposed refinement. Hydro One is committed to working with the Mud Lake community to identify opportunities to mitigate their concerns.

2.2.5.3.2 Kabaigon Bay Area

Landowners in the Kabaigon Bay area requested Hydro One to consider potential route refinements where the transmission line would shift to the north of the existing corridor. Hydro

One investigated the suggested refinements and determined that these refinements would introduce greater technical, cost and natural environment disadvantages compared to the preferred route. The disadvantages of the proposed route refinement include:

- **Natural environmental constraints:** Shifting the line in this area would mean encountering more wetlands, low-lying wet areas, and water drainage channels.
- **Technical and cost constraints:** Shifting the line would mean encountering terrain that is rugged, consisting of steep side slopes and large elevation changes. The design and construction of a 230 kV transmission line in this type of environment would require an increase in the length of the line, require additional structures, introduce longer spans between tower structures, require more complex tower configurations and additional turns. This introduces new technical and constructability challenges compared to the preferred route, would potentially also introduce reliability concerns and result in a more costly design and construction.

Overall, the refinements proposed introduce greater disadvantages to the areas outlined above and the preferred route has more advantages compared to the proposed refinement.

A visual aesthetic assessment was completed and can be found in Section 7.4. Hydro One is committed to working with this community to identify opportunities to mitigate their concerns.

2.2.5.3.3 Decommissioned 115 kV Transmission Line Corridor

Ontario Parks and multiple landowners requested that Hydro One consider the potential use of a former transmission line corridor located east of Atikokan given the proximity to Quetico Provincial Park. The former 115-kV transmission line was decommissioned approximately 30 years ago. When the 115 kV line was decommissioned, the land was released back to the Crown. As a result, Hydro One would need to acquire new occupational authority on Crown land and private land rights along this corridor. In the period since decommissioning, vegetation has regenerated in the corridor, including alder and birch tree species. The re-established vegetated area reduces habitat fragmentation by providing cover for wildlife that may have previously avoided crossing the corridor. Rebuilding along this decommissioned corridor has the disadvantage of reintroducing habitat fragmentation, whereas the current route within this area is adjacent to the existing 230 kV line, which reduces potential habitat fragmentation effects by not introducing separate transmission line corridors. An additional disadvantage of using the decommissioned corridor is that it would also cross an active aggregate operation which could result in significant business loss. By having the new transmission line follow the existing transmission line in this area, the preferred route has the advantage that it reduces the number of independent corridors across the landscape, co-locating these disturbed areas together, and thereby reducing potential permanent effects on the natural and socio-economic environment. Considering potential advantages and disadvantages of the preferred route as proposed, it is still identified as preferred.

2.2.6 Access Road Plan Refinements

The Draft EA Report included an access plan (as described in Section 2.2.1.2.5) that has been refined and included in the Final EA Report. The refinements to the access plan are due to the following:

- Additional field verification was completed that identified current road conditions and was used to update whether roads would be suitable for use.
- Some roads were removed from the Project footprint based on requests from agencies and stakeholders.
- Additional fly yards were included as part of the Project footprint in the Final EA Report and these locations require access roads.

A comparison of the lengths and ROW areas for access roads included in the Project footprint for the Draft EA Report and the Final EA Report is provided in Table 2.2-5. Based on the comparison, the total length of access roads has increased by 15% in the Final EA Report compared to the Draft EA Report, with the majority of change coming from existing access roads requiring no improvements.

Hydro One will continue to refine the construction and access plan as Project development continues and will continue to consult with Indigenous communities and stakeholders. Section 11.3.1 outlines the limits of work approach where minor design refinements can be made after EA approval.

Table 2.2-5: Comparison of Access Road Lengths and Area for the Project Footprint Considered in the Draft EA and Final EA Reports

Access Road Type	Length – Draft EA Report (km)	Length – Final EA Report (km)	Change from Draft EA to Final EA (%)	Area – Draft EA Report (ha)	Area – Final EA Report (ha)	Change from Draft EA to Final EA (%)
New Access Road – Preferred	322.9	329.6	2.1	648.4	661.9	2.0
New Access Road – Alternate	115.7	117.0	1.1	218.5	219.9	0.7
Existing Access Road – Potential Improvements	309.5	303.8	-1.8	599.5	588.3	-1.9
Existing Access Roads – No Improvements	484.6	549.1	13.4	961.7	1,083.3	11.2

Access Road Type	Length – Draft EA Report (km)	Length – Final EA Report (km)	Change from Draft EA to Final EA (%)	Area – Draft EA Report (ha)	Area – Final EA Report (ha)	Change from Draft EA to Final EA (%)
Total	1,232.6	1,299.8	14.8	2,428.1	2,253.5	12.05

EA = environmental assessment; % = percent; km = kilometre; ha = hectares.

These refinements are required to facilitate other Project refinements. Potential effects of these refinements are considered through the remaining sections of the Final EA Report as part of the Project footprint.

2.2.7 Laydown Areas and Construction Camps Refinements

The locations for laydown areas and construction camps included in the Draft EA Report (as described in Section 2.2.1.2.3) have been refined and the revised locations are included in the Final EA Report. The refinements were based on additional field verification, the suitability of the locations for use as a laydown area or construction camp and the advantages of locating these Project components in previously disturbed forestry cut blocks.

In the Draft EA Report laydown areas and construction camps were shown as separate areas. In the Final EA Report, these areas are considered as single locations, and any location could be a laydown area, construction camp or both. There were 10 laydown areas or construction camps included in the Draft EA Report and this has increased to 11 in the Final EA Report Hydro One continues to engage with Indigenous communities regarding construction camp locations and mitigation measures, and will obtain all required regulatory approvals for the final locations. Additional mitigation measures were added to Section 3.3.8 based on discussions to date.

Table 2.2-6: Comparison of Construction Camp and Laydown Area Number and Area for the Project Footprint Considered in the Draft EA and Final EA Reports

Project Component	Number (#) – Draft EA Report	Number (#) – Final EA Report	Area – Draft EA Report (ha)	Area – Final EA Report (ha)
Construction Camp and Laydown Area	10	11[1]	55.6	175.7

1) One location can be used as fly yard, construction camp or laydown area. This area is also included in Table 2.2-7 as a potential fly yard.

Potential effects of these refinements are considered through the remaining sections of the Final EA Report as part of the Project footprint.

2.2.8 Helicopter Use

Recognizing the in-service date requirements for the Project from the IESO, options for flexibility in the construction methodology were investigated after release of the Draft EA Report. Hydro One reviewed the alternative methods planned for helicopter usage during construction and included an additional method for the construction and erection of the towers.

The Project footprint in the Draft EA Report included helicopter pads for the safe landing and take-off areas where helicopter activities are required (e.g., personnel and material transport) (as described in Section 2.2.1.2.6). The Final EA Report also includes fly yards that will allow Hydro One to assemble structures in mass and fly them to the structure locations to be erected using helicopter rather than assembling the structure at the end location and erected using cranes. This alternative method has the advantage of faster construction and will support Hydro One being able to meet the in-service date required from the IESO. One fly yard was included in the Draft EA Report and this has increased to 47 as shown in Table 2.2-7.

In addition, the locations of the helicopter pads included in the Draft EA Report have been revised based on additional field verification. Some helicopter pads were also revised to avoid the areas of archaeology potential identified in the Stage 1 Archaeology Assessment. There are four additional helicopter pad locations included in the Final EA Report as shown in Table 2.2-7.

Hydro One continues to engage with Indigenous communities and stakeholders regarding the use of helicopters and concerns with disturbing their use of the land, such as hunting. Additional details are included in Section 7.1, 7.7, and 7.8.

Table 2.2-7: Comparison of Helicopter Pad and Fly Yard Number and Area for the Project Footprint Considered in the Draft EA and Final EA Reports

Project Component	Number (#) – Draft EA Report	Number (#) – Final EA Report	Area – Draft EA Report (ha)	Area – Final EA Report (ha)
Helicopter Pads	67	71	24.1	25.6
Fly Yards	1	47(1)	0.8	1,072.2

1) One location can be used as fly yard, construction camp, or laydown area. This area is also included in Table 2.2-6 as a potential construction camp or laydown area.

Potential effects of these refinements are considered through the remaining sections of the Final EA Report as part of the Project footprint.

hydroone.com