

FINAL ENVIRONMENTAL ASSESSMENT Section 10.0 Monitoring and Commitments November 2023





Acknowledgements

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

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

Hydro One Environmental Study Art:

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

Artist: Storm Angeconeb

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APPENDIX 10.0-A Commitments for the Waasigan Transmission Line









10.0 Monitoring and Commitments

Naanaagadawendamowinan gaye Gwayakowichigewinan

This section summarizes the environmental commitments and monitoring that will be implemented by Hydro One Networks Inc. (Hydro One) for the Waasigan Transmission Line (the Project or undertaking). Throughout the Final Environmental Assessment (EA) Report, Hydro One presents the Project design features, mitigation measures, and proposed monitoring programs and management plans that will be implemented so that the Project can be constructed, operated, retired from service (i.e., decommissioned and reclaimed in the distant future) in a manner that avoids or minimizes adverse effects on the natural and socio-economic environments.

The purpose of this section is to summarize the Project's Environmental Management System (EMS) which provides a framework for the Environmental Protection Plan (EPP) inclusive of mitigation measures, management plans and contingency plans, monitoring activities, and follow-up programs proposed in the Final EA Report. This section also provides an associated list of commitments for the Project. Both the natural and socio-economic environments are considered in the monitoring framework and the associated list of commitments described herein. These monitoring and management plans and EA commitments are also referenced throughout the Final EA Report, where applicable. This section also describes how monitoring and follow-up programs will verify effects predictions and mitigation effectiveness, address uncertainties associated with the effects predictions, identify any unanticipated effects, and provide feedback for the implementation of adaptive management, if required, to further limit effects.

The monitoring framework and associated list of commitments for the Project were developed in accordance with Section 5.2.8 of the Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario (MECP, 2014) and with Section 8.0 of the amended Terms of Reference (ToR) for the Project. Additionally, the development of monitoring plans and programs will be informed by feedback received during engagement related to the Project with Indigenous communities and Project stakeholders.

The monitoring and follow-up activities, programs, and plans summarized in this section are provided at a framework level and are considered conceptual at this stage of planning for the Project. Upon Project approval, these management and monitoring plans will be included in the Project's EMS. The conceptual monitoring framework included herein, and recommendations for individual components, will consider feedback from engagement on the Final EA Report. The detailed monitoring programs and activities will be developed during the permitting stage of the Project.



While Hydro One always strives to avoid and mitigate potential effects to the natural and socioeconomic environments, and restore areas that are affected by the Project, Hydro One acknowledges that there may be adverse effects that cannot be avoided, or that occur even when appropriate mitigation and restoration measures are employed. Natural environment examples include the long-term transition of incompatible vegetation, such as forest communities to compatible vegetation communities including meadows or shrub thickets. Because these net effects cannot be further avoided or mitigated, they are typically compensated for by undertaking positive environmental activities.

Hydro One has committed to undertaking a biodiversity initiative specific to this project to offset habitat loss or transition (long-term change) that may occur as a result of the Project. The scope of the biodiversity initiative is expected to be determined post-EA completion; however, typically such initiatives involve the funding of third-party opportunities or projects, such as wetland and wildlife habitat creation and enhancement, aquatic habitat restoration and enhancement activities, or invasive species inventory or removal, among others. As well, in an effort to offset socio-economic net effects, Hydro One is also committed to working with local communities in the Project area to identify opportunities that could enhance and contribute to the broader landscape, recognizing that community benefits can be varied and diverse in nature. Following completion of the EA process, Hydro One will engage with Indigenous communities, local communities and interested parties to discuss the implementation of the biodiversity and community benefits initiatives for the Project.

10.1 Indigenous and Stakeholder Engagement

As outlined in Section 4.0 and throughout the Final EA Report, Hydro One is committed to providing clear, ongoing, and timely information as it relates to Project activities throughout all stages of the Project (i.e., construction stage, operation and maintenance stage, and retirement stage, as described in Section 3.0). As the planning for the Project proceeds, Hydro One will continue to exercise due diligence in carrying out consultation with Indigenous communities and with Project stakeholders. Ongoing engagement related to the Project will include consideration of monitoring and follow-up programs, including engagement on the development and monitoring plans, that will be implemented for the Project, once approved.

As outlined in Section 4.0, Hydro One completed engagement activities during the ToR stage of the EA process, as well as throughout the EA reporting period. Feedback received from Indigenous communities, members of the public, government agencies, and stakeholders regarding the identification and management of potential environmental effects were considered when developing the monitoring framework and list of commitments summarized herein.

Consultation activities related to the Project will continue to provide a platform for two-way dialogue and meaningful engagement with the goal of disclosing information and maintaining relationships with Indigenous communities, as well as interested parties. The results of future and ongoing engagement related to the Project, including with respect to monitoring programs and follow-up activities, will continue to be integrated into the monitoring framework and detailed



programs and plans that will be developed during Project permitting. The ongoing development of monitoring programs will also be informed by Indigenous Knowledge (IK) and the results of Traditional Land and Resource Use studies completed for the Project.

Hydro One commits to sharing the list of EA commitments defined for the Project and the associated monitoring framework (Sections 10.3 and 10.4) with Indigenous communities. The purpose of sharing and engaging on these proposed plans and commitments will be to provide communities with the opportunity to comment on and participate in the development of the monitoring and follow-up programs and plans. Hydro One is also committed to supporting Indigenous Environmental Monitors and/or Guardians and will collaborate with communities in implementing monitoring of Project-related effects and compliance monitoring throughout all Project stages. Hydro One commits to developing an Indigenous Monitoring Plan in collaboration with affected Indigenous communities.

10.2 Environmental Protection Planning

An EPP will be developed and implemented for the Project, and will describe the industry standards, best management practices (BMPs), and site-specific mitigation for environmental protection that will be implemented during the construction of the Project to avoid or reduce potential environmental effects on the natural and socio-economic environments. The Project's compliance with the EPP and the requirements of project-specific permits, approvals and agreements will be documented in the Project's EMS. The EPP will be provided to affected Indigenous communities and agencies for review and input at least 90 days in advance of construction.

The purpose of the EPP and EMS will be to provide guidance to Hydro One's employees and contractors regarding environmentally responsible working procedures and standards that will be in place for the construction of the Project. The Project-specific EPP will identify the key environmental information, requirements and mitigation measures required to support the Project's activities. It will include both site- and activity-specific environmental mitigation measures and BMPs to avoid or minimize known and potential environmental risks applicable to the Project's scope of work based on Project-specific commitments, policies, standards, and applicable legislation. The EPP is intended to be a reference document for Project personnel to facilitate planning and execution of Project-specific activities, as well as a guidance document for contingency planning. The specific goals of the EPP will be to:

- Identify and document environmental concerns and appropriate mitigation measures for each Project activity;
- Provide concise and clear direction to Project personnel regarding environmental protection measures to be implemented;
- Outline applicable legislation, approvals, and guidelines; and



 Provide a consolidated reference document for personnel when planning and conducting specific work activities.

The scope of the EPP will encompass construction activities, from pre-construction planning through decommissioning and reclamation of the temporary components, including construction camps and access roads. Monitoring during the operation and maintenance phase of the Project is addressed through the Project effects and EA compliance monitoring activities outlined in Section 10.4.

The EPP will integrate the results and recommendations of the Final EA Report to be implemented during Project construction. However, the EPP will be a living document and will be updated as necessary to account for and consider new environmental and/or regulatory considerations that may arise. The EPP will be developed and updated as required prior to construction commencement to incorporate additional information as appropriate, and as it becomes available (e.g., permit conditions). Additional mitigations will be incorporated into both the EMS and Project-specific EPP.

The EPP will also incorporate and refer to several Project construction execution plans, which are intended to provide consistent, concise and clear direction to Project personnel regarding Project execution and environmental protection measures.

10.2.1 Mitigation Measures

Activity-specific environmental mitigation measures and BMPs will be developed as part of the EPP and will consider all stages of construction from planning to post-construction. Activity-specific environmental mitigation measures will be identified and implemented to avoid or minimize known and potential environmental risks applicable to the Project's scope of work based on Project-specific commitments, policies, standards, and applicable legislation.

The EPP will also summarize site-specific mitigations that will be implemented, as required, for sensitive locations where additional actions beyond activity-specific mitigations are warranted. These sensitive locations include, but are not limited to, provincially significant wetlands, fish and aquatic habitat, areas of natural and scientific interest; woodlots and significant woodlands; significant wildlife habitat; significant valleylands; significant species at risk habitat; fish and fish habitat, and provincial parks and conservation reserves.

10.2.2 Contingency Plans, Management Plans, and Construction Execution Plans

Contingency and management plans will be developed for the Project as a component of the EPP and include the following:

 Dust Control/Air Quality Plan – This plan will outline the management strategies and mitigation measures to be undertaken to minimize potential negative effects to air quality as a result of fugitive dust, particulate matter or greenhouse gas emissions. This plan will be based on the mitigation measures included in the Final EA Report, which include



industry Best Management Practices (BMPs), and were developed based on past project experience.

- Noise Management Plan This plan will outline the management strategies and mitigation measures to prevent or minimize potential negative effects, including the potential for activities to be inconvenient or a nuisance to local residents, business, and operations as a result of project noise or vibration during construction. This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Soil Management Plan This plan will outline soil contingency measures for minimizing potential project effects related to soil handling to minimize soil mixing, erosion and compaction. This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Clearing and Timber Salvage Plan This plan will outline general requirements associated with clearing, harvesting of merchantable timber and disposal of logging and clearing debris on the Project, including those outlined in the Final EA Report.
- Invasive Species and Biosecurity Management Plan- This plan will outline the management of invasive species, noxious and agricultural pathogens. This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Wildlife Management Plan This plan will outline the mitigation measures to be implemented to protect wildlife and wildlife habitat, including species at risk and species of cultural significance to Indigenous communities. This plan will also outline contingency planning for unidentified wildlife features discovered through the course of construction This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Rare Plant Management Plan This plan will outline the mitigation measures to be implemented for rare plants including avoidance flagging of known rare plant features and contingency planning for unidentified rare plant features discovered through the course of construction. This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Material Storage and Handling Plan This plan will be based on the BMPs to be implemented for the storage and handling of hazardous materials. This plan will be based on the BMPs identified in the Final EA Report.



- Vehicle and Equipment Operation, Maintenance and Refueling Plan This plan will
 outline mitigation measures to be implemented associated with vehicle and equipment
 operation, maintenance and refueling. This plan will be based on the mitigation
 measures included in the Final EA report, which include industry BMPs and were
 developed based on past project experience.
- Waste Management and Disposal Plan This plan will outline waste management procedures that will be implemented for the Project during construction. This plan will include management of hazardous wastes and non-hazardous wastes and will be based on mitigation measures included in the Final EA report, which include industry BMPs and were developed based on past project experience.
- Spill and Emergency Preparedness and Response Plan This plan will outline the appropriate environmental management practices that will be used to prevent the release of contaminants into the environment, and what steps will occur if the release of contaminants may happen as a result of equipment malfunctions, human error or accidental spills. This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Fish and Fish Habitat Protection Plan This plan will outline the mitigation measures that will be implemented during construction, based on mitigation measures included in the Final EA report, which include industry BMPs and were developed based on past project experience. This plan will outline the appropriate environmental management practices that will be used to prevent the harmful alteration, disruption and destruction of fish habitat and/or death of fish by means other than fishing. It will include what steps will occur if fish or fish habitat are impacted through the various pathways of effects during construction. The plan will incorporate the practices, mitigation measures and management plans of the various other plans listed above and below, where applicable.
- Erosion and Sediment Control Plan This plan will outline mitigation measures that will be implemented during construction to limit erosion and sedimentation. This plan will be based on the mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Blasting and Communication Management Plan –. This plan will address the following items: stakeholder notification, storage, transportation and use, security, environmentally sensitive areas and waterbodies should blasting be required for structure pad levelling, access, or conductor splicing. This plan will be based on mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.





- Archaeological Resources Contingency Plan This plan will outline the mitigation measures which describe appropriate management and protection of cultural, heritage, archaeological resources that may potentially be identified in the Project area during construction. This plan will be based on mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Fire Prevention Plan This plan will outline the mitigation measures to manage the risk of forest fires. This plan will be based on the mitigation measures identified in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Greenhouse Gas (GHG) Reduction Plan This plan will outline the mitigation measures that will be implemented to reduce GHG emissions associated with the Project. This plan will be based on mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience. These mitigation measures will align the Project with the corporate commitment to achieve net-zero GHG emissions by 2050 and to reduce corporate emissions by 30% (compared to 2018 values) by 2030.
- Groundwater Dewatering and Discharge Plan This plan will outline management strategies and mitigation measures to be undertaken to minimize potential negative effects as a result of construction site dewatering and discharge activities. This plan will be based on mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Traffic/Access Management Plan This plan will outline management strategies to clearly control motor vehicle traffic and prevent collisions and injuries to workers, pedestrians and land users. The plan will also set out the plan for access (i.e., establishment of new or use of existing roads), entrance approaches, water crossings, and temporary workspaces within the Project scope. This plan will be based on the traffic and access planning information and mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Traditional Land and Resource Use Management Plan Hydro One will work with partner First Nation communities to develop this plan to outline mitigation measures required for their respective communities. This plan will consider Indigenous Knowledge information provided over time from communities, including after EA approval.
- Communications Plan This plan will establish the communications protocols for both formal and informal communications with Indigenous communities and Project stakeholders.





- Permits and Approval Plan This plan will provide an overview of the general project permits and the approval process, including any renewal processes and permit consultation. This plan will acknowledge that working proactively with government organizations, municipalities and communities is integral, with consultation and engagement following Hydro One's protocols.
- Indigenous Monitoring Plan This plan will be developed collaboratively with Indigenous communities and will outline the monitoring expectations from the affected communities.
- Environmental Monitoring and Reporting Plan This plan will provide an overview of schedule, personnel and additional reporting requirements required by Hydro One for the Project. This plan will be based on mitigation measures included in the Final EA Report, which include industry BMPs and were developed based on past project experience.
- Project Reclamation Plan This plan will be developed to outline the reclamation requirements for the Project. The plan will consist of a map depicting the level of reclamation and a corresponding description of the reclamation activities to be undertaken for each level of reclamation. The plan will be developed with engagement of Indigenous communities and provided to MNRF for review.

The above contingency and management plans will consider the impacts of climate change on the Project and surrounding area so that the plans remain effective in a changing climate. For example, the erosion and sediment control plan will take into account changes in precipitation and drought events.

The EPP will be provided to affected Indigenous communities for review and input at least 90 days in advance of construction.

10.2.3 Environmental Inspection and Monitoring

Hydro One will employ the services of an Environmental Inspector(s) during construction of the Project to assist with monitoring. The Environmental Inspector(s) will be familiar with transmission line construction techniques, BMPs, and applicable legislation. The inspector(s) will also be familiar with the commitments made in the ToR and the Final EA Report and will identify actual Project-related environmental effects, and the effectiveness of mitigation and reclamation measures. The services of a Qualified Person (QP) may also be retained in specific circumstances where additional guidance, direction or supervision is required to complete a Project activity or address a concern.

Daily environmental monitoring (EM) will be carried out on-site as a requirement of the EPP (Section 10.2) during the construction stage. Daily environmental monitoring will include the following:





- Assessment of the environmental conditions related to construction activities (e.g., related to air quality/dust control, wildlife, fish and fish habitat, water quality, and erosion and sedimentation);
- Evaluation and management of environmental incidents (e.g., related to erosion and sedimentation, spills, accidental damage to fish and wildlife habitats, weather-related issues);
- Waste management (e.g., related to excess soil, slurry, water, and other wastes);
- Delineation and monitoring of sensitive locations; and
- Inspection of equipment, camps, laydowns or other fuel and/or material storage areas.

As outlined in Section 10.1, Hydro One is also committed to facilitating Indigenous environmental monitors and/or guardians throughout the construction stage of the Project.

10.2.4 Orientation and Training

Hydro One will develop and implement a worker orientation and training program to ensure the construction team and contractors are aware of applicable legislated requirements, the obligations in the EPP, and Hydro One's corporate environmental policies, programs, and practices. A key objective of this training will be to provide information to employees and contractors so that they understand their roles and responsibilities as they relate to Hydro One's environmental requirements, and so that they have the skills, knowledge, and resources necessary to perform their duties. Construction contractor staff who show neglect for the environment or disregard for the EPP may be removed from the Project by Hydro One. Finally, Hydro One will also provide advanced environmental training to relevant Project personnel (e.g., Environmental Inspectors, contractor managers, and contractor supervisors).

10.3 Environmental Commitments

This section summarizes the environmental commitments made by Hydro One in the EA Report to limit potential adverse effects of the Project on the natural and socio-economic environments. In accordance with Section 8.0 of the ToR for the Project, and Section 5.2.8 of the Code of Practice: Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario (MECP, 2014), environmental commitments focus on the following:

- Development and implementation of mitigation measures;
- Completion of additional field studies (if required), and receipt of regulatory approvals, prior to construction;
- Development and implementation of an environmental monitoring program that considers all phases of the Project; and



Continued consultation with Indigenous communities and other interested parties.

The list of environmental commitments identified during the EA stage for the Project are summarized in Appendix 10.0-A. These commitments are in addition or supplemental to the monitoring activities summarized in Table 10-1. Details regarding each commitment is included in the Final EA Report is also provided in Appendix 10.0-A. Information regarding how Hydro One will report to the Ministry of the Environment, Conservation and Parks (MECP) and to other relevant agencies regarding compliance with these commitments is provided in Section 10.5. The commitments from the approved Amended ToR (Appendix E) and how they were addressed in the Final EA Report are included in Appendix 1.0-B.

Hydro One and its contractor(s) will be responsible for implementing the commitments identified in Appendix 10.0-A. The commitments outlined in Appendix 10.0-A will be provided in contract specifications to be adhered to by Hydro One staff and contractor(s). In the event that the construction of the Project is carried out by a proponent other than Hydro One, these commitments will be passed on to the new proponent.

There may be scenarios in which commitments made in this Final EA Report and in the ToR cannot or should not be completely met in response to new or changed circumstances that may arise through consultation and engagement or detailed planning. Hydro One will discuss the circumstances with the MECP and other applicable regulatory agencies if a scenario occurs in which Hydro One seeks to deviate from a commitment prior to proceeding with planning for the alternate scenario or implementing the scenario before or during construction or operation. Additional details on Hydro One's approach to deal with changes following EA approval, including a change management procedure, are provided in Section 11.3.

10.4 Project Effects and Compliance Monitoring

This section describes the monitoring framework that will be implemented by Hydro One for the Project. The monitoring framework considers all phases of the Project and integrates both follow-up monitoring requirements, referred in the ToR as Project effects monitoring and EA compliance monitoring requirements.

- Project effects monitoring will be undertaken to verify the effects predictions described in the Final EA Report and the effectiveness of proposed mitigation measures.
- EA compliance monitoring will be undertaken to evaluate whether the Project has been constructed, implemented, and operated in accordance with the commitments made in the Final EA Report. Collectively, these actions improve the overall environmental performance of a project.



As outlined in Section 10.0, these programs will form part of the EMS for the Project. If monitoring or follow-up detects effects that are different from predicted effects or identifies the need for improved or modified design features and mitigation, then adaptive management will be implemented (Section 10.6). These corrective actions may include increased monitoring, changes in monitoring plans, or additional mitigation.

10.4.1 Project Effects Monitoring

Project effects monitoring will include programs designed to test the accuracy of effects predictions, reduce or address uncertainties, determine the effectiveness of mitigation, or provide appropriate feedback to operations for modifying or adopting new mitigation designs, policies, and practices (e.g., implementation of adaptive management). Project effects monitoring will include construction and post-construction monitoring activities.

Each assessment section of the Final EA Report (Sections 6.1 to 6.9 and 7.1 to 7.8) identified whether monitoring plans are recommended to be implemented during Project activities. These monitoring activities are summarized in Table 10-1. Hydro One and its contractor(s) will be responsible for implementing the monitoring identified in Table 10-1.

The details of the proposed Project effects monitoring programs and activities outlined in Table 10-1 are conceptual. Detailed plans will be finalized during the permitting process and will be developed considering the EA and permit approval conditions. The detailed monitoring programs will also integrate feedback received during ongoing consultation with Indigenous communities, the public, government agencies and stakeholders.

Table 10-1 outlines the recommended timing, frequency, and duration of monitoring programs proposed by each EA discipline. The recommended schedule and duration of monitoring is typically based on the environmental component and conditions associated with approvals and/or permits required. The results of monitoring programs and activities will be summarized and reported in accordance with the permit approval conditions for the Project, and reports will be submitted to the relevant regulatory agencies. Additional information related to reporting is provided in Section 10.5.

As outlined in Section 3.0, the Project will be operated for an indeterminate period and retirement, or decommissioning, is not anticipated. However, should a decision be made to decommission the Project in the future, a monitoring plan would be developed and would include activities during both the active stage of decommissioning the transmission line, as well as during post-closure to confirm that closure activities and reclamation are proceeding as planned and predicted.

10.4.2 Environmental Assessment Compliance Monitoring

The monitoring framework for the Project includes an EA compliance monitoring plan, which will evaluate whether the undertaking has been constructed and implemented in accordance with the commitments made in the EA and the conditions of EA approval. Compliance monitoring will



include activities and programs undertaken to confirm the implementation of approved design standards, mitigation, approval conditions, and Hydro One commitments. Examples of compliance monitoring include inspecting construction equipment for cleanliness prior to arriving on-site or inspecting noise suppression (e.g., mufflers) on vehicles to make sure they are functioning properly. Table 10-1 outlines the recommended timing, frequency, and duration of compliance programs recommended each EA discipline.

10.5 Information Management and Reporting

Information management and reporting will be fundamental components of the monitoring framework for the Project. Information collected through the monitoring programs will be managed, checked, reported, and reviewed for completeness. Quality assurance and quality control checks will be completed for data collected through the monitoring and follow-up programs in accordance with BMPs.

The results of monitoring programs will be reported and submitted to the MECP or to the relevant regulatory agency (or agencies) at specified intervals during the Project, as required.

Finally, Hydro One will complete a self-assessment to document compliance with the commitments made in the amended EA Report, including implementation of mitigation measures and conditions of approval. The compliance self-assessment will be completed both during and after the construction stage.

10.6 Adaptive Management

The environmental monitoring framework described herein will be implemented to mitigate effects on the natural and socio-economic environments and apply adaptive management where necessary. Adaptive management is a planned and systematic process for continuously improving environmental management practices by learning more about the outcomes where such information could improve site-specific understandings and possibly reduce the level of conservatism and uncertainty considered in the assessment of Project effects. Adaptive management provides flexibility to identify and implement new mitigation measures or to modify existing ones during the life of a project. It may include increased monitoring, changes in monitoring plans, or additional mitigation.









Table 10.6-1:	Construction	Monitoring	Program
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Criteria	Objective	Method	
Physiography, Geology, Surficial Geology and Soils	 To verify effectiveness and to implement soil management and spill prevention mitigation measures 	 Environmental monitors will conduct regular inspections of work areas to ensure that soil management and spill prevention mitigation measures are being implemented effectively. Proactive implementation of mitigation measures should be used based on expected work tasks and environmental conditions. Following completion of construction work, the post-construction inspections should ensure that soil conditions along the Project footprint have been restored 	Ongoing during construction
Surface water	 To verify effectiveness and to implement sediment and erosion control measures to minimize sediment mobilization from disturbed areas to waterbodies and wetlands. 	 Erosion and Sediment Management Monitoring – Monitoring/inspections of all erosion and sediment management measures, bank stabilization features and coffer dams during construction. 	 During construction while eros place.
Surface water	 To monitor the effectiveness of the construction procedures and mitigation measures to minimize potential effects to surface water and fish and fish habitat. 	 Surface Water Monitoring Program – Monitoring will be completed for all inwater activities (i.e., installations and removals), across all waterbodies and including during instream construction (e.g., installation and removal of culverts) or active water taking and discharge by a qualified Environmental Monitor to observe implementation and report on the effectiveness of the construction procedures and mitigation measures for minimizing potential effects to surface water. The program will include: Monitoring for the surface water discipline will be focused on water quantity and quality alone and include the physical sampling and testing for TSS (using turbidity as a real-time proxy/analog), as well as visual inspections to confirm the presence or absence of oil or sheen, coupled with monitoring of streamflow rates and/or water levels, at all water crossings targeted for in stream works during construction to verify effectiveness of construction procedures and mitigation measures including dam and pump/diversion activities associated with the removal and/or installation of temporary or permanent crossing structures. Contingency plans will be developed in the event of an unexpected change to water quantity or quality (i.e., increase in turbidity in accordance with CCME standards). Monitoring of one or more surface water quantity and quality parameters at water taking or discharge locations to satisfy the conditions/requirements of water discharge plans related to applicable PTTWs, ECAs or EASR, and to confirm the effectiveness of the discharge plans and associated mitigation measures. Guidance documents, such as OPSS documents, will be relied or to inform the construction and maintenance of water body crossing structures. Monitoring of water quality and streamflow conditions at waterbodies that include greater sensitivity or implication to change from the standpoint of fish habitat, species at risk, channel stability, drainage pattern, or other environmental cons	 During construction at the time discharge. t

Timing/Duration
1
osion and sediment management measures are in
usion and sediment management measures are in
ma of instroom works or active water taking and
The of instream works of active water taking and



Criteria	Objective	Method	
Surface water	 To monitor effectiveness of design features and mitigation measures related to waterbody crossings. 	 Waterbody Crossing Monitoring Program – Monitoring will be conducted at temporary waterbody crossings to verify that erosion and sediment control measures have been successful (e.g., bank restoration and re- vegetation). For temporary waterbody crossings, the monitoring will occur in the spring following installation and will continue annually in the spring until the structure is removed and the area has been restored, but timing may be extended if needed. Permanent culverts will be monitored twice per year, during a high and low flow period. Culvert monitoring will be conducted to inspect culvert integrity, identify and remove blockages (e.g., ice, woody debris), as needed, that could otherwise lead to scouring and effects to channel morphology and fish habitat, and potentially interfere with fish passage. Monitoring for surface water conditions is presented in detail in Section 6.2.11 	 For temporary culverts: In the annually in the spring until the restored, but timing may be e For permanent culverts: Twic permanent waterbody crossir maintenance. The monitoring (e.g., spring) and low flows (e)
Charling		and details on the timing, frequency and methods will be presented in the EPP.	
Groundwater	 To monitor groundwater quantity and quality 	 All water takings should be monitored, and the amounts, rates, times, and locations of water taken should be recorded. Monitoring requirements of any water taking permits issued should be carried out in addition to the above. 	 Ongoing during construction.
		• Water discharges will adhere to the conditions of the applicable permits. Discharge locations should be approved by the Project environmental inspector and records of the amounts, times, and locations of discharges should be recorded. Monitoring requirements of any water discharge permits issued should be carried out in addition to the above.	
		 Following blasting of rock, the blasted area should be inspected by qualified personnel. If excessive fracturing of rock or blasting residues are identified, the designs of future blasts should be adjusted for better performance. Monitoring requirements of any blasting permits issued should be carried out in addition to the above. 	
Vegetation and wetlands	 To monitor for incidental sensitive features and implement site specific mitigation measures, if required. 	• The development footprint will be monitored during construction for incidental sensitive features (e.g., rare vegetation communities, SWH and SAR [i.e., black ash]) that have not previously been identified on or near the anticipated footprint. In the event that a sensitive feature is identified, appropriate vegetation management procedures will be implemented;	Ongoing during construction
Vegetation and wetlands	 To minimize the establishment of invasive weed species. 	 Soil topsoil piles will be monitored for weeds, appropriate invasive species management procedures will be implemented, when required. 	 Annually during construction 3 years.
Vegetation and wetlands	 To minimize adverse effects to wetlands 	 Siting of temporary construction camps and temporary laydown areas will be field verified prior to installation to avoid organic type wetlands (e.g., bogs and fens) 	 Before construction begins
Vegetation and wetlands	 To monitor the effectiveness off erosion and sedimentation mitigation measures 	 Erosion and sedimentation control measures will be monitored to avoid and minimize sediment mobilization from disturbed areas to drainages, wetlands or watercourses 	Ongoing during construction
Vegetation and wetlands	 To confirm vegetation reclamation success. 	 Reclamation will be monitored and managed, and include prevention of soil erosion, provide slope stability, and revegetation. 	Ongoing during post-construct

e spring following installation and will continue ne structure is removed and the area has been extended if needed.

ice per year basis i.e., (biannually) at new, ings during the early stages of the operation and g will be carried out during a period of high flows (e.g., mid- to late summer).

and into operation and maintenance stage for

ction



Criteria	Objective	Method		
Fish and Fish Habitat	• To verify effectiveness and to implement erosion and sediment control measures to reduce the risk of sediment mobilization from disturbed areas to waterbodies.	 Erosion and Sediment Control Monitoring – Monitoring of all erosion and sediment management measures, bank stabilization features and coffer dam installations (including pump around) during construction. Monitoring for fish and fish habitat is presented in detail in Section 6.6.12 and details on the timing, frequency and methods will be presented in the EPP. 	•	During construction while ero
Fish and Fish Habitat	 To monitor the effectiveness of the construction procedures and mitigation measures to minimize potential effects to fish and fish habitat 	 Monitoring will be completed for all in-water activities (i.e., installations and removals), across all waterbodies and including during instream construction (e.g., installation and removal of culverts) or active water taking and discharge by a qualified Environmental Monitor to observe implementation and report on the effectiveness of the construction procedures and mitigation measures for minimizing potential effects to fish and fish habitat. The program will include: Monitoring of turbidity and/or Total Suspended Solids (TSS) and/or turbidity (instrumented measurements and/or visual observations), as well as visual inspections to confirm the presence or absence of oil or sheen, will be coupled with monitoring of streamflow rates and/or water levels, at all waterbody crossings targeted for instream works or active water taking and discharge during construction to verify effectiveness of construction procedures and mitigation measures. The Environmental monitor will monitor blasting operations for adherence to the Blasting and Communication Management Plan. Monitoring for fish and fish habitat is presented in detail in Section 6.6.12 and details on the timing, frequency and methods will be presented in the EPP. 		During construction at the tim discharge.

psion and sediment control measures are in place.

ne of instream works or active water taking and



Criteria	Objective	Method	
Fish and Fish Habitat	 To monitor effectiveness of design features and mitigation measures related to waterbody crossings. 	• Monitoring will be conducted at new, permanent and temporary waterbody crossings to verify that erosion and sediment control measures have been successful (e.g., bank restoration, re-vegetation, etc.). For temporary waterbody crossings, the post-construction monitoring will occur in the spring following installation and will continue annually in the spring until the structure is removed and the area has been restored, but timing may be extended if needed (as recommended or documented in monitoring reports or mandated by regulators). The integrity of the permanent crossing structures will be inspected annually in the spring during construction and operations until it has been determined that there are no significant, negative effects observed or anticipated based on field surveys. At temporary and permanent culverts, monitoring will be conducted to identify and remove blockages (e.g., ice, woody debris etc.), as needed, that could otherwise lead to scouring and effects to channel morphology and fish habitat, and potentially interfere with fish passage.	 For temporary culverts: In the annually in the spring until the restored, but timing may be ex For permanent culverts: In the year basis i.e., (biannually) du maintenance. The monitoring (e.g., spring) and low flows (ex
		• Any instances of channel instability that could be attributed to the past construction and/or initial restoration activities will be identified and addressed, as needed through adaptive management. Adaptive management will be site-specific and may include additional erosion and sediment control measures (e.g., additional seeding/re-vegetation or the implementation of other channel stabilization measures). If adaptive management is required, engagement with MNRF, DFO and stakeholders will occur prior to any instream construction activities, where appropriate (e.g., placement of additional fill, re-grading and/or stabilization of bed or banks).	
		• Monitoring of TSS and/or turbidity (instrumented measurements and/or visual observations), coupled with monitoring of streamflow rates and/or water levels, at waterbodies that include greater sensitivity or implication to change from the standpoint of fish habitat, species at risk, channel stability, drainage pattern, or other environmental considerations. The specific monitoring locations will be determined during the permitting and design phases of the Project; however, it is expected that waterbodies of varying size (small, medium, large) would be captured, recognizing that this would allow the effectiveness of mitigation measures to be evaluated at a range of scales. Monitoring will occur on a twice annual basis (i.e., biannually) at new and permanent waterbody crossings during the early stages of the operation and maintenance stage until pre-existing conditions are reached (to verify the effectiveness of reclamation measures). To the extent possible, the monitoring will be carried out during a period of high flows (e.g., spring) and low flows (e.g., mid- to late summer) in an effort to assess water quality conditions under a wide range of flow conditions. The monitoring program may be discontinued thereafter if conditions are observed to align with pre-construction conditions.	

e spring following installation and will continue e structure is removed and the area has been extended if needed.

e spring following installation, then on a twice per uring the early stages of the operation and y will be carried out during a period of high flows e.g., mid- to late summer).



Criteria	Objective	Method	
Wildlife	 To monitor for incidental sensitive features and implement site specific mitigation measures if 	 Hydro One and its contractor(s) will employ the services of qualified Environmental Inspector(s) to guide implementation, monitor and report on the effectiveness of the construction procedures and mitigation measures for minimizing potential impacts. 	 Ongoing during construction.
	required.	 The contractor will provide the appropriate resource specialist, if required, to inspect or monitor Project activities at or near sensitive areas. 	
		 The contractor will monitor during construction for sensitive features (e.g., water body, rare plant, rare vegetation community, wildlife species of concern, archaeological resources) that have not been previously identified within the Project footprint. 	
		 The contractor or the Environmental Inspector will inspect equipment and vehicle arriving on to the Project prior to Project footprint entry. 	
		 The Environmental Inspector will monitor the implementation of the Vegetation Management Plan and provides recommendations to improve the Vegetation Management Plan on an ongoing basis. 	
		 The Contractor will monitor and manage weed infestations on a regular and ongoing basis along the ROW and on topsoil stockpiles to determine need for additional weed control measures as outlined in the Invasive Species Management Plan. 	
		 The contractor or the Environmental Inspector will conduct visual inspection of the construction area and Project access roads to monitor adherence to traffic protocols and speed limits by all Project personnel. 	
		• A Safety Manager may be designated to monitor traffic safety for the Project.	
		 The Environmental Inspector will monitor management and disposal of waste. 	
		 The Environmental Inspector will monitor blasting operations for adherence to the Blasting and Communication Management Plan. 	
		 Post construction monitoring of the Project footprint will begin following reclamation, within one growing season and address any reclamation concerns, including but not limited to soil erosion, revegetation, slope stability and weeds. 	
		 Hydro One will oversee implementation of the environmental management measures during operation and maintenance. 	
Air Quality	 To monitor air quality within 100 m of a confirmed occupied residence where appropriate 	 If the construction activities (e.g., clearing, foundations, structure assembly, structure erection, and stringing) are being undertaken within 300 m of a confirmed occupied residence, Hydro One will assess the construction schedule, environmental conditions, and season and evaluate the need for monitoring. Monitoring will be undertaken when these emission-generating activities have the potential to impact the receptor. 	 During construction
Greenhouse Gas Emissions	● n/a	• Based on the results of the assessment, it was determined that no monitoring programs will be required for GHGs. As described in Section 6.8, Hydro One has made a number of commitments to reduce GHG emissions and corporate-wide GHG emissions, including this Project, will be explored and revised further in Hydro One's corporate climate change program.	● n/a



Criteria	Objective	Method	
Acoustic and Vibration	• n/a	 A noise monitoring program is not recommended for the Project; however vibration monitoring is expected to be required for both temporary aggregate pits (i.e., quarries) and general construction blasting activities to align with MECP/MNRF requirements and general industry practices, respectively. Monitoring requirements for construction blasting will be considered and assessed once detailed information regarding the blast designs are available. Based on typical blasts, monitoring would be recommended for construction blasting within 250 m and aggregate pit blasts within 500 m of receptors verified to be vibration sensitive. 	● n/a
Land and Resource Use	 To monitor complaints and issue resolution 	 Hydro One will encourage land and resources users to share any issues and concerns with Hydro One and its contractor during the planning of the project (i.e., through the EA process or post-EA engagement) and throughout the construction stage. Monitoring of complaints and issue resolution will help minimize or remove any on-going effects to land and resource use. 	Ongoing during construction
Community Well-Being and Infrastructure	 To monitor complaints and issue resolution 	 A formal complaints process be implemented that allows, emergency services, municipalities, and community members to share any issues and concerns with Hydro One and its contractor(s) during the construction stage. Monitoring of complaints and issue resolution will help minimize or remove any on-going effects to community well-being. 	 Ongoing during construction
Economy	 To monitor efforts regarding employment of local workers and Indigenous people 	 As part of the construction workforce accommodation management plan, a monitoring program is proposed, to track the following information prior to and during the peak construction period: Number of local versus non-local hires; Number of Indigenous peoples trained and hired; Number of workers residing at each camp; Percentage of construction workers who live in camps compared to commuting or staying in hotel or motel accommodation; and Potential changes in Project schedule that could influence the timing of peak construction. Hydro One will share this monitoring information with temporary accommodation providers and local government representatives from LSA communities, to help track temporary accommodation needs and assist in addressing any capacity constraints on local temporary accommodation during construction. In addition, as part of the Indigenous Participation Plan, Hydro One will be continually tracking the outcomes of their efforts to increase Indigenous participation in the Project. Identified performance measures include: Number of community members employed; Number of community members employed; Number of community engagement events. 	 Monitoring ongoing during co Produce Indigenous Participa
		 Schedule; Targets/goals for each initiative; Status of each initiative; and Next steps. 	



Timing/Duration	
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ition report quarterly	
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Criteria	Objective	Method	
Archaeology Resources	 To monitor effectiveness of mitigation measures implemented to conserve 	• The recommendations of the Stage 1 Archaeological Assessment and any subsequent recommended Archaeological Assessment (e.g., additional Stage 1, Stage 2, 3, and 4) will be followed.	 Ongoing during construction
	archaeological resources based on the results and recommendations of the archaeological assessments associated with this EA.	• Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the <i>Ontario Heritage Act</i> . Hydro One or the person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment in compliance with Section 48(1) of the <i>Ontario Heritage Act</i> .	
		• The Funeral, Burial and Cremation Services Act, 2002, S.O.2002, c.33 requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11, the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites.	
		 In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act. 	
Built Heritage Resources and Cultural Heritage Landscapes	● n/a	 Heritage attributes as they relate to the identified heritage resources will be identified and evaluated under Ontario Regulation 9/06 in Cultural Heritage Evaluation Reports (CHERs). Project effects to built heritage resources and cultural heritage landscapes resources will be assessed mitigated by adhering to the recommendations of the CHEC/PIA through the completion of these CHERs. 	● n/a
		 Effects are assessed as not significant and so no monitoring programs are proposed for Cultural Heritage. 	

TSS = total suspended solids; PTTWs = Permits To Take Water; ECAs= Environmental Compliance Approvals; EASR = Environmental Activity and Sector Registry; SWH = Significant Wildlife Habitat; SAR = Species at risk; MNRF = Ministry of Natural Resources and Forestry; DFO = Fisheries and Oceans Canada; ROW = right-of-way; GHGs = greenhouse gases; MECP = Ministry of the Environment, Conservation and Parks; MNRF = Ministry of Natural Resources and Forestry; CHER = Cultural Heritage Evaluation Report.

Timing/Duration



Table 10.6-2:	Operations and Maintenance Monitoring Program
	oporationo ana mantenanoo monitoring riogram

Criteria	Objective	Method	
Surface water	 To monitor effectiveness of design features and mitigation measures related to new, permanent waterbody crossings. 	 Waterbody Crossing Monitoring Program – Monitoring will be conducted at new, permanent waterbody crossings to verify that erosion and sediment control measures have been successful (e.g., bank restoration and re-vegetation). The integrity of the permanent crossing structures will be inspected annually in the spring during construction and operations. Any instances of channel instability that could be attributed to the past construction and/or initial restoration activities will be identified and addressed, as needed. At permanent culverts, monitoring will be conducted for the life of the project to identify and remove blockages (e.g., ice, woody debris), as needed, that could otherwise lead to scouring and effects to channel morphology and fish habitat, and potentially interfere with fish passage. 	 Twice annually during high an post-construction and annuall Waterbody Crossing Monitorir summer for the first two years annually in the spring for the I
		 Monitoring/inspections of new permanent waterbody crossing structures and roadside drainage features (on a twice annual basis for the first two years following post-construction and then annually) for physical function and condition. 	
Biophysical criteria	 To monitor the Project throughout its life for maintenance and environmental issues. 	 Routine Inspections - Monitor the ROW and access roads on an annual basis for the life of the Project. Environmental issues that will be monitored are related to slope or bank erosion or wind and water erosion. 	 Annual inspections of the ROV helicopter, in addition to less f inspection of the structures, in
Fish and fish habitat	 Monitor to provide feedback on the effectiveness of design features, mitigation measures and reclamation activities. 	 Post-construction monitoring will be conducted at equipment waterbody crossings to verify that erosion and sediment control measures have been successful (e.g., bank restoration and re-vegetation) and that the stability of each waterbody crossing is maintained (i.e., the channel has not washed-out). For temporary waterbody crossings, the post-construction monitoring will occur in the spring following installation and will continue annually in the spring until the structure is removed and the areas has been restored, but timing may be extended if needed (as recommended or documented in monitoring reports or mandated by regulators). The integrity of the permanent crossing structures will be monitored annually during construction and operations in the spring until it has been determined that the culvert is functioning as intended (i.e., no channel instability or erosion is observed). At culverts, monitoring will be conducted for the life of the project to identify and remove blockages (e.g., ice, woody debris), as needed, that could otherwise lead to scouring and effects to channel morphology and fish habitat, and potentially interfere with fish passage. Any instances of channel instability that could be attributed to Project-related construction and/or initial restoration activities will be cutrer of and addressed, as needed through an adaptive management plan. Adaptive management will be site specific and may include adding erosion and sediment control measures or other stabilization works. If adaptive management is required, engagement with MNRF, DFO and Indigenous communities will occur prior to any construction activities, where appropriate (e.g., placement of additional fill, regrading and/or stabilization of bed or banks). If determined present, it is recommended that monitoring for fish passage, SAR and/ or SOCC (e.g., Lake Sturgeon, Northern Brook Lamprey, etc.) occurs before, during and after construction activities to monitor for maintained integrity and accessibil	 Monitoring will occur in the sp in the spring until the structure timing may be extended if nee observations and recommend
Visual Aesthetics	 Monitor if predicted visual effects have occurred and identify unforeseen effects. 	 Additional monitoring throughout reclamation of temporary components would occur to confirm mitigation measures are being established appropriately. 	 During operation and mainten

ROW = right-of-way; SAR = species at risk; SOCC = species of conservation concern.

Timing/Frequency

nd low flow periods for the first two years following ly following this two year period.

ing Program will occur in the spring and late s following post-construction and will continue life of the Project.

W and access roads will typically occur by frequent ground patrols to carry out a detailed nsulators and conductors.

pring following installation and will continue annually re is removed and the areas has been restored, but eded as determined through monitoring lations.

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