

## **9.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN**

### **9.1 Introduction**

The Environmental and Social Management Plan (ESMP) outlines Wataynikaneyap's commitment to managing and carrying out the Phase 1 New Transmission Line to Pickle Lake Project (the Project) in a responsible, safe and sustainable manner whereby protection of the environment and safety of people take priority above all other business matters. The ESMP contains specific action plans, standards and procedures that all Wataynikaneyap's employees, consultants and contractors must adopt and adhere to.

The purpose of the ESMP is to make sure that social and environmental effects, risks and liabilities identified during the environmental assessment (EA) process are effectively managed during the construction, operation and maintenance stages for the life of the Project. The ESMP outlines the impact management measures as best management practices to which Wataynikaneyap is committed to implement to reduce and preferably to prevent negative effects while enhancing the benefits. These best management practices have guided the EA process. In many cases, potential negative effects have been avoided through careful design and location of facilities.

#### **9.1.1 Project Scope**

The Project includes the construction, operation and maintenance of a proposed 230 kilovolt (kV) Alternating Current (AC) electricity transmission system in northwestern Ontario. The proposed Project includes the following main components:

- an overhead AC transmission line and associated components within a 40-m-wide transmission line alignment right-of-way (ROW);
- a connection facility (CF) to serve as a connection between the Project transmission line and an existing 230 kV line owned and operated by Hydro One;
- a transformer station (TS) and ancillary components is proposed at Pickle Lake to provide for step-down from 230 kV, connection and switching<sup>1</sup> to the 115 kV AC existing Hydro One (E1C) and the Musselwhite Mine (M1M) transmission lines;
- temporary structures associated with construction, including but not limited to temporary construction camps, access roads or trails, temporary laydown areas, water crossings, and waste management and staging areas.

Activities under the transmission line Project have been grouped into construction, and operation and maintenance stages. The construction activities include:

- transmission line construction;
- surveying;
- construction of infrastructure;
- clearing of 40-m-wide transmission line alignment ROW and construction of ROW access;

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<sup>1</sup> A switching station will be installed at the TS to connect the Phase 2 Project.

- staking of structure and guy anchor locations;
- material distribution;
- installation of structure foundations;
- assembly and erection of transmission structures;
- installation of conductors;
- counterpoise installation;
- construction of the transformer station and connection facility;
- decommissioning of temporary construction infrastructure;
- decommissioning of temporary construction camps and offices;
- temporary access roads, trails and bridges;
- borrow pits;
- temporary staging and laydown areas;
- clean-up and rehabilitation; and
- post-construction monitoring.

Once the transmission line is in place and transmitting power, the main operational activities are mostly those related to the maintenance of the sections of the line, towers, accessories, the 40-m-wide transmission line alignment ROW, roads, water crossings, and post-construction monitoring activities, as well as the operation at the substation.

The Project is predicted to be operated for an indeterminate time period and retirement (or decommissioning) is not anticipated. Should decommissioning activities eventually be considered for some or all Project components, decommissioning will be planned and conducted in accordance with the relevant standards and regulatory requirements of the day. This will include the development of a decommissioning plan that considers environmental planning and impact management measures, socio-economic impact management measures, and public health and safety procedures. A decommissioning plan will be submitted to the relevant regulatory authorities for approval prior to implementation.

### 9.1.2 Scope and Objectives

The ESMP provides a summary of project activities, their related potential effects and the corresponding recommended impact management measures to be carried out construction, operation and maintenance for the life of the Project. It outlines remedial and impact management measures in various environmental and social management plans to be carried out to prevent or minimize effects on the physical, biological and socio-economic/socio-cultural environments as well as to promote occupational safety and health of employees.

The objective of the ESMP is to consider and develop proper measures and controls to decrease the potential for negative effects to environment during all stages of the Project, and to provide clearly defined action plans and emergency response procedures to account for human and environmental health and safety.

Information collected throughout the implementation of these plans will be used to evaluate predictions made in the environmental assessment of the Project, and allow Wataynikaneyap to make corrective plans and take corrective actions where necessary. Therefore, the ESMP is a 'live' document and will be updated as the Project progresses. A revised version of the ESMP will be included with the Final EA report

The key objectives of the ESMP are to:

- Formalize and disclose Wataynikaneyap's commitments for environmental and social management; and
- Provide a framework for the implementation of environmental and social management best practices.

### 9.1.3 Environmental and Social Management Plan Structure

The ESMP outlines the environmental and social management procedures and impact management measures applicable to the Project and includes the topics which are common to all environmental and social disciplines.

The ESMP is structured as follows:

- **Section 9.1 – Introduction**, which describes Project Scope, Scope and Objectives of the ESMP, ESMP Structure and Intended Users.
- **Section 9.2 – Environmental and Social Management**, which provides an overview of Environmental Impact Assessment for the Project, Environmental and Social Management Framework, and Roles and Responsibility.
- **Section 9.3 – Environmental Management Plan**, which includes outlines of management plans for implementation through the various stages of the Project. These plans include Dust/Air Quality Management Plan, Greenhouse Gas Management Plan, Noise Management Plan, Soil Handling Management Plan, Timber Salvage Plan, Rare Plant Management Plan, Invasive Species Management Plan, Material Storage and Handling Plan, Liquid Waste Management Plan, Hazardous Waste Management Plan, Non-Hazardous Solid Waste Management Plan, Spill Prevention and Emergency Response Plan, Sediment and Erosion Control Plan, Blasting Management Plan, Concrete Management Plan, Clean-up and Reclamation Plan, Archaeology Management Plan, Built Heritage Management Plan, Post-construction Monitoring Plan and Vegetation Management Plan.
- **Section 9.4 – Social Management Plan**, which describes Wataynikaneyap's plan for Procurement, Employment, Employee Accommodation, and other social management plans including Engagement and Communication Plan, Aboriginal Engagement Plan, Stakeholder Engagement Plan, Traffic/Road Management Plan, and Occupational Health and Safety Plan.
- **Section 9.5 – Monitoring and Review of Environmental and Social Management Plan**, which outlines requirements for monitoring and audits of the ESMP, a corrective and preventive action procedure, and an overall management review.

#### **9.1.4 Intended Users**

The ESMP specifies the environmental standards to be adhered to by Wataynikaneyap (including contractors and subcontractors) involved in the various stages of the Project life cycle. The goal of the ESMP is to communicate the potential environmental and social effects associated with the Project and the procedures and impact management measures that are required to be implemented.

The Project Team will utilize the ESMP during Project execution to achieve effective, appropriate environmental and social management.

### **9.2 Environmental and Social Management**

#### **9.2.1 Applicable Regulatory Requirements**

Prior to construction, the Project requires EA approval from the Ontario Ministry of the Environment and Climate Change (MOECC) pursuant to the *Environmental Assessment Act*.

A summary of the permits and approvals that are expected to be required prior to construction of the Project is presented in Table 1.6-1. The required additional approvals will be confirmed as Project planning and design progress.

#### **9.2.2 Environmental Assessment**

The potential environmental and social effects have been assessed for the Project and are summarized along with their proposed impact management measures, including applicable management plans, in Table 9.2-1 below. Details of these plans are provided in Section 9.3 and 9.4.

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Surface water	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Water taking from surface water sources for the purposes of construction and water supply.</li> </ul>	Changes to surface water quantity (streamflow and/or water levels) during construction from short-term water taking.	Section 5.1
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Discharges of wastewater from construction, vehicle and equipment wash, and domestic activities.</li> </ul>	Changes to surface water quantity (streamflow and/or water levels) and surface water quality (suspended solids and chemical constituents) during construction from short-term wastewater discharges.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas and temporary construction camps);</li> <li>■ surface water management and erosion control;</li> <li>■ borrow pits for aggregates;</li> <li>■ concrete mixing on-site or in batch plants;</li> <li>■ operation of vehicles, construction equipment and diesel generators; and</li> <li>■ transportation of personnel, materials and equipment.</li> </ul> Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Transportation of personnel, materials, and equipment.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during construction from the transport and delivery of airborne particulate matter to nearby waterbodies.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Concrete Management Plan (Section 9.3.1.16)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Traffic/Road Management Plan (Section 9.4.5)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Hazardous materials, solid and liquid waste handling.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during construction from the wash off of trash and leachate at waste handling and storage facilities to nearby waterbodies.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Post-construction Monitoring Plan (Section 9.3.2.1)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Surface water	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ hazardous materials, solid and liquid waste handling;</li> <li>■ re-fueling, service and maintenance of vehicles and construction equipment;</li> <li>■ operation of vehicles, construction equipment and diesel generators; and</li> <li>■ transportation of personnel, materials, and equipment.</li> </ul> Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Transportation of personnel, materials, and equipment.</li> </ul>	Changes to surface water quality (chemical constituents) during construction and operation from the wash off of spills and leaks to nearby waterbodies.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Traffic/Road Management Plan (Section 9.4.5)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	Changes to surface water quality (chemical constituents) during construction from the wash off of explosives spills and residues from blasting activities to nearby waterbodies.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> </ul>
	Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety.</li> </ul>	Changes to surface water quality (suspended solids during operation from the wash off of organic debris from mechanical vegetation maintenance activities to adjacent waterbodies.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas and temporary construction camps) earthworks associated with construction and reclamation;</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, staging areas, and temporary construction camps.</li> </ul>	Changes to surface water quality (land surface erosion-sedimentation processes, suspended solids) during construction from the wash off of organic debris from work sites to nearby waterbodies, and/or increased rates of erosion in disturbed and exposed areas with sediment transport and delivery to adjacent waterbodies.	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Surface water	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	<p>Changes to surface water quantity (streamflows and/or water levels, in-water erosion-sedimentation processes) during construction and operation and maintenance due to changes in land cover.</p>	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ Upgrade of existing waterbody crossings, and construction of new waterbody crossings.</li> </ul>	<p>Changes to surface water quantity (streamflows and/or water levels, in-water erosion-sedimentation processes) and surface water quality (suspended solids and chemical constituents) during short-term water diversions at waterbody crossings during construction.</p> <p>Changes to surface water quantity (streamflows and/or water levels, in-water erosion-sedimentation processes) and surface water quality (suspended solids) during construction and operation due to changes in reach and cross-section hydraulics at waterbody crossings.</p>	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> </ul>
Groundwater	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ transportation of personnel, materials and equipment; and</li> <li>■ hazardous materials, solid and liquid waste handling.</li> </ul>	<p>Changes to groundwater quality from transportation of personnel, materials and equipment, hazardous materials, solid and liquid handling.</p>	<ul style="list-style-type: none"> <li>■ Section 5.2</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Traffic/Road Management Plan (Section 9.4.5)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ Foundation installation including dewatering activities.</li> </ul>	<p>Changes to groundwater quantity from excavations for foundations and dewatering excavations.</p>	<ul style="list-style-type: none"> <li>■ Section 5.2</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Groundwater	Project activities during the construction stage: <ul style="list-style-type: none"> <li>Clearing grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and constructions areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps).</li> </ul>	Changes to groundwater quantity from vegetation clearing that affects recharge thereby potentially increasing groundwater table levels.	<ul style="list-style-type: none"> <li>Section 5.2</li> <li>Timber Salvage Plan (Section 9.3.1.5)</li> <li>Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>Construction of access roads and trails, fencing, transformer station, connection facility and the 40-m-wide transmission line alignment ROW.</li> </ul>	Changes to groundwater quantity from hardening of surfaces (redirection of flow) through construction and maintenance of access roads, fencing and the 40-m-wide transmission line alignment ROW.	<ul style="list-style-type: none"> <li>Section 5.2</li> <li>Soil Handling Management Plan (Section 9.3.1.4)</li> <li>Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>Post-construction Monitoring Plan (Section 9.3.2.1)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>Construction of access roads and trails, fencing, transformer station, connection facility, and the 40-m-wide transmission line alignment ROW.</li> </ul>	Changes to groundwater quality may be caused by disturbing shallow soils with potentially pre-existing contamination near Pickle Lake TS. Such movement of potentially contaminated soils may lead to contamination of groundwater.	<ul style="list-style-type: none"> <li>Section 5.2</li> <li>Soil Handling Management Plan (Section 9.3.1.4)</li> <li>Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>Traffic/Road Management Plan (Section 9.4.5)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>Potential use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	Changes to groundwater quantity from blasting.	<ul style="list-style-type: none"> <li>Section 5.2</li> <li>Blasting Management Plan (Section 9.3.1.15)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>Potential use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	Changes to groundwater quality from the use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.	<ul style="list-style-type: none"> <li>Section 5.2</li> <li>Spill Prevention and Emergency Response Plan (Section 9.3.1.15)</li> <li>Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>Blasting Management Plan (Section 9.3.1.15)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>Pumping of wells for supply of water to temporary construction camps.</li> </ul>	Changes to groundwater quantity associated with operation of temporary construction camp water supply wells.	Section 5.2

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Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Air quality	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas and temporary construction camps);</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, staging areas, and temporary construction camps; and</li> <li>■ concrete mixing on-site or in batch plants.</li> </ul>	CAC and fugitive dust emissions from construction activities can result in changes in ambient concentrations.	<ul style="list-style-type: none"> <li>■ Section 5.3</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> </ul>
Climate change	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas and temporary construction camps);</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, staging areas, and temporary construction camps; and</li> <li>■ transportation of personnel, materials, and equipment</li> </ul>	Greenhouse gas emissions from construction activities can result in changes in federal and provincial annual greenhouse gas emissions.	<ul style="list-style-type: none"> <li>■ Section 5.4</li> <li>■ Greenhouse Gas Management Plan (Section 9.3.1.2)</li> </ul>
Noise	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ concrete mixing on-site or in batch plants.</li> </ul>	Noise emissions from construction activities could increase existing noise levels at potential point of receptions (PORs).	<ul style="list-style-type: none"> <li>■ Section 5.5</li> <li>■ Noise Management Plan (Section 9.3.1.3)</li> </ul>
	<p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the transmission line, the 40-m-wide transmission line alignment ROW and permanent access roads; and</li> <li>■ operation and maintenance of transformer station and connection facility.</li> </ul>	Noise emissions from operation and maintenance stage activities could increase existing noise levels at potential PORs.	<ul style="list-style-type: none"> <li>■ Section 5.5</li> <li>■ Noise Management Plan (Section 9.3.1.3)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Vegetation and Wetlands	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps).</li> <li>■ surface water management and erosion control;</li> <li>■ hazardous materials, solid and liquid waste handling</li> <li>■ maintenance of site services, and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	<p>Site preparation, construction and operation activities can result in the loss or alteration of upland, wetland and riparian ecosystems.</p> <p>Reduced soil quantity during earth moving activities may affect revegetation.</p> <p>Soil disturbance and stockpiling can change physical, chemical or biological properties of soil, increase erosion potential, and affect revegetation.</p>	<ul style="list-style-type: none"> <li>■ Section 6.1</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Rare Plant Management Plan (Section 9.3.1.6)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps).</li> <li>■ water taking from surface water sources for the purposes of construction and water supply;</li> <li>■ surface water management and erosion control;</li> <li>■ discharges of wastewater from construction, vehicle and equipment wash, and domestic activities and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul>	<p>Changes to hydrology may alter drainage patterns and increase/decrease drainage flows and surface water levels, which could cause changes to soils and upland, wetland and riparian ecosystems.</p>	<ul style="list-style-type: none"> <li>■ Section 5.1</li> <li>■ Section 6.1</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Vegetation and Wetlands	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ foundation installation including dewatering activities;</li> <li>■ pumping of wells for supply of water to temporary construction camps; and</li> <li>■ construction of access roads and trails, fencing, transmission station, connection facility, and the 40-m-wide transmission line alignment ROW.</li> </ul>	Changes to groundwater quantity and quality could cause near-surface groundwater level changes in wetlands.	<ul style="list-style-type: none"> <li>■ Section 5.2</li> <li>■ Section 6.1</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ re-fuelling, service and maintenance of vehicles and construction equipment;</li> <li>■ operation of vehicles, construction equipment, and diesel generators; and</li> <li>■ hazardous materials, solid and liquid waste handling.</li> </ul> Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ transportation of personnel, materials, and equipment</li> </ul>	Chemical or hazardous material spills on the Project footprint or along access roads can affect soil quality and upland, wetland and riparian ecosystems.	<ul style="list-style-type: none"> <li>■ Section 6.1</li> <li>■ Section 5.1</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps.</li> <li>■ use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul> Project activities that generate air emissions and fugitive dust (Section 5.3) during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Dust and air emissions, and subsequent deposition can affect upland, wetland and riparian ecosystems through changes in soil quality and direct contact with plants.	<ul style="list-style-type: none"> <li>■ Section 5.3</li> <li>■ Section 6.1</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Vegetation and Wetlands	<p>Project activities that could result in invasive species introduction, in the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas and temporary construction camps);</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities that could result in invasive species introduction, in the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Introduction and spread of noxious and invasive plant species can affect upland, wetland and riparian ecosystems.	<ul style="list-style-type: none"> <li>■ Section 6.1</li> <li>■ Invasive Species Management Plan (Section 9.3.1.7)</li> </ul>
Fish and Fish Habitat	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Change to fish habitat quantity and quality through physical alteration of waterbodies.	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
Fish and Fish Habitat	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ grubbing of vegetation along the ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps); and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of new ROW, fencing transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Changes to fish habitat quantity and quality through changes to riparian vegetation.	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Fish and Fish Habitat	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, turn-around areas, temporary laydown areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Injury or mortality of fish from instream construction.	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, turn-around areas, temporary laydown areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Change in habitat quality, affecting fish downstream from crossings, from release of sediment during road construction at waterbody crossings and from land disturbance.	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, turn-around areas, temporary laydown areas, staging areas and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Change in channel morphology, affecting fish habitat quantity and quality, from placement of waterbody crossing structures.	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Fish and Fish Habitat	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, turn-around areas, temporary laydown areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	<p>Changes in fish access to habitats, affecting fish abundance and distribution, from placement of waterbody crossing structures.</p> <p>Changes to hydrology or groundwater may alter drainage patterns and increase or decrease drainage flows and surface water levels, which could affect fish habitat quantity and quality.</p>	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ Use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	<p>Injury or mortality of fish from use of explosives to create level areas for transmission structures, for foundation excavations, roads, and access road installation.</p>	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas and temporary construction camps);</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ reclamation of decommissioned access roads, turn-around areas, temporary laydown areas, staging areas, and temporary construction camps; and</li> <li>■ concrete mixing on-site or in batch plants.</li> </ul>	<p>Changes to air contaminants and fugitive dust emissions resulting from the Project could lead to changes to constituent concentrations in water in the receiving environment, which could affect fish habitat quantity and quality.</p>	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ surface water management and erosion control;</li> <li>■ discharges of wastewater from construction, vehicle and equipment wash, and domestic activities;</li> <li>■ refuelling, service, and maintenance of vehicles and construction equipment; and</li> <li>■ hazardous materials, solid and liquid waste handling.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of new ROW, transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	<p>Changes to surface water and sediment quality from spills of fuel or other materials can affect fish reproduction and survival, and as a result, abundance.</p>	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Fish and Fish Habitat	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps).</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads; and</li> <li>■ mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety.</li> </ul>	Changes to public access to recreational fishing areas could affect fish abundance.	<ul style="list-style-type: none"> <li>■ Section 6.2</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
Wildlife	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ surface water management and erosion control;</li> <li>■ transportation of personal, materials and equipment; and</li> <li>■ hazardous materials, solid and liquid waste handling.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads; and</li> <li>■ reclamation of decommissioned access roads, turn-around areas, temporary laydown areas, turn-around areas staging areas, and temporary construction camps.</li> </ul>	Site preparation, construction and operation and maintenance activities can result in the loss or alteration of vegetation and topography that may change habitat availability, use, and connectivity and influence wildlife abundance and distribution.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>
	<p>Project activities during the construction stage that result in changes to surface water flow (Section 5.1):</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, temporary laydown areas, and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul>	Changes to hydrology may alter drainage patterns and increase/decrease drainage flows and surface water levels that can cause changes to soils and vegetation, which can affect wildlife habitat availability and distribution.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Wildlife	<p>Project activities during the construction stage that could result in invasive species introduction:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ transportation of personal, materials and equipment; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads.</li> </ul>	Introduction and spread of noxious and invasive plant species can affect plant community composition, which can affect wildlife habitat availability and distribution.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Invasive Species Management Plan (Section 9.3.1.7)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ transportation of personal, materials and equipment;</li> <li>■ surface water management and erosion control; and</li> <li>■ hazardous materials, solid and liquid waste handling.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul>	<p>Sensory disturbance (lights, smells, noise, dust, human activity, corona-related noise, viewscape) can change wildlife habitat availability, use and connectivity (movement and behaviour), which can lead to changes in wildlife abundance and distribution.</p> <p>Use of linear corridors and converted habitat (i.e., younger, more productive forest) by prey and predators leading to decreases in survival and reproduction of caribou and moose.</p>	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Noise Management Plan (Section 9.3.1.3)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Traffic/Road Management Plan (Section 9.4.5)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Wildlife	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ surface water management and erosion control;</li> <li>■ transportation of personal, materials and equipment; and</li> <li>■ hazardous materials, solid and liquid waste handling; and operation of vehicles, construction equipment and diesel generators.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas staging areas, and temporary construction camps.</li> </ul>	<p>Vegetation clearing will result in an increase in edge habitat, which could increase nest predation or parasitism risk for forest breeding birds.</p> <p>Collisions with Project vehicles during construction and operation may cause injury or mortality to individual animals.</p> <p>Collisions with the transmission line causing injury or mortality to bat and birds criteria.</p> <p>Site preparation, construction and maintenance of the 40-m-wide transmission line alignment ROW may result in the destruction of nests, eggs, and individuals of migratory birds (incidental take).</p> <p>Site preparation, construction and maintenance of the 40-m-wide transmission line alignment ROW may result in the destruction of wolverine dens (incidental take).</p>	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Traffic/Road Management Plan (Section 9.4.5)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ surface water management and erosion control;</li> <li>■ transportation of personal, materials and equipment; and</li> <li>■ hazardous materials, solid and liquid waste handling; and maintenance of site services.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul>	<p>Site preparation, construction and maintenance of the 40-m-wide transmission line alignment ROW may result in the destruction of roosting and hibernating bats (incidental take).</p>	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Wildlife	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ hazardous materials, solid and liquid waste handling; and</li> <li>■ maintenance of site services.</li> </ul>	Attraction of wildlife to the Project (e.g., food waste, petroleum-based products, salt) during construction may increase human-wildlife interactions and change predator-prey relationships, which can affect wildlife survival and reproduction.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	Fly rock from blasting may result in injury or mortality to wildlife.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps).</li> </ul> Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads; and</li> <li>■ electricity transmission.</li> </ul>	Electrocutation causing injury or mortality to birds.  Increase in public access could affect wildlife survival and reproduction through vehicle strikes, and/or legal and illegal hunting.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Traffic/Road Management Plan (Section 9.4.5)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ transportation of personal, materials and equipment;</li> <li>■ hazardous materials, solid and liquid waste handling; and</li> <li>■ re-fuelling, service and maintenance of vehicles and construction equipment.</li> </ul>	Chemical or hazardous material stored on the Project site, or spills (e.g., petroleum products, ammonium nitrate) on site or along access or haul roads can affect wildlife survival and reproduction.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Wildlife	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ Clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps); transportation of personal, materials and equipment.</li> <li>■ Project activities during the operation and maintenance stage:</li> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations and permanent access roads; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul>	Dust and air emissions, and subsequent deposition can change soil quality and vegetation, which can affect wildlife habitat availability and distribution.	<ul style="list-style-type: none"> <li>■ Section 6.3</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> </ul>
Archaeological Resources	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ Clearing, and grubbing along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas turn-around areas and temporary construction camps).</li> </ul>	Potential loss of, or damage to, an archaeological resource.	<ul style="list-style-type: none"> <li>■ Section 7.1</li> <li>■ Archaeology Management Plan (Section 9.3.1.18)</li> </ul>
Heritage Resources	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing and grubbing of vegetation along the 40-m-wide transmission line alignment ROW, access roads and trails and other construction areas; and</li> <li>■ foundation and conductor installation.</li> </ul>	Potential alteration of a cultural heritage resource from vibration of construction equipment during construction clearing and grubbing of vegetation along the 40-m-wide transmission line alignment ROW, access roads and trails and other construction areas.	<ul style="list-style-type: none"> <li>■ Section 7.2</li> <li>■ Built Heritage Management Plan (Section 9.3.1.19)</li> </ul>
	<p>Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, turn-around areas, laydown areas and temporary construction camps);</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, turn-around areas, laydown areas, staging areas, and construction camps.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ Operation and maintenance of new ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads.</li> </ul>	Alteration of a cultural heritage resource located downstream from the Project from erosion resulting from increased streamflow.	<ul style="list-style-type: none"> <li>■ Section 7.2</li> <li>■ Built Heritage Management Plan (Section 9.3.1.19)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Socio-economics	<b>Labour Market</b> Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Employment of personnel, procurement of materials goods and services.</li> </ul>	<ul style="list-style-type: none"> <li>■ Project construction workforce hiring would generate direct, indirect and induced employment and income, and create employment opportunities for Aboriginal and local communities.</li> <li>■ Training and skill development opportunities provided by the Project to Project workforce and contractors or suppliers can enhance skills of Aboriginal local labour force and local business community.</li> </ul>	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Regional Economy</b> Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Employment of personnel, procurement of materials, goods and services.</li> </ul>	Project procurement of materials, goods and services during construction, and household and consumer-oriented spending associated with the wages and salaries of Project employees and employees of Project contractors and suppliers would support local and Aboriginal business opportunities and local and regional business revenues.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Government Finance</b> Project activities during construction stage.	Direct Project utilization of health and emergency services and water/waste infrastructure could increase demand on local services and infrastructure and affect local government expenditures.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Government Finance</b> Project construction activities during the construction, operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Project payment of taxes.</li> </ul>	Project associated payments in connection with income and other taxes during construction; property taxes to municipalities, and payments to government bodies during operation would affect local regional government revenues.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Housing and Temporary Accommodation</b> Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Employment and procurement of goods and services.</li> </ul>	Project direct construction workforce and supplier requirements could increase demand for rental housing and/or temporary accommodation, and potentially affect rental housing and/or temporary accommodation supply in certain LSA communities.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Services and Infrastructure</b> Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Employment and procurement of goods and services.</li> </ul>	Temporary in-migration could increase demand for local services (including education, non-emergency healthcare, social services, recreation) and infrastructure (water, waste water, solid waste), and potentially affect service availability and access.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Services and Infrastructure</b> Project activities during the construction stage.	Direct Project utilization of emergency and protective services could increase demand, and potentially affect service availability and access.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Services and Infrastructure</b> Project activities during the construction stage.	Project direct use of power and water and generation of waste water and solid waste would increase demand on power, water, waste water and solid waste services, potentially affecting service availability and access.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Socio-economics	<b>Transportation</b> Project activities during the construction stage.	Transportation of the Project construction workforce, materials and goods would increase use of and demand on local road and air transportation services.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Community Wellbeing</b> Project activities during the construction stage.	Project construction activities could affect air quality along the 40-m-wide transmission line alignment ROW; potential for nuisance effects.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Community Wellbeing</b> Project activities during the construction stage.	Project construction activities could affect ambient noise levels along the 40-m-wide transmission line alignment ROW; potential for nuisance effects.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	<b>Community Wellbeing</b> Project activities during the construction stage.	Project construction activities could expose the public to physical hazards, affecting public safety.	<ul style="list-style-type: none"> <li>■ Section 7.3</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
<p>Non-Aboriginal Land and Resource Use</p>	<p><b>Parks and Protected Areas</b>            Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ surveying and flagging;</li> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations;</li> <li>■ foundation installation, including dewatering activities;</li> <li>■ concrete mixing on-site including batch plants;</li> <li>■ assembly and erection of transmission structures including staking of structure and guy anchor locations;</li> <li>■ testing and commissioning;</li> <li>■ construction of transformer station and connection facility;</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ transportation of personnel, materials, and equipment;</li> <li>■ helicopter access for construction activities;</li> <li>■ surface water management and erosion control;</li> <li>■ upgrade of existing waterbody crossings, and construction of new waterbody crossing;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ employment of personnel, procurement of materials and goods and services during the construction stage.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads;</li> <li>■ mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety;</li> <li>■ transportation of personnel, materials, and equipment; and</li> <li>■ helicopter access for operation and maintenance activities.</li> </ul>	<p>Site preparation, construction, operation and maintenance of the Project footprint could affect:</p> <ul style="list-style-type: none"> <li>■ the quantity of land available for use in parks and protected areas (i.e., access); and</li> <li>■ the quality of parks and protected area lands due to changes in environmental conditions.</li> </ul>	<ul style="list-style-type: none"> <li>■ Section 7.4</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> <li>■ Concrete Management Plan (Section 9.3.1.16)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Non-Aboriginal Land and Resource Use	<p><b>Outdoor Tourism and Recreational Land and Resource Use</b>            Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ surveying and flagging;</li> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations;</li> <li>■ foundation installation, including dewatering activities;</li> <li>■ concrete mixing on-site including batch plants;</li> <li>■ assembly and erection of transmission structures including staking of structure and guy anchor locations;</li> <li>■ testing and commissioning;</li> <li>■ construction of transformer station and connection facility;</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ transportation of personnel, materials, and equipment;</li> <li>■ helicopter access for construction activities;</li> <li>■ surface water management and erosion control;</li> <li>■ upgrade of existing waterbody crossings, and construction of new waterbody crossing;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ employment of personnel, procurement of materials and goods and services during the construction stage.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads;</li> <li>■ mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety;</li> <li>■ transportation of personnel, materials, and equipment; and</li> <li>■ helicopter access for operation and maintenance activities.</li> </ul>	Site preparation, construction, operation and maintenance of the Project footprint could affect the quality of the available lands due to changes in environmental conditions.	<ul style="list-style-type: none"> <li>■ Section 7.4</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> <li>■ Concrete Management Plan (Section 9.3.1.16)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
		Site preparation, construction, operation and maintenance of the Project footprint could affect the quantity of land available for outdoor tourism and recreational use (i.e., access).	
		Site preparation, construction, operation and maintenance of the Project footprint could affect the fish and wildlife resource availability, consequently affecting harvest levels.	

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
<p>Non-Aboriginal Land and Resource Use</p>	<p><b>Commercial Industry Land and Resource Use</b>            Project activities during the construction stage:</p> <ul style="list-style-type: none"> <li>■ surveying and flagging;</li> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and constructions areas, and construction of infrastructure (e.g., access roads, fencing, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations;</li> <li>■ foundation installation including dewatering activities;</li> <li>■ concrete mixing, on-site or in batch plants</li> <li>■ assembly and erection of transmission structures including staking of structure and guy anchor locations;</li> <li>■ testing and commissioning;</li> <li>■ construction of transformer station and connection facility;</li> <li>■ operation of vehicles, construction equipment, and diesel generators</li> <li>■ transportation of personnel, materials, and equipment;</li> <li>■ helicopter access for construction activities;</li> <li>■ surface water management and erosion control;</li> <li>■ upgrade of existing waterbody crossings, and construction of new waterbody crossing;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ employment of personnel, procurement of materials, goods and services during the construction stage.</li> </ul> <p>Project activities during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation, maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads;</li> <li>■ mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety; and</li> <li>■ transportation of personnel, materials, and equipment; helicopter access for operation and maintenance activities.</li> </ul>	<p>Site preparation, construction, operation and maintenance of the Project footprint could affect:</p> <ul style="list-style-type: none"> <li>■ the quantity of lands available to conduct commercial industrial land and resource use activities; and</li> <li>■ the availability of commercial industry resources (e.g., timber).</li> </ul>	<ul style="list-style-type: none"> <li>■ Section 7.4</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> <li>■ Concrete Management Plan (Section 9.3.1.16)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Visual aesthetics	Project components and activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas and construction of infrastructure (e.g., access roads, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ assembly and erection of transmission structures including staking of structure and guy anchor locations;</li> <li>■ conductor installation, including cable splicing; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas staging areas, and temporary construction camps.</li> </ul>	Vegetation clearing, grading, and the assembly of built structures will introduce visible disturbances to the existing landscape that can negatively affect visual quality.	<ul style="list-style-type: none"> <li>■ Section 7.5</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project components and activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors tower foundations and permanent access roads.</li> </ul>	Visibility of built structures and maintenance of vegetation disturbances related to the operation of the Project can negatively affect visual quality.	<ul style="list-style-type: none"> <li>■ Section 7.5</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
Human health	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ transportation of personnel, materials and equipment; and</li> <li>■ hazardous materials, solid and liquid waste handling.</li> </ul>	Changes to groundwater quality from transportation of personnel, materials and equipment, hazardous materials, solid and liquid handling may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Foundation installation including dewatering activities.</li> </ul>	Changes to groundwater quality from excavations for foundations and dewatering excavations may affect human health.	<ul style="list-style-type: none"> <li>■ Section 5.2</li> <li>■ Section 7.6</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Human health	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Construction of access roads and trails, fencing, transformer station, connection facility and the 40-m-wide transmission line alignment ROW.</li> </ul>	Changes to groundwater quality may be caused by disturbing shallow soils with potentially pre-existing contamination near Pickle Lake TS. Such movement of potentially contaminated soils may lead to contamination of groundwater and may affect human health.	<ul style="list-style-type: none"> <li>■ Section 5.2</li> <li>■ Section 7.6</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Potential use of explosives to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	Changes to groundwater quality from the use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Blasting Management Plan (Section 9.3.1.15)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Pumping of wells for supply of water to temporary construction camps.</li> </ul>	Changes to groundwater quality associated with operation of temporary construction camp water supply wells may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Discharges of wastewater from construction, vehicle and equipment wash, and domestic activities.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during construction from short-term discharges may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ surface water management and erosion control;</li> <li>■ borrow pits for aggregates;</li> <li>■ concrete mixing on-site or in batch plants;</li> <li>■ operation of vehicles, construction equipment and diesel generators; and</li> <li>■ transportation of personnel, materials and equipment.</li> </ul> Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Transportation of personnel, materials, and equipment.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during construction from the transport and delivery of airborne particulate matter to nearby waterbodies may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Human health	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Hazardous materials, solid and liquid waste handling.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during construction from the wash off of trash and leachate at waste handling and storage facilities to nearby waterbodies may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ hazardous materials, solid and liquid waste handling;</li> <li>■ re-fueling, service and maintenance of vehicles and construction equipment;</li> <li>■ operation of vehicles, construction equipment and diesel generators; and</li> <li>■ transportation of personnel, materials, and equipment.</li> </ul> Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Transportation of personnel, materials, and equipment.</li> </ul>	Changes to surface water quality (chemical constituents) during construction and operation from the wash off of spills and leaks to nearby waterbodies may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Human health	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations.</li> </ul>	Changes to surface water quality (chemical constituents) during construction from the wash off of explosives spills and residues from blasting activities to nearby waterbodies may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Blasting Management Plan (Section 9.3.2.2)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ Mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during operation from the wash off of organic debris from mechanical vegetation maintenance activities to adjacent waterbodies may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Vegetation Management Plan (Section 9.3)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps) earthworks associated with construction and reclamation;</li> <li>■ surface water management and erosion control; and</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps.</li> </ul>	Changes to surface water quality (land surface erosion-sedimentation processes, suspended solids) during construction from the wash off of organic debris from work sites to nearby waterbodies, and/or increased rates of erosion in disturbed and exposed areas with sediment transport and delivery to adjacent waterbodies may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Upgrade of existing waterbody crossings, and construction of new waterbody crossings.</li> </ul>	Changes to surface water quality (suspended solids and chemical constituents) during short-term water diversions at waterbody crossings during construction may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ Upgrade of existing waterbody crossings, and construction of new waterbody crossings.</li> </ul>	Changes to surface water quality (suspended solids) during construction and operation due to changes in reach and cross-section hydraulics at waterbody crossings may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Soil Handling Management Plan (Section 9.3.1.4)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
Human health	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas turn-around areas, and temporary construction camps);</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ concrete mixing on-site or in batch plants.</li> </ul>	CAC and fugitive dust emissions from construction activities can result in changes in ambient concentrations that may affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Concrete Management Plan (Section 9.3.1.16)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the construction stage: <ul style="list-style-type: none"> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling of materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ concrete mixing on-site or in batch plants.</li> </ul>	Noise emissions from construction activities could increase existing noise levels at existing PORs and affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Noise Management Plan (Section 9.3.1.3)</li> <li>■ Concrete Management Plan (Section 9.3.1.16)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>
	Project activities during the operation and maintenance stage: <ul style="list-style-type: none"> <li>■ operation and maintenance of transmission line, 40-m-wide transmission line alignment ROW and permanent access roads; and</li> <li>■ operation and maintenance of transformer station and connection facility.</li> </ul>	Noise emissions from operation and maintenance stage activities could increase existing noise levels at potential PORs and affect human health.	<ul style="list-style-type: none"> <li>■ Section 7.6</li> <li>■ Noise Management Plan (Section 9.3.1.3)</li> <li>■ Social Management Plan (Section 9.4)</li> </ul>

**Table 9.2-1: Potential Environmental and Social Effects**

Environmental and Social Components	Project Activity	Potential Effect	Impact Management Measure
<p>Aboriginal Rights, Treaty Rights and Interests</p>	<p>Project activities relevant to Aboriginal land and resource use during the construction stage:</p> <ul style="list-style-type: none"> <li>■ surveying and flagging;</li> <li>■ clearing, grading, earth moving, grubbing of vegetation, and stockpiling materials along the 40-m-wide transmission line alignment ROW and other access and construction areas, and construction of infrastructure (e.g., access roads, bridges, temporary laydown areas, turn-around areas and temporary construction camps);</li> <li>■ use of explosives and blasting to create level areas for transmission structures, roads, and for foundation excavations;</li> <li>■ foundation installation, including dewatering activities;</li> <li>■ concrete mixing on-site including batch plants;</li> <li>■ assembly and erection of transmission structures including staking of structure and guy anchor locations;</li> <li>■ testing and commissioning;</li> <li>■ construction of transformer station and connection facility;</li> <li>■ operation of vehicles, construction equipment, and diesel generators;</li> <li>■ transportation of personnel, materials, and equipment;</li> <li>■ helicopter access for construction activities;</li> <li>■ surface water management and erosion control;</li> <li>■ upgrade of existing waterbody crossings, and construction of new waterbody crossing;</li> <li>■ reclamation of decommissioned access roads, temporary laydown areas, turn-around areas, staging areas, and temporary construction camps; and</li> <li>■ employment of personnel, procurement of materials and goods and services during the construction stage.</li> </ul> <p>Project activities relevant to Aboriginal land and resource use during the operation and maintenance stage:</p> <ul style="list-style-type: none"> <li>■ operation and maintenance of the new 40-m-wide transmission line alignment ROW, fencing, transmission line, conductors, tower foundations, and permanent access roads;</li> <li>■ mechanical vegetation maintenance along the 40-m-wide transmission line alignment ROW at an appropriate height to protect the facility and improve public and worker safety;</li> <li>■ transportation of personnel, materials, and equipment; and</li> <li>■ helicopter access for operation and maintenance activities.</li> </ul>	<p>Site preparation, construction, operation and maintenance of the Project footprint could affect the quality of the available lands due to changes in environmental conditions.</p> <p>Site preparation, construction, operation and maintenance of the Project footprint could affect the quantity of land available for harvesting (i.e., access).</p>	<ul style="list-style-type: none"> <li>■ Section 5.3</li> <li>■ Section 5.5</li> <li>■ Section 6.1</li> <li>■ Section 6.2</li> <li>■ Section 6.3</li> <li>■ Section 7.5</li> <li>■ Section 8.0</li> <li>■ Dust/Air Quality Management Plan (Section 9.3.1.1)</li> <li>■ Noise Management Plan (Section 9.3.1.3)</li> <li>■ Wildlife Management Plan (Section 9.3.1.8)</li> <li>■ Material Storage and Handling Plan (Section 9.3.1.9)</li> <li>■ Liquid Waste Management Plan (Section 9.3.1.10)</li> <li>■ Hazardous Waste Management Plan (Section 9.3.1.11)</li> <li>■ Non-Hazardous Solid Waste Management Plan (Section 9.3.1.12)</li> <li>■ Spill Prevention and Emergency Response Plan (Section 9.3.1.13)</li> <li>■ Sediment and Erosion Control Plan (Section 9.3.1.14)</li> <li>■ Clean-up and Reclamation Plan (Section 9.3.1.17)</li> <li>■ Vegetation Management Plan (Section 9.3.2.2)</li> <li>■ Timber Salvage Plan (Section 9.3.1.5)</li> <li>■ Invasive Species Management Plan (Section 9.3.1.7)</li> <li>■ Traffic/ Road Management Plan (Section 9.4.5)</li> </ul>

### 9.2.3 Environmental and Social Management Framework

This ESMP is part of a suite of plans which together provide a management framework for the Project execution. The structure of the management plan framework that identifies the key documents in the management of environmental and social effects is presented in Figure 9.2-1.

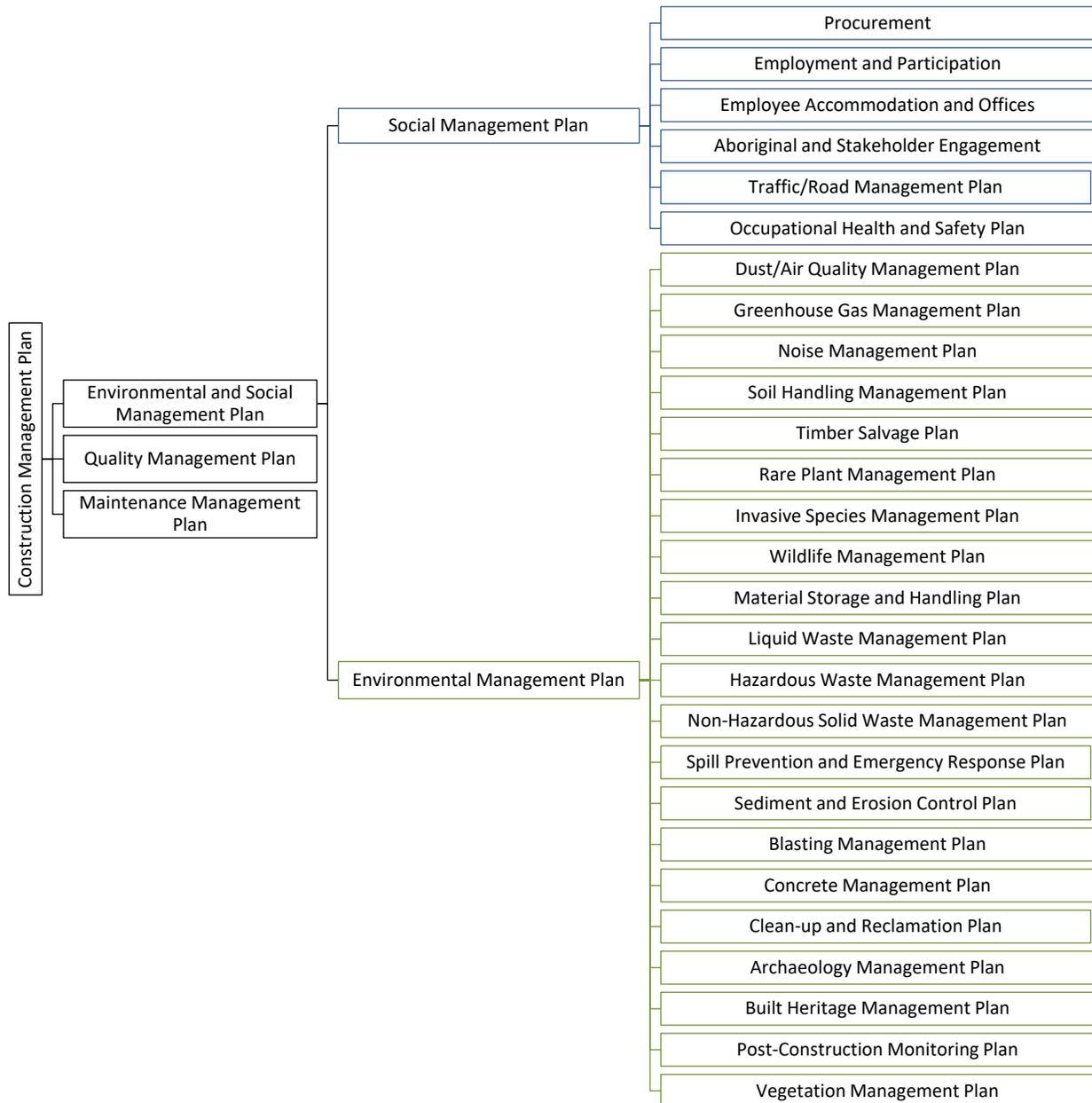


Figure 9.2-1: Wataynikaneyap Phase 1 New Transmission Line to Pickle Lake Project – Environmental and Social Management Plan Framework

### **9.2.4 Roles and Responsibilities**

Figure 9.2-2 outlines the potential organization, titles, and interaction of the Project Team's key personnel that include the Wataynikaneyap Project Manager, the Construction Manager, the Environmental Manager, the Environmental Monitors, the Safety Manager, the Site Supervisor, and the Contractors/Subcontractors. Their anticipated roles and responsibilities are described, but not limited to, as below:

#### ***Wataynikaneyap Project Manager***

- Oversees all aspects (from planning to execution) of the Project.
- Works with the Construction Manager, the Environmental Manager and the Site Supervisor to confirm compliance with construction and environmental aspects of all permits, contract documents, company environmental policies, and commitments made during the planning and application process.
- Confirm that all Project personnel receive an appropriate orientation and training to Wataynikaneyap's and the Project's requirements.
- Confirm that the Contractor is duly informed of the ESMP and associated responsibilities and implications of this ESMP.
- Contracts qualified consultants and contractors to work on the Project as appropriate.

#### ***Construction Manager***

- Oversees the Project construction, directs and monitors the progress of construction activities.
- Works with the Environmental Manager and the Site Supervisor to confirm compliance with construction and environmental aspects of all permits, contract documents, company environmental policies, and commitments made during the planning and application process.
- Responsible for obtaining all necessary permits and licences and, depending upon the contractual arrangements, direct or monitor compliance with building and safety codes and other regulations.
- Prepares daily reports of progress and requirements for labor, material, machinery, and equipment at the construction site.

#### ***Environmental Manager***

- Coordinates preparation of regulatory applications to support the Project.
- Represents Wataynikaneyap at meetings with external groups, including regulators, Aboriginal communities and other stakeholders.
- Works with the Project team to coordinate activities, identify and resolve concerns and issues.
- Liaises with the Construction Manager and the Site Supervisor and coordinates environmental inspection, reporting and training during construction of the approved Project.
- Is aware of and works in accordance with health and safety requirements.
- Provides advice on major decisions such as wet weather shut-downs or courses of action to deal with unexpected environmental conditions or events.

- Tracks all environmental incidents and non-compliances that occur on the Project (irrespective of whether they meet a regulatory reporting threshold).
- Prepares, collects, organizes, and confirms correct dissemination of environment-related information and documentation that arises during construction.

### **Environmental Monitors**

- Report directly to the Environmental Managers and works with Contractors and Sub-contractors to implement impact management measures.
- Conducts environmental audits and site inspections of construction activities to evaluate compliance with project environmental requirements, regulatory approvals, the ESMP, the Contractors environmental management plans, and other environmental commitments.
- Reviews Contractor environmental management plans with the Environmental Manager.
- Reviews environmental monitoring reports prepared by the Contractor.

### **Safety Managers**

- Report directly to the Construction Manager.
- Conducts safety audits of construction activities to evaluate compliance with Wataynikaneyap's Health and Safety Plan, the Contractor's Occupational Health and Safety Plan, *Occupational Health and Safety Act*, and any other provincial safety requirements.
- Implement the occupational health and safety training program.

### **Site Supervisor**

- Reports directly to the Construction Manager, and works with the Environmental Manager, to support the attainment of Project environmental goals by serving as the primary interface between Wataynikaneyap and the Contractor at the construction site.
- The Site Supervisor will be onsite during vegetation clearing and ground disturbance activities and any other times at the discretion of the Environmental Manager.
- Proactively works to confirm the Contractor's day-to-day construction activities are being conducted within the scope of environmental regulatory requirements, commitments, procedures, and specifications.
- Prepares and delivers environmental orientation presentations to the Wataynikaneyap staff, and regulatory, inspection, and contract staff, as directed by the Environmental Manager.
- Monitors construction methods, and advises of any changes needed to effectively protect the environment.
- Is aware of and works in accordance with health and safety requirements on the construction site.
- Liaises with inspection staff, Environmental Manager and the Construction Manager on issues that require resolution.

- Liaises with appropriate government agencies in cooperation with the Environmental Manager and Construction Manager.
- Provides advice on major decisions such as wet weather shut-downs or courses of action to deal with unexpected environmental conditions or events.
- Tracks all environmental incidents and non-compliances that occur on the Project (irrespective of whether they meet a regulatory reporting threshold).
- Supervises any environmental specialists that supply specific expertise in the field, such as soils, archaeology and built culture resources, fish, amphibians, rare plants, reclamation, and wildlife expertise.
- Prepares, collects, organizes and confirms correct dissemination of environmental and social information and documentation that arises during construction.

### ***Contractors and Subcontractors***

- Confirm that all personnel are duly informed of the requirements contained in this ESMP, and the associated responsibilities and implications of this ESMP.
- Confirm that all records needed to demonstrate compliance with the ESMP requirements are obtained, filed and readily available for inspection by the Project Manager.
- Confirm that all personnel demonstrate respect and care for the environment in which they are operating.
- Act as a point of contact for local residents and community members.
- Be responsible for restoration of, or the cost of restoration of any environmental damage that may arise out of non-compliance with this ESMP and/or environmental regulations. Such restoration shall be to the satisfaction of the relevant authorities and/or the Project Manager.

**ENVIRONMENTAL ASSESSMENT REPORT FOR THE PHASE 1  
NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT  
SECTION 9.0: ENVIRONMENTAL AND SOCIAL MANAGEMENT  
PLAN**

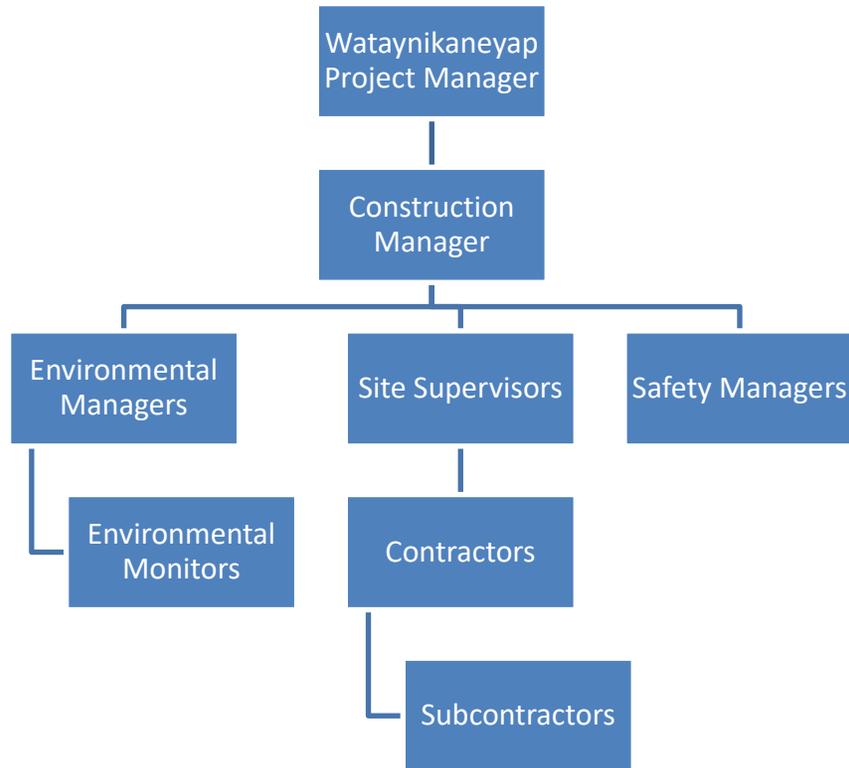


Figure 9.2-2: *Wataynikaneyap Phase 1 New Transmission Line to Pickle Lake Project – Construction Organizational Chart*

## **9.3 Environmental Management Plan**

### **9.3.1 Construction Stage**

#### **9.3.1.1 *Dust/Air Quality Management Plan***

Potential project effects to air quality are primarily during construction from emissions from vehicles and equipment and dust. A Dust/Air Quality Management Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects related to dust and air quality.

- Water haul roads for dust suppression.
- Regularly maintain vehicles and equipment.
- Apply speed limits to limit fugitive dust.
- Use properly functioning vehicles and equipment.
- Reduce idling of vehicles and equipment, where possible.
- Use multi-passenger vehicles to transport personnel, where practical.
- Transport wet or covered soil and aggregate materials.
- Use non-hazardous dust suppression at concrete batch plants, work sites and on access roads.
- Vegetate stockpiles, where appropriate.
- Vehicles and equipment will be turned off when not in use, unless weather and/or safety conditions dictate the need for them to remain turned on and maintained in a safe operating condition.
- Slash pile burning will be subject to agreements with Aboriginal communities, landowners, and to permits and approvals by appropriate regulatory agencies. Slash piles will be burned in compliance with O. Reg. 207/96.
- If excessive dust is generated during earthmoving activities, Wataynikaneyap will immediately water down areas generating dust or, if this is not effective, cease the activities generating dust.
- The contractor will confirm that work sites and soil stockpiles are covered or watered down to minimize fugitive dust for the particular working area.
- The contractor will minimize the effect of dust on the surrounding environment resulting from concrete mixing on-site or in batch plants for the safety, health and the protection of workers and communities living downwind of dust generating activities.
- To minimize dust effects, areas to be cleared of vegetation or topsoil will be cleared only when required and will be reclaimed as soon as possible after completion of the construction activity in that area.

### **9.3.1.2 Greenhouse Gas Management Plan**

In a provincial, national or global context, the Project-related emissions of greenhouse gases (GHG) are predicted to be minor and not contribute measurably to climate change. The following impact management measures will be implemented to minimize project-related GHG emissions.

- Use properly functioning vehicles and equipment.
- Reduce idling of vehicles and equipment, where possible.
- Use multi-passenger vehicles to transport personnel, where practical.
- Burning of slash piles will be subject to agreements with Aboriginal communities and landowners, and to permits and approvals by appropriate regulatory agency.

### **9.3.1.3 Noise Management Plan**

There will be noise during the construction period from vehicles and equipment. The transmission line will produce some noise under certain weather conditions (e.g., rain, fog, snow and frost), but this noise is not predicted to be higher than ambient noise conditions beyond the 40-m-wide transmission line alignment ROW.

A Noise Management Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects related to noise and vibration:

- Due to the sound characteristic expected with an implosion cable splicing method (i.e., impulsive), nearby affected communities will be notified about the splicing schedule.
- In jurisdictions where noise levels are expected to be elevated close to sound level limits for a limited time, notification will be provided (e.g., by mail).
- Comply with local municipal noise by-laws and the MOECC Model Municipal Noise Control Bylaw (i.e., NPC-115).
- Construction activities will typically occur during one 10-hour shift per day, generally within the daytime period (i.e., 07:00 to 19:00). Night-time work is not anticipated. In the event construction will occur beyond the daytime period, Wataynikaneyap will review impact management measure requirements.
- Noise abatement equipment on machinery is properly maintained and in good working order.
- Design access roads to minimize reversing, which is expected to minimize use of backup beepers where possible.
- Notify Aboriginal communities, municipalities and landowners along the corridor of the planned construction schedule before the start of construction.
- Where reasonable and practical, vehicles and equipment will be turned off when not in use, unless weather and/or safety conditions dictate the need for them to remain turned on and in a safe operating condition.
- Address noise concerns as they arise through a complaint resolution mechanism (Section 9.4.4.2) whereby persons can contact Wataynikaneyap if there are perceived noise issues.

- Operate vehicles and equipment such that impulsive noise is minimized (i.e., procedures for drill rig shake offs and truck tailgate closing), where possible.
- Keep noise levels emanating from machinery, vehicles and noisy construction activities at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and communities near rock-blasting areas;
- The contractor will use equipment that are well maintained and operated.
- Implement Blasting Management Plan (Section 9.3.1.15) to minimize effects of vibration from blasting activities.

#### **9.3.1.4 Soil Handling Management Plan**

A Soil Handling Management Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects related to soil handling.

- Where possible, schedule work activities in wet areas during frozen conditions.
- A protective layer such as frost packing, snow, ice or matting or biodegradable geotextile may be used to mitigate compaction rutting, admixing or other detrimental effects to soil or vegetation.
- Strip topsoil from areas to be graded and store in a location that will not allow for mixing of topsoil with excavated subsoil and graded material. The area stripped is to correspond to the area to be graded. Avoid overstripping.
- Limit topsoil stripping activities to specialized equipment capable of accurately separating variable depths of topsoil from subsoil (e.g., frozen topsoil cutter, if available) where possible. If a frozen topsoil cutter/mulcher is not available, rip frozen topsoil to the same depth as the stripping requirements. Do not over rip and avoid overstripping.
- Do not mix topsoil and subsoil disturbed during grading with foreign material (e.g., stumps and brush).
- Limit grading on erosion prone or steep slopes to the extent practical.
- Reduce grading near waterbodies. Limit the width of grading to reduce the potential for erosion and subsoil compaction.
- Conduct grading away from waterbodies to reduce the risk of sediment and other material entering the waterbody.
- Limit disturbance to natural drainages during grading; avoid blocking drainages with graded material; install culverts if necessary.
- Do not place windrowed or graded material in waterbodies during grading.
- Do not store graded material in low areas.
- Leave gaps in the windrows, at drainage courses, access roads/trails and wildlife trails.
- Overstrip shallow topsoils to a depth of 15 cm, if there is little or no topsoil.

- Use equipment capable of fine depth adjustments when salvaging topsoil, if soils in the Project site has uneven boundary between topsoil and subsoil.
- Where topsoil depth is not distinguishable by colour, Wataynikaneyap will provide direction based on soil texture and structure.
- Use a backhoe to strip stony topsoils if conventional methods (i.e., dozers and graders) are ineffective.
- Strip topsoil in unsaturated wetlands, giving extra attention to maintain root stocks for replacement. Keep wetland soils separate from upland soils.
- Before replacing topsoil, smooth subsoil.
- Replace topsoil as evenly as possible throughout stripped areas of Project site.
- Postpone replacing topsoil during wet weather or high winds to prevent damaging soil structure and erosion of topsoil, where possible.
- De-compact subsoils, temporary access trails and soils damaged during wet weather.

### Wet Conditions

If construction during wet conditions is necessary, implement one or more of the following:

- restrict construction activity to the narrowest possible area;
- use a protective layer such as such as frost packing, snow, ice or matting or biodegradable geotextile and clay ramps between wetland root/seed bed and construction equipment.;
- limit traffic to equipment with wide tracks or low ground pressure tires, where required;
- pump standing water to a vegetated area; and
- backblade ruts to disperse water and allow faster drying.

If soils are excessively wet, construction alternatives or suspending construction will be considered. Saturated soils are indicated by:

- extensive wheel slip;
- build-up of mud on tires and cleats;
- ruts through topsoil into subsoil; and
- tracking of mud down roads.

### Wind Erosion

- Suspend topsoil handling during high wind conditions, where practical and as required.
- To minimize drifting soils and loss of topsoil in areas prone to wind erosion:
  - spread wood chips or straw crimping (weed-free straw);
  - sow a fast-growing ground cover; and
  - walk down tree and shrub debris over exposed soils (rollback).

#### 9.3.1.5 Timber Salvage Plan

A Timber Salvage Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects related to timber salvage.

- Use clearing equipment that minimizes surface disturbance, soil compaction and topsoil loss (e.g., equipment with low ground pressure tracks or tires, blade shores and brush), to the extent practical.
- Wataynikaneyap will work with both Aboriginal communities and forest management units to manage merchantable timber cleared by the Project.
- Removed vegetation will be immediately transported outside a waterbody buffer zone, and above its high-water mark. Slash and other organic debris will be hauled and disposed of at an approved waste disposal site.

Clearing of the 40-m-wide transmission line alignment ROW will take into consideration:

- widths of waterbodies;
- location of wetlands;
- locations of known archaeological and heritage sites;
- areas of commercial timber and the method of cutting and storing commercial timber; and
- required buffer zones (e.g., for waterbodies).

Small trees and branches will be chipped on-site, and the chips may be spread over the 40-m-wide transmission line alignment ROW. In some cases, it may be more practical to burn cleared wood. The remaining timber will be de-limbed, cut into lengths and stacked along the edge of the 40-m-wide transmission line alignment ROW in neat piles for short-term storage. This wood may be offered to local land owners, or sold if it can be removed from the 40-m-wide transmission line alignment ROW and delivered to local mills for processing economically. Timber, chips and other organic debris will be stored outside the buffer zone and above the high-water mark of any nearby waterbody. Slash and debris will be chipped, or will be burned on-site with other organic debris in compliance with Ontario Regulation (O. Reg.) 207/96 under the *Forest Fires Prevention Act*. Diseased or damaged trees located at the edge of the 40-m-wide transmission line alignment ROW that may fall onto the overhead line conductors or structures will also be removed.

Cut wood will be stacked in piles for short-term storage along the edge of the 40-m-wide transmission line alignment ROW. Wataynikaneyap will work with both Aboriginal communities and forest management units to manage merchantable timber cleared by the Project.

### **9.3.1.6 Rare Plant Management Plan**

A Rare Plant Management Plan will be reviewed and approved by Wataynikaneyap for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects on rare plants and rare vegetation communities.

- Site-specific sensitive features (e.g., rare vegetation community, wetland, significant wildlife habitat) that may have rare plants present will be clearly marked.
- In the event that a previously unidentified rare plant species or rare vegetation community is suspected or encountered unexpectedly within the Project site, the resource specialist<sup>2</sup> will identify the rare plant species and identify the extent of disturbance to the vegetation feature and determine a suitable course of action in engagement with Wataynikaneyap, appropriate regulatory agencies and affected Aboriginal communities.
- Work at that location may not resume until appropriate impact management measures are implemented that are agreed upon with applicable regulatory agencies and affected Aboriginal communities.
- The specialist will document the location, photograph the feature, and report the incidence to the appropriate regulatory agencies, as needed.
- The specialist may be requested by Wataynikaneyap to remain on the site until additional soil disturbance in the remainder of that area is completed, in order to monitor whether additional incidences are possible. Impact management measures (avoiding or moving the specimen) can be implemented proactively if complete avoidance is not possible.
- Restore surface drainage patterns in the vicinity of the occurrence to pre-construction conditions as much as practical.
- Monitor the success of rare plant relocation measures, if required.

### **9.3.1.7 Invasive Species Management Plan**

An Invasive Species Management Plan will be developed for the Project prior to start of construction that describes the appropriate management of construction materials and equipment to minimize the potential project effects related to weeds. The Invasive Species Management Plan will include the following key impact management measures for prevention, removal and monitoring the potential establishment and spread of invasive species:

- Clean and inspect vehicles and equipment prior to arriving at the job.
- Re-clean vehicles and equipment if an area of weed infestation is encountered on the Project site (i.e., Project footprint), prior to advancing to a weed free area.
- Locate and manage vehicle and equipment cleaning locations on the Project footprint.
- Monitor and manage weeds on topsoil stockpiles.
- Follow proper soil handling techniques and weed control measures to prevent the introduction of competitive or invasive species.

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<sup>2</sup> Rare plant specialist, who is a registered professional biologist.

- Use certified seed mix as required for site revegetation and provide the analysis certificate to the Ontario Ministry of Natural Resources and Forestry (MNRF).
- Allow for natural regeneration or use certified native seed in engagement appropriate Land Administrator.
- Natural recovery is the preferred method of reclamation on Crown land, preferably seeding with conifer dominated vegetation to be consistent with adjacent vegetation communities. Where necessary, seedling planting will occur to improve reclamation success.
- Use natural recovery in wetlands.
- Wataynikaneyap will use only mechanical methods of vegetation removal during construction and operation and maintenance.
- Manage access (e.g., fencing) to discourage public use of access roads and transmission corridor, where permitted by communities or MNRF.

### 9.3.1.8 *Wildlife Management Plan*

A Wildlife Management Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects on wildlife.

- Use existing access roads and trails where possible.
- Selective mechanical clearing and retention of shrub vegetation, trees, wildlife trees, and coarse woody debris in areas where safe operation practices can still be achieved.
- Clearly mark known sensitive ecological features (e.g., wetlands and important wildlife habitat) with associated setbacks.
- Postpone in-stream construction if excessive flows or flood conditions are present.
- Complete work quickly to shorten the duration of disturbance.
- Fording of waterbodies is not permitted.
- Install culverts or temporary bridges using best management practices and following environmental approval conditions.
- Follow best management practices for the installation, maintenance, removal and reclamation of ice bridges.
- No heavy development (e.g., road construction, clearing) should occur within 1,000 m of great blue heron colonies (if identified) from April 1 to August 15;
- Avoid heavy development activities (e.g., construction, forest removal, and mining) within 800 m of an active osprey nest from April 15 to September 1.
- Avoid construction within 200 m of a bald eagle nest year-round.
- Avoid construction within 400 m of active (i.e., used for reproduction) bald eagle nests between February 15 and August 15.



- Use explosives only if excavation to remove materials for foundation systems is not feasible.
- Check the blast zone for wildlife before a blast.
- Reclaim temporary access roads, which includes the 40-m-wide transmission line alignment ROW travel lane.
- Workers and subcontractors will be provided materials on how to identify active wolverine dens.

### 9.3.1.9 *Material Storage and Handling Plan*

#### **Storage and Temporary Laydown Areas**

Material will be stored in warehouses or storage areas established in local towns that have access to highways, such as Pickle Lake, Sioux Lookout, Dinorwic, and Ignace. The material will be transported by truck to temporary laydown areas or to structure locations on the 40-m-wide transmission line alignment ROW where possible. The contractor may choose to transport materials by helicopter to structure locations not accessible by ground vehicle. Existing sites with appropriate land use designations that can accommodate the Project requirements will be identified as priority locations for the storage areas. All appropriate permits and authorizations will be acquired prior to use.

Temporary laydown areas will be established at along the transmission corridor just outside the transmission corridor to receive and temporarily store materials and equipment during construction. Figures 3.3-2 to 3.3-28 show the preliminary locations of the temporary laydown areas. Final locations will be determined by the contractor.

Where practical, the contractor will use existing disturbed areas as temporary laydown areas. Materials stored at the temporary laydown areas will typically include poles, steel cross arms, anchoring and guy wire material, structure materials, conductor and groundwire reels, insulators and conductor fittings, and miscellaneous hardware. The temporary laydown areas will be cleared of vegetation, grubbed, and levelled (if required). Vegetation will generally be cleared using mechanical harvesters to remove the merchantable timber and bulldozers to remove the remaining woody vegetation. The temporary laydown areas may be equipped with perimeter lighting and fencing for safety and security. Wataynikaneyap will contact any directly affected landowners or government agencies and acquire all necessary permits and authorizations prior to establishment of temporary laydown areas. Temporary laydown areas will be located to meet similar constraints identified for the temporary construction camps identified above to avoid or limit potential environmental effects.

#### **Fuelling Areas**

During construction, fuel will be transported by tanker trucks, in drums, or other approved containers. Fuelling areas will be established at temporary laydown areas and/or temporary construction camps, with self-dyked steel above-ground storage tanks (AST). The largest on-site fuel storage tank is anticipated to hold no more than 5,000 litres (L). A fuelling truck may also be used for refuelling vehicles and equipment and filling fuel tanks in temporary construction camps. All ASTs will be registered under, and in compliance with, applicable federal and provincial legislation. Aboveground storage tanks will meet the Canadian Council of Ministers of the Environment (CCME) Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products (1994). Transport, storage and handling will be meet Ontario *Technical Standards and Safety Act* (Government of Ontario 2000) and Canada's *Transportation of Dangerous Goods Act* (Government of Canada 1992). The transport vehicles will be licensed and maintained according to safety requirements.

Fuelling areas at temporary laydown areas and temporary construction camps may include drainage controls. Drainage will be retained in a sump where hydrocarbons can be captured and separated prior to the release of any rainwater run-off, as appropriate. Equipment with reduced mobility, such as heavy lift cranes and excavators, will have fuel delivered by a mobile tank and re-fuelling will take place on-site. All fuel transfers will follow safety procedures to prevent leaks and drips, and spill response kits will be available on all vehicles used to transport fuel. Generally, vehicles will be fueled at the camp; however, if fuelling of vehicles and other mobile equipment is required at the site then fuelling will not be permitted within 30 m of a waterbody. If re-fueling within 30 m of a waterbody cannot be avoided, a spill prevention plan will be implemented.

### **Maintenance and Repairs**

Typical transmission line maintenance activities include minor adjustments and replacements (e.g., replacement of insulators). However, more extensive repairs may be required that could involve the replacement of anchors or guy wires, necessitating the use of heavy equipment such as backhoes or cranes. Other maintenance to a lesser degree includes station service and protection re-verification, as well as grounds maintenance and snow removal.

Equipment maintenance will be conducted in accordance with manufacturer's requirements and will be completed on-site. All maintenance and repair activities will be undertaken in compliance with applicable environmental rules and regulations. Any field servicing will be conducted a minimum of 30 m from any waterbody or wetland, unless otherwise approved or in the event of an emergency. Waste oil will be collected and stored in drums (clearly marked as waste oil) inside a dyked area and will be regularly shipped for disposal. Waste oils, lubricants and other used oil will be disposed of at authorized disposal sites.

Emergency maintenance may be required in the event of bad weather or power outages. Emergency maintenance will be carried out in the most time sensitive manner while recognizing the need to notify landowners and acquire the necessary permits, if required. Spare parts and poles will be stored in case emergency maintenance is required. The quantity of this material and storage location will be determined by the operator.

#### **9.3.1.10 Liquid Waste Management Plan**

The contractor will develop a Liquid Waste Management Plan for review and approval by Wataynikaneyap that describes the appropriate management of waste.

Any liquid industrial waste, if generated by the proposed Project, will be registered in the Hazardous Waste Information Network (HWIN) and handled in accordance with O. Reg. 349.

### **Domestic Sanitary Wastewater**

A summary of available sewage treatment services for the Township of Pickle Lake, Municipality of Sioux Lookout, and City of Dryden are provided in Table 9.3-1.

**Table 9.3-1: Sewage Treatment in the Local Study Area**

Community	Sewage Treatment Service	Capacity (Usage)
Township of Pickle Lake	Pickle Lake Sewage Treatment Plant	Capacity data not publicly available
Municipality of Sioux Lookout	Sioux Lookout Sewage Treatment Plant (Class 2)	Plant Daily Effluent Flow Capacity (2011): 2,059 m <sup>3</sup> /day average (72.49%)
Township of Ignace	n/a	n/a
City of Dryden	Dryden Sewage Treatment Plant	Plant Daily Effluent Flow Capacity: 22,040 m <sup>3</sup> /day maximum (n/a)

Sources: Northern Waterworks Inc 2011, Basu et al. 2017, Municipality of Sioux Lookout 2017.

Note: n/a = not available.

## Grey Water

Grey water will be discharged to leaching beds constructed at the temporary construction camps. All required permits and authorizations will be acquired for construction and operation of the leaching beds. Leaching beds will be designed and constructed according to R.R.O 1990, Reg. 358: Sewage Systems design requirements.

Grey water from temporary construction camps will be disposed of in compliance with the Ontario Building Code 2012.

Domestic effluent will be trucked from temporary construction camps to municipal wastewater treatment plants with authorization and capacity to accept this waste.

### 9.3.1.11 Hazardous Waste Management Plan

Hazardous waste may include used oils, lubricants, and antifreeze, as well as spent lubricating cartridges, oily rags, oily drums, fuel containers, batteries and fluorescent bulbs.

Wataynikaneyap and its contractors will implement the following measures for appropriate management of hazardous wastes:

- Solid waste, including hazardous and non-hazardous waste disposal services will be provided on-site at temporary construction camps.
- Hazardous solid and liquid waste will be temporarily stored in labelled, closed, compatible containers, with secondary containment if appropriate.
- Fuel and hazardous materials will be transported in approved containers in licensed vehicles.
- Fuel and hazardous materials will be stored and handled in designated areas with appropriate secondary containment.
- Store construction and hazardous waste in a manner compliant with legislation and health and safety guidelines.
- Hazardous solid and liquid waste will be managed and disposed of in compliance with O. Reg. 347 as amended by O. Reg. 86/16 under the Environmental Protection Act.

- Spill response kits will be provided in fuel and hazardous materials storage and handling facilities and/or in vehicles and equipment.
- Personnel will be trained in spill avoidance, clean up and reporting procedures.

Wataynikaneyap with their contractor(s) will prepare and implement a Spill Prevention and Emergency Response Plan that describes spill prevention and response procedures, clearly indicates responsibilities for communication and reports, and provides contact names and details for individuals to be contacted in case of emergency. An overview of this plan is provided in Section 9.3.1.12 below.

### **9.3.1.12 Non-Hazardous Solid Waste Management Plan**

Solid waste disposal facilities consist of municipally-operated landfills. Table 9.3-2 lists active solid waste infrastructure in the local study area (LSA) as of 2017.

**Table 9.3-2: Active Solid Waste Infrastructure in the Local Study Area**

<b>Community</b>	<b>Landfill Site Name</b>
Township of Pickle Lake	Township of Pickle Lake Landfill Site
Municipality of Sioux Lookout	Hidden Lake Landfill Site
Township of Ignace	Township of Ignace Landfill Site
City of Dryden	Highway 502 Landfill Site

Sources: Township of Pickle Lake 2011, iCompass Technologies Inc 2013, Municipality of Sioux Lookout 2014, City of Dryden 2017.

The contractor will develop a Non-Hazardous Solid Waste Management Plan for review and approval by Wataynikaneyap that describes the appropriate management of waste such as domestic garbage and camp waste (i.e., food).

Wataynikaneyap with their contractor(s) will implement the following measures for appropriate management of non-hazardous solid wastes:

- All waste will be appropriately stored, transported and disposed of according to applicable provincial and federal laws and regulations.
- Portable, secure, solid waste receptacles will be provided on work sites, temporary laydown areas and construction camps and periodically emptied.
- Organic waste, recyclable materials, and non-hazardous solid waste at the facilities will be separated and temporarily stored in appropriate containers before being transported to an approved waste disposal site.
- Solid waste handling and storage facilities at temporary construction camps will be sited outside a minimum 30 m buffer around waterbodies.
- Solid waste handling and storage facilities at temporary construction camps will be provided with drainage controls.
- Solid waste will be managed and disposed of in compliance with O. Reg. 347 as amended by O. Reg. 86/16.

- The contractor will secure an agreement with one or more licensed waste disposal facilities to accept Project generated waste providing that the facility can accept the type of waste generated by the Project.
- The contractor will implement a waste recycling and reduction program for the proposed Project to initially reduce the amount of waste that is generated. The contractor will also identify the appropriate waste facilities and transporters (industrial and domestic) that will dispose of Project generated waste appropriately.
- The contractor will implement a waste recycling and reduction program for Project-related waste, and will identify appropriate waste disposal facilities.
- Organic solid waste disposal at the camps will be in compliance with applicable guidelines and regulatory requirements. Organic solid waste may be temporarily stored in bear-proof containers before being transported to an approved waste disposal site.
- A recycling program will be implemented at all temporary construction camps to reduce the amount of solid waste generated as a requirement of the construction contract with Wataynikaneyap.

### **9.3.1.13 Spill Prevention and Emergency Response Plan**

Wataynikaneyap will review and approve a Spill Prevention and Emergency Response Plan that describes spill prevention and response procedures, clearly indicates responsibilities for communication and reports, and provides contact names and details for individuals to be contacted in case of emergency.

Objectives of the plan include:

- protection and maintenance of human health and safety;
- identification of the potential for accidents and emergency situations;
- planned response to accidents and emergency situations; and
- prevention and impact management of potential environmental effects associated with accidents and emergency situations.

The Spill Prevention and Emergency Response Plan will include the following key impact management measures:

- The contractor will implement mobile double walled fuel tank systems, where practical, to minimize the potential for accidental spills.
- Distance to be maintained for the equipment use, storage facilities and activities that could result in an accidental spill.
- Proper storage handling and techniques of materials.
- Provision and maintenance of spill response equipment.
- Provide adequate supply of spill prevention and emergency response equipment on site at all times.
- Provide adequate supply of spill prevention and emergency response equipment on site at all times.
- Re-fuelling or equipment maintenance activities are not to occur within 30 m of waterbodies. If re-fuelling within 30 m of a waterbody cannot be avoided, the contractor is to provide and implement a spill prevention plan.

- Fuel storage tanks shall be in accordance with the Technical Standards and Safety Act (Government of Ontario 2000) and should be visually inspected on a regular basis.
- The transportation, storage, and handling of fuel and hazardous materials will be in compliance with the Technical Standards and Safety Act (Government of Ontario 2000).
- Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks.
- Machinery and equipment will be inspected for leaks routinely throughout the duration of construction.

Wataynikaneyap with their contractor will be responsible for the costs of any potential Project-related remediation in the event of an accidental spill.

#### **9.3.1.14 Sediment and Erosion Control Plan**

The contractor will implement appropriate sediment and erosion control structures and stormwater best management practices to eliminate or minimize sedimentation and erosion during Project construction. The proposed Project will be designed and constructed to minimize scouring, erosion or flooding of the land or receiving stream. The following guideline documents will be reviewed when preparing sediment and erosion control impact management measures:

- Stormwater Management Planning and Design Manual (MOE 2003), when determining and designing stormwater management controls;
- Guideline B-6 – Guideline for Evaluating Construction Activities Impacting on Water Resources (MOE 1995), when developing sediment and erosion control plans;
- Ontario Provincial Standard Specification (OPSS 805) – Construction Specifications for Temporary Erosion and Sediment Control Measures;
- Ontario Provincial Standard Specification (OPSS 182) – General specifications for Environmental Protection for Construction in Waterbodies and on Waterbody Banks; and
- Ontario Provincial Standard Specification (OPSS 518) – Construction Specifications for Control of Water from Dewatering Operations.

Temporary erosion control measures must be:

- properly installed;
- installed before or immediately after initial disturbance; and
- inspected and properly maintained (e.g., repaired, replaced or supplemented with functional materials) throughout construction until permanent erosion control is established or reclamation is complete.

Temporary road building material and fill material (e.g., gravel, shipped rock) and geotextile membrane, if used during construction, will be removed.

### **9.3.1.15 Blasting Management Plan**

A Blasting Management Plan will be implemented for areas where explosives and blasting are used to create level areas for transmission structures, roads and for foundation excavations.

- Use of explosives for foundation excavations and access roads will be limited to the extent possible.
- To the extent feasible, blasting will not be conducted within 50 m of water wells.
- Blasting operations will follow DFO's Measures to Avoid Causing Harm to Fish and Fish Habitat Including Aquatic Species at Risk (DFO 2016a) and Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters (Wright and Hopky 1998) including:
  - for setback distances from fish-bearing waterbodies; and
  - avoiding use of explosives in or near water.
- Some fractures created from blasting adjacent to the foundation may be filled with grout.
- Prior to construction, Wataynikaneyap will identify shallow domestic groundwater wells within 120 metres of the selected corridor excavation and 250 m of the blast locations. If domestic groundwater wells are identified, Wataynikaneyap will provide the option to groundwater well owners to participate in a well monitoring program to determine pre-construction groundwater quality and quantity.
- A pre-blast survey of wells within 250 metres of all blast locations be conducted. For locations where extensive blasting is required, this distance may need to be increased. For wells that are identified as vulnerable, the pre-blast survey could include, but may not be limited to, a measurement of well water levels completion of a water well questionnaire and collection of a water quality samples if deemed necessary. It should be noted that measurement of well water levels must be conducted by a qualified person in accordance with the Wells Regulation (O.Reg. 903).
- In any areas where flowing artesian conditions are encountered in a borehole or excavation, special precautions to prevent continued flow following construction must be taken.

### **9.3.1.16 Concrete Management Plan**

- A Concrete Management Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects due to the use of concrete as a construction material:
- Isolate concrete work areas to prevent direct flow into waterbodies so that water does not become more alkaline during construction.
- Prevent water that contacts uncured or partly cured concrete during activities, such as equipment washing from directly or indirectly entering a waterbody.
- Water that contacts uncured or partly cured concrete and does not meet provincial water quality criteria will not be released directly to the environment.
- Do not deposit, directly or indirectly, concrete, cement, mortar, grout or other lime containing construction materials into or near a waterbody.

- Provide containment facilities for the wash-down water from concrete delivery trucks, concrete pumping equipment and other tools and equipment.
- Remove excess concrete from the Project site and dispose of in accordance with construction waste disposal requirements in the Waste Management Plan.
- The contractor must have an Environmental Compliance Approval (ECA) for the plant and comply with the conditions of the ECA.
- Concrete for the Project is expected to be locally sourced and delivered in concrete mixer trucks, to the extent feasible. Concrete may be mixed on-site in batch plants along the 40-m-wide transmission line alignment ROW and will be fully consumed. Where applicable, treatment and disposal of wastewater from any such concrete batch plants will be in compliance with ECAs issued by the MOECC under the Environmental Protection Act.
- Wash water from cleaning concrete mixing equipment and delivery systems, as well as vehicles and equipment, will be collected in closed-loop recycle systems, or contained and hauled to an existing municipal wastewater treatment plant (WWTP). Closed-loop recycle systems will be non-discharging systems where wash water is recycled until a certain level of contamination is reached, when it will be disposed of to an existing municipal WWTP. Wash water will be passed through a treatment system (e.g., an oil-water separator fitted with a grit-settling chamber) prior to reuse. Separated solids will be tested, and contaminated material will be temporarily stored in containers, then hauled and disposed of at an approved landfill.
- Water taking for other construction purposes (e.g., to supply concrete batch plants, for earthworks and for washing vehicles and equipment) will be in compliance with the approval conditions of the Permit to Take Water (PTTW) (if the water taking is greater than 50,000 L/d) and/or carried out in a manner that avoids unacceptable negative environmental effects or interference with other water users. Construction water sources and volume of water for concrete production is not known at this stage of Project planning, but will be conducted in accordance with applicable regulatory requirements. Water used for dust suppression will be brought to the site by tanker truck.
- Potable water will be trucked to work sites and temporary laydown areas for small scale concrete mixing using bagged concrete. No new water taking from surface water sources will be required for these purposes.
- Report spills of sediments, fines, concrete fines, wash or contact water to Wataynikaneyap. Implement the Spill Prevention and Response Contingency Plan (Section 9.3.1.13).
- Minimize concrete work within 30 m of a waterbody as much as possible.
- Employ dust suppression at concrete batch plants.
- Keep a carbon dioxide (CO<sub>2</sub>) tank with regulator, hose and gas diffuser readily available. The tank will be used to release CO<sub>2</sub> gas into an affected area to neutralize pH levels should a spill occur. Project personnel shall be trained in the use of the tank.
- Frequently monitor the pH immediately downstream of the isolated work area until completion of the concrete work. Emergency measures shall be implemented if downstream pH exceeds provincial water quality standards.

- Maintain complete isolation of cast-in-place concrete and grouting from fish-bearing waters for a minimum of 48 hours if the ambient air temperature is above 0°C and for a minimum of 72 hours if ambient air temperature is below 0°C.

### **9.3.1.17 Clean-up and Reclamation Plan**

Project site clean-up and reclamation activities will take place throughout the duration of the Project and the final reclamation will begin once construction is complete. The goal of the reclamation is to return disturbed areas back to pre-existing conditions, where reasonably practical and while maintaining access and appropriate drainage and abiding by operation and maintenance standards.

Wataynikaneyap or their contractor will conduct a final site inspection to assess that cleanup and erosion and sediment controls are complete and satisfactory before equipment is removed from the Project site.

Wataynikaneyap with their contractor will implement the following impact management measures for clean-up and reclamation:

- Monitor and manage reclamation concerns, including but not limited to soil erosion, re-vegetation, slope stability and weeds.
- Implement remedial measures if reclamation does not return disturbed areas back to pre-existing conditions, where reasonably practical, while maintaining access and appropriate drainage and abiding by operation and maintenance standards.
- Complete final reclamation during non-frozen conditions, where possible.
- Clean up projects constructed in non-frozen conditions as soon as possible, and before freeze up, if possible.
- Schedule cleanup to avoid or minimize interference to wildlife, migratory birds and fish spawning as much as possible.
- Follow measures outlined in the Soil Handling Management Plan (Section 9.3.1.14) when working in wet areas.
- A protective layer such as frost packing, snow, ice or matting or biodegradable geotextile may be used to mitigate compaction rutting, admixing or other detrimental effects to soil or vegetation.
- Remove temporary road building material and fill material (e.g., gravel, shipped rock) and geotextile membrane if used during construction.
- Remove geotextiles, mats and matting from the Project site. Materials that could be reused elsewhere on the 40-m-wide transmission line alignment ROW will be cleaned of mud and vegetation before transferring and using at a different location. The contractor will inspect equipment and vehicles arriving on site or at the Project staging/marshalling area prior to Project site entry and record cleaning locations.
- Remove temporary waterbody crossing structures and associated granular materials from waterbodies. Waterbody crossing structures must be removed prior to spring freshet unless they are appropriately sized by a qualified engineer.

- Restore disturbed banks and approaches immediately following the removal of waterbody crossing structures as practical.
- Remove remaining garbage and debris from the Project site.
- De-compact subsoils throughout stripped areas of Project site, and soils damaged during wet weather using stripping, discing or other appropriate method.
- Postpone de-compaction of subsoils, if soils are moist, until soils dry so that the soils fracture when ripped.
- Spread subsoils as evenly as possible throughout stripped areas of Project site.
- Before replacing topsoil, smooth subsoil.
- Re-contour disturbed areas to restore drainage patterns and the approximate preconstruction profile.
- Regrade areas with vehicle ruts and erosion gullies to conform to the local topography to maintain drainage patterns.
- Replace topsoil as evenly as possible throughout stripped areas of Project site.
- Postpone replacing topsoil during wet weather or high winds to prevent damaging soil structure and erosion of topsoil, where possible. Implement Soil Handling Management Plan as required.
- Restore the original contours of wetlands.
- Do not apply fertilizer or coarse woody debris (e.g., mulch) in wetlands.
- Install rollback or other bank stabilization methods (e.g., live willow cuttings) at water crossings when reconstructing waterbody banks, as required or request by landowner, to improve stability and to re-establish cover and habitat for fish-bearing waterbodies.
- Natural recovery is the preferred method of reclamation on Crown land, preferably seeding with conifer dominated vegetation to be consistent with adjacent vegetation communities. Where necessary, seedling planting will occur to improve reclamation success.
- On privately-owned lands, reclaim as per landowner specifications and base on the availability of seed at the time of reclamation.
- Use natural recovery in wetlands.
- Temporary erosion and sediment control measures will be installed, monitored and managed, as required, to prevent sediment-laden runoff from the Project site (i.e., access road) from entering waterbodies during site cleanup and reclamation.
- Where vegetation has established, or risk for sedimentation and erosion has been mitigated, remove temporary erosion and sediment control measures.

Wataynikaneyap with their contractor will be responsible for the costs of any potential Project-related remediation resulting from clean-up and reclamation.

### **9.3.1.18 Archaeology Management Plan**

The Archaeology Management Plan for the Project include the following measures which describe appropriate management and protection of the archaeological resources that may potentially be identified in the Project footprint.

- Completion of Stage 2 (and Stage 3 and 4 if required) to determine whether archaeological sites are present within the Project footprint and to recommend appropriate impact management measures should archaeological resources be identified.
- Completion of marine archaeological assessment on the preferred corridor if effects to areas below the high-water mark are anticipated. Additional impact management measures may be identified and implemented. These will be included communicated to Aboriginal communities and the MTCS.
- Use existing access roads and trails where possible.
- Survey and mark the Project footprint before construction to limit activities to the designated areas of the Project.
- Identified archaeological resources near the Project footprint and their associated setbacks will be staked or flagged.
  - Project personnel will avoid areas that are flagged or fenced and abide by restrictions on in/out privileges that are implemented in areas requiring special protection due to environmentally sensitive features.
  - No clearing or construction activity will be permitted within flagged or fenced areas that contain archaeological resources
- In the event that archaeological resources not previously identified are suspected or encountered unexpectedly during construction, implement the following impact management measures:
- Suspend activity at that location. Work at that location will not resume until permission is granted by Wataynikaneyap in engagement with affected Aboriginal communities and appropriate regulators as required.
- Wataynikaneyap will bring in a resource specialist and contact the potentially affected Aboriginal communities and the Ontario Ministry of Tourism, Culture and Sport (MTCS).
- The resource specialist may deem it necessary to visit the site and will, regardless of whether a site visit is required, develop an appropriate impact management measures plan in engagement with Wataynikaneyap, affected Aboriginal communities, and if necessary, the appropriate regulatory agencies.
- If site assessment is deemed necessary, the site will be assessed based on the following criteria:
  - the importance of the site;
  - the location of the site with respect to the Project footprint;
  - the feasibility of alternate routing or siting to avoid the resource; and
  - the decision of MTCS.
- Based on site assessment, recommendation will be made through engagement with Aboriginal communities, if applicable and with MTCS (e.g., documenting, removing and salvaging).

- Protect archaeological sites identified adjacent to the Project, if deemed appropriate based on the assessment.
- Collection of archaeological resources by Project personnel is prohibited. Project personnel will be provided guidance before construction.

### **9.3.1.19 Built Heritage Management Plan**

The Built Heritage Management Plan for the Project include the following measures which describe appropriate management and protection of the built heritage resources that may potentially be identified in the Project LSA.

- Heritage resources studies will be completed, the heritage resource sites identified and additional impact management measures, if required, will be implemented prior to construction. The results of this study will be provided to the Aboriginal communities, as applicable, and the MTCS.
- Survey and mark the Project footprint before construction to limit activities to the designated areas of the Project.
- Project personnel will be made aware when working near identified potential cultural heritage resources and avoid areas that are flagged or fenced, and abide by restrictions on in/out privileges.
- Use existing access roads and trails where possible.
- In the event that heritage or archaeological resources not previously identified are suspected or encountered unexpectedly during construction, implement the following impact management measures:
  - Suspend activity at that location if it has the potential to damage or affect feature. Work at that location will not resume until permission is granted by Wataynikaneyap in engagement with appropriate regulators as required.
  - Wataynikaneyap will contact the applicable Aboriginal, heritage or archaeology resource specialist, municipality and MTCS, as applicable
  - The resource specialist may deem it necessary to visit the site and will, regardless of whether a site visit is required, develop an appropriate impact management measures plan in engagement with Wataynikaneyap, applicable Aboriginal communities and the MTCS.
- If site assessment is deemed necessary, the site will be assessed based on the following criteria:
  - the importance of the site;
  - the location of the site with respect to the Project footprint;
  - the feasibility of alternate routing or siting to avoid the resource; and
  - the decision of MTCS.
- Based on site assessment, recommendation will be made in engagement with Aboriginal communities, if applicable, and with the MTCS (e.g., documenting, removing and salvaging).

## **9.3.2 Operation and Maintenance Stage**

### **9.3.2.1 Post-construction Monitoring Plan**

The Project has been designed to incorporate impact management measures to minimize the potential for environmental effects. An effective monitoring program provides results to indicate if the assumptions used in the assessment were correct and if impact management measures are effective. An effective monitoring program also identifies unforeseen problems so they can be addressed in a timely manner.

The preliminary monitoring program for the Project is presented in Section 12.0. Details will be finalized during permitting processes. Monitoring programs are presented according to the environmental components considered in the assessment.

### **9.3.2.2 Vegetation Management Plan**

Vegetation height restrictions adhere to best management practices for transmission lines and comply with IESO requirements, which are based on North American Electricity Reliability Corporation (NERC) standards (NERC 2009). A maximum height of approximately 2 m will reduce the risk of contact electrical interaction between vegetation and power lines while maintaining visual break, retaining tree patches and discouraging predator use along the 40-m-wide transmission line alignment ROW. The minimum clearance between vegetation and the power line takes into account the point of maximum sag of the power line, allowing plant growth over the five to eight-year cycle for vegetation management, and considers location within the province and local conditions (i.e., temperature and load of the line)

During the operation and maintenance stage, a Vegetation Management Plan will be implemented with a goal to keep vegetation from interfering with the safe and reliable operation and maintenance of the transmission line, or prohibit access to the transmission line structures, with a compatible vegetation height of approximately 2 m or less. Vegetation Management Plan is also necessary to promote sustainable plant communities that are compatible with the intended use of the site.

The following impact management measures will be implemented by Wataynikaneyap with their contractor(s):

- Selective removal of trees favoring crown closure.
- Plan mechanical vegetation management to consider the following sensitive wildlife periods:
  - Migratory bird nesting period of April 20 to August 29.
  - Bat maternity roosting period of May 15 to August 31.
    - Nursery areas: May 1 to July 14 very low tolerance, and July 15 to September 15 low tolerance
    - Winter use areas: December 1 to March 31
    - Travel corridors: April to November
- Protect and flag rare plant species or rare vegetation community within the proposed cleared area.
- Promote use of compatible species of trees and shrubs.
- Identify and remove any invasive species introduced by the Project during construction.
- Revegetation of residual construction footprints.

- Vegetation control will be practiced periodically throughout the life of a transmission line to prevent vegetation become a threat to line operation and maintenance.
- Mechanical or manual methods will be used to clear vegetation where possible; herbicide use is not permitted.
- Manage, to the extent possible, the incremental removal of vegetation so that removal occurs outside of the migratory bird nesting period of April 20 to August 29 of each year to avoid disturbing active migratory bird nests.
- Compatible vegetation will be allowed to regrow in the 40-m-wide transmission line alignment ROW to grow back to a height of 2 m.
- Site specific features (e.g., rare vegetation community, wetland, important wildlife habitat) will be clearly marked.
- In the event that a previously unidentified rare plant species or rare vegetation community is suspected or encountered unexpectedly, implement the Rare Plant Management Plan (Section 9.3.1.6).
- Do not skid logs across or push logs into waterbodies. Only remove vegetation adjacent to a waterbody if where necessary.
- Selectively cut vegetation and restrict grubbing within areas with steep slopes or soils with risk of erosion.

#### 9.4 Social Management Plan

Wataynikaneyap identified community support as an important social objective. Wataynikaneyap's objective is to support community development by maximizing local and regional benefits. Wataynikaneyap plans to maximize local benefits by creating jobs and favouring local purchases, facilitating local business development, improving local and regional infrastructure and sharing the wealth with the Aboriginal and local communities.

The overall objectives of the following Social Management Plan is to provide the means for Wataynikaneyap to work together with the Aboriginal and local communities to:

- Understand community needs.
- Clarify community expectations.
- Communicate Wataynikaneyap's management plans.
- Identify mutually beneficial business opportunities.
- Identify potential independent business opportunities.

The following Social Management Plan was developed to address the avoidance of, minimization of, and/or compensation for negative socio-economic effects and the enhancement of positive benefits that could result from the Project. Socio-economic effects are assessed based on criterion-specific LSAs and regional study areas (RSAs) which are summarized in Section 7.4, Table 7.4-3. The criterion-specific LSAs were established to encompass the area within which the Project is expected to interact with and potentially have direct and/or indirect effects on the criterion.

### **9.4.1 Procurement**

Project procurement of materials, goods and services during construction could affect local and regional business revenues. Wataynikaneyap and its contractors will support local and regional procurement where practical.

### **9.4.2 Employment and Participation**

#### ***Employment***

Through the Wataynikaneyap Indigenous Participation Plan, Wataynikaneyap plans to create meaningful, long-term benefits for local Aboriginal communities by developing programs to support:

- Community Readiness.
- Indigenous Education, Training, Skills Development, and Employment.
- Indigenous Business Readiness & Contracting.
- Indigenous Ownership (Economic Participation).
- Communications.

To the extent possible, Wataynikaneyap will source the workforce locally for the construction of the Project. Staffing for the Project is expected to be the responsibility of Wataynikaneyap. If the necessary labour skills for construction cannot be sourced locally, labour will need to be sourced from other areas in Ontario or outside of Ontario, if required. However, opportunities for employment of nearby residents are possible if the appropriate training and qualifications are obtained in time to meet the construction schedule.

Project construction workforce hiring would generate direct, indirect and induced employment and income, and create employment opportunities for Aboriginal and local communities. Although most employment and procurement will come to an end after construction, job experience gained through the Project can enhance the capacity of individuals to find other employment.

Wataynikaneyap will continue to share anticipated workforce and equipment requirements information with Aboriginal communities and local economic development corporations. Employment opportunities, and their corresponding job postings, will be communicated to the local and Aboriginal communities in a timely manner.

#### ***Community Based Monitoring***

Community based monitoring is the inclusion of First Nation representatives in Wataynikaneyap environmental and social monitoring teams. Its overall objective is to enable First Nation representatives to establish for themselves if EA commitments are being met by the Project.

The ESMP and Section 12.0 Monitoring and Commitments detail monitoring programs to be implemented by Wataynikaneyap with their contractor(s). Wataynikaneyap will work to establish a monitoring committee, with representation from Aboriginal communities and Wataynikaneyap. With the formation of this committee, planning for community based monitoring can begin in detail. A community based monitoring plan would very broadly include:

- involving, in an organized manner, the Aboriginal population in the ongoing monitoring of the Project;

- establishment of a monitoring committee with membership of Wataynikaneyap and representative members of the Aboriginal communities;
- coordinated development of committee protocols that would include definition of roles and responsibilities for various parties and monitoring data requirements, methods, and schedules;
- training in monitoring activities, in some cases training specific to different disciplines for different people;
- health and safety training of monitors and the provision of necessary equipment;
- timely communication of monitoring activities to First Nation participants; and
- accessible reporting of monitoring results to Aboriginal communities, Aboriginal groups, stakeholders, and government authorities as required, including in non-technical versions, of monitoring results to the affected population and appropriate authorities.

### 9.4.3 Workforce Accommodation Management Plan

#### *Proposed Accommodation and Offices*

Lodging for the construction workforce may be required through small, temporary construction camps established along the transmission corridor. As particular construction activities are staged and completed, workers will move between the camps. Initially, it is anticipated that three temporary construction camps may be established. Each camp will be constructed and operated as the construction of the transmission line progresses. The preliminary locations of the temporary construction camps are illustrated in Figures 3.3-2 to 3.3-28.

Each temporary construction camp will occupy an area of approximately 400 m by 400 m. Table 9.4-1 provides a summary of the number and estimated area of temporary construction camps for each of the Preliminary Proposed Corridor and corridor alternatives.

**Table 9.4-1: Number and Estimated Area of Temporary Construction Camps**

Corridor	Number of Temporary Construction Camps	Total Estimated Area (ha)
Preliminary Proposed Corridor	3	36
Corridor Alternative Around Mishkeegogamang	4	120
Corridor Alternative Through Mishkeegogamang	4	120

Note: ha = hectare. Some numbers may be rounded for presentation purposes.

Each temporary construction camp will typically include the following:

- bunkhouse for approximately 100 to 150 workers;
- kitchen and dining hall;
- first aid station;
- communications system;
- electricity supply from diesel generators; and
- fuelling areas.
- waste water treatment system;
- water supply;
- solid waste (hazardous and non-hazardous) handling and storage facility;
- waste recycling area;

Camp facilities will comply with the Ontario *Occupational Health and Safety Act* (Government of Ontario 1990). Specific features and/or layout may vary due to local topography and site conditions.

Potable water for most camps will be obtained from local suppliers via water tank trucks. Domestic effluent will be taken by tanker truck for disposal to an existing municipal wastewater treatment facility authorized to accept this type of waste. All permits and authorizations will be acquired for transport and disposal. Wells may be drilled at the temporary construction camps if this option is more feasible.

Grey water will be discharged to leaching beds constructed at the temporary construction camps. All required permits and authorizations will be acquired for construction and operation of the leaching beds. Leaching beds will be designed and constructed according to R.R.O 1990, Reg. 358: Sewage Systems design requirements.

Organic solid waste disposal at the camps will be in compliance with applicable guidelines and regulatory requirements. Organic solid waste may be temporarily stored in bear-proof containers before being transported to an approved waste disposal site. A recycling program will be implemented at all camps to reduce the amount of solid waste generated as a requirement of the construction contract with Wataynikaneyap.

Electricity will be supplied to the temporary construction camps using temporary diesel generators where there are no rural distribution powerlines. The diesel generators will be operated in compliance with applicable regulations and guidelines, including acquiring any necessary permits and approvals. For a camp of approximately 150 people, typically the electricity requirements would be supplied by a 250-kilowatt (kW) diesel genset and there may be a second unit of the same size for backup.

The contractor will establish construction offices and warehouses with access to all weather roads and communications. The exact locations and number will be determined by the contractor. Typically, these facilities are leased or rented and may be located in Pickle Lake, Sioux Lookout, Dinorwic, or Ignace. The contractor will choose sites with adequate space for offices and material storage.

There are a number of hotels, motels and inns that could be accessed by the Project if required during peak construction.

### ***Workforce Accommodation Management Plan***

Wataynikaneyap will prepare a Workforce Accommodation Management Plan should accommodation for employees be required outside of the temporary construction camps. This plan would outline a process for Wataynikaneyap to work with Aboriginal communities, local government representatives and temporary accommodation providers to:

- communication of Project direct and indirect worker requirements and anticipated worker temporary accommodation needs at various construction periods to local government and local accommodation providers;
- identify available accommodation supply potential, particularly during peak construction periods; and
- identify potential pinch points and constraints in accommodation availability during the construction schedule due to the incremental demand generated by the Project.

The plan would assist with identifying available accommodation supply at times when there may not be capacity at the construction camps to house all workers and contractors. If the result of this analysis suggests need cannot be met through existing temporary housing options, scaling up the capacity of one or all of the construction camps as necessary to meet housing demand may be required.

## **9.4.4 Aboriginal and Stakeholder Engagement**

### **9.4.4.1 Ongoing Engagement**

The Project team understands that engagement and communication does not end when the EA process is completed. Should the EA be approved, ongoing discussions with Aboriginal communities, Aboriginal groups, and stakeholders will continue following the completion of the EA and through Project construction and operation and maintenance stages.

Aboriginal communities (most of whom are Wataynikaneyap partners), Aboriginal groups, and stakeholder will be kept up to date on the Project and provide a means of communication with Wataynikaneyap through a number of different mechanisms, including:

- Wataynikaneyap has a dedicated Project website located at [www.wataypower.ca](http://www.wataypower.ca). This website provides updated information on the proponent, the Project, Project map, the EA process and schedule. This website is updated regularly, as required.
- Wataynikaneyap maintains a repository of key Project and EA documents on the website such as:
  - financial feasibility and benefits studies;
  - the Amended ToR; engagement materials;
  - notices; and
  - frequently asked questions document.
- The Project website also provides contact details (email and telephone) for senior Wataynikaneyap contacts.

- The website also provides a comment submission form that is provided to the Wataynikaneyap Project team for a timely response. Wataynikaneyap has provided a list of frequently asked questions (FAQ) on the Project website (<http://www.wataypower.ca/faq>). This FAQ provides a list of the commonly asked questions during engagement to date, and responses. The general topics include ownership, the Project and the EA. This will be updated periodically, as required.
- A terminology sheet in English, Ojibway and Oji-cree has been prepared and posted on the. The sheet included a glossary of common Project and EA terms.

#### **9.4.4.2 Complaint Resolution Mechanism**

Wataynikaneyap will establish a complaint resolution mechanism, to manage any instances where people feel they have grounds for complaint. The Project is expected to manage such situations in a way that addresses Aboriginal and stakeholder concerns promptly and promotes positive relations with them. The complaint resolution mechanism will include:

- a simple process to lodge a grievance, ensuring that the process is accessible;
- clear roles and responsibilities for persons submitting the grievance, community, municipality, or agency representatives and Wataynikaneyap;
- a time frame within which a response to the grievance must be provided;
- an appeal process that defines timeframes and roles where a grievance escalates into a complaint;
- a system to record all grievances, complaints, how they have been addressed and their resolution; and
- means of ensuring feedback for action to relevant Wataynikaneyap staff where systematic grievances are being observed.

#### **9.4.5 Traffic/Road Management Plan**

A Traffic/Road Management Plan will be developed for the Project prior to start of construction and will include the key impact management measures described below for minimizing potential project effects related to construction traffic:

- all drivers will be properly licensed and trained according to specific vehicle type and operating conditions in addition to the hazards of the materials being transported;
- vehicle use will be determined by local ground conditions and access requirements;
- all local traffic laws, signs and speed limits will be obeyed;
- any required road user agreements with agencies;
- for both roadway traffic and marine traffic, the Project is expected to establish codes of conduct for drivers employed or contracted by the Project specifying that speed limits and other rules of the road and waterways be observed;
- all Project vehicle operators will be fully aware of, and comply with, Wataynikaneyap's Project-approved environment, health and safety plans;

- during peak traffic periods of the construction stage, the Project is expected to plan activities such that traffic to and from the Project is spread out through the day to the extent feasible and allowed by the final construction schedule;
- traffic on the rights-of-way will follow the posted speed limits, which might vary depending on site-specific conditions;
- vehicular traffic will be confined to approved rights-of-way, workspace and access roads or trails;
- site-specific features of concern will be flagged, or otherwise designated, so that subsequent traffic can avoid these areas; and
- recreational and after-hours use of all-terrain vehicles by project personnel will be prohibited.

The Project is being designed to avoid and minimize effects to trap line areas. There may be restricted access during construction stage; however once constructed there will not be any access restrictions under the transmission line except during times of maintenance, as required.

During the construction stage, some access restrictions will be put into place, such as the following:

- Temporary access restrictions to the Project footprint during construction at the areas of construction activities. Wataynikaneyap will work with Aboriginal communities where restrictions to access have been implemented to provide access to harvesters.
- Design construction routes to avoid key access roads / entrances to parks and protected areas to the extent practical, in engagement with parks and protected area administrators.
- Use existing roads and trails where practical to limit disturbance resulting from construction of new access roads and trails.

Typically, there are not access restrictions under transmission lines unless there is:

- Risk to power line workers or other employees associated with the project.
- Public safety concerns, such as a risk of lines touching people or equipment during work.
- Potential for damage to infrastructure including the condition of the 40-m-wide transmission line alignment ROW and maintenance access trails.
- Requirements for Operation and Maintenance work activities.

#### **9.4.6 Occupational Health and Safety Plan**

Wataynikaneyap or their contractor(s) will be required to comply with *Occupational Health and Safety Act* (Government of Ontario 1990) and any other provincial safety requirements. Wataynikaneyap or their contractor(s) will also be required to have a Health and Safety Plan in place.

An Occupational Health and Safety Plan (OHSP) will be prepared to address all stages of the Project. The OHSP will uphold commitment to a safe working environment for employees, contractors and visitors. The plan will also address all applicable legal requirements and standards relating to health and safety.

The OHSP will set out the framework under which health and safety on the Project site will be managed. The roles and responsibilities of the company, manager, superintendents, supervisors and workers are set out under this plan. The plan will also cover contractors that are on the Project site.

The programs that will be outlined under the plan include provisions for the anticipation, recognition, evaluation and control of physical, chemical, biological, ergonomic and psychosocial factors that may exist at the project site and in other project related activities.

An occupational health and safety training program will also be implemented at the Project site. The objectives of this training program will be to:

- provide appropriate orientation and support to all employees, contractors and visitors onsite so that they can act in an appropriately safe manner;
- provide ongoing training to employees;
- inform at risk employees and contractors to help attain a positive and safe work environment;
- instruct managers and supervisors of duties and responsibilities, including applicable legislation, risk communication, labour relations and hazard prevention; and
- instruct employees of responsibilities and rights.

## **9.5 Monitoring and Review of Environmental and Social Management Plan**

This section outlines the procedures for monitoring and review of the ESMP for continuous improvement and promoting best management practices. The procedures involve monitoring and audits of the ESMP, a corrective and preventive action procedure, and an overall management review. This monitoring and audit procedure allows for Wataynikaneyap to proceed with construction and operation and maintenance of the Project through an adaptive management strategy<sup>3</sup> and to respond to unforeseen circumstances through monitoring and through ESMP audits.

### **9.5.1 Monitoring**

Compliance monitoring results will be reported and discussed with applicable regulators. Compliance monitoring will include monitoring of the implementation of the impact management measures throughout the Project lifecycle that are identified in the ESMP and discipline sections (Section 5.1 to 8.0). Compliance monitoring will form a part of the ESMP, and will be determined by specific conditions included in the permits and approvals that are issued by the various agencies. Should unforeseen conditions arise where operations are in non-compliance with the permits or approvals, discussion would be entered into with the issuing authority to develop plans to achieve compliance.

### **9.5.2 Environmental and Social Management Plan Audits**

Audits will be undertaken of the ESMP by an appropriately qualified person. The audits will determine whether or not the ESMP has been properly implemented and maintained. An audit report will be prepared identifying any opportunities for improvement and any corrective actions required. The results of the audits will be discussed in project lessons learnt, tool-box talks, and project meetings, as appropriate. Minutes from each meeting shall record and assign actions to individuals as appropriate, to track that best management practice continues to be adopted on the Project site and reflected in the ESMP.

Wataynikaneyap has the responsibility for ensuring audit recommendations are undertaken and are used as an input for the management review (Section 9.5.4).

### **9.5.3 Corrective and Preventive Action**

Corrective or preventative actions identified during internal audits will be appropriate to the magnitude of the problem and appropriate to the environmental harm encountered. Additionally, assessment and follow-up reviews on the effectiveness of corrective and preventive actions will be undertaken and the outcomes documented, communicated and implemented.

Compliance will be included as a regular agenda item at management meetings and project meetings. Minutes from each meeting will record and assign actions to individuals where appropriate.

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<sup>3</sup> Adaptive management strategy is an adaptive approach of monitoring and responsive management and corrective actions to reduce uncertainty of the predicted net effects identified in the environmental assessment.

#### **9.5.4 Management Review**

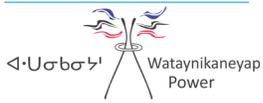
Wataynikaneyap is responsible for ensuring that an audit of compliance with environmental regulations and objectives and targets is carried as required by permits and approvals that are issued by the various agencies.

The management review will include representatives from contractors, consultants used for managing aspects of the ESMP, and Wataynikaneyap. The review will include consideration of the results/recommendations of ESMP audits undertaken, and assess if the ESMP is achieving its current objectives.

Wataynikaneyap has responsibility for ensuring recommendations are undertaken for any areas of improvement identified in the review.

## 9.6 References

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**ENVIRONMENTAL ASSESSMENT REPORT FOR THE PHASE 1  
NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT  
SECTION 9.0: ENVIRONMENTAL AND SOCIAL MANAGEMENT  
PLAN**

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